

direct	5100 Mar 17 00:20	2°☾39'23		max. Earth dist.	5106 Jun 29 18:16	9°☾41'06	50.10120 AU
evening set	5100 Jun 18 06:51	3°☾57'56		morning rise	5106 Jul 06 15:03	9°☾50'23	
				retrograde	5106 Oct 09 21:15	11°☾09'03	
conjunction	5100 Jun 23 04:36	4°☾04'34 -14°16'07		opposition	5107 Jan 01 12:12	10°☾09'53	-13°51'29
minimum elong	5100 Jun 23 04:47	4°☾04'35 14°16'08		min. Earth dist.	5107 Jan 01 05:28	10°☾10'12	48.13357 AU
max. Earth dist.	5100 Jun 23 17:32	4°☾05'18 50.31417 AU		direct	5107 Mar 24 03:50	9°☾11'30	
morning rise	5100 Jun 28 03:02	4°☾11'15		evening set	5107 Jun 23 02:50	10°☾26'44	
retrograde	5100 Oct 03 16:24	5°☾33'00					
opposition	5100 Dec 26 10:52	4°☾33'48 -14°46'51		conjunction	5107 Jun 30 14:55	10°☾36'53	-13°13'52
min. Earth dist.	5100 Dec 25 23:16	4°☾34'20 48.36426 AU		minimum elong	5107 Jun 30 15:06	10°☾36'54	13°13'53
direct	5101 Mar 18 03:35	3°☾35'29		max. Earth dist.	5107 Jun 30 20:55	10°☾37'14	50.05317 AU
evening set	5101 Jun 19 01:27	4°☾53'26		morning rise	5107 Jul 08 04:04	10°☾47'05	
				retrograde	5107 Oct 11 02:59	12°☾05'22	
conjunction	5101 Jun 24 09:28	5°☾00'38 -14°07'56		opposition	5108 Jan 02 16:26	11°☾06'12	-13°41'26
minimum elong	5101 Jun 24 09:39	5°☾00'39 14°07'57		min. Earth dist.	5108 Jan 02 11:03	11°☾06'27	48.08176 AU
max. Earth dist.	5101 Jun 24 22:30	5°☾01'22 50.28621 AU		direct	5108 Mar 24 06:19	10°☾07'49	
morning rise	5101 Jun 29 18:08	5°☾07'54		evening set	5108 Jun 23 00:23	11°☾22'42	
retrograde	5101 Oct 04 21:38	6°☾29'01					
opposition	5101 Dec 27 15:02	5°☾29'48 -14°38'14		conjunction	5108 Jun 30 20:12	11°☾33'17	-13°04'05
min. Earth dist.	5101 Dec 27 03:43	5°☾30'20 48.33344 AU		minimum elong	5108 Jun 30 20:24	11°☾33'17	13°04'06
direct	5102 Mar 19 06:30	4°☾31'27		max. Earth dist.	5108 Jul 01 01:26	11°☾33'34	50.00002 AU
evening set	5102 Jun 19 20:37	5°☾48'51		morning rise	5108 Jul 08 17:02	11°☾43'55	
				retrograde	5108 Oct 11 06:08	13°☾01'48	
conjunction	5102 Jun 25 14:14	5°☾56'37 -13°59'31		opposition	5109 Jan 02 20:51	12°☾02'38	-13°31'12
minimum elong	5102 Jun 25 14:25	5°☾56'37 13°59'31		min. Earth dist.	5109 Jan 02 17:24	12°☾02'48	48.02457 AU
max. Earth dist.	5102 Jun 26 01:26	5°☾57'15 50.25523 AU		direct	5109 Mar 25 12:11	11°☾04'13	
morning rise	5102 Jul 01 08:39	6°☾04'24		evening set	5109 Jun 23 22:10	12°☾18'46	
retrograde	5102 Oct 06 02:29	7°☾24'58					
opposition	5102 Dec 28 19:16	6°☾25'44 -14°29'22		conjunction	5109 Jul 02 01:17	12°☾29'45	-12°54'06
min. Earth dist.	5102 Dec 28 08:41	6°☾26'14 48.29983 AU		minimum elong	5109 Jul 02 01:27	12°☾29'46	12°54'06
direct	5103 Mar 20 09:36	5°☾27'23		max. Earth dist.	5109 Jul 02 04:58	12°☾29'57	49.94165 AU
evening set	5103 Jun 20 16:13	6°☾44'16		morning rise	5109 Jul 10 05:25	12°☾40'48	
				retrograde	5109 Oct 12 10:06	13°☾58'19	
conjunction	5103 Jun 26 19:07	6°☾52'32 -13°50'51		opposition	5110 Jan 04 01:09	12°☾59'08	-13°20'44
minimum elong	5103 Jun 26 19:18	6°☾52'33 13°50'52		min. Earth dist.	5110 Jan 03 22:02	12°☾59'17	47.96217 AU
max. Earth dist.	5103 Jun 27 06:08	6°☾53'10 50.22137 AU		direct	5110 Mar 26 18:21	12°☾00'41	
morning rise	5103 Jul 02 22:49	7°☾00'51		evening set	5110 Jun 24 20:07	13°☾14'53	
retrograde	5103 Oct 07 04:04	8°☾20'53					
opposition	5103 Dec 29 23:33	7°☾21'40 -14°20'16		conjunction	5110 Jul 03 06:23	13°☾26'16	-12°43'54
min. Earth dist.	5103 Dec 29 14:21	7°☾22'05 48.26324 AU		minimum elong	5110 Jul 03 06:35	13°☾26'17	12°43'56
direct	5104 Mar 20 16:27	6°☾23'17		max. Earth dist.	5110 Jul 03 08:08	13°☾26'22	49.87814 AU
evening set	5104 Jun 20 12:25	7°☾39'43		morning rise	5110 Jul 11 17:53	13°☾37'45	
				retrograde	5110 Oct 13 17:36	14°☾54'53	
conjunction	5104 Jun 27 00:03	7°☾48'29 -13°41'57		opposition	5111 Jan 05 05:32	13°☾55'41	-13°10'04
minimum elong	5104 Jun 27 00:14	7°☾48'29 13°41'57		min. Earth dist.	5111 Jan 05 04:31	13°☾55'43	47.89497 AU
max. Earth dist.	5104 Jun 27 10:02	7°☾49'03 50.18470 AU		direct	5111 Mar 27 21:53	12°☾57'10	
morning rise	5104 Jul 03 12:31	7°☾57'18		evening set	5111 Jun 25 18:16	14°☾11'02	
retrograde	5104 Oct 07 08:31	9°☾16'50					
opposition	5104 Dec 30 03:36	8°☾17'38 -14°10'54		conjunction	5111 Jul 04 11:37	14°☾22'50	-12°33'30
min. Earth dist.	5104 Dec 29 18:20	8°☾18'04 48.22367 AU		minimum elong	5111 Jul 04 11:48	14°☾22'50	12°33'30
direct	5105 Mar 21 21:31	7°☾19'15		max. Earth dist.	5111 Jul 04 13:10	14°☾22'55	49.81016 AU
evening set	5105 Jun 21 08:48	8°☾35'15		morning rise	5111 Jul 13 06:00	14°☾34'42	
				retrograde	5111 Oct 15 00:07	15°☾51'29	
conjunction	5105 Jun 28 04:55	8°☾44'29 -13°32'48		opposition	5112 Jan 06 09:47	14°☾52'14	-12°59'10
minimum elong	5105 Jun 28 05:05	8°☾44'30 13°32'50		min. Earth dist.	5112 Jan 06 09:16	14°☾52'16	47.82342 AU
max. Earth dist.	5105 Jun 28 13:26	8°☾44'58 50.14477 AU		direct	5112 Mar 28 00:06	13°☾53'40	
morning rise	5105 Jul 05 01:59	8°☾53'47		evening set	5112 Jun 25 16:43	15°☾07'13	
retrograde	5105 Oct 08 15:43	10°☾12'53					
opposition	5105 Dec 31 07:57	9°☾13'42 -14°01'18		conjunction	5112 Jul 04 16:43	15°☾19'24	-12°22'53
min. Earth dist.	5105 Dec 31 00:39	9°☾14'02 48.18069 AU		minimum elong	5112 Jul 04 16:54	15°☾19'25	12°22'54
direct	5106 Mar 23 00:29	8°☾15'19		max. Earth dist.	5112 Jul 04 16:10	15°☾19'23	49.73812 AU
evening set	5106 Jun 22 05:33	9°☾30'55		morning rise	5112 Jul 13 18:02	15°☾31'40	
				retrograde	5112 Oct 15 06:12	16°☾48'07	
conjunction	5106 Jun 29 09:51	9°☾40'37 -13°23'26		opposition	5113 Jan 06 14:01	15°☾48'49	-12°48'03
minimum elong	5106 Jun 29 10:03	9°☾40'38 13°23'27		min. Earth dist.	5113 Jan 06 14:35	15°☾48'48	47.74822 AU

direct	5113 Mar 29 02:47	14°☾50'11	retrograde	5119 Oct 22 15:45	23°☾27'48
evening set	5113 Jun 26 15:10	16°☾03'28	opposition	5120 Jan 13 21:20	22°☾28'17 -11°23'18
			min. Earth dist.	5120 Jan 14 04:21	22°☾27'57 47.13316 AU
conjunction	5113 Jul 05 21:56	16°☾16'01 -12°12'02	direct	5120 Apr 04 12:33	21°☾29'16
minimum elong	5113 Jul 05 22:07	16°☾16'02 12°12'02	evening set	5120 Jul 01 10:42	22°☾41'02
max. Earth dist.	5113 Jul 05 21:02	16°☾15'58 49.66258 AU			
morning rise	5113 Jul 15 05:54	16°☾28'39	conjunction	5120 Jul 12 12:00	22°☾56'05 -10°49'29
retrograde	5113 Oct 16 07:10	17°☾44'47	minimum elong	5120 Jul 12 12:10	22°☾56'06 10°49'29
opposition	5114 Jan 07 18:24	16°☾45'27 -12°36'41	max. Earth dist.	5120 Jul 12 02:40	22°☾55'34 49.04499 AU
min. Earth dist.	5114 Jan 07 20:14	16°☾45'22 47.66972 AU	morning rise	5120 Jul 23 14:52	23°☾11'15
direct	5114 Mar 30 10:06	15°☾46'46	retrograde	5120 Oct 22 21:58	24°☾25'41
evening set	5114 Jun 27 13:49	16°☾59'46	opposition	5121 Jan 14 02:08	23°☾26'06 -11°10'16
			min. Earth dist.	5121 Jan 14 11:28	23°☾25'39 47.02872 AU
conjunction	5114 Jul 07 02:59	17°☾12'42 -12°00'56	direct	5121 Apr 05 18:03	22°☾27'00
minimum elong	5114 Jul 07 03:11	17°☾12'43 12°00'57	evening set	5121 Jul 02 10:59	23°☾38'35
max. Earth dist.	5114 Jul 07 01:13	17°☾12'36 49.58413 AU			
morning rise	5114 Jul 16 17:26	17°☾25'43	conjunction	5121 Jul 13 17:56	23°☾53'59 -10°36'48
retrograde	5114 Oct 17 10:45	18°☾41'33	minimum elong	5121 Jul 13 18:08	23°☾54'00 10°36'49
opposition	5115 Jan 08 22:43	17°☾42'10 -12°25'04	max. Earth dist.	5121 Jul 13 08:08	23°☾53'25 48.93937 AU
min. Earth dist.	5115 Jan 09 00:29	17°☾42'05 47.58837 AU	morning rise	5121 Jul 25 02:15	24°☾09'28
direct	5115 Mar 31 16:24	16°☾43'26	retrograde	5121 Oct 24 05:06	25°☾23'42
evening set	5115 Jun 28 12:45	17°☾56'11	opposition	5122 Jan 15 06:56	24°☾24'03 -10°57'01
			min. Earth dist.	5122 Jan 15 16:55	24°☾23'34 46.91893 AU
conjunction	5115 Jul 08 08:16	18°☾09'29 -11°49'37	direct	5122 Apr 06 21:46	23°☾24'51
minimum elong	5115 Jul 08 08:28	18°☾09'29 11°49'37	evening set	5122 Jul 03 11:24	24°☾36'16
max. Earth dist.	5115 Jul 08 05:02	18°☾09'18 49.50274 AU			
morning rise	5115 Jul 18 05:14	18°☾22'52	conjunction	5122 Jul 14 23:40	24°☾51'59 -10°23'55
retrograde	5115 Oct 18 18:07	19°☾38'26	minimum elong	5122 Jul 14 23:50	24°☾52'00 10°23'56
opposition	5116 Jan 10 03:08	18°☾39'01 -12°13'12	max. Earth dist.	5122 Jul 14 11:24	24°☾51'17 48.82857 AU
min. Earth dist.	5116 Jan 10 06:42	18°☾38'51 47.50421 AU	morning rise	5122 Jul 26 13:35	25°☾07'49
direct	5116 Mar 31 20:06	17°☾40'13	retrograde	5122 Oct 25 13:06	26°☾21'50
evening set	5116 Jun 28 11:53	18°☾52'44	opposition	5123 Jan 16 11:51	25°☾22'05 -10°43'32
			min. Earth dist.	5123 Jan 16 23:17	25°☾21'33 46.80423 AU
conjunction	5116 Jul 08 13:43	19°☾06'24 -11°38'03	direct	5123 Apr 08 00:19	24°☾22'47
minimum elong	5116 Jul 08 13:54	19°☾06'24 11°38'04	evening set	5123 Jul 04 12:01	25°☾34'03
max. Earth dist.	5116 Jul 08 10:27	19°☾06'13 49.41861 AU			
morning rise	5116 Jul 18 16:47	19°☾20'09	conjunction	5123 Jul 16 05:45	25°☾50'06 -10°10'49
retrograde	5116 Oct 19 00:14	20°☾35'27	minimum elong	5123 Jul 16 05:56	25°☾50'06 10°10'50
opposition	5117 Jan 10 07:34	19°☾36'02 -12°01'05	max. Earth dist.	5123 Jul 15 16:46	25°☾49'21 48.71293 AU
min. Earth dist.	5117 Jan 10 11:20	19°☾35'51 47.41707 AU	morning rise	5123 Jul 28 00:56	26°☾06'14
direct	5117 Apr 01 23:39	18°☾37'11	retrograde	5123 Oct 26 16:27	27°☾20'04
evening set	5117 Jun 29 11:10	19°☾49'29	opposition	5124 Jan 17 16:41	26°☾20'14 -10°29'50
			min. Earth dist.	5124 Jan 18 05:41	26°☾19'37 46.68496 AU
conjunction	5117 Jul 09 18:56	20°☾03'30 -11°26'14	direct	5124 Apr 08 07:03	25°☾20'48
minimum elong	5117 Jul 09 19:08	20°☾03'31 11°26'15	evening set	5124 Jul 04 12:56	26°☾31'56
max. Earth dist.	5117 Jul 09 13:43	20°☾03'13 49.33139 AU			
morning rise	5117 Jul 20 04:13	20°☾17'37	conjunction	5124 Jul 16 11:47	26°☾48'18 -9°57'29
retrograde	5117 Oct 20 07:46	21°☾32'40	minimum elong	5124 Jul 16 11:57	26°☾48'18 9°57'29
opposition	5118 Jan 11 12:07	20°☾33'13 -11°48'43	max. Earth dist.	5124 Jul 15 21:37	26°☾47'29 48.59318 AU
min. Earth dist.	5118 Jan 11 16:57	20°☾33'00 47.32670 AU	morning rise	5124 Jul 28 12:10	27°☾04'46
direct	5118 Apr 03 00:58	19°☾34'20	retrograde	5124 Oct 26 20:19	28°☾18'25
evening set	5118 Jun 30 10:39	20°☾46'27	opposition	5125 Jan 17 21:34	27°☾18'29 -10°15'53
			min. Earth dist.	5125 Jan 18 10:48	27°☾17'51 46.56187 AU
conjunction	5118 Jul 11 00:31	21°☾00'50 -11°14'12	direct	5125 Apr 09 13:49	26°☾18'56
minimum elong	5118 Jul 11 00:42	21°☾00'50 11°14'14	evening set	5125 Jul 05 13:47	27°☾29'57
max. Earth dist.	5118 Jul 10 18:51	21°☾00'30 49.24050 AU			
morning rise	5118 Jul 21 15:45	21°☾15'17	conjunction	5125 Jul 17 17:40	27°☾46'38 -9°43'55
retrograde	5118 Oct 21 12:05	22°☾30'08	minimum elong	5125 Jul 17 17:51	27°☾46'38 9°43'56
opposition	5119 Jan 12 16:43	21°☾30'39 -11°36'08	max. Earth dist.	5125 Jul 17 01:53	27°☾45'43 48.46967 AU
min. Earth dist.	5119 Jan 12 23:18	21°☾30'20 47.23227 AU	morning rise	5125 Jul 29 23:15	28°☾03'24
direct	5119 Apr 04 06:17	20°☾31'42	retrograde	5125 Oct 28 03:03	29°☾16'56
evening set	5119 Jul 01 10:35	21°☾43'39	opposition	5126 Jan 19 02:42	28°☾16'54 -10°01'41
			min. Earth dist.	5126 Jan 19 17:48	28°☾16'10 46.43538 AU
conjunction	5119 Jul 12 06:12	21°☾58'22 -11°01'57	direct	5126 Apr 10 18:48	27°☾17'14
minimum elong	5119 Jul 12 06:24	21°☾58'22 11°01'58	evening set	5126 Jul 06 14:54	28°☾28'08
max. Earth dist.	5119 Jul 11 23:04	21°☾57'57 49.14535 AU			
morning rise	5119 Jul 23 03:15	22°☾13'10	conjunction	5126 Jul 18 23:52	28°☾45'08 -9°30'06

minimum elong	5126 Jul 19 00:03	28° Ω 45'09 9°30'07	morning rise	5132 Aug 07 05:20	5° Ω 01'37
max. Earth dist.	5126 Jul 18 08:05	28° Ω 44'13 48.34309 AU	retrograde	5132 Nov 04 05:57	6° Ω 14'40
morning rise	5126 Jul 31 10:16	29° Ω 02'14	opposition	5133 Jan 25 16:24	5° Ω 14'05 -8°15'09
	5126 Sep 20 15:03	0° Ω	min. Earth dist.	5133 Jan 26 14:21	5° Ω 13'01 45.46154 AU
retrograde	5126 Oct 29 09:17	0° Ω 15'37	direct	5133 Apr 17 02:12	4° Ω 13'41
	5126 Dec 07 11:43	30° κ Ω	evening set	5133 Jul 12 05:50	5° Ω 24'27
opposition	5127 Jan 20 07:41	29° Ω 15'30 -9°47'14			
min. Earth dist.	5127 Jan 20 22:48	29° Ω 14'47 46.30590 AU	conjunction	5133 Jul 25 22:24	5° Ω 43'34 -7°46'39
direct	5127 Apr 11 23:31	28° Ω 15'44	minimum elong	5133 Jul 25 22:34	5° Ω 43'35 7°46'40
evening set	5127 Jul 07 16:20	29° Ω 26'34	max. Earth dist.	5133 Jul 24 21:51	5° Ω 42'08 47.36575 AU
			morning rise	5133 Aug 08 16:27	6° Ω 02'47
conjunction	5127 Jul 20 06:02	29° Ω 43'52 -9°16'03	retrograde	5133 Nov 05 12:02	7° Ω 15'48
minimum elong	5127 Jul 20 06:12	29° Ω 43'53 9°16'04	opposition	5134 Jan 26 22:23	6° Ω 15'06 -7°58'56
max. Earth dist.	5127 Jul 19 12:16	29° Ω 42'51 48.21367 AU	min. Earth dist.	5134 Jan 27 21:47	6° Ω 13'58 45.30533 AU
	5127 Jul 31 22:53	0° Ω	direct	5134 Apr 18 08:59	5° Ω 14'33
morning rise	5127 Aug 01 21:28	0° Ω 01'17	evening set	5134 Jul 13 09:06	6° Ω 25'20
retrograde	5127 Oct 30 18:11	1° Ω 14'33	max. Earth dist.	5134 Jul 26 03:35	6° Ω 43'12 47.20858 AU
opposition	5128 Jan 21 12:55	0° Ω 14'22 -9°32'31			
min. Earth dist.	5128 Jan 22 05:08	0° Ω 13'35 46.17372 AU	conjunction	5134 Jul 27 05:39	6° Ω 44'44 -7°30'56
	5128 Feb 03 03:29	30° κ Ω	minimum elong	5134 Jul 27 05:49	6° Ω 44'45 7°30'58
direct	5128 Apr 12 01:38	29° Ω 14'29	morning rise	5134 Aug 10 03:47	7° Ω 04'14
	5128 Jun 18 07:07	0° Ω	retrograde	5134 Nov 06 16:57	8° Ω 17'14
evening set	5128 Jul 07 17:51	0° Ω 25'16	opposition	5135 Jan 28 04:15	7° Ω 16'23 -7°42'29
			min. Earth dist.	5135 Jan 29 04:14	7° Ω 15'13 45.14453 AU
conjunction	5128 Jul 20 12:25	0° Ω 42'53 -9°01'45	direct	5135 Apr 19 17:12	6° Ω 15'39
minimum elong	5128 Jul 20 12:36	0° Ω 42'54 9°01'45	evening set	5135 Jul 14 12:34	7° Ω 26'28
max. Earth dist.	5128 Jul 19 18:25	0° Ω 41'51 48.08140 AU	max. Earth dist.	5135 Jul 27 09:03	7° Ω 44'30 47.04682 AU
morning rise	5128 Aug 02 08:30	1° Ω 00'36			
retrograde	5128 Oct 30 23:36	2° Ω 13'48	conjunction	5135 Jul 28 13:02	7° Ω 46'09 -7°15'00
opposition	5129 Jan 21 18:10	1° Ω 13'32 -9°17'33	minimum elong	5135 Jul 28 13:11	7° Ω 46'10 7°15'00
min. Earth dist.	5129 Jan 22 11:36	1° Ω 12'42 46.03863 AU	morning rise	5135 Aug 11 15:08	8° Ω 05'56
direct	5129 Apr 13 07:30	0° Ω 13'34	retrograde	5135 Nov 07 22:48	9° Ω 18'55
evening set	5129 Jul 08 19:42	1° Ω 24'20	opposition	5136 Jan 29 10:25	8° Ω 17'55 -7°25'47
			min. Earth dist.	5136 Jan 30 12:32	8° Ω 16'38 44.97949 AU
conjunction	5129 Jul 21 18:50	1° Ω 42'15 -8°47'12	direct	5136 Apr 20 00:46	7° Ω 17'01
minimum elong	5129 Jul 21 19:00	1° Ω 42'15 8°47'14	evening set	5136 Jul 14 16:11	8° Ω 27'51
max. Earth dist.	5129 Jul 20 23:42	1° Ω 41'08 47.94638 AU			
morning rise	5129 Aug 03 19:34	2° Ω 00'16	conjunction	5136 Jul 28 20:32	8° Ω 47'49 -6°58'48
retrograde	5129 Nov 01 04:42	3° Ω 13'25	minimum elong	5136 Jul 28 20:42	8° Ω 47'49 6°58'49
opposition	5130 Jan 22 23:29	2° Ω 13'05 -9°02'19	max. Earth dist.	5136 Jul 27 16:19	8° Ω 46'08 46.88115 AU
min. Earth dist.	5130 Jan 23 17:03	2° Ω 12'14 45.90059 AU	morning rise	5136 Aug 12 02:16	9° Ω 07'52
direct	5130 Apr 14 13:30	1° Ω 13'01	retrograde	5136 Nov 08 05:21	10° Ω 20'51
evening set	5130 Jul 09 21:43	2° Ω 23'46	opposition	5137 Jan 29 16:29	9° Ω 19'42 -7°08'49
max. Earth dist.	5130 Jul 22 04:35	2° Ω 40'47 47.80790 AU	min. Earth dist.	5137 Jan 30 18:41	9° Ω 18'24 44.81080 AU
			direct	5137 Apr 21 07:36	8° Ω 18'36
conjunction	5130 Jul 23 01:21	2° Ω 41'59 -8°32'25	evening set	5137 Jul 15 20:09	9° Ω 29'29
minimum elong	5130 Jul 23 01:32	2° Ω 42'00 8°32'25	max. Earth dist.	5137 Jul 28 21:45	9° Ω 47'55 46.71214 AU
morning rise	5130 Aug 05 06:42	3° Ω 00'20			
retrograde	5130 Nov 02 11:05	4° Ω 13'26	conjunction	5137 Jul 30 04:01	9° Ω 49'43 -6°42'22
opposition	5131 Jan 24 05:05	3° Ω 13'02 -8°46'50	minimum elong	5137 Jul 30 04:09	9° Ω 49'43 6°42'22
min. Earth dist.	5131 Jan 25 00:46	3° Ω 12'05 45.75882 AU	morning rise	5137 Aug 13 13:33	10° Ω 10'03
direct	5131 Apr 15 19:56	2° Ω 12'53	retrograde	5137 Nov 09 15:47	11° Ω 23'03
evening set	5131 Jul 11 00:10	3° Ω 23'37	opposition	5138 Jan 30 22:50	10° Ω 21'44 -6°51'35
max. Earth dist.	5131 Jul 23 11:10	3° Ω 40'55 47.66539 AU	min. Earth dist.	5138 Feb 01 02:22	10° Ω 20'22 44.63921 AU
			direct	5138 Apr 22 11:00	9° Ω 20'26
conjunction	5131 Jul 24 08:20	3° Ω 42'09 -8°17'24	evening set	5138 Jul 17 00:08	10° Ω 31'24
minimum elong	5131 Jul 24 08:29	3° Ω 42'09 8°17'24	max. Earth dist.	5138 Jul 30 05:19	10° Ω 50'06 46.54030 AU
morning rise	5131 Aug 06 17:55	4° Ω 00'47			
retrograde	5131 Nov 03 19:27	5° Ω 13'51	conjunction	5138 Jul 31 11:43	10° Ω 51'54 -6°25'40
opposition	5132 Jan 25 10:34	4° Ω 13'22 -8°31'07	minimum elong	5138 Jul 31 11:52	10° Ω 51'55 6°25'41
min. Earth dist.	5132 Jan 26 06:51	4° Ω 12'24 45.61261 AU	morning rise	5138 Aug 15 00:39	11° Ω 12'30
direct	5132 Apr 16 00:19	3° Ω 13'06	retrograde	5138 Nov 11 00:12	12° Ω 25'33
evening set	5132 Jul 11 03:03	4° Ω 23'52	opposition	5139 Feb 01 05:21	11° Ω 24'03 -6°34'05
			min. Earth dist.	5139 Feb 02 09:48	11° Ω 22'39 44.46492 AU
conjunction	5132 Jul 24 15:19	4° Ω 42'41 -8°02'08	direct	5139 Apr 23 16:54	10° Ω 22'35
minimum elong	5132 Jul 24 15:30	4° Ω 42'42 8°02'09	evening set	5139 Jul 18 04:42	11° Ω 33'39
max. Earth dist.	5132 Jul 23 15:33	4° Ω 41'18 47.51812 AU	max. Earth dist.	5139 Jul 31 12:00	11° Ω 52'32 46.36608 AU

conjunction	5139 Aug 01 19:37	11° Ω 54'25	-6°08'43	morning rise	5145 Aug 23 09:06	18° Ω 42'02	
minimum elong	5139 Aug 01 19:45	11° Ω 54'25	6°08'43	retrograde	5145 Nov 18 11:58	19° Ω 56'02	
morning rise	5139 Aug 16 12:01	12° Ω 15'17		opposition	5146 Feb 08 07:36	18° Ω 53'30	-4°23'54
retrograde	5139 Nov 12 08:29	13° Ω 28'22		min. Earth dist.	5146 Feb 09 19:35	18° Ω 51'41	43.16674 AU
opposition	5140 Feb 02 11:49	12° Ω 26'44	-6°16'18	direct	5146 Apr 30 18:14	17° Ω 50'47	
min. Earth dist.	5140 Feb 03 16:23	12° Ω 25'19	44.28844 AU	evening set	5146 Jul 24 21:41	19° Ω 03'12	
direct	5140 Apr 23 23:01	11° Ω 25'05		max. Earth dist.	5146 Aug 07 17:05	19° Ω 23'20	45.06270 AU
evening set	5140 Jul 18 09:30	12° Ω 36'16					
max. Earth dist.	5140 Jul 31 18:47	12° Ω 55'20	46.18951 AU	conjunction	5146 Aug 09 08:46	19° Ω 25'46	-4°02'54
				minimum elong	5146 Aug 09 08:52	19° Ω 25'46	4°02'54
conjunction	5140 Aug 02 03:41	12° Ω 57'18	-5°51'30	morning rise	5146 Aug 24 20:54	19° Ω 48'25	
minimum elong	5140 Aug 02 03:49	12° Ω 57'19	5°51'32	retrograde	5146 Nov 19 19:56	21° Ω 02'37	
morning rise	5140 Aug 16 23:22	13° Ω 18'27		opposition	5147 Feb 09 15:32	19° Ω 59'54	-4°04'14
retrograde	5140 Nov 12 14:16	14° Ω 31'38		min. Earth dist.	5147 Feb 11 03:44	19° Ω 58'04	42.96539 AU
opposition	5141 Feb 02 18:45	13° Ω 29'50	-5°58'15	direct	5147 May 02 03:17	18° Ω 56'57	
min. Earth dist.	5141 Feb 04 00:59	13° Ω 28'20	44.10968 AU	evening set	5147 Jul 26 05:13	20° Ω 09'38	
direct	5141 Apr 25 07:26	12° Ω 28'01		max. Earth dist.	5147 Aug 09 00:22	20° Ω 29'50	44.86014 AU
evening set	5141 Jul 19 14:23	13° Ω 39'21					
max. Earth dist.	5141 Aug 02 03:00	13° Ω 58'40	46.01072 AU	conjunction	5147 Aug 10 18:27	20° Ω 32'26	-3°43'55
				minimum elong	5147 Aug 10 18:32	20° Ω 32'26	3°43'56
conjunction	5141 Aug 03 11:50	14° Ω 00'39	-5°34'02	morning rise	5147 Aug 26 08:56	20° Ω 55'20	
minimum elong	5141 Aug 03 11:58	14° Ω 00'40	5°34'03	retrograde	5147 Nov 21 07:08	22° Ω 09'44	
morning rise	5141 Aug 18 10:31	14° Ω 22'03		opposition	5148 Feb 10 23:39	21° Ω 06'50	-3°44'18
	5141 Sep 16 20:16	15° Ω		min. Earth dist.	5148 Feb 12 13:48	21° Ω 04'53	42.76017 AU
retrograde	5141 Nov 13 21:33	15° Ω 35'22		direct	5148 May 02 09:12	20° Ω 03'38	
	5142 Jan 12 00:36	15° Ω		evening set	5148 Jul 26 12:55	21° Ω 16'36	
opposition	5142 Feb 04 01:41	14° Ω 33'26	-5°39'55	max. Earth dist.	5148 Aug 09 10:06	21° Ω 37'00	44.65388 AU
min. Earth dist.	5142 Feb 05 07:54	14° Ω 31'56	43.92845 AU				
direct	5142 Apr 26 15:02	13° Ω 31'27		conjunction	5148 Aug 11 04:25	21° Ω 39'37	-3°24'41
evening set	5142 Jul 20 19:57	14° Ω 42'58		minimum elong	5148 Aug 11 04:30	21° Ω 39'38	3°24'41
	5142 Aug 01 17:11	15° Ω		morning rise	5148 Aug 26 20:47	22° Ω 02'44	
max. Earth dist.	5142 Aug 03 09:13	15° Ω 02'25	45.82914 AU	retrograde	5148 Nov 21 18:26	23° Ω 17'24	
				opposition	5149 Feb 11 08:03	22° Ω 14'16	-3°24'05
conjunction	5142 Aug 04 20:15	15° Ω 04'32	-5°16'18	min. Earth dist.	5149 Feb 12 22:56	22° Ω 12'17	42.55154 AU
minimum elong	5142 Aug 04 20:22	15° Ω 04'32	5°16'20	direct	5149 May 03 16:04	21° Ω 10'50	
morning rise	5142 Aug 19 22:06	15° Ω 26'11		evening set	5149 Jul 27 20:56	22° Ω 24'06	
retrograde	5142 Nov 15 09:05	16° Ω 39'39		max. Earth dist.	5149 Aug 10 18:22	22° Ω 44'37	44.44460 AU
opposition	5143 Feb 05 08:48	15° Ω 37'36	-5°21'19				
min. Earth dist.	5143 Feb 06 16:43	15° Ω 36'00	43.74427 AU	conjunction	5149 Aug 12 14:16	22° Ω 47'21	-3°05'12
	5143 Mar 11 01:02	15° Ω		minimum elong	5149 Aug 12 14:21	22° Ω 47'21	3°05'13
direct	5143 Apr 27 18:31	14° Ω 35'26		morning rise	5149 Aug 28 08:40	23° Ω 10'41	
	5143 Jun 14 00:17	15° Ω		retrograde	5149 Nov 23 07:12	24° Ω 25'36	
evening set	5143 Jul 22 01:47	15° Ω 47'10		opposition	5150 Feb 12 16:37	23° Ω 22'15	-3°03'35
max. Earth dist.	5143 Aug 04 17:41	16° Ω 06'50	45.64405 AU	min. Earth dist.	5150 Feb 14 08:02	23° Ω 20'14	42.34027 AU
				direct	5150 May 04 22:41	22° Ω 18'33	
conjunction	5143 Aug 06 05:08	16° Ω 08'59	-4°58'20	evening set	5150 Jul 29 05:27	23° Ω 32'09	
minimum elong	5143 Aug 06 05:16	16° Ω 08'59	4°58'20	max. Earth dist.	5150 Aug 12 03:41	23° Ω 52'49	44.23265 AU
morning rise	5143 Aug 21 09:39	16° Ω 30'54					
retrograde	5143 Nov 16 18:22	17° Ω 44'31		conjunction	5150 Aug 14 00:37	23° Ω 55'38	-2°45'28
opposition	5144 Feb 06 16:11	16° Ω 42'20	-5°02'26	minimum elong	5150 Aug 14 00:41	23° Ω 55'38	2°45'28
min. Earth dist.	5144 Feb 08 01:13	16° Ω 40'40	43.55616 AU	morning rise	5150 Aug 29 20:40	24° Ω 19'12	
direct	5144 Apr 28 01:28	15° Ω 40'00		retrograde	5150 Nov 24 15:22	25° Ω 34'23	
evening set	5144 Jul 22 08:08	16° Ω 51'57		opposition	5151 Feb 14 01:25	24° Ω 30'49	-2°42'49
max. Earth dist.	5144 Aug 05 00:51	17° Ω 11'45	45.45483 AU	min. Earth dist.	5151 Feb 15 18:25	24° Ω 28'42	42.12666 AU
				direct	5151 May 06 09:16	23° Ω 26'52	
conjunction	5144 Aug 06 14:04	17° Ω 14'01	-4°40'06	evening set	5151 Jul 30 14:24	24° Ω 40'49	
minimum elong	5144 Aug 06 14:11	17° Ω 14'02	4°40'06	max. Earth dist.	5151 Aug 13 14:05	25° Ω 01'40	44.01868 AU
morning rise	5144 Aug 21 21:21	17° Ω 36'11					
retrograde	5144 Nov 17 03:59	18° Ω 49'59		conjunction	5151 Aug 15 11:14	25° Ω 04'31	-2°25'27
opposition	5145 Feb 06 23:43	17° Ω 47'38	-4°43'18	minimum elong	5151 Aug 15 11:18	25° Ω 04'31	2°25'28
min. Earth dist.	5145 Feb 08 09:34	17° Ω 45'56	43.36374 AU	morning rise	5151 Aug 31 08:49	25° Ω 28'17	
direct	5145 Apr 29 09:11	16° Ω 45'07		retrograde	5151 Nov 25 23:28	26° Ω 43'47	
evening set	5145 Jul 23 14:48	17° Ω 57'18		opposition	5152 Feb 15 10:26	25° Ω 40'00	-2°21'46
max. Earth dist.	5145 Aug 06 08:17	18° Ω 17'14	45.26096 AU	min. Earth dist.	5152 Feb 17 03:14	25° Ω 37'53	41.91118 AU
				direct	5152 May 06 20:35	24° Ω 35'48	
conjunction	5145 Aug 07 23:20	18° Ω 19'38	-4°21'37	evening set	5152 Jul 30 23:50	25° Ω 50'08	
minimum elong	5145 Aug 07 23:27	18° Ω 19'38	4°21'38	max. Earth dist.	5152 Aug 13 22:51	26° Ω 11'04	43.80277 AU

conjunction	5152 Aug 15 21:57	26°Ω14'03	-2°05'12	minimum elong	5158 Aug 23 22:04	3°♊27'39	0°01'45
minimum elong	5152 Aug 15 22:00	26°Ω14'03	2°05'11	behind sun begin	5158 Aug 23 15:33	3°♊27'15	
morning rise	5152 Aug 31 20:58	26°Ω38'02		behind sun end	5158 Aug 24 04:35	3°♊28'02	
retrograde	5152 Nov 26 10:53	27°Ω53'52		morning rise	5158 Sep 09 00:57	3°♊52'44	
opposition	5153 Feb 15 19:50	26°Ω49'53	-2°00'26	retrograde	5158 Dec 04 12:56	5°♊11'11	
min. Earth dist.	5153 Feb 17 14:12	26°Ω47'41	41.69397 AU	opposition	5159 Feb 23 10:13	4°♊05'47	0°13'19
direct	5153 May 08 03:47	25°Ω45'27		min. Earth dist.	5159 Feb 25 10:33	4°♊03'12	40.33206 AU
evening set	5153 Aug 01 09:36	27°Ω00'11		direct	5159 May 15 15:41	2°♊59'41	
max. Earth dist.	5153 Aug 15 10:12	27°Ω21'19	43.58508 AU	evening set	5159 Aug 09 08:38	4°♊17'28	
				max. Earth dist.	5159 Aug 23 03:38	4°♊39'00	42.21430 AU
conjunction	5153 Aug 17 09:08	27°Ω24'18	-1°44'40	conjunction	5159 Aug 25 11:16	4°♊42'40	0°23'43
minimum elong	5153 Aug 17 09:11	27°Ω24'18	1°44'42	minimum elong	5159 Aug 25 11:15	4°♊42'40	0°23'42
morning rise	5153 Sep 02 09:11	27°Ω48'29		morning rise	5159 Sep 10 14:13	5°♊07'54	
retrograde	5153 Nov 27 22:05	29°Ω04'43		retrograde	5159 Dec 06 04:10	6°♊26'52	
opposition	5154 Feb 17 05:25	28°Ω00'31	-1°38'49	opposition	5160 Feb 24 21:44	5°♊21'10	0°36'32
min. Earth dist.	5154 Feb 19 00:04	27°Ω58'17	41.47484 AU	min. Earth dist.	5160 Feb 26 23:26	5°♊18'30	40.09279 AU
direct	5154 May 09 12:35	26°Ω55'50		direct	5160 May 16 00:07	4°♊14'43	
evening set	5154 Aug 02 20:01	28°Ω11'01		evening set	5160 Aug 09 22:17	5°♊33'06	
max. Earth dist.	5154 Aug 16 19:51	28°Ω32'14	43.36531 AU	max. Earth dist.	5160 Aug 23 16:32	5°♊54'43	41.97333 AU
conjunction	5154 Aug 18 20:29	28°Ω35'20	-1°23'54	conjunction	5160 Aug 26 00:47	5°♊58'26	0°45'57
minimum elong	5154 Aug 18 20:32	28°Ω35'20	1°23'54	minimum elong	5160 Aug 26 00:45	5°♊58'26	0°45'57
morning rise	5154 Sep 03 21:42	28°Ω59'43		morning rise	5160 Sep 11 03:14	6°♊23'49	
	5154 Oct 23 00:21	0°♊		retrograde	5160 Dec 06 17:57	7°♊43'19	
retrograde	5154 Nov 29 13:12	0°♊16'21		opposition	5161 Feb 25 09:34	6°♊37'19	1°00'02
	5155 Jan 06 06:19	30°♋Ω		min. Earth dist.	5161 Feb 27 12:25	6°♊34'34	39.85067 AU
opposition	5155 Feb 18 15:19	29°Ω11'57	-1°16'56	direct	5161 May 17 11:49	5°♊30'32	
min. Earth dist.	5155 Feb 20 10:58	29°Ω09'40	41.25339 AU	evening set	5161 Aug 11 12:36	6°♊49'33	
direct	5155 May 10 19:37	28°Ω07'01		max. Earth dist.	5161 Aug 25 05:28	7°♊11'12	41.73002 AU
evening set	5155 Aug 04 07:03	29°Ω22'41					
max. Earth dist.	5155 Aug 18 06:44	29°Ω44'01	43.14253 AU	conjunction	5161 Aug 27 14:34	7°♊15'01	1°08'26
conjunction	5155 Aug 20 08:27	29°Ω47'12	-1°02'52	minimum elong	5161 Aug 27 14:32	7°♊15'00	1°08'26
minimum elong	5155 Aug 20 08:29	29°Ω47'12	1°02'53	morning rise	5161 Sep 12 16:33	7°♊40'30	
	5155 Aug 28 16:02	0°♊		retrograde	5161 Dec 08 08:56	9°♊00'35	
morning rise	5155 Sep 05 10:18	0°♊11'46		opposition	5162 Feb 26 21:35	7°♊54'16	1°23'47
retrograde	5155 Dec 01 02:32	1°♊28'50		min. Earth dist.	5162 Mar 01 00:35	7°♊51'30	39.60664 AU
opposition	5156 Feb 20 01:33	0°♊24'12	-0°54'47	direct	5162 May 19 00:59	6°♊47'07	
min. Earth dist.	5156 Feb 21 22:59	0°♊21'49	41.02870 AU	evening set	5162 Aug 13 03:32	8°♊06'49	
	5156 Mar 10 17:12	30°♋Ω		max. Earth dist.	5162 Aug 26 18:05	8°♊28'28	41.48477 AU
direct	5156 May 11 05:55	29°Ω19'01		conjunction	5162 Aug 29 04:46	8°♊32'25	1°31'08
	5156 Jul 10 13:34	0°♊		minimum elong	5162 Aug 29 04:43	8°♊32'24	1°31'08
evening set	5156 Aug 04 18:39	0°♊35'12		morning rise	5162 Sep 14 05:56	8°♊58'02	
max. Earth dist.	5156 Aug 18 17:59	0°♊56'37	42.91634 AU	retrograde	5162 Dec 09 23:00	10°♊18'43	
conjunction	5156 Aug 20 20:41	0°♊59'54	-0°41'36	opposition	5163 Feb 28 10:11	9°♊12'05	1°47'47
minimum elong	5156 Aug 20 20:42	0°♊59'54	0°41'36	min. Earth dist.	5163 Mar 02 14:52	9°♊09'13	39.36109 AU
morning rise	5156 Sep 05 23:08	1°♊24'39		direct	5163 May 20 13:49	8°♊04'36	
retrograde	5156 Dec 01 14:32	2°♊42'08		evening set	5163 Aug 14 19:05	9°♊24'59	
opposition	5157 Feb 20 12:06	1°♊37'17	-0°32'21	max. Earth dist.	5163 Aug 28 08:56	9°♊46'45	41.23826 AU
min. Earth dist.	5157 Feb 22 09:46	1°♊34'52	40.80038 AU	conjunction	5163 Aug 30 19:26	9°♊50'42	1°54'04
direct	5157 May 12 17:35	0°♊31'49		minimum elong	5163 Aug 30 19:23	9°♊50'42	1°54'04
evening set	5157 Aug 06 06:41	1°♊48'30		morning rise	5163 Sep 15 19:25	10°♊16'26	
max. Earth dist.	5157 Aug 20 04:07	2°♊09'56	42.68614 AU	retrograde	5163 Dec 11 11:49	11°♊37'46	
conjunction	5157 Aug 22 09:04	2°♊13'23	-0°20'05	opposition	5164 Feb 29 22:57	10°♊30'51	2°12'01
minimum elong	5157 Aug 22 09:05	2°♊13'23	0°20'06	min. Earth dist.	5164 Mar 03 03:17	10°♊27'58	39.11458 AU
morning rise	5157 Sep 07 11:56	2°♊38'18		direct	5164 May 21 03:17	9°♊23'00	
retrograde	5157 Dec 03 01:29	3°♊56'16		evening set	5164 Aug 15 11:27	10°♊44'10	
opposition	5158 Feb 21 23:08	2°♊51'09	-0°09'39	max. Earth dist.	5164 Aug 28 22:07	11°♊05'52	40.99094 AU
min. Earth dist.	5158 Feb 23 22:57	2°♊48'37	40.56812 AU	conjunction	5164 Aug 31 10:21	11°♊09'58	2°17'13
direct	5158 May 14 04:29	1°♊45'23		minimum elong	5164 Aug 31 10:17	11°♊09'58	2°17'12
asc. node	5158 Jul 26 11:59	2°♊44'25		morning rise	5164 Sep 16 09:08	11°♊35'48	
evening set	5158 Aug 07 19:17	3°♊02'36		retrograde	5164 Dec 12 03:52	12°♊57'51	
max. Earth dist.	5158 Aug 21 16:48	3°♊24'09	42.45203 AU	opposition	5165 Mar 02 12:19	11°♊50'38	2°36'30
conjunction	5158 Aug 23 22:03	3°♊27'39	0°01'45	min. Earth dist.	5165 Mar 04 17:46	11°♊47'41	38.86759 AU

direct	5165 May 22 13:32	10° 10 42'28		retrograde	5171 Dec 23 07:19	22° 10 52'34	
evening set	5165 Aug 17 04:10	12° 10 04'26		opposition	5172 Mar 11 22:02	21° 10 43'07	5°33'45
max. Earth dist.	5165 Aug 30 13:43	12° 10 26'13	40.74300 AU	min. Earth dist.	5172 Mar 14 09:21	21° 10 39'43	37.10063 AU
				direct	5172 May 31 16:35	20° 10 32'22	
conjunction	5165 Sep 02 01:43	12° 10 30'19	2°40'34	evening set	5172 Aug 28 01:59	22° 10 01'18	
minimum elong	5165 Sep 02 01:38	12° 10 30'19	2°40'34	max. Earth dist.	5172 Sep 09 08:30	22° 10 22'25	38.96277 AU
morning rise	5165 Sep 17 22:42	12° 10 56'13					
retrograde	5165 Dec 13 20:17	14° 10 19'03		conjunction	5172 Sep 12 03:54	22° 10 27'18	5°29'03
opposition	5166 Mar 04 02:05	13° 10 11'32	3°01'12	minimum elong	5172 Sep 12 03:44	22° 10 27'17	5°29'02
min. Earth dist.	5166 Mar 06 08:03	13° 10 08'33	38.61995 AU	morning rise	5172 Sep 27 04:38	22° 10 53'15	
direct	5166 May 24 01:16	12° 10 03'03		retrograde	5172 Dec 24 02:43	24° 10 22'32	
evening set	5166 Aug 18 21:59	13° 10 25'53		opposition	5173 Mar 13 15:11	23° 10 12'41	5°59'47
max. Earth dist.	5166 Sep 01 04:22	13° 10 47'37	40.49438 AU	min. Earth dist.	5173 Mar 16 03:35	23° 10 09'12	36.84126 AU
				direct	5173 Jun 02 07:57	22° 10 01'30	
conjunction	5166 Sep 03 17:35	13° 10 51'51	3°04'06	evening set	5173 Aug 30 01:32	23° 10 31'36	
minimum elong	5166 Sep 03 17:29	13° 10 51'50	3°04'05	max. Earth dist.	5173 Sep 11 03:10	23° 10 52'32	38.70167 AU
morning rise	5166 Sep 19 12:48	14° 10 17'49					
retrograde	5166 Dec 15 15:03	15° 10 41'27		conjunction	5173 Sep 13 23:10	23° 10 57'30	5°53'41
opposition	5167 Mar 05 16:03	14° 10 33'39	3°26'08	minimum elong	5173 Sep 13 22:59	23° 10 57'29	5°53'42
min. Earth dist.	5167 Mar 07 22:27	14° 10 30'38	38.37153 AU	morning rise	5173 Sep 28 19:44	24° 10 23'22	
direct	5167 May 25 13:00	13° 10 24'50		retrograde	5173 Dec 26 00:03	25° 10 53'44	
evening set	5167 Aug 20 16:35	14° 10 48'36		opposition	5174 Mar 15 08:41	24° 10 43'30	6°25'57
max. Earth dist.	5167 Sep 02 19:43	15° 10 10'17	40.24433 AU	min. Earth dist.	5174 Mar 17 20:57	24° 10 40'00	36.58149 AU
				direct	5174 Jun 04 02:07	23° 10 31'51	
conjunction	5167 Sep 05 10:05	15° 10 14'37	3°27'51	evening set	5174 Sep 01 02:09	25° 10 03'10	
minimum elong	5167 Sep 05 09:59	15° 10 14'37	3°27'51	max. Earth dist.	5174 Sep 12 21:53	25° 10 23'52	38.44016 AU
morning rise	5167 Sep 21 02:59	15° 10 40'38					
retrograde	5167 Dec 17 08:04	17° 10 05'08		conjunction	5174 Sep 15 19:11	25° 10 28'58	6°18'26
opposition	5168 Mar 06 06:46	15° 10 57'02	3°51'16	minimum elong	5174 Sep 15 19:00	25° 10 28'57	6°18'25
min. Earth dist.	5168 Mar 08 14:50	15° 10 53'54	38.12151 AU	morning rise	5174 Sep 30 11:04	25° 10 54'43	
direct	5168 May 26 04:35	14° 10 47'53		retrograde	5174 Dec 27 20:47	27° 10 26'12	
evening set	5168 Aug 21 11:54	16° 10 12'36		opposition	5175 Mar 17 02:47	26° 10 15'34	6°52'13
max. Earth dist.	5168 Sep 03 12:18	16° 10 34'16	39.99245 AU	min. Earth dist.	5175 Mar 19 16:27	26° 10 11'57	36.32185 AU
				direct	5175 Jun 05 20:52	25° 10 03'28	
conjunction	5168 Sep 06 02:57	16° 10 38'40	3°51'46	evening set	5175 Sep 03 03:43	26° 10 36'04	
minimum elong	5168 Sep 06 02:50	16° 10 38'40	3°51'45	max. Earth dist.	5175 Sep 14 19:04	26° 10 56'37	38.17911 AU
morning rise	5168 Sep 21 17:16	17° 10 04'43					
retrograde	5168 Dec 18 01:16	18° 10 30'05		conjunction	5175 Sep 17 15:47	27° 10 01'44	6°43'14
opposition	5169 Mar 07 21:50	17° 10 21'42	4°16'36	minimum elong	5175 Sep 17 15:34	27° 10 01'43	6°43'14
min. Earth dist.	5169 Mar 10 05:53	17° 10 18'32	37.86949 AU	morning rise	5175 Oct 02 02:28	27° 10 27'19	
direct	5169 May 27 21:23	16° 10 12'10		retrograde	5175 Dec 29 17:00	29° 10 00'01	
evening set	5169 Aug 23 08:11	17° 10 37'54		opposition	5176 Mar 17 21:27	27° 10 48'59	7°18'33
max. Earth dist.	5169 Sep 05 03:28	17° 10 59'24	39.73822 AU	min. Earth dist.	5176 Mar 20 10:29	27° 10 45'23	36.06304 AU
				direct	5176 Jun 06 16:44	26° 10 36'26	
conjunction	5169 Sep 07 20:22	18° 10 03'59	4°15'51	evening set	5176 Sep 04 06:13	28° 10 10'23	
minimum elong	5169 Sep 07 20:14	18° 10 03'58	4°15'52	max. Earth dist.	5176 Sep 15 14:35	28° 10 30'36	37.91903 AU
morning rise	5169 Sep 23 07:54	18° 10 30'03					
retrograde	5169 Dec 19 18:46	19° 10 56'20		conjunction	5176 Sep 18 12:41	28° 10 35'52	7°08'04
opposition	5170 Mar 09 13:26	18° 10 47'37	4°42'09	minimum elong	5176 Sep 18 12:27	28° 10 35'51	7°08'04
min. Earth dist.	5170 Mar 11 23:27	18° 10 44'20	37.61526 AU	morning rise	5176 Oct 02 17:58	29° 10 01'17	
direct	5170 May 29 11:14	17° 10 37'42			5176 Nov 09 03:19	0° 10 00'00	
evening set	5170 Aug 25 05:11	19° 10 04'27		retrograde	5176 Dec 30 14:10	0° 10 35'15	
max. Earth dist.	5170 Sep 06 21:25	19° 10 25'54	39.48168 AU		5177 Feb 21 00:19	30° 10 00'00	
				opposition	5177 Mar 19 16:48	29° 10 23'49	7°44'56
conjunction	5170 Sep 09 14:26	19° 10 30'32	4°40'06	min. Earth dist.	5177 Mar 22 06:44	29° 10 20'09	35.80564 AU
minimum elong	5170 Sep 09 14:18	19° 10 30'31	4°40'06	direct	5177 Jun 08 09:41	28° 10 10'50	
morning rise	5170 Sep 24 22:39	19° 10 56'35		evening set	5177 Sep 06 09:46	29° 10 46'12	
retrograde	5170 Dec 21 10:58	21° 10 23'50			5177 Sep 14 02:26	0° 10 00'00	
opposition	5171 Mar 11 05:33	20° 10 14'46	5°07'52	max. Earth dist.	5177 Sep 17 13:02	0° 10 06'14	37.66037 AU
min. Earth dist.	5171 Mar 13 15:51	20° 10 11'26	37.35877 AU				
direct	5171 May 31 03:14	19° 10 04'27		conjunction	5177 Sep 20 10:29	0° 10 11'29	7°32'55
evening set	5171 Aug 27 03:15	20° 10 32'16		minimum elong	5177 Sep 20 10:15	0° 10 11'28	7°32'55
max. Earth dist.	5171 Sep 08 13:55	20° 10 53'30	39.22305 AU	morning rise	5177 Oct 04 09:39	0° 10 36'42	
				retrograde	5178 Jan 01 10:38	2° 10 12'01	
conjunction	5171 Sep 11 08:51	20° 10 58'18	5°04'31	opposition	5178 Mar 21 12:39	1° 10 00'13	8°11'20
minimum elong	5171 Sep 11 08:42	20° 10 58'18	5°04'31	min. Earth dist.	5178 Mar 24 02:34	0° 10 56'31	35.54975 AU
morning rise	5171 Sep 26 13:40	21° 10 24'19			5178 May 09 19:50	30° 10 00'00	

direct	5178 Jun 10 04:13	29° <u>17</u> 46'48		morning rise	5184 Oct 14 05:51	12° <u>31</u> '45	
	5178 Jul 11 05:23	0° <u>0</u>		retrograde	5185 Jan 13 20:44	14° <u>18</u> '28	
evening set	5178 Sep 08 14:37	1° <u>0</u> 23'40		opposition	5185 Apr 02 03:27	13° <u>03</u> '56	11°14'15
max. Earth dist.	5178 Sep 19 10:25	1° <u>0</u> 43'20	37.40323 AU	min. Earth dist.	5185 Apr 04 20:42	12° <u>0</u> 59'51	33.78009 AU
				direct	5185 Jun 21 10:37	11° <u>0</u> 47'23	
conjunction	5178 Sep 22 08:50	1° <u>0</u> 48'43	7°57'45	evening set	5185 Sep 23 11:12	13° <u>0</u> 36'56	
minimum elong	5178 Sep 22 08:35	1° <u>0</u> 48'42	7°57'45	max. Earth dist.	5185 Oct 01 15:59	13° <u>0</u> 52'54	35.61860 AU
morning rise	5178 Oct 06 01:45	2° <u>0</u> 13'41					
retrograde	5179 Jan 03 11:28	3° <u>0</u> 50'25		conjunction	5185 Oct 04 17:51	13° <u>0</u> 58'57	10°48'48
opposition	5179 Mar 23 09:09	2° <u>0</u> 38'15	8°37'43	minimum elong	5185 Oct 04 17:30	13° <u>0</u> 58'55	10°48'49
min. Earth dist.	5179 Mar 25 23:11	2° <u>0</u> 34'32	35.29534 AU	morning rise	5185 Oct 15 23:02	14° <u>0</u> 20'51	
direct	5179 Jun 11 21:59	1° <u>0</u> 24'25		retrograde	5186 Jan 16 01:48	16° <u>0</u> 09'30	
evening set	5179 Sep 10 20:33	3° <u>0</u> 02'53		opposition	5186 Apr 04 04:50	14° <u>0</u> 54'32	11°39'40
max. Earth dist.	5179 Sep 21 09:20	3° <u>0</u> 22'12	37.14700 AU	min. Earth dist.	5186 Apr 06 22:00	14° <u>0</u> 50'26	33.53110 AU
				direct	5186 Jun 23 09:23	13° <u>0</u> 37'28	
conjunction	5179 Sep 24 08:03	3° <u>0</u> 27'39	8°22'32	evening set	5186 Sep 26 02:19	15° <u>0</u> 29'09	
minimum elong	5179 Sep 24 07:46	3° <u>0</u> 27'38	8°22'33	max. Earth dist.	5186 Oct 03 20:21	15° <u>0</u> 44'24	35.36784 AU
morning rise	5179 Oct 07 17:56	3° <u>0</u> 52'20					
retrograde	5180 Jan 05 11:22	5° <u>0</u> 30'34		conjunction	5186 Oct 06 22:07	15° <u>0</u> 50'29	11°12'24
opposition	5180 Mar 24 06:26	4° <u>0</u> 18'02	9°04'04	minimum elong	5186 Oct 06 21:47	15° <u>0</u> 50'27	11°12'25
min. Earth dist.	5180 Mar 26 21:38	4° <u>0</u> 14'13	35.04174 AU	morning rise	5186 Oct 17 16:16	16° <u>0</u> 11'43	
direct	5180 Jun 12 17:23	3° <u>0</u> 03'47		retrograde	5187 Jan 18 06:17	18° <u>0</u> 02'22	
evening set	5180 Sep 12 03:50	4° <u>0</u> 43'56		opposition	5187 Apr 06 07:15	16° <u>0</u> 46'57	12°04'45
max. Earth dist.	5180 Sep 22 09:02	5° <u>0</u> 02'51	36.89145 AU	min. Earth dist.	5187 Apr 09 01:03	16° <u>0</u> 42'46	33.28458 AU
				direct	5187 Jun 25 11:16	15° <u>0</u> 29'23	
conjunction	5180 Sep 25 07:52	5° <u>0</u> 08'22	8°47'15	evening set	5187 Sep 28 19:01	17° <u>0</u> 23'17	
minimum elong	5180 Sep 25 07:36	5° <u>0</u> 08'21	8°47'16	max. Earth dist.	5187 Oct 06 01:41	17° <u>0</u> 37'46	35.12006 AU
morning rise	5180 Oct 08 10:24	5° <u>0</u> 32'43					
retrograde	5181 Jan 06 13:44	7° <u>0</u> 12'31		conjunction	5187 Oct 09 02:56	17° <u>0</u> 43'52	11°35'38
opposition	5181 Mar 26 04:20	5° <u>0</u> 59'37	9°30'22	minimum elong	5187 Oct 09 02:34	17° <u>0</u> 43'50	11°35'39
min. Earth dist.	5181 Mar 28 19:11	5° <u>0</u> 55'47	34.78868 AU	morning rise	5187 Oct 19 09:20	18° <u>0</u> 04'20	
direct	5181 Jun 14 16:11	4° <u>0</u> 44'56		retrograde	5188 Jan 20 13:49	19° <u>0</u> 57'05	
evening set	5181 Sep 14 12:11	6° <u>0</u> 26'49		opposition	5188 Apr 07 10:17	18° <u>0</u> 41'13	12°29'27
max. Earth dist.	5181 Sep 24 08:00	6° <u>0</u> 45'12	36.63602 AU	min. Earth dist.	5188 Apr 10 02:58	18° <u>0</u> 37'06	33.04149 AU
				direct	5188 Jun 26 15:26	17° <u>0</u> 23'09	
conjunction	5181 Sep 27 08:21	6° <u>0</u> 50'53	9°11'53	evening set	5188 Sep 30 13:06	19° <u>0</u> 19'24	
minimum elong	5181 Sep 27 08:03	6° <u>0</u> 50'51	9°11'54	max. Earth dist.	5188 Oct 07 06:59	19° <u>0</u> 32'57	34.87592 AU
morning rise	5181 Oct 10 03:01	7° <u>0</u> 14'52					
retrograde	5182 Jan 08 16:16	8° <u>0</u> 56'17		conjunction	5188 Oct 10 08:33	19° <u>0</u> 39'08	11°58'27
opposition	5182 Mar 28 03:07	7° <u>0</u> 43'00	9°56'34	minimum elong	5188 Oct 10 08:12	19° <u>0</u> 39'06	11°58'27
min. Earth dist.	5182 Mar 30 19:31	7° <u>0</u> 39'03	34.53578 AU	morning rise	5188 Oct 20 02:32	19° <u>0</u> 58'47	
direct	5182 Jun 16 14:05	6° <u>0</u> 27'52		retrograde	5189 Jan 21 20:32	21° <u>0</u> 53'43	
evening set	5182 Sep 16 22:00	8° <u>0</u> 11'33		opposition	5189 Apr 09 14:16	20° <u>0</u> 37'26	12°53'40
max. Earth dist.	5182 Sep 26 09:50	8° <u>0</u> 29'29	36.38070 AU	min. Earth dist.	5189 Apr 12 07:37	20° <u>0</u> 33'14	32.80255 AU
				direct	5189 Jun 28 18:12	19° <u>0</u> 18'53	
conjunction	5182 Sep 29 09:47	8° <u>0</u> 35'12	9°36'24	evening set	5189 Oct 03 08:52	21° <u>0</u> 17'34	
minimum elong	5182 Sep 29 09:29	8° <u>0</u> 35'11	9°36'24	max. Earth dist.	5189 Oct 09 14:47	21° <u>0</u> 30'15	34.63628 AU
morning rise	5182 Oct 11 19:52	8° <u>0</u> 58'45					
retrograde	5183 Jan 10 17:06	10° <u>0</u> 41'52		conjunction	5189 Oct 12 14:55	21° <u>0</u> 36'23	12°20'45
opposition	5183 Mar 30 02:24	9° <u>0</u> 28'11	10°22'38	minimum elong	5189 Oct 12 14:33	21° <u>0</u> 36'21	12°20'45
min. Earth dist.	5183 Apr 01 18:27	9° <u>0</u> 24'14	34.28307 AU	morning rise	5189 Oct 21 19:28	21° <u>0</u> 55'05	
direct	5183 Jun 18 13:46	8° <u>0</u> 12'35		retrograde	5190 Jan 24 03:40	23° <u>0</u> 52'20	
evening set	5183 Sep 19 09:10	9° <u>0</u> 58'09		opposition	5190 Apr 11 19:00	22° <u>0</u> 35'39	13°17'20
max. Earth dist.	5183 Sep 28 10:13	10° <u>0</u> 15'25	36.12567 AU	min. Earth dist.	5190 Apr 14 10:58	22° <u>0</u> 31'31	32.56814 AU
				direct	5190 Jun 30 23:19	21° <u>0</u> 16'39	
conjunction	5183 Oct 01 11:48	10° <u>0</u> 21'19	10°00'45	evening set	5190 Oct 06 06:27	23° <u>0</u> 17'54	
minimum elong	5183 Oct 01 11:28	10° <u>0</u> 21'17	10°00'45	max. Earth dist.	5190 Oct 11 21:21	23° <u>0</u> 29'26	34.40125 AU
morning rise	5183 Oct 13 12:59	10° <u>0</u> 44'23					
retrograde	5184 Jan 12 19:16	12° <u>0</u> 29'16		conjunction	5190 Oct 14 22:08	23° <u>0</u> 35'41	12°42'31
opposition	5184 Mar 31 02:33	11° <u>0</u> 15'10	10°48'33	minimum elong	5190 Oct 14 21:47	23° <u>0</u> 35'39	12°42'31
min. Earth dist.	5184 Apr 02 19:40	11° <u>0</u> 11'07	34.03105 AU	morning rise	5190 Oct 23 12:33	23° <u>0</u> 53'21	
direct	5184 Jun 19 11:26	9° <u>0</u> 59'05		retrograde	5191 Jan 26 12:46	25° <u>0</u> 53'02	
evening set	5184 Sep 20 21:22	11° <u>0</u> 46'37		opposition	5191 Apr 14 00:30	24° <u>0</u> 35'58	13°40'25
max. Earth dist.	5184 Sep 29 13:32	12° <u>0</u> 03'19	35.87139 AU	min. Earth dist.	5191 Apr 16 16:46	24° <u>0</u> 31'47	32.33846 AU
				direct	5191 Jul 03 02:52	23° <u>0</u> 16'32	
conjunction	5184 Oct 02 14:29	12° <u>0</u> 09'14	10°24'54	evening set	5191 Oct 09 05:59	25° <u>0</u> 20'28	
minimum elong	5184 Oct 02 14:10	12° <u>0</u> 09'12	10°24'55	max. Earth dist.	5191 Oct 14 07:10	25° <u>0</u> 30'57	34.17080 AU

conjunction	5191 Oct 17 06:19	25° <u>♂</u> 37'07	13°03'39	morning rise	5197 Oct 31 19:01	8° <u>♂</u> 33'54	
minimum elong	5191 Oct 17 05:56	25° <u>♂</u> 37'05	13°03'40	retrograde	5198 Feb 10 18:31	10° <u>♂</u> 56'58	
morning rise	5191 Oct 25 05:14	25° <u>♂</u> 53'38		opposition	5198 Apr 28 16:18	9° <u>♂</u> 37'09	15°59'51
retrograde	5192 Jan 28 20:33	27° <u>♂</u> 55'53		min. Earth dist.	5198 May 01 05:47	9° <u>♂</u> 32'59	30.85011 AU
opposition	5192 Apr 15 07:03	26° <u>♂</u> 38'26	14°02'50	direct	5198 Jul 17 11:04	8° <u>♂</u> 14'37	
min. Earth dist.	5192 Apr 17 22:38	26° <u>♂</u> 34'16	32.11316 AU	max. Earth dist.	5198 Oct 29 19:28	10° <u>♂</u> 39'32	32.67904 AU
direct	5192 Jul 04 08:04	25° <u>♂</u> 18'35					
evening set	5192 Oct 11 07:27	27° <u>♂</u> 25'21		conjunction	5198 Nov 01 14:07	10° <u>♂</u> 45'42	15°09'36
max. Earth dist.	5192 Oct 15 15:31	27° <u>♂</u> 34'26	33.94470 AU	minimum elong	5198 Nov 01 13:49	10° <u>♂</u> 45'41	15°09'36
				retrograde	5199 Feb 13 08:44	13° <u>♂</u> 13'58	
conjunction	5192 Oct 18 15:01	27° <u>♂</u> 40'42	13°24'08	opposition	5199 May 01 04:42	11° <u>♂</u> 53'45	16°15'41
minimum elong	5192 Oct 18 14:40	27° <u>♂</u> 40'40	13°24'09	min. Earth dist.	5199 May 03 16:25	11° <u>♂</u> 49'41	30.65771 AU
morning rise	5192 Oct 25 21:27	27° <u>♂</u> 55'57		direct	5199 Jul 20 00:18	10° <u>♂</u> 30'47	
	5193 Jan 22 18:57	0° <u>♂</u>		max. Earth dist.	5199 Nov 01 10:04	12° <u>♂</u> 57'05	32.48777 AU
retrograde	5193 Jan 30 06:08	0° <u>♂</u> 00'54					
	5193 Feb 06 18:04	30° <u>♂</u> ♂		conjunction	5199 Nov 04 04:28	13° <u>♂</u> 03'16	15°23'33
opposition	5193 Apr 17 14:22	28° <u>♂</u> 43'04	14°24'32	minimum elong	5199 Nov 04 04:09	13° <u>♂</u> 03'14	15°23'34
min. Earth dist.	5193 Apr 20 05:39	28° <u>♂</u> 38'54	31.89210 AU		5200 Jan 02 14:18	15° <u>♂</u>	
direct	5193 Jul 06 13:09	27° <u>♂</u> 22'46		retrograde	5200 Feb 16 00:55	15° <u>♂</u> 32'47	
evening set	5193 Oct 14 11:29	29° <u>♂</u> 32'34			5200 Apr 01 15:07	15° <u>♂</u> ♂	
max. Earth dist.	5193 Oct 18 02:22	29° <u>♂</u> 40'13	33.72255 AU	opposition	5200 May 02 18:03	14° <u>♂</u> 12'12	16°30'14
				min. Earth dist.	5200 May 05 04:58	14° <u>♂</u> 08'09	30.47258 AU
conjunction	5193 Oct 21 00:55	29° <u>♂</u> 46'27	13°43'54	direct	5200 Jul 21 12:14	12° <u>♂</u> 48'49	
minimum elong	5193 Oct 21 00:32	29° <u>♂</u> 46'25	13°43'55		5200 Oct 26 17:52	15° <u>♂</u>	
morning rise	5193 Oct 27 13:08	0° <u>♂</u> 00'15		max. Earth dist.	5200 Nov 03 03:57	15° <u>♂</u> 16'40	32.30429 AU
	5193 Oct 27 10:15	0° <u>♂</u>					
retrograde	5194 Feb 01 14:59	2° <u>♂</u> 08'03		conjunction	5200 Nov 05 19:29	15° <u>♂</u> 22'39	15°36'15
opposition	5194 Apr 19 22:36	0° <u>♂</u> 49'50	14°45'27	minimum elong	5200 Nov 05 19:13	15° <u>♂</u> 22'37	15°36'15
min. Earth dist.	5194 Apr 22 14:06	0° <u>♂</u> 45'38	31.67487 AU	retrograde	5201 Feb 17 15:15	17° <u>♂</u> 53'22	
	5194 May 23 17:18	30° <u>♂</u> ♂		opposition	5201 May 05 08:14	16° <u>♂</u> 32'27	16°43'23
direct	5194 Jul 08 19:33	29° <u>♂</u> 29'06		min. Earth dist.	5201 May 07 17:29	16° <u>♂</u> 28'30	30.29537 AU
	5194 Aug 22 23:23	0° <u>♂</u>		direct	5201 Jul 24 01:52	15° <u>♂</u> 08'42	
evening set	5194 Oct 17 18:34	1° <u>♂</u> 42'06		max. Earth dist.	5201 Nov 05 20:30	17° <u>♂</u> 37'53	32.12946 AU
max. Earth dist.	5194 Oct 20 13:10	1° <u>♂</u> 48'01	33.50448 AU				
				conjunction	5201 Nov 08 11:11	17° <u>♂</u> 43'50	15°47'35
conjunction	5194 Oct 23 11:35	1° <u>♂</u> 54'19	14°02'53	minimum elong	5201 Nov 08 10:55	17° <u>♂</u> 43'49	15°47'35
minimum elong	5194 Oct 23 11:14	1° <u>♂</u> 54'17	14°02'54	retrograde	5202 Feb 20 07:45	20° <u>♂</u> 15'45	
morning rise	5194 Oct 29 03:38	2° <u>♂</u> 06'27		opposition	5202 May 07 22:58	18° <u>♂</u> 54'31	16°55'02
retrograde	5195 Feb 04 03:27	4° <u>♂</u> 17'18		min. Earth dist.	5202 May 10 06:29	18° <u>♂</u> 50'40	30.12699 AU
opposition	5195 Apr 22 07:42	2° <u>♂</u> 58'41	15°05'31	direct	5202 Jul 26 15:17	17° <u>♂</u> 30'26	
min. Earth dist.	5195 Apr 24 22:04	2° <u>♂</u> 54'32	31.46169 AU	max. Earth dist.	5202 Nov 08 15:52	20° <u>♂</u> 01'08	31.96376 AU
direct	5195 Jul 11 03:19	1° <u>♂</u> 37'30					
evening set	5195 Oct 21 05:12	3° <u>♂</u> 53'59		conjunction	5202 Nov 11 03:48	20° <u>♂</u> 06'52	15°57'28
max. Earth dist.	5195 Oct 23 01:01	3° <u>♂</u> 57'55	33.29045 AU	minimum elong	5202 Nov 11 03:35	20° <u>♂</u> 06'51	15°57'29
				retrograde	5203 Feb 22 23:22	22° <u>♂</u> 39'55	
conjunction	5195 Oct 25 23:04	4° <u>♂</u> 04'14	14°21'02	opposition	5203 May 10 14:46	21° <u>♂</u> 18'25	17°05'07
minimum elong	5195 Oct 25 22:42	4° <u>♂</u> 04'12	14°21'02	min. Earth dist.	5203 May 12 21:05	21° <u>♂</u> 14'39	29.96757 AU
morning rise	5195 Oct 30 16:00	4° <u>♂</u> 14'24		direct	5203 Jul 29 05:16	19° <u>♂</u> 54'03	
retrograde	5196 Feb 06 14:53	6° <u>♂</u> 28'35		max. Earth dist.	5203 Nov 11 10:16	22° <u>♂</u> 26'05	31.80749 AU
opposition	5196 Apr 23 17:50	5° <u>♂</u> 09'34	15°24'40				
min. Earth dist.	5196 Apr 26 08:40	5° <u>♂</u> 05'21	31.25275 AU	conjunction	5203 Nov 13 20:45	22° <u>♂</u> 31'43	16°05'52
direct	5196 Jul 12 12:16	3° <u>♂</u> 47'56		minimum elong	5203 Nov 13 20:32	22° <u>♂</u> 31'42	16°05'53
evening set	5196 Oct 23 21:54	6° <u>♂</u> 08'22		retrograde	5204 Feb 25 18:09	25° <u>♂</u> 05'54	
max. Earth dist.	5196 Oct 24 14:34	6° <u>♂</u> 09'53	33.08120 AU	opposition	5204 May 12 07:09	23° <u>♂</u> 44'10	17°13'34
				min. Earth dist.	5204 May 14 10:58	23° <u>♂</u> 40'33	29.81730 AU
conjunction	5196 Oct 27 11:20	6° <u>♂</u> 16'08	14°38'15	direct	5204 Jul 30 19:57	22° <u>♂</u> 19'32	
minimum elong	5196 Oct 27 11:00	6° <u>♂</u> 16'06	14°38'15	max. Earth dist.	5204 Nov 13 06:23	24° <u>♂</u> 52'56	31.66035 AU
morning rise	5196 Oct 30 23:59	6° <u>♂</u> 23'50					
retrograde	5197 Feb 08 04:51	8° <u>♂</u> 41'49		conjunction	5204 Nov 15 14:33	24° <u>♂</u> 58'23	16°12'41
opposition	5197 Apr 26 04:35	7° <u>♂</u> 22'24	15°42'48	minimum elong	5204 Nov 15 14:24	24° <u>♂</u> 58'22	16°12'42
min. Earth dist.	5197 Apr 28 17:50	7° <u>♂</u> 18'16	31.04869 AU	retrograde	5205 Feb 27 10:43	27° <u>♂</u> 33'36	
direct	5197 Jul 15 00:25	6° <u>♂</u> 00'19		opposition	5205 May 15 00:21	26° <u>♂</u> 11'40	17°20'18
max. Earth dist.	5197 Oct 27 03:33	8° <u>♂</u> 23'41	32.87712 AU	min. Earth dist.	5205 May 17 03:28	26° <u>♂</u> 08'05	29.67583 AU
evening set	5197 Oct 28 04:52	8° <u>♂</u> 26'00		direct	5205 Aug 02 11:57	24° <u>♂</u> 46'48	
				max. Earth dist.	5205 Nov 16 02:41	27° <u>♂</u> 21'27	31.52228 AU
conjunction	5197 Oct 30 00:18	8° <u>♂</u> 29'59	14°54'28				
minimum elong	5197 Oct 29 23:57	8° <u>♂</u> 29'57	14°54'29	conjunction	5205 Nov 18 08:52	27° <u>♂</u> 26'45	16°17'54

minimum elong	5205 Nov 18 08:42	27° 11 26'44	16°17'55	conjunction	5213 Dec 09 01:26	17° 17 54'25	15°56'41
	5206 Feb 17 10:19	0° 17		minimum elong	5213 Dec 09 01:35	17° 17 54'26	15°56'43
retrograde	5206 Mar 02 06:15	0° 17 02'57		retrograde	5214 Mar 22 22:48	20° 17 34'53	
	5206 Mar 15 06:55	30° 11 18		opposition	5214 Jun 07 11:54	19° 17 11'33	16°56'44
opposition	5206 May 17 18:12	28° 11 40'48	17°25'17	min. Earth dist.	5214 Jun 08 19:33	19° 17 09'18	28.80939 AU
min. Earth dist.	5206 May 19 18:40	28° 11 37'24	29.54290 AU	direct	5214 Aug 26 02:39	17° 17 45'21	
direct	5206 Aug 05 06:31	27° 11 15'44					
max. Earth dist.	5206 Nov 18 23:21	29° 11 51'32	31.39283 AU	conjunction	5214 Dec 11 22:04	20° 17 30'17	15°45'41
				minimum elong	5214 Dec 11 22:15	20° 17 30'18	15°45'41
conjunction	5206 Nov 21 03:49	29° 11 56'41	16°21'28	max. Earth dist.	5214 Dec 10 14:23	20° 17 27'05	30.70578 AU
minimum elong	5206 Nov 21 03:44	29° 11 56'40	16°21'28	retrograde	5215 Mar 25 20:34	23° 17 10'51	
	5206 Nov 22 13:40	0° 17		opposition	5215 Jun 10 09:22	21° 17 47'29	16°44'05
retrograde	5207 Mar 05 01:00	2° 17 33'47		min. Earth dist.	5215 Jun 11 13:06	21° 17 45'31	28.76664 AU
opposition	5207 May 20 12:50	1° 17 11'26	17°28'28	direct	5215 Aug 29 00:15	20° 17 21'19	
min. Earth dist.	5207 May 22 12:38	1° 17 08'05	29.41843 AU				
	5207 Jul 09 19:29	30° 11 18		conjunction	5215 Dec 14 18:50	23° 17 06'15	15°32'47
direct	5207 Aug 07 23:22	29° 11 46'10		minimum elong	5215 Dec 14 19:04	23° 17 06'17	15°32'49
	5207 Sep 05 19:17	0° 17		max. Earth dist.	5215 Dec 13 15:03	23° 17 03'27	30.67131 AU
max. Earth dist.	5207 Nov 21 21:25	2° 17 23'06	31.27228 AU	retrograde	5216 Mar 27 15:04	25° 17 46'51	
				opposition	5216 Jun 12 07:07	24° 17 23'31	16°29'25
conjunction	5207 Nov 23 23:15	2° 17 28'00	16°23'19	min. Earth dist.	5216 Jun 13 08:55	24° 17 21'41	28.73610 AU
minimum elong	5207 Nov 23 23:10	2° 17 28'00	16°23'21	direct	5216 Aug 30 21:03	22° 17 57'25	
retrograde	5208 Mar 06 21:17	5° 17 05'54					
opposition	5208 May 22 08:01	3° 17 43'22	17°29'49	conjunction	5216 Dec 16 15:19	25° 17 42'16	15°18'01
min. Earth dist.	5208 May 24 05:05	3° 17 40'12	29.30249 AU	minimum elong	5216 Dec 16 15:34	25° 17 42'18	15°18'02
direct	5208 Aug 09 19:59	2° 17 17'55		max. Earth dist.	5216 Dec 15 14:23	25° 17 39'45	30.64932 AU
max. Earth dist.	5208 Nov 23 18:27	4° 17 55'45	31.16062 AU	retrograde	5217 Mar 30 11:47	28° 17 22'47	
				opposition	5217 Jun 15 04:43	26° 17 59'31	16°12'45
conjunction	5208 Nov 25 18:54	5° 17 00'33	16°23'27	min. Earth dist.	5217 Jun 16 02:38	26° 17 57'59	28.71740 AU
minimum elong	5208 Nov 25 18:53	5° 17 00'33	16°23'27	direct	5217 Sep 02 19:48	25° 17 33'33	
retrograde	5209 Mar 09 17:49	7° 17 39'08					
opposition	5209 May 25 03:47	6° 17 16'25	17°29'16	conjunction	5217 Dec 19 11:53	28° 17 18'13	15°01'28
min. Earth dist.	5209 May 26 23:35	6° 17 13'20	29.19539 AU	minimum elong	5217 Dec 19 12:10	28° 17 18'15	15°01'29
direct	5209 Aug 12 15:45	4° 17 50'47		max. Earth dist.	5217 Dec 18 14:12	28° 17 16'02	30.63903 AU
max. Earth dist.	5209 Nov 26 17:53	7° 17 29'35	31.05829 AU		5218 Feb 02 23:05	0° 17	
				retrograde	5218 Apr 02 07:12	0° 17 58'34	
conjunction	5209 Nov 28 15:09	7° 17 34'05	16°21'47		5218 Jun 03 07:53	30° 17 18	
minimum elong	5209 Nov 28 15:09	7° 17 34'05	16°21'49	opposition	5218 Jun 18 02:25	29° 17 35'24	15°54'11
retrograde	5210 Mar 12 13:18	10° 17 13'15		min. Earth dist.	5218 Jun 18 22:35	29° 17 33'59	28.71005 AU
opposition	5210 May 27 23:51	8° 17 50'23	17°26'47	direct	5218 Sep 05 15:54	28° 17 09'34	
min. Earth dist.	5210 May 29 17:11	8° 17 47'28	29.09733 AU		5218 Nov 29 14:00	0° 17	
direct	5210 Aug 15 13:04	7° 17 24'35		evening set	5218 Dec 19 07:25	0° 17 46'36	
max. Earth dist.	5210 Nov 29 15:40	10° 17 04'03	30.96564 AU				
				conjunction	5218 Dec 22 08:15	0° 17 53'56	14°43'10
conjunction	5210 Dec 01 11:32	10° 17 08'26	16°18'19	minimum elong	5218 Dec 22 08:33	0° 17 53'58	14°43'10
minimum elong	5210 Dec 01 11:34	10° 17 08'26	16°18'20	max. Earth dist.	5218 Dec 21 13:43	0° 17 52'04	30.64020 AU
retrograde	5211 Mar 15 11:01	12° 17 48'05		morning rise	5218 Dec 25 09:36	1° 17 01'20	
opposition	5211 May 30 20:26	11° 17 25'03	17°22'19	retrograde	5219 Apr 05 03:05	3° 17 34'02	
min. Earth dist.	5211 Jun 01 11:42	11° 17 22'16	29.00907 AU	opposition	5219 Jun 21 00:05	2° 17 10'59	15°33'45
direct	5211 Aug 18 09:35	9° 17 59'06		min. Earth dist.	5219 Jun 21 16:35	2° 17 09'49	28.71357 AU
max. Earth dist.	5211 Dec 02 16:05	12° 17 39'23	30.88335 AU	direct	5219 Sep 08 15:19	0° 17 45'19	
				evening set	5219 Dec 20 17:08	3° 17 18'31	
conjunction	5211 Dec 04 08:04	12° 17 43'23	16°13'00				
minimum elong	5211 Dec 04 08:08	12° 17 43'23	16°13'01	conjunction	5219 Dec 25 04:14	3° 17 29'16	14°23'12
retrograde	5212 Mar 17 06:41	15° 17 23'24		minimum elong	5219 Dec 25 04:35	3° 17 29'18	14°23'13
opposition	5212 Jun 01 17:25	14° 17 00'13	17°15'50	max. Earth dist.	5219 Dec 24 12:16	3° 17 27'40	30.65215 AU
min. Earth dist.	5212 Jun 03 06:24	13° 17 57'36	28.93109 AU	morning rise	5219 Dec 29 15:49	3° 17 40'05	
direct	5212 Aug 20 07:49	12° 17 34'10		retrograde	5220 Apr 06 22:35	6° 17 09'02	
max. Earth dist.	5212 Dec 04 14:33	15° 17 14'56	30.81216 AU	opposition	5220 Jun 22 21:43	4° 17 46'05	15°11'33
				min. Earth dist.	5220 Jun 23 12:08	4° 17 45'05	28.72769 AU
conjunction	5212 Dec 06 04:37	15° 17 18'45	16°05'47	direct	5220 Sep 10 12:40	3° 17 20'36	
minimum elong	5212 Dec 06 04:44	15° 17 18'46	16°05'48	evening set	5220 Dec 21 10:12	5° 17 50'38	
retrograde	5213 Mar 20 03:29	17° 17 59'03		max. Earth dist.	5220 Dec 26 11:36	6° 17 02'47	30.67477 AU
opposition	5213 Jun 04 14:25	16° 17 35'46	17°07'19				
min. Earth dist.	5213 Jun 06 00:15	16° 17 33'22	28.86440 AU	conjunction	5220 Dec 27 00:06	6° 17 04'03	14°01'37
direct	5213 Aug 23 05:06	15° 17 09'36		minimum elong	5220 Dec 27 00:27	6° 17 04'05	14°01'38
max. Earth dist.	5213 Dec 07 15:24	17° 17 51'00	30.75276 AU	morning rise	5221 Jan 01 14:19	6° 17 17'30	

retrograde	5221 Apr 09 17:26	8° $\overline{3}$ 43'20		minimum elong	5228 Jan 14 04:38	23° $\overline{3}$ 37'09	10°52'15
opposition	5221 Jun 25 18:54	7° $\overline{3}$ 20'33	14°47'39	max. Earth dist.	5228 Jan 14 12:28	23° $\overline{3}$ 37'55	31.12719 AU
min. Earth dist.	5221 Jun 26 06:16	7° $\overline{3}$ 19'45	28.75196 AU	morning rise	5228 Jan 24 21:41	24° $\overline{3}$ 02'06	
direct	5221 Sep 13 11:46	5° $\overline{3}$ 55'15		retrograde	5228 Apr 26 17:05	26° $\overline{3}$ 10'58	
evening set	5221 Dec 23 06:37	8° $\overline{3}$ 22'23		opposition	5228 Jul 13 12:52	24° $\overline{3}$ 49'24	11°20'07
				min. Earth dist.	5228 Jul 13 03:01	24° $\overline{3}$ 50'05	29.21631 AU
conjunction	5221 Dec 29 19:33	8° $\overline{3}$ 38'03	13°38'32	direct	5228 Oct 01 16:08	23° $\overline{3}$ 25'51	
minimum elong	5221 Dec 29 19:55	8° $\overline{3}$ 38'06	13°38'33	evening set	5229 Jan 04 13:04	25° $\overline{3}$ 35'50	
max. Earth dist.	5221 Dec 29 09:01	8° $\overline{3}$ 37'00	30.70761 AU				
morning rise	5222 Jan 05 08:49	8° $\overline{3}$ 53'47		conjunction	5229 Jan 15 19:34	26° $\overline{3}$ 01'55	10°20'41
retrograde	5222 Apr 12 13:03	11° $\overline{3}$ 16'49		minimum elong	5229 Jan 15 19:56	26° $\overline{3}$ 01'57	10°20'42
opposition	5222 Jun 28 15:58	9° $\overline{3}$ 54'09	14°22'09	max. Earth dist.	5229 Jan 16 07:18	26° $\overline{3}$ 03'03	31.23621 AU
min. Earth dist.	5222 Jun 29 00:45	9° $\overline{3}$ 53'32	28.78642 AU	morning rise	5229 Jan 27 01:39	26° $\overline{3}$ 27'58	
direct	5222 Sep 16 08:47	8° $\overline{3}$ 29'03		retrograde	5229 Apr 29 07:05	28° $\overline{3}$ 34'48	
evening set	5222 Dec 25 05:01	10° $\overline{3}$ 53'29		opposition	5229 Jul 16 06:22	27° $\overline{3}$ 13'31	10°45'50
				min. Earth dist.	5229 Jul 15 18:26	27° $\overline{3}$ 14'19	29.32710 AU
conjunction	5223 Jan 01 14:32	11° $\overline{3}$ 11'08	13°13'59	direct	5229 Oct 04 09:06	25° $\overline{3}$ 50'19	
minimum elong	5223 Jan 01 14:54	11° $\overline{3}$ 11'10	13°13'59	evening set	5230 Jan 06 16:01	27° $\overline{3}$ 58'10	
max. Earth dist.	5223 Jan 01 07:53	11° $\overline{3}$ 10'28	30.75069 AU				
morning rise	5223 Jan 09 00:07	11° $\overline{3}$ 28'50		conjunction	5230 Jan 18 10:13	28° $\overline{3}$ 25'13	9°48'18
retrograde	5223 Apr 15 07:15	13° $\overline{3}$ 49'15		minimum elong	5230 Jan 18 10:36	28° $\overline{3}$ 25'15	9°48'19
opposition	5223 Jul 01 12:43	12° $\overline{3}$ 26'44	13°55'08	max. Earth dist.	5230 Jan 19 00:45	28° $\overline{3}$ 26'37	31.35588 AU
min. Earth dist.	5223 Jul 01 18:54	12° $\overline{3}$ 26'18	28.83087 AU	morning rise	5230 Jan 30 03:57	28° $\overline{3}$ 52'12	
direct	5223 Sep 19 08:38	11° $\overline{3}$ 01'50			5230 Mar 03 16:04	0° \approx	
evening set	5223 Dec 27 04:44	13° $\overline{3}$ 23'39		retrograde	5230 May 01 20:23	0° \approx 57'04	
					5230 Jul 03 23:05	30° \overline{R} $\overline{3}$	
conjunction	5224 Jan 04 08:53	13° $\overline{3}$ 43'05	12°48'03	opposition	5230 Jul 18 23:19	29° $\overline{3}$ 36'05	10°10'43
minimum elong	5224 Jan 04 09:17	13° $\overline{3}$ 43'08	12°48'05	min. Earth dist.	5230 Jul 18 07:51	29° $\overline{3}$ 37'08	29.44809 AU
max. Earth dist.	5224 Jan 04 04:10	13° $\overline{3}$ 42'37	30.80405 AU	direct	5230 Oct 07 03:40	28° $\overline{3}$ 13'16	
morning rise	5224 Jan 12 13:12	14° $\overline{3}$ 02'33			5230 Dec 31 05:35	0° \approx	
retrograde	5224 Apr 17 01:30	16° $\overline{3}$ 20'29		evening set	5231 Jan 08 19:02	0° \approx 19'03	
opposition	5224 Jul 03 08:54	14° $\overline{3}$ 58'06	13°26'39				
min. Earth dist.	5224 Jul 03 11:42	14° $\overline{3}$ 57'54	28.88581 AU	conjunction	5231 Jan 21 00:04	0° \approx 46'57	9°15'13
direct	5224 Sep 21 05:42	13° $\overline{3}$ 33'25		minimum elong	5231 Jan 21 00:25	0° \approx 46'59	9°15'13
evening set	5224 Dec 28 05:15	15° $\overline{3}$ 52'42		max. Earth dist.	5231 Jan 21 17:10	0° \approx 48'35	31.48520 AU
				morning rise	5231 Feb 02 04:41	1° \approx 14'48	
conjunction	5225 Jan 06 02:44	16° $\overline{3}$ 13'45	12°20'50	retrograde	5231 May 04 08:59	3° \approx 17'47	
minimum elong	5225 Jan 06 03:06	16° $\overline{3}$ 13'48	12°20'51	opposition	5231 Jul 21 15:48	1° \approx 57'05	9°34'53
max. Earth dist.	5225 Jan 06 02:06	16° $\overline{3}$ 13'42	30.86802 AU	min. Earth dist.	5231 Jul 20 22:02	1° \approx 58'17	29.57872 AU
morning rise	5225 Jan 15 00:02	16° $\overline{3}$ 34'49		direct	5231 Oct 09 19:50	0° \approx 34'40	
retrograde	5225 Apr 19 17:48	18° $\overline{3}$ 50'20		evening set	5232 Jan 10 22:21	2° \approx 38'26	
opposition	5225 Jul 06 04:43	17° $\overline{3}$ 28'07	12°56'50				
min. Earth dist.	5225 Jul 06 05:17	17° $\overline{3}$ 28'05	28.95138 AU	conjunction	5232 Jan 23 13:27	3° \approx 07'05	8°41'30
direct	5225 Sep 24 03:28	16° $\overline{3}$ 03'41		minimum elong	5232 Jan 23 13:47	3° \approx 07'07	8°41'31
evening set	5225 Dec 30 06:36	18° $\overline{3}$ 20'31		max. Earth dist.	5232 Jan 24 09:41	3° \approx 09'01	31.62366 AU
				morning rise	5232 Feb 05 03:52	3° \approx 35'41	
conjunction	5226 Jan 08 19:49	18° $\overline{3}$ 43'01	11°52'24	retrograde	5232 May 05 20:44	5° \approx 36'50	
minimum elong	5226 Jan 08 20:13	18° $\overline{3}$ 43'03	11°52'25	min. Earth dist.	5232 Jul 22 11:10	4° \approx 17'49	29.71806 AU
max. Earth dist.	5226 Jan 08 21:19	18° $\overline{3}$ 43'10	30.94296 AU	opposition	5232 Jul 23 07:28	4° \approx 16'27	8°58'28
morning rise	5226 Jan 18 09:02	19° $\overline{3}$ 05'31		direct	5232 Oct 11 12:47	2° \approx 54'25	
retrograde	5226 Apr 22 11:50	21° $\overline{3}$ 18'44		evening set	5233 Jan 12 01:53	4° \approx 56'16	
opposition	5226 Jul 08 23:52	19° $\overline{3}$ 56'42	12°25'44				
min. Earth dist.	5226 Jul 08 20:24	19° $\overline{3}$ 56'56	29.02819 AU	conjunction	5233 Jan 25 02:00	5° \approx 25'34	8°07'17
direct	5226 Sep 27 00:43	18° $\overline{3}$ 32'31		minimum elong	5233 Jan 25 02:18	5° \approx 25'36	8°07'17
evening set	5227 Jan 01 08:21	20° $\overline{3}$ 46'59		max. Earth dist.	5233 Jan 25 23:54	5° \approx 27'38	31.77031 AU
				morning rise	5233 Feb 07 01:41	5° \approx 54'49	
conjunction	5227 Jan 11 12:28	21° $\overline{3}$ 10'49	11°22'50	retrograde	5233 May 08 09:38	7° \approx 54'13	
minimum elong	5227 Jan 11 12:51	21° $\overline{3}$ 10'51	11°22'51	opposition	5233 Jul 25 22:33	6° \approx 34'08	8°21'34
max. Earth dist.	5227 Jan 11 18:05	21° $\overline{3}$ 11'22	31.02926 AU	min. Earth dist.	5233 Jul 24 23:30	6° \approx 35'40	29.86558 AU
morning rise	5227 Jan 21 16:16	21° $\overline{3}$ 34'37		direct	5233 Oct 14 03:31	5° \approx 12'28	
retrograde	5227 Apr 25 02:10	23° $\overline{3}$ 45'37		evening set	5234 Jan 14 05:27	7° \approx 12'27	
opposition	5227 Jul 11 18:46	22° $\overline{3}$ 23'48	11°53'27				
min. Earth dist.	5227 Jul 11 13:06	22° $\overline{3}$ 24'11	29.11654 AU	conjunction	5234 Jan 27 14:01	7° \approx 42'19	7°32'39
direct	5227 Sep 29 20:22	20° $\overline{3}$ 59'55		minimum elong	5234 Jan 27 14:20	7° \approx 42'21	7°32'39
evening set	5228 Jan 03 10:33	23° $\overline{3}$ 12'06		max. Earth dist.	5234 Jan 28 15:11	7° \approx 44'41	31.92458 AU
				morning rise	5234 Feb 09 21:49	8° \approx 12'07	
conjunction	5228 Jan 14 04:14	23° $\overline{3}$ 37'07	10°52'14	retrograde	5234 May 10 20:23	10° \approx 09'50	

opposition	5234 Jul 28 12:59	8° \approx 50'03	7°44'18	conjunction	5241 Feb 11 04:16	22° \approx 47'40	3°25'28
min. Earth dist.	5234 Jul 27 12:14	8° \approx 51'41	30.02048 AU	minimum elong	5241 Feb 11 04:24	22° \approx 47'41	3°25'29
direct	5234 Oct 16 20:40	7° \approx 28'46		max. Earth dist.	5241 Feb 12 21:01	22° \approx 51'18	33.20124 AU
evening set	5235 Jan 16 09:16	9° \approx 26'57		morning rise	5241 Feb 26 02:00	23° \approx 19'14	
				retrograde	5241 May 25 03:04	25° \approx 06'58	
conjunction	5235 Jan 30 01:12	9° \approx 57'17	6°57'41	min. Earth dist.	5241 Aug 11 03:40	23° \approx 51'56	31.30769 AU
minimum elong	5235 Jan 30 01:29	9° \approx 57'19	6°57'42	opposition	5241 Aug 12 20:56	23° \approx 49'19	3°19'58
max. Earth dist.	5235 Jan 31 03:28	9° \approx 59'44	32.08594 AU	direct	5241 Nov 01 13:26	22° \approx 30'44	
morning rise	5235 Feb 12 16:41	10° \approx 27'34		evening set	5242 Jan 29 09:02	24° \approx 18'14	
retrograde	5235 May 13 08:39	12° \approx 23'38					
min. Earth dist.	5235 Jul 29 22:46	11° \approx 05'58	30.18261 AU	conjunction	5242 Feb 13 10:04	24° \approx 49'50	2°50'20
opposition	5235 Jul 31 02:41	11° \approx 04'09	7°06'44	minimum elong	5242 Feb 13 10:11	24° \approx 49'51	2°50'20
direct	5235 Oct 19 11:43	9° \approx 43'14		max. Earth dist.	5242 Feb 15 04:15	24° \approx 53'34	33.41219 AU
evening set	5236 Jan 18 12:46	11° \approx 39'40		morning rise	5242 Feb 28 10:47	25° \approx 21'24	
				retrograde	5242 May 27 09:46	27° \approx 08'02	
conjunction	5236 Feb 01 11:41	12° \approx 10'24	6°22'29	min. Earth dist.	5242 Aug 13 09:29	25° \approx 53'30	31.52076 AU
minimum elong	5236 Feb 01 11:56	12° \approx 10'25	6°22'30	opposition	5242 Aug 15 05:28	25° \approx 50'44	2°42'37
max. Earth dist.	5236 Feb 02 17:09	12° \approx 13'07	32.25410 AU	direct	5242 Nov 03 20:57	24° \approx 32'36	
morning rise	5236 Feb 15 09:49	12° \approx 41'04		evening set	5243 Jan 31 12:02	26° \approx 18'53	
retrograde	5236 May 14 17:09	14° \approx 35'35					
min. Earth dist.	5236 Jul 31 10:39	13° \approx 18'15	30.35162 AU	conjunction	5243 Feb 15 15:26	26° \approx 50'25	2°15'26
opposition	5236 Aug 01 15:43	13° \approx 16'22	6°28'58	minimum elong	5243 Feb 15 15:32	26° \approx 50'26	2°15'26
direct	5236 Oct 21 02:20	11° \approx 55'49		max. Earth dist.	5243 Feb 17 12:36	26° \approx 54'23	33.62933 AU
evening set	5237 Jan 19 16:28	13° \approx 50'34		morning rise	5243 Mar 02 18:13	27° \approx 21'56	
				retrograde	5243 May 29 14:54	29° \approx 07'30	
conjunction	5237 Feb 02 21:20	14° \approx 21'37	5°47'08	min. Earth dist.	5243 Aug 15 16:16	27° \approx 53'24	31.73973 AU
minimum elong	5237 Feb 02 21:34	14° \approx 21'38	5°47'08	opposition	5243 Aug 17 13:25	27° \approx 50'35	2°05'35
max. Earth dist.	5237 Feb 04 04:05	14° \approx 24'26	32.42905 AU	direct	5243 Nov 06 06:19	26° \approx 32'53	
morning rise	5237 Feb 17 01:39	14° \approx 52'35		evening set	5244 Feb 02 15:02	28° \approx 18'01	
	5237 Feb 20 12:57	15° \approx					
retrograde	5237 May 17 02:23	16° \approx 45'35		conjunction	5244 Feb 17 19:56	28° \approx 49'27	1°40'49
min. Earth dist.	5237 Aug 02 19:19	15° \approx 28'45	30.52768 AU	minimum elong	5244 Feb 17 20:00	28° \approx 49'27	1°40'49
opposition	5237 Aug 04 03:39	15° \approx 26'39	5°51'06	max. Earth dist.	5244 Feb 19 17:50	28° \approx 53'26	33.85177 AU
	5237 Aug 21 14:32	15° \approx		morning rise	5244 Mar 04 00:34	29° \approx 20'51	
direct	5237 Oct 23 17:02	14° \approx 06'27			5244 Mar 24 09:27	0° \approx	
	5237 Dec 22 05:17	15° \approx		retrograde	5244 May 30 21:42	1° \approx 05'26	
evening set	5238 Jan 21 19:58	15° \approx 59'37			5244 Aug 11 09:00	30° \approx	
				min. Earth dist.	5244 Aug 16 20:41	29° \approx 51'50	31.96386 AU
conjunction	5238 Feb 05 06:15	16° \approx 30'54	5°11'41	opposition	5244 Aug 18 20:33	29° \approx 48'52	1°28'55
minimum elong	5238 Feb 05 06:28	16° \approx 30'55	5°11'41	direct	5244 Nov 07 13:44	28° \approx 31'36	
max. Earth dist.	5238 Feb 06 16:00	16° \approx 33'58	32.61089 AU		5245 Jan 26 20:31	0° \approx	
morning rise	5238 Feb 19 15:53	17° \approx 02'07		evening set	5245 Feb 03 17:59	0° \approx 15'38	
retrograde	5238 May 19 09:59	18° \approx 53'40					
min. Earth dist.	5238 Aug 05 05:21	17° \approx 37'13	30.71121 AU	conjunction	5245 Feb 19 00:04	0° \approx 46'55	1°06'33
opposition	5238 Aug 06 15:12	17° \approx 35'02	5°13'12	minimum elong	5245 Feb 19 00:06	0° \approx 46'56	1°06'33
direct	5238 Oct 26 05:42	16° \approx 15'13		max. Earth dist.	5245 Feb 21 00:26	0° \approx 51'05	34.07861 AU
evening set	5239 Jan 23 23:18	18° \approx 06'50		morning rise	5245 Mar 06 05:42	1° \approx 18'11	
				retrograde	5245 Jun 02 00:43	3° \approx 01'49	
conjunction	5239 Feb 07 14:15	18° \approx 38'17	4°36'13	min. Earth dist.	5245 Aug 19 02:45	1° \approx 48'35	32.19224 AU
minimum elong	5239 Feb 07 14:26	18° \approx 38'18	4°36'13	opposition	5245 Aug 21 03:04	1° \approx 45'36	0°52'40
max. Earth dist.	5239 Feb 09 02:06	18° \approx 41'31	32.80020 AU	direct	5245 Nov 09 20:59	0° \approx 28'46	
morning rise	5239 Feb 22 04:33	19° \approx 09'40		evening set	5246 Feb 05 20:56	2° \approx 11'46	
retrograde	5239 May 21 16:08	20° \approx 59'53					
min. Earth dist.	5239 Aug 07 12:49	19° \approx 43'56	30.90240 AU	conjunction	5246 Feb 21 03:31	2° \approx 42'51	0°32'40
opposition	5239 Aug 09 01:52	19° \approx 41'33	4°35'19	minimum elong	5246 Feb 21 03:32	2° \approx 42'51	0°32'41
direct	5239 Oct 28 18:28	18° \approx 22'07		max. Earth dist.	5246 Feb 23 04:36	2° \approx 47'03	34.30921 AU
evening set	5240 Jan 26 02:40	20° \approx 12'17		morning rise	5246 Mar 08 09:49	3° \approx 13'55	
				retrograde	5246 Jun 04 03:23	4° \approx 56'38	
conjunction	5240 Feb 09 21:34	20° \approx 43'50	4°00'47	min. Earth dist.	5246 Aug 21 06:15	3° \approx 43'54	32.42416 AU
minimum elong	5240 Feb 09 21:44	20° \approx 43'51	4°00'48	opposition	5246 Aug 23 08:58	3° \approx 40'47	0°16'53
max. Earth dist.	5240 Feb 11 11:40	20° \approx 47'15	32.99697 AU	direct	5246 Nov 12 05:46	2° \approx 24'21	
morning rise	5240 Feb 24 15:59	21° \approx 15'21		evening set	5247 Feb 07 23:38	4° \approx 06'21	
retrograde	5240 May 22 22:02	23° \approx 04'17		desc. node	5247 Feb 14 08:08	4° \approx 19'04	
min. Earth dist.	5240 Aug 08 20:38	21° \approx 48'46	31.10144 AU				
opposition	5240 Aug 10 11:45	21° \approx 46'17	3°57'33	conjunction	5247 Feb 23 06:16	4° \approx 37'12	-0°00'50
direct	5240 Oct 30 03:45	20° \approx 27'16		minimum elong	5247 Feb 23 06:16	4° \approx 37'12	0°00'50
evening set	5241 Jan 27 05:49	22° \approx 16'03		behind sun begin	5247 Feb 22 23:54	4° \approx 36'41	

behind sun end	5247 Feb 23 12:37	4° ✕ 37'43	evening set	5254 Feb 20 13:33	16° ✕ 44'12
max. Earth dist.	5247 Feb 25 09:02	4° ✕ 41'30 34.54271 AU			
morning rise	5247 Mar 10 12:42	5° ✕ 08'02	conjunction	5254 Mar 07 08:28	17° ✕ 12'31 -3°40'48
retrograde	5247 Jun 06 05:20	6° ✕ 49'54	minimum elong	5254 Mar 07 08:20	17° ✕ 12'30 3°40'47
min. Earth dist.	5247 Aug 23 10:52	5° ✕ 37'31 32.65909 AU	max. Earth dist.	5254 Mar 09 20:18	17° ✕ 17'19 36.25331 AU
opposition	5247 Aug 25 14:22	5° ✕ 34'22 -0°18'25	morning rise	5254 Mar 22 03:35	17° ✕ 40'50
direct	5247 Nov 14 12:15	4° ✕ 18'20	retrograde	5254 Jun 18 03:45	19° ✕ 17'58
evening set	5248 Feb 10 02:14	5° ✕ 59'21	min. Earth dist.	5254 Sep 04 19:49	18° ✕ 08'06 34.38461 AU
			opposition	5254 Sep 07 08:46	18° ✕ 04'31 -4°09'09
conjunction	5248 Feb 25 08:34	6° ✕ 29'56 -0°33'50	direct	5254 Nov 27 11:12	16° ✕ 51'03
minimum elong	5248 Feb 25 08:33	6° ✕ 29'56 0°33'49	evening set	5255 Feb 22 14:38	18° ✕ 26'44
max. Earth dist.	5248 Feb 27 12:33	6° ✕ 34'19 34.77887 AU			
morning rise	5248 Mar 11 14:36	7° ✕ 00'30	conjunction	5255 Mar 09 06:26	18° ✕ 54'35 -4°09'54
retrograde	5248 Jun 07 05:13	8° ✕ 41'33	minimum elong	5255 Mar 09 06:18	18° ✕ 54'34 4°09'55
min. Earth dist.	5248 Aug 24 13:54	7° ✕ 29'33 32.89650 AU	max. Earth dist.	5255 Mar 11 19:32	18° ✕ 59'28 36.50941 AU
opposition	5248 Aug 26 18:47	7° ✕ 26'19 -0°53'11	morning rise	5255 Mar 23 22:19	19° ✕ 22'27
direct	5248 Nov 15 18:57	6° ✕ 10'40	retrograde	5255 Jun 19 23:34	20° ✕ 59'06
evening set	5249 Feb 11 04:43	7° ✕ 50'46	min. Earth dist.	5255 Sep 06 18:43	19° ✕ 49'39 34.64288 AU
			opposition	5255 Sep 09 09:00	19° ✕ 46'00 -4°39'31
conjunction	5249 Feb 26 10:05	8° ✕ 21'02 -1°06'21	direct	5255 Nov 29 13:30	18° ✕ 32'56
minimum elong	5249 Feb 26 10:03	8° ✕ 21'01 1°06'21	evening set	5256 Feb 24 15:50	20° ✕ 08'04
max. Earth dist.	5249 Feb 28 14:41	8° ✕ 25'25 35.01726 AU			
morning rise	5249 Mar 13 15:28	8° ✕ 51'18	conjunction	5256 Mar 10 03:57	20° ✕ 35'26 -4°38'24
retrograde	5249 Jun 09 06:02	10° ✕ 31'34	minimum elong	5256 Mar 10 03:48	20° ✕ 35'26 4°38'23
min. Earth dist.	5249 Aug 26 16:20	9° ✕ 19'54 33.13657 AU	max. Earth dist.	5256 Mar 12 17:29	20° ✕ 40'19 36.76721 AU
opposition	5249 Aug 28 22:43	9° ✕ 16'37 -1°27'23	morning rise	5256 Mar 24 16:30	21° ✕ 02'50
direct	5249 Nov 17 22:24	8° ✕ 01'19	retrograde	5256 Jun 20 21:30	22° ✕ 39'04
evening set	5250 Feb 13 06:45	9° ✕ 40'31	min. Earth dist.	5256 Sep 07 17:14	21° ✕ 30'00 34.90283 AU
			opposition	5256 Sep 10 08:38	21° ✕ 26'18 -5°09'12
conjunction	5250 Feb 28 10:58	10° ✕ 10'27 -1°38'21	direct	5256 Nov 30 12:13	20° ✕ 13'38
minimum elong	5250 Feb 28 10:55	10° ✕ 10'27 1°38'21	evening set	5257 Feb 25 16:44	21° ✕ 48'15
max. Earth dist.	5250 Mar 02 17:46	10° ✕ 15'00 35.25823 AU			
morning rise	5250 Mar 15 14:57	10° ✕ 40'22	conjunction	5257 Mar 12 01:10	22° ✕ 15'08 -5°06'16
retrograde	5250 Jun 11 05:29	12° ✕ 19'55	minimum elong	5257 Mar 12 01:00	22° ✕ 15'08 5°06'17
min. Earth dist.	5250 Aug 28 18:54	11° ✕ 08'34 33.37943 AU	max. Earth dist.	5257 Mar 14 16:18	22° ✕ 20'07 37.02614 AU
opposition	5250 Aug 31 02:01	11° ✕ 05'15 -2°01'00	morning rise	5257 Mar 26 09:43	22° ✕ 42'03
direct	5250 Nov 20 02:20	9° ✕ 50'17	retrograde	5257 Jun 22 17:45	24° ✕ 17'54
evening set	5251 Feb 15 08:48	11° ✕ 28'40	min. Earth dist.	5257 Sep 09 16:33	23° ✕ 09'08 35.16346 AU
			opposition	5257 Sep 12 07:54	23° ✕ 05'28 -5°38'12
conjunction	5251 Mar 02 11:08	11° ✕ 58'14 -2°09'50	direct	5257 Dec 02 11:49	21° ✕ 53'11
minimum elong	5251 Mar 02 11:04	11° ✕ 58'13 2°09'50	evening set	5258 Feb 27 17:36	23° ✕ 27'20
max. Earth dist.	5251 Mar 04 18:22	12° ✕ 02'46 35.50211 AU			
morning rise	5251 Mar 17 13:37	12° ✕ 27'47	conjunction	5258 Mar 13 21:40	23° ✕ 53'42 -5°33'30
retrograde	5251 Jun 13 06:44	14° ✕ 06'39	minimum elong	5258 Mar 13 21:30	23° ✕ 53'42 5°33'30
min. Earth dist.	5251 Aug 30 18:59	12° ✕ 55'42 33.62574 AU	max. Earth dist.	5258 Mar 16 12:27	23° ✕ 58'37 37.28531 AU
opposition	5251 Sep 02 04:35	12° ✕ 52'16 -2°34'01	morning rise	5258 Mar 28 02:13	24° ✕ 20'07
direct	5251 Nov 22 03:58	11° ✕ 37'39	retrograde	5258 Jun 24 16:27	25° ✕ 55'37
evening set	5252 Feb 17 10:28	13° ✕ 15'16	min. Earth dist.	5258 Sep 11 13:42	24° ✕ 47'14 35.42420 AU
			opposition	5258 Sep 14 06:41	24° ✕ 43'30 -6°06'30
conjunction	5252 Mar 03 10:48	13° ✕ 44'26 -2°40'44	direct	5258 Dec 04 09:16	23° ✕ 31'35
minimum elong	5252 Mar 03 10:43	13° ✕ 44'25 2°40'44	evening set	5259 Mar 01 18:17	25° ✕ 05'18
max. Earth dist.	5252 Mar 05 20:27	13° ✕ 49'08 35.74930 AU			
morning rise	5252 Mar 18 11:07	14° ✕ 13'36	conjunction	5259 Mar 15 18:00	25° ✕ 31'10 -6°00'06
retrograde	5252 Jun 14 06:00	15° ✕ 51'50	minimum elong	5259 Mar 15 17:50	25° ✕ 31'09 6°00'07
min. Earth dist.	5252 Aug 31 20:38	14° ✕ 41'11 33.87549 AU	max. Earth dist.	5259 Mar 18 10:16	25° ✕ 36'09 37.54410 AU
opposition	5252 Sep 03 06:38	14° ✕ 37'44 -3°06'23	morning rise	5259 Mar 29 18:03	25° ✕ 57'03
direct	5252 Nov 23 07:21	13° ✕ 23'30	retrograde	5259 Jun 26 13:27	27° ✕ 32'13
evening set	5253 Feb 18 12:06	15° ✕ 00'25	min. Earth dist.	5259 Sep 13 12:38	26° ✕ 24'05 35.68438 AU
			opposition	5259 Sep 16 05:01	26° ✕ 20'24 -6°34'07
conjunction	5253 Mar 05 09:53	15° ✕ 29'10 -3°11'04	direct	5259 Dec 06 07:48	25° ✕ 08'51
minimum elong	5253 Mar 05 09:47	15° ✕ 29'09 3°11'04	evening set	5260 Mar 02 18:50	26° ✕ 42'09
max. Earth dist.	5253 Mar 07 20:00	15° ✕ 33'52 35.99983 AU			
morning rise	5253 Mar 20 07:47	15° ✕ 57'55	conjunction	5260 Mar 16 13:49	27° ✕ 07'28 -6°26'05
retrograde	5253 Jun 16 05:41	17° ✕ 35'33	minimum elong	5260 Mar 16 13:38	27° ✕ 07'28 6°26'04
min. Earth dist.	5253 Sep 02 19:33	16° ✕ 25'21 34.12854 AU	max. Earth dist.	5260 Mar 19 05:39	27° ✕ 12'24 37.80208 AU
opposition	5253 Sep 05 07:49	16° ✕ 21'47 -3°38'06	morning rise	5260 Mar 30 09:10	27° ✕ 32'50
direct	5253 Nov 25 09:56	15° ✕ 07'55	retrograde	5260 Jun 27 09:59	29° ✕ 07'40

min. Earth dist.	5260 Sep 14 09:05	27° $\mathbf{\text{X}}$ 59'53	35.94349 AU	direct	5266 Dec 17 08:06	5° $\mathbf{\text{Y}}$ 56'23	
opposition	5260 Sep 17 02:42	27° $\mathbf{\text{X}}$ 56'09	-7°01'03	evening set	5267 Mar 15 16:34	7° $\mathbf{\text{Y}}$ 27'31	
direct	5260 Dec 07 06:05	26° $\mathbf{\text{X}}$ 44'55					
evening set	5261 Mar 04 19:13	28° $\mathbf{\text{X}}$ 17'50		conjunction	5267 Mar 27 19:20	7° $\mathbf{\text{Y}}$ 48'47	-9°10'03
				minimum elong	5267 Mar 27 19:07	7° $\mathbf{\text{Y}}$ 48'46	9°10'04
conjunction	5261 Mar 18 09:08	28° $\mathbf{\text{X}}$ 42'36	-6°51'25	max. Earth dist.	5267 Mar 30 15:12	7° $\mathbf{\text{Y}}$ 53'46	39.59399 AU
minimum elong	5261 Mar 18 08:56	28° $\mathbf{\text{X}}$ 42'35	6°51'26	morning rise	5267 Apr 08 22:31	8° $\mathbf{\text{Y}}$ 10'06	
max. Earth dist.	5261 Mar 21 01:31	28° $\mathbf{\text{X}}$ 47'32	38.05877 AU	retrograde	5267 Jul 08 12:36	9° $\mathbf{\text{Y}}$ 43'24	
morning rise	5261 Mar 31 23:34	29° $\mathbf{\text{X}}$ 07'25		min. Earth dist.	5267 Sep 25 23:47	8° $\mathbf{\text{Y}}$ 37'31	37.74889 AU
	5261 May 03 06:09	0° $\mathbf{\text{Y}}$		opposition	5267 Sep 28 21:05	8° $\mathbf{\text{Y}}$ 33'42	-9°50'14
retrograde	5261 Jun 29 03:28	0° $\mathbf{\text{Y}}$ 41'57		direct	5267 Dec 19 03:25	7° $\mathbf{\text{Y}}$ 24'35	
	5261 Aug 27 19:35	30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$		evening set	5268 Mar 16 15:33	8° $\mathbf{\text{Y}}$ 55'33	
min. Earth dist.	5261 Sep 16 06:32	29° $\mathbf{\text{X}}$ 34'24	36.20161 AU				
opposition	5261 Sep 18 23:58	29° $\mathbf{\text{X}}$ 30'41	-7°27'18	conjunction	5268 Mar 28 11:36	9° $\mathbf{\text{Y}}$ 16'12	-9°30'55
direct	5261 Dec 09 04:45	28° $\mathbf{\text{X}}$ 19'46		minimum elong	5268 Mar 28 11:23	9° $\mathbf{\text{Y}}$ 16'11	9°30'56
evening set	5262 Mar 06 19:17	29° $\mathbf{\text{X}}$ 52'18		max. Earth dist.	5268 Mar 31 07:39	9° $\mathbf{\text{Y}}$ 21'10	39.84986 AU
	5262 Mar 11 02:08	0° $\mathbf{\text{Y}}$		morning rise	5268 Apr 09 08:18	9° $\mathbf{\text{Y}}$ 36'54	
				retrograde	5268 Jul 09 03:48	11° $\mathbf{\text{Y}}$ 10'07	
conjunction	5262 Mar 20 04:03	0° $\mathbf{\text{Y}}$ 16'31	-7°16'08	min. Earth dist.	5268 Sep 26 17:49	10° $\mathbf{\text{Y}}$ 04'29	38.00652 AU
minimum elong	5262 Mar 20 03:51	0° $\mathbf{\text{Y}}$ 16'30	7°16'08	opposition	5268 Sep 29 15:10	10° $\mathbf{\text{Y}}$ 00'40	-10°11'40
max. Earth dist.	5262 Mar 22 21:11	0° $\mathbf{\text{Y}}$ 21'28	38.31466 AU	direct	5268 Dec 19 22:44	8° $\mathbf{\text{Y}}$ 51'53	
morning rise	5262 Apr 02 13:05	0° $\mathbf{\text{Y}}$ 40'46		evening set	5269 Mar 18 14:20	10° $\mathbf{\text{Y}}$ 22'41	
retrograde	5262 Jun 30 19:03	2° $\mathbf{\text{Y}}$ 15'01					
min. Earth dist.	5262 Sep 18 02:41	1° $\mathbf{\text{Y}}$ 07'45	36.45904 AU	conjunction	5269 Mar 30 03:39	10° $\mathbf{\text{Y}}$ 42'44	-9°51'10
opposition	5262 Sep 20 20:42	1° $\mathbf{\text{Y}}$ 04'01	-7°52'52	minimum elong	5269 Mar 30 03:26	10° $\mathbf{\text{Y}}$ 42'43	9°51'11
	5262 Nov 18 17:46	30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$		max. Earth dist.	5269 Apr 02 00:36	10° $\mathbf{\text{Y}}$ 47'44	40.10477 AU
direct	5262 Dec 11 04:37	29° $\mathbf{\text{X}}$ 53'23		morning rise	5269 Apr 10 17:19	11° $\mathbf{\text{Y}}$ 02'48	
	5263 Jan 02 02:09	0° $\mathbf{\text{Y}}$		retrograde	5269 Jul 10 17:23	12° $\mathbf{\text{Y}}$ 35'57	
evening set	5263 Mar 08 19:07	1° $\mathbf{\text{Y}}$ 25'34		min. Earth dist.	5269 Sep 28 11:37	11° $\mathbf{\text{Y}}$ 30'33	38.26273 AU
				opposition	5269 Oct 01 08:44	11° $\mathbf{\text{Y}}$ 26'46	-10°32'26
conjunction	5263 Mar 21 22:12	1° $\mathbf{\text{Y}}$ 49'12	-7°40'12	direct	5269 Dec 21 18:49	10° $\mathbf{\text{Y}}$ 18'17	
minimum elong	5263 Mar 21 22:00	1° $\mathbf{\text{Y}}$ 49'11	7°40'13	evening set	5270 Mar 20 13:12	11° $\mathbf{\text{Y}}$ 48'58	
max. Earth dist.	5263 Mar 24 15:17	1° $\mathbf{\text{Y}}$ 54'07	38.57004 AU				
morning rise	5263 Apr 04 01:55	2° $\mathbf{\text{Y}}$ 12'53		conjunction	5270 Mar 31 19:17	12° $\mathbf{\text{Y}}$ 08'23	-10°10'49
retrograde	5263 Jul 02 13:46	3° $\mathbf{\text{Y}}$ 46'53		minimum elong	5270 Mar 31 19:04	12° $\mathbf{\text{Y}}$ 08'22	10°10'49
min. Earth dist.	5263 Sep 19 21:51	2° $\mathbf{\text{Y}}$ 39'54	36.71648 AU	max. Earth dist.	5270 Apr 03 15:24	12° $\mathbf{\text{Y}}$ 13'18	40.35801 AU
opposition	5263 Sep 22 16:58	2° $\mathbf{\text{Y}}$ 36'07	-8°17'44	morning rise	5270 Apr 12 01:58	12° $\mathbf{\text{Y}}$ 27'50	
direct	5263 Dec 13 00:21	1° $\mathbf{\text{Y}}$ 25'47		retrograde	5270 Jul 12 10:26	14° $\mathbf{\text{Y}}$ 00'56	
evening set	5264 Mar 09 18:44	2° $\mathbf{\text{Y}}$ 57'39		min. Earth dist.	5270 Sep 30 04:06	12° $\mathbf{\text{Y}}$ 55'50	38.51714 AU
				opposition	5270 Oct 03 02:03	12° $\mathbf{\text{Y}}$ 52'01	-10°52'33
conjunction	5264 Mar 22 16:13	3° $\mathbf{\text{Y}}$ 20'42	-8°03'38	direct	5270 Dec 23 11:03	11° $\mathbf{\text{Y}}$ 43'50	
minimum elong	5264 Mar 22 16:01	3° $\mathbf{\text{Y}}$ 20'42	8°03'38	evening set	5271 Mar 22 11:44	13° $\mathbf{\text{Y}}$ 14'24	
max. Earth dist.	5264 Mar 25 10:51	3° $\mathbf{\text{Y}}$ 25'43	38.82555 AU				
morning rise	5264 Apr 04 14:02	3° $\mathbf{\text{Y}}$ 43'48		conjunction	5271 Apr 02 10:43	13° $\mathbf{\text{Y}}$ 33'11	-10°29'52
retrograde	5264 Jul 03 06:40	5° $\mathbf{\text{Y}}$ 17'36		minimum elong	5271 Apr 02 10:29	13° $\mathbf{\text{Y}}$ 33'10	10°29'52
min. Earth dist.	5264 Sep 20 17:45	4° $\mathbf{\text{Y}}$ 10'49	36.97414 AU	max. Earth dist.	5271 Apr 05 07:45	13° $\mathbf{\text{Y}}$ 38'08	40.60902 AU
opposition	5264 Sep 23 12:34	4° $\mathbf{\text{Y}}$ 07'05	-8°41'54	morning rise	5271 Apr 13 10:05	13° $\mathbf{\text{Y}}$ 52'01	
direct	5264 Dec 13 21:05	2° $\mathbf{\text{Y}}$ 57'03		retrograde	5271 Jul 14 02:15	15° $\mathbf{\text{Y}}$ 25'04	
evening set	5265 Mar 11 18:18	4° $\mathbf{\text{Y}}$ 28'38		min. Earth dist.	5271 Oct 01 22:20	14° $\mathbf{\text{Y}}$ 20'08	38.76893 AU
				opposition	5271 Oct 04 19:02	14° $\mathbf{\text{Y}}$ 16'24	-11°12'04
conjunction	5265 Mar 24 09:39	4° $\mathbf{\text{Y}}$ 51'06	-8°26'25	direct	5271 Dec 25 04:01	13° $\mathbf{\text{Y}}$ 08'30	
minimum elong	5265 Mar 24 09:26	4° $\mathbf{\text{Y}}$ 51'05	8°26'26	evening set	5272 Mar 23 10:28	14° $\mathbf{\text{Y}}$ 38'58	
max. Earth dist.	5265 Mar 27 03:52	4° $\mathbf{\text{Y}}$ 56'02	39.08144 AU				
morning rise	5265 Apr 06 01:33	5° $\mathbf{\text{Y}}$ 13'36		conjunction	5272 Apr 03 01:52	14° $\mathbf{\text{Y}}$ 57'07	-10°48'20
retrograde	5265 Jul 05 02:17	6° $\mathbf{\text{Y}}$ 47'12		minimum elong	5272 Apr 03 01:40	14° $\mathbf{\text{Y}}$ 57'06	10°48'20
min. Earth dist.	5265 Sep 22 11:17	5° $\mathbf{\text{Y}}$ 40'46	37.23226 AU	max. Earth dist.	5272 Apr 05 21:49	15° $\mathbf{\text{Y}}$ 01'58	40.85726 AU
opposition	5265 Sep 25 07:48	5° $\mathbf{\text{Y}}$ 36'57	-9°05'22	morning rise	5272 Apr 13 17:44	15° $\mathbf{\text{Y}}$ 15'18	
direct	5265 Dec 15 14:22	4° $\mathbf{\text{Y}}$ 27'13		retrograde	5272 Jul 14 18:45	16° $\mathbf{\text{Y}}$ 48'19	
evening set	5266 Mar 13 17:26	5° $\mathbf{\text{Y}}$ 58'33		min. Earth dist.	5272 Oct 02 13:59	15° $\mathbf{\text{Y}}$ 43'38	39.01773 AU
				opposition	5272 Oct 05 11:22	15° $\mathbf{\text{Y}}$ 39'54	-11°30'57
conjunction	5266 Mar 26 02:37	6° $\mathbf{\text{Y}}$ 20'26	-8°48'33	direct	5272 Dec 25 19:18	14° $\mathbf{\text{Y}}$ 32'14	
minimum elong	5266 Mar 26 02:25	6° $\mathbf{\text{Y}}$ 20'25	8°48'33	evening set	5273 Mar 25 08:54	16° $\mathbf{\text{Y}}$ 02'38	
max. Earth dist.	5266 Mar 28 22:21	6° $\mathbf{\text{Y}}$ 25'26	39.33762 AU				
morning rise	5266 Apr 07 12:19	6° $\mathbf{\text{Y}}$ 42'21		conjunction	5273 Apr 04 16:39	16° $\mathbf{\text{Y}}$ 20'09	-11°06'15
retrograde	5266 Jul 06 21:02	8° $\mathbf{\text{Y}}$ 15'47		minimum elong	5273 Apr 04 16:26	16° $\mathbf{\text{Y}}$ 20'08	11°06'15
min. Earth dist.	5266 Sep 24 06:35	7° $\mathbf{\text{Y}}$ 09'34	37.49065 AU	max. Earth dist.	5273 Apr 07 12:45	16° $\mathbf{\text{Y}}$ 24'58	41.10238 AU
opposition	5266 Sep 27 02:47	7° $\mathbf{\text{Y}}$ 05'48	-9°28'09	morning rise	5273 Apr 15 00:54	16° $\mathbf{\text{Y}}$ 37'41	

retrograde	5273 Jul 16 09:56	18° Υ 10'42		minimum elong	5280 Apr 13 14:05	25° Υ 37'22	12°55'46
min. Earth dist.	5273 Oct 04 07:09	17° Υ 06'09	39.26357 AU	max. Earth dist.	5280 Apr 16 10:38	25° Υ 42'02	42.76485 AU
opposition	5273 Oct 07 03:39	17° Υ 02'29	-11°49'15	morning rise	5280 Apr 21 10:14	25° Υ 50'10	
direct	5273 Dec 27 11:00	15° Υ 55'04		retrograde	5280 Jul 25 05:46	27° Υ 23'45	
evening set	5274 Mar 27 07:06	17° Υ 25'24		min. Earth dist.	5280 Oct 13 13:25	26° Υ 20'42	40.93453 AU
				opposition	5280 Oct 16 10:28	26° Υ 17'05	-13°40'33
conjunction	5274 Apr 06 07:00	17° Υ 42'15	-11°23'35	direct	5281 Jan 05 19:46	25° Υ 11'25	
minimum elong	5274 Apr 06 06:48	17° Υ 42'14	11°23'36	evening set	5281 Apr 07 16:31	26° Υ 42'08	
max. Earth dist.	5274 Apr 09 03:15	17° Υ 47'04	41.34478 AU				
morning rise	5274 Apr 16 07:11	17° Υ 59'08		conjunction	5281 Apr 15 02:38	26° Υ 54'12	-13°09'12
retrograde	5274 Jul 17 21:23	19° Υ 32'08		minimum elong	5281 Apr 15 02:28	26° Υ 54'11	13°09'12
min. Earth dist.	5274 Oct 05 22:45	18° Υ 27'48	39.50671 AU	max. Earth dist.	5281 Apr 17 23:43	26° Υ 58'54	42.99634 AU
opposition	5274 Oct 08 19:25	18° Υ 24'07	-12°06'56	morning rise	5281 Apr 22 12:53	27° Υ 06'17	
direct	5274 Dec 29 05:37	17° Υ 16'57		retrograde	5281 Jul 26 15:17	28° Υ 40'04	
evening set	5275 Mar 29 05:16	18° Υ 47'14		min. Earth dist.	5281 Oct 15 03:29	27° Υ 37'13	41.16658 AU
				opposition	5281 Oct 17 23:57	27° Υ 33'38	-13°54'08
conjunction	5275 Apr 07 20:56	19° Υ 03'26	-11°40'21	direct	5282 Jan 07 12:08	26° Υ 28'14	
minimum elong	5275 Apr 07 20:44	19° Υ 03'25	11°40'21	evening set	5282 Apr 09 14:30	27° Υ 59'08	
max. Earth dist.	5275 Apr 10 16:29	19° Υ 08'10	41.58479 AU				
morning rise	5275 Apr 17 13:07	19° Υ 19'39		conjunction	5282 Apr 16 14:32	28° Υ 10'28	-13°22'08
retrograde	5275 Jul 19 10:47	20° Υ 52'41		minimum elong	5282 Apr 16 14:22	28° Υ 10'27	13°22'09
min. Earth dist.	5275 Oct 07 13:49	19° Υ 48'33	39.74800 AU	max. Earth dist.	5282 Apr 19 10:19	28° Υ 15'03	43.22523 AU
opposition	5275 Oct 10 10:46	19° Υ 44'52	-12°24'02	morning rise	5282 Apr 23 14:48	28° Υ 21'49	
direct	5275 Dec 30 21:49	18° Υ 37'55		retrograde	5282 Jul 28 05:09	29° Υ 55'50	
evening set	5276 Mar 30 03:13	20° Υ 08'12		min. Earth dist.	5282 Oct 16 16:21	28° Υ 53'12	41.39581 AU
				opposition	5282 Oct 19 13:11	28° Υ 49'38	-14°07'12
conjunction	5276 Apr 08 10:42	20° Υ 23'43	-11°56'34	direct	5283 Jan 09 00:41	27° Υ 44'29	
minimum elong	5276 Apr 08 10:30	20° Υ 23'43	11°56'35	evening set	5283 Apr 11 12:44	29° Υ 15'35	
max. Earth dist.	5276 Apr 11 07:25	20° Υ 28'31	41.82320 AU				
morning rise	5276 Apr 17 18:27	20° Υ 39'17		conjunction	5283 Apr 18 02:31	29° Υ 26'10	-13°34'34
retrograde	5276 Jul 19 23:45	22° Υ 12'22		minimum elong	5283 Apr 18 02:22	29° Υ 26'09	13°34'34
min. Earth dist.	5276 Oct 08 05:32	21° Υ 08'23	39.98774 AU	max. Earth dist.	5283 Apr 20 22:49	29° Υ 30'45	43.45088 AU
opposition	5276 Oct 11 01:47	21° Υ 04'45	-12°40'31	morning rise	5283 Apr 24 16:26	29° Υ 36'46	
direct	5276 Dec 31 14:00	19° Υ 58'03			5283 May 09 10:29	0° \mathcal{B}	
evening set	5277 Apr 01 01:10	21° Υ 28'21		retrograde	5283 Jul 29 18:49	1° \mathcal{B} 11'02	
				min. Earth dist.	5283 Oct 18 06:56	0° \mathcal{B} 08'31	41.62144 AU
conjunction	5277 Apr 09 23:57	21° Υ 43'11	-12°12'12	opposition	5283 Oct 21 02:07	0° \mathcal{B} 05'03	-14°19'45
minimum elong	5277 Apr 09 23:45	21° Υ 43'11	12°12'12		5283 Oct 25 03:30	30° $\mathcal{R}\Upsilon$	
max. Earth dist.	5277 Apr 12 19:51	21° Υ 47'54	42.06034 AU	direct	5284 Jan 10 12:57	29° Υ 00'08	
morning rise	5277 Apr 18 23:04	21° Υ 58'04			5284 Mar 23 03:18	0° \mathcal{B}	
retrograde	5277 Jul 21 14:49	23° Υ 31'14		evening set	5284 Apr 12 11:25	0° \mathcal{B} 31'27	
min. Earth dist.	5277 Oct 09 18:50	22° Υ 27'32	40.22637 AU				
opposition	5277 Oct 12 16:23	22° Υ 23'51	-12°56'24	conjunction	5284 Apr 18 14:18	0° \mathcal{B} 41'16	-13°46'32
direct	5278 Jan 02 03:03	21° Υ 17'24		minimum elong	5284 Apr 18 14:07	0° \mathcal{B} 41'16	13°46'33
evening set	5278 Apr 02 22:57	22° Υ 47'44		max. Earth dist.	5284 Apr 21 09:24	0° \mathcal{B} 45'46	43.67278 AU
				morning rise	5284 Apr 24 17:13	0° \mathcal{B} 51'06	
conjunction	5278 Apr 11 13:01	23° Υ 01'55	-12°27'16	retrograde	5284 Jul 30 06:56	2° \mathcal{B} 25'37	
minimum elong	5278 Apr 11 12:49	23° Υ 01'54	12°27'17	min. Earth dist.	5284 Oct 18 19:14	1° \mathcal{B} 23'19	41.84293 AU
max. Earth dist.	5278 Apr 14 09:50	23° Υ 06'39	42.29641 AU	opposition	5284 Oct 21 14:44	1° \mathcal{B} 19'51	-14°31'49
morning rise	5278 Apr 20 03:23	23° Υ 16'07		direct	5285 Jan 11 00:24	0° \mathcal{B} 15'09	
retrograde	5278 Jul 23 04:52	24° Υ 49'23		evening set	5285 Apr 14 10:13	1° \mathcal{B} 46'43	
min. Earth dist.	5278 Oct 11 10:09	23° Υ 45'51	40.46393 AU				
opposition	5278 Oct 14 06:51	23° Υ 42'14	-13°11'42	conjunction	5285 Apr 20 01:39	1° \mathcal{B} 55'44	-13°58'02
direct	5279 Jan 03 16:16	22° Υ 36'02		minimum elong	5285 Apr 20 01:31	1° \mathcal{B} 55'44	13°58'03
evening set	5279 Apr 04 20:46	24° Υ 06'28		max. Earth dist.	5285 Apr 22 20:05	2° \mathcal{B} 00'09	43.89038 AU
				morning rise	5285 Apr 25 17:13	2° \mathcal{B} 04'45	
conjunction	5279 Apr 13 01:46	24° Υ 19'58	-12°41'47	retrograde	5285 Jul 31 18:26	3° \mathcal{B} 39'34	
minimum elong	5279 Apr 13 01:35	24° Υ 19'57	12°41'47	min. Earth dist.	5285 Oct 20 08:54	2° \mathcal{B} 37'22	42.06024 AU
max. Earth dist.	5279 Apr 15 22:27	24° Υ 24'40	42.53145 AU	opposition	5285 Oct 23 03:14	2° \mathcal{B} 33'58	-14°43'25
morning rise	5279 Apr 21 06:58	24° Υ 33'28		direct	5286 Jan 12 12:22	1° \mathcal{B} 29'28	
retrograde	5279 Jul 24 17:13	26° Υ 06'52		evening set	5286 Apr 16 09:40	3° \mathcal{B} 01'20	
min. Earth dist.	5279 Oct 12 23:27	25° Υ 03'36	40.70007 AU				
opposition	5279 Oct 15 20:49	24° Υ 59'57	-13°26'24	conjunction	5286 Apr 21 12:58	3° \mathcal{B} 09'30	-14°09'05
direct	5280 Jan 05 05:56	23° Υ 54'02		minimum elong	5286 Apr 21 12:48	3° \mathcal{B} 09'30	14°09'06
evening set	5280 Apr 05 18:36	25° Υ 24'35		max. Earth dist.	5286 Apr 24 07:24	3° \mathcal{B} 13'54	44.10407 AU
				morning rise	5286 Apr 26 16:13	3° \mathcal{B} 17'40	
conjunction	5280 Apr 13 14:15	25° Υ 37'23	-12°55'46	retrograde	5286 Aug 02 02:36	4° \mathcal{B} 52'49	

min. Earth dist.	5286 Oct 21 21:35	3°8'50"44 42.27361 AU	opposition	5293 Nov 01 20:38	12°8'03"23 -15°58'55
opposition	5286 Oct 24 15:18	3°8'47"22 -14°54'31	direct	5294 Jan 22 10:49	11°8'00"24
direct	5287 Jan 14 02:53	2°8'43"02			
evening set	5287 Apr 18 09:39	4°8'15"17	conjunction	5294 Apr 30 21:50	12°8'36"37 -15°21'02
			minimum elong	5294 Apr 30 21:45	12°8'36"37 15°21'03
conjunction	5287 Apr 22 23:44	4°8'22"32 -14°19'40	max. Earth dist.	5294 May 03 12:58	12°8'40"40 45.71489 AU
minimum elong	5287 Apr 22 23:36	4°8'22"32 14°19'41	retrograde	5294 Aug 11 12:12	14°8'16"22
max. Earth dist.	5287 Apr 25 16:54	4°8'26"50 44.31415 AU	min. Earth dist.	5294 Oct 31 15:37	13°8'15"31 43.88473 AU
morning rise	5287 Apr 27 13:51	4°8'29"48	opposition	5294 Nov 03 06:47	13°8'12"21 -16°06'18
retrograde	5287 Aug 03 13:10	6°8'05"20	direct	5295 Jan 23 19:43	12°8'09"35
min. Earth dist.	5287 Oct 23 09:16	5°8'03"25 42.48378 AU			
opposition	5287 Oct 26 03:07	5°8'00"03 -15°05'09	conjunction	5295 May 02 07:11	13°8'45"25 -15°28'06
direct	5288 Jan 15 15:16	3°8'55"53	minimum elong	5295 May 02 07:06	13°8'45"24 15°28'07
evening set	5288 Apr 19 10:46	5°8'28"34	max. Earth dist.	5295 May 04 22:03	13°8'49"25 45.90313 AU
				5295 Jun 26 13:24	15°8'
conjunction	5288 Apr 23 10:29	5°8'34"51 -14°29'48	retrograde	5295 Aug 12 23:47	15°8'24"46
minimum elong	5288 Apr 23 10:20	5°8'34"50 14°29'48		5295 Sep 30 13:35	15°8'
max. Earth dist.	5288 Apr 26 04:20	5°8'39"10 44.52126 AU	min. Earth dist.	5295 Nov 02 03:34	14°8'24"01 44.07199 AU
morning rise	5288 Apr 27 10:06	5°8'41"08	opposition	5295 Nov 04 16:53	14°8'20"57 -16°13'17
retrograde	5288 Aug 03 23:06	7°8'17"09	direct	5296 Jan 25 03:50	13°8'18"23
min. Earth dist.	5288 Oct 23 21:57	6°8'15"19 42.69116 AU			
opposition	5288 Oct 26 14:33	6°8'12"01 -15°15'18	conjunction	5296 May 02 16:33	14°8'53"49 -15°34'47
direct	5289 Jan 16 04:43	5°8'08"02	minimum elong	5296 May 02 16:28	14°8'53"49 15°34'46
evening set	5289 Apr 21 13:46	6°8'41"19	max. Earth dist.	5296 May 05 06:32	14°8'57"45 46.08693 AU
				5296 May 06 18:06	15°8'
conjunction	5289 Apr 24 20:53	6°8'46"29 -14°39'28	retrograde	5296 Aug 13 08:31	16°8'32"47
minimum elong	5289 Apr 24 20:46	6°8'46"28 14°39'28	min. Earth dist.	5296 Nov 02 13:35	15°8'32"11 44.25435 AU
morning rise	5289 Apr 28 03:55	6°8'51"39	opposition	5296 Nov 05 02:31	15°8'29"09 -16°19'54
max. Earth dist.	5289 Apr 27 13:43	6°8'50"43 44.72604 AU		5296 Nov 30 11:33	15°8'
retrograde	5289 Aug 05 11:38	8°8'28"18	direct	5297 Jan 25 12:28	14°8'26"45
min. Earth dist.	5289 Oct 25 08:25	7°8'26"39 42.89629 AU		5297 Mar 20 17:43	15°8'
opposition	5289 Oct 28 01:46	7°8'23"20 -15°24'58			
direct	5290 Jan 17 14:09	6°8'19"32	conjunction	5297 May 04 01:35	16°8'01"48 -15°41'06
evening set	5290 Apr 23 19:52	7°8'53"40	minimum elong	5297 May 04 01:30	16°8'01"48 15°41'07
			max. Earth dist.	5297 May 06 13:57	16°8'05"37 46.26577 AU
conjunction	5290 Apr 26 06:56	7°8'57"30 -14°48'40	retrograde	5297 Aug 14 17:12	17°8'40"23
minimum elong	5290 Apr 26 06:48	7°8'57"29 14°48'40	min. Earth dist.	5297 Nov 04 00:20	16°8'39"52 44.43186 AU
morning rise	5290 Apr 28 17:50	8°8'01"19	opposition	5297 Nov 06 12:15	16°8'36"54 -16°26'08
max. Earth dist.	5290 Apr 28 23:54	8°8'01"43 44.92861 AU	direct	5298 Jan 26 22:41	15°8'34"40
retrograde	5290 Aug 06 22:53	9°8'38"52			
min. Earth dist.	5290 Oct 26 20:38	8°8'37"20 43.09931 AU	conjunction	5298 May 05 10:26	17°8'09"18 -15°47'03
opposition	5290 Oct 29 12:57	8°8'34"04 -15°34'08	minimum elong	5298 May 05 10:23	17°8'09"18 15°47'03
direct	5291 Jan 18 23:37	7°8'30"28	max. Earth dist.	5298 May 07 23:00	17°8'13"07 46.43986 AU
evening set	5291 Apr 26 12:46	9°8'06"08	retrograde	5298 Aug 15 22:37	18°8'47"30
			min. Earth dist.	5298 Nov 05 11:05	17°8'47"04 44.60459 AU
conjunction	5291 Apr 27 17:02	9°8'07"58 -14°57'25	opposition	5298 Nov 07 21:41	17°8'44"09 -16°31'59
minimum elong	5291 Apr 27 16:55	9°8'07"57 14°57'26	direct	5299 Jan 28 11:54	16°8'42"04
morning rise	5291 Apr 28 21:07	9°8'09"47			
max. Earth dist.	5291 Apr 30 10:09	9°8'12"11 45.12916 AU	conjunction	5299 May 06 19:04	18°8'16"18 -15°52'39
retrograde	5291 Aug 08 06:36	10°8'48"53	minimum elong	5299 May 06 19:00	18°8'16"17 15°52'40
min. Earth dist.	5291 Oct 28 07:14	9°8'47"32 43.29998 AU	max. Earth dist.	5299 May 09 05:51	18°8'19"59 46.60960 AU
opposition	5291 Oct 30 23:34	9°8'44"17 -15°42'51	retrograde	5299 Aug 17 08:30	19°8'54"06
direct	5292 Jan 20 11:44	8°8'40"53	min. Earth dist.	5299 Nov 06 19:59	18°8'53"47 44.77332 AU
			opposition	5299 Nov 09 06:40	18°8'50"53 -16°37'28
conjunction	5292 Apr 28 02:46	10°8'17"56 -15°05'43	direct	5300 Jan 29 21:12	17°8'48"55
minimum elong	5292 Apr 28 02:39	10°8'17"56 15°05'43			
max. Earth dist.	5292 Apr 30 18:38	10°8'22"03 45.32729 AU	conjunction	5300 May 08 03:33	19°8'22"46 -15°57'52
retrograde	5292 Aug 08 15:56	11°8'58"26	minimum elong	5300 May 08 03:30	19°8'22"45 15°57'53
min. Earth dist.	5292 Oct 28 18:02	10°8'57"16 43.49816 AU	max. Earth dist.	5300 May 10 14:23	19°8'26"26 46.77559 AU
opposition	5292 Oct 31 10:12	10°8'54"02 -15°51'06	retrograde	5300 Aug 18 18:48	21°8'00"12
direct	5293 Jan 20 22:46	9°8'50"51	min. Earth dist.	5300 Nov 08 06:38	19°8'59"55 44.93860 AU
			opposition	5300 Nov 10 15:40	19°8'57"06 -16°42'34
conjunction	5293 Apr 29 12:22	11°8'27"28 -15°13'35	direct	5301 Jan 31 05:40	18°8'55"16
minimum elong	5293 Apr 29 12:17	11°8'27"28 15°13'37			
max. Earth dist.	5293 May 02 04:56	11°8'31"37 45.52269 AU	conjunction	5301 May 09 11:44	20°8'28"43 -16°02'43
retrograde	5293 Aug 10 00:44	13°8'07"35	minimum elong	5301 May 09 11:40	20°8'28"43 16°02'44
min. Earth dist.	5293 Oct 30 05:48	12°8'06"32 43.69320 AU	max. Earth dist.	5301 May 11 22:05	20°8'32"21 46.93856 AU

retrograde	5301 Aug 20 02:34	22°♄05'47		min. Earth dist.	5309 Nov 18 12:52	29°♄37'28	46.28553 AU
min. Earth dist.	5301 Nov 09 14:55	21°♄05'38	45.10093 AU	opposition	5309 Nov 20 16:10	29°♄35'00	-17°11'45
opposition	5301 Nov 12 00:19	21°♄02'49	-16°47'17	direct	5310 Feb 10 06:46	28°♄34'25	
direct	5302 Feb 01 13:11	20°♄01'07			5310 May 15 21:21	0°♄	
conjunction	5302 May 10 19:44	21°♄34'12	-16°07'12	conjunction	5310 May 19 08:01	0°♄04'59	-16°30'26
minimum elong	5302 May 10 19:42	21°♄34'12	16°07'13	minimum elong	5310 May 19 08:01	0°♄04'59	16°30'28
max. Earth dist.	5302 May 13 05:05	21°♄37'46	47.09879 AU	max. Earth dist.	5310 May 21 11:47	0°♄08'07	48.26393 AU
retrograde	5302 Aug 21 10:20	23°♄10'54		retrograde	5310 Aug 29 20:31	1°♄39'13	
min. Earth dist.	5302 Nov 11 00:15	22°♄10'51	45.26073 AU	min. Earth dist.	5310 Nov 19 22:19	0°♄39'50	46.41388 AU
opposition	5302 Nov 13 08:53	22°♄08'05	-16°51'35	opposition	5310 Nov 21 23:31	0°♄37'27	-17°13'21
direct	5303 Feb 02 20:17	21°♄06'31			5310 Dec 26 20:11	30°♄	
conjunction	5303 May 12 03:44	22°♄39'16	-16°11'18	direct	5311 Feb 11 15:34	29°♄36'59	
minimum elong	5303 May 12 03:42	22°♄39'16	16°11'19		5311 Mar 29 03:46	0°♄	
max. Earth dist.	5303 May 14 13:34	22°♄42'50	47.25656 AU	conjunction	5311 May 20 15:01	1°♄07'14	-16°31'57
retrograde	5303 Aug 22 15:32	24°♄15'37		minimum elong	5311 May 20 15:03	1°♄07'14	16°31'58
min. Earth dist.	5303 Nov 12 09:24	23°♄15'39	45.41777 AU	max. Earth dist.	5311 May 22 17:38	1°♄10'17	48.38987 AU
opposition	5303 Nov 14 17:13	23°♄12'56	-16°55'31	retrograde	5311 Aug 31 04:08	2°♄41'10	
direct	5304 Feb 04 06:51	22°♄11'31		min. Earth dist.	5311 Nov 21 05:15	1°♄41'53	46.53790 AU
conjunction	5304 May 12 11:27	23°♄43'55	-16°15'02	opposition	5311 Nov 23 06:35	1°♄39'31	-17°14'39
minimum elong	5304 May 12 11:27	23°♄43'55	16°15'03	direct	5312 Feb 12 21:48	0°♄39'08	
max. Earth dist.	5304 May 14 19:49	23°♄47'23	47.41166 AU	conjunction	5312 May 20 21:46	2°♄09'06	-16°33'09
retrograde	5304 Aug 22 23:03	25°♄19'57		minimum elong	5312 May 20 21:47	2°♄09'06	16°33'10
min. Earth dist.	5304 Nov 12 17:16	24°♄20'09	45.57209 AU	max. Earth dist.	5312 May 22 23:10	2°♄12'04	48.51169 AU
opposition	5304 Nov 15 01:16	24°♄17'25	-16°59'05	retrograde	5312 Aug 31 12:06	3°♄42'44	
direct	5305 Feb 04 15:45	23°♄16'09		min. Earth dist.	5312 Nov 21 13:38	2°♄43'28	46.65827 AU
conjunction	5305 May 13 19:07	24°♄48'14	-16°18'24	opposition	5312 Nov 23 13:33	2°♄41'10	-17°15'38
minimum elong	5305 May 13 19:06	24°♄48'13	16°18'25	direct	5313 Feb 13 02:40	1°♄40'53	
max. Earth dist.	5305 May 16 03:36	24°♄51'42	47.56384 AU	conjunction	5313 May 22 04:31	3°♄10'36	-16°34'03
retrograde	5305 Aug 24 08:08	26°♄23'57		minimum elong	5313 May 22 04:34	3°♄10'36	16°34'03
min. Earth dist.	5305 Nov 14 03:02	25°♄24'13	45.72325 AU	max. Earth dist.	5313 May 24 06:11	3°♄13'34	48.63029 AU
opposition	5305 Nov 16 09:25	25°♄21'34	-17°02'16	retrograde	5313 Sep 01 16:17	4°♄43'56	
direct	5306 Feb 06 00:37	24°♄20'28		min. Earth dist.	5313 Nov 22 20:58	3°♄44'46	46.77544 AU
conjunction	5306 May 15 02:37	25°♄52'13	-16°21'26	opposition	5313 Nov 24 20:21	3°♄42'29	-17°16'18
minimum elong	5306 May 15 02:37	25°♄52'13	16°21'27	direct	5314 Feb 14 10:25	2°♄42'19	
max. Earth dist.	5306 May 17 10:16	25°♄55'37	47.71280 AU	conjunction	5314 May 23 10:54	4°♄11'45	-16°34'37
retrograde	5306 Aug 25 17:59	27°♄27'38		minimum elong	5314 May 23 10:55	4°♄11'45	16°34'38
min. Earth dist.	5306 Nov 15 10:53	26°♄28'03	45.87074 AU	max. Earth dist.	5314 May 25 11:00	4°♄14'38	48.74598 AU
opposition	5306 Nov 17 17:16	26°♄25'24	-17°05'07	retrograde	5314 Sep 02 22:13	5°♄44'51	
direct	5307 Feb 07 06:15	25°♄24'27		min. Earth dist.	5314 Nov 24 03:48	4°♄45'47	46.88987 AU
conjunction	5307 May 16 10:05	26°♄55'55	-16°24'08	opposition	5314 Nov 26 03:04	4°♄43'31	-17°16'38
minimum elong	5307 May 16 10:05	26°♄55'55	16°24'09	direct	5315 Feb 15 17:31	3°♄43'27	
max. Earth dist.	5307 May 18 16:26	26°♄59'13	47.85771 AU	conjunction	5315 May 24 17:25	5°♄12'39	-16°34'53
retrograde	5307 Aug 27 02:22	28°♄31'02		minimum elong	5315 May 24 17:29	5°♄12'39	16°34'54
min. Earth dist.	5307 Nov 16 20:10	27°♄31'30	46.01400 AU	max. Earth dist.	5315 May 26 17:45	5°♄15'32	48.85889 AU
opposition	5307 Nov 19 00:59	27°♄28'56	-17°07'38	retrograde	5315 Sep 04 04:20	6°♄45'31	
direct	5308 Feb 08 12:25	26°♄28'08		min. Earth dist.	5315 Nov 25 11:48	5°♄46'29	47.00145 AU
conjunction	5308 May 16 17:39	27°♄59'17	-16°26'32	opposition	5315 Nov 27 09:33	5°♄44'18	-17°16'38
minimum elong	5308 May 16 17:39	27°♄59'17	16°26'33	direct	5316 Feb 17 02:35	4°♄44'21	
max. Earth dist.	5308 May 18 23:49	28°♄02'35	47.99812 AU	conjunction	5316 May 24 23:48	6°♄13'20	-16°34'50
retrograde	5308 Aug 27 06:29	29°♄34'07		minimum elong	5316 May 24 23:50	6°♄13'20	16°34'51
min. Earth dist.	5308 Nov 17 04:56	28°♄34'39	46.15227 AU	max. Earth dist.	5316 May 26 23:05	6°♄16'08	48.96915 AU
opposition	5308 Nov 19 08:36	28°♄32'09	-17°09'51	retrograde	5316 Sep 04 13:29	7°♄45'58	
direct	5309 Feb 08 22:11	27°♄31'28		min. Earth dist.	5316 Nov 25 17:52	6°♄47'05	47.11015 AU
conjunction	5309 May 18 00:48	29°♄02'20	-16°28'38	opposition	5316 Nov 27 15:55	6°♄44'53	-17°16'20
minimum elong	5309 May 18 00:48	29°♄02'20	16°28'38	direct	5317 Feb 17 07:16	5°♄45'04	
max. Earth dist.	5309 May 20 04:47	29°♄05'29	48.13353 AU	conjunction	5317 May 26 05:51	7°♄13'50	-16°34'29
retrograde	5309 Jun 29 17:32	0°♄		minimum elong	5317 May 26 05:55	7°♄13'50	16°34'31
	5309 Aug 28 13:04	0°♄36'51		max. Earth dist.	5317 May 28 04:17	7°♄16'35	49.07631 AU
	5309 Oct 29 10:36	30°♄		retrograde	5317 Sep 05 22:06	8°♄46'16	

min. Earth dist.	5317 Nov 27 01:54	7°II47'26	47.21566 AU	conjunction	5326 Jun 04 11:26	16°II09'16	-16°19'26
opposition	5317 Nov 28 22:25	7°II45'19	-17°15'43	minimum elong	5326 Jun 04 11:34	16°II09'17	16°19'27
direct	5318 Feb 18 10:34	6°II45'38		max. Earth dist.	5326 Jun 06 00:54	16°II11'27	49.84346 AU
				retrograde	5326 Sep 14 22:05	17°II39'49	
conjunction	5318 May 27 12:11	8°II14'11	-16°33'51	min. Earth dist.	5326 Dec 06 14:50	16°II41'19	47.96041 AU
minimum elong	5318 May 27 12:14	8°II14'12	16°33'52	opposition	5326 Dec 08 02:50	16°II39'37	-16°58'11
max. Earth dist.	5318 May 29 10:35	8°II16'56	49.18017 AU	direct	5327 Feb 27 20:22	15°II40'36	
retrograde	5318 Sep 07 02:00	9°II46'25					
min. Earth dist.	5318 Nov 28 08:42	8°II47'41	47.31739 AU	conjunction	5327 Jun 05 16:55	17°II07'23	-16°16'28
opposition	5318 Nov 30 04:32	8°II45'36	-17°14'48	minimum elong	5327 Jun 05 17:00	17°II07'24	16°16'29
direct	5319 Feb 19 17:34	7°II46'02		max. Earth dist.	5327 Jun 07 05:20	17°II09'30	49.90841 AU
				retrograde	5327 Sep 16 06:24	18°II37'46	
conjunction	5319 May 28 18:18	9°II14'25	-16°32'55	min. Earth dist.	5327 Dec 07 21:53	17°II39'15	48.02341 AU
minimum elong	5319 May 28 18:23	9°II14'25	16°32'57	opposition	5327 Dec 09 08:15	17°II37'38	-16°54'53
max. Earth dist.	5319 May 30 14:37	9°II17'01	49.27997 AU	direct	5328 Feb 28 23:47	16°II38'41	
retrograde	5319 Sep 08 06:33	10°II46'26					
min. Earth dist.	5319 Nov 29 15:41	9°II47'47	47.41477 AU	conjunction	5328 Jun 05 22:22	18°II05'19	-16°13'13
opposition	5319 Dec 01 10:42	9°II45'44	-17°13'37	minimum elong	5328 Jun 05 22:30	18°II05'20	16°13'14
direct	5320 Feb 21 00:26	8°II46'17		max. Earth dist.	5328 Jun 07 10:50	18°II07'25	49.97042 AU
				retrograde	5328 Sep 16 10:36	19°II35'32	
conjunction	5320 May 29 00:32	10°II14'29	-16°31'45	min. Earth dist.	5328 Dec 08 03:18	18°II37'05	48.08321 AU
minimum elong	5320 May 29 00:36	10°II14'29	16°31'45	opposition	5328 Dec 09 13:25	18°II35'29	-16°51'20
max. Earth dist.	5320 May 30 20:32	10°II17'04	49.37497 AU	direct	5329 Mar 01 04:53	17°II36'36	
retrograde	5320 Sep 08 11:43	11°II46'19					
min. Earth dist.	5320 Nov 29 23:49	10°II47'39	47.50698 AU	conjunction	5329 Jun 07 03:39	19°II03'07	-16°09'43
opposition	5320 Dec 01 16:46	10°II45'43	-17°12'11	minimum elong	5329 Jun 07 03:45	19°II03'07	16°09'44
direct	5321 Feb 21 08:45	9°II46'22		max. Earth dist.	5329 Jun 08 14:14	19°II05'07	50.02930 AU
				retrograde	5329 Sep 17 15:16	20°II33'11	
conjunction	5321 May 30 06:40	11°II14'21	-16°30'19	min. Earth dist.	5329 Dec 09 09:14	19°II34'47	48.13982 AU
minimum elong	5321 May 30 06:44	11°II14'21	16°30'20	opposition	5329 Dec 10 18:39	19°II33'13	-16°47'30
max. Earth dist.	5321 Jun 01 01:01	11°II16'50	49.46486 AU	direct	5330 Mar 02 09:13	18°II34'26	
retrograde	5321 Sep 09 18:55	12°II45'58					
min. Earth dist.	5321 Dec 01 05:59	11°II47'24	47.59387 AU	conjunction	5330 Jun 08 08:59	20°II00'49	-16°05'57
opposition	5321 Dec 02 22:44	11°II45'28	-17°10'30	minimum elong	5330 Jun 08 09:07	20°II00'50	16°05'58
direct	5322 Feb 22 15:03	10°II46'12		max. Earth dist.	5330 Jun 09 19:39	20°II02'49	50.08466 AU
				retrograde	5330 Sep 18 19:07	21°II30'46	
conjunction	5322 May 31 12:34	12°II13'58	-16°28'39	opposition	5330 Dec 11 23:50	20°II30'54	-16°43'24
minimum elong	5322 May 31 12:39	12°II13'58	16°28'39	min. Earth dist.	5330 Dec 10 16:12	20°II32'23	48.19252 AU
max. Earth dist.	5322 Jun 02 05:21	12°II16'21	49.54935 AU	direct	5331 Mar 03 16:27	19°II32'12	
retrograde	5322 Sep 11 03:34	13°II45'22					
min. Earth dist.	5322 Dec 02 13:58	12°II46'46	47.67554 AU	conjunction	5331 Jun 09 14:24	20°II58'29	-16°01'56
opposition	5322 Dec 04 04:45	12°II44'56	-17°08'33	minimum elong	5331 Jun 09 14:31	20°II58'29	16°01'57
direct	5323 Feb 23 19:00	11°II45'43		max. Earth dist.	5331 Jun 10 23:29	21°II00'23	50.13597 AU
				retrograde	5331 Sep 20 01:16	22°II28'19	
conjunction	5323 Jun 01 18:35	13°II13'17	-16°26'44	min. Earth dist.	5331 Dec 11 21:16	21°II30'01	48.24079 AU
minimum elong	5323 Jun 01 18:40	13°II13'17	16°26'45	opposition	5331 Dec 13 04:42	21°II28'33	-16°39'05
max. Earth dist.	5323 Jun 03 11:05	13°II15'38	49.62892 AU	direct	5332 Mar 03 21:44	20°II29'55	
retrograde	5323 Sep 12 08:21	14°II44'26					
min. Earth dist.	5323 Dec 03 20:21	13°II45'52	47.75237 AU	conjunction	5332 Jun 09 19:45	21°II56'06	-15°57'42
opposition	5323 Dec 05 10:18	13°II44'04	-17°06'22	minimum elong	5332 Jun 09 19:53	21°II56'06	15°57'44
direct	5324 Feb 24 23:39	12°II44'54		max. Earth dist.	5332 Jun 11 03:16	21°II57'54	50.18239 AU
				retrograde	5332 Sep 20 09:12	23°II25'49	
conjunction	5324 Jun 02 00:17	14°II12'15	-16°24'34	min. Earth dist.	5332 Dec 12 04:38	22°II27'30	48.28397 AU
minimum elong	5324 Jun 02 00:23	14°II12'16	16°24'34	opposition	5332 Dec 13 09:52	22°II26'08	-16°34'31
max. Earth dist.	5324 Jun 03 14:49	14°II14'30	49.70404 AU	direct	5333 Mar 05 01:18	21°II27'34	
retrograde	5324 Sep 12 13:31	15°II43'12					
min. Earth dist.	5324 Dec 04 02:38	14°II44'38	47.82520 AU	conjunction	5333 Jun 11 01:04	22°II53'39	-15°53'15
opposition	5324 Dec 05 15:57	14°II42'53	-17°03'55	minimum elong	5333 Jun 11 01:12	22°II53'40	15°53'15
direct	5325 Feb 25 05:10	13°II43'45		max. Earth dist.	5333 Jun 12 08:05	22°II55'26	50.22362 AU
				retrograde	5333 Sep 21 14:34	24°II23'15	
conjunction	5325 Jun 03 05:51	15°II10'54	-16°22'08	min. Earth dist.	5333 Dec 13 10:22	23°II24'57	48.32162 AU
minimum elong	5325 Jun 03 05:56	15°II10'55	16°22'09	opposition	5333 Dec 14 14:51	23°II23'38	-16°29'45
max. Earth dist.	5325 Jun 04 20:25	15°II13'09	49.77536 AU	direct	5334 Mar 06 04:32	22°II25'06	
retrograde	5325 Sep 13 15:48	16°II41'39					
min. Earth dist.	5325 Dec 05 09:44	15°II43'04	47.89437 AU	conjunction	5334 Jun 12 06:18	23°II51'06	-15°48'35
opposition	5325 Dec 06 21:33	15°II41'23	-17°01'11	minimum elong	5334 Jun 12 06:26	23°II51'06	15°48'37
direct	5326 Feb 26 14:24	14°II42'18		max. Earth dist.	5334 Jun 13 10:55	23°II52'44	50.25941 AU

retrograde	5334 Sep 22 20:10	25° Π 20'33	conjunction	5342 Jun 19 22:06	1° \mathfrak{D} 24'53 -15°02'49
opposition	5334 Dec 15 19:42	24° Π 20'59 -16°24'45	minimum elong	5342 Jun 19 22:15	1° \mathfrak{D} 24'54 15°02'50
min. Earth dist.	5334 Dec 14 16:28	24° Π 22'15 48.35404 AU	max. Earth dist.	5342 Jun 20 19:34	1° \mathfrak{D} 26'06 50.40417 AU
direct	5335 Mar 07 08:20	23° Π 22'29	retrograde	5342 Sep 30 08:54	2° \mathfrak{D} 53'34
conjunction	5335 Jun 13 11:37	24° Π 48'22 -15°43'42	opposition	5342 Dec 23 08:15	1° \mathfrak{D} 54'17 -15°36'03
minimum elong	5335 Jun 13 11:46	24° Π 48'22 15°43'43	min. Earth dist.	5342 Dec 22 12:42	1° \mathfrak{D} 55'12 48.47738 AU
max. Earth dist.	5335 Jun 14 15:49	24° Π 49'58 50.29008 AU	direct	5343 Mar 15 01:41	0° \mathfrak{D} 56'00
retrograde	5335 Sep 23 21:28	26° Π 17'42	evening set	5343 Jun 19 15:33	2° \mathfrak{D} 19'15
min. Earth dist.	5335 Dec 15 23:00	25° Π 19'20 48.38150 AU	conjunction	5343 Jun 21 03:09	2° \mathfrak{D} 21'16 -14°56'00
opposition	5335 Dec 17 00:32	25° Π 18'09 -16°19'32	minimum elong	5343 Jun 21 03:19	2° \mathfrak{D} 21'17 14°56'02
direct	5336 Mar 07 16:44	24° Π 19'41	morning rise	5343 Jun 22 15:09	2° \mathfrak{D} 23'18
conjunction	5336 Jun 13 16:39	25° Π 45'26 -15°38'35	max. Earth dist.	5343 Jun 22 00:24	2° \mathfrak{D} 22'28 50.40748 AU
minimum elong	5336 Jun 13 16:47	25° Π 45'27 15°38'37	retrograde	5343 Oct 01 15:20	3° \mathfrak{D} 49'54
max. Earth dist.	5336 Jun 14 19:27	25° Π 46'58 50.31628 AU	opposition	5343 Dec 24 12:36	2° \mathfrak{D} 50'40 -15°28'52
retrograde	5336 Sep 24 02:19	27° Π 14'39	min. Earth dist.	5343 Dec 23 17:40	2° \mathfrak{D} 51'32 48.47734 AU
min. Earth dist.	5336 Dec 16 03:43	26° Π 16'19 48.40480 AU	direct	5344 Mar 15 04:19	1° \mathfrak{D} 52'24
opposition	5336 Dec 17 05:07	26° Π 15'08 -16°14'05	evening set	5344 Jun 18 20:37	3° \mathfrak{D} 14'18
direct	5337 Mar 08 23:15	25° Π 16'41	conjunction	5344 Jun 21 07:59	3° \mathfrak{D} 17'39 -14°48'59
conjunction	5337 Jun 14 21:38	26° Π 42'20 -15°33'15	minimum elong	5344 Jun 21 08:08	3° \mathfrak{D} 17'40 14°48'59
minimum elong	5337 Jun 14 21:48	26° Π 42'20 15°33'16	max. Earth dist.	5344 Jun 22 02:51	3° \mathfrak{D} 18'43 50.40619 AU
max. Earth dist.	5337 Jun 15 23:17	26° Π 43'47 50.33855 AU	morning rise	5344 Jun 23 19:47	3° \mathfrak{D} 21'02
retrograde	5337 Sep 25 10:54	28° Π 11'26	retrograde	5344 Oct 01 21:49	4° \mathfrak{D} 46'13
min. Earth dist.	5337 Dec 17 10:11	27° Π 13'02 48.42455 AU	opposition	5344 Dec 24 17:03	3° \mathfrak{D} 47'02 -15°21'27
opposition	5337 Dec 18 09:51	27° Π 11'56 -16°08'23	min. Earth dist.	5344 Dec 23 23:23	3° \mathfrak{D} 47'51 48.47252 AU
direct	5338 Mar 10 02:20	26° Π 13'30	direct	5345 Mar 16 06:17	2° \mathfrak{D} 48'47
conjunction	5338 Jun 16 02:39	27° Π 39'03 -15°27'39	evening set	5345 Jun 19 08:45	4° \mathfrak{D} 09'42
minimum elong	5338 Jun 16 02:47	27° Π 39'04 15°27'40	conjunction	5345 Jun 22 13:04	4° \mathfrak{D} 14'01 -14°41'45
max. Earth dist.	5338 Jun 17 04:13	27° Π 40'30 50.35762 AU	minimum elong	5345 Jun 22 13:14	4° \mathfrak{D} 14'01 14°41'47
retrograde	5338 Sep 26 15:19	29° Π 08'02	max. Earth dist.	5345 Jun 23 07:22	4° \mathfrak{D} 15'03 50.39981 AU
opposition	5338 Dec 19 14:22	28° Π 08'35 -16°02'26	morning rise	5345 Jun 25 17:51	4° \mathfrak{D} 18'21
min. Earth dist.	5338 Dec 18 14:52	28° Π 09'41 48.44108 AU	retrograde	5345 Oct 02 23:50	5° \mathfrak{D} 42'32
direct	5339 Mar 11 06:15	27° Π 10'10	opposition	5345 Dec 25 21:31	4° \mathfrak{D} 43'21 -15°13'50
conjunction	5339 Jun 17 07:32	28° Π 35'38 -15°21'49	min. Earth dist.	5345 Dec 25 05:41	4° \mathfrak{D} 44'05 48.46232 AU
minimum elong	5339 Jun 17 07:42	28° Π 35'39 15°21'50	direct	5346 Mar 17 12:51	3° \mathfrak{D} 45'07
max. Earth dist.	5339 Jun 18 07:18	28° Π 36'59 50.37363 AU	evening set	5346 Jun 19 23:39	5° \mathfrak{D} 05'12
retrograde	5339 Sep 06 20:03	0° \mathfrak{D}	conjunction	5346 Jun 23 18:02	5° \mathfrak{D} 10'18 -14°34'19
opposition	5339 Sep 27 19:39	0° \mathfrak{D} 04'31	minimum elong	5346 Jun 23 18:13	5° \mathfrak{D} 10'19 14°34'20
min. Earth dist.	5339 Oct 18 19:29	30° \mathfrak{R} Π	max. Earth dist.	5346 Jun 24 10:39	5° \mathfrak{D} 11'15 50.38822 AU
direct	5339 Dec 20 18:48	29° Π 05'06 -15°56'13	morning rise	5346 Jun 27 12:57	5° \mathfrak{D} 15'27
conjunction	5340 Mar 11 09:05	29° Π 06'09 48.45475 AU	retrograde	5346 Oct 04 03:16	6° \mathfrak{D} 38'46
minimum elong	5340 Jun 17 12:30	29° Π 32'07 -15°15'44	min. Earth dist.	5346 Dec 26 10:27	5° \mathfrak{D} 40'19 48.44687 AU
max. Earth dist.	5340 Jun 17 12:38	29° Π 32'07 15°15'45	opposition	5346 Dec 27 01:52	5° \mathfrak{D} 39'36 -15°06'00
retrograde	5340 Jul 08 08:10	0° \mathfrak{D}	direct	5347 Mar 18 19:17	4° \mathfrak{D} 41'21
opposition	5340 Sep 27 21:26	1° \mathfrak{D} 00'54	evening set	5347 Jun 20 16:11	6° \mathfrak{D} 00'42
min. Earth dist.	5340 Dec 20 23:21	0° \mathfrak{D} 01'31 -15°49'45	conjunction	5347 Jun 24 22:59	6° \mathfrak{D} 06'30 -14°26'41
direct	5340 Dec 22 08:04	30° \mathfrak{R} Π	minimum elong	5347 Jun 24 23:09	6° \mathfrak{D} 06'31 14°26'42
conjunction	5341 Mar 12 15:57	29° Π 03'10	max. Earth dist.	5347 Jun 25 13:53	6° \mathfrak{D} 07'21 50.37136 AU
minimum elong	5341 Jun 18 17:13	0° \mathfrak{D} 28'31 -15°09'24	morning rise	5347 Jun 29 06:23	6° \mathfrak{D} 12'21
max. Earth dist.	5341 Jun 18 17:23	0° \mathfrak{D} 28'31 15°09'25	retrograde	5347 Oct 05 10:18	7° \mathfrak{D} 34'55
retrograde	5341 Jun 19 15:55	0° \mathfrak{D} 29'48 50.39714 AU	opposition	5347 Dec 28 06:10	6° \mathfrak{D} 35'45 -14°57'58
opposition	5341 Sep 29 01:51	1° \mathfrak{D} 57'15	min. Earth dist.	5347 Dec 27 16:56	6° \mathfrak{D} 36'22 48.42650 AU
min. Earth dist.	5341 Dec 21 06:16	0° \mathfrak{D} 58'55 48.47317 AU	direct	5348 Mar 18 23:19	5° \mathfrak{D} 37'29
max. Earth dist.	5341 Dec 22 03:48	0° \mathfrak{D} 57'55 -15°43'01	evening set	5348 Jun 20 09:54	6° \mathfrak{D} 56'11
retrograde	5342 Mar 07 17:05	30° \mathfrak{R} Π	conjunction	5348 Jun 25 03:57	7° \mathfrak{D} 02'36 -14°18'50
opposition	5342 Mar 13 21:17	29° Π 59'35	minimum elong	5348 Jun 25 04:08	7° \mathfrak{D} 02'37 14°18'51
direct	5342 Mar 19 22:00	0° \mathfrak{D}	max. Earth dist.	5348 Jun 25 18:33	7° \mathfrak{D} 03'26 50.35000 AU
conjunction	5343 Jun 19 15:33	2° \mathfrak{D} 19'15	morning rise	5348 Jun 29 22:36	7° \mathfrak{D} 09'04
minimum elong	5343 Jun 21 03:09	2° \mathfrak{D} 21'16 -14°56'00	retrograde	5348 Oct 05 15:12	8° \mathfrak{D} 30'58
max. Earth dist.	5343 Jun 22 00:24	2° \mathfrak{D} 22'28 50.40748 AU	opposition	5348 Dec 28 10:24	7° \mathfrak{D} 31'48 -14°49'42
retrograde	5343 Oct 01 15:20	3° \mathfrak{D} 49'54	min. Earth dist.	5348 Dec 27 21:27	7° \mathfrak{D} 32'24 48.40180 AU
opposition	5343 Dec 24 12:36	2° \mathfrak{D} 50'40 -15°28'52	direct	5349 Mar 20 02:53	6° \mathfrak{D} 33'30
min. Earth dist.	5343 Dec 23 17:40	2° \mathfrak{D} 51'32 48.47734 AU			
direct	5344 Mar 15 04:19	1° \mathfrak{D} 52'24			
evening set	5344 Jun 18 20:37	3° \mathfrak{D} 14'18			
conjunction	5344 Jun 21 07:59	3° \mathfrak{D} 17'39 -14°48'59			
minimum elong	5344 Jun 21 08:08	3° \mathfrak{D} 17'40 14°48'59			
max. Earth dist.	5344 Jun 22 02:51	3° \mathfrak{D} 18'43 50.40619 AU			
morning rise	5344 Jun 23 19:47	3° \mathfrak{D} 21'02			
retrograde	5344 Oct 01 21:49	4° \mathfrak{D} 46'13			
opposition	5344 Dec 24 17:03	3° \mathfrak{D} 47'02 -15°21'27			
min. Earth dist.	5344 Dec 23 23:23	3° \mathfrak{D} 47'51 48.47252 AU			
direct	5345 Mar 16 06:17	2° \mathfrak{D} 48'47			
evening set	5345 Jun 19 08:45	4° \mathfrak{D} 09'42			
conjunction	5345 Jun 22 13:04	4° \mathfrak{D} 14'01 -14°41'45			
minimum elong	5345 Jun 22 13:14	4° \mathfrak{D} 14'01 14°41'47			
max. Earth dist.	5345 Jun 23 07:22	4° \mathfrak{D} 15'03 50.39981 AU			
morning rise	5345 Jun 25 17:51	4° \mathfrak{D} 18'21			
retrograde	5345 Oct 02 23:50	5° \mathfrak{D} 42'32			
opposition	5345 Dec 25 21:31	4° \mathfrak{D} 43'21 -15°13'50			
min. Earth dist.	5345 Dec 25 05:41	4° \mathfrak{D} 44'05 48.46232 AU			
direct	5346 Mar 17 12:51	3° \mathfrak{D} 45'07			
evening set	5346 Jun 19 23:39	5° \mathfrak{D} 05'12			
conjunction	5346 Jun 23 18:02	5° \mathfrak{D} 10'18 -14°34'19			
minimum elong	5346 Jun 23 18:13	5° \mathfrak{D} 10'19 14°34'20			
max. Earth dist.	5346 Jun 24 10:39	5° \mathfrak{D} 11'15 50.38822 AU			
morning rise	5346 Jun 27 12:57	5° \mathfrak{D} 15'27			
retrograde	5346 Oct 04 03:16	6° \mathfrak{D} 38'46			
min. Earth dist.	5346 Dec 26 10:27	5° \mathfrak{D} 40'19 48.44687 AU			
opposition	5346 Dec 27 01:52	5° \mathfrak{D} 39'36 -15°06'00			
direct	5347 Mar 18 19:17	4° \mathfrak{D} 41'21			
evening set	5347 Jun 20 16:11	6° \mathfrak{D} 00'42			
conjunction	5347 Jun 24 22:59	6° \mathfrak{D} 06'30 -14°26'41			
minimum elong	5347 Jun 24 23:09	6° \mathfrak{D} 06'31 14°26'42			
max. Earth dist.	5347 Jun 25 13:53	6° \mathfrak{D} 07'21 50.37136 AU			
morning rise	5347 Jun 29 06:23	6° \mathfrak{D} 12'21			
retrograde	5347 Oct 05 10:18	7° \mathfrak{D} 34'55			
opposition	5347 Dec 28 06:10	6° \mathfrak{D} 35'45 -14°57'58			
min. Earth dist.	5347 Dec 27 16:56	6° \mathfrak{D} 36'22 48.42650 AU			
direct	5348 Mar 18 23:19	5° \mathfrak{D} 37'29			
evening set	5348 Jun 20 09:54	6° \mathfrak{D} 56'11			
conjunction	5348 Jun 25 03:57	7° \mathfrak{D} 02'36 -14°18'50			
minimum elong	5348 Jun 25 04:08	7° \mathfrak{D} 02'37 14°18'51			
max. Earth dist.	5348 Jun 25 18:33	7° \mathfrak{D} 03'26 50.35000 AU			
morning rise	5348 Jun 29 22:36	7° \mathfrak{D} 09'04			
retrograde	5348 Oct 05 15:12	8° \mathfrak{D} 30'58			
opposition	5348 Dec 28 10:24	7° \mathfrak{D} 31'48 -14°49'42			
min. Earth dist.	5348 Dec 27 21:27	7° \mathfrak{D} 32'24 48.40180 AU			
direct	5349 Mar 20 02:53	6° \mathfrak{D} 33'30			

evening set	5349 Jun 21 04:07	7°☾51'35	opposition	5356 Jan 04 15:58	14°☾04'23 -13°45'09
			min. Earth dist.	5356 Jan 04 10:07	14°☾04'39 48.13625 AU
conjunction	5349 Jun 26 08:34	7°☾58'37 -14°10'45	direct	5356 Mar 26 05:41	13°☾06'05
minimum elong	5349 Jun 26 08:44	7°☾58'37 14°10'47	evening set	5356 Jun 25 02:15	14°☾21'05
max. Earth dist.	5349 Jun 26 21:13	7°☾59'19 50.32466 AU			
morning rise	5349 Jul 01 13:44	8°☾05'39	conjunction	5356 Jul 02 19:03	14°☾31'30 -13°07'44
retrograde	5349 Oct 06 20:28	9°☾26'56	minimum elong	5356 Jul 02 19:15	14°☾31'30 13°07'45
opposition	5349 Dec 29 14:43	8°☾27'45 -14°41'12	max. Earth dist.	5356 Jul 03 01:11	14°☾31'51 50.05602 AU
min. Earth dist.	5349 Dec 29 02:52	8°☾28'18 48.37349 AU	morning rise	5356 Jul 10 12:52	14°☾41'58
direct	5350 Mar 21 05:34	7°☾29'27	retrograde	5356 Oct 13 04:12	15°☾59'59
evening set	5350 Jun 21 23:12	8°☾46'59	opposition	5357 Jan 04 20:15	15°☾00'56 -13°35'01
			min. Earth dist.	5357 Jan 04 14:54	15°☾01'11 48.08301 AU
conjunction	5350 Jun 27 13:32	8°☾54'34 -14°02'27	direct	5357 Mar 27 12:34	14°☾02'37
minimum elong	5350 Jun 27 13:43	8°☾54'34 14°02'29	evening set	5357 Jun 25 23:48	15°☾17'17
max. Earth dist.	5350 Jun 28 02:07	8°☾55'16 50.29580 AU			
morning rise	5350 Jul 03 04:34	9°☾02'10	conjunction	5357 Jul 04 00:05	15°☾28'06 -12°57'51
retrograde	5350 Oct 07 22:11	10°☾22'52	minimum elong	5357 Jul 04 00:16	15°☾28'07 12°57'51
opposition	5350 Dec 30 18:52	9°☾23'41 -14°32'28	max. Earth dist.	5357 Jul 04 04:19	15°☾28'20 50.00141 AU
min. Earth dist.	5350 Dec 30 08:21	9°☾24'10 48.34180 AU	morning rise	5357 Jul 12 01:29	15°☾39'00
direct	5351 Mar 22 12:01	8°☾25'22	retrograde	5357 Oct 14 11:05	16°☾56'39
evening set	5351 Jun 22 18:50	9°☾42'24	opposition	5358 Jan 06 00:46	15°☾57'34 -13°24'39
			min. Earth dist.	5358 Jan 05 21:41	15°☾57'43 48.02432 AU
conjunction	5351 Jun 28 18:23	9°☾50'29 -13°53'55	direct	5358 Mar 28 17:30	14°☾59'14
minimum elong	5351 Jun 28 18:33	9°☾50'30 13°53'56	evening set	5358 Jun 26 21:52	16°☾13'32
max. Earth dist.	5351 Jun 29 05:41	9°☾51'08 50.26393 AU			
morning rise	5351 Jul 04 18:42	9°☾58'37	conjunction	5358 Jul 05 05:25	16°☾24'46 -12°47'46
retrograde	5351 Oct 09 02:14	11°☾18'47	minimum elong	5358 Jul 05 05:36	16°☾24'47 12°47'48
opposition	5351 Dec 31 23:00	10°☾19'37 -14°23'30	max. Earth dist.	5358 Jul 05 09:01	16°☾24'59 49.94139 AU
min. Earth dist.	5351 Dec 31 12:22	10°☾20'07 48.30715 AU	morning rise	5358 Jul 13 13:58	16°☾36'05
direct	5352 Mar 22 17:05	9°☾21'18	retrograde	5358 Oct 15 17:31	17°☾53'21
evening set	5352 Jun 22 14:39	10°☾37'53	opposition	5359 Jan 07 05:00	16°☾54'15 -13°14'06
			min. Earth dist.	5359 Jan 07 02:35	16°☾54'22 47.96012 AU
conjunction	5352 Jun 28 23:06	10°☾46'27 -13°45'09	direct	5359 Mar 29 20:36	15°☾55'51
minimum elong	5352 Jun 28 23:18	10°☾46'28 13°45'10	evening set	5359 Jun 27 20:08	17°☾09'49
max. Earth dist.	5352 Jun 29 09:16	10°☾47'01 50.22900 AU			
morning rise	5352 Jul 05 08:28	10°☾55'05	conjunction	5359 Jul 06 10:35	17°☾21'27 -12°37'29
retrograde	5352 Oct 09 08:47	12°☾14'47	minimum elong	5359 Jul 06 10:47	17°☾21'28 12°37'30
opposition	5353 Jan 01 03:19	11°☾15'38 -14°14'16	max. Earth dist.	5359 Jul 06 11:45	17°☾21'31 49.87603 AU
min. Earth dist.	5352 Dec 31 18:27	11°☾16'02 48.26953 AU	morning rise	5359 Jul 15 02:17	17°☾33'10
direct	5353 Mar 23 21:16	10°☾17'19	retrograde	5359 Oct 17 00:12	18°☾50'04
evening set	5353 Jun 23 11:01	11°☾33'27	opposition	5360 Jan 08 09:24	17°☾50'55 -13°03'20
			min. Earth dist.	5360 Jan 08 08:31	17°☾50'58 47.89089 AU
conjunction	5353 Jun 30 04:02	11°☾42'30 -13°36'08	direct	5360 Mar 29 22:59	16°☾52'27
minimum elong	5353 Jun 30 04:13	11°☾42'31 13°36'09	evening set	5360 Jun 27 18:18	18°☾06'05
max. Earth dist.	5353 Jun 30 14:11	11°☾43'04 50.19125 AU			
morning rise	5353 Jul 06 21:51	11°☾51'37	conjunction	5360 Jul 06 15:43	18°☾18'07 -12°26'59
retrograde	5353 Oct 10 15:20	13°☾10'51	minimum elong	5360 Jul 06 15:53	18°☾18'08 12°27'01
opposition	5354 Jan 02 07:29	12°☾11'44 -14°04'48	max. Earth dist.	5360 Jul 06 16:24	18°☾18'09 49.80577 AU
min. Earth dist.	5354 Jan 01 22:48	12°☾12'08 48.22884 AU	morning rise	5360 Jul 15 14:15	18°☾30'12
direct	5354 Mar 24 23:38	11°☾13'25	retrograde	5360 Oct 17 02:16	19°☾46'45
evening set	5354 Jun 24 07:42	12°☾29'09	opposition	5361 Jan 08 13:48	18°☾47'32 -12°52'21
			min. Earth dist.	5361 Jan 08 14:21	18°☾47'31 47.81703 AU
conjunction	5354 Jul 01 08:52	12°☾38'41 -13°26'53	direct	5361 Mar 31 04:59	17°☾49'00
minimum elong	5354 Jul 01 09:04	12°☾38'42 13°26'55	evening set	5361 Jun 28 16:54	19°☾02'20
max. Earth dist.	5354 Jul 01 16:57	12°☾39'08 50.15026 AU			
morning rise	5354 Jul 08 11:04	12°☾48'16	conjunction	5361 Jul 07 20:52	19°☾14'44 -12°16'17
retrograde	5354 Oct 11 22:32	14°☾07'04	minimum elong	5361 Jul 07 21:04	19°☾14'45 12°16'18
opposition	5355 Jan 03 11:46	13°☾07'59 -13°55'05	max. Earth dist.	5361 Jul 07 20:13	19°☾14'42 49.73141 AU
min. Earth dist.	5355 Jan 03 04:15	13°☾08'19 48.18470 AU	morning rise	5361 Jul 17 02:03	19°☾27'12
direct	5355 Mar 26 00:24	12°☾09'40	retrograde	5361 Oct 18 05:14	20°☾43'24
evening set	5355 Jun 25 04:45	13°☾25'02	opposition	5362 Jan 09 18:03	19°☾44'08 -12°41'08
			min. Earth dist.	5362 Jan 09 18:45	19°☾44'06 47.73936 AU
conjunction	5355 Jul 02 13:58	13°☾35'01 -13°17'25	direct	5362 Apr 01 10:41	18°☾45'30
minimum elong	5355 Jul 02 14:09	13°☾35'02 13°17'25	evening set	5362 Jun 29 15:30	19°☾58'33
max. Earth dist.	5355 Jul 02 21:42	13°☾35'27 50.10537 AU			
morning rise	5355 Jul 10 00:07	13°☾45'02	conjunction	5362 Jul 09 02:02	20°☾11'19 -12°05'21
retrograde	5355 Oct 13 01:32	15°☾03'27	minimum elong	5362 Jul 09 02:13	20°☾11'20 12°05'21

max. Earth dist.	5362 Jul 08 23:58	20°☾11'12	49.65331 AU	conjunction	5369 Jul 15 16:03	26°☾50'32	-10°42'15
morning rise	5362 Jul 18 13:54	20°☾24'10		minimum elong	5369 Jul 15 16:14	26°☾50'33	10°42'17
retrograde	5362 Oct 19 10:40	21°☾40'03		max. Earth dist.	5369 Jul 15 06:11	26°☾49'58	49.01601 AU
opposition	5363 Jan 10 22:30	20°☾40'43	-12°29'41	morning rise	5369 Jul 26 21:59	27°☾05'52	
min. Earth dist.	5363 Jan 11 01:09	20°☾40'36	47.65822 AU	retrograde	5369 Oct 26 05:27	28°☾20'07	
direct	5363 Apr 02 16:12	19°☾42'01		opposition	5370 Jan 17 06:16	27°☾20'32	-11°02'43
evening set	5363 Jun 30 14:24	20°☾54'47		min. Earth dist.	5370 Jan 17 15:43	27°☾20'05	46.99768 AU
				direct	5370 Apr 08 18:54	26°☾21'25	
conjunction	5363 Jul 10 07:20	21°☾07'55	-11°54'11	evening set	5370 Jul 05 12:06	27°☾32'52	
minimum elong	5363 Jul 10 07:32	21°☾07'56	11°54'11				
max. Earth dist.	5363 Jul 10 05:12	21°☾07'48	49.57200 AU	conjunction	5370 Jul 16 22:01	27°☾48'26	-10°29'30
morning rise	5363 Jul 20 01:28	21°☾21'08		minimum elong	5370 Jul 16 22:12	27°☾48'26	10°29'30
retrograde	5363 Oct 20 16:20	22°☾36'43		max. Earth dist.	5370 Jul 16 11:23	27°☾47'49	48.90794 AU
opposition	5364 Jan 12 02:44	21°☾37'20	-12°17'59	morning rise	5370 Jul 28 09:22	28°☾04'06	
min. Earth dist.	5364 Jan 12 05:26	21°☾37'13	47.57393 AU	retrograde	5370 Oct 27 09:20	29°☾18'09	
direct	5364 Apr 02 20:27	20°☾38'34		opposition	5371 Jan 18 11:08	28°☾18'30	-10°49'23
evening set	5364 Jun 30 13:28	21°☾51'04		min. Earth dist.	5371 Jan 18 22:06	28°☾17'59	46.88552 AU
				direct	5371 Apr 10 00:57	27°☾19'18	
conjunction	5364 Jul 10 12:30	22°☾04'34	-11°42'46	evening set	5371 Jul 06 12:45	28°☾30'36	
minimum elong	5364 Jul 10 12:41	22°☾04'35	11°42'47				
max. Earth dist.	5364 Jul 10 08:22	22°☾04'20	49.48776 AU	conjunction	5371 Jul 18 03:55	28°☾46'30	-10°16'32
morning rise	5364 Jul 20 13:01	22°☾18'10		minimum elong	5371 Jul 18 04:05	28°☾46'30	10°16'33
retrograde	5364 Oct 21 00:16	23°☾33'28		max. Earth dist.	5371 Jul 17 15:35	28°☾45'47	48.79483 AU
opposition	5365 Jan 12 07:15	22°☾34'02	-12°06'02	morning rise	5371 Jul 29 20:37	29°☾02'29	
min. Earth dist.	5365 Jan 12 10:56	22°☾33'52	47.48689 AU		5371 Sep 18 16:55	0°♂	
direct	5365 Apr 03 21:30	21°☾35'12		retrograde	5371 Oct 28 13:05	0°♂16'22	
evening set	5365 Jul 01 12:28	22°☾47'29			5371 Dec 07 20:45	30°♀☾	
				opposition	5372 Jan 19 15:52	29°☾16'38	-10°35'49
conjunction	5365 Jul 11 17:46	23°☾01'20	-11°31'08	min. Earth dist.	5372 Jan 20 03:21	29°☾16'05	46.76855 AU
minimum elong	5365 Jul 11 17:58	23°☾01'21	11°31'09	direct	5372 Apr 10 07:23	28°☾17'19	
max. Earth dist.	5365 Jul 11 13:38	23°☾01'06	49.40065 AU	evening set	5372 Jul 06 13:26	29°☾28'30	
morning rise	5365 Jul 22 00:22	23°☾15'17					
retrograde	5365 Oct 22 04:50	24°☾30'20		conjunction	5372 Jul 18 09:50	29°☾44'42	-10°03'20
opposition	5366 Jan 13 11:48	23°☾30'52	-11°53'51	minimum elong	5372 Jul 18 10:01	29°☾44'43	10°03'21
min. Earth dist.	5366 Jan 13 16:41	23°☾30'39	47.39680 AU	max. Earth dist.	5372 Jul 17 19:52	29°☾43'54	48.67702 AU
direct	5366 Apr 05 02:15	22°☾31'59			5372 Jul 29 13:57	0°♂	
evening set	5366 Jul 02 12:00	23°☾44'04		morning rise	5372 Jul 30 07:52	0°♂01'01	
				retrograde	5372 Oct 28 18:40	1°♂14'45	
conjunction	5366 Jul 12 23:11	23°☾58'17	-11°19'15	opposition	5373 Jan 19 20:51	0°♂14'55	-10°22'01
minimum elong	5366 Jul 12 23:22	23°☾58'17	11°19'16	min. Earth dist.	5373 Jan 20 10:26	0°♂14'16	46.64727 AU
max. Earth dist.	5366 Jul 12 17:48	23°☾57'58	49.31056 AU		5373 Feb 02 01:48	30°♀☾	
morning rise	5366 Jul 23 11:47	24°☾12'34		direct	5373 Apr 11 13:25	29°☾15'30	
retrograde	5366 Oct 23 08:12	25°☾27'24			5373 Jun 17 00:35	0°♂	
opposition	5367 Jan 14 16:09	24°☾27'55	-11°41'25	evening set	5373 Jul 07 14:09	0°♂26'32	
min. Earth dist.	5367 Jan 14 21:18	24°☾27'40	47.30353 AU				
direct	5367 Apr 06 08:03	23°☾28'59		conjunction	5373 Jul 19 15:46	0°♂43'03	-9°49'55
evening set	5367 Jul 03 11:42	24°☾40'53		minimum elong	5373 Jul 19 15:57	0°♂43'04	9°49'56
				max. Earth dist.	5373 Jul 19 01:34	0°♂42'14	48.55529 AU
conjunction	5367 Jul 14 04:44	24°☾55'26	-11°07'08	morning rise	5373 Jul 31 18:49	0°♂59'41	
minimum elong	5367 Jul 14 04:56	24°☾55'27	11°07'10	retrograde	5373 Oct 30 00:48	2°♂13'16	
max. Earth dist.	5367 Jul 13 21:43	24°☾55'02	49.21680 AU	opposition	5374 Jan 21 01:46	1°♂13'20	-10°07'59
morning rise	5367 Jul 24 23:19	25°☾10'05		min. Earth dist.	5374 Jan 21 15:29	1°♂12'41	46.52224 AU
retrograde	5367 Oct 24 14:12	26°☾24'43		direct	5374 Apr 12 18:34	0°♂13'48	
opposition	5368 Jan 15 20:50	25°☾25'12	-11°28'44	evening set	5374 Jul 08 15:20	1°♂24'43	
min. Earth dist.	5368 Jan 16 04:06	25°☾24'52	47.20633 AU				
direct	5368 Apr 06 13:21	24°☾26'14		conjunction	5374 Jul 20 21:48	1°♂41'34	-9°36'16
evening set	5368 Jul 03 11:31	25°☾37'58		minimum elong	5374 Jul 20 21:59	1°♂41'34	9°36'17
				max. Earth dist.	5374 Jul 20 05:31	1°♂40'38	48.43004 AU
conjunction	5368 Jul 14 10:20	25°☾52'52	-10°54'48	morning rise	5374 Aug 02 06:02	1°♂58'31	
minimum elong	5368 Jul 14 10:31	25°☾52'52	10°54'49	retrograde	5374 Oct 31 10:23	3°♂11'56	
max. Earth dist.	5368 Jul 14 02:59	25°☾52'27	49.11885 AU	opposition	5375 Jan 22 06:42	2°♂11'55	-9°53'42
morning rise	5368 Jul 25 10:30	26°☾07'51		min. Earth dist.	5375 Jan 22 21:43	2°♂11'12	46.39407 AU
retrograde	5368 Oct 24 21:19	27°☾22'18		direct	5375 Apr 13 19:42	1°♂12'15	
opposition	5369 Jan 16 01:29	26°☾22'45	-11°15'50	evening set	5375 Jul 09 16:32	2°♂23'05	
min. Earth dist.	5369 Jan 16 09:12	26°☾22'23	47.10450 AU	max. Earth dist.	5375 Jul 21 11:38	2°♂39'18	48.30172 AU
direct	5369 Apr 07 16:42	25°☾23'43					
evening set	5369 Jul 04 11:46	26°☾35'18		conjunction	5375 Jul 22 04:02	2°♂40'15	-9°22'23

minimum elong	5375 Jul 22 04:12	2°Ω40'15 9°22'23	max. Earth dist.	5382 Jul 28 01:22	9°Ω37'29 47.31791 AU
morning rise	5375 Aug 03 17:02	2°Ω57'30			
retrograde	5375 Nov 01 16:51	4°Ω10'48	conjunction	5382 Jul 29 02:32	9°Ω38'58 -7°38'16
opposition	5376 Jan 23 11:51	3°Ω10'41 -9°39'09	minimum elong	5382 Jul 29 02:41	9°Ω38'58 7°38'18
min. Earth dist.	5376 Jan 24 03:52	3°Ω09'55 46.26299 AU	morning rise	5382 Aug 11 22:42	9°Ω58'19
direct	5376 Apr 14 00:14	2°Ω10'55	retrograde	5382 Nov 08 13:20	11°Ω11'14
evening set	5376 Jul 09 17:53	3°Ω21'40	opposition	5383 Jan 30 02:39	10°Ω10'28 -7°50'10
			min. Earth dist.	5383 Jan 31 02:28	10°Ω09'19 45.25655 AU
conjunction	5376 Jul 22 10:04	3°Ω39'08 -9°08'14	direct	5383 Apr 21 16:14	9°Ω09'51
minimum elong	5376 Jul 22 10:15	3°Ω39'08 9°08'15	evening set	5383 Jul 16 11:22	10°Ω20'33
max. Earth dist.	5376 Jul 21 16:33	3°Ω38'07 48.17083 AU	max. Earth dist.	5383 Jul 29 08:06	10°Ω38'33 47.16013 AU
morning rise	5376 Aug 04 03:53	3°Ω56'42			
retrograde	5376 Nov 01 20:55	5°Ω09'53	conjunction	5383 Jul 30 09:55	10°Ω40'05 -7°22'28
opposition	5377 Jan 23 17:02	4°Ω09'41 -9°24'21	minimum elong	5383 Jul 30 10:05	10°Ω40'05 7°22'28
min. Earth dist.	5377 Jan 24 09:03	4°Ω08'55 46.12943 AU	morning rise	5383 Aug 13 09:55	10°Ω59'42
direct	5377 Apr 15 06:17	3°Ω09'48	retrograde	5383 Nov 09 19:21	12°Ω12'37
evening set	5377 Jul 10 19:31	4°Ω20'30	opposition	5384 Jan 31 08:39	11°Ω11'43 -7°33'36
			min. Earth dist.	5384 Feb 01 08:46	11°Ω10'32 45.09507 AU
conjunction	5377 Jul 23 16:23	4°Ω38'16 -8°53'51	direct	5384 Apr 21 23:26	10°Ω10'56
minimum elong	5377 Jul 23 16:33	4°Ω38'16 8°53'52	evening set	5384 Jul 16 14:52	11°Ω21'40
max. Earth dist.	5377 Jul 22 21:33	4°Ω37'10 48.03732 AU			
morning rise	5377 Aug 05 14:57	4°Ω56'08	conjunction	5384 Jul 30 17:07	11°Ω41'27 -7°06'25
retrograde	5377 Nov 03 01:18	6°Ω09'15	minimum elong	5384 Jul 30 17:15	11°Ω41'28 7°06'26
opposition	5378 Jan 24 22:22	5°Ω08'57 -9°09'16	max. Earth dist.	5384 Jul 29 12:57	11°Ω39'48 46.99772 AU
min. Earth dist.	5378 Jan 25 16:07	5°Ω08'06 45.99328 AU	morning rise	5384 Aug 13 21:06	12°Ω01'22
direct	5378 Apr 16 13:52	4°Ω08'58	retrograde	5384 Nov 10 05:16	13°Ω14'17
evening set	5378 Jul 11 21:24	5°Ω19'38	opposition	5385 Jan 31 14:53	12°Ω13'14 -7°16'48
			min. Earth dist.	5385 Feb 01 16:41	12°Ω11'58 44.92936 AU
conjunction	5378 Jul 24 22:56	5°Ω37'42 -8°39'12	direct	5385 Apr 23 03:05	11°Ω12'16
minimum elong	5378 Jul 24 23:07	5°Ω37'42 8°39'14	evening set	5385 Jul 17 18:36	12°Ω23'03
max. Earth dist.	5378 Jul 24 04:05	5°Ω36'36 47.90122 AU	max. Earth dist.	5385 Jul 30 20:19	12°Ω41'27 46.83124 AU
morning rise	5378 Aug 07 01:57	5°Ω55'52			
retrograde	5378 Nov 04 08:21	7°Ω08'56	conjunction	5385 Aug 01 00:44	12°Ω43'08 -6°50'08
opposition	5379 Jan 26 03:43	6°Ω08'34 -8°53'57	minimum elong	5385 Aug 01 00:53	12°Ω43'08 6°50'09
min. Earth dist.	5379 Jan 26 21:34	6°Ω07'42 45.85420 AU	morning rise	5385 Aug 15 08:16	13°Ω03'18
direct	5379 Apr 17 19:15	5°Ω08'28	retrograde	5385 Nov 11 13:29	14°Ω16'14
evening set	5379 Jul 12 23:41	6°Ω19'07	opposition	5386 Feb 01 21:05	13°Ω15'02 -6°59'44
max. Earth dist.	5379 Jul 25 08:26	6°Ω36'15 47.76185 AU	min. Earth dist.	5386 Feb 02 23:57	13°Ω13'43 44.75984 AU
			direct	5386 Apr 24 08:35	12°Ω13'53
conjunction	5379 Jul 26 05:29	6°Ω37'29 -8°24'20	evening set	5386 Jul 18 22:44	13°Ω24'45
minimum elong	5379 Jul 26 05:39	6°Ω37'29 8°24'20	max. Earth dist.	5386 Aug 01 02:23	13°Ω43'19 46.66135 AU
morning rise	5379 Aug 08 13:05	6°Ω55'57			
retrograde	5379 Nov 05 17:48	8°Ω08'58	conjunction	5386 Aug 02 08:23	13°Ω45'06 -6°33'36
opposition	5380 Jan 27 09:13	7°Ω08'31 -8°38'22	minimum elong	5386 Aug 02 08:31	13°Ω45'06 6°33'37
min. Earth dist.	5380 Jan 28 04:42	7°Ω07'35 45.71167 AU	morning rise	5386 Aug 16 19:36	14°Ω05'33
direct	5380 Apr 17 21:34	6°Ω08'19		5386 Oct 02 04:40	15°Ω
evening set	5380 Jul 13 02:05	7°Ω18'58	retrograde	5386 Nov 12 21:27	15°Ω18'31
				5386 Dec 24 18:54	15°RΩ
conjunction	5380 Jul 26 12:22	7°Ω37'38 -8°09'12	opposition	5387 Feb 03 03:26	14°Ω17'09 -6°42'25
minimum elong	5380 Jul 26 12:32	7°Ω37'38 8°09'14	min. Earth dist.	5387 Feb 04 06:43	14°Ω15'48 44.58719 AU
max. Earth dist.	5380 Jul 25 14:50	7°Ω36'23 47.61857 AU	direct	5387 Apr 25 14:23	13°Ω15'49
morning rise	5380 Aug 09 00:08	7°Ω56'24	evening set	5387 Jul 20 03:03	14°Ω26'47
retrograde	5380 Nov 06 00:57	9°Ω09'23	max. Earth dist.	5387 Aug 02 08:53	14°Ω45'32 46.48828 AU
opposition	5381 Jan 27 14:54	8°Ω08'50 -8°22'32			
min. Earth dist.	5381 Jan 28 11:40	8°Ω07'50 45.56484 AU	conjunction	5387 Aug 03 16:09	14°Ω47'24 -6°16'49
direct	5381 Apr 19 02:51	7°Ω08'31	minimum elong	5387 Aug 03 16:17	14°Ω47'24 6°16'50
evening set	5381 Jul 14 04:52	8°Ω19'11		5387 Aug 12 12:26	15°Ω
			morning rise	5387 Aug 18 06:47	15°Ω08'07
conjunction	5381 Jul 27 19:16	8°Ω38'08 -7°53'51	retrograde	5387 Nov 14 02:38	16°Ω21'09
minimum elong	5381 Jul 27 19:26	8°Ω38'09 7°53'51	opposition	5388 Feb 04 10:01	15°Ω19'38 -6°24'49
max. Earth dist.	5381 Jul 26 20:02	8°Ω36'47 47.47082 AU	min. Earth dist.	5388 Feb 05 14:58	15°Ω18'12 44.41168 AU
morning rise	5381 Aug 10 11:19	8°Ω57'12		5388 Feb 21 06:58	15°RΩ
retrograde	5381 Nov 07 07:36	10°Ω10'09	direct	5388 Apr 25 23:12	14°Ω18'09
opposition	5382 Jan 28 20:43	9°Ω09'30 -8°06'28		5388 Jun 28 02:26	15°Ω
min. Earth dist.	5382 Jan 29 18:11	9°Ω08'28 45.41325 AU	evening set	5388 Jul 20 07:36	15°Ω29'13
direct	5382 Apr 20 09:06	8°Ω09'02	max. Earth dist.	5388 Aug 02 16:48	15°Ω48'13 46.31272 AU
evening set	5382 Jul 15 08:02	9°Ω19'43			

conjunction	5388 Aug 04 00:07	15°♏50'06	-5°59'47	evening set	5395 Jul 28 01:55	23°♏01'26	
minimum elong	5388 Aug 04 00:15	15°♏50'06	5°59'47	max. Earth dist.	5395 Aug 10 21:52	23°♏21'37	44.99619 AU
morning rise	5388 Aug 18 17:59	16°♏11'05					
retrograde	5388 Nov 14 09:35	17°♏24'13		conjunction	5395 Aug 12 14:00	23°♏24'05	-3°53'23
opposition	5389 Feb 04 16:40	16°♏22'33	-6°06'56	minimum elong	5395 Aug 12 14:06	23°♏24'06	3°53'24
min. Earth dist.	5389 Feb 05 21:26	16°♏21'08	44.23378 AU	morning rise	5395 Aug 28 03:05	23°♏46'51	
direct	5389 Apr 27 06:39	15°♏20'54		retrograde	5395 Nov 23 04:08	25°♏01'09	
evening set	5389 Jul 21 12:30	16°♏32'06		opposition	5396 Feb 12 21:05	23°♏58'25	-3°54'15
max. Earth dist.	5389 Aug 03 22:48	16°♏51'15	46.13474 AU	min. Earth dist.	5396 Feb 14 10:11	23°♏56'32	42.89731 AU
				direct	5396 May 04 05:09	22°♏55'26	
conjunction	5389 Aug 05 08:07	16°♏53'15	-5°42'29	evening set	5396 Jul 28 09:31	24°♏08'13	
minimum elong	5389 Aug 05 08:15	16°♏53'16	5°42'30	max. Earth dist.	5396 Aug 11 05:30	24°♏28'30	44.79133 AU
morning rise	5389 Aug 20 05:20	17°♏14'30					
retrograde	5389 Nov 15 20:17	18°♏27'45		conjunction	5396 Aug 12 23:40	24°♏31'06	-3°34'20
opposition	5390 Feb 05 23:38	17°♏25'58	-5°48'47	minimum elong	5396 Aug 12 23:45	24°♏31'06	3°34'20
min. Earth dist.	5390 Feb 07 05:56	17°♏24'28	44.05354 AU	morning rise	5396 Aug 28 15:02	24°♏54'05	
direct	5390 Apr 28 10:12	16°♏24'09		retrograde	5396 Nov 23 16:14	26°♏08'37	
evening set	5390 Jul 22 17:45	17°♏35'32		opposition	5397 Feb 13 05:19	25°♏05'39	-3°34'14
max. Earth dist.	5390 Aug 05 07:11	17°♏54'56	45.95424 AU	min. Earth dist.	5397 Feb 14 19:20	25°♏03'43	42.68976 AU
				direct	5397 May 05 10:58	24°♏02'24	
conjunction	5390 Aug 06 16:37	17°♏56'56	-5°24'56	evening set	5397 Jul 29 17:19	25°♏15'27	
minimum elong	5390 Aug 06 16:44	17°♏56'57	5°24'56	max. Earth dist.	5397 Aug 12 14:15	25°♏35'53	44.58263 AU
morning rise	5390 Aug 21 16:43	18°♏18'27					
retrograde	5390 Nov 17 05:37	19°♏31'50		conjunction	5397 Aug 14 09:36	25°♏38'35	-3°15'02
opposition	5391 Feb 07 06:37	18°♏29'55	-5°30'22	minimum elong	5397 Aug 14 09:40	25°♏38'35	3°15'02
min. Earth dist.	5391 Feb 08 13:37	18°♏28'22	43.87057 AU	morning rise	5397 Aug 30 02:53	26°♏01'47	
direct	5391 Apr 29 16:26	17°♏27'56		retrograde	5397 Nov 25 00:47	27°♏16'32	
evening set	5391 Jul 23 23:29	18°♏39'32		opposition	5398 Feb 14 13:51	26°♏13'20	-3°13'56
max. Earth dist.	5391 Aug 06 14:12	18°♏59'05	45.77091 AU	min. Earth dist.	5398 Feb 16 05:33	26°♏11'18	42.47869 AU
				direct	5398 May 06 21:31	25°♏09'50	
conjunction	5391 Aug 08 01:10	19°♏01'12	-5°07'07	evening set	5398 Jul 31 01:38	26°♏23'10	
minimum elong	5391 Aug 08 01:17	19°♏01'13	5°07'08	max. Earth dist.	5398 Aug 13 23:59	26°♏43'47	44.37081 AU
morning rise	5391 Aug 23 04:17	19°♏22'58					
retrograde	5391 Nov 18 16:02	20°♏36'31		conjunction	5398 Aug 15 19:49	26°♏46'31	-2°55'28
opposition	5392 Feb 08 13:51	19°♏34'28	-5°11'41	minimum elong	5398 Aug 15 19:53	26°♏46'31	2°55'28
min. Earth dist.	5392 Feb 09 21:34	19°♏32'53	43.68455 AU	morning rise	5398 Aug 31 14:53	27°♏09'56	
direct	5392 Apr 29 22:40	18°♏32'19		retrograde	5398 Nov 26 08:46	28°♏24'56	
evening set	5392 Jul 24 05:24	19°♏44'08		opposition	5399 Feb 15 22:20	27°♏21'29	-2°53'22
max. Earth dist.	5392 Aug 06 21:34	20°♏03'52	45.58390 AU	min. Earth dist.	5399 Feb 17 14:04	27°♏19'27	42.26486 AU
				direct	5399 May 08 08:34	26°♏17'43	
conjunction	5392 Aug 08 09:53	20°♏06'04	-4°49'03	evening set	5399 Aug 01 10:26	27°♏31'22	
minimum elong	5392 Aug 08 10:00	20°♏06'05	4°49'03	max. Earth dist.	5399 Aug 15 08:22	27°♏52'04	44.15634 AU
morning rise	5392 Aug 23 15:42	20°♏28'06					
retrograde	5392 Nov 19 00:18	21°♏41'49		conjunction	5399 Aug 17 06:10	27°♏54'56	-2°35'39
opposition	5393 Feb 08 21:27	20°♏39'37	-4°52'43	minimum elong	5399 Aug 17 06:14	27°♏54'57	2°35'40
min. Earth dist.	5393 Feb 10 07:13	20°♏37'56	43.49458 AU	morning rise	5399 Sep 02 02:58	28°♏18'35	
direct	5393 May 01 07:04	19°♏37'19		retrograde	5399 Nov 27 18:55	29°♏33'51	
evening set	5393 Jul 25 11:51	20°♏49'21		opposition	5400 Feb 17 07:21	28°♏30'11	-2°32'31
max. Earth dist.	5393 Aug 08 05:56	21°♏09'16	45.39274 AU	min. Earth dist.	5400 Feb 19 00:46	28°♏28'02	42.04880 AU
				direct	5400 May 09 16:43	27°♏26'08	
conjunction	5393 Aug 09 19:04	21°♏11'32	-4°30'45	evening set	5400 Aug 02 19:18	28°♏40'08	
minimum elong	5393 Aug 09 19:10	21°♏11'32	4°30'46	max. Earth dist.	5400 Aug 16 19:08	29°♏01'02	43.93982 AU
morning rise	5393 Aug 25 03:26	21°♏33'49					
retrograde	5393 Nov 20 07:12	22°♏47'43		conjunction	5400 Aug 18 16:43	29°♏03'54	-2°15'34
opposition	5394 Feb 10 05:01	21°♏45'22	-4°33'30	minimum elong	5400 Aug 18 16:47	29°♏03'54	2°15'35
min. Earth dist.	5394 Feb 11 15:07	21°♏43'39	43.30015 AU	morning rise	5400 Sep 03 14:48	29°♏27'45	
direct	5394 May 02 16:23	20°♏42'51			5400 Sep 27 01:05	0°♏	
evening set	5394 Jul 26 18:50	21°♏55'08		retrograde	5400 Nov 29 04:51	0°♏43'21	
max. Earth dist.	5394 Aug 09 12:42	22°♏15'07	45.19683 AU		5401 Feb 01 19:14	30°♏	
				opposition	5401 Feb 18 16:32	29°♏39'26	-2°11'23
conjunction	5394 Aug 11 04:25	22°♏17'33	-4°12'11	min. Earth dist.	5401 Feb 20 09:59	29°♏37'17	41.83087 AU
minimum elong	5394 Aug 11 04:31	22°♏17'33	4°12'11	direct	5401 May 11 01:52	28°♏35'07	
morning rise	5394 Aug 26 15:23	22°♏40'05		evening set	5401 Aug 04 04:57	29°♏49'30	
retrograde	5394 Nov 21 17:27	23°♏54'11			5401 Aug 11 05:57	0°♏	
opposition	5395 Feb 11 13:01	22°♏51'39	-4°14'00	max. Earth dist.	5401 Aug 18 04:23	0°♏10'30	43.72163 AU
min. Earth dist.	5395 Feb 13 01:13	22°♏49'49	43.10103 AU				
direct	5395 May 03 22:48	21°♏48'55		conjunction	5401 Aug 20 03:34	0°♏13'29	-1°55'14

minimum elong	5401 Aug 20 03:37	0° \mathring{M} 13'29	1°55'15	behind sun end	5407 Aug 28 08:37	7° \mathring{M} 27'55	
morning rise	5401 Sep 05 03:06	0° \mathring{M} 37'32		morning rise	5407 Sep 13 07:03	7° \mathring{M} 52'47	
retrograde	5401 Nov 30 18:53	1° \mathring{M} 53'28		retrograde	5407 Dec 08 22:06	9° \mathring{M} 11'28	
opposition	5402 Feb 20 01:52	0° \mathring{M} 49'20	-1°49'58	opposition	5408 Feb 27 16:55	8° \mathring{M} 05'57	0°24'14
min. Earth dist.	5402 Feb 21 20:05	0° \mathring{M} 47'08	41.61147 AU	min. Earth dist.	5408 Feb 29 17:44	8° \mathring{M} 03'20	40.24131 AU
	5402 Apr 06 01:14	30° \mathring{K} 2		direct	5408 May 18 19:00	6° \mathring{M} 59'45	
direct	5402 May 12 08:09	29° \mathring{O} 44'45		evening set	5408 Aug 12 14:58	8° \mathring{M} 17'46	
	5402 Jun 17 10:45	0° \mathring{M}		max. Earth dist.	5408 Aug 26 10:27	8° \mathring{M} 39'23	42.12322 AU
evening set	5402 Aug 05 15:01	0° \mathring{M} 59'34					
max. Earth dist.	5402 Aug 19 15:06	1° \mathring{M} 20'43	43.50169 AU	conjunction	5408 Aug 28 17:26	8° \mathring{M} 43'00	0°34'08
				minimum elong	5408 Aug 28 17:25	8° \mathring{M} 43'00	0°34'07
conjunction	5402 Aug 21 14:54	1° \mathring{M} 23'45	-1°34'39	morning rise	5408 Sep 13 20:07	9° \mathring{M} 08'17	
minimum elong	5402 Aug 21 14:57	1° \mathring{M} 23'45	1°34'40	retrograde	5408 Dec 09 13:12	10° \mathring{M} 27'30	
morning rise	5402 Sep 06 15:23	1° \mathring{M} 48'00		opposition	5409 Feb 28 04:30	9° \mathring{M} 21'41	0°47'31
retrograde	5402 Dec 02 07:29	3° \mathring{M} 04'19		min. Earth dist.	5409 Mar 02 05:41	9° \mathring{M} 19'03	40.00148 AU
opposition	5403 Feb 21 11:39	1° \mathring{M} 59'58	-1°28'17	direct	5409 May 20 07:29	8° \mathring{M} 15'10	
min. Earth dist.	5403 Feb 23 07:12	1° \mathring{M} 57'42	41.39024 AU	evening set	5409 Aug 14 05:00	9° \mathring{M} 33'48	
direct	5403 May 13 17:12	0° \mathring{M} 55'09		max. Earth dist.	5409 Aug 27 22:24	9° \mathring{M} 55'26	41.88178 AU
evening set	5403 Aug 07 01:32	2° \mathring{M} 10'26					
max. Earth dist.	5403 Aug 21 01:55	2° \mathring{M} 31'43	43.27990 AU	conjunction	5409 Aug 30 07:07	9° \mathring{M} 59'11	0°56'26
				minimum elong	5409 Aug 30 07:05	9° \mathring{M} 59'11	0°56'26
conjunction	5403 Aug 23 02:21	2° \mathring{M} 34'49	-1°13'48	morning rise	5409 Sep 15 09:21	10° \mathring{M} 24'37	
minimum elong	5403 Aug 23 02:23	2° \mathring{M} 34'49	1°13'48	retrograde	5409 Dec 11 02:35	11° \mathring{M} 44'23	
morning rise	5403 Sep 08 03:45	2° \mathring{M} 59'15		opposition	5410 Mar 01 16:25	10° \mathring{M} 38'17	1°11'05
retrograde	5403 Dec 03 18:41	4° \mathring{M} 15'59		min. Earth dist.	5410 Mar 03 19:34	10° \mathring{M} 35'31	39.75904 AU
opposition	5404 Feb 22 21:33	3° \mathring{M} 11'25	-1°06'19	direct	5410 May 21 19:59	9° \mathring{M} 31'25	
min. Earth dist.	5404 Feb 24 17:07	3° \mathring{M} 09'09	41.16695 AU	evening set	5410 Aug 15 19:33	10° \mathring{M} 50'42	
direct	5404 May 14 03:56	2° \mathring{M} 06'21		max. Earth dist.	5410 Aug 29 12:24	11° \mathring{M} 12'25	41.63806 AU
evening set	5404 Aug 07 12:44	3° \mathring{M} 22'08					
max. Earth dist.	5404 Aug 21 11:50	3° \mathring{M} 43'28	43.05549 AU	conjunction	5410 Aug 31 21:11	11° \mathring{M} 16'13	1°18'58
				minimum elong	5410 Aug 31 21:09	11° \mathring{M} 16'13	1°18'58
conjunction	5404 Aug 23 14:13	3° \mathring{M} 46'42	-0°52'43	morning rise	5410 Sep 16 22:41	11° \mathring{M} 41'46	
minimum elong	5404 Aug 23 14:14	3° \mathring{M} 46'43	0°52'43	retrograde	5410 Dec 12 14:00	13° \mathring{M} 02'08	
morning rise	5404 Sep 08 16:20	4° \mathring{M} 11'21		opposition	5411 Mar 03 04:38	11° \mathring{M} 55'44	1°34'54
retrograde	5404 Dec 04 05:43	5° \mathring{M} 28'32		min. Earth dist.	5411 Mar 05 07:38	11° \mathring{M} 52'58	39.51464 AU
opposition	5405 Feb 23 07:55	4° \mathring{M} 23'45	-0°44'05	direct	5411 May 23 09:24	10° \mathring{M} 48'31	
min. Earth dist.	5405 Feb 25 05:31	4° \mathring{M} 21'21	40.94088 AU	evening set	5411 Aug 17 10:44	12° \mathring{M} 08'29	
direct	5405 May 15 14:08	3° \mathring{M} 18'26		max. Earth dist.	5411 Aug 31 00:40	12° \mathring{M} 30'10	41.39253 AU
evening set	5405 Aug 09 00:22	4° \mathring{M} 34'44					
max. Earth dist.	5405 Aug 23 00:00	4° \mathring{M} 56'13	42.82793 AU	conjunction	5411 Sep 02 11:20	12° \mathring{M} 34'07	1°41'44
				minimum elong	5411 Sep 02 11:17	12° \mathring{M} 34'07	1°41'44
conjunction	5405 Aug 25 02:34	4° \mathring{M} 59'29	-0°31'22	morning rise	5411 Sep 18 12:01	12° \mathring{M} 59'47	
minimum elong	5405 Aug 25 02:35	4° \mathring{M} 59'29	0°31'22	retrograde	5411 Dec 14 04:42	14° \mathring{M} 20'48	
morning rise	5405 Sep 10 05:03	5° \mathring{M} 24'18		opposition	5412 Mar 03 17:19	13° \mathring{M} 14'05	1°58'57
retrograde	5405 Dec 05 17:21	6° \mathring{M} 41'58		min. Earth dist.	5412 Mar 05 21:36	13° \mathring{M} 11'13	39.26895 AU
opposition	5406 Feb 24 18:35	5° \mathring{M} 36'58	-0°21'35	direct	5412 May 23 19:26	12° \mathring{M} 06'31	
min. Earth dist.	5406 Feb 26 16:36	5° \mathring{M} 34'31	40.71131 AU	evening set	5412 Aug 18 02:26	13° \mathring{M} 27'12	
direct	5406 May 17 00:15	4° \mathring{M} 31'22		max. Earth dist.	5412 Aug 31 15:38	13° \mathring{M} 48'59	41.14581 AU
evening set	5406 Aug 10 12:50	5° \mathring{M} 48'13					
max. Earth dist.	5406 Aug 24 10:11	6° \mathring{M} 09'41	42.59666 AU	conjunction	5412 Sep 03 02:06	13° \mathring{M} 52'57	2°04'43
				minimum elong	5412 Sep 03 02:02	13° \mathring{M} 52'57	2°04'42
conjunction	5406 Aug 26 15:12	6° \mathring{M} 13'08	-0°09'49	morning rise	5412 Sep 19 01:24	14° \mathring{M} 18'42	
minimum elong	5406 Aug 26 15:13	6° \mathring{M} 13'08	0°09'50	retrograde	5412 Dec 14 19:40	15° \mathring{M} 40'24	
behind sun begin	5406 Aug 26 09:56	6° \mathring{M} 12'49		opposition	5413 Mar 05 06:20	14° \mathring{M} 33'22	2°23'15
behind sun end	5406 Aug 26 20:29	6° \mathring{M} 13'28		min. Earth dist.	5413 Mar 07 11:01	14° \mathring{M} 30'29	39.02237 AU
morning rise	5406 Sep 11 18:06	6° \mathring{M} 38'07		direct	5413 May 25 06:15	13° \mathring{M} 25'27	
retrograde	5406 Dec 07 08:10	7° \mathring{M} 56'17		evening set	5413 Aug 19 18:57	14° \mathring{M} 46'56	
asc. node	5407 Feb 07 04:28	7° \mathring{M} 14'44		max. Earth dist.	5413 Sep 02 05:30	15° \mathring{M} 08'41	40.89849 AU
opposition	5407 Feb 26 05:31	6° \mathring{M} 51'02	0°01'11				
min. Earth dist.	5407 Feb 28 05:07	6° \mathring{M} 48'30	40.47813 AU	conjunction	5413 Sep 04 17:08	15° \mathring{M} 12'45	2°27'54
direct	5407 May 18 07:55	5° \mathring{M} 45'09		minimum elong	5413 Sep 04 17:03	15° \mathring{M} 12'45	2°27'54
evening set	5407 Aug 12 01:41	7° \mathring{M} 02'34		morning rise	5413 Sep 20 15:08	15° \mathring{M} 38'36	
max. Earth dist.	5407 Aug 25 22:28	7° \mathring{M} 24'08	42.36159 AU	retrograde	5413 Dec 16 13:30	17° \mathring{M} 01'01	
				opposition	5414 Mar 06 19:45	15° \mathring{M} 53'41	2°47'47
conjunction	5407 Aug 28 04:18	7° \mathring{M} 27'39	0°12'06	min. Earth dist.	5414 Mar 09 00:39	15° \mathring{M} 50'46	38.77538 AU
minimum elong	5407 Aug 28 04:18	7° \mathring{M} 27'39	0°12'06	direct	5414 May 26 17:29	14° \mathring{M} 45'25	
behind sun begin	5407 Aug 27 23:58	7° \mathring{M} 27'23		evening set	5414 Aug 21 12:14	16° \mathring{M} 07'43	

max. Earth dist.	5414 Sep 03 20:15	16° <u>17</u> 29'28	40.65049 AU	min. Earth dist.	5421 Mar 18 17:46	25° <u>17</u> 45'54	37.00980 AU
				direct	5421 Jun 05 01:15	24° <u>17</u> 38'24	
conjunction	5414 Sep 06 08:48	16° <u>17</u> 33'38	2°51'17	evening set	5421 Sep 01 12:19	26° <u>17</u> 07'44	
minimum elong	5414 Sep 06 08:43	16° <u>17</u> 33'37	2°51'17	max. Earth dist.	5421 Sep 13 16:23	26° <u>17</u> 28'45	38.87131 AU
morning rise	5414 Sep 22 04:56	16° <u>17</u> 59'33					
retrograde	5414 Dec 18 06:10	18° <u>17</u> 22'43		conjunction	5421 Sep 16 12:17	26° <u>17</u> 33'41	5°39'53
opposition	5415 Mar 08 09:39	17° <u>17</u> 15'05	3°12'32	minimum elong	5421 Sep 16 12:06	26° <u>17</u> 33'40	5°39'53
min. Earth dist.	5415 Mar 10 15:53	17° <u>17</u> 12'05	38.52781 AU	morning rise	5421 Oct 01 11:16	26° <u>17</u> 59'34	
direct	5415 May 28 08:20	16° <u>17</u> 06'30		retrograde	5421 Dec 28 13:57	28° <u>17</u> 29'18	
evening set	5415 Aug 23 06:14	17° <u>17</u> 29'41		opposition	5422 Mar 18 00:20	27° <u>17</u> 19'18	6°11'16
max. Earth dist.	5415 Sep 05 12:20	17° <u>17</u> 51'27	40.40193 AU	min. Earth dist.	5422 Mar 20 12:54	27° <u>17</u> 15'48	36.75036 AU
				direct	5422 Jun 06 18:55	26° <u>17</u> 07'59	
conjunction	5415 Sep 08 00:52	17° <u>17</u> 55'39	3°14'52	evening set	5422 Sep 03 12:25	27° <u>17</u> 38'31	
minimum elong	5415 Sep 08 00:46	17° <u>17</u> 55'39	3°14'52	max. Earth dist.	5422 Sep 15 12:26	27° <u>17</u> 59'24	38.60989 AU
morning rise	5415 Sep 23 18:57	18° <u>17</u> 21'37					
retrograde	5415 Dec 19 23:12	19° <u>17</u> 45'36		conjunction	5422 Sep 18 08:05	28° <u>17</u> 04'21	6°04'31
opposition	5416 Mar 08 23:55	18° <u>17</u> 37'41	3°37'30	minimum elong	5422 Sep 18 07:53	28° <u>17</u> 04'21	6°04'32
min. Earth dist.	5416 Mar 11 05:53	18° <u>17</u> 34'41	38.27953 AU	morning rise	5422 Oct 03 02:30	28° <u>17</u> 30'09	
direct	5416 May 29 00:08	17° <u>17</u> 28'45			5422 Dec 21 20:51	0° <u>17</u> 00'59	
evening set	5416 Aug 24 01:01	18° <u>17</u> 52'51		retrograde	5422 Dec 30 08:53	0° <u>17</u> 00'59	
max. Earth dist.	5416 Sep 06 02:52	19° <u>17</u> 14'32	40.15212 AU		5423 Jan 07 20:34	30° <u>17</u> 00'00	
				opposition	5423 Mar 19 18:04	28° <u>17</u> 50'36	6°37'25
conjunction	5416 Sep 08 17:16	19° <u>17</u> 18'53	3°38'38	min. Earth dist.	5423 Mar 22 06:19	28° <u>17</u> 47'05	36.49023 AU
minimum elong	5416 Sep 08 17:10	19° <u>17</u> 18'53	3°38'38	direct	5423 Jun 08 13:43	27° <u>17</u> 38'50	
morning rise	5416 Sep 24 09:06	19° <u>17</u> 44'54		evening set	5423 Sep 05 13:31	29° <u>17</u> 10'37	
retrograde	5416 Dec 20 15:41	21° <u>17</u> 09'45		max. Earth dist.	5423 Sep 17 06:55	29° <u>17</u> 31'13	38.34802 AU
opposition	5417 Mar 10 14:48	20° <u>17</u> 01'32	4°02'40				
min. Earth dist.	5417 Mar 12 22:38	19° <u>17</u> 58'24	38.02987 AU	conjunction	5423 Sep 20 04:15	29° <u>17</u> 36'20	6°29'15
direct	5417 May 30 13:29	18° <u>17</u> 52'15		minimum elong	5423 Sep 20 04:03	29° <u>17</u> 36'19	6°29'15
evening set	5417 Aug 25 20:43	20° <u>17</u> 17'19			5423 Oct 03 14:10	0° <u>17</u> 00'00	
max. Earth dist.	5417 Sep 07 20:04	20° <u>17</u> 38'58	39.90048 AU	morning rise	5423 Oct 04 17:58	0° <u>17</u> 02'01	
				retrograde	5424 Jan 01 05:08	1° <u>17</u> 34'01	
conjunction	5417 Sep 10 10:33	20° <u>17</u> 43'22	4°02'34	opposition	5424 Mar 20 12:29	0° <u>17</u> 23'14	7°03'40
minimum elong	5417 Sep 10 10:25	20° <u>17</u> 43'21	4°02'34	min. Earth dist.	5424 Mar 23 01:54	0° <u>17</u> 19'38	36.23023 AU
morning rise	5417 Sep 25 23:32	21° <u>17</u> 09'25			5424 Apr 06 07:25	30° <u>17</u> 00'00	
retrograde	5417 Dec 22 07:01	22° <u>17</u> 35'09		direct	5424 Jun 09 05:51	29° <u>17</u> 11'01	
opposition	5418 Mar 12 06:01	21° <u>17</u> 26'37	4°28'02		5424 Aug 10 10:22	0° <u>17</u> 00'00	
min. Earth dist.	5418 Mar 14 14:15	21° <u>17</u> 23'26	37.77813 AU	evening set	5424 Sep 06 15:17	0° <u>17</u> 44'07	
direct	5418 Jun 01 04:32	20° <u>17</u> 16'58		max. Earth dist.	5424 Sep 18 04:09	1° <u>17</u> 04'33	38.08639 AU
evening set	5418 Aug 27 17:28	21° <u>17</u> 43'02					
max. Earth dist.	5418 Sep 09 11:40	22° <u>17</u> 04'31	39.64655 AU	conjunction	5424 Sep 21 01:01	1° <u>17</u> 09'41	6°54'01
				minimum elong	5424 Sep 21 00:48	1° <u>17</u> 09'40	6°54'02
conjunction	5418 Sep 12 04:13	22° <u>17</u> 09'06	4°26'41	morning rise	5424 Oct 05 09:19	1° <u>17</u> 35'12	
minimum elong	5418 Sep 12 04:05	22° <u>17</u> 09'05	4°26'41	retrograde	5425 Jan 02 01:00	3° <u>17</u> 08'27	
morning rise	5418 Sep 27 14:22	22° <u>17</u> 35'08		opposition	5425 Mar 22 07:30	1° <u>17</u> 57'16	7°29'59
retrograde	5418 Dec 24 02:43	24° <u>17</u> 01'49		min. Earth dist.	5425 Mar 24 21:01	1° <u>17</u> 53'38	35.97081 AU
opposition	5419 Mar 13 21:51	22° <u>17</u> 52'57	4°53'36	direct	5425 Jun 10 23:27	0° <u>17</u> 44'37	
min. Earth dist.	5419 Mar 16 07:12	22° <u>17</u> 49'41	37.52416 AU	evening set	5425 Sep 08 18:26	2° <u>17</u> 19'06	
direct	5419 Jun 02 17:05	21° <u>17</u> 42'54		max. Earth dist.	5425 Sep 20 00:31	2° <u>17</u> 39'14	37.82570 AU
evening set	5419 Aug 29 14:47	23° <u>17</u> 10'01					
max. Earth dist.	5419 Sep 11 05:08	23° <u>17</u> 31'24	39.39010 AU	conjunction	5425 Sep 22 22:22	2° <u>17</u> 44'29	7°18'49
				minimum elong	5425 Sep 22 22:08	2° <u>17</u> 44'28	7°18'49
conjunction	5419 Sep 13 22:23	23° <u>17</u> 36'03	4°50'57	morning rise	5425 Oct 07 01:08	3° <u>17</u> 09'49	
minimum elong	5419 Sep 13 22:14	23° <u>17</u> 36'03	4°50'57	retrograde	5426 Jan 04 00:39	4° <u>17</u> 44'22	
morning rise	5419 Sep 29 05:01	24° <u>17</u> 02'04		opposition	5426 Mar 24 02:55	3° <u>17</u> 32'48	7°56'20
retrograde	5419 Dec 25 21:09	25° <u>17</u> 29'44		min. Earth dist.	5426 Mar 26 16:26	3° <u>17</u> 29'09	35.71273 AU
opposition	5420 Mar 14 14:16	24° <u>17</u> 20'30	5°19'20	direct	5426 Jun 12 16:14	2° <u>17</u> 19'42	
min. Earth dist.	5420 Mar 17 00:56	24° <u>17</u> 17'09	37.26784 AU	evening set	5426 Sep 10 22:31	3° <u>17</u> 55'40	
direct	5420 Jun 03 07:43	23° <u>17</u> 10'03		max. Earth dist.	5426 Sep 21 22:24	4° <u>17</u> 15'31	37.56620 AU
evening set	5420 Aug 30 13:07	24° <u>17</u> 38'15					
max. Earth dist.	5420 Sep 11 22:53	24° <u>17</u> 59'29	39.13161 AU	conjunction	5426 Sep 24 20:30	4° <u>17</u> 20'50	7°43'38
				minimum elong	5426 Sep 24 20:16	4° <u>17</u> 20'49	7°43'38
conjunction	5420 Sep 14 17:03	25° <u>17</u> 04'15	5°15'21	morning rise	5426 Oct 08 17:01	4° <u>17</u> 45'57	
minimum elong	5420 Sep 14 16:53	25° <u>17</u> 04'14	5°15'21	retrograde	5427 Jan 05 23:41	6° <u>17</u> 21'53	
morning rise	5420 Sep 29 20:05	25° <u>17</u> 30'13		opposition	5427 Mar 25 23:15	5° <u>17</u> 09'57	8°22'41
retrograde	5420 Dec 26 17:50	26° <u>17</u> 58'53		min. Earth dist.	5427 Mar 28 13:40	5° <u>17</u> 06'13	35.45606 AU
opposition	5421 Mar 16 06:56	25° <u>17</u> 49'17	5°45'13	direct	5427 Jun 14 11:02	3° <u>17</u> 56'26	

evening set	5427 Sep 13 03:40	5° <u>♂</u> 33'56		opposition	5434 Apr 06 15:54	17° <u>♂</u> 19'36	11°24'52
max. Earth dist.	5427 Sep 23 21:10	5° <u>♂</u> 53'30	37.30823 AU	min. Earth dist.	5434 Apr 09 09:29	17° <u>♂</u> 15'30	33.68323 AU
				direct	5434 Jun 25 20:56	16° <u>♂</u> 02'52	
conjunction	5427 Sep 26 19:01	5° <u>♂</u> 58'51	8°08'24	evening set	5434 Sep 28 03:55	17° <u>♂</u> 53'14	
minimum elong	5427 Sep 26 18:45	5° <u>♂</u> 58'50	8°08'24	max. Earth dist.	5434 Oct 06 04:54	18° <u>♂</u> 08'58	35.52057 AU
morning rise	5427 Oct 10 08:57	6° <u>♂</u> 23'42					
retrograde	5428 Jan 08 00:53	8° <u>♂</u> 01'06		conjunction	5434 Oct 09 06:08	18° <u>♂</u> 14'59	10°58'39
opposition	5428 Mar 26 20:00	6° <u>♂</u> 48'48	8°49'01	minimum elong	5434 Oct 09 05:47	18° <u>♂</u> 14'57	10°58'40
min. Earth dist.	5428 Mar 29 09:50	6° <u>♂</u> 45'05	35.20087 AU	morning rise	5434 Oct 20 06:48	18° <u>♂</u> 36'37	
direct	5428 Jun 15 09:09	5° <u>♂</u> 34'52		retrograde	5435 Jan 20 16:51	20° <u>♂</u> 26'05	
evening set	5428 Sep 14 10:04	7° <u>♂</u> 14'01		opposition	5435 Apr 08 17:43	19° <u>♂</u> 10'55	11°50'07
max. Earth dist.	5428 Sep 24 19:11	7° <u>♂</u> 33'08	37.05131 AU	min. Earth dist.	5435 Apr 11 10:29	19° <u>♂</u> 06'49	33.43422 AU
				direct	5435 Jun 27 23:58	17° <u>♂</u> 53'40	
conjunction	5428 Sep 27 18:22	7° <u>♂</u> 38'38	8°33'07	evening set	5435 Sep 30 19:27	19° <u>♂</u> 46'11	
minimum elong	5428 Sep 27 18:06	7° <u>♂</u> 38'37	8°33'08	max. Earth dist.	5435 Oct 08 08:27	20° <u>♂</u> 01'05	35.26992 AU
morning rise	5428 Oct 11 01:17	8° <u>♂</u> 03'11					
retrograde	5429 Jan 09 02:26	9° <u>♂</u> 42'06		conjunction	5435 Oct 11 10:25	20° <u>♂</u> 07'12	11°22'04
opposition	5429 Mar 28 17:30	8° <u>♂</u> 29'26	9°15'18	minimum elong	5435 Oct 11 10:04	20° <u>♂</u> 07'11	11°22'04
min. Earth dist.	5429 Mar 31 08:51	8° <u>♂</u> 25'37	34.94670 AU	morning rise	5435 Oct 21 23:53	20° <u>♂</u> 28'08	
direct	5429 Jun 17 05:46	7° <u>♂</u> 15'05		retrograde	5436 Jan 22 21:52	22° <u>♂</u> 19'38	
evening set	5429 Sep 16 17:46	8° <u>♂</u> 55'56		opposition	5436 Apr 09 20:24	21° <u>♂</u> 03'59	12°15'00
max. Earth dist.	5429 Sep 26 19:55	9° <u>♂</u> 14'42	36.79509 AU	min. Earth dist.	5436 Apr 12 14:07	20° <u>♂</u> 59'49	33.18799 AU
				direct	5436 Jun 29 01:32	19° <u>♂</u> 46'13	
conjunction	5429 Sep 29 18:36	9° <u>♂</u> 20'13	8°57'46	evening set	5436 Oct 02 12:40	21° <u>♂</u> 40'59	
minimum elong	5429 Sep 29 18:18	9° <u>♂</u> 20'12	8°57'46	max. Earth dist.	5436 Oct 09 14:54	21° <u>♂</u> 55'08	35.02246 AU
morning rise	5429 Oct 12 17:47	9° <u>♂</u> 44'25					
retrograde	5430 Jan 11 01:39	11° <u>♂</u> 24'56		conjunction	5436 Oct 12 15:37	22° <u>♂</u> 01'13	11°45'05
opposition	5430 Mar 30 15:44	10° <u>♂</u> 11'54	9°41'30	minimum elong	5436 Oct 12 15:15	22° <u>♂</u> 01'11	11°45'06
min. Earth dist.	5430 Apr 02 06:44	10° <u>♂</u> 08'04	34.69299 AU	morning rise	5436 Oct 22 16:58	22° <u>♂</u> 21'22	
direct	5430 Jun 19 04:09	8° <u>♂</u> 57'07		retrograde	5437 Jan 24 03:10	24° <u>♂</u> 14'58	
evening set	5430 Sep 19 02:49	10° <u>♂</u> 39'44		opposition	5437 Apr 11 23:39	22° <u>♂</u> 58'52	12°39'28
max. Earth dist.	5430 Sep 28 19:01	10° <u>♂</u> 57'54	36.53907 AU	min. Earth dist.	5437 Apr 14 16:19	22° <u>♂</u> 54'44	32.94533 AU
				direct	5437 Jul 01 05:41	21° <u>♂</u> 40'36	
conjunction	5430 Oct 01 19:23	11° <u>♂</u> 03'37	9°22'18	evening set	5437 Oct 05 07:29	23° <u>♂</u> 37'42	
minimum elong	5430 Oct 01 19:05	11° <u>♂</u> 03'35	9°22'19	max. Earth dist.	5437 Oct 11 20:02	23° <u>♂</u> 50'52	34.77893 AU
morning rise	5430 Oct 14 10:35	11° <u>♂</u> 27'25					
retrograde	5431 Jan 13 02:33	13° <u>♂</u> 09'36		conjunction	5437 Oct 14 21:31	23° <u>♂</u> 57'05	12°07'39
opposition	5431 Apr 01 14:41	11° <u>♂</u> 56'10	10°07'36	minimum elong	5437 Oct 14 21:09	23° <u>♂</u> 57'03	12°07'40
min. Earth dist.	5431 Apr 04 06:46	11° <u>♂</u> 52'14	34.43961 AU	morning rise	5437 Oct 24 10:12	24° <u>♂</u> 16'20	
direct	5431 Jun 21 00:24	10° <u>♂</u> 40'56		retrograde	5438 Jan 26 10:26	26° <u>♂</u> 12'10	
evening set	5431 Sep 21 13:02	12° <u>♂</u> 25'22		opposition	5438 Apr 14 03:53	24° <u>♂</u> 55'38	13°03'25
max. Earth dist.	5431 Sep 30 21:01	12° <u>♂</u> 43'04	36.28323 AU	min. Earth dist.	5438 Apr 16 20:38	24° <u>♂</u> 51'28	32.70707 AU
				direct	5438 Jul 03 07:53	23° <u>♂</u> 36'52	
conjunction	5431 Oct 03 21:05	12° <u>♂</u> 48'49	9°46'42	evening set	5438 Oct 08 03:53	25° <u>♂</u> 36'27	
minimum elong	5431 Oct 03 20:46	12° <u>♂</u> 48'47	9°46'42	max. Earth dist.	5438 Oct 14 04:22	25° <u>♂</u> 48'43	34.53997 AU
morning rise	5431 Oct 16 03:25	13° <u>♂</u> 12'09					
retrograde	5432 Jan 15 03:09	14° <u>♂</u> 56'04		conjunction	5438 Oct 17 04:16	25° <u>♂</u> 54'51	12°29'43
opposition	5432 Apr 02 14:27	13° <u>♂</u> 42'14	10°33'33	minimum elong	5438 Oct 17 03:54	25° <u>♂</u> 54'49	12°29'44
min. Earth dist.	5432 Apr 05 06:57	13° <u>♂</u> 38'14	34.18654 AU	morning rise	5438 Oct 26 03:07	26° <u>♂</u> 13'09	
direct	5432 Jun 21 21:58	12° <u>♂</u> 26'31		retrograde	5439 Jan 28 16:15	28° <u>♂</u> 11'20	
evening set	5432 Sep 23 00:35	14° <u>♂</u> 12'51		opposition	5439 Apr 16 08:58	26° <u>♂</u> 54'23	13°26'49
max. Earth dist.	5432 Oct 01 22:08	14° <u>♂</u> 29'54	36.02795 AU	min. Earth dist.	5439 Apr 19 01:03	26° <u>♂</u> 50'13	32.47356 AU
				direct	5439 Jul 05 11:37	25° <u>♂</u> 35'09	
conjunction	5432 Oct 04 23:14	14° <u>♂</u> 35'47	10°10'55	evening set	5439 Oct 11 02:09	27° <u>♂</u> 37'21	
minimum elong	5432 Oct 04 22:54	14° <u>♂</u> 35'45	10°10'56	max. Earth dist.	5439 Oct 16 11:43	27° <u>♂</u> 48'27	34.30612 AU
morning rise	5432 Oct 16 20:26	14° <u>♂</u> 58'37					
retrograde	5433 Jan 16 07:08	16° <u>♂</u> 44'19		conjunction	5439 Oct 19 11:42	27° <u>♂</u> 54'40	12°51'11
opposition	5433 Apr 04 14:47	15° <u>♂</u> 30'03	10°59'20	minimum elong	5439 Oct 19 11:20	27° <u>♂</u> 54'38	12°51'11
min. Earth dist.	5433 Apr 07 07:21	15° <u>♂</u> 26'01	33.93430 AU	morning rise	5439 Oct 27 19:59	28° <u>♂</u> 11'53	
direct	5433 Jun 23 19:53	14° <u>♂</u> 13'49			5440 Jan 02 21:30	0° <u>♂</u>	
evening set	5433 Sep 25 13:30	16° <u>♂</u> 02'08		retrograde	5440 Jan 31 00:44	0° <u>♂</u> 12'32	
max. Earth dist.	5433 Oct 04 00:51	16° <u>♂</u> 18'32	35.77344 AU		5440 Feb 28 12:40	30° <u>♂</u>	
				opposition	5440 Apr 17 14:46	28° <u>♂</u> 55'13	13°49'35
conjunction	5433 Oct 07 02:23	16° <u>♂</u> 24'30	10°34'55	min. Earth dist.	5440 Apr 20 06:06	28° <u>♂</u> 51'04	32.24525 AU
minimum elong	5433 Oct 07 02:03	16° <u>♂</u> 24'28	10°34'55	direct	5440 Jul 06 15:13	27° <u>♂</u> 35'32	
morning rise	5433 Oct 18 13:37	16° <u>♂</u> 46'47		evening set	5440 Oct 13 02:13	29° <u>♂</u> 40'29	
retrograde	5434 Jan 18 10:41	18° <u>♂</u> 34'19		max. Earth dist.	5440 Oct 17 21:03	29° <u>♂</u> 50'26	34.07718 AU

conjunction	5440 Oct 20 20:04	29° <u>♄</u> 56'36	13°12'00	opposition	5447 May 03 08:36	14° <u>♊</u> 01'20	16°05'48
minimum elong	5440 Oct 20 19:42	29° <u>♄</u> 56'34	13°12'02	min. Earth dist.	5447 May 05 20:45	13° <u>♊</u> 57'15	30.77489 AU
	5440 Oct 22 11:03	0° <u>♊</u>		direct	5447 Jul 22 02:49	12° <u>♊</u> 38'41	
morning rise	5440 Oct 28 12:34	0° <u>♊</u> 12'38			5447 Nov 01 14:27	15° <u>♊</u>	
retrograde	5441 Feb 01 08:57	2° <u>♊</u> 15'54		max. Earth dist.	5447 Nov 03 12:15	15° <u>♊</u> 04'15	32.60462 AU
opposition	5441 Apr 19 21:35	0° <u>♊</u> 58'12	14°11'39				
min. Earth dist.	5441 Apr 22 13:12	0° <u>♊</u> 54'01	32.02164 AU	conjunction	5447 Nov 06 05:58	15° <u>♊</u> 10'21	15°14'47
	5441 May 31 06:14	30° <u>♋</u> <u>♄</u>		minimum elong	5447 Nov 06 05:39	15° <u>♊</u> 10'19	15°14'48
direct	5441 Jul 08 20:00	29° <u>♄</u> 38'06		retrograde	5448 Feb 18 02:03	17° <u>♊</u> 39'11	
	5441 Aug 15 21:19	0° <u>♊</u>		opposition	5448 May 04 21:24	16° <u>♊</u> 18'53	16°21'02
evening set	5441 Oct 16 04:48	1° <u>♊</u> 45'58		min. Earth dist.	5448 May 07 08:38	16° <u>♊</u> 14'50	30.58592 AU
max. Earth dist.	5441 Oct 20 06:47	1° <u>♊</u> 54'33	33.85298 AU		5448 Jul 07 10:15	15° <u>♋</u> <u>♊</u>	
				direct	5448 Jul 23 14:18	14° <u>♊</u> 55'50	
conjunction	5441 Oct 23 05:18	2° <u>♊</u> 00'44	13°32'08		5448 Aug 08 15:39	15° <u>♊</u>	
minimum elong	5441 Oct 23 04:56	2° <u>♊</u> 00'42	13°32'08	max. Earth dist.	5448 Nov 05 03:31	17° <u>♊</u> 22'45	32.41698 AU
morning rise	5441 Oct 30 04:39	2° <u>♊</u> 15'26					
retrograde	5442 Feb 03 20:13	4° <u>♊</u> 21'28		conjunction	5448 Nov 07 20:34	17° <u>♊</u> 28'51	15°28'09
opposition	5442 Apr 22 05:05	3° <u>♊</u> 03'24	14°32'57	minimum elong	5448 Nov 07 20:16	17° <u>♊</u> 28'50	15°28'11
min. Earth dist.	5442 Apr 24 19:27	2° <u>♊</u> 59'17	31.80257 AU	retrograde	5449 Feb 19 17:00	19° <u>♊</u> 58'55	
direct	5442 Jul 11 02:41	1° <u>♊</u> 42'52		opposition	5449 May 07 10:56	18° <u>♊</u> 38'15	16°34'57
evening set	5442 Oct 19 09:45	3° <u>♊</u> 53'50		min. Earth dist.	5449 May 09 20:33	18° <u>♊</u> 34'18	30.40427 AU
max. Earth dist.	5442 Oct 22 16:58	4° <u>♊</u> 00'50	33.63303 AU	direct	5449 Jul 26 03:05	17° <u>♊</u> 14'48	
				max. Earth dist.	5449 Nov 07 21:10	19° <u>♊</u> 43'14	32.23703 AU
conjunction	5442 Oct 25 15:27	4° <u>♊</u> 07'05	13°51'31				
minimum elong	5442 Oct 25 15:05	4° <u>♊</u> 07'03	13°51'32	conjunction	5449 Nov 10 12:03	19° <u>♊</u> 49'10	15°40'15
morning rise	5442 Oct 31 20:03	4° <u>♊</u> 20'16		minimum elong	5449 Nov 10 11:47	19° <u>♊</u> 49'09	15°40'15
retrograde	5443 Feb 06 07:30	6° <u>♊</u> 29'14		retrograde	5450 Feb 22 07:18	22° <u>♊</u> 20'26	
opposition	5443 Apr 24 13:46	5° <u>♊</u> 10'48	14°53'27	opposition	5450 May 10 01:24	20° <u>♊</u> 59'26	16°47'26
min. Earth dist.	5443 Apr 27 04:46	5° <u>♊</u> 06'37	31.58773 AU	min. Earth dist.	5450 May 12 10:15	20° <u>♊</u> 55'30	30.23060 AU
direct	5443 Jul 13 09:48	3° <u>♊</u> 49'51		direct	5450 Jul 28 15:43	19° <u>♊</u> 35'36	
evening set	5443 Oct 22 17:50	6° <u>♊</u> 04'07		max. Earth dist.	5450 Nov 10 14:51	22° <u>♊</u> 05'26	32.06591 AU
max. Earth dist.	5443 Oct 25 05:11	6° <u>♊</u> 09'25	33.41751 AU				
				conjunction	5450 Nov 13 04:04	22° <u>♊</u> 11'15	15°50'56
conjunction	5443 Oct 28 02:15	6° <u>♊</u> 15'36	14°10'04	minimum elong	5450 Nov 13 03:50	22° <u>♊</u> 11'14	15°50'58
minimum elong	5443 Oct 28 01:54	6° <u>♊</u> 15'34	14°10'04	retrograde	5451 Feb 25 00:35	24° <u>♊</u> 43'41	
morning rise	5443 Nov 02 09:41	6° <u>♊</u> 27'01		opposition	5451 May 12 16:36	23° <u>♊</u> 22'22	16°58'24
retrograde	5444 Feb 08 20:46	8° <u>♊</u> 39'09		min. Earth dist.	5451 May 14 22:46	23° <u>♊</u> 18'37	30.06583 AU
opposition	5444 Apr 25 23:13	7° <u>♊</u> 20'20	15°13'04	direct	5451 Jul 31 05:53	21° <u>♊</u> 58'13	
min. Earth dist.	5444 Apr 28 12:47	7° <u>♊</u> 16'14	31.37718 AU	max. Earth dist.	5451 Nov 13 09:21	24° <u>♊</u> 29'26	31.90400 AU
direct	5444 Jul 14 20:28	5° <u>♊</u> 58'59					
evening set	5444 Oct 25 06:14	8° <u>♊</u> 16'53		conjunction	5451 Nov 15 20:42	24° <u>♊</u> 35'07	16°00'10
max. Earth dist.	5444 Oct 26 16:29	8° <u>♊</u> 19'59	33.20638 AU	minimum elong	5451 Nov 15 20:29	24° <u>♊</u> 35'06	16°00'11
				retrograde	5452 Feb 27 16:46	27° <u>♊</u> 08'40	
conjunction	5444 Oct 29 14:00	8° <u>♊</u> 26'16	14°27'46	opposition	5452 May 14 08:40	25° <u>♊</u> 47'05	17°07'46
minimum elong	5444 Oct 29 13:39	8° <u>♊</u> 26'14	14°27'47	min. Earth dist.	5452 May 16 14:04	25° <u>♊</u> 43'22	29.91021 AU
morning rise	5444 Nov 02 20:55	8° <u>♊</u> 35'33		direct	5452 Aug 01 20:52	24° <u>♊</u> 22'38	
retrograde	5445 Feb 10 09:23	10° <u>♊</u> 51'11		max. Earth dist.	5452 Nov 15 05:17	26° <u>♊</u> 55'15	31.75167 AU
opposition	5445 Apr 28 09:25	9° <u>♊</u> 31'59	15°31'43				
min. Earth dist.	5445 Apr 30 23:27	9° <u>♊</u> 27'50	31.17123 AU	conjunction	5452 Nov 17 14:06	27° <u>♊</u> 00'44	16°07'52
direct	5445 Jul 17 05:10	8° <u>♊</u> 10'12		minimum elong	5452 Nov 17 13:56	27° <u>♊</u> 00'43	16°07'53
evening set	5445 Oct 29 02:21	10° <u>♊</u> 32'23		retrograde	5453 Mar 01 11:15	29° <u>♊</u> 35'21	
max. Earth dist.	5445 Oct 29 06:57	10° <u>♊</u> 32'48	33.00015 AU	opposition	5453 May 17 01:12	28° <u>♊</u> 13'32	17°15'27
				min. Earth dist.	5453 May 19 04:01	28° <u>♊</u> 09'59	29.76374 AU
conjunction	5445 Nov 01 02:41	10° <u>♊</u> 38'59	14°44'30	direct	5453 Aug 04 14:36	26° <u>♊</u> 48'50	
minimum elong	5445 Nov 01 02:21	10° <u>♊</u> 38'57	14°44'30	max. Earth dist.	5453 Nov 18 00:40	29° <u>♊</u> 22'41	31.60854 AU
morning rise	5445 Nov 04 02:15	10° <u>♊</u> 45'31					
retrograde	5446 Feb 12 22:10	13° <u>♊</u> 05'14		conjunction	5453 Nov 20 08:10	29° <u>♊</u> 28'04	16°13'59
opposition	5446 Apr 30 20:37	11° <u>♊</u> 45'41	15°49'19	minimum elong	5453 Nov 20 08:01	29° <u>♊</u> 28'03	16°13'59
min. Earth dist.	5446 May 03 09:22	11° <u>♊</u> 41'34	30.97018 AU		5453 Dec 04 02:51	0° <u>♊</u>	
direct	5446 Jul 19 16:42	10° <u>♊</u> 23'28		retrograde	5454 Mar 04 05:57	2° <u>♊</u> 03'42	
max. Earth dist.	5446 Oct 31 19:56	12° <u>♊</u> 47'27	32.79931 AU	opposition	5454 May 19 18:45	0° <u>♊</u> 41'40	17°21'24
				min. Earth dist.	5454 May 21 20:47	0° <u>♊</u> 38'10	29.62621 AU
conjunction	5446 Nov 03 15:51	12° <u>♊</u> 53'42	15°00'12		5454 Jun 14 17:17	30° <u>♋</u> <u>♊</u>	
minimum elong	5446 Nov 03 15:32	12° <u>♊</u> 53'40	15°00'13	direct	5454 Aug 07 06:20	29° <u>♊</u> 16'44	
	5447 Jan 10 17:36	15° <u>♊</u>			5454 Sep 28 01:38	0° <u>♊</u>	
retrograde	5447 Feb 15 13:07	15° <u>♊</u> 21'16		max. Earth dist.	5454 Nov 20 22:14	1° <u>♊</u> 51'54	31.47449 AU
	5447 Mar 23 22:38	15° <u>♋</u> <u>♊</u>					

conjunction	5454 Nov 23 02:44	1°♏57'01	16°18'27	opposition	5463 Jun 12 07:57	23°♏44'19	16°50'17
minimum elong	5454 Nov 23 02:37	1°♏57'01	16°18'29	min. Earth dist.	5463 Jun 13 14:44	23°♏42'08	28.79384 AU
retrograde	5455 Mar 07 01:38	4°♏33'35		direct	5463 Aug 30 19:26	22°♏18'10	
opposition	5455 May 22 12:56	3°♏11'21	17°25'35	max. Earth dist.	5463 Dec 15 11:12	25°♏00'04	30.69300 AU
min. Earth dist.	5455 May 24 12:36	3°♏08'01	29.49723 AU				
direct	5455 Aug 10 01:40	1°♏46'14		conjunction	5463 Dec 16 17:18	25°♏03'06	15°39'13
max. Earth dist.	5455 Nov 23 18:15	4°♏22'24	31.34925 AU	minimum elong	5463 Dec 16 17:29	25°♏03'07	15°39'14
				retrograde	5464 Mar 29 13:46	27°♏43'42	
conjunction	5455 Nov 25 21:51	4°♏27'28	16°21'15	opposition	5464 Jun 14 05:20	26°♏20'23	16°36'49
minimum elong	5455 Nov 25 21:44	4°♏27'27	16°21'16	min. Earth dist.	5464 Jun 15 08:14	26°♏18'29	28.75441 AU
retrograde	5456 Mar 08 22:17	7°♏04'52		direct	5464 Sep 01 18:40	24°♏54'16	
opposition	5456 May 24 07:41	5°♏42'26	17°27'57	max. Earth dist.	5464 Dec 17 10:50	27°♏36'27	30.66197 AU
min. Earth dist.	5456 May 26 06:00	5°♏39'11	29.37687 AU				
direct	5456 Aug 11 20:00	4°♏17'07		conjunction	5464 Dec 18 14:03	27°♏39'12	15°25'34
max. Earth dist.	5456 Nov 25 17:06	6°♏54'26	31.23285 AU	minimum elong	5464 Dec 18 14:18	27°♏39'13	15°25'35
					5465 Feb 27 05:45	0°♏	
conjunction	5456 Nov 27 17:35	6°♏59'13	16°22'21	retrograde	5465 Apr 01 09:51	0°♏19'48	
minimum elong	5456 Nov 27 17:32	6°♏59'13	16°22'22		5465 May 05 15:00	30°♏♏	
retrograde	5457 Mar 11 17:10	9°♏37'21		opposition	5465 Jun 17 03:02	28°♏56'31	16°21'21
opposition	5457 May 27 03:09	8°♏14'46	17°28'27	min. Earth dist.	5465 Jun 18 03:49	28°♏54'46	28.72722 AU
min. Earth dist.	5457 May 28 23:35	8°♏11'38	29.26488 AU	direct	5465 Sep 04 15:06	27°♏30'29	
direct	5457 Aug 14 16:01	6°♏49'16			5465 Dec 15 02:38	0°♏	
max. Earth dist.	5457 Nov 28 14:06	9°♏27'24	31.12531 AU	max. Earth dist.	5465 Dec 20 11:12	0°♏12'56	30.64337 AU
conjunction	5457 Nov 30 13:32	9°♏32'06	16°21'41	conjunction	5465 Dec 21 10:39	0°♏15'18	15°10'04
minimum elong	5457 Nov 30 13:31	9°♏32'06	16°21'42	minimum elong	5465 Dec 21 10:54	0°♏15'19	15°10'06
retrograde	5458 Mar 14 14:35	12°♏10'53		retrograde	5466 Apr 04 06:07	2°♏55'48	
opposition	5458 May 29 23:01	10°♏48'08	17°27'03	opposition	5466 Jun 20 00:42	1°♏32'35	16°03'54
min. Earth dist.	5458 May 31 17:21	10°♏45'09	29.16171 AU	min. Earth dist.	5466 Jun 20 21:55	1°♏31'06	28.71182 AU
direct	5458 Aug 17 11:35	9°♏22'28		direct	5466 Sep 07 14:15	0°♏06'41	
max. Earth dist.	5458 Dec 01 13:54	12°♏01'33	31.02697 AU	evening set	5466 Dec 22 07:23	2°♏46'28	
				max. Earth dist.	5466 Dec 23 09:57	2°♏49'08	30.63661 AU
conjunction	5458 Dec 03 10:00	12°♏05'56	16°19'14				
minimum elong	5458 Dec 03 10:02	12°♏05'56	16°19'16	conjunction	5466 Dec 24 07:03	2°♏51'16	14°52'48
retrograde	5459 Mar 17 09:54	14°♏45'16		minimum elong	5466 Dec 24 07:21	2°♏51'18	14°52'50
opposition	5459 Jun 01 19:29	13°♏22'22	17°23'43	morning rise	5466 Dec 26 07:18	2°♏56'08	
min. Earth dist.	5459 Jun 03 12:17	13°♏19'28	29.06755 AU	retrograde	5467 Apr 07 03:13	5°♏31'35	
direct	5459 Aug 20 07:45	11°♏56'33		opposition	5467 Jun 22 22:21	4°♏08'28	15°44'34
max. Earth dist.	5459 Dec 04 11:52	14°♏36'16	30.93837 AU	min. Earth dist.	5467 Jun 23 17:04	4°♏07'09	28.70800 AU
				direct	5467 Sep 10 12:14	2°♏42'42	
conjunction	5459 Dec 06 06:21	14°♏40'31	16°14'58	evening set	5467 Dec 23 08:35	5°♏17'50	
minimum elong	5459 Dec 06 06:24	14°♏40'32	16°14'59	max. Earth dist.	5467 Dec 26 10:08	5°♏25'14	30.64135 AU
retrograde	5460 Mar 19 06:41	17°♏20'18					
opposition	5460 Jun 03 16:06	15°♏57'15	17°18'24	conjunction	5467 Dec 27 03:17	5°♏26'57	14°33'49
min. Earth dist.	5460 Jun 05 05:56	15°♏54'35	28.98306 AU	minimum elong	5467 Dec 27 03:35	5°♏26'59	14°33'50
direct	5460 Aug 22 04:42	14°♏31'18		morning rise	5467 Dec 30 22:25	5°♏36'07	
max. Earth dist.	5460 Dec 06 11:57	17°♏11'46	30.85986 AU	retrograde	5468 Apr 08 22:17	8°♏06'58	
				opposition	5468 Jun 24 19:55	6°♏43'58	15°23'24
conjunction	5460 Dec 08 03:08	17°♏15'41	16°08'51	min. Earth dist.	5468 Jun 25 11:53	6°♏42'50	28.71500 AU
minimum elong	5460 Dec 08 03:15	17°♏15'42	16°08'53	direct	5468 Sep 12 11:26	5°♏18'23	
retrograde	5461 Mar 22 01:18	19°♏55'48		evening set	5468 Dec 23 22:44	7°♏50'05	
opposition	5461 Jun 06 13:07	18°♏32'39	17°11'04				
min. Earth dist.	5461 Jun 08 01:28	18°♏30'04	28.90871 AU	conjunction	5468 Dec 28 23:13	8°♏02'10	14°13'11
direct	5461 Aug 25 01:24	17°♏06'35		minimum elong	5468 Dec 28 23:34	8°♏02'12	14°13'11
max. Earth dist.	5461 Dec 09 11:05	19°♏47'34	30.79237 AU	max. Earth dist.	5468 Dec 28 07:58	8°♏00'38	30.65694 AU
				morning rise	5469 Jan 03 00:08	8°♏14'18	
conjunction	5461 Dec 10 23:52	19°♏51'16	16°00'52	retrograde	5469 Apr 11 19:11	10°♏41'47	
minimum elong	5461 Dec 10 23:59	19°♏51'16	16°00'53	opposition	5469 Jun 27 17:13	9°♏18'54	15°00'30
retrograde	5462 Mar 24 22:49	22°♏31'38		min. Earth dist.	5469 Jun 28 06:14	9°♏17'59	28.73267 AU
opposition	5462 Jun 09 10:21	21°♏08'22	17°01'42	direct	5469 Sep 15 09:04	7°♏53'29	
min. Earth dist.	5462 Jun 10 18:58	21°♏06'03	28.84541 AU	evening set	5469 Dec 25 17:47	10°♏22'12	
direct	5462 Aug 27 22:51	19°♏42'14					
max. Earth dist.	5462 Dec 12 11:08	22°♏23'44	30.73646 AU	conjunction	5469 Dec 31 19:00	10°♏36'43	13°50'58
				minimum elong	5469 Dec 31 19:21	10°♏36'45	13°50'59
conjunction	5462 Dec 13 20:33	22°♏27'06	15°50'59	max. Earth dist.	5469 Dec 31 07:44	10°♏35'36	30.68314 AU
minimum elong	5462 Dec 13 20:44	22°♏27'07	15°51'01	morning rise	5470 Jan 06 20:27	10°♏51'17	
retrograde	5463 Mar 27 17:22	25°♏07'38		retrograde	5470 Apr 14 14:08	13°♏15'50	

opposition	5470 Jun 30 14:32	11° $\overline{3}$ 53'05	14°35'56	max. Earth dist.	5477 Jan 18 07:15	28° $\overline{3}$ 06'17	31.16145 AU
min. Earth dist.	5470 Jul 01 01:21	11° $\overline{3}$ 52'19	28.76055 AU	morning rise	5477 Jan 28 20:57	28° $\overline{3}$ 30'50	
direct	5470 Sep 18 08:43	10° $\overline{3}$ 27'52			5477 Mar 14 08:17	0° \approx	
evening set	5470 Dec 27 15:14	12° $\overline{3}$ 53'46		retrograde	5477 May 01 07:39	0° \approx 38'45	
					5477 Jun 20 16:33	30° \overline{R} $\overline{3}$	
conjunction	5471 Jan 03 14:04	13° $\overline{3}$ 10'25	13°27'15	opposition	5477 Jul 18 06:28	29° $\overline{3}$ 17'13	11°04'47
minimum elong	5471 Jan 03 14:27	13° $\overline{3}$ 10'27	13°27'16	min. Earth dist.	5477 Jul 17 20:01	29° $\overline{3}$ 17'55	29.25076 AU
max. Earth dist.	5471 Jan 03 04:40	13° $\overline{3}$ 09'28	30.71972 AU	direct	5477 Oct 06 08:50	27° $\overline{3}$ 53'41	
morning rise	5471 Jan 10 13:12	13° $\overline{3}$ 27'05			5478 Jan 07 20:11	0° \approx	
retrograde	5471 Apr 17 09:20	15° $\overline{3}$ 48'56		evening set	5478 Jan 09 00:33	0° \approx 02'42	
opposition	5471 Jul 03 11:21	14° $\overline{3}$ 26'18	14°09'47				
min. Earth dist.	5471 Jul 03 18:36	14° $\overline{3}$ 25'48	28.79867 AU	conjunction	5478 Jan 20 12:33	0° \approx 29'14	10°06'12
direct	5471 Sep 21 06:52	13° $\overline{3}$ 01'17		minimum elong	5478 Jan 20 12:55	0° \approx 29'16	10°06'13
evening set	5471 Dec 29 14:26	15° $\overline{3}$ 24'31		max. Earth dist.	5478 Jan 21 00:43	0° \approx 30'25	31.27423 AU
				morning rise	5478 Feb 01 00:13	0° \approx 55'44	
conjunction	5472 Jan 06 08:58	15° $\overline{3}$ 43'03	13°02'08	retrograde	5478 May 03 22:15	3° \approx 01'39	
minimum elong	5472 Jan 06 09:21	15° $\overline{3}$ 43'05	13°02'10	opposition	5478 Jul 20 23:50	1° \approx 40'24	10°30'09
max. Earth dist.	5472 Jan 06 03:19	15° $\overline{3}$ 42'29	30.76649 AU	min. Earth dist.	5478 Jul 20 10:26	1° \approx 41'18	29.36546 AU
morning rise	5472 Jan 14 03:32	16° $\overline{3}$ 01'35		direct	5478 Oct 09 01:55	0° \approx 17'14	
retrograde	5472 Apr 19 02:08	18° $\overline{3}$ 20'52		evening set	5479 Jan 11 03:24	2° \approx 24'09	
opposition	5472 Jul 05 07:46	16° $\overline{3}$ 58'24	13°42'10				
min. Earth dist.	5472 Jul 05 13:16	16° $\overline{3}$ 58'01	28.84687 AU	conjunction	5479 Jan 23 02:50	2° \approx 51'37	9°33'31
direct	5472 Sep 23 04:32	15° $\overline{3}$ 33'34		minimum elong	5479 Jan 23 03:12	2° \approx 51'39	9°33'31
evening set	5472 Dec 30 14:51	17° $\overline{3}$ 54'14		max. Earth dist.	5479 Jan 23 18:49	2° \approx 53'09	31.39778 AU
				morning rise	5479 Feb 04 01:38	3° \approx 19'01	
conjunction	5473 Jan 08 03:11	18° $\overline{3}$ 14'28	12°35'40	retrograde	5479 May 06 11:19	5° \approx 23'01	
minimum elong	5473 Jan 08 03:35	18° $\overline{3}$ 14'30	12°35'41	opposition	5479 Jul 23 16:30	4° \approx 02'04	9°54'44
max. Earth dist.	5473 Jan 07 23:35	18° $\overline{3}$ 14'06	30.82362 AU	min. Earth dist.	5479 Jul 23 00:32	4° \approx 03'08	29.49044 AU
morning rise	5473 Jan 16 15:38	18° $\overline{3}$ 34'41		direct	5479 Oct 11 20:18	2° \approx 39'18	
retrograde	5473 Apr 21 20:49	20° $\overline{3}$ 51'30		evening set	5480 Jan 13 06:41	4° \approx 44'12	
opposition	5473 Jul 08 03:43	19° $\overline{3}$ 29'10	13°13'08				
min. Earth dist.	5473 Jul 08 05:22	19° $\overline{3}$ 29'03	28.90541 AU	conjunction	5480 Jan 25 16:26	5° \approx 12'28	9°00'09
direct	5473 Sep 26 02:29	18° $\overline{3}$ 04'32		minimum elong	5480 Jan 25 16:47	5° \approx 12'30	9°00'11
evening set	5474 Jan 01 15:46	20° $\overline{3}$ 22'43		max. Earth dist.	5480 Jan 26 10:16	5° \approx 14'10	31.53112 AU
				morning rise	5480 Feb 07 01:49	5° \approx 40'41	
conjunction	5474 Jan 10 20:47	20° $\overline{3}$ 44'28	12°07'57	retrograde	5480 May 08 01:33	7° \approx 42'50	
minimum elong	5474 Jan 10 21:10	20° $\overline{3}$ 44'30	12°07'59	opposition	5480 Jul 25 08:23	6° \approx 22'12	9°18'39
max. Earth dist.	5474 Jan 10 20:51	20° $\overline{3}$ 44'29	30.89118 AU	min. Earth dist.	5480 Jul 24 13:10	6° \approx 23'29	29.62512 AU
morning rise	5474 Jan 20 01:40	21° $\overline{3}$ 06'12		direct	5480 Oct 13 11:59	4° \approx 59'50	
retrograde	5474 Apr 24 11:38	23° $\overline{3}$ 20'40		evening set	5481 Jan 14 10:05	7° \approx 02'49	
opposition	5474 Jul 10 23:22	21° $\overline{3}$ 58'29	12°42'47				
min. Earth dist.	5474 Jul 10 23:05	21° $\overline{3}$ 58'30	28.97469 AU	conjunction	5481 Jan 27 05:35	7° \approx 31'47	8°26'13
direct	5474 Sep 28 22:25	20° $\overline{3}$ 34'05		minimum elong	5481 Jan 27 05:55	7° \approx 31'49	8°26'13
evening set	5475 Jan 03 17:27	22° $\overline{3}$ 49'51		max. Earth dist.	5481 Jan 28 03:04	7° \approx 33'49	31.67355 AU
				morning rise	5481 Feb 09 00:20	8° \approx 00'42	
conjunction	5475 Jan 13 13:42	23° $\overline{3}$ 12'59	11°39'04	retrograde	5481 May 10 13:56	10° \approx 01'04	
minimum elong	5475 Jan 13 14:05	23° $\overline{3}$ 13'01	11°39'04	opposition	5481 Jul 27 23:54	8° \approx 40'46	8°42'01
max. Earth dist.	5475 Jan 13 16:40	23° $\overline{3}$ 13'16	30.96985 AU	min. Earth dist.	5481 Jul 27 02:58	8° \approx 42'10	29.76857 AU
morning rise	5475 Jan 23 09:47	23° $\overline{3}$ 36'06		direct	5481 Oct 16 06:03	7° \approx 18'50	
retrograde	5475 Apr 27 02:53	25° $\overline{3}$ 48'17		evening set	5482 Jan 16 13:41	9° \approx 19'55	
opposition	5475 Jul 13 18:14	24° $\overline{3}$ 26'16	12°11'12				
min. Earth dist.	5475 Jul 13 13:53	24° $\overline{3}$ 26'34	29.05521 AU	conjunction	5482 Jan 29 17:46	9° \approx 49'30	7°51'48
direct	5475 Oct 01 19:32	23° $\overline{3}$ 02'07		minimum elong	5482 Jan 29 18:05	9° \approx 49'32	7°51'50
evening set	5476 Jan 05 19:23	25° $\overline{3}$ 15'33		max. Earth dist.	5482 Jan 30 16:38	9° \approx 51'39	31.82428 AU
				morning rise	5482 Feb 11 21:23	10° \approx 19'02	
conjunction	5476 Jan 16 05:57	25° $\overline{3}$ 39'56	11°09'04	retrograde	5482 May 13 03:35	12° \approx 17'42	
minimum elong	5476 Jan 16 06:20	25° $\overline{3}$ 39'59	11°09'06	opposition	5482 Jul 30 14:40	10° \approx 57'43	8°04'56
max. Earth dist.	5476 Jan 16 12:10	25° $\overline{3}$ 40'33	31.05984 AU	min. Earth dist.	5482 Jul 29 14:18	10° \approx 59'20	29.92020 AU
morning rise	5476 Jan 26 16:17	26° $\overline{3}$ 04'18		direct	5482 Oct 18 22:31	9° \approx 36'11	
retrograde	5476 Apr 28 17:39	28° $\overline{3}$ 14'18		evening set	5483 Jan 18 17:19	11° \approx 35'28	
opposition	5476 Jul 15 12:43	26° $\overline{3}$ 52'31	11°38'30				
min. Earth dist.	5476 Jul 15 05:52	26° $\overline{3}$ 52'59	29.14730 AU	conjunction	5483 Feb 01 05:31	12° \approx 05'35	7°17'01
direct	5476 Oct 03 13:08	25° $\overline{3}$ 28'39		minimum elong	5483 Feb 01 05:48	12° \approx 05'36	7°17'02
evening set	5477 Jan 06 21:51	27° $\overline{3}$ 39'50		max. Earth dist.	5483 Feb 02 07:34	12° \approx 08'01	31.98261 AU
				morning rise	5483 Feb 14 16:58	12° \approx 35'38	
conjunction	5477 Jan 17 21:37	28° $\overline{3}$ 05'21	10°38'05	retrograde	5483 May 15 13:16	14° \approx 32'39	
minimum elong	5477 Jan 17 22:00	28° $\overline{3}$ 05'23	10°38'05	min. Earth dist.	5483 Aug 01 03:13	13° \approx 14'41	30.07937 AU

opposition	5483 Aug 02 04:47	13° \approx 13'00	7°27'31	conjunction	5490 Feb 15 17:59	27° \approx 07'19	3°09'46
direct	5483 Oct 21 13:42	11° \approx 51'52		minimum elong	5490 Feb 15 18:07	27° \approx 07'19	3°09'48
evening set	5484 Jan 20 21:06	13° \approx 49'24		max. Earth dist.	5490 Feb 17 11:42	27° \approx 11'01	33.28350 AU
				morning rise	5490 Mar 02 17:09	27° \approx 38'54	
conjunction	5484 Feb 03 16:26	14° \approx 19'57	6°41'57	retrograde	5490 May 29 18:08	29° \approx 26'11	
minimum elong	5484 Feb 03 16:43	14° \approx 19'58	6°41'58	min. Earth dist.	5490 Aug 15 17:15	28° \approx 11'19	31.39079 AU
max. Earth dist.	5484 Feb 04 19:55	14° \approx 22'30	32.14808 AU	opposition	5490 Aug 17 10:53	28° \approx 08'41	3°03'17
morning rise	5484 Feb 17 11:09	14° \approx 50'26		direct	5490 Nov 06 02:47	26° \approx 50'17	
	5484 Feb 21 21:27	15° \approx		evening set	5491 Feb 02 21:24	28° \approx 37'19	
retrograde	5484 May 16 23:27	16° \approx 45'51					
opposition	5484 Aug 03 18:04	15° \approx 26'32	6°49'52	conjunction	5491 Feb 17 23:41	29° \approx 08'55	2°34'45
min. Earth dist.	5484 Aug 02 13:20	15° \approx 28'24	30.24550 AU	minimum elong	5491 Feb 17 23:47	29° \approx 08'56	2°34'45
	5484 Aug 20 23:10	15° \approx		max. Earth dist.	5491 Feb 19 18:23	29° \approx 12'40	33.49711 AU
direct	5484 Oct 23 05:26	14° \approx 05'47		morning rise	5491 Mar 05 01:33	29° \approx 40'28	
	5484 Dec 21 19:29	15° \approx			5491 Mar 14 18:20	0° \approx	
evening set	5485 Jan 22 00:50	16° \approx 01'36		retrograde	5491 Jun 01 01:26	1° \approx 26'39	
				min. Earth dist.	5491 Aug 17 22:15	0° \approx 12'19	31.60641 AU
conjunction	5485 Feb 05 02:38	16° \approx 32'31	6°06'41	opposition	5491 Aug 19 18:57	0° \approx 09'30	2°26'05
minimum elong	5485 Feb 05 02:53	16° \approx 32'32	6°06'41		5491 Aug 26 02:36	30° \approx	
max. Earth dist.	5485 Feb 06 08:40	16° \approx 35'17	32.32007 AU	direct	5491 Nov 08 11:34	28° \approx 51'31	
morning rise	5485 Feb 19 03:47	17° \approx 03'21			5492 Jan 16 17:52	0° \approx	
retrograde	5485 May 19 08:21	18° \approx 57'16		evening set	5492 Feb 05 00:28	0° \approx 37'22	
min. Earth dist.	5485 Aug 05 00:35	17° \approx 40'12	30.41846 AU				
opposition	5485 Aug 06 06:47	17° \approx 38'14	6°12'03	conjunction	5492 Feb 20 04:47	1° \approx 08'53	1°59'58
direct	5485 Oct 25 18:31	16° \approx 17'52		minimum elong	5492 Feb 20 04:52	1° \approx 08'53	1°59'59
evening set	5486 Jan 24 04:30	18° \approx 12'03		max. Earth dist.	5492 Feb 22 02:13	1° \approx 12'51	33.71654 AU
				morning rise	5492 Mar 06 08:33	1° \approx 40'22	
conjunction	5486 Feb 07 12:06	18° \approx 43'14	5°31'17	retrograde	5492 Jun 02 05:13	3° \approx 25'29	
minimum elong	5486 Feb 07 12:19	18° \approx 43'15	5°31'18	min. Earth dist.	5492 Aug 19 05:06	2° \approx 11'33	31.82771 AU
max. Earth dist.	5486 Feb 08 20:15	18° \approx 46'10	32.49878 AU	opposition	5492 Aug 21 02:37	2° \approx 08'42	1°49'13
morning rise	5486 Feb 21 18:57	19° \approx 14'21		direct	5492 Nov 09 20:09	0° \approx 51'10	
retrograde	5486 May 21 15:18	21° \approx 06'47		evening set	5493 Feb 06 03:29	2° \approx 35'51	
min. Earth dist.	5486 Aug 07 09:44	19° \approx 50'11	30.59825 AU				
opposition	5486 Aug 08 18:40	19° \approx 48'03	5°34'10	conjunction	5493 Feb 21 09:09	3° \approx 07'15	1°25'31
direct	5486 Oct 28 08:46	18° \approx 28'03		minimum elong	5493 Feb 21 09:12	3° \approx 07'15	1°25'31
evening set	5487 Jan 26 08:00	20° \approx 20'39		max. Earth dist.	5493 Feb 23 07:45	3° \approx 11'17	33.94106 AU
				morning rise	5493 Mar 08 14:21	3° \approx 38'36	
conjunction	5487 Feb 09 20:34	20° \approx 52'02	4°55'49	retrograde	5493 Jun 04 08:49	5° \approx 22'44	
minimum elong	5487 Feb 09 20:46	20° \approx 52'03	4°55'49	min. Earth dist.	5493 Aug 21 09:29	4° \approx 09'18	32.05381 AU
max. Earth dist.	5487 Feb 11 06:38	20° \approx 55'08	32.68418 AU	opposition	5493 Aug 23 09:31	4° \approx 06'19	1°12'44
morning rise	5487 Feb 24 08:36	21° \approx 23'22		direct	5493 Nov 12 05:45	2° \approx 49'12	
retrograde	5487 May 23 22:33	23° \approx 14'25		evening set	5494 Feb 08 06:31	4° \approx 32'49	
min. Earth dist.	5487 Aug 09 18:42	21° \approx 58'13	30.78532 AU				
opposition	5487 Aug 11 05:51	21° \approx 55'57	4°56'16	conjunction	5494 Feb 23 12:58	5° \approx 04'02	0°51'25
direct	5487 Oct 30 19:20	20° \approx 36'20		minimum elong	5494 Feb 23 13:00	5° \approx 04'02	0°51'26
evening set	5488 Jan 28 11:26	22° \approx 27'25		max. Earth dist.	5494 Feb 25 13:20	5° \approx 08'11	34.16971 AU
				morning rise	5494 Mar 10 19:07	5° \approx 35'13	
conjunction	5488 Feb 12 04:31	22° \approx 58'57	4°20'23	retrograde	5494 Jun 06 12:04	7° \approx 18'26	
minimum elong	5488 Feb 12 04:41	22° \approx 58'58	4°20'24	min. Earth dist.	5494 Aug 23 14:46	6° \approx 05'24	32.28410 AU
max. Earth dist.	5488 Feb 13 17:30	23° \approx 02'17	32.87675 AU	opposition	5494 Aug 25 15:56	6° \approx 02'22	0°36'42
morning rise	5488 Feb 26 20:47	23° \approx 30'25		direct	5494 Nov 14 12:24	4° \approx 45'40	
retrograde	5488 May 25 04:22	25° \approx 20'08		evening set	5495 Feb 10 09:17	6° \approx 28'15	
min. Earth dist.	5488 Aug 11 02:59	24° \approx 04'22	30.97972 AU				
opposition	5488 Aug 12 16:08	24° \approx 01'59	4°18'27	conjunction	5495 Feb 25 16:12	6° \approx 59'15	0°17'45
direct	5488 Nov 01 06:32	22° \approx 42'45		minimum elong	5495 Feb 25 16:13	6° \approx 59'16	0°17'44
evening set	5489 Jan 29 14:59	24° \approx 32'24		max. Earth dist.	5495 Feb 27 18:10	7° \approx 03'31	34.40193 AU
				morning rise	5495 Mar 12 22:40	7° \approx 30'14	
conjunction	5489 Feb 13 11:36	25° \approx 04'01	3°45'00	retrograde	5495 Jun 08 13:16	9° \approx 12'35	
minimum elong	5489 Feb 13 11:45	25° \approx 04'02	3°45'00	min. Earth dist.	5495 Aug 25 19:04	7° \approx 59'57	32.51752 AU
max. Earth dist.	5489 Feb 15 01:59	25° \approx 07'27	33.07653 AU	opposition	5495 Aug 27 21:34	7° \approx 56'51	0°01'08
morning rise	5489 Feb 28 07:46	25° \approx 35'35		desc. node	5495 Sep 08 14:34	7° \approx 39'45	
retrograde	5489 May 27 12:07	27° \approx 24'02		direct	5495 Nov 16 19:58	6° \approx 40'34	
min. Earth dist.	5489 Aug 13 09:34	26° \approx 08'46	31.18172 AU	evening set	5496 Feb 12 12:13	8° \approx 22'10	
opposition	5489 Aug 15 01:49	26° \approx 06'12	3°40'46				
direct	5489 Nov 03 15:52	24° \approx 47'22		conjunction	5496 Feb 27 18:48	8° \approx 52'55	-0°15'34
evening set	5490 Jan 31 18:06	26° \approx 35'41		minimum elong	5496 Feb 27 18:48	8° \approx 52'55	0°15'33
				behind sun begin	5496 Feb 27 16:54	8° \approx 52'46	

behind sun end	5496 Feb 27 20:42	8° ✕ 53'04		evening set	5503 Feb 26 02:03	20° ✕ 56'33	
max. Earth dist.	5496 Feb 29 21:13	8° ✕ 57'11	34.63671 AU				
morning rise	5496 Mar 14 01:18	9° ✕ 23'39		conjunction	5503 Mar 12 19:38	21° ✕ 24'41	-3°53'47
retrograde	5496 Jun 09 15:53	11° ✕ 05'09		minimum elong	5503 Mar 12 19:30	21° ✕ 24'40	3°53'48
min. Earth dist.	5496 Aug 26 22:25	9° ✕ 52'56	32.75365 AU	max. Earth dist.	5503 Mar 15 06:50	21° ✕ 29'26	36.34798 AU
opposition	5496 Aug 29 02:31	9° ✕ 49'45	-0°33'56	morning rise	5503 Mar 27 13:32	21° ✕ 52'50	
direct	5496 Nov 18 00:02	8° ✕ 33'51		retrograde	5503 Jun 23 12:33	23° ✕ 29'48	
evening set	5497 Feb 13 14:49	10° ✕ 14'32		min. Earth dist.	5503 Sep 10 06:19	22° ✕ 20'07	34.47950 AU
				opposition	5503 Sep 12 19:36	22° ✕ 16'31	-4°22'43
conjunction	5497 Feb 28 20:58	10° ✕ 44'59	-0°48'20	direct	5503 Dec 02 22:52	21° ✕ 03'12	
minimum elong	5497 Feb 28 20:56	10° ✕ 44'59	0°48'20	evening set	5504 Feb 28 03:11	22° ✕ 38'44	
max. Earth dist.	5497 Mar 03 01:26	10° ✕ 49'24	34.87380 AU				
morning rise	5497 Mar 16 02:44	11° ✕ 15'26		conjunction	5504 Mar 13 17:34	23° ✕ 06'25	-4°22'38
retrograde	5497 Jun 11 16:49	12° ✕ 56'10		minimum elong	5504 Mar 13 17:26	23° ✕ 06'24	4°22'37
min. Earth dist.	5497 Aug 29 02:27	11° ✕ 44'15	32.99195 AU	max. Earth dist.	5504 Mar 16 06:43	23° ✕ 11'17	36.60335 AU
opposition	5497 Aug 31 07:00	11° ✕ 41'04	-1°08'27	morning rise	5504 Mar 28 07:58	23° ✕ 34'06	
direct	5497 Nov 20 05:02	10° ✕ 25'33		retrograde	5504 Jun 24 09:17	25° ✕ 10'38	
evening set	5498 Feb 15 17:14	12° ✕ 05'19		min. Earth dist.	5504 Sep 11 06:04	24° ✕ 01'16	34.73710 AU
				opposition	5504 Sep 13 19:34	23° ✕ 57'40	-4°52'47
conjunction	5498 Mar 02 22:11	12° ✕ 35'28	-1°20'38	direct	5504 Dec 03 23:31	22° ✕ 44'45	
minimum elong	5498 Mar 02 22:09	12° ✕ 35'27	1°20'37	evening set	5505 Mar 01 04:20	24° ✕ 19'45	
max. Earth dist.	5498 Mar 05 02:49	12° ✕ 39'51	35.11289 AU				
morning rise	5498 Mar 18 03:08	13° ✕ 05'35		conjunction	5505 Mar 15 14:53	24° ✕ 46'56	-4°50'51
retrograde	5498 Jun 13 19:11	14° ✕ 45'34		minimum elong	5505 Mar 15 14:43	24° ✕ 46'55	4°50'51
min. Earth dist.	5498 Aug 31 03:53	13° ✕ 34'04	33.23258 AU	max. Earth dist.	5505 Mar 18 03:59	24° ✕ 51'46	36.86048 AU
opposition	5498 Sep 02 10:42	13° ✕ 30'46	-1°42'23	morning rise	5505 Mar 30 01:46	25° ✕ 14'09	
direct	5498 Nov 22 08:20	12° ✕ 15'36		retrograde	5505 Jun 26 08:56	26° ✕ 50'16	
evening set	5499 Feb 17 19:23	13° ✕ 54'32		min. Earth dist.	5505 Sep 13 03:38	25° ✕ 41'19	34.99636 AU
				opposition	5505 Sep 15 19:07	25° ✕ 37'38	-5°22'10
conjunction	5499 Mar 04 22:59	14° ✕ 24'19	-1°52'24	direct	5505 Dec 05 21:35	24° ✕ 25'06	
minimum elong	5499 Mar 04 22:55	14° ✕ 24'19	1°52'24	evening set	5506 Mar 03 05:07	25° ✕ 59'36	
max. Earth dist.	5499 Mar 07 05:48	14° ✕ 28'51	35.35416 AU				
morning rise	5499 Mar 20 02:24	14° ✕ 54'06		conjunction	5506 Mar 17 11:45	26° ✕ 26'18	-5°18'26
retrograde	5499 Jun 15 19:09	16° ✕ 33'23		minimum elong	5506 Mar 17 11:35	26° ✕ 26'17	5°18'25
min. Earth dist.	5499 Sep 02 06:41	15° ✕ 22'09	33.47577 AU	max. Earth dist.	5506 Mar 20 02:44	26° ✕ 31'14	37.11868 AU
opposition	5499 Sep 04 13:41	15° ✕ 18'51	-2°15'44	morning rise	5506 Mar 31 18:36	26° ✕ 53'00	
direct	5499 Nov 24 13:22	14° ✕ 04'02		retrograde	5506 Jun 28 07:06	28° ✕ 28'45	
evening set	5500 Feb 19 21:23	15° ✕ 42'12		min. Earth dist.	5506 Sep 15 03:02	27° ✕ 20'05	35.25645 AU
				opposition	5506 Sep 17 18:15	27° ✕ 16'26	-5°50'51
conjunction	5500 Mar 06 23:03	16° ✕ 11'36	-2°23'37	direct	5506 Dec 07 20:29	26° ✕ 04'16	
minimum elong	5500 Mar 06 22:58	16° ✕ 11'36	2°23'36	evening set	5507 Mar 05 05:57	27° ✕ 38'19	
max. Earth dist.	5500 Mar 09 06:22	16° ✕ 16'08	35.59811 AU				
morning rise	5500 Mar 22 00:40	16° ✕ 41'00		conjunction	5507 Mar 19 08:15	28° ✕ 04'30	-5°45'22
retrograde	5500 Jun 17 19:26	18° ✕ 19'37		minimum elong	5507 Mar 19 08:04	28° ✕ 04'29	5°45'23
min. Earth dist.	5500 Sep 04 06:45	17° ✕ 08'48	33.72191 AU	max. Earth dist.	5507 Mar 21 23:07	28° ✕ 09'24	37.37731 AU
opposition	5500 Sep 06 15:59	17° ✕ 05'23	-2°48'27	morning rise	5507 Apr 02 10:50	28° ✕ 30'42	
direct	5500 Nov 26 17:41	15° ✕ 50'56			5507 Jun 09 01:48	0° °	
evening set	5501 Feb 21 23:07	17° ✕ 28'21		retrograde	5507 Jun 30 04:03	0° ° 06'04	
					5507 Jul 21 09:28	30° ° ✕	
conjunction	5501 Mar 08 22:25	17° ✕ 57'22	-2°54'16	min. Earth dist.	5507 Sep 16 23:58	28° ✕ 57'47	35.51660 AU
minimum elong	5501 Mar 08 22:19	17° ✕ 57'21	2°54'17	opposition	5507 Sep 19 16:32	28° ✕ 54'04	-6°18'50
max. Earth dist.	5501 Mar 11 07:28	18° ✕ 02'00	35.84493 AU	direct	5507 Dec 09 19:19	27° ✕ 42'15	
morning rise	5501 Mar 23 21:49	18° ✕ 26'22		evening set	5508 Mar 06 06:41	29° ✕ 15'53	
retrograde	5501 Jun 19 17:37	20° ✕ 04'23					
min. Earth dist.	5501 Sep 06 07:44	18° ✕ 53'54	33.97139 AU	conjunction	5508 Mar 20 04:20	29° ✕ 41'32	-6°11'41
opposition	5501 Sep 08 17:53	18° ✕ 50'27	-3°20'33	minimum elong	5508 Mar 20 04:09	29° ✕ 41'31	6°11'41
direct	5501 Nov 28 20:10	17° ✕ 36'22		max. Earth dist.	5508 Mar 22 19:48	29° ✕ 46'26	37.63551 AU
evening set	5502 Feb 24 00:39	19° ✕ 13'07			5508 Mar 30 03:49	0° °	
				morning rise	5508 Apr 03 02:25	0° ° 07'12	
conjunction	5502 Mar 10 21:23	19° ✕ 41'41	-3°24'20	retrograde	5508 Jun 30 22:30	1° ° 42'14	
minimum elong	5502 Mar 10 21:17	19° ✕ 41'41	3°24'19	min. Earth dist.	5508 Sep 17 22:11	0° ° 34'13	35.77631 AU
max. Earth dist.	5502 Mar 13 07:57	19° ✕ 46'25	36.09504 AU	opposition	5508 Sep 20 14:39	0° ° 30'32	-6°46'09
morning rise	5502 Mar 25 18:04	20° ✕ 10'17			5508 Oct 13 13:49	30° ° ✕	
retrograde	5502 Jun 21 13:48	21° ✕ 47'45		direct	5508 Dec 10 18:57	29° ✕ 19'04	
min. Earth dist.	5502 Sep 08 07:18	20° ✕ 37'40	34.22399 AU		5509 Feb 04 06:52	0° °	
opposition	5502 Sep 10 18:59	20° ✕ 34'08	-3°51'58	evening set	5509 Mar 08 07:02	0° ° 52'16	
direct	5502 Nov 30 23:30	19° ✕ 20'26					

conjunction	5509 Mar 21 23:56	1° Υ 17'22 -6°37'23	direct	5515 Dec 22 19:43	10° Υ 02'26
minimum elong	5509 Mar 21 23:44	1° Υ 17'21 6°37'23	evening set	5516 Mar 20 04:19	11° Υ 33'31
max. Earth dist.	5509 Mar 24 16:06	1° Υ 22'18 37.89297 AU			
morning rise	5509 Apr 04 17:02	1° Υ 42'30	conjunction	5516 Apr 01 04:17	11° Υ 54'32 -9°19'18
retrograde	5509 Jul 02 14:59	3° Υ 17'13	minimum elong	5516 Apr 01 04:05	11° Υ 54'31 9°19'19
min. Earth dist.	5509 Sep 19 19:18	2° Υ 09'29 36.03496 AU	max. Earth dist.	5516 Apr 04 00:26	11° Υ 59'32 39.68316 AU
opposition	5509 Sep 22 12:13	2° Υ 05'47 -7°12'46	morning rise	5516 Apr 13 04:34	12° Υ 15'34
direct	5509 Dec 12 19:39	0° Υ 54'38	retrograde	5516 Jul 12 16:43	13° Υ 48'49
evening set	5510 Mar 10 07:25	2° Υ 27'26	min. Earth dist.	5516 Sep 30 08:38	12° Υ 42'56 37.83898 AU
			opposition	5516 Oct 03 05:11	12° Υ 39'09 -9°59'44
			direct	5516 Dec 23 15:52	11° Υ 30'06
			evening set	5517 Mar 22 03:12	13° Υ 01'01
conjunction	5510 Mar 23 19:02	2° Υ 51'59 -7°02'26			
minimum elong	5510 Mar 23 18:51	2° Υ 51'58 7°02'26			
max. Earth dist.	5510 Mar 26 10:51	2° Υ 56'52 38.14930 AU			
morning rise	5510 Apr 06 07:13	3° Υ 16'34	conjunction	5517 Apr 02 20:16	13° Υ 21'25 -9°39'52
retrograde	5510 Jul 04 10:24	4° Υ 50'59	minimum elong	5517 Apr 02 20:03	13° Υ 21'24 9°39'52
min. Earth dist.	5510 Sep 21 15:24	3° Υ 43'31 36.29279 AU	max. Earth dist.	5517 Apr 05 15:57	13° Υ 26'21 39.93914 AU
opposition	5510 Sep 24 09:14	3° Υ 39'48 -7°38'42	morning rise	5517 Apr 14 13:55	13° Υ 41'51
direct	5510 Dec 14 16:22	2° Υ 28'56	retrograde	5517 Jul 14 10:22	15° Υ 15'02
evening set	5511 Mar 12 07:20	4° Υ 01'22	min. Earth dist.	5517 Oct 02 01:20	14° Υ 09'29 38.09676 AU
			opposition	5517 Oct 04 23:07	14° Υ 05'39 -10°20'51
			direct	5517 Dec 25 08:29	12° Υ 56'56
			evening set	5518 Mar 24 01:56	14° Υ 27'43
conjunction	5511 Mar 25 13:45	4° Υ 25'20 -7°26'51			
minimum elong	5511 Mar 25 13:33	4° Υ 25'19 7°26'51			
max. Earth dist.	5511 Mar 28 06:57	4° Υ 30'17 38.40481 AU			
morning rise	5511 Apr 07 20:27	4° Υ 49'21	conjunction	5518 Apr 04 12:11	14° Υ 47'30 -9°59'50
retrograde	5511 Jul 06 03:47	6° Υ 23'29	minimum elong	5518 Apr 04 11:59	14° Υ 47'29 9°59'51
min. Earth dist.	5511 Sep 23 12:23	5° Υ 16'13 36.54989 AU	max. Earth dist.	5518 Apr 07 09:12	14° Υ 52'30 40.19425 AU
opposition	5511 Sep 26 05:46	5° Υ 12'32 -8°03'56	morning rise	5518 Apr 15 22:51	15° Υ 07'19
direct	5511 Dec 16 14:12	4° Υ 01'57	retrograde	5518 Jul 16 03:05	16° Υ 40'27
evening set	5512 Mar 13 07:11	5° Υ 34'02	min. Earth dist.	5518 Oct 03 19:47	15° Υ 35'07 38.35332 AU
			opposition	5518 Oct 06 16:36	15° Υ 31'22 -10°41'18
			direct	5518 Dec 27 01:21	14° Υ 22'57
			evening set	5519 Mar 26 00:42	15° Υ 53'39
conjunction	5512 Mar 26 07:49	5° Υ 57'25 -7°50'38			
minimum elong	5512 Mar 26 07:38	5° Υ 57'24 7°50'38			
max. Earth dist.	5512 Mar 29 00:33	6° Υ 02'18 38.65984 AU			
morning rise	5512 Apr 08 08:58	6° Υ 20'51	conjunction	5519 Apr 06 03:45	16° Υ 12'48 -10°19'11
retrograde	5512 Jul 06 23:34	7° Υ 54'45	minimum elong	5519 Apr 06 03:32	16° Υ 12'47 10°19'11
min. Earth dist.	5512 Sep 24 06:41	6° Υ 47'47 36.80692 AU	max. Earth dist.	5519 Apr 08 23:55	16° Υ 17'43 40.44787 AU
opposition	5512 Sep 27 01:40	6° Υ 44'02 -8°28'29	morning rise	5519 Apr 17 07:13	16° Υ 32'00
direct	5512 Dec 17 08:47	5° Υ 33'43	retrograde	5519 Jul 17 20:55	18° Υ 05'06
evening set	5513 Mar 15 06:45	7° Υ 05'30	min. Earth dist.	5519 Oct 05 11:55	17° Υ 00'05 38.60796 AU
			opposition	5519 Oct 08 09:39	16° Υ 56'18 -11°01'07
			direct	5519 Dec 28 16:40	15° Υ 48'12
			evening set	5520 Mar 26 23:17	17° Υ 18'49
conjunction	5513 Mar 28 01:34	7° Υ 28'18 -8°13'46			
minimum elong	5513 Mar 28 01:21	7° Υ 28'17 8°13'46			
max. Earth dist.	5513 Mar 30 19:49	7° Υ 33'15 38.91499 AU			
morning rise	5513 Apr 09 20:50	7° Υ 51'09	conjunction	5520 Apr 06 18:59	17° Υ 37'21 -10°37'56
retrograde	5513 Jul 08 18:20	9° Υ 24'50	minimum elong	5520 Apr 06 18:46	17° Υ 37'20 10°37'58
min. Earth dist.	5513 Sep 26 02:34	8° Υ 18'04 37.06440 AU	max. Earth dist.	5520 Apr 09 15:30	17° Υ 42'15 40.69910 AU
opposition	5513 Sep 28 21:21	8° Υ 14'21 -8°52'20	morning rise	5520 Apr 17 15:11	17° Υ 55'55
direct	5513 Dec 19 03:32	7° Υ 04'20	retrograde	5520 Jul 18 12:38	19° Υ 29'00
evening set	5514 Mar 17 06:03	8° Υ 35'50	min. Earth dist.	5520 Oct 06 05:40	18° Υ 24'11 38.86008 AU
			opposition	5520 Oct 09 02:30	18° Υ 20'28 -11°20'18
			direct	5520 Dec 29 08:49	17° Υ 12'40
			evening set	5521 Mar 28 21:54	18° Υ 43'13
conjunction	5514 Mar 29 18:48	8° Υ 58'03 -8°36'15			
minimum elong	5514 Mar 29 18:36	8° Υ 58'02 8°36'16			
max. Earth dist.	5514 Apr 01 13:24	9° Υ 03'00 39.17073 AU			
morning rise	5514 Apr 11 07:55	9° Υ 20'18	conjunction	5521 Apr 08 10:05	19° Υ 01'06 -10°56'07
retrograde	5514 Jul 10 10:04	10° Υ 53'48	minimum elong	5521 Apr 08 09:52	19° Υ 01'05 10°56'07
min. Earth dist.	5514 Sep 27 20:15	9° Υ 47'22 37.32234 AU	max. Earth dist.	5521 Apr 11 06:33	19° Υ 05'59 40.94765 AU
opposition	5514 Sep 30 16:23	9° Υ 43'35 -9°15'30	morning rise	5521 Apr 18 22:33	19° Υ 19'02
direct	5514 Dec 21 00:11	8° Υ 33'52	retrograde	5521 Jul 20 00:42	20° Υ 52'07
evening set	5515 Mar 19 05:19	10° Υ 05'09	min. Earth dist.	5521 Oct 07 22:00	19° Υ 47'32 39.10912 AU
			opposition	5521 Oct 10 18:55	19° Υ 43'49 -11°38'54
			direct	5521 Dec 31 04:17	18° Υ 36'18
			evening set	5522 Mar 30 20:18	20° Υ 06'48
conjunction	5515 Mar 31 11:40	10° Υ 26'46 -8°58'06			
minimum elong	5515 Mar 31 11:27	10° Υ 26'45 8°58'05			
max. Earth dist.	5515 Apr 03 06:39	10° Υ 31'42 39.42681 AU			
morning rise	5515 Apr 12 18:38	10° Υ 48'25	conjunction	5522 Apr 10 00:37	20° Υ 24'02 -11°13'44
retrograde	5515 Jul 12 02:04	12° Υ 21'46	minimum elong	5522 Apr 10 00:24	20° Υ 24'01 11°13'45
min. Earth dist.	5515 Sep 29 14:28	11° Υ 15'37 37.58073 AU	max. Earth dist.	5522 Apr 12 20:10	20° Υ 28'49 41.19302 AU
opposition	5515 Oct 02 10:57	11° Υ 11'49 -9°37'57	morning rise	5522 Apr 20 05:29	20° Υ 41'18

retrograde	5522 Jul 21 14:35	22° Υ 14'24	conjunction	5529 Apr 18 21:49	29° Υ 40'38 -13°01'25
min. Earth dist.	5522 Oct 09 14:06	21° Υ 10'02 39.35511 AU	minimum elong	5529 Apr 18 21:39	29° Υ 40'37 13°01'26
opposition	5522 Oct 12 11:02	21° Υ 06'20 -11°56'53	max. Earth dist.	5529 Apr 21 17:27	29° Υ 45'15 42.85063 AU
direct	5523 Jan 01 21:31	19° Υ 59'03	morning rise	5529 Apr 26 13:44	29° Υ 53'08
evening set	5523 Apr 01 18:35	21° Υ 29'30		5529 Apr 30 19:38	0° \mathcal{B}
			retrograde	5529 Jul 30 10:38	1° \mathcal{B} 26'48
conjunction	5523 Apr 11 15:04	21° Υ 46'05 -11°30'48	min. Earth dist.	5529 Oct 18 20:11	0° \mathcal{B} 23'49 41.02031 AU
minimum elong	5523 Apr 11 14:52	21° Υ 46'05 11°30'48	opposition	5529 Oct 21 17:13	0° \mathcal{B} 20'12 -13°46'16
max. Earth dist.	5523 Apr 14 11:22	21° Υ 50'54 41.43541 AU		5529 Nov 07 01:42	30° $\mathcal{K}\Upsilon$
morning rise	5523 Apr 21 11:50	22° Υ 02'42	direct	5530 Jan 11 05:38	29° Υ 14'37
retrograde	5523 Jul 23 03:31	23° Υ 35'48		5530 Mar 14 03:25	0° \mathcal{B}
min. Earth dist.	5523 Oct 11 06:40	22° Υ 31'35 39.59815 AU	evening set	5530 Apr 13 04:00	0° \mathcal{B} 45'25
opposition	5523 Oct 14 02:33	22° Υ 27'57 -12°14'17			
direct	5524 Jan 03 14:51	21° Υ 20'55	conjunction	5530 Apr 20 10:03	0° \mathcal{B} 57'11 -13°14'37
evening set	5524 Apr 02 16:47	22° Υ 51'20	minimum elong	5530 Apr 20 09:51	0° \mathcal{B} 57'10 13°14'38
			max. Earth dist.	5530 Apr 23 06:30	1° \mathcal{B} 01'50 43.08059 AU
conjunction	5524 Apr 12 04:57	23° Υ 07'14 -11°47'18	morning rise	5530 Apr 27 16:13	1° \mathcal{B} 08'59
minimum elong	5524 Apr 12 04:44	23° Υ 07'14 11°47'19	retrograde	5530 Jul 31 23:43	2° \mathcal{B} 42'50
max. Earth dist.	5524 Apr 15 00:13	23° Υ 11'57 41.67523 AU	min. Earth dist.	5530 Oct 20 11:03	1° \mathcal{B} 40'00 41.25081 AU
morning rise	5524 Apr 21 17:30	23° Υ 23'12	opposition	5530 Oct 23 06:41	1° \mathcal{B} 36'28 -13°59'36
retrograde	5524 Jul 23 19:03	24° Υ 56'19	direct	5531 Jan 12 19:10	0° \mathcal{B} 31'08
min. Earth dist.	5524 Oct 11 20:53	23° Υ 52'20 39.83900 AU	evening set	5531 Apr 15 02:16	2° \mathcal{B} 02'06
opposition	5524 Oct 14 17:48	23° Υ 48'40 -12°31'05			
direct	5525 Jan 04 04:51	22° Υ 41'52	conjunction	5531 Apr 21 22:07	2° \mathcal{B} 13'08 -13°27'19
evening set	5525 Apr 04 14:37	24° Υ 12'15	minimum elong	5531 Apr 21 21:57	2° \mathcal{B} 13'08 13°27'20
			max. Earth dist.	5531 Apr 24 17:38	2° \mathcal{B} 17'42 43.30784 AU
conjunction	5525 Apr 13 18:26	24° Υ 27'30 -12°03'14	morning rise	5531 Apr 28 18:05	2° \mathcal{B} 24'12
minimum elong	5525 Apr 13 18:14	24° Υ 27'29 12°03'14	retrograde	5531 Aug 02 12:51	3° \mathcal{B} 58'16
max. Earth dist.	5525 Apr 16 14:39	24° Υ 32'15 41.91309 AU	min. Earth dist.	5531 Oct 21 23:31	2° \mathcal{B} 55'39 41.47819 AU
morning rise	5525 Apr 22 22:35	24° Υ 42'48	opposition	5531 Oct 24 19:36	2° \mathcal{B} 52'08 -14°12'26
retrograde	5525 Jul 25 10:05	26° Υ 15'58	direct	5532 Jan 14 06:37	1° \mathcal{B} 47'01
min. Earth dist.	5525 Oct 13 12:49	25° Υ 12'07 40.07819 AU	evening set	5532 Apr 16 00:33	3° \mathcal{B} 18'13
opposition	5525 Oct 16 08:52	25° Υ 08'30 -12°47'18			
direct	5526 Jan 05 18:33	24° Υ 01'56	conjunction	5532 Apr 22 09:55	3° \mathcal{B} 28'30 -13°39'31
evening set	5526 Apr 06 12:37	25° Υ 32'20	minimum elong	5532 Apr 22 09:44	3° \mathcal{B} 28'29 13°39'32
			max. Earth dist.	5532 Apr 25 05:00	3° \mathcal{B} 33'00 43.53163 AU
conjunction	5526 Apr 15 07:46	25° Υ 46'55 -12°18'36	morning rise	5532 Apr 28 19:24	3° \mathcal{B} 38'47
minimum elong	5526 Apr 15 07:34	25° Υ 46'55 12°18'37	retrograde	5532 Aug 03 01:45	5° \mathcal{B} 13'07
max. Earth dist.	5526 Apr 18 03:45	25° Υ 51'38 42.14960 AU	min. Earth dist.	5532 Oct 22 13:39	4° \mathcal{B} 10'38 41.70195 AU
morning rise	5526 Apr 24 03:08	26° Υ 01'31	opposition	5532 Oct 25 08:36	4° \mathcal{B} 07'11 -14°24'45
retrograde	5526 Jul 26 23:33	27° Υ 34'46	direct	5533 Jan 14 18:14	3° \mathcal{B} 02'19
min. Earth dist.	5526 Oct 15 02:29	26° Υ 31'09 40.31598 AU	evening set	5533 Apr 17 23:12	4° \mathcal{B} 33'45
opposition	5526 Oct 17 23:16	26° Υ 27'31 -13°02'54			
direct	5527 Jan 07 08:09	25° Υ 21'11	conjunction	5533 Apr 23 21:32	4° \mathcal{B} 43'15 -13°51'16
evening set	5527 Apr 08 10:29	26° Υ 51'39	minimum elong	5533 Apr 23 21:23	4° \mathcal{B} 43'14 13°51'17
			max. Earth dist.	5533 Apr 26 16:31	4° \mathcal{B} 47'43 43.75160 AU
conjunction	5527 Apr 16 20:42	27° Υ 05'33 -12°33'25	morning rise	5533 Apr 29 19:53	4° \mathcal{B} 52'45
minimum elong	5527 Apr 16 20:32	27° Υ 05'32 12°33'26	retrograde	5533 Aug 04 11:14	6° \mathcal{B} 27'21
max. Earth dist.	5527 Apr 19 16:32	27° Υ 10'13 42.38474 AU	min. Earth dist.	5533 Oct 24 02:56	5° \mathcal{B} 25'03 41.92142 AU
morning rise	5527 Apr 25 07:18	27° Υ 19'27	opposition	5533 Oct 26 21:15	5° \mathcal{B} 21'38 -14°36'35
retrograde	5527 Jul 28 11:51	28° Υ 52'49	direct	5534 Jan 16 08:46	4° \mathcal{B} 16'58
min. Earth dist.	5527 Oct 16 16:57	27° Υ 49'23 40.55248 AU	evening set	5534 Apr 19 22:19	5° \mathcal{B} 48'41
opposition	5527 Oct 19 13:36	27° Υ 45'46 -13°17'56			
direct	5528 Jan 08 23:06	26° Υ 39'41	conjunction	5534 Apr 25 08:55	5° \mathcal{B} 57'22 -14°02'33
evening set	5528 Apr 09 08:16	28° Υ 10'14	minimum elong	5534 Apr 25 08:46	5° \mathcal{B} 57'21 14°02'33
			max. Earth dist.	5534 Apr 28 02:19	6° \mathcal{B} 01'43 43.96723 AU
conjunction	5528 Apr 17 09:26	28° Υ 23'26 -12°47'41	morning rise	5534 Apr 30 19:35	6° \mathcal{B} 06'03
minimum elong	5528 Apr 17 09:14	28° Υ 23'25 12°47'42	retrograde	5534 Aug 05 22:11	7° \mathcal{B} 40'58
max. Earth dist.	5528 Apr 20 06:07	28° Υ 28'08 42.61853 AU	min. Earth dist.	5534 Oct 25 15:26	6° \mathcal{B} 38'49 42.13664 AU
morning rise	5528 Apr 25 10:45	28° Υ 36'38	opposition	5534 Oct 28 09:31	6° \mathcal{B} 35'25 -14°47'56
	5528 Jun 30 00:33	0° \mathcal{B}	direct	5535 Jan 17 21:45	5° \mathcal{B} 30'57
retrograde	5528 Jul 28 21:05	0° \mathcal{B} 10'08	evening set	5535 Apr 21 21:59	7° \mathcal{B} 03'00
	5528 Aug 27 09:51	30° $\mathcal{K}\Upsilon$			
min. Earth dist.	5528 Oct 17 07:11	29° Υ 06'55 40.78729 AU	conjunction	5535 Apr 26 20:09	7° \mathcal{B} 10'49 -14°13'23
opposition	5528 Oct 20 03:32	29° Υ 03'19 -13°32'23	minimum elong	5535 Apr 26 20:01	7° \mathcal{B} 10'48 14°13'24
direct	5529 Jan 09 16:17	27° Υ 57'29	max. Earth dist.	5535 Apr 29 14:01	7° \mathcal{B} 15'10 44.17867 AU
evening set	5529 Apr 11 06:12	29° Υ 28'09	morning rise	5535 May 01 18:17	7° \mathcal{B} 18'38

retrograde	5535 Aug 07 08:44	8°8'53.55		retrograde	5542 Aug 15 10:23	17°8'07.44	
min. Earth dist.	5535 Oct 27 05:00	7°8'51.51	42.34769 AU	min. Earth dist.	5542 Nov 04 11:58	16°8'06.44	43.75058 AU
opposition	5535 Oct 29 21:35	7°8'48.32	-14°58'50	opposition	5542 Nov 07 02:13	16°8'03.37	-16°01'47
direct	5536 Jan 19 11:32	6°8'44.15		direct	5543 Jan 27 14:28	15°8'00.41	
evening set	5536 Apr 22 22:22	8°8'16.42					
conjunction	5536 Apr 27 06:52	8°8'23.34	-14°23'45	conjunction	5543 May 06 04:23	16°8'36.49	-15°23'45
minimum elong	5536 Apr 27 06:44	8°8'23.34	14°23'46	minimum elong	5543 May 06 04:17	16°8'36.49	15°23'46
max. Earth dist.	5536 Apr 29 23:25	8°8'27.50	44.38638 AU	max. Earth dist.	5543 May 08 19:18	16°8'40.50	45.77087 AU
morning rise	5536 May 01 15:20	8°8'30.27		retrograde	5543 Aug 16 20:20	18°8'16.25	
retrograde	5536 Aug 07 21:35	10°8'06.11		min. Earth dist.	5543 Nov 05 21:59	17°8'15.35	43.94020 AU
min. Earth dist.	5536 Oct 27 16:03	9°8'04.17	42.55533 AU	opposition	5543 Nov 08 12:13	17°8'12.29	-16°08'58
opposition	5536 Oct 30 09:16	9°8'00.58	-15°09'15	direct	5544 Jan 28 22:32	16°8'09.46	
direct	5537 Jan 19 21:37	7°8'56.51		conjunction	5544 May 06 13:28	17°8'45.30	-15°30'36
evening set	5537 Apr 25 00:01	9°8'29.49		minimum elong	5544 May 06 13:24	17°8'45.29	15°30'38
conjunction	5537 Apr 28 17:26	9°8'35.40	-14°33'41	max. Earth dist.	5544 May 09 03:13	17°8'49.25	45.95739 AU
minimum elong	5537 Apr 28 17:17	9°8'35.39	14°33'43	retrograde	5544 Aug 17 04:54	19°8'24.42	
max. Earth dist.	5537 May 01 10:05	9°8'39.54	44.59100 AU	min. Earth dist.	5544 Nov 06 09:00	18°8'24.00	44.12588 AU
morning rise	5537 May 02 10:45	9°8'41.31		opposition	5544 Nov 08 22:13	18°8'20.57	-16°15'45
retrograde	5537 Aug 09 08:36	11°8'17.47		direct	5545 Jan 29 08:57	17°8'18.25	
min. Earth dist.	5537 Oct 29 04:51	10°8'15.59	42.76029 AU	conjunction	5545 May 07 22:44	18°8'53.45	-15°37'05
opposition	5537 Oct 31 20:49	10°8'12.44	-15°19'11	minimum elong	5545 May 07 22:39	18°8'53.45	15°37'06
direct	5538 Jan 21 08:03	9°8'08.49		max. Earth dist.	5545 May 10 12:37	18°8'57.40	46.13975 AU
evening set	5538 Apr 27 03:59	10°8'42.26		retrograde	5545 Aug 18 10:22	20°8'32.35	
conjunction	5538 Apr 30 03:48	10°8'47.07	-14°43'09	min. Earth dist.	5545 Nov 07 20:00	19°8'31.58	44.30695 AU
minimum elong	5538 Apr 30 03:41	10°8'47.07	14°43'09	opposition	5545 Nov 10 07:57	19°8'28.59	-16°22'09
morning rise	5538 May 03 03:28	10°8'51.48		direct	5546 Jan 30 22:02	18°8'26.37	
max. Earth dist.	5538 May 02 20:30	10°8'51.21	44.79330 AU	conjunction	5546 May 09 07:41	20°8'01.32	-15°43'12
retrograde	5538 Aug 10 16:43	12°8'28.47		minimum elong	5546 May 09 07:38	20°8'01.32	15°43'14
min. Earth dist.	5538 Oct 30 15:43	11°8'27.09	42.96283 AU	max. Earth dist.	5546 May 11 19:35	20°8'05.20	46.31745 AU
opposition	5538 Nov 02 07:55	11°8'23.54	-15°28'39	retrograde	5546 Aug 19 19:48	21°8'39.59	
direct	5539 Jan 22 20:19	10°8'20.09		min. Earth dist.	5546 Nov 09 05:35	20°8'39.30	44.48326 AU
evening set	5539 Apr 29 12:41	11°8'54.49		opposition	5546 Nov 11 17:28	20°8'36.32	-16°28'11
conjunction	5539 May 01 13:50	11°8'58.01	-14°52'09	direct	5547 Feb 01 08:07	19°8'34.18	
minimum elong	5539 May 01 13:42	11°8'58.00	14°52'10	conjunction	5547 May 10 16:32	21°8'08.49	-15°48'58
morning rise	5539 May 03 14:49	12°8'01.12		minimum elong	5547 May 10 16:28	21°8'08.49	15°48'58
max. Earth dist.	5539 May 04 05:31	12°8'02.09	44.99334 AU	max. Earth dist.	5547 May 13 04:13	21°8'12.34	46.49037 AU
retrograde	5539 Aug 12 01:55	13°8'39.13		retrograde	5547 Aug 21 05:24	22°8'46.51	
min. Earth dist.	5539 Nov 01 02:39	12°8'37.45	43.16333 AU	min. Earth dist.	5547 Nov 10 16:48	21°8'46.24	44.65492 AU
opposition	5539 Nov 03 18:44	12°8'34.31	-15°37'37	opposition	5547 Nov 13 02:44	21°8'43.32	-16°33'50
direct	5540 Jan 24 07:48	11°8'30.58		direct	5548 Feb 02 18:10	20°8'41.27	
conjunction	5540 May 01 23:49	13°8'08.22	-15°00'42	conjunction	5548 May 11 01:08	22°8'15.32	-15°54'22
minimum elong	5540 May 01 23:43	13°8'08.22	15°00'43	minimum elong	5548 May 11 01:05	22°8'15.32	15°54'23
max. Earth dist.	5540 May 04 16:17	13°8'12.33	45.19140 AU	max. Earth dist.	5548 May 13 12:00	22°8'19.13	46.65914 AU
retrograde	5540 Aug 12 10:16	14°8'49.10		retrograde	5548 Aug 21 14:36	23°8'53.10	
min. Earth dist.	5540 Nov 01 14:20	13°8'47.50	43.36158 AU	min. Earth dist.	5548 Nov 11 01:40	22°8'52.50	44.82261 AU
opposition	5540 Nov 04 05:28	13°8'44.39	-15°46'08	opposition	5548 Nov 13 11:46	22°8'49.58	-16°39'07
direct	5541 Jan 24 20:27	12°8'41.19		direct	5549 Feb 03 01:55	21°8'48.00	
conjunction	5541 May 03 09:21	14°8'18.16	-15°08'49	conjunction	5549 May 12 09:18	23°8'21.41	-15°59'23
minimum elong	5541 May 03 09:14	14°8'18.16	15°08'50	minimum elong	5549 May 12 09:15	23°8'21.41	15°59'24
max. Earth dist.	5541 May 06 00:39	14°8'22.21	45.38729 AU	max. Earth dist.	5549 May 14 19:13	23°8'25.18	46.82421 AU
retrograde	5541 Aug 13 21:47	15°8'58.40		retrograde	5549 Aug 22 23:39	24°8'58.56	
min. Earth dist.	5541 Oct 31 23:17	15°8'8		min. Earth dist.	5549 Nov 12 11:34	23°8'58.40	44.98703 AU
opposition	5541 Nov 03 00:13	14°8'57.33	43.55750 AU	opposition	5549 Nov 14 20:44	23°8'55.51	-16°44'00
direct	5541 Nov 05 15:58	14°8'54.20	-15°54'11	direct	5550 Feb 04 08:51	22°8'54.00	
conjunction	5542 Jan 26 06:24	13°8'51.12		conjunction	5550 May 13 17:37	24°8'27.19	-16°04'03
minimum elong	5542 Apr 16 12:10	15°8'8		minimum elong	5550 May 13 17:34	24°8'27.19	16°04'04
max. Earth dist.	5542 May 04 18:55	15°8'27.45	-15°16'29	max. Earth dist.	5550 May 16 03:55	24°8'30.56	46.98633 AU
retrograde	5542 May 04 18:50	15°8'27.44	15°16'30	retrograde	5550 Aug 24 05:13	26°8'04.11	
min. Earth dist.	5542 May 07 10:29	15°8'31.49	45.58055 AU	min. Earth dist.	5550 Nov 13 20:49	25°8'03.59	45.14849 AU
opposition				opposition	5550 Nov 16 05:13	25°8'01.13	-16°48'30

direct	5551 Feb 05 19:31	23° 8 59'31		min. Earth dist.	5558 Nov 22 17:55	3° II 34'44	46.32588 AU
				opposition	5558 Nov 24 20:40	3° II 32'17	-17°11'27
conjunction	5551 May 15 01:35	25° 8 32'27	-16°08'20	direct	5559 Feb 14 11:55	2° II 31'47	
minimum elong	5551 May 15 01:33	25° 8 32'27	16°08'20				
max. Earth dist.	5551 May 17 10:24	25° 8 35'58	47.14578 AU	conjunction	5559 May 23 13:29	4° II 02'21	-16°30'06
retrograde	5551 Aug 25 12:22	27° 8 08'58		minimum elong	5559 May 23 13:30	4° II 02'21	16°30'08
min. Earth dist.	5551 Nov 15 05:02	26° 8 08'55	45.30741 AU	max. Earth dist.	5559 May 25 16:06	4° II 05'24	48.30370 AU
opposition	5551 Nov 17 13:41	26° 8 06'09	-16°52'37	retrograde	5559 Sep 03 05:22	5° II 36'31	
direct	5552 Feb 07 04:57	25° 8 04'35		min. Earth dist.	5559 Nov 24 03:09	4° II 37'15	46.45284 AU
				opposition	5559 Nov 26 04:05	4° II 34'54	-17°12'53
conjunction	5552 May 15 09:20	26° 8 37'10	-16°12'14	direct	5560 Feb 15 16:08	3° II 34'30	
minimum elong	5552 May 15 09:18	26° 8 37'10	16°12'16				
max. Earth dist.	5552 May 17 18:38	26° 8 40'43	47.30265 AU	conjunction	5560 May 23 20:24	5° II 04'46	-16°31'27
retrograde	5552 Aug 25 20:59	28° 8 13'22		minimum elong	5560 May 23 20:25	5° II 04'46	16°31'28
min. Earth dist.	5552 Nov 15 14:51	27° 8 13'24	45.46366 AU	max. Earth dist.	5560 May 25 22:49	5° II 07'48	48.42806 AU
opposition	5552 Nov 17 22:06	27° 8 10'41	-16°56'21	retrograde	5560 Sep 03 10:31	6° II 38'39	
direct	5553 Feb 07 14:19	26° 8 09'17		min. Earth dist.	5560 Nov 24 10:57	5° II 39'26	46.57512 AU
				opposition	5560 Nov 26 11:13	5° II 37'07	-17°14'01
conjunction	5553 May 16 17:05	27° 8 41'33	-16°15'47	direct	5561 Feb 15 23:43	4° II 36'49	
minimum elong	5553 May 16 17:05	27° 8 41'33	16°15'48				
max. Earth dist.	5553 May 19 01:31	27° 8 45'01	47.45705 AU	conjunction	5561 May 25 03:09	6° II 06'48	-16°32'30
retrograde	5553 Aug 27 06:43	29° 8 17'25		minimum elong	5561 May 25 03:11	6° II 06'48	16°32'32
min. Earth dist.	5553 Nov 16 22:29	28° 8 17'38	45.61718 AU	max. Earth dist.	5561 May 27 03:49	6° II 09'43	48.54818 AU
opposition	5553 Nov 19 06:08	28° 8 14'55	-16°59'43	retrograde	5561 Sep 04 15:17	7° II 40'23	
direct	5554 Feb 08 20:24	27° 8 13'40		min. Earth dist.	5561 Nov 25 18:26	6° II 41'14	46.69362 AU
				opposition	5561 Nov 27 18:10	6° II 38'57	-17°14'50
conjunction	5554 May 18 00:37	28° 8 45'38	-16°18'58	direct	5562 Feb 17 07:51	5° II 38'45	
minimum elong	5554 May 18 00:35	28° 8 45'37	16°19'00				
max. Earth dist.	5554 May 20 08:11	28° 8 49'02	47.60848 AU	conjunction	5562 May 26 09:53	7° II 08'26	-16°33'14
	5554 Jul 15 01:06	0° II		minimum elong	5562 May 26 09:55	7° II 08'27	16°33'15
retrograde	5554 Aug 28 15:16	0° II 21'12		max. Earth dist.	5562 May 28 10:45	7° II 11'22	48.66470 AU
	5554 Oct 13 01:12	30° 8		retrograde	5562 Sep 05 19:56	8° II 41'46	
min. Earth dist.	5554 Nov 18 07:57	29° 8 21'30	45.76758 AU	min. Earth dist.	5562 Nov 27 02:45	7° II 42'37	46.80862 AU
opposition	5554 Nov 20 14:13	29° 8 18'52	-17°02'43	opposition	5562 Nov 29 01:01	7° II 40'24	-17°15'21
direct	5555 Feb 10 02:52	28° 8 17'47		direct	5563 Feb 18 18:18	6° II 40'18	
conjunction	5555 May 19 08:14	29° 8 49'27	-16°21'49	conjunction	5563 May 27 16:24	8° II 09'43	-16°33'40
minimum elong	5555 May 19 08:14	29° 8 49'27	16°21'50	minimum elong	5563 May 27 16:27	8° II 09'43	16°33'42
max. Earth dist.	5555 May 21 15:55	29° 8 52'51	47.75657 AU	max. Earth dist.	5563 May 29 16:04	8° II 12'34	48.77810 AU
	5555 May 26 13:12	0° II		retrograde	5563 Sep 07 04:17	9° II 42'47	
retrograde	5555 Aug 29 20:01	1° II 24'45		min. Earth dist.	5563 Nov 28 08:56	8° II 43'45	46.92055 AU
min. Earth dist.	5555 Nov 19 16:27	0° II 25'10	45.91414 AU	opposition	5563 Nov 30 07:33	8° II 41'31	-17°15'32
opposition	5555 Nov 21 21:55	0° II 22'34	-17°05'22	direct	5564 Feb 20 00:49	7° II 41'30	
	5555 Dec 11 18:12	30° 8					
direct	5556 Feb 11 11:55	29° 8 21'40		conjunction	5564 May 27 22:46	9° II 10'41	-16°33'48
	5556 Apr 10 22:38	0° II		minimum elong	5564 May 27 22:49	9° II 10'41	16°33'48
				max. Earth dist.	5564 May 29 21:43	9° II 13'28	48.88852 AU
conjunction	5556 May 19 15:35	0° II 53'04	-16°24'20	retrograde	5564 Sep 07 12:32	10° II 43'29	
minimum elong	5556 May 19 15:34	0° II 53'04	16°24'21	min. Earth dist.	5564 Nov 28 17:05	9° II 44'29	47.02963 AU
max. Earth dist.	5556 May 21 21:18	0° II 56'20	47.90068 AU	opposition	5564 Nov 30 14:13	9° II 42'20	-17°15'24
retrograde	5556 Aug 30 03:19	2° II 28'05		direct	5565 Feb 20 05:32	8° II 42'25	
min. Earth dist.	5556 Nov 20 00:38	1° II 28'38	46.05650 AU				
opposition	5556 Nov 22 05:40	1° II 26'04	-17°07'42	conjunction	5565 May 29 05:06	10° II 11'21	-16°33'37
direct	5557 Feb 11 20:04	0° II 25'19		minimum elong	5565 May 29 05:09	10° II 11'21	16°33'38
				max. Earth dist.	5565 May 31 04:09	10° II 14'08	48.99618 AU
conjunction	5557 May 20 22:58	1° II 56'26	-16°26'33	retrograde	5565 Sep 08 17:53	11° II 43'54	
minimum elong	5557 May 20 22:59	1° II 56'26	16°26'34	min. Earth dist.	5565 Nov 29 23:47	10° II 45'00	47.13561 AU
max. Earth dist.	5557 May 23 04:33	1° II 59'41	48.04015 AU	opposition	5565 Dec 01 20:38	10° II 42'52	-17°14'58
retrograde	5557 Aug 31 10:44	3° II 31'12		direct	5566 Feb 21 11:11	9° II 43'04	
min. Earth dist.	5557 Nov 21 10:27	2° II 31'47	46.19383 AU				
opposition	5557 Nov 23 13:23	2° II 29'19	-17°09'43	conjunction	5566 May 30 11:18	11° II 11'46	-16°33'08
direct	5558 Feb 13 05:26	1° II 28'43		minimum elong	5566 May 30 11:23	11° II 11'47	16°33'09
				max. Earth dist.	5566 Jun 01 08:33	11° II 14'27	49.10070 AU
conjunction	5558 May 22 06:21	2° II 59'33	-16°28'28	retrograde	5566 Sep 09 23:20	12° II 44'05	
minimum elong	5558 May 22 06:21	2° II 59'33	16°28'28	min. Earth dist.	5566 Dec 01 06:35	11° II 45'16	47.23838 AU
max. Earth dist.	5558 May 24 10:19	3° II 02'41	48.17458 AU	opposition	5566 Dec 03 02:51	11° II 43'10	-17°14'13
retrograde	5558 Sep 01 19:35	4° II 34'01		direct	5567 Feb 22 16:44	10° II 43'28	

conjunction	5567 May 31 17:34	12°II11'58 -16°32'21	retrograde	5575 Sep 19 04:17	21°II35'51
minimum elong	5567 May 31 17:37	12°II11'59 16°32'23	min. Earth dist.	5575 Dec 10 20:04	20°II37'19 47.95964 AU
max. Earth dist.	5567 Jun 02 14:56	12°II14'39 49.20172 AU	opposition	5575 Dec 12 07:05	20°II35'41 -16°55'31
retrograde	5567 Sep 11 03:43	13°II44'05	direct	5576 Mar 02 23:14	19°II36'39
min. Earth dist.	5567 Dec 02 14:38	12°II45'17 47.33728 AU			
opposition	5567 Dec 04 09:08	12°II43'16 -17°13'10	conjunction	5576 Jun 08 21:43	21°II03'27 -16°13'50
direct	5568 Feb 24 00:54	11°II43'41	minimum elong	5576 Jun 08 21:50	21°II03'27 16°13'52
			max. Earth dist.	5576 Jun 10 09:13	21°II05'30 49.90709 AU
conjunction	5568 May 31 23:34	13°II11'59 -16°31'18	retrograde	5576 Sep 19 09:10	22°II33'46
minimum elong	5568 May 31 23:39	13°II11'59 16°31'20	min. Earth dist.	5576 Dec 11 02:07	21°II35'17 48.02061 AU
max. Earth dist.	5568 Jun 02 19:31	13°II14'34 49.29877 AU	opposition	5576 Dec 12 12:28	21°II33'41 -16°52'06
retrograde	5568 Sep 11 10:25	14°II43'53	direct	5577 Mar 04 02:55	20°II34'44
min. Earth dist.	5568 Dec 02 20:49	13°II45'12 47.43185 AU			
opposition	5568 Dec 04 15:16	13°II43'11 -17°11'52	conjunction	5577 Jun 10 03:11	22°II01'23 -16°10'28
direct	5569 Feb 24 08:00	12°II43'42	minimum elong	5577 Jun 10 03:19	22°II01'24 16°10'29
			max. Earth dist.	5577 Jun 11 15:00	22°II03'27 49.96716 AU
conjunction	5569 Jun 02 05:41	14°II11'48 -16°30'00	retrograde	5577 Sep 20 12:16	23°II31'34
minimum elong	5569 Jun 02 05:45	14°II11'48 16°30'01	min. Earth dist.	5577 Dec 12 08:36	22°II33'06 48.07864 AU
max. Earth dist.	5569 Jun 04 00:19	14°II14'18 49.39106 AU	opposition	5577 Dec 13 17:39	22°II31'33 -16°48'24
retrograde	5569 Sep 12 19:25	15°II43'30	direct	5578 Mar 05 09:51	21°II32'41
min. Earth dist.	5569 Dec 04 05:02	14°II44'49 47.52145 AU			
opposition	5569 Dec 05 21:23	14°II42'54 -17°10'17	conjunction	5578 Jun 11 08:31	22°II59'13 -16°06'50
direct	5570 Feb 25 12:36	13°II43'31	minimum elong	5578 Jun 11 08:37	22°II59'14 16°06'52
			max. Earth dist.	5578 Jun 12 18:59	23°II01'13 50.02439 AU
conjunction	5570 Jun 03 11:54	15°II11'24 -16°28'27	retrograde	5578 Sep 21 17:36	24°II29'17
minimum elong	5570 Jun 03 11:59	15°II11'25 16°28'28	opposition	5578 Dec 14 22:45	23°II29'22 -16°44'26
max. Earth dist.	5570 Jun 05 05:54	15°II13'52 49.47827 AU	min. Earth dist.	5578 Dec 13 13:36	23°II30'55 48.13360 AU
retrograde	5570 Sep 14 01:18	16°II42'54	direct	5579 Mar 06 16:22	22°II30'35
min. Earth dist.	5570 Dec 05 11:41	15°II44'15 47.60560 AU			
opposition	5570 Dec 07 03:17	15°II42'23 -17°08'28	conjunction	5579 Jun 12 13:43	23°II56'59 -16°02'56
direct	5571 Feb 26 17:26	14°II43'04	minimum elong	5579 Jun 12 13:51	23°II57'00 16°02'57
			max. Earth dist.	5579 Jun 13 23:14	23°II58'55 50.07821 AU
conjunction	5571 Jun 04 17:45	16°II10'45 -16°26'39	retrograde	5579 Sep 23 01:50	25°II26'56
minimum elong	5571 Jun 04 17:49	16°II10'46 16°26'40	min. Earth dist.	5579 Dec 14 20:36	24°II28'35 48.18495 AU
max. Earth dist.	5571 Jun 06 09:30	16°II13'05 49.56010 AU	opposition	5579 Dec 16 03:54	24°II27'07 -16°40'12
retrograde	5571 Sep 15 06:41	17°II42'02	direct	5580 Mar 06 20:55	23°II28'25
min. Earth dist.	5571 Dec 06 18:38	16°II43'24 47.68459 AU			
opposition	5571 Dec 08 09:06	16°II41'35 -17°06'24	conjunction	5580 Jun 12 19:05	24°II54'44 -15°58'47
direct	5572 Feb 27 23:07	15°II42'20	minimum elong	5580 Jun 12 19:12	24°II54'44 15°58'49
			max. Earth dist.	5580 Jun 14 04:15	24°II56'38 50.12831 AU
conjunction	5572 Jun 04 23:39	17°II09'49 -16°24'37	retrograde	5580 Sep 23 09:03	26°II24'33
minimum elong	5572 Jun 04 23:45	17°II09'50 16°24'39	min. Earth dist.	5580 Dec 15 02:05	25°II26'15 48.23209 AU
max. Earth dist.	5572 Jun 06 15:18	17°II12'08 49.63699 AU	opposition	5580 Dec 16 08:53	25°II24'49 -16°35'44
retrograde	5572 Sep 15 09:18	18°II40'53	direct	5581 Mar 07 23:03	24°II26'12
min. Earth dist.	5572 Dec 07 02:00	17°II42'14 47.75884 AU			
opposition	5572 Dec 08 14:51	17°II40'30 -17°04'05	conjunction	5581 Jun 14 00:17	25°II52'24 -15°54'24
direct	5573 Feb 28 08:06	16°II41'18	minimum elong	5581 Jun 14 00:26	25°II52'25 15°54'25
			max. Earth dist.	5581 Jun 15 07:18	25°II54'11 50.17385 AU
conjunction	5573 Jun 06 05:17	18°II08'35 -16°22'19	retrograde	5581 Sep 24 15:26	27°II22'06
minimum elong	5573 Jun 06 05:22	18°II08'36 16°22'20	min. Earth dist.	5581 Dec 16 08:32	26°II23'49 48.27443 AU
max. Earth dist.	5573 Jun 07 19:24	18°II10'49 49.70965 AU	opposition	5581 Dec 17 13:57	26°II22'27 -16°31'01
retrograde	5573 Sep 16 15:37	19°II39'27	direct	5582 Mar 09 02:32	25°II23'54
min. Earth dist.	5573 Dec 08 07:28	18°II40'52 47.82912 AU			
opposition	5573 Dec 09 20:22	18°II39'08 -17°01'30	conjunction	5582 Jun 15 05:45	26°II50'00 -15°49'48
direct	5574 Mar 01 14:22	17°II39'59	minimum elong	5582 Jun 15 05:52	26°II50'00 15°49'49
			max. Earth dist.	5582 Jun 16 12:15	26°II51'45 50.21422 AU
conjunction	5574 Jun 07 10:55	19°II07'06 -16°19'46	retrograde	5582 Sep 25 16:19	28°II19'34
minimum elong	5574 Jun 07 11:01	19°II07'06 16°19'47	opposition	5582 Dec 18 18:50	27°II19'58 -16°26'06
max. Earth dist.	5574 Jun 09 00:11	19°II09'15 49.77850 AU	min. Earth dist.	5582 Dec 17 15:11	27°II21'15 48.31130 AU
retrograde	5574 Sep 17 23:15	20°II37'46	direct	5583 Mar 10 10:23	26°II21'27
min. Earth dist.	5574 Dec 09 14:44	19°II39'10 47.89593 AU			
opposition	5574 Dec 11 01:47	19°II37'31 -16°58'39	conjunction	5583 Jun 16 11:01	27°II47'26 -15°45'00
direct	5575 Mar 02 18:53	18°II38'26	minimum elong	5583 Jun 16 11:10	27°II47'26 15°45'01
			max. Earth dist.	5583 Jun 17 15:38	27°II49'04 50.24932 AU
conjunction	5575 Jun 08 16:31	20°II05'22 -16°16'56	retrograde	5583 Sep 26 20:21	29°II16'52
minimum elong	5575 Jun 08 16:37	20°II05'22 16°16'57	opposition	5583 Dec 19 23:42	28°II17'18 -16°20'57
max. Earth dist.	5575 Jun 10 05:42	20°II07'31 49.84425 AU	min. Earth dist.	5583 Dec 18 20:25	28°II18'35 48.34293 AU

direct	5584 Mar 10 17:08	27° II 18'48		max. Earth dist.	5591 Jun 24 23:28	5° ㊄ 21'37	50.38542 AU
				retrograde	5591 Oct 04 16:07	6° ㊄ 49'05	
conjunction	5584 Jun 16 16:02	28° II 44'40 -15°39'58		opposition	5591 Dec 27 12:22	5° ㊄ 49'49	-15°31'09
minimum elong	5584 Jun 16 16:10	28° II 44'41 15°39'59		min. Earth dist.	5591 Dec 26 16:51	5° ㊄ 50'44	48.45706 AU
max. Earth dist.	5584 Jun 17 19:26	28° II 46'14 50.27923 AU		direct	5592 Mar 18 02:07	4° ㊄ 51'31	
	5584 Aug 21 02:12	0° ㊄		evening set	5592 Jun 22 02:40	6° ㊄ 13'49	
retrograde	5584 Sep 27 03:18	0° ㊄ 13'59					
	5584 Nov 03 15:35	30° ㊄ II		conjunction	5592 Jun 24 07:38	6° ㊄ 16'49	-14°51'13
min. Earth dist.	5584 Dec 19 03:30	29° II 15'36 48.36967 AU		minimum elong	5592 Jun 24 07:49	6° ㊄ 16'50	14°51'14
opposition	5584 Dec 20 04:40	29° II 14'26 -16°15'36		max. Earth dist.	5592 Jun 25 04:14	6° ㊄ 17'59	50.38704 AU
direct	5585 Mar 11 22:37	28° II 15'57		morning rise	5592 Jun 26 13:02	6° ㊄ 19'50	
				retrograde	5592 Oct 04 18:06	7° ㊄ 45'26	
conjunction	5585 Jun 17 21:13	29° II 41'41 -15°34'43		opposition	5592 Dec 27 16:53	6° ㊄ 46'13	-15°23'50
minimum elong	5585 Jun 17 21:23	29° II 41'41 15°34'45		min. Earth dist.	5592 Dec 26 22:51	6° ㊄ 47'04	48.45532 AU
max. Earth dist.	5585 Jun 19 00:14	29° II 43'13 50.30467 AU		direct	5593 Mar 19 08:25	5° ㊄ 47'58	
	5585 Jul 01 08:33	0° ㊄		evening set	5593 Jun 22 13:24	7° ㊄ 09'13	
retrograde	5585 Sep 28 08:20	1° ㊄ 10'51					
min. Earth dist.	5585 Dec 20 08:21	0° ㊄ 12'29 48.39212 AU		conjunction	5593 Jun 25 12:40	7° ㊄ 13'15	-14°44'04
opposition	5585 Dec 21 09:12	0° ㊄ 11'20 -16°10'00		minimum elong	5593 Jun 25 12:49	7° ㊄ 13'16	14°44'05
	5585 Dec 31 13:41	30° ㊄ II		max. Earth dist.	5593 Jun 26 07:26	7° ㊄ 14'19	50.38411 AU
direct	5586 Mar 13 02:49	29° II 12'51		morning rise	5593 Jun 28 12:22	7° ㊄ 17'19	
	5586 May 20 21:56	0° ㊄		retrograde	5593 Oct 05 21:55	8° ㊄ 41'51	
				opposition	5593 Dec 28 21:13	7° ㊄ 42'41	-15°16'18
conjunction	5586 Jun 19 02:12	0° ㊄ 38'28 -15°29'14		min. Earth dist.	5593 Dec 28 03:45	7° ㊄ 43'30	48.44870 AU
minimum elong	5586 Jun 19 02:21	0° ㊄ 38'29 15°29'15		direct	5594 Mar 20 14:25	6° ㊄ 44'27	
max. Earth dist.	5586 Jun 20 03:10	0° ㊄ 39'54 50.32613 AU		evening set	5594 Jun 23 03:42	8° ㊄ 04'53	
retrograde	5586 Sep 29 14:18	2° ㊄ 07'30					
opposition	5586 Dec 22 13:52	1° ㊄ 08'00 -16°04'09		conjunction	5594 Jun 26 17:45	8° ㊄ 09'44	-14°36'43
min. Earth dist.	5586 Dec 21 14:05	1° ㊄ 09'07 48.41094 AU		minimum elong	5594 Jun 26 17:56	8° ㊄ 09'45	14°36'45
direct	5587 Mar 14 04:57	0° ㊄ 09'32		max. Earth dist.	5594 Jun 27 10:57	8° ㊄ 10'43	50.37581 AU
				morning rise	5594 Jun 30 08:22	8° ㊄ 14'39	
conjunction	5587 Jun 20 07:10	1° ㊄ 35'04 -15°23'30		retrograde	5594 Oct 07 05:04	9° ㊄ 38'19	
minimum elong	5587 Jun 20 07:19	1° ㊄ 35'05 15°23'32		min. Earth dist.	5594 Dec 29 10:41	8° ㊄ 39'53	48.43653 AU
max. Earth dist.	5587 Jun 21 08:20	1° ㊄ 36'30 50.34407 AU		opposition	5594 Dec 30 01:47	8° ㊄ 39'11	-15°08'33
retrograde	5587 Sep 30 16:45	3° ㊄ 03'59		direct	5595 Mar 21 19:17	7° ㊄ 40'58	
opposition	5587 Dec 23 18:27	2° ㊄ 04'30 -15°58'03		evening set	5595 Jun 23 19:53	9° ㊄ 00'39	
min. Earth dist.	5587 Dec 22 19:55	2° ㊄ 05'33 48.42634 AU					
direct	5588 Mar 14 10:58	1° ㊄ 06'03		conjunction	5595 Jun 27 22:46	9° ㊄ 06'14	-14°29'10
				minimum elong	5595 Jun 27 22:56	9° ㊄ 06'14	14°29'11
conjunction	5588 Jun 20 12:03	2° ㊄ 31'30 -15°17'32		max. Earth dist.	5595 Jun 28 15:09	9° ㊄ 07'09	50.36206 AU
minimum elong	5588 Jun 20 12:13	2° ㊄ 31'31 15°17'33		morning rise	5595 Jul 02 02:10	9° ㊄ 11'51	
max. Earth dist.	5588 Jun 21 11:51	2° ㊄ 32'51 50.35903 AU		retrograde	5595 Oct 08 10:20	10° ㊄ 34'46	
retrograde	5588 Sep 30 20:25	4° ㊄ 00'19		opposition	5595 Dec 31 06:09	9° ㊄ 35'39	-15°00'37
opposition	5588 Dec 23 22:55	3° ㊄ 00'53 -15°51'42		min. Earth dist.	5595 Dec 30 15:30	9° ㊄ 36'20	48.41879 AU
min. Earth dist.	5588 Dec 23 00:13	3° ㊄ 01'56 48.43883 AU		direct	5596 Mar 21 23:04	8° ㊄ 37'26	
direct	5589 Mar 15 16:24	2° ㊄ 02'27		evening set	5596 Jun 23 13:19	9° ㊄ 56'27	
conjunction	5589 Jun 21 16:55	3° ㊄ 27'50 -15°11'19		conjunction	5596 Jun 28 03:39	10° ㊄ 02'41	-14°21'25
minimum elong	5589 Jun 21 17:04	3° ㊄ 27'50 15°11'21		minimum elong	5596 Jun 28 03:50	10° ㊄ 02'41	14°21'27
max. Earth dist.	5589 Jun 22 15:45	3° ㊄ 29'08 50.37095 AU		max. Earth dist.	5596 Jun 28 17:43	10° ㊄ 03'28	50.34297 AU
retrograde	5589 Oct 02 02:37	4° ㊄ 56'35		morning rise	5596 Jul 02 18:40	10° ㊄ 08'56	
min. Earth dist.	5589 Dec 24 06:36	3° ㊄ 58'10 48.44827 AU		retrograde	5596 Oct 08 16:58	11° ㊄ 31'09	
opposition	5589 Dec 25 03:32	3° ㊄ 57'12 -15°45'06		opposition	5596 Dec 31 10:33	10° ㊄ 32'03	-14°52'28
direct	5590 Mar 16 21:46	2° ㊄ 58'48		min. Earth dist.	5596 Dec 30 21:28	10° ㊄ 32'39	48.39609 AU
				direct	5597 Mar 23 00:33	9° ㊄ 33'49	
conjunction	5590 Jun 22 21:55	4° ㊄ 24'08 -15°04'51		evening set	5597 Jun 24 07:34	10° ㊄ 52'12	
minimum elong	5590 Jun 22 22:06	4° ㊄ 24'09 15°04'52					
max. Earth dist.	5590 Jun 23 20:37	4° ㊄ 25'25 50.37989 AU		conjunction	5597 Jun 29 08:38	10° ㊄ 59'02	-14°13'28
retrograde	5590 Oct 03 09:03	5° ㊄ 52'49		minimum elong	5597 Jun 29 08:49	10° ㊄ 59'03	14°13'29
min. Earth dist.	5590 Dec 25 11:05	4° ㊄ 54'27 48.45443 AU		max. Earth dist.	5597 Jun 29 22:30	10° ㊄ 59'49	50.31909 AU
opposition	5590 Dec 26 07:50	4° ㊄ 53'29 -15°38'15		morning rise	5597 Jul 04 10:21	11° ㊄ 05'54	
direct	5591 Mar 18 00:25	3° ㊄ 55'08		retrograde	5597 Oct 09 19:11	12° ㊄ 27'28	
evening set	5591 Jun 23 02:37	5° ㊄ 19'05		opposition	5598 Jan 01 14:54	11° ㊄ 28'21	-14°44'05
				min. Earth dist.	5598 Jan 01 03:14	11° ㊄ 28'53	48.36877 AU
conjunction	5591 Jun 24 02:45	5° ㊄ 20'27 -14°58'09		direct	5598 Mar 24 06:14	10° ㊄ 30'05	
minimum elong	5591 Jun 24 02:54	5° ㊄ 20'27 14°58'11		evening set	5598 Jun 25 02:36	11° ㊄ 47'54	
morning rise	5591 Jun 25 03:12	5° ㊄ 21'50					

conjunction	5598 Jun 30 13:31	11°☾55'18 -14°05'17
minimum elong	5598 Jun 30 13:42	11°☾55'19 14°05'19
max. Earth dist.	5598 Jul 01 01:45	11°☾55'59 50.29106 AU
morning rise	5598 Jul 06 01:09	12°☾02'43
retrograde	5598 Oct 10 22:00	13°☾23'42
opposition	5599 Jan 02 19:00	12°☾24'34 -14°35'29
min. Earth dist.	5599 Jan 02 07:31	12°☾25'06 48.33762 AU
direct	5599 Mar 25 11:21	11°☾26'16
evening set	5599 Jun 25 21:59	12°☾43'34

conjunction	5599 Jul 01 18:21	12°☾51'28 -13°56'53
minimum elong	5599 Jul 01 18:32	12°☾51'29 13°56'54
max. Earth dist.	5599 Jul 02 05:29	12°☾52'06 50.25932 AU
morning rise	5599 Jul 07 15:32	12°☾59'26
retrograde	5599 Oct 12 02:55	14°☾19'51
opposition	5600 Jan 03 23:22	13°☾20'42 -14°26'39
min. Earth dist.	5600 Jan 03 13:39	13°☾21'09 48.30306 AU
direct	5600 Mar 25 17:57	12°☾22'24
evening set	5600 Jun 25 17:48	13°☾39'11

conjunction	5600 Jul 01 23:08	13°☾47'35 -13°48'15
minimum elong	5600 Jul 01 23:18	13°☾47'36 13°48'17
max. Earth dist.	5600 Jul 02 10:14	13°☾48'13 50.22451 AU
morning rise	5600 Jul 08 05:12	13°☾56'03
retrograde	5600 Oct 12 09:34	15°☾15'57
opposition	5601 Jan 04 03:35	14°☾16'48 -14°17'34
min. Earth dist.	5601 Jan 03 17:53	14°☾17'15 48.26542 AU
direct	5601 Mar 26 21:20	13°☾18'28
evening set	5601 Jun 26 14:05	14°☾34'47

conjunction	5601 Jul 03 03:56	14°☾43'40 -13°39'23
minimum elong	5601 Jul 03 04:07	14°☾43'41 13°39'24
max. Earth dist.	5601 Jul 03 13:06	14°☾44'11 50.18672 AU
morning rise	5601 Jul 09 18:44	14°☾52'37
retrograde	5601 Oct 13 17:30	16°☾12'02
opposition	5602 Jan 05 07:47	15°☾12'52 -14°08'15
min. Earth dist.	5602 Jan 04 23:12	15°☾13'16 48.22494 AU