

opposition	15100 Jan 21 20:11	15°♈02'41	-2°07'44			15105 Nov 21 14:55	0°♍	
min. Earth dist.	15100 Jan 21 18:47	15°♈02'57	8.50046 AU	retrograde		15106 Jan 30 05:18	3°♍45'33	
	15100 Jan 22 10:02	15°♈♈		min. Earth dist.		15106 Apr 09 10:43	0°♍24'58	8.64772 AU
direct	15100 Apr 01 06:15	11°♈38'54		opposition		15106 Apr 10 00:14	0°♍22'22	-0°30'39
	15100 Jun 04 21:40	15°♈				15106 Apr 14 20:55	30°♋♎	
evening set	15100 Jul 13 15:11	19°♈18'54		direct		15106 Jun 17 17:12	27°♎01'44	
						15106 Aug 17 04:12	0°♍	
conjunction	15100 Jul 30 14:10	21°♈25'16	-1°42'29	evening set		15106 Sep 26 20:17	4°♍23'59	
minimum elong	15100 Jul 30 14:11	21°♈25'16	1°43'11					
max. Earth dist.	15100 Jul 30 17:05	21°♈26'11	10.51222 AU	conjunction		15106 Oct 13 23:20	6°♍29'04	-0°14'10
morning rise	15100 Aug 16 12:32	23°♈31'27		minimum elong		15106 Oct 13 23:21	6°♍29'04	0°13'40
	15100 Oct 21 13:49	0°♐		behind sun begin		15106 Oct 13 19:29	6°♍27'54	
retrograde	15100 Nov 27 04:04	1°♐08'20		behind sun end		15106 Oct 14 03:13	6°♍30'15	
	15101 Jan 03 11:35	30°♋♈		max. Earth dist.		15106 Oct 14 15:20	6°♍33'58	10.65540 AU
opposition	15101 Feb 04 05:31	27°♈45'53	-2°04'10	morning rise		15106 Oct 31 04:51	8°♍34'50	
min. Earth dist.	15101 Feb 04 01:38	27°♈46'38	8.52653 AU			15107 Jan 06 03:12	15°♍	
direct	15101 Apr 14 13:03	24°♈22'45		retrograde		15107 Feb 12 02:47	16°♍07'46	
	15101 Jul 09 16:18	0°♐				15107 Mar 21 15:47	15°♋♍	
evening set	15101 Jul 26 12:08	1°♐59'31		opposition		15107 Apr 22 21:55	12°♍44'24	-0°03'29
				min. Earth dist.		15107 Apr 22 08:30	12°♍46'59	8.66191 AU
conjunction	15101 Aug 12 10:35	4°♐05'22	-1°37'12	asc. node		15107 Jun 09 05:34	9°♍47'02	
minimum elong	15101 Aug 12 10:36	4°♐05'22	1°37'44	direct		15107 Jun 30 11:49	9°♍23'52	
max. Earth dist.	15101 Aug 12 16:27	4°♐07'11	10.53903 AU			15107 Sep 24 11:36	15°♍	
morning rise	15101 Aug 29 09:10	6°♐11'12		evening set		15107 Oct 09 10:57	16°♍44'40	
retrograde	15101 Dec 10 05:39	13°♐47'28						
opposition	15102 Feb 17 13:18	10°♐24'54	-1°54'34	conjunction		15107 Oct 26 15:34	18°♍49'52	0°08'06
min. Earth dist.	15102 Feb 17 06:48	10°♐26'09	8.55358 AU	minimum elong		15107 Oct 26 15:33	18°♍49'52	0°08'46
direct	15102 Apr 27 18:58	7°♐02'25		behind sun begin		15107 Oct 26 09:24	18°♍48'01	
evening set	15102 Aug 08 06:51	14°♐35'50		behind sun end		15107 Oct 26 21:43	18°♍51'44	
				max. Earth dist.		15107 Oct 27 07:35	18°♍54'46	10.66652 AU
conjunction	15102 Aug 25 05:30	16°♐41'17	-1°27'15	morning rise		15107 Nov 12 22:42	20°♍55'49	
minimum elong	15102 Aug 25 05:32	16°♐41'18	1°27'35	retrograde		15108 Feb 24 22:51	28°♍28'31	
max. Earth dist.	15102 Aug 25 14:42	16°♐44'09	10.56630 AU	opposition		15108 May 04 17:48	25°♍04'57	0°23'47
morning rise	15102 Sep 11 04:49	18°♐46'55		min. Earth dist.		15108 May 04 04:38	25°♍07'30	8.66964 AU
retrograde	15102 Dec 23 06:33	26°♐22'27		direct		15108 Jul 12 05:26	21°♍44'23	
opposition	15103 Mar 02 19:00	22°♐59'44	-1°39'31	evening set		15108 Oct 21 02:31	29°♍04'32	
min. Earth dist.	15103 Mar 02 09:31	23°♐01'34	8.58040 AU			15108 Oct 28 18:54	0°♊	
direct	15103 May 10 22:48	19°♐37'52						
evening set	15103 Aug 20 23:40	27°♐07'58		conjunction		15108 Nov 07 08:41	1°♊09'58	0°29'51
				minimum elong		15108 Nov 07 08:40	1°♊09'57	0°30'39
conjunction	15103 Sep 06 23:05	29°♐13'12	-1°13'12	max. Earth dist.		15108 Nov 08 00:14	1°♊14'42	10.67061 AU
minimum elong	15103 Sep 06 23:08	29°♐13'13	1°13'18	morning rise		15108 Nov 24 17:18	3°♊16'07	
max. Earth dist.	15103 Sep 07 11:45	29°♐17'08	10.59274 AU	retrograde		15109 Mar 08 20:08	10°♊48'57	
	15103 Sep 13 06:21	0°♎		opposition		15109 May 17 12:22	7°♊25'11	0°49'55
morning rise	15103 Sep 23 23:30	1°♎18'44		min. Earth dist.		15109 May 16 23:56	7°♊27'35	8.67025 AU
retrograde	15104 Jan 05 08:12	8°♎53'31		direct		15109 Jul 24 21:45	4°♊04'27	
opposition	15104 Mar 14 22:48	5°♎30'39	-1°19'50	evening set		15109 Nov 02 19:30	11°♊24'43	
min. Earth dist.	15104 Mar 14 10:50	5°♎32'56	8.60574 AU					
direct	15104 May 22 22:59	2°♎09'19		conjunction		15109 Nov 20 03:06	13°♊30'28	0°50'15
evening set	15104 Sep 01 15:07	9°♎36'20		minimum elong		15109 Nov 20 03:04	13°♊30'27	0°51'09
				max. Earth dist.		15109 Nov 20 16:57	13°♊34'41	10.66766 AU
conjunction	15104 Sep 18 15:34	11°♎41'26	-0°55'44	morning rise		15109 Dec 07 13:08	15°♊36'56	
minimum elong	15104 Sep 18 15:35	11°♎41'27	0°55'38	retrograde		15110 Mar 21 18:23	23°♊10'04	
max. Earth dist.	15104 Sep 19 06:40	11°♎46'06	10.61714 AU	opposition		15110 May 30 06:01	19°♊46'09	1°13'46
morning rise	15104 Oct 05 17:25	13°♎46'58		min. Earth dist.		15110 May 29 19:32	19°♊48'11	8.66426 AU
retrograde	15105 Jan 17 07:27	21°♎21'02		direct		15110 Aug 06 12:06	16°♊25'03	
min. Earth dist.	15105 Mar 27 11:13	18°♎00'34	8.62853 AU	evening set		15110 Nov 15 14:25	23°♊46'14	
opposition	15105 Mar 28 00:36	17°♎58'00	-0°56'30					
direct	15105 Jun 04 20:30	14°♎37'06		conjunction		15110 Dec 02 23:14	25°♊52'20	1°08'22
evening set	15105 Sep 14 05:51	22°♎01'28		minimum elong		15110 Dec 02 23:12	25°♊52'19	1°09'19
				max. Earth dist.		15110 Dec 03 10:07	25°♊55'39	10.65857 AU
conjunction	15105 Oct 01 07:29	24°♎06'31	-0°35'45	morning rise		15110 Dec 20 10:33	27°♊59'09	
minimum elong	15105 Oct 01 07:30	24°♎06'31	0°35'26			15111 Jan 06 21:02	0°♊	
max. Earth dist.	15105 Oct 01 23:29	24°♎11'25	10.63843 AU	retrograde		15111 Apr 03 15:05	5°♊32'43	
morning rise	15105 Oct 18 11:08	26°♎12'07		opposition		15111 Jun 11 23:04	2°♊08'40	1°34'15

min. Earth dist.	15111 Jun 11 15:10	2° S 10'12	8.65267 AU	min. Earth dist.	15117 Aug 25 22:33	17° K 26'07	8.51388 AU
	15111 Jul 11 21:20	30° R 7		direct	15117 Nov 02 02:06	14° K 02'12	
direct	15111 Aug 19 03:38	28° K 47'03		evening set	15118 Feb 13 14:21	21° K 41'03	
	15111 Sep 25 21:06	0° S					
evening set	15111 Nov 28 11:17	6° S 09'47		conjunction	15118 Mar 03 06:44	23° K 51'10	1°19'40
				minimum elong	15118 Mar 03 06:47	23° K 51'11	1°19'52
conjunction	15111 Dec 15 21:21	8° S 16'18	1°23'20	max. Earth dist.	15118 Mar 02 19:23	23° K 47'39	10.50042 AU
minimum elong	15111 Dec 15 21:20	8° S 16'18	1°24'19	morning rise	15118 Mar 20 22:28	26° K 01'08	
max. Earth dist.	15111 Dec 16 05:16	8° S 18'43	10.64433 AU		15118 Apr 25 14:31	0° Y	
morning rise	15112 Jan 02 09:47	10° S 23'29		retrograde	15118 Jul 01 15:05	3° Y 38'03	
retrograde	15112 Apr 15 11:40	17° S 57'38		opposition	15118 Sep 07 14:02	0° Y 14'05	1°28'52
opposition	15112 Jun 23 16:01	14° S 33'26	1°50'24	min. Earth dist.	15118 Sep 07 23:26	0° Y 12'13	8.48890 AU
min. Earth dist.	15112 Jun 23 10:34	14° S 34'30	8.63639 AU		15118 Sep 10 13:06	30° R 8	
direct	15112 Aug 30 21:13	11° S 11'13		direct	15118 Nov 15 05:10	26° K 48'11	
evening set	15112 Dec 10 10:13	18° S 35'59			15119 Jan 17 02:36	0° Y	
				evening set	15119 Feb 27 01:18	4° Y 29'45	
conjunction	15112 Dec 27 21:37	20° S 43'01	1°34'28				
minimum elong	15112 Dec 27 21:37	20° S 43'00	1°35'24	conjunction	15119 Mar 16 18:01	6° Y 40'24	1°03'10
max. Earth dist.	15112 Dec 28 03:02	20° S 44'40	10.62578 AU	minimum elong	15119 Mar 16 18:03	6° Y 40'24	1°03'09
morning rise	15113 Jan 14 10:56	22° S 50'36		max. Earth dist.	15119 Mar 16 04:58	6° Y 36'21	10.47690 AU
	15113 Apr 06 05:15	0° \approx		morning rise	15119 Apr 03 09:21	8° Y 50'42	
retrograde	15113 Apr 28 10:31	0° \approx 25'22		retrograde	15119 Jul 14 20:36	16° Y 27'54	
	15113 May 20 18:03	30° R 3		opposition	15119 Sep 20 15:26	13° Y 04'11	1°06'22
opposition	15113 Jul 06 09:05	27° S 01'03	2°01'28	min. Earth dist.	15119 Sep 21 01:59	13° Y 02'06	8.46673 AU
min. Earth dist.	15113 Jul 06 05:38	27° S 01'43	8.61611 AU	direct	15119 Nov 28 08:32	9° Y 37'59	
direct	15113 Sep 12 14:01	23° S 38'11		evening set	15120 Mar 11 13:38	17° Y 22'03	
	15113 Dec 14 05:40	0° \approx					
evening set	15113 Dec 23 11:37	1° \approx 05'24		conjunction	15120 Mar 29 06:09	19° Y 33'03	0°43'26
				minimum elong	15120 Mar 29 06:10	19° Y 33'04	0°43'12
conjunction	15114 Jan 10 00:18	3° \approx 12'59	1°41'10	max. Earth dist.	15120 Mar 28 15:37	19° Y 28'32	10.45683 AU
minimum elong	15114 Jan 10 00:18	3° \approx 12'59	1°42'02	morning rise	15120 Apr 15 20:43	21° Y 43'35	
max. Earth dist.	15114 Jan 10 03:01	3° \approx 13'49	10.60365 AU	retrograde	15120 Jul 27 02:10	29° Y 20'59	
morning rise	15114 Jan 27 14:18	5° \approx 21'01		opposition	15120 Oct 02 18:48	25° Y 57'37	0°40'25
retrograde	15114 May 11 09:59	12° \approx 56'21		min. Earth dist.	15120 Oct 03 06:43	25° Y 55'15	8.44861 AU
opposition	15114 Jul 19 02:36	9° \approx 31'58	2°06'51	direct	15120 Dec 10 14:46	22° Y 31'15	
min. Earth dist.	15114 Jul 19 01:37	9° \approx 32'10	8.59262 AU		15121 Mar 22 17:21	0° S	
direct	15114 Sep 25 07:51	6° \approx 08'26		evening set	15121 Mar 25 02:54	0° S 17'29	
evening set	15115 Jan 05 15:18	13° \approx 38'26					
	15115 Jan 16 20:37	15° \approx		conjunction	15121 Apr 11 18:33	2° S 28'39	0°21'27
				minimum elong	15121 Apr 11 18:34	2° S 28'39	0°21'01
conjunction	15115 Jan 23 05:05	15° \approx 46'38	1°43'05	max. Earth dist.	15121 Apr 11 02:25	2° S 23'38	10.44124 AU
minimum elong	15115 Jan 23 05:06	15° \approx 46'38	1°43'51	morning rise	15121 Apr 29 07:58	4° S 39'15	
max. Earth dist.	15115 Jan 23 04:08	15° \approx 46'20	10.57890 AU	retrograde	15121 Aug 09 07:59	12° S 16'51	
morning rise	15115 Feb 09 19:43	17° \approx 55'08		opposition	15121 Oct 16 00:27	8° S 53'51	0°12'19
retrograde	15115 May 24 10:08	25° \approx 30'59		min. Earth dist.	15121 Oct 16 13:25	8° S 51'18	8.43548 AU
opposition	15115 Jul 31 21:17	22° \approx 06'38	2°06'12	direct	15121 Dec 23 23:56	5° S 27'29	
min. Earth dist.	15115 Jul 31 23:21	22° \approx 06'13	8.56698 AU	desc. node	15122 Mar 27 22:37	11° S 57'56	
direct	15115 Oct 08 03:46	18° \approx 42'24		evening set	15122 Apr 07 16:26	13° S 15'24	
evening set	15116 Jan 18 20:57	26° \approx 15'18			15122 Apr 21 17:53	15° S	
conjunction	15116 Feb 05 11:44	28° \approx 24'09	1°40'03	conjunction	15122 Apr 25 06:36	15° S 26'30	-0°01'46
minimum elong	15116 Feb 05 11:45	28° \approx 24'10	1°40'39	minimum elong	15122 Apr 25 06:36	15° S 26'29	0°02'23
max. Earth dist.	15116 Feb 05 06:38	28° \approx 22'36	10.55268 AU	behind sun begin	15122 Apr 24 23:24	15° S 24'16	
	15116 Feb 18 13:08	0° K		behind sun end	15122 Apr 25 13:48	15° S 28'43	
morning rise	15116 Feb 23 03:00	0° K 33'11		max. Earth dist.	15122 Apr 24 13:56	15° S 21'17	10.43093 AU
retrograde	15116 Jun 05 11:27	8° K 09'27		morning rise	15122 May 12 18:24	17° S 36'56	
opposition	15116 Aug 12 17:18	4° K 45'11	1°59'27	retrograde	15122 Aug 22 14:52	25° S 14'46	
min. Earth dist.	15116 Aug 12 22:39	4° K 44'07	8.54033 AU	opposition	15122 Oct 29 08:01	21° S 52'08	-0°16'30
direct	15116 Oct 20 01:22	1° K 20'17		min. Earth dist.	15122 Oct 29 20:52	21° S 49'36	8.42807 AU
evening set	15117 Jan 31 04:46	8° K 56'11		direct	15123 Jan 06 10:37	18° S 25'54	
				evening set	15123 Apr 21 05:45	26° S 14'53	
conjunction	15117 Feb 17 20:27	11° K 05'41	1°32'09				
minimum elong	15117 Feb 17 20:29	11° K 05'42	1°32'33	conjunction	15123 May 08 18:01	28° S 25'42	-0°24'49
max. Earth dist.	15117 Feb 17 11:35	11° K 02'57	10.52611 AU	minimum elong	15123 May 08 18:00	28° S 25'42	0°25'34
morning rise	15117 Mar 07 12:08	13° K 15'13		max. Earth dist.	15123 May 08 02:15	28° S 20'45	10.42649 AU
retrograde	15117 Jun 18 12:41	20° K 51'49			15123 May 21 07:49	0° II	
opposition	15117 Aug 25 14:42	17° K 27'40	1°46'50	morning rise	15123 May 26 03:48	0° II 35'48	

retrograde	15123 Sep 04 21:51	8° Π 13'48		retrograde	15129 Nov 21 13:51	25° Ω 36'54	
opposition	15123 Nov 11 17:10	4° Π 51'28	-0°44'30	opposition	15130 Jan 29 12:07	22° Ω 14'54	-2°06'20
min. Earth dist.	15123 Nov 12 04:44	4° Π 49'12	8.42679 AU	min. Earth dist.	15130 Jan 29 10:05	22° Ω 15'18	8.51733 AU
direct	15124 Jan 19 23:01	1° Π 25'30		direct	15130 Apr 08 20:46	18° Ω 51'51	
evening set	15124 May 03 18:16	9° Π 14'55		evening set	15130 Jul 21 00:57	26° Ω 30'32	
conjunction	15124 May 21 04:20	11° Π 25'14	-0°46'38	conjunction	15130 Aug 06 23:46	28° Ω 36'42	-1°40'02
minimum elong	15124 May 21 04:19	11° Π 25'13	0°47'31	minimum elong	15130 Aug 06 23:47	28° Ω 36'43	1°40'38
max. Earth dist.	15124 May 20 14:46	11° Π 20'58	10.42815 AU	max. Earth dist.	15130 Aug 07 03:39	28° Ω 37'55	10.52677 AU
morning rise	15124 Jun 07 11:43	13° Π 34'48			15130 Aug 18 03:08	0° Π	
retrograde	15124 Sep 17 05:30	21° Π 12'56		morning rise	15130 Aug 23 22:07	0° Π 42'46	
opposition	15124 Nov 24 03:44	17° Π 50'51	-1°10'14	retrograde	15130 Dec 04 17:37	8° Π 19'53	
min. Earth dist.	15124 Nov 24 13:21	17° Π 48'58	8.43161 AU	opposition	15131 Feb 11 21:12	4° Π 57'39	-1°59'25
direct	15125 Feb 01 12:08	14° Π 25'15		min. Earth dist.	15131 Feb 11 16:16	4° Π 58'36	8.53834 AU
evening set	15125 May 17 05:23	22° Π 14'22		direct	15131 Apr 22 03:14	1° Π 35'07	
				evening set	15131 Aug 02 21:28	9° Π 10'43	
conjunction	15125 Jun 03 12:56	24° Π 24'00	-1°06'04	conjunction	15131 Aug 19 20:09	11° Π 16'30	-1°32'08
minimum elong	15125 Jun 03 12:54	24° Π 23'59	1°07'01	minimum elong	15131 Aug 19 20:11	11° Π 16'31	1°32'33
max. Earth dist.	15125 Jun 03 02:01	24° Π 20'34	10.43569 AU	max. Earth dist.	15131 Aug 20 03:05	11° Π 18'40	10.54794 AU
morning rise	15125 Jun 20 17:48	26° Π 32'54		morning rise	15131 Sep 05 19:00	13° Π 22'22	
	15125 Jul 20 15:25	0° Σ		retrograde	15131 Dec 17 20:16	20° Π 58'59	
retrograde	15125 Sep 30 13:59	4° Σ 11'04		opposition	15132 Feb 25 04:37	17° Π 36'27	-1°46'46
opposition	15125 Dec 07 15:14	0° Σ 49'10	-1°32'20	min. Earth dist.	15132 Feb 24 21:38	17° Π 37'48	8.55921 AU
min. Earth dist.	15125 Dec 07 23:02	0° Σ 47'39	8.44219 AU	direct	15132 May 04 08:22	14° Π 14'19	
	15125 Dec 18 05:53	30° κ Π		evening set	15132 Aug 14 15:57	21° Π 46'47	
direct	15126 Feb 15 00:28	27° Π 24'00					
	15126 Apr 12 12:22	0° Σ		conjunction	15132 Aug 31 14:58	23° Π 52'19	-1°19'50
evening set	15126 May 30 14:32	5° Σ 12'04		minimum elong	15132 Aug 31 15:01	23° Π 52'19	1°20'02
conjunction	15126 Jun 16 19:29	7° Σ 20'55	-1°22'06	max. Earth dist.	15132 Sep 01 00:05	23° Π 55'08	10.56875 AU
minimum elong	15126 Jun 16 19:27	7° Σ 20'55	1°23'04	morning rise	15132 Sep 17 14:57	25° Π 58'05	
max. Earth dist.	15126 Jun 16 10:55	7° Σ 18'14	10.44867 AU		15132 Oct 23 18:02	0° Σ	
morning rise	15126 Jul 03 22:05	9° Σ 29'07		retrograde	15132 Dec 29 22:02	3° Σ 34'07	
retrograde	15126 Oct 13 21:33	17° Σ 07'09		opposition	15133 Mar 09 10:18	0° Σ 11'13	-1°29'02
opposition	15126 Dec 21 03:05	13° Σ 45'22	-1°49'41	min. Earth dist.	15133 Mar 09 01:27	0° Σ 12'55	8.57933 AU
min. Earth dist.	15126 Dec 21 09:06	13° Σ 44'12	8.45773 AU		15133 Mar 11 20:42	30° κ Π	
direct	15127 Feb 28 12:19	10° Σ 20'39		direct	15133 May 17 10:50	26° Π 49'25	
evening set	15127 Jun 12 21:08	18° Σ 07'01			15133 Jul 19 02:57	0° Σ	
				evening set	15133 Aug 27 08:36	4° Σ 18'48	
conjunction	15127 Jun 29 23:42	20° Σ 15'03	-1°33'57	conjunction	15133 Sep 13 08:32	6° Σ 24'12	-1°03'47
minimum elong	15127 Jun 29 23:41	20° Σ 15'02	1°34'53	minimum elong	15133 Sep 13 08:34	6° Σ 24'13	1°03'46
max. Earth dist.	15127 Jun 29 17:23	20° Σ 13'04	10.46588 AU	max. Earth dist.	15133 Sep 13 20:08	6° Σ 27'48	10.58839 AU
morning rise	15127 Jul 17 00:31	22° Σ 22'33		morning rise	15133 Sep 30 09:59	8° Σ 30'01	
	15127 Oct 24 11:02	0° Ω		retrograde	15134 Jan 11 21:10	16° Σ 05'27	
retrograde	15127 Oct 27 02:30	0° Ω 00'22		opposition	15134 Mar 22 13:50	12° Σ 42'09	-1°07'10
	15127 Oct 29 18:10	30° κ Σ		min. Earth dist.	15134 Mar 22 02:54	12° Σ 44'15	8.59781 AU
opposition	15128 Jan 03 14:45	26° Σ 38'35	-2°01'26	direct	15134 May 30 11:31	9° Σ 20'36	
min. Earth dist.	15128 Jan 03 18:47	26° Σ 37'48	8.47651 AU	evening set	15134 Sep 09 00:17	16° Σ 47'15	
direct	15128 Mar 13 01:21	23° Σ 14'23					
	15128 Jun 16 23:53	0° Ω		conjunction	15134 Sep 26 01:33	18° Σ 52'38	-0°44'46
evening set	15128 Jun 25 01:06	0° Ω 58'32		minimum elong	15134 Sep 26 01:35	18° Σ 52'38	0°44'32
conjunction	15128 Jul 12 01:45	3° Ω 05'48	-1°41'02	max. Earth dist.	15134 Sep 26 15:39	18° Σ 56'59	10.60587 AU
minimum elong	15128 Jul 12 01:44	3° Ω 05'48	1°41'54	morning rise	15134 Oct 13 04:35	20° Σ 58'31	
max. Earth dist.	15128 Jul 11 22:04	3° Ω 04'39	10.48539 AU	retrograde	15135 Jan 24 20:14	28° Σ 33'25	
morning rise	15128 Jul 29 01:10	5° Ω 12'41		opposition	15135 Apr 04 14:59	25° Σ 09'44	-0°42'13
retrograde	15128 Nov 08 07:41	12° Ω 50'19		min. Earth dist.	15135 Apr 04 02:12	25° Σ 12'12	8.61371 AU
opposition	15129 Jan 16 01:48	9° Ω 28'28	-2°07'02	direct	15135 Jun 12 10:41	21° Σ 48'22	
min. Earth dist.	15129 Jan 16 03:03	9° Ω 28'14	8.49665 AU	evening set	15135 Sep 21 15:30	29° Σ 12'45	
direct	15129 Mar 26 12:40	6° Ω 04'50			15135 Sep 28 03:19	0° Π	
evening set	15129 Jul 08 02:20	13° Ω 46'25					
	15129 Jul 18 00:08	15° Ω		conjunction	15135 Oct 08 18:13	1° Π 18'12	-0°23'43
conjunction	15129 Jul 25 01:45	15° Ω 53'04	-1°43'04	minimum elong	15135 Oct 08 18:14	1° Π 18'12	0°23'17
minimum elong	15129 Jul 25 01:45	15° Ω 53'04	1°43'50	max. Earth dist.	15135 Oct 09 10:11	1° Π 23'06	10.62025 AU
max. Earth dist.	15129 Jul 25 01:47	15° Ω 53'05	10.50581 AU	morning rise	15135 Oct 25 22:54	3° Π 24'14	
morning rise	15129 Aug 11 00:18	17° Ω 59'28		retrograde	15136 Feb 06 19:54	10° Π 58'43	
				opposition	15136 Apr 16 14:21	7° Π 34'43	-0°15'23



























































































































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direct	15136 Jun 24 05:57	4° M 13'26		retrograde	15142 Apr 23 08:57	25° 3 24'21	
evening set	15136 Oct 03 06:44	11° M 36'08		opposition	15142 Jul 01 08:33	21° 3 59'48	1°57'27
				min. Earth dist.	15142 Jul 01 03:00	22° 3 00'54	8.60945 AU
conjunction	15136 Oct 20 10:52	13° M 41'42	-0°01'37	direct	15142 Sep 07 11:33	18° 3 37'03	
minimum elong	15136 Oct 20 10:52	13° M 41'42	0°01'01	evening set	15142 Dec 18 07:30	26° 3 04'05	
behind sun begin	15136 Oct 20 03:44	13° M 39'32					
behind sun end	15136 Oct 20 17:59	13° M 43'51		conjunction	15143 Jan 04 19:33	28° 3 11'37	1°38'50
max. Earth dist.	15136 Oct 21 03:02	13° M 46'39	10.63082 AU	minimum elong	15143 Jan 04 19:32	28° 3 11'37	1°39'45
	15136 Oct 31 02:46	15° M		max. Earth dist.	15143 Jan 05 00:08	28° 3 13'01	10.60055 AU
morning rise	15136 Nov 06 17:20	15° M 47'57			15143 Jan 19 15:52	0° ~	
asc. node	15136 Nov 16 14:48	16° M 58'02		morning rise	15143 Jan 22 09:24	0° ~ 19'40	
retrograde	15137 Feb 18 18:05	23° M 22'09		retrograde	15143 May 06 07:51	7° ~ 55'35	
opposition	15137 Apr 29 12:01	19° M 57'54	0°12'05	opposition	15143 Jul 14 02:50	4° ~ 31'13	2°05'13
min. Earth dist.	15137 Apr 28 22:42	20° M 00'28	8.63463 AU	min. Earth dist.	15143 Jul 14 00:21	4° ~ 31'42	8.59302 AU
direct	15137 Jul 06 23:33	16° M 36'36		direct	15143 Sep 20 06:45	1° ~ 08'00	
evening set	15137 Oct 15 22:45	23° M 58'20		evening set	15143 Dec 31 11:02	8° ~ 37'34	
conjunction	15137 Nov 02 04:17	26° M 04'04	0°20'36	conjunction	15144 Jan 18 00:16	10° ~ 45'38	1°42'45
minimum elong	15137 Nov 02 04:16	26° M 04'04	0°21'20	minimum elong	15144 Jan 18 00:16	10° ~ 45'39	1°43'34
max. Earth dist.	15137 Nov 02 19:34	26° M 08'45	10.63704 AU	max. Earth dist.	15144 Jan 18 01:37	10° ~ 46'03	10.58281 AU
morning rise	15137 Nov 19 12:32	28° M 10'33		morning rise	15144 Feb 04 14:49	12° ~ 54'06	
	15137 Dec 05 04:17	0° ~			15144 Feb 22 16:34	15° ~	
retrograde	15138 Mar 03 14:39	5° ~ 44'41		retrograde	15144 May 18 07:47	20° ~ 30'26	
opposition	15138 May 12 07:59	2° ~ 20'14	0°38'57	opposition	15144 Jul 25 21:50	17° ~ 06'15	2°07'02
min. Earth dist.	15138 May 11 19:42	2° ~ 22'37	8.63861 AU	min. Earth dist.	15144 Jul 25 21:49	17° ~ 06'15	8.57427 AU
	15138 Jun 14 18:04	30° R M			15144 Aug 23 18:14	15° R ~	
direct	15138 Jul 19 17:49	28° M 58'47		direct	15144 Oct 02 03:37	13° ~ 42'34	
	15138 Aug 23 04:18	0° ~			15144 Nov 09 23:33	15° ~	
evening set	15138 Oct 28 15:54	6° ~ 20'18		evening set	15145 Jan 12 16:41	21° ~ 14'47	
conjunction	15138 Nov 14 22:55	8° ~ 26'17	0°41'46	conjunction	15145 Jan 30 07:09	23° ~ 23'28	1°41'45
minimum elong	15138 Nov 14 22:54	8° ~ 26'17	0°42'37	minimum elong	15145 Jan 30 07:10	23° ~ 23'28	1°42'25
max. Earth dist.	15138 Nov 15 13:06	8° ~ 30'37	10.63855 AU	max. Earth dist.	15145 Jan 30 05:32	23° ~ 22'59	10.56310 AU
morning rise	15138 Dec 02 08:39	10° ~ 33'02		morning rise	15145 Feb 16 22:13	25° ~ 32'22	
retrograde	15139 Mar 16 12:15	18° ~ 07'17			15145 Mar 29 21:44	0° ~ H	
opposition	15139 May 25 02:52	14° ~ 42'42	1°03'59	retrograde	15145 May 31 10:20	3° ~ H 08'58	
min. Earth dist.	15139 May 24 15:32	14° ~ 44'54	8.63787 AU		15145 Aug 04 13:39	30° R ~	
direct	15139 Aug 01 10:37	11° ~ 21'01		opposition	15145 Aug 07 17:52	29° ~ 44'59	2°02'44
evening set	15139 Nov 10 10:31	18° ~ 43'00		min. Earth dist.	15145 Aug 07 20:13	29° ~ 44'31	8.55370 AU
				direct	15145 Oct 15 00:34	26° ~ 20'47	
conjunction	15139 Nov 27 19:00	20° ~ 49'17	1°01'00		15145 Dec 21 15:32	0° ~ H	
minimum elong	15139 Nov 27 18:58	20° ~ 49'16	1°01'56	evening set	15146 Jan 26 00:27	3° ~ H 55'45	
max. Earth dist.	15139 Nov 28 08:25	20° ~ 53'23	10.63525 AU				
morning rise	15139 Dec 15 05:54	22° ~ 56'17		conjunction	15146 Feb 12 15:53	6° ~ H 05'01	1°35'48
	15140 Mar 03 18:04	0° ~ 3		minimum elong	15146 Feb 12 15:54	6° ~ H 05'02	1°36'17
retrograde	15140 Mar 28 10:08	0° ~ 3 30'53		max. Earth dist.	15146 Feb 12 11:01	6° ~ H 03'31	10.54191 AU
	15140 Apr 22 05:55	30° R ~ ~		morning rise	15146 Mar 02 07:14	8° ~ H 14'20	
opposition	15140 Jun 05 20:59	27° ~ 06'12	1°26'05	retrograde	15146 Jun 13 12:29	15° ~ H 51'04	
min. Earth dist.	15140 Jun 05 10:33	27° ~ 08'14	8.63248 AU	opposition	15146 Aug 20 15:11	12° ~ H 27'18	1°52'28
direct	15140 Aug 13 03:02	23° ~ 44'15		min. Earth dist.	15146 Aug 20 20:16	12° ~ H 26'17	8.53182 AU
	15140 Nov 12 18:25	0° ~ 3		direct	15146 Oct 28 00:15	9° ~ H 02'36	
evening set	15140 Nov 22 07:16	1° ~ 3 07'21		evening set	15147 Feb 08 09:51	16° ~ H 40'18	
conjunction	15140 Dec 09 17:03	3° ~ 3 14'00	1°17'25	conjunction	15147 Feb 26 01:57	18° ~ H 50'07	1°25'08
minimum elong	15140 Dec 09 17:01	3° ~ 3 13'59	1°18'23	minimum elong	15147 Feb 26 02:00	18° ~ H 50'07	1°25'25
max. Earth dist.	15140 Dec 10 04:39	3° ~ 3 17'32	10.62746 AU	max. Earth dist.	15147 Feb 25 17:02	18° ~ H 47'22	10.51971 AU
morning rise	15140 Dec 27 05:00	5° ~ 3 21'18		morning rise	15147 Mar 15 17:30	20° ~ H 59'51	
retrograde	15141 Apr 10 09:13	12° ~ 3 56'19		retrograde	15147 Jun 26 15:27	28° ~ H 36'40	
opposition	15141 Jun 18 14:41	9° ~ 3 31'39	1°44'11	opposition	15147 Sep 02 14:09	25° ~ H 13'09	1°36'36
min. Earth dist.	15141 Jun 18 06:13	9° ~ 3 33'19	8.62283 AU	min. Earth dist.	15147 Sep 02 22:32	25° ~ H 11'29	8.50901 AU
direct	15141 Aug 25 19:12	6° ~ 3 09'20		direct	15147 Nov 10 01:57	21° ~ H 47'58	
evening set	15141 Dec 05 06:15	13° ~ 3 34'09		evening set	15148 Feb 21 20:36	29° ~ H 28'21	
					15148 Feb 26 04:42	0° ~ Y	
conjunction	15141 Dec 22 17:13	15° ~ 3 41'13	1°30'15				
minimum elong	15141 Dec 22 17:12	15° ~ 3 41'13	1°31'12	conjunction	15148 Mar 10 13:05	1° ~ Y 38'42	1°10'12
max. Earth dist.	15141 Dec 23 01:40	15° ~ 3 43'48	10.61569 AU	minimum elong	15148 Mar 10 13:07	1° ~ Y 38'43	1°10'15

max. Earth dist.	15148 Mar 10 00:11	1° Υ 34'43	10.49683 AU	conjunction	15154 May 29 10:08	19° Π 21'30	-0°58'35
morning rise	15148 Mar 28 04:38	3° Υ 48'50		minimum elong	15154 May 29 10:07	19° Π 21'29	0°59'30
retrograde	15148 Jul 08 20:02	11° Υ 25'51		max. Earth dist.	15154 May 28 20:09	19° Π 17'06	10.42667 AU
opposition	15148 Sep 14 14:55	8° Υ 02'36	1°15'51	morning rise	15154 Jun 15 16:13	21° Π 30'44	
min. Earth dist.	15148 Sep 15 01:59	8° Υ 00'24	8.48591 AU	retrograde	15154 Sep 25 09:58	29° Π 08'54	
direct	15148 Nov 22 05:19	4° Υ 37'01		opposition	15154 Dec 02 10:56	25° Π 46'36	-1°23'58
evening set	15149 Mar 06 08:48	12° Υ 20'04		min. Earth dist.	15154 Dec 02 20:56	25° Π 44'38	8.43050 AU
max. Earth dist.	15149 Mar 23 09:41	14° Υ 26'01	10.47446 AU	direct	15155 Feb 09 20:52	22° Π 20'47	
					15155 May 24 04:44	0° Θ	
conjunction	15149 Mar 24 01:17	14° Υ 30'52	0°51'41	evening set	15155 May 25 11:19	0° Θ 09'23	
minimum elong	15149 Mar 24 01:19	14° Υ 30'52	0°51'32				
morning rise	15149 Apr 10 16:21	16° Υ 41'17		conjunction	15155 Jun 11 17:20	2° Θ 18'37	-1°16'07
retrograde	15149 Jul 21 23:56	24° Υ 18'34		minimum elong	15155 Jun 11 17:19	2° Θ 18'36	1°17'04
opposition	15149 Sep 27 17:36	20° Υ 55'34	0°51'10	max. Earth dist.	15155 Jun 11 06:24	2° Θ 15'11	10.43470 AU
min. Earth dist.	15149 Sep 28 06:08	20° Υ 53'06	8.46437 AU	morning rise	15155 Jun 28 21:05	4° Θ 27'11	
direct	15149 Dec 05 12:35	17° Υ 29'43		retrograde	15155 Oct 08 17:10	12° Θ 05'18	
evening set	15150 Mar 19 21:56	25° Υ 15'08		opposition	15155 Dec 15 22:13	8° Θ 42'59	-1°43'22
				min. Earth dist.	15155 Dec 16 05:23	8° Θ 41'35	8.44163 AU
conjunction	15150 Apr 06 13:57	27° Υ 26'12	0°30'30	direct	15156 Feb 23 09:22	5° Θ 17'32	
minimum elong	15150 Apr 06 13:59	27° Υ 26'13	0°30'08	evening set	15156 Jun 06 18:45	13° Θ 04'44	
max. Earth dist.	15150 Apr 05 21:26	27° Υ 21'04	10.45465 AU				
morning rise	15150 Apr 24 03:58	29° Υ 36'46		conjunction	15156 Jun 23 22:27	15° Θ 13'11	-1°29'44
	15150 Apr 27 08:31	0° Ξ		minimum elong	15156 Jun 23 22:26	15° Θ 13'11	1°30'41
retrograde	15150 Aug 04 05:39	7° Ξ 14'20		max. Earth dist.	15156 Jun 23 15:15	15° Θ 10'55	10.44833 AU
opposition	15150 Oct 10 22:30	3° Ξ 51'34	0°23'48	morning rise	15156 Jul 11 00:00	17° Θ 21'03	
min. Earth dist.	15150 Oct 11 11:12	3° Ξ 49'03	8.44640 AU	retrograde	15156 Oct 20 23:24	24° Θ 59'01	
direct	15150 Dec 18 21:21	0° Ξ 25'32		opposition	15156 Dec 28 09:44	21° Θ 36'40	-1°57'29
evening set	15151 Apr 02 11:26	8° Ξ 12'49		min. Earth dist.	15156 Dec 28 13:49	21° Θ 35'53	8.45799 AU
max. Earth dist.	15151 Apr 19 10:03	10° Ξ 18'51	10.43912 AU	direct	15157 Mar 07 21:30	18° Θ 11'42	
				evening set	15157 Jun 19 23:30	25° Θ 56'52	
conjunction	15151 Apr 20 02:26	10° Ξ 23'57	0°07'44				
minimum elong	15151 Apr 20 02:25	10° Ξ 23'57	0°07'11	conjunction	15157 Jul 07 01:06	28° Θ 04'32	-1°38'49
behind sun begin	15151 Apr 19 19:48	10° Ξ 21'54		minimum elong	15157 Jul 07 01:05	28° Θ 04'32	1°39'43
behind sun end	15151 Apr 20 09:03	10° Ξ 26'00		max. Earth dist.	15157 Jul 06 21:41	28° Θ 03'28	10.46682 AU
morning rise	15151 May 07 14:53	12° Ξ 34'27			15157 Jul 22 10:53	0° Ω	
	15151 May 28 05:04	15° Ξ		morning rise	15157 Jul 24 00:56	0° Ω 11'43	
retrograde	15151 Aug 17 13:33	20° Ξ 12'18		retrograde	15157 Nov 03 05:31	7° Ω 49'27	
desc. node	15151 Aug 22 12:11	20° Ξ 10'57		opposition	15158 Jan 10 20:56	4° Ω 27'04	-2°05'38
opposition	15151 Oct 24 05:25	16° Ξ 49'41	-0°04'54	min. Earth dist.	15158 Jan 10 22:15	4° Ω 26'49	8.47871 AU
min. Earth dist.	15151 Oct 24 18:09	16° Ξ 47'11	8.43341 AU	direct	15158 Mar 21 07:58	1° Ω 02'40	
	15151 Nov 17 16:48	15° \Re Ξ		evening set	15158 Jul 03 01:34	8° Ω 45'16	
direct	15152 Jan 01 06:23	13° Ξ 23'34					
	15152 Feb 14 02:10	15° Ξ		conjunction	15158 Jul 20 01:30	10° Ω 52'12	-1°42'56
evening set	15152 Apr 15 01:06	21° Ξ 12'10		minimum elong	15158 Jul 20 01:31	10° Ω 52'12	1°43'44
				max. Earth dist.	15158 Jul 20 01:09	10° Ω 52'06	10.48927 AU
conjunction	15152 May 02 14:23	23° Ξ 23'08	-0°15'36	morning rise	15158 Aug 06 00:21	12° Ω 58'49	
minimum elong	15152 May 02 14:23	23° Ξ 23'08	0°16'18		15158 Aug 22 23:48	15° Ω	
max. Earth dist.	15152 May 01 22:12	23° Ξ 18'05	10.42894 AU	retrograde	15158 Nov 16 10:30	20° Ω 36'07	
morning rise	15152 May 20 00:55	25° Ξ 33'24		opposition	15159 Jan 24 07:08	17° Ω 13'41	-2°07'29
	15152 Jun 28 22:34	0° Π		min. Earth dist.	15159 Jan 24 06:05	17° Ω 13'53	8.50275 AU
retrograde	15152 Aug 29 21:08	3° Π 11'22			15159 Feb 24 19:00	15° \Re Ω	
	15152 Nov 03 05:39	30° \Re Ξ		direct	15159 Apr 03 16:25	13° Ω 49'54	
opposition	15152 Nov 05 13:54	29° Ξ 48'56	-0°33'24		15159 May 10 21:20	15° Ω	
min. Earth dist.	15152 Nov 06 02:33	29° Ξ 46'26	8.42621 AU	evening set	15159 Jul 16 00:53	21° Ω 29'33	
direct	15153 Jan 13 17:23	26° Ξ 22'47					
	15153 Mar 22 05:57	0° Π		conjunction	15159 Aug 01 23:47	23° Ω 35'52	-1°41'57
evening set	15153 Apr 28 14:08	4° Π 12'07		minimum elong	15159 Aug 01 23:48	23° Ω 35'52	1°42'37
max. Earth dist.	15153 May 15 09:35	6° Π 17'48	10.42470 AU	max. Earth dist.	15159 Aug 02 02:23	23° Ω 36'41	10.51450 AU
				morning rise	15159 Aug 18 22:18	25° Ω 42'02	
conjunction	15153 May 16 01:10	6° Π 22'41	-0°38'04		15159 Sep 26 12:56	0° \P	
minimum elong	15153 May 16 01:08	6° Π 22'40	0°38'54	retrograde	15159 Nov 29 12:51	3° \P 18'47	
morning rise	15153 Jun 02 09:32	8° Π 32'31			15160 Feb 05 20:49	30° \Re Ω	
retrograde	15153 Sep 12 03:14	16° Π 10'35		opposition	15160 Feb 06 16:09	29° Ω 56'16	-2°03'04
opposition	15153 Nov 18 23:59	12° Π 48'15	-1°00'14	min. Earth dist.	15160 Feb 06 12:15	29° Ω 57'02	8.52876 AU
min. Earth dist.	15153 Nov 19 11:55	12° Π 45'55	8.42524 AU	direct	15160 Apr 16 00:05	26° Ω 33'08	
direct	15154 Jan 27 07:12	9° Π 22'13			15160 Jun 20 14:48	0° \P	
evening set	15154 May 12 01:38	17° Π 11'33		evening set	15160 Jul 27 21:33	4° \P 09'34	

conjunction	15160 Aug 13 20:05	6° $\mathring{\text{M}}$ 15'22	-1°36'01		15166 Sep 05 11:30	15° $\mathring{\text{M}}$	
minimum elong	15160 Aug 13 20:07	6° $\mathring{\text{M}}$ 15'23	1°36'30	evening set	15166 Oct 10 19:59	18° $\mathring{\text{M}}$ 53'24	
max. Earth dist.	15160 Aug 14 02:17	6° $\mathring{\text{M}}$ 17'18	10.54115 AU				
morning rise	15160 Aug 30 18:46	8° $\mathring{\text{M}}$ 21'12		conjunction	15166 Oct 28 00:50	20° $\mathring{\text{M}}$ 58'40	0°11'08
retrograde	15160 Dec 11 15:12	15° $\mathring{\text{M}}$ 57'21		minimum elong	15166 Oct 28 00:49	20° $\mathring{\text{M}}$ 58'39	0°11'49
opposition	15161 Feb 18 23:35	12° $\mathring{\text{M}}$ 34'43	-1°52'42	behind sun begin	15166 Oct 27 19:50	20° $\mathring{\text{M}}$ 57'09	
min. Earth dist.	15161 Feb 18 16:26	12° $\mathring{\text{M}}$ 36'05	8.55551 AU	behind sun end	15166 Oct 28 05:48	21° $\mathring{\text{M}}$ 00'10	
direct	15161 Apr 29 06:14	9° $\mathring{\text{M}}$ 12'14		max. Earth dist.	15166 Oct 28 17:37	21° $\mathring{\text{M}}$ 03'47	10.66609 AU
evening set	15161 Aug 09 15:58	16° $\mathring{\text{M}}$ 45'18		morning rise	15166 Nov 14 08:01	23° $\mathring{\text{M}}$ 04'37	
					15167 Jan 30 01:42	0° $\mathring{\text{Z}}$	
conjunction	15161 Aug 26 14:49	18° $\mathring{\text{M}}$ 50'46	-1°25'28	retrograde	15167 Feb 26 08:51	0° $\mathring{\text{Z}}$ 37'24	
minimum elong	15161 Aug 26 14:51	18° $\mathring{\text{M}}$ 50'47	1°25'46		15167 Mar 25 21:51	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
max. Earth dist.	15161 Aug 27 00:55	18° $\mathring{\text{M}}$ 53'54	10.56804 AU	opposition	15167 May 07 02:58	27° $\mathring{\text{M}}$ 13'49	0°27'27
morning rise	15161 Sep 12 14:10	20° $\mathring{\text{M}}$ 56'23		min. Earth dist.	15167 May 06 13:18	27° $\mathring{\text{M}}$ 16'28	8.66936 AU
retrograde	15161 Dec 24 17:28	28° $\mathring{\text{M}}$ 31'51		direct	15167 Jul 14 14:51	23° $\mathring{\text{M}}$ 53'16	
opposition	15162 Mar 04 05:08	25° $\mathring{\text{M}}$ 09'03	-1°36'59		15167 Oct 13 01:28	0° $\mathring{\text{Z}}$	
min. Earth dist.	15162 Mar 03 19:00	25° $\mathring{\text{M}}$ 11'00	8.58186 AU	evening set	15167 Oct 23 11:48	1° $\mathring{\text{Z}}$ 13'27	
direct	15162 May 12 08:08	21° $\mathring{\text{M}}$ 47'12					
evening set	15162 Aug 22 08:35	29° $\mathring{\text{M}}$ 16'59		conjunction	15167 Nov 09 18:02	3° $\mathring{\text{Z}}$ 18'55	0°32'44
	15162 Aug 28 05:38	0° $\mathring{\text{Z}}$		minimum elong	15167 Nov 09 18:01	3° $\mathring{\text{Z}}$ 18'54	0°33'33
				max. Earth dist.	15167 Nov 10 09:41	3° $\mathring{\text{Z}}$ 23'41	10.67046 AU
conjunction	15162 Sep 08 08:10	1° $\mathring{\text{Z}}$ 22'14	-1°10'55	morning rise	15167 Nov 27 02:44	5° $\mathring{\text{Z}}$ 25'06	
minimum elong	15162 Sep 08 08:12	1° $\mathring{\text{Z}}$ 22'14	1°10'59	retrograde	15168 Mar 10 06:59	12° $\mathring{\text{Z}}$ 57'54	
max. Earth dist.	15162 Sep 08 21:11	1° $\mathring{\text{Z}}$ 26'16	10.59396 AU	opposition	15168 May 18 21:32	9° $\mathring{\text{Z}}$ 34'11	0°53'19
morning rise	15162 Sep 25 08:43	3° $\mathring{\text{Z}}$ 27'47		min. Earth dist.	15168 May 18 09:20	9° $\mathring{\text{Z}}$ 36'32	8.67024 AU
retrograde	15163 Jan 06 17:56	11° $\mathring{\text{Z}}$ 02'30		direct	15168 Jul 26 05:14	6° $\mathring{\text{Z}}$ 13'25	
opposition	15163 Mar 17 08:43	7° $\mathring{\text{Z}}$ 39'34	-1°16'45	evening set	15168 Nov 04 04:55	13° $\mathring{\text{Z}}$ 33'47	
min. Earth dist.	15163 Mar 16 20:50	7° $\mathring{\text{Z}}$ 41'51	8.60663 AU				
direct	15163 May 25 07:36	4° $\mathring{\text{Z}}$ 18'14		conjunction	15168 Nov 21 12:28	15° $\mathring{\text{Z}}$ 39'32	0°52'51
evening set	15163 Sep 04 00:02	11° $\mathring{\text{Z}}$ 45'03		minimum elong	15168 Nov 21 12:27	15° $\mathring{\text{Z}}$ 39'31	0°53'45
				max. Earth dist.	15168 Nov 22 01:29	15° $\mathring{\text{Z}}$ 43'29	10.66765 AU
conjunction	15163 Sep 21 00:32	13° $\mathring{\text{Z}}$ 50'10	-0°53'04	morning rise	15168 Dec 08 22:39	17° $\mathring{\text{Z}}$ 46'01	
minimum elong	15163 Sep 21 00:34	13° $\mathring{\text{Z}}$ 50'10	0°52'55	retrograde	15169 Mar 23 03:10	25° $\mathring{\text{Z}}$ 19'10	
max. Earth dist.	15163 Sep 21 15:05	13° $\mathring{\text{Z}}$ 54'38	10.61776 AU	opposition	15169 May 31 15:13	21° $\mathring{\text{Z}}$ 55'17	1°16'43
morning rise	15163 Oct 08 02:41	15° $\mathring{\text{Z}}$ 55'43		min. Earth dist.	15169 May 31 05:28	21° $\mathring{\text{Z}}$ 57'10	8.66421 AU
retrograde	15164 Jan 19 16:44	23° $\mathring{\text{Z}}$ 29'45		direct	15169 Aug 07 21:10	18° $\mathring{\text{Z}}$ 34'09	
opposition	15164 Mar 29 10:14	20° $\mathring{\text{Z}}$ 06'42	-0°53'01	evening set	15169 Nov 16 23:58	25° $\mathring{\text{Z}}$ 55'30	
min. Earth dist.	15164 Mar 28 21:28	20° $\mathring{\text{Z}}$ 09'09	8.62883 AU				
direct	15164 Jun 06 06:15	16° $\mathring{\text{Z}}$ 45'46		conjunction	15169 Dec 04 08:51	28° $\mathring{\text{Z}}$ 01'37	1°10'33
evening set	15164 Sep 15 14:42	24° $\mathring{\text{Z}}$ 10'01		minimum elong	15169 Dec 04 08:49	28° $\mathring{\text{Z}}$ 01'36	1°11'30
				max. Earth dist.	15169 Dec 04 19:08	28° $\mathring{\text{Z}}$ 04'44	10.65837 AU
conjunction	15164 Oct 02 16:28	26° $\mathring{\text{Z}}$ 15'06	-0°32'49		15169 Dec 20 16:01	0° $\mathring{\text{Z}}$	
minimum elong	15164 Oct 02 16:29	26° $\mathring{\text{Z}}$ 15'06	0°32'28	morning rise	15169 Dec 21 20:18	0° $\mathring{\text{Z}}$ 08'26	
max. Earth dist.	15164 Oct 03 07:53	26° $\mathring{\text{Z}}$ 19'50	10.63848 AU	retrograde	15170 Apr 04 23:32	7° $\mathring{\text{Z}}$ 42'04	
morning rise	15164 Oct 19 20:24	28° $\mathring{\text{Z}}$ 20'45		opposition	15170 Jun 13 08:11	4° $\mathring{\text{Z}}$ 18'02	1°36'38
	15164 Nov 02 22:44	0° $\mathring{\text{M}}$		min. Earth dist.	15170 Jun 13 00:38	4° $\mathring{\text{Z}}$ 19'30	8.65231 AU
retrograde	15165 Jan 31 14:49	5° $\mathring{\text{M}}$ 54'12		direct	15170 Aug 20 14:01	0° $\mathring{\text{Z}}$ 56'25	
opposition	15165 Apr 11 09:47	2° $\mathring{\text{M}}$ 30'59	-0°26'56	evening set	15170 Nov 29 21:04	8° $\mathring{\text{Z}}$ 19'20	
min. Earth dist.	15165 Apr 10 20:25	2° $\mathring{\text{M}}$ 33'33	8.64750 AU				
	15165 May 18 13:39	30° $\mathring{\text{R}}$ $\mathring{\text{Z}}$		conjunction	15170 Dec 17 07:18	10° $\mathring{\text{Z}}$ 25'54	1°25'01
direct	15165 Jun 19 02:21	29° $\mathring{\text{Z}}$ 10'20		minimum elong	15170 Dec 17 07:17	10° $\mathring{\text{Z}}$ 25'54	1°25'59
	15165 Jul 20 03:51	0° $\mathring{\text{M}}$		max. Earth dist.	15170 Dec 17 15:21	10° $\mathring{\text{Z}}$ 28'21	10.64369 AU
evening set	15165 Sep 28 05:04	6° $\mathring{\text{M}}$ 32'32		morning rise	15171 Jan 03 19:44	12° $\mathring{\text{Z}}$ 33'06	
				retrograde	15171 Apr 17 22:03	20° $\mathring{\text{Z}}$ 07'18	
conjunction	15165 Oct 15 08:22	8° $\mathring{\text{M}}$ 37'40	-0°11'07	opposition	15171 Jun 26 01:08	16° $\mathring{\text{Z}}$ 43'08	1°52'07
minimum elong	15165 Oct 15 08:22	8° $\mathring{\text{M}}$ 37'40	0°10'36	min. Earth dist.	15171 Jun 25 19:27	16° $\mathring{\text{Z}}$ 44'15	8.63551 AU
behind sun begin	15165 Oct 15 02:51	8° $\mathring{\text{M}}$ 36'00		direct	15171 Sep 02 05:51	13° $\mathring{\text{Z}}$ 20'56	
behind sun end	15165 Oct 15 13:54	8° $\mathring{\text{M}}$ 39'21		evening set	15171 Dec 12 20:15	20° $\mathring{\text{Z}}$ 45'55	
max. Earth dist.	15165 Oct 16 00:45	8° $\mathring{\text{M}}$ 42'41	10.65503 AU				
morning rise	15165 Nov 01 14:01	10° $\mathring{\text{M}}$ 43'28		conjunction	15171 Dec 30 07:47	22° $\mathring{\text{Z}}$ 52'59	1°35'33
	15165 Dec 10 20:00	15° $\mathring{\text{M}}$		minimum elong	15171 Dec 30 07:46	22° $\mathring{\text{Z}}$ 52'58	1°36'28
retrograde	15166 Feb 13 11:35	18° $\mathring{\text{M}}$ 16'30		max. Earth dist.	15171 Dec 30 13:32	22° $\mathring{\text{Z}}$ 54'44	10.62462 AU
asc. node	15166 Apr 20 03:43	15° $\mathring{\text{M}}$ 12'13		morning rise	15172 Jan 16 21:00	25° $\mathring{\text{Z}}$ 00'35	
	15166 Apr 22 19:22	15° $\mathring{\text{R}}$ $\mathring{\text{M}}$			15172 Mar 04 03:35	0° $\mathring{\text{Z}}$	
opposition	15166 Apr 24 07:18	14° $\mathring{\text{M}}$ 53'06	0°00'18	retrograde	15172 Apr 29 20:30	2° $\mathring{\text{Z}}$ 35'25	
min. Earth dist.	15166 Apr 23 17:20	14° $\mathring{\text{M}}$ 55'47	8.66145 AU		15172 Jun 27 06:47	30° $\mathring{\text{R}}$ $\mathring{\text{Z}}$	
direct	15166 Jul 01 21:21	11° $\mathring{\text{M}}$ 32'35		opposition	15172 Jul 07 18:23	29° $\mathring{\text{Z}}$ 11'08	2°02'24

min. Earth dist.	15172 Jul 07 14:49	29° Z 11'50	8.61475 AU	opposition	15178 Sep 22 01:46	15° Y 16'04	1°02'55
direct	15172 Sep 13 23:13	25° Z 48'17		min. Earth dist.	15178 Sep 22 12:45	15° Y 13'53	8.46543 AU
	15172 Nov 25 21:59	0° \approx		direct	15178 Nov 29 19:04	11° Y 49'49	
evening set	15172 Dec 24 21:56	3° \approx 15'45		evening set	15179 Mar 14 00:52	19° Y 34'00	
conjunction	15173 Jan 11 10:39	5° \approx 23'23	1°41'36	conjunction	15179 Mar 31 17:12	21° Y 45'00	0°40'30
minimum elong	15173 Jan 11 10:39	5° \approx 23'23	1°42'27	minimum elong	15179 Mar 31 17:14	21° Y 45'01	0°40'14
max. Earth dist.	15173 Jan 11 12:57	5° \approx 24'05	10.60213 AU	max. Earth dist.	15179 Mar 31 01:53	21° Y 40'14	10.45567 AU
morning rise	15173 Jan 29 00:39	7° \approx 31'26		morning rise	15179 Apr 18 07:42	23° Y 55'32	
	15173 May 01 09:30	15° \approx			15179 Jun 17 04:23	0° Z	
retrograde	15173 May 12 20:06	15° \approx 06'50		retrograde	15179 Jul 29 12:02	1° Z 32'52	
	15173 May 24 06:48	15° $\text{R}\approx$			15179 Sep 10 14:25	30° RY	
opposition	15173 Jul 20 12:09	11° \approx 42'30	2°06'57	opposition	15179 Oct 05 05:20	28° Y 09'30	0°36'38
min. Earth dist.	15173 Jul 20 11:43	11° \approx 42'35	8.59099 AU	min. Earth dist.	15179 Oct 05 17:53	28° Y 07'01	8.44762 AU
direct	15173 Sep 26 17:25	8° \approx 18'56		direct	15179 Dec 13 02:03	24° Y 43'05	
	15173 Dec 31 03:55	15° \approx			15180 Mar 05 08:16	0° Z	
evening set	15174 Jan 07 01:54	15° \approx 49'11		evening set	15180 Mar 26 13:56	2° Z 29'23	
conjunction	15174 Jan 24 15:41	17° \approx 57'27	1°42'50	conjunction	15180 Apr 13 05:24	4° Z 40'32	0°18'20
minimum elong	15174 Jan 24 15:42	17° \approx 57'27	1°43'34	minimum elong	15180 Apr 13 05:24	4° Z 40'32	0°17'52
max. Earth dist.	15174 Jan 24 13:41	17° \approx 56'50	10.57721 AU	max. Earth dist.	15180 Apr 12 12:37	4° Z 35'18	10.44043 AU
morning rise	15174 Feb 11 06:27	20° \approx 06'00		morning rise	15180 Apr 30 18:47	6° Z 51'06	
retrograde	15174 May 25 20:56	27° \approx 41'51		retrograde	15180 Aug 10 18:08	14° Z 28'39	
opposition	15174 Aug 02 07:02	24° \approx 17'34	2°05'28	opposition	15180 Oct 17 10:58	11° Z 05'38	0°08'24
min. Earth dist.	15174 Aug 02 09:55	24° \approx 16'59	8.56522 AU	min. Earth dist.	15180 Oct 18 00:01	11° Z 03'04	8.43484 AU
direct	15174 Oct 09 13:03	20° \approx 53'17		direct	15180 Dec 25 10:57	7° Z 39'14	
evening set	15175 Jan 20 07:47	28° \approx 26'28		desc. node	15181 Feb 04 19:33	9° Z 05'40	
	15175 Feb 02 03:24	0° X			15181 Apr 05 09:59	15° Z	
conjunction	15175 Feb 06 22:35	0° X 35'22	1°39'08	evening set	15181 Apr 09 03:22	15° Z 27'10	
minimum elong	15175 Feb 06 22:37	0° X 35'22	1°39'42	conjunction	15181 Apr 26 17:24	17° Z 38'14	-0°04'55
max. Earth dist.	15175 Feb 06 16:48	0° X 33'35	10.55092 AU	minimum elong	15181 Apr 26 17:24	17° Z 38'14	0°05'34
morning rise	15175 Feb 24 13:56	2° X 44'26		behind sun begin	15181 Apr 26 10:29	17° Z 36'06	
retrograde	15175 Jun 07 20:35	10° X 20'42		behind sun end	15181 Apr 27 00:19	17° Z 40'23	
opposition	15175 Aug 15 03:11	6° X 56'28	1°57'54	max. Earth dist.	15181 Apr 26 00:53	17° Z 33'05	10.43044 AU
min. Earth dist.	15175 Aug 15 08:48	6° X 55'22	8.53857 AU	morning rise	15181 May 14 05:03	19° Z 48'39	
direct	15175 Oct 22 12:34	3° X 31'33		retrograde	15181 Aug 24 00:39	27° Z 26'26	
evening set	15176 Feb 02 15:41	11° X 07'41		opposition	15181 Oct 30 18:28	24° Z 03'47	-0°20'21
conjunction	15176 Feb 20 07:28	13° X 17'14	1°30'35	min. Earth dist.	15181 Oct 31 06:48	24° Z 01'21	8.42771 AU
minimum elong	15176 Feb 20 07:30	13° X 17'14	1°30'57	direct	15182 Jan 07 22:01	20° Z 37'32	
max. Earth dist.	15176 Feb 19 22:50	13° X 14'34	10.52442 AU	evening set	15182 Apr 22 16:29	28° Z 26'32	
morning rise	15176 Mar 08 23:07	15° X 26'47			15182 May 05 05:41	0° II	
retrograde	15176 Jun 19 22:29	23° X 03'24		conjunction	15182 May 10 04:39	0° II 37'18	-0°27'50
opposition	15176 Aug 27 00:45	19° X 39'16	1°44'32	minimum elong	15182 May 10 04:38	0° II 37'17	0°28'37
min. Earth dist.	15176 Aug 27 08:13	19° X 37'48	8.51223 AU	max. Earth dist.	15182 May 09 13:38	0° II 32'35	10.42627 AU
direct	15176 Nov 03 13:09	16° X 13'47		morning rise	15182 May 27 14:07	2° II 47'20	
evening set	15177 Feb 15 01:21	23° X 52'48		retrograde	15182 Sep 06 08:05	10° II 25'22	
conjunction	15177 Mar 04 17:53	26° X 02'58	1°17'32	opposition	15182 Nov 13 03:43	7° II 03'01	-0°48'06
minimum elong	15177 Mar 04 17:55	26° X 02'58	1°17'41	min. Earth dist.	15182 Nov 13 14:41	7° II 00'52	8.42671 AU
max. Earth dist.	15177 Mar 04 07:03	25° X 59'37	10.49887 AU	direct	15183 Jan 21 10:05	3° II 37'03	
morning rise	15177 Mar 22 09:30	28° X 12'57		evening set	15183 May 06 04:43	11° II 26'26	
	15177 Apr 06 12:37	0° Y		conjunction	15183 May 23 14:37	13° II 36'41	-0°49'22
retrograde	15177 Jul 03 02:47	5° Y 49'50		minimum elong	15183 May 23 14:35	13° II 36'41	0°50'15
opposition	15177 Sep 09 00:14	2° Y 25'52	1°25'55	max. Earth dist.	15183 May 23 01:40	13° II 32'37	10.42821 AU
min. Earth dist.	15177 Sep 09 09:26	2° Y 24'03	8.48739 AU	morning rise	15183 Jun 09 21:41	15° II 46'11	
	15177 Oct 13 04:02	30° RX		retrograde	15183 Sep 19 16:55	23° II 24'23	
direct	15177 Nov 16 14:30	28° X 59'57		opposition	15183 Nov 26 14:23	20° II 02'18	-1°13'22
	15177 Dec 20 19:08	0° Y		min. Earth dist.	15183 Nov 26 23:56	20° II 00'26	8.43187 AU
evening set	15178 Feb 28 12:31	6° Y 41'40		direct	15184 Feb 03 21:46	16° II 36'43	
conjunction	15178 Mar 18 05:13	8° Y 52'19	1°00'34	evening set	15184 May 18 15:44	24° II 25'46	
minimum elong	15178 Mar 18 05:15	8° Y 52'20	1°00'30	conjunction	15184 Jun 04 23:00	26° II 35'20	-1°08'22
max. Earth dist.	15178 Mar 17 16:04	8° Y 48'15	10.47550 AU	minimum elong	15184 Jun 04 22:58	26° II 35'20	1°09'19
morning rise	15178 Apr 04 20:26	11° Y 02'39		max. Earth dist.	15184 Jun 04 11:57	26° II 31'52	10.43614 AU
retrograde	15178 Jul 16 07:08	18° Y 39'46		morning rise	15184 Jun 22 03:41	28° II 44'12	

	15184 Jul 02 14:11	0°☾	minimum elong	15190 Aug 21 04:40	13°☾24'48	1°31'01
retrograde	15184 Oct 02 00:41	6°☾22'23	max. Earth dist.	15190 Aug 21 11:10	13°☾26'49	10.55436 AU
opposition	15184 Dec 09 01:50	3°☾00'31 -1°34'52	morning rise	15190 Sep 07 03:42	15°☾30'35	
min. Earth dist.	15184 Dec 09 10:00	2°☾58'55 8.44292 AU	retrograde	15190 Dec 19 05:21	23°☾06'51	
	15185 Jan 25 11:05	30°☾II	opposition	15191 Feb 26 14:00	19°☾44'22 -1°44'33	
direct	15185 Feb 16 10:10	29°☾II35'22	min. Earth dist.	15191 Feb 26 07:18	19°☾45'39 8.56564 AU	
	15185 Mar 10 07:56	0°☾	direct	15191 May 06 17:08	16°☾22'19	
evening set	15185 Jun 01 00:42	7°☾23'23	evening set	15191 Aug 17 00:09	23°☾54'15	
conjunction	15185 Jun 18 05:21	9°☾32'09 -1°23'52	conjunction	15191 Sep 02 23:17	25°☾59'43 -1°17'49	
minimum elong	15185 Jun 18 05:19	9°☾32'09 1°24'49	minimum elong	15191 Sep 02 23:20	25°☾59'44 1°17'59	
max. Earth dist.	15185 Jun 17 20:26	9°☾29'21 10.44969 AU	max. Earth dist.	15191 Sep 03 08:20	26°☾02'32 10.57513 AU	
morning rise	15185 Jul 05 07:53	11°☾40'19	morning rise	15191 Sep 19 23:27	28°☾05'27	
retrograde	15185 Oct 15 06:16	19°☾18'23		15191 Oct 06 03:50	0°☾	
opposition	15185 Dec 22 13:46	15°☾56'38 -1°51'29	retrograde	15192 Jan 01 05:32	5°☾41'09	
min. Earth dist.	15185 Dec 22 19:44	15°☾55'28 8.45918 AU	opposition	15192 Mar 10 19:14	2°☾18'17 -1°26'14	
direct	15186 Mar 02 00:03	12°☾31'59	min. Earth dist.	15192 Mar 10 10:07	2°☾20'02 8.58548 AU	
evening set	15186 Jun 14 07:00	20°☾18'12		15192 Apr 12 21:50	30°☾☾	
conjunction	15186 Jul 01 09:22	22°☾26'10 -1°35'05	direct	15192 May 18 20:10	28°☾56'34	
minimum elong	15186 Jul 01 09:21	22°☾26'09 1°36'00	evening set	15192 Jun 23 01:35	0°☾	
max. Earth dist.	15186 Jul 01 03:27	22°☾24'18 10.46786 AU		15192 Aug 28 16:33	6°☾25'29	
morning rise	15186 Jul 18 10:06	24°☾33'36	conjunction	15192 Sep 14 16:42	8°☾30'50 -1°01'20	
	15186 Sep 07 13:32	0°☾	minimum elong	15192 Sep 14 16:44	8°☾30'51 1°01'17	
retrograde	15186 Oct 28 12:33	2°☾11'27	max. Earth dist.	15192 Sep 15 04:55	8°☾34'36 10.59430 AU	
	15186 Dec 20 14:12	30°☾☾	morning rise	15192 Oct 01 18:13	10°☾36'35	
opposition	15187 Jan 05 01:22	28°☾49'41 -2°02'25	retrograde	15193 Jan 13 05:29	18°☾11'44	
min. Earth dist.	15187 Jan 05 04:30	28°☾49'04 8.47921 AU	opposition	15193 Mar 23 22:24	14°☾48'27 -1°03'55	
direct	15187 Mar 15 12:34	25°☾25'34	min. Earth dist.	15193 Mar 23 10:53	14°☾50'40 8.60335 AU	
	15187 May 31 05:21	0°☾	direct	15193 May 31 21:06	11°☾27'00	
evening set	15187 Jun 27 10:39	3°☾09'24	evening set	15193 Sep 10 08:04	18°☾53'12	
conjunction	15187 Jul 14 11:17	5°☾16'37 -1°41'30	conjunction	15193 Sep 27 09:31	20°☾58'33 -0°42'01	
minimum elong	15187 Jul 14 11:17	5°☾16'37 1°42'20	minimum elong	15193 Sep 27 09:32	20°☾58'33 0°41'45	
max. Earth dist.	15187 Jul 14 08:56	5°☾15'52 10.48892 AU	max. Earth dist.	15193 Sep 28 00:09	21°☾03'03 10.61106 AU	
morning rise	15187 Jul 31 10:35	7°☾23'25	morning rise	15193 Oct 14 12:37	23°☾04'23	
	15187 Nov 06 14:58	15°☾		15193 Dec 29 10:00	0°☾	
retrograde	15187 Nov 10 18:24	15°☾00'54	retrograde	15194 Jan 26 05:56	0°☾39'00	
	15187 Nov 14 21:46	15°☾☾		15194 Feb 23 07:29	30°☾☾	
opposition	15188 Jan 18 12:08	11°☾39'03 -2°07'10	opposition	15194 Apr 05 23:20	27°☾15'21 -0°38'41	
min. Earth dist.	15188 Jan 18 12:11	11°☾39'02 8.50099 AU	min. Earth dist.	15194 Apr 05 10:25	27°☾17'51 8.61848 AU	
direct	15188 Mar 27 22:17	8°☾15'30	direct	15194 Jun 13 17:39	23°☾54'03	
	15188 Jul 01 16:27	15°☾		15194 Sep 11 22:52	0°☾	
evening set	15188 Jul 09 11:35	15°☾56'37	evening set	15194 Sep 22 23:11	1°☾18'04	
conjunction	15188 Jul 26 11:01	18°☾03'10 -1°42'51	conjunction	15194 Oct 10 02:00	3°☾23'28 -0°20'47	
minimum elong	15188 Jul 26 11:01	18°☾03'11 1°43'34	minimum elong	15194 Oct 10 02:00	3°☾23'28 0°20'21	
max. Earth dist.	15188 Jul 26 12:16	18°☾03'34 10.51088 AU	max. Earth dist.	15194 Oct 10 17:33	3°☾28'15 10.62461 AU	
morning rise	15188 Aug 12 09:28	20°☾09'29	morning rise	15194 Oct 27 06:54	5°☾29'30	
retrograde	15188 Nov 22 23:10	27°☾46'39	retrograde	15195 Feb 08 03:48	13°☾03'42	
opposition	15189 Jan 30 22:10	24°☾24'39 -2°05'37	opposition	15195 Apr 18 22:26	9°☾39'44 -0°11'44	
min. Earth dist.	15189 Jan 30 19:38	24°☾25'08 8.52293 AU	min. Earth dist.	15195 Apr 18 09:22	9°☾42'15 8.63004 AU	
direct	15189 Apr 10 06:17	21°☾01'41	direct	15195 Jun 26 13:15	6°☾18'28	
evening set	15189 Jul 22 09:52	28°☾39'51	asc. node	15195 Sep 28 20:12	12°☾52'47	
	15189 Aug 02 05:23	0°☾☾	evening set	15195 Oct 05 14:24	13°☾40'56	
				15195 Oct 16 10:58	15°☾	
conjunction	15189 Aug 08 08:36	0°☾45'54 -1°39'09	conjunction	15195 Oct 22 18:33	15°☾46'27 0°01'26	
minimum elong	15189 Aug 08 08:38	0°☾45'55 1°39'42	minimum elong	15195 Oct 22 18:33	15°☾46'27 0°02'03	
max. Earth dist.	15189 Aug 08 12:44	0°☾47'12 10.53277 AU	behind sun begin	15195 Oct 22 11:26	15°☾44'18	
morning rise	15189 Aug 25 07:00	2°☾51'53	behind sun end	15195 Oct 23 01:41	15°☾48'37	
retrograde	15189 Dec 06 03:03	10°☾28'41	max. Earth dist.	15195 Oct 23 09:46	15°☾51'06 10.63419 AU	
opposition	15190 Feb 13 06:59	7°☾06'29 -1°57'55	morning rise	15195 Nov 09 01:16	17°☾52'41	
min. Earth dist.	15190 Feb 13 02:15	7°☾07'24 8.54458 AU	retrograde	15196 Feb 21 00:58	25°☾26'42	
direct	15190 Apr 23 12:58	3°☾44'02	opposition	15196 Apr 30 19:49	22°☾02'28 0°15'41	
evening set	15190 Aug 04 06:01	11°☾19'05	min. Earth dist.	15196 Apr 30 07:12	22°☾04'54 8.63747 AU	
conjunction	15190 Aug 21 04:38	13°☾24'47 -1°30'38	direct	15196 Jul 08 08:12	18°☾41'09	





























































































































evening set	15196 Oct 17 06:19	26°  02'44		conjunction	15203 Jan 19 08:46	12°  51'09	1°42'49
				minimum elong	15203 Jan 19 08:46	12°  51'09	1°43'35
conjunction	15196 Nov 03 11:59	28°  08'27	0°23'27	max. Earth dist.	15203 Jan 19 10:18	12°  51'37	10.57750 AU
minimum elong	15196 Nov 03 11:58	28°  08'27	0°24'12	morning rise	15203 Feb 05 23:16	14°  59'42	
max. Earth dist.	15196 Nov 04 02:56	28°  13'02	10.63932 AU		15203 Feb 06 00:17	15° 	
	15196 Nov 18 18:33	0° 		retrograde	15203 May 20 16:58	22°  36'17	
morning rise	15196 Nov 20 20:20	0°  14'56		opposition	15203 Jul 28 05:22	19°  12'02	2°06'42
retrograde	15197 Mar 04 22:28	7°  48'56		min. Earth dist.	15203 Jul 28 05:07	19°  12'05	8.56848 AU
opposition	15197 May 13 15:36	4°  24'29	0°42'21	direct	15203 Oct 04 10:19	15°  48'16	
min. Earth dist.	15197 May 13 03:23	4°  26'51	8.64033 AU	evening set	15204 Jan 15 01:15	23°  20'58	
direct	15197 Jul 21 01:18	1°  03'01					
evening set	15197 Oct 29 23:24	8°  24'27		conjunction	15204 Feb 01 15:49	25°  29'46	1°41'09
				minimum elong	15204 Feb 01 15:50	25°  29'46	1°41'47
conjunction	15197 Nov 16 06:38	10°  30'26	0°44'24	max. Earth dist.	15204 Feb 01 14:14	25°  29'16	10.55697 AU
minimum elong	15197 Nov 16 06:36	10°  30'26	0°45'15	morning rise	15204 Feb 19 06:51	27°  38'46	
max. Earth dist.	15197 Nov 16 21:12	10°  34'53	10.63962 AU		15204 Mar 10 14:39	0° 	
morning rise	15197 Dec 03 16:21	12°  37'10		retrograde	15204 Jun 01 18:47	5°  15'40	
retrograde	15198 Mar 17 19:41	20°  11'23		opposition	15204 Aug 09 01:47	1°  51'39	2°01'37
opposition	15198 May 26 10:16	16°  46'46	1°07'02	min. Earth dist.	15204 Aug 09 04:18	1°  51'10	8.54734 AU
min. Earth dist.	15198 May 25 22:37	16°  49'01	8.63833 AU		15204 Sep 03 00:52	30° 	
direct	15198 Aug 02 18:22	13°  25'04		direct	15204 Oct 16 08:24	28°  27'24	
evening set	15198 Nov 11 18:16	20°  47'05			15204 Nov 28 00:52	0° 	
				evening set	15205 Jan 27 09:25	6°  02'54	
conjunction	15198 Nov 29 02:49	22°  53'23	1°03'18				
minimum elong	15198 Nov 29 02:47	22°  53'22	1°04'13	conjunction	15205 Feb 14 00:53	8°  12'17	1°34'34
max. Earth dist.	15198 Nov 29 16:11	22°  57'27	10.63498 AU	minimum elong	15205 Feb 14 00:55	8°  12'18	1°35'01
morning rise	15198 Dec 16 13:41	25°  00'23		max. Earth dist.	15205 Feb 13 19:21	8°  10'35	10.53555 AU
	15199 Feb 01 21:59	0° 		morning rise	15205 Mar 03 16:21	10°  21'43	
retrograde	15199 Mar 30 18:16	2°  34'59		retrograde	15205 Jun 14 21:26	17°  58'46	
	15199 May 28 10:35	30°  04'11		opposition	15205 Aug 21 23:30	14°  35'01	1°50'34
opposition	15199 Jun 08 04:12	29°  10'17	1°28'38	min. Earth dist.	15205 Aug 22 05:17	14°  33'52	8.52556 AU
min. Earth dist.	15199 Jun 07 18:05	29°  12'15	8.63156 AU	direct	15205 Oct 29 08:20	11°  10'14	
direct	15199 Aug 15 10:06	25°  48'16		evening set	15206 Feb 09 19:16	18°  48'28	
	15199 Oct 27 06:34	0° 					
evening set	15199 Nov 24 15:07	3°  11'31		conjunction	15206 Feb 27 11:22	20°  58'25	1°23'18
				minimum elong	15206 Feb 27 11:24	20°  58'26	1°23'33
conjunction	15199 Dec 12 00:52	5°  18'11	1°19'16	max. Earth dist.	15206 Feb 27 01:38	20°  55'25	10.51384 AU
minimum elong	15199 Dec 12 00:50	5°  18'10	1°20'13	morning rise	15206 Mar 17 03:04	23°  08'16	
max. Earth dist.	15199 Dec 12 11:27	5°  21'25	10.62583 AU		15206 May 29 14:15	0° 	
morning rise	15199 Dec 29 12:52	7°  25'31		retrograde	15206 Jun 28 00:48	0°  45'21	
retrograde	15200 Apr 11 17:47	15°  00'35			15206 Jul 27 15:31	30°  04'11	
opposition	15200 Jun 19 21:59	11°  35'54	1°46'08	opposition	15206 Sep 03 22:54	27°  21'49	1°34'01
min. Earth dist.	15200 Jun 19 14:26	11°  37'23	8.62056 AU	min. Earth dist.	15206 Sep 04 07:40	27°  20'05	8.50362 AU
direct	15200 Aug 27 01:18	8°  13'29		direct	15206 Nov 11 10:30	23°  56'35	
evening set	15200 Dec 06 14:09	15°  38'34			15207 Feb 09 12:58	0° 	
				evening set	15207 Feb 23 06:15	1°  37'24	
conjunction	15200 Dec 24 01:05	17°  45'40	1°31'33				
minimum elong	15200 Dec 24 01:04	17°  45'40	1°32'30	conjunction	15207 Mar 12 22:45	3°  47'50	1°07'52
max. Earth dist.	15200 Dec 24 08:19	17°  47'52	10.61275 AU	minimum elong	15207 Mar 12 22:48	3°  47'51	1°07'53
morning rise	15201 Jan 10 14:11	19°  53'23		max. Earth dist.	15207 Mar 12 09:54	3°  43'51	10.49211 AU
retrograde	15201 Apr 24 15:27	27°  28'58		morning rise	15207 Mar 30 14:20	5°  58'03	
opposition	15201 Jul 02 15:53	24°  04'24	1°58'42	retrograde	15207 Jul 11 04:11	13°  35'15	
min. Earth dist.	15201 Jul 02 11:09	24°  05'19	8.60589 AU	opposition	15207 Sep 16 24:00	10°  11'58	1°12'42
direct	15201 Sep 08 19:54	20°  41'31		min. Earth dist.	15207 Sep 17 10:44	10°  09'50	8.48175 AU
evening set	15201 Dec 19 15:35	28°  08'54		direct	15207 Nov 24 15:51	6°  46'21	
	15202 Jan 03 21:47	0° 		evening set	15208 Mar 07 18:35	14°  29'41	
conjunction	15202 Jan 06 03:46	0°  16'31	1°39'32				
minimum elong	15202 Jan 06 03:45	0°  16'31	1°40'25	conjunction	15208 Mar 25 11:09	16°  40'33	0°48'58
max. Earth dist.	15202 Jan 06 07:50	0°  17'46	10.59637 AU	minimum elong	15208 Mar 25 11:11	16°  40'33	0°48'46
morning rise	15202 Jan 23 17:40	2°  24'37		max. Earth dist.	15208 Mar 24 20:17	16°  35'56	10.47081 AU
retrograde	15202 May 07 15:06	10°  00'45		morning rise	15208 Apr 12 02:07	18°  51'01	
opposition	15202 Jul 15 10:08	6°  36'19	2°05'41	retrograde	15208 Jul 23 09:12	26°  28'27	
min. Earth dist.	15202 Jul 15 07:48	6°  36'47	8.58826 AU	opposition	15208 Sep 29 02:56	23°  05'26	0°47'37
direct	15202 Sep 21 15:00	3°  13'00		min. Earth dist.	15208 Sep 29 14:52	23°  03'04	8.46104 AU
evening set	15203 Jan 01 19:20	10°  42'58		direct	15208 Dec 06 22:26	19°  39'34	
				evening set	15209 Mar 21 07:58	27°  25'13	
				max. Earth dist.	15209 Apr 07 08:05	29°  31'23	10.45159 AU

conjunction	15209 Apr 08 00:00	29° Υ 36'21	0°27'31	direct	15215 Feb 24 20:37	7° \mathfrak{C} 30'04	
minimum elong	15209 Apr 08 00:01	29° Υ 36'21	0°27'07	evening set	15215 Jun 09 05:28	15° \mathfrak{C} 17'15	
	15209 Apr 11 03:55	0° \mathfrak{B}					
morning rise	15209 Apr 25 13:49	1° \mathfrak{B} 46'55		conjunction	15215 Jun 26 09:00	17° \mathfrak{C} 25'39	-1°31'10
retrograde	15209 Aug 05 16:44	9° \mathfrak{B} 24'39		minimum elong	15215 Jun 26 08:59	17° \mathfrak{C} 25'39	1°32'06
opposition	15209 Oct 12 08:12	6° \mathfrak{B} 01'53	0°20'00	max. Earth dist.	15215 Jun 26 02:26	17° \mathfrak{C} 23'36	10.44849 AU
min. Earth dist.	15209 Oct 12 20:48	5° \mathfrak{B} 59'23	8.44351 AU	morning rise	15215 Jul 13 10:22	19° \mathfrak{C} 33'29	
direct	15209 Dec 20 05:53	2° \mathfrak{B} 35'51		retrograde	15215 Oct 23 11:21	27° \mathfrak{C} 11'35	
evening set	15210 Apr 03 21:45	10° \mathfrak{B} 23'22		opposition	15215 Dec 30 21:10	23° \mathfrak{C} 49'15	-1°58'50
				min. Earth dist.	15215 Dec 31 01:13	23° \mathfrak{C} 48'27	8.45854 AU
conjunction	15210 Apr 21 12:33	12° \mathfrak{B} 34'32	0°04'39	direct	15216 Mar 09 08:01	20° \mathfrak{C} 24'19	
minimum elong	15210 Apr 21 12:34	12° \mathfrak{B} 34'32	0°04'04	evening set	15216 Jun 21 10:13	28° \mathfrak{C} 09'23	
behind sun begin	15210 Apr 21 05:27	12° \mathfrak{B} 32'20			15216 Jul 06 05:26	0° \mathfrak{Q}	
behind sun end	15210 Apr 21 19:40	12° \mathfrak{B} 36'44					
max. Earth dist.	15210 Apr 20 20:04	12° \mathfrak{B} 29'23	10.43640 AU	conjunction	15216 Jul 08 11:36	0° \mathfrak{Q} 17'00	-1°39'35
morning rise	15210 May 09 00:49	14° \mathfrak{B} 45'03		minimum elong	15216 Jul 08 11:35	0° \mathfrak{Q} 17'00	1°40'27
	15210 May 11 01:51	15° \mathfrak{B}		max. Earth dist.	15216 Jul 08 08:02	0° \mathfrak{Q} 15'53	10.46771 AU
desc. node	15210 Jul 05 07:41	20° \mathfrak{B} 39'43		morning rise	15216 Jul 25 11:24	2° \mathfrak{Q} 24'09	
retrograde	15210 Aug 18 23:59	22° \mathfrak{B} 23'03		retrograde	15216 Nov 04 16:38	10° \mathfrak{Q} 01'54	
opposition	15210 Oct 25 15:31	19° \mathfrak{B} 00'29	-0°08'44	opposition	15217 Jan 12 08:19	6° \mathfrak{Q} 39'32	-2°06'08
min. Earth dist.	15210 Oct 26 04:40	18° \mathfrak{B} 57'53	8.43090 AU	min. Earth dist.	15217 Jan 12 09:56	6° \mathfrak{Q} 39'13	8.47998 AU
direct	15211 Jan 02 16:02	15° \mathfrak{B} 34'22		direct	15217 Mar 22 18:29	3° \mathfrak{Q} 15'10	
evening set	15211 Apr 17 11:35	23° \mathfrak{B} 23'13		evening set	15217 Jul 04 12:05	10° \mathfrak{Q} 57'35	
max. Earth dist.	15211 May 04 07:49	25° \mathfrak{B} 28'56	10.42664 AU				
				conjunction	15217 Jul 21 11:51	13° \mathfrak{Q} 04'28	-1°43'00
conjunction	15211 May 05 00:34	25° \mathfrak{B} 34'11	-0°18'39	minimum elong	15217 Jul 21 11:52	13° \mathfrak{Q} 04'28	1°43'46
minimum elong	15211 May 05 00:34	25° \mathfrak{B} 34'10	0°19'22	max. Earth dist.	15217 Jul 21 11:18	13° \mathfrak{Q} 04'17	10.49089 AU
morning rise	15211 May 22 10:59	27° \mathfrak{B} 44'27			15217 Aug 05 22:47	15° \mathfrak{Q}	
	15211 Jun 10 12:20	0° \mathfrak{I}		morning rise	15217 Aug 07 10:45	15° \mathfrak{Q} 11'03	
retrograde	15211 Sep 01 06:20	5° \mathfrak{I} 22'38		retrograde	15217 Nov 17 20:02	22° \mathfrak{Q} 48'20	
opposition	15211 Nov 08 00:23	2° \mathfrak{I} 00'14	-0°37'06	opposition	15218 Jan 25 18:31	19° \mathfrak{Q} 25'53	-2°07'08
min. Earth dist.	15211 Nov 08 13:23	1° \mathfrak{I} 57'40	8.42421 AU	min. Earth dist.	15218 Jan 25 17:11	19° \mathfrak{Q} 26'08	8.50471 AU
	15211 Dec 05 06:10	30° \mathfrak{R} \mathfrak{B}		direct	15218 Apr 05 04:25	16° \mathfrak{Q} 02'08	
direct	15212 Jan 16 04:52	28° \mathfrak{B} 34'07		evening set	15218 Jul 17 10:59	23° \mathfrak{Q} 41'30	
	15212 Feb 26 11:10	0° \mathfrak{I}					
evening set	15212 Apr 30 00:43	6° \mathfrak{I} 23'40		conjunction	15218 Aug 03 09:55	25° \mathfrak{Q} 47'46	-1°41'20
				minimum elong	15218 Aug 03 09:56	25° \mathfrak{Q} 47'46	1°41'57
conjunction	15212 May 17 11:30	8° \mathfrak{I} 34'12	-0°40'55	max. Earth dist.	15218 Aug 03 13:09	25° \mathfrak{Q} 48'46	10.51678 AU
minimum elong	15212 May 17 11:28	8° \mathfrak{I} 34'11	0°41'45	morning rise	15218 Aug 20 08:28	27° \mathfrak{Q} 53'53	
max. Earth dist.	15212 May 16 19:40	8° \mathfrak{I} 29'14	10.42295 AU		15218 Sep 07 02:25	0° \mathfrak{P}	
morning rise	15212 Jun 03 19:45	10° \mathfrak{I} 44'01		retrograde	15218 Nov 30 23:20	5° \mathfrak{P} 30'36	
retrograde	15212 Sep 13 13:44	18° \mathfrak{I} 22'20		opposition	15219 Feb 08 03:15	2° \mathfrak{P} 08'01	-2°01'52
opposition	15212 Nov 20 10:41	15° \mathfrak{I} 00'02	-1°03'34	min. Earth dist.	15219 Feb 07 22:29	2° \mathfrak{P} 08'57	8.53129 AU
min. Earth dist.	15212 Nov 20 22:22	14° \mathfrak{I} 57'44	8.42380 AU		15219 Mar 10 03:04	30° \mathfrak{R} \mathfrak{Q}	
direct	15213 Jan 28 18:10	11° \mathfrak{I} 34'03		direct	15219 Apr 18 12:13	28° \mathfrak{Q} 44'56	
evening set	15213 May 13 12:23	19° \mathfrak{I} 23'31		evening set	15219 May 26 23:01	0° \mathfrak{P}	
					15219 Jul 30 07:23	6° \mathfrak{P} 20'59	
conjunction	15213 May 30 20:43	21° \mathfrak{I} 33'27	-1°01'06				
minimum elong	15213 May 30 20:42	21° \mathfrak{I} 33'27	1°02'01	conjunction	15219 Aug 16 06:06	8° \mathfrak{P} 26'47	-1°34'44
max. Earth dist.	15213 May 30 07:19	21° \mathfrak{I} 29'14	10.42549 AU	minimum elong	15219 Aug 16 06:07	8° \mathfrak{P} 26'47	1°35'11
morning rise	15213 Jun 17 02:34	23° \mathfrak{I} 42'40		max. Earth dist.	15219 Aug 16 13:20	8° \mathfrak{P} 29'02	10.54390 AU
	15213 Aug 18 12:06	0° \mathfrak{C}		morning rise	15219 Sep 02 04:47	10° \mathfrak{P} 32'34	
retrograde	15213 Sep 26 21:00	1° \mathfrak{C} 21'02		retrograde	15219 Dec 14 02:42	18° \mathfrak{P} 08'34	
	15213 Nov 06 04:10	30° \mathfrak{R} \mathfrak{I}		opposition	15220 Feb 21 10:17	14° \mathfrak{P} 45'53	-1°50'44
opposition	15213 Dec 03 21:54	27° \mathfrak{I} 58'45	-1°26'47	min. Earth dist.	15220 Feb 21 02:23	14° \mathfrak{P} 47'24	8.55838 AU
min. Earth dist.	15213 Dec 04 07:03	27° \mathfrak{I} 56'58	8.42964 AU	direct	15220 Apr 30 15:47	11° \mathfrak{P} 23'27	
direct	15214 Feb 11 07:39	24° \mathfrak{I} 33'02		evening set	15220 Aug 11 01:35	18° \mathfrak{P} 56'07	
	15214 May 07 00:05	0° \mathfrak{C}					
evening set	15214 May 26 22:06	2° \mathfrak{C} 21'42		conjunction	15220 Aug 28 00:33	21° \mathfrak{P} 01'34	-1°23'37
				minimum elong	15220 Aug 28 00:35	21° \mathfrak{P} 01'34	1°23'52
conjunction	15214 Jun 13 04:00	4° \mathfrak{C} 30'54	-1°18'08	max. Earth dist.	15220 Aug 28 11:12	21° \mathfrak{P} 04'52	10.57103 AU
minimum elong	15214 Jun 13 03:58	4° \mathfrak{C} 30'54	1°19'05	morning rise	15220 Sep 13 24:00	23° \mathfrak{P} 07'10	
max. Earth dist.	15214 Jun 12 18:08	4° \mathfrak{C} 27'48	10.43415 AU		15220 Nov 27 06:24	0° \mathfrak{A}	
morning rise	15214 Jun 30 07:26	6° \mathfrak{C} 39'26		retrograde	15220 Dec 26 03:29	0° \mathfrak{A} 42'25	
retrograde	15214 Oct 10 04:04	14° \mathfrak{C} 17'44			15221 Jan 24 09:37	30° \mathfrak{R} \mathfrak{I}	
opposition	15214 Dec 17 09:29	10° \mathfrak{C} 55'26	-1°45'31	opposition	15221 Mar 05 15:36	27° \mathfrak{P} 19'35	-1°34'22
min. Earth dist.	15214 Dec 17 16:00	10° \mathfrak{C} 54'10	8.44145 AU	min. Earth dist.	15221 Mar 05 05:24	27° \mathfrak{P} 21'33	8.58487 AU

direct	15221 May 13 17:53	23° <u>♄</u> 57'45		minimum elong	15226 Nov 11 02:48	5° <u>♄</u> 26'31	0°36'22
	15221 Aug 11 11:55	0° <u>♄</u>		max. Earth dist.	15226 Nov 11 17:48	5° <u>♄</u> 31'05	10.67261 AU
evening set	15221 Aug 23 17:54	1° <u>♄</u> 27'10		morning rise	15226 Nov 28 11:43	7° <u>♄</u> 32'43	
				retrograde	15227 Mar 12 14:44	15° <u>♄</u> 05'19	
conjunction	15221 Sep 09 17:31	3° <u>♄</u> 32'22	-1°08'34	opposition	15227 May 21 06:06	11° <u>♄</u> 41'36	0°56'36
minimum elong	15221 Sep 09 17:33	3° <u>♄</u> 32'22	1°08'36	min. Earth dist.	15227 May 20 18:36	11° <u>♄</u> 43'50	8.67250 AU
max. Earth dist.	15221 Sep 10 06:12	3° <u>♄</u> 36'17	10.59702 AU	direct	15227 Jul 28 14:10	8° <u>♄</u> 20'48	
morning rise	15221 Sep 26 18:19	5° <u>♄</u> 37'54		evening set	15227 Nov 06 13:39	15° <u>♄</u> 41'05	
retrograde	15222 Jan 08 03:21	13° <u>♄</u> 12'25					
opposition	15222 Mar 18 18:52	9° <u>♄</u> 49'27	-1°13'36	conjunction	15227 Nov 23 21:14	17° <u>♄</u> 46'48	0°55'22
min. Earth dist.	15222 Mar 18 07:26	9° <u>♄</u> 51'39	8.60964 AU	minimum elong	15227 Nov 23 21:13	17° <u>♄</u> 46'47	0°56'15
direct	15222 May 26 18:05	6° <u>♄</u> 28'06		max. Earth dist.	15227 Nov 24 09:43	17° <u>♄</u> 50'36	10.66989 AU
evening set	15222 Sep 05 09:06	13° <u>♄</u> 54'33		morning rise	15227 Dec 11 07:32	19° <u>♄</u> 53'15	
				retrograde	15228 Mar 24 11:00	27° <u>♄</u> 26'13	
conjunction	15222 Sep 22 09:44	15° <u>♄</u> 59'39	-0°50'22	opposition	15228 Jun 01 23:35	24° <u>♄</u> 02'21	1°19'33
minimum elong	15222 Sep 22 09:45	15° <u>♄</u> 59'39	0°50'11	min. Earth dist.	15228 Jun 01 14:10	24° <u>♄</u> 04'11	8.66636 AU
max. Earth dist.	15222 Sep 22 23:48	16° <u>♄</u> 03'59	10.62074 AU	direct	15228 Aug 09 06:38	20° <u>♄</u> 41'12	
morning rise	15222 Oct 09 12:09	18° <u>♄</u> 05'13		evening set	15228 Nov 18 08:39	28° <u>♄</u> 02'29	
retrograde	15223 Jan 21 02:15	25° <u>♄</u> 39'00			15228 Dec 04 13:29	0° <u>♄</u>	
opposition	15223 Mar 31 19:53	22° <u>♄</u> 15'54	-0°49'31	conjunction	15228 Dec 05 17:40	0° <u>♄</u> 08'35	1°12'38
min. Earth dist.	15223 Mar 31 07:17	22° <u>♄</u> 18'20	8.63164 AU	minimum elong	15228 Dec 05 17:38	0° <u>♄</u> 08'35	1°13'35
direct	15223 Jun 08 15:25	18° <u>♄</u> 54'57		max. Earth dist.	15228 Dec 06 04:10	0° <u>♄</u> 11'47	10.66021 AU
evening set	15223 Sep 17 23:33	26° <u>♄</u> 18'54		morning rise	15228 Dec 23 05:05	2° <u>♄</u> 15'23	
				retrograde	15229 Apr 06 08:38	9° <u>♄</u> 48'53	
conjunction	15223 Oct 05 01:33	28° <u>♄</u> 23'58	-0°29'53	opposition	15229 Jun 14 16:25	6° <u>♄</u> 24'53	1°38'53
minimum elong	15223 Oct 05 01:34	28° <u>♄</u> 23'58	0°29'30	min. Earth dist.	15229 Jun 14 08:38	6° <u>♄</u> 26'23	8.65383 AU
max. Earth dist.	15223 Oct 05 17:14	28° <u>♄</u> 28'47	10.64115 AU	direct	15229 Aug 21 22:01	3° <u>♄</u> 03'15	
	15223 Oct 18 03:30	0° <u>♄</u>		evening set	15229 Dec 01 05:50	10° <u>♄</u> 26'12	
morning rise	15223 Oct 22 05:38	0° <u>♄</u> 29'37					
retrograde	15224 Feb 02 23:00	8° <u>♄</u> 02'52		conjunction	15229 Dec 18 16:13	12° <u>♄</u> 32'45	1°26'35
opposition	15224 Apr 12 19:02	4° <u>♄</u> 39'36	-0°23'14	minimum elong	15229 Dec 18 16:12	12° <u>♄</u> 32'45	1°27'32
min. Earth dist.	15224 Apr 12 05:12	4° <u>♄</u> 42'15	8.64993 AU	max. Earth dist.	15229 Dec 19 00:32	12° <u>♄</u> 35'17	10.64473 AU
direct	15224 Jun 20 12:18	1° <u>♄</u> 18'57		morning rise	15230 Jan 05 04:35	14° <u>♄</u> 39'56	
evening set	15224 Sep 29 13:46	8° <u>♄</u> 40'54		retrograde	15230 Apr 19 06:36	22° <u>♄</u> 31'04	
				opposition	15230 Jun 27 09:19	18° <u>♄</u> 49'56	1°53'41
conjunction	15224 Oct 16 17:17	10° <u>♄</u> 46'02	-0°08'06	min. Earth dist.	15230 Jun 27 03:35	18° <u>♄</u> 51'03	8.63609 AU
minimum elong	15224 Oct 16 17:17	10° <u>♄</u> 46'02	0°07'33	direct	15230 Sep 03 14:11	15° <u>♄</u> 27'44	
behind sun begin	15224 Oct 16 10:50	10° <u>♄</u> 44'05		evening set	15230 Dec 14 05:18	22° <u>♄</u> 52'51	
behind sun end	15224 Oct 16 23:45	10° <u>♄</u> 47'59					
max. Earth dist.	15224 Oct 17 10:26	10° <u>♄</u> 51'16	10.65727 AU	conjunction	15230 Dec 31 16:50	24° <u>♄</u> 59'55	1°36'31
morning rise	15224 Nov 02 22:59	12° <u>♄</u> 51'48		minimum elong	15230 Dec 31 16:49	24° <u>♄</u> 59'55	1°37'26
	15224 Nov 21 09:49	15° <u>♄</u>		max. Earth dist.	15230 Dec 31 22:00	25° <u>♄</u> 01'30	10.62467 AU
retrograde	15225 Feb 14 20:56	20° <u>♄</u> 24'41		morning rise	15231 Jan 18 06:03	27° <u>♄</u> 07'31	
asc. node	15225 Mar 02 04:30	20° <u>♄</u> 12'53			15231 Feb 12 13:30	0° <u>♄</u>	
opposition	15225 Apr 25 16:17	17° <u>♄</u> 01'15	0°04'02	retrograde	15231 May 02 05:51	4° <u>♄</u> 42'20	
min. Earth dist.	15225 Apr 25 01:49	17° <u>♄</u> 04'02	8.66352 AU	opposition	15231 Jul 10 02:38	1° <u>♄</u> 18'07	2°03'13
	15225 May 23 22:15	15° <u>♄</u>		min. Earth dist.	15231 Jul 09 23:44	1° <u>♄</u> 18'41	8.61436 AU
direct	15225 Jul 03 06:43	13° <u>♄</u> 40'44			15231 Jul 27 03:49	30° <u>♄</u>	
	15225 Aug 11 16:48	15° <u>♄</u>		direct	15231 Sep 16 06:57	27° <u>♄</u> 55'14	
evening set	15225 Oct 12 04:41	21° <u>♄</u> 01'21			15231 Nov 05 04:32	0° <u>♄</u>	
				evening set	15231 Dec 27 07:08	5° <u>♄</u> 22'55	
conjunction	15225 Oct 29 09:38	23° <u>♄</u> 06'37	0°14'07				
minimum elong	15225 Oct 29 09:37	23° <u>♄</u> 06'36	0°14'48	conjunction	15232 Jan 13 19:47	7° <u>♄</u> 30'34	1°41'56
behind sun begin	15225 Oct 29 06:47	23° <u>♄</u> 05'45		minimum elong	15232 Jan 13 19:47	7° <u>♄</u> 30'34	1°42'46
behind sun end	15225 Oct 29 12:28	23° <u>♄</u> 07'28		max. Earth dist.	15232 Jan 13 20:50	7° <u>♄</u> 30'53	10.60130 AU
max. Earth dist.	15225 Oct 30 02:33	23° <u>♄</u> 11'46	10.66811 AU	morning rise	15232 Jan 31 09:54	9° <u>♄</u> 38'40	
morning rise	15225 Nov 15 16:57	25° <u>♄</u> 12'34			15232 Mar 22 22:50	15° <u>♄</u>	
	15225 Dec 30 18:47	0° <u>♄</u>		retrograde	15232 May 14 05:20	17° <u>♄</u> 14'04	
retrograde	15226 Feb 27 19:08	2° <u>♄</u> 45'11			15232 Jul 06 16:08	15° <u>♄</u>	
	15226 Apr 30 03:27	30° <u>♄</u>		opposition	15232 Jul 21 20:37	13° <u>♄</u> 49'49	2°06'58
opposition	15226 May 08 11:46	29° <u>♄</u> 21'36	0°31'03	min. Earth dist.	15232 Jul 21 21:07	13° <u>♄</u> 49'43	8.58979 AU
min. Earth dist.	15226 May 07 22:17	29° <u>♄</u> 24'12	8.67141 AU	direct	15232 Sep 28 01:24	10° <u>♄</u> 26'14	
direct	15226 Jul 15 21:55	26° <u>♄</u> 01'02			15232 Dec 13 13:57	15° <u>♄</u>	
	15226 Sep 24 20:43	0° <u>♄</u>		evening set	15233 Jan 08 11:13	17° <u>♄</u> 56'45	
evening set	15226 Oct 24 20:34	3° <u>♄</u> 21'06					
				conjunction	15233 Jan 26 01:03	20° <u>♄</u> 05'03	1°42'31
conjunction	15226 Nov 11 02:50	5° <u>♄</u> 26'32	0°35'33				

minimum elong	15233 Jan 26 01:04	20° \approx 05'03	1°43'13	behind sun end	15239 Apr 15 18:26	6° \mathcal{B} 52'06	
max. Earth dist.	15233 Jan 25 22:16	20° \approx 04'11	10.57568 AU	max. Earth dist.	15239 Apr 14 23:05	6° \mathcal{B} 46'05	10.43809 AU
morning rise	15233 Feb 12 15:56	22° \approx 13'39		morning rise	15239 May 03 04:52	9° \mathcal{B} 01'49	
retrograde	15233 May 27 04:36	29° \approx 49'35			15239 Jun 30 09:18	15° \mathcal{B}	
opposition	15233 Aug 03 15:38	26° \approx 25'20	2°04'39	retrograde	15239 Aug 13 03:20	16° \mathcal{B} 39'29	
min. Earth dist.	15233 Aug 03 18:53	26° \approx 24'42	8.56337 AU		15239 Sep 26 22:23	15° \mathcal{R} \mathcal{B}	
direct	15233 Oct 10 23:04	23° \approx 01'03		opposition	15239 Oct 19 20:57	13° \mathcal{B} 16'26	0°04'32
	15234 Jan 16 21:35	0° \mathcal{H}		min. Earth dist.	15239 Oct 20 09:26	13° \mathcal{B} 13'59	8.43268 AU
evening set	15234 Jan 21 17:24	0° \mathcal{H} 34'33		desc. node	15239 Dec 17 22:05	9° \mathcal{B} 55'13	
				direct	15239 Dec 27 21:59	9° \mathcal{B} 50'01	
conjunction	15234 Feb 08 08:22	2° \mathcal{H} 43'31	1°38'09		15240 Mar 19 02:20	15° \mathcal{B}	
minimum elong	15234 Feb 08 08:23	2° \mathcal{H} 43'31	1°38'41	evening set	15240 Apr 10 13:38	17° \mathcal{B} 38'05	
max. Earth dist.	15234 Feb 08 02:37	2° \mathcal{H} 41'45	10.54879 AU	max. Earth dist.	15240 Apr 27 11:56	19° \mathcal{B} 44'15	10.42849 AU
morning rise	15234 Feb 25 23:42	4° \mathcal{H} 52'37					
retrograde	15234 Jun 09 05:51	12° \mathcal{H} 29'01		conjunction	15240 Apr 28 03:38	19° \mathcal{B} 49'09	-0°08'01
opposition	15234 Aug 16 11:54	9° \mathcal{H} 04'49	1°56'18	minimum elong	15240 Apr 28 03:37	19° \mathcal{B} 49'09	0°08'40
min. Earth dist.	15234 Aug 16 17:17	9° \mathcal{H} 03'45	8.53618 AU	behind sun begin	15240 Apr 27 21:24	19° \mathcal{B} 47'13	
direct	15234 Oct 23 21:34	5° \mathcal{H} 39'55		behind sun end	15240 Apr 28 09:51	19° \mathcal{B} 51'04	
evening set	15235 Feb 04 01:32	13° \mathcal{H} 16'21		morning rise	15240 May 15 15:02	21° \mathcal{B} 59'32	
				retrograde	15240 Aug 25 10:29	29° \mathcal{B} 37'27	
conjunction	15235 Feb 21 17:28	15° \mathcal{H} 25'59	1°28'59	opposition	15240 Nov 01 04:33	26° \mathcal{B} 14'45	-0°24'08
minimum elong	15235 Feb 21 17:30	15° \mathcal{H} 25'59	1°29'19	min. Earth dist.	15240 Nov 01 16:19	26° \mathcal{B} 12'25	8.42599 AU
max. Earth dist.	15235 Feb 21 09:11	15° \mathcal{H} 23'26	10.52187 AU	direct	15241 Jan 09 08:39	22° \mathcal{B} 48'29	
morning rise	15235 Mar 11 09:01	17° \mathcal{H} 35'35			15241 Apr 18 23:27	0° \mathcal{I}	
retrograde	15235 Jun 22 09:03	25° \mathcal{H} 12'19		evening set	15241 Apr 24 02:48	0° \mathcal{I} 37'34	
opposition	15235 Aug 29 09:49	21° \mathcal{H} 48'14	1°42'13				
min. Earth dist.	15235 Aug 29 17:08	21° \mathcal{H} 46'47	8.50951 AU	conjunction	15241 May 11 14:49	2° \mathcal{I} 48'18	-0°30'48
direct	15235 Nov 05 21:19	18° \mathcal{H} 22'46		minimum elong	15241 May 11 14:48	2° \mathcal{I} 48'18	0°31'35
evening set	15236 Feb 17 11:22	26° \mathcal{H} 02'04		max. Earth dist.	15241 May 11 00:19	2° \mathcal{I} 43'46	10.42479 AU
				morning rise	15241 May 29 00:00	4° \mathcal{I} 58'18	
conjunction	15236 Mar 06 03:55	28° \mathcal{H} 12'18	1°15'23	retrograde	15241 Sep 07 19:37	12° \mathcal{I} 36'25	
minimum elong	15236 Mar 06 03:57	28° \mathcal{H} 12'19	1°15'30	opposition	15241 Nov 14 14:02	9° \mathcal{I} 14'02	-0°51'36
max. Earth dist.	15236 Mar 05 16:52	28° \mathcal{H} 08'53	10.49612 AU	min. Earth dist.	15241 Nov 15 00:59	9° \mathcal{I} 11'53	8.42550 AU
	15236 Mar 20 17:53	0° \mathcal{Y}		direct	15242 Jan 22 18:50	5° \mathcal{I} 48'04	
morning rise	15236 Mar 23 19:29	0° \mathcal{Y} 22'21		evening set	15242 May 07 14:57	13° \mathcal{I} 37'27	
retrograde	15236 Jul 04 12:29	7° \mathcal{Y} 59'21		max. Earth dist.	15242 May 24 11:26	15° \mathcal{I} 43'34	10.42728 AU
opposition	15236 Sep 10 09:37	4° \mathcal{Y} 35'27	1°22'59				
min. Earth dist.	15236 Sep 10 19:18	4° \mathcal{Y} 33'31	8.48459 AU	conjunction	15242 May 25 00:31	15° \mathcal{I} 47'40	-0°52'02
direct	15236 Nov 18 00:00	1° \mathcal{Y} 09'30		minimum elong	15242 May 25 00:30	15° \mathcal{I} 47'40	0°52'55
evening set	15237 Mar 01 22:48	8° \mathcal{Y} 51'31		morning rise	15242 Jun 11 07:23	17° \mathcal{I} 57'09	
				retrograde	15242 Sep 21 02:44	25° \mathcal{I} 35'23	
conjunction	15237 Mar 19 15:25	11° \mathcal{Y} 02'14	0°57'59	opposition	15242 Nov 28 00:48	22° \mathcal{I} 13'17	-1°16'26
minimum elong	15237 Mar 19 15:27	11° \mathcal{Y} 02'15	0°57'52	min. Earth dist.	15242 Nov 28 10:43	22° \mathcal{I} 11'21	8.43131 AU
max. Earth dist.	15237 Mar 19 01:23	10° \mathcal{Y} 57'53	10.47276 AU	direct	15243 Feb 05 07:57	18° \mathcal{I} 47'41	
morning rise	15237 Apr 06 06:41	13° \mathcal{Y} 12'37		evening set	15243 May 21 01:47	26° \mathcal{I} 36'43	
retrograde	15237 Jul 17 16:40	20° \mathcal{Y} 49'49					
opposition	15237 Sep 23 11:21	17° \mathcal{Y} 26'10	0°59'30	conjunction	15243 Jun 07 08:44	28° \mathcal{I} 46'14	-1°10'36
min. Earth dist.	15237 Sep 23 23:03	17° \mathcal{Y} 23'51	8.46271 AU	minimum elong	15243 Jun 07 08:42	28° \mathcal{I} 46'13	1°11'32
direct	15237 Dec 01 04:58	13° \mathcal{Y} 59'54		max. Earth dist.	15243 Jun 06 21:17	28° \mathcal{I} 42'38	10.43592 AU
evening set	15238 Mar 15 11:15	21° \mathcal{Y} 44'21			15243 Jun 17 03:54	0° \mathcal{E}	
max. Earth dist.	15238 Apr 01 11:28	23° \mathcal{Y} 50'24	10.45306 AU	morning rise	15243 Jun 24 13:20	0° \mathcal{E} 55'03	
				retrograde	15243 Oct 04 09:07	8° \mathcal{E} 33'18	
conjunction	15238 Apr 02 03:29	23° \mathcal{Y} 55'23	0°37'35	opposition	15243 Dec 11 12:13	5° \mathcal{E} 11'24	-1°37'19
minimum elong	15238 Apr 02 03:30	23° \mathcal{Y} 55'23	0°37'17	min. Earth dist.	15243 Dec 11 20:22	5° \mathcal{E} 09'49	8.44312 AU
morning rise	15238 Apr 19 18:00	26° \mathcal{Y} 05'57		direct	15244 Feb 18 21:56	1° \mathcal{E} 46'15	
	15238 May 24 08:04	0° \mathcal{B}		evening set	15244 Jun 02 10:34	9° \mathcal{E} 34'12	
retrograde	15238 Jul 30 21:55	3° \mathcal{B} 43'23					
opposition	15238 Oct 06 15:11	0° \mathcal{B} 20'01	0°32'54	conjunction	15244 Jun 19 15:00	11° \mathcal{E} 42'54	-1°25'33
min. Earth dist.	15238 Oct 07 03:52	0° \mathcal{B} 17'31	8.44512 AU	minimum elong	15244 Jun 19 14:59	11° \mathcal{E} 42'53	1°26'29
	15238 Oct 10 20:27	30° \mathcal{R} \mathcal{Y}		max. Earth dist.	15244 Jun 19 06:21	11° \mathcal{E} 40'11	10.45026 AU
direct	15238 Dec 14 12:08	26° \mathcal{Y} 53'35		morning rise	15244 Jul 06 17:25	13° \mathcal{E} 51'00	
	15239 Feb 14 13:10	0° \mathcal{B}		retrograde	15244 Oct 16 16:11	21° \mathcal{E} 29'07	
evening set	15239 Mar 29 00:13	4° \mathcal{B} 40'04		opposition	15244 Dec 24 00:04	18° \mathcal{E} 07'20	-1°53'12
				min. Earth dist.	15244 Dec 24 05:20	18° \mathcal{E} 06'18	8.46019 AU
conjunction	15239 Apr 15 15:36	6° \mathcal{B} 51'14	0°15'15	direct	15245 Mar 03 11:01	14° \mathcal{E} 42'43	
minimum elong	15239 Apr 15 15:37	6° \mathcal{B} 51'14	0°14'45	evening set	15245 Jun 15 16:39	22° \mathcal{E} 28'46	
behind sun begin	15239 Apr 15 12:48	6° \mathcal{B} 50'22					

conjunction	15245 Jul 02 18:57	24°☿36'40	-1°36'09	conjunction	15251 Sep 17 00:30	10°♄36'12	-0°58'52
minimum elong	15245 Jul 02 18:56	24°☿36'40	1°37'03	minimum elong	15251 Sep 17 00:32	10°♄36'13	0°58'47
max. Earth dist.	15245 Jul 02 14:09	24°☿35'10	10.46938 AU	max. Earth dist.	15251 Sep 17 13:19	10°♄40'10	10.60110 AU
morning rise	15245 Jul 19 19:28	26°☿44'03		morning rise	15251 Oct 04 02:04	12°♄41'53	
	15245 Aug 17 00:07	0°♏		retrograde	15252 Jan 15 14:46	20°♄16'39	
retrograde	15245 Oct 29 23:03	4°♏21'53		opposition	15252 Mar 25 06:31	16°♄53'27	-1°00'41
opposition	15246 Jan 06 11:39	1°♏00'05	-2°03'18	min. Earth dist.	15252 Mar 24 18:50	16°♄55'42	8.60984 AU
min. Earth dist.	15246 Jan 06 13:43	0°♏59'41	8.48136 AU	direct	15252 Jun 02 03:56	13°♄32'07	
	15246 Jan 19 14:52	30°♏☿		evening set	15252 Sep 11 15:30	20°♄57'51	
direct	15246 Mar 16 22:05	27°☿36'03					
	15246 May 10 00:48	0°♏		conjunction	15252 Sep 28 17:00	23°♄03'08	-0°39'17
evening set	15246 Jun 28 20:03	5°♏19'36		minimum elong	15252 Sep 28 17:02	23°♄03'08	0°39'00
				max. Earth dist.	15252 Sep 29 07:17	23°♄07'31	10.61724 AU
conjunction	15246 Jul 15 20:38	7°♏26'44	-1°41'53	morning rise	15252 Oct 15 20:17	25°♄08'56	
minimum elong	15246 Jul 15 20:38	7°♏26'44	1°42'42		15252 Nov 30 04:44	0°♏	
max. Earth dist.	15246 Jul 15 19:36	7°♏26'24	10.49185 AU	retrograde	15253 Jan 27 13:13	2°♏43'13	
morning rise	15246 Aug 01 19:46	9°♏33'28			15253 Mar 29 12:10	30°♏♄	
	15246 Sep 22 03:29	15°♏		opposition	15253 Apr 07 07:15	29°♄19'39	-0°35'12
retrograde	15246 Nov 12 04:01	17°♏10'49		min. Earth dist.	15253 Apr 06 18:51	29°♄22'02	8.62425 AU
	15247 Jan 04 06:05	15°♏♏		direct	15253 Jun 15 01:05	25°♄58'25	
opposition	15247 Jan 19 22:19	13°♏48'57	-2°07'13		15253 Aug 25 08:29	0°♏	
min. Earth dist.	15247 Jan 19 21:42	13°♏49'04	8.50484 AU	evening set	15253 Sep 24 06:24	3°♏22'04	
direct	15247 Mar 30 08:15	10°♏25'28					
	15247 Jun 15 01:41	15°♏		conjunction	15253 Oct 11 09:14	5°♏27'25	-0°17'55
evening set	15247 Jul 11 20:42	18°♏06'08		minimum elong	15253 Oct 11 09:15	5°♏27'26	0°17'26
				max. Earth dist.	15253 Oct 11 23:56	5°♏31'56	10.63001 AU
conjunction	15247 Jul 28 20:02	20°♏12'36	-1°42'33	morning rise	15253 Oct 28 14:23	7°♏33'24	
minimum elong	15247 Jul 28 20:03	20°♏12'36	1°43'15		15254 Jan 28 10:28	15°♏	
max. Earth dist.	15247 Jul 28 21:49	20°♏13'10	10.51566 AU	retrograde	15254 Feb 09 10:57	15°♏07'20	
morning rise	15247 Aug 14 18:30	22°♏18'50			15254 Feb 21 12:21	15°♏♏	
retrograde	15247 Nov 25 08:37	29°♏55'41		opposition	15254 Apr 20 06:00	11°♏43'27	-0°08'09
opposition	15248 Feb 02 08:03	26°♏33'41	-2°04'49	min. Earth dist.	15254 Apr 19 17:35	11°♏45'51	8.63498 AU
min. Earth dist.	15248 Feb 02 05:33	26°♏34'10	8.52854 AU	direct	15254 Jun 27 21:11	8°♏22'15	
direct	15248 Apr 11 16:13	23°♏10'46		asc. node	15254 Aug 10 16:49	9°♏59'29	
	15248 Jul 17 02:31	0°♏♏			15254 Sep 30 15:51	15°♏	
evening set	15248 Jul 23 18:38	0°♏48'22		evening set	15254 Oct 06 21:31	15°♏44'26	
conjunction	15248 Aug 09 17:15	2°♏54'19	-1°38'12	conjunction	15254 Oct 24 01:51	17°♏49'56	0°04'20
minimum elong	15248 Aug 09 17:17	2°♏54'19	1°38'43	minimum elong	15254 Oct 24 01:50	17°♏49'55	0°04'59
max. Earth dist.	15248 Aug 09 21:12	2°♏55'32	10.53902 AU	behind sun begin	15254 Oct 23 18:54	17°♏47'49	
morning rise	15248 Aug 26 15:47	5°♏00'13		behind sun end	15254 Oct 24 08:45	17°♏52'01	
retrograde	15248 Dec 07 11:57	12°♏36'36		max. Earth dist.	15254 Oct 24 16:43	17°♏54'29	10.63865 AU
opposition	15249 Feb 14 16:27	9°♏14'25	-1°56'20	morning rise	15254 Nov 10 08:41	19°♏56'07	
min. Earth dist.	15249 Feb 14 11:50	9°♏15'18	8.55127 AU	retrograde	15255 Feb 22 08:09	27°♏29'54	
direct	15249 Apr 24 21:54	5°♏52'01		opposition	15255 May 03 02:55	24°♏05'43	0°19'12
evening set	15249 Aug 05 14:17	13°♏26'29		min. Earth dist.	15255 May 02 14:21	24°♏08'09	8.64139 AU
				direct	15255 Jul 10 15:21	20°♏44'27	
conjunction	15249 Aug 22 12:56	15°♏32'05	-1°29'05	evening set	15255 Oct 19 13:22	28°♏05'53	
minimum elong	15249 Aug 22 12:58	15°♏32'05	1°29'26		15255 Nov 04 05:24	0°♏♏	
max. Earth dist.	15249 Aug 22 19:35	15°♏34'09	10.56136 AU				
morning rise	15249 Sep 08 12:07	17°♏37'48		conjunction	15255 Nov 05 19:14	0°♏♏11'34	0°26'14
retrograde	15249 Dec 20 12:38	25°♏13'41		minimum elong	15255 Nov 05 19:13	0°♏♏11'34	0°27'00
opposition	15250 Feb 27 23:05	21°♏51'13	-1°42'17	max. Earth dist.	15255 Nov 06 10:31	0°♏♏16'15	10.64267 AU
min. Earth dist.	15250 Feb 27 15:55	21°♏52'35	8.57277 AU	morning rise	15255 Nov 23 03:34	2°♏♏18'00	
direct	15250 May 08 03:02	18°♏29'16		retrograde	15256 Mar 06 05:06	9°♏♏51'51	
evening set	15250 Aug 18 07:57	26°♏00'36		opposition	15256 May 14 22:29	6°♏♏27'26	0°45'38
				min. Earth dist.	15256 May 14 09:57	6°♏♏29'52	8.64310 AU
conjunction	15250 Sep 04 07:18	28°♏06'00	-1°15'45	direct	15256 Jul 22 08:49	3°♏♏06'01	
minimum elong	15250 Sep 04 07:20	28°♏06'00	1°15'53	evening set	15256 Oct 31 06:26	10°♏♏27'22	
max. Earth dist.	15250 Sep 04 17:09	28°♏09'03	10.58228 AU				
	15250 Sep 19 17:12	0°♄		conjunction	15256 Nov 17 13:44	12°♏♏33'20	0°46'56
morning rise	15250 Sep 21 07:31	0°♄11'38		minimum elong	15256 Nov 17 13:43	12°♏♏33'20	0°47'48
retrograde	15251 Jan 02 13:57	7°♄46'58		max. Earth dist.	15256 Nov 18 04:24	12°♏♏37'49	10.64177 AU
opposition	15251 Mar 13 03:47	4°♄24'09	-1°23'25	morning rise	15256 Dec 04 23:27	14°♏♏40'02	
min. Earth dist.	15251 Mar 12 17:55	4°♄26'02	8.59250 AU	retrograde	15257 Mar 19 03:57	22°♏♏14'09	
direct	15251 May 21 05:21	1°♄02'33		opposition	15257 May 27 17:00	18°♏♏49'34	1°09'57
evening set	15251 Aug 31 00:10	8°♄30'55		min. Earth dist.	15257 May 27 05:32	18°♏♏51'48	8.63990 AU

direct	15257 Aug 04 00:26	15°  27'52		evening set	15264 Jan 29 17:11	8°  07'16	
evening set	15257 Nov 13 01:25	22°  49'53					
conjunction	15257 Nov 30 09:58	24°  56'11	1°05'29	conjunction	15264 Feb 16 08:39	10°  16'45	1°33'19
minimum elong	15257 Nov 30 09:56	24°  56'10	1°06'24	minimum elong	15264 Feb 16 08:41	10°  16'46	1°33'43
max. Earth dist.	15257 Nov 30 22:24	24°  59'59	10.63595 AU	max. Earth dist.	15264 Feb 16 02:10	10°  14'45	10.53060 AU
morning rise	15257 Dec 17 20:57	27°  03'11		morning rise	15264 Mar 05 00:16	12°  26'17	
	15258 Jan 12 20:52	0°  3		retrograde	15264 Jun 16 05:10	20°  03'31	
retrograde	15258 Apr 01 01:57	4°  37'41		opposition	15264 Aug 23 06:44	16°  39'45	1°48'40
opposition	15258 Jun 09 10:47	1°  13'02	1°31'03	min. Earth dist.	15264 Aug 23 13:03	16°  38'30	8.52060 AU
min. Earth dist.	15258 Jun 09 01:37	1°  14'49	8.63193 AU	direct	15264 Oct 30 15:30	13°  14'53	
	15258 Jun 25 10:15	30°  R 		evening set	15265 Feb 11 03:18	20°  53'31	
direct	15258 Aug 16 15:38	27°  50'58		conjunction	15265 Feb 28 19:30	23°  03'33	1°21'29
	15258 Oct 06 09:59	0°  3		minimum elong	15265 Feb 28 19:32	23°  03'34	1°21'42
evening set	15258 Nov 25 22:20	5°  31'42		max. Earth dist.	15265 Feb 28 09:39	23°  00'31	10.50908 AU
				morning rise	15265 Mar 18 11:17	25°  13'30	
conjunction	15258 Dec 13 08:05	7°  321'00	1°21'00		15265 May 01 13:45	0° 	
minimum elong	15258 Dec 13 08:03	7°  320'59	1°21'57	retrograde	15265 Jun 29 07:30	2°  Y50'47	
max. Earth dist.	15258 Dec 13 17:25	7°  323'51	10.62557 AU		15265 Aug 29 08:02	30°  R 	
morning rise	15258 Dec 30 20:13	9°  328'21		opposition	15265 Sep 05 06:23	29°  27'14	1°31'28
retrograde	15259 Apr 13 23:10	17°  303'23		min. Earth dist.	15265 Sep 05 14:53	29°  25'33	8.49916 AU
opposition	15259 Jun 22 04:31	13°  338'43	1°47'57	direct	15265 Nov 12 19:23	26°  01'57	
min. Earth dist.	15259 Jun 21 21:49	13°  340'02	8.61969 AU		15266 Jan 22 14:49	0° 	
direct	15259 Aug 29 09:00	10°  316'13		evening set	15266 Feb 24 14:37	3°  Y43'06	
evening set	15259 Dec 08 21:18	17°  341'28					
				conjunction	15266 Mar 14 07:15	5°  Y53'37	1°05'34
conjunction	15259 Dec 26 08:20	19°  348'36	1°32'45	minimum elong	15266 Mar 14 07:17	5°  Y53'38	1°05'34
minimum elong	15259 Dec 26 08:19	19°  348'36	1°33'41	max. Earth dist.	15266 Mar 13 19:11	5°  Y49'53	10.48818 AU
max. Earth dist.	15259 Dec 26 15:08	19°  350'41	10.61124 AU	morning rise	15266 Mar 31 22:44	8°  Y03'52	
morning rise	15260 Jan 12 21:27	21°  356'20		retrograde	15266 Jul 12 11:54	15°  Y41'13	
retrograde	15260 Apr 25 22:15	29°  331'59		opposition	15266 Sep 18 07:45	12°  Y17'54	1°09'37
opposition	15260 Jul 03 22:23	26°  307'22	1°59'49	min. Earth dist.	15266 Sep 18 17:48	12°  Y15'55	8.47842 AU
min. Earth dist.	15260 Jul 03 17:47	26°  308'16	8.60380 AU	direct	15266 Nov 26 00:10	8°  Y52'15	
direct	15260 Sep 10 02:55	22°  344'25		evening set	15267 Mar 10 03:07	16°  Y35'46	
	15260 Dec 19 06:39	0° 					
evening set	15260 Dec 20 22:47	0°  11'59		conjunction	15267 Mar 27 19:42	18°  Y46'41	0°46'18
				minimum elong	15267 Mar 27 19:44	18°  Y46'41	0°46'05
conjunction	15261 Jan 07 11:09	2°  19'40	1°40'09	max. Earth dist.	15267 Mar 27 05:33	18°  Y42'17	10.46810 AU
minimum elong	15261 Jan 07 11:08	2°  19'40	1°41'01	morning rise	15267 Apr 14 10:29	20°  Y57'09	
max. Earth dist.	15261 Jan 07 15:29	2°  21'00	10.59367 AU	retrograde	15267 Jul 25 18:47	28°  Y34'39	
morning rise	15261 Jan 25 01:00	4°  27'49		opposition	15267 Oct 01 11:01	25°  Y11'36	0°44'10
retrograde	15261 May 08 22:50	12°  204'01		min. Earth dist.	15267 Oct 01 22:45	25°  Y09'17	8.45882 AU
opposition	15261 Jul 16 16:37	8°  239'32	2°06'04	direct	15267 Dec 09 05:12	21°  Y45'42	
min. Earth dist.	15261 Jul 16 14:05	8°  240'02	8.58501 AU	evening set	15268 Mar 22 16:34	29°  Y31'27	
direct	15261 Sep 22 20:57	5°  216'07			15268 Mar 26 13:47	0° 	
evening set	15262 Jan 03 02:44	12°  246'21					
				conjunction	15268 Apr 09 08:29	1°  842'36	0°24'38
conjunction	15262 Jan 20 16:17	14°  254'37	1°42'48	minimum elong	15268 Apr 09 08:30	1°  842'36	0°24'13
minimum elong	15262 Jan 20 16:18	14°  254'37	1°43'33	max. Earth dist.	15268 Apr 08 16:25	1°  837'36	10.44973 AU
max. Earth dist.	15262 Jan 20 17:42	14°  255'03	10.57372 AU	morning rise	15268 Apr 26 22:11	3°  853'12	
	15262 Jan 21 09:52	15° 		retrograde	15268 Aug 07 00:50	11°  830'57	
morning rise	15262 Feb 07 06:47	17°  203'13		opposition	15268 Oct 13 16:29	8°  808'11	0°16'21
retrograde	15262 May 21 23:56	24°  239'55		min. Earth dist.	15268 Oct 14 05:36	8°  805'36	8.44188 AU
opposition	15262 Jul 29 12:01	21°  215'38	2°06'18	direct	15268 Dec 21 14:19	4°  842'07	
min. Earth dist.	15262 Jul 29 12:08	21°  215'36	8.56423 AU	evening set	15269 Apr 05 06:31	12°  829'48	
direct	15262 Oct 05 17:12	17°  251'45					
evening set	15263 Jan 16 08:52	25°  224'48		conjunction	15269 Apr 22 21:04	14°  840'57	0°01'39
				minimum elong	15269 Apr 22 21:06	14°  840'57	0°01'03
conjunction	15263 Feb 02 23:25	27°  233'40	1°40'31	behind sun begin	15269 Apr 22 13:53	14°  838'44	
minimum elong	15263 Feb 02 23:26	27°  233'40	1°41'06	behind sun end	15269 Apr 23 04:18	14°  843'11	
max. Earth dist.	15263 Feb 02 20:56	27°  232'54	10.55238 AU	max. Earth dist.	15269 Apr 22 03:46	14°  835'33	10.43489 AU
morning rise	15263 Feb 20 14:32	29°  242'44			15269 Apr 25 10:01	15°  8	
	15263 Feb 23 00:11	0° 		morning rise	15269 May 10 09:18	16°  851'28	
retrograde	15263 Jun 04 02:16	7°  819'48		desc. node	15269 May 19 09:31	17°  856'45	
opposition	15263 Aug 11 08:43	3°  855'46	2°00'27	retrograde	15269 Aug 20 07:23	24°  829'33	
min. Earth dist.	15263 Aug 11 12:03	3°  855'07	8.54247 AU	opposition	15269 Oct 26 23:59	21°  807'02	-0°12'24
direct	15263 Oct 18 15:02	0°  831'24		min. Earth dist.	15269 Oct 27 13:39	21°  804'20	8.42949 AU

direct	15270 Jan 04 01:31	17° 8 40'55		15276 Jul 21 01:35	15° 9
evening set	15270 Apr 18 20:23	25° 8 29'56			
conjunction	15270 May 06 09:08	27° 8 40'53 -0°21'33	conjunction	15276 Jul 22 20:53	15° 9 13'34 -1°42'58
minimum elong	15270 May 06 09:07	27° 8 40'52 0°22'17	minimum elong	15276 Jul 22 20:53	15° 9 13'34 1°43'43
max. Earth dist.	15270 May 05 16:02	27° 8 35'31 10.42527 AU	max. Earth dist.	15276 Jul 22 20:50	15° 9 13'33 10.49096 AU
morning rise	15270 May 23 19:27	29° 8 51'08	morning rise	15276 Aug 08 19:46	17° 9 20'09
	15270 May 25 00:23	0° II	retrograde	15276 Nov 19 05:51	24° 9 57'35
retrograde	15270 Sep 02 14:56	7° II 29'29	opposition	15277 Jan 27 04:27	21° 9 35'06 -2°06'40
opposition	15270 Nov 09 09:10	4° II 07'07 -0°40'35	min. Earth dist.	15277 Jan 27 02:16	21° 9 35'31 8.50496 AU
min. Earth dist.	15270 Nov 09 21:56	4° II 04'37 8.42293 AU	direct	15277 Apr 06 14:49	18° 9 11'24
direct	15271 Jan 17 13:43	0° II 41'04	evening set	15277 Jul 18 19:53	25° 9 50'37
evening set	15271 May 02 09:28	8° II 30'45			
conjunction	15271 May 19 20:06	10° II 41'17 -0°43'36	conjunction	15277 Aug 04 18:54	27° 9 56'53 -1°40'38
minimum elong	15271 May 19 20:05	10° II 41'16 0°44'27	minimum elong	15277 Aug 04 18:55	27° 9 56'53 1°41'13
max. Earth dist.	15271 May 19 04:49	10° II 36'29 10.42169 AU	max. Earth dist.	15277 Aug 04 23:17	27° 9 58'15 10.51726 AU
morning rise	15271 Jun 06 04:10	12° II 51'06	morning rise	15277 Aug 21 17:23	0° II 03'00
retrograde	15271 Sep 15 22:31	20° II 29'38		15277 Aug 21 07:33	0° II
opposition	15271 Nov 22 19:44	17° II 07'22 -1°06'42	retrograde	15277 Dec 02 10:00	7° II 39'47
min. Earth dist.	15271 Nov 23 06:40	17° II 05'13 8.42261 AU	opposition	15278 Feb 09 13:09	4° II 17'09 -2°00'37
direct	15272 Jan 31 03:21	13° II 41'28	min. Earth dist.	15278 Feb 09 07:33	4° II 18'14 8.53197 AU
evening set	15272 May 14 21:19	21° II 31'06	direct	15278 Apr 19 20:51	0° II 54'07
			evening set	15278 Jul 31 16:11	8° II 29'56
conjunction	15272 Jun 01 05:33	23° II 41'01 -1°03'25	conjunction	15278 Aug 17 14:58	10° II 35'44 -1°33'25
minimum elong	15272 Jun 01 05:31	23° II 41'01 1°04'20	minimum elong	15278 Aug 17 15:00	10° II 35'44 1°33'49
max. Earth dist.	15272 May 31 17:00	23° II 37'05 10.42433 AU	max. Earth dist.	15278 Aug 17 22:53	10° II 38'12 10.54484 AU
morning rise	15272 Jun 18 11:06	25° II 50'14	morning rise	15278 Sep 03 13:43	12° II 41'32
	15272 Jul 25 07:50	0° III	retrograde	15278 Dec 15 11:46	20° II 17'31
retrograde	15272 Sep 28 06:25	3° III 28'52	opposition	15279 Feb 22 19:58	16° II 54'46 -1°48'44
opposition	15272 Dec 05 07:13	0° III 06'38 -1°29'24	min. Earth dist.	15279 Feb 22 11:58	16° II 56'19 8.55951 AU
min. Earth dist.	15272 Dec 05 15:54	0° III 04'56 8.42857 AU	direct	15279 May 03 00:55	13° II 32'21
	15272 Dec 06 17:06	30° R II	evening set	15279 Aug 13 10:17	21° II 04'47
direct	15273 Feb 12 16:49	26° II 41'00	conjunction	15279 Aug 30 09:17	23° II 10'12 -1°21'44
	15273 Apr 18 00:13	0° III	minimum elong	15279 Aug 30 09:19	23° II 10'13 1°21'57
evening set	15273 May 28 07:13	4° III 29'48	max. Earth dist.	15279 Aug 30 19:40	23° II 13'26 10.57240 AU
conjunction	15273 Jun 14 12:55	6° III 39'00 -1°19'59	morning rise	15279 Sep 16 08:57	25° II 15'49
minimum elong	15273 Jun 14 12:53	6° III 38'59 1°20'56		15279 Oct 30 01:26	0° III
max. Earth dist.	15273 Jun 14 03:25	6° III 36'00 10.43315 AU	retrograde	15279 Dec 28 12:48	2° III 50'58
morning rise	15273 Jul 01 16:08	8° III 47'30		15280 Feb 29 02:21	30° R II
retrograde	15273 Oct 11 14:32	16° III 26'05	opposition	15280 Mar 07 01:05	29° II 28'06 -1°31'44
opposition	15273 Dec 18 19:15	13° III 03'50 -1°47'28	min. Earth dist.	15280 Mar 06 15:19	29° II 29'59 8.58638 AU
min. Earth dist.	15273 Dec 19 01:51	13° III 02'33 8.44059 AU	direct	15280 May 15 03:16	26° II 06'14
direct	15274 Feb 26 05:12	9° III 38'33		15280 Jul 24 05:45	0° III
evening set	15274 Jun 10 14:35	17° III 25'48	evening set	15280 Aug 25 02:25	3° III 35'22
conjunction	15274 Jun 27 17:51	19° III 34'12 -1°32'27	conjunction	15280 Sep 11 02:05	5° III 40'34 -1°06'14
minimum elong	15274 Jun 27 17:50	19° III 34'11 1°33'22	minimum elong	15280 Sep 11 02:07	5° III 40'35 1°06'14
max. Earth dist.	15274 Jun 27 11:02	19° III 32'03 10.44776 AU	max. Earth dist.	15280 Sep 11 14:25	5° III 44'23 10.59873 AU
morning rise	15274 Jul 14 19:09	21° III 42'01	morning rise	15280 Sep 28 03:08	7° III 46'07
retrograde	15274 Oct 24 21:05	29° III 20'21	retrograde	15281 Jan 09 12:07	15° III 20'29
opposition	15275 Jan 01 07:08	25° III 58'04 -2°00'02	opposition	15281 Mar 20 04:06	11° III 57'27 -1°10'29
min. Earth dist.	15275 Jan 01 11:28	25° III 57'13 8.45802 AU	min. Earth dist.	15281 Mar 19 16:40	11° III 59'39 8.61145 AU
direct	15275 Mar 11 16:59	22° III 33'13	direct	15281 May 28 03:00	8° III 36'05
	15275 Jun 21 07:30	0° IV	evening set	15281 Sep 06 17:22	16° III 02'14
evening set	15275 Jun 23 19:20	0° IV 18'18	conjunction	15281 Sep 23 18:13	18° III 07'19 -0°47'41
conjunction	15275 Jul 10 20:32	2° IV 25'54 -1°40'13	minimum elong	15281 Sep 23 18:14	18° III 07'19 0°47'29
minimum elong	15275 Jul 10 20:32	2° IV 25'54 1°41'04	max. Earth dist.	15281 Sep 24 08:46	18° III 11'48 10.62268 AU
max. Earth dist.	15275 Jul 10 16:44	2° IV 24'42 10.46737 AU	morning rise	15281 Oct 10 20:48	20° III 12'53
morning rise	15275 Jul 27 20:23	4° IV 33'04	retrograde	15282 Jan 22 09:43	27° III 46'31
retrograde	15275 Nov 07 00:57	12° IV 11'00	opposition	15282 Apr 02 04:46	24° III 23'20 -0°46'03
opposition	15276 Jan 14 18:16	8° IV 48'38 -2°06'31	min. Earth dist.	15282 Apr 01 15:33	24° III 25'52 8.63363 AU
min. Earth dist.	15276 Jan 14 19:42	8° IV 48'21 8.47986 AU	direct	15282 Jun 10 01:10	21° III 02'21
direct	15276 Mar 24 05:23	5° IV 24'19	evening set	15282 Sep 19 07:40	28° III 26'00
evening set	15276 Jul 05 21:07	13° IV 06'42		15282 Oct 02 04:44	0° IV

conjunction	15282 Oct 06 09:57	0° \mathbb{M} 31'04	-0°26'59	conjunction	15288 Dec 20 00:02	14° \mathfrak{Z} 36'46	1°28'02
minimum elong	15282 Oct 06 09:57	0° \mathbb{M} 31'04	0°26'35	minimum elong	15288 Dec 20 00:00	14° \mathfrak{Z} 36'46	1°28'59
max. Earth dist.	15282 Oct 07 02:27	0° \mathbb{M} 36'08	10.64316 AU	max. Earth dist.	15288 Dec 20 07:55	14° \mathfrak{Z} 39'10	10.64765 AU
morning rise	15282 Oct 23 14:07	2° \mathbb{M} 36'42		morning rise	15289 Jan 06 12:23	16° \mathfrak{Z} 43'53	
retrograde	15283 Feb 04 08:23	10° \mathbb{M} 09'46		retrograde	15289 Apr 20 14:45	24° \mathfrak{Z} 17'49	
opposition	15283 Apr 15 03:32	6° \mathbb{M} 46'25	-0°19'35	opposition	15289 Jun 28 16:26	20° \mathfrak{Z} 53'45	1°55'06
min. Earth dist.	15283 Apr 14 13:09	6° \mathbb{M} 49'11	8.65192 AU	min. Earth dist.	15289 Jun 28 11:18	20° \mathfrak{Z} 54'46	8.63873 AU
direct	15283 Jun 22 21:00	3° \mathbb{M} 25'44		direct	15289 Sep 04 20:46	17° \mathfrak{Z} 31'33	
evening set	15283 Oct 01 21:53	10° \mathbb{M} 47'25		evening set	15289 Dec 15 13:14	24° \mathfrak{Z} 56'39	
conjunction	15283 Oct 19 01:32	12° \mathbb{M} 52'33	-0°05'09	conjunction	15290 Jan 02 00:43	27° \mathfrak{Z} 03'42	1°37'24
minimum elong	15283 Oct 19 01:31	12° \mathbb{M} 52'33	0°04'35	minimum elong	15290 Jan 02 00:42	27° \mathfrak{Z} 03'42	1°38'17
behind sun begin	15283 Oct 18 18:33	12° \mathbb{M} 50'26		max. Earth dist.	15290 Jan 02 04:39	27° \mathfrak{Z} 04'54	10.62691 AU
behind sun end	15283 Oct 19 08:29	12° \mathbb{M} 54'39		morning rise	15290 Jan 19 14:02	29° \mathfrak{Z} 11'17	
max. Earth dist.	15283 Oct 19 18:51	12° \mathbb{M} 57'50	10.65926 AU		15290 Jan 26 11:00	0° \approx	
morning rise	15283 Nov 05 07:19	14° \mathbb{M} 58'18		retrograde	15290 May 03 13:18	6° \approx 45'54	
	15283 Nov 05 12:59	15° \mathbb{M}		opposition	15290 Jul 11 09:37	3° \approx 21'47	2°03'54
asc. node	15284 Jan 13 22:24	21° \mathbb{M} 32'27		min. Earth dist.	15290 Jul 11 07:42	3° \approx 22'09	8.61619 AU
retrograde	15284 Feb 17 06:16	22° \mathbb{M} 30'57			15290 Sep 13 00:59	30° \mathfrak{R} \mathfrak{Z}	
min. Earth dist.	15284 Apr 26 10:12	19° \mathbb{M} 10'15	8.66554 AU	direct	15290 Sep 17 13:50	29° \mathfrak{Z} 58'54	
opposition	15284 Apr 27 00:32	19° \mathbb{M} 07'29	0°07'41		15290 Sep 22 02:58	0° \approx	
direct	15284 Jul 04 13:32	15° \mathbb{M} 46'56		evening set	15290 Dec 28 15:02	7° \approx 26'41	
evening set	15284 Oct 13 12:43	23° \mathbb{M} 07'21					
conjunction	15284 Oct 30 17:40	25° \mathbb{M} 12'34	0°17'01	conjunction	15291 Jan 15 03:44	9° \approx 34'19	1°42'11
minimum elong	15284 Oct 30 17:39	25° \mathbb{M} 12'34	0°17'43	minimum elong	15291 Jan 15 03:44	9° \approx 34'19	1°42'59
max. Earth dist.	15284 Oct 31 09:59	25° \mathbb{M} 17'33	10.67023 AU	max. Earth dist.	15291 Jan 15 03:53	9° \approx 34'22	10.60268 AU
morning rise	15284 Nov 17 01:11	27° \mathbb{M} 18'31		morning rise	15291 Feb 01 17:54	11° \approx 42'24	
	15284 Dec 10 15:52	0° \mathfrak{X}			15291 Mar 02 24:00	15° \approx	
retrograde	15285 Mar 01 02:11	4° \mathfrak{X} 50'55		retrograde	15291 May 16 11:29	19° \approx 17'43	
opposition	15285 May 09 19:51	1° \mathfrak{X} 27'20	0°34'32	opposition	15291 Jul 24 03:37	15° \approx 53'33	2°06'52
min. Earth dist.	15285 May 09 06:55	1° \mathfrak{X} 29'49	8.67372 AU	min. Earth dist.	15291 Jul 24 04:33	15° \approx 53'22	8.59069 AU
	15285 May 29 08:57	30° \mathfrak{R} \mathbb{M}			15291 Aug 04 15:00	15° \mathfrak{R} \approx	
direct	15285 Jul 17 06:12	28° \mathbb{M} 06'43		direct	15291 Sep 30 09:47	12° \approx 29'59	
	15285 Sep 02 18:28	0° \mathfrak{X}			15291 Nov 24 09:58	15° \approx	
evening set	15285 Oct 26 04:29	5° \mathfrak{X} 26'37		evening set	15292 Jan 10 19:02	20° \approx 00'38	
conjunction	15285 Nov 12 10:49	7° \mathfrak{X} 32'01	0°38'16	conjunction	15292 Jan 28 09:01	22° \approx 08'58	1°42'08
minimum elong	15285 Nov 12 10:48	7° \mathfrak{X} 32'01	0°39'05	minimum elong	15292 Jan 28 09:02	22° \approx 08'58	1°42'47
max. Earth dist.	15285 Nov 13 01:28	7° \mathfrak{X} 36'29	10.67516 AU	max. Earth dist.	15292 Jan 28 06:15	22° \approx 08'07	10.57612 AU
morning rise	15285 Nov 29 19:53	9° \mathfrak{X} 38'10		morning rise	15292 Feb 14 23:51	24° \approx 17'34	
retrograde	15286 Mar 13 22:07	17° \mathfrak{X} 10'34			15292 Apr 10 20:37	0° \mathfrak{H}	
opposition	15286 May 22 13:53	13° \mathfrak{X} 46'50	0°59'46	retrograde	15292 May 28 12:09	1° \mathfrak{H} 53'30	
min. Earth dist.	15286 May 22 02:29	13° \mathfrak{X} 49'02	8.67538 AU		15292 Jul 16 01:57	30° \mathfrak{R} \approx	
direct	15286 Jul 29 22:52	10° \mathfrak{X} 26'00		opposition	15292 Aug 04 22:40	28° \approx 29'20	2°03'47
evening set	15286 Nov 07 21:34	17° \mathfrak{X} 46'07		min. Earth dist.	15292 Aug 05 01:44	28° \approx 28'43	8.56332 AU
				direct	15292 Oct 12 06:20	25° \approx 05'06	
conjunction	15286 Nov 25 05:18	19° \mathfrak{X} 51'47	0°57'46		15292 Dec 31 01:10	0° \mathfrak{H}	
minimum elong	15286 Nov 25 05:16	19° \mathfrak{X} 51'47	0°58'40	evening set	15293 Jan 23 01:22	2° \mathfrak{H} 38'45	
max. Earth dist.	15286 Nov 25 18:14	19° \mathfrak{X} 55'44	10.67300 AU				
morning rise	15286 Dec 12 15:34	21° \mathfrak{X} 58'12					
retrograde	15287 Mar 26 18:45	29° \mathfrak{X} 30'53		conjunction	15293 Feb 09 16:30	4° \mathfrak{H} 47'46	1°37'09
opposition	15287 Jun 04 06:58	26° \mathfrak{X} 07'01	1°22'15	minimum elong	15293 Feb 09 16:32	4° \mathfrak{H} 47'47	1°37'38
min. Earth dist.	15287 Jun 03 21:06	26° \mathfrak{X} 08'56	8.66967 AU	max. Earth dist.	15293 Feb 09 10:55	4° \mathfrak{H} 46'03	10.54831 AU
direct	15287 Aug 11 14:05	22° \mathfrak{X} 45'51		morning rise	15293 Feb 27 07:47	6° \mathfrak{H} 56'54	
	15287 Nov 19 17:02	0° \mathfrak{Z}		retrograde	15293 Jun 10 14:36	14° \mathfrak{H} 33'19	
evening set	15287 Nov 20 16:31	0° \mathfrak{Z} 06'59		opposition	15293 Aug 17 19:00	11° \mathfrak{H} 09'12	1°54'42
				min. Earth dist.	15293 Aug 18 00:24	11° \mathfrak{H} 08'08	8.53522 AU
conjunction	15287 Dec 08 01:38	2° \mathfrak{Z} 13'02	1°14'37	direct	15293 Oct 25 03:48	7° \mathfrak{H} 44'20	
minimum elong	15287 Dec 08 01:36	2° \mathfrak{Z} 13'01	1°15'33	evening set	15294 Feb 05 09:42	15° \mathfrak{H} 21'01	
max. Earth dist.	15287 Dec 08 12:40	2° \mathfrak{Z} 16'23	10.66348 AU				
morning rise	15287 Dec 25 12:57	4° \mathfrak{Z} 19'45					
retrograde	15288 Apr 07 16:02	11° \mathfrak{Z} 53'01		conjunction	15294 Feb 23 01:41	17° \mathfrak{H} 30'42	1°27'24
opposition	15288 Jun 15 23:39	8° \mathfrak{Z} 29'02	1°41'00	minimum elong	15294 Feb 23 01:43	17° \mathfrak{H} 30'43	1°27'41
min. Earth dist.	15288 Jun 15 15:37	8° \mathfrak{Z} 30'35	8.65702 AU	max. Earth dist.	15294 Feb 22 16:54	17° \mathfrak{H} 28'00	10.52052 AU
direct	15288 Aug 23 05:31	5° \mathfrak{Z} 07'24		morning rise	15294 Mar 12 17:14	19° \mathfrak{H} 40'21	
evening set	15288 Dec 02 13:40	12° \mathfrak{Z} 30'15		retrograde	15294 Jun 23 16:44	27° \mathfrak{H} 17'09	
				opposition	15294 Aug 30 17:14	23° \mathfrak{H} 53'10	1°39'56
				min. Earth dist.	15294 Aug 31 01:12	23° \mathfrak{H} 51'35	8.50775 AU
				direct	15294 Nov 07 04:52	20° \mathfrak{H} 27'43	

evening set	15295 Feb 18 19:38	28° X 07'18		conjunction	15300 May 13 23:24	4° II 55'53	-0°33'36
	15295 Mar 06 03:13	0° Y		minimum elong	15300 May 13 23:22	4° II 55'52	0°34'24
				max. Earth dist.	15300 May 13 08:31	4° II 51'13	10.42155 AU
conjunction	15295 Mar 08 12:07	0° Y 17'35	1°13'17	morning rise	15300 May 31 08:27	7° II 05'54	
minimum elong	15295 Mar 08 12:09	0° Y 17'36	1°13'22	retrograde	15300 Sep 10 03:50	14° II 44'11	
max. Earth dist.	15295 Mar 07 23:57	0° Y 13'49	10.49407 AU	opposition	15300 Nov 16 22:57	11° II 21'46	-0°54'56
morning rise	15295 Mar 26 03:46	2° Y 27'41		min. Earth dist.	15300 Nov 17 10:23	11° II 19'31	8.42245 AU
retrograde	15295 Jul 06 20:21	10° Y 04'48		direct	15301 Jan 25 04:06	7° II 55'43	
opposition	15295 Sep 12 17:19	6° Y 40'58	1°20'07	evening set	15301 May 09 23:52	15° II 45'17	
min. Earth dist.	15295 Sep 13 03:51	6° Y 38'53	8.48223 AU				
direct	15295 Nov 20 07:43	3° Y 15'02		conjunction	15301 May 27 09:07	17° II 55'28	-0°54'33
evening set	15296 Mar 03 07:10	10° Y 57'20		minimum elong	15301 May 27 09:06	17° II 55'27	0°55'26
				max. Earth dist.	15301 May 26 19:31	17° II 51'12	10.42438 AU
conjunction	15296 Mar 20 23:45	13° Y 08'06	0°55'28	morning rise	15301 Jun 13 15:53	20° II 04'56	
minimum elong	15296 Mar 20 23:47	13° Y 08'07	0°55'20	retrograde	15301 Sep 23 10:26	27° II 43'23	
max. Earth dist.	15296 Mar 20 08:56	13° Y 03'30	10.47020 AU	opposition	15301 Nov 30 09:55	24° II 21'14	-1°19'19
morning rise	15296 Apr 07 15:06	15° Y 18'33		min. Earth dist.	15301 Nov 30 19:53	24° II 19'17	8.42869 AU
retrograde	15296 Jul 19 00:42	22° Y 55'53		direct	15302 Feb 07 18:17	20° II 55'34	
opposition	15296 Sep 24 19:12	19° Y 32'16	0°56'12	evening set	15302 May 23 10:35	28° II 44'42	
min. Earth dist.	15296 Sep 25 07:12	19° Y 29'54	8.45989 AU		15302 Jun 02 12:54	0° III	
direct	15296 Dec 02 12:57	16° Y 05'59					
evening set	15297 Mar 16 19:47	23° Y 50'43		conjunction	15302 Jun 09 17:19	0° III 54'11	-1°12'42
				minimum elong	15302 Jun 09 17:17	0° III 54'10	1°13'37
conjunction	15297 Apr 03 12:02	26° Y 01'48	0°34'47	max. Earth dist.	15302 Jun 09 06:07	0° III 50'40	10.43355 AU
minimum elong	15297 Apr 03 12:03	26° Y 01'49	0°34'27	morning rise	15302 Jun 26 21:46	3° III 02'59	
max. Earth dist.	15297 Apr 02 20:06	25° Y 56'51	10.45007 AU	retrograde	15302 Oct 06 18:15	10° III 41'27	
morning rise	15297 Apr 21 02:30	28° Y 12'26		opposition	15302 Dec 13 21:30	7° III 19'28	-1°39'36
	15297 May 06 04:30	0° III		min. Earth dist.	15302 Dec 14 04:56	7° III 18'01	8.44110 AU
retrograde	15297 Aug 01 05:09	5° III 50'01		direct	15303 Feb 21 07:20	3° III 54'18	
opposition	15297 Oct 07 23:17	2° III 26'39	0°29'19	evening set	15303 Jun 05 19:15	11° III 42'14	
min. Earth dist.	15297 Oct 08 11:37	2° III 24'13	8.44191 AU				
	15297 Nov 11 09:35	30° R Y		conjunction	15303 Jun 22 23:38	13° III 50'57	-1°27'07
direct	15297 Dec 15 21:37	29° Y 00'12		minimum elong	15303 Jun 22 23:36	13° III 50'56	1°28'03
	15298 Jan 19 00:36	0° III		max. Earth dist.	15303 Jun 22 16:03	13° III 48'34	10.44859 AU
evening set	15298 Mar 30 08:52	6° III 46'56		morning rise	15303 Jul 10 01:51	15° III 59'02	
max. Earth dist.	15298 Apr 16 08:22	8° III 53'11	10.43476 AU	retrograde	15303 Oct 20 01:42	23° III 37'19	
				opposition	15303 Dec 27 09:27	20° III 15'27	-1°54'45
conjunction	15298 Apr 17 00:14	8° III 58'08	0°12'18	min. Earth dist.	15303 Dec 27 13:45	20° III 14'37	8.45894 AU
minimum elong	15298 Apr 17 00:15	8° III 58'08	0°11'47	direct	15304 Mar 05 19:48	16° III 50'51	
behind sun begin	15298 Apr 16 19:14	8° III 56'35		evening set	15304 Jun 18 01:24	24° III 36'51	
behind sun end	15298 Apr 17 05:16	8° III 59'41					
morning rise	15298 May 04 13:16	11° III 08'44		conjunction	15304 Jul 05 03:37	26° III 44'44	-1°37'05
	15298 Jun 07 13:16	15° III		minimum elong	15304 Jul 05 03:36	26° III 44'43	1°37'58
retrograde	15298 Aug 14 12:12	18° III 46'37		max. Earth dist.	15304 Jul 04 23:53	26° III 43'33	10.46860 AU
opposition	15298 Oct 21 05:22	15° III 23'32	0°00'51	morning rise	15304 Jul 22 03:56	28° III 52'06	
min. Earth dist.	15298 Oct 21 17:27	15° III 21'09	8.42927 AU		15304 Jul 31 12:13	0° IV	
	15298 Oct 26 04:44	15° R III		retrograde	15304 Nov 01 08:05	6° IV 30'02	
desc. node	15298 Nov 01 04:05	14° III 32'12		opposition	15305 Jan 08 21:11	3° IV 08'12	-2°04'04
direct	15298 Dec 29 06:17	11° III 57'05		min. Earth dist.	15305 Jan 08 22:44	3° IV 07'54	8.48118 AU
	15299 Feb 28 16:11	15° III			15305 Mar 01 16:49	30° R III	
evening set	15299 Apr 12 22:21	19° III 45'21		direct	15305 Mar 19 07:31	29° III 44'12	
					15305 Apr 05 19:33	0° IV	
conjunction	15299 Apr 30 12:14	21° III 56'27	-0°10'58	evening set	15305 Jul 01 04:48	7° IV 02'37	
minimum elong	15299 Apr 30 12:13	21° III 56'27	0°11'38				
behind sun begin	15299 Apr 30 07:08	21° III 54'52		conjunction	15305 Jul 18 05:14	9° IV 34'43	-1°42'10
behind sun end	15299 Apr 30 17:19	21° III 58'01		minimum elong	15305 Jul 18 05:14	9° IV 34'43	1°42'58
max. Earth dist.	15299 Apr 29 20:53	21° III 51'39	10.42509 AU	max. Earth dist.	15305 Jul 18 04:41	9° IV 34'32	10.49244 AU
morning rise	15299 May 17 23:25	24° III 06'50		morning rise	15305 Aug 04 04:19	11° IV 41'26	
	15299 Jul 13 20:00	0° IV			15305 Sep 01 20:28	15° IV	
retrograde	15299 Aug 27 20:21	1° IV 44'57		retrograde	15305 Nov 14 13:52	19° IV 18'49	
	15299 Oct 12 22:45	30° R III		opposition	15306 Jan 22 08:02	15° IV 56'56	-2°07'09
opposition	15299 Nov 03 13:15	28° III 22'11	-0°27'44	min. Earth dist.	15306 Jan 22 07:18	15° IV 57'04	8.50636 AU
min. Earth dist.	15299 Nov 04 01:12	28° III 19'50	8.42267 AU		15306 Feb 03 19:02	15° R IV	
direct	15300 Jan 11 15:55	24° III 55'53		direct	15306 Apr 01 17:01	12° IV 33'30	
	15300 Apr 03 00:15	0° IV			15306 May 26 08:02	15° IV	
evening set	15300 Apr 26 11:38	2° IV 45'08		evening set	15306 Jul 14 05:14	20° IV 13'53	

conjunction	15306 Jul 31 04:26	22°♏20'18	-1°42'11	conjunction	15312 Oct 13 15:55	7°♍30'00	-0°15'06
minimum elong	15306 Jul 31 04:27	22°♏20'18	1°42'50	minimum elong	15312 Oct 13 15:56	7°♍30'00	0°14'36
max. Earth dist.	15306 Jul 31 06:19	22°♏20'53	10.51828 AU	behind sun begin	15312 Oct 13 12:51	7°♍29'04	
morning rise	15306 Aug 17 03:01	24°♏26'30		behind sun end	15312 Oct 13 19:01	7°♍30'56	
	15306 Oct 09 02:18	0°♐		max. Earth dist.	15312 Oct 14 06:29	7°♍34'28	10.63778 AU
retrograde	15306 Nov 27 17:16	2°♐03'13		morning rise	15312 Oct 30 21:12	9°♍35'54	
	15307 Jan 18 04:45	30°♐♏			15312 Dec 22 01:04	15°♍	
opposition	15307 Feb 04 17:35	28°♏41'12	-2°03'56	retrograde	15313 Feb 11 17:12	17°♍09'25	
min. Earth dist.	15307 Feb 04 14:49	28°♏41'44	8.53229 AU		15313 Apr 06 01:18	15°♐♍	
direct	15307 Apr 15 01:16	25°♏18'20		opposition	15313 Apr 22 12:47	13°♍45'38	-0°04'39
	15307 Jul 01 21:18	0°♐		min. Earth dist.	15313 Apr 22 00:13	13°♍48'03	8.64252 AU
evening set	15307 Jul 27 02:55	2°♐55'30		asc. node	15313 Jun 25 07:18	10°♍25'47	
				direct	15313 Jun 30 03:55	10°♍24'33	
conjunction	15307 Aug 13 01:33	5°♐01'22	-1°37'11		15313 Sep 14 20:46	15°♍	
minimum elong	15307 Aug 13 01:34	5°♐01'22	1°37'40	evening set	15313 Oct 09 03:49	17°♍46'18	
max. Earth dist.	15307 Aug 13 06:01	5°♐02'45	10.54384 AU				
morning rise	15307 Aug 30 00:11	7°♐07'12		conjunction	15313 Oct 26 08:21	19°♍51'42	0°07'08
retrograde	15307 Dec 10 19:02	14°♐43'18		minimum elong	15313 Oct 26 08:20	19°♍51'42	0°07'47
opposition	15308 Feb 18 01:30	11°♐21'07	-1°54'41	behind sun begin	15313 Oct 26 01:55	19°♍49'46	
min. Earth dist.	15308 Feb 17 20:06	11°♐22'09	8.55697 AU	behind sun end	15313 Oct 26 14:45	19°♍53'39	
direct	15308 Apr 27 08:07	7°♐58'48		max. Earth dist.	15313 Oct 26 23:49	19°♍56'26	10.64592 AU
evening set	15308 Aug 07 22:10	15°♐32'43		morning rise	15313 Nov 12 15:12	21°♍57'48	
				retrograde	15314 Feb 24 13:57	29°♍31'11	
conjunction	15308 Aug 24 20:57	17°♐38'14	-1°27'30	opposition	15314 May 05 09:07	26°♍07'06	0°22'36
minimum elong	15308 Aug 24 20:59	17°♐38'15	1°27'48	min. Earth dist.	15314 May 04 20:06	26°♍09'37	8.64830 AU
max. Earth dist.	15308 Aug 25 04:44	17°♐40'39	10.56778 AU	direct	15314 Jul 12 22:22	22°♍45'55	
morning rise	15308 Sep 10 20:09	19°♐43'52			15314 Oct 20 20:11	0°♐	
retrograde	15308 Dec 22 21:35	27°♐19'24		evening set	15314 Oct 21 19:31	0°♐06'58	
opposition	15309 Mar 02 07:45	23°♐56'58	-1°39'59				
min. Earth dist.	15309 Mar 01 23:33	23°♐58'32	8.57971 AU	conjunction	15314 Nov 08 01:29	2°♐12'36	0°28'54
direct	15309 May 10 11:56	20°♐35'09		minimum elong	15314 Nov 08 01:28	2°♐12'36	0°29'40
evening set	15309 Aug 20 15:27	28°♐05'53		max. Earth dist.	15314 Nov 08 16:57	2°♐17'19	10.64913 AU
	15309 Sep 05 02:46	0°♑		morning rise	15314 Nov 25 09:49	4°♐18'56	
conjunction	15309 Sep 06 14:55	0°♑11'12	-1°13'41	retrograde	15315 Mar 09 12:13	11°♐52'24	
minimum elong	15309 Sep 06 14:57	0°♑11'13	1°13'46	opposition	15315 May 18 04:16	8°♐28'04	0°48'46
max. Earth dist.	15309 Sep 07 01:47	0°♑14'34	10.58965 AU	min. Earth dist.	15315 May 17 15:53	8°♐30'28	8.64909 AU
morning rise	15309 Sep 23 15:10	2°♑16'46		direct	15315 Jul 25 14:14	5°♐06'43	
retrograde	15310 Jan 04 22:46	9°♑51'42		evening set	15315 Nov 03 12:24	12°♐27'45	
opposition	15310 Mar 15 12:02	6°♑28'57	-1°20'35				
min. Earth dist.	15310 Mar 15 01:40	6°♑30'56	8.60015 AU	conjunction	15315 Nov 20 19:38	14°♐33'38	0°49'21
direct	15310 May 23 12:16	3°♑07'30		minimum elong	15315 Nov 20 19:37	14°♐33'38	0°50'12
evening set	15310 Sep 02 07:26	10°♑35'17		max. Earth dist.	15315 Nov 21 09:30	14°♐37'52	10.64724 AU
conjunction	15310 Sep 19 07:48	12°♑40'29	-0°56'25	morning rise	15315 Dec 08 05:25	16°♐40'16	
minimum elong	15310 Sep 19 07:50	12°♑40'30	0°56'18	retrograde	15316 Mar 21 09:54	24°♐14'01	
max. Earth dist.	15310 Sep 19 20:35	12°♑44'26	10.60897 AU	opposition	15316 May 29 22:29	20°♐49'31	1°12'42
morning rise	15310 Oct 06 09:33	14°♑46'06		min. Earth dist.	15316 May 29 11:52	20°♐51'35	8.64483 AU
retrograde	15311 Jan 17 21:46	22°♑20'26		direct	15316 Aug 06 04:55	17°♐27'50	
opposition	15311 Mar 28 14:13	18°♑57'20	-0°57'28	evening set	15316 Nov 15 07:08	24°♐49'38	
min. Earth dist.	15311 Mar 28 02:54	18°♑59'31	8.61779 AU	conjunction	15316 Dec 02 15:38	26°♐55'51	1°07'32
direct	15311 Jun 05 11:22	15°♑36'07		minimum elong	15316 Dec 02 15:36	26°♐55'51	1°08'26
evening set	15311 Sep 14 22:28	23°♑01'21		max. Earth dist.	15316 Dec 03 02:57	26°♐59'18	10.64030 AU
conjunction	15311 Oct 01 24:00	25°♑06'33	-0°36'35	morning rise	15316 Dec 20 02:44	29°♐02'48	
minimum elong	15311 Oct 02 00:01	25°♑06'33	0°36'16		15316 Dec 28 04:47	0°♑	
max. Earth dist.	15311 Oct 02 13:37	25°♑10'44	10.62523 AU	retrograde	15317 Apr 03 05:50	6°♑36'59	
morning rise	15311 Oct 19 03:30	27°♑12'16		opposition	15317 Jun 11 15:55	3°♑12'23	1°33'17
	15311 Nov 12 12:41	0°♒		min. Earth dist.	15317 Jun 11 07:36	3°♑14'00	8.63567 AU
retrograde	15312 Jan 30 20:15	4°♒46'07		direct	15317 Aug 05 07:37	30°♐♐	
opposition	15312 Apr 09 14:32	1°♒22'40	-0°31'45		15317 Aug 18 22:08	29°♐50'16	
min. Earth dist.	15312 Apr 09 02:34	1°♒24'58	8.63214 AU	evening set	15317 Sep 01 10:59	0°♑	
	15312 Apr 28 01:49	30°♐♑			15317 Nov 28 03:51	7°♑13'31	
direct	15312 Jun 17 08:41	28°♑01'34		conjunction	15317 Dec 15 13:41	9°♑20'09	1°22'36
	15312 Aug 04 23:51	0°♒		minimum elong	15317 Dec 15 13:39	9°♑20'08	1°23'32
evening set	15312 Sep 26 12:58	5°♒24'44		max. Earth dist.	15317 Dec 15 22:36	9°♑22'52	10.62859 AU
				morning rise	15318 Jan 02 01:51	11°♑27'26	
				retrograde	15318 Apr 16 03:59	19°♑02'13	

opposition	15318 Jun 24 09:16	15° ♁ 37'33	1°49'35	min. Earth dist.	15324 Sep 07 19:39	1° ♄ 25'06	8.49401 AU
min. Earth dist.	15318 Jun 24 02:47	15° ♁ 38'49	8.62197 AU		15324 Sep 26 08:00	30° ♁	
direct	15318 Aug 31 14:45	12° ♁ 15'01		direct	15324 Nov 15 00:20	28° ♁ 01'21	
evening set	15318 Dec 11 02:42	19° ♁ 40'11		evening set	15325 Jan 02 16:13	0° ♄	
					15325 Feb 26 20:44	5° ♄ 42'54	
conjunction	15318 Dec 28 13:51	21° ♁ 47'18	1°33'50				
minimum elong	15318 Dec 28 13:50	21° ♁ 47'18	1°34'44	conjunction	15325 Mar 16 13:28	7° ♄ 53'32	1°03'22
max. Earth dist.	15318 Dec 28 20:45	21° ♁ 49'24	10.61267 AU	minimum elong	15325 Mar 16 13:30	7° ♄ 53'32	1°03'19
morning rise	15319 Jan 15 02:51	23° ♁ 54'59		max. Earth dist.	15325 Mar 16 01:50	7° ♄ 49'55	10.48315 AU
	15319 Mar 17 12:48	0° \approx		morning rise	15325 Apr 03 04:52	10° ♄ 03'52	
retrograde	15319 Apr 29 03:47	1° \approx 30'27		retrograde	15325 Jul 14 19:01	17° ♄ 41'27	
	15319 Jun 11 08:12	30° ♁		opposition	15325 Sep 20 13:22	14° ♄ 18'06	1°06'41
opposition	15319 Jul 07 02:55	28° ♁ 05'48	2°00'47	min. Earth dist.	15325 Sep 20 23:21	14° ♄ 16'08	8.47368 AU
min. Earth dist.	15319 Jul 06 22:15	28° ♁ 06'43	8.60443 AU	direct	15325 Nov 28 04:36	10° ♄ 52'25	
direct	15319 Sep 13 07:13	24° ♁ 42'47		evening set	15326 Mar 12 09:34	18° ♄ 36'18	
	15319 Dec 05 09:24	0° \approx		max. Earth dist.	15326 Mar 29 11:43	20° ♄ 42'49	10.46386 AU
evening set	15319 Dec 24 04:08	2° \approx 10'22					
				conjunction	15326 Mar 30 02:05	20° ♄ 47'16	0°43'46
conjunction	15320 Jan 10 16:33	4° \approx 18'02	1°40'40	minimum elong	15326 Mar 30 02:07	20° ♄ 47'17	0°43'31
minimum elong	15320 Jan 10 16:32	4° \approx 18'02	1°41'30	morning rise	15326 Apr 16 16:49	22° ♄ 57'49	
max. Earth dist.	15320 Jan 10 20:37	4° \approx 19'17	10.59346 AU		15326 Jul 02 03:55	0° ♁	
morning rise	15320 Jan 28 06:19	6° \approx 26'10		retrograde	15326 Jul 28 00:31	0° ♁ 35'30	
retrograde	15320 May 11 03:34	14° \approx 02'16			15326 Aug 23 00:37	30° ♁	
opposition	15320 Jul 18 21:10	10° \approx 37'44	2°06'20	opposition	15326 Oct 03 17:07	27° ♄ 12'26	0°40'53
min. Earth dist.	15320 Jul 18 19:04	10° \approx 38'09	8.58402 AU	min. Earth dist.	15326 Oct 04 05:15	27° ♄ 10'02	8.45510 AU
direct	15320 Sep 25 01:51	7° \approx 14'13		direct	15326 Dec 11 11:47	23° ♄ 46'29	
evening set	15321 Jan 05 08:06	14° \approx 44'33			15327 Mar 13 00:58	0° ♁	
	15321 Jan 07 11:28	15° \approx		evening set	15327 Mar 25 23:06	1° ♁ 32'31	
conjunction	15321 Jan 22 21:38	16° \approx 52'51	1°42'44	conjunction	15327 Apr 12 14:51	3° ♁ 43'41	0°21'53
minimum elong	15321 Jan 22 21:39	16° \approx 52'51	1°43'27	minimum elong	15327 Apr 12 14:52	3° ♁ 43'41	0°21'27
max. Earth dist.	15321 Jan 22 21:52	16° \approx 52'55	10.57196 AU	max. Earth dist.	15327 Apr 11 22:10	3° ♁ 38'30	10.44645 AU
morning rise	15321 Feb 09 12:13	19° \approx 01'27		morning rise	15327 Apr 30 04:34	5° ♁ 54'19	
retrograde	15321 May 24 05:12	26° \approx 38'07		retrograde	15327 Aug 10 06:48	13° ♁ 32'15	
opposition	15321 Jul 31 16:37	23° \approx 13'47	2°05'50	opposition	15327 Oct 16 22:51	10° ♁ 09'29	0°12'54
min. Earth dist.	15321 Jul 31 17:48	23° \approx 13'33	8.56173 AU	min. Earth dist.	15327 Oct 17 12:21	10° ♁ 06'49	8.43892 AU
direct	15321 Oct 07 21:34	19° \approx 49'47		direct	15327 Dec 24 21:01	6° ♁ 43'24	
evening set	15322 Jan 18 14:22	27° \approx 23'01		desc. node	15328 Apr 05 04:26	14° ♁ 14'02	
				evening set	15328 Apr 07 13:12	14° ♁ 31'19	
conjunction	15322 Feb 05 04:54	29° \approx 31'56	1°39'50		15328 Apr 11 10:34	15° ♁	
minimum elong	15322 Feb 05 04:56	29° \approx 31'57	1°40'24	max. Earth dist.	15328 Apr 24 10:02	16° ♁ 37'01	10.43213 AU
max. Earth dist.	15322 Feb 05 01:04	29° \approx 30'46	10.54921 AU				
	15322 Feb 09 00:15	0° ♁		conjunction	15328 Apr 25 03:40	16° ♁ 42'31	-0°01'15
morning rise	15322 Feb 22 20:09	1° ♁ 41'04		minimum elong	15328 Apr 25 03:38	16° ♁ 42'30	0°01'52
retrograde	15322 Jun 06 07:10	9° ♁ 18'10		behind sun begin	15328 Apr 24 20:26	16° ♁ 40'17	
opposition	15322 Aug 13 13:24	5° ♁ 54'05	1°59'16	behind sun end	15328 Apr 25 10:51	16° ♁ 44'44	
min. Earth dist.	15322 Aug 13 17:31	5° ♁ 53'16	8.53866 AU	morning rise	15328 May 12 15:49	18° ♁ 53'03	
direct	15322 Oct 20 19:57	2° ♁ 29'36		retrograde	15328 Aug 22 13:52	26° ♁ 31'21	
evening set	15323 Jan 31 22:44	10° ♁ 05'47		opposition	15328 Oct 29 06:31	23° ♁ 08'50	-0°15'51
				min. Earth dist.	15328 Oct 29 19:59	23° ♁ 06'10	8.42683 AU
conjunction	15323 Feb 18 14:17	12° ♁ 15'20	1°32'04	direct	15329 Jan 06 08:12	19° ♁ 42'44	
minimum elong	15323 Feb 18 14:19	12° ♁ 15'20	1°32'27	evening set	15329 Apr 21 03:14	27° ♁ 32'02	
max. Earth dist.	15323 Feb 18 07:21	12° ♁ 13'12	10.52628 AU				
morning rise	15323 Mar 08 05:58	14° ♁ 24'57		conjunction	15329 May 08 15:54	29° ♁ 43'00	-0°24'17
retrograde	15323 Jun 19 08:58	22° ♁ 02'20		minimum elong	15329 May 08 15:54	29° ♁ 43'00	0°25'02
opposition	15323 Aug 26 11:38	18° ♁ 38'31	1°46'49	max. Earth dist.	15329 May 07 23:19	29° ♁ 37'48	10.42265 AU
min. Earth dist.	15323 Aug 26 17:57	18° ♁ 37'16	8.51584 AU		15329 May 10 22:05	0° ♁	
direct	15323 Nov 02 21:57	15° ♁ 13'35		morning rise	15329 May 26 02:02	1° ♁ 53'16	
evening set	15324 Feb 14 08:58	22° ♁ 52'33		retrograde	15329 Sep 04 21:33	9° ♁ 31'55	
				opposition	15329 Nov 11 16:06	6° ♁ 09'35	-0°43'51
conjunction	15324 Mar 03 01:21	25° ♁ 02'42	1°19'44	min. Earth dist.	15329 Nov 12 04:10	6° ♁ 07'12	8.42035 AU
minimum elong	15324 Mar 03 01:23	25° ♁ 02'43	1°19'54	direct	15330 Jan 19 21:03	2° ♁ 43'35	
max. Earth dist.	15324 Mar 02 15:57	24° ♁ 59'48	10.50407 AU	evening set	15330 May 04 16:25	10° ♁ 33'32	
morning rise	15324 Mar 20 17:06	27° ♁ 12'43					
	15324 Apr 13 20:27	0° ♄		conjunction	15330 May 22 02:57	12° ♁ 44'05	-0°46'07
retrograde	15324 Jul 01 13:33	4° ♄ 50'17		minimum elong	15330 May 22 02:56	12° ♁ 44'05	0°46'58
opposition	15324 Sep 07 11:38	1° ♄ 26'41	1°29'01	max. Earth dist.	15330 May 21 12:32	12° ♁ 39'33	10.41915 AU

morning rise	15330 Jun 08 10:44	14° Π 53'54		max. Earth dist.	15336 Aug 07 07:33	0° Π 04'17	10.51758 AU
retrograde	15330 Sep 18 06:18	22° Π 32'49		morning rise	15336 Aug 24 00:55	2° Π 08'49	
opposition	15330 Nov 25 03:04	19° Π 10'35	-1°09'38	retrograde	15336 Dec 04 17:50	9° Π 45'38	
min. Earth dist.	15330 Nov 25 13:35	19° Π 08'32	8.42018 AU	opposition	15337 Feb 11 21:39	6° Π 22'58	-1°59'18
direct	15331 Feb 02 10:14	15° Π 44'47		min. Earth dist.	15337 Feb 11 15:56	6° Π 24'05	8.53259 AU
evening set	15331 May 18 04:30	23° Π 34'40		direct	15337 Apr 22 05:00	2° Π 59'57	
				evening set	15337 Aug 02 23:38	10° Π 35'33	
conjunction	15331 Jun 04 12:34	25° Π 44'36	-1°05'35				
minimum elong	15331 Jun 04 12:32	25° Π 44'36	1°06'30	conjunction	15337 Aug 19 22:22	12° Π 41'19	-1°32'05
max. Earth dist.	15331 Jun 04 00:21	25° Π 40'46	10.42202 AU	minimum elong	15337 Aug 19 22:24	12° Π 41'20	1°32'27
morning rise	15331 Jun 21 17:55	27° Π 53'49		max. Earth dist.	15337 Aug 20 06:13	12° Π 43'46	10.54582 AU
	15331 Jul 09 08:39	0° Ξ		morning rise	15337 Sep 05 21:18	14° Π 47'08	
retrograde	15331 Oct 01 15:18	5° Ξ 32'48		retrograde	15337 Dec 17 20:05	22° Π 23'04	
opposition	15331 Dec 08 14:54	2° Ξ 10'38	-1°31'48	opposition	15338 Feb 25 04:25	19° Π 00'16	-1°46'44
min. Earth dist.	15331 Dec 08 23:48	2° Ξ 08'54	8.42645 AU	min. Earth dist.	15338 Feb 24 20:40	19° Π 01'45	8.56080 AU
	15332 Jan 07 20:35	30° κ Π		direct	15338 May 05 09:16	15° Π 37'49	
direct	15332 Feb 15 22:40	28° Π 45'05		evening set	15338 Aug 15 17:32	23° Π 09'57	
	15332 Mar 25 11:00	0° Ξ					
evening set	15332 May 30 14:39	6° Ξ 34'08		conjunction	15338 Sep 01 16:34	25° Π 15'22	-1°19'53
				minimum elong	15338 Sep 01 16:36	25° Π 15'23	1°20'03
conjunction	15332 Jun 16 20:06	8° Ξ 43'20	-1°21'41	max. Earth dist.	15338 Sep 02 02:44	25° Π 18'32	10.57399 AU
minimum elong	15332 Jun 16 20:04	8° Ξ 43'20	1°22'37	morning rise	15338 Sep 18 16:29	27° Π 21'00	
max. Earth dist.	15332 Jun 16 10:11	8° Ξ 40'13	10.43121 AU		15338 Oct 11 12:35	0° $\underline{\Delta}$	
morning rise	15332 Jul 03 23:15	10° Ξ 51'53		retrograde	15338 Dec 30 20:07	4° $\underline{\Delta}$ 56'01	
retrograde	15332 Oct 13 22:02	18° Ξ 30'46		opposition	15339 Mar 10 09:13	1° $\underline{\Delta}$ 33'04	-1°29'08
opposition	15332 Dec 21 03:17	15° Ξ 08'36	-1°49'15	min. Earth dist.	15339 Mar 09 23:23	1° $\underline{\Delta}$ 34'57	8.58818 AU
min. Earth dist.	15332 Dec 21 10:15	15° Ξ 07'14	8.43889 AU		15339 Mar 31 08:57	30° κ Π	
direct	15333 Feb 28 12:41	11° Ξ 43'23		direct	15339 May 18 10:55	28° Π 11'10	
evening set	15333 Jun 12 22:07	19° Ξ 30'50			15339 Jul 04 01:55	0° $\underline{\Delta}$	
				evening set	15339 Aug 28 09:30	5° $\underline{\Delta}$ 39'59	
conjunction	15333 Jun 30 01:09	21° Ξ 39'13	-1°33'36				
minimum elong	15333 Jun 30 01:08	21° Ξ 39'12	1°34'30	conjunction	15339 Sep 14 09:21	7° $\underline{\Delta}$ 45'10	-1°03'57
max. Earth dist.	15333 Jun 29 18:06	21° Ξ 36'59	10.44630 AU	minimum elong	15339 Sep 14 09:23	7° $\underline{\Delta}$ 45'11	1°03'55
morning rise	15333 Jul 17 02:27	23° Ξ 47'04		max. Earth dist.	15339 Sep 14 22:07	7° $\underline{\Delta}$ 49'07	10.60070 AU
	15333 Sep 16 10:58	0° Ω		morning rise	15339 Oct 01 10:31	9° $\underline{\Delta}$ 50'42	
retrograde	15333 Oct 27 03:39	1° Ω 25'42		retrograde	15340 Jan 12 18:29	17° $\underline{\Delta}$ 24'53	
	15333 Dec 07 23:15	30° κ Ξ		opposition	15340 Mar 22 11:50	14° $\underline{\Delta}$ 01'46	-1°07'26
opposition	15334 Jan 03 15:25	28° Ξ 03'27	-2°01'05	min. Earth dist.	15340 Mar 21 23:42	14° $\underline{\Delta}$ 04'06	8.61353 AU
min. Earth dist.	15334 Jan 03 19:28	28° Ξ 02'39	8.45684 AU	direct	15340 May 30 11:44	10° $\underline{\Delta}$ 40'22	
direct	15334 Mar 14 02:29	24° Ξ 38'40		evening set	15340 Sep 09 00:14	18° $\underline{\Delta}$ 06'11	
	15334 Jun 05 20:40	0° Ω					
evening set	15334 Jun 26 02:49	2° Ω 23'50		conjunction	15340 Sep 26 01:18	20° $\underline{\Delta}$ 11'15	-0°45'05
				minimum elong	15340 Sep 26 01:20	20° $\underline{\Delta}$ 11'15	0°44'51
conjunction	15334 Jul 13 03:59	4° Ω 31'26	-1°40'45	max. Earth dist.	15340 Sep 26 16:49	20° $\underline{\Delta}$ 16'01	10.62484 AU
minimum elong	15334 Jul 13 03:59	4° Ω 31'26	1°41'35	morning rise	15340 Oct 13 03:56	22° $\underline{\Delta}$ 16'47	
max. Earth dist.	15334 Jul 13 00:50	4° Ω 30'26	10.46651 AU	retrograde	15341 Jan 24 17:40	29° $\underline{\Delta}$ 50'14	
morning rise	15334 Jul 30 03:48	6° Ω 38'36		opposition	15341 Apr 04 12:14	26° $\underline{\Delta}$ 26'56	-0°42'42
retrograde	15334 Nov 09 09:50	14° Ω 16'47		min. Earth dist.	15341 Apr 03 22:20	26° $\underline{\Delta}$ 29'36	8.63583 AU
opposition	15335 Jan 17 02:38	10° Ω 54'24	-2°06'46	direct	15341 Jun 12 08:57	23° $\underline{\Delta}$ 05'56	
min. Earth dist.	15335 Jan 17 03:12	10° Ω 54'18	8.47928 AU		15341 Sep 17 12:30	0° \mathbb{M}	
direct	15335 Mar 27 13:33	7° Ω 30'10		evening set	15341 Sep 21 14:24	0° \mathbb{M} 29'13	
	15335 Jul 07 11:48	15° Ω					
evening set	15335 Jul 09 04:37	15° Ω 12'29		conjunction	15341 Oct 08 16:47	2° \mathbb{M} 34'17	-0°24'12
				minimum elong	15341 Oct 08 16:48	2° \mathbb{M} 34'17	0°23'47
conjunction	15335 Jul 26 04:27	17° Ω 19'22	-1°42'52	max. Earth dist.	15341 Oct 09 09:35	2° \mathbb{M} 39'26	10.64538 AU
minimum elong	15335 Jul 26 04:28	17° Ω 19'23	1°43'34	morning rise	15341 Oct 25 21:05	4° \mathbb{M} 39'54	
max. Earth dist.	15335 Jul 26 05:35	17° Ω 19'43	10.49070 AU	retrograde	15342 Feb 06 16:13	12° \mathbb{M} 12'43	
morning rise	15335 Aug 12 03:16	19° Ω 25'58		opposition	15342 Apr 17 10:40	8° \mathbb{M} 49'18	-0°16'06
retrograde	15335 Nov 22 14:43	27° Ω 03'31		min. Earth dist.	15342 Apr 16 20:23	8° \mathbb{M} 52'03	8.65413 AU
opposition	15336 Jan 30 12:53	23° Ω 41'00	-2°06'08	direct	15342 Jun 25 02:30	5° \mathbb{M} 28'34	
min. Earth dist.	15336 Jan 30 09:55	23° Ω 41'34	8.50497 AU	evening set	15342 Oct 04 04:34	12° \mathbb{M} 49'59	
direct	15336 Apr 08 22:04	20° Ω 17'22					
evening set	15336 Jul 21 03:24	27° Ω 56'25		conjunction	15342 Oct 21 08:13	14° \mathbb{M} 55'04	-0°02'17
	15336 Aug 06 17:50	0° Π		minimum elong	15342 Oct 21 08:13	14° \mathbb{M} 55'04	0°01'42
				behind sun begin	15342 Oct 21 01:06	14° \mathbb{M} 52'54	
conjunction	15336 Aug 07 02:26	0° Π 02'41	-1°39'53	behind sun end	15342 Oct 21 15:20	14° \mathbb{M} 57'13	
minimum elong	15336 Aug 07 02:27	0° Π 02'42	1°40'27	max. Earth dist.	15342 Oct 22 00:53	15° \mathbb{M} 00'09	10.66144 AU

	15342 Oct 22 00:24	15°♌		morning rise	15349 Jan 21 20:23	1°≈11'24	
morning rise	15342 Nov 07 14:14	17°♌00'49		retrograde	15349 May 05 17:41	8°≈45'51	
asc. node	15342 Nov 29 00:48	19°♌28'32		opposition	15349 Jul 13 15:02	5°≈21'50	2°04'27
retrograde	15343 Feb 19 11:59	24°♌33'12		min. Earth dist.	15349 Jul 13 13:32	5°≈22'08	8.61844 AU
opposition	15343 Apr 30 07:17	21°♌09'42	0°11'09	direct	15349 Sep 19 20:46	1°≈59'00	
min. Earth dist.	15343 Apr 29 17:36	21°♌12'20	8.66771 AU	evening set	15349 Dec 30 21:16	9°≈26'50	
direct	15343 Jul 07 20:42	17°♌49'04					
evening set	15343 Oct 16 19:15	25°♌09'18		conjunction	15350 Jan 17 10:06	11°≈34'29	1°42'21
				minimum elong	15350 Jan 17 10:06	11°≈34'29	1°43'07
conjunction	15343 Nov 03 00:16	27°♌14'30	0°19'47	max. Earth dist.	15350 Jan 17 10:19	11°≈34'33	10.60452 AU
minimum elong	15343 Nov 03 00:15	27°♌14'30	0°20'30	morning rise	15350 Feb 04 00:14	13°≈42'32	
max. Earth dist.	15343 Nov 03 16:05	27°♌19'19	10.67240 AU		15350 Feb 14 23:50	15°≈	
morning rise	15343 Nov 20 07:56	29°♌20'25		retrograde	15350 May 18 17:50	21°≈17'45	
	15343 Nov 25 21:40	0°♊		opposition	15350 Jul 26 08:57	17°≈53'42	2°06'41
retrograde	15344 Mar 03 08:11	6°♊52'37		min. Earth dist.	15350 Jul 26 09:40	17°≈53'33	8.59210 AU
opposition	15344 May 12 02:23	3°♊29'00	0°37'50		15350 Sep 08 15:15	15°≈	
min. Earth dist.	15344 May 11 13:34	3°♊31'28	8.67593 AU	direct	15350 Oct 02 14:58	14°≈30'12	
direct	15344 Jul 19 13:31	0°♊08'21			15350 Oct 26 11:15	15°≈	
evening set	15344 Oct 28 10:51	7°♊28'05		evening set	15351 Jan 13 01:16	22°≈00'56	
conjunction	15344 Nov 14 17:21	9°♊33'27	0°40'50	conjunction	15351 Jan 30 15:21	24°≈09'17	1°41'41
minimum elong	15344 Nov 14 17:19	9°♊33'27	0°41'40	minimum elong	15351 Jan 30 15:22	24°≈09'17	1°42'19
max. Earth dist.	15344 Nov 15 08:29	9°♊38'04	10.67746 AU	max. Earth dist.	15351 Jan 30 12:51	24°≈08'31	10.57709 AU
morning rise	15344 Dec 02 02:25	11°♊39'35		morning rise	15351 Feb 17 06:05	26°≈17'53	
retrograde	15345 Mar 16 04:32	19°♊11'48			15351 Mar 22 10:36	0°♋	
opposition	15345 May 24 20:06	15°♊48'03	1°02'44	retrograde	15351 May 31 18:46	3°♋53'46	
min. Earth dist.	15345 May 24 08:10	15°♊50'22	8.67788 AU	opposition	15351 Aug 08 04:05	0°♋29'41	2°02'51
direct	15345 Aug 01 05:05	12°♊27'14		min. Earth dist.	15351 Aug 08 07:08	0°♋29'05	8.56387 AU
evening set	15345 Nov 10 04:02	19°♊47'13			15351 Aug 14 11:13	30°≈	
				direct	15351 Oct 15 11:07	27°≈05'31	
conjunction	15345 Nov 27 11:54	21°♊52'51	1°00'00		15351 Dec 14 04:24	0°♋	
minimum elong	15345 Nov 27 11:52	21°♊52'51	1°00'54	evening set	15352 Jan 26 07:43	4°♋39'19	
max. Earth dist.	15345 Nov 28 01:32	21°♊57'01	10.67571 AU				
morning rise	15345 Dec 14 22:06	23°♊59'12		conjunction	15352 Feb 12 22:52	6°♋48'22	1°36'07
	15346 Feb 13 20:13	0°♋		minimum elong	15352 Feb 12 22:54	6°♋48'22	1°36'34
retrograde	15346 Mar 29 00:57	1°♋31'41		max. Earth dist.	15352 Feb 12 16:46	6°♋46'29	10.54853 AU
	15346 May 11 23:04	30°≈		morning rise	15352 Mar 01 14:08	8°♋57'31	
opposition	15346 Jun 06 12:51	28°♋07'50	1°24'46	retrograde	15352 Jun 12 20:14	16°♋33'55	
min. Earth dist.	15346 Jun 06 02:36	28°♋09'49	8.67266 AU	opposition	15352 Aug 20 00:36	13°♋09'55	1°53'04
direct	15346 Aug 13 20:24	24°♋46'40		min. Earth dist.	15352 Aug 20 06:41	13°♋08'43	8.53507 AU
	15346 Nov 04 11:12	0°♋		direct	15352 Oct 27 09:48	9°♋45'04	
evening set	15346 Nov 22 23:00	2°♋07'42		evening set	15353 Feb 07 16:13	17°♋21'57	
conjunction	15346 Dec 10 08:06	4°♋13'42	1°16'26	conjunction	15353 Feb 25 08:10	19°♋31'40	1°25'49
minimum elong	15346 Dec 10 08:04	4°♋13'42	1°17'22	minimum elong	15353 Feb 25 08:12	19°♋31'41	1°26'05
max. Earth dist.	15346 Dec 10 18:56	4°♋17'00	10.66658 AU	max. Earth dist.	15353 Feb 24 22:13	19°♋28'37	10.52010 AU
morning rise	15346 Dec 27 19:24	6°♋20'22		morning rise	15353 Mar 14 23:49	21°♋41'21	
retrograde	15347 Apr 10 23:01	13°♋53'22		retrograde	15353 Jun 25 23:19	29°♋18'09	
opposition	15347 Jun 19 05:24	10°♋29'27	1°42'55	opposition	15353 Sep 01 22:59	25°♋54'16	1°37'40
min. Earth dist.	15347 Jun 18 21:49	10°♋30'56	8.66017 AU	min. Earth dist.	15353 Sep 02 07:52	25°♋52'30	8.50699 AU
direct	15347 Aug 26 10:30	7°♋07'50		direct	15353 Nov 09 10:14	22°♋28'49	
evening set	15347 Dec 05 20:00	14°♋30'36			15354 Feb 19 21:42	0°♌	
				evening set	15354 Feb 21 02:16	0°♌08'37	
conjunction	15347 Dec 23 06:16	16°♋37'04	1°29'22	conjunction	15354 Mar 10 18:42	2°♌18'57	1°11'14
minimum elong	15347 Dec 23 06:15	16°♋37'04	1°30'17	minimum elong	15354 Mar 10 18:44	2°♌18'57	1°11'17
max. Earth dist.	15347 Dec 23 13:07	16°♋39'09	10.65069 AU	max. Earth dist.	15354 Mar 10 05:43	2°♌14'56	10.49308 AU
morning rise	15348 Jan 09 18:42	18°♋44'10		morning rise	15354 Mar 28 10:25	4°♌29'05	
retrograde	15348 Apr 22 20:34	26°♋17'52		retrograde	15354 Jul 09 02:07	12°♌06'13	
opposition	15348 Jun 30 22:04	22°♋53'54	1°56'23	opposition	15354 Sep 14 23:13	8°♌42'28	1°17'20
min. Earth dist.	15348 Jun 30 17:46	22°♋54'44	8.64159 AU	min. Earth dist.	15354 Sep 15 10:03	8°♌40'19	8.48096 AU
direct	15348 Sep 07 02:12	19°♋31'42		direct	15354 Nov 22 14:16	5°♌16'32	
evening set	15348 Dec 17 19:28	26°♋56'50		evening set	15355 Mar 06 13:48	12°♌59'02	
conjunction	15349 Jan 04 06:59	29°♋03'50	1°38'09	conjunction	15355 Mar 24 06:26	15°♌09'50	0°53'02
minimum elong	15349 Jan 04 06:59	29°♋03'50	1°39'01	minimum elong	15355 Mar 24 06:28	15°♌09'51	0°52'53
max. Earth dist.	15349 Jan 04 10:12	29°♋04'49	10.62951 AU	max. Earth dist.	15355 Mar 23 15:45	15°♌05'17	10.46874 AU
	15349 Jan 11 23:24	0°≈					

morning rise	15355 Apr 10 21:43	17° Υ 20'19			15361 May 18 06:20	0° \mathfrak{G}
retrograde	15355 Jul 22 05:53	24° Υ 57'44		evening set	15361 May 24 17:18	0° \mathfrak{G} 47'12
opposition	15355 Sep 28 01:16	21° Υ 34'08	0°53'01			
min. Earth dist.	15355 Sep 28 12:55	21° Υ 31'49	8.45821 AU	conjunction	15361 Jun 10 23:57	2° \mathfrak{G} 56'40 -1°14'37
direct	15355 Dec 05 20:32	18° Υ 07'51		minimum elong	15361 Jun 10 23:55	2° \mathfrak{G} 56'40 1°15'32
evening set	15356 Mar 19 02:28	25° Υ 52'45		max. Earth dist.	15361 Jun 10 13:37	2° \mathfrak{G} 53'25 10.43148 AU
				morning rise	15361 Jun 28 04:10	5° \mathfrak{G} 05'27
conjunction	15356 Apr 05 18:47	28° Υ 03'52	0°32'06	retrograde	15361 Oct 08 01:07	12° \mathfrak{G} 44'05
minimum elong	15356 Apr 05 18:48	28° Υ 03'53	0°31'45	opposition	15361 Dec 15 04:41	9° \mathfrak{G} 22'00 -1°41'40
max. Earth dist.	15356 Apr 05 03:23	27° Υ 59'05	10.44822 AU	min. Earth dist.	15361 Dec 15 11:18	9° \mathfrak{G} 20'43 8.43916 AU
	15356 Apr 21 09:37	0° \mathfrak{C}		direct	15362 Feb 22 14:26	5° \mathfrak{G} 56'49
morning rise	15356 Aug 23 09:05	0° \mathfrak{C} 14'30		evening set	15362 Jun 07 01:50	13° \mathfrak{G} 44'45
retrograde	15356 Aug 03 12:26	7° \mathfrak{C} 52'11				
opposition	15356 Oct 10 05:33	4° \mathfrak{C} 28'48	0°25'54	conjunction	15362 Jun 24 06:08	15° \mathfrak{G} 53'26 -1°28'30
min. Earth dist.	15356 Oct 10 17:39	4° \mathfrak{C} 26'25	8.43987 AU	minimum elong	15362 Jun 24 06:06	15° \mathfrak{G} 53'26 1°29'25
direct	15356 Dec 18 03:19	1° \mathfrak{C} 02'20		max. Earth dist.	15362 Jun 23 23:25	15° \mathfrak{G} 51'20 10.44679 AU
evening set	15357 Apr 01 15:45	8° \mathfrak{C} 49'12		morning rise	15362 Jul 11 08:09	18° \mathfrak{G} 01'31
				retrograde	15362 Oct 21 08:49	25° \mathfrak{G} 39'59
conjunction	15357 Apr 19 07:02	11° \mathfrak{C} 00'26	0°09'30	opposition	15362 Dec 28 16:47	22° \mathfrak{G} 18'03 -1°56'08
minimum elong	15357 Apr 19 07:02	11° \mathfrak{C} 00'26	0°08'58	min. Earth dist.	15362 Dec 28 20:50	22° \mathfrak{G} 17'16 8.45736 AU
behind sun begin	15357 Apr 19 00:53	10° \mathfrak{C} 58'32		direct	15363 Mar 08 02:55	18° \mathfrak{G} 53'26
behind sun end	15357 Apr 19 13:11	11° \mathfrak{C} 02'20		evening set	15363 Jun 20 08:03	26° \mathfrak{G} 39'25
max. Earth dist.	15357 Apr 18 15:14	10° \mathfrak{C} 55'31	10.43256 AU			
morning rise	15357 May 06 19:51	13° \mathfrak{C} 11'02		conjunction	15363 Jul 07 10:07	28° \mathfrak{G} 47'17 -1°37'54
	15357 May 22 01:33	15° \mathfrak{C}		minimum elong	15363 Jul 07 10:06	28° \mathfrak{G} 47'17 1°38'45
retrograde	15357 Aug 16 19:46	20° \mathfrak{C} 48'59		max. Earth dist.	15363 Jul 07 06:28	28° \mathfrak{G} 46'08 10.46728 AU
desc. node	15357 Sep 19 10:29	19° \mathfrak{C} 50'39			15363 Jul 17 02:05	0° \mathfrak{Q}
opposition	15357 Oct 23 11:52	17° \mathfrak{C} 25'53	-0°02'39	morning rise	15363 Jul 24 10:24	0° \mathfrak{Q} 54'39
min. Earth dist.	15357 Oct 24 00:17	17° \mathfrak{C} 23'25	8.42699 AU	retrograde	15363 Nov 03 15:56	8° \mathfrak{Q} 32'44
	15357 Nov 26 17:54	15° \mathfrak{R} \mathfrak{C}		opposition	15364 Jan 11 04:34	5° \mathfrak{Q} 10'52 -2°04'41
direct	15357 Dec 31 11:43	13° \mathfrak{C} 59'22		min. Earth dist.	15364 Jan 11 06:21	5° \mathfrak{Q} 10'31 8.48022 AU
	15358 Feb 03 23:09	15° \mathfrak{C}		direct	15364 Mar 20 13:51	1° \mathfrak{Q} 46'52
evening set	15358 Apr 15 05:15	21° \mathfrak{C} 47'46		evening set	15364 Jul 02 11:27	9° \mathfrak{Q} 30'16
conjunction	15358 May 02 18:53	23° \mathfrak{C} 58'51	-0°13'45	conjunction	15364 Jul 19 11:43	11° \mathfrak{Q} 37'20 -1°42'21
minimum elong	15358 May 02 18:52	23° \mathfrak{C} 58'51	0°14'26	minimum elong	15364 Jul 19 11:43	11° \mathfrak{Q} 37'21 1°43'07
behind sun begin	15358 May 02 15:41	23° \mathfrak{C} 57'52		max. Earth dist.	15364 Jul 19 10:55	11° \mathfrak{Q} 37'06 10.49191 AU
behind sun end	15358 May 02 22:03	23° \mathfrak{C} 59'50		morning rise	15364 Aug 05 10:53	13° \mathfrak{Q} 44'05
max. Earth dist.	15358 May 02 02:55	23° \mathfrak{C} 53'52	10.42273 AU		15364 Aug 15 22:37	15° \mathfrak{Q}
morning rise	15358 May 20 05:56	26° \mathfrak{C} 09'15		retrograde	15364 Nov 15 20:17	21° \mathfrak{Q} 21'34
	15358 Jun 23 01:28	0° \mathfrak{I}		opposition	15365 Jan 23 15:34	17° \mathfrak{Q} 59'41 -2°06'58
retrograde	15358 Aug 30 02:09	3° \mathfrak{I} 47'26		min. Earth dist.	15365 Jan 23 14:45	17° \mathfrak{Q} 59'50 8.50641 AU
opposition	15358 Nov 05 20:01	0° \mathfrak{I} 24'39	-0°31'07		15365 Mar 12 09:34	15° \mathfrak{R} \mathfrak{Q}
min. Earth dist.	15358 Nov 06 08:34	0° \mathfrak{I} 22'10	8.42035 AU	direct	15365 Apr 03 00:14	14° \mathfrak{Q} 36'17
	15358 Nov 11 01:17	30° \mathfrak{R} \mathfrak{C}			15365 Apr 24 11:29	15° \mathfrak{Q}
direct	15359 Jan 13 23:20	26° \mathfrak{C} 58'15		evening set	15365 Jul 15 11:41	22° \mathfrak{Q} 16'35
	15359 Mar 16 05:06	0° \mathfrak{I}				
evening set	15359 Apr 28 18:25	4° \mathfrak{I} 47'37		conjunction	15365 Aug 01 10:51	24° \mathfrak{Q} 22'58 -1°41'44
				minimum elong	15365 Aug 01 10:52	24° \mathfrak{Q} 22'58 1°42'21
conjunction	15359 May 16 05:56	6° \mathfrak{I} 58'20	-0°36'14	max. Earth dist.	15365 Aug 01 13:12	24° \mathfrak{Q} 23'42 10.51907 AU
minimum elong	15359 May 16 05:54	6° \mathfrak{I} 58'19	0°37'02	morning rise	15365 Aug 18 09:32	26° \mathfrak{Q} 29'10
max. Earth dist.	15359 May 15 14:24	6° \mathfrak{I} 53'28	10.41924 AU		15365 Sep 18 02:53	0° \mathfrak{R}
morning rise	15359 Jun 02 14:56	9° \mathfrak{I} 08'21		retrograde	15365 Nov 28 23:23	4° \mathfrak{R} 05'57
retrograde	15359 Sep 12 09:15	16° \mathfrak{I} 46'45		opposition	15366 Feb 06 01:03	0° \mathfrak{R} 43'56 -2°02'59
opposition	15359 Nov 19 05:49	13° \mathfrak{I} 24'16	-0°58'02	min. Earth dist.	15366 Feb 05 21:23	0° \mathfrak{R} 44'38 8.53394 AU
min. Earth dist.	15359 Nov 19 17:21	13° \mathfrak{I} 22'00	8.42021 AU		15366 Feb 15 15:09	30° \mathfrak{R} \mathfrak{Q}
direct	15360 Jan 27 12:18	9° \mathfrak{I} 58'08		direct	15366 Apr 16 09:42	27° \mathfrak{Q} 21'08
evening set	15360 May 11 06:38	17° \mathfrak{I} 47'47			15366 Jun 12 08:20	0° \mathfrak{R}
				evening set	15366 Jul 28 09:13	4° \mathfrak{R} 58'03
conjunction	15360 May 28 15:44	19° \mathfrak{I} 57'57	-0°56'53	conjunction	15366 Aug 14 08:00	7° \mathfrak{R} 03'54 -1°36'08
minimum elong	15360 May 28 15:42	19° \mathfrak{I} 57'56	0°57'46	minimum elong	15366 Aug 14 08:01	7° \mathfrak{R} 03'55 1°36'35
max. Earth dist.	15360 May 28 02:14	19° \mathfrak{I} 53'42	10.42216 AU	max. Earth dist.	15366 Aug 14 13:48	7° \mathfrak{R} 05'43 10.54650 AU
morning rise	15360 Jun 14 22:23	22° \mathfrak{I} 07'24		morning rise	15366 Aug 31 06:40	9° \mathfrak{R} 09'43
retrograde	15360 Sep 24 17:25	29° \mathfrak{I} 45'59		retrograde	15366 Dec 12 02:41	16° \mathfrak{R} 45'43
opposition	15360 Dec 01 16:50	26° \mathfrak{I} 23'44	-1°21'58	opposition	15367 Feb 19 08:41	13° \mathfrak{R} 23'31 -1°53'02
min. Earth dist.	15360 Dec 02 02:14	26° \mathfrak{I} 21'54	8.42655 AU	min. Earth dist.	15367 Feb 19 02:05	13° \mathfrak{R} 24'47 8.56051 AU
direct	15361 Feb 09 01:07	22° \mathfrak{I} 58'02				




























































































































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evening set	15367 Aug 10 04:20	17° \cap 34'51		retrograde	15373 Feb 25 20:28	1° \bowtie 29'42	
					15373 Apr 10 08:32	30° \cap \cap	
conjunction	15367 Aug 27 03:16	19° \cap 40'20 -1°25'55		opposition	15373 May 06 14:10	28° \cap 05'42	0°25'50
minimum elong	15367 Aug 27 03:18	19° \cap 40'20 1°26'10		min. Earth dist.	15373 May 06 01:03	28° \cap 08'14	8.65508 AU
max. Earth dist.	15367 Aug 27 12:13	19° \cap 43'07 10.57214 AU		direct	15373 Jul 14 02:35	24° \cap 44'37	
morning rise	15367 Sep 13 02:29	21° \cap 45'56			15373 Oct 04 22:56	0° \bowtie	
retrograde	15367 Dec 25 04:55	29° \cap 21'14		evening set	15373 Oct 23 00:26	2° \bowtie 05'16	
opposition	15368 Mar 03 14:42	25° \cap 58'50 -1°37'42					
min. Earth dist.	15368 Mar 03 05:55	26° \cap 00'31 8.58468 AU		conjunction	15373 Nov 09 06:23	4° \bowtie 10'48	0°31'26
direct	15368 May 11 17:20	22° \cap 37'09		minimum elong	15373 Nov 09 06:21	4° \bowtie 10'48	0°32'13
	15368 Aug 20 20:45	0° \cap		max. Earth dist.	15373 Nov 09 21:17	4° \bowtie 15'21	10.65577 AU
evening set	15368 Aug 21 21:25	0° \cap 07'28		morning rise	15373 Nov 26 14:49	6° \bowtie 17'04	
				retrograde	15374 Mar 10 17:11	13° \bowtie 50'06	
conjunction	15368 Sep 07 20:54	2° \cap 12'43 -1°11'38		opposition	15374 May 19 08:54	10° \bowtie 25'51	0°51'45
minimum elong	15368 Sep 07 20:56	2° \cap 12'43 1°11'41		min. Earth dist.	15374 May 18 21:13	10° \bowtie 28'07	8.65557 AU
max. Earth dist.	15368 Sep 08 08:00	2° \cap 16'09 10.59519 AU		direct	15374 Jul 26 17:57	7° \bowtie 04'32	
morning rise	15368 Sep 24 21:17	4° \cap 18'14		evening set	15374 Nov 04 17:07	14° \bowtie 25'15	
retrograde	15369 Jan 06 04:52	11° \cap 52'55					
opposition	15369 Mar 16 18:47	8° \cap 30'14 -1°17'48		conjunction	15374 Nov 22 00:18	16° \bowtie 31'02	0°51'38
min. Earth dist.	15369 Mar 16 08:35	8° \cap 32'12 8.60610 AU		minimum elong	15374 Nov 22 00:16	16° \bowtie 31'02	0°52'30
direct	15369 May 24 18:51	5° \cap 08'55		max. Earth dist.	15374 Nov 22 13:14	16° \bowtie 34'59	10.65347 AU
evening set	15369 Sep 03 13:11	12° \cap 36'17		morning rise	15374 Dec 09 10:10	18° \bowtie 37'34	
				retrograde	15375 Mar 23 12:30	26° \bowtie 10'53	
conjunction	15369 Sep 20 13:35	14° \cap 41'26 -0°54'02		opposition	15375 Jun 01 02:40	22° \bowtie 46'28	1°15'17
minimum elong	15369 Sep 20 13:37	14° \cap 41'26 0°53'53		min. Earth dist.	15375 May 31 16:43	22° \bowtie 48'24	8.65081 AU
max. Earth dist.	15369 Sep 21 01:56	14° \cap 45'14 10.61533 AU		direct	15375 Aug 08 10:40	19° \bowtie 24'47	
morning rise	15369 Oct 07 15:35	16° \cap 47'00		evening set	15375 Nov 17 11:31	26° \bowtie 46'17	
retrograde	15370 Jan 19 03:55	24° \cap 21'01					
opposition	15370 Mar 29 20:34	20° \cap 58'02 -0°54'20		conjunction	15375 Dec 04 20:03	28° \bowtie 52'25	1°09'27
min. Earth dist.	15370 Mar 29 09:31	21° \cap 00'09 8.62440 AU		minimum elong	15375 Dec 04 20:02	28° \bowtie 52'24	1°10'21
direct	15370 Jun 06 17:37	17° \cap 36'56		max. Earth dist.	15375 Dec 05 07:10	28° \bowtie 55'48	10.64592 AU
evening set	15370 Sep 16 03:59	25° \cap 01'45			15375 Dec 14 02:10	0° \bowtie	
				morning rise	15375 Dec 22 07:08	0° \bowtie 59'15	
conjunction	15370 Oct 03 05:39	27° \cap 06'53 -0°33'57		retrograde	15376 Apr 04 09:57	8° \bowtie 33'03	
minimum elong	15370 Oct 03 05:41	27° \cap 06'53 0°33'37		opposition	15376 Jun 12 19:44	5° \bowtie 08'28	1°35'22
max. Earth dist.	15370 Oct 03 19:20	27° \cap 11'05 10.63205 AU		min. Earth dist.	15376 Jun 12 11:24	5° \bowtie 10'06	8.64094 AU
morning rise	15370 Oct 20 09:20	29° \cap 12'34		direct	15376 Aug 20 02:21	1° \bowtie 46'22	
	15370 Oct 27 00:40	0° \cap		evening set	15376 Nov 29 07:57	9° \bowtie 09'17	
retrograde	15371 Feb 01 01:29	6° \cap 46'03					
opposition	15371 Apr 11 20:23	3° \cap 22'42 -0°28'26		conjunction	15376 Dec 16 17:53	11° \bowtie 15'51	1°24'04
min. Earth dist.	15371 Apr 11 08:08	3° \cap 25'03 8.63904 AU		minimum elong	15376 Dec 16 17:52	11° \bowtie 15'50	1°25'00
direct	15371 Jun 19 14:26	0° \cap 01'44		max. Earth dist.	15376 Dec 17 03:14	11° \bowtie 18'42	10.63337 AU
evening set	15371 Sep 28 18:15	7° \cap 24'29		morning rise	15377 Jan 03 05:56	13° \bowtie 23'03	
				retrograde	15377 Apr 17 07:51	20° \bowtie 57'26	
conjunction	15371 Oct 15 21:24	9° \cap 29'41 -0°12'23		opposition	15377 Jun 25 12:40	17° \bowtie 32'47	1°51'05
minimum elong	15371 Oct 15 21:24	9° \cap 29'41 0°11'52		min. Earth dist.	15377 Jun 25 05:55	17° \bowtie 34'06	8.62626 AU
behind sun begin	15371 Oct 15 16:27	9° \cap 28'11		direct	15377 Sep 01 18:12	14° \bowtie 10'13	
behind sun end	15371 Oct 16 02:22	9° \cap 31'11		evening set	15377 Dec 12 06:44	21° \bowtie 35'09	
max. Earth dist.	15371 Oct 16 12:42	9° \cap 34'22 10.64471 AU					
morning rise	15371 Nov 02 02:41	11° \cap 35'31		conjunction	15377 Dec 29 17:53	23° \bowtie 42'12	1°34'48
	15371 Dec 02 10:59	15° \cap		minimum elong	15377 Dec 29 17:53	23° \bowtie 42'11	1°35'41
retrograde	15372 Feb 13 22:14	19° \cap 08'41		max. Earth dist.	15377 Dec 30 00:35	23° \bowtie 44'14	10.61633 AU
opposition	15372 Apr 23 18:13	15° \cap 44'59 -0°01'18		morning rise	15378 Jan 16 06:47	25° \bowtie 49'47	
min. Earth dist.	15372 Apr 23 05:00	15° \cap 47'31 8.64944 AU			15378 Feb 23 10:37	0° \bowtie	
	15372 May 03 13:58	15° \cap		retrograde	15378 Apr 30 06:41	3° \bowtie 24'53	
asc. node	15372 May 11 09:23	14° \cap 25'45		opposition	15378 Jul 08 05:58	0° \bowtie 00'14	2°01'38
direct	15372 Jul 01 10:23	12° \cap 24'01		min. Earth dist.	15378 Jul 08 01:44	0° \bowtie 01'04	8.60749 AU
	15372 Aug 26 15:06	15° \cap			15378 Jul 08 07:10	30° \cap \bowtie	
evening set	15372 Oct 10 08:54	19° \cap 45'20		direct	15378 Sep 14 10:57	26° \bowtie 37'10	
					15378 Nov 18 03:58	0° \bowtie	
conjunction	15372 Oct 27 13:31	21° \cap 50'41 0°09'49		evening set	15378 Dec 25 07:58	4° \bowtie 04'34	
minimum elong	15372 Oct 27 13:30	21° \cap 50'41 0°10'29					
behind sun begin	15372 Oct 27 07:56	21° \cap 49'00		conjunction	15379 Jan 11 20:16	6° \bowtie 12'11	1°41'05
behind sun end	15372 Oct 27 19:05	21° \cap 52'22		minimum elong	15379 Jan 11 20:16	6° \bowtie 12'11	1°41'54
max. Earth dist.	15372 Oct 28 05:30	21° \cap 55'34 10.65277 AU		max. Earth dist.	15379 Jan 11 23:12	6° \bowtie 13'05	10.59586 AU
morning rise	15372 Nov 13 20:23	23° \cap 56'42		morning rise	15379 Jan 29 10:04	8° \bowtie 20'15	

	15379 Apr 10 02:14	15°♊		15385 Jun 04 15:56	0°♄
retrograde	15379 May 13 07:18	15°♊56'01	retrograde	15385 Jul 29 03:52	2°♄29'58
	15379 Jun 15 16:24	15°♋		15385 Sep 23 12:54	30°♋♊
opposition	15379 Jul 21 00:06	12°♊31'29 2°06'29	opposition	15385 Oct 04 20:36	29°♋06'56 0°37'49
min. Earth dist.	15379 Jul 20 23:00	12°♊31'42 8.58576 AU	min. Earth dist.	15385 Oct 05 09:08	29°♋04'27 8.45170 AU
direct	15379 Sep 27 04:17	9°♋07'52	direct	15385 Dec 12 15:26	25°♋40'58
	15379 Dec 24 12:31	15°♋		15386 Feb 24 22:43	0°♄
evening set	15380 Jan 07 11:36	16°♋38'05	evening set	15386 Mar 27 03:03	3°♄27'17
conjunction	15380 Jan 25 01:05	18°♋46'20 1°42'35	conjunction	15386 Apr 13 18:42	5°♄38'30 0°19'21
minimum elong	15380 Jan 25 01:06	18°♋46'21 1°43'16	minimum elong	15386 Apr 13 18:43	5°♄38'30 0°18'53
max. Earth dist.	15380 Jan 25 00:02	18°♋46'01 10.57304 AU	max. Earth dist.	15386 Apr 13 01:54	5°♄33'16 10.44335 AU
morning rise	15380 Feb 11 15:45	20°♋54'56	morning rise	15386 May 01 08:24	7°♄49'11
retrograde	15380 May 25 07:22	28°♋31'20		15386 Jul 19 20:23	15°♄
opposition	15380 Aug 01 19:21	25°♋06'59 2°05'19	retrograde	15386 Aug 11 10:16	15°♄27'18
min. Earth dist.	15380 Aug 01 21:19	25°♋06'36 8.56211 AU		15386 Sep 03 04:24	15°♋♄
direct	15380 Oct 09 01:11	21°♋42'52	opposition	15386 Oct 18 02:35	12°♄04'32 0°09'42
evening set	15381 Jan 19 17:44	29°♋16'06	min. Earth dist.	15386 Oct 18 15:49	12°♄01'55 8.43600 AU
	15381 Jan 25 18:53	0°♋	direct	15386 Dec 26 01:09	8°♄38'27
			desc. node	15387 Feb 23 03:24	11°♄28'46
conjunction	15381 Feb 06 08:22	1°♋25'01 1°39'09		15387 Mar 28 16:29	15°♄
minimum elong	15381 Feb 06 08:24	1°♋25'01 1°39'40	evening set	15387 Apr 09 17:12	16°♄26'37
max. Earth dist.	15381 Feb 06 04:01	1°♋23'41 10.54890 AU			
morning rise	15381 Feb 23 23:38	3°♋34'08	conjunction	15387 Apr 27 07:38	18°♄37'50 -0°03'52
retrograde	15381 Jun 07 08:33	11°♋11'05	minimum elong	15387 Apr 27 07:37	18°♄37'50 0°04'29
opposition	15381 Aug 14 15:54	7°♋46'58 1°58'04	behind sun begin	15387 Apr 27 00:34	18°♄35'39
min. Earth dist.	15381 Aug 14 20:08	7°♋46'08 8.53762 AU	behind sun end	15387 Apr 27 14:41	18°♄40'01
direct	15381 Oct 22 00:16	4°♋22'24	max. Earth dist.	15387 Apr 26 14:37	18°♄32'31 10.42927 AU
evening set	15382 Feb 02 02:03	11°♋58'39	morning rise	15387 May 14 19:39	20°♄48'25
			retrograde	15387 Aug 24 17:23	28°♄26'57
conjunction	15382 Feb 19 17:45	14°♋08'15 1°30'51	opposition	15387 Oct 31 10:26	25°♄04'26 -0°19'02
minimum elong	15382 Feb 19 17:47	14°♋08'15 1°31'11	min. Earth dist.	15387 Oct 31 23:19	25°♄01'54 8.42388 AU
max. Earth dist.	15382 Feb 19 10:57	14°♋06'09 10.52458 AU	direct	15388 Jan 08 12:48	21°♄38'22
morning rise	15382 Mar 09 09:20	16°♋17'52	evening set	15388 Apr 22 07:24	29°♄27'57
retrograde	15382 Jun 20 12:37	23°♋55'15		15388 Apr 26 15:24	0°♄
opposition	15382 Aug 27 14:14	20°♋31'23 1°45'01			
min. Earth dist.	15382 Aug 27 20:21	20°♋30'10 8.51346 AU	conjunction	15388 May 09 20:03	1°♄38'57 -0°26'47
direct	15382 Nov 04 00:02	17°♋06'24	minimum elong	15388 May 09 20:02	1°♄38'57 0°27'32
evening set	15383 Feb 15 12:16	24°♋45'32	max. Earth dist.	15388 May 09 04:07	1°♄33'57 10.41952 AU
			morning rise	15388 May 27 05:57	3°♄49'15
conjunction	15383 Mar 05 04:43	26°♋55'45 1°18'03	retrograde	15388 Sep 06 02:39	11°♄28'14
minimum elong	15383 Mar 05 04:45	26°♋55'46 1°18'11	opposition	15388 Nov 12 20:23	8°♄05'55 -0°46'50
max. Earth dist.	15383 Mar 04 19:21	26°♋52'52 10.50118 AU	min. Earth dist.	15388 Nov 13 08:22	8°♄03'34 8.41701 AU
morning rise	15383 Mar 22 20:23	29°♋05'49	direct	15389 Jan 21 00:39	4°♄39'59
	15383 Mar 30 09:34	0°♋	evening set	15389 May 05 20:53	12°♄30'15
retrograde	15383 Jul 03 17:24	6°♋43'28			
opposition	15383 Sep 09 14:28	3°♋19'53 1°26'41	conjunction	15389 May 23 07:14	14°♄40'51 -0°48'24
min. Earth dist.	15383 Sep 09 22:43	3°♋18'15 8.49064 AU	minimum elong	15389 May 23 07:12	14°♄40'50 0°49'15
	15383 Nov 06 21:43	30°♋♋	max. Earth dist.	15389 May 22 16:45	14°♄36'18 10.41558 AU
direct	15383 Nov 17 02:31	29°♋54'31	morning rise	15389 Jun 09 14:48	16°♄50'41
	15383 Nov 27 07:45	0°♋	retrograde	15389 Sep 19 12:18	24°♄30'00
evening set	15384 Feb 29 00:18	7°♋36'21	opposition	15389 Nov 26 07:51	21°♄07'49 -1°12'16
			min. Earth dist.	15389 Nov 26 18:46	21°♄05'41 8.41649 AU
conjunction	15384 Mar 17 17:00	9°♋47'03 1°01'18	direct	15390 Feb 03 13:08	17°♄42'04
minimum elong	15384 Mar 17 17:02	9°♋47'04 1°01'13	evening set	15390 May 19 09:12	25°♄32'19
max. Earth dist.	15384 Mar 17 04:41	9°♋43'14 10.47955 AU			
morning rise	15384 Apr 04 08:26	11°♋57'27	conjunction	15390 Jun 05 16:59	27°♄42'17 -1°07'32
retrograde	15384 Jul 15 22:04	19°♋35'13	minimum elong	15390 Jun 05 16:57	27°♄42'17 1°08'26
opposition	15384 Sep 21 16:31	16°♋11'55 1°03'55	max. Earth dist.	15390 Jun 05 04:12	27°♄38'16 10.41818 AU
min. Earth dist.	15384 Sep 22 03:14	16°♋09'48 8.46994 AU	morning rise	15390 Jun 22 22:17	29°♄51'34
direct	15384 Nov 29 08:03	12°♋46'12		15390 Jun 24 01:40	0°♄
evening set	15385 Mar 13 13:26	20°♋30'27	retrograde	15390 Oct 02 19:36	7°♄31'00
			opposition	15390 Dec 09 20:07	4°♄08'53 -1°33'58
conjunction	15385 Mar 31 05:51	22°♋41'29 0°41'24	min. Earth dist.	15390 Dec 10 05:27	4°♄07'03 8.42261 AU
minimum elong	15385 Mar 31 05:52	22°♋41'30 0°41'07	direct	15391 Feb 17 04:04	0°♄43'22
max. Earth dist.	15385 Mar 30 14:37	22°♋36'45 10.46026 AU	evening set	15391 Jun 01 19:36	8°♄32'49
morning rise	15385 Apr 17 20:39	24°♋52'06			

conjunction	15391 Jun 19 00:51	10°☾42'03	-1°23'12	conjunction	15397 Sep 02 22:35	27°♊17'03	-1°18'01
minimum elong	15391 Jun 19 00:50	10°☾42'02	1°24'06	minimum elong	15397 Sep 02 22:37	27°♊17'04	1°18'09
max. Earth dist.	15391 Jun 18 14:33	10°☾38'48	10.42732 AU	max. Earth dist.	15397 Sep 03 09:26	27°♊20'25	10.57375 AU
morning rise	15391 Jul 06 04:00	12°☾50'39		morning rise	15397 Sep 19 22:40	29°♊22'43	
retrograde	15391 Oct 16 02:47	20°☾30'01			15397 Sep 25 02:29	0°♊	
opposition	15391 Dec 23 08:52	17°☾07'52	-1°50'49	retrograde	15398 Jan 01 01:37	6°♊57'44	
min. Earth dist.	15391 Dec 23 15:41	17°☾06'33	8.43506 AU	opposition	15398 Mar 11 15:59	3°♊34'41	-1°26'34
direct	15392 Mar 01 19:07	13°☾42'43		min. Earth dist.	15398 Mar 11 05:16	3°♊36'44	8.58840 AU
evening set	15392 Jun 14 03:22	21°☾30'30		direct	15398 May 19 18:54	0°♊12'45	
				evening set	15398 Aug 29 15:20	7°♊41'20	
conjunction	15392 Jul 01 06:21	23°☾38'56	-1°34'35				
minimum elong	15392 Jul 01 06:20	23°☾38'56	1°35'28	conjunction	15398 Sep 15 15:27	9°♊46'33	-1°01'41
max. Earth dist.	15392 Jun 30 23:46	23°☾36'52	10.44252 AU	minimum elong	15398 Sep 15 15:28	9°♊46'33	1°01'37
morning rise	15392 Jul 18 07:34	25°☾46'50		max. Earth dist.	15398 Sep 16 05:20	9°♊50'50	10.60139 AU
	15392 Aug 24 18:01	0°♊		morning rise	15398 Oct 02 16:42	11°♊52'05	
retrograde	15392 Oct 28 10:18	3°♊25'56		retrograde	15399 Jan 14 01:56	19°♊26'10	
opposition	15393 Jan 04 21:25	0°♊03'40	-2°01'57	opposition	15399 Mar 24 18:19	16°♊02'57	-1°04'27
min. Earth dist.	15393 Jan 05 00:39	0°♊03'03	8.45318 AU	min. Earth dist.	15399 Mar 24 05:23	16°♊05'26	8.61461 AU
	15393 Jan 05 16:20	30°♊☾		direct	15399 Jun 01 17:54	12°♊41'31	
direct	15393 Mar 15 08:03	26°☾38'58		evening set	15399 Sep 11 06:04	20°♊07'03	
	15393 May 18 22:18	0°♊					
evening set	15393 Jun 27 08:19	4°♊24'22		conjunction	15399 Sep 28 07:16	22°♊12'07	-0°42'32
				minimum elong	15399 Sep 28 07:18	22°♊12'08	0°42'16
conjunction	15393 Jul 14 09:31	6°♊32'01	-1°41'09	max. Earth dist.	15399 Sep 28 23:17	22°♊17'03	10.62633 AU
minimum elong	15393 Jul 14 09:31	6°♊32'01	1°41'58	morning rise	15399 Oct 15 10:02	24°♊17'40	
max. Earth dist.	15393 Jul 14 07:26	6°♊31'22	10.46303 AU		15399 Dec 10 09:34	0°♊	
morning rise	15393 Jul 31 09:12	8°♊39'15		retrograde	15400 Jan 27 00:29	1°♊50'55	
	15393 Oct 02 19:53	15°♊			15400 Mar 16 22:31	30°♊☾	
retrograde	15393 Nov 10 16:43	16°♊17'50		opposition	15400 Apr 06 18:36	28°♊27'33	-0°39'26
	15393 Dec 20 11:22	15°♊♊		min. Earth dist.	15400 Apr 06 04:38	28°♊30'14	8.63767 AU
opposition	15394 Jan 18 09:04	12°♊55'25	-2°06'54	direct	15400 Jun 14 13:58	25°♊06'31	
min. Earth dist.	15394 Jan 18 08:54	12°♊55'27	8.47605 AU		15400 Sep 02 04:22	0°♊	
direct	15394 Mar 28 18:42	9°♊31'13		evening set	15400 Sep 23 20:04	2°♊29'31	
	15394 Jun 21 15:07	15°♊					
evening set	15394 Jul 10 10:17	17°♊13'41		conjunction	15400 Oct 10 22:29	4°♊34'32	-0°21'30
				minimum elong	15400 Oct 10 22:30	4°♊34'32	0°21'03
conjunction	15394 Jul 27 10:10	19°♊20'37	-1°42'39	max. Earth dist.	15400 Oct 11 14:57	4°♊39'34	10.64761 AU
minimum elong	15394 Jul 27 10:10	19°♊20'37	1°43'20	morning rise	15400 Oct 28 03:01	6°♊40'08	
max. Earth dist.	15394 Jul 27 12:00	19°♊21'11	10.48777 AU	retrograde	15401 Feb 08 21:06	14°♊12'43	
morning rise	15394 Aug 13 08:58	21°♊27'16		opposition	15401 Apr 19 16:48	10°♊49'16	-0°12'43
retrograde	15394 Nov 23 21:19	29°♊05'07		min. Earth dist.	15401 Apr 19 02:54	10°♊51'56	8.65668 AU
opposition	15395 Jan 31 19:35	25°♊42'34	-2°05'30	direct	15401 Jun 27 09:08	7°♊28'28	
min. Earth dist.	15395 Jan 31 16:32	25°♊43'09	8.50239 AU	evening set	15401 Oct 06 10:07	14°♊49'36	
direct	15395 Apr 11 04:24	22°♊18'55			15401 Oct 07 20:49	15°♊	
evening set	15395 Jul 23 09:20	29°♊58'03		asc. node	15401 Oct 14 20:25	15°♊50'41	
	15395 Jul 23 15:44	0°♊					
conjunction	15395 Aug 09 08:20	2°♊04'21	-1°39'05	conjunction	15401 Oct 23 13:51	16°♊54'39	0°00'32
minimum elong	15395 Aug 09 08:21	2°♊04'21	1°39'36	minimum elong	15401 Oct 23 13:51	16°♊54'39	0°01'08
max. Earth dist.	15395 Aug 09 13:18	2°♊05'54	10.51541 AU	behind sun begin	15401 Oct 23 06:44	16°♊52'30	
morning rise	15395 Aug 26 06:58	4°♊10'32		behind sun end	15401 Oct 23 20:58	16°♊56'48	
retrograde	15395 Dec 07 00:51	11°♊47'31		max. Earth dist.	15401 Oct 24 06:11	16°♊59'38	10.66432 AU
opposition	15396 Feb 14 04:29	8°♊24'49	-1°57'57	morning rise	15401 Nov 09 20:05	19°♊00'23	
min. Earth dist.	15396 Feb 13 23:04	8°♊25'51	8.53085 AU	retrograde	15402 Feb 21 17:28	26°♊32'29	
direct	15396 Apr 23 11:11	5°♊01'45		opposition	15402 May 02 12:56	23°♊08'57	0°14'29
evening set	15396 Aug 04 05:36	12°♊37'19		min. Earth dist.	15402 May 01 23:19	23°♊11'34	8.67084 AU
				direct	15402 Jul 10 02:38	19°♊48'17	
				evening set	15402 Oct 19 00:36	27°♊08'15	
conjunction	15396 Aug 21 04:22	14°♊43'07	-1°30'42				
minimum elong	15396 Aug 21 04:24	14°♊43'07	1°31'03	conjunction	15402 Nov 05 05:47	29°♊13'24	0°22'25
max. Earth dist.	15396 Aug 21 12:01	14°♊45'30	10.54458 AU	minimum elong	15402 Nov 05 05:46	29°♊13'24	0°23'09
morning rise	15396 Sep 07 03:31	16°♊48'59		max. Earth dist.	15402 Nov 05 22:05	29°♊18'22	10.67574 AU
retrograde	15396 Dec 19 02:07	24°♊24'59			15402 Nov 11 14:37	0°♊	
opposition	15397 Feb 26 11:22	21°♊02'06	-1°44'43	morning rise	15402 Nov 22 13:30	1°♊19'16	
min. Earth dist.	15397 Feb 26 03:22	21°♊03'39	8.56005 AU	retrograde	15403 Mar 06 13:06	8°♊51'11	
direct	15397 May 06 15:45	17°♊39'38		opposition	15403 May 15 07:37	5°♊27'33	0°40'57
evening set	15397 Aug 16 23:22	25°♊11'37		min. Earth dist.	15403 May 14 18:11	5°♊30'09	8.67948 AU
				direct	15403 Jul 22 19:04	2°♊06'55	

evening set	15403 Oct 31 15:59	9° \mathcal{Z} 26'24		conjunction	15410 Feb 01 19:20	26° \approx 04'12	1°41'12
				minimum elong	15410 Feb 01 19:21	26° \approx 04'13	1°41'47
conjunction	15403 Nov 17 22:36	11° \mathcal{Z} 31'44	0°43'15	max. Earth dist.	15410 Feb 01 16:08	26° \approx 03'14	10.58033 AU
minimum elong	15403 Nov 17 22:35	11° \mathcal{Z} 31'43	0°44'05	morning rise	15410 Feb 19 10:01	28° \approx 12'45	
max. Earth dist.	15403 Nov 18 14:35	11° \mathcal{Z} 36'35	10.68123 AU		15410 Mar 06 17:18	0° \mathcal{H}	
morning rise	15403 Dec 05 07:36	13° \mathcal{Z} 37'47		retrograde	15410 Jun 02 22:05	5° \mathcal{H} 48'25	
retrograde	15404 Mar 18 09:25	21° \mathcal{Z} 09'44		opposition	15410 Aug 10 07:13	2° \mathcal{H} 24'28	2°01'54
opposition	15404 May 27 00:59	17° \mathcal{Z} 46'00	1°05'31	min. Earth dist.	15410 Aug 10 11:03	2° \mathcal{H} 23'42	8.56651 AU
min. Earth dist.	15404 May 26 12:30	17° \mathcal{Z} 48'25	8.68194 AU		15410 Sep 13 07:04	30° $\mathcal{R}\approx$	
direct	15404 Aug 03 10:27	14° \mathcal{Z} 25'13		direct	15410 Oct 17 14:33	29° \approx 00'20	
evening set	15404 Nov 12 09:02	21° \mathcal{Z} 44'58			15410 Nov 20 14:55	0° \mathcal{H}	
				evening set	15411 Jan 28 11:36	6° \mathcal{H} 34'07	
conjunction	15404 Nov 29 16:54	23° \mathcal{Z} 50'33	1°02'06				
minimum elong	15404 Nov 29 16:52	23° \mathcal{Z} 50'32	1°03'00	conjunction	15411 Feb 15 02:39	8° \mathcal{H} 43'08	1°35'05
max. Earth dist.	15404 Nov 30 06:38	23° \mathcal{Z} 54'43	10.68012 AU	minimum elong	15411 Feb 15 02:41	8° \mathcal{H} 43'09	1°35'30
morning rise	15404 Dec 17 03:07	25° \mathcal{Z} 56'50		max. Earth dist.	15411 Feb 14 19:15	8° \mathcal{H} 40'52	10.55059 AU
	15405 Jan 23 06:50	0° \mathcal{Z}		morning rise	15411 Mar 04 18:00	10° \mathcal{H} 52'17	
retrograde	15405 Mar 31 06:57	3° \mathcal{Z} 28'58		retrograde	15411 Jun 16 00:00	18° \mathcal{H} 28'31	
opposition	15405 Jun 08 17:22	0° \mathcal{Z} 05'11	1°27'05	opposition	15411 Aug 23 03:48	15° \mathcal{H} 04'37	1°51'28
min. Earth dist.	15405 Jun 08 07:20	0° \mathcal{Z} 07'08	8.67751 AU	min. Earth dist.	15411 Aug 23 10:49	15° \mathcal{H} 03'14	8.53654 AU
	15405 Jun 09 20:07	30° $\mathcal{R}\mathcal{Z}$		direct	15411 Oct 30 12:37	11° \mathcal{H} 39'49	
direct	15405 Aug 15 23:36	26° \mathcal{Z} 44'03		evening set	15412 Feb 10 19:59	19° \mathcal{H} 16'43	
	15405 Oct 18 15:25	0° \mathcal{Z}					
evening set	15405 Nov 25 03:53	4° \mathcal{Z} 04'50		conjunction	15412 Feb 28 11:56	21° \mathcal{H} 26'27	1°24'17
				minimum elong	15412 Feb 28 11:58	21° \mathcal{H} 26'27	1°24'31
conjunction	15405 Dec 12 12:53	6° \mathcal{Z} 10'45	1°18'07	max. Earth dist.	15412 Feb 28 01:07	21° \mathcal{H} 23'07	10.52102 AU
minimum elong	15405 Dec 12 12:52	6° \mathcal{Z} 10'45	1°19'02	morning rise	15412 Mar 17 03:40	23° \mathcal{H} 36'09	
max. Earth dist.	15405 Dec 12 22:58	6° \mathcal{Z} 13'49	10.67180 AU		15412 May 21 12:18	0° \mathcal{Y}	
morning rise	15405 Dec 30 00:17	8° \mathcal{Z} 17'21		retrograde	15412 Jun 28 01:51	1° \mathcal{Y} 12'51	
retrograde	15406 Apr 13 02:35	15° \mathcal{Z} 49'56			15412 Aug 05 01:53	30° $\mathcal{R}\mathcal{H}$	
opposition	15406 Jun 21 09:32	12° \mathcal{Z} 26'07	1°44'40	opposition	15412 Sep 04 02:10	27° \mathcal{H} 49'02	1°35'30
min. Earth dist.	15406 Jun 21 02:40	12° \mathcal{Z} 27'27	8.66566 AU	min. Earth dist.	15412 Sep 04 11:26	27° \mathcal{H} 47'12	8.50730 AU
direct	15406 Aug 28 14:59	9° \mathcal{Z} 04'31		direct	15412 Nov 11 14:29	24° \mathcal{H} 23'38	
evening set	15406 Dec 08 00:32	16° \mathcal{Z} 27'04			15413 Feb 05 16:50	0° \mathcal{Y}	
				evening set	15413 Feb 23 06:08	2° \mathcal{Y} 03'32	
conjunction	15406 Dec 25 10:47	18° \mathcal{Z} 33'26	1°30'33				
minimum elong	15406 Dec 25 10:45	18° \mathcal{Z} 33'26	1°31'27	conjunction	15413 Mar 12 22:40	4° \mathcal{Y} 13'53	1°09'17
max. Earth dist.	15406 Dec 25 17:08	18° \mathcal{Z} 35'22	10.65624 AU	minimum elong	15413 Mar 12 22:42	4° \mathcal{Y} 13'53	1°09'18
morning rise	15407 Jan 11 23:13	20° \mathcal{Z} 40'25		max. Earth dist.	15413 Mar 12 09:38	4° \mathcal{Y} 09'51	10.49282 AU
retrograde	15407 Apr 25 23:03	28° \mathcal{Z} 13'46		morning rise	15413 Mar 30 14:19	6° \mathcal{Y} 24'01	
opposition	15407 Jul 04 01:48	24° \mathcal{Z} 49'53	1°57'29	retrograde	15413 Jul 11 04:48	14° \mathcal{Y} 01'10	
min. Earth dist.	15407 Jul 03 21:45	24° \mathcal{Z} 50'40	8.64707 AU	opposition	15413 Sep 17 02:27	10° \mathcal{Y} 37'27	1°14'42
direct	15407 Sep 10 07:40	21° \mathcal{Z} 27'44		min. Earth dist.	15413 Sep 17 13:03	10° \mathcal{Y} 35'21	8.48010 AU
evening set	15407 Dec 20 23:40	28° \mathcal{Z} 52'37		direct	15413 Nov 24 18:39	7° \mathcal{Y} 11'34	
	15407 Dec 30 07:34	0° \approx		evening set	15414 Mar 08 17:46	14° \mathcal{Y} 54'12	
conjunction	15408 Jan 07 11:17	0° \approx 59'35	1°38'47	conjunction	15414 Mar 26 10:28	17° \mathcal{Y} 05'02	0°50'45
minimum elong	15408 Jan 07 11:16	0° \approx 59'34	1°39'38	minimum elong	15414 Mar 26 10:29	17° \mathcal{Y} 05'03	0°50'34
max. Earth dist.	15408 Jan 07 14:44	1° \approx 00'38	10.63471 AU	max. Earth dist.	15414 Mar 25 20:09	17° \mathcal{Y} 00'36	10.46737 AU
morning rise	15408 Jan 25 00:35	3° \approx 07'02		morning rise	15414 Apr 13 01:35	19° \mathcal{Y} 15'30	
retrograde	15408 May 07 22:05	10° \approx 41'10		retrograde	15414 Jul 24 10:34	26° \mathcal{Y} 53'01	
opposition	15408 Jul 15 18:26	7° \approx 17'14	2°04'52	opposition	15414 Sep 30 04:48	23° \mathcal{Y} 29'26	0°50'01
min. Earth dist.	15408 Jul 15 16:42	7° \approx 17'35	8.62329 AU	min. Earth dist.	15414 Sep 30 16:21	23° \mathcal{Y} 27'09	8.45634 AU
direct	15408 Sep 21 23:56	3° \approx 54'28		direct	15414 Dec 07 23:16	20° \mathcal{Y} 03'10	
evening set	15409 Jan 02 01:18	11° \approx 22'07		evening set	15415 Mar 22 06:31	27° \mathcal{Y} 48'13	
conjunction	15409 Jan 19 14:14	13° \approx 29'44	1°42'25	conjunction	15415 Apr 08 22:47	29° \mathcal{Y} 59'23	0°29'35
minimum elong	15409 Jan 19 14:14	13° \approx 29'44	1°43'10	minimum elong	15415 Apr 08 22:48	29° \mathcal{Y} 59'23	0°29'13
max. Earth dist.	15409 Jan 19 14:38	13° \approx 29'51	10.60889 AU	max. Earth dist.	15415 Apr 08 07:12	29° \mathcal{Y} 54'32	10.44592 AU
	15409 Jan 31 22:45	15° \approx			15415 Apr 09 00:46	0° \mathcal{Z}	
morning rise	15409 Feb 06 04:15	15° \approx 37'44		morning rise	15415 Apr 26 12:58	2° \mathcal{Z} 10'02	
retrograde	15409 May 20 21:39	23° \approx 12'38		retrograde	15415 Aug 06 17:09	9° \mathcal{Z} 47'50	
opposition	15409 Jul 28 12:08	19° \approx 48'41	2°06'24	opposition	15415 Oct 13 09:22	6° \mathcal{Z} 24'28	0°22'42
min. Earth dist.	15409 Jul 28 12:55	19° \approx 48'32	8.59593 AU	min. Earth dist.	15415 Oct 13 22:01	6° \mathcal{Z} 21'57	8.43717 AU
direct	15409 Oct 04 18:07	16° \approx 25'15		direct	15415 Dec 21 06:15	2° \mathcal{Z} 57'57	
evening set	15410 Jan 15 05:16	23° \approx 55'54		evening set	15416 Apr 03 20:06	10° \mathcal{Z} 45'03	

conjunction	15416 Apr 21 11:12	12° 8 56'17	0°06'53	direct	15422 Mar 10 07:06	20° 5 51'22	
minimum elong	15416 Apr 21 11:12	12° 8 56'17	0°06'20	evening set	15422 Jun 22 12:52	28° 5 37'30	
behind sun begin	15416 Apr 21 04:24	12° 8 54'11			15422 Jul 03 14:13	0° 0	
behind sun end	15416 Apr 21 18:00	12° 8 58'24					
max. Earth dist.	15416 Apr 20 18:32	12° 8 51'05	10.42953 AU	conjunction	15422 Jul 09 14:46	0° 0 45'23	-1°38'35
morning rise	15416 May 08 23:59	15° 8 06'56		minimum elong	15422 Jul 09 14:45	0° 0 45'23	1°39'25
	15416 May 08 01:22	15° 8		max. Earth dist.	15422 Jul 09 10:43	0° 0 44'07	10.46440 AU
desc. node	15416 Aug 10 19:43	22° 8 41'27		morning rise	15422 Jul 26 15:07	2° 0 52'48	
retrograde	15416 Aug 18 22:53	22° 8 45'01		retrograde	15422 Nov 05 20:11	10° 0 31'08	
opposition	15416 Oct 25 15:57	19° 8 21'54	-0°05'54	opposition	15423 Jan 13 10:07	7° 0 09'14	-2°05'10
min. Earth dist.	15416 Oct 26 05:09	19° 8 19'17	8.42368 AU	min. Earth dist.	15423 Jan 13 11:55	7° 0 08'53	8.47775 AU
direct	15417 Jan 02 16:48	15° 8 55'19		direct	15423 Mar 23 19:27	3° 0 45'13	
evening set	15417 Apr 17 09:46	23° 8 43'58		evening set	15423 Jul 05 16:16	11° 0 28'44	
conjunction	15417 May 04 23:11	25° 8 55'04	-0°16'20	conjunction	15423 Jul 22 16:31	13° 0 35'50	-1°42'27
minimum elong	15417 May 04 23:10	25° 8 55'04	0°17'02	minimum elong	15423 Jul 22 16:31	13° 0 35'50	1°43'11
max. Earth dist.	15417 May 04 06:25	25° 8 49'49	10.41917 AU	max. Earth dist.	15423 Jul 22 16:00	13° 0 35'40	10.48991 AU
morning rise	15417 May 22 10:12	28° 8 05'29			15423 Aug 02 21:46	15° 0	
	15417 Jun 07 09:51	0° 0		morning rise	15423 Aug 08 15:46	15° 0 42'37	
retrograde	15417 Sep 01 06:01	5° 0 43'53		retrograde	15423 Nov 19 01:00	23° 0 20'21	
opposition	15417 Nov 08 00:27	2° 0 21'02	-0°34'15	opposition	15424 Jan 26 21:11	19° 0 58'26	-2°06'43
min. Earth dist.	15417 Nov 08 13:09	2° 0 18'32	8.41664 AU	min. Earth dist.	15424 Jan 26 19:39	19° 0 58'43	8.50493 AU
	15417 Dec 10 22:05	30° 0 8		direct	15424 Apr 05 06:59	16° 0 35'05	
direct	15418 Jan 16 04:22	28° 8 54'35		evening set	15424 Jul 17 16:31	24° 0 15'23	
	15418 Feb 21 00:08	0° 0					
evening set	15418 Apr 30 22:54	6° 0 44'09		conjunction	15424 Aug 03 15:47	26° 0 21'48	-1°41'13
conjunction	15418 May 18 10:17	8° 0 45'53	-0°38'40	minimum elong	15424 Aug 03 15:48	26° 0 21'49	1°41'49
minimum elong	15418 May 18 10:15	8° 0 45'53	0°39'29	max. Earth dist.	15424 Aug 03 19:21	26° 0 22'55	10.51828 AU
max. Earth dist.	15418 May 17 18:52	8° 0 50'03	10.41539 AU	morning rise	15424 Aug 20 14:26	28° 0 28'02	
morning rise	15418 Jun 04 19:10	11° 0 44'55			15424 Sep 02 09:34	0° 0	
retrograde	15418 Sep 14 13:54	18° 0 43'36		retrograde	15424 Dec 01 06:00	6° 0 04'59	
opposition	15418 Nov 21 10:28	15° 0 42'00	-1°00'53	opposition	15425 Feb 08 06:47	2° 0 42'57	-2°02'00
min. Earth dist.	15418 Nov 21 21:26	15° 0 18'51	8.41632 AU	min. Earth dist.	15425 Feb 08 01:53	2° 0 43'54	8.53395 AU
direct	15419 Jan 29 16:57	11° 0 45'50			15425 Mar 21 09:12	30° 0 8	
evening set	15419 May 14 11:14	19° 0 44'41		direct	15425 Apr 18 14:30	29° 0 20'15	
conjunction	15419 May 31 20:17	21° 0 45'52	-0°59'02	evening set	15425 Jul 30 14:02	6° 0 57'01	
minimum elong	15419 May 31 20:15	21° 0 45'51	0°59'55	conjunction	15425 Aug 16 12:56	9° 0 02'54	-1°35'03
max. Earth dist.	15419 May 31 07:34	21° 0 50'52	10.41824 AU	minimum elong	15425 Aug 16 12:57	9° 0 02'54	1°35'28
morning rise	15419 Jun 18 02:42	24° 0 04'20		max. Earth dist.	15425 Aug 16 20:10	9° 0 05'09	10.54753 AU
	15419 Aug 14 07:20	0° 0		morning rise	15425 Sep 02 11:36	11° 0 08'43	
retrograde	15419 Sep 27 21:55	1° 0 43'12		retrograde	15425 Dec 14 08:33	18° 0 44'44	
	15419 Nov 12 19:57	30° 0 8		opposition	15426 Feb 21 14:23	15° 0 22'32	-1°51'22
opposition	15419 Dec 04 21:39	28° 0 20'51	-1°24'24	min. Earth dist.	15426 Feb 21 07:03	15° 0 23'56	8.56260 AU
min. Earth dist.	15419 Dec 05 06:26	28° 0 19'08	8.42267 AU	direct	15426 May 01 19:43	12° 0 00'24	
direct	15420 Feb 12 06:14	24° 0 55'06		evening set	15426 Aug 12 09:05	19° 0 33'40	
	15420 May 03 14:51	0° 0					
evening set	15420 May 26 22:02	2° 0 44'29		conjunction	15426 Aug 29 08:03	21° 0 39'08	-1°24'20
conjunction	15420 Jun 13 04:36	4° 0 53'58	-1°16'21	minimum elong	15426 Aug 29 08:05	21° 0 39'08	1°24'33
minimum elong	15420 Jun 13 04:34	4° 0 53'58	1°17'16	max. Earth dist.	15426 Aug 29 17:29	21° 0 42'03	10.57532 AU
max. Earth dist.	15420 Jun 12 18:54	4° 0 50'55	10.42766 AU	morning rise	15426 Sep 15 07:26	23° 0 44'43	
morning rise	15420 Jun 30 08:36	7° 0 02'46			15426 Nov 17 12:23	0° 0	
retrograde	15420 Oct 10 06:56	14° 0 41'41		retrograde	15426 Dec 27 09:41	1° 0 19'51	
opposition	15420 Dec 17 09:52	11° 0 19'33	-1°43'32		15427 Feb 06 05:00	30° 0 8	
min. Earth dist.	15420 Dec 17 16:22	11° 0 18'17	8.43548 AU	opposition	15427 Mar 06 20:10	27° 0 57'28	-1°35'27
direct	15421 Feb 24 18:50	7° 0 54'20		min. Earth dist.	15427 Mar 06 11:26	27° 0 59'09	8.58879 AU
evening set	15421 Jun 09 06:38	15° 0 42'26		direct	15427 May 14 23:00	24° 0 35'51	
conjunction	15421 Jun 26 10:43	17° 0 51'08	-1°29'45	evening set	15427 Aug 07 04:31	0° 0	
minimum elong	15421 Jun 26 10:42	17° 0 51'08	1°30'39		15427 Aug 25 02:00	2° 0 05'48	
max. Earth dist.	15421 Jun 26 04:00	17° 0 49'01	10.44328 AU	conjunction	15427 Sep 11 01:29	4° 0 11'01	-1°09'38
morning rise	15421 Jul 13 12:39	19° 0 59'14		minimum elong	15427 Sep 11 01:31	4° 0 11'01	1°09'39
retrograde	15421 Oct 23 14:37	27° 0 37'59		max. Earth dist.	15427 Sep 11 12:24	4° 0 14'23	10.60010 AU
opposition	15421 Dec 30 22:15	24° 0 56'00	-1°57'21	morning rise	15427 Sep 28 02:06	6° 0 16'30	
min. Earth dist.	15421 Dec 31 02:38	24° 0 51'09	8.45416 AU	retrograde	15428 Jan 09 10:08	13° 0 50'53	
				opposition	15428 Mar 18 23:56	10° 0 28'17	-1°15'06

min. Earth dist.	15428 Mar 18 13:51	10°  30'13	8.61164 AU	minimum elong	15433 Nov 24 03:33	18°  24'31	0°54'37
direct	15428 May 26 23:31	7°  07'03		max. Earth dist.	15433 Nov 24 16:24	18°  28'26	10.66019 AU
evening set	15428 Sep 05 17:29	14°  34'00		morning rise	15433 Dec 11 13:27	20°  30'57	
				retrograde	15434 Mar 25 15:25	28°  03'48	
conjunction	15428 Sep 22 17:59	16°  39'05	-0°51'42	opposition	15434 Jun 03 05:19	24°  39'26	1°17'40
minimum elong	15428 Sep 22 18:01	16°  39'05	0°51'32	min. Earth dist.	15434 Jun 02 19:17	24°  41'22	8.65729 AU
max. Earth dist.	15428 Sep 23 06:34	16°  42'57	10.62142 AU	direct	15434 Aug 10 13:54	21°  17'47	
morning rise	15428 Oct 09 20:08	18°  44'36		evening set	15434 Nov 19 14:26	28°  38'54	
retrograde	15429 Jan 21 07:38	26°  18'17			15434 Nov 30 19:29	0° 	
opposition	15429 Apr 01 01:22	22°  55'22	-0°51'19				
min. Earth dist.	15429 Mar 31 13:49	22°  57'35	8.63090 AU	conjunction	15434 Dec 06 23:05	0°  44'56	1°11'12
direct	15429 Jun 08 22:33	19°  34'23		minimum elong	15434 Dec 06 23:03	0°  44'56	1°12'07
evening set	15429 Sep 18 07:58	26°  58'46		max. Earth dist.	15434 Dec 07 10:37	0°  48'27	10.65205 AU
				morning rise	15434 Dec 24 10:02	2°  51'40	
conjunction	15429 Oct 05 09:52	29°  03'49	-0°31'26	retrograde	15435 Apr 07 12:15	10°  32'50	
minimum elong	15429 Oct 05 09:53	29°  03'50	0°31'04	opposition	15435 Jun 15 22:01	7°  30'29	1°37'16
max. Earth dist.	15429 Oct 06 00:29	29°  08'18	10.63885 AU	min. Earth dist.	15435 Jun 15 13:21	7°  30'21	8.64672 AU
	15429 Oct 13 00:50	0° 		direct	15435 Aug 23 05:00	3°  38'24	
morning rise	15429 Oct 22 13:35	1°  09'26		evening set	15435 Dec 02 10:35	11°  30'59	
retrograde	15430 Feb 03 05:14	8°  00'42					
min. Earth dist.	15430 Apr 13 11:40	5°  00'21	8.64602 AU	conjunction	15435 Dec 19 20:31	13°  30'27	1°25'24
opposition	15430 Apr 14 00:42	5°  00'19	-0°25'15	minimum elong	15435 Dec 19 20:29	13°  30'27	1°26'18
direct	15430 Jun 21 19:46	1°  00'58		max. Earth dist.	15435 Dec 20 05:50	13°  30'17	10.63870 AU
evening set	15430 Sep 30 22:08	9°  00'44		morning rise	15436 Jan 06 08:28	15°  31'43	
				retrograde	15436 Apr 19 10:10	22°  34'32	
conjunction	15430 Oct 18 01:25	11°  00'25	-0°09'47	opposition	15436 Jun 27 14:38	19°  32'54	1°52'24
minimum elong	15430 Oct 18 01:25	11°  00'25	0°09'15	min. Earth dist.	15436 Jun 27 08:11	19°  32'51	8.63116 AU
behind sun begin	15430 Oct 17 19:25	11°  00'24		direct	15436 Sep 03 20:22	16°  30'19	
behind sun end	15430 Oct 18 07:25	11°  00'27		evening set	15436 Dec 14 09:11	23°  32'58	
max. Earth dist.	15430 Oct 18 17:16	11°  00'30	10.65179 AU				
morning rise	15430 Nov 04 06:42	13°  00'31		conjunction	15436 Dec 31 20:15	25°  32'56	1°35'38
	15430 Nov 16 20:06	15°  00'31		minimum elong	15436 Dec 31 20:14	25°  32'56	1°36'30
retrograde	15431 Feb 16 03:50	21°  00'42		max. Earth dist.	15437 Jan 01 01:52	25°  34'39	10.62074 AU
asc. node	15431 Apr 01 04:23	19°  00'32		morning rise	15437 Jan 18 09:12	27°  34'02	
opposition	15431 Apr 26 22:07	17°  00'44	0°01'54		15437 Feb 07 14:27	0° 	
min. Earth dist.	15431 Apr 26 08:44	17°  00'43	8.65657 AU	retrograde	15437 May 02 09:01	5°  00'15	
	15431 Jun 06 08:48	15°  00'00		opposition	15437 Jul 10 07:33	1°  00'50	2°02'20
direct	15431 Jul 04 13:13	14°  00'19		min. Earth dist.	15437 Jul 10 04:19	1°  00'51	8.61137 AU
	15431 Aug 01 09:40	15°  00'00			15437 Aug 04 03:43	30° 	
evening set	15431 Oct 13 12:37	21°  00'40		direct	15437 Sep 16 12:08	28°  32'27	
					15437 Oct 29 04:16	0° 	
conjunction	15431 Oct 30 17:12	23°  00'46	0°12'22	evening set	15437 Dec 27 10:09	5°  00'54	
minimum elong	15431 Oct 30 17:12	23°  00'46	0°13'02				
behind sun begin	15431 Oct 30 12:54	23°  00'44		conjunction	15438 Jan 13 22:24	8°  00'22	1°41'24
behind sun end	15431 Oct 30 21:30	23°  00'47		minimum elong	15438 Jan 13 22:23	8°  00'20	1°42'11
max. Earth dist.	15431 Oct 31 08:45	23°  00'50	10.65991 AU	max. Earth dist.	15438 Jan 14 00:08	8°  00'24	10.59915 AU
morning rise	15431 Nov 17 00:11	25°  00'51		morning rise	15438 Jan 31 12:16	10°  00'50	
	15431 Dec 24 20:21	0° 			15438 Mar 17 19:38	15° 	
retrograde	15432 Feb 28 23:46	3°  00'24		retrograde	15438 May 15 07:33	17°  00'45	
opposition	15432 May 08 17:49	0°  00'34	0°28'54		15438 Jul 14 18:13	15° 	
min. Earth dist.	15432 May 08 05:16	0°  00'25	8.66220 AU	opposition	15438 Jul 23 01:25	14°  00'21	2°06'32
	15432 May 08 20:46	30° 		min. Earth dist.	15438 Jul 23 01:04	14°  00'21	8.58843 AU
direct	15432 Jul 16 05:31	26°  00'39		direct	15438 Sep 29 06:50	10°  00'57	
	15432 Sep 18 15:16	0° 			15438 Dec 09 17:45	15° 	
evening set	15432 Oct 25 03:50	3°  00'59		evening set	15439 Jan 09 13:23	18°  00'27	
conjunction	15432 Nov 11 09:45	6°  00'51	0°33'50	conjunction	15439 Jan 27 02:55	20°  00'35	1°42'22
minimum elong	15432 Nov 11 09:43	6°  00'51	0°34'37	minimum elong	15439 Jan 27 02:56	20°  00'35	1°43'02
max. Earth dist.	15432 Nov 11 23:51	6°  00'09	10.66283 AU	max. Earth dist.	15439 Jan 27 01:31	20°  00'35	10.57505 AU
morning rise	15432 Nov 28 18:20	8°  00'11		morning rise	15439 Feb 13 17:34	22°  00'44	
retrograde	15433 Mar 12 19:03	15°  00'43			15439 May 08 14:02	0° 	
opposition	15433 May 21 12:08	12°  00'19	0°54'32	retrograde	15439 May 28 07:45	0° 	
min. Earth dist.	15433 May 21 01:00	12°  00'21	8.66251 AU		15439 Jun 17 04:19	30° 	
direct	15433 Jul 28 22:28	8°  00'58		opposition	15439 Aug 04 20:24	26°  00'56	2°04'43
evening set	15433 Nov 06 20:18	16°  00'41		min. Earth dist.	15439 Aug 04 22:24	26°  00'55	8.56345 AU
				direct	15439 Oct 12 03:27	23°  00'31	
conjunction	15433 Nov 24 03:34	18°  00'24	0°53'45		15440 Jan 13 15:57	0° 	

evening set	15440 Jan 22 19:17	1° X 04'58		evening set	15446 Mar 14 07:37	15° B
					15446 Apr 11 19:09	18° B 17'14
conjunction	15440 Feb 09 10:05	3° X 13'54	1°38'25	conjunction	15446 Apr 29 09:31	20° B 28'28 -0°06'16
minimum elong	15440 Feb 09 10:07	3° X 13'54	1°38'54	minimum elong	15446 Apr 29 09:31	20° B 28'28 0°06'54
max. Earth dist.	15440 Feb 09 06:02	3° X 12'39	10.54958 AU	behind sun begin	15446 Apr 29 02:50	20° B 26'24
morning rise	15440 Feb 27 01:16	5° X 22'59		behind sun end	15446 Apr 29 16:11	20° B 30'32
retrograde	15440 Jun 09 10:28	12° X 59'47		max. Earth dist.	15446 Apr 28 17:16	20° B 23'23 10.42749 AU
opposition	15440 Aug 16 16:47	9° X 35'38	1°56'52	morning rise	15446 May 16 21:18	22° B 39'02
min. Earth dist.	15440 Aug 16 20:50	9° X 34'50	8.53760 AU		15446 Aug 08 16:42	0° II
direct	15440 Oct 24 00:41	6° X 11'02		retrograde	15446 Aug 26 20:44	0° II 17'43
evening set	15441 Feb 04 03:35	13° X 47'17			15446 Sep 14 01:43	30° R B
conjunction	15441 Feb 21 19:22	15° X 56'54	1°29'38	opposition	15446 Nov 02 12:21	26° B 55'12 -0°21'59
minimum elong	15441 Feb 21 19:24	15° X 56'55	1°29'57	min. Earth dist.	15446 Nov 03 01:03	26° B 52'42 8.42227 AU
max. Earth dist.	15441 Feb 21 12:23	15° X 54'45	10.52394 AU	direct	15447 Jan 10 13:16	23° B 29'09
morning rise	15441 Mar 11 10:53	18° X 06'32			15447 Apr 14 12:00	0° II
retrograde	15441 Jun 22 14:07	25° X 43'51		evening set	15447 Apr 25 09:25	1° II 18'50
opposition	15441 Aug 29 15:10	22° X 19'59	1°43'14	conjunction	15447 May 12 21:53	3° II 29'51 -0°29'06
min. Earth dist.	15441 Aug 29 21:43	22° X 18'41	8.51216 AU	minimum elong	15447 May 12 21:52	3° II 29'51 0°29'51
direct	15441 Nov 06 00:44	18° X 54'58		max. Earth dist.	15447 May 12 05:50	3° II 24'49 10.41789 AU
evening set	15442 Feb 17 13:48	26° X 34'14		morning rise	15447 May 30 07:38	5° II 40'09
conjunction	15442 Mar 07 06:11	28° X 44'28	1°16'24	retrograde	15447 Sep 09 05:22	13° II 19'17
minimum elong	15442 Mar 07 06:13	28° X 44'29	1°16'30	opposition	15447 Nov 15 22:30	9° II 56'59 -0°49'35
max. Earth dist.	15442 Mar 06 19:54	28° X 41'18	10.49937 AU	min. Earth dist.	15447 Nov 16 11:02	9° II 54'32 8.41530 AU
	15442 Mar 17 10:58	0° Y		direct	15448 Jan 24 01:43	6° II 31'03
morning rise	15442 Mar 24 21:51	0° Y 54'34		evening set	15448 May 07 23:06	14° II 21'32
retrograde	15442 Jul 05 18:20	8° Y 32'17		conjunction	15448 May 25 09:11	16° II 32'06 -0°50'29
opposition	15442 Sep 11 15:33	5° Y 08'43	1°24'25	minimum elong	15448 May 25 09:09	16° II 32'06 0°51'20
min. Earth dist.	15442 Sep 12 00:40	5° Y 06'55	8.48836 AU	max. Earth dist.	15448 May 24 17:51	16° II 27'17 10.41365 AU
direct	15442 Nov 19 03:45	1° Y 43'19		morning rise	15448 Jun 11 16:41	18° II 41'58
evening set	15443 Mar 03 01:51	9° Y 25'23		retrograde	15448 Sep 21 13:17	26° II 21'30
conjunction	15443 Mar 20 18:27	11° Y 36'08	0°59'18	opposition	15448 Nov 28 10:12	22° II 59'21 -1°14'40
minimum elong	15443 Mar 20 18:30	11° Y 36'09	0°59'12	min. Earth dist.	15448 Nov 28 21:42	22° II 57'06 8.41440 AU
max. Earth dist.	15443 Mar 20 05:09	11° Y 32'00	10.47697 AU	direct	15449 Feb 05 16:24	19° II 33'37
morning rise	15443 Apr 07 09:59	13° Y 46'36		evening set	15449 May 21 11:31	27° II 24'07
retrograde	15443 Jul 18 23:35	21° Y 24'31		conjunction	15449 Jun 07 19:05	29° II 34'05 -1°09'17
opposition	15443 Sep 24 17:46	18° Y 01'15	1°01'16	minimum elong	15449 Jun 07 19:03	29° II 34'04 1°10'11
min. Earth dist.	15443 Sep 25 05:00	17° Y 59'01	8.46715 AU	max. Earth dist.	15449 Jun 07 05:49	29° II 29'54 10.41585 AU
direct	15443 Dec 02 09:11	14° Y 35'31			15449 Jun 11 05:23	0° B
evening set	15444 Mar 15 15:07	22° Y 20'03		morning rise	15449 Jun 25 00:19	1° B 43'22
conjunction	15444 Apr 02 07:31	24° Y 31'09	0°39'08	retrograde	15449 Oct 04 21:40	9° B 23'08
minimum elong	15444 Apr 02 07:33	24° Y 31'09	0°38'51	opposition	15449 Dec 11 22:49	6° B 01'01 -1°35'54
max. Earth dist.	15444 Apr 01 16:10	24° Y 26'22	10.45745 AU	min. Earth dist.	15449 Dec 12 08:01	5° B 59'14 8.42014 AU
morning rise	15444 Apr 19 22:21	26° Y 41'49		direct	15450 Feb 19 07:28	2° B 35'34
	15444 May 18 16:42	0° B		evening set	15450 Jun 03 21:58	10° B 25'13
retrograde	15444 Jul 31 04:56	4° B 19'53		conjunction	15450 Jun 21 03:10	12° B 34'29 -1°24'31
opposition	15444 Oct 06 22:02	0° B 56'52	0°34'55	minimum elong	15450 Jun 21 03:09	12° B 34'28 1°25'25
min. Earth dist.	15444 Oct 07 10:15	0° B 54'27	8.44902 AU	max. Earth dist.	15450 Jun 20 17:17	12° B 31'22 10.42464 AU
	15444 Oct 19 01:26	30° R Y		morning rise	15450 Jul 08 06:13	14° B 43'07
direct	15444 Dec 14 17:38	27° Y 30'56		retrograde	15450 Oct 18 06:28	22° B 22'51
	15445 Feb 07 17:27	0° B		opposition	15450 Dec 25 11:51	19° B 00'41 -1°52'10
evening set	15445 Mar 29 04:56	5° B 17'31		min. Earth dist.	15450 Dec 25 17:56	18° B 59'30 8.43223 AU
conjunction	15445 Apr 15 20:36	7° B 28'45	0°16'57	direct	15451 Mar 04 21:16	15° B 35'36
minimum elong	15445 Apr 15 20:36	7° B 28'45	0°16'28	evening set	15451 Jun 17 06:02	23° B 23'36
max. Earth dist.	15445 Apr 15 04:35	7° B 23'45	10.44096 AU	conjunction	15451 Jul 04 09:02	25° B 32'05 -1°35'24
morning rise	15445 May 03 10:08	9° B 39'27		minimum elong	15451 Jul 04 09:01	25° B 32'04 1°36'16
	15445 Jun 22 12:43	15° B		max. Earth dist.	15451 Jul 04 03:18	25° B 30'16 10.43952 AU
retrograde	15445 Aug 13 11:22	17° B 17'46		morning rise	15451 Jul 21 10:05	27° B 40'01
	15445 Oct 06 05:01	15° R B			15451 Aug 10 01:04	0° O
opposition	15445 Oct 20 04:15	13° B 54'59	0°06'41	retrograde	15451 Oct 31 13:49	5° O 19'28
min. Earth dist.	15445 Oct 20 16:48	13° B 52'30	8.43395 AU	opposition	15452 Jan 08 00:42	1° O 57'12 -2°02'39
direct	15445 Dec 28 03:43	10° B 28'56		min. Earth dist.	15452 Jan 08 03:28	1° O 56'40 8.45007 AU
desc. node	15446 Jan 15 23:14	10° B 47'26				

	15452 Feb 03 19:53	30° $\mathring{\text{R}}\mathring{\text{S}}$	opposition	15458 Mar 26 22:36	17° $\mathring{\text{A}}\mathring{\text{S}}8'32''$	-1°01'35	
direct	15452 Mar 17 10:37	28° $\mathring{\text{S}}32'33''$	min. Earth dist.	15458 Mar 26 09:38	18° $\mathring{\text{A}}01'01''$	8.61371 AU	
	15452 Apr 28 02:10	0° $\mathring{\text{O}}$	direct	15458 Jun 03 20:51	14° $\mathring{\text{A}}37'04''$		
evening set	15452 Jun 29 11:16	6° $\mathring{\text{O}}18'09''$	evening set	15458 Sep 13 09:52	22° $\mathring{\text{A}}02'32''$		
conjunction	15452 Jul 16 12:26	8° $\mathring{\text{O}}25'51''$	-1°41'26	conjunction	15458 Sep 30 11:07	24° $\mathring{\text{A}}07'38''$	-0°40'06
minimum elong	15452 Jul 16 12:26	8° $\mathring{\text{O}}25'51''$	1°42'13	minimum elong	15458 Sep 30 11:09	24° $\mathring{\text{A}}07'39''$	0°39'49
max. Earth dist.	15452 Jul 16 10:42	8° $\mathring{\text{O}}25'18''$	10.45986 AU	max. Earth dist.	15458 Oct 01 02:43	24° $\mathring{\text{A}}12'26''$	10.62581 AU
morning rise	15452 Aug 02 12:03	10° $\mathring{\text{O}}33'08''$		morning rise	15458 Oct 17 14:08	26° $\mathring{\text{A}}13'13''$	
	15452 Sep 11 09:11	15° $\mathring{\text{O}}$			15458 Nov 20 12:22	0° $\mathring{\text{M}}$	
retrograde	15452 Nov 12 20:26	18° $\mathring{\text{O}}12'04''$		retrograde	15459 Jan 29 04:01	3° $\mathring{\text{M}}46'26''$	
	15453 Jan 18 07:24	15° $\mathring{\text{R}}\mathring{\text{O}}$		opposition	15459 Apr 08 22:49	0° $\mathring{\text{M}}23'03''$	-0°36'19
opposition	15453 Jan 20 12:53	14° $\mathring{\text{O}}49'38''$	-2°06'55	min. Earth dist.	15459 Apr 08 09:18	0° $\mathring{\text{M}}25'38''$	8.63747 AU
min. Earth dist.	15453 Jan 20 12:50	14° $\mathring{\text{O}}49'39''$	8.47288 AU		15459 Apr 13 22:56	30° $\mathring{\text{R}}\mathring{\text{A}}$	
direct	15453 Mar 30 22:13	11° $\mathring{\text{O}}25'28''$		direct	15459 Jun 16 18:23	27° $\mathring{\text{A}}01'57''$	
	15453 Jun 05 19:55	15° $\mathring{\text{O}}$			15459 Aug 16 04:52	0° $\mathring{\text{M}}$	
evening set	15453 Jul 12 13:24	19° $\mathring{\text{O}}08'04''$		evening set	15459 Sep 25 23:49	4° $\mathring{\text{M}}24'53''$	
conjunction	15453 Jul 29 13:11	21° $\mathring{\text{O}}15'03''$	-1°42'22	conjunction	15459 Oct 13 02:18	6° $\mathring{\text{M}}29'55''$	-0°18'55
minimum elong	15453 Jul 29 13:11	21° $\mathring{\text{O}}15'03''$	1°43'01	minimum elong	15459 Oct 13 02:19	6° $\mathring{\text{M}}29'55''$	0°18'28
max. Earth dist.	15453 Jul 29 14:42	21° $\mathring{\text{O}}15'32''$	10.48467 AU	max. Earth dist.	15459 Oct 13 18:28	6° $\mathring{\text{M}}34'52''$	10.64778 AU
morning rise	15453 Aug 15 12:07	23° $\mathring{\text{O}}21'46''$		morning rise	15459 Oct 30 07:03	8° $\mathring{\text{M}}35'33''$	
	15453 Oct 22 22:45	0° $\mathring{\text{M}}$			15460 Jan 05 00:07	15° $\mathring{\text{M}}$	
retrograde	15453 Nov 26 01:55	0° $\mathring{\text{M}}59'56''$		retrograde	15460 Feb 11 01:00	16° $\mathring{\text{M}}08'04''$	
	15453 Dec 30 19:06	30° $\mathring{\text{R}}\mathring{\text{O}}$			15460 Mar 19 16:06	15° $\mathring{\text{R}}\mathring{\text{M}}$	
opposition	15454 Feb 02 23:41	27° $\mathring{\text{O}}37'20''$	-2°04'49	opposition	15460 Apr 20 20:51	12° $\mathring{\text{M}}44'34''$	-0°09'31
min. Earth dist.	15454 Feb 02 20:59	27° $\mathring{\text{O}}37'51''$	8.49941 AU	min. Earth dist.	15460 Apr 20 06:54	12° $\mathring{\text{M}}47'15''$	8.65718 AU
direct	15454 Apr 13 07:19	24° $\mathring{\text{O}}13'41''$		direct	15460 Jun 28 13:20	9° $\mathring{\text{M}}23'45''$	
	15454 Jul 09 17:02	0° $\mathring{\text{M}}$		asc. node	15460 Aug 31 13:25	12° $\mathring{\text{M}}41'46''$	
evening set	15454 Jul 25 12:38	1° $\mathring{\text{M}}52'54''$		evening set	15460 Sep 22 14:11	15° $\mathring{\text{M}}$	
					15460 Oct 07 13:45	16° $\mathring{\text{M}}44'46''$	
conjunction	15454 Aug 11 11:38	3° $\mathring{\text{M}}59'16''$	-1°38'15	conjunction	15460 Oct 24 17:42	18° $\mathring{\text{M}}49'49''$	0°03'10
minimum elong	15454 Aug 11 11:39	3° $\mathring{\text{M}}59'16''$	1°38'44	minimum elong	15460 Oct 24 17:42	18° $\mathring{\text{M}}49'49''$	0°03'46
max. Earth dist.	15454 Aug 11 16:16	4° $\mathring{\text{M}}00'43''$	10.51260 AU	behind sun begin	15460 Oct 24 10:40	18° $\mathring{\text{M}}47'42''$	
morning rise	15454 Aug 28 10:29	6° $\mathring{\text{M}}05'32''$		behind sun end	15460 Oct 25 00:45	18° $\mathring{\text{M}}51'57''$	
retrograde	15454 Dec 09 03:55	13° $\mathring{\text{M}}42'44''$		max. Earth dist.	15460 Oct 25 10:39	18° $\mathring{\text{M}}54'59''$	10.66515 AU
opposition	15455 Feb 16 08:39	10° $\mathring{\text{M}}19'58''$	-1°56'35	morning rise	15460 Nov 11 00:01	20° $\mathring{\text{M}}55'33''$	
min. Earth dist.	15455 Feb 16 03:08	10° $\mathring{\text{M}}21'02''$	8.52823 AU	retrograde	15461 Feb 22 20:39	28° $\mathring{\text{M}}27'34''$	
direct	15455 Apr 26 15:21	6° $\mathring{\text{M}}56'54''$		opposition	15461 May 03 16:42	25° $\mathring{\text{M}}03'59''$	0°17'38
evening set	15455 Aug 07 09:02	14° $\mathring{\text{M}}32'32''$		min. Earth dist.	15461 May 03 02:25	25° $\mathring{\text{M}}06'44''$	8.67199 AU
				direct	15461 Jul 11 06:46	21° $\mathring{\text{M}}43'18''$	
conjunction	15455 Aug 24 07:57	16° $\mathring{\text{M}}38'23''$	-1°29'21	evening set	15461 Oct 20 04:13	29° $\mathring{\text{M}}03'09''$	
minimum elong	15455 Aug 24 07:59	16° $\mathring{\text{M}}38'23''$	1°29'39		15461 Oct 28 01:10	0° $\mathring{\text{X}}$	
max. Earth dist.	15455 Aug 24 16:07	16° $\mathring{\text{M}}40'55''$	10.54220 AU				
morning rise	15455 Sep 10 07:13	18° $\mathring{\text{M}}44'18''$		conjunction	15461 Nov 06 09:36	1° $\mathring{\text{X}}08'19''$	0°24'54
retrograde	15455 Dec 22 05:32	26° $\mathring{\text{M}}20'31''$		minimum elong	15461 Nov 06 09:35	1° $\mathring{\text{X}}08'18''$	0°25'38
opposition	15456 Feb 29 15:39	22° $\mathring{\text{M}}57'33''$	-1°42'45	max. Earth dist.	15461 Nov 07 02:45	1° $\mathring{\text{X}}13'32''$	10.67717 AU
min. Earth dist.	15456 Feb 29 06:49	22° $\mathring{\text{M}}59'15''$	8.55787 AU	morning rise	15461 Nov 23 17:18	3° $\mathring{\text{X}}14'09''$	
direct	15456 May 08 21:00	19° $\mathring{\text{M}}35'04''$		retrograde	15462 Mar 07 17:12	10° $\mathring{\text{X}}45'56''$	
evening set	15456 Aug 19 02:51	27° $\mathring{\text{M}}07'02''$		opposition	15462 May 16 11:04	7° $\mathring{\text{X}}22'17''$	0°43'54
				min. Earth dist.	15462 May 15 21:07	7° $\mathring{\text{X}}24'58''$	8.68122 AU
conjunction	15456 Sep 05 02:18	29° $\mathring{\text{M}}12'32''$	-1°16'12	direct	15462 Jul 23 22:46	4° $\mathring{\text{X}}01'38''$	
minimum elong	15456 Sep 05 02:20	29° $\mathring{\text{M}}12'32''$	1°16'18	evening set	15462 Nov 01 19:36	11° $\mathring{\text{X}}21'00''$	
max. Earth dist.	15456 Sep 05 14:15	29° $\mathring{\text{M}}16'14''$	10.57189 AU				
	15456 Sep 11 11:25	0° $\mathring{\text{A}}$		conjunction	15462 Nov 19 02:14	13° $\mathring{\text{X}}26'19''$	0°45'31
morning rise	15456 Sep 22 02:25	1° $\mathring{\text{A}}18'14''$		minimum elong	15462 Nov 19 02:13	13° $\mathring{\text{X}}26'19''$	0°46'21
retrograde	15457 Jan 03 07:16	8° $\mathring{\text{A}}53'24''$		max. Earth dist.	15462 Nov 19 18:17	13° $\mathring{\text{X}}31'12''$	10.68326 AU
opposition	15457 Mar 13 20:21	5° $\mathring{\text{A}}30'15''$	-1°24'06	morning rise	15462 Dec 06 11:17	15° $\mathring{\text{X}}32'20''$	
min. Earth dist.	15457 Mar 13 08:51	5° $\mathring{\text{A}}32'28''$	8.58682 AU	retrograde	15463 Mar 20 14:05	23° $\mathring{\text{X}}04'06''$	
direct	15457 May 21 22:33	2° $\mathring{\text{A}}08'20''$		opposition	15463 May 29 04:17	19° $\mathring{\text{X}}40'24''$	1°08'07
evening set	15457 Aug 31 19:00	9° $\mathring{\text{A}}36'50''$		min. Earth dist.	15463 May 28 16:00	19° $\mathring{\text{X}}42'47''$	8.68437 AU
				direct	15463 Aug 05 12:30	16° $\mathring{\text{X}}19'36''$	
conjunction	15457 Sep 17 19:16	11° $\mathring{\text{A}}42'05''$	-0°59'31	evening set	15463 Nov 14 12:33	23° $\mathring{\text{X}}39'15''$	
minimum elong	15457 Sep 17 19:18	11° $\mathring{\text{A}}42'06''$	0°59'24				
max. Earth dist.	15457 Sep 18 09:42	11° $\mathring{\text{A}}46'33''$	10.60017 AU	conjunction	15463 Dec 01 20:20	25° $\mathring{\text{X}}44'47''$	1°04'03
morning rise	15457 Oct 04 20:40	13° $\mathring{\text{A}}47'41''$		minimum elong	15463 Dec 01 20:19	25° $\mathring{\text{X}}44'46''$	1°04'56
retrograde	15458 Jan 16 06:24	21° $\mathring{\text{A}}21'48''$					




























































































































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morning rise	15463 Dec 19 06:41	27° \mathbb{A} 51'02		max. Earth dist.	15470 Feb 15 20:40	10° \mathbb{H} 31'12	10.55436 AU
	15464 Jan 06 23:33	0° \mathbb{B}		morning rise	15470 Mar 05 20:13	12° \mathbb{H} 42'48	
retrograde	15464 Apr 01 09:18	5° \mathbb{B} 22'56		retrograde	15470 Jun 17 00:26	20° \mathbb{H} 18'44	
opposition	15464 Jun 09 20:31	1° \mathbb{B} 59'12	1°29'13	opposition	15470 Aug 24 05:14	16° \mathbb{H} 54'55	1°49'52
min. Earth dist.	15464 Jun 09 10:55	2° \mathbb{B} 01'04	8.68097 AU	min. Earth dist.	15470 Aug 24 12:31	16° \mathbb{H} 53'28	8.53982 AU
	15464 Jul 07 07:34	30° \mathbb{R} \mathbb{A}		direct	15470 Oct 31 15:27	13° \mathbb{H} 30'08	
direct	15464 Aug 17 02:59	28° \mathbb{A} 38'04		evening set	15471 Feb 11 21:53	21° \mathbb{H} 06'55	
	15464 Sep 26 05:57	0° \mathbb{B}					
evening set	15464 Nov 26 07:11	5° \mathbb{B} 58'43		conjunction	15471 Mar 01 13:55	23° \mathbb{H} 16'36	1°22'47
				minimum elong	15471 Mar 01 13:57	23° \mathbb{H} 16'37	1°22'59
conjunction	15464 Dec 13 16:13	8° \mathbb{B} 04'35	1°19'39	max. Earth dist.	15471 Mar 01 03:15	23° \mathbb{H} 13'19	10.52382 AU
minimum elong	15464 Dec 13 16:12	8° \mathbb{B} 04'34	1°20'34	morning rise	15471 Mar 19 05:35	25° \mathbb{H} 26'15	
max. Earth dist.	15464 Dec 14 02:10	8° \mathbb{B} 07'36	10.67584 AU		15471 Apr 30 02:28	0° \mathbb{Y}	
morning rise	15464 Dec 31 03:42	10° \mathbb{B} 11'07		retrograde	15471 Jun 30 02:34	3° \mathbb{Y} 02'46	
retrograde	15465 Apr 14 04:41	17° \mathbb{B} 43'24			15471 Sep 01 17:12	30° \mathbb{R} \mathbb{H}	
opposition	15465 Jun 22 12:19	14° \mathbb{B} 19'37	1°46'16	opposition	15471 Sep 06 03:30	29° \mathbb{H} 39'00	1°33'23
min. Earth dist.	15465 Jun 22 05:26	14° \mathbb{B} 20'57	8.67030 AU	min. Earth dist.	15471 Sep 06 12:30	29° \mathbb{H} 37'13	8.50954 AU
direct	15465 Aug 29 19:04	10° \mathbb{B} 58'01		direct	15471 Nov 13 16:55	26° \mathbb{H} 13'39	
evening set	15465 Dec 09 03:41	18° \mathbb{B} 20'21			15472 Jan 21 13:34	0° \mathbb{Y}	
				evening set	15472 Feb 25 08:01	3° \mathbb{Y} 53'27	
conjunction	15465 Dec 26 14:01	20° \mathbb{B} 26'39	1°31'36	max. Earth dist.	15472 Mar 13 11:52	5° \mathbb{Y} 59'50	10.49455 AU
minimum elong	15465 Dec 26 14:00	20° \mathbb{B} 26'39	1°32'30				
max. Earth dist.	15465 Dec 26 20:59	20° \mathbb{B} 28'46	10.66125 AU	conjunction	15472 Mar 14 00:39	6° \mathbb{Y} 03'47	1°07'24
morning rise	15466 Jan 13 02:22	22° \mathbb{B} 33'33		minimum elong	15472 Mar 14 00:41	6° \mathbb{Y} 03'48	1°07'23
	15466 Apr 15 20:48	0° \approx		morning rise	15472 Mar 31 16:11	8° \mathbb{Y} 13'54	
retrograde	15466 Apr 27 02:09	0° \approx 06'29		retrograde	15472 Jul 12 07:43	15° \mathbb{Y} 50'54	
	15466 May 08 07:39	30° \mathbb{R} \mathbb{B}		opposition	15472 Sep 18 03:45	12° \mathbb{Y} 27'14	1°12'10
opposition	15466 Jul 05 04:08	26° \mathbb{B} 42'39	1°58'27	min. Earth dist.	15472 Sep 18 14:22	12° \mathbb{Y} 25'08	8.48123 AU
min. Earth dist.	15466 Jul 04 23:33	26° \mathbb{B} 43'33	8.65236 AU	direct	15472 Nov 25 18:52	9° \mathbb{Y} 01'22	
direct	15466 Sep 11 09:56	23° \mathbb{B} 20'33		evening set	15473 Mar 09 19:43	16° \mathbb{Y} 43'59	
	15466 Dec 15 17:31	0° \approx					
evening set	15466 Dec 22 02:33	0° \approx 45'10		conjunction	15473 Mar 27 12:22	18° \mathbb{Y} 54'50	0°48'35
				minimum elong	15473 Mar 27 12:24	18° \mathbb{Y} 54'50	0°48'22
conjunction	15467 Jan 08 14:12	2° \approx 52'02	1°39'20	max. Earth dist.	15473 Mar 26 21:38	18° \mathbb{Y} 50'15	10.46796 AU
minimum elong	15467 Jan 08 14:11	2° \approx 52'02	1°40'09	morning rise	15473 Apr 14 03:24	21° \mathbb{Y} 05'17	
max. Earth dist.	15467 Jan 08 18:09	2° \approx 53'14	10.64005 AU	retrograde	15473 Jul 25 12:29	28° \mathbb{Y} 42'42	
morning rise	15467 Jan 26 03:21	4° \approx 59'24		opposition	15473 Oct 01 06:20	25° \mathbb{Y} 19'11	0°47'12
retrograde	15467 May 10 00:21	12° \approx 33'09		min. Earth dist.	15473 Oct 01 18:33	25° \mathbb{Y} 16'46	8.45633 AU
opposition	15467 Jul 17 20:32	9° \approx 09'16	2°05'10	direct	15473 Dec 09 00:32	21° \mathbb{Y} 52'55	
min. Earth dist.	15467 Jul 17 18:37	9° \approx 09'39	8.62860 AU	evening set	15474 Mar 23 08:25	29° \mathbb{Y} 38'02	
direct	15467 Sep 24 02:06	5° \approx 46'33			15474 Mar 26 08:18	0° \mathbb{B}	
evening set	15468 Jan 04 03:55	13° \approx 13'57		max. Earth dist.	15474 Apr 09 07:52	1° \mathbb{B} 44'00	10.44539 AU
	15468 Jan 18 18:24	15° \approx					
				conjunction	15474 Apr 10 00:31	1° \mathbb{B} 49'10	0°27'14
conjunction	15468 Jan 21 16:47	15° \approx 21'28	1°42'25	minimum elong	15474 Apr 10 00:32	1° \mathbb{B} 49'11	0°26'50
minimum elong	15468 Jan 21 16:47	15° \approx 21'28	1°43'08	morning rise	15474 Apr 27 14:41	3° \mathbb{B} 59'50	
max. Earth dist.	15468 Jan 21 16:42	15° \approx 21'27	10.61402 AU	retrograde	15474 Aug 07 17:53	11° \mathbb{B} 37'40	
morning rise	15468 Feb 08 06:46	17° \approx 29'23		opposition	15474 Oct 14 11:05	8° \mathbb{B} 14'19	0°19'42
retrograde	15468 May 21 23:45	25° \approx 03'55		min. Earth dist.	15474 Oct 15 00:34	8° \mathbb{B} 11'39	8.43611 AU
opposition	15468 Jul 29 14:00	21° \approx 40'03	2°06'02	direct	15474 Dec 22 08:53	4° \mathbb{B} 47'47	
min. Earth dist.	15468 Jul 29 15:24	21° \approx 39'46	8.60081 AU	evening set	15475 Apr 05 22:00	12° \mathbb{B} 35'00	
direct	15468 Oct 05 20:01	18° \approx 16'38					
evening set	15469 Jan 16 07:44	25° \approx 47'04		conjunction	15475 Apr 23 12:58	14° \mathbb{B} 46'15	0°04'28
				minimum elong	15475 Apr 23 12:58	14° \mathbb{B} 46'15	0°03'54
conjunction	15469 Feb 02 21:42	27° \approx 55'19	1°40'39	behind sun begin	15475 Apr 23 05:51	14° \mathbb{B} 44'02	
minimum elong	15469 Feb 02 21:43	27° \approx 55'19	1°41'13	behind sun end	15475 Apr 23 20:06	14° \mathbb{B} 48'27	
max. Earth dist.	15469 Feb 02 17:16	27° \approx 53'58	10.58490 AU	max. Earth dist.	15475 Apr 22 19:27	14° \mathbb{B} 40'46	10.42795 AU
	15469 Feb 19 23:46	0° \mathbb{H}			15475 Apr 25 08:59	15° \mathbb{B}	
morning rise	15469 Feb 20 12:27	0° \mathbb{H} 03'48		morning rise	15475 May 11 01:47	16° \mathbb{B} 56'54	
retrograde	15469 Jun 04 00:08	7° \mathbb{H} 39'04		desc. node	15475 Jul 04 17:33	22° \mathbb{B} 39'42	
opposition	15469 Aug 11 08:47	4° \mathbb{H} 15'14	2°00'53	retrograde	15475 Aug 21 00:33	24° \mathbb{B} 35'06	
min. Earth dist.	15469 Aug 11 13:33	4° \mathbb{H} 14'18	8.57068 AU	opposition	15475 Oct 27 17:44	21° \mathbb{B} 11'58	-0°08'54
direct	15469 Oct 18 15:59	0° \mathbb{H} 51'07		min. Earth dist.	15475 Oct 28 07:14	21° \mathbb{B} 09'18	8.42158 AU
evening set	15470 Jan 29 13:48	8° \mathbb{H} 24'45		direct	15476 Jan 04 18:44	17° \mathbb{B} 45'22	
				evening set	15476 Apr 18 11:45	25° \mathbb{B} 34'10	
conjunction	15470 Feb 16 04:51	10° \mathbb{H} 33'43	1°34'02	max. Earth dist.	15476 May 05 08:18	27° \mathbb{B} 40'02	10.41655 AU

conjunction	15476 May 06 01:06	27° 8 45'17	-0°18'43	max. Earth dist.	15482 Jul 23 19:54	15° Ω 29'53	10.48541 AU
minimum elong	15476 May 06 01:05	27° 8 45'17	0°19'26	morning rise	15482 Aug 09 18:39	17° Ω 36'35	
morning rise	15476 May 23 12:01	29° 8 55'44		retrograde	15482 Nov 20 05:54	25° Ω 14'45	
	15476 May 24 01:56	0° Π		opposition	15483 Jan 28 00:51	21° Ω 52'45	-2°06'22
retrograde	15476 Sep 02 07:41	7° Π 34'20		min. Earth dist.	15483 Jan 27 22:24	21° Ω 53'13	8.50072 AU
opposition	15476 Nov 09 02:26	4° Π 11'26	-0°37'08	direct	15483 Apr 07 09:25	18° Ω 29'25	
min. Earth dist.	15476 Nov 09 14:46	4° Π 09'00	8.41354 AU	evening set	15483 Jul 19 19:36	26° Ω 09'55	
direct	15477 Jan 17 06:51	0° Π 44'57					
evening set	15477 May 02 00:57	8° Π 34'44		conjunction	15483 Aug 05 18:58	28° Ω 16'25	-1°40'39
				minimum elong	15483 Aug 05 19:00	28° Ω 16'26	1°41'13
conjunction	15477 May 19 12:16	10° Π 45'29	-0°40'53	max. Earth dist.	15483 Aug 05 23:33	28° Ω 17'51	10.51452 AU
minimum elong	15477 May 19 12:14	10° Π 45'29	0°41'41		15483 Aug 19 15:36	0° Π	
max. Earth dist.	15477 May 18 21:32	10° Π 40'52	10.41182 AU	morning rise	15483 Aug 22 17:36	0° Π 22'44	
morning rise	15477 Jun 05 20:54	12° Π 55'32		retrograde	15483 Dec 03 09:54	8° Π 00'01	
retrograde	15477 Sep 15 16:01	20° Π 34'31		opposition	15484 Feb 10 10:43	4° Π 37'56	-2°00'57
opposition	15477 Nov 22 12:46	17° Π 11'52	-1°03'29	min. Earth dist.	15484 Feb 10 05:18	4° Π 38'59	8.53076 AU
min. Earth dist.	15477 Nov 22 23:18	17° Π 09'48	8.41239 AU	direct	15484 Apr 19 17:26	1° Π 15'16	
direct	15478 Jan 30 19:29	13° Π 45'40		evening set	15484 Jul 31 17:21	8° Π 52'11	
evening set	15478 May 15 13:24	21° Π 35'45					
				conjunction	15484 Aug 17 16:14	10° Π 58'07	-1°33'57
conjunction	15478 Jun 01 22:21	23° Π 45'58	-1°00'58	minimum elong	15484 Aug 17 16:16	10° Π 58'07	1°34'20
minimum elong	15478 Jun 01 22:19	23° Π 45'57	1°01'50	max. Earth dist.	15484 Aug 17 23:53	11° Π 00'29	10.54516 AU
max. Earth dist.	15478 Jun 01 10:02	23° Π 42'05	10.41398 AU	morning rise	15484 Sep 03 15:03	13° Π 04'00	
morning rise	15478 Jun 19 04:34	25° Π 55'27		retrograde	15484 Dec 15 12:42	20° Π 40'14	
	15478 Jul 25 03:24	0° Ω		opposition	15485 Feb 22 18:37	17° Π 18'02	-1°49'41
retrograde	15478 Sep 29 01:23	3° Ω 34'41		min. Earth dist.	15485 Feb 22 11:15	17° Π 19'27	8.56121 AU
opposition	15478 Dec 06 00:16	0° Ω 12'17	-1°26'35	direct	15485 May 02 23:34	13° Π 55'55	
min. Earth dist.	15478 Dec 06 09:14	0° Ω 10'31	8.41818 AU	evening set	15485 Aug 13 12:25	21° Π 29'10	
	15478 Dec 08 14:58	30° κ Π					
direct	15479 Feb 13 07:43	26° Π 46'29		conjunction	15485 Aug 30 11:24	23° Π 34'39	-1°22'44
	15479 Apr 17 15:53	0° Ω		minimum elong	15485 Aug 30 11:26	23° Π 34'40	1°22'55
evening set	15479 May 29 00:26	4° Ω 36'08		max. Earth dist.	15485 Aug 30 20:50	23° Π 37'35	10.57509 AU
				morning rise	15485 Sep 16 11:03	25° Π 40'18	
conjunction	15479 Jun 15 06:47	6° Ω 45'40	-1°17'54		15485 Oct 25 16:41	0° Ω	
minimum elong	15479 Jun 15 06:46	6° Ω 45'40	1°18'48	retrograde	15485 Dec 28 13:52	3° Ω 15'27	
max. Earth dist.	15479 Jun 14 20:42	6° Ω 42'30	10.42294 AU		15486 Mar 06 12:09	30° κ Π	
morning rise	15479 Jul 02 10:43	8° Ω 54'31		opposition	15486 Mar 08 00:21	29° Π 53'04	-1°33'13
retrograde	15479 Oct 12 10:06	16° Ω 33'48		min. Earth dist.	15486 Mar 07 15:27	29° Π 54'46	8.58968 AU
opposition	15479 Dec 19 12:45	13° Ω 11'38	-1°45'11	direct	15486 May 16 02:35	26° Π 31'27	
min. Earth dist.	15479 Dec 19 19:50	13° Ω 10'15	8.43064 AU		15486 Jul 21 00:33	0° Ω	
direct	15480 Feb 26 20:37	9° Ω 46'21		evening set	15486 Aug 26 05:20	4° Ω 01'14	
evening set	15480 Jun 10 09:15	17° Ω 34'47					
				conjunction	15486 Sep 12 04:57	6° Ω 06'26	-1°07'38
conjunction	15480 Jun 27 13:07	19° Ω 43'31	-1°30'51	minimum elong	15486 Sep 12 04:59	6° Ω 06'27	1°07'37
minimum elong	15480 Jun 27 13:06	19° Ω 43'31	1°31'43	max. Earth dist.	15486 Sep 12 16:22	6° Ω 09'58	10.60204 AU
max. Earth dist.	15480 Jun 27 05:45	19° Ω 41'12	10.43834 AU	morning rise	15486 Sep 29 05:45	8° Ω 11'57	
morning rise	15480 Jul 14 15:03	21° Ω 51'41		retrograde	15487 Jan 10 12:34	15° Ω 46'12	
retrograde	15480 Oct 24 16:23	29° Ω 30'52		opposition	15487 Mar 21 03:50	12° Ω 23'36	-1°12'26
opposition	15481 Jan 01 01:28	26° Ω 08'49	-1°58'23	min. Earth dist.	15487 Mar 20 17:02	12° Ω 25'40	8.61448 AU
min. Earth dist.	15481 Jan 01 06:00	26° Ω 07'57	8.44923 AU	direct	15487 May 29 03:45	9° Ω 02'25	
direct	15481 Mar 11 11:06	22° Ω 44'09		evening set	15487 Sep 07 20:43	16° Ω 29'06	
	15481 Jun 19 11:29	0° Ω					
evening set	15481 Jun 23 15:34	0° Ω 30'35		conjunction	15487 Sep 24 21:26	18° Ω 34'10	-0°49'25
				minimum elong	15487 Sep 24 21:28	18° Ω 34'11	0°49'13
conjunction	15481 Jul 10 17:23	2° Ω 38'31	-1°39'09	max. Earth dist.	15487 Sep 25 11:10	18° Ω 38'24	10.62505 AU
minimum elong	15481 Jul 10 17:22	2° Ω 38'31	1°39'57	morning rise	15487 Oct 11 23:37	20° Ω 39'39	
max. Earth dist.	15481 Jul 10 13:29	2° Ω 37'18	10.45953 AU	retrograde	15488 Jan 23 11:24	28° Ω 13'10	
morning rise	15481 Jul 27 17:44	4° Ω 46'00		opposition	15488 Apr 02 05:07	24° Ω 50'15	-0°48'21
retrograde	15481 Nov 06 23:10	12° Ω 24'48		min. Earth dist.	15488 Apr 01 16:31	24° Ω 52'40	8.63520 AU
opposition	15482 Jan 14 13:35	9° Ω 02'49	-2°05'32	direct	15488 Jun 10 03:02	21° Ω 29'22	
min. Earth dist.	15482 Jan 14 14:44	9° Ω 02'36	8.47303 AU	evening set	15488 Sep 19 11:06	28° Ω 53'22	
direct	15482 Mar 24 23:39	5° Ω 38'48			15488 Sep 28 14:43	0° Π	
evening set	15482 Jul 06 19:06	13° Ω 22'34					
	15482 Jul 19 20:39	15° Ω		conjunction	15488 Oct 06 13:08	0° Π 58'24	-0°28'58
				minimum elong	15488 Oct 06 13:09	0° Π 58'24	0°28'34
conjunction	15482 Jul 23 19:26	15° Ω 29'45	-1°42'26	max. Earth dist.	15488 Oct 07 04:40	1° Π 03'10	10.64377 AU
minimum elong	15482 Jul 23 19:27	15° Ω 29'45	1°43'09	morning rise	15488 Oct 23 16:54	3° Π 03'57	

retrograde	15489 Feb 04 10:05	10° \mathbb{M} 36'48		minimum elong	15494 Dec 20 22:07	14° \mathfrak{Z} 56'26	1°27'30
opposition	15489 Apr 15 04:12	7° \mathbb{M} 13'35	-0°22'08	max. Earth dist.	15494 Dec 21 06:36	14° \mathfrak{Z} 59'01	10.64622 AU
min. Earth dist.	15489 Apr 14 14:46	7° \mathbb{M} 16'10	8.65149 AU	morning rise	15495 Jan 07 10:07	17° \mathfrak{Z} 03'24	
direct	15489 Jun 22 22:06	3° \mathbb{M} 52'49		retrograde	15495 Apr 21 11:30	24° \mathfrak{Z} 36'48	
evening set	15489 Oct 02 01:17	11° \mathbb{M} 14'43		opposition	15495 Jun 29 15:34	21° \mathfrak{Z} 12'17	1°53'35
				min. Earth dist.	15495 Jun 29 09:57	21° \mathfrak{Z} 13'22	8.63849 AU
conjunction	15489 Oct 19 04:34	13° \mathbb{M} 19'47	-0°07'16	direct	15495 Sep 05 20:51	17° \mathfrak{Z} 49'42	
minimum elong	15489 Oct 19 04:34	13° \mathbb{M} 19'47	0°06'43	evening set	15495 Dec 16 10:28	25° \mathfrak{Z} 13'58	
behind sun begin	15489 Oct 18 21:55	13° \mathbb{M} 17'46					
behind sun end	15489 Oct 19 11:12	13° \mathbb{M} 21'47		conjunction	15496 Jan 02 21:28	27° \mathfrak{Z} 20'48	1°36'22
max. Earth dist.	15489 Oct 19 20:13	13° \mathbb{M} 24'34	10.65776 AU	minimum elong	15496 Jan 02 21:27	27° \mathfrak{Z} 20'48	1°37'13
	15489 Nov 01 21:21	15° \mathbb{M}		max. Earth dist.	15496 Jan 03 02:08	27° \mathfrak{Z} 22'13	10.62782 AU
morning rise	15489 Nov 05 10:00	15° \mathbb{M} 25'28		morning rise	15496 Jan 20 10:29	29° \mathfrak{Z} 28'12	
retrograde	15490 Feb 17 06:30	22° \mathbb{M} 57'48			15496 Jan 24 21:46	0° \approx	
asc. node	15490 Feb 19 03:13	22° \mathbb{M} 57'38		retrograde	15496 May 03 08:08	7° \approx 02'19	
opposition	15490 Apr 28 01:14	19° \mathbb{M} 34'16	0°05'00	opposition	15496 Jul 11 07:58	3° \approx 37'47	2°02'54
min. Earth dist.	15490 Apr 27 12:15	19° \mathbb{M} 36'47	8.66296 AU	min. Earth dist.	15496 Jul 11 05:23	3° \approx 38'17	8.61810 AU
direct	15490 Jul 05 15:43	16° \mathbb{M} 13'28		direct	15496 Sep 17 14:00	0° \approx 14'39	
evening set	15490 Oct 14 15:36	23° \mathbb{M} 33'59		evening set	15496 Dec 28 10:58	7° \approx 41'30	
conjunction	15490 Oct 31 20:09	25° \mathbb{M} 39'08	0°14'50	conjunction	15497 Jan 14 23:17	9° \approx 48'57	1°41'38
minimum elong	15490 Oct 31 20:09	25° \mathbb{M} 39'08	0°15'31	minimum elong	15497 Jan 14 23:17	9° \approx 48'57	1°42'23
behind sun begin	15490 Oct 31 18:16	25° \mathbb{M} 38'34		max. Earth dist.	15497 Jan 15 00:50	9° \approx 49'25	10.60541 AU
behind sun end	15490 Oct 31 22:02	25° \mathbb{M} 39'42		morning rise	15497 Feb 01 13:07	11° \approx 56'50	
max. Earth dist.	15490 Nov 01 11:08	25° \mathbb{M} 43'42	10.66669 AU		15497 Feb 28 12:14	15° \approx	
morning rise	15490 Nov 18 03:17	27° \mathbb{M} 44'59		retrograde	15497 May 16 06:54	19° \approx 31'46	
	15490 Dec 07 16:06	0° \mathfrak{A}		opposition	15497 Jul 24 01:18	16° \approx 07'17	2°06'29
retrograde	15491 Mar 02 01:39	5° \mathfrak{A} 17'05		min. Earth dist.	15497 Jul 24 00:58	16° \approx 07'20	8.59412 AU
opposition	15491 May 10 20:38	1° \mathfrak{A} 53'15	0°31'51		15497 Aug 07 13:48	15° \mathfrak{R} \approx	
min. Earth dist.	15491 May 10 08:23	1° \mathfrak{A} 55'37	8.66929 AU	direct	15497 Sep 30 08:03	12° \approx 43'37	
	15491 Jun 05 21:10	30° \mathfrak{R} \mathbb{M}			15497 Nov 21 14:24	15° \approx	
direct	15491 Jul 18 09:26	28° \mathbb{M} 32'17		evening set	15498 Jan 10 13:46	20° \approx 13'20	
	15491 Aug 28 22:32	0° \mathfrak{A}					
evening set	15491 Oct 27 06:27	5° \mathfrak{A} 52'06		conjunction	15498 Jan 28 03:23	22° \approx 21'29	1°42'06
				minimum elong	15498 Jan 28 03:24	22° \approx 21'29	1°42'43
conjunction	15491 Nov 13 12:26	7° \mathfrak{A} 57'26	0°36'08	max. Earth dist.	15498 Jan 28 02:13	22° \approx 21'07	10.58009 AU
minimum elong	15491 Nov 13 12:25	7° \mathfrak{A} 57'26	0°36'55	morning rise	15498 Feb 14 17:53	24° \approx 29'55	
max. Earth dist.	15491 Nov 14 02:42	8° \mathfrak{A} 01'47	10.67019 AU		15498 Apr 08 23:36	0° \mathfrak{H}	
morning rise	15491 Nov 30 21:03	10° \mathfrak{A} 03'30		retrograde	15498 May 29 08:17	2° \mathfrak{H} 05'39	
retrograde	15492 Mar 13 21:24	17° \mathfrak{A} 35'36			15498 Jul 19 18:03	30° \mathfrak{R} \approx	
opposition	15492 May 22 14:28	14° \mathfrak{A} 11'30	0°57'12	opposition	15498 Aug 05 19:54	28° \approx 41'18	2°04'04
min. Earth dist.	15492 May 22 02:59	14° \mathfrak{A} 13'43	8.67008 AU	min. Earth dist.	15498 Aug 05 21:45	28° \approx 40'56	8.56778 AU
direct	15492 Jul 30 01:08	10° \mathfrak{A} 50'16		direct	15498 Oct 13 02:33	25° \approx 17'08	
evening set	15492 Nov 07 22:41	18° \mathfrak{A} 10'09			15498 Dec 30 00:57	0° \mathfrak{H}	
				evening set	15499 Jan 23 19:15	2° \mathfrak{H} 49'59	
conjunction	15492 Nov 25 06:05	20° \mathfrak{A} 15'43	0°55'46				
minimum elong	15492 Nov 25 06:04	20° \mathfrak{A} 15'43	0°56'38	conjunction	15499 Feb 10 10:03	4° \mathfrak{H} 58'51	1°37'39
max. Earth dist.	15492 Nov 25 19:40	20° \mathfrak{A} 19'52	10.66788 AU	minimum elong	15499 Feb 10 10:04	4° \mathfrak{H} 58'51	1°38'07
morning rise	15492 Dec 12 15:53	22° \mathfrak{A} 22'02		max. Earth dist.	15499 Feb 10 05:45	4° \mathfrak{H} 57'31	10.55319 AU
retrograde	15493 Mar 26 17:06	29° \mathfrak{A} 54'21		morning rise	15499 Feb 28 01:08	7° \mathfrak{H} 07'52	
opposition	15493 Jun 04 07:05	26° \mathfrak{A} 30'02	1°19'56	retrograde	15499 Jun 11 09:45	14° \mathfrak{H} 44'19	
min. Earth dist.	15493 Jun 03 20:32	26° \mathfrak{A} 32'05	8.66506 AU	opposition	15499 Aug 18 16:03	11° \mathfrak{H} 20'11	1°55'38
direct	15493 Aug 11 16:07	23° \mathfrak{A} 08'27		min. Earth dist.	15499 Aug 18 20:35	11° \mathfrak{H} 19'17	8.54044 AU
	15493 Nov 16 14:09	0° \mathfrak{Z}		direct	15499 Oct 26 00:15	7° \mathfrak{H} 55'33	
evening set	15493 Nov 20 16:35	0° \mathfrak{Z} 29'09		evening set	15500 Feb 06 03:14	15° \mathfrak{H} 31'38	
conjunction	15493 Dec 08 01:14	2° \mathfrak{Z} 35'04	1°12'51	conjunction	15500 Feb 23 18:56	17° \mathfrak{H} 41'13	1°28'26
minimum elong	15493 Dec 08 01:12	2° \mathfrak{Z} 35'03	1°13'45	minimum elong	15500 Feb 23 18:59	17° \mathfrak{H} 41'13	1°28'43
max. Earth dist.	15493 Dec 08 12:53	2° \mathfrak{Z} 38'37	10.65977 AU	max. Earth dist.	15500 Feb 23 10:47	17° \mathfrak{H} 38'42	10.52602 AU
morning rise	15493 Dec 25 12:07	4° \mathfrak{Z} 41'39		morning rise	15500 Mar 13 10:31	19° \mathfrak{H} 50'48	
retrograde	15494 Apr 08 14:13	12° \mathfrak{Z} 14'26		retrograde	15500 Jun 24 13:00	27° \mathfrak{H} 27'53	
opposition	15494 Jun 16 23:20	8° \mathfrak{Z} 49'59	1°39'01	opposition	15500 Aug 31 14:13	24° \mathfrak{H} 04'02	1°41'30
min. Earth dist.	15494 Jun 16 14:50	8° \mathfrak{Z} 51'38	8.65438 AU	min. Earth dist.	15500 Aug 31 21:50	24° \mathfrak{H} 02'32	8.51344 AU
direct	15494 Aug 24 06:21	5° \mathfrak{Z} 27'57		direct	15500 Nov 08 00:08	20° \mathfrak{H} 38'59	
evening set	15494 Dec 03 12:20	12° \mathfrak{Z} 50'06		evening set	15501 Feb 19 13:16	28° \mathfrak{H} 18'12	
					15501 Mar 05 09:38	0° \mathfrak{Y}	
conjunction	15494 Dec 20 22:08	14° \mathfrak{Z} 56'26	1°26'36				

conjunction	15501 Mar 09 05:34	0°♈28'25	1°14'49	morning rise	15506 Jun 01 07:08	7°♊25'35	
minimum elong	15501 Mar 09 05:36	0°♈28'26	1°14'54	retrograde	15506 Sep 11 04:02	15°♊04'55	
max. Earth dist.	15501 Mar 08 18:02	0°♈24'51	10.49988 AU	opposition	15506 Nov 17 22:29	11°♊42'37	-0°52'06
morning rise	15501 Mar 26 21:20	2°♈38'31		min. Earth dist.	15506 Nov 18 11:31	11°♊40'03	8.41277 AU
retrograde	15501 Jul 07 17:30	10°♈16'06		direct	15507 Jan 26 02:46	8°♊16'38	
opposition	15501 Sep 13 14:28	6°♈52'34	1°22'15	evening set	15507 May 10 22:59	16°♊07'19	
min. Earth dist.	15501 Sep 14 00:18	6°♈50'37	8.48807 AU				
direct	15501 Nov 21 02:38	3°♈27'08		conjunction	15507 May 28 08:55	18°♊17'54	-0°52'23
evening set	15502 Mar 05 01:07	11°♈09'16		minimum elong	15507 May 28 08:53	18°♊17'54	0°53'14
				max. Earth dist.	15507 May 27 17:09	18°♊12'57	10.41086 AU
conjunction	15502 Mar 22 17:44	13°♈20'02	0°57'24	morning rise	15507 Jun 14 16:24	20°♊27'47	
minimum elong	15502 Mar 22 17:46	13°♈20'02	0°57'17	retrograde	15507 Sep 24 13:09	28°♊07'36	
max. Earth dist.	15502 Mar 22 04:01	13°♈15'46	10.47600 AU	opposition	15507 Dec 01 10:21	24°♊45'26	-1°16'51
morning rise	15502 Apr 09 09:16	15°♈30'31		min. Earth dist.	15507 Dec 01 21:42	24°♊43'13	8.41133 AU
retrograde	15502 Jul 20 21:30	23°♈08'29		direct	15508 Feb 08 17:00	21°♊19'41	
opposition	15502 Sep 26 16:45	19°♈45'13	0°58'47	evening set	15508 May 23 11:36	29°♊10'26	
min. Earth dist.	15502 Sep 27 03:52	19°♈43'01	8.46553 AU		15508 May 30 03:16	0°♋	
direct	15502 Dec 04 09:27	16°♈19'30					
evening set	15503 Mar 18 14:20	24°♈04'11		conjunction	15508 Jun 09 19:07	1°♋20'26	-1°10'52
				minimum elong	15508 Jun 09 19:05	1°♋20'26	1°11'46
conjunction	15503 Apr 05 06:50	26°♈15'19	0°37'02	max. Earth dist.	15508 Jun 09 06:16	1°♋16'23	10.41243 AU
minimum elong	15503 Apr 05 06:51	26°♈15'20	0°36'43	morning rise	15508 Jun 27 00:13	3°♋29'46	
max. Earth dist.	15503 Apr 04 15:59	26°♈10'43	10.45533 AU	retrograde	15508 Oct 06 22:49	11°♋09'53	
morning rise	15503 Apr 22 21:33	28°♈26'01		opposition	15508 Dec 13 23:25	7°♋47'45	-1°37'37
	15503 May 06 00:36	0°♋		min. Earth dist.	15508 Dec 14 07:58	7°♋46'05	8.41640 AU
retrograde	15503 Aug 03 04:04	6°♋04'17		direct	15509 Feb 21 07:21	4°♋22'20	
opposition	15503 Oct 09 21:10	2°♋41'16	0°32'13	evening set	15509 Jun 05 22:15	12°♋12'15	
min. Earth dist.	15503 Oct 10 08:54	2°♋38'57	8.44651 AU				
	15503 Nov 18 01:51	30°♋		conjunction	15509 Jun 23 03:25	14°♋21'34	-1°25'42
direct	15503 Dec 17 17:04	29°♈15'21		minimum elong	15509 Jun 23 03:24	14°♋21'34	1°26'35
	15504 Jan 16 02:24	0°♋		max. Earth dist.	15509 Jun 22 18:19	14°♋18'42	10.42061 AU
evening set	15504 Mar 31 04:27	7°♋02'09		morning rise	15509 Jul 10 06:16	16°♋30'15	
				retrograde	15509 Oct 20 07:32	24°♋10'26	
conjunction	15504 Apr 17 20:08	9°♋13'27	0°14'43	opposition	15509 Dec 27 12:56	20°♋48'16	-1°53'20
minimum elong	15504 Apr 17 20:09	9°♋13'27	0°14'13	min. Earth dist.	15509 Dec 27 18:37	20°♋47'09	8.42799 AU
behind sun begin	15504 Apr 17 16:47	9°♋12'25		direct	15510 Mar 06 21:58	17°♋23'13	
behind sun end	15504 Apr 17 23:30	9°♋14'29		evening set	15510 Jun 19 06:43	25°♋11'31	
max. Earth dist.	15504 Apr 17 04:35	9°♋08'36	10.43830 AU				
morning rise	15504 May 05 09:30	11°♋24'10		conjunction	15510 Jul 06 09:41	27°♋20'04	-1°36'07
	15504 Jun 05 20:57	15°♋		minimum elong	15510 Jul 06 09:40	27°♋20'03	1°36'57
retrograde	15504 Aug 15 12:22	19°♋02'40		max. Earth dist.	15510 Jul 06 04:11	27°♋18'20	10.43512 AU
opposition	15504 Oct 22 03:40	15°♋39'54	0°03'54	morning rise	15510 Jul 23 10:39	29°♋28'04	
min. Earth dist.	15504 Oct 22 16:12	15°♋37'25	8.43130 AU		15510 Jul 27 18:51	0°♌	
	15504 Oct 30 14:58	15°♋		retrograde	15510 Nov 02 16:02	7°♌07'59	
desc. node	15504 Dec 12 00:37	12°♋30'44		opposition	15511 Jan 10 02:12	3°♌45'43	-2°03'13
direct	15504 Dec 30 01:28	12°♋13'50		min. Earth dist.	15511 Jan 10 05:16	3°♌45'07	8.44557 AU
	15505 Feb 26 09:49	15°♋		direct	15511 Mar 20 11:07	0°♌21'04	
evening set	15505 Apr 13 18:53	20°♋02'20		evening set	15511 Jul 02 12:23	8°♌07'00	
conjunction	15505 May 01 09:06	22°♋13'35	-0°08'30	conjunction	15511 Jul 19 13:26	10°♌14'47	-1°41'37
minimum elong	15505 May 01 09:06	22°♋13'35	0°09'08	minimum elong	15511 Jul 19 13:26	10°♌14'47	1°42'22
behind sun begin	15505 May 01 03:00	22°♋11'42		max. Earth dist.	15511 Jul 19 11:10	10°♌14'04	10.45532 AU
behind sun end	15505 May 01 15:11	22°♋15'28		morning rise	15511 Aug 05 13:09	12°♌22'09	
max. Earth dist.	15505 Apr 30 16:36	22°♋08'26	10.42497 AU		15511 Aug 27 20:33	15°♌	
morning rise	15505 May 18 20:47	24°♋24'11		retrograde	15511 Nov 15 22:46	20°♌01'31	
	15505 Jul 10 21:56	0°♊		opposition	15512 Jan 23 14:52	16°♌39'06	-2°06'49
retrograde	15505 Aug 28 20:26	2°♊03'01		min. Earth dist.	15512 Jan 23 15:16	16°♌39'01	8.46834 AU
	15505 Oct 18 05:06	30°♋			15512 Feb 14 21:16	15°♋	
opposition	15505 Nov 04 12:08	28°♋40'29	-0°24'42	direct	15512 Apr 01 23:02	13°♌14'56	
min. Earth dist.	15505 Nov 05 01:21	28°♋37'53	8.41987 AU		15512 May 17 18:31	15°♌	
direct	15506 Jan 12 12:51	25°♋14'24		evening set	15512 Jul 14 14:49	20°♌57'50	
	15506 Apr 01 00:17	0°♊					
evening set	15506 Apr 27 09:09	3°♊04'15		conjunction	15512 Jul 31 14:32	23°♌04'53	-1°42'01
				minimum elong	15512 Jul 31 14:33	23°♌04'54	1°42'38
conjunction	15506 May 14 21:24	5°♊15'16	-0°31'13	max. Earth dist.	15512 Jul 31 15:45	23°♌05'16	10.48024 AU
minimum elong	15506 May 14 21:23	5°♊15'16	0°31'59	morning rise	15512 Aug 17 13:37	25°♌11'43	
max. Earth dist.	15506 May 14 04:36	5°♊09'59	10.41546 AU		15512 Sep 30 09:40	0°♍	

retrograde	15512 Nov 28 02:50	2°♎50'18	morning rise	15518 Nov 01 09:42	10°♎27'57	
	15513 Jan 29 02:03	30°♎♎		15518 Dec 13 10:27	15°♎	
opposition	15513 Feb 05 02:04	29°♎27'40 -2°04'03	retrograde	15519 Feb 13 02:49	18°♎00'27	
min. Earth dist.	15513 Feb 04 23:11	29°♎28'14 8.49511 AU		15519 Apr 18 22:54	15°♎♎	
direct	15513 Apr 15 09:58	26°♎04'02	opposition	15519 Apr 23 23:25	14°♎36'53	-0°06'26
	15513 Jun 24 20:14	0°♎	min. Earth dist.	15519 Apr 23 08:45	14°♎39'42	8.65732 AU
evening set	15513 Jul 27 14:16	3°♎43'30	direct	15519 Jul 01 16:27	11°♎16'02	
			asc. node	15519 Jul 22 06:27	11°♎38'09	
conjunction	15513 Aug 13 13:24	5°♎49'56 -1°37'22		15519 Sep 08 02:53	15°♎	
minimum elong	15513 Aug 13 13:26	5°♎49'57 1°37'49	evening set	15519 Oct 10 16:08	18°♎36'59	
max. Earth dist.	15513 Aug 13 18:37	5°♎51'34 10.50855 AU				
morning rise	15513 Aug 30 12:22	7°♎56'18	conjunction	15519 Oct 27 20:14	20°♎42'03	0°05'38
retrograde	15513 Dec 11 06:31	15°♎33'54	minimum elong	15519 Oct 27 20:15	20°♎42'03	0°06'15
opposition	15514 Feb 18 11:12	12°♎11'04 -1°55'12	behind sun begin	15519 Oct 27 13:31	20°♎40'01	
min. Earth dist.	15514 Feb 18 04:51	12°♎12'18 8.52440 AU	behind sun end	15519 Oct 28 02:59	20°♎44'05	
direct	15514 Apr 28 18:26	8°♎48'00	max. Earth dist.	15519 Oct 28 14:06	20°♎47'30	10.66561 AU
evening set	15514 Aug 09 10:57	16°♎23'48	morning rise	15519 Nov 14 02:33	22°♎47'46	
				15520 Feb 06 05:49	0°♎♎	
conjunction	15514 Aug 26 10:06	18°♎29'45 -1°27'59	retrograde	15520 Feb 25 23:46	0°♎♎19'44	
minimum elong	15514 Aug 26 10:08	18°♎29'46 1°28'15		15520 Mar 16 20:20	30°♎♎	
max. Earth dist.	15514 Aug 26 19:23	18°♎32'39 10.53868 AU	opposition	15520 May 05 19:09	26°♎56'05	0°20'38
morning rise	15514 Sep 12 09:24	20°♎35'46	min. Earth dist.	15520 May 05 04:16	26°♎58'56	8.67280 AU
retrograde	15514 Dec 24 09:30	28°♎12'15	direct	15520 Jul 13 09:36	23°♎35'23	
opposition	15515 Mar 03 18:22	24°♎49'14 -1°40'48		15520 Oct 14 11:34	0°♎♎	
min. Earth dist.	15515 Mar 03 08:50	24°♎51'04 8.55465 AU	evening set	15520 Oct 22 06:33	0°♎♎55'06	
direct	15515 May 11 22:34	21°♎26'46				
evening set	15515 Aug 22 05:03	28°♎58'49	conjunction	15520 Nov 08 11:59	3°♎00'15	0°27'16
	15515 Aug 30 12:41	0°♎♎	minimum elong	15520 Nov 08 11:58	3°♎00'15	0°28'00
			max. Earth dist.	15520 Nov 09 05:16	3°♎05'31	10.67827 AU
conjunction	15515 Sep 08 04:36	1°♎04'24 -1°14'25	morning rise	15520 Nov 25 19:46	5°♎06'05	
minimum elong	15515 Sep 08 04:38	1°♎04'24 1°14'29	retrograde	15521 Mar 09 20:42	12°♎♎37'42	
max. Earth dist.	15515 Sep 08 17:07	1°♎08'17 10.56906 AU	opposition	15521 May 18 13:18	9°♎14'02	0°46'41
morning rise	15515 Sep 25 04:49	3°♎10'11	min. Earth dist.	15521 May 17 23:32	9°♎16'41	8.68264 AU
retrograde	15516 Jan 06 10:11	10°♎45'33	direct	15521 Jul 25 23:20	5°♎53'20	
opposition	15516 Mar 15 23:16	7°♎22'22 -1°21'40	evening set	15521 Nov 03 21:58	13°♎12'36	
min. Earth dist.	15516 Mar 15 11:44	7°♎24'35 8.58438 AU				
direct	15516 May 24 00:15	4°♎00'25	conjunction	15521 Nov 21 04:32	15°♎17'52	0°47'39
evening set	15516 Sep 02 21:21	11°♎29'00	minimum elong	15521 Nov 21 04:31	15°♎17'52	0°48'30
			max. Earth dist.	15521 Nov 21 19:50	15°♎22'31	10.68497 AU
conjunction	15516 Sep 19 21:38	13°♎34'18 -0°57'23	morning rise	15521 Dec 08 13:43	17°♎23'53	
minimum elong	15516 Sep 19 21:40	13°♎34'18 0°57'16	retrograde	15522 Mar 22 14:59	24°♎55'25	
max. Earth dist.	15516 Sep 20 11:52	13°♎38'41 10.59823 AU	opposition	15522 May 31 06:13	21°♎31'43	1°10'33
morning rise	15516 Oct 06 23:17	15°♎39'58	min. Earth dist.	15522 May 30 18:32	21°♎33'59	8.68642 AU
retrograde	15517 Jan 18 09:10	23°♎14'13	direct	15522 Aug 07 14:53	18°♎10'52	
opposition	15517 Mar 29 01:36	19°♎50'53 -0°58'48	evening set	15522 Nov 16 14:44	25°♎30'26	
min. Earth dist.	15517 Mar 28 12:58	19°♎53'19 8.61223 AU				
direct	15517 Jun 05 23:59	16°♎29'23	conjunction	15522 Dec 03 22:32	27°♎35'55	1°05'52
evening set	15517 Sep 15 12:14	23°♎54'52	minimum elong	15522 Dec 03 22:30	27°♎35'55	1°06'45
			max. Earth dist.	15522 Dec 04 11:28	27°♎39'51	10.68540 AU
conjunction	15517 Oct 02 13:36	26°♎00'01 -0°37'45	morning rise	15522 Dec 21 08:56	29°♎42'07	
minimum elong	15517 Oct 02 13:37	26°♎00'01 0°37'26		15522 Dec 23 21:18	0°♎♎	
max. Earth dist.	15517 Oct 03 04:58	26°♎04'45 10.62480 AU	retrograde	15523 Apr 04 10:07	7°♎13'49	
morning rise	15517 Oct 19 16:52	28°♎05'39	opposition	15523 Jun 12 22:14	3°♎50'05	1°31'12
	15517 Nov 04 24:00	0°♎♎	min. Earth dist.	15523 Jun 12 12:33	3°♎51'58	8.68378 AU
retrograde	15518 Jan 31 06:44	5°♎38'54	direct	15523 Aug 20 06:13	0°♎♎28'56	
opposition	15518 Apr 11 01:37	2°♎15'28 -0°33'19	evening set	15523 Nov 29 09:07	7°♎49'26	
min. Earth dist.	15518 Apr 10 12:03	2°♎18'04 8.63688 AU				
	15518 May 13 08:18	30°♎♎	conjunction	15523 Dec 16 18:17	9°♎55'15	1°21'04
direct	15518 Jun 18 20:52	28°♎54'20	minimum elong	15523 Dec 16 18:15	9°♎55'14	1°21'58
	15518 Jul 24 17:21	0°♎♎	max. Earth dist.	15523 Dec 17 04:58	9°♎58'29	10.67910 AU
evening set	15518 Sep 28 02:12	6°♎17'14	morning rise	15524 Jan 03 05:41	12°♎01'43	
			retrograde	15524 Apr 16 06:53	19°♎33'43	
conjunction	15518 Oct 15 04:54	8°♎22'17 -0°16'27	opposition	15524 Jun 24 13:43	16°♎09'57	1°47'42
minimum elong	15518 Oct 15 04:54	8°♎22'17 0°15'58	min. Earth dist.	15524 Jun 24 06:09	16°♎11'25	8.67409 AU
behind sun begin	15518 Oct 15 04:02	8°♎22'01	direct	15524 Aug 31 20:11	12°♎48'22	
behind sun end	15518 Oct 15 05:47	8°♎22'33	evening set	15524 Dec 11 05:37	20°♎10'28	
max. Earth dist.	15518 Oct 15 21:39	8°♎27'25 10.64756 AU				

conjunction	15524 Dec 28 16:01	22°  16'42	1°32'33	max. Earth dist.	15531 Mar 16 12:00	7°  46'13	10.49639 AU
minimum elong	15524 Dec 28 16:00	22°  16'42	1°33'25				
max. Earth dist.	15524 Dec 28 23:41	22°  19'02	10.66551 AU	conjunction	15531 Mar 17 01:15	7°  50'19	1°05'32
morning rise	15525 Jan 15 04:15	24°  23'31		minimum elong	15531 Mar 17 01:18	7°  50'20	1°05'30
	15525 Mar 11 10:13	0° 		morning rise	15531 Apr 03 16:45	10°  00'25	
retrograde	15525 Apr 29 03:14	1°  56'04		retrograde	15531 Jul 15 07:48	17°  37'16	
	15525 Jun 17 19:50	30°  13'03		opposition	15531 Sep 21 03:59	14°  13'41	1°09'41
opposition	15525 Jul 07 05:10	28°  32'15	1°59'17	min. Earth dist.	15531 Sep 21 15:17	14°  11'27	8.48257 AU
min. Earth dist.	15525 Jul 07 00:18	28°  33'12	8.65703 AU	direct	15531 Nov 28 19:20	10°  47'51	
direct	15525 Sep 13 11:25	25°  10'09		evening set	15532 Mar 11 20:23	18°  30'30	
	15525 Dec 01 14:11	0° 					
evening set	15525 Dec 24 04:18	2°  34'31		conjunction	15532 Mar 29 12:56	20°  41'19	0°46'27
				minimum elong	15532 Mar 29 12:57	20°  41'20	0°46'13
conjunction	15526 Jan 10 15:53	4°  41'18	1°39'46	max. Earth dist.	15532 Mar 28 21:02	20°  36'24	10.46887 AU
minimum elong	15526 Jan 10 15:53	4°  41'18	1°40'34	morning rise	15532 Apr 16 04:00	22°  51'47	
max. Earth dist.	15526 Jan 10 19:26	4°  42'23	10.64492 AU		15532 Jul 04 02:56	0° 	
morning rise	15526 Jan 28 05:00	6°  48'34		retrograde	15532 Jul 27 12:28	0°  29'08	
retrograde	15526 May 12 01:30	14°  21'52			15532 Aug 20 00:50	30°  13'00	
opposition	15526 Jul 19 21:22	10°  58'04	2°05'22	opposition	15532 Oct 03 06:38	27°  05'42	0°44'27
min. Earth dist.	15526 Jul 19 20:01	10°  58'20	8.63354 AU	min. Earth dist.	15532 Oct 03 19:44	27°  03'07	8.45674 AU
direct	15526 Sep 26 03:06	7°  35'21		direct	15532 Dec 11 01:14	23°  39'28	
	15527 Jan 05 21:01	15° 			15533 Mar 13 13:41	0° 	
evening set	15527 Jan 06 05:17	15°  02'28		evening set	15533 Mar 25 09:04	1°  24'39	
				max. Earth dist.	15533 Apr 11 07:36	3°  30'22	10.44535 AU
conjunction	15527 Jan 23 18:04	17°  09'55	1°42'20				
minimum elong	15527 Jan 23 18:04	17°  09'55	1°43'00	conjunction	15533 Apr 12 01:02	3°  35'48	0°24'56
max. Earth dist.	15527 Jan 23 16:58	17°  09'35	10.61891 AU	minimum elong	15533 Apr 12 01:03	3°  35'48	0°24'31
morning rise	15527 Feb 10 08:08	19°  17'45		morning rise	15533 Apr 29 15:13	5°  46'27	
retrograde	15527 May 25 00:44	26°  15'51		retrograde	15533 Aug 09 18:08	13°  24'19	
opposition	15527 Aug 01 14:37	23°  28'04	2°05'35	opposition	15533 Oct 16 11:27	10°  01'02	0°16'49
min. Earth dist.	15527 Aug 01 16:48	23°  27'38	8.60553 AU	min. Earth dist.	15533 Oct 17 01:08	9°  58'19	8.43559 AU
direct	15527 Oct 08 20:30	20°  04'40		direct	15533 Dec 24 09:32	6°  34'32	
evening set	15528 Jan 19 08:51	27°  34'53		evening set	15534 Apr 07 22:35	14°  21'51	
					15534 Apr 13 02:41	15° 	
conjunction	15528 Feb 05 22:51	29°  43'03	1°40'03				
minimum elong	15528 Feb 05 22:52	29°  43'03	1°40'35	conjunction	15534 Apr 25 13:30	16°  33'06	0°02'06
max. Earth dist.	15528 Feb 05 17:48	29°  41'30	10.58939 AU	minimum elong	15534 Apr 25 13:30	16°  33'06	0°01'32
	15528 Feb 08 06:15	0° 		behind sun begin	15534 Apr 25 06:17	16°  30'52	
morning rise	15528 Feb 23 13:40	1°  51'29		behind sun end	15534 Apr 25 20:43	16°  35'20	
retrograde	15528 Jun 05 23:05	9°  26'22		max. Earth dist.	15534 Apr 24 20:11	16°  27'42	10.42699 AU
opposition	15528 Aug 13 09:06	6°  02'36	1°59'50	morning rise	15534 May 13 02:13	18°  43'46	
min. Earth dist.	15528 Aug 13 14:07	6°  01'37	8.57480 AU	desc. node	15534 May 29 14:04	20°  41'33	
direct	15528 Oct 20 18:00	2°  38'31		retrograde	15534 Aug 23 00:31	26°  22'06	
evening set	15529 Jan 31 14:42	10°  11'58		opposition	15534 Oct 29 18:13	22°  58'59	-0°11'47
				min. Earth dist.	15534 Oct 30 07:20	22°  56'23	8.42018 AU
conjunction	15529 Feb 18 05:53	12°  20'53	1°32'57	direct	15535 Jan 06 20:04	19°  32'24	
minimum elong	15529 Feb 18 05:54	12°  20'54	1°33'18	evening set	15535 Apr 21 12:22	27°  21'21	
max. Earth dist.	15529 Feb 17 21:55	12°  18'27	10.55808 AU	max. Earth dist.	15535 May 08 09:30	29°  27'24	10.41471 AU
morning rise	15529 Mar 07 21:11	14°  29'54					
retrograde	15529 Jun 19 00:38	22°  05'33		conjunction	15535 May 09 01:43	29°  32'29	-0°21'00
opposition	15529 Aug 26 05:24	18°  41'48	1°48'15	minimum elong	15535 May 09 01:42	29°  32'29	0°21'42
min. Earth dist.	15529 Aug 26 12:22	18°  40'26	8.54305 AU		15535 May 12 17:26	0° 	
direct	15529 Nov 02 16:14	15°  17'06		morning rise	15535 May 26 12:26	1°  42'56	
evening set	15530 Feb 13 22:35	22°  53'42		retrograde	15535 Sep 05 08:48	9°  21'44	
				opposition	15535 Nov 12 03:06	5°  58'49	-0°39'51
conjunction	15530 Mar 03 14:42	25°  03'23	1°21'17	min. Earth dist.	15535 Nov 12 15:10	5°  56'26	8.41128 AU
minimum elong	15530 Mar 03 14:44	25°  03'23	1°21'26	direct	15536 Jan 20 07:21	2°  32'20	
max. Earth dist.	15530 Mar 03 04:20	25°  00'11	10.52659 AU	evening set	15536 May 04 01:45	10°  22'18	
morning rise	15530 Mar 21 06:14	27°  12'58					
	15530 Apr 14 10:29	0° 		conjunction	15536 May 21 12:57	12°  33'05	-0°42'59
retrograde	15530 Jul 02 04:08	4°  49'17		minimum elong	15536 May 21 12:56	12°  33'04	0°43'47
opposition	15530 Sep 08 03:40	1°  25'35	1°31'17	max. Earth dist.	15536 May 20 22:23	12°  28'30	10.40914 AU
min. Earth dist.	15530 Sep 08 12:41	1°  23'48	8.51181 AU	morning rise	15536 Jun 07 21:22	14°  43'07	
	15530 Sep 26 18:15	30°  18'11		retrograde	15536 Sep 17 18:09	22°  22'20	
direct	15530 Nov 15 15:57	28°  00'17		opposition	15536 Nov 24 13:43	18°  59'40	-1°05'55
	15531 Jan 03 14:30	0° 		min. Earth dist.	15536 Nov 25 00:36	18°  57'32	8.40941 AU
evening set	15531 Feb 27 08:39	5°  40'00		direct	15537 Feb 01 18:58	15°  33'27	

evening set	15537 May 17 14:17	23° Π 23'43	direct	15543 Apr 22 19:19	3° Π 06'05
			evening set	15543 Aug 03 18:58	10° Π 43'07
conjunction	15537 Jun 03 22:59	25° Π 33'58 -1°02'46			
minimum elong	15537 Jun 03 22:58	25° Π 33'57 1°03'38	conjunction	15543 Aug 20 17:51	12° Π 49'07 -1°32'49
max. Earth dist.	15537 Jun 03 10:06	25° Π 29'54 10.41068 AU	minimum elong	15543 Aug 20 17:52	12° Π 49'07 1°33'10
morning rise	15537 Jun 21 05:07	27° Π 43'29	max. Earth dist.	15543 Aug 21 01:12	12° Π 51'24 10.54219 AU
	15537 Jul 10 07:48	0° \mathfrak{D}	morning rise	15543 Sep 06 16:53	14° Π 55'05
retrograde	15537 Oct 01 02:23	5° \mathfrak{D} 22'58	retrograde	15543 Dec 18 15:05	22° Π 31'32
opposition	15537 Dec 08 01:30	2° \mathfrak{D} 00'32 -1°28'36	opposition	15544 Feb 25 21:11	19° Π 09'18 -1°47'59
min. Earth dist.	15537 Dec 08 11:04	1° \mathfrak{D} 58'40 8.41472 AU	min. Earth dist.	15544 Feb 25 13:45	19° Π 10'43 8.55886 AU
	15538 Jan 04 11:59	30° $\mathfrak{R}\Pi$	direct	15544 May 05 01:14	15° Π 47'11
direct	15538 Feb 15 08:24	28° Π 34'42	evening set	15544 Aug 15 14:05	23° Π 20'27
	15538 Mar 28 11:40	0° \mathfrak{D}			
evening set	15538 May 31 01:18	6° \mathfrak{D} 24'35	conjunction	15544 Sep 01 13:11	25° Π 25'59 -1°21'09
			minimum elong	15544 Sep 01 13:13	25° Π 26'00 1°21'18
conjunction	15538 Jun 17 07:28	8° \mathfrak{D} 34'07 -1°19'20	max. Earth dist.	15544 Sep 01 23:09	25° Π 29'05 10.57357 AU
minimum elong	15538 Jun 17 07:26	8° \mathfrak{D} 34'06 1°20'13	morning rise	15544 Sep 18 12:59	27° Π 31'41
max. Earth dist.	15538 Jun 16 20:42	8° \mathfrak{D} 30'44 10.41925 AU		15544 Oct 09 17:39	0° \mathfrak{D}
morning rise	15538 Jul 04 11:25	10° \mathfrak{D} 43'01	retrograde	15544 Dec 30 15:04	5° \mathfrak{D} 06'58
retrograde	15538 Oct 14 09:43	18° \mathfrak{D} 22'38	opposition	15545 Mar 10 02:56	1° \mathfrak{D} 44'31 -1°31'00
opposition	15538 Dec 21 14:08	15° \mathfrak{D} 00'23 -1°46'41	min. Earth dist.	15545 Mar 09 17:09	1° \mathfrak{D} 46'24 8.58907 AU
min. Earth dist.	15538 Dec 21 21:22	14° \mathfrak{D} 58'58 8.42683 AU		15545 Apr 03 00:12	30° $\mathfrak{R}\Pi$
direct	15539 Feb 28 23:20	11° \mathfrak{D} 35'03	direct	15545 May 18 05:41	28° Π 22'56
evening set	15539 Jun 13 10:14	19° \mathfrak{D} 23'43		15545 Jul 01 03:45	0° \mathfrak{D}
			evening set	15545 Aug 28 07:06	5° \mathfrak{D} 52'36
conjunction	15539 Jun 30 14:01	21° \mathfrak{D} 32'29 -1°31'48			
minimum elong	15539 Jun 30 14:00	21° \mathfrak{D} 32'29 1°32'40	conjunction	15545 Sep 14 06:56	7° \mathfrak{D} 57'50 -1°05'41
max. Earth dist.	15539 Jun 30 06:42	21° \mathfrak{D} 30'11 10.43435 AU	minimum elong	15545 Sep 14 06:58	7° \mathfrak{D} 57'51 1°05'38
morning rise	15539 Jul 17 15:56	23° \mathfrak{D} 40'41	max. Earth dist.	15545 Sep 14 19:39	8° \mathfrak{D} 01'46 10.60241 AU
	15539 Sep 18 10:48	0° \mathfrak{D}	morning rise	15545 Oct 01 07:47	10° \mathfrak{D} 03'21
retrograde	15539 Oct 27 18:10	1° \mathfrak{D} 20'13	retrograde	15546 Jan 12 15:04	17° \mathfrak{D} 37'35
	15539 Dec 07 00:59	30° $\mathfrak{R}\mathfrak{D}$	opposition	15546 Mar 23 06:12	14° \mathfrak{D} 14'56 -1°09'49
opposition	15540 Jan 04 03:00	27° \mathfrak{D} 58'06 -1°59'16	min. Earth dist.	15546 Mar 22 18:21	14° \mathfrak{D} 17'12 8.61568 AU
min. Earth dist.	15540 Jan 04 06:58	27° \mathfrak{D} 57'20 8.44514 AU	direct	15546 May 31 06:56	10° \mathfrak{D} 53'47
direct	15540 Mar 13 12:38	24° \mathfrak{D} 33'24	evening set	15546 Sep 09 22:35	18° \mathfrak{D} 20'16
	15540 Jun 06 00:48	0° \mathfrak{D}			
evening set	15540 Jun 25 16:39	2° \mathfrak{D} 20'01	conjunction	15546 Sep 26 23:27	20° \mathfrak{D} 25'20 -0°47'11
			minimum elong	15546 Sep 26 23:29	20° \mathfrak{D} 25'21 0°46'57
conjunction	15540 Jul 12 18:30	4° \mathfrak{D} 28'01 -1°39'36	max. Earth dist.	15546 Sep 27 14:08	20° \mathfrak{D} 29'51 10.62701 AU
minimum elong	15540 Jul 12 18:30	4° \mathfrak{D} 28'01 1°40'24	morning rise	15546 Oct 14 01:41	22° \mathfrak{D} 30'49
max. Earth dist.	15540 Jul 12 15:28	4° \mathfrak{D} 27'04 10.45536 AU		15547 Jan 16 13:28	0° \mathfrak{M}
morning rise	15540 Jul 29 18:45	6° \mathfrak{D} 35'32	retrograde	15547 Jan 25 15:00	0° \mathfrak{M} .04'10
retrograde	15540 Nov 09 01:40	14° \mathfrak{D} 14'42		15547 Feb 03 15:35	30° $\mathfrak{R}\mathfrak{D}$
opposition	15541 Jan 16 15:28	10° \mathfrak{D} 52'37 -2°05'46	opposition	15547 Apr 05 07:24	26° \mathfrak{D} 41'17 -0°45'29
min. Earth dist.	15541 Jan 16 15:47	10° \mathfrak{D} 52'34 8.46885 AU	min. Earth dist.	15547 Apr 04 18:22	26° \mathfrak{D} 43'47 8.63779 AU
direct	15541 Mar 27 00:24	7° \mathfrak{D} 28'36	direct	15547 Jun 13 03:40	23° \mathfrak{D} 20'26
	15541 Jul 07 03:24	15° \mathfrak{D}		15547 Sep 16 08:23	0° \mathfrak{M}
evening set	15541 Jul 08 20:13	15° \mathfrak{D} 12'30	evening set	15547 Sep 22 12:59	0° \mathfrak{M} .44'13
conjunction	15541 Jul 25 20:37	17° \mathfrak{D} 19'45 -1°42'21	conjunction	15547 Oct 09 15:00	2° \mathfrak{M} .49'13 -0°26'34
minimum elong	15541 Jul 25 20:38	17° \mathfrak{D} 19'45 1°43'02	minimum elong	15547 Oct 09 15:01	2° \mathfrak{M} .49'13 0°26'10
max. Earth dist.	15541 Jul 25 21:55	17° \mathfrak{D} 20'09 10.48128 AU	max. Earth dist.	15547 Oct 10 06:30	2° \mathfrak{M} .53'58 10.64695 AU
morning rise	15541 Aug 11 19:47	19° \mathfrak{D} 26'40	morning rise	15547 Oct 26 18:55	4° \mathfrak{M} .54'45
retrograde	15541 Nov 22 07:41	27° \mathfrak{D} 05'10	retrograde	15548 Feb 07 11:41	12° \mathfrak{M} .27'24
opposition	15542 Jan 30 03:00	23° \mathfrak{D} 43'05 -2°05'56	opposition	15548 Apr 17 06:25	9° \mathfrak{M} .04'14 -0°19'08
min. Earth dist.	15542 Jan 30 00:19	23° \mathfrak{D} 43'36 8.49671 AU	min. Earth dist.	15548 Apr 16 17:17	9° \mathfrak{M} .06'45 8.65521 AU
direct	15542 Apr 09 10:54	20° \mathfrak{D} 19'44	direct	15548 Jun 24 23:50	5° \mathfrak{M} .43'31
evening set	15542 Jul 21 21:02	28° \mathfrak{D} 00'24	evening set	15548 Oct 04 03:07	13° \mathfrak{M} .05'12
	15542 Aug 06 22:09	0° \mathfrak{M}		15548 Oct 19 21:02	15° \mathfrak{M}
conjunction	15542 Aug 07 20:23	0° \mathfrak{M} 06'57 -1°40'02	conjunction	15548 Oct 21 06:26	15° \mathfrak{M} .10'13 -0°04'50
minimum elong	15542 Aug 07 20:24	0° \mathfrak{M} 06'58 1°40'33	minimum elong	15548 Oct 21 06:25	15° \mathfrak{M} .10'13 0°04'17
max. Earth dist.	15542 Aug 08 00:59	0° \mathfrak{M} 08'24 10.51073 AU	behind sun begin	15548 Oct 20 23:25	15° \mathfrak{M} .08'06
morning rise	15542 Aug 24 19:08	2° \mathfrak{M} 13'20	behind sun end	15548 Oct 21 13:25	15° \mathfrak{M} .12'20
retrograde	15542 Dec 05 12:32	9° \mathfrak{M} 50'55	max. Earth dist.	15548 Oct 21 21:36	15° \mathfrak{M} .14'51 10.66200 AU
opposition	15543 Feb 12 13:02	6° \mathfrak{M} 28'47 -1°59'52	morning rise	15548 Nov 07 12:04	17° \mathfrak{M} .15'52
min. Earth dist.	15543 Feb 12 07:53	6° \mathfrak{M} 29'47 8.52729 AU	asc. node	15549 Jan 11 05:17	23° \mathfrak{M} .32'25

retrograde	15549 Feb 19 07:37	24° M 47'57		min. Earth dist.	15555 Jul 14 04:52	5° ≈ 24'17	8.62466 AU
opposition	15549 Apr 30 03:10	21° M 24'30	0°07'59	direct	15555 Sep 20 14:28	2° ≈ 00'38	
min. Earth dist.	15549 Apr 29 14:26	21° M 26'57	8.66764 AU	evening set	15555 Dec 31 11:04	9° ≈ 27'06	
direct	15549 Jul 07 18:28	18° M 03'45					
evening set	15549 Oct 16 17:20	25° M 24'01		conjunction	15556 Jan 17 23:29	11° ≈ 34'27	1°41'47
				minimum elong	15556 Jan 17 23:29	11° ≈ 34'27	1°42'31
conjunction	15549 Nov 02 22:02	27° M 29'07	0°17'12	max. Earth dist.	15556 Jan 18 01:34	11° ≈ 35'06	10.61173 AU
minimum elong	15549 Nov 02 22:01	27° M 29'07	0°17'54	morning rise	15556 Feb 04 13:11	13° ≈ 42'15	
max. Earth dist.	15549 Nov 03 13:14	27° M 33'45	10.67175 AU		15556 Feb 15 14:16	15° ≈	
morning rise	15549 Nov 20 05:14	29° M 34'55		retrograde	15556 May 18 07:03	21° ≈ 16'40	
	15549 Nov 23 17:43	0° ≈		opposition	15556 Jul 26 00:33	17° ≈ 52'14	2°06'21
retrograde	15550 Mar 04 03:19	7° ≈ 06'42		min. Earth dist.	15556 Jul 25 23:58	17° ≈ 52'21	8.60015 AU
opposition	15550 May 12 22:12	3° ≈ 42'57	0°34'40		15556 Sep 07 16:18	15° R ≈	
min. Earth dist.	15550 May 12 09:34	3° ≈ 45'23	8.67468 AU	direct	15556 Oct 02 06:59	14° ≈ 28'37	
direct	15550 Jul 20 11:00	0° ≈ 22'04			15556 Oct 26 18:58	15° ≈	
evening set	15550 Oct 29 08:03	7° ≈ 41'36		evening set	15557 Jan 12 13:38	21° ≈ 57'59	
conjunction	15550 Nov 15 14:10	9° ≈ 46'52	0°38'19	conjunction	15557 Jan 30 03:14	24° ≈ 06'01	1°41'46
minimum elong	15550 Nov 15 14:09	9° ≈ 46'52	0°39'07	minimum elong	15557 Jan 30 03:15	24° ≈ 06'02	1°42'21
max. Earth dist.	15550 Nov 16 05:18	9° ≈ 51'28	10.67583 AU	max. Earth dist.	15557 Jan 30 01:48	24° ≈ 05'35	10.58571 AU
morning rise	15550 Dec 02 22:41	11° ≈ 52'51		morning rise	15557 Feb 16 17:37	26° ≈ 14'22	
retrograde	15551 Mar 16 22:34	19° ≈ 24'37			15557 Mar 22 13:30	0° ≈	
opposition	15551 May 25 15:44	16° ≈ 00'36	0°59'44	retrograde	15557 May 31 06:46	3° ≈ 49'36	
min. Earth dist.	15551 May 25 03:35	16° ≈ 02'57	8.67600 AU	opposition	15557 Aug 07 18:44	0° ≈ 25'17	2°03'20
direct	15551 Aug 02 02:58	12° ≈ 39'28		min. Earth dist.	15557 Aug 07 21:04	0° ≈ 24'50	8.57297 AU
evening set	15551 Nov 11 00:09	19° ≈ 59'02			15557 Aug 13 03:15	30° R ≈	
				direct	15557 Oct 15 02:07	27° ≈ 01'07	
conjunction	15551 Nov 28 07:34	22° ≈ 04'33	0°57'41		15557 Dec 14 14:38	0° ≈	
minimum elong	15551 Nov 28 07:32	22° ≈ 04'32	0°58'32	evening set	15558 Jan 25 18:41	4° ≈ 33'39	
max. Earth dist.	15551 Nov 28 21:30	22° ≈ 08'47	10.67402 AU				
morning rise	15551 Dec 15 17:18	24° ≈ 10'45		conjunction	15558 Feb 12 09:22	6° ≈ 42'25	1°36'51
	15552 Feb 11 22:16	0° ≈		minimum elong	15558 Feb 12 09:23	6° ≈ 42'26	1°37'17
retrograde	15552 Mar 28 19:03	1° ≈ 42'42		max. Earth dist.	15558 Feb 12 03:54	6° ≈ 40'45	10.55790 AU
	15552 May 14 11:35	30° R ≈		morning rise	15558 Mar 02 00:28	8° ≈ 51'21	
opposition	15552 Jun 06 08:04	28° ≈ 18'29	1°22'03	retrograde	15558 Jun 13 08:33	16° ≈ 27'21	
min. Earth dist.	15552 Jun 05 21:34	28° ≈ 20'31	8.67144 AU	opposition	15558 Aug 20 14:36	13° ≈ 03'16	1°54'21
direct	15552 Aug 13 16:44	24° ≈ 56'58		min. Earth dist.	15558 Aug 20 20:08	13° ≈ 02'10	8.54464 AU
	15552 Nov 02 18:34	0° ≈		direct	15558 Oct 27 22:44	9° ≈ 38'35	
evening set	15552 Nov 22 17:52	2° ≈ 17'21		evening set	15559 Feb 08 02:06	17° ≈ 14'22	
conjunction	15552 Dec 10 02:26	4° ≈ 23'10	1°14'24	conjunction	15559 Feb 25 17:45	19° ≈ 23'52	1°27'13
minimum elong	15552 Dec 10 02:24	4° ≈ 23'09	1°15'18	minimum elong	15559 Feb 25 17:47	19° ≈ 23'53	1°27'28
max. Earth dist.	15552 Dec 10 13:24	4° ≈ 26'30	10.66632 AU	max. Earth dist.	15559 Feb 25 08:28	19° ≈ 21'01	10.52969 AU
morning rise	15552 Dec 27 13:22	6° ≈ 29'40		morning rise	15559 Mar 15 09:25	21° ≈ 33'24	
retrograde	15553 Apr 10 15:23	14° ≈ 02'00		retrograde	15559 Jun 26 10:49	29° ≈ 10'05	
opposition	15553 Jun 18 23:57	10° ≈ 37'39	1°40'39	opposition	15559 Sep 02 12:25	25° ≈ 46'15	1°39'45
min. Earth dist.	15553 Jun 18 16:09	10° ≈ 39'10	8.66106 AU	min. Earth dist.	15559 Sep 02 20:37	25° ≈ 44'38	8.51648 AU
direct	15553 Aug 26 06:18	7° ≈ 15'40		direct	15559 Nov 09 22:59	22° ≈ 21'09	
evening set	15553 Dec 05 13:20	14° ≈ 37'32		evening set	15560 Feb 21 11:49	0° ≈ 00'09	
					15560 Feb 21 11:19	0° ≈	
conjunction	15553 Dec 22 23:03	16° ≈ 43'45	1°27'44				
minimum elong	15553 Dec 22 23:02	16° ≈ 43'44	1°28'37	conjunction	15560 Mar 10 04:11	2° ≈ 10'19	1°13'14
max. Earth dist.	15553 Dec 23 06:46	16° ≈ 46'05	10.65295 AU	minimum elong	15560 Mar 10 04:13	2° ≈ 10'20	1°13'17
morning rise	15554 Jan 09 11:04	18° ≈ 50'36		max. Earth dist.	15560 Mar 09 16:21	2° ≈ 06'40	10.50231 AU
retrograde	15554 Apr 23 10:13	26° ≈ 23'32		morning rise	15560 Mar 27 19:57	4° ≈ 20'23	
opposition	15554 Jul 01 15:44	22° ≈ 59'07	1°54'39	retrograde	15560 Jul 08 13:52	11° ≈ 57'40	
min. Earth dist.	15554 Jul 01 10:36	23° ≈ 00'07	8.64525 AU	opposition	15560 Sep 14 12:18	8° ≈ 34'07	1°20'07
direct	15554 Sep 07 22:39	19° ≈ 36'35		min. Earth dist.	15560 Sep 14 22:04	8° ≈ 32'11	8.48980 AU
evening set	15554 Dec 18 11:01	27° ≈ 00'31		direct	15560 Nov 22 02:33	5° ≈ 08'41	
				evening set	15561 Mar 05 23:24	12° ≈ 15'04	
conjunction	15555 Jan 04 22:03	29° ≈ 07'15	1°37'01				
minimum elong	15555 Jan 04 22:02	29° ≈ 07'15	1°37'50	conjunction	15561 Mar 23 16:07	15° ≈ 01'25	0°55'33
max. Earth dist.	15555 Jan 05 02:49	29° ≈ 08'42	10.63450 AU	minimum elong	15561 Mar 23 16:09	15° ≈ 01'25	0°55'24
	15555 Jan 12 03:24	0° ≈		max. Earth dist.	15561 Mar 23 02:41	14° ≈ 57'15	10.47708 AU
morning rise	15555 Jan 22 10:59	1° ≈ 14'32		morning rise	15561 Apr 10 07:31	17° ≈ 11'51	
retrograde	15555 May 06 07:54	8° ≈ 48'11		retrograde	15561 Jul 21 19:58	24° ≈ 49'41	
opposition	15555 Jul 14 07:42	5° ≈ 23'43	2°03'22	opposition	15561 Sep 27 14:34	21° ≈ 26'24	0°56'21

min. Earth dist.	15561 Sep 28 01:26	21° Υ 24'15	8.46594 AU	conjunction	15567 Jun 11 17:19	3° Θ 01'59	-1°12'18
direct	15561 Dec 05 06:57	18° Υ 00'42		minimum elong	15567 Jun 11 17:17	3° Θ 01'59	1°13'11
evening set	15562 Mar 19 12:24	25° Υ 45'18		max. Earth dist.	15567 Jun 11 05:02	2° Θ 58'07	10.40999 AU
				morning rise	15567 Jun 28 22:13	5° Θ 11'19	
conjunction	15562 Apr 06 04:55	27° Υ 56'27	0°34'59	retrograde	15567 Oct 08 21:29	12° Θ 51'44	
minimum elong	15562 Apr 06 04:56	27° Υ 56'27	0°34'39	opposition	15567 Dec 15 22:05	9° Θ 29'36	-1°39'10
max. Earth dist.	15562 Apr 05 14:12	27° Υ 51'52	10.45518 AU	min. Earth dist.	15567 Dec 16 06:37	9° Θ 27'56	8.41342 AU
	15562 Apr 22 20:08	0° \mathcal{B}		direct	15568 Feb 23 05:52	6° Θ 04'11	
morning rise	15562 Apr 23 19:30	0° \mathcal{B} 07'08		evening set	15568 Jun 06 20:44	13° Θ 54'21	
retrograde	15562 Aug 04 03:19	7° \mathcal{B} 45'21					
opposition	15562 Oct 10 19:05	4° \mathcal{B} 22'21	0°29'37	conjunction	15568 Jun 24 01:47	16° Θ 03'42	-1°26'44
min. Earth dist.	15562 Oct 11 07:04	4° \mathcal{B} 19'59	8.44587 AU	minimum elong	15568 Jun 24 01:45	16° Θ 03'42	1°27'36
direct	15562 Dec 18 13:41	0° \mathcal{B} 56'25		max. Earth dist.	15568 Jun 23 16:31	16° Θ 00'47	10.41705 AU
evening set	15563 Apr 02 02:35	8° \mathcal{B} 43'15		morning rise	15568 Jul 11 04:31	18° Θ 12'26	
				retrograde	15568 Oct 21 07:42	25° Θ 53'01	
conjunction	15563 Apr 19 18:10	10° \mathcal{B} 54'33	0°12'35	opposition	15568 Dec 28 12:04	22° Θ 30'52	-1°54'21
minimum elong	15563 Apr 19 18:11	10° \mathcal{B} 54'34	0°12'05	min. Earth dist.	15568 Dec 28 18:17	22° Θ 29'39	8.42395 AU
behind sun begin	15563 Apr 19 13:19	10° \mathcal{B} 53'03		direct	15569 Mar 07 19:35	19° Θ 05'50	
behind sun end	15563 Apr 19 23:03	10° \mathcal{B} 56'04		evening set	15569 Jun 20 05:29	26° Θ 54'28	
max. Earth dist.	15563 Apr 19 01:59	10° \mathcal{B} 49'31	10.43734 AU				
morning rise	15563 May 07 07:31	13° \mathcal{B} 05'18		conjunction	15569 Jul 07 08:17	29° Θ 03'05	-1°36'42
	15563 May 23 09:12	15° \mathcal{B}		minimum elong	15569 Jul 07 08:17	29° Θ 03'04	1°37'31
retrograde	15563 Aug 17 10:03	20° \mathcal{B} 43'50		max. Earth dist.	15569 Jul 07 02:04	29° Θ 01'07	10.43061 AU
opposition	15563 Oct 24 01:42	17° \mathcal{B} 21'04	0°01'15		15569 Jul 14 21:04	0° \mathcal{Q}	
min. Earth dist.	15563 Oct 24 14:56	17° \mathcal{B} 18'27	8.43018 AU	morning rise	15569 Jul 24 09:20	1° \mathcal{Q} 11'10	
desc. node	15563 Nov 09 06:52	16° \mathcal{B} 06'01		retrograde	15569 Nov 03 15:27	8° \mathcal{Q} 51'34	
	15563 Nov 25 22:41	15° \mathcal{R} \mathcal{B}		opposition	15570 Jan 11 01:46	5° \mathcal{Q} 29'19	-2°03'39
direct	15563 Dec 31 23:51	13° \mathcal{B} 54'59		min. Earth dist.	15570 Jan 11 05:26	5° \mathcal{Q} 28'37	8.44069 AU
	15564 Feb 05 16:40	15° \mathcal{B}		direct	15570 Mar 21 09:49	2° \mathcal{Q} 04'42	
evening set	15564 Apr 14 17:08	21° \mathcal{B} 43'36		evening set	15570 Jul 03 11:30	9° \mathcal{Q} 51'03	
conjunction	15564 May 02 07:10	23° \mathcal{B} 54'50	-0°10'37	conjunction	15570 Jul 20 12:31	11° \mathcal{Q} 58'55	-1°41'43
minimum elong	15564 May 02 07:10	23° \mathcal{B} 54'49	0°11'16	minimum elong	15570 Jul 20 12:31	11° \mathcal{Q} 58'55	1°42'26
behind sun begin	15564 May 02 01:53	23° \mathcal{B} 53'11		max. Earth dist.	15570 Jul 20 09:42	11° \mathcal{Q} 58'02	10.45007 AU
behind sun end	15564 May 02 12:26	23° \mathcal{B} 56'27		morning rise	15570 Aug 06 12:23	14° \mathcal{Q} 06'24	
max. Earth dist.	15564 May 01 13:54	23° \mathcal{B} 49'26	10.42384 AU		15570 Aug 13 20:13	15° \mathcal{Q}	
morning rise	15564 May 19 18:52	26° \mathcal{B} 05'26		retrograde	15570 Nov 16 21:40	21° \mathcal{Q} 46'20	
	15564 Jun 23 05:10	0° \mathcal{I}		opposition	15571 Jan 24 14:50	18° \mathcal{Q} 23'54	-2°06'37
retrograde	15564 Aug 29 17:21	3° \mathcal{I} 44'19		min. Earth dist.	15571 Jan 24 15:12	18° \mathcal{Q} 23'50	8.46278 AU
opposition	15564 Nov 05 10:22	0° \mathcal{I} 21'47	-0°27'16		15571 Apr 01 20:54	15° \mathcal{R} \mathcal{Q}	
min. Earth dist.	15564 Nov 05 23:55	0° \mathcal{I} 19'06	8.41882 AU	direct	15571 Apr 03 23:37	14° \mathcal{Q} 59'46	
	15564 Nov 10 01:01	30° \mathcal{R} \mathcal{B}			15571 Apr 06 02:14	15° \mathcal{Q}	
direct	15565 Jan 13 12:11	26° \mathcal{B} 55'40		evening set	15571 Jul 16 14:21	22° \mathcal{Q} 43'07	
	15565 Mar 16 03:59	0° \mathcal{I}					
evening set	15565 Apr 28 07:18	4° \mathcal{I} 45'32		conjunction	15571 Aug 02 14:11	24° \mathcal{Q} 50'17	-1°41'36
				minimum elong	15571 Aug 02 14:12	24° \mathcal{Q} 50'18	1°42'12
conjunction	15565 May 15 19:24	6° \mathcal{I} 56'32	-0°33'13	max. Earth dist.	15571 Aug 02 15:47	24° \mathcal{Q} 50'47	10.47444 AU
minimum elong	15565 May 15 19:22	6° \mathcal{I} 56'32	0°33'59	morning rise	15571 Aug 19 13:19	26° \mathcal{Q} 57'14	
max. Earth dist.	15565 May 15 02:25	6° \mathcal{I} 51'12	10.41441 AU		15571 Sep 14 16:57	0° \mathcal{P}	
morning rise	15565 Jun 02 05:05	9° \mathcal{I} 06'50		retrograde	15571 Nov 30 03:46	4° \mathcal{P} 36'25	
retrograde	15565 Sep 12 02:16	16° \mathcal{I} 46'15		opposition	15572 Feb 07 02:31	1° \mathcal{P} 13'46	-2°03'14
opposition	15565 Nov 18 20:47	13° \mathcal{I} 23'54	-0°54'27	min. Earth dist.	15572 Feb 06 22:57	1° \mathcal{P} 14'27	8.48911 AU
min. Earth dist.	15565 Nov 19 09:32	13° \mathcal{I} 21'24	8.41161 AU		15572 Feb 23 09:02	30° \mathcal{R} \mathcal{Q}	
direct	15566 Jan 27 01:03	9° \mathcal{I} 57'54		direct	15572 Apr 16 10:37	27° \mathcal{Q} 50'10	
evening set	15566 May 11 21:04	17° \mathcal{I} 48'36			15572 Jun 06 12:20	0° \mathcal{P}	
				evening set	15572 Jul 28 14:14	5° \mathcal{P} 30'02	
conjunction	15566 May 29 06:58	19° \mathcal{I} 59'12	-0°54'09	conjunction	15572 Aug 14 13:33	7° \mathcal{P} 36'37	-1°36'27
minimum elong	15566 May 29 06:56	19° \mathcal{I} 59'11	0°54'59	minimum elong	15572 Aug 14 13:34	7° \mathcal{P} 36'37	1°36'53
max. Earth dist.	15566 May 28 15:45	19° \mathcal{I} 54'24	10.40940 AU	max. Earth dist.	15572 Aug 14 19:42	7° \mathcal{P} 38'32	10.50249 AU
morning rise	15566 Jun 15 14:18	22° \mathcal{I} 09'05		morning rise	15572 Aug 31 12:31	9° \mathcal{P} 43'06	
retrograde	15566 Sep 25 11:30	29° \mathcal{I} 49'03		retrograde	15572 Dec 12 08:54	17° \mathcal{P} 21'16	
opposition	15566 Dec 02 08:43	26° \mathcal{I} 26'50	-1°18'51	opposition	15573 Feb 19 12:12	13° \mathcal{P} 58'24	-1°53'47
min. Earth dist.	15566 Dec 02 19:31	26° \mathcal{I} 24'43	8.40944 AU	min. Earth dist.	15573 Feb 19 05:14	13° \mathcal{P} 59'45	8.51832 AU
direct	15567 Feb 09 15:19	23° \mathcal{I} 01'06		direct	15573 Apr 29 17:30	10° \mathcal{P} 35'22	
	15567 May 18 07:29	0° Θ		evening set	15573 Aug 10 11:20	18° \mathcal{P} 11'31	
evening set	15567 May 25 09:48	0° Θ 51'58					

conjunction	15573 Aug 27 10:37	20° \mathbb{M} 17'36	-1°26'36	retrograde	15579 Feb 27 02:58	2° \mathbb{A} 10'53	
minimum elong	15573 Aug 27 10:39	20° \mathbb{M} 17'37	1°26'51		15579 Apr 21 18:17	30° $\mathbb{R}\mathbb{M}$	
max. Earth dist.	15573 Aug 27 20:22	20° \mathbb{M} 20'39	10.53272 AU	opposition	15579 May 07 21:11	28° \mathbb{M} 47'10	0°23'34
morning rise	15573 Sep 13 10:04	22° \mathbb{M} 23'46		min. Earth dist.	15579 May 07 06:23	28° \mathbb{M} 50'01	8.67146 AU
	15573 Dec 21 15:26	0° \mathbb{A}		direct	15579 Jul 15 09:56	25° \mathbb{M} 26'24	
retrograde	15573 Dec 25 11:02	0° \mathbb{A} 00'45			15579 Sep 29 23:18	0° \mathbb{A}	
	15573 Dec 29 06:58	30° $\mathbb{R}\mathbb{M}$		evening set	15579 Oct 24 08:30	2° \mathbb{A} 46'08	
opposition	15574 Mar 04 19:47	26° \mathbb{M} 37'42	-1°38'50				
min. Earth dist.	15574 Mar 04 10:19	26° \mathbb{M} 39'31	8.54884 AU	conjunction	15579 Nov 10 13:53	4° \mathbb{A} 51'16	0°29'34
direct	15574 May 12 23:02	23° \mathbb{M} 15'13		minimum elong	15579 Nov 10 13:52	4° \mathbb{A} 51'16	0°30'19
	15574 Aug 16 15:36	0° \mathbb{A}		max. Earth dist.	15579 Nov 11 06:44	4° \mathbb{A} 56'24	10.67750 AU
evening set	15574 Aug 23 05:57	0° \mathbb{A} 47'38		morning rise	15579 Nov 27 21:51	6° \mathbb{A} 57'08	
				retrograde	15580 Mar 10 21:18	14° \mathbb{A} 28'42	
conjunction	15574 Sep 09 05:32	2° \mathbb{A} 53'20	-1°12'38	opposition	15580 May 19 15:16	11° \mathbb{A} 04'58	0°49'23
minimum elong	15574 Sep 09 05:35	2° \mathbb{A} 53'20	1°12'40	min. Earth dist.	15580 May 19 01:52	11° \mathbb{A} 07'33	8.68246 AU
max. Earth dist.	15574 Sep 09 17:40	2° \mathbb{A} 57'05	10.56352 AU	direct	15580 Jul 27 02:01	7° \mathbb{A} 44'10	
morning rise	15574 Sep 26 06:02	4° \mathbb{A} 59'15		evening set	15580 Nov 04 23:56	15° \mathbb{A} 03'25	
retrograde	15575 Jan 07 11:57	12° \mathbb{A} 35'02					
opposition	15575 Mar 18 01:00	9° \mathbb{A} 11'48	-1°19'15	conjunction	15580 Nov 22 06:34	17° \mathbb{A} 08'41	0°49'44
min. Earth dist.	15575 Mar 17 13:52	9° \mathbb{A} 13'57	8.57916 AU	minimum elong	15580 Nov 22 06:33	17° \mathbb{A} 08'40	0°50'34
direct	15575 May 26 01:45	5° \mathbb{A} 49'50		max. Earth dist.	15580 Nov 22 21:43	17° \mathbb{A} 13'17	10.68536 AU
evening set	15575 Sep 04 22:33	13° \mathbb{A} 18'41		morning rise	15580 Dec 09 15:52	19° \mathbb{A} 14'40	
				retrograde	15581 Mar 23 16:22	26° \mathbb{A} 46'03	
conjunction	15575 Sep 21 22:56	15° \mathbb{A} 24'06	-0°55'17	opposition	15581 Jun 01 07:51	23° \mathbb{A} 22'18	1°12'55
minimum elong	15575 Sep 21 22:58	15° \mathbb{A} 24'06	0°55'08	min. Earth dist.	15581 May 31 20:02	23° \mathbb{A} 24'35	8.68740 AU
max. Earth dist.	15575 Sep 22 12:57	15° \mathbb{A} 28'26	10.59342 AU	direct	15581 Aug 08 17:28	20° \mathbb{A} 01'23	
morning rise	15575 Oct 09 00:49	17° \mathbb{A} 29'54		evening set	15581 Nov 17 16:38	27° \mathbb{A} 20'51	
retrograde	15576 Jan 20 11:07	25° \mathbb{A} 04'29					
opposition	15576 Mar 30 03:37	21° \mathbb{A} 41'06	-0°56'03	conjunction	15581 Dec 05 00:34	29° \mathbb{A} 26'19	1°07'36
min. Earth dist.	15576 Mar 29 14:45	21° \mathbb{A} 43'34	8.60786 AU	minimum elong	15581 Dec 05 00:32	29° \mathbb{A} 26'18	1°08'29
direct	15576 Jun 07 01:10	18° \mathbb{A} 19'34		max. Earth dist.	15581 Dec 05 14:16	29° \mathbb{A} 30'28	10.68693 AU
evening set	15576 Sep 16 13:36	25° \mathbb{A} 45'14			15581 Dec 09 15:27	0° \mathbb{B}	
				morning rise	15581 Dec 22 10:55	1° \mathbb{B} 32'28	
conjunction	15576 Oct 03 15:12	27° \mathbb{A} 50'28	-0°35'25	retrograde	15582 Apr 05 12:02	9° \mathbb{B} 03'56	
minimum elong	15576 Oct 03 15:13	27° \mathbb{A} 50'29	0°35'05	opposition	15582 Jun 13 23:36	5° \mathbb{B} 40'10	1°33'06
max. Earth dist.	15576 Oct 04 07:19	27° \mathbb{A} 55'26	10.62091 AU	min. Earth dist.	15582 Jun 13 13:09	5° \mathbb{B} 42'12	8.68593 AU
morning rise	15576 Oct 20 18:35	29° \mathbb{A} 56'13		direct	15582 Aug 21 07:30	2° \mathbb{B} 19'00	
	15576 Oct 21 07:11	0° \mathbb{M}		evening set	15582 Nov 30 10:53	9° \mathbb{B} 39'20	
retrograde	15577 Feb 01 07:58	7° \mathbb{M} 29'44					
opposition	15577 Apr 12 03:40	4° \mathbb{M} 06'12	-0°30'22	conjunction	15582 Dec 17 20:05	11° \mathbb{B} 45'05	1°22'24
min. Earth dist.	15577 Apr 11 13:13	4° \mathbb{M} 08'58	8.63348 AU	minimum elong	15582 Dec 17 20:04	11° \mathbb{B} 45'05	1°23'17
direct	15577 Jun 19 23:38	0° \mathbb{M} 45'02		max. Earth dist.	15582 Dec 18 07:39	11° \mathbb{B} 48'36	10.68188 AU
evening set	15577 Sep 29 03:53	8° \mathbb{M} 08'03		morning rise	15583 Jan 04 07:23	13° \mathbb{B} 51'30	
				retrograde	15583 Apr 18 07:49	21° \mathbb{B} 23'13	
conjunction	15577 Oct 16 06:48	10° \mathbb{M} 13'12	-0°14'01	opposition	15583 Jun 26 14:53	17° \mathbb{B} 59'25	1°49'03
minimum elong	15577 Oct 16 06:48	10° \mathbb{M} 13'12	0°13'31	min. Earth dist.	15583 Jun 26 06:48	18° \mathbb{B} 01'00	8.67763 AU
behind sun begin	15577 Oct 16 02:49	10° \mathbb{M} 11'59		direct	15583 Sep 02 21:51	14° \mathbb{B} 37'51	
behind sun end	15577 Oct 16 10:47	10° \mathbb{M} 14'24		evening set	15583 Dec 13 07:16	21° \mathbb{B} 59'42	
max. Earth dist.	15577 Oct 17 00:36	10° \mathbb{M} 18'39	10.64464 AU				
morning rise	15577 Nov 02 11:38	12° \mathbb{M} 18'54		conjunction	15583 Dec 30 17:37	24° \mathbb{B} 05'52	1°33'25
	15577 Nov 25 22:17	15° \mathbb{M}		minimum elong	15583 Dec 30 17:36	24° \mathbb{B} 05'52	1°34'15
retrograde	15578 Feb 14 05:49	19° \mathbb{M} 51'34		max. Earth dist.	15583 Dec 31 01:18	24° \mathbb{B} 08'12	10.66985 AU
min. Earth dist.	15578 Apr 24 10:02	16° \mathbb{M} 30'52	8.65492 AU	morning rise	15584 Jan 17 05:51	26° \mathbb{B} 12'36	
opposition	15578 Apr 25 01:22	16° \mathbb{M} 27'55	-0°03'25		15584 Feb 20 16:32	0° \mathbb{B}	
	15578 May 14 18:42	15° $\mathbb{R}\mathbb{M}$		retrograde	15584 Apr 30 04:55	3° \mathbb{B} 44'42	
asc. node	15578 Jun 11 01:56	13° \mathbb{M} 30'59		opposition	15584 Jul 08 06:01	0° \mathbb{B} 20'56	2°00'01
direct	15578 Jul 02 18:21	13° \mathbb{M} 07'01		min. Earth dist.	15584 Jul 08 01:28	0° \mathbb{B} 21'49	8.66216 AU
	15578 Aug 19 04:52	15° \mathbb{M}			15584 Jul 12 17:24	30° $\mathbb{R}\mathbb{B}$	
evening set	15578 Oct 11 18:03	20° \mathbb{M} 28'01		direct	15584 Sep 14 11:48	26° \mathbb{B} 58'48	
					15584 Nov 14 13:05	0° \mathbb{B}	
conjunction	15578 Oct 28 22:13	22° \mathbb{M} 33'08	0°08'03	evening set	15584 Dec 25 05:42	4° \mathbb{B} 22'50	
minimum elong	15578 Oct 28 22:13	22° \mathbb{M} 33'08	0°08'41				
behind sun begin	15578 Oct 28 16:02	22° \mathbb{M} 31'16		conjunction	15585 Jan 11 17:11	6° \mathbb{B} 29'31	1°40'08
behind sun end	15578 Oct 29 04:23	22° \mathbb{M} 35'00		minimum elong	15585 Jan 11 17:11	6° \mathbb{B} 29'31	1°40'54
max. Earth dist.	15578 Oct 29 16:18	22° \mathbb{M} 38'39	10.66372 AU	max. Earth dist.	15585 Jan 11 19:59	6° \mathbb{B} 30'22	10.65071 AU
morning rise	15578 Nov 15 04:36	24° \mathbb{M} 38'54		morning rise	15585 Jan 29 06:23	8° \mathbb{B} 36'42	
	15579 Jan 05 23:44	0° \mathbb{A}			15585 Apr 05 21:02	15° \mathbb{B}	

retrograde	15585 May 13 01:42	16° \approx 09'26		retrograde	15591 Jul 29 11:04	2° \mathcal{B} 12'33	
	15585 Jun 19 14:16	15° \mathcal{R} \approx			15591 Sep 20 00:03	30° \mathcal{R} \mathcal{Y}	
opposition	15585 Jul 20 21:51	12° \approx 45'41	2°05'28	opposition	15591 Oct 05 05:35	28° \mathcal{Y} 49'13	0°41'46
min. Earth dist.	15585 Jul 20 21:06	12° \approx 45'50	8.63979 AU	min. Earth dist.	15591 Oct 05 18:58	28° \mathcal{Y} 46'34	8.45904 AU
direct	15585 Sep 27 03:55	9° \approx 22'57		direct	15591 Dec 13 00:49	25° \mathcal{Y} 23'03	
	15585 Dec 22 12:01	15° \approx			15592 Feb 28 03:23	0° \mathcal{B}	
evening set	15586 Jan 07 06:13	16° \approx 49'43		evening set	15592 Mar 26 08:23	3° \mathcal{B} 08'12	
				max. Earth dist.	15592 Apr 12 06:58	5° \mathcal{B} 13'55	10.44695 AU
conjunction	15586 Jan 24 18:58	18° \approx 57'02	1°42'11				
minimum elong	15586 Jan 24 18:59	18° \approx 57'03	1°42'49	conjunction	15592 Apr 13 00:22	5° \mathcal{B} 19'20	0°22'44
max. Earth dist.	15586 Jan 24 17:38	18° \approx 56'38	10.62543 AU	minimum elong	15592 Apr 13 00:23	5° \mathcal{B} 19'20	0°22'18
morning rise	15586 Feb 11 09:02	21° \approx 04'45		morning rise	15592 Apr 30 14:26	7° \mathcal{B} 29'58	
retrograde	15586 May 25 23:03	28° \approx 38'20			15592 Jul 29 17:06	15° \mathcal{B}	
opposition	15586 Aug 02 14:40	25° \approx 14'36	2°05'03	retrograde	15592 Aug 10 16:25	15° \mathcal{B} 07'47	
min. Earth dist.	15586 Aug 02 16:51	25° \approx 14'10	8.61212 AU		15592 Aug 22 18:13	15° \mathcal{R} \mathcal{B}	
direct	15586 Oct 09 22:38	21° \approx 51'14		opposition	15592 Oct 17 10:21	11° \mathcal{B} 44'34	0°14'03
evening set	15587 Jan 20 09:18	29° \approx 21'03		min. Earth dist.	15592 Oct 17 23:44	11° \mathcal{B} 41'55	8.43646 AU
	15587 Jan 25 18:49	0° \mathcal{H}		direct	15592 Dec 25 09:30	8° \mathcal{B} 18'09	
					15593 Mar 30 20:31	15° \mathcal{B}	
conjunction	15587 Feb 06 23:23	1° \mathcal{H} 29'08	1°39'24	evening set	15593 Apr 08 21:49	16° \mathcal{B} 05'31	
minimum elong	15587 Feb 06 23:25	1° \mathcal{H} 29'09	1°39'53	desc. node	15593 Apr 23 12:06	17° \mathcal{B} 54'02	
max. Earth dist.	15587 Feb 06 18:49	1° \mathcal{H} 27'44	10.59593 AU				
morning rise	15587 Feb 24 14:07	3° \mathcal{H} 37'27		conjunction	15593 Apr 26 12:44	18° \mathcal{B} 16'45	-0°00'13
retrograde	15587 Jun 07 23:16	11° \mathcal{H} 11'51		minimum elong	15593 Apr 26 12:44	18° \mathcal{B} 16'45	0°00'48
opposition	15587 Aug 15 08:45	7° \mathcal{H} 48'09	1°58'42	behind sun begin	15593 Apr 26 05:32	18° \mathcal{B} 14'32	
min. Earth dist.	15587 Aug 15 13:23	7° \mathcal{H} 47'14	8.58114 AU	behind sun end	15593 Apr 26 19:56	18° \mathcal{B} 18'59	
direct	15587 Oct 22 17:45	4° \mathcal{H} 24'08		max. Earth dist.	15593 Apr 25 19:48	18° \mathcal{B} 11'28	10.42713 AU
evening set	15588 Feb 02 14:52	11° \mathcal{H} 57'12		morning rise	15593 May 14 01:14	20° \mathcal{B} 27'23	
				retrograde	15593 Aug 24 00:16	28° \mathcal{B} 05'49	
conjunction	15588 Feb 20 06:06	14° \mathcal{H} 06'03	1°31'50	opposition	15593 Oct 30 17:19	24° \mathcal{B} 42'44	-0°14'31
minimum elong	15588 Feb 20 06:08	14° \mathcal{H} 06'04	1°32'09	min. Earth dist.	15593 Oct 31 06:23	24° \mathcal{B} 40'09	8.41961 AU
max. Earth dist.	15588 Feb 19 22:24	14° \mathcal{H} 03'42	10.56412 AU	direct	15594 Jan 07 18:41	21° \mathcal{B} 16'12	
morning rise	15588 Mar 08 21:17	16° \mathcal{H} 14'59		evening set	15594 Apr 22 11:33	29° \mathcal{B} 05'14	
retrograde	15588 Jun 20 00:53	23° \mathcal{H} 50'10			15594 Apr 29 20:40	0° \mathcal{I}	
opposition	15588 Aug 27 04:46	20° \mathcal{H} 26'31	1°46'35	max. Earth dist.	15594 May 09 08:24	1° \mathcal{I} 11'15	10.41343 AU
min. Earth dist.	15588 Aug 27 11:49	20° \mathcal{H} 25'07	8.54867 AU				
direct	15588 Nov 03 15:10	17° \mathcal{H} 01'53		conjunction	15594 May 10 00:48	1° \mathcal{I} 16'23	-0°23'09
evening set	15589 Feb 14 22:33	24° \mathcal{H} 38'13		minimum elong	15594 May 10 00:47	1° \mathcal{I} 16'23	0°23'52
				morning rise	15594 May 27 11:22	3° \mathcal{I} 26'50	
conjunction	15589 Mar 04 14:35	26° \mathcal{H} 47'48	1°19'46	retrograde	15594 Sep 06 09:24	11° \mathcal{I} 05'47	
minimum elong	15589 Mar 04 14:37	26° \mathcal{H} 47'49	1°19'54	opposition	15594 Nov 13 02:22	7° \mathcal{I} 42'54	-0°42'25
max. Earth dist.	15589 Mar 04 03:31	26° \mathcal{H} 44'24	10.53176 AU	min. Earth dist.	15594 Nov 13 15:03	7° \mathcal{I} 40'24	8.40935 AU
morning rise	15589 Mar 22 06:03	28° \mathcal{H} 57'19		direct	15595 Jan 21 04:55	4° \mathcal{I} 16'24	
	15589 Mar 31 00:53	0° \mathcal{Y}		evening set	15595 May 06 01:08	12° \mathcal{I} 06'33	
retrograde	15589 Jul 03 03:04	6° \mathcal{Y} 33'15					
opposition	15589 Sep 09 02:54	3° \mathcal{Y} 09'41	1°29'11	conjunction	15595 May 23 12:07	14° \mathcal{I} 17'21	-0°44'57
min. Earth dist.	15589 Sep 09 12:42	3° \mathcal{Y} 07'45	8.51646 AU	minimum elong	15595 May 23 12:05	14° \mathcal{I} 17'20	0°45'45
	15589 Oct 30 10:05	30° \mathcal{R} \mathcal{H}		max. Earth dist.	15595 May 22 20:36	14° \mathcal{I} 12'28	10.40654 AU
direct	15589 Nov 16 15:44	29° \mathcal{H} 44'27		morning rise	15595 Jun 09 20:29	16° \mathcal{I} 27'26	
	15589 Dec 03 21:16	0° \mathcal{Y}		retrograde	15595 Sep 19 16:44	24° \mathcal{I} 06'51	
evening set	15590 Feb 28 08:19	7° \mathcal{Y} 23'58		opposition	15595 Nov 26 13:10	20° \mathcal{I} 44'11	-1°08'12
max. Earth dist.	15590 Mar 17 10:18	9° \mathcal{Y} 29'45	10.50053 AU	min. Earth dist.	15595 Nov 27 00:54	20° \mathcal{I} 41'52	8.40625 AU
				direct	15596 Feb 03 18:57	17° \mathcal{I} 17'54	
conjunction	15590 Mar 18 00:46	9° \mathcal{Y} 34'14	1°03'42	evening set	15596 May 18 13:45	25° \mathcal{I} 08'27	
minimum elong	15590 Mar 18 00:48	9° \mathcal{Y} 34'14	1°03'38				
morning rise	15590 Apr 04 16:18	11° \mathcal{Y} 44'16		conjunction	15596 Jun 04 22:16	27° \mathcal{I} 18'42	-1°04'27
retrograde	15590 Jul 16 06:50	19° \mathcal{Y} 20'51		minimum elong	15596 Jun 04 22:14	27° \mathcal{I} 18'41	1°05'19
opposition	15590 Sep 22 03:05	15° \mathcal{Y} 57'24	1°07'14	max. Earth dist.	15596 Jun 04 08:28	27° \mathcal{I} 14'21	10.40695 AU
min. Earth dist.	15590 Sep 22 15:14	15° \mathcal{Y} 54'59	8.48614 AU	morning rise	15596 Jun 22 04:23	29° \mathcal{I} 28'15	
direct	15590 Nov 29 18:31	12° \mathcal{Y} 31'38			15596 Jun 26 11:53	0° \mathcal{E}	
evening set	15591 Mar 13 19:46	20° \mathcal{Y} 14'08		retrograde	15596 Oct 02 00:56	7° \mathcal{E} 08'04	
				opposition	15596 Dec 09 01:17	3° \mathcal{E} 45'35	-1°30'28
conjunction	15591 Mar 31 12:15	22° \mathcal{Y} 24'56	0°44'22	min. Earth dist.	15596 Dec 09 11:02	3° \mathcal{E} 43'40	8.41054 AU
minimum elong	15591 Mar 31 12:17	22° \mathcal{Y} 24'56	0°44'07	direct	15597 Feb 16 09:23	0° \mathcal{E} 19'41	
max. Earth dist.	15591 Mar 30 19:34	22° \mathcal{Y} 19'45	10.47185 AU	evening set	15597 Jun 01 00:45	8° \mathcal{E} 09'49	
morning rise	15591 Apr 18 03:22	24° \mathcal{Y} 35'21					
	15591 Jun 08 09:25	0° \mathcal{B}		conjunction	15597 Jun 18 06:50	10° \mathcal{E} 19'24	-1°20'38

minimum elong	15597 Jun 18 06:48	10°☾19'24	1°21'31
max. Earth dist.	15597 Jun 17 20:09	10°☾16'02	10.41462 AU
morning rise	15597 Jul 05 10:44	12°☾28'21	
retrograde	15597 Oct 15 10:09	20°☾08'21	
opposition	15597 Dec 22 14:09	16°☾46'00	-1°48'03
min. Earth dist.	15597 Dec 22 20:51	16°☾44'42	8.42184 AU
direct	15598 Mar 01 23:06	13°☾20'38	
evening set	15598 Jun 14 09:52	21°☾09'32	
conjunction	15598 Jul 01 13:43	23°☾18'23	-1°32'40
minimum elong	15598 Jul 01 13:42	23°☾18'23	1°33'31
max. Earth dist.	15598 Jul 01 07:05	23°☾16'18	10.42902 AU
morning rise	15598 Jul 18 15:31	25°☾26'40	
	15598 Aug 28 12:27	0°♈	
retrograde	15598 Oct 28 18:47	3°♈06'36	
	15599 Jan 01 18:45	30°♈☾	
opposition	15599 Jan 05 03:14	29°☾44'21	-2°00'03
min. Earth dist.	15599 Jan 05 06:39	29°☾43'41	8.43954 AU
direct	15599 Mar 15 12:07	26°☾19'36	
	15599 May 22 09:40	0°♈	
evening set	15599 Jun 27 16:33	4°♈06'30	
conjunction	15599 Jul 14 18:27	6°♈14'35	-1°39'58
minimum elong	15599 Jul 14 18:26	6°♈14'34	1°40'44
max. Earth dist.	15599 Jul 14 15:58	6°♈13'48	10.44956 AU
morning rise	15599 Jul 31 18:37	8°♈22'11	
	15599 Oct 07 15:01	15°♈	
retrograde	15599 Nov 11 02:23	16°♈01'46	
	15599 Dec 16 06:01	15°♈♈	
opposition	15600 Jan 18 16:10	12°♈39'35	-2°05'54
min. Earth dist.	15600 Jan 18 16:27	12°♈39'32	8.46290 AU
direct	15600 Mar 28 00:46	9°♈15'29	
	15600 Jun 23 03:08	15°♈	
evening set	15600 Jul 09 20:22	16°♈59'40	
conjunction	15600 Jul 26 20:43	19°♈07'00	-1°42'12
minimum elong	15600 Jul 26 20:44	19°♈07'00	1°42'51
max. Earth dist.	15600 Jul 26 21:51	19°♈07'21	10.47532 AU
morning rise	15600 Aug 12 19:58	21°♈14'01	
retrograde	15600 Nov 23 09:08	28°♈52'57	
opposition	15601 Jan 31 04:07	25°♈30'46	-2°05'25
min. Earth dist.	15601 Jan 31 01:50	25°♈31'12	8.49082 AU
direct	15601 Apr 10 11:14	22°♈07'20	
evening set	15601 Jul 22 21:27	29°♈48'15	
	15601 Jul 24 11:43	0°♏	
conjunction	15601 Aug 08 20:48	1°♏54'54	-1°39'21
minimum elong	15601 Aug 08 20:49	1°♏54'55	1°39'50
max. Earth dist.	15601 Aug 09 00:55	1°♏56'12	10.50504 AU
morning rise	15601 Aug 25 19:46	4°♏01'25	
retrograde	15601 Dec 06 13:30	11°♏39'22	