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| opposition | 14100 Jan 20 21:46 | 12°044'56 -0°40'02 | max. Earth dist. | 14105 Aug 14 08:56 | 4°04'56'55 20.96882 AU |
| min. Earth dist. | 14100 Jan 20 14:50 | 12°045'38 18.80381 AU | morning rise | 14105 Aug 29 19:35 | 5°04'50'01 |
| direct | 14100 Apr 07 22:26 | 10°046'13 | retrograde | 14105 Nov 30 04:57 | 8°04'54'50 |
| evening set | 14100 Jul 08 21:56 | 13°051'41 | opposition | 14106 Feb 15 09:32 | 6°04'56'52 -0°11'05 |
| | | | min. Earth dist. | 14106 Feb 15 00:49 | 6°04'57'45 18.97911 AU |
| conjunction | 14100 Jul 24 17:33 | 14°046'32 -0°34'07 | direct | 14106 May 03 03:31 | 4°04'59'10 |
| minimum elong | 14100 Jul 24 17:33 | 14°046'32 0°34'56 | evening set | 14106 Aug 02 08:57 | 8°04'01'27 |
| max. Earth dist. | 14100 Jul 25 01:11 | 14°047'38 20.82247 AU | | | |
| | 14100 Jul 28 14:03 | 15°04 | conjunction | 14106 Aug 18 04:41 | 8°04'55'46 -0°07'44 |
| morning rise | 14100 Aug 09 13:07 | 15°041'22 | minimum elong | 14106 Aug 18 04:41 | 8°04'55'46 0°08'14 |
| retrograde | 14100 Nov 09 14:58 | 18°047'05 | behind sun begin | 14106 Aug 17 22:51 | 8°04'54'57 |
| opposition | 14101 Jan 25 08:31 | 16°049'00 -0°35'32 | behind sun end | 14106 Aug 18 10:31 | 8°04'56'35 |
| min. Earth dist. | 14101 Jan 25 00:17 | 16°049'50 18.84042 AU | max. Earth dist. | 14106 Aug 18 13:56 | 8°04'57'05 20.98842 AU |
| | 14101 Mar 23 14:33 | 15°04 | morning rise | 14106 Sep 03 01:18 | 9°04'50'12 |
| direct | 14101 Apr 12 09:52 | 14°050'26 | retrograde | 14106 Dec 04 13:45 | 12°04'55'00 |
| | 14101 May 01 20:31 | 15°04 | opposition | 14107 Feb 19 18:24 | 10°04'57'04 -0°05'59 |
| evening set | 14101 Jul 13 04:37 | 17°055'13 | min. Earth dist. | 14107 Feb 19 08:46 | 10°04'58'02 18.99672 AU |
| | | | direct | 14107 May 07 11:23 | 8°04'59'30 |
| conjunction | 14101 Jul 29 00:11 | 18°049'56 -0°29'59 | evening set | 14107 Aug 06 14:10 | 12°04'01'29 |
| minimum elong | 14101 Jul 29 00:11 | 18°049'56 0°30'45 | | | |
| max. Earth dist. | 14101 Jul 29 08:32 | 18°051'09 20.85750 AU | conjunction | 14107 Aug 22 10:05 | 12°04'55'46 -0°03'08 |
| morning rise | 14101 Aug 13 19:46 | 19°044'40 | minimum elong | 14107 Aug 22 10:05 | 12°04'55'46 0°03'33 |
| retrograde | 14101 Nov 13 21:30 | 22°050'05 | behind sun begin | 14107 Aug 22 03:33 | 12°04'54'51 |
| opposition | 14102 Jan 29 19:07 | 20°052'01 -0°30'52 | behind sun end | 14107 Aug 22 16:37 | 12°04'56'40 |
| min. Earth dist. | 14102 Jan 29 11:31 | 20°052'46 18.87408 AU | max. Earth dist. | 14107 Aug 22 19:43 | 12°04'57'08 21.00386 AU |
| direct | 14102 Apr 16 18:36 | 18°053'36 | morning rise | 14107 Sep 07 06:55 | 13°04'50'12 |
| evening set | 14102 Jul 17 10:46 | 21°057'45 | retrograde | 14107 Dec 08 20:40 | 16°04'55'00 |
| | | | opposition | 14108 Feb 24 03:22 | 14°04'57'05 -0°00'51 |
| conjunction | 14102 Aug 02 06:17 | 22°052'21 -0°25'43 | min. Earth dist. | 14108 Feb 23 18:48 | 14°04'57'57 19.00997 AU |
| minimum elong | 14102 Aug 02 06:17 | 22°052'21 0°26'26 | asc. node | 14108 Apr 21 03:02 | 13°04'09'09 |
| max. Earth dist. | 14102 Aug 02 14:42 | 22°053'34 20.88982 AU | direct | 14108 May 10 17:25 | 12°04'59'41 |
| morning rise | 14102 Aug 18 02:04 | 23°047'00 | evening set | 14108 Aug 09 19:21 | 16°04'01'22 |
| retrograde | 14102 Nov 18 06:52 | 26°052'11 | | | |
| opposition | 14103 Feb 03 05:05 | 24°054'08 -0°26'04 | conjunction | 14108 Aug 25 15:21 | 16°04'55'38 0°01'37 |
| min. Earth dist. | 14103 Feb 02 20:06 | 24°055'02 18.90494 AU | minimum elong | 14108 Aug 25 15:21 | 16°04'55'38 0°01'17 |
| direct | 14103 Apr 21 04:29 | 22°055'53 | behind sun begin | 14108 Aug 25 08:47 | 16°04'54'43 |
| evening set | 14103 Jul 21 16:41 | 25°059'29 | behind sun end | 14108 Aug 25 21:56 | 16°04'56'33 |
| | | | max. Earth dist. | 14108 Aug 26 00:19 | 16°04'56'54 21.01485 AU |
| conjunction | 14103 Aug 06 12:14 | 26°054'00 -0°21'20 | morning rise | 14108 Sep 10 12:32 | 17°04'50'03 |
| minimum elong | 14103 Aug 06 12:15 | 26°054'00 0°21'59 | retrograde | 14108 Dec 12 05:50 | 20°04'54'57 |
| max. Earth dist. | 14103 Aug 06 21:21 | 26°055'18 20.91919 AU | opposition | 14109 Feb 27 12:07 | 18°04'57'01 0°04'17 |
| morning rise | 14103 Aug 22 08:07 | 27°048'34 | min. Earth dist. | 14109 Feb 27 02:53 | 18°04'57'56 19.01854 AU |
| | 14103 Oct 06 16:07 | 0°04 | direct | 14109 May 15 01:18 | 16°04'59'42 |
| retrograde | 14103 Nov 22 13:11 | 0°04'53'33 | evening set | 14109 Aug 14 00:37 | 20°04'01'11 |
| | 14104 Jan 10 05:58 | 30°04 | | | |
| opposition | 14104 Feb 07 14:45 | 28°055'32 -0°21'09 | conjunction | 14109 Aug 29 20:52 | 20°04'55'26 0°06'16 |
| min. Earth dist. | 14104 Feb 07 06:30 | 28°056'21 18.93288 AU | minimum elong | 14109 Aug 29 20:52 | 20°04'55'26 0°05'59 |
| direct | 14104 Apr 24 12:07 | 26°057'28 | behind sun begin | 14109 Aug 29 14:36 | 20°04'54'34 |
| evening set | 14104 Jul 24 22:21 | 0°04'00'35 | behind sun end | 14109 Aug 30 03:09 | 20°04'56'19 |
| | 14104 Jul 24 18:15 | 0°04 | max. Earth dist. | 14109 Aug 30 06:01 | 20°04'56'44 21.02081 AU |
| conjunction | 14104 Aug 09 17:54 | 0°04'55'00 -0°16'52 | morning rise | 14109 Sep 14 18:18 | 21°04'49'53 |
| minimum elong | 14104 Aug 09 17:55 | 0°04'55'00 0°17'29 | retrograde | 14109 Dec 16 12:50 | 24°04'54'53 |
| max. Earth dist. | 14104 Aug 10 02:51 | 0°04'56'17 20.94570 AU | opposition | 14110 Mar 03 20:55 | 22°04'56'54 0°09'24 |
| morning rise | 14104 Aug 25 14:02 | 1°04'49'31 | min. Earth dist. | 14110 Mar 03 12:55 | 22°04'57'42 19.02192 AU |
| retrograde | 14104 Nov 25 22:09 | 4°04'54'23 | direct | 14110 May 19 06:57 | 20°04'59'39 |
| opposition | 14105 Feb 11 00:09 | 2°04'56'24 -0°16'09 | evening set | 14110 Aug 18 05:52 | 24°04'00'57 |
| min. Earth dist. | 14105 Feb 10 14:39 | 2°04'57'21 18.95774 AU | conjunction | 14110 Sep 03 02:20 | 24°04'55'13 0°10'51 |
| direct | 14105 Apr 28 20:40 | 0°04'58'31 | minimum elong | 14110 Sep 03 02:20 | 24°04'55'13 0°10'40 |
| evening set | 14105 Jul 29 03:39 | 4°04'01'11 | behind sun begin | 14110 Sep 02 21:14 | 24°04'54'30 |
| | | | behind sun end | 14110 Sep 03 07:26 | 24°04'55'56 |
| conjunction | 14105 Aug 13 23:18 | 4°04'55'33 -0°12'19 | max. Earth dist. | 14110 Sep 03 10:30 | 24°04'56'22 21.02156 AU |
| minimum elong | 14105 Aug 13 23:18 | 4°04'55'33 0°12'52 | morning rise | 14110 Sep 19 00:13 | 25°04'49'42 |
| behind sun begin | 14105 Aug 13 19:11 | 4°04'54'58 | retrograde | 14110 Dec 20 22:08 | 28°04'54'49 |
| behind sun end | 14105 Aug 14 03:25 | 4°04'56'08 | opposition | 14111 Mar 08 05:30 | 26°04'56'44 0°14'29 |

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| min. Earth dist. | 14111 Mar 07 21:07 | 26° <u>᠓</u> 57'35 | 19.01989 AU | evening set | 14117 Sep 14 21:54 | 22° <u>᠒</u> 01'37 | |
| direct | 14111 May 23 14:57 | 24° <u>᠓</u> 59'30 | | | | | |
| evening set | 14111 Aug 22 11:15 | 28° <u>᠓</u> 00'40 | | conjunction | 14117 Sep 30 20:51 | 22° <u>᠒</u> 56'24 | 0°40'29 |
| | | | | minimum elong | 14117 Sep 30 20:51 | 22° <u>᠒</u> 56'24 | 0°40'48 |
| conjunction | 14111 Sep 07 08:02 | 28° <u>᠓</u> 54'58 | 0°15'24 | max. Earth dist. | 14117 Oct 01 03:40 | 22° <u>᠒</u> 57'23 | 20.89720 AU |
| minimum elong | 14111 Sep 07 08:02 | 28° <u>᠓</u> 54'58 | 0°15'16 | morning rise | 14117 Oct 16 21:45 | 23° <u>᠒</u> 51'31 | |
| behind sun begin | 14111 Sep 07 05:50 | 28° <u>᠓</u> 54'40 | | retrograde | 14118 Jan 18 09:30 | 26° <u>᠒</u> 58'43 | |
| behind sun end | 14111 Sep 07 10:14 | 28° <u>᠓</u> 55'17 | | opposition | 14118 Apr 05 17:15 | 24° <u>᠒</u> 59'27 | 0°46'51 |
| max. Earth dist. | 14111 Sep 07 16:13 | 28° <u>᠓</u> 56'08 | 21.01668 AU | min. Earth dist. | 14118 Apr 05 11:21 | 25° <u>᠒</u> 00'03 | 18.88210 AU |
| morning rise | 14111 Sep 23 06:12 | 29° <u>᠓</u> 49'29 | | direct | 14118 Jun 20 13:46 | 23° <u>᠒</u> 01'42 | |
| | 14111 Sep 26 09:32 | 0° <u>᠒</u> | | evening set | 14118 Sep 19 04:46 | 26° <u>᠒</u> 03'36 | |
| retrograde | 14111 Dec 25 05:18 | 2° <u>᠒</u> 54'46 | | | | | |
| opposition | 14112 Mar 11 14:03 | 0° <u>᠒</u> 56'33 | 0°19'29 | conjunction | 14118 Oct 05 04:06 | 26° <u>᠒</u> 58'32 | 0°44'06 |
| min. Earth dist. | 14112 Mar 11 06:57 | 0° <u>᠒</u> 57'16 | 19.01233 AU | minimum elong | 14118 Oct 05 04:06 | 26° <u>᠒</u> 58'32 | 0°44'28 |
| | 14112 Apr 05 02:43 | 30° <u>᠙</u> <u>᠓</u> | | max. Earth dist. | 14118 Oct 05 09:54 | 26° <u>᠒</u> 59'22 | 20.86601 AU |
| direct | 14112 May 26 20:59 | 28° <u>᠓</u> 59'17 | | morning rise | 14118 Oct 21 05:39 | 27° <u>᠒</u> 53'47 | |
| | 14112 Jul 15 16:55 | 0° <u>᠒</u> | | | 14118 Dec 03 03:06 | 0° <u>᠓</u> | |
| evening set | 14112 Aug 25 16:41 | 2° <u>᠒</u> 00'22 | | retrograde | 14119 Jan 22 21:10 | 1° <u>᠓</u> 01'30 | |
| | | | | | 14119 Mar 16 05:47 | 30° <u>᠙</u> <u>᠒</u> | |
| conjunction | 14112 Sep 10 13:42 | 2° <u>᠒</u> 54'42 | 0°19'52 | opposition | 14119 Apr 10 02:11 | 29° <u>᠒</u> 02'06 | 0°50'45 |
| minimum elong | 14112 Sep 10 13:42 | 2° <u>᠒</u> 54'42 | 0°19'49 | min. Earth dist. | 14119 Apr 09 20:04 | 29° <u>᠒</u> 02'43 | 18.84945 AU |
| max. Earth dist. | 14112 Sep 10 20:57 | 2° <u>᠒</u> 55'44 | 21.00669 AU | direct | 14119 Jun 24 20:53 | 27° <u>᠒</u> 04'16 | |
| morning rise | 14112 Sep 26 12:23 | 3° <u>᠒</u> 49'17 | | | 14119 Sep 21 13:20 | 0° <u>᠓</u> | |
| retrograde | 14112 Dec 28 14:20 | 6° <u>᠒</u> 54'45 | | evening set | 14119 Sep 23 12:04 | 0° <u>᠓</u> 06'34 | |
| opposition | 14113 Mar 15 22:32 | 4° <u>᠒</u> 56'22 | 0°24'24 | | | | |
| min. Earth dist. | 14113 Mar 15 15:02 | 4° <u>᠒</u> 57'07 | 18.99992 AU | conjunction | 14119 Oct 09 11:56 | 1° <u>᠓</u> 01'39 | 0°47'31 |
| direct | 14113 May 31 04:36 | 2° <u>᠒</u> 59'01 | | minimum elong | 14119 Oct 09 11:56 | 1° <u>᠓</u> 01'39 | 0°47'59 |
| evening set | 14113 Aug 29 22:00 | 6° <u>᠒</u> 00'03 | | max. Earth dist. | 14119 Oct 09 18:08 | 1° <u>᠓</u> 02'33 | 20.83175 AU |
| | | | | morning rise | 14119 Oct 25 13:52 | 1° <u>᠓</u> 57'04 | |
| conjunction | 14113 Sep 14 19:25 | 6° <u>᠒</u> 54'27 | 0°24'16 | retrograde | 14120 Jan 27 06:32 | 5° <u>᠓</u> 05'20 | |
| minimum elong | 14113 Sep 14 19:25 | 6° <u>᠒</u> 54'27 | 0°24'17 | opposition | 14120 Apr 13 11:27 | 3° <u>᠓</u> 05'49 | 0°54'26 |
| max. Earth dist. | 14113 Sep 15 03:02 | 6° <u>᠒</u> 55'32 | 20.99194 AU | min. Earth dist. | 14120 Apr 13 06:10 | 3° <u>᠓</u> 06'21 | 18.81369 AU |
| morning rise | 14113 Sep 30 18:27 | 7° <u>᠒</u> 49'06 | | direct | 14120 Jun 28 03:28 | 1° <u>᠓</u> 07'56 | |
| retrograde | 14114 Jan 01 21:49 | 10° <u>᠒</u> 54'49 | | evening set | 14120 Sep 26 20:00 | 4° <u>᠓</u> 10'41 | |
| opposition | 14114 Mar 20 07:05 | 8° <u>᠒</u> 56'14 | 0°29'12 | | | | |
| min. Earth dist. | 14114 Mar 20 00:35 | 8° <u>᠒</u> 56'53 | 18.98311 AU | conjunction | 14120 Oct 12 20:16 | 5° <u>᠓</u> 05'56 | 0°50'42 |
| direct | 14114 Jun 04 11:07 | 6° <u>᠒</u> 58'48 | | minimum elong | 14120 Oct 12 20:16 | 5° <u>᠓</u> 05'56 | 0°51'13 |
| evening set | 14114 Sep 03 03:40 | 9° <u>᠒</u> 59'51 | | max. Earth dist. | 14120 Oct 13 01:17 | 5° <u>᠓</u> 06'39 | 20.79458 AU |
| | | | | morning rise | 14120 Oct 28 22:52 | 6° <u>᠓</u> 01'32 | |
| conjunction | 14114 Sep 19 01:22 | 10° <u>᠒</u> 54'19 | 0°28'32 | retrograde | 14121 Jan 30 19:19 | 9° <u>᠓</u> 10'24 | |
| minimum elong | 14114 Sep 19 01:22 | 10° <u>᠒</u> 54'19 | 0°28'37 | opposition | 14121 Apr 17 21:04 | 7° <u>᠓</u> 10'45 | 0°57'51 |
| max. Earth dist. | 14114 Sep 19 08:09 | 10° <u>᠒</u> 55'17 | 20.97327 AU | min. Earth dist. | 14121 Apr 17 15:53 | 7° <u>᠓</u> 11'17 | 18.77495 AU |
| morning rise | 14114 Oct 05 00:57 | 11° <u>᠒</u> 49'04 | | direct | 14121 Jul 02 11:41 | 5° <u>᠓</u> 12'46 | |
| retrograde | 14115 Jan 06 07:05 | 14° <u>᠒</u> 55'04 | | evening set | 14121 Oct 01 04:25 | 8° <u>᠓</u> 16'02 | |
| opposition | 14115 Mar 24 15:20 | 12° <u>᠒</u> 56'17 | 0°33'53 | | | | |
| min. Earth dist. | 14115 Mar 24 08:23 | 12° <u>᠒</u> 56'59 | 18.96265 AU | conjunction | 14121 Oct 17 05:20 | 9° <u>᠓</u> 11'29 | 0°53'39 |
| direct | 14115 Jun 08 17:52 | 10° <u>᠒</u> 58'46 | | minimum elong | 14121 Oct 17 05:19 | 9° <u>᠓</u> 11'29 | 0°54'14 |
| evening set | 14115 Sep 07 09:29 | 13° <u>᠒</u> 59'56 | | max. Earth dist. | 14121 Oct 17 10:36 | 9° <u>᠓</u> 12'15 | 20.75406 AU |
| | | | | morning rise | 14121 Nov 02 08:22 | 10° <u>᠓</u> 07'16 | |
| conjunction | 14115 Sep 23 07:37 | 14° <u>᠒</u> 54'29 | 0°32'41 | retrograde | 14122 Feb 04 05:51 | 13° <u>᠓</u> 16'46 | |
| minimum elong | 14115 Sep 23 07:37 | 14° <u>᠒</u> 54'29 | 0°32'51 | opposition | 14122 Apr 22 07:05 | 11° <u>᠓</u> 17'00 | 1°00'59 |
| max. Earth dist. | 14115 Sep 23 14:48 | 14° <u>᠒</u> 55'31 | 20.95097 AU | min. Earth dist. | 14122 Apr 22 02:54 | 11° <u>᠓</u> 17'25 | 18.73267 AU |
| morning rise | 14115 Oct 09 07:33 | 15° <u>᠒</u> 49'20 | | direct | 14122 Jul 06 19:01 | 9° <u>᠓</u> 18'54 | |
| retrograde | 14116 Jan 10 14:46 | 18° <u>᠒</u> 55'40 | | evening set | 14122 Oct 05 13:45 | 12° <u>᠓</u> 22'45 | |
| opposition | 14116 Mar 27 23:53 | 16° <u>᠒</u> 56'43 | 0°38'23 | | | | |
| min. Earth dist. | 14116 Mar 27 17:43 | 16° <u>᠒</u> 57'21 | 18.93877 AU | conjunction | 14122 Oct 21 15:05 | 13° <u>᠓</u> 18'23 | 0°56'20 |
| direct | 14116 Jun 12 00:35 | 14° <u>᠒</u> 59'08 | | minimum elong | 14122 Oct 21 15:04 | 13° <u>᠓</u> 18'23 | 0°56'59 |
| evening set | 14116 Sep 10 15:30 | 18° <u>᠒</u> 00'27 | | max. Earth dist. | 14122 Oct 21 18:43 | 13° <u>᠓</u> 18'54 | 20.70999 AU |
| | | | | morning rise | 14122 Nov 06 18:48 | 14° <u>᠓</u> 14'23 | |
| conjunction | 14116 Sep 26 13:56 | 18° <u>᠒</u> 55'07 | 0°36'40 | | 14122 Nov 20 13:39 | 15° <u>᠓</u> | |
| minimum elong | 14116 Sep 26 13:56 | 18° <u>᠒</u> 55'07 | 0°36'54 | retrograde | 14123 Feb 08 19:10 | 17° <u>᠓</u> 24'31 | |
| max. Earth dist. | 14116 Sep 26 20:19 | 18° <u>᠒</u> 56'02 | 20.92561 AU | opposition | 14123 Apr 26 17:19 | 15° <u>᠓</u> 24'35 | 1°03'50 |
| morning rise | 14116 Oct 12 14:26 | 19° <u>᠒</u> 50'05 | | min. Earth dist. | 14123 Apr 26 13:42 | 15° <u>᠓</u> 24'58 | 18.68672 AU |
| retrograde | 14117 Jan 14 01:07 | 22° <u>᠒</u> 56'51 | | | 14123 May 06 19:27 | 15° <u>᠙</u> <u>᠓</u> | |
| opposition | 14117 Apr 01 08:29 | 20° <u>᠒</u> 57'43 | 0°42'43 | direct | 14123 Jul 11 04:21 | 13° <u>᠓</u> 26'20 | |
| min. Earth dist. | 14117 Apr 01 01:49 | 20° <u>᠒</u> 58'24 | 18.91193 AU | | 14123 Sep 11 03:57 | 15° <u>᠓</u> | |
| direct | 14117 Jun 16 07:10 | 19° <u>᠒</u> 00'02 | | evening set | 14123 Oct 09 23:39 | 16° <u>᠓</u> 30'48 | |

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| conjunction | 14123 Oct 26 01:39 | 17° $\overline{\text{M}}$.26'39 | 0°58'45 | min. Earth dist. | 14130 May 26 05:35 | 14° $\overline{\text{A}}$.54'57 | 18.28440 AU |
| minimum elong | 14123 Oct 26 01:38 | 17° $\overline{\text{M}}$.26'39 | 0°59'27 | direct | 14130 Aug 09 07:10 | 12° $\overline{\text{A}}$.54'48 | |
| max. Earth dist. | 14123 Oct 26 05:16 | 17° $\overline{\text{M}}$.27'11 | 20.66197 AU | evening set | 14130 Nov 08 15:31 | 16° $\overline{\text{A}}$.04'29 | |
| morning rise | 14123 Nov 11 05:47 | 18° $\overline{\text{M}}$.22'51 | | | | | |
| retrograde | 14124 Feb 13 06:46 | 21° $\overline{\text{M}}$.33'38 | | conjunction | 14130 Nov 24 21:48 | 17° $\overline{\text{A}}$.02'04 | 1°06'39 |
| opposition | 14124 Apr 30 04:09 | 19° $\overline{\text{M}}$.33'32 | 1°06'22 | minimum elong | 14130 Nov 24 21:48 | 17° $\overline{\text{A}}$.02'04 | 1°07'38 |
| min. Earth dist. | 14124 Apr 30 01:30 | 19° $\overline{\text{M}}$.33'48 | 18.63675 AU | max. Earth dist. | 14130 Nov 24 19:40 | 17° $\overline{\text{A}}$.01'45 | 20.25339 AU |
| direct | 14124 Jul 14 13:16 | 17° $\overline{\text{M}}$.35'06 | | morning rise | 14130 Dec 11 06:17 | 17° $\overline{\text{A}}$.59'59 | |
| evening set | 14124 Oct 13 10:08 | 20° $\overline{\text{M}}$.40'10 | | retrograde | 14131 Mar 15 11:42 | 21° $\overline{\text{A}}$.15'32 | |
| | | | | opposition | 14131 May 30 18:39 | 19° $\overline{\text{A}}$.13'45 | 1°13'56 |
| conjunction | 14124 Oct 29 12:35 | 21° $\overline{\text{M}}$.36'14 | 1°00'53 | min. Earth dist. | 14131 May 30 20:09 | 19° $\overline{\text{A}}$.13'35 | 18.22300 AU |
| minimum elong | 14124 Oct 29 12:35 | 21° $\overline{\text{M}}$.36'14 | 1°01'39 | direct | 14131 Aug 13 19:17 | 17° $\overline{\text{A}}$.13'14 | |
| max. Earth dist. | 14124 Oct 29 14:24 | 21° $\overline{\text{M}}$.36'30 | 20.61021 AU | evening set | 14131 Nov 13 07:01 | 20° $\overline{\text{A}}$.23'50 | |
| morning rise | 14124 Nov 14 17:28 | 22° $\overline{\text{M}}$.32'40 | | | | | |
| retrograde | 14125 Feb 16 20:08 | 25° $\overline{\text{M}}$.44'07 | | conjunction | 14131 Nov 29 14:08 | 21° $\overline{\text{A}}$.21'41 | 1°06'20 |
| opposition | 14125 May 04 15:21 | 23° $\overline{\text{M}}$.43'47 | 1°08'34 | minimum elong | 14131 Nov 29 14:08 | 21° $\overline{\text{A}}$.21'41 | 1°07'22 |
| min. Earth dist. | 14125 May 04 13:22 | 23° $\overline{\text{M}}$.43'59 | 18.58324 AU | max. Earth dist. | 14131 Nov 29 12:43 | 21° $\overline{\text{A}}$.21'29 | 20.19219 AU |
| direct | 14125 Jul 18 23:25 | 21° $\overline{\text{M}}$.45'05 | | morning rise | 14131 Dec 15 23:02 | 22° $\overline{\text{A}}$.19'52 | |
| evening set | 14125 Oct 17 21:14 | 24° $\overline{\text{M}}$.50'50 | | retrograde | 14132 Mar 19 05:21 | 25° $\overline{\text{A}}$.36'08 | |
| | | | | opposition | 14132 Jun 03 09:01 | 23° $\overline{\text{A}}$.34'11 | 1°13'24 |
| conjunction | 14125 Nov 03 00:28 | 25° $\overline{\text{M}}$.47'09 | 1°02'42 | min. Earth dist. | 14132 Jun 03 10:19 | 23° $\overline{\text{A}}$.34'03 | 18.16207 AU |
| minimum elong | 14125 Nov 03 00:27 | 25° $\overline{\text{M}}$.47'08 | 1°03'30 | direct | 14132 Aug 17 08:39 | 21° $\overline{\text{A}}$.33'24 | |
| max. Earth dist. | 14125 Nov 03 02:25 | 25° $\overline{\text{M}}$.47'26 | 20.55501 AU | evening set | 14132 Nov 16 23:27 | 24° $\overline{\text{A}}$.44'56 | |
| morning rise | 14125 Nov 19 05:48 | 26° $\overline{\text{M}}$.43'48 | | | | | |
| retrograde | 14126 Feb 21 09:01 | 29° $\overline{\text{M}}$.55'53 | | conjunction | 14132 Dec 03 07:04 | 25° $\overline{\text{A}}$.43'05 | 1°05'38 |
| opposition | 14126 May 09 02:45 | 27° $\overline{\text{M}}$.55'19 | 1°10'26 | minimum elong | 14132 Dec 03 07:04 | 25° $\overline{\text{A}}$.43'05 | 1°06'40 |
| min. Earth dist. | 14126 May 09 01:33 | 27° $\overline{\text{M}}$.55'26 | 18.52657 AU | max. Earth dist. | 14132 Dec 03 04:04 | 25° $\overline{\text{A}}$.42'38 | 20.13171 AU |
| direct | 14126 Jul 23 09:43 | 25° $\overline{\text{M}}$.56'20 | | morning rise | 14132 Dec 19 16:44 | 26° $\overline{\text{A}}$.41'32 | |
| evening set | 14126 Oct 22 09:09 | 29° $\overline{\text{M}}$.02'47 | | retrograde | 14133 Mar 23 23:15 | 29° $\overline{\text{A}}$.58'33 | |
| | | | | opposition | 14133 Jun 08 00:04 | 27° $\overline{\text{A}}$.56'26 | 1°12'26 |
| conjunction | 14126 Nov 07 12:52 | 29° $\overline{\text{M}}$.59'20 | 1°04'11 | min. Earth dist. | 14133 Jun 08 02:24 | 27° $\overline{\text{A}}$.56'12 | 18.10203 AU |
| minimum elong | 14126 Nov 07 12:52 | 29° $\overline{\text{M}}$.59'20 | 1°05'03 | direct | 14133 Aug 21 21:46 | 25° $\overline{\text{A}}$.55'24 | |
| | 14126 Nov 07 17:27 | 0° $\overline{\text{A}}$ | | evening set | 14133 Nov 21 16:47 | 29° $\overline{\text{A}}$.07'55 | |
| max. Earth dist. | 14126 Nov 07 13:01 | 29° $\overline{\text{M}}$.59'21 | 20.49720 AU | | 14133 Dec 06 06:55 | 0° $\overline{\text{B}}$ | |
| morning rise | 14126 Nov 23 18:59 | 0° $\overline{\text{A}}$.56'13 | | | | | |
| retrograde | 14127 Feb 25 22:34 | 4° $\overline{\text{A}}$.08'59 | | conjunction | 14133 Dec 08 01:15 | 0° $\overline{\text{B}}$.06'21 | 1°04'33 |
| opposition | 14127 May 13 14:37 | 2° $\overline{\text{A}}$.08'08 | 1°11'55 | minimum elong | 14133 Dec 08 01:15 | 0° $\overline{\text{B}}$.06'21 | 1°05'36 |
| min. Earth dist. | 14127 May 13 14:09 | 2° $\overline{\text{A}}$.08'11 | 18.46774 AU | max. Earth dist. | 14133 Dec 07 22:49 | 0° $\overline{\text{B}}$.05'59 | 20.07207 AU |
| direct | 14127 Jul 27 20:19 | 0° $\overline{\text{A}}$.08'51 | | morning rise | 14133 Dec 24 11:19 | 1° $\overline{\text{B}}$.05'05 | |
| evening set | 14127 Oct 26 21:30 | 3° $\overline{\text{A}}$.16'03 | | retrograde | 14134 Mar 28 18:51 | 4° $\overline{\text{B}}$.22'49 | |
| | | | | opposition | 14134 Jun 12 15:29 | 2° $\overline{\text{B}}$.20'36 | 1°11'03 |
| conjunction | 14127 Nov 12 01:58 | 4° $\overline{\text{A}}$.12'50 | 1°05'21 | min. Earth dist. | 14134 Jun 12 17:42 | 2° $\overline{\text{B}}$.20'22 | 18.04271 AU |
| minimum elong | 14127 Nov 12 01:58 | 4° $\overline{\text{A}}$.12'50 | 1°06'15 | direct | 14134 Aug 26 12:56 | 0° $\overline{\text{B}}$.19'20 | |
| max. Earth dist. | 14127 Nov 12 02:33 | 4° $\overline{\text{A}}$.12'55 | 20.43739 AU | evening set | 14134 Nov 26 11:15 | 3° $\overline{\text{B}}$.32'51 | |
| morning rise | 14127 Nov 28 08:29 | 5° $\overline{\text{A}}$.09'58 | | | | | |
| retrograde | 14128 Mar 01 12:44 | 8° $\overline{\text{A}}$.23'25 | | conjunction | 14134 Dec 12 20:11 | 4° $\overline{\text{B}}$.31'34 | 1°03'05 |
| opposition | 14128 May 17 02:55 | 6° $\overline{\text{A}}$.22'19 | 1°13'02 | minimum elong | 14134 Dec 12 20:11 | 4° $\overline{\text{B}}$.31'34 | 1°04'09 |
| min. Earth dist. | 14128 May 17 02:47 | 6° $\overline{\text{A}}$.22'20 | 18.40724 AU | max. Earth dist. | 14134 Dec 12 16:01 | 4° $\overline{\text{B}}$.30'57 | 20.01315 AU |
| direct | 14128 Jul 31 07:44 | 4° $\overline{\text{A}}$.22'43 | | morning rise | 14134 Dec 29 06:54 | 5° $\overline{\text{B}}$.30'35 | |
| evening set | 14128 Oct 30 10:47 | 7° $\overline{\text{A}}$.30'42 | | retrograde | 14135 Apr 02 13:48 | 8° $\overline{\text{B}}$.49'03 | |
| | | | | opposition | 14135 Jun 17 07:49 | 6° $\overline{\text{B}}$.46'43 | 1°09'13 |
| conjunction | 14128 Nov 15 15:44 | 8° $\overline{\text{A}}$.27'44 | 1°06'09 | min. Earth dist. | 14135 Jun 17 11:28 | 6° $\overline{\text{B}}$.46'20 | 17.98414 AU |
| minimum elong | 14128 Nov 15 15:44 | 8° $\overline{\text{A}}$.27'44 | 1°07'05 | direct | 14135 Aug 31 03:00 | 4° $\overline{\text{B}}$.45'12 | |
| max. Earth dist. | 14128 Nov 15 14:42 | 8° $\overline{\text{A}}$.27'35 | 20.37648 AU | evening set | 14135 Dec 01 06:21 | 7° $\overline{\text{B}}$.59'45 | |
| morning rise | 14128 Dec 01 23:03 | 9° $\overline{\text{A}}$.25'08 | | | | | |
| retrograde | 14129 Mar 06 03:33 | 12° $\overline{\text{A}}$.39'16 | | conjunction | 14135 Dec 17 16:03 | 8° $\overline{\text{B}}$.58'45 | 1°01'14 |
| opposition | 14129 May 21 15:41 | 10° $\overline{\text{A}}$.37'55 | 1°13'45 | minimum elong | 14135 Dec 17 16:03 | 8° $\overline{\text{B}}$.58'45 | 1°02'17 |
| min. Earth dist. | 14129 May 21 16:16 | 10° $\overline{\text{A}}$.37'51 | 18.34605 AU | max. Earth dist. | 14135 Dec 17 12:12 | 8° $\overline{\text{B}}$.58'11 | 19.95481 AU |
| direct | 14129 Aug 04 18:55 | 8° $\overline{\text{A}}$.37'59 | | morning rise | 14136 Jan 03 03:07 | 9° $\overline{\text{B}}$.58'01 | |
| evening set | 14129 Nov 04 00:38 | 11° $\overline{\text{A}}$.46'48 | | retrograde | 14136 Apr 06 11:27 | 13° $\overline{\text{B}}$.17'12 | |
| | | | | opposition | 14136 Jun 21 00:42 | 11° $\overline{\text{B}}$.14'46 | 1°06'58 |
| conjunction | 14129 Nov 20 06:26 | 12° $\overline{\text{A}}$.44'07 | 1°06'35 | min. Earth dist. | 14136 Jun 21 04:12 | 11° $\overline{\text{B}}$.14'24 | 17.92595 AU |
| minimum elong | 14129 Nov 20 06:26 | 12° $\overline{\text{A}}$.44'07 | 1°07'34 | direct | 14136 Sep 03 20:21 | 9° $\overline{\text{B}}$.13'00 | |
| max. Earth dist. | 14129 Nov 20 05:59 | 12° $\overline{\text{A}}$.44'03 | 20.31498 AU | evening set | 14136 Dec 05 02:41 | 12° $\overline{\text{B}}$.28'33 | |
| morning rise | 14129 Dec 06 14:11 | 13° $\overline{\text{A}}$.41'46 | | | | | |
| retrograde | 14130 Mar 10 19:20 | 16° $\overline{\text{A}}$.56'36 | | conjunction | 14136 Dec 21 12:50 | 13° $\overline{\text{B}}$.27'50 | 0°59'00 |
| opposition | 14130 May 26 04:55 | 14° $\overline{\text{A}}$.55'02 | 1°14'03 | minimum elong | 14136 Dec 21 12:50 | 13° $\overline{\text{B}}$.27'50 | 1°00'04 |

| | | | | | | | |
|------------------|--------------------|-----------|-------------|------------------|--------------------|-----------|-------------|
| max. Earth dist. | 14136 Dec 21 07:10 | 13°32'59" | 19.89682 AU | | 14143 Jun 05 22:18 | 15°08'00" | |
| morning rise | 14137 Jan 07 00:29 | 14°32'22" | | opposition | 14143 Jul 23 14:22 | 13°05'56" | 0°40'07" |
| retrograde | 14137 Apr 11 07:01 | 17°34'13" | | min. Earth dist. | 14143 Jul 23 22:17 | 13°05'05" | 17.55744 AU |
| opposition | 14137 Jun 25 18:16 | 15°34'39" | 1°04'18" | direct | 14143 Oct 06 11:17 | 11°02'01" | |
| min. Earth dist. | 14137 Jun 25 23:27 | 15°34'06" | 17.86824 AU | evening set | 14144 Jan 07 20:31 | 14°03'56" | |
| direct | 14137 Sep 08 11:49 | 13°34'23" | | | 14144 Jan 14 23:54 | 15°00'00" | |
| evening set | 14137 Dec 09 23:41 | 16°35'08" | | | | | |
| | | | | conjunction | 14144 Jan 24 09:57 | 15°03'45" | 0°33'38" |
| conjunction | 14137 Dec 26 10:36 | 17°35'42" | 0°56'24" | minimum elong | 14144 Jan 24 09:57 | 15°03'45" | 0°34'27" |
| minimum elong | 14137 Dec 26 10:36 | 17°35'42" | 0°57'26" | max. Earth dist. | 14144 Jan 24 00:51 | 15°03'32" | 19.53691 AU |
| max. Earth dist. | 14137 Dec 26 04:51 | 17°35'50" | 19.83941 AU | morning rise | 14144 Feb 09 23:35 | 16°03'55" | |
| morning rise | 14138 Jan 11 22:36 | 18°35'29" | | retrograde | 14144 May 13 18:33 | 19°05'08" | |
| retrograde | 14138 Apr 16 05:54 | 22°38'57" | | opposition | 14144 Jul 27 11:21 | 17°05'53" | 0°34'55" |
| opposition | 14138 Jun 30 12:19 | 20°36'14" | 1°01'13" | min. Earth dist. | 14144 Jul 27 18:27 | 17°05'50" | 17.51766 AU |
| min. Earth dist. | 14138 Jun 30 17:16 | 20°35'42" | 17.81110 AU | direct | 14144 Oct 10 10:31 | 15°05'12" | |
| direct | 14138 Sep 13 07:05 | 18°38'53" | | evening set | 14145 Jan 11 22:07 | 19°04'07" | |
| evening set | 14138 Dec 14 21:35 | 21°38'23" | | | | | |
| | | | | conjunction | 14145 Jan 28 11:51 | 20°05'15" | 0°28'51" |
| conjunction | 14138 Dec 31 08:54 | 22°38'13" | 0°53'25" | minimum elong | 14145 Jan 28 11:51 | 20°05'15" | 0°29'37" |
| minimum elong | 14138 Dec 31 08:55 | 22°38'13" | 0°54'27" | max. Earth dist. | 14145 Jan 28 03:13 | 20°03'55" | 19.49946 AU |
| max. Earth dist. | 14138 Dec 31 01:40 | 22°38'07" | 19.78276 AU | morning rise | 14145 Feb 14 01:25 | 21°06'23" | |
| morning rise | 14139 Jan 16 21:20 | 23°38'15" | | retrograde | 14145 May 18 17:25 | 24°03'54" | |
| retrograde | 14139 Apr 21 01:48 | 26°35'17" | | opposition | 14145 Aug 01 08:47 | 22°03'62" | 0°29'28" |
| opposition | 14139 Jul 05 07:02 | 24°34'25" | 0°57'44" | min. Earth dist. | 14145 Aug 01 16:39 | 22°03'52" | 17.48274 AU |
| min. Earth dist. | 14139 Jul 05 13:35 | 24°34'43" | 17.75518 AU | direct | 14145 Oct 15 07:50 | 20°03'58" | |
| direct | 14139 Sep 18 00:19 | 22°34'44" | | evening set | 14146 Jan 17 00:18 | 23°05'52" | |
| evening set | 14139 Dec 19 20:03 | 26°35'11" | | | | | |
| | | | | conjunction | 14146 Feb 02 14:07 | 24°05'40" | 0°23'52" |
| conjunction | 14140 Jan 05 07:59 | 27°35'17" | 0°50'06" | minimum elong | 14146 Feb 02 14:08 | 24°05'40" | 0°24'33" |
| minimum elong | 14140 Jan 05 07:59 | 27°35'17" | 0°51'06" | max. Earth dist. | 14146 Feb 02 04:42 | 24°05'52" | 19.46722 AU |
| max. Earth dist. | 14140 Jan 05 00:38 | 27°34'09" | 19.72782 AU | morning rise | 14146 Feb 19 03:48 | 25°05'57" | |
| morning rise | 14140 Jan 21 20:44 | 28°35'31" | | retrograde | 14146 May 23 18:42 | 29°02'14" | |
| | 14140 Feb 26 04:40 | 0°00'00" | | opposition | 14146 Aug 06 06:40 | 27°08'09" | 0°23'48" |
| retrograde | 14140 Apr 25 01:05 | 1°02'06" | | min. Earth dist. | 14146 Aug 06 13:50 | 27°07'22" | 17.45310 AU |
| | 14140 Jun 24 23:40 | 30°08'00" | | direct | 14146 Oct 20 07:22 | 25°03'36" | |
| opposition | 14140 Jul 09 02:05 | 29°32'40" | 0°53'52" | evening set | 14147 Jan 22 02:45 | 28°03'43" | |
| min. Earth dist. | 14140 Jul 09 08:08 | 29°32'25" | 17.70122 AU | | | | |
| direct | 14140 Sep 21 21:26 | 27°32'10" | | conjunction | 14147 Feb 07 16:46 | 29°03'39" | 0°18'42" |
| | 14140 Dec 12 06:24 | 0°00'00" | | minimum elong | 14147 Feb 07 16:46 | 29°03'39" | 0°19'20" |
| evening set | 14140 Dec 23 19:15 | 0°04'02" | | max. Earth dist. | 14147 Feb 07 08:19 | 29°03'49" | 19.44014 AU |
| | | | | | 14147 Feb 13 06:57 | 0°00'00" | |
| conjunction | 14141 Jan 09 07:37 | 1°04'46" | 0°46'26" | morning rise | 14147 Feb 24 06:10 | 0°04'40" | |
| minimum elong | 14141 Jan 09 07:37 | 1°04'46" | 0°47'23" | retrograde | 14147 May 28 18:57 | 4°04'04" | |
| max. Earth dist. | 14141 Jan 08 23:24 | 1°03'39" | 19.67505 AU | opposition | 14147 Aug 11 05:04 | 2°00'08" | 0°17'57" |
| morning rise | 14141 Jan 25 20:42 | 2°04'11" | | min. Earth dist. | 14147 Aug 11 12:40 | 2°00'08" | 17.42858 AU |
| retrograde | 14141 Apr 29 21:22 | 6°03'17" | | | 14147 Oct 13 12:51 | 30°08'00" | |
| opposition | 14141 Jul 13 21:49 | 4°00'06" | 0°49'37" | direct | 14147 Oct 25 05:25 | 29°05'56" | |
| min. Earth dist. | 14141 Jul 14 05:17 | 3°05'59" | 17.64985 AU | | 14147 Nov 05 21:03 | 0°00'00" | |
| direct | 14141 Sep 26 16:15 | 1°05'56" | | evening set | 14148 Jan 27 05:51 | 3°02'21" | |
| evening set | 14141 Dec 28 19:08 | 5°07'17" | | | | | |
| | | | | conjunction | 14148 Feb 12 19:43 | 4°02'23" | 0°13'24" |
| conjunction | 14142 Jan 14 07:57 | 6°07'35" | 0°42'28" | minimum elong | 14148 Feb 12 19:44 | 4°02'23" | 0°13'57" |
| minimum elong | 14142 Jan 14 07:57 | 6°07'35" | 0°43'23" | behind sun begin | 14148 Feb 12 16:25 | 4°02'20" | |
| max. Earth dist. | 14142 Jan 13 23:26 | 6°06'17" | 19.62528 AU | behind sun end | 14148 Feb 12 23:03 | 4°02'30" | |
| morning rise | 14142 Jan 30 21:17 | 7°08'18" | | max. Earth dist. | 14148 Feb 12 10:16 | 4°02'10" | 19.41826 AU |
| retrograde | 14142 May 04 21:03 | 10°04'40" | | morning rise | 14148 Feb 29 09:08 | 5°02'40" | |
| opposition | 14142 Jul 18 17:43 | 8°03'72" | 0°45'02" | retrograde | 14148 Jun 01 20:27 | 8°04'48" | |
| min. Earth dist. | 14142 Jul 19 00:33 | 8°03'40" | 17.60172 AU | opposition | 14148 Aug 15 03:40 | 6°04'44" | 0°11'58" |
| direct | 14142 Oct 01 14:54 | 6°03'33" | | min. Earth dist. | 14148 Aug 15 11:02 | 6°04'53" | 17.40916 AU |
| evening set | 14143 Jan 02 19:37 | 9°05'54" | | direct | 14148 Oct 29 05:33 | 4°03'39" | |
| | | | | evening set | 14149 Jan 31 09:13 | 8°05'14" | |
| | | | | | | | |
| conjunction | 14143 Jan 19 08:47 | 10°05'55" | 0°38'11" | | | | |
| minimum elong | 14143 Jan 19 08:47 | 10°05'55" | 0°39'03" | conjunction | 14149 Feb 16 23:13 | 9°06'49" | 0°08'00" |
| max. Earth dist. | 14143 Jan 19 00:06 | 10°05'54" | 19.57894 AU | minimum elong | 14149 Feb 16 23:13 | 9°06'49" | 0°08'30" |
| morning rise | 14143 Feb 04 22:13 | 11°05'56" | | behind sun begin | 14149 Feb 16 17:20 | 9°05'05" | |
| | 14143 Apr 12 23:30 | 15°00'00" | | behind sun end | 14149 Feb 17 05:06 | 9°07'43" | |
| retrograde | 14143 May 09 18:15 | 15°09'19" | | max. Earth dist. | 14149 Feb 16 14:45 | 9°05'31" | 19.40109 AU |

| | | | | | | | |
|------------------|--------------------|---------------------------|-------------|------------------|--------------------|---------------------------|-------------|
| morning rise | 14149 Mar 05 12:13 | 10° H 08'19 | | evening set | 14155 Mar 02 07:53 | 6° Y 36'37 | |
| retrograde | 14149 Jun 06 21:17 | 13° H 32'33 | | | | | |
| opposition | 14149 Aug 20 02:47 | 11° H 29'10 | 0°05'53 | conjunction | 14155 Mar 18 19:53 | 7° Y 38'04 | -0°24'30 |
| min. Earth dist. | 14149 Aug 20 10:28 | 11° H 28'20 | 17.39415 AU | minimum elong | 14155 Mar 18 19:52 | 7° Y 38'04 | 0°24'32 |
| direct | 14149 Nov 03 05:02 | 9° H 24'20 | | max. Earth dist. | 14155 Mar 18 11:19 | 7° Y 36'44 | 19.38830 AU |
| evening set | 14150 Feb 05 13:06 | 12° H 50'06 | | morning rise | 14155 Apr 04 06:01 | 8° Y 39'17 | |
| | | | | retrograde | 14155 Jul 05 21:47 | 12° Y 02'31 | |
| conjunction | 14150 Feb 22 02:46 | 13° H 51'45 | 0°02'33 | opposition | 14155 Sep 18 00:48 | 9° Y 59'29 | -0°30'07 |
| minimum elong | 14150 Feb 22 02:45 | 13° H 51'45 | 0°02'57 | min. Earth dist. | 14155 Sep 18 07:33 | 9° Y 58'45 | 17.39469 AU |
| behind sun begin | 14150 Feb 21 20:01 | 13° H 50'43 | | direct | 14155 Dec 02 17:01 | 7° Y 54'16 | |
| behind sun end | 14150 Feb 22 09:28 | 13° H 52'46 | | evening set | 14156 Mar 06 11:04 | 11° Y 20'54 | |
| max. Earth dist. | 14150 Feb 21 16:57 | 13° H 50'14 | 19.38825 AU | | | | |
| morning rise | 14150 Mar 10 15:33 | 14° H 53'15 | | conjunction | 14156 Mar 22 22:26 | 12° Y 22'14 | -0°29'32 |
| retrograde | 14150 Jun 11 22:01 | 18° H 17'31 | | minimum elong | 14156 Mar 22 22:26 | 12° Y 22'14 | 0°29'39 |
| desc. node | 14150 Aug 11 07:22 | 16° H 49'44 | | max. Earth dist. | 14156 Mar 22 14:01 | 12° Y 20'56 | 19.40226 AU |
| opposition | 14150 Aug 25 02:08 | 16° H 14'11 | -0°00'14 | morning rise | 14156 Apr 08 07:55 | 13° Y 23'19 | |
| min. Earth dist. | 14150 Aug 25 09:56 | 16° H 13'20 | 17.38349 AU | retrograde | 14156 Jul 09 19:44 | 16° Y 46'09 | |
| direct | 14150 Nov 08 06:28 | 14° H 09'15 | | opposition | 14156 Sep 22 00:22 | 14° Y 43'12 | -0°35'37 |
| evening set | 14151 Feb 10 16:55 | 17° H 35'25 | | min. Earth dist. | 14156 Sep 22 07:37 | 14° Y 42'25 | 17.41137 AU |
| | | | | direct | 14156 Dec 06 18:14 | 12° Y 37'59 | |
| conjunction | 14151 Feb 27 06:32 | 18° H 37'05 | -0°03'05 | evening set | 14157 Mar 11 13:46 | 16° Y 04'27 | |
| minimum elong | 14151 Feb 27 06:31 | 18° H 37'05 | 0°02'47 | | | | |
| behind sun begin | 14151 Feb 26 23:48 | 18° H 36'03 | | conjunction | 14157 Mar 28 00:33 | 17° Y 05'39 | -0°34'21 |
| behind sun end | 14151 Feb 27 13:14 | 18° H 38'06 | | minimum elong | 14157 Mar 28 00:33 | 17° Y 05'39 | 0°34'32 |
| max. Earth dist. | 14151 Feb 26 21:45 | 18° H 35'44 | 19.37962 AU | max. Earth dist. | 14157 Mar 27 16:50 | 17° Y 04'27 | 19.42161 AU |
| morning rise | 14151 Mar 15 18:45 | 19° H 38'35 | | morning rise | 14157 Apr 13 09:20 | 18° Y 06'34 | |
| retrograde | 14151 Jun 16 22:32 | 23° H 02'46 | | retrograde | 14157 Jul 14 19:38 | 21° Y 28'57 | |
| opposition | 14151 Aug 30 01:45 | 20° H 59'30 | -0°06'23 | opposition | 14157 Sep 26 23:44 | 19° Y 26'06 | -0°40'51 |
| min. Earth dist. | 14151 Aug 30 09:24 | 20° H 58'40 | 17.37690 AU | min. Earth dist. | 14157 Sep 27 05:26 | 19° Y 25'29 | 17.43340 AU |
| direct | 14151 Nov 13 07:36 | 18° H 54'30 | | direct | 14157 Dec 11 21:12 | 17° Y 20'56 | |
| evening set | 14152 Feb 15 20:52 | 22° H 20'56 | | evening set | 14158 Mar 16 15:56 | 20° Y 47'09 | |
| | | | | | | | |
| conjunction | 14152 Mar 03 10:02 | 23° H 22'35 | -0°08'34 | conjunction | 14158 Apr 02 02:02 | 21° Y 48'10 | -0°38'55 |
| minimum elong | 14152 Mar 03 10:01 | 23° H 22'35 | 0°08'19 | minimum elong | 14158 Apr 02 02:01 | 21° Y 48'10 | 0°39'13 |
| behind sun begin | 14152 Mar 03 04:06 | 23° H 21'41 | | max. Earth dist. | 14158 Apr 01 19:14 | 21° Y 47'07 | 19.44635 AU |
| behind sun end | 14152 Mar 03 15:57 | 23° H 23'29 | | morning rise | 14158 Apr 18 09:58 | 22° Y 48'55 | |
| max. Earth dist. | 14152 Mar 03 00:08 | 23° H 21'03 | 19.37516 AU | retrograde | 14158 Jul 19 16:46 | 26° Y 10'49 | |
| morning rise | 14152 Mar 19 21:58 | 24° H 24'03 | | opposition | 14158 Oct 01 23:06 | 24° Y 08'07 | -0°45'48 |
| retrograde | 14152 Jun 20 22:27 | 27° H 48'07 | | min. Earth dist. | 14158 Oct 02 05:02 | 24° Y 07'29 | 17.46109 AU |
| opposition | 14152 Sep 03 01:32 | 25° H 44'53 | -0°12'29 | direct | 14158 Dec 16 21:14 | 22° Y 03'02 | |
| min. Earth dist. | 14152 Sep 03 09:33 | 25° H 44'01 | 17.37462 AU | evening set | 14159 Mar 21 17:37 | 25° Y 28'56 | |
| direct | 14152 Nov 17 09:33 | 23° H 39'49 | | | | | |
| evening set | 14153 Feb 20 00:45 | 27° H 06'27 | | conjunction | 14159 Apr 07 02:58 | 26° Y 29'46 | -0°43'12 |
| | | | | minimum elong | 14159 Apr 07 02:58 | 26° Y 29'46 | 0°43'34 |
| conjunction | 14153 Mar 08 13:42 | 28° H 08'04 | -0°13'59 | max. Earth dist. | 14159 Apr 06 20:40 | 26° Y 28'48 | 19.47694 AU |
| minimum elong | 14153 Mar 08 13:42 | 28° H 08'04 | 0°13'50 | morning rise | 14159 Apr 23 10:13 | 27° Y 30'19 | |
| behind sun begin | 14153 Mar 08 10:17 | 28° H 07'32 | | | 14159 Jun 10 19:52 | 0° B | |
| behind sun end | 14153 Mar 08 17:07 | 28° H 08'35 | | retrograde | 14159 Jul 24 16:29 | 0° B 51'43 | |
| max. Earth dist. | 14153 Mar 08 04:46 | 28° H 06'40 | 19.37500 AU | | 14159 Sep 07 18:33 | 30° R Y | |
| morning rise | 14153 Mar 25 01:01 | 29° H 09'28 | | opposition | 14159 Oct 06 22:00 | 28° Y 49'12 | -0°50'25 |
| | 14153 Apr 08 05:59 | 0° Y | | min. Earth dist. | 14159 Oct 07 02:09 | 28° Y 48'45 | 17.49445 AU |
| retrograde | 14153 Jun 25 22:47 | 2° Y 33'18 | | direct | 14159 Dec 21 23:02 | 26° Y 44'16 | |
| opposition | 14153 Sep 08 01:13 | 0° Y 30'09 | -0°18'30 | | 14160 Mar 23 01:58 | 0° B | |
| min. Earth dist. | 14153 Sep 08 08:38 | 0° Y 29'20 | 17.37657 AU | evening set | 14160 Mar 25 18:41 | 0° B 09'46 | |
| | 14153 Sep 19 16:40 | 30° R H | | | | | |
| direct | 14153 Nov 22 12:03 | 28° H 25'01 | | conjunction | 14160 Apr 11 03:24 | 1° B 10'26 | -0°47'11 |
| | 14154 Jan 22 16:37 | 0° Y | | minimum elong | 14160 Apr 11 03:24 | 1° B 10'25 | 0°47'38 |
| evening set | 14154 Feb 25 04:37 | 1° Y 51'45 | | max. Earth dist. | 14160 Apr 10 22:31 | 1° B 09'40 | 19.51294 AU |
| | | | | morning rise | 14160 Apr 27 09:47 | 2° B 10'46 | |
| conjunction | 14154 Mar 13 17:01 | 2° Y 53'17 | -0°19'18 | retrograde | 14160 Jul 28 13:19 | 5° B 31'37 | |
| minimum elong | 14154 Mar 13 17:00 | 2° Y 53'17 | 0°19'15 | opposition | 14160 Oct 10 20:52 | 3° B 29'20 | -0°54'40 |
| max. Earth dist. | 14154 Mar 13 07:27 | 2° Y 51'48 | 19.37923 AU | min. Earth dist. | 14160 Oct 11 01:18 | 3° B 28'51 | 17.53300 AU |
| morning rise | 14154 Mar 30 03:49 | 3° Y 54'36 | | direct | 14160 Dec 25 22:12 | 1° B 24'36 | |
| retrograde | 14154 Jun 30 21:45 | 7° Y 18'11 | | evening set | 14161 Mar 30 19:21 | 4° B 49'40 | |
| opposition | 14154 Sep 13 01:07 | 5° Y 15'04 | -0°24'24 | | | | |
| min. Earth dist. | 14154 Sep 13 09:00 | 5° Y 14'13 | 17.38324 AU | conjunction | 14161 Apr 16 03:12 | 5° B 50'05 | -0°50'51 |
| direct | 14154 Nov 27 13:55 | 3° Y 09'53 | | minimum elong | 14161 Apr 16 03:11 | 5° B 50'05 | 0°51'23 |



















































































































| | | | | | | | |
|------------------|--------------------|------------|-------------|------------------|--------------------|-------------|-------------|
| max. Earth dist. | 14161 Apr 15 22:20 | 5°8'49"20 | 19.55390 AU | opposition | 14167 Nov 13 02:31 | 5°11'34"47 | -1°12'58 |
| morning rise | 14161 May 02 08:53 | 6°8'50"12 | | min. Earth dist. | 14167 Nov 13 02:47 | 5°11'34"45 | 17.89219 AU |
| retrograde | 14161 Aug 02 12:00 | 10°8'10"28 | | direct | 14168 Jan 28 19:28 | 3°11'31"42 | |
| opposition | 14161 Oct 15 19:15 | 8°8'08"27 | -0°58'33 | evening set | 14168 May 02 03:19 | 6°11'51"39 | |
| min. Earth dist. | 14161 Oct 15 22:08 | 8°8'08"08 | 17.57612 AU | | | | |
| direct | 14161 Dec 30 23:22 | 6°8'03"57 | | conjunction | 14168 May 18 05:51 | 7°11'50"12 | -1°05'59 |
| evening set | 14162 Apr 04 19:18 | 9°8'28"29 | | minimum elong | 14168 May 18 05:50 | 7°11'50"12 | 1°06'56 |
| | | | | max. Earth dist. | 14168 May 18 05:56 | 7°11'50"13 | 19.92073 AU |
| conjunction | 14162 Apr 21 02:28 | 10°8'28"41 | -0°54'09 | morning rise | 14168 Jun 03 06:04 | 8°11'48"28 | |
| minimum elong | 14162 Apr 21 02:27 | 10°8'28"41 | 0°54'45 | retrograde | 14168 Sep 02 21:30 | 12°11'03"45 | |
| max. Earth dist. | 14162 Apr 20 23:15 | 10°8'28"11 | 19.59895 AU | opposition | 14168 Nov 16 21:58 | 10°11'03"13 | -1°13'49 |
| morning rise | 14162 May 07 07:11 | 11°8'28"34 | | min. Earth dist. | 14168 Nov 16 21:51 | 10°11'03"14 | 17.94999 AU |
| retrograde | 14162 Aug 07 07:53 | 14°8'48"13 | | direct | 14169 Feb 01 17:06 | 8°11'00"22 | |
| opposition | 14162 Oct 20 17:36 | 12°8'46"27 | -1°02'02 | evening set | 14169 May 06 21:38 | 11°11'19"20 | |
| min. Earth dist. | 14162 Oct 20 20:48 | 12°8'46"06 | 17.62301 AU | | | | |
| direct | 14163 Jan 04 22:25 | 10°8'42"12 | | conjunction | 14169 May 22 23:17 | 12°11'17"36 | -1°06'34 |
| evening set | 14163 Apr 09 18:33 | 14°8'06"08 | | minimum elong | 14169 May 22 23:16 | 12°11'17"36 | 1°07'32 |
| | 14163 Apr 24 09:34 | 15°8' | | max. Earth dist. | 14169 May 22 23:01 | 12°11'17"34 | 19.97907 AU |
| | | | | morning rise | 14169 Jun 07 22:59 | 13°11'15"35 | |
| conjunction | 14163 Apr 26 00:47 | 15°8'06"05 | -0°57'06 | retrograde | 14169 Sep 07 13:14 | 16°11'30"05 | |
| minimum elong | 14163 Apr 26 00:47 | 15°8'06"05 | 0°57'47 | opposition | 14169 Nov 21 16:48 | 14°11'29"42 | -1°14'12 |
| max. Earth dist. | 14163 Apr 25 21:15 | 15°8'05"32 | 19.64750 AU | min. Earth dist. | 14169 Nov 21 16:01 | 14°11'29"47 | 18.00896 AU |
| morning rise | 14163 May 12 04:53 | 16°8'05"42 | | direct | 14170 Feb 06 13:14 | 12°11'27"03 | |
| retrograde | 14163 Aug 12 04:56 | 19°8'24"43 | | evening set | 14170 May 11 14:49 | 15°11'45"03 | |
| opposition | 14163 Oct 25 15:27 | 17°8'23"11 | -1°05'06 | | | | |
| min. Earth dist. | 14163 Oct 25 17:21 | 17°8'22"59 | 17.67303 AU | conjunction | 14170 May 27 15:55 | 16°11'43"02 | -1°06'44 |
| direct | 14164 Jan 09 23:14 | 15°8'19"12 | | minimum elong | 14170 May 27 15:55 | 16°11'43"02 | 1°07'44 |
| evening set | 14164 Apr 13 17:08 | 18°8'42"27 | | max. Earth dist. | 14170 May 27 17:27 | 16°11'43"16 | 20.03863 AU |
| | | | | morning rise | 14170 Jun 12 14:54 | 17°11'40"44 | |
| conjunction | 14164 Apr 29 22:44 | 19°8'42"08 | -0°59'40 | retrograde | 14170 Sep 12 04:34 | 20°11'54"26 | |
| minimum elong | 14164 Apr 29 22:43 | 19°8'42"08 | 1°00'24 | opposition | 14170 Nov 26 10:59 | 18°11'54"13 | -1°14'09 |
| max. Earth dist. | 14164 Apr 29 20:47 | 19°8'41"50 | 19.69870 AU | min. Earth dist. | 14170 Nov 26 09:16 | 18°11'54"23 | 18.06910 AU |
| morning rise | 14164 May 16 01:51 | 20°8'41"30 | | direct | 14171 Feb 11 09:08 | 16°11'51"47 | |
| retrograde | 14164 Aug 15 23:28 | 23°8'59"49 | | evening set | 14171 May 16 07:07 | 20°11'08"47 | |
| opposition | 14164 Oct 29 12:54 | 21°8'58"31 | -1°07'44 | | | | |
| min. Earth dist. | 14164 Oct 29 15:04 | 21°8'58"18 | 17.72535 AU | conjunction | 14171 Jun 01 07:27 | 21°11'06"29 | -1°06'30 |
| direct | 14165 Jan 13 22:45 | 19°8'54"47 | | minimum elong | 14171 Jun 01 07:27 | 21°11'06"29 | 1°07'32 |
| evening set | 14165 Apr 18 15:07 | 23°8'17"18 | | max. Earth dist. | 14171 Jun 01 09:00 | 21°11'06"43 | 20.09946 AU |
| | | | | morning rise | 14171 Jun 17 06:01 | 22°11'03"56 | |
| conjunction | 14165 May 04 19:44 | 24°8'16"42 | -1°01'51 | retrograde | 14171 Sep 16 19:02 | 25°11'16"52 | |
| minimum elong | 14165 May 04 19:44 | 24°8'16"42 | 1°02'38 | opposition | 14171 Dec 01 04:36 | 23°11'16"48 | -1°13'39 |
| max. Earth dist. | 14165 May 04 17:09 | 24°8'16"18 | 19.75205 AU | min. Earth dist. | 14171 Dec 01 02:16 | 23°11'17"03 | 18.13071 AU |
| morning rise | 14165 May 20 22:15 | 25°8'15"48 | | direct | 14172 Feb 16 03:20 | 21°11'14"38 | |
| retrograde | 14165 Aug 20 18:21 | 28°8'33"24 | | evening set | 14172 May 19 22:29 | 24°11'30"39 | |
| opposition | 14165 Nov 03 09:59 | 26°8'32"19 | -1°09'56 | | | | |
| min. Earth dist. | 14165 Nov 03 11:05 | 26°8'32"12 | 17.77963 AU | conjunction | 14172 Jun 04 22:19 | 25°11'28"05 | -1°05'53 |
| direct | 14166 Jan 18 22:32 | 24°8'28"48 | | minimum elong | 14172 Jun 04 22:19 | 25°11'28"05 | 1°06'55 |
| evening set | 14166 Apr 23 11:57 | 27°8'50"31 | | max. Earth dist. | 14172 Jun 05 01:31 | 25°11'28"34 | 20.16170 AU |
| | | | | morning rise | 14172 Jun 20 20:15 | 26°11'25"15 | |
| conjunction | 14166 May 09 15:57 | 28°8'49"39 | -1°03'38 | retrograde | 14172 Sep 20 09:27 | 29°11'37"27 | |
| minimum elong | 14166 May 09 15:56 | 28°8'49"39 | 1°04'29 | opposition | 14172 Dec 04 21:27 | 27°11'37"36 | -1°12'44 |
| max. Earth dist. | 14166 May 09 15:02 | 28°8'49"30 | 19.80703 AU | min. Earth dist. | 14172 Dec 04 17:52 | 27°11'37"58 | 18.19344 AU |
| morning rise | 14166 May 25 17:32 | 29°8'48"27 | | direct | 14173 Feb 19 21:42 | 25°11'35"44 | |
| | 14166 May 28 23:00 | 0°11' | | evening set | 14173 May 24 13:07 | 28°11'50"48 | |
| retrograde | 14166 Aug 25 11:58 | 3°11'05"19 | | | | | |
| opposition | 14166 Nov 08 06:38 | 1°11'04"27 | -1°11'40 | conjunction | 14173 Jun 09 12:15 | 29°11'47"57 | -1°04'53 |
| min. Earth dist. | 14166 Nov 08 07:39 | 1°11'04"20 | 17.83527 AU | minimum elong | 14173 Jun 09 12:15 | 29°11'47"57 | 1°05'57 |
| | 14166 Dec 05 01:11 | 30°8'8' | | max. Earth dist. | 14173 Jun 09 15:38 | 29°11'48"27 | 20.22499 AU |
| direct | 14167 Jan 23 21:32 | 29°8'01"10 | | | 14173 Jun 12 20:23 | 0°11' | |
| | 14167 Mar 13 03:11 | 0°11' | | morning rise | 14173 Jun 25 09:49 | 0°11'44"53 | |
| evening set | 14167 Apr 28 08:10 | 2°11'22"00 | | retrograde | 14173 Sep 24 22:47 | 3°11'56"22 | |
| | | | | opposition | 14173 Dec 09 13:59 | 1°11'56"45 | -1°11'25 |
| conjunction | 14167 May 14 11:15 | 3°11'20"51 | -1°05'01 | min. Earth dist. | 14173 Dec 09 10:01 | 1°11'57"09 | 18.25718 AU |
| minimum elong | 14167 May 14 11:14 | 3°11'20"51 | 1°05'53 | | 14174 Feb 10 20:14 | 30°8'11' | |
| max. Earth dist. | 14167 May 14 09:43 | 3°11'20"37 | 19.86333 AU | direct | 14174 Feb 24 13:43 | 29°11'55"13 | |
| morning rise | 14167 May 30 12:17 | 4°11'19"23 | | | 14174 Mar 10 06:15 | 0°11' | |
| retrograde | 14167 Aug 30 05:01 | 7°11'35"29 | | evening set | 14174 May 29 02:38 | 3°11'09"19 | |

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|------------------|--------------------|-----------|-------------|------------------|--------------------|-----------|-------------|
| conjunction | 14174 Jun 14 01:21 | 4°☾06'13 | -1°03'32 | min. Earth dist. | 14181 Jan 08 10:47 | 1°♊31'18 | 18.67026 AU |
| minimum elong | 14174 Jun 14 01:21 | 4°☾06'13 | 1°04'35 | | 14181 Feb 20 02:18 | 30°♈☾ | |
| max. Earth dist. | 14174 Jun 14 06:12 | 4°☾06'57 | 20.28896 AU | direct | 14181 Mar 26 20:32 | 29°☾31'15 | |
| morning rise | 14174 Jun 29 22:26 | 5°☾02'54 | | | 14181 Apr 29 18:00 | 0°♊ | |
| retrograde | 14174 Sep 29 12:52 | 8°☾13'44 | | evening set | 14181 Jun 27 07:02 | 2°♊39'05 | |
| opposition | 14174 Dec 14 05:48 | 6°☾14'21 | -1°09'42 | | | | |
| min. Earth dist. | 14174 Dec 14 00:32 | 6°☾14'54 | 18.32104 AU | conjunction | 14181 Jul 13 03:08 | 3°♊34'26 | -0°45'22 |
| direct | 14175 Mar 01 06:55 | 4°☾13'11 | | minimum elong | 14181 Jul 13 03:08 | 3°♊34'26 | 0°46'18 |
| evening set | 14175 Jun 02 15:38 | 7°☾26'21 | | max. Earth dist. | 14181 Jul 13 10:15 | 3°♊35'28 | 20.69432 AU |
| | | | | morning rise | 14181 Jul 28 22:40 | 4°♊29'42 | |
| conjunction | 14175 Jun 18 13:47 | 8°☾22'59 | -1°01'50 | retrograde | 14181 Oct 28 19:59 | 7°♊36'37 | |
| minimum elong | 14175 Jun 18 13:47 | 8°☾22'59 | 1°02'54 | opposition | 14182 Jan 13 06:35 | 5°♊38'26 | -0°48'20 |
| max. Earth dist. | 14175 Jun 18 18:49 | 8°☾23'45 | 20.35267 AU | min. Earth dist. | 14182 Jan 12 23:59 | 5°♊39'06 | 18.71779 AU |
| morning rise | 14175 Jul 04 10:35 | 9°☾19'27 | | direct | 14182 Mar 31 07:22 | 3°♊39'20 | |
| retrograde | 14175 Oct 04 00:52 | 12°☾29'38 | | evening set | 14182 Jul 01 15:10 | 6°♊46'20 | |
| opposition | 14175 Dec 18 21:04 | 10°☾30'30 | -1°07'36 | | | | |
| min. Earth dist. | 14175 Dec 18 15:58 | 10°☾31'02 | 18.38447 AU | conjunction | 14182 Jul 17 11:08 | 7°♊41'30 | -0°41'45 |
| direct | 14176 Mar 04 21:01 | 8°☾29'41 | | minimum elong | 14182 Jul 17 11:09 | 7°♊41'30 | 0°42'39 |
| evening set | 14176 Jun 06 03:52 | 11°☾41'56 | | max. Earth dist. | 14182 Jul 17 18:31 | 7°♊42'35 | 20.74017 AU |
| | | | | morning rise | 14182 Aug 02 06:41 | 8°♊36'37 | |
| conjunction | 14176 Jun 22 01:38 | 12°☾38'20 | -0°59'49 | retrograde | 14182 Nov 02 05:38 | 11°♊43'04 | |
| minimum elong | 14176 Jun 22 01:39 | 12°☾38'20 | 1°00'52 | opposition | 14183 Jan 17 18:15 | 9°♊44'55 | -0°44'12 |
| max. Earth dist. | 14176 Jun 22 07:38 | 12°☾39'14 | 20.41560 AU | min. Earth dist. | 14183 Jan 17 10:24 | 9°♊45'43 | 18.76184 AU |
| morning rise | 14176 Jul 07 22:04 | 13°☾34'34 | | direct | 14183 Apr 04 20:41 | 7°♊45'59 | |
| retrograde | 14176 Oct 07 14:43 | 16°☾44'08 | | evening set | 14183 Jul 05 22:52 | 10°♊52'11 | |
| opposition | 14176 Dec 22 11:51 | 14°☾45'15 | -1°05'10 | | | | |
| min. Earth dist. | 14176 Dec 22 05:34 | 14°☾45'53 | 18.44658 AU | conjunction | 14183 Jul 21 18:40 | 11°♊47'11 | -0°37'56 |
| direct | 14177 Mar 09 13:18 | 12°☾44'47 | | minimum elong | 14183 Jul 21 18:40 | 11°♊47'11 | 0°38'47 |
| evening set | 14177 Jun 10 15:23 | 15°☾56'07 | | max. Earth dist. | 14183 Jul 22 02:22 | 11°♊48'19 | 20.78258 AU |
| | | | | morning rise | 14183 Aug 06 14:12 | 12°♊42'09 | |
| conjunction | 14177 Jun 26 12:39 | 16°☾52'17 | -0°57'29 | | 14183 Sep 23 09:47 | 15°♊ | |
| minimum elong | 14177 Jun 26 12:39 | 16°☾52'17 | 0°58'31 | retrograde | 14183 Nov 06 13:26 | 15°♊48'11 | |
| max. Earth dist. | 14177 Jun 26 18:49 | 16°☾53'12 | 20.47680 AU | | 14183 Dec 22 05:44 | 15°♊☾ | |
| morning rise | 14177 Jul 12 08:49 | 17°☾48'18 | | opposition | 14184 Jan 22 05:27 | 13°♊50'03 | -0°39'51 |
| retrograde | 14177 Oct 12 01:24 | 20°☾57'18 | | min. Earth dist. | 14184 Jan 21 22:21 | 13°♊50'46 | 18.80281 AU |
| opposition | 14177 Dec 27 02:19 | 18°☾58'37 | -1°02'23 | direct | 14184 Apr 08 06:33 | 11°♊51'16 | |
| min. Earth dist. | 14177 Dec 26 20:28 | 18°☾59'13 | 18.50685 AU | evening set | 14184 Jul 09 05:59 | 14°♊56'44 | |
| direct | 14178 Mar 14 02:13 | 16°☾58'29 | | | 14184 Jul 10 05:01 | 15°♊ | |
| evening set | 14178 Jun 15 02:14 | 20°☾08'56 | | | | | |
| | | | | conjunction | 14184 Jul 25 01:40 | 15°♊51'34 | -0°33'56 |
| conjunction | 14178 Jun 30 23:12 | 21°☾04'52 | -0°54'51 | minimum elong | 14184 Jul 25 01:40 | 15°♊51'34 | 0°34'44 |
| minimum elong | 14178 Jun 30 23:12 | 21°☾04'52 | 0°55'53 | max. Earth dist. | 14184 Jul 25 09:42 | 15°♊52'44 | 20.82222 AU |
| max. Earth dist. | 14178 Jul 01 05:59 | 21°☾05'52 | 20.53593 AU | morning rise | 14184 Aug 09 21:15 | 16°♊46'25 | |
| morning rise | 14178 Jul 16 19:07 | 22°☾00'41 | | retrograde | 14184 Nov 09 22:13 | 19°♊52'04 | |
| retrograde | 14178 Oct 16 14:15 | 25°☾09'07 | | opposition | 14185 Jan 25 16:12 | 17°♊53'57 | -0°35'20 |
| opposition | 14178 Dec 31 16:01 | 23°☾10'37 | -0°59'17 | min. Earth dist. | 14185 Jan 25 07:36 | 17°♊54'49 | 18.84106 AU |
| min. Earth dist. | 14178 Dec 31 09:02 | 23°☾11'20 | 18.56456 AU | direct | 14185 Apr 12 17:53 | 15°♊55'21 | |
| direct | 14179 Mar 18 17:47 | 21°☾10'48 | | evening set | 14185 Jul 13 12:31 | 19°♊00'06 | |
| evening set | 14179 Jun 19 12:29 | 24°☾20'21 | | | | | |
| | | | | conjunction | 14185 Jul 29 08:06 | 19°♊54'49 | -0°29'47 |
| conjunction | 14179 Jul 05 09:05 | 25°☾16'06 | -0°51'56 | minimum elong | 14185 Jul 29 08:06 | 19°♊54'49 | 0°30'33 |
| minimum elong | 14179 Jul 05 09:05 | 25°☾16'06 | 0°52'56 | max. Earth dist. | 14185 Jul 29 16:43 | 19°♊56'03 | 20.85912 AU |
| max. Earth dist. | 14179 Jul 05 15:52 | 25°☾17'06 | 20.59212 AU | morning rise | 14185 Aug 14 03:44 | 20°♊49'32 | |
| morning rise | 14179 Jul 21 04:52 | 26°☾11'43 | | retrograde | 14185 Nov 14 05:29 | 23°♊54'53 | |
| retrograde | 14179 Oct 20 23:59 | 29°☾19'38 | | opposition | 14186 Jan 30 02:42 | 21°♊56'48 | -0°30'38 |
| opposition | 14180 Jan 05 05:26 | 27°☾21'16 | -0°55'54 | min. Earth dist. | 14186 Jan 29 18:42 | 21°♊57'36 | 18.87672 AU |
| min. Earth dist. | 14180 Jan 04 23:12 | 27°☾21'54 | 18.61920 AU | direct | 14186 Apr 17 02:23 | 19°♊58'22 | |
| direct | 14180 Mar 22 05:33 | 25°☾21'43 | | evening set | 14186 Jul 17 18:44 | 23°♊02'29 | |
| evening set | 14180 Jun 22 22:03 | 28°☾30'25 | | | | | |
| | | | | conjunction | 14186 Aug 02 14:18 | 23°♊57'05 | -0°25'30 |
| conjunction | 14180 Jul 08 18:25 | 29°☾25'57 | -0°48'46 | minimum elong | 14186 Aug 02 14:18 | 23°♊57'05 | 0°26'12 |
| minimum elong | 14180 Jul 08 18:25 | 29°☾25'57 | 0°49'45 | max. Earth dist. | 14186 Aug 02 23:06 | 23°♊58'21 | 20.89351 AU |
| max. Earth dist. | 14180 Jul 09 01:27 | 29°☾26'59 | 20.64506 AU | morning rise | 14186 Aug 18 10:05 | 24°♊51'43 | |
| | 14180 Jul 18 10:19 | 0°♊ | | retrograde | 14186 Nov 18 14:07 | 27°♊56'48 | |
| morning rise | 14180 Jul 24 14:01 | 0°♊21'23 | | opposition | 14187 Feb 03 12:28 | 25°♊58'45 | -0°25'49 |
| retrograde | 14180 Oct 24 11:05 | 3°♊28'47 | | min. Earth dist. | 14187 Feb 03 03:07 | 25°♊59'41 | 18.90965 AU |
| opposition | 14181 Jan 08 18:10 | 1°♊30'33 | -0°52'15 | direct | 14187 Apr 21 12:11 | 24°♊00'31 | |

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|------------------|--------------------|-------------|-------------|------------------|--------------------|-------------|-------------|
| evening set | 14187 Jul 22 00:38 | 27°04'04" | | morning rise | 14192 Sep 10 20:36 | 18°05'46" | |
| | | | | retrograde | 14192 Dec 12 13:40 | 21°05'32" | |
| conjunction | 14187 Aug 06 20:12 | 27°05'34" | -0°21'06" | opposition | 14193 Feb 27 19:33 | 20°00'38" | 0°04'37" |
| minimum elong | 14187 Aug 06 20:12 | 27°05'34" | 0°21'46" | min. Earth dist. | 14193 Feb 27 10:39 | 20°01'32" | 19.02732 AU |
| max. Earth dist. | 14187 Aug 07 05:27 | 27°05'53" | 20.92488 AU | direct | 14193 May 15 09:18 | 18°03'21" | |
| morning rise | 14187 Aug 22 16:07 | 28°05'07" | | evening set | 14193 Aug 14 08:35 | 21°04'45" | |
| | 14187 Sep 12 10:59 | 0°00' | | | | | |
| retrograde | 14187 Nov 22 21:01 | 1°05'58"00 | | conjunction | 14193 Aug 30 04:51 | 21°05'58"59 | 0°06'34" |
| opposition | 14188 Feb 07 22:14 | 0°00'00"1 | -0°20'54" | minimum elong | 14193 Aug 30 04:50 | 21°05'58"59 | 0°06'20" |
| | 14188 Feb 07 22:22 | 30°06'00" | | behind sun begin | 14193 Aug 29 22:37 | 21°05'58"07 | |
| min. Earth dist. | 14188 Feb 07 13:42 | 0°00'00"52 | 18.93945 AU | behind sun end | 14193 Aug 30 11:04 | 21°05'59"51 | |
| direct | 14188 Apr 24 19:26 | 28°01'58" | | max. Earth dist. | 14193 Aug 30 13:31 | 22°00'01"13 | 21.02909 AU |
| | 14188 Jul 05 01:12 | 0°00' | | morning rise | 14193 Sep 15 02:17 | 22°05'53"24 | |
| evening set | 14188 Jul 25 06:12 | 1°05'01" | | retrograde | 14193 Dec 16 20:20 | 25°05'58"16 | |
| | | | | opposition | 14194 Mar 04 04:23 | 24°00'01"19 | 0°09'45" |
| conjunction | 14188 Aug 10 01:48 | 1°05'59"25 | -0°16'37" | min. Earth dist. | 14194 Mar 03 20:50 | 24°01'01"04 | 19.02961 AU |
| minimum elong | 14188 Aug 10 01:48 | 1°05'59"25 | 0°17'12" | direct | 14194 May 19 15:46 | 22°03'05"05 | |
| max. Earth dist. | 14188 Aug 10 11:03 | 2°00'00"45 | 20.95306 AU | evening set | 14194 Aug 18 13:52 | 25°04'18" | |
| morning rise | 14188 Aug 25 21:55 | 2°05'53"54 | | | | | |
| retrograde | 14188 Nov 26 06:02 | 5°05'58"40 | | conjunction | 14194 Sep 03 10:22 | 25°05'58"33 | 0°11'10" |
| opposition | 14189 Feb 11 07:35 | 4°00'00"43 | -0°15'53" | minimum elong | 14194 Sep 03 10:22 | 25°05'58"33 | 0°10'58" |
| min. Earth dist. | 14189 Feb 10 21:53 | 4°01'01"41 | 18.96578 AU | behind sun begin | 14194 Sep 03 05:22 | 25°05'57"51 | |
| direct | 14189 Apr 29 04:22 | 2°02'02"52 | | behind sun end | 14194 Sep 03 15:21 | 25°05'59"14 | |
| evening set | 14189 Jul 29 11:38 | 5°05'05"28 | | max. Earth dist. | 14194 Sep 03 18:12 | 25°05'59"39 | 21.02868 AU |
| | | | | morning rise | 14194 Sep 19 08:13 | 26°05'53"00 | |
| conjunction | 14189 Aug 14 07:17 | 5°05'59"48 | -0°12'04" | retrograde | 14194 Dec 21 05:20 | 29°05'57"59 | |
| minimum elong | 14189 Aug 14 07:17 | 5°05'59"48 | 0°12'36" | opposition | 14195 Mar 08 12:46 | 27°05'59"55 | 0°14'50" |
| behind sun begin | 14189 Aug 14 03:02 | 5°05'59"12 | | min. Earth dist. | 14195 Mar 08 04:44 | 28°00'00"43 | 19.02644 AU |
| behind sun end | 14189 Aug 14 11:33 | 6°00'00"24 | | direct | 14195 May 23 23:09 | 26°02'02"40 | |
| max. Earth dist. | 14189 Aug 14 16:54 | 6°01'01"10 | 20.97745 AU | evening set | 14195 Aug 22 19:09 | 29°03'03"46 | |
| morning rise | 14189 Aug 30 03:35 | 6°05'54"15 | | | | | |
| retrograde | 14189 Nov 30 12:37 | 9°05'58"56 | | conjunction | 14195 Sep 07 15:55 | 29°05'58"03 | 0°15'43" |
| opposition | 14190 Feb 15 16:52 | 8°01'01"01 | -0°10'48" | minimum elong | 14195 Sep 07 15:55 | 29°05'58"03 | 0°15'36" |
| min. Earth dist. | 14190 Feb 15 08:12 | 8°01'01"53 | 18.98822 AU | behind sun begin | 14195 Sep 07 14:13 | 29°05'57"48 | |
| direct | 14190 May 03 10:59 | 6°03'03"21 | | behind sun end | 14195 Sep 07 17:38 | 29°05'58"17 | |
| evening set | 14190 Aug 02 16:52 | 9°05'05"33 | | max. Earth dist. | 14195 Sep 07 23:40 | 29°05'59"09 | 21.02283 AU |
| | | | | | 14195 Sep 08 05:36 | 0°00' | |
| conjunction | 14190 Aug 18 12:39 | 9°05'59"51 | -0°07'28" | morning rise | 14195 Sep 23 14:06 | 0°05'52"33 | |
| minimum elong | 14190 Aug 18 12:39 | 9°05'59"51 | 0°07'56" | retrograde | 14195 Dec 25 11:59 | 3°05'57"42 | |
| behind sun begin | 14190 Aug 18 06:44 | 9°05'59"01 | | opposition | 14196 Mar 11 21:20 | 1°05'59"29 | 0°19'50" |
| behind sun end | 14190 Aug 18 18:33 | 10°00'00"40 | | min. Earth dist. | 14196 Mar 11 14:32 | 2°00'00"10 | 19.01815 AU |
| max. Earth dist. | 14190 Aug 18 21:59 | 10°01'01"10 | 20.99784 AU | direct | 14196 May 27 05:13 | 0°00'02"13 | |
| morning rise | 14190 Sep 03 09:15 | 10°05'54"16 | | evening set | 14196 Aug 26 00:18 | 3°00'03"13 | |
| retrograde | 14190 Dec 04 21:56 | 13°05'58"55 | | | | | |
| opposition | 14191 Feb 20 01:49 | 12°01'01"03 | -0°05'40" | conjunction | 14196 Sep 10 21:19 | 3°05'57"32 | 0°20'12" |
| min. Earth dist. | 14191 Feb 19 16:18 | 12°02'02"00 | 19.00628 AU | minimum elong | 14196 Sep 10 21:19 | 3°05'57"32 | 0°20'09" |
| direct | 14191 May 07 19:09 | 10°03'03"32 | | max. Earth dist. | 14196 Sep 11 04:30 | 3°05'58"33 | 21.01233 AU |
| evening set | 14191 Aug 06 22:09 | 13°05'05"25 | | morning rise | 14196 Sep 26 19:58 | 4°05'52"05 | |
| | | | | retrograde | 14196 Dec 28 21:19 | 7°05'57"28 | |
| conjunction | 14191 Aug 22 18:02 | 13°05'59"40 | -0°02'51" | opposition | 14197 Mar 16 05:42 | 5°05'59"05 | 0°24'46" |
| minimum elong | 14191 Aug 22 18:03 | 13°05'59"40 | 0°03'14" | min. Earth dist. | 14197 Mar 15 22:12 | 5°05'59"50 | 19.00552 AU |
| behind sun begin | 14191 Aug 22 11:30 | 13°05'58"46 | | direct | 14197 May 31 12:36 | 4°00'01"45 | |
| behind sun end | 14191 Aug 23 00:35 | 14°00'00"35 | | evening set | 14197 Aug 30 05:39 | 7°00'02"44 | |
| max. Earth dist. | 14191 Aug 23 03:27 | 14°01'01"01 | 21.01341 AU | | | | |
| morning rise | 14191 Sep 07 14:51 | 14°05'54"04 | | conjunction | 14197 Sep 15 03:01 | 7°05'57"07 | 0°24'35" |
| retrograde | 14191 Dec 09 04:23 | 17°05'58"45 | | minimum elong | 14197 Sep 15 03:01 | 7°05'57"07 | 0°24'37" |
| opposition | 14192 Feb 24 10:44 | 16°00'00"54 | -0°00'32" | max. Earth dist. | 14197 Sep 15 10:25 | 7°05'58"10 | 20.99763 AU |
| min. Earth dist. | 14192 Feb 24 02:31 | 16°01'01"43 | 19.01941 AU | morning rise | 14197 Oct 01 02:01 | 8°05'51"45 | |
| asc. node | 14192 Mar 30 20:35 | 14°04'43"07 | | retrograde | 14198 Jan 02 04:07 | 11°05'57"23 | |
| direct | 14192 May 11 01:39 | 14°03'03"31 | | opposition | 14198 Mar 20 14:03 | 9°05'58"50 | 0°29'34" |
| evening set | 14192 Aug 10 03:25 | 17°05'05"08 | | min. Earth dist. | 14198 Mar 20 07:35 | 9°05'59"29 | 18.98904 AU |
| | | | | direct | 14198 Jun 04 17:53 | 8°00'01"27 | |
| conjunction | 14192 Aug 25 23:26 | 17°05'59"22 | 0°01'55" | evening set | 14198 Sep 03 11:10 | 11°00'02"29 | |
| minimum elong | 14192 Aug 25 23:27 | 17°05'59"22 | 0°01'35" | | | | |
| behind sun begin | 14192 Aug 25 16:53 | 17°05'58"27 | | conjunction | 14198 Sep 19 08:51 | 11°05'56"56 | 0°28'52" |
| behind sun end | 14192 Aug 26 06:02 | 18°00'00"17 | | minimum elong | 14198 Sep 19 08:50 | 11°05'56"55 | 0°28'58" |
| max. Earth dist. | 14192 Aug 26 08:14 | 18°00'00"37 | 21.02403 AU | max. Earth dist. | 14198 Sep 19 15:40 | 11°05'57"54 | 20.97945 AU |

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|------------------|--------------------|--------------------------------|------------------|--------------------|--------------------------------|--|
| morning rise | 14198 Oct 05 08:21 | 12° <u>♄</u> 51'39 | direct | 14205 Jul 03 18:33 | 6° <u>♄</u> 16'23 | |
| retrograde | 14199 Jan 06 14:03 | 15° <u>♄</u> 57'36 | evening set | 14205 Oct 02 12:03 | 9° <u>♄</u> 19'38 | |
| opposition | 14199 Mar 24 22:20 | 13° <u>♄</u> 58'53 0°34'14 | | | | |
| min. Earth dist. | 14199 Mar 24 15:11 | 13° <u>♄</u> 59'37 18.96917 AU | conjunction | 14205 Oct 18 12:51 | 10° <u>♄</u> 15'04 0°53'58 | |
| direct | 14199 Jun 09 01:23 | 12° <u>♄</u> 01'26 | minimum elong | 14205 Oct 18 12:51 | 10° <u>♄</u> 15'04 0°54'33 | |
| evening set | 14199 Sep 07 16:52 | 15° <u>♄</u> 02'35 | max. Earth dist. | 14205 Oct 18 17:34 | 10° <u>♄</u> 15'45 20.76055 AU | |
| | | | morning rise | 14205 Nov 03 15:48 | 11° <u>♄</u> 10'50 | |
| conjunction | 14199 Sep 23 14:55 | 15° <u>♄</u> 57'08 0°33'00 | retrograde | 14206 Feb 05 12:58 | 14° <u>♄</u> 20'15 | |
| minimum elong | 14199 Sep 23 14:55 | 15° <u>♄</u> 57'08 0°33'11 | opposition | 14206 Apr 23 14:03 | 12° <u>♄</u> 20'32 1°01'19 | |
| max. Earth dist. | 14199 Sep 23 22:01 | 15° <u>♄</u> 58'09 20.95781 AU | min. Earth dist. | 14206 Apr 23 10:30 | 12° <u>♄</u> 20'54 18.73836 AU | |
| morning rise | 14199 Oct 09 14:47 | 16° <u>♄</u> 51'58 | direct | 14206 Jul 08 02:56 | 10° <u>♄</u> 22'28 | |
| retrograde | 14200 Jan 10 21:45 | 19° <u>♄</u> 58'16 | evening set | 14206 Oct 06 21:21 | 13° <u>♄</u> 26'15 | |
| opposition | 14200 Mar 29 06:49 | 17° <u>♄</u> 59'25 0°38'45 | | | | |
| min. Earth dist. | 14200 Mar 29 00:36 | 18° <u>♄</u> 00'03 18.94597 AU | conjunction | 14206 Oct 22 22:37 | 14° <u>♄</u> 21'53 0°56'39 | |
| direct | 14200 Jun 13 06:28 | 16° <u>♄</u> 01'54 | minimum elong | 14206 Oct 22 22:37 | 14° <u>♄</u> 21'52 0°57'18 | |
| evening set | 14200 Sep 11 22:55 | 19° <u>♄</u> 03'15 | max. Earth dist. | 14206 Oct 23 01:42 | 14° <u>♄</u> 22'19 20.71473 AU | |
| | | | | 14206 Nov 02 21:28 | 15° <u>♄</u> | |
| conjunction | 14200 Sep 27 21:20 | 19° <u>♄</u> 57'54 0°36'59 | morning rise | 14206 Nov 08 02:14 | 15° <u>♄</u> 17'51 | |
| minimum elong | 14200 Sep 27 21:19 | 19° <u>♄</u> 57'54 0°37'15 | retrograde | 14207 Feb 10 01:37 | 18° <u>♄</u> 27'53 | |
| max. Earth dist. | 14200 Sep 28 03:49 | 19° <u>♄</u> 58'50 20.93316 AU | opposition | 14207 Apr 28 00:24 | 16° <u>♄</u> 27'58 1°04'10 | |
| morning rise | 14200 Oct 13 21:45 | 20° <u>♄</u> 52'51 | min. Earth dist. | 14207 Apr 27 21:10 | 16° <u>♄</u> 28'18 18.69046 AU | |
| retrograde | 14201 Jan 15 08:07 | 23° <u>♄</u> 59'35 | | 14207 Jun 07 09:05 | 15° <u>♄</u> | |
| opposition | 14201 Apr 02 15:22 | 22° <u>♄</u> 00'35 0°43'04 | direct | 14207 Jul 12 11:43 | 14° <u>♄</u> 29'41 | |
| min. Earth dist. | 14201 Apr 02 08:36 | 22° <u>♄</u> 01'16 18.91980 AU | | 14207 Aug 15 21:18 | 15° <u>♄</u> | |
| direct | 14201 Jun 17 14:11 | 20° <u>♄</u> 03'00 | evening set | 14207 Oct 11 07:05 | 17° <u>♄</u> 34'03 | |
| evening set | 14201 Sep 16 05:14 | 23° <u>♄</u> 04'36 | | | | |
| | | | conjunction | 14207 Oct 27 09:00 | 18° <u>♄</u> 29'53 0°59'03 | |
| conjunction | 14201 Oct 02 04:08 | 23° <u>♄</u> 59'22 0°40'48 | minimum elong | 14207 Oct 27 08:59 | 18° <u>♄</u> 29'53 0°59'47 | |
| minimum elong | 14201 Oct 02 04:08 | 23° <u>♄</u> 59'22 0°41'07 | max. Earth dist. | 14207 Oct 27 11:55 | 18° <u>♄</u> 30'18 20.66470 AU | |
| max. Earth dist. | 14201 Oct 02 10:54 | 24° <u>♄</u> 00'21 20.90533 AU | morning rise | 14207 Nov 12 13:03 | 19° <u>♄</u> 26'03 | |
| morning rise | 14201 Oct 18 04:59 | 24° <u>♄</u> 54'28 | retrograde | 14208 Feb 14 13:08 | 22° <u>♄</u> 36'43 | |
| retrograde | 14202 Jan 19 17:16 | 28° <u>♄</u> 01'39 | opposition | 14208 May 01 11:12 | 20° <u>♄</u> 36'34 1°06'42 | |
| opposition | 14202 Apr 07 00:13 | 26° <u>♄</u> 02'31 0°47'12 | min. Earth dist. | 14208 May 01 09:05 | 20° <u>♄</u> 36'47 18.63852 AU | |
| min. Earth dist. | 14202 Apr 06 18:27 | 26° <u>♄</u> 03'06 18.89040 AU | direct | 14208 Jul 15 21:00 | 18° <u>♄</u> 38'03 | |
| direct | 14202 Jun 21 20:02 | 24° <u>♄</u> 04'52 | evening set | 14208 Oct 14 17:33 | 21° <u>♄</u> 43'02 | |
| evening set | 14202 Sep 20 12:09 | 27° <u>♄</u> 06'47 | | | | |
| | | | conjunction | 14208 Oct 30 19:58 | 22° <u>♄</u> 39'04 1°01'10 | |
| conjunction | 14202 Oct 06 11:27 | 28° <u>♄</u> 01'42 0°44'25 | minimum elong | 14208 Oct 30 19:57 | 22° <u>♄</u> 39'04 1°01'56 | |
| minimum elong | 14202 Oct 06 11:26 | 28° <u>♄</u> 01'42 0°44'50 | max. Earth dist. | 14208 Oct 30 21:18 | 22° <u>♄</u> 39'16 20.61116 AU | |
| max. Earth dist. | 14202 Oct 06 17:19 | 28° <u>♄</u> 02'33 20.87442 AU | morning rise | 14208 Nov 16 00:45 | 23° <u>♄</u> 35'28 | |
| morning rise | 14202 Oct 22 12:54 | 28° <u>♄</u> 56'57 | retrograde | 14209 Feb 18 02:50 | 26° <u>♄</u> 46'47 | |
| | 14202 Nov 11 01:31 | 0° <u>♄</u> | opposition | 14209 May 05 22:13 | 24° <u>♄</u> 46'22 1°08'53 | |
| retrograde | 14203 Jan 24 04:08 | 2° <u>♄</u> 04'38 | min. Earth dist. | 14209 May 05 20:29 | 24° <u>♄</u> 46'32 18.58345 AU | |
| opposition | 14203 Apr 11 09:04 | 0° <u>♄</u> 05'22 0°51'06 | direct | 14209 Jul 20 06:51 | 22° <u>♄</u> 47'33 | |
| min. Earth dist. | 14203 Apr 11 03:04 | 0° <u>♄</u> 05'58 18.85785 AU | evening set | 14209 Oct 19 04:30 | 25° <u>♄</u> 53'12 | |
| | 14203 Apr 13 14:00 | 30° <u>♄</u> | | | | |
| direct | 14203 Jun 26 03:36 | 28° <u>♄</u> 07'39 | conjunction | 14209 Nov 04 07:39 | 26° <u>♄</u> 49'28 1°02'58 | |
| | 14203 Sep 02 23:11 | 0° <u>♄</u> | minimum elong | 14209 Nov 04 07:39 | 26° <u>♄</u> 49'28 1°03'48 | |
| evening set | 14203 Sep 24 19:33 | 1° <u>♄</u> 09'57 | max. Earth dist. | 14209 Nov 04 09:09 | 26° <u>♄</u> 49'42 20.55465 AU | |
| | | | morning rise | 14209 Nov 20 12:56 | 27° <u>♄</u> 46'06 | |
| conjunction | 14203 Oct 10 19:21 | 2° <u>♄</u> 05'02 0°47'50 | | 14210 Jan 04 19:45 | 0° <u>♄</u> | |
| minimum elong | 14203 Oct 10 19:20 | 2° <u>♄</u> 05'02 0°48'18 | retrograde | 14210 Feb 22 15:04 | 0° <u>♄</u> 58'04 | |
| max. Earth dist. | 14203 Oct 11 01:21 | 2° <u>♄</u> 05'54 20.84009 AU | | 14210 Apr 13 19:49 | 30° <u>♄</u> | |
| morning rise | 14203 Oct 26 21:12 | 3° <u>♄</u> 00'26 | opposition | 14210 May 10 09:39 | 28° <u>♄</u> 57'23 1°10'44 | |
| retrograde | 14204 Jan 28 14:17 | 6° <u>♄</u> 08'40 | min. Earth dist. | 14210 May 10 08:46 | 28° <u>♄</u> 57'29 18.52573 AU | |
| opposition | 14204 Apr 14 18:28 | 4° <u>♄</u> 09'16 0°54'47 | direct | 14210 Jul 24 16:43 | 26° <u>♄</u> 58'18 | |
| min. Earth dist. | 14204 Apr 14 13:34 | 4° <u>♄</u> 09'46 18.82180 AU | | 14210 Oct 22 07:43 | 0° <u>♄</u> | |
| direct | 14204 Jun 29 10:45 | 2° <u>♄</u> 11'28 | evening set | 14210 Oct 23 16:15 | 0° <u>♄</u> 04'39 | |
| evening set | 14204 Sep 28 03:24 | 5° <u>♄</u> 14'13 | | | | |
| | | | conjunction | 14210 Nov 08 19:53 | 1° <u>♄</u> 01'10 1°04'27 | |
| conjunction | 14204 Oct 14 03:37 | 6° <u>♄</u> 09'27 0°51'01 | minimum elong | 14210 Nov 08 19:53 | 1° <u>♄</u> 01'10 1°05'19 | |
| minimum elong | 14204 Oct 14 03:37 | 6° <u>♄</u> 09'27 0°51'33 | max. Earth dist. | 14210 Nov 08 19:54 | 1° <u>♄</u> 01'10 20.49601 AU | |
| max. Earth dist. | 14204 Oct 14 08:30 | 6° <u>♄</u> 10'09 20.80232 AU | morning rise | 14210 Nov 25 01:53 | 1° <u>♄</u> 58'02 | |
| morning rise | 14204 Oct 30 06:08 | 7° <u>♄</u> 05'02 | retrograde | 14211 Feb 27 05:49 | 5° <u>♄</u> 10'41 | |
| retrograde | 14205 Feb 01 02:06 | 10° <u>♄</u> 13'52 | opposition | 14211 May 14 21:22 | 3° <u>♄</u> 09'44 1°12'12 | |
| opposition | 14205 Apr 19 04:07 | 8° <u>♄</u> 14'19 0°58'11 | min. Earth dist. | 14211 May 14 20:52 | 3° <u>♄</u> 09'47 18.46633 AU | |
| min. Earth dist. | 14205 Apr 18 23:16 | 8° <u>♄</u> 14'48 18.78215 AU | direct | 14211 Jul 29 03:32 | 1° <u>♄</u> 10'21 | |

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|------------------|--------------------|-----------|-------------|------------------|--------------------|-----------|-------------|
| evening set | 14211 Oct 28 04:34 | 4°♊17'28 | | max. Earth dist. | 14217 Dec 09 05:28 | 1°♊07'36 | 20.07085 AU |
| | | | | morning rise | 14217 Dec 25 17:56 | 2°♊06'43 | |
| conjunction | 14211 Nov 13 08:57 | 5°♊14'15 | 1°05'35 | retrograde | 14218 Mar 30 01:24 | 5°♊24'35 | |
| minimum elong | 14211 Nov 13 08:56 | 5°♊14'15 | 1°06'30 | opposition | 14218 Jun 13 22:26 | 3°♊22'27 | 1°11'09 |
| max. Earth dist. | 14211 Nov 13 09:24 | 5°♊14'19 | 20.43587 AU | min. Earth dist. | 14218 Jun 14 01:00 | 3°♊22'10 | 18.04104 AU |
| morning rise | 14211 Nov 29 15:23 | 6°♊11'21 | | direct | 14218 Aug 27 19:27 | 1°♊21'15 | |
| retrograde | 14212 Mar 02 19:06 | 9°♊24'42 | | evening set | 14218 Nov 27 18:04 | 4°♊34'53 | |
| opposition | 14212 May 18 09:39 | 7°♊23'32 | 1°13'17 | | | | |
| min. Earth dist. | 14212 May 18 09:37 | 7°♊23'32 | 18.40570 AU | conjunction | 14218 Dec 14 02:53 | 5°♊33'37 | 1°03'10 |
| direct | 14212 Aug 01 14:17 | 5°♊23'51 | | minimum elong | 14218 Dec 14 02:53 | 5°♊33'37 | 1°04'13 |
| evening set | 14212 Oct 31 17:37 | 8°♊31'47 | | max. Earth dist. | 14218 Dec 13 22:27 | 5°♊32'57 | 20.01084 AU |
| | | | | morning rise | 14218 Dec 30 13:30 | 6°♊32'37 | |
| conjunction | 14212 Nov 16 22:31 | 9°♊28'49 | 1°06'22 | retrograde | 14219 Apr 03 21:11 | 9°♊51'14 | |
| minimum elong | 14212 Nov 16 22:30 | 9°♊28'49 | 1°07'19 | opposition | 14219 Jun 18 14:48 | 7°♊48'58 | 1°09'18 |
| max. Earth dist. | 14212 Nov 16 21:33 | 9°♊28'40 | 20.37497 AU | min. Earth dist. | 14219 Jun 18 18:43 | 7°♊48'33 | 17.98111 AU |
| morning rise | 14212 Dec 03 05:44 | 10°♊26'11 | | direct | 14219 Sep 01 10:27 | 5°♊47'29 | |
| retrograde | 14213 Mar 07 10:48 | 13°♊40'17 | | evening set | 14219 Dec 02 13:20 | 9°♊02'08 | |
| opposition | 14213 May 22 22:25 | 11°♊38'52 | 1°13'59 | | | | |
| min. Earth dist. | 14213 May 22 22:49 | 11°♊38'49 | 18.34459 AU | conjunction | 14219 Dec 18 22:57 | 10°♊01'09 | 1°01'17 |
| direct | 14213 Aug 06 01:59 | 9°♊38'54 | | minimum elong | 14219 Dec 18 22:57 | 10°♊01'09 | 1°02'21 |
| evening set | 14213 Nov 05 07:28 | 12°♊47'42 | | max. Earth dist. | 14219 Dec 18 18:44 | 10°♊00'31 | 19.95091 AU |
| | | | | morning rise | 14220 Jan 04 09:55 | 11°♊00'26 | |
| conjunction | 14213 Nov 21 13:11 | 13°♊45'00 | 1°06'47 | retrograde | 14220 Apr 07 17:58 | 14°♊19'44 | |
| minimum elong | 14213 Nov 21 13:11 | 13°♊45'00 | 1°07'45 | opposition | 14220 Jun 22 07:45 | 12°♊17'19 | 1°07'02 |
| max. Earth dist. | 14213 Nov 21 12:46 | 13°♊44'57 | 20.31362 AU | min. Earth dist. | 14220 Jun 22 11:38 | 12°♊16'54 | 17.92117 AU |
| morning rise | 14213 Dec 07 20:50 | 14°♊42'38 | | direct | 14220 Sep 05 02:38 | 10°♊15'33 | |
| retrograde | 14214 Mar 12 01:48 | 17°♊57'27 | | evening set | 14220 Dec 06 09:35 | 13°♊31'10 | |
| opposition | 14214 May 27 11:31 | 15°♊55'52 | 1°14'15 | | | | |
| min. Earth dist. | 14214 May 27 12:14 | 15°♊55'47 | 18.28319 AU | conjunction | 14220 Dec 22 19:40 | 14°♊30'28 | 0°59'02 |
| direct | 14214 Aug 10 13:56 | 13°♊55'38 | | minimum elong | 14220 Dec 22 19:41 | 14°♊30'28 | 1°00'04 |
| evening set | 14214 Nov 09 22:16 | 17°♊05'20 | | max. Earth dist. | 14220 Dec 22 13:29 | 14°♊29'32 | 19.89112 AU |
| | | | | morning rise | 14221 Jan 08 07:17 | 15°♊30'01 | |
| conjunction | 14214 Nov 26 04:29 | 18°♊02'55 | 1°06'49 | retrograde | 14221 Apr 12 14:44 | 18°♊49'58 | |
| minimum elong | 14214 Nov 26 04:29 | 18°♊02'55 | 1°07'50 | opposition | 14221 Jun 27 01:23 | 16°♊47'22 | 1°04'20 |
| max. Earth dist. | 14214 Nov 26 02:30 | 18°♊02'37 | 20.25236 AU | min. Earth dist. | 14221 Jun 27 06:47 | 16°♊46'47 | 17.86163 AU |
| morning rise | 14214 Dec 12 12:54 | 19°♊00'49 | | direct | 14221 Sep 09 19:27 | 14°♊45'16 | |
| retrograde | 14215 Mar 16 18:27 | 22°♊16'24 | | evening set | 14221 Dec 11 06:33 | 18°♊01'52 | |
| opposition | 14215 Jun 01 01:22 | 20°♊14'38 | 1°14'07 | | | | |
| min. Earth dist. | 14215 Jun 01 02:41 | 20°♊14'30 | 18.22210 AU | conjunction | 14221 Dec 27 17:23 | 19°♊01'27 | 0°56'24 |
| direct | 14215 Aug 15 02:14 | 18°♊14'08 | | minimum elong | 14221 Dec 27 17:24 | 19°♊01'27 | 0°57'26 |
| evening set | 14215 Nov 14 13:37 | 21°♊24'47 | | max. Earth dist. | 14221 Dec 27 11:20 | 19°♊00'31 | 19.83198 AU |
| | | | | morning rise | 14222 Jan 13 05:18 | 20°♊01'14 | |
| conjunction | 14215 Nov 30 20:39 | 22°♊22'39 | 1°06'29 | retrograde | 14222 Apr 17 12:02 | 23°♊21'46 | |
| minimum elong | 14215 Nov 30 20:39 | 22°♊22'39 | 1°07'30 | opposition | 14222 Jul 01 19:18 | 21°♊18'59 | 1°01'13 |
| max. Earth dist. | 14215 Nov 30 19:23 | 22°♊22'28 | 20.19140 AU | min. Earth dist. | 14222 Jul 02 00:28 | 21°♊18'26 | 17.80295 AU |
| morning rise | 14215 Dec 17 05:29 | 23°♊20'50 | | direct | 14222 Sep 14 13:50 | 19°♊16'33 | |
| retrograde | 14216 Mar 20 11:42 | 26°♊37'11 | | evening set | 14222 Dec 16 04:25 | 22°♊34'06 | |
| opposition | 14216 Jun 04 15:48 | 24°♊35'16 | 1°13'33 | | | | |
| min. Earth dist. | 14216 Jun 04 17:12 | 24°♊35'07 | 18.16132 AU | conjunction | 14223 Jan 01 15:40 | 23°♊33'57 | 0°53'24 |
| direct | 14216 Aug 18 15:36 | 22°♊34'33 | | minimum elong | 14223 Jan 01 15:40 | 23°♊33'57 | 0°54'25 |
| evening set | 14216 Nov 18 06:11 | 25°♊46'10 | | max. Earth dist. | 14223 Jan 01 08:04 | 23°♊32'47 | 19.77408 AU |
| | | | | morning rise | 14223 Jan 18 04:04 | 24°♊33'59 | |
| conjunction | 14216 Dec 04 13:44 | 26°♊44'19 | 1°05'45 | retrograde | 14223 Apr 22 08:48 | 27°♊55'05 | |
| minimum elong | 14216 Dec 04 13:44 | 26°♊44'19 | 1°06'48 | opposition | 14223 Jul 06 14:02 | 25°♊52'06 | 0°57'42 |
| max. Earth dist. | 14216 Dec 04 10:47 | 26°♊43'53 | 20.13094 AU | min. Earth dist. | 14223 Jul 06 20:37 | 25°♊51'24 | 17.74604 AU |
| morning rise | 14216 Dec 20 23:19 | 27°♊42'47 | | direct | 14223 Sep 19 08:01 | 23°♊49'19 | |
| | 14217 Feb 04 07:41 | 0°♊ | | evening set | 14223 Dec 21 02:40 | 27°♊07'47 | |
| retrograde | 14217 Mar 25 05:56 | 0°♊59'54 | | | | | |
| | 14217 May 14 12:59 | 30°♊ | | conjunction | 14224 Jan 06 14:34 | 28°♊07'54 | 0°50'03 |
| opposition | 14217 Jun 09 06:47 | 28°♊57'52 | 1°12'34 | minimum elong | 14224 Jan 06 14:35 | 28°♊07'54 | 0°51'02 |
| min. Earth dist. | 14217 Jun 09 09:12 | 28°♊57'37 | 18.10111 AU | max. Earth dist. | 14224 Jan 06 07:16 | 28°♊06'47 | 19.71836 AU |
| direct | 14217 Aug 23 04:48 | 26°♊56'54 | | morning rise | 14224 Jan 23 03:17 | 29°♊08'09 | |
| | 14217 Nov 20 06:09 | 0°♊ | | | 14224 Feb 07 01:39 | 0°♊ | |
| evening set | 14217 Nov 22 23:35 | 0°♊09'32 | | retrograde | 14224 Apr 26 07:02 | 2°♊29'47 | |
| | | | | opposition | 14224 Jul 10 09:07 | 0°♊26'37 | 0°53'48 |
| conjunction | 14217 Dec 09 07:58 | 1°♊07'59 | 1°04'39 | min. Earth dist. | 14224 Jul 10 15:06 | 0°♊25'58 | 17.69153 AU |
| minimum elong | 14217 Dec 09 07:58 | 1°♊07'59 | 1°05'42 | | 14224 Jul 20 17:57 | 30°♊ | |

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|------------------|--------------------|---|-------------|------------------|--------------------|---|-------------|
| direct | 14224 Sep 23 04:27 | 28°  23'30 | | evening set | 14231 Jan 23 09:51 | 29°  40'04 | |
| | 14224 Nov 23 20:58 | 0°  | | | 14231 Jan 28 20:15 | 0°  | |
| evening set | 14224 Dec 25 01:57 | 1°  42'52 | | | | | |
| | | | | conjunction | 14231 Feb 08 23:49 | 0°  41'30 | 0°18'29 |
| conjunction | 14225 Jan 10 14:14 | 2°  43'13 | 0°46'22 | minimum elong | 14231 Feb 08 23:49 | 0°  41'30 | 0°19'05 |
| minimum elong | 14225 Jan 10 14:15 | 2°  43'13 | 0°47'19 | max. Earth dist. | 14231 Feb 08 15:41 | 0°  40'14 | 19.43670 AU |
| max. Earth dist. | 14225 Jan 10 05:59 | 2°  41'57 | 19.66529 AU | morning rise | 14231 Feb 25 13:13 | 1°  42'53 | |
| morning rise | 14225 Jan 27 03:18 | 3°  43'42 | | retrograde | 14231 May 30 02:13 | 5°  07'00 | |
| retrograde | 14225 May 01 04:09 | 7°  05'47 | | opposition | 14231 Aug 12 12:37 | 3°  03'31 | 0°17'41 |
| opposition | 14225 Jul 15 04:43 | 5°  02'28 | 0°49'31 | min. Earth dist. | 14231 Aug 12 20:07 | 3°  02'42 | 17.42554 AU |
| min. Earth dist. | 14225 Jul 15 12:03 | 5°  01'40 | 17.64015 AU | direct | 14231 Oct 26 12:56 | 0°  58'55 | |
| direct | 14225 Sep 27 23:54 | 2°  59'01 | | evening set | 14232 Jan 28 13:01 | 4°  23'44 | |
| evening set | 14225 Dec 30 01:48 | 6°  19'16 | | | | | |
| | | | | conjunction | 14232 Feb 14 02:53 | 5°  25'16 | 0°13'09 |
| conjunction | 14226 Jan 15 14:34 | 7°  19'51 | 0°42'22 | minimum elong | 14232 Feb 14 02:53 | 5°  25'16 | 0°13'42 |
| minimum elong | 14226 Jan 15 14:35 | 7°  19'51 | 0°43'15 | behind sun begin | 14232 Feb 13 23:23 | 5°  24'44 | |
| max. Earth dist. | 14226 Jan 15 06:22 | 7°  18'35 | 19.61575 AU | behind sun end | 14232 Feb 14 06:24 | 5°  25'48 | |
| morning rise | 14226 Feb 01 03:51 | 8°  20'31 | | max. Earth dist. | 14232 Feb 13 17:43 | 5°  23'51 | 19.41545 AU |
| retrograde | 14226 May 06 03:23 | 11°  43'03 | | morning rise | 14232 Mar 01 16:18 | 6°  26'44 | |
| opposition | 14226 Jul 20 00:47 | 9°  39'36 | 0°44'54 | retrograde | 14232 Jun 03 03:52 | 9°  51'02 | |
| min. Earth dist. | 14226 Jul 20 07:17 | 9°  38'53 | 17.59251 AU | opposition | 14232 Aug 16 11:27 | 7°  47'36 | 0°11'41 |
| direct | 14226 Oct 02 21:46 | 7°  35'51 | | min. Earth dist. | 14232 Aug 16 18:38 | 7°  46'49 | 17.40642 AU |
| evening set | 14227 Jan 04 02:12 | 10°  56'57 | | direct | 14232 Oct 30 13:08 | 5°  42'54 | |
| | | | | evening set | 14233 Feb 01 16:36 | 9°  08'17 | |
| conjunction | 14227 Jan 20 15:16 | 11°  57'44 | 0°38'03 | | | | |
| minimum elong | 14227 Jan 20 15:17 | 11°  57'44 | 0°38'55 | conjunction | 14233 Feb 18 06:34 | 10°  09'54 | 0°07'44 |
| max. Earth dist. | 14227 Jan 20 06:50 | 11°  56'26 | 19.57014 AU | minimum elong | 14233 Feb 18 06:34 | 10°  09'54 | 0°08'11 |
| morning rise | 14227 Feb 06 04:41 | 12°  58'35 | | behind sun begin | 14233 Feb 18 00:36 | 10°  09'00 | |
| | 14227 Mar 15 16:40 | 15°  | | behind sun end | 14233 Feb 18 12:31 | 10°  10'49 | |
| retrograde | 14227 May 11 01:20 | 16°  21'31 | | max. Earth dist. | 14233 Feb 17 22:10 | 10°  08'37 | 19.39827 AU |
| | 14227 Jul 08 10:19 | 15°  | | morning rise | 14233 Mar 06 19:32 | 11°  11'25 | |
| opposition | 14227 Jul 24 21:32 | 14°  17'58 | 0°39'58 | retrograde | 14233 Jun 08 05:07 | 14°  35'47 | |
| min. Earth dist. | 14227 Jul 25 05:02 | 14°  17'09 | 17.54919 AU | opposition | 14233 Aug 21 10:37 | 12°  32'26 | 0°05'35 |
| direct | 14227 Oct 07 18:08 | 12°  13'58 | | min. Earth dist. | 14233 Aug 21 18:24 | 12°  31'35 | 17.39121 AU |
| | 14227 Dec 30 00:19 | 15°  | | direct | 14233 Nov 04 13:08 | 10°  27'38 | |
| evening set | 14228 Jan 09 03:15 | 15°  35'54 | | evening set | 14234 Feb 06 20:33 | 13°  53'30 | |
| | | | | | | | |
| conjunction | 14228 Jan 25 16:39 | 16°  36'52 | 0°33'29 | conjunction | 14234 Feb 23 10:12 | 14°  55'09 | 0°02'15 |
| minimum elong | 14228 Jan 25 16:39 | 16°  36'52 | 0°34'17 | minimum elong | 14234 Feb 23 10:12 | 14°  55'09 | 0°02'38 |
| max. Earth dist. | 14228 Jan 25 08:03 | 16°  35'32 | 19.52930 AU | behind sun begin | 14234 Feb 23 03:28 | 14°  54'07 | |
| morning rise | 14228 Feb 11 06:14 | 17°  37'53 | | behind sun end | 14234 Feb 23 16:56 | 14°  56'10 | |
| retrograde | 14228 May 15 01:43 | 21°  01'11 | | max. Earth dist. | 14234 Feb 23 00:27 | 14°  53'39 | 19.38510 AU |
| opposition | 14228 Jul 28 18:30 | 18°  57'34 | 0°34'44 | morning rise | 14234 Mar 11 23:01 | 15°  56'42 | |
| min. Earth dist. | 14228 Jul 29 01:04 | 18°  56'51 | 17.51079 AU | retrograde | 14234 Jun 13 06:04 | 19°  21'04 | |
| direct | 14228 Oct 11 17:12 | 16°  53'20 | | desc. node | 14234 Jul 24 08:25 | 18°  37'18 | |
| evening set | 14229 Jan 13 04:55 | 20°  16'04 | | opposition | 14234 Aug 26 10:07 | 17°  17'46 | -0°00'35 |
| | | | | min. Earth dist. | 14234 Aug 26 17:49 | 17°  16'55 | 17.38007 AU |
| conjunction | 14229 Jan 29 18:36 | 21°  17'13 | 0°28'41 | direct | 14234 Nov 09 13:28 | 15°  12'52 | |
| minimum elong | 14229 Jan 29 18:37 | 21°  17'13 | 0°29'25 | evening set | 14235 Feb 12 00:17 | 18°  39'06 | |
| max. Earth dist. | 14229 Jan 29 10:17 | 21°  15'56 | 19.49336 AU | | | | |
| morning rise | 14229 Feb 15 08:11 | 22°  18'22 | | conjunction | 14235 Feb 28 13:53 | 19°  40'47 | -0°03'24 |
| retrograde | 14229 May 20 00:41 | 25°  41'59 | | minimum elong | 14235 Feb 28 13:53 | 19°  40'47 | 0°03'06 |
| opposition | 14229 Aug 02 16:10 | 23°  38'23 | 0°29'15 | behind sun begin | 14235 Feb 28 07:10 | 19°  39'46 | |
| min. Earth dist. | 14229 Aug 02 23:36 | 23°  37'34 | 17.47739 AU | behind sun end | 14235 Feb 28 20:36 | 19°  41'49 | |
| direct | 14229 Oct 16 14:30 | 21°  34'00 | | max. Earth dist. | 14235 Feb 28 05:13 | 19°  39'27 | 19.37591 AU |
| evening set | 14230 Jan 18 07:09 | 24°  57'29 | | morning rise | 14235 Mar 17 02:09 | 20°  42'19 | |
| | | | | retrograde | 14235 Jun 18 07:26 | 24°  06'38 | |
| conjunction | 14230 Feb 03 20:56 | 25°  58'46 | 0°23'40 | opposition | 14235 Aug 31 09:51 | 22°  03'22 | -0°06'44 |
| minimum elong | 14230 Feb 03 20:57 | 25°  58'46 | 0°24'21 | min. Earth dist. | 14235 Aug 31 17:35 | 22°  02'31 | 17.37288 AU |
| max. Earth dist. | 14230 Feb 03 12:04 | 25°  57'24 | 19.46260 AU | direct | 14235 Nov 14 15:19 | 19°  58'24 | |
| morning rise | 14230 Feb 20 10:35 | 27°  00'03 | | evening set | 14236 Feb 17 04:21 | 23°  24'54 | |
| | 14230 Apr 25 08:28 | 0°  | | | | | |
| retrograde | 14230 May 25 01:54 | 0°  23'57 | | conjunction | 14236 Mar 04 17:31 | 24°  26'34 | -0°08'53 |
| | 14230 Jun 24 04:30 | 30° | | minimum elong | 14236 Mar 04 17:31 | 24° 26'34 | 0°08'41 |
| opposition | 14230 Aug 07 14:05 | 28° 20'23 | 0°23'34 | behind sun begin | 14236 Mar 04 11:41 | 24° 25'41 | |
| min. Earth dist. | 14230 Aug 07 20:48 | 28° 19'39 | 17.44910 AU | behind sun end | 14236 Mar 04 23:20 | 24° 27'28 | |
| direct | 14230 Oct 21 14:24 | 26° 15'53 | | max. Earth dist. | 14236 Mar 04 07:40 | 24° 25'03 | 19.37088 AU |

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|------------------|--------------------|---------------------------|------------------|--------------------|---------------------------|-------------|
| morning rise | 14236 Mar 21 05:30 | 25° H 28'04 | opposition | 14242 Oct 03 07:15 | 25° Y 13'11 | -0°46'11 |
| retrograde | 14236 Jun 22 06:41 | 28° H 52'15 | min. Earth dist. | 14242 Oct 03 12:44 | 25° Y 12'36 | 17.45985 AU |
| opposition | 14236 Sep 04 09:29 | 26° H 49'01 | direct | 14242 Dec 18 04:55 | 23° Y 08'09 | |
| min. Earth dist. | 14236 Sep 04 17:27 | 26° H 48'09 | evening set | 14243 Mar 23 01:12 | 26° Y 34'04 | |
| direct | 14236 Nov 18 16:20 | 24° H 43'57 | | | | |
| evening set | 14237 Feb 21 08:13 | 28° H 10'39 | conjunction | 14243 Apr 08 10:38 | 27° Y 34'56 | -0°43'33 |
| | | | minimum elong | 14243 Apr 08 10:38 | 27° Y 34'55 | 0°43'57 |
| conjunction | 14237 Mar 09 21:12 | 29° H 12'18 | max. Earth dist. | 14243 Apr 08 04:53 | 27° Y 34'02 | 19.47632 AU |
| minimum elong | 14237 Mar 09 21:12 | 29° H 12'18 | morning rise | 14243 Apr 24 17:57 | 28° Y 35'30 | |
| behind sun begin | 14237 Mar 09 18:03 | 29° H 11'49 | | 14243 May 19 08:24 | 0° B | |
| behind sun end | 14237 Mar 10 00:20 | 29° H 12'46 | retrograde | 14243 Jul 26 00:39 | 1° B 56'58 | |
| max. Earth dist. | 14237 Mar 09 12:29 | 29° H 10'57 | | 14243 Oct 06 03:09 | 30° R Y | |
| | 14237 Mar 22 15:07 | 0° Y | opposition | 14243 Oct 08 06:18 | 29° Y 54'29 | -0°50'48 |
| morning rise | 14237 Mar 26 08:32 | 0° Y 13'43 | min. Earth dist. | 14243 Oct 08 10:06 | 29° Y 54'04 | 17.49429 AU |
| retrograde | 14237 Jun 27 07:21 | 3° Y 37'41 | direct | 14243 Dec 23 06:57 | 27° Y 49'37 | |
| opposition | 14237 Sep 09 09:18 | 1° Y 34'30 | | 14244 Mar 05 09:07 | 0° B | |
| min. Earth dist. | 14237 Sep 09 16:47 | 1° Y 33'41 | evening set | 14244 Mar 27 02:33 | 1° B 15'09 | |
| | 14237 Oct 20 09:49 | 30° R H | | | | |
| direct | 14237 Nov 23 19:42 | 29° H 29'23 | conjunction | 14244 Apr 12 11:17 | 2° B 15'49 | -0°47'32 |
| | 14237 Dec 27 17:28 | 0° Y | minimum elong | 14244 Apr 12 11:17 | 2° B 15'48 | 0°48'00 |
| evening set | 14238 Feb 26 11:59 | 2° Y 56'09 | max. Earth dist. | 14244 Apr 12 06:37 | 2° B 15'05 | 19.51318 AU |
| | | | morning rise | 14244 Apr 28 17:43 | 3° B 16'10 | |
| conjunction | 14238 Mar 15 00:21 | 3° Y 57'43 | retrograde | 14244 Jul 29 21:35 | 6° B 37'05 | |
| minimum elong | 14238 Mar 15 00:21 | 3° Y 57'43 | opposition | 14244 Oct 12 05:10 | 4° B 34'50 | -0°55'03 |
| max. Earth dist. | 14238 Mar 14 14:59 | 3° Y 56'16 | min. Earth dist. | 14244 Oct 12 09:28 | 4° B 34'22 | 17.53348 AU |
| morning rise | 14238 Mar 31 11:12 | 4° Y 59'04 | direct | 14244 Dec 27 06:20 | 2° B 30'10 | |
| retrograde | 14238 Jul 02 05:30 | 8° Y 22'45 | evening set | 14245 Apr 01 03:24 | 5° B 55'15 | |
| opposition | 14238 Sep 14 09:07 | 6° Y 19'36 | | | | |
| min. Earth dist. | 14238 Sep 14 16:51 | 6° Y 18'46 | conjunction | 14245 Apr 17 11:17 | 6° B 55'42 | -0°51'11 |
| direct | 14238 Nov 28 21:19 | 4° Y 14'25 | minimum elong | 14245 Apr 17 11:16 | 6° B 55'41 | 0°51'43 |
| evening set | 14239 Mar 03 15:21 | 7° Y 41'12 | max. Earth dist. | 14245 Apr 17 06:40 | 6° B 54'59 | 19.55451 AU |
| | | | morning rise | 14245 May 03 17:01 | 7° B 55'49 | |
| conjunction | 14239 Mar 20 03:21 | 8° Y 42'40 | retrograde | 14245 Aug 03 20:19 | 11° B 16'09 | |
| minimum elong | 14239 Mar 20 03:21 | 8° Y 42'40 | opposition | 14245 Oct 17 03:46 | 9° B 14'09 | -0°58'56 |
| max. Earth dist. | 14239 Mar 19 19:12 | 8° Y 41'24 | min. Earth dist. | 14245 Oct 17 06:33 | 9° B 13'51 | 17.57669 AU |
| morning rise | 14239 Apr 05 13:30 | 9° Y 43'53 | direct | 14246 Jan 01 07:57 | 7° B 09'42 | |
| retrograde | 14239 Jul 07 05:37 | 13° Y 07'13 | evening set | 14246 Apr 06 03:24 | 10° B 34'15 | |
| opposition | 14239 Sep 19 08:44 | 11° Y 04'09 | | | | |
| min. Earth dist. | 14239 Sep 19 15:23 | 11° Y 03'25 | conjunction | 14246 Apr 22 10:35 | 11° B 34'27 | -0°54'29 |
| direct | 14239 Dec 04 01:00 | 8° Y 58'56 | minimum elong | 14246 Apr 22 10:35 | 11° B 34'27 | 0°55'07 |
| evening set | 14240 Mar 07 18:30 | 12° Y 25'36 | max. Earth dist. | 14246 Apr 22 07:20 | 11° B 33'57 | 19.59936 AU |
| | | | morning rise | 14246 May 08 15:22 | 12° B 34'20 | |
| conjunction | 14240 Mar 24 05:52 | 13° Y 26'57 | | 14246 Jun 24 16:40 | 15° B | |
| minimum elong | 14240 Mar 24 05:52 | 13° Y 26'57 | retrograde | 14246 Aug 08 16:06 | 15° B 54'03 | |
| max. Earth dist. | 14240 Mar 23 21:42 | 13° Y 25'41 | | 14246 Sep 24 02:55 | 15° R B | |
| morning rise | 14240 Apr 09 15:25 | 14° Y 28'03 | opposition | 14246 Oct 22 02:15 | 13° B 52'17 | -1°02'24 |
| retrograde | 14240 Jul 11 03:30 | 17° Y 50'58 | min. Earth dist. | 14246 Oct 22 05:29 | 13° B 51'56 | 17.62318 AU |
| opposition | 14240 Sep 23 08:25 | 15° Y 47'59 | direct | 14247 Jan 06 07:06 | 11° B 48'04 | |
| min. Earth dist. | 14240 Sep 23 15:18 | 15° Y 47'14 | | 14247 Apr 07 18:52 | 15° B | |
| direct | 14240 Dec 08 02:03 | 13° Y 42'45 | evening set | 14247 Apr 11 02:56 | 15° B 12'00 | |
| evening set | 14241 Mar 12 21:13 | 17° Y 09'16 | | | | |
| | | | conjunction | 14247 Apr 27 09:12 | 16° B 11'57 | -0°57'26 |
| conjunction | 14241 Mar 29 08:01 | 18° Y 10'28 | minimum elong | 14247 Apr 27 09:12 | 16° B 11'57 | 0°58'06 |
| minimum elong | 14241 Mar 29 08:01 | 18° Y 10'28 | max. Earth dist. | 14247 Apr 27 05:33 | 16° B 11'24 | 19.64731 AU |
| max. Earth dist. | 14241 Mar 29 00:52 | 18° Y 09'21 | morning rise | 14247 May 13 13:20 | 17° B 11'35 | |
| morning rise | 14241 Apr 14 16:48 | 19° Y 11'24 | retrograde | 14247 Aug 13 13:28 | 20° B 30'38 | |
| retrograde | 14241 Jul 16 03:20 | 22° Y 33'52 | opposition | 14247 Oct 27 00:03 | 18° B 29'06 | -1°05'27 |
| opposition | 14241 Sep 28 07:48 | 20° Y 31'00 | min. Earth dist. | 14247 Oct 27 01:58 | 18° B 28'54 | 17.67244 AU |
| min. Earth dist. | 14241 Sep 28 13:06 | 20° Y 30'26 | direct | 14248 Jan 11 08:01 | 16° B 25'06 | |
| direct | 14241 Dec 13 04:51 | 18° Y 25'51 | evening set | 14248 Apr 15 01:38 | 19° B 48'22 | |
| evening set | 14242 Mar 17 23:33 | 21° Y 52'06 | | | | |
| | | | conjunction | 14248 May 01 07:17 | 20° B 48'04 | -0°59'59 |
| conjunction | 14242 Apr 03 09:40 | 22° Y 53'08 | minimum elong | 14248 May 01 07:16 | 20° B 48'04 | 1°00'44 |
| minimum elong | 14242 Apr 03 09:39 | 22° Y 53'08 | max. Earth dist. | 14248 May 01 05:02 | 20° B 47'43 | 19.69762 AU |
| max. Earth dist. | 14242 Apr 03 03:12 | 22° Y 52'08 | morning rise | 14248 May 17 10:27 | 21° B 47'26 | |
| morning rise | 14242 Apr 19 17:39 | 23° Y 53'54 | retrograde | 14248 Aug 17 08:05 | 25° B 05'46 | |
| retrograde | 14242 Jul 21 01:10 | 27° Y 15'53 | opposition | 14248 Oct 30 21:42 | 23° B 04'28 | -1°08'05 |

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|------------------|--------------------|---------------------|-------------|------------------|--------------------|------------------------|-------------|
| min. Earth dist. | 14248 Oct 31 00:01 | 23° 8 04'13 | 17.72378 AU | max. Earth dist. | 14255 Jun 02 17:42 | 22° II 12'47 | 20.09667 AU |
| direct | 14249 Jan 15 06:42 | 21° 8 00'43 | | morning rise | 14255 Jun 18 14:35 | 23° II 09'59 | |
| evening set | 14249 Apr 19 23:37 | 24° 8 23'14 | | retrograde | 14255 Sep 18 03:40 | 26° II 23'00 | |
| | | | | opposition | 14255 Dec 02 13:06 | 24° II 22'58 | -1°13'49 |
| conjunction | 14249 May 06 04:18 | 25° 8 22'39 | -1°02'09 | min. Earth dist. | 14255 Dec 02 10:27 | 24° II 23'14 | 18.12849 AU |
| minimum elong | 14249 May 06 04:17 | 25° 8 22'39 | 1°02'58 | direct | 14256 Feb 17 11:26 | 22° II 20'49 | |
| max. Earth dist. | 14249 May 06 01:28 | 25° 8 22'13 | 19.74992 AU | evening set | 14256 May 21 06:57 | 25° II 36'56 | |
| morning rise | 14249 May 22 06:51 | 26° 8 21'45 | | | | | |
| retrograde | 14249 Aug 22 03:56 | 29° 8 39'22 | | conjunction | 14256 Jun 06 06:53 | 26° II 34'23 | -1°06'01 |
| opposition | 14249 Nov 04 18:45 | 27° 8 38'16 | -1°10'16 | minimum elong | 14256 Jun 06 06:53 | 26° II 34'23 | 1°07'03 |
| min. Earth dist. | 14249 Nov 04 19:54 | 27° 8 38'09 | 17.77698 AU | max. Earth dist. | 14256 Jun 06 10:27 | 26° II 34'55 | 20.16008 AU |
| direct | 14250 Jan 20 07:04 | 25° 8 34'43 | | morning rise | 14256 Jun 22 04:53 | 27° II 31'35 | |
| evening set | 14250 Apr 24 20:36 | 28° 8 56'26 | | | 14256 Aug 11 16:30 | 0° ☾ | |
| | | | | retrograde | 14256 Sep 21 18:02 | 0° ☾ 43'51 | |
| conjunction | 14250 May 11 00:40 | 29° 8 55'35 | -1°03'55 | | 14256 Nov 03 04:38 | 30° R II | |
| minimum elong | 14250 May 11 00:40 | 29° 8 55'35 | 1°04'46 | opposition | 14256 Dec 06 06:06 | 28° II 44'04 | -1°12'52 |
| max. Earth dist. | 14250 May 10 23:29 | 29° 8 55'24 | 19.80388 AU | min. Earth dist. | 14256 Dec 06 02:27 | 28° II 44'26 | 18.19230 AU |
| | 14250 May 12 05:24 | 0° II | | direct | 14257 Feb 21 05:59 | 26° II 42'15 | |
| morning rise | 14250 May 27 02:19 | 0° II 54'25 | | evening set | 14257 May 25 21:33 | 29° II 57'24 | |
| retrograde | 14250 Aug 26 20:47 | 4° II 11'17 | | | 14257 May 26 15:16 | 0° ☾ | |
| opposition | 14250 Nov 09 15:21 | 2° II 10'22 | -1°11'59 | | | | |
| min. Earth dist. | 14250 Nov 09 16:36 | 2° II 10'14 | 17.83169 AU | conjunction | 14257 Jun 10 20:45 | 0° ☾ 54'35 | -1°04'59 |
| direct | 14251 Jan 25 05:15 | 0° II 07'03 | | minimum elong | 14257 Jun 10 20:45 | 0° ☾ 54'35 | 1°06'02 |
| evening set | 14251 Apr 29 16:44 | 3° II 27'54 | | max. Earth dist. | 14257 Jun 11 00:20 | 0° ☾ 55'07 | 20.22428 AU |
| | | | | morning rise | 14257 Jun 26 18:24 | 1° ☾ 51'32 | |
| conjunction | 14251 May 15 19:54 | 4° II 26'45 | -1°05'17 | retrograde | 14257 Sep 26 07:53 | 5° ☾ 03'07 | |
| minimum elong | 14251 May 15 19:54 | 4° II 26'45 | 1°06'12 | opposition | 14257 Dec 10 22:37 | 3° ☾ 03'33 | -1°11'30 |
| max. Earth dist. | 14251 May 15 18:09 | 4° II 26'29 | 19.85937 AU | min. Earth dist. | 14257 Dec 10 18:31 | 3° ☾ 03'58 | 18.25676 AU |
| morning rise | 14251 May 31 21:03 | 5° II 25'19 | | direct | 14258 Feb 25 21:53 | 1° ☾ 02'05 | |
| retrograde | 14251 Aug 31 14:52 | 8° II 41'25 | | evening set | 14258 May 30 11:17 | 4° ☾ 16'16 | |
| opposition | 14251 Nov 14 11:17 | 6° II 40'40 | -1°13'15 | | | | |
| min. Earth dist. | 14251 Nov 14 11:33 | 6° II 40'38 | 17.88790 AU | conjunction | 14258 Jun 15 10:05 | 5° ☾ 13'11 | -1°03'36 |
| direct | 14252 Jan 30 04:08 | 4° II 37'33 | | minimum elong | 14258 Jun 15 10:05 | 5° ☾ 13'11 | 1°04'40 |
| evening set | 14252 May 03 11:50 | 7° II 57'30 | | max. Earth dist. | 14258 Jun 15 15:10 | 5° ☾ 13'57 | 20.28874 AU |
| | | | | morning rise | 14258 Jul 01 07:13 | 6° ☾ 09'53 | |
| conjunction | 14252 May 19 14:27 | 8° II 56'05 | -1°06'14 | retrograde | 14258 Sep 30 21:30 | 9° ☾ 20'47 | |
| minimum elong | 14252 May 19 14:26 | 8° II 56'04 | 1°07'10 | opposition | 14258 Dec 15 14:23 | 7° ☾ 21'28 | -1°09'45 |
| max. Earth dist. | 14252 May 19 14:29 | 8° II 56'05 | 19.91624 AU | min. Earth dist. | 14258 Dec 15 09:18 | 7° ☾ 21'59 | 18.32093 AU |
| morning rise | 14252 Jun 04 14:44 | 9° II 54'21 | | direct | 14259 Mar 02 14:51 | 5° ☾ 20'21 | |
| retrograde | 14252 Sep 04 06:10 | 13° II 09'40 | | evening set | 14259 Jun 04 00:23 | 8° ☾ 33'35 | |
| opposition | 14252 Nov 18 06:39 | 11° II 09'05 | -1°14'04 | | | | |
| min. Earth dist. | 14252 Nov 18 06:38 | 11° II 09'05 | 17.94544 AU | conjunction | 14259 Jun 19 22:36 | 9° ☾ 30'15 | -1°01'53 |
| direct | 14253 Feb 03 01:37 | 9° II 06'10 | | minimum elong | 14259 Jun 19 22:36 | 9° ☾ 30'15 | 1°02'56 |
| evening set | 14253 May 08 06:08 | 12° II 25'11 | | max. Earth dist. | 14259 Jun 20 03:32 | 9° ☾ 30'59 | 20.35254 AU |
| | | | | morning rise | 14259 Jul 05 19:28 | 10° ☾ 26'43 | |
| conjunction | 14253 May 24 07:50 | 13° II 23'28 | -1°06'47 | retrograde | 14259 Oct 05 10:33 | 13° ☾ 36'57 | |
| minimum elong | 14253 May 24 07:50 | 13° II 23'28 | 1°07'46 | opposition | 14259 Dec 20 05:48 | 11° ☾ 37'51 | -1°07'38 |
| max. Earth dist. | 14253 May 24 07:38 | 13° II 23'26 | 19.97463 AU | min. Earth dist. | 14259 Dec 20 00:47 | 11° ☾ 38'22 | 18.38423 AU |
| morning rise | 14253 Jun 09 07:39 | 14° II 21'28 | | direct | 14260 Mar 06 05:50 | 9° ☾ 37'03 | |
| retrograde | 14253 Sep 08 22:16 | 17° II 36'00 | | evening set | 14260 Jun 07 12:39 | 12° ☾ 49'21 | |
| opposition | 14253 Nov 23 01:28 | 15° II 35'34 | -1°14'26 | | | | |
| min. Earth dist. | 14253 Nov 23 00:25 | 15° II 35'41 | 18.00477 AU | conjunction | 14260 Jun 23 10:30 | 13° ☾ 45'46 | -0°59'49 |
| direct | 14254 Feb 07 21:56 | 13° II 32'53 | | minimum elong | 14260 Jun 23 10:30 | 13° ☾ 45'46 | 1°00'53 |
| evening set | 14254 May 12 23:08 | 16° II 50'55 | | max. Earth dist. | 14260 Jun 23 16:28 | 13° ☾ 46'39 | 20.41509 AU |
| | | | | morning rise | 14260 Jul 09 06:56 | 14° ☾ 42'00 | |
| conjunction | 14254 May 29 00:19 | 17° II 48'55 | -1°06'55 | retrograde | 14260 Oct 08 22:58 | 17° ☾ 51'36 | |
| minimum elong | 14254 May 29 00:19 | 17° II 48'55 | 1°07'55 | opposition | 14260 Dec 23 20:37 | 15° ☾ 52'43 | -1°05'09 |
| max. Earth dist. | 14254 May 29 02:09 | 17° II 49'12 | 20.03479 AU | min. Earth dist. | 14260 Dec 23 14:34 | 15° ☾ 53'20 | 18.44577 AU |
| morning rise | 14254 Jun 13 23:23 | 18° II 46'39 | | direct | 14261 Mar 10 21:52 | 13° ☾ 52'15 | |
| retrograde | 14254 Sep 13 13:00 | 22° II 00'25 | | evening set | 14261 Jun 12 00:21 | 17° ☾ 03'37 | |
| opposition | 14254 Nov 27 19:40 | 20° II 00'10 | -1°14'20 | | | | |
| min. Earth dist. | 14254 Nov 27 17:47 | 20° II 00'22 | 18.06576 AU | conjunction | 14261 Jun 27 21:40 | 17° ☾ 59'47 | -0°57'28 |
| direct | 14255 Feb 12 17:58 | 17° II 57'45 | | minimum elong | 14261 Jun 27 21:40 | 17° ☾ 59'47 | 0°58'30 |
| evening set | 14255 May 17 15:33 | 21° II 14'49 | | max. Earth dist. | 14261 Jun 28 03:28 | 18° ☾ 00'39 | 20.47560 AU |
| | | | | morning rise | 14261 Jul 13 17:54 | 18° ☾ 55'48 | |
| conjunction | 14255 Jun 02 15:56 | 22° II 12'31 | -1°06'39 | retrograde | 14261 Oct 13 10:47 | 22° ☾ 04'48 | |
| minimum elong | 14255 Jun 02 15:56 | 22° II 12'31 | 1°07'41 | opposition | 14261 Dec 28 11:04 | 20° ☾ 06'05 | -1°02'21 |

| | | | | | | | | |
|------------------|--------------------|-----------|-------------|------------------|--|--------------------|-----------|-------------|
| min. Earth dist. | 14261 Dec 28 05:22 | 20°☾06'40 | 18.50522 AU | | | 14268 Jun 21 14:00 | 15°♈ | |
| direct | 14262 Mar 15 11:41 | 18°☾05'55 | | evening set | | 14268 Jul 10 14:30 | 16°♈01'55 | |
| evening set | 14262 Jun 16 11:07 | 21°☾16'20 | | | | | | |
| | | | | conjunction | | 14268 Jul 26 10:14 | 16°♈56'46 | -0°33'44 |
| conjunction | 14262 Jul 02 08:11 | 22°☾12'18 | -0°54'48 | minimum elong | | 14268 Jul 26 10:14 | 16°♈56'46 | 0°34'32 |
| minimum elong | 14262 Jul 02 08:11 | 22°☾12'18 | 0°55'48 | max. Earth dist. | | 14268 Jul 26 18:34 | 16°♈57'58 | 20.81831 AU |
| max. Earth dist. | 14262 Jul 02 14:42 | 22°☾13'15 | 20.53372 AU | morning rise | | 14268 Aug 11 05:49 | 17°♈51'36 | |
| morning rise | 14262 Jul 18 04:09 | 23°☾08'06 | | retrograde | | 14268 Nov 11 07:03 | 20°♈57'13 | |
| retrograde | 14262 Oct 17 22:19 | 26°☾16'31 | | opposition | | 14269 Jan 27 00:22 | 18°♈59'03 | -0°35'05 |
| opposition | 14263 Jan 02 00:49 | 24°☾17'57 | -0°59'13 | min. Earth dist. | | 14269 Jan 26 15:37 | 18°♈59'56 | 18.83781 AU |
| min. Earth dist. | 14263 Jan 01 18:07 | 24°☾18'38 | 18.56175 AU | direct | | 14269 Apr 14 02:00 | 17°♈00'23 | |
| direct | 14263 Mar 20 02:39 | 22°☾18'03 | | evening set | | 14269 Jul 14 21:07 | 20°♈05'09 | |
| evening set | 14263 Jun 20 21:27 | 25°☾27'35 | | | | | | |
| | | | | conjunction | | 14269 Jul 30 16:44 | 20°♈59'52 | -0°29'33 |
| conjunction | 14263 Jul 06 18:07 | 26°☾23'19 | -0°51'52 | minimum elong | | 14269 Jul 30 16:44 | 20°♈59'53 | 0°30'18 |
| minimum elong | 14263 Jul 06 18:07 | 26°☾23'19 | 0°52'51 | max. Earth dist. | | 14269 Jul 31 01:27 | 21°♈01'08 | 20.85657 AU |
| max. Earth dist. | 14263 Jul 07 00:20 | 26°☾24'14 | 20.58868 AU | morning rise | | 14269 Aug 15 12:26 | 21°♈54'37 | |
| morning rise | 14263 Jul 22 13:57 | 27°☾18'56 | | retrograde | | 14269 Nov 15 14:06 | 24°♈59'57 | |
| | 14263 Sep 19 21:36 | 0°♈ | | opposition | | 14270 Jan 31 10:46 | 23°♈01'51 | -0°30'23 |
| retrograde | 14263 Oct 22 08:14 | 0°♈26'47 | | min. Earth dist. | | 14270 Jan 31 02:38 | 23°♈02'40 | 18.87488 AU |
| | 14263 Nov 24 12:49 | 30°♈☾ | | direct | | 14270 Apr 18 09:56 | 21°♈03'24 | |
| opposition | 14264 Jan 06 14:04 | 28°☾28'20 | -0°55'48 | evening set | | 14270 Jul 19 03:14 | 24°♈07'35 | |
| min. Earth dist. | 14264 Jan 06 08:02 | 28°☾28'56 | 18.61515 AU | | | | | |
| direct | 14264 Mar 23 15:25 | 26°☾28'39 | | conjunction | | 14270 Aug 03 22:53 | 25°♈02'11 | -0°25'15 |
| evening set | 14264 Jun 24 06:59 | 29°☾37'18 | | minimum elong | | 14270 Aug 03 22:53 | 25°♈02'11 | 0°25'57 |
| | 14264 Jun 30 19:49 | 0°♈ | | max. Earth dist. | | 14270 Aug 04 07:59 | 25°♈03'30 | 20.89231 AU |
| | | | | morning rise | | 14270 Aug 19 18:43 | 25°♈56'50 | |
| conjunction | 14264 Jul 10 03:27 | 0°♈32'50 | -0°48'40 | retrograde | | 14270 Nov 19 23:19 | 29°♈01'56 | |
| minimum elong | 14264 Jul 10 03:27 | 0°♈32'50 | 0°49'37 | opposition | | 14271 Feb 04 20:39 | 27°♈03'56 | -0°25'32 |
| max. Earth dist. | 14264 Jul 10 10:12 | 0°♈33'49 | 20.64049 AU | min. Earth dist. | | 14271 Feb 04 11:11 | 27°♈04'53 | 18.90903 AU |
| morning rise | 14264 Jul 25 23:07 | 1°♈28'16 | | direct | | 14271 Apr 22 20:17 | 25°♈05'43 | |
| retrograde | 14264 Oct 25 19:14 | 4°♈35'34 | | evening set | | 14271 Jul 23 09:10 | 28°♈09'21 | |
| opposition | 14265 Jan 10 02:47 | 2°♈37'12 | -0°52'07 | | | | | |
| min. Earth dist. | 14265 Jan 09 19:39 | 2°♈37'56 | 18.66520 AU | conjunction | | 14271 Aug 08 04:46 | 29°♈03'51 | -0°20'50 |
| direct | 14265 Mar 28 05:09 | 0°♈37'45 | | minimum elong | | 14271 Aug 08 04:46 | 29°♈03'52 | 0°21'28 |
| evening set | 14265 Jun 28 15:46 | 3°♈45'31 | | max. Earth dist. | | 14271 Aug 08 14:05 | 29°♈05'12 | 20.92481 AU |
| | | | | morning rise | | 14271 Aug 24 00:43 | 29°♈58'25 | |
| conjunction | 14265 Jul 14 11:56 | 4°♈40'51 | -0°45'14 | | | 14271 Aug 24 11:55 | 0°♈ | |
| minimum elong | 14265 Jul 14 11:56 | 4°♈40'51 | 0°46'11 | retrograde | | 14271 Nov 24 06:17 | 3°♈03'22 | |
| max. Earth dist. | 14265 Jul 14 18:44 | 4°♈41'51 | 20.68896 AU | opposition | | 14272 Feb 09 06:24 | 1°♈05'26 | -0°20'36 |
| morning rise | 14265 Jul 30 07:34 | 5°♈36'07 | | min. Earth dist. | | 14272 Feb 08 21:48 | 1°♈06'17 | 18.93987 AU |
| retrograde | 14265 Oct 30 03:35 | 8°♈42'56 | | | | 14272 Mar 09 02:26 | 30°♈☾ | |
| opposition | 14266 Jan 14 15:04 | 6°♈44'37 | -0°48'11 | direct | | 14272 Apr 26 03:34 | 29°♈07'27 | |
| min. Earth dist. | 14266 Jan 14 08:34 | 6°♈45'16 | 18.71223 AU | | | 14272 Jun 11 10:45 | 0°♈ | |
| direct | 14266 Apr 01 16:31 | 4°♈45'21 | | evening set | | 14272 Jul 26 14:50 | 2°♈10'35 | |
| evening set | 14266 Jul 02 23:53 | 7°♈52'16 | | | | | | |
| | | | | conjunction | | 14272 Aug 11 10:29 | 3°♈05'01 | -0°16'20 |
| conjunction | 14266 Jul 18 19:56 | 8°♈47'26 | -0°41'35 | minimum elong | | 14272 Aug 11 10:30 | 3°♈05'01 | 0°16'55 |
| minimum elong | 14266 Jul 18 19:56 | 8°♈47'26 | 0°42'29 | max. Earth dist. | | 14272 Aug 11 19:57 | 3°♈06'22 | 20.95394 AU |
| max. Earth dist. | 14266 Jul 19 03:22 | 8°♈48'31 | 20.73462 AU | morning rise | | 14272 Aug 27 06:37 | 3°♈59'31 | |
| morning rise | 14266 Aug 03 15:31 | 9°♈42'33 | | retrograde | | 14272 Nov 27 15:03 | 7°♈04'20 | |
| retrograde | 14266 Nov 03 13:58 | 12°♈48'53 | | opposition | | 14273 Feb 12 15:51 | 5°♈06'29 | -0°15'34 |
| opposition | 14267 Jan 19 02:29 | 10°♈50'37 | -0°44'01 | min. Earth dist. | | 14273 Feb 12 06:06 | 5°♈07'27 | 18.96700 AU |
| min. Earth dist. | 14267 Jan 18 18:42 | 10°♈51'24 | 18.75648 AU | direct | | 14273 Apr 30 12:44 | 3°♈08'42 | |
| direct | 14267 Apr 06 04:58 | 8°♈51'31 | | evening set | | 14273 Jul 30 20:16 | 6°♈11'24 | |
| evening set | 14267 Jul 07 07:33 | 11°♈57'41 | | | | | | |
| | | | | conjunction | | 14273 Aug 15 15:57 | 7°♈05'46 | -0°11'46 |
| conjunction | 14267 Jul 23 03:22 | 12°♈52'41 | -0°37'45 | minimum elong | | 14273 Aug 15 15:57 | 7°♈05'46 | 0°12'17 |
| minimum elong | 14267 Jul 23 03:23 | 12°♈52'41 | 0°38'36 | behind sun begin | | 14273 Aug 15 11:32 | 7°♈05'08 | |
| max. Earth dist. | 14267 Jul 23 11:05 | 12°♈53'48 | 20.77758 AU | behind sun end | | 14273 Aug 15 20:23 | 7°♈06'23 | |
| morning rise | 14267 Aug 07 22:58 | 13°♈47'39 | | max. Earth dist. | | 14273 Aug 16 01:29 | 7°♈07'07 | 20.97896 AU |
| | 14267 Aug 30 08:58 | 15°♈ | | morning rise | | 14273 Aug 31 12:18 | 8°♈00'13 | |
| retrograde | 14267 Nov 07 21:19 | 16°♈53'36 | | retrograde | | 14273 Dec 01 22:10 | 11°♈04'58 | |
| | 14268 Jan 21 15:44 | 15°♈☾ | | opposition | | 14274 Feb 17 01:14 | 9°♈07'10 | -0°10'28 |
| opposition | 14268 Jan 23 13:43 | 14°♈55'22 | -0°39'38 | min. Earth dist. | | 14274 Feb 16 16:37 | 9°♈08'01 | 18.98990 AU |
| min. Earth dist. | 14268 Jan 23 06:29 | 14°♈56'06 | 18.79834 AU | direct | | 14274 May 04 19:21 | 7°♈09'34 | |
| direct | 14268 Apr 09 14:28 | 12°♈56'29 | | evening set | | 14274 Aug 04 01:41 | 10°♈11'53 | |

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|------------------|--------------------|-----------------------------------|-------------|------------------|--------------------|--------------------------|-------------|
| conjunction | 14274 Aug 19 21:29 | 11° \mathring{M} 06'11 | -0°07'10 | behind sun end | 14279 Sep 09 01:25 | 1° \mathring{A} 04'42 | |
| minimum elong | 14274 Aug 19 21:30 | 11° \mathring{M} 06'11 | 0°07'37 | max. Earth dist. | 14279 Sep 09 08:16 | 1° \mathring{A} 05'40 | 21.02360 AU |
| behind sun begin | 14274 Aug 19 15:31 | 11° \mathring{M} 05'21 | | morning rise | 14279 Sep 24 22:41 | 1° \mathring{A} 59'03 | |
| behind sun end | 14274 Aug 20 03:28 | 11° \mathring{M} 07'01 | | retrograde | 14279 Dec 26 20:02 | 5° \mathring{A} 04'06 | |
| max. Earth dist. | 14274 Aug 20 06:48 | 11° \mathring{M} 07'31 | 20.99959 AU | opposition | 14280 Mar 13 05:31 | 3° \mathring{A} 05'50 | 0°20'15 |
| morning rise | 14274 Sep 04 18:05 | 12° \mathring{M} 00'36 | | min. Earth dist. | 14280 Mar 12 22:43 | 3° \mathring{A} 06'31 | 19.01929 AU |
| retrograde | 14274 Dec 06 06:34 | 15° \mathring{M} 05'19 | | direct | 14280 May 28 13:56 | 1° \mathring{A} 08'29 | |
| opposition | 14275 Feb 21 10:07 | 13° \mathring{M} 07'32 | -0°05'19 | evening set | 14280 Aug 27 08:56 | 4° \mathring{A} 09'25 | |
| min. Earth dist. | 14275 Feb 21 00:42 | 13° \mathring{M} 08'29 | 19.00803 AU | | | | |
| direct | 14275 May 09 03:54 | 11° \mathring{M} 10'06 | | conjunction | 14280 Sep 12 05:57 | 5° \mathring{A} 03'43 | 0°20'34 |
| evening set | 14275 Aug 08 07:06 | 14° \mathring{M} 12'05 | | minimum elong | 14280 Sep 12 05:57 | 5° \mathring{A} 03'43 | 0°20'33 |
| | | | | max. Earth dist. | 14280 Sep 12 13:25 | 5° \mathring{A} 04'47 | 21.01394 AU |
| conjunction | 14275 Aug 24 03:01 | 15° \mathring{M} 06'21 | -0°02'32 | morning rise | 14280 Sep 28 04:32 | 5° \mathring{A} 58'15 | |
| minimum elong | 14275 Aug 24 03:00 | 15° \mathring{M} 06'21 | 0°02'54 | retrograde | 14280 Dec 30 05:02 | 9° \mathring{A} 03'30 | |
| behind sun begin | 14275 Aug 23 20:27 | 15° \mathring{M} 05'26 | | opposition | 14281 Mar 17 13:45 | 7° \mathring{A} 05'04 | 0°25'10 |
| behind sun end | 14275 Aug 24 09:34 | 15° \mathring{M} 07'16 | | min. Earth dist. | 14281 Mar 17 06:06 | 7° \mathring{A} 05'50 | 19.00774 AU |
| max. Earth dist. | 14275 Aug 24 12:03 | 15° \mathring{M} 07'37 | 21.01508 AU | direct | 14281 Jun 01 21:10 | 5° \mathring{A} 07'41 | |
| morning rise | 14275 Sep 08 23:50 | 16° \mathring{M} 00'45 | | evening set | 14281 Aug 31 14:08 | 8° \mathring{A} 08'35 | |
| retrograde | 14275 Dec 10 13:33 | 19° \mathring{M} 05'28 | | | | | |
| opposition | 14276 Feb 25 19:12 | 17° \mathring{M} 07'40 | -0°00'10 | conjunction | 14281 Sep 16 11:29 | 9° \mathring{A} 02'56 | 0°24'57 |
| min. Earth dist. | 14276 Feb 25 11:09 | 17° \mathring{M} 08'29 | 19.02092 AU | minimum elong | 14281 Sep 16 11:28 | 9° \mathring{A} 02'56 | 0°25'00 |
| asc. node | 14276 Mar 07 10:02 | 16° \mathring{M} 42'23 | | max. Earth dist. | 14281 Sep 16 19:00 | 9° \mathring{A} 04'01 | 21.00046 AU |
| direct | 14276 May 12 09:56 | 15° \mathring{M} 10'20 | | morning rise | 14281 Oct 02 10:27 | 9° \mathring{A} 57'33 | |
| evening set | 14276 Aug 11 12:18 | 18° \mathring{M} 12'01 | | retrograde | 14282 Jan 03 12:07 | 13° \mathring{A} 03'03 | |
| | | | | opposition | 14282 Mar 21 22:06 | 11° \mathring{A} 04'29 | 0°29'58 |
| conjunction | 14276 Aug 27 08:22 | 19° \mathring{M} 06'15 | 0°02'16 | min. Earth dist. | 14282 Mar 21 15:33 | 11° \mathring{A} 05'08 | 18.99255 AU |
| minimum elong | 14276 Aug 27 08:22 | 19° \mathring{M} 06'15 | 0°01'58 | direct | 14282 Jun 06 03:02 | 9° \mathring{A} 07'03 | |
| behind sun begin | 14276 Aug 27 01:47 | 19° \mathring{M} 05'20 | | evening set | 14282 Sep 04 19:38 | 12° \mathring{A} 08'00 | |
| behind sun end | 14276 Aug 27 14:56 | 19° \mathring{M} 07'10 | | | | | |
| max. Earth dist. | 14276 Aug 27 16:57 | 19° \mathring{M} 07'28 | 21.02528 AU | conjunction | 14282 Sep 20 17:17 | 13° \mathring{A} 02'26 | 0°29'13 |
| morning rise | 14276 Sep 12 05:29 | 20° \mathring{M} 00'39 | | minimum elong | 14282 Sep 20 17:17 | 13° \mathring{A} 02'26 | 0°29'21 |
| retrograde | 14276 Dec 13 22:12 | 23° \mathring{M} 05'25 | | max. Earth dist. | 14282 Sep 21 00:24 | 13° \mathring{A} 03'27 | 20.98360 AU |
| opposition | 14277 Mar 01 04:01 | 21° \mathring{M} 07'33 | 0°05'00 | morning rise | 14282 Oct 06 16:43 | 13° \mathring{A} 57'07 | |
| min. Earth dist. | 14277 Feb 28 19:15 | 21° \mathring{M} 08'26 | 19.02829 AU | retrograde | 14283 Jan 07 21:38 | 17° \mathring{A} 02'57 | |
| direct | 14277 May 16 18:21 | 19° \mathring{M} 10'16 | | opposition | 14283 Mar 26 06:13 | 15° \mathring{A} 04'14 | 0°34'38 |
| evening set | 14277 Aug 15 17:34 | 22° \mathring{M} 11'41 | | min. Earth dist. | 14283 Mar 25 22:54 | 15° \mathring{A} 04'58 | 18.97398 AU |
| | | | | direct | 14283 Jun 10 09:48 | 13° \mathring{A} 06'45 | |
| conjunction | 14277 Aug 31 13:49 | 23° \mathring{M} 05'55 | 0°06'55 | evening set | 14283 Sep 09 01:22 | 16° \mathring{A} 07'51 | |
| minimum elong | 14277 Aug 31 13:49 | 23° \mathring{M} 05'55 | 0°06'40 | | | | |
| behind sun begin | 14277 Aug 31 07:39 | 23° \mathring{M} 05'04 | | conjunction | 14283 Sep 24 23:22 | 17° \mathring{A} 02'23 | 0°33'22 |
| behind sun end | 14277 Aug 31 19:59 | 23° \mathring{M} 06'47 | | minimum elong | 14283 Sep 24 23:22 | 17° \mathring{A} 02'22 | 0°33'34 |
| max. Earth dist. | 14277 Aug 31 22:06 | 23° \mathring{M} 07'06 | 21.02983 AU | max. Earth dist. | 14283 Sep 25 06:31 | 17° \mathring{A} 03'24 | 20.96328 AU |
| morning rise | 14277 Sep 16 11:16 | 24° \mathring{M} 00'20 | | morning rise | 14283 Oct 10 23:12 | 17° \mathring{A} 57'11 | |
| retrograde | 14277 Dec 18 04:44 | 27° \mathring{M} 05'09 | | retrograde | 14284 Jan 12 05:16 | 21° \mathring{A} 03'23 | |
| opposition | 14278 Mar 05 12:40 | 25° \mathring{M} 07'11 | 0°10'08 | opposition | 14284 Mar 29 14:47 | 19° \mathring{A} 04'33 | 0°39'08 |
| min. Earth dist. | 14278 Mar 05 05:20 | 25° \mathring{M} 07'55 | 19.03018 AU | min. Earth dist. | 14284 Mar 29 08:29 | 19° \mathring{A} 05'11 | 18.95206 AU |
| direct | 14278 May 21 00:05 | 23° \mathring{M} 09'55 | | direct | 14284 Jun 13 15:43 | 17° \mathring{A} 07'03 | |
| evening set | 14278 Aug 19 22:41 | 26° \mathring{M} 11'07 | | evening set | 14284 Sep 12 07:18 | 20° \mathring{A} 08'20 | |
| | | | | | | | |
| conjunction | 14278 Sep 04 19:13 | 27° \mathring{M} 05'21 | 0°11'31 | conjunction | 14284 Sep 28 05:42 | 21° \mathring{A} 02'57 | 0°37'21 |
| minimum elong | 14278 Sep 04 19:13 | 27° \mathring{M} 05'21 | 0°11'22 | minimum elong | 14284 Sep 28 05:41 | 21° \mathring{A} 02'57 | 0°37'36 |
| behind sun begin | 14278 Sep 04 14:23 | 27° \mathring{M} 04'40 | | max. Earth dist. | 14284 Sep 28 12:23 | 21° \mathring{A} 03'55 | 20.93979 AU |
| behind sun end | 14278 Sep 05 00:02 | 27° \mathring{M} 06'01 | | morning rise | 14284 Oct 14 06:04 | 21° \mathring{A} 57'53 | |
| max. Earth dist. | 14278 Sep 05 03:01 | 27° \mathring{M} 06'27 | 21.02920 AU | retrograde | 14285 Jan 15 16:05 | 25° \mathring{A} 04'32 | |
| morning rise | 14278 Sep 20 17:03 | 27° \mathring{M} 59'47 | | opposition | 14285 Apr 02 23:22 | 23° \mathring{A} 05'34 | 0°43'28 |
| | 14278 Oct 31 10:51 | 0° \mathring{A} | | min. Earth dist. | 14285 Apr 02 16:26 | 23° \mathring{A} 06'16 | 18.92687 AU |
| retrograde | 14278 Dec 22 13:32 | 1° \mathring{A} 04'42 | | direct | 14285 Jun 17 22:41 | 21° \mathring{A} 08'02 | |
| | 14279 Feb 14 19:02 | 30° \mathring{R} \mathring{M} | | evening set | 14285 Sep 16 13:46 | 24° \mathring{A} 09'36 | |
| opposition | 14279 Mar 09 21:03 | 29° \mathring{M} 06'35 | 0°15'14 | | | | |
| min. Earth dist. | 14279 Mar 09 13:04 | 29° \mathring{M} 07'23 | 19.02701 AU | conjunction | 14285 Oct 02 12:37 | 25° \mathring{A} 04'21 | 0°41'09 |
| direct | 14279 May 25 08:04 | 27° \mathring{M} 09'17 | | minimum elong | 14285 Oct 02 12:36 | 25° \mathring{A} 04'21 | 0°41'30 |
| | 14279 Aug 21 01:44 | 0° \mathring{A} | | max. Earth dist. | 14285 Oct 02 19:15 | 25° \mathring{A} 05'18 | 20.91279 AU |
| evening set | 14279 Aug 24 03:47 | 0° \mathring{A} 10'19 | | morning rise | 14285 Oct 18 13:25 | 25° \mathring{A} 59'25 | |
| | | | | retrograde | 14286 Jan 20 00:25 | 29° \mathring{A} 06'32 | |
| conjunction | 14279 Sep 09 00:32 | 1° \mathring{A} 04'34 | 0°16'05 | opposition | 14286 Apr 07 08:07 | 27° \mathring{A} 07'29 | 0°47'35 |
| minimum elong | 14279 Sep 09 00:31 | 1° \mathring{A} 04'34 | 0°15'59 | min. Earth dist. | 14286 Apr 07 02:27 | 27° \mathring{A} 08'03 | 18.89814 AU |
| behind sun begin | 14279 Sep 08 23:37 | 1° \mathring{A} 04'27 | | direct | 14286 Jun 22 04:27 | 25° \mathring{A} 09'54 | |

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| evening set | 14286 Sep 20 20:44 | 28° <u>♄</u> 11'49 | | conjunction | 14292 Oct 31 04:26 | 23° <u>♄</u> 44'41 | 1°01'29 |
| | | | | minimum elong | 14292 Oct 31 04:25 | 23° <u>♄</u> 44'41 | 1°02'16 |
| conjunction | 14286 Oct 06 20:00 | 29° <u>♄</u> 06'42 | 0°44'46 | max. Earth dist. | 14292 Oct 31 05:45 | 23° <u>♄</u> 44'53 | 20.61349 AU |
| minimum elong | 14286 Oct 06 19:59 | 29° <u>♄</u> 06'42 | 0°45'10 | morning rise | 14292 Nov 16 09:09 | 24° <u>♄</u> 41'05 | |
| max. Earth dist. | 14286 Oct 07 01:51 | 29° <u>♄</u> 07'33 | 20.88232 AU | retrograde | 14293 Feb 18 11:15 | 27° <u>♄</u> 52'22 | |
| morning rise | 14286 Oct 22 21:22 | 0° <u>♄</u> 01'55 | | opposition | 14293 May 06 06:27 | 25° <u>♄</u> 51'58 | 1°09'13 |
| | 14286 Oct 22 07:45 | 0° <u>♄</u> | | min. Earth dist. | 14293 May 06 04:48 | 25° <u>♄</u> 52'09 | 18.58555 AU |
| retrograde | 14287 Jan 24 12:30 | 3° <u>♄</u> 09'34 | | direct | 14293 Jul 20 14:57 | 23° <u>♄</u> 53'11 | |
| opposition | 14287 Apr 11 17:09 | 1° <u>♄</u> 10'24 | 0°51'29 | evening set | 14293 Oct 19 12:59 | 26° <u>♄</u> 58'49 | |
| min. Earth dist. | 14287 Apr 11 11:10 | 1° <u>♄</u> 11'00 | 18.86577 AU | | | | |
| | 14287 May 12 17:52 | 30° <u>♄</u> | | conjunction | 14293 Nov 04 16:03 | 27° <u>♄</u> 55'06 | 1°03'16 |
| direct | 14287 Jun 26 12:08 | 29° <u>♄</u> 12'46 | | minimum elong | 14293 Nov 04 16:02 | 27° <u>♄</u> 55'05 | 1°04'05 |
| | 14287 Aug 08 22:16 | 0° <u>♄</u> | | max. Earth dist. | 14293 Nov 04 17:26 | 27° <u>♄</u> 55'18 | 20.55664 AU |
| evening set | 14287 Sep 25 04:08 | 2° <u>♄</u> 15'05 | | morning rise | 14293 Nov 20 21:15 | 28° <u>♄</u> 51'43 | |
| | | | | | 14293 Dec 11 19:16 | 0° <u>♄</u> | |
| conjunction | 14287 Oct 11 03:51 | 3° <u>♄</u> 10'08 | 0°48'11 | retrograde | 14294 Feb 22 23:50 | 2° <u>♄</u> 03'39 | |
| minimum elong | 14287 Oct 11 03:50 | 3° <u>♄</u> 10'08 | 0°48'40 | opposition | 14294 May 10 17:42 | 0° <u>♄</u> 02'59 | 1°11'02 |
| max. Earth dist. | 14287 Oct 11 09:32 | 3° <u>♄</u> 10'57 | 20.84787 AU | min. Earth dist. | 14294 May 10 17:01 | 0° <u>♄</u> 03'04 | 18.52777 AU |
| morning rise | 14287 Oct 27 05:39 | 4° <u>♄</u> 05'31 | | | 14294 May 11 22:39 | 30° <u>♄</u> | |
| retrograde | 14288 Jan 28 21:55 | 7° <u>♄</u> 13'44 | | direct | 14294 Jul 25 01:00 | 28° <u>♄</u> 03'55 | |
| opposition | 14288 Apr 15 02:40 | 5° <u>♄</u> 14'27 | 0°55'09 | | 14294 Oct 02 11:05 | 0° <u>♄</u> | |
| min. Earth dist. | 14288 Apr 14 22:03 | 5° <u>♄</u> 14'55 | 18.82932 AU | evening set | 14294 Oct 24 00:38 | 1° <u>♄</u> 10'16 | |
| direct | 14288 Jun 29 18:10 | 3° <u>♄</u> 16'44 | | | | | |
| evening set | 14288 Sep 28 12:13 | 6° <u>♄</u> 19'30 | | conjunction | 14294 Nov 09 04:12 | 2° <u>♄</u> 06'46 | 1°04'43 |
| | | | | minimum elong | 14294 Nov 09 04:11 | 2° <u>♄</u> 06'46 | 1°05'36 |
| conjunction | 14288 Oct 14 12:23 | 7° <u>♄</u> 14'44 | 0°51'22 | max. Earth dist. | 14294 Nov 09 04:20 | 2° <u>♄</u> 06'48 | 20.49816 AU |
| minimum elong | 14288 Oct 14 12:22 | 7° <u>♄</u> 14'44 | 0°51'54 | morning rise | 14294 Nov 25 10:07 | 3° <u>♄</u> 03'38 | |
| max. Earth dist. | 14288 Oct 14 16:57 | 7° <u>♄</u> 15'23 | 20.80938 AU | retrograde | 14295 Feb 27 13:30 | 6° <u>♄</u> 16'15 | |
| morning rise | 14288 Oct 30 14:47 | 8° <u>♄</u> 10'17 | | opposition | 14295 May 15 05:28 | 4° <u>♄</u> 15'20 | 1°12'29 |
| retrograde | 14289 Feb 01 10:47 | 11° <u>♄</u> 19'06 | | min. Earth dist. | 14295 May 15 04:50 | 4° <u>♄</u> 15'24 | 18.46868 AU |
| opposition | 14289 Apr 19 12:19 | 9° <u>♄</u> 19'40 | 0°58'34 | direct | 14295 Jul 29 11:36 | 2° <u>♄</u> 15'58 | |
| min. Earth dist. | 14289 Apr 19 07:44 | 9° <u>♄</u> 20'08 | 18.78867 AU | evening set | 14295 Oct 28 12:44 | 5° <u>♄</u> 23'04 | |
| direct | 14289 Jul 04 03:06 | 7° <u>♄</u> 21'49 | | | | | |
| evening set | 14289 Oct 02 20:51 | 10° <u>♄</u> 25'05 | | conjunction | 14295 Nov 13 17:01 | 6° <u>♄</u> 19'50 | 1°05'50 |
| | | | | minimum elong | 14295 Nov 13 17:01 | 6° <u>♄</u> 19'50 | 1°06'45 |
| conjunction | 14289 Oct 18 21:36 | 11° <u>♄</u> 20'30 | 0°54'18 | max. Earth dist. | 14295 Nov 13 17:31 | 6° <u>♄</u> 19'54 | 20.43844 AU |
| minimum elong | 14289 Oct 18 21:36 | 11° <u>♄</u> 20'30 | 0°54'55 | morning rise | 14295 Nov 29 23:23 | 7° <u>♄</u> 16'56 | |
| max. Earth dist. | 14289 Oct 19 01:44 | 11° <u>♄</u> 21'06 | 20.76638 AU | retrograde | 14296 Mar 03 03:27 | 10° <u>♄</u> 30'16 | |
| morning rise | 14289 Nov 04 00:29 | 12° <u>♄</u> 16'15 | | opposition | 14296 May 18 17:45 | 8° <u>♄</u> 29'07 | 1°13'33 |
| | 14290 Jan 04 15:07 | 15° <u>♄</u> | | min. Earth dist. | 14296 May 18 17:43 | 8° <u>♄</u> 29'07 | 18.40857 AU |
| retrograde | 14290 Feb 05 21:25 | 15° <u>♄</u> 25'40 | | direct | 14296 Aug 01 22:45 | 6° <u>♄</u> 29'28 | |
| | 14290 Mar 10 16:10 | 15° <u>♄</u> | | evening set | 14296 Nov 01 01:49 | 9° <u>♄</u> 37'22 | |
| opposition | 14290 Apr 23 22:26 | 13° <u>♄</u> 26'02 | 1°01'42 | | | | |
| min. Earth dist. | 14290 Apr 23 19:20 | 13° <u>♄</u> 26'21 | 18.74344 AU | conjunction | 14296 Nov 17 06:39 | 10° <u>♄</u> 34'23 | 1°06'35 |
| direct | 14290 Jul 08 10:08 | 11° <u>♄</u> 28'01 | | minimum elong | 14296 Nov 17 06:39 | 10° <u>♄</u> 34'23 | 1°07'32 |
| evening set | 14290 Oct 07 06:05 | 14° <u>♄</u> 31'49 | | max. Earth dist. | 14296 Nov 17 05:49 | 10° <u>♄</u> 34'16 | 20.37814 AU |
| | 14290 Oct 15 10:33 | 15° <u>♄</u> | | morning rise | 14296 Dec 03 13:47 | 11° <u>♄</u> 31'45 | |
| | | | | retrograde | 14297 Mar 07 18:26 | 14° <u>♄</u> 45'48 | |
| conjunction | 14290 Oct 23 07:18 | 15° <u>♄</u> 27'26 | 0°56'59 | opposition | 14297 May 23 06:23 | 12° <u>♄</u> 44'25 | 1°14'13 |
| minimum elong | 14290 Oct 23 07:18 | 15° <u>♄</u> 27'25 | 0°57'40 | min. Earth dist. | 14297 May 23 06:34 | 12° <u>♄</u> 44'24 | 18.34811 AU |
| max. Earth dist. | 14290 Oct 23 10:04 | 15° <u>♄</u> 27'50 | 20.71907 AU | direct | 14297 Aug 06 10:06 | 10° <u>♄</u> 44'29 | |
| morning rise | 14290 Nov 08 10:50 | 16° <u>♄</u> 23'23 | | evening set | 14297 Nov 05 15:37 | 13° <u>♄</u> 53'15 | |
| retrograde | 14291 Feb 10 10:25 | 19° <u>♄</u> 33'24 | | | | | |
| opposition | 14291 Apr 28 08:43 | 17° <u>♄</u> 33'33 | 1°04'32 | conjunction | 14297 Nov 21 21:15 | 14° <u>♄</u> 50'33 | 1°06'58 |
| min. Earth dist. | 14291 Apr 28 05:46 | 17° <u>♄</u> 33'51 | 18.69409 AU | minimum elong | 14297 Nov 21 21:14 | 14° <u>♄</u> 50'33 | 1°07'58 |
| direct | 14291 Jul 12 20:07 | 15° <u>♄</u> 35'18 | | max. Earth dist. | 14297 Nov 21 20:50 | 14° <u>♄</u> 50'29 | 20.31745 AU |
| evening set | 14291 Oct 11 15:49 | 18° <u>♄</u> 39'40 | | morning rise | 14297 Dec 08 04:49 | 15° <u>♄</u> 48'10 | |
| | | | | retrograde | 14298 Mar 12 09:47 | 19° <u>♄</u> 02'57 | |
| conjunction | 14291 Oct 27 17:40 | 19° <u>♄</u> 35'30 | 0°59'23 | opposition | 14298 May 27 19:37 | 17° <u>♄</u> 01'23 | 1°14'28 |
| minimum elong | 14291 Oct 27 17:39 | 19° <u>♄</u> 35'29 | 1°00'06 | min. Earth dist. | 14298 May 27 20:17 | 17° <u>♄</u> 01'19 | 18.28733 AU |
| max. Earth dist. | 14291 Oct 27 20:13 | 19° <u>♄</u> 35'52 | 20.66780 AU | direct | 14298 Aug 10 22:02 | 15° <u>♄</u> 01'12 | |
| morning rise | 14291 Nov 12 21:40 | 20° <u>♄</u> 31'39 | | evening set | 14298 Nov 10 06:18 | 18° <u>♄</u> 10'51 | |
| retrograde | 14292 Feb 14 21:57 | 23° <u>♄</u> 42'18 | | | | | |
| opposition | 14292 May 01 19:28 | 21° <u>♄</u> 42'11 | 1°07'03 | conjunction | 14298 Nov 26 12:25 | 19° <u>♄</u> 08'25 | 1°06'59 |
| min. Earth dist. | 14292 May 01 17:43 | 21° <u>♄</u> 42'22 | 18.64115 AU | minimum elong | 14298 Nov 26 12:25 | 19° <u>♄</u> 08'25 | 1°08'00 |
| direct | 14292 Jul 16 04:43 | 19° <u>♄</u> 43'41 | | max. Earth dist. | 14298 Nov 26 10:34 | 19° <u>♄</u> 08'08 | 20.25675 AU |
| evening set | 14292 Oct 15 02:03 | 22° <u>♄</u> 48'39 | | morning rise | 14298 Dec 12 20:44 | 20° <u>♄</u> 06'18 | |

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| retrograde | 14299 Mar 17 02:35 | 23° 2 21'51 | | evening set | 14305 Dec 12 14:33 | 19° 3 06'03 | |
| opposition | 14299 Jun 01 09:28 | 21° 2 20'07 | 1°14'18 | | | | |
| min. Earth dist. | 14299 Jun 01 10:34 | 21° 2 20'00 | 18.22667 AU | conjunction | 14305 Dec 29 01:20 | 20° 3 05'37 | 0°56'24 |
| direct | 14299 Aug 15 10:25 | 19° 2 19'40 | | minimum elong | 14305 Dec 29 01:20 | 20° 3 05'37 | 0°57'24 |
| evening set | 14299 Nov 14 21:49 | 22° 2 30'17 | | max. Earth dist. | 14305 Dec 28 19:13 | 20° 3 04'41 | 19.82964 AU |
| | | | | morning rise | 14306 Jan 14 13:11 | 21° 3 05'23 | |
| conjunction | 14299 Dec 01 04:45 | 23° 2 28'08 | 1°06'38 | retrograde | 14306 Apr 18 19:48 | 24° 3 25'52 | |
| minimum elong | 14299 Dec 01 04:45 | 23° 2 28'08 | 1°07'40 | opposition | 14306 Jul 03 03:22 | 22° 3 23'00 | 1°01'11 |
| max. Earth dist. | 14299 Dec 01 03:26 | 23° 2 27'56 | 20.19607 AU | min. Earth dist. | 14306 Jul 03 08:45 | 22° 3 22'25 | 17.80014 AU |
| morning rise | 14299 Dec 17 13:29 | 24° 2 26'17 | | direct | 14306 Sep 15 22:48 | 20° 3 20'29 | |
| retrograde | 14300 Mar 21 19:51 | 27° 2 42'35 | | evening set | 14306 Dec 17 12:08 | 23° 3 37'57 | |
| opposition | 14300 Jun 05 23:53 | 25° 2 40'44 | 1°13'42 | | | | |
| min. Earth dist. | 14300 Jun 06 01:24 | 25° 2 40'34 | 18.16596 AU | conjunction | 14307 Jan 02 23:18 | 24° 3 37'47 | 0°53'22 |
| direct | 14300 Aug 19 23:35 | 23° 2 40'03 | | minimum elong | 14307 Jan 02 23:18 | 24° 3 37'47 | 0°54'22 |
| evening set | 14300 Nov 19 14:23 | 26° 2 51'37 | | max. Earth dist. | 14307 Jan 02 15:42 | 24° 3 36'38 | 19.77094 AU |
| | | | | morning rise | 14307 Jan 19 11:40 | 25° 3 37'49 | |
| conjunction | 14300 Dec 05 21:50 | 27° 2 49'45 | 1°05'53 | retrograde | 14307 Apr 23 15:59 | 28° 3 58'53 | |
| minimum elong | 14300 Dec 05 21:50 | 27° 2 49'45 | 1°06'56 | opposition | 14307 Jul 07 22:01 | 26° 3 55'49 | 0°57'38 |
| max. Earth dist. | 14300 Dec 05 18:46 | 27° 2 49'17 | 20.13541 AU | min. Earth dist. | 14307 Jul 08 04:38 | 26° 3 55'07 | 17.74265 AU |
| morning rise | 14300 Dec 22 07:20 | 28° 2 48'11 | | direct | 14307 Sep 20 16:08 | 24° 3 52'57 | |
| | 14301 Jan 12 20:44 | 0° 3 | | evening set | 14307 Dec 22 10:23 | 28° 3 11'23 | |
| retrograde | 14301 Mar 26 14:13 | 2° 3 05'16 | | | | | |
| opposition | 14301 Jun 10 14:58 | 0° 3 03'15 | 1°12'41 | conjunction | 14308 Jan 07 22:14 | 29° 3 11'29 | 0°49'59 |
| min. Earth dist. | 14301 Jun 10 17:26 | 0° 3 03'00 | 18.10521 AU | minimum elong | 14308 Jan 07 22:14 | 29° 3 11'29 | 0°50'57 |
| | 14301 Jun 11 21:49 | 30° 8 2 | | max. Earth dist. | 14308 Jan 07 15:08 | 29° 3 10'23 | 19.71481 AU |
| direct | 14301 Aug 24 13:10 | 28° 2 02'19 | | | 14308 Jan 21 04:39 | 0° 3 | |
| | 14301 Nov 01 19:04 | 0° 3 | | morning rise | 14308 Jan 24 10:52 | 0° 3 11'44 | |
| evening set | 14301 Nov 24 07:54 | 1° 3 14'53 | | retrograde | 14308 Apr 27 15:10 | 3° 3 33'21 | |
| | | | | opposition | 14308 Jul 11 16:55 | 1° 3 30'07 | 0°53'42 |
| conjunction | 14301 Dec 10 16:09 | 2° 3 13'19 | 1°04'45 | min. Earth dist. | 14308 Jul 11 22:57 | 1° 3 29'28 | 17.68795 AU |
| minimum elong | 14301 Dec 10 16:09 | 2° 3 13'19 | 1°05'48 | | 14308 Aug 19 18:16 | 30° 8 2 | |
| max. Earth dist. | 14301 Dec 10 13:21 | 2° 3 12'54 | 20.07440 AU | direct | 14308 Sep 24 12:19 | 29° 3 26'56 | |
| morning rise | 14301 Dec 27 02:00 | 3° 3 12'01 | | | 14308 Oct 29 17:17 | 0° 3 | |
| retrograde | 14302 Mar 31 09:21 | 6° 3 29'50 | | evening set | 14308 Dec 26 09:31 | 2° 3 46'17 | |
| opposition | 14302 Jun 15 06:35 | 4° 3 27'42 | 1°11'15 | | | | |
| min. Earth dist. | 14302 Jun 15 09:29 | 4° 3 27'23 | 18.04395 AU | conjunction | 14309 Jan 11 21:44 | 3° 3 46'38 | 0°46'16 |
| direct | 14302 Aug 29 04:14 | 2° 3 26'29 | | minimum elong | 14309 Jan 11 21:45 | 3° 3 46'38 | 0°47'12 |
| evening set | 14302 Nov 29 02:26 | 5° 3 40'04 | | max. Earth dist. | 14309 Jan 11 13:33 | 3° 3 45'23 | 19.66174 AU |
| | | | | morning rise | 14309 Jan 28 10:46 | 4° 3 47'07 | |
| conjunction | 14302 Dec 15 11:09 | 6° 3 38'46 | 1°03'14 | retrograde | 14309 May 02 11:51 | 8° 3 09'14 | |
| minimum elong | 14302 Dec 15 11:09 | 6° 3 38'46 | 1°04'18 | opposition | 14309 Jul 16 12:35 | 6° 3 05'51 | 0°49'24 |
| max. Earth dist. | 14302 Dec 15 06:17 | 6° 3 38'02 | 20.01300 AU | min. Earth dist. | 14309 Jul 16 19:47 | 6° 3 05'05 | 17.63674 AU |
| morning rise | 14302 Dec 31 21:41 | 7° 3 37'46 | | direct | 14309 Sep 29 07:09 | 4° 3 02'22 | |
| retrograde | 14303 Apr 05 04:36 | 10° 3 56'18 | | evening set | 14309 Dec 31 09:12 | 7° 3 22'38 | |
| opposition | 14303 Jun 19 23:02 | 8° 3 53'59 | 1°09'22 | | | | |
| min. Earth dist. | 14303 Jun 20 03:08 | 8° 3 53'33 | 17.98244 AU | conjunction | 14310 Jan 16 21:54 | 8° 3 23'12 | 0°42'14 |
| direct | 14303 Sep 02 19:01 | 6° 3 52'28 | | minimum elong | 14310 Jan 16 21:55 | 8° 3 23'13 | 0°43'08 |
| evening set | 14303 Dec 03 21:30 | 10° 3 07'02 | | max. Earth dist. | 14310 Jan 16 14:05 | 8° 3 22'00 | 19.61250 AU |
| | | | | morning rise | 14310 Feb 02 11:06 | 9° 3 23'53 | |
| conjunction | 14303 Dec 20 07:04 | 11° 3 06'02 | 1°01'20 | retrograde | 14310 May 07 11:33 | 12° 3 46'28 | |
| minimum elong | 14303 Dec 20 07:04 | 11° 3 06'02 | 1°02'23 | opposition | 14310 Jul 21 08:33 | 10° 3 42'59 | 0°44'45 |
| max. Earth dist. | 14303 Dec 20 02:30 | 11° 3 05'21 | 19.95139 AU | min. Earth dist. | 14310 Jul 21 14:51 | 10° 3 42'18 | 17.58953 AU |
| morning rise | 14304 Jan 05 17:58 | 12° 3 05'17 | | direct | 14310 Oct 04 05:08 | 8° 3 39'15 | |
| retrograde | 14304 Apr 09 01:36 | 15° 3 24'30 | | evening set | 14311 Jan 05 09:37 | 12° 3 00'23 | |
| opposition | 14304 Jun 23 15:59 | 13° 3 22'01 | 1°07'04 | | | | |
| min. Earth dist. | 14304 Jun 23 20:13 | 13° 3 21'34 | 17.92078 AU | conjunction | 14311 Jan 21 22:38 | 13° 3 01'10 | 0°37'54 |
| direct | 14304 Sep 06 12:13 | 11° 3 20'11 | | minimum elong | 14311 Jan 21 22:38 | 13° 3 01'10 | 0°38'44 |
| evening set | 14304 Dec 07 17:44 | 14° 3 35'43 | | max. Earth dist. | 14311 Jan 21 14:20 | 12° 3 59'54 | 19.56751 AU |
| | | | | morning rise | 14311 Feb 07 12:01 | 14° 3 02'02 | |
| conjunction | 14304 Dec 24 03:45 | 15° 3 35'00 | 0°59'03 | | 14311 Feb 24 03:17 | 15° 3 | |
| minimum elong | 14304 Dec 24 03:45 | 15° 3 35'00 | 1°00'06 | retrograde | 14311 May 12 08:54 | 17° 3 25'03 | |
| max. Earth dist. | 14304 Dec 23 21:14 | 15° 3 34'01 | 19.89002 AU | opposition | 14311 Jul 26 05:16 | 15° 3 21'30 | 0°39'47 |
| morning rise | 14305 Jan 09 15:18 | 16° 3 34'32 | | min. Earth dist. | 14311 Jul 26 12:33 | 15° 3 20'42 | 17.54695 AU |
| retrograde | 14305 Apr 13 21:17 | 19° 3 54'24 | | | 14311 Aug 03 12:10 | 15° 3 | |
| opposition | 14305 Jun 28 09:24 | 17° 3 51'43 | 1°04'20 | direct | 14311 Oct 09 01:21 | 13° 3 17'31 | |
| min. Earth dist. | 14305 Jun 28 15:01 | 17° 3 51'07 | 17.85983 AU | | 14311 Dec 11 16:06 | 15° 3 | |
| direct | 14305 Sep 11 04:02 | 15° 3 49'31 | | evening set | 14312 Jan 10 10:31 | 16° 3 39'30 | |

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| conjunction | 14312 Jan 26 23:55 | 17° 40 '29 | 0°33'19 | conjunction | 14318 Feb 24 17:42 | 16° 00 '12 | 0°01'57 |
| minimum elong | 14312 Jan 26 23:56 | 17° 40 '29 | 0°34'06 | minimum elong | 14318 Feb 24 17:43 | 16° 00 '12 | 0°02'19 |
| max. Earth dist. | 14312 Jan 26 15:44 | 17° 39 '14 | 19.52742 AU | behind sun begin | 14318 Feb 24 10:58 | 15° 59 '10 | |
| morning rise | 14312 Feb 12 13:30 | 18° 41 '31 | | behind sun end | 14318 Feb 25 00:27 | 16° 01 '13 | |
| retrograde | 14312 May 16 09:32 | 22° 04 '56 | | max. Earth dist. | 14318 Feb 24 07:52 | 15° 58 '41 | 19.38045 AU |
| opposition | 14312 Jul 30 02:20 | 20° 01 '21 | 0°34'31 | morning rise | 14318 Mar 13 06:31 | 17° 01 '44 | |
| min. Earth dist. | 14312 Jul 30 08:39 | 20° 00 '40 | 17.50919 AU | retrograde | 14318 Jun 14 14:05 | 20° 26 '10 | |
| direct | 14312 Oct 13 00:30 | 17° 57 '12 | | desc. node | 14318 Jul 05 12:10 | 20° 14 '15 | |
| evening set | 14313 Jan 14 12:16 | 21° 19 '59 | | opposition | 14318 Aug 27 18:18 | 18° 22 '46 | -0°00'56 |
| | | | | min. Earth dist. | 14318 Aug 28 01:52 | 18° 21 '57 | 17.37498 AU |
| conjunction | 14313 Jan 31 01:54 | 22° 21 '09 | 0°28'29 | direct | 14318 Nov 10 22:38 | 16° 17 '49 | |
| minimum elong | 14313 Jan 31 01:54 | 22° 21 '09 | 0°29'12 | evening set | 14319 Feb 13 07:58 | 19° 44 '01 | |
| max. Earth dist. | 14313 Jan 30 17:43 | 22° 19 '53 | 19.49203 AU | | | | |
| morning rise | 14313 Feb 16 15:28 | 23° 22 '20 | | conjunction | 14319 Mar 01 21:32 | 20° 45 '42 | -0°03'43 |
| retrograde | 14313 May 21 08:17 | 26° 46 '04 | | minimum elong | 14319 Mar 01 21:33 | 20° 45 '42 | 0°03'27 |
| opposition | 14313 Aug 03 23:56 | 24° 42 '31 | 0°29'01 | behind sun begin | 14319 Mar 01 14:52 | 20° 44 '40 | |
| min. Earth dist. | 14313 Aug 04 07:19 | 24° 41 '43 | 17.47620 AU | behind sun end | 14319 Mar 02 04:15 | 20° 46 '43 | |
| direct | 14313 Oct 17 22:04 | 22° 38 '13 | | max. Earth dist. | 14319 Mar 01 12:49 | 20° 44 '21 | 19.37048 AU |
| evening set | 14314 Jan 19 14:34 | 26° 01 '47 | | morning rise | 14319 Mar 18 09:49 | 21° 47 '14 | |
| | | | | retrograde | 14319 Jun 19 14:07 | 25° 11 '33 | |
| conjunction | 14314 Feb 05 04:20 | 27° 03 '05 | 0°23'26 | opposition | 14319 Sep 01 17:55 | 23° 08 '11 | -0°07'06 |
| minimum elong | 14314 Feb 05 04:20 | 27° 03 '05 | 0°24'06 | min. Earth dist. | 14319 Sep 02 01:42 | 23° 07 '20 | 17.36724 AU |
| max. Earth dist. | 14314 Feb 04 19:43 | 27° 01 '45 | 19.46146 AU | direct | 14319 Nov 15 23:13 | 21° 03 '07 | |
| morning rise | 14314 Feb 21 17:57 | 28° 04 '24 | | evening set | 14320 Feb 18 11:59 | 24° 29 '34 | |
| | 14314 Mar 28 20:08 | 0° 00 ' | | | | | |
| retrograde | 14314 May 26 09:59 | 1° 28 '25 | | conjunction | 14320 Mar 06 01:10 | 25° 31 '15 | -0°09'13 |
| | 14314 Jul 26 07:24 | 30° 00 ' | | minimum elong | 14320 Mar 06 01:09 | 25° 31 '15 | 0°09'01 |
| opposition | 14314 Aug 08 22:01 | 29° 24 '55 | 0°23'18 | behind sun begin | 14320 Mar 05 19:26 | 25° 30 '22 | |
| min. Earth dist. | 14314 Aug 09 04:38 | 29° 24 '11 | 17.44782 AU | behind sun end | 14320 Mar 06 06:53 | 25° 32 '07 | |
| direct | 14314 Oct 22 22:05 | 27° 20 '28 | | max. Earth dist. | 14320 Mar 05 15:18 | 25° 29 '43 | 19.36513 AU |
| | 14315 Jan 12 02:42 | 0° 00 ' | | morning rise | 14320 Mar 22 13:10 | 26° 32 '45 | |
| evening set | 14315 Jan 24 17:14 | 0° 44 '44 | | retrograde | 14320 Jun 23 14:45 | 29° 56 '55 | |
| | | | | opposition | 14320 Sep 05 17:38 | 27° 53 '34 | -0°13'15 |
| conjunction | 14315 Feb 10 07:09 | 1° 46 '10 | 0°18'14 | min. Earth dist. | 14320 Sep 06 01:19 | 27° 52 '44 | 17.36432 AU |
| minimum elong | 14315 Feb 10 07:09 | 1° 46 '10 | 0°18'50 | direct | 14320 Nov 20 01:32 | 25° 48 '23 | |
| max. Earth dist. | 14315 Feb 09 22:57 | 1° 44 '54 | 19.43515 AU | evening set | 14321 Feb 22 15:49 | 29° 15 '01 | |
| morning rise | 14315 Feb 26 20:34 | 2° 47 '35 | | | 14321 Mar 06 18:22 | 0° 00 ' | |
| retrograde | 14315 May 31 09:54 | 6° 11 '50 | | conjunction | 14321 Mar 11 04:47 | 0° 16 '40 | -0°14'40 |
| opposition | 14315 Aug 13 20:41 | 4° 08 '22 | 0°17'24 | minimum elong | 14321 Mar 11 04:46 | 0° 16 '40 | 0°14'34 |
| min. Earth dist. | 14315 Aug 14 04:17 | 4° 07 '32 | 17.42360 AU | behind sun begin | 14321 Mar 11 02:00 | 0° 16 '14 | |
| direct | 14315 Oct 27 20:25 | 2° 03 '48 | | behind sun end | 14321 Mar 11 07:33 | 0° 17 '05 | |
| evening set | 14316 Jan 29 20:35 | 5° 28 '40 | | max. Earth dist. | 14321 Mar 10 20:16 | 0° 15 '21 | 19.36461 AU |
| | | | | morning rise | 14321 Mar 27 16:06 | 1° 18 '06 | |
| conjunction | 14316 Feb 15 10:26 | 6° 30 '13 | 0°12'53 | retrograde | 14321 Jun 28 14:26 | 4° 42 '02 | |
| minimum elong | 14316 Feb 15 10:26 | 6° 30 '13 | 0°13'24 | opposition | 14321 Sep 10 17:21 | 2° 38 '43 | -0°19'17 |
| behind sun begin | 14316 Feb 15 06:42 | 6° 29 '39 | | min. Earth dist. | 14321 Sep 11 00:38 | 2° 37 '56 | 17.36629 AU |
| behind sun end | 14316 Feb 15 14:10 | 6° 30 '47 | | direct | 14321 Nov 25 03:26 | 0° 33 '29 | |
| max. Earth dist. | 14316 Feb 15 01:10 | 6° 28 '47 | 19.41300 AU | evening set | 14322 Feb 27 19:34 | 4° 00 '12 | |
| morning rise | 14316 Mar 02 23:49 | 7° 31 '41 | | | | | |
| retrograde | 14316 Jun 04 12:10 | 10° 56 '05 | | conjunction | 14322 Mar 16 07:57 | 5° 01 '46 | -0°20'01 |
| opposition | 14316 Aug 17 19:29 | 8° 52 '38 | 0°11'22 | minimum elong | 14322 Mar 16 07:56 | 5° 01 '46 | 0°19'59 |
| min. Earth dist. | 14316 Aug 18 02:39 | 8° 51 '51 | 17.40342 AU | max. Earth dist. | 14322 Mar 15 22:47 | 5° 00 '20 | 19.36928 AU |
| direct | 14316 Oct 31 21:23 | 6° 47 '56 | | morning rise | 14322 Apr 01 18:50 | 6° 03 '07 | |
| evening set | 14317 Feb 03 00:14 | 10° 13 '21 | | retrograde | 14322 Jul 03 13:51 | 9° 26 '46 | |
| | | | | opposition | 14322 Sep 15 17:09 | 7° 23 '30 | -0°25'12 |
| conjunction | 14317 Feb 19 14:10 | 11° 14 '58 | 0°07'27 | min. Earth dist. | 14322 Sep 16 00:23 | 7° 22 '43 | 17.37383 AU |
| minimum elong | 14317 Feb 19 14:10 | 11° 14 '58 | 0°07'54 | direct | 14322 Nov 30 05:26 | 5° 18 '13 | |
| behind sun begin | 14317 Feb 19 08:08 | 11° 14 '03 | | evening set | 14323 Mar 04 22:46 | 8° 44 '56 | |
| behind sun end | 14317 Feb 19 20:12 | 11° 15 '53 | | | | | |
| max. Earth dist. | 14317 Feb 19 05:31 | 11° 13 '38 | 19.39469 AU | conjunction | 14323 Mar 21 10:49 | 9° 46 '24 | -0°25'13 |
| morning rise | 14317 Mar 08 03:09 | 12° 16 '30 | | minimum elong | 14323 Mar 21 10:48 | 9° 46 '24 | 0°25'17 |
| retrograde | 14317 Jun 09 12:31 | 15° 40 '55 | | max. Earth dist. | 14323 Mar 21 03:09 | 9° 45 '13 | 19.37958 AU |
| opposition | 14317 Aug 22 18:49 | 13° 37 '31 | 0°05'15 | morning rise | 14323 Apr 06 21:00 | 10° 47 '38 | |
| min. Earth dist. | 14317 Aug 23 02:43 | 13° 36 '40 | 17.38708 AU | retrograde | 14323 Jul 08 13:25 | 14° 10 '57 | |
| direct | 14317 Nov 05 20:46 | 11° 32 '42 | | opposition | 14323 Sep 20 16:50 | 12° 07 '47 | -0°30'55 |
| evening set | 14318 Feb 08 04:05 | 14° 58 '32 | | min. Earth dist. | 14323 Sep 20 23:03 | 12° 07 '06 | 17.38693 AU |

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|------------------|--------------------|-------------------------------------|------------------|--------------------|------------------------------|-------------|
| direct | 14323 Dec 05 08:07 | 10° Υ 02'31 | minimum elong | 14330 Apr 23 18:42 | 12° \mathcal{B} 39'51 | 0°55'26 |
| evening set | 14324 Mar 09 02:00 | 13° Υ 29'08 | max. Earth dist. | 14330 Apr 23 15:15 | 12° \mathcal{B} 39'19 | 19.60085 AU |
| | | | morning rise | 14330 May 09 23:32 | 13° \mathcal{B} 39'45 | |
| conjunction | 14324 Mar 25 13:22 | 14° Υ 30'29 -0°30'15 | | 14330 Jun 02 08:56 | 15° \mathcal{B} | |
| minimum elong | 14324 Mar 25 13:22 | 14° Υ 30'29 0°30'25 | retrograde | 14330 Aug 10 01:19 | 16° \mathcal{B} 59'34 | |
| max. Earth dist. | 14324 Mar 25 05:34 | 14° Υ 29'16 19.39559 AU | | 14330 Oct 22 15:02 | 15° $\mathcal{R}\mathcal{B}$ | |
| morning rise | 14324 Apr 10 22:56 | 15° Υ 31'35 | opposition | 14330 Oct 23 10:36 | 14° \mathcal{B} 57'54 | -1°02'46 |
| retrograde | 14324 Jul 12 11:44 | 18° Υ 54'32 | min. Earth dist. | 14330 Oct 23 14:04 | 14° \mathcal{B} 57'32 | 17.62427 AU |
| opposition | 14324 Sep 24 16:25 | 16° Υ 51'29 -0°36'25 | direct | 14331 Jan 07 14:44 | 12° \mathcal{B} 53'47 | |
| min. Earth dist. | 14324 Sep 24 22:43 | 16° Υ 50'48 17.40602 AU | | 14331 Mar 20 18:26 | 15° \mathcal{B} | |
| direct | 14324 Dec 09 09:39 | 14° Υ 46'15 | evening set | 14331 Apr 12 11:02 | 16° \mathcal{B} 17'48 | |
| evening set | 14325 Mar 14 04:45 | 18° Υ 12'45 | | | | |
| | | | conjunction | 14331 Apr 28 17:24 | 17° \mathcal{B} 17'46 | -0°57'45 |
| conjunction | 14325 Mar 30 15:36 | 19° Υ 13'58 -0°35'03 | minimum elong | 14331 Apr 28 17:23 | 17° \mathcal{B} 17'46 | 0°58'28 |
| minimum elong | 14325 Mar 30 15:35 | 19° Υ 13'58 0°35'17 | max. Earth dist. | 14331 Apr 28 13:39 | 17° \mathcal{B} 17'11 | 19.64785 AU |
| max. Earth dist. | 14325 Mar 30 09:02 | 19° Υ 12'56 19.41764 AU | morning rise | 14331 May 14 21:35 | 18° \mathcal{B} 17'26 | |
| morning rise | 14325 Apr 16 00:24 | 20° Υ 14'54 | retrograde | 14331 Aug 14 22:32 | 21° \mathcal{B} 36'34 | |
| retrograde | 14325 Jul 17 11:22 | 23° Υ 37'25 | opposition | 14331 Oct 28 08:36 | 19° \mathcal{B} 35'06 | -1°05'49 |
| opposition | 14325 Sep 29 15:55 | 21° Υ 34'34 -0°41'39 | min. Earth dist. | 14331 Oct 28 10:41 | 19° \mathcal{B} 34'53 | 17.67241 AU |
| min. Earth dist. | 14325 Sep 29 20:47 | 21° Υ 34'02 17.43088 AU | direct | 14332 Jan 12 15:32 | 17° \mathcal{B} 31'11 | |
| direct | 14325 Dec 14 12:21 | 19° Υ 29'28 | evening set | 14332 Apr 16 09:50 | 20° \mathcal{B} 54'30 | |
| evening set | 14326 Mar 19 07:01 | 22° Υ 55'44 | | | | |
| | | | conjunction | 14332 May 02 15:30 | 21° \mathcal{B} 54'13 | -1°00'18 |
| conjunction | 14326 Apr 04 17:08 | 23° Υ 56'47 -0°39'37 | minimum elong | 14332 May 02 15:30 | 21° \mathcal{B} 54'13 | 1°01'03 |
| minimum elong | 14326 Apr 04 17:07 | 23° Υ 56'47 0°39'57 | max. Earth dist. | 14332 May 02 13:04 | 21° \mathcal{B} 53'51 | 19.69699 AU |
| max. Earth dist. | 14326 Apr 04 11:03 | 23° Υ 55'50 19.44530 AU | morning rise | 14332 May 18 18:44 | 22° \mathcal{B} 53'36 | |
| morning rise | 14326 Apr 21 01:12 | 24° Υ 57'33 | retrograde | 14332 Aug 18 17:16 | 26° \mathcal{B} 12'02 | |
| retrograde | 14326 Jul 22 09:04 | 28° Υ 19'38 | opposition | 14332 Nov 01 06:13 | 24° \mathcal{B} 10'46 | -1°08'26 |
| opposition | 14326 Oct 04 15:23 | 26° Υ 17'00 -0°46'35 | min. Earth dist. | 14332 Nov 01 08:48 | 24° \mathcal{B} 10'29 | 17.72260 AU |
| min. Earth dist. | 14326 Oct 04 20:31 | 26° Υ 16'27 17.46130 AU | direct | 14333 Jan 16 15:01 | 22° \mathcal{B} 07'02 | |
| direct | 14326 Dec 19 12:44 | 24° Υ 12'03 | evening set | 14333 Apr 21 07:53 | 25° \mathcal{B} 29'36 | |
| evening set | 14327 Mar 24 08:54 | 27° Υ 38'03 | | | | |
| | | | conjunction | 14333 May 07 12:38 | 26° \mathcal{B} 29'02 | -1°02'27 |
| conjunction | 14327 Apr 09 18:22 | 28° Υ 38'55 -0°43'54 | minimum elong | 14333 May 07 12:37 | 26° \mathcal{B} 29'02 | 1°03'16 |
| minimum elong | 14327 Apr 09 18:21 | 28° Υ 38'55 0°44'18 | max. Earth dist. | 14333 May 07 09:42 | 26° \mathcal{B} 28'35 | 19.74823 AU |
| max. Earth dist. | 14327 Apr 09 13:02 | 28° Υ 38'05 19.47826 AU | morning rise | 14333 May 23 15:15 | 27° \mathcal{B} 28'09 | |
| morning rise | 14327 Apr 26 01:42 | 29° Υ 39'29 | | 14333 Jul 13 00:17 | 0° \mathcal{I} | |
| | 14327 May 01 17:50 | 0° \mathcal{B} | retrograde | 14333 Aug 23 12:21 | 0° \mathcal{I} 45'50 | |
| retrograde | 14327 Jul 27 08:49 | 3° \mathcal{B} 01'04 | | 14333 Oct 05 04:50 | 30° $\mathcal{R}\mathcal{B}$ | |
| opposition | 14327 Oct 09 14:22 | 0° \mathcal{B} 58'41 -0°51'11 | opposition | 14333 Nov 06 03:19 | 28° \mathcal{B} 44'43 | -1°10'35 |
| min. Earth dist. | 14327 Oct 09 18:06 | 0° \mathcal{B} 58'17 17.49652 AU | min. Earth dist. | 14333 Nov 06 04:32 | 28° \mathcal{B} 44'36 | 17.77480 AU |
| | 14327 Nov 02 05:04 | 30° $\mathcal{R}\Upsilon$ | direct | 14334 Jan 21 14:58 | 26° \mathcal{B} 41'11 | |
| direct | 14327 Dec 24 14:42 | 28° Υ 53'56 | | 14334 Apr 25 09:20 | 0° \mathcal{I} | |
| | 14328 Feb 13 07:48 | 0° \mathcal{B} | evening set | 14334 Apr 26 04:44 | 0° \mathcal{I} 02'54 | |
| evening set | 14328 Mar 28 10:24 | 2° \mathcal{B} 19'34 | | | | |
| | | | conjunction | 14334 May 12 08:53 | 1° \mathcal{I} 02'04 | -1°04'12 |
| conjunction | 14328 Apr 13 19:08 | 3° \mathcal{B} 20'14 -0°47'53 | minimum elong | 14334 May 12 08:53 | 1° \mathcal{I} 02'04 | 1°05'04 |
| minimum elong | 14328 Apr 13 19:08 | 3° \mathcal{B} 20'14 0°48'21 | max. Earth dist. | 14334 May 12 07:40 | 1° \mathcal{I} 01'53 | 19.80131 AU |
| max. Earth dist. | 14328 Apr 13 14:29 | 3° \mathcal{B} 19'31 19.51554 AU | morning rise | 14334 May 28 10:38 | 2° \mathcal{I} 00'54 | |
| morning rise | 14328 Apr 30 01:38 | 4° \mathcal{B} 20'37 | retrograde | 14334 Aug 28 05:42 | 5° \mathcal{I} 17'49 | |
| retrograde | 14328 Jul 31 06:06 | 7° \mathcal{B} 41'39 | opposition | 14334 Nov 10 23:57 | 3° \mathcal{I} 16'51 | -1°12'18 |
| opposition | 14328 Oct 13 13:28 | 5° \mathcal{B} 39'32 -0°55'26 | min. Earth dist. | 14334 Nov 11 01:20 | 3° \mathcal{I} 16'43 | 17.82878 AU |
| min. Earth dist. | 14328 Oct 13 17:47 | 5° \mathcal{B} 39'04 17.53584 AU | direct | 14335 Jan 26 14:06 | 1° \mathcal{I} 13'30 | |
| direct | 14328 Dec 28 14:19 | 3° \mathcal{B} 34'59 | evening set | 14335 May 01 00:58 | 4° \mathcal{I} 34'20 | |
| evening set | 14329 Apr 02 11:17 | 7° \mathcal{B} 00'10 | | | | |
| | | | conjunction | 14335 May 17 04:12 | 5° \mathcal{I} 33'12 | -1°05'33 |
| conjunction | 14329 Apr 18 19:12 | 8° \mathcal{B} 00'37 -0°51'31 | minimum elong | 14335 May 17 04:12 | 5° \mathcal{I} 33'12 | 1°06'27 |
| minimum elong | 14329 Apr 18 19:11 | 8° \mathcal{B} 00'36 0°52'05 | max. Earth dist. | 14335 May 17 02:32 | 5° \mathcal{I} 32'57 | 19.85628 AU |
| max. Earth dist. | 14329 Apr 18 14:41 | 7° \mathcal{B} 59'54 19.55665 AU | morning rise | 14335 Jun 02 05:26 | 6° \mathcal{I} 31'46 | |
| morning rise | 14329 May 05 00:57 | 9° \mathcal{B} 00'45 | retrograde | 14335 Sep 01 22:41 | 9° \mathcal{I} 47'53 | |
| retrograde | 14329 Aug 05 04:56 | 12° \mathcal{B} 21'13 | opposition | 14335 Nov 15 19:44 | 7° \mathcal{I} 47'04 | -1°13'32 |
| opposition | 14329 Oct 18 12:08 | 10° \mathcal{B} 19'19 -0°59'18 | min. Earth dist. | 14335 Nov 15 19:52 | 7° \mathcal{I} 47'03 | 17.88475 AU |
| min. Earth dist. | 14329 Oct 18 14:59 | 10° \mathcal{B} 19'01 17.57858 AU | direct | 14336 Jan 31 12:31 | 5° \mathcal{I} 43'53 | |
| direct | 14330 Jan 02 15:31 | 8° \mathcal{B} 14'59 | evening set | 14336 May 04 20:05 | 9° \mathcal{I} 03'48 | |
| evening set | 14330 Apr 07 11:30 | 11° \mathcal{B} 39'38 | | | | |
| | | | conjunction | 14336 May 20 22:46 | 10° \mathcal{I} 02'23 | -1°06'28 |
| conjunction | 14330 Apr 23 18:43 | 12° \mathcal{B} 39'51 -0°54'49 | minimum elong | 14336 May 20 22:45 | 10° \mathcal{I} 02'23 | 1°07'26 |

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|------------------|--------------------|--------------------------|-------------|------------------|--------------------|-----------------------------------|-------------|
| max. Earth dist. | 14336 May 20 23:02 | 10° Π 02'26 | 19.91321 AU | min. Earth dist. | 14342 Dec 16 18:18 | 8° \mathfrak{D} 28'16 | 18.32272 AU |
| morning rise | 14336 Jun 05 23:07 | 11° Π 00'40 | | direct | 14343 Mar 04 00:06 | 6° \mathfrak{D} 26'40 | |
| retrograde | 14336 Sep 05 14:46 | 14° Π 15'58 | | evening set | 14343 Jun 05 09:19 | 9° \mathfrak{D} 39'57 | |
| opposition | 14336 Nov 19 15:11 | 12° Π 15'19 | -1°14'19 | | | | |
| min. Earth dist. | 14336 Nov 19 15:02 | 12° Π 15'20 | 17.94270 AU | conjunction | 14343 Jun 21 07:33 | 10° \mathfrak{D} 36'36 | -1°01'55 |
| direct | 14337 Feb 04 10:03 | 10° Π 12'21 | | minimum elong | 14343 Jun 21 07:33 | 10° \mathfrak{D} 36'36 | 1°02'58 |
| evening set | 14337 May 09 14:18 | 13° Π 31'19 | | max. Earth dist. | 14343 Jun 21 12:13 | 10° \mathfrak{D} 37'18 | 20.35416 AU |
| | | | | morning rise | 14343 Jul 07 04:29 | 11° \mathfrak{D} 33'05 | |
| conjunction | 14337 May 25 16:03 | 14° Π 29'36 | -1°06'59 | retrograde | 14343 Oct 06 19:00 | 14° \mathfrak{D} 43'21 | |
| minimum elong | 14337 May 25 16:03 | 14° Π 29'36 | 1°07'58 | opposition | 14343 Dec 21 14:37 | 12° \mathfrak{D} 44'18 | -1°07'39 |
| max. Earth dist. | 14337 May 25 16:10 | 14° Π 29'37 | 19.97228 AU | min. Earth dist. | 14343 Dec 21 09:41 | 12° \mathfrak{D} 44'49 | 18.38561 AU |
| morning rise | 14337 Jun 10 15:55 | 15° Π 27'36 | | direct | 14344 Mar 07 14:24 | 10° \mathfrak{D} 43'32 | |
| retrograde | 14337 Sep 10 06:42 | 18° Π 42'08 | | evening set | 14344 Jun 08 21:43 | 13° \mathfrak{D} 55'53 | |
| opposition | 14337 Nov 24 09:59 | 16° Π 41'38 | -1°14'39 | | | | |
| min. Earth dist. | 14337 Nov 24 08:29 | 16° Π 41'48 | 18.00297 AU | conjunction | 14344 Jun 24 19:38 | 14° \mathfrak{D} 52'18 | -0°59'50 |
| direct | 14338 Feb 09 06:24 | 14° Π 38'54 | | minimum elong | 14344 Jun 24 19:38 | 14° \mathfrak{D} 52'19 | 1°00'52 |
| evening set | 14338 May 14 07:30 | 17° Π 56'55 | | max. Earth dist. | 14344 Jun 25 01:26 | 14° \mathfrak{D} 53'10 | 20.41614 AU |
| | | | | morning rise | 14344 Jul 10 16:07 | 15° \mathfrak{D} 48'33 | |
| conjunction | 14338 May 30 08:45 | 18° Π 54'56 | -1°07'06 | retrograde | 14344 Oct 10 08:07 | 18° \mathfrak{D} 58'11 | |
| minimum elong | 14338 May 30 08:45 | 18° Π 54'56 | 1°08'06 | opposition | 14344 Dec 25 05:33 | 16° \mathfrak{D} 59'20 | -1°05'08 |
| max. Earth dist. | 14338 May 30 10:54 | 18° Π 55'15 | 20.03358 AU | min. Earth dist. | 14344 Dec 24 23:49 | 16° \mathfrak{D} 59'55 | 18.44644 AU |
| morning rise | 14338 Jun 15 07:51 | 19° Π 52'40 | | direct | 14345 Mar 12 06:52 | 14° \mathfrak{D} 58'54 | |
| retrograde | 14338 Sep 14 21:41 | 23° Π 06'24 | | evening set | 14345 Jun 13 09:22 | 18° \mathfrak{D} 10'18 | |
| opposition | 14338 Nov 29 04:05 | 21° Π 06'08 | -1°14'31 | | | | |
| min. Earth dist. | 14338 Nov 29 01:59 | 21° Π 06'21 | 18.06520 AU | conjunction | 14345 Jun 29 06:44 | 19° \mathfrak{D} 06'29 | -0°57'26 |
| direct | 14339 Feb 14 02:00 | 19° Π 03'42 | | minimum elong | 14345 Jun 29 06:44 | 19° \mathfrak{D} 06'29 | 0°58'27 |
| evening set | 14339 May 18 23:59 | 22° Π 20'46 | | max. Earth dist. | 14345 Jun 29 12:11 | 19° \mathfrak{D} 07'17 | 20.47579 AU |
| | | | | morning rise | 14345 Jul 15 03:02 | 20° \mathfrak{D} 02'31 | |
| conjunction | 14339 Jun 04 00:27 | 23° Π 18'29 | -1°06'48 | retrograde | 14345 Oct 14 19:19 | 23° \mathfrak{D} 11'32 | |
| minimum elong | 14339 Jun 04 00:26 | 23° Π 18'29 | 1°07'50 | opposition | 14345 Dec 29 19:59 | 21° \mathfrak{D} 12'51 | -1°02'18 |
| max. Earth dist. | 14339 Jun 04 02:23 | 23° Π 18'47 | 20.09674 AU | min. Earth dist. | 14345 Dec 29 14:32 | 21° \mathfrak{D} 13'25 | 18.50489 AU |
| morning rise | 14339 Jun 19 23:10 | 24° Π 15'57 | | direct | 14346 Mar 16 19:49 | 19° \mathfrak{D} 12'41 | |
| retrograde | 14339 Sep 19 12:46 | 27° Π 28'57 | | evening set | 14346 Jun 17 20:16 | 22° \mathfrak{D} 23'10 | |
| opposition | 14339 Dec 03 21:41 | 25° Π 28'55 | -1°13'58 | | | | |
| min. Earth dist. | 14339 Dec 03 18:39 | 25° Π 29'14 | 18.12908 AU | conjunction | 14346 Jul 03 17:25 | 23° \mathfrak{D} 19'07 | -0°54'44 |
| direct | 14340 Feb 18 20:17 | 23° Π 26'48 | | minimum elong | 14346 Jul 03 17:25 | 23° \mathfrak{D} 19'07 | 0°55'44 |
| evening set | 14340 May 22 15:26 | 26° Π 42'55 | | max. Earth dist. | 14346 Jul 03 23:42 | 23° \mathfrak{D} 20'03 | 20.53285 AU |
| | | | | morning rise | 14346 Jul 19 13:25 | 24° \mathfrak{D} 14'57 | |
| conjunction | 14340 Jun 07 15:26 | 27° Π 40'22 | -1°06'08 | retrograde | 14346 Oct 19 07:18 | 27° \mathfrak{D} 23'22 | |
| minimum elong | 14340 Jun 07 15:26 | 27° Π 40'22 | 1°07'10 | opposition | 14347 Jan 03 09:34 | 25° \mathfrak{D} 24'49 | -0°59'08 |
| max. Earth dist. | 14340 Jun 07 19:12 | 27° Π 40'56 | 20.16112 AU | min. Earth dist. | 14347 Jan 03 03:19 | 25° \mathfrak{D} 25'27 | 18.56036 AU |
| morning rise | 14340 Jun 23 13:29 | 28° Π 37'34 | | direct | 14347 Mar 21 11:22 | 23° \mathfrak{D} 24'54 | |
| | 14340 Jul 18 10:47 | 0° \mathfrak{D} | | evening set | 14347 Jun 22 06:34 | 26° \mathfrak{D} 34'28 | |
| retrograde | 14340 Sep 23 02:59 | 1° \mathfrak{D} 49'51 | | | | | |
| | 14340 Dec 03 14:58 | 30° \mathfrak{R} Π | | conjunction | 14347 Jul 08 03:18 | 27° \mathfrak{D} 30'13 | -0°51'46 |
| opposition | 14340 Dec 07 14:44 | 29° Π 50'05 | -1°12'59 | minimum elong | 14347 Jul 08 03:18 | 27° \mathfrak{D} 30'13 | 0°52'44 |
| min. Earth dist. | 14340 Dec 07 11:00 | 29° Π 50'28 | 18.19369 AU | max. Earth dist. | 14347 Jul 08 09:11 | 27° \mathfrak{D} 31'05 | 20.58686 AU |
| direct | 14341 Feb 22 14:34 | 27° Π 48'19 | | morning rise | 14347 Jul 23 23:13 | 28° \mathfrak{D} 25'50 | |
| | 14341 May 08 09:34 | 0° \mathfrak{D} | | | 14347 Aug 22 13:55 | 0° \mathfrak{D} | |
| evening set | 14341 May 27 06:15 | 1° \mathfrak{D} 03'29 | | retrograde | 14347 Oct 23 17:24 | 1° \mathfrak{D} 33'41 | |
| | | | | | 14347 Dec 28 16:43 | 30° \mathfrak{R} \mathfrak{D} | |
| conjunction | 14341 Jun 12 05:31 | 2° \mathfrak{D} 00'39 | -1°05'05 | opposition | 14348 Jan 07 22:49 | 29° \mathfrak{D} 35'14 | -0°55'41 |
| minimum elong | 14341 Jun 12 05:31 | 2° \mathfrak{D} 00'39 | 1°06'09 | min. Earth dist. | 14348 Jan 07 17:02 | 29° \mathfrak{D} 35'49 | 18.61294 AU |
| max. Earth dist. | 14341 Jun 12 09:03 | 2° \mathfrak{D} 01'11 | 20.22596 AU | direct | 14348 Mar 24 23:20 | 27° \mathfrak{D} 35'31 | |
| morning rise | 14341 Jun 28 03:14 | 2° \mathfrak{D} 57'37 | | | 14348 Jun 12 11:00 | 0° \mathfrak{D} | |
| retrograde | 14341 Sep 27 16:53 | 6° \mathfrak{D} 09'13 | | evening set | 14348 Jun 25 15:52 | 0° \mathfrak{D} 44'11 | |
| opposition | 14341 Dec 12 07:17 | 4° \mathfrak{D} 09'41 | -1°11'35 | | | | |
| min. Earth dist. | 14341 Dec 12 03:03 | 4° \mathfrak{D} 10'07 | 18.25860 AU | conjunction | 14348 Jul 11 12:25 | 1° \mathfrak{D} 39'43 | -0°48'32 |
| direct | 14342 Feb 27 06:49 | 2° \mathfrak{D} 08'15 | | minimum elong | 14348 Jul 11 12:26 | 1° \mathfrak{D} 39'43 | 0°49'30 |
| evening set | 14342 May 31 20:01 | 5° \mathfrak{D} 22'29 | | max. Earth dist. | 14348 Jul 11 19:12 | 1° \mathfrak{D} 40'43 | 20.63803 AU |
| | | | | morning rise | 14348 Jul 27 08:09 | 2° \mathfrak{D} 35'10 | |
| conjunction | 14342 Jun 16 18:54 | 6° \mathfrak{D} 19'24 | -1°03'40 | retrograde | 14348 Oct 27 03:42 | 5° \mathfrak{D} 42'27 | |
| minimum elong | 14342 Jun 16 18:54 | 6° \mathfrak{D} 19'24 | 1°04'43 | opposition | 14349 Jan 11 11:26 | 3° \mathfrak{D} 44'03 | -0°51'57 |
| max. Earth dist. | 14342 Jun 16 23:58 | 6° \mathfrak{D} 20'09 | 20.29062 AU | min. Earth dist. | 14349 Jan 11 04:31 | 3° \mathfrak{D} 44'45 | 18.66263 AU |
| morning rise | 14342 Jul 02 16:07 | 7° \mathfrak{D} 16'06 | | direct | 14349 Mar 29 14:00 | 1° \mathfrak{D} 44'33 | |
| retrograde | 14342 Oct 02 06:31 | 10° \mathfrak{D} 27'01 | | evening set | 14349 Jun 30 00:39 | 4° \mathfrak{D} 52'19 | |
| opposition | 14342 Dec 16 23:14 | 8° \mathfrak{D} 27'45 | -1°09'48 | | | | |

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| conjunction | 14349 Jul 15 20:52 | 5°Ω47'40 | -0°45'05 | minimum elong | 14355 Aug 09 13:27 | 0°Π10'16 | 0°21'09 |
| minimum elong | 14349 Jul 15 20:52 | 5°Ω47'40 | 0°45'59 | max. Earth dist. | 14355 Aug 09 22:38 | 0°Π11'35 | 20.92798 AU |
| max. Earth dist. | 14349 Jul 16 03:38 | 5°Ω48'40 | 20.68647 AU | morning rise | 14355 Aug 25 09:27 | 1°Π04'49 | |
| morning rise | 14349 Jul 31 16:35 | 6°Ω42'57 | | retrograde | 14355 Nov 25 14:34 | 4°Π09'41 | |
| retrograde | 14349 Oct 31 13:04 | 9°Ω49'44 | | opposition | 14356 Feb 10 14:39 | 2°Π11'45 | -0°20'14 |
| opposition | 14350 Jan 15 23:31 | 7°Ω51'22 | -0°47'59 | min. Earth dist. | 14356 Feb 10 06:07 | 2°Π12'37 | 18.94318 AU |
| min. Earth dist. | 14350 Jan 15 16:57 | 7°Ω52'02 | 18.71002 AU | direct | 14356 Apr 27 11:48 | 0°Π13'46 | |
| direct | 14350 Apr 03 00:40 | 5°Ω52'03 | | evening set | 14356 Jul 27 23:25 | 3°Π16'51 | |
| evening set | 14350 Jul 04 08:37 | 8°Ω58'59 | | | | | |
| conjunction | 14350 Jul 20 04:44 | 9°Ω54'09 | -0°41'24 | conjunction | 14356 Aug 12 19:06 | 4°Π11'16 | -0°16'01 |
| minimum elong | 14350 Jul 20 04:45 | 9°Ω54'10 | 0°42'17 | minimum elong | 14356 Aug 12 19:07 | 4°Π11'16 | 0°16'34 |
| max. Earth dist. | 14350 Jul 20 12:25 | 9°Ω55'17 | 20.73276 AU | max. Earth dist. | 14356 Aug 13 04:36 | 4°Π12'38 | 20.95730 AU |
| morning rise | 14350 Aug 05 00:22 | 10°Ω49'16 | | morning rise | 14356 Aug 28 15:14 | 5°Π05'45 | |
| retrograde | 14350 Nov 04 22:05 | 13°Ω55'35 | | retrograde | 14356 Nov 28 23:42 | 8°Π10'30 | |
| opposition | 14351 Jan 20 10:59 | 11°Ω57'17 | -0°43'47 | opposition | 14357 Feb 14 00:06 | 6°Π12'38 | -0°15'11 |
| min. Earth dist. | 14351 Jan 20 03:02 | 11°Ω58'05 | 18.75514 AU | min. Earth dist. | 14357 Feb 13 14:34 | 6°Π13'35 | 18.97029 AU |
| direct | 14351 Apr 07 13:34 | 9°Ω58'10 | | direct | 14357 May 01 21:01 | 4°Π14'50 | |
| evening set | 14351 Jul 08 16:11 | 13°Ω04'19 | | evening set | 14357 Aug 01 05:02 | 7°Π17'29 | |
| conjunction | 14351 Jul 24 12:02 | 13°Ω59'20 | -0°37'32 | conjunction | 14357 Aug 17 00:43 | 8°Π11'49 | -0°11'26 |
| minimum elong | 14351 Jul 24 12:03 | 13°Ω59'20 | 0°38'21 | minimum elong | 14357 Aug 17 00:43 | 8°Π11'49 | 0°11'56 |
| max. Earth dist. | 14351 Jul 24 19:49 | 14°Ω00'28 | 20.77681 AU | behind sun begin | 14357 Aug 16 20:08 | 8°Π11'11 | |
| morning rise | 14351 Aug 09 07:41 | 14°Ω54'18 | | behind sun end | 14357 Aug 17 05:18 | 8°Π12'28 | |
| | 14351 Aug 10 23:50 | 15°Ω | | max. Earth dist. | 14357 Aug 17 09:57 | 8°Π13'08 | 20.98209 AU |
| retrograde | 14351 Nov 09 06:29 | 18°Ω00'13 | | morning rise | 14357 Sep 01 21:05 | 9°Π06'16 | |
| opposition | 14352 Jan 24 22:05 | 16°Ω01'59 | -0°39'23 | retrograde | 14357 Dec 03 06:17 | 12°Π10'55 | |
| min. Earth dist. | 14352 Jan 24 14:31 | 16°Ω02'44 | 18.79820 AU | opposition | 14358 Feb 18 09:21 | 10°Π13'05 | -0°10'04 |
| | 14352 Feb 20 20:46 | 15°κΩ | | min. Earth dist. | 14358 Feb 18 01:05 | 10°Π13'55 | 18.99279 AU |
| direct | 14352 Apr 10 23:12 | 14°Ω03'05 | | direct | 14358 May 06 03:39 | 8°Π15'27 | |
| | 14352 May 29 05:14 | 15°Ω | | evening set | 14358 Aug 05 10:27 | 11°Π17'43 | |
| evening set | 14352 Jul 11 23:08 | 17°Ω08'31 | | conjunction | 14358 Aug 21 06:18 | 12°Π12'00 | -0°06'48 |
| conjunction | 14352 Jul 27 18:57 | 18°Ω03'22 | -0°33'29 | minimum elong | 14358 Aug 21 06:18 | 12°Π12'00 | 0°07'14 |
| minimum elong | 14352 Jul 27 18:57 | 18°Ω03'22 | 0°34'16 | behind sun begin | 14358 Aug 21 00:15 | 12°Π11'09 | |
| max. Earth dist. | 14352 Jul 28 03:32 | 18°Ω04'37 | 20.81882 AU | behind sun end | 14358 Aug 21 12:21 | 12°Π12'51 | |
| morning rise | 14352 Aug 12 14:35 | 18°Ω58'13 | | max. Earth dist. | 14358 Aug 21 15:23 | 12°Π13'18 | 21.00210 AU |
| retrograde | 14352 Nov 12 15:14 | 22°Ω03'47 | | morning rise | 14358 Sep 06 02:52 | 13°Π06'24 | |
| opposition | 14353 Jan 28 08:42 | 20°Ω05'37 | -0°34'48 | retrograde | 14358 Dec 07 15:23 | 16°Π11'01 | |
| min. Earth dist. | 14353 Jan 27 23:43 | 20°Ω06'31 | 18.83894 AU | opposition | 14359 Feb 22 18:21 | 14°Π13'11 | -0°04'55 |
| direct | 14353 Apr 15 10:08 | 18°Ω06'57 | | min. Earth dist. | 14359 Feb 22 09:19 | 14°Π14'06 | 19.01010 AU |
| evening set | 14353 Jul 16 05:37 | 21°Ω11'42 | | direct | 14359 May 10 12:24 | 12°Π15'41 | |
| conjunction | 14353 Aug 01 01:18 | 22°Ω06'26 | -0°29'17 | evening set | 14359 Aug 09 15:47 | 15°Π17'36 | |
| minimum elong | 14353 Aug 01 01:19 | 22°Ω06'26 | 0°30'01 | conjunction | 14359 Aug 25 11:41 | 16°Π11'51 | -0°02'09 |
| max. Earth dist. | 14353 Aug 01 10:01 | 22°Ω07'41 | 20.85827 AU | minimum elong | 14359 Aug 25 11:41 | 16°Π11'51 | 0°02'30 |
| morning rise | 14353 Aug 16 21:04 | 23°Ω01'10 | | behind sun begin | 14359 Aug 25 05:06 | 16°Π10'56 | |
| retrograde | 14353 Nov 16 22:45 | 26°Ω06'27 | | behind sun end | 14359 Aug 25 18:15 | 16°Π12'46 | |
| opposition | 14354 Feb 01 19:05 | 24°Ω08'22 | -0°30'04 | max. Earth dist. | 14359 Aug 25 20:16 | 16°Π13'04 | 21.01663 AU |
| min. Earth dist. | 14354 Feb 01 10:44 | 24°Ω09'13 | 18.87704 AU | morning rise | 14359 Sep 10 08:30 | 17°Π06'14 | |
| direct | 14354 Apr 19 18:39 | 22°Ω09'56 | | retrograde | 14359 Dec 11 21:44 | 20°Π10'51 | |
| evening set | 14354 Jul 20 11:49 | 25°Ω14'05 | | asc. node | 14360 Feb 09 10:36 | 18°Π54'30 | |
| conjunction | 14354 Aug 05 07:32 | 26°Ω08'41 | -0°24'58 | opposition | 14360 Feb 27 03:22 | 18°Π12'59 | 0°00'16 |
| minimum elong | 14354 Aug 05 07:32 | 26°Ω08'41 | 0°25'37 | min. Earth dist. | 14360 Feb 26 19:40 | 18°Π13'45 | 19.02197 AU |
| max. Earth dist. | 14354 Aug 05 16:46 | 26°Ω10'01 | 20.89489 AU | direct | 14360 May 13 18:55 | 16°Π15'34 | |
| morning rise | 14354 Aug 21 03:22 | 27°Ω03'19 | | evening set | 14360 Aug 12 20:58 | 19°Π17'10 | |
| | 14354 Nov 03 00:13 | 0°Π | | conjunction | 14360 Aug 28 17:04 | 20°Π11'23 | 0°02'39 |
| retrograde | 14354 Nov 21 07:36 | 0°Π08'22 | | minimum elong | 14360 Aug 28 17:04 | 20°Π11'23 | 0°02'22 |
| | 14354 Dec 09 18:07 | 30°κΩ | | behind sun begin | 14360 Aug 28 10:30 | 20°Π10'28 | |
| opposition | 14355 Feb 06 04:49 | 28°Ω10'22 | -0°25'12 | behind sun end | 14360 Aug 28 23:39 | 20°Π12'18 | |
| min. Earth dist. | 14355 Feb 05 19:21 | 28°Ω11'19 | 18.91191 AU | max. Earth dist. | 14360 Aug 29 01:26 | 20°Π12'34 | 21.02588 AU |
| direct | 14355 Apr 24 04:25 | 26°Ω12'09 | | morning rise | 14360 Sep 13 14:11 | 21°Π05'46 | |
| evening set | 14355 Jul 24 17:50 | 29°Ω15'45 | | retrograde | 14360 Dec 15 06:27 | 24°Π10'24 | |
| | 14355 Aug 06 14:35 | 0°Π | | opposition | 14361 Mar 02 12:00 | 22°Π12'28 | 0°05'26 |
| conjunction | 14355 Aug 09 13:27 | 0°Π10'15 | -0°20'32 | min. Earth dist. | 14361 Mar 02 03:32 | 22°Π13'19 | 19.02851 AU |
| | | | | direct | 14361 May 18 03:11 | 20°Π15'06 | |
| | | | | evening set | 14361 Aug 17 02:01 | 23°Π16'25 | |

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| conjunction | 14361 Sep 01 22:17 | 24° 10 '39 | 0°07'19 | conjunction | 14367 Sep 26 07:12 | 18° 06 '23 | 0°33'45 |
| minimum elong | 14361 Sep 01 22:17 | 24° 10 '39 | 0°07'06 | minimum elong | 14367 Sep 26 07:11 | 18° 06 '23 | 0°33'58 |
| behind sun begin | 14361 Sep 01 16:12 | 24° 10 '09'48 | | max. Earth dist. | 14367 Sep 26 14:28 | 18° 07 '26 | 20.96999 AU |
| behind sun end | 14361 Sep 02 04:22 | 24° 11 '30 | | morning rise | 14367 Oct 12 07:00 | 19° 01 '11 | |
| max. Earth dist. | 14361 Sep 02 06:15 | 24° 11 '46 | 21.02984 AU | retrograde | 14368 Jan 13 12:58 | 22° 07 '22 | |
| morning rise | 14361 Sep 17 19:46 | 25° 10 '05'02 | | opposition | 14368 Mar 30 22:14 | 20° 08 '39 | 0°39'34 |
| retrograde | 14361 Dec 19 12:48 | 28° 10 '09'44 | | min. Earth dist. | 14368 Mar 30 15:50 | 20° 09 '18 | 18.95941 AU |
| opposition | 14362 Mar 06 20:34 | 26° 11 '41 | 0°10'35 | direct | 14368 Jun 14 22:37 | 18° 11 '15 | |
| min. Earth dist. | 14362 Mar 06 13:24 | 26° 12 '24 | 19.03009 AU | evening set | 14368 Sep 13 15:15 | 21° 12 '34 | |
| direct | 14362 May 22 09:15 | 24° 14 '20 | | | | | |
| evening set | 14362 Aug 21 06:59 | 27° 15 '27 | | conjunction | 14368 Sep 29 13:38 | 22° 07 '11 | 0°37'44 |
| | | | | minimum elong | 14368 Sep 29 13:37 | 22° 07 '11 | 0°38'01 |
| conjunction | 14362 Sep 06 03:31 | 28° 10 '09'40 | 0°11'55 | max. Earth dist. | 14368 Sep 29 20:36 | 22° 08 '11 | 20.94771 AU |
| minimum elong | 14362 Sep 06 03:30 | 28° 10 '09'40 | 0°11'46 | morning rise | 14368 Oct 15 13:55 | 23° 02 '06 | |
| behind sun begin | 14362 Sep 05 22:51 | 28° 10 '09'01 | | retrograde | 14369 Jan 16 23:26 | 26° 08 '43 | |
| behind sun end | 14362 Sep 06 08:09 | 28° 10 '19 | | opposition | 14369 Apr 04 06:44 | 24° 09 '54 | 0°43'53 |
| max. Earth dist. | 14362 Sep 06 11:22 | 28° 10 '47 | 21.02919 AU | min. Earth dist. | 14369 Apr 03 23:46 | 24° 10 '36 | 18.93524 AU |
| morning rise | 14362 Sep 22 01:18 | 29° 10 '04'05 | | direct | 14369 Jun 19 05:59 | 22° 12 '28 | |
| | 14362 Oct 09 08:40 | 0° 08 '53 | | evening set | 14369 Sep 17 21:43 | 25° 14 '03 | |
| retrograde | 14362 Dec 23 21:00 | 2° 08 '53 | | | | | |
| opposition | 14363 Mar 11 04:43 | 0° 10 '43 | 0°15'40 | conjunction | 14369 Oct 03 20:30 | 26° 08 '48 | 0°41'32 |
| min. Earth dist. | 14363 Mar 10 20:40 | 0° 11 '31 | 19.02729 AU | minimum elong | 14369 Oct 03 20:30 | 26° 08 '48 | 0°41'53 |
| | 14363 Mar 15 15:56 | 30° 08 '10 | | max. Earth dist. | 14369 Oct 04 03:05 | 26° 09 '45 | 20.92148 AU |
| direct | 14363 May 26 17:02 | 28° 13 '21 | | morning rise | 14369 Oct 19 21:17 | 27° 03 '51 | |
| | 14363 Aug 01 23:33 | 0° 14 '20 | | | 14369 Dec 31 08:24 | 0° 10 '56 | |
| evening set | 14363 Aug 25 12:02 | 1° 14 '20 | | retrograde | 14370 Jan 21 08:43 | 0° 10 '56 | |
| | | | | | 14370 Feb 11 16:04 | 30° 08 '43 | |
| conjunction | 14363 Sep 10 08:45 | 2° 08 '35 | 0°16'29 | opposition | 14370 Apr 08 15:39 | 28° 12 '01 | 0°48'00 |
| minimum elong | 14363 Sep 10 08:44 | 2° 08 '35 | 0°16'25 | min. Earth dist. | 14370 Apr 08 10:09 | 28° 12 '34 | 18.90700 AU |
| max. Earth dist. | 14363 Sep 10 16:26 | 2° 09 '40 | 21.02435 AU | direct | 14370 Jun 23 11:45 | 26° 14 '32 | |
| morning rise | 14363 Sep 26 06:54 | 3° 03 '03 | | evening set | 14370 Sep 22 04:40 | 29° 16 '28 | |
| retrograde | 14363 Dec 28 03:40 | 6° 08 '01 | | | 14370 Oct 04 21:23 | 0° 19 '50 | |
| opposition | 14364 Mar 14 13:06 | 4° 09 '43 | 0°20'42 | | | | |
| min. Earth dist. | 14364 Mar 14 06:08 | 4° 10 '25 | 19.02066 AU | conjunction | 14370 Oct 08 03:52 | 0° 11 '20 | 0°45'09 |
| direct | 14364 May 29 22:16 | 2° 12 '21 | | minimum elong | 14370 Oct 08 03:51 | 0° 11 '20 | 0°45'36 |
| evening set | 14364 Aug 28 16:57 | 5° 13 '15 | | max. Earth dist. | 14370 Oct 08 09:45 | 0° 12 '11 | 20.89115 AU |
| | | | | morning rise | 14370 Oct 24 05:08 | 1° 06 '32 | |
| conjunction | 14364 Sep 13 13:58 | 6° 07 '32 | 0°20'58 | retrograde | 14371 Jan 25 19:50 | 4° 14 '08 | |
| minimum elong | 14364 Sep 13 13:58 | 6° 07 '32 | 0°20'58 | opposition | 14371 Apr 13 00:39 | 2° 15 '05 | 0°51'54 |
| max. Earth dist. | 14364 Sep 13 21:42 | 6° 08 '38 | 21.01598 AU | min. Earth dist. | 14371 Apr 12 18:54 | 2° 15 '40 | 18.87445 AU |
| morning rise | 14364 Sep 29 12:30 | 7° 02 '03 | | direct | 14371 Jun 27 19:24 | 0° 17 '32 | |
| retrograde | 14364 Dec 31 12:25 | 10° 07 '16 | | evening set | 14371 Sep 26 12:13 | 3° 19 '50 | |
| opposition | 14365 Mar 18 21:16 | 8° 08 '51 | 0°25'37 | | | | |
| min. Earth dist. | 14365 Mar 18 13:18 | 8° 09 '38 | 19.01053 AU | conjunction | 14371 Oct 12 11:51 | 4° 14 '52 | 0°48'33 |
| direct | 14365 Jun 03 05:44 | 6° 11 '28 | | minimum elong | 14371 Oct 12 11:50 | 4° 14 '52 | 0°49'03 |
| evening set | 14365 Sep 01 22:12 | 9° 12 '23 | | max. Earth dist. | 14371 Oct 12 17:07 | 4° 15 '38 | 20.85620 AU |
| | | | | morning rise | 14371 Oct 28 13:35 | 5° 10 '14 | |
| conjunction | 14365 Sep 17 19:30 | 10° 06 '43 | 0°25'21 | retrograde | 14372 Jan 30 05:54 | 8° 18 '23 | |
| minimum elong | 14365 Sep 17 19:29 | 10° 06 '43 | 0°25'26 | opposition | 14372 Apr 16 10:12 | 6° 19 '10 | 0°55'34 |
| max. Earth dist. | 14365 Sep 18 03:05 | 10° 07 '48 | 21.00404 AU | min. Earth dist. | 14372 Apr 16 06:02 | 6° 19 '36 | 18.83720 AU |
| morning rise | 14365 Oct 03 18:27 | 11° 01 '19 | | direct | 14372 Jul 01 02:28 | 4° 21 '30 | |
| retrograde | 14366 Jan 04 19:23 | 14° 06 '47 | | evening set | 14372 Sep 29 20:11 | 7° 24 '13 | |
| opposition | 14366 Mar 23 05:26 | 12° 08 '16 | 0°30'25 | | | | |
| min. Earth dist. | 14366 Mar 22 22:39 | 12° 08 '57 | 18.99695 AU | conjunction | 14372 Oct 15 20:20 | 8° 19 '25 | 0°51'44 |
| direct | 14366 Jun 07 10:19 | 10° 10 '53 | | minimum elong | 14372 Oct 15 20:19 | 8° 19 '25 | 0°52'18 |
| evening set | 14366 Sep 06 03:37 | 13° 11 '52 | | max. Earth dist. | 14372 Oct 16 00:34 | 8° 20 '02 | 20.81664 AU |
| | | | | morning rise | 14372 Oct 31 22:39 | 9° 14 '57 | |
| conjunction | 14366 Sep 22 01:16 | 14° 06 '17 | 0°29'37 | retrograde | 14373 Feb 02 18:05 | 12° 23 '40 | |
| minimum elong | 14366 Sep 22 01:16 | 14° 06 '17 | 0°29'46 | opposition | 14373 Apr 20 19:54 | 10° 24 '15 | 0°58'58 |
| max. Earth dist. | 14366 Sep 22 08:42 | 14° 07 '21 | 20.98881 AU | min. Earth dist. | 14373 Apr 20 15:38 | 10° 24 '41 | 18.79521 AU |
| morning rise | 14366 Oct 08 00:39 | 15° 00 '58 | | direct | 14373 Jul 05 10:48 | 8° 26 '25 | |
| retrograde | 14367 Jan 09 05:05 | 18° 06 '46 | | evening set | 14373 Oct 04 04:50 | 11° 29 '36 | |
| opposition | 14367 Mar 27 13:40 | 16° 08 '09 | 0°35'04 | | | | |
| min. Earth dist. | 14367 Mar 27 06:03 | 16° 08 '55 | 18.97996 AU | conjunction | 14373 Oct 20 05:30 | 12° 24 '59 | 0°54'40 |
| direct | 14367 Jun 11 17:42 | 14° 10 '45 | | minimum elong | 14373 Oct 20 05:30 | 12° 24 '59 | 0°55'17 |
| evening set | 14367 Sep 10 09:13 | 17° 11 '53 | | max. Earth dist. | 14373 Oct 20 09:01 | 12° 25 '29 | 20.77222 AU |
| | | | | morning rise | 14373 Nov 05 08:19 | 13° 20 '42 | |

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| | 14373 Dec 07 07:14 | 15°♄ | | opposition | 14380 May 20 00:50 | 9°♂31'18 | 1°13'49 |
| retrograde | 14374 Feb 07 04:12 | 16°♄29'58 | | min. Earth dist. | 14380 May 20 00:50 | 9°♂31'18 | 18.41304 AU |
| | 14374 Apr 12 23:43 | 15°♄♄ | | direct | 14380 Aug 03 04:52 | 7°♂31'41 | |
| opposition | 14374 Apr 25 05:51 | 14°♄30'20 | 1°02'05 | evening set | 14380 Nov 02 09:08 | 10°♂39'34 | |
| min. Earth dist. | 14374 Apr 25 03:10 | 14°♄30'37 | 18.74861 AU | | | | |
| direct | 14374 Jul 09 18:58 | 12°♄32'17 | | conjunction | 14380 Nov 18 13:55 | 11°♂36'34 | 1°06'49 |
| | 14374 Sep 27 18:17 | 15°♄ | | minimum elong | 14380 Nov 18 13:54 | 11°♂36'34 | 1°07'47 |
| evening set | 14374 Oct 08 13:56 | 15°♄35'58 | | max. Earth dist. | 14380 Nov 18 13:14 | 11°♂36'28 | 20.38280 AU |
| | | | | morning rise | 14380 Dec 04 20:57 | 12°♂33'55 | |
| conjunction | 14374 Oct 24 15:07 | 16°♄31'33 | 0°57'20 | retrograde | 14381 Mar 09 02:41 | 15°♂47'57 | |
| minimum elong | 14374 Oct 24 15:06 | 16°♄31'33 | 0°58'00 | opposition | 14381 May 24 13:35 | 13°♂46'39 | 1°14'27 |
| max. Earth dist. | 14374 Oct 24 17:35 | 16°♄31'54 | 20.72371 AU | min. Earth dist. | 14381 May 24 13:38 | 13°♂46'38 | 18.35290 AU |
| morning rise | 14374 Nov 09 18:33 | 17°♄27'28 | | direct | 14381 Aug 07 17:02 | 11°♂46'47 | |
| retrograde | 14375 Feb 11 17:14 | 20°♄37'20 | | evening set | 14381 Nov 06 23:00 | 14°♂55'34 | |
| opposition | 14375 Apr 29 16:05 | 18°♄37'25 | 1°04'54 | | | | |
| min. Earth dist. | 14375 Apr 29 13:16 | 18°♄37'43 | 18.69825 AU | conjunction | 14381 Nov 23 04:31 | 15°♂52'51 | 1°07'11 |
| direct | 14375 Jul 14 04:12 | 16°♄39'07 | | minimum elong | 14381 Nov 23 04:30 | 15°♂52'51 | 1°08'10 |
| evening set | 14375 Oct 12 23:25 | 19°♄43'22 | | max. Earth dist. | 14381 Nov 23 04:07 | 15°♂52'48 | 20.32234 AU |
| | | | | morning rise | 14381 Dec 09 11:59 | 16°♂50'28 | |
| conjunction | 14375 Oct 29 01:10 | 20°♄39'08 | 0°59'43 | retrograde | 14382 Mar 13 17:34 | 20°♂05'16 | |
| minimum elong | 14375 Oct 29 01:10 | 20°♄39'08 | 1°00'28 | opposition | 14382 May 29 02:51 | 18°♂03'49 | 1°14'41 |
| max. Earth dist. | 14375 Oct 29 03:24 | 20°♄39'28 | 20.67163 AU | min. Earth dist. | 14382 May 29 03:40 | 18°♂03'43 | 18.29222 AU |
| morning rise | 14375 Nov 14 05:07 | 21°♄35'16 | | direct | 14382 Aug 12 04:35 | 16°♂03'44 | |
| retrograde | 14376 Feb 16 04:03 | 24°♄45'46 | | evening set | 14382 Nov 11 13:48 | 19°♂13'27 | |
| opposition | 14376 May 03 02:47 | 22°♄45'35 | 1°07'24 | | | | |
| min. Earth dist. | 14376 May 03 01:12 | 22°♄45'45 | 18.64476 AU | conjunction | 14382 Nov 27 19:51 | 20°♂11'01 | 1°07'11 |
| direct | 14376 Jul 17 12:42 | 20°♄47'01 | | minimum elong | 14382 Nov 27 19:51 | 20°♂11'01 | 1°08'12 |
| evening set | 14376 Oct 16 09:38 | 23°♄51'52 | | max. Earth dist. | 14382 Nov 27 18:02 | 20°♂10'44 | 20.26160 AU |
| | | | | morning rise | 14382 Dec 14 04:05 | 21°♂08'54 | |
| conjunction | 14376 Nov 01 11:56 | 24°♄47'52 | 1°01'48 | retrograde | 14383 Mar 18 10:42 | 24°♂24'30 | |
| minimum elong | 14376 Nov 01 11:56 | 24°♄47'52 | 1°02'35 | opposition | 14383 Jun 02 16:48 | 22°♂22'54 | 1°14'30 |
| max. Earth dist. | 14376 Nov 01 13:14 | 24°♄48'04 | 20.61698 AU | min. Earth dist. | 14383 Jun 02 18:00 | 22°♂22'46 | 18.23129 AU |
| morning rise | 14376 Nov 17 16:33 | 25°♄44'13 | | direct | 14383 Aug 16 17:33 | 20°♂22'35 | |
| retrograde | 14377 Feb 19 18:06 | 28°♄55'22 | | evening set | 14383 Nov 16 05:20 | 23°♂33'16 | |
| opposition | 14377 May 07 13:32 | 26°♄54'55 | 1°09'34 | | | | |
| min. Earth dist. | 14377 May 07 11:49 | 26°♄55'06 | 18.58905 AU | conjunction | 14383 Dec 02 12:11 | 24°♂31'07 | 1°06'48 |
| direct | 14377 Jul 21 22:53 | 24°♄56'04 | | minimum elong | 14383 Dec 02 12:11 | 24°♂31'07 | 1°07'49 |
| evening set | 14377 Oct 20 20:27 | 28°♄01'36 | | max. Earth dist. | 14383 Dec 02 10:40 | 24°♂30'54 | 20.20032 AU |
| | | | | morning rise | 14383 Dec 18 20:51 | 25°♂29'17 | |
| conjunction | 14377 Nov 05 23:24 | 28°♄57'51 | 1°03'34 | retrograde | 14384 Mar 22 03:44 | 28°♂45'41 | |
| minimum elong | 14377 Nov 05 23:24 | 28°♄57'51 | 1°04'25 | opposition | 14384 Jun 06 07:24 | 26°♂43'56 | 1°13'53 |
| max. Earth dist. | 14377 Nov 06 00:39 | 28°♄58'02 | 20.56018 AU | min. Earth dist. | 14384 Jun 06 09:22 | 26°♂43'44 | 18.16965 AU |
| morning rise | 14377 Nov 22 04:31 | 29°♄54'26 | | direct | 14384 Aug 20 06:51 | 24°♂43'23 | |
| | 14377 Nov 23 19:35 | 0°♂ | | evening set | 14384 Nov 19 22:07 | 27°♂55'03 | |
| retrograde | 14378 Feb 24 05:57 | 3°♂06'15 | | | | | |
| opposition | 14378 May 12 00:53 | 1°♂05'34 | 1°11'22 | conjunction | 14384 Dec 06 05:29 | 28°♂53'12 | 1°06'02 |
| min. Earth dist. | 14378 May 12 00:12 | 1°♂05'38 | 18.53146 AU | minimum elong | 14384 Dec 06 05:29 | 28°♂53'12 | 1°07'05 |
| | 14378 Jun 09 00:36 | 30°♄♄ | | max. Earth dist. | 14384 Dec 06 02:04 | 28°♂52'41 | 20.13838 AU |
| direct | 14378 Jul 26 07:40 | 29°♄06'27 | | morning rise | 14384 Dec 22 14:53 | 29°♂51'38 | |
| | 14378 Sep 10 06:42 | 0°♂ | | | 14384 Dec 25 00:25 | 0°♂ | |
| evening set | 14378 Oct 25 07:55 | 2°♂12'43 | | retrograde | 14385 Mar 26 22:02 | 3°♂08'48 | |
| | | | | opposition | 14385 Jun 10 22:29 | 1°♂06'55 | 1°12'50 |
| conjunction | 14378 Nov 10 11:24 | 3°♂09'12 | 1°05'00 | min. Earth dist. | 14385 Jun 11 01:20 | 1°♂06'37 | 18.10733 AU |
| minimum elong | 14378 Nov 10 11:23 | 3°♂09'11 | 1°05'53 | | 14385 Jul 08 22:09 | 30°♄♂ | |
| max. Earth dist. | 14378 Nov 10 11:41 | 3°♂09'14 | 20.50197 AU | direct | 14385 Aug 24 21:00 | 29°♂06'03 | |
| morning rise | 14378 Nov 26 17:11 | 4°♂06'01 | | | 14385 Oct 09 11:32 | 0°♂ | |
| retrograde | 14379 Feb 28 21:11 | 7°♂18'33 | | evening set | 14385 Nov 24 15:40 | 2°♂18'44 | |
| opposition | 14379 May 16 12:35 | 5°♂17'38 | 1°12'47 | | | | |
| min. Earth dist. | 14379 May 16 11:45 | 5°♂17'44 | 18.47270 AU | conjunction | 14385 Dec 10 23:51 | 3°♂17'10 | 1°04'53 |
| direct | 14379 Jul 30 19:00 | 3°♂18'16 | | minimum elong | 14385 Dec 10 23:51 | 3°♂17'10 | 1°05'55 |
| evening set | 14379 Oct 29 20:07 | 6°♂25'19 | | max. Earth dist. | 14385 Dec 10 20:30 | 3°♂16'40 | 20.07554 AU |
| | | | | morning rise | 14385 Dec 27 09:37 | 4°♂15'53 | |
| conjunction | 14379 Nov 15 00:18 | 7°♂22'04 | 1°06'05 | retrograde | 14386 Mar 31 16:43 | 7°♂33'47 | |
| minimum elong | 14379 Nov 15 00:18 | 7°♂22'04 | 1°07'01 | opposition | 14386 Jun 15 14:20 | 5°♂31'43 | 1°11'22 |
| max. Earth dist. | 14379 Nov 15 00:47 | 7°♂22'08 | 20.44266 AU | min. Earth dist. | 14386 Jun 15 17:46 | 5°♂31'21 | 18.04407 AU |
| morning rise | 14379 Dec 01 06:34 | 8°♂19'08 | | direct | 14386 Aug 29 11:49 | 3°♂30'34 | |
| retrograde | 14380 Mar 04 10:21 | 11°♂32'25 | | evening set | 14386 Nov 29 10:03 | 6°♂44'12 | |

| | | | | | | | |
|------------------|--------------------|-------------|-------------|------------------|--------------------|-------------|-------------|
| conjunction | 14386 Dec 15 18:43 | 7°34'25.5 | 1°03'20 | retrograde | 14393 May 02 19:10 | 9°22'13.1 | |
| minimum elong | 14386 Dec 15 18:43 | 7°34'25.5 | 1°04'23 | opposition | 14393 Jul 16 20:14 | 7°22'09.44 | 0°49'15 |
| max. Earth dist. | 14386 Dec 15 13:23 | 7°34'20.7 | 20.01211 AU | min. Earth dist. | 14393 Jul 17 03:10 | 7°22'08.59 | 17.63085 AU |
| morning rise | 14387 Jan 01 05:12 | 8°34'15.4 | | direct | 14393 Sep 29 15:12 | 5°22'06.10 | |
| retrograde | 14387 Apr 05 12:27 | 12°30'03.2 | | evening set | 14393 Dec 31 16:31 | 8°22'26.25 | |
| opposition | 14387 Jun 20 06:48 | 9°23'58.15 | 1°09'27 | | | | |
| min. Earth dist. | 14387 Jun 20 11:11 | 9°23'57.47 | 17.98053 AU | conjunction | 14394 Jan 17 05:12 | 9°22'27.00 | 0°42'05 |
| direct | 14387 Sep 03 03:27 | 7°34'56.44 | | minimum elong | 14394 Jan 17 05:12 | 9°22'27.00 | 0°42'57 |
| evening set | 14387 Dec 04 05:13 | 11°31'11.21 | | max. Earth dist. | 14394 Jan 16 21:39 | 9°22'25.50 | 19.60684 AU |
| | | | | morning rise | 14394 Feb 02 18:20 | 10°22'27.41 | |
| conjunction | 14387 Dec 20 14:42 | 12°31'02.22 | 1°01'24 | retrograde | 14394 May 07 18:43 | 13°22'50.18 | |
| minimum elong | 14387 Dec 20 14:42 | 12°31'02.22 | 1°02'27 | opposition | 14394 Jul 21 16:20 | 11°22'46.44 | 0°44'34 |
| max. Earth dist. | 14387 Dec 20 09:43 | 12°30'09.36 | 19.94859 AU | min. Earth dist. | 14394 Jul 21 22:20 | 11°22'46.05 | 17.58412 AU |
| morning rise | 14388 Jan 06 01:33 | 13°30'09.37 | | direct | 14394 Oct 04 12:46 | 9°22'42.56 | |
| retrograde | 14388 Apr 09 08:32 | 16°32'28.54 | | evening set | 14395 Jan 05 16:50 | 13°22'04.05 | |
| opposition | 14388 Jun 23 23:38 | 14°32'26.24 | 1°07'07 | | | | |
| min. Earth dist. | 14388 Jun 24 04:17 | 14°32'25.54 | 17.91719 AU | conjunction | 14395 Jan 22 05:48 | 14°22'04.52 | 0°37'44 |
| direct | 14388 Sep 06 19:30 | 12°32'24.32 | | minimum elong | 14395 Jan 22 05:48 | 14°22'04.52 | 0°38'34 |
| evening set | 14388 Dec 08 01:20 | 15°34'07.07 | | max. Earth dist. | 14395 Jan 21 21:39 | 14°22'03.37 | 19.56237 AU |
| | | | | | 14395 Feb 06 05:08 | 15°22' | |
| conjunction | 14388 Dec 24 11:18 | 16°33'09.24 | 0°59'05 | morning rise | 14395 Feb 07 19:12 | 15°22'05.45 | |
| minimum elong | 14388 Dec 24 11:18 | 16°33'09.24 | 1°00'07 | retrograde | 14395 May 12 16:53 | 18°22'28.49 | |
| max. Earth dist. | 14388 Dec 24 04:27 | 16°33'08.22 | 19.88575 AU | opposition | 14395 Jul 26 13:09 | 16°22'25.13 | 0°39'34 |
| morning rise | 14389 Jan 09 22:49 | 17°33'08.56 | | min. Earth dist. | 14395 Jul 26 20:11 | 16°22'24.27 | 17.54197 AU |
| retrograde | 14389 Apr 14 05:25 | 20°33'58.51 | | | 14395 Aug 31 14:25 | 15°22'11.11 | |
| opposition | 14389 Jun 28 17:08 | 18°33'56.07 | 1°04'21 | direct | 14395 Oct 09 08:46 | 14°22'21.13 | |
| min. Earth dist. | 14389 Jun 28 22:51 | 18°33'55.30 | 17.85497 AU | | 14395 Nov 16 12:39 | 15°22' | |
| direct | 14389 Sep 11 12:27 | 16°33'53.52 | | evening set | 14396 Jan 10 17:56 | 17°22'43.14 | |
| evening set | 14389 Dec 12 22:01 | 20°33'10.25 | | | | | |
| | | | | conjunction | 14396 Jan 27 07:18 | 18°22'44.13 | 0°33'06 |
| conjunction | 14389 Dec 29 08:44 | 21°33'09.59 | 0°56'23 | minimum elong | 14396 Jan 27 07:18 | 18°22'44.13 | 0°33'52 |
| minimum elong | 14389 Dec 29 08:44 | 21°33'09.59 | 0°57'25 | max. Earth dist. | 14396 Jan 26 23:26 | 18°22'43.00 | 19.52259 AU |
| max. Earth dist. | 14389 Dec 29 02:29 | 21°33'09.02 | 19.82429 AU | morning rise | 14396 Feb 12 20:50 | 19°22'45.16 | |
| morning rise | 14390 Jan 14 20:30 | 22°33'09.46 | | retrograde | 14396 May 16 17:39 | 23°22'08.45 | |
| retrograde | 14390 Apr 19 02:27 | 25°33'30.16 | | opposition | 14396 Jul 30 10:10 | 21°22'05.09 | 0°34'16 |
| opposition | 14390 Jul 03 11:03 | 23°33'27.20 | 1°01'10 | min. Earth dist. | 14396 Jul 30 16:25 | 21°22'04.28 | 17.50434 AU |
| min. Earth dist. | 14390 Jul 03 16:31 | 23°33'26.45 | 17.79444 AU | direct | 14396 Oct 13 07:57 | 19°22'00.59 | |
| direct | 14390 Sep 16 06:22 | 21°33'24.44 | | evening set | 14397 Jan 14 19:50 | 22°22'23.50 | |
| evening set | 14390 Dec 17 19:38 | 24°33'42.13 | | | | | |
| | | | | conjunction | 14397 Jan 31 09:24 | 23°22'25.00 | 0°28'14 |
| conjunction | 14391 Jan 03 06:44 | 25°33'42.03 | 0°53'20 | minimum elong | 14397 Jan 31 09:25 | 23°22'25.01 | 0°28'57 |
| minimum elong | 14391 Jan 03 06:44 | 25°33'42.03 | 0°54'19 | max. Earth dist. | 14397 Jan 31 01:11 | 23°22'23.44 | 19.48709 AU |
| max. Earth dist. | 14391 Jan 02 22:59 | 25°33'40.52 | 19.76500 AU | morning rise | 14397 Feb 16 22:58 | 24°22'26.12 | |
| morning rise | 14391 Jan 19 19:04 | 26°33'42.05 | | retrograde | 14397 May 21 16:37 | 27°22'50.03 | |
| | 14391 Apr 13 01:32 | 0°22' | | opposition | 14397 Aug 04 08:01 | 25°22'46.29 | 0°28'44 |
| retrograde | 14391 Apr 23 23:37 | 0°22'03.10 | | min. Earth dist. | 14397 Aug 04 15:30 | 25°22'45.40 | 17.47097 AU |
| | 14391 May 04 21:04 | 30°22'33 | | direct | 14397 Oct 18 05:06 | 23°22'42.10 | |
| opposition | 14391 Jul 08 05:39 | 28°33'00.01 | 0°57'35 | evening set | 14398 Jan 19 22:11 | 27°22'05.48 | |
| min. Earth dist. | 14391 Jul 08 12:08 | 27°33'59.19 | 17.73658 AU | | | | |
| direct | 14391 Sep 21 00:14 | 25°33'57.04 | | conjunction | 14398 Feb 05 11:54 | 28°22'07.08 | 0°23'10 |
| evening set | 14391 Dec 22 17:44 | 29°33'15.29 | | minimum elong | 14398 Feb 05 11:54 | 28°22'07.08 | 0°23'50 |
| | 14392 Jan 03 23:44 | 0°22' | | max. Earth dist. | 14398 Feb 05 03:20 | 28°22'05.48 | 19.45577 AU |
| conjunction | 14392 Jan 08 05:32 | 0°22'15.35 | 0°49'55 | morning rise | 14398 Feb 22 01:28 | 29°22'08.27 | |
| minimum elong | 14392 Jan 08 05:33 | 0°22'15.35 | 0°50'52 | | 14398 Mar 08 15:55 | 0°22' | |
| max. Earth dist. | 14392 Jan 07 22:31 | 0°22'14.31 | 19.70866 AU | retrograde | 14398 May 26 18:14 | 2°22'32.36 | |
| morning rise | 14392 Jan 24 18:08 | 1°22'15.51 | | opposition | 14398 Aug 09 06:13 | 0°22'29.03 | 0°22'59 |
| retrograde | 14392 Apr 27 21:54 | 4°22'37.29 | | min. Earth dist. | 14398 Aug 09 12:58 | 0°22'28.19 | 17.44158 AU |
| opposition | 14392 Jul 12 00:38 | 2°22'34.09 | 0°53'36 | | 14398 Aug 20 11:23 | 30°22'33 | |
| min. Earth dist. | 14392 Jul 12 06:31 | 2°22'33.31 | 17.68181 AU | direct | 14398 Oct 23 05:55 | 28°22'24.37 | |
| direct | 14392 Sep 24 20:16 | 0°22'30.53 | | | 14398 Dec 23 07:39 | 0°22' | |
| evening set | 14392 Dec 26 16:52 | 3°22'50.14 | | evening set | 14399 Jan 25 01:09 | 1°22'48.57 | |
| | | | | | | | |
| conjunction | 14393 Jan 12 05:00 | 4°22'50.34 | 0°46'09 | conjunction | 14399 Feb 10 15:00 | 2°22'50.24 | 0°17'56 |
| minimum elong | 14393 Jan 12 05:00 | 4°22'50.34 | 0°47'05 | minimum elong | 14399 Feb 10 15:01 | 2°22'50.24 | 0°18'30 |
| max. Earth dist. | 14393 Jan 11 20:50 | 4°22'49.19 | 19.65568 AU | max. Earth dist. | 14399 Feb 10 06:29 | 2°22'49.05 | 19.42822 AU |
| morning rise | 14393 Jan 28 17:59 | 5°22'51.03 | | morning rise | 14399 Feb 27 04:24 | 3°22'51.50 | |
| | | | | retrograde | 14399 May 31 18:00 | 7°22'16.12 | |

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|------------------|--------------------|-------------------------------|-------------|------------------|--------------------|-------------------------------|-------------|
| opposition | 14399 Aug 14 04:55 | 5° $\mathbf{\text{X}}$ 12'41 | 0°17'03 | evening set | 14405 Feb 22 23:46 | 0° $\mathbf{\text{Y}}$ 20'21 | |
| min. Earth dist. | 14399 Aug 14 12:51 | 5° $\mathbf{\text{X}}$ 11'50 | 17.41598 AU | | | | |
| direct | 14399 Oct 28 04:36 | 3° $\mathbf{\text{X}}$ 08'06 | | conjunction | 14405 Mar 11 12:45 | 1° $\mathbf{\text{Y}}$ 22'02 | -0°15'05 |
| evening set | 14400 Jan 30 04:33 | 6° $\mathbf{\text{X}}$ 33'04 | | minimum elong | 14405 Mar 11 12:45 | 1° $\mathbf{\text{Y}}$ 22'02 | 0°14'59 |
| | | | | behind sun begin | 14405 Mar 11 10:27 | 1° $\mathbf{\text{Y}}$ 21'41 | |
| conjunction | 14400 Feb 15 18:23 | 7° $\mathbf{\text{X}}$ 34'37 | 0°12'34 | behind sun end | 14405 Mar 11 15:03 | 1° $\mathbf{\text{Y}}$ 22'23 | |
| minimum elong | 14400 Feb 15 18:24 | 7° $\mathbf{\text{X}}$ 34'37 | 0°13'05 | max. Earth dist. | 14405 Mar 11 04:34 | 1° $\mathbf{\text{Y}}$ 20'46 | 19.35218 AU |
| behind sun begin | 14400 Feb 15 14:27 | 7° $\mathbf{\text{X}}$ 34'01 | | morning rise | 14405 Mar 28 00:07 | 2° $\mathbf{\text{Y}}$ 23'31 | |
| behind sun end | 14400 Feb 15 22:20 | 7° $\mathbf{\text{X}}$ 35'13 | | retrograde | 14405 Jun 28 23:34 | 5° $\mathbf{\text{Y}}$ 47'37 | |
| max. Earth dist. | 14400 Feb 15 08:58 | 7° $\mathbf{\text{X}}$ 33'10 | 19.40460 AU | opposition | 14405 Sep 11 01:51 | 3° $\mathbf{\text{Y}}$ 44'13 | -0°19'46 |
| morning rise | 14400 Mar 03 07:46 | 8° $\mathbf{\text{X}}$ 36'08 | | min. Earth dist. | 14405 Sep 11 09:01 | 3° $\mathbf{\text{Y}}$ 43'26 | 17.35411 AU |
| retrograde | 14400 Jun 04 19:48 | 12° $\mathbf{\text{X}}$ 00'39 | | direct | 14405 Nov 25 11:29 | 1° $\mathbf{\text{Y}}$ 38'55 | |
| opposition | 14400 Aug 18 03:54 | 9° $\mathbf{\text{X}}$ 57'09 | 0°11'00 | evening set | 14406 Feb 28 03:24 | 5° $\mathbf{\text{Y}}$ 05'44 | |
| min. Earth dist. | 14400 Aug 18 11:15 | 9° $\mathbf{\text{X}}$ 56'21 | 17.39425 AU | | | | |
| direct | 14400 Nov 01 05:55 | 7° $\mathbf{\text{X}}$ 52'24 | | conjunction | 14406 Mar 16 15:47 | 6° $\mathbf{\text{Y}}$ 07'21 | -0°20'26 |
| evening set | 14401 Feb 03 08:13 | 11° $\mathbf{\text{X}}$ 17'54 | | minimum elong | 14406 Mar 16 15:46 | 6° $\mathbf{\text{Y}}$ 07'21 | 0°20'27 |
| | | | | max. Earth dist. | 14406 Mar 16 07:03 | 6° $\mathbf{\text{Y}}$ 06'00 | 19.35748 AU |
| conjunction | 14401 Feb 19 22:05 | 12° $\mathbf{\text{X}}$ 19'33 | 0°07'06 | morning rise | 14406 Apr 02 02:43 | 7° $\mathbf{\text{Y}}$ 08'45 | |
| minimum elong | 14401 Feb 19 22:06 | 12° $\mathbf{\text{X}}$ 19'33 | 0°07'31 | retrograde | 14406 Jul 03 22:08 | 10° $\mathbf{\text{Y}}$ 32'35 | |
| behind sun begin | 14401 Feb 19 15:58 | 12° $\mathbf{\text{X}}$ 18'37 | | opposition | 14406 Sep 16 01:42 | 8° $\mathbf{\text{Y}}$ 29'14 | -0°25'41 |
| behind sun end | 14401 Feb 20 04:13 | 12° $\mathbf{\text{X}}$ 20'29 | | min. Earth dist. | 14406 Sep 16 08:29 | 8° $\mathbf{\text{Y}}$ 28'30 | 17.36255 AU |
| max. Earth dist. | 14401 Feb 19 13:13 | 12° $\mathbf{\text{X}}$ 18'11 | 19.38477 AU | direct | 14406 Nov 30 13:21 | 6° $\mathbf{\text{Y}}$ 23'54 | |
| morning rise | 14401 Mar 08 11:04 | 13° $\mathbf{\text{X}}$ 21'06 | | evening set | 14407 Mar 05 06:47 | 9° $\mathbf{\text{Y}}$ 50'44 | |
| retrograde | 14401 Jun 09 20:32 | 16° $\mathbf{\text{X}}$ 45'41 | | | | | |
| opposition | 14401 Aug 23 03:13 | 14° $\mathbf{\text{X}}$ 42'12 | 0°04'50 | conjunction | 14407 Mar 21 18:50 | 10° $\mathbf{\text{Y}}$ 52'15 | -0°25'39 |
| min. Earth dist. | 14401 Aug 23 11:24 | 14° $\mathbf{\text{X}}$ 41'19 | 17.37650 AU | minimum elong | 14407 Mar 21 18:50 | 10° $\mathbf{\text{Y}}$ 52'15 | 0°25'44 |
| direct | 14401 Nov 06 05:47 | 12° $\mathbf{\text{X}}$ 37'19 | | max. Earth dist. | 14407 Mar 21 11:47 | 10° $\mathbf{\text{Y}}$ 51'09 | 19.36895 AU |
| evening set | 14402 Feb 08 12:07 | 16° $\mathbf{\text{X}}$ 03'16 | | morning rise | 14407 Apr 07 05:02 | 11° $\mathbf{\text{Y}}$ 53'31 | |
| | | | | retrograde | 14407 Jul 08 22:04 | 15° $\mathbf{\text{Y}}$ 17'01 | |
| conjunction | 14402 Feb 25 01:46 | 17° $\mathbf{\text{X}}$ 04'58 | 0°01'34 | opposition | 14407 Sep 21 01:21 | 13° $\mathbf{\text{Y}}$ 13'48 | -0°31'24 |
| minimum elong | 14402 Feb 25 01:45 | 17° $\mathbf{\text{X}}$ 04'58 | 0°01'55 | min. Earth dist. | 14407 Sep 21 07:13 | 13° $\mathbf{\text{Y}}$ 13'09 | 17.37708 AU |
| behind sun begin | 14402 Feb 24 19:00 | 17° $\mathbf{\text{X}}$ 03'56 | | direct | 14407 Dec 05 16:25 | 11° $\mathbf{\text{Y}}$ 08'30 | |
| behind sun end | 14402 Feb 25 08:29 | 17° $\mathbf{\text{X}}$ 05'59 | | evening set | 14408 Mar 09 10:06 | 14° $\mathbf{\text{Y}}$ 35'15 | |
| max. Earth dist. | 14402 Feb 24 15:51 | 17° $\mathbf{\text{X}}$ 03'26 | 19.36932 AU | | | | |
| morning rise | 14402 Mar 13 14:34 | 18° $\mathbf{\text{X}}$ 06'33 | | conjunction | 14408 Mar 25 21:29 | 15° $\mathbf{\text{Y}}$ 36'39 | -0°30'41 |
| desc. node | 14402 Jun 10 13:07 | 21° $\mathbf{\text{X}}$ 30'36 | | minimum elong | 14408 Mar 25 21:29 | 15° $\mathbf{\text{Y}}$ 36'39 | 0°30'51 |
| retrograde | 14402 Jun 14 21:55 | 21° $\mathbf{\text{X}}$ 31'08 | | max. Earth dist. | 14408 Mar 25 14:09 | 15° $\mathbf{\text{Y}}$ 35'30 | 19.38659 AU |
| opposition | 14402 Aug 28 02:42 | 19° $\mathbf{\text{X}}$ 27'39 | -0°01'22 | morning rise | 14408 Apr 11 07:07 | 16° $\mathbf{\text{Y}}$ 37'47 | |
| min. Earth dist. | 14402 Aug 28 10:18 | 19° $\mathbf{\text{X}}$ 26'49 | 17.36335 AU | retrograde | 14408 Jul 12 20:15 | 20° $\mathbf{\text{Y}}$ 00'54 | |
| direct | 14402 Nov 11 06:51 | 17° $\mathbf{\text{X}}$ 22'37 | | opposition | 14408 Sep 25 01:08 | 17° $\mathbf{\text{Y}}$ 57'50 | -0°36'54 |
| evening set | 14403 Feb 13 15:52 | 20° $\mathbf{\text{X}}$ 48'56 | | min. Earth dist. | 14408 Sep 25 06:51 | 17° $\mathbf{\text{Y}}$ 57'13 | 17.39787 AU |
| | | | | direct | 14408 Dec 09 17:45 | 15° $\mathbf{\text{Y}}$ 52'37 | |
| conjunction | 14403 Mar 02 05:30 | 21° $\mathbf{\text{X}}$ 50'39 | -0°04'07 | evening set | 14409 Mar 14 12:50 | 19° $\mathbf{\text{Y}}$ 19'14 | |
| minimum elong | 14403 Mar 02 05:29 | 21° $\mathbf{\text{X}}$ 50'39 | 0°03'51 | | | | |
| behind sun begin | 14403 Mar 01 22:49 | 21° $\mathbf{\text{X}}$ 49'38 | | conjunction | 14409 Mar 30 23:43 | 20° $\mathbf{\text{Y}}$ 20'29 | -0°35'29 |
| behind sun end | 14403 Mar 02 12:09 | 21° $\mathbf{\text{X}}$ 51'40 | | minimum elong | 14409 Mar 30 23:43 | 20° $\mathbf{\text{Y}}$ 20'29 | 0°35'45 |
| max. Earth dist. | 14403 Mar 01 20:45 | 21° $\mathbf{\text{X}}$ 49'18 | 19.35847 AU | max. Earth dist. | 14409 Mar 30 17:50 | 20° $\mathbf{\text{Y}}$ 19'34 | 19.41033 AU |
| morning rise | 14403 Mar 18 17:48 | 22° $\mathbf{\text{X}}$ 52'14 | | morning rise | 14409 Apr 16 08:33 | 21° $\mathbf{\text{Y}}$ 21'28 | |
| retrograde | 14403 Jun 19 23:03 | 26° $\mathbf{\text{X}}$ 16'43 | | retrograde | 14409 Jul 17 20:13 | 24° $\mathbf{\text{Y}}$ 44'09 | |
| opposition | 14403 Sep 02 02:24 | 24° $\mathbf{\text{X}}$ 13'16 | -0°07'34 | opposition | 14409 Sep 30 00:41 | 22° $\mathbf{\text{Y}}$ 41'18 | -0°42'08 |
| min. Earth dist. | 14403 Sep 02 10:18 | 24° $\mathbf{\text{X}}$ 12'24 | 17.35491 AU | min. Earth dist. | 14409 Sep 30 05:10 | 22° $\mathbf{\text{Y}}$ 40'49 | 17.42435 AU |
| direct | 14403 Nov 16 07:52 | 22° $\mathbf{\text{X}}$ 08'08 | | direct | 14409 Dec 14 20:36 | 20° $\mathbf{\text{Y}}$ 36'13 | |
| evening set | 14404 Feb 18 19:57 | 25° $\mathbf{\text{X}}$ 34'42 | | evening set | 14410 Mar 19 15:22 | 24° $\mathbf{\text{Y}}$ 02'36 | |
| | | | | | | | |
| conjunction | 14404 Mar 06 09:08 | 26° $\mathbf{\text{X}}$ 36'24 | -0°09'37 | conjunction | 14410 Apr 05 01:30 | 25° $\mathbf{\text{Y}}$ 03'41 | -0°40'03 |
| minimum elong | 14404 Mar 06 09:07 | 26° $\mathbf{\text{X}}$ 36'24 | 0°09'28 | minimum elong | 14410 Apr 05 01:30 | 25° $\mathbf{\text{Y}}$ 03'41 | 0°40'23 |
| behind sun begin | 14404 Mar 06 03:32 | 26° $\mathbf{\text{X}}$ 35'33 | | max. Earth dist. | 14410 Apr 04 19:46 | 25° $\mathbf{\text{Y}}$ 02'48 | 19.43949 AU |
| behind sun end | 14404 Mar 06 14:43 | 26° $\mathbf{\text{X}}$ 37'16 | | morning rise | 14410 Apr 21 09:39 | 26° $\mathbf{\text{Y}}$ 04'30 | |
| max. Earth dist. | 14404 Mar 05 23:24 | 26° $\mathbf{\text{X}}$ 34'54 | 19.35264 AU | retrograde | 14410 Jul 22 18:13 | 29° $\mathbf{\text{Y}}$ 26'43 | |
| morning rise | 14404 Mar 22 21:10 | 27° $\mathbf{\text{X}}$ 37'58 | | opposition | 14410 Oct 05 00:13 | 27° $\mathbf{\text{Y}}$ 24'05 | -0°47'04 |
| | 14404 May 06 15:11 | 0° $\mathbf{\text{Y}}$ | | min. Earth dist. | 14410 Oct 05 04:57 | 27° $\mathbf{\text{Y}}$ 23'34 | 17.45612 AU |
| retrograde | 14404 Jun 23 22:55 | 1° $\mathbf{\text{Y}}$ 02'18 | | direct | 14410 Dec 19 20:59 | 25° $\mathbf{\text{Y}}$ 19'10 | |
| | 14404 Aug 12 15:37 | 30° $\mathbf{\text{X}}$ | | evening set | 14411 Mar 24 17:22 | 28° $\mathbf{\text{Y}}$ 45'15 | |
| opposition | 14404 Sep 06 02:00 | 28° $\mathbf{\text{X}}$ 58'51 | -0°13'43 | | | | |
| min. Earth dist. | 14404 Sep 06 09:32 | 28° $\mathbf{\text{X}}$ 58'01 | 17.35177 AU | conjunction | 14411 Apr 10 02:54 | 29° $\mathbf{\text{Y}}$ 46'09 | -0°44'20 |
| direct | 14404 Nov 20 09:08 | 26° $\mathbf{\text{X}}$ 53'36 | | minimum elong | 14411 Apr 10 02:53 | 29° $\mathbf{\text{Y}}$ 46'09 | 0°44'45 |
| | 14405 Feb 17 09:06 | 0° $\mathbf{\text{Y}}$ | | max. Earth dist. | 14411 Apr 09 22:00 | 29° $\mathbf{\text{Y}}$ 45'23 | 19.47356 AU |



























































































































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|------------------|--------------------|-----------------------|------------------|--|--------------------|-----------------------|
| | 14411 Apr 13 19:37 | 0°♄ | | | 14417 Nov 03 06:15 | 30°♄♄ |
| morning rise | 14411 Apr 26 10:17 | 0°♄46'45 | opposition | | 14417 Nov 06 12:34 | 29°♄51'42 -1°10'58 |
| retrograde | 14411 Jul 27 18:00 | 4°♄08'27 | min. Earth dist. | | 14417 Nov 06 13:35 | 29°♄51'35 17.77177 AU |
| opposition | 14411 Oct 09 23:28 | 2°♄06'04 -0°51'40 | direct | | 14418 Jan 22 00:35 | 27°♄48'05 |
| min. Earth dist. | 14411 Oct 10 02:56 | 2°♄05'41 17.49220 AU | | | 14418 Apr 06 05:00 | 0°♄ |
| direct | 14411 Dec 24 23:24 | 0°♄01'20 | evening set | | 14418 Apr 26 13:43 | 1°♄09'46 |
| evening set | 14412 Mar 28 19:03 | 3°♄27'01 | | | | |
| | | | conjunction | | 14418 May 12 17:54 | 2°♄08'56 -1°04'32 |
| conjunction | 14412 Apr 14 03:47 | 4°♄27'42 -0°48'18 | minimum elong | | 14418 May 12 17:54 | 2°♄08'56 1°05'24 |
| minimum elong | 14412 Apr 14 03:47 | 4°♄27'42 0°48'48 | max. Earth dist. | | 14418 May 12 16:49 | 2°♄08'46 19.79855 AU |
| max. Earth dist. | 14412 Apr 13 23:16 | 4°♄27'00 19.51149 AU | morning rise | | 14418 May 28 19:43 | 3°♄07'47 |
| morning rise | 14412 Apr 30 10:20 | 5°♄28'06 | retrograde | | 14418 Aug 28 14:26 | 6°♄24'39 |
| retrograde | 14412 Jul 31 15:03 | 8°♄49'13 | opposition | | 14418 Nov 11 09:01 | 4°♄23'39 -1°12'39 |
| opposition | 14412 Oct 13 22:38 | 6°♄47'03 -0°55'55 | min. Earth dist. | | 14418 Nov 11 10:18 | 4°♄23'31 17.82642 AU |
| min. Earth dist. | 14412 Oct 14 02:41 | 6°♄46'37 17.53203 AU | direct | | 14419 Jan 26 21:57 | 2°♄20'14 |
| direct | 14412 Dec 28 23:07 | 4°♄42'30 | evening set | | 14419 May 01 09:52 | 5°♄41'03 |
| evening set | 14413 Apr 02 20:06 | 8°♄07'42 | | | | |
| | | | conjunction | | 14419 May 17 13:10 | 6°♄39'55 -1°05'51 |
| conjunction | 14413 Apr 19 04:04 | 9°♄08'10 -0°51'56 | minimum elong | | 14419 May 17 13:10 | 6°♄39'55 1°06'46 |
| minimum elong | 14413 Apr 19 04:04 | 9°♄08'10 0°52'31 | max. Earth dist. | | 14419 May 17 11:48 | 6°♄39'42 19.85440 AU |
| max. Earth dist. | 14413 Apr 18 23:48 | 9°♄07'31 19.55301 AU | morning rise | | 14419 Jun 02 14:27 | 7°♄38'30 |
| morning rise | 14413 May 05 09:51 | 10°♄08'20 | retrograde | | 14419 Sep 02 08:55 | 10°♄54'35 |
| retrograde | 14413 Aug 05 14:06 | 13°♄28'50 | opposition | | 14419 Nov 16 04:52 | 8°♄53'44 -1°13'51 |
| opposition | 14413 Oct 18 21:26 | 11°♄26'54 -0°59'46 | min. Earth dist. | | 14419 Nov 16 04:39 | 8°♄53'46 17.88348 AU |
| min. Earth dist. | 14413 Oct 19 00:05 | 11°♄26'37 17.57506 AU | direct | | 14420 Jan 31 21:25 | 6°♄50'32 |
| direct | 14414 Jan 03 01:17 | 9°♄22'32 | evening set | | 14420 May 05 04:55 | 10°♄10'27 |
| evening set | 14414 Apr 07 20:20 | 12°♄47'09 | | | | |
| | | | conjunction | | 14420 May 21 07:37 | 11°♄09'03 -1°06'45 |
| conjunction | 14414 Apr 24 03:34 | 13°♄47'23 -0°55'14 | minimum elong | | 14420 May 21 07:36 | 11°♄09'03 1°07'41 |
| minimum elong | 14414 Apr 24 03:34 | 13°♄47'23 0°55'53 | max. Earth dist. | | 14420 May 21 08:16 | 11°♄09'09 19.91260 AU |
| max. Earth dist. | 14414 Apr 24 00:08 | 13°♄46'51 19.59739 AU | morning rise | | 14420 Jun 06 08:00 | 12°♄07'20 |
| morning rise | 14414 May 10 08:29 | 14°♄47'18 | retrograde | | 14420 Sep 05 23:58 | 15°♄22'39 |
| | 14414 May 13 20:50 | 15°♄ | opposition | | 14420 Nov 20 00:17 | 13°♄22'01 -1°14'36 |
| retrograde | 14414 Aug 10 09:42 | 18°♄07'09 | min. Earth dist. | | 14420 Nov 19 23:51 | 13°♄22'03 17.94292 AU |
| opposition | 14414 Oct 23 20:01 | 16°♄05'25 -1°03'13 | direct | | 14421 Feb 04 18:12 | 11°♄19'04 |
| min. Earth dist. | 14414 Oct 23 23:19 | 16°♄05'04 17.62083 AU | evening set | | 14421 May 09 23:14 | 14°♄38'05 |
| | 14414 Nov 19 16:37 | 15°♄♄ | | | | |
| direct | 14415 Jan 08 00:16 | 14°♄01'15 | conjunction | | 14421 May 26 01:03 | 15°♄36'22 -1°07'14 |
| | 14415 Feb 24 23:58 | 15°♄ | minimum elong | | 14421 May 26 01:02 | 15°♄36'22 1°08'13 |
| evening set | 14415 Apr 12 20:02 | 17°♄25'14 | max. Earth dist. | | 14421 May 26 01:31 | 15°♄36'27 19.97333 AU |
| | | | morning rise | | 14421 Jun 11 00:58 | 16°♄34'23 |
| conjunction | 14415 Apr 29 02:26 | 18°♄25'12 -0°58'09 | retrograde | | 14421 Sep 10 16:40 | 19°♄48'57 |
| minimum elong | 14415 Apr 29 02:25 | 18°♄25'12 0°58'51 | opposition | | 14421 Nov 24 19:01 | 17°♄48'32 -1°14'54 |
| max. Earth dist. | 14415 Apr 28 22:46 | 18°♄24'38 19.64442 AU | min. Earth dist. | | 14421 Nov 24 17:06 | 17°♄48'44 18.00484 AU |
| morning rise | 14415 May 15 06:40 | 19°♄24'52 | direct | | 14422 Feb 09 15:08 | 15°♄45'53 |
| retrograde | 14415 Aug 15 07:30 | 22°♄44'01 | evening set | | 14422 May 14 16:22 | 19°♄03'57 |
| opposition | 14415 Oct 28 17:53 | 20°♄42'28 -1°06'15 | | | | |
| min. Earth dist. | 14415 Oct 28 19:49 | 20°♄42'16 17.66898 AU | conjunction | | 14422 May 30 17:43 | 20°♄01'59 -1°07'18 |
| direct | 14416 Jan 13 01:41 | 18°♄38'29 | minimum elong | | 14422 May 30 17:43 | 20°♄01'59 1°08'19 |
| evening set | 14416 Apr 16 18:53 | 22°♄01'46 | max. Earth dist. | | 14422 May 30 20:14 | 20°♄02'22 20.03623 AU |
| | | | morning rise | | 14422 Jun 15 16:54 | 20°♄59'43 |
| conjunction | 14416 May 03 00:36 | 23°♄01'29 -1°00'41 | retrograde | | 14422 Sep 15 07:16 | 24°♄13'32 |
| minimum elong | 14416 May 03 00:35 | 23°♄01'29 1°01'27 | opposition | | 14422 Nov 29 13:15 | 22°♄13'22 -1°14'44 |
| max. Earth dist. | 14416 May 02 22:06 | 23°♄01'06 19.69361 AU | min. Earth dist. | | 14422 Nov 29 10:59 | 22°♄13'36 18.06847 AU |
| morning rise | 14416 May 19 03:54 | 24°♄00'53 | direct | | 14423 Feb 14 10:37 | 20°♄11'03 |
| retrograde | 14416 Aug 19 01:45 | 27°♄19'17 | evening set | | 14423 May 19 08:59 | 23°♄28'12 |
| opposition | 14416 Nov 01 15:35 | 25°♄17'57 -1°08'50 | | | | |
| min. Earth dist. | 14416 Nov 01 18:03 | 25°♄17'41 17.71928 AU | conjunction | | 14423 Jun 04 09:30 | 24°♄25'56 -1°06'59 |
| direct | 14417 Jan 16 23:53 | 23°♄14'09 | minimum elong | | 14423 Jun 04 09:30 | 24°♄25'56 1°08'01 |
| evening set | 14417 Apr 21 16:47 | 26°♄36'39 | max. Earth dist. | | 14423 Jun 04 11:41 | 24°♄26'16 20.10058 AU |
| | | | morning rise | | 14423 Jun 20 08:17 | 25°♄23'25 |
| conjunction | 14417 May 07 21:35 | 27°♄36'06 -1°02'49 | retrograde | | 14423 Sep 19 22:24 | 28°♄36'30 |
| minimum elong | 14417 May 07 21:35 | 27°♄36'06 1°03'38 | opposition | | 14423 Dec 04 06:46 | 26°♄36'36 -1°14'09 |
| max. Earth dist. | 14417 May 07 18:49 | 27°♄35'40 19.74504 AU | min. Earth dist. | | 14423 Dec 04 03:32 | 26°♄36'56 18.13332 AU |
| morning rise | 14417 May 24 00:16 | 28°♄35'13 | direct | | 14424 Feb 19 05:03 | 24°♄34'36 |
| | 14417 Jun 18 01:15 | 0°♄ | evening set | | 14424 May 23 00:34 | 27°♄50'49 |
| retrograde | 14417 Aug 23 21:57 | 1°♄52'53 | | | | |

| | | | | | | | |
|------------------|--------------------|--------------------------|-------------|------------------|--------------------|-----------------------------------|-------------|
| conjunction | 14424 Jun 08 00:38 | 28° Π 48'16 | -1°06'17 | retrograde | 14430 Oct 19 16:08 | 28° \mathfrak{D} 32'04 | |
| minimum elong | 14424 Jun 08 00:38 | 28° Π 48'16 | 1°07'20 | opposition | 14431 Jan 03 18:56 | 26° \mathfrak{D} 33'28 | -0°59'05 |
| max. Earth dist. | 14424 Jun 08 04:37 | 28° Π 48'52 | 20.16568 AU | min. Earth dist. | 14431 Jan 03 12:55 | 26° \mathfrak{D} 34'04 | 18.56048 AU |
| morning rise | 14424 Jun 23 22:44 | 29° Π 45'29 | | direct | 14431 Mar 21 21:00 | 24° \mathfrak{D} 33'27 | |
| | 14424 Jun 28 02:06 | 0° \mathfrak{D} | | evening set | 14431 Jun 22 15:56 | 27° \mathfrak{D} 42'56 | |
| retrograde | 14424 Sep 23 12:31 | 2° \mathfrak{D} 57'51 | | | | | |
| opposition | 14424 Dec 07 23:57 | 0° \mathfrak{D} 58'12 | -1°13'08 | conjunction | 14431 Jul 08 12:44 | 28° \mathfrak{D} 38'40 | -0°51'42 |
| min. Earth dist. | 14424 Dec 07 20:18 | 0° \mathfrak{D} 58'35 | 18.19843 AU | minimum elong | 14431 Jul 08 12:44 | 28° \mathfrak{D} 38'40 | 0°52'41 |
| | 14425 Jan 01 10:08 | 30° \mathfrak{R} Π | | max. Earth dist. | 14431 Jul 08 18:19 | 28° \mathfrak{D} 39'29 | 20.58664 AU |
| direct | 14425 Feb 22 23:12 | 28° Π 56'34 | | morning rise | 14431 Jul 24 08:44 | 29° \mathfrak{D} 34'17 | |
| | 14425 Apr 14 12:18 | 0° \mathfrak{D} | | | 14431 Jul 31 22:09 | 0° \mathfrak{D} | |
| evening set | 14425 May 27 15:23 | 2° \mathfrak{D} 11'48 | | retrograde | 14431 Oct 24 01:58 | 2° \mathfrak{D} 42'01 | |
| | | | | opposition | 14432 Jan 08 08:04 | 0° \mathfrak{D} 43'28 | -0°55'35 |
| conjunction | 14425 Jun 12 14:42 | 3° \mathfrak{D} 08'59 | -1°05'12 | min. Earth dist. | 14432 Jan 08 02:16 | 0° \mathfrak{D} 44'03 | 18.61251 AU |
| minimum elong | 14425 Jun 12 14:42 | 3° \mathfrak{D} 08'59 | 1°06'14 | | 14432 Jan 26 13:49 | 30° \mathfrak{R} \mathfrak{D} | |
| max. Earth dist. | 14425 Jun 12 18:17 | 3° \mathfrak{D} 09'32 | 20.23074 AU | direct | 14432 Mar 25 09:45 | 28° \mathfrak{D} 43'39 | |
| morning rise | 14425 Jun 28 12:30 | 4° \mathfrak{D} 05'57 | | | 14432 May 20 14:18 | 0° \mathfrak{D} | |
| retrograde | 14425 Sep 28 02:42 | 7° \mathfrak{D} 17'37 | | evening set | 14432 Jun 26 01:14 | 1° \mathfrak{D} 52'13 | |
| opposition | 14425 Dec 12 16:33 | 5° \mathfrak{D} 18'13 | -1°11'42 | | | | |
| min. Earth dist. | 14425 Dec 12 12:19 | 5° \mathfrak{D} 18'39 | 18.26330 AU | conjunction | 14432 Jul 11 21:52 | 2° \mathfrak{D} 47'45 | -0°48'27 |
| direct | 14426 Feb 27 15:51 | 3° \mathfrak{D} 16'53 | | minimum elong | 14432 Jul 11 21:52 | 2° \mathfrak{D} 47'45 | 0°49'22 |
| evening set | 14426 Jun 01 05:21 | 6° \mathfrak{D} 31'10 | | max. Earth dist. | 14432 Jul 12 04:40 | 2° \mathfrak{D} 48'45 | 20.63758 AU |
| | | | | morning rise | 14432 Jul 27 17:38 | 3° \mathfrak{D} 43'10 | |
| conjunction | 14426 Jun 17 04:18 | 7° \mathfrak{D} 28'05 | -1°03'46 | retrograde | 14432 Oct 27 12:32 | 6° \mathfrak{D} 50'21 | |
| minimum elong | 14426 Jun 17 04:18 | 7° \mathfrak{D} 28'05 | 1°04'49 | opposition | 14433 Jan 11 20:36 | 4° \mathfrak{D} 51'52 | -0°51'49 |
| max. Earth dist. | 14426 Jun 17 09:21 | 7° \mathfrak{D} 28'51 | 20.29511 AU | min. Earth dist. | 14433 Jan 11 13:40 | 4° \mathfrak{D} 52'34 | 18.66234 AU |
| morning rise | 14426 Jul 03 01:33 | 8° \mathfrak{D} 24'48 | | direct | 14433 Mar 29 23:18 | 2° \mathfrak{D} 52'15 | |
| retrograde | 14426 Oct 02 15:53 | 11° \mathfrak{D} 35'45 | | evening set | 14433 Jun 30 09:52 | 5° \mathfrak{D} 59'56 | |
| opposition | 14426 Dec 17 08:26 | 9° \mathfrak{D} 36'35 | -1°09'53 | | | | |
| min. Earth dist. | 14426 Dec 17 03:49 | 9° \mathfrak{D} 37'03 | 18.32695 AU | conjunction | 14433 Jul 16 06:08 | 6° \mathfrak{D} 55'16 | -0°44'57 |
| direct | 14427 Mar 04 08:32 | 7° \mathfrak{D} 35'35 | | minimum elong | 14433 Jul 16 06:08 | 6° \mathfrak{D} 55'16 | 0°45'51 |
| evening set | 14427 Jun 05 18:45 | 10° \mathfrak{D} 48'53 | | max. Earth dist. | 14433 Jul 16 12:54 | 6° \mathfrak{D} 56'15 | 20.68645 AU |
| | | | | morning rise | 14433 Aug 01 01:55 | 7° \mathfrak{D} 50'32 | |
| conjunction | 14427 Jun 21 17:03 | 11° \mathfrak{D} 45'33 | -1°01'58 | retrograde | 14433 Oct 31 21:01 | 10° \mathfrak{D} 57'13 | |
| minimum elong | 14427 Jun 21 17:03 | 11° \mathfrak{D} 45'33 | 1°03'00 | opposition | 14434 Jan 16 08:40 | 8° \mathfrak{D} 58'47 | -0°47'49 |
| max. Earth dist. | 14427 Jun 21 21:27 | 11° \mathfrak{D} 46'13 | 20.35801 AU | min. Earth dist. | 14434 Jan 16 01:53 | 8° \mathfrak{D} 59'28 | 18.71038 AU |
| morning rise | 14427 Jul 07 14:03 | 12° \mathfrak{D} 42'02 | | direct | 14434 Apr 03 10:06 | 6° \mathfrak{D} 59'24 | |
| retrograde | 14427 Oct 07 05:06 | 15° \mathfrak{D} 52'18 | | evening set | 14434 Jul 04 17:52 | 10° \mathfrak{D} 06'16 | |
| opposition | 14427 Dec 21 23:59 | 13° \mathfrak{D} 53'19 | -1°07'42 | | | | |
| min. Earth dist. | 14427 Dec 21 19:11 | 13° \mathfrak{D} 53'48 | 18.38901 AU | conjunction | 14434 Jul 20 14:03 | 11° \mathfrak{D} 01'26 | -0°41'14 |
| direct | 14428 Mar 08 00:10 | 11° \mathfrak{D} 52'35 | | minimum elong | 14434 Jul 20 14:04 | 11° \mathfrak{D} 01'26 | 0°42'05 |
| evening set | 14428 Jun 09 07:06 | 15° \mathfrak{D} 04'56 | | max. Earth dist. | 14434 Jul 20 21:56 | 11° \mathfrak{D} 02'35 | 20.73355 AU |
| | | | | morning rise | 14434 Aug 05 09:41 | 11° \mathfrak{D} 56'32 | |
| conjunction | 14428 Jun 25 05:05 | 16° \mathfrak{D} 01'21 | -0°59'51 | | 14434 Oct 25 19:09 | 15° \mathfrak{D} | |
| minimum elong | 14428 Jun 25 05:06 | 16° \mathfrak{D} 01'21 | 1°00'54 | retrograde | 14434 Nov 05 07:12 | 15° \mathfrak{D} 02'46 | |
| max. Earth dist. | 14428 Jun 25 10:42 | 16° \mathfrak{D} 02'12 | 20.41898 AU | | 14434 Nov 15 18:23 | 15° \mathfrak{R} \mathfrak{D} | |
| morning rise | 14428 Jul 11 01:37 | 16° \mathfrak{D} 57'36 | | opposition | 14435 Jan 20 19:57 | 13° \mathfrak{D} 04'26 | -0°43'35 |
| retrograde | 14428 Oct 10 17:17 | 20° \mathfrak{D} 07'13 | | min. Earth dist. | 14435 Jan 20 11:57 | 13° \mathfrak{D} 05'15 | 18.75641 AU |
| opposition | 14428 Dec 25 14:56 | 18° \mathfrak{D} 08'23 | -1°05'09 | direct | 14435 Apr 07 22:19 | 11° \mathfrak{D} 05'17 | |
| min. Earth dist. | 14428 Dec 25 09:32 | 18° \mathfrak{D} 08'56 | 18.44872 AU | evening set | 14435 Jul 09 01:28 | 14° \mathfrak{D} 11'24 | |
| direct | 14429 Mar 12 15:51 | 16° \mathfrak{D} 07'56 | | | 14435 Jul 23 01:28 | 15° \mathfrak{D} | |
| evening set | 14429 Jun 13 18:55 | 19° \mathfrak{D} 19'19 | | | | | |
| | | | | conjunction | 14435 Jul 24 21:22 | 15° \mathfrak{D} 06'24 | -0°37'20 |
| conjunction | 14429 Jun 29 16:21 | 20° \mathfrak{D} 15'29 | -0°57'26 | minimum elong | 14435 Jul 24 21:23 | 15° \mathfrak{D} 06'25 | 0°38'09 |
| minimum elong | 14429 Jun 29 16:21 | 20° \mathfrak{D} 15'29 | 0°58'27 | max. Earth dist. | 14435 Jul 25 05:12 | 15° \mathfrak{D} 07'33 | 20.77859 AU |
| max. Earth dist. | 14429 Jun 29 21:20 | 20° \mathfrak{D} 16'14 | 20.47749 AU | morning rise | 14435 Aug 09 17:04 | 16° \mathfrak{D} 01'23 | |
| morning rise | 14429 Jul 15 12:44 | 21° \mathfrak{D} 11'31 | | retrograde | 14435 Nov 09 15:05 | 19° \mathfrak{D} 07'14 | |
| retrograde | 14429 Oct 15 05:00 | 24° \mathfrak{D} 20'29 | | opposition | 14436 Jan 25 07:06 | 17° \mathfrak{D} 09'00 | -0°39'09 |
| opposition | 14429 Dec 30 05:15 | 22° \mathfrak{D} 21'46 | -1°02'16 | min. Earth dist. | 14436 Jan 24 23:26 | 17° \mathfrak{D} 09'47 | 18.80041 AU |
| min. Earth dist. | 14429 Dec 29 23:58 | 22° \mathfrak{D} 22'19 | 18.50601 AU | direct | 14436 Apr 11 07:18 | 15° \mathfrak{D} 10'06 | |
| direct | 14430 Mar 17 06:10 | 20° \mathfrak{D} 21'33 | | evening set | 14436 Jul 12 08:19 | 18° \mathfrak{D} 15'32 | |
| evening set | 14430 Jun 18 05:44 | 23° \mathfrak{D} 31'58 | | | | | |
| | | | | conjunction | 14436 Jul 28 04:12 | 19° \mathfrak{D} 10'23 | -0°33'15 |
| conjunction | 14430 Jul 04 02:59 | 24° \mathfrak{D} 27'56 | -0°54'42 | minimum elong | 14436 Jul 28 04:12 | 19° \mathfrak{D} 10'23 | 0°34'01 |
| minimum elong | 14430 Jul 04 03:00 | 24° \mathfrak{D} 27'56 | 0°55'42 | max. Earth dist. | 14436 Jul 28 13:02 | 19° \mathfrak{D} 11'40 | 20.82142 AU |
| max. Earth dist. | 14430 Jul 04 08:59 | 24° \mathfrak{D} 28'49 | 20.53345 AU | morning rise | 14436 Aug 12 23:51 | 20° \mathfrak{D} 05'14 | |
| morning rise | 14430 Jul 19 23:04 | 25° \mathfrak{D} 23'45 | | retrograde | 14436 Nov 13 00:42 | 23° \mathfrak{D} 10'46 | |

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| opposition | 14437 Jan 28 17:43 | 21°♈12'39 | -0°34'32 | opposition | 14443 Feb 23 03:18 | 15°♏21'22 | -0°04'30 |
| min. Earth dist. | 14437 Jan 28 08:50 | 21°♈13'33 | 18.84181 AU | min. Earth dist. | 14443 Feb 22 18:38 | 15°♏22'14 | 19.00916 AU |
| direct | 14437 Apr 15 18:52 | 19°♈14'01 | | direct | 14443 May 10 21:55 | 13°♏23'51 | |
| evening set | 14437 Jul 16 14:59 | 22°♈18'48 | | evening set | 14443 Aug 10 01:18 | 16°♏25'47 | |
| conjunction | 14437 Aug 01 10:42 | 23°♈13'32 | -0°29'02 | conjunction | 14443 Aug 25 21:12 | 17°♏20'02 | -0°01'45 |
| minimum elong | 14437 Aug 01 10:42 | 23°♈13'32 | 0°29'45 | minimum elong | 14443 Aug 25 21:13 | 17°♏20'02 | 0°02'05 |
| max. Earth dist. | 14437 Aug 01 19:22 | 23°♈14'47 | 20.86138 AU | behind sun begin | 14443 Aug 25 14:38 | 17°♏19'07 | |
| morning rise | 14437 Aug 17 06:31 | 24°♈08'16 | | behind sun end | 14443 Aug 26 03:48 | 17°♏20'57 | |
| retrograde | 14437 Nov 17 08:32 | 27°♈13'33 | | max. Earth dist. | 14443 Aug 26 05:11 | 17°♏21'10 | 21.01504 AU |
| opposition | 14438 Feb 02 03:58 | 25°♈15'32 | -0°29'46 | morning rise | 14443 Sep 10 18:04 | 18°♏14'26 | |
| min. Earth dist. | 14438 Feb 01 19:45 | 25°♈16'21 | 18.88027 AU | retrograde | 14443 Dec 12 07:05 | 21°♏19'00 | |
| direct | 14438 Apr 20 02:32 | 23°♈17'08 | | asc. node | 14444 Jan 10 23:51 | 20°♏58'05 | |
| evening set | 14438 Jul 20 21:14 | 26°♈21'20 | | opposition | 14444 Feb 27 12:15 | 19°♏21'07 | 0°00'42 |
| conjunction | 14438 Aug 05 17:00 | 27°♈15'57 | -0°24'41 | min. Earth dist. | 14444 Feb 27 04:50 | 19°♏21'51 | 19.01977 AU |
| minimum elong | 14438 Aug 05 17:00 | 27°♈15'57 | 0°25'21 | direct | 14444 May 14 04:13 | 17°♏23'39 | |
| max. Earth dist. | 14438 Aug 06 02:15 | 27°♈17'17 | 20.89816 AU | evening set | 14444 Aug 13 06:12 | 20°♏25'14 | |
| morning rise | 14438 Aug 21 12:51 | 28°♈10'35 | | conjunction | 14444 Aug 29 02:24 | 21°♏19'28 | 0°03'04 |
| | 14438 Sep 26 12:52 | 0°♏ | | minimum elong | 14444 Aug 29 02:22 | 21°♏19'28 | 0°02'48 |
| retrograde | 14438 Nov 21 17:19 | 1°♏15'38 | | behind sun begin | 14444 Aug 28 19:49 | 21°♏18'33 | |
| | 14439 Jan 19 14:43 | 30°♏ | | behind sun end | 14444 Aug 29 08:56 | 21°♏20'22 | |
| opposition | 14439 Feb 06 13:53 | 29°♈17'44 | -0°24'53 | max. Earth dist. | 14444 Aug 29 10:32 | 21°♏20'37 | 21.02324 AU |
| min. Earth dist. | 14439 Feb 06 04:39 | 29°♈18'39 | 18.91510 AU | morning rise | 14444 Sep 13 23:30 | 22°♏13'50 | |
| direct | 14439 Apr 24 13:16 | 27°♈19'35 | | retrograde | 14444 Dec 15 15:05 | 25°♏18'25 | |
| | 14439 Jul 18 04:13 | 0°♏ | | opposition | 14445 Mar 02 20:46 | 23°♏20'25 | 0°05'53 |
| evening set | 14439 Jul 25 03:14 | 0°♏23'14 | | min. Earth dist. | 14445 Mar 02 12:32 | 23°♏21'14 | 19.02554 AU |
| conjunction | 14439 Aug 09 22:52 | 1°♏17'45 | -0°20'14 | direct | 14445 May 18 12:41 | 21°♏22'58 | |
| minimum elong | 14439 Aug 09 22:52 | 1°♏17'45 | 0°20'49 | evening set | 14445 Aug 17 11:13 | 24°♏24'16 | |
| max. Earth dist. | 14439 Aug 10 07:46 | 1°♏19'02 | 20.93098 AU | conjunction | 14445 Sep 02 07:30 | 25°♏18'29 | 0°07'43 |
| morning rise | 14439 Aug 25 18:53 | 2°♏12'19 | | minimum elong | 14445 Sep 02 07:30 | 25°♏18'29 | 0°07'31 |
| retrograde | 14439 Nov 26 01:07 | 5°♏17'13 | | behind sun begin | 14445 Sep 02 01:30 | 25°♏17'39 | |
| opposition | 14440 Feb 10 23:43 | 3°♏19'22 | -0°19'53 | behind sun end | 14445 Sep 02 13:30 | 25°♏19'19 | |
| min. Earth dist. | 14440 Feb 10 15:24 | 3°♏20'12 | 18.94591 AU | max. Earth dist. | 14445 Sep 02 15:15 | 25°♏19'34 | 21.02676 AU |
| direct | 14440 Apr 27 20:33 | 1°♏21'26 | | morning rise | 14445 Sep 18 05:00 | 26°♏12'52 | |
| evening set | 14440 Jul 28 08:59 | 4°♏24'36 | | retrograde | 14445 Dec 19 21:07 | 29°♏17'29 | |
| conjunction | 14440 Aug 13 04:44 | 5°♏19'02 | -0°15'41 | opposition | 14446 Mar 07 05:06 | 27°♏19'22 | 0°11'03 |
| minimum elong | 14440 Aug 13 04:43 | 5°♏19'02 | 0°16'14 | min. Earth dist. | 14446 Mar 06 22:04 | 27°♏20'04 | 19.02707 AU |
| max. Earth dist. | 14440 Aug 13 13:57 | 5°♏20'21 | 20.95962 AU | direct | 14446 May 22 18:17 | 25°♏21'54 | |
| morning rise | 14440 Aug 29 00:51 | 6°♏13'31 | | evening set | 14446 Aug 21 16:06 | 28°♏23'00 | |
| retrograde | 14440 Nov 29 09:19 | 9°♏18'17 | | conjunction | 14446 Sep 06 12:39 | 29°♏17'13 | 0°12'20 |
| opposition | 14441 Feb 14 09:06 | 7°♏20'30 | -0°14'49 | minimum elong | 14446 Sep 06 12:39 | 29°♏17'13 | 0°12'13 |
| min. Earth dist. | 14441 Feb 13 23:56 | 7°♏21'25 | 18.97216 AU | behind sun begin | 14446 Sep 06 08:12 | 29°♏16'36 | |
| direct | 14441 May 02 06:05 | 5°♏22'45 | | behind sun end | 14446 Sep 06 17:05 | 29°♏17'50 | |
| evening set | 14441 Aug 01 14:34 | 8°♏25'28 | | max. Earth dist. | 14446 Sep 06 20:40 | 29°♏18'21 | 21.02638 AU |
| conjunction | 14441 Aug 17 10:17 | 9°♏19'49 | -0°11'05 | | 14446 Sep 18 23:45 | 0°♏ | |
| minimum elong | 14441 Aug 17 10:17 | 9°♏19'49 | 0°11'33 | morning rise | 14446 Sep 22 10:25 | 0°♏11'38 | |
| behind sun begin | 14441 Aug 17 05:31 | 9°♏19'09 | | retrograde | 14446 Dec 24 05:33 | 3°♏16'21 | |
| behind sun end | 14441 Aug 17 15:02 | 9°♏20'29 | | opposition | 14447 Mar 11 13:18 | 1°♏18'06 | 0°16'08 |
| max. Earth dist. | 14441 Aug 17 18:53 | 9°♏21'03 | 20.98334 AU | min. Earth dist. | 14447 Mar 11 05:14 | 1°♏18'54 | 19.02482 AU |
| morning rise | 14441 Sep 02 06:40 | 10°♏14'16 | | | 14447 Apr 16 01:30 | 30°♏ | |
| retrograde | 14441 Dec 03 16:37 | 13°♏18'56 | | direct | 14447 May 27 01:54 | 29°♏20'39 | |
| opposition | 14442 Feb 18 18:25 | 11°♏21'09 | -0°09'40 | | 14447 Jul 05 20:25 | 0°♏ | |
| min. Earth dist. | 14442 Feb 18 10:28 | 11°♏21'57 | 18.99337 AU | evening set | 14447 Aug 25 20:57 | 2°♏21'36 | |
| direct | 14442 May 06 13:01 | 9°♏23'33 | | conjunction | 14447 Sep 10 17:39 | 3°♏15'50 | 0°16'54 |
| evening set | 14442 Aug 05 19:59 | 12°♏25'51 | | minimum elong | 14447 Sep 10 17:39 | 3°♏15'50 | 0°16'50 |
| conjunction | 14442 Aug 21 15:51 | 13°♏20'09 | -0°06'27 | max. Earth dist. | 14447 Sep 11 01:25 | 3°♏16'56 | 21.02229 AU |
| minimum elong | 14442 Aug 21 15:51 | 13°♏20'09 | 0°06'51 | morning rise | 14447 Sep 26 15:48 | 4°♏10'17 | |
| behind sun begin | 14442 Aug 21 09:44 | 13°♏19'18 | | retrograde | 14447 Dec 28 11:51 | 7°♏15'11 | |
| behind sun end | 14442 Aug 21 21:59 | 13°♏21'01 | | opposition | 14448 Mar 14 21:38 | 5°♏16'49 | 0°21'10 |
| max. Earth dist. | 14442 Aug 22 00:28 | 13°♏21'23 | 21.00191 AU | min. Earth dist. | 14448 Mar 14 14:35 | 5°♏17'31 | 19.01911 AU |
| morning rise | 14442 Sep 06 12:24 | 14°♏14'34 | | direct | 14448 May 30 07:22 | 3°♏19'22 | |
| retrograde | 14442 Dec 08 00:28 | 17°♏19'10 | | evening set | 14448 Aug 29 01:55 | 6°♏20'14 | |

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| conjunction | 14448 Sep 13 22:57 | 7°♂14'31 | 0°21'23 | retrograde | 14455 Jan 26 04:30 | 5°♂20'22 | |
| minimum elong | 14448 Sep 13 22:57 | 7°♂14'31 | 0°21'25 | opposition | 14455 Apr 13 09:19 | 3°♂21'20 | 0°52'22 |
| max. Earth dist. | 14448 Sep 14 06:56 | 7°♂15'39 | 21.01494 AU | min. Earth dist. | 14455 Apr 13 03:41 | 3°♂21'54 | 18.87628 AU |
| morning rise | 14448 Sep 29 21:27 | 8°♂09'01 | | direct | 14455 Jun 28 05:08 | 1°♂23'47 | |
| retrograde | 14448 Dec 31 20:52 | 11°♂14'08 | | evening set | 14455 Sep 26 21:19 | 4°♂26'06 | |
| opposition | 14449 Mar 19 05:38 | 9°♂15'40 | 0°26'05 | | | | |
| min. Earth dist. | 14449 Mar 18 21:37 | 9°♂16'29 | 19.01005 AU | conjunction | 14455 Oct 12 20:54 | 5°♂21'07 | 0°48'58 |
| direct | 14449 Jun 03 14:17 | 7°♂18'14 | | minimum elong | 14455 Oct 12 20:53 | 5°♂21'07 | 0°49'29 |
| evening set | 14449 Sep 02 07:05 | 10°♂19'07 | | max. Earth dist. | 14455 Oct 13 01:45 | 5°♂21'49 | 20.85766 AU |
| | | | | morning rise | 14455 Oct 28 22:34 | 6°♂16'28 | |
| conjunction | 14449 Sep 18 04:23 | 11°♂13'27 | 0°25'47 | retrograde | 14456 Jan 30 13:50 | 9°♂24'36 | |
| minimum elong | 14449 Sep 18 04:22 | 11°♂13'27 | 0°25'52 | opposition | 14456 Apr 16 18:53 | 7°♂25'24 | 0°56'01 |
| max. Earth dist. | 14449 Sep 18 11:58 | 11°♂14'32 | 21.00409 AU | min. Earth dist. | 14456 Apr 16 14:56 | 7°♂25'48 | 18.83825 AU |
| morning rise | 14449 Oct 04 03:20 | 12°♂08'02 | | direct | 14456 Jul 01 11:06 | 5°♂27'43 | |
| retrograde | 14450 Jan 05 03:55 | 15°♂13'26 | | evening set | 14456 Sep 30 05:19 | 8°♂30'26 | |
| opposition | 14450 Mar 23 13:55 | 13°♂14'52 | 0°30'53 | | | | |
| min. Earth dist. | 14450 Mar 23 07:03 | 13°♂15'34 | 18.99751 AU | conjunction | 14456 Oct 16 05:26 | 9°♂25'37 | 0°52'08 |
| direct | 14450 Jun 07 19:38 | 11°♂17'27 | | minimum elong | 14456 Oct 16 05:25 | 9°♂25'37 | 0°52'42 |
| evening set | 14450 Sep 06 12:24 | 14°♂18'24 | | max. Earth dist. | 14456 Oct 16 09:30 | 9°♂26'13 | 20.81735 AU |
| | | | | morning rise | 14456 Nov 01 07:40 | 10°♂21'09 | |
| conjunction | 14450 Sep 22 10:04 | 15°♂12'48 | 0°30'03 | retrograde | 14457 Feb 03 02:05 | 13°♂29'48 | |
| minimum elong | 14450 Sep 22 10:03 | 15°♂12'48 | 0°30'13 | opposition | 14457 Apr 21 04:22 | 11°♂30'24 | 0°59'25 |
| max. Earth dist. | 14450 Sep 22 17:42 | 15°♂13'54 | 20.98983 AU | min. Earth dist. | 14457 Apr 21 00:15 | 11°♂30'49 | 18.79565 AU |
| morning rise | 14450 Oct 08 09:23 | 16°♂07'28 | | direct | 14457 Jul 05 20:13 | 9°♂32'32 | |
| retrograde | 14451 Jan 09 13:35 | 19°♂13'13 | | evening set | 14457 Oct 04 13:50 | 12°♂35'43 | |
| opposition | 14451 Mar 27 22:08 | 17°♂14'35 | 0°35'32 | | | | |
| min. Earth dist. | 14451 Mar 27 14:25 | 17°♂15'21 | 18.98140 AU | conjunction | 14457 Oct 20 14:27 | 13°♂31'05 | 0°55'03 |
| direct | 14451 Jun 12 02:41 | 15°♂17'10 | | minimum elong | 14457 Oct 20 14:26 | 13°♂31'05 | 0°55'41 |
| evening set | 14451 Sep 10 18:09 | 18°♂18'16 | | max. Earth dist. | 14457 Oct 20 17:46 | 13°♂31'34 | 20.77255 AU |
| | | | | morning rise | 14457 Nov 05 17:13 | 14°♂26'48 | |
| conjunction | 14451 Sep 26 16:05 | 19°♂12'46 | 0°34'10 | | 14457 Nov 15 16:30 | 15°♂ | |
| minimum elong | 14451 Sep 26 16:05 | 19°♂12'46 | 0°34'25 | retrograde | 14458 Feb 07 12:32 | 17°♂36'01 | |
| max. Earth dist. | 14451 Sep 26 23:17 | 19°♂13'48 | 20.97183 AU | opposition | 14458 Apr 25 14:20 | 15°♂36'23 | 1°02'31 |
| morning rise | 14451 Oct 12 15:52 | 20°♂07'33 | | min. Earth dist. | 14458 Apr 25 11:48 | 15°♂36'38 | 18.74894 AU |
| retrograde | 14452 Jan 13 21:30 | 23°♂13'41 | | | 14458 May 10 16:45 | 15°♂ | |
| opposition | 14452 Mar 31 06:43 | 21°♂14'58 | 0°40'02 | direct | 14458 Jul 10 03:02 | 13°♂38'18 | |
| min. Earth dist. | 14452 Mar 31 00:19 | 21°♂15'36 | 18.96158 AU | | 14458 Sep 05 21:28 | 15°♂ | |
| direct | 14452 Jun 15 07:58 | 19°♂17'34 | | evening set | 14458 Oct 08 22:40 | 16°♂41'59 | |
| evening set | 14452 Sep 14 00:08 | 22°♂18'52 | | | | | |
| | | | | conjunction | 14458 Oct 24 23:48 | 17°♂37'32 | 0°57'43 |
| conjunction | 14452 Sep 29 22:31 | 23°♂13'28 | 0°38'09 | minimum elong | 14458 Oct 24 23:47 | 17°♂37'32 | 0°58'25 |
| minimum elong | 14452 Sep 29 22:31 | 23°♂13'28 | 0°38'27 | max. Earth dist. | 14458 Oct 25 02:29 | 17°♂37'56 | 20.72418 AU |
| max. Earth dist. | 14452 Sep 30 05:32 | 23°♂14'29 | 20.95009 AU | morning rise | 14458 Nov 10 03:08 | 18°♂33'27 | |
| morning rise | 14452 Oct 15 22:46 | 24°♂08'22 | | retrograde | 14459 Feb 12 01:06 | 21°♂43'17 | |
| retrograde | 14453 Jan 17 08:13 | 27°♂14'57 | | opposition | 14459 Apr 30 00:27 | 19°♂43'23 | 1°05'19 |
| opposition | 14453 Apr 04 15:19 | 25°♂16'09 | 0°44'21 | min. Earth dist. | 14459 Apr 29 21:34 | 19°♂43'40 | 18.69901 AU |
| min. Earth dist. | 14453 Apr 04 08:21 | 25°♂16'51 | 18.93771 AU | direct | 14459 Jul 14 12:43 | 17°♂45'03 | |
| direct | 14453 Jun 19 15:30 | 23°♂18'44 | | evening set | 14459 Oct 13 08:10 | 20°♂49'18 | |
| evening set | 14453 Sep 18 06:47 | 26°♂20'20 | | | | | |
| | | | | conjunction | 14459 Oct 29 09:51 | 21°♂45'04 | 1°00'05 |
| conjunction | 14453 Oct 04 05:29 | 27°♂15'03 | 0°41'57 | minimum elong | 14459 Oct 29 09:50 | 21°♂45'04 | 1°00'49 |
| minimum elong | 14453 Oct 04 05:29 | 27°♂15'03 | 0°42'21 | max. Earth dist. | 14459 Oct 29 12:10 | 21°♂45'24 | 20.67278 AU |
| max. Earth dist. | 14453 Oct 04 11:47 | 27°♂15'58 | 20.92394 AU | morning rise | 14459 Nov 14 13:44 | 22°♂41'11 | |
| morning rise | 14453 Oct 20 06:12 | 28°♂10'06 | | retrograde | 14460 Feb 16 12:47 | 25°♂51'39 | |
| | 14453 Nov 25 13:26 | 0°♂ | | opposition | 14460 May 03 11:00 | 23°♂51'29 | 1°07'48 |
| retrograde | 14454 Jan 21 16:43 | 1°♂17'09 | | min. Earth dist. | 14460 May 03 09:26 | 23°♂51'39 | 18.64645 AU |
| | 14454 Mar 22 09:30 | 30°♂ | | direct | 14460 Jul 17 20:46 | 21°♂52'55 | |
| opposition | 14454 Apr 09 00:10 | 29°♂18'16 | 0°48'28 | evening set | 14460 Oct 16 18:13 | 24°♂57'47 | |
| min. Earth dist. | 14454 Apr 08 18:52 | 29°♂18'48 | 18.90936 AU | | | | |
| direct | 14454 Jun 23 20:51 | 27°♂20'48 | | conjunction | 14460 Nov 01 20:29 | 25°♂53'46 | 1°02'08 |
| | 14454 Sep 15 18:04 | 0°♂ | | minimum elong | 14460 Nov 01 20:28 | 25°♂53'46 | 1°02'57 |
| evening set | 14454 Sep 22 13:51 | 0°♂22'44 | | max. Earth dist. | 14460 Nov 01 22:06 | 25°♂54'00 | 20.61918 AU |
| | | | | morning rise | 14460 Nov 18 01:00 | 26°♂50'07 | |
| conjunction | 14454 Oct 08 13:01 | 1°♂17'36 | 0°45'34 | | 14461 Feb 13 01:48 | 0°♂ | |
| minimum elong | 14454 Oct 08 13:00 | 1°♂17'36 | 0°46'00 | retrograde | 14461 Feb 20 02:14 | 0°♂01'14 | |
| max. Earth dist. | 14454 Oct 08 18:42 | 1°♂18'25 | 20.89329 AU | | 14461 Feb 27 01:18 | 30°♂ | |
| morning rise | 14454 Oct 24 14:11 | 2°♂12'47 | | opposition | 14461 May 07 21:47 | 28°♂00'50 | 1°09'56 |

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| min. Earth dist. | 14461 May 07 19:51 | 28° \mathring{M} 01'01 | 18.59185 AU | max. Earth dist. | 14467 Dec 02 18:54 | 25° \mathring{A} 37'22 | 20.20680 AU |
| direct | 14461 Jul 22 06:35 | 26° \mathring{M} 02'00 | | morning rise | 14467 Dec 19 05:22 | 26° \mathring{A} 35'47 | |
| evening set | 14461 Oct 21 04:59 | 29° \mathring{M} 07'33 | | retrograde | 14468 Mar 22 12:17 | 29° \mathring{A} 52'08 | |
| | 14461 Nov 05 06:06 | 0° \mathring{A} | | opposition | 14468 Jun 06 15:54 | 27° \mathring{A} 50'27 | 1°14'05 |
| conjunction | 14461 Nov 06 07:50 | 0° \mathring{A} 03'46 | 1°03'53 | min. Earth dist. | 14468 Jun 06 18:14 | 27° \mathring{A} 50'13 | 18.17555 AU |
| minimum elong | 14461 Nov 06 07:49 | 0° \mathring{A} 03'46 | 1°04'44 | direct | 14468 Aug 20 15:05 | 25° \mathring{A} 49'56 | |
| max. Earth dist. | 14461 Nov 06 09:12 | 0° \mathring{A} 03'58 | 20.56356 AU | evening set | 14468 Nov 20 06:51 | 29° \mathring{A} 01'33 | |
| morning rise | 14461 Nov 22 12:51 | 1° \mathring{A} 00'21 | | conjunction | 14468 Dec 06 14:09 | 29° \mathring{A} 59'40 | 1°06'12 |
| retrograde | 14462 Feb 24 14:48 | 4° \mathring{A} 12'08 | | minimum elong | 14468 Dec 06 14:09 | 29° \mathring{A} 59'40 | 1°07'14 |
| opposition | 14462 May 12 09:03 | 2° \mathring{A} 11'31 | 1°11'42 | max. Earth dist. | 14468 Dec 06 10:22 | 29° \mathring{A} 59'06 | 20.14354 AU |
| min. Earth dist. | 14462 May 12 08:16 | 2° \mathring{A} 11'36 | 18.53549 AU | | 14468 Dec 06 16:23 | 0° \mathring{B} | |
| direct | 14462 Jul 26 16:13 | 0° \mathring{A} 12'27 | | morning rise | 14468 Dec 22 23:27 | 0° \mathring{B} 58'05 | |
| evening set | 14462 Oct 25 16:26 | 3° \mathring{A} 18'44 | | retrograde | 14469 Mar 27 07:04 | 4° \mathring{B} 15'11 | |
| conjunction | 14462 Nov 10 19:51 | 4° \mathring{A} 15'11 | 1°05'18 | opposition | 14469 Jun 11 07:10 | 2° \mathring{B} 13'18 | 1°13'00 |
| minimum elong | 14462 Nov 10 19:51 | 4° \mathring{A} 15'11 | 1°06'12 | min. Earth dist. | 14469 Jun 11 10:10 | 2° \mathring{B} 12'59 | 18.11169 AU |
| max. Earth dist. | 14462 Nov 10 20:26 | 4° \mathring{A} 15'16 | 20.50664 AU | direct | 14469 Aug 25 05:43 | 0° \mathring{B} 12'27 | |
| morning rise | 14462 Nov 27 01:33 | 5° \mathring{A} 12'00 | | evening set | 14469 Nov 25 00:19 | 3° \mathring{B} 25'02 | |
| retrograde | 14463 Mar 01 05:13 | 8° \mathring{A} 24'31 | | conjunction | 14469 Dec 11 08:23 | 4° \mathring{B} 23'27 | 1°05'01 |
| opposition | 14463 May 16 20:47 | 6° \mathring{A} 23'41 | 1°13'06 | minimum elong | 14469 Dec 11 08:23 | 4° \mathring{B} 23'27 | 1°06'04 |
| min. Earth dist. | 14463 May 16 19:39 | 6° \mathring{A} 23'48 | 18.47799 AU | max. Earth dist. | 14469 Dec 11 04:41 | 4° \mathring{B} 22'54 | 20.07910 AU |
| direct | 14463 Jul 31 02:39 | 4° \mathring{A} 24'23 | | morning rise | 14469 Dec 27 18:04 | 5° \mathring{B} 22'08 | |
| evening set | 14463 Oct 30 04:31 | 7° \mathring{A} 31'26 | | retrograde | 14470 Apr 01 01:12 | 8° \mathring{B} 39'57 | |
| conjunction | 14463 Nov 15 08:38 | 8° \mathring{A} 28'09 | 1°06'22 | opposition | 14470 Jun 15 23:00 | 6° \mathring{B} 37'52 | 1°11'30 |
| minimum elong | 14463 Nov 15 08:37 | 8° \mathring{A} 28'09 | 1°07'17 | min. Earth dist. | 14470 Jun 16 02:45 | 6° \mathring{B} 37'28 | 18.04686 AU |
| max. Earth dist. | 14463 Nov 15 09:11 | 8° \mathring{A} 28'14 | 20.44852 AU | direct | 14470 Aug 29 20:44 | 4° \mathring{B} 36'41 | |
| morning rise | 14463 Dec 01 14:51 | 9° \mathring{A} 25'13 | | evening set | 14470 Nov 29 18:43 | 7° \mathring{B} 50'14 | |
| retrograde | 14464 Mar 04 19:08 | 12° \mathring{A} 38'28 | | conjunction | 14470 Dec 16 03:18 | 8° \mathring{B} 48'56 | 1°03'27 |
| opposition | 14464 May 20 09:08 | 10° \mathring{A} 37'27 | 1°14'07 | minimum elong | 14470 Dec 16 03:19 | 8° \mathring{B} 48'56 | 1°04'30 |
| min. Earth dist. | 14464 May 20 09:01 | 10° \mathring{A} 37'28 | 18.41938 AU | max. Earth dist. | 14470 Dec 15 21:46 | 8° \mathring{B} 48'06 | 20.01427 AU |
| direct | 14464 Aug 03 13:26 | 8° \mathring{A} 37'55 | | morning rise | 14471 Jan 01 13:43 | 9° \mathring{B} 47'54 | |
| evening set | 14464 Nov 02 17:37 | 11° \mathring{A} 45'48 | | retrograde | 14471 Apr 05 20:36 | 13° \mathring{B} 06'26 | |
| conjunction | 14464 Nov 18 22:19 | 12° \mathring{A} 42'47 | 1°07'05 | opposition | 14471 Jun 20 15:22 | 11° \mathring{B} 04'06 | 1°09'34 |
| minimum elong | 14464 Nov 18 22:19 | 12° \mathring{A} 42'47 | 1°08'02 | min. Earth dist. | 14471 Jun 20 19:52 | 11° \mathring{B} 03'37 | 17.98211 AU |
| max. Earth dist. | 14464 Nov 18 21:48 | 12° \mathring{A} 42'43 | 20.38958 AU | direct | 14471 Sep 03 12:22 | 9° \mathring{B} 02'33 | |
| morning rise | 14464 Dec 05 05:16 | 13° \mathring{A} 40'07 | | evening set | 14471 Dec 04 13:43 | 12° \mathring{B} 17'04 | |
| retrograde | 14465 Mar 09 10:50 | 16° \mathring{A} 54'08 | | conjunction | 14471 Dec 20 23:09 | 13° \mathring{B} 16'04 | 1°01'29 |
| opposition | 14465 May 24 21:47 | 14° \mathring{A} 52'56 | 1°14'43 | minimum elong | 14471 Dec 20 23:09 | 13° \mathring{B} 16'04 | 1°02'31 |
| min. Earth dist. | 14465 May 24 21:39 | 14° \mathring{A} 52'56 | 18.36000 AU | max. Earth dist. | 14471 Dec 20 18:03 | 13° \mathring{B} 15'17 | 19.94971 AU |
| direct | 14465 Aug 08 01:08 | 12° \mathring{A} 53'10 | | morning rise | 14472 Jan 06 09:56 | 14° \mathring{B} 15'18 | |
| evening set | 14465 Nov 07 07:32 | 16° \mathring{A} 01'57 | | retrograde | 14472 Apr 09 16:32 | 17° \mathring{B} 34'30 | |
| conjunction | 14465 Nov 23 12:57 | 16° \mathring{A} 59'12 | 1°07'25 | opposition | 14472 Jun 24 08:16 | 15° \mathring{B} 31'57 | 1°07'12 |
| minimum elong | 14465 Nov 23 12:57 | 16° \mathring{A} 59'12 | 1°08'25 | min. Earth dist. | 14472 Jun 24 13:06 | 15° \mathring{B} 31'26 | 17.91790 AU |
| max. Earth dist. | 14465 Nov 23 12:27 | 16° \mathring{A} 59'08 | 20.32966 AU | direct | 14472 Sep 07 05:05 | 13° \mathring{B} 30'03 | |
| morning rise | 14465 Dec 09 20:22 | 17° \mathring{A} 56'48 | | evening set | 14472 Dec 08 09:47 | 16° \mathring{B} 45'33 | |
| retrograde | 14466 Mar 14 02:04 | 21° \mathring{A} 11'35 | | conjunction | 14472 Dec 24 19:39 | 17° \mathring{B} 44'49 | 0°59'08 |
| opposition | 14466 May 29 11:14 | 19° \mathring{A} 10'14 | 1°14'56 | minimum elong | 14472 Dec 24 19:39 | 17° \mathring{B} 44'49 | 1°00'10 |
| min. Earth dist. | 14466 May 29 12:10 | 19° \mathring{A} 10'08 | 18.29960 AU | max. Earth dist. | 14472 Dec 24 12:48 | 17° \mathring{B} 43'46 | 19.88619 AU |
| direct | 14466 Aug 12 12:46 | 17° \mathring{A} 10'15 | | morning rise | 14473 Jan 10 07:05 | 18° \mathring{B} 44'19 | |
| evening set | 14466 Nov 11 22:17 | 20° \mathring{A} 19'57 | | retrograde | 14473 Apr 14 12:36 | 22° \mathring{B} 04'10 | |
| conjunction | 14466 Nov 28 04:15 | 21° \mathring{A} 17'29 | 1°07'24 | opposition | 14473 Jun 29 01:36 | 20° \mathring{B} 01'24 | 1°04'23 |
| minimum elong | 14466 Nov 28 04:15 | 21° \mathring{A} 17'29 | 1°08'24 | min. Earth dist. | 14473 Jun 29 07:16 | 20° \mathring{B} 00'48 | 17.85524 AU |
| max. Earth dist. | 14466 Nov 28 02:24 | 21° \mathring{A} 17'12 | 20.26887 AU | direct | 14473 Sep 11 21:29 | 17° \mathring{B} 59'07 | |
| morning rise | 14466 Dec 14 12:23 | 22° \mathring{A} 15'21 | | evening set | 14473 Dec 13 06:23 | 21° \mathring{B} 15'37 | |
| retrograde | 14467 Mar 18 19:37 | 25° \mathring{A} 30'56 | | conjunction | 14473 Dec 29 17:00 | 22° \mathring{B} 15'10 | 0°56'25 |
| opposition | 14467 Jun 03 01:17 | 23° \mathring{A} 29'25 | 1°14'43 | minimum elong | 14473 Dec 29 17:01 | 22° \mathring{B} 15'10 | 0°57'24 |
| min. Earth dist. | 14467 Jun 03 02:32 | 23° \mathring{A} 29'17 | 18.23826 AU | max. Earth dist. | 14473 Dec 29 10:54 | 22° \mathring{B} 14'14 | 19.82449 AU |
| direct | 14467 Aug 17 01:58 | 21° \mathring{A} 29'10 | | morning rise | 14474 Jan 15 04:43 | 23° \mathring{B} 14'55 | |
| evening set | 14467 Nov 16 14:04 | 24° \mathring{A} 39'49 | | retrograde | 14474 Apr 19 10:22 | 26° \mathring{B} 35'24 | |
| conjunction | 14467 Dec 02 20:48 | 25° \mathring{A} 37'39 | 1°06'59 | opposition | 14474 Jul 03 19:32 | 24° \mathring{B} 32'27 | 1°01'10 |
| minimum elong | 14467 Dec 02 20:48 | 25° \mathring{A} 37'39 | 1°08'01 | min. Earth dist. | 14474 Jul 04 01:02 | 24° \mathring{B} 31'51 | 17.79467 AU |
| | | | | direct | 14474 Sep 16 15:29 | 22° \mathring{B} 29'50 | |

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|------------------|--------------------|---|-------------|------------------|--------------------|---|-------------|
| evening set | 14474 Dec 18 03:48 | 25°  47'17 | | minimum elong | 14481 Jan 31 17:50 | 24°  31'46 | 0°28'43 |
| | | | | max. Earth dist. | 14481 Jan 31 09:19 | 24°  30'27 | 19.48860 AU |
| conjunction | 14475 Jan 03 14:49 | 26°  47'06 | 0°53'19 | morning rise | 14481 Feb 17 07:20 | 25°  32'58 | |
| minimum elong | 14475 Jan 03 14:50 | 26°  47'06 | 0°54'18 | retrograde | 14481 May 22 01:36 | 28°  56'55 | |
| max. Earth dist. | 14475 Jan 03 07:17 | 26°  45'57 | 19.76533 AU | opposition | 14481 Aug 04 16:52 | 26°  53'25 | 0°28'29 |
| morning rise | 14475 Jan 20 03:07 | 27°  47'07 | | min. Earth dist. | 14481 Aug 05 00:31 | 26°  52'35 | 17.47193 AU |
| | 14475 Mar 03 13:22 | 0°  00 | | direct | 14481 Oct 18 14:02 | 24°  49'12 | |
| retrograde | 14475 Apr 24 07:21 | 1°  08'13 | | evening set | 14482 Jan 20 06:49 | 28°  12'52 | |
| | 14475 Jun 16 12:31 | 30°  08 | | | | | |
| opposition | 14475 Jul 08 14:07 | 29°  05'04 | 0°57'32 | conjunction | 14482 Feb 05 20:30 | 29°  14'12 | 0°22'56 |
| min. Earth dist. | 14475 Jul 08 20:27 | 29°  04'23 | 17.73706 AU | minimum elong | 14482 Feb 05 20:30 | 29°  14'12 | 0°23'33 |
| direct | 14475 Sep 21 09:03 | 27°  02'07 | | max. Earth dist. | 14482 Feb 05 11:44 | 29°  12'51 | 19.45603 AU |
| | 14475 Dec 17 06:47 | 0°  00 | | | 14482 Feb 18 04:08 | 0°  00 | |
| evening set | 14475 Dec 23 01:58 | 0°  20'33 | | morning rise | 14482 Feb 22 10:01 | 0°  15'32 | |
| | | | | retrograde | 14482 May 27 03:02 | 3°  39'46 | |
| conjunction | 14476 Jan 08 13:42 | 1°  20'38 | 0°49'52 | opposition | 14482 Aug 09 15:07 | 1°  36'15 | 0°22'41 |
| minimum elong | 14476 Jan 08 13:42 | 1°  20'38 | 0°50'48 | min. Earth dist. | 14482 Aug 09 22:02 | 1°  35'30 | 17.44110 AU |
| max. Earth dist. | 14476 Jan 08 06:59 | 1°  19'36 | 19.70934 AU | | 14482 Sep 20 18:17 | 30°  08 | |
| morning rise | 14476 Jan 25 02:13 | 2°  20'53 | | direct | 14482 Oct 23 14:29 | 29°  31'50 | |
| retrograde | 14476 Apr 28 06:22 | 5°  42'33 | | | 14482 Nov 24 21:59 | 0°  00 | |
| opposition | 14476 Jul 12 09:02 | 3°  39'16 | 0°53'31 | evening set | 14483 Jan 25 09:42 | 2°  56'11 | |
| min. Earth dist. | 14476 Jul 12 14:51 | 3°  38'38 | 17.68279 AU | | | | |
| direct | 14476 Sep 25 04:14 | 1°  36'02 | | conjunction | 14483 Feb 10 23:31 | 3°  57'39 | 0°17'40 |
| evening set | 14476 Dec 27 01:06 | 4°  55'24 | | minimum elong | 14483 Feb 10 23:32 | 3°  57'39 | 0°18'13 |
| | | | | max. Earth dist. | 14483 Feb 10 14:33 | 3°  56'15 | 19.42694 AU |
| conjunction | 14477 Jan 12 13:09 | 5°  55'45 | 0°46'04 | morning rise | 14483 Feb 27 12:56 | 4°  59'05 | |
| minimum elong | 14477 Jan 12 13:10 | 5°  55'45 | 0°46'58 | retrograde | 14483 Jun 01 02:35 | 8°  23'30 | |
| max. Earth dist. | 14477 Jan 12 05:10 | 5°  54'31 | 19.65699 AU | opposition | 14483 Aug 14 13:55 | 6°  19'58 | 0°16'44 |
| morning rise | 14477 Jan 29 02:06 | 6°  56'14 | | min. Earth dist. | 14483 Aug 14 22:03 | 6°  19'05 | 17.41386 AU |
| retrograde | 14477 May 03 04:08 | 10°  18'26 | | direct | 14483 Oct 28 13:33 | 4°  15'21 | |
| opposition | 14477 Jul 17 04:46 | 8°  15'02 | 0°49'08 | evening set | 14484 Jan 30 13:06 | 7°  40'18 | |
| min. Earth dist. | 14477 Jul 17 11:28 | 8°  14'19 | 17.63249 AU | | | | |
| direct | 14477 Sep 29 23:15 | 6°  11'33 | | conjunction | 14484 Feb 16 02:56 | 8°  41'52 | 0°12'16 |
| evening set | 14478 Jan 01 00:39 | 9°  31'52 | | minimum elong | 14484 Feb 16 02:56 | 8°  41'52 | 0°12'44 |
| | | | | behind sun begin | 14484 Feb 15 22:46 | 8°  41'14 | |
| conjunction | 14478 Jan 17 13:16 | 10°  32'26 | 0°41'58 | behind sun end | 14484 Feb 16 07:06 | 8°  42'30 | |
| minimum elong | 14478 Jan 17 13:17 | 10°  32'26 | 0°42'51 | max. Earth dist. | 14484 Feb 15 17:15 | 8°  40'22 | 19.40170 AU |
| max. Earth dist. | 14478 Jan 17 06:05 | 10°  31'20 | 19.60878 AU | morning rise | 14484 Mar 03 16:16 | 9°  43'22 | |
| morning rise | 14478 Feb 03 02:22 | 11°  33'08 | | retrograde | 14484 Jun 05 04:41 | 13°  07'55 | |
| retrograde | 14478 May 08 03:53 | 14°  55'51 | | opposition | 14484 Aug 18 12:45 | 11°  04'20 | 0°10'38 |
| opposition | 14478 Jul 22 00:56 | 12°  52'23 | 0°44'25 | min. Earth dist. | 14484 Aug 18 20:11 | 11°  03'32 | 17.39060 AU |
| min. Earth dist. | 14478 Jul 22 06:49 | 12°  51'45 | 17.58629 AU | direct | 14484 Nov 01 15:02 | 8°  59'32 | |
| direct | 14478 Oct 04 20:16 | 10°  48'43 | | evening set | 14485 Feb 03 16:43 | 12°  24'59 | |
| evening set | 14479 Jan 06 01:12 | 14°  09'55 | | | | | |
| | 14479 Jan 19 16:43 | 15°  00 | | conjunction | 14485 Feb 20 06:35 | 13°  26'38 | 0°06'47 |
| | | | | minimum elong | 14485 Feb 20 06:35 | 13°  26'38 | 0°07'11 |
| conjunction | 14479 Jan 22 14:05 | 15°  10'43 | 0°37'35 | behind sun begin | 14485 Feb 20 00:23 | 13°  25'42 | |
| minimum elong | 14479 Jan 22 14:06 | 15°  10'43 | 0°38'23 | behind sun end | 14485 Feb 20 12:47 | 13°  27'35 | |
| max. Earth dist. | 14479 Jan 22 05:59 | 15°  09'28 | 19.56474 AU | max. Earth dist. | 14485 Feb 19 21:21 | 13°  25'13 | 19.38050 AU |
| morning rise | 14479 Feb 08 03:28 | 16°  11'36 | | morning rise | 14485 Mar 08 19:34 | 14°  28'12 | |
| retrograde | 14479 May 13 02:05 | 19°  34'48 | | retrograde | 14485 Jun 10 04:29 | 17°  52'46 | |
| opposition | 14479 Jul 26 21:44 | 17°  31'18 | 0°39'22 | opposition | 14485 Aug 23 12:07 | 15°  49'11 | 0°04'27 |
| min. Earth dist. | 14479 Jul 27 04:45 | 17°  30'33 | 17.54438 AU | min. Earth dist. | 14485 Aug 23 20:24 | 15°  48'17 | 17.37165 AU |
| direct | 14479 Oct 09 16:46 | 15°  27'26 | | direct | 14485 Nov 06 14:31 | 13°  44'12 | |
| evening set | 14480 Jan 11 02:22 | 18°  49'31 | | evening set | 14486 Feb 08 20:23 | 17°  10'05 | |
| | | | | | | | |
| conjunction | 14480 Jan 27 15:41 | 19°  50'32 | 0°32'55 | conjunction | 14486 Feb 25 10:01 | 18°  11'46 | 0°01'12 |
| minimum elong | 14480 Jan 27 15:42 | 19°  50'32 | 0°33'41 | minimum elong | 14486 Feb 25 10:01 | 18°  11'46 | 0°01'32 |
| max. Earth dist. | 14480 Jan 27 07:54 | 19°  49'20 | 19.52487 AU | behind sun begin | 14486 Feb 25 03:16 | 18°  10'44 | |
| morning rise | 14480 Feb 13 05:10 | 20°  51'35 | | behind sun end | 14486 Feb 25 16:46 | 18°  12'48 | |
| retrograde | 14480 May 17 02:47 | 24°  15'12 | | max. Earth dist. | 14486 Feb 25 00:04 | 18°  10'14 | 19.36400 AU |
| opposition | 14480 Jul 30 18:58 | 22°  11'42 | 0°34'03 | morning rise | 14486 Mar 13 22:52 | 19°  13'21 | |
| min. Earth dist. | 14480 Jul 31 01:18 | 22°  11'01 | 17.50634 AU | desc. node | 14486 May 17 11:25 | 22°  15'15 | |
| direct | 14480 Oct 13 15:46 | 20°  07'39 | | retrograde | 14486 Jun 15 06:25 | 22°  13'55 | |
| evening set | 14481 Jan 15 04:21 | 23°  30'35 | | opposition | 14486 Aug 28 11:32 | 20°  34'18 | -0°01'46 |
| | | | | min. Earth dist. | 14486 Aug 28 19:03 | 20°  33'29 | 17.35760 AU |
| conjunction | 14481 Jan 31 17:50 | 24°  31'46 | 0°28'02 | direct | 14486 Nov 11 16:30 | 18°  29'09 | |

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|------------------|--------------------|---|-------------|------------------|--------------------|---|-------------|
| evening set | 14487 Feb 14 00:11 | 21° $\mathbf{\text{X}}$ 55'22 | | min. Earth dist. | 14492 Sep 25 15:14 | 19° $\mathbf{\text{Y}}$ 02'31 | 17.39415 AU |
| | | | | direct | 14492 Dec 10 01:37 | 16° $\mathbf{\text{Y}}$ 57'55 | |
| conjunction | 14487 Mar 02 13:47 | 22° $\mathbf{\text{X}}$ 57'06 | -0°04'29 | evening set | 14493 Mar 14 21:04 | 20° $\mathbf{\text{Y}}$ 24'36 | |
| minimum elong | 14487 Mar 02 13:47 | 22° $\mathbf{\text{X}}$ 57'05 | 0°04'15 | | | | |
| behind sun begin | 14487 Mar 02 07:09 | 22° $\mathbf{\text{X}}$ 56'05 | | conjunction | 14493 Mar 31 07:58 | 21° $\mathbf{\text{Y}}$ 25'52 | -0°35'54 |
| behind sun end | 14487 Mar 02 20:25 | 22° $\mathbf{\text{X}}$ 58'06 | | minimum elong | 14493 Mar 31 07:58 | 21° $\mathbf{\text{Y}}$ 25'52 | 0°36'11 |
| max. Earth dist. | 14487 Mar 02 04:59 | 22° $\mathbf{\text{X}}$ 55'44 | 19.35243 AU | max. Earth dist. | 14493 Mar 31 02:21 | 21° $\mathbf{\text{Y}}$ 25'00 | 19.40678 AU |
| morning rise | 14487 Mar 19 02:07 | 23° $\mathbf{\text{X}}$ 58'40 | | morning rise | 14493 Apr 16 16:50 | 22° $\mathbf{\text{Y}}$ 26'52 | |
| retrograde | 14487 Jun 20 06:08 | 27° $\mathbf{\text{X}}$ 23'08 | | retrograde | 14493 Jul 18 05:17 | 25° $\mathbf{\text{Y}}$ 49'41 | |
| opposition | 14487 Sep 02 11:05 | 25° $\mathbf{\text{X}}$ 19'31 | -0°07'59 | opposition | 14493 Sep 30 09:28 | 23° $\mathbf{\text{Y}}$ 46'51 | -0°42'36 |
| min. Earth dist. | 14487 Sep 02 19:01 | 25° $\mathbf{\text{X}}$ 18'39 | 17.34869 AU | min. Earth dist. | 14493 Sep 30 13:58 | 23° $\mathbf{\text{Y}}$ 46'22 | 17.42079 AU |
| direct | 14487 Nov 16 16:46 | 23° $\mathbf{\text{X}}$ 14'14 | | direct | 14493 Dec 15 04:19 | 21° $\mathbf{\text{Y}}$ 41'49 | |
| evening set | 14488 Feb 19 04:09 | 26° $\mathbf{\text{X}}$ 40'43 | | evening set | 14494 Mar 19 23:39 | 25° $\mathbf{\text{Y}}$ 08'17 | |
| | | | | | | | |
| conjunction | 14488 Mar 06 17:19 | 27° $\mathbf{\text{X}}$ 42'26 | -0°10'01 | conjunction | 14494 Apr 05 09:48 | 26° $\mathbf{\text{Y}}$ 09'24 | -0°40'28 |
| minimum elong | 14488 Mar 06 17:19 | 27° $\mathbf{\text{X}}$ 42'26 | 0°09'51 | minimum elong | 14494 Apr 05 09:47 | 26° $\mathbf{\text{Y}}$ 09'24 | 0°40'50 |
| behind sun begin | 14488 Mar 06 11:51 | 27° $\mathbf{\text{X}}$ 41'36 | | max. Earth dist. | 14494 Apr 05 04:03 | 26° $\mathbf{\text{Y}}$ 08'30 | 19.43581 AU |
| behind sun end | 14488 Mar 06 22:47 | 27° $\mathbf{\text{X}}$ 43'16 | | morning rise | 14494 Apr 21 18:00 | 27° $\mathbf{\text{Y}}$ 10'14 | |
| max. Earth dist. | 14488 Mar 06 07:43 | 27° $\mathbf{\text{X}}$ 40'56 | 19.34634 AU | | 14494 Jun 18 15:29 | 0° $\mathbf{\text{Z}}$ | |
| morning rise | 14488 Mar 23 05:24 | 28° $\mathbf{\text{X}}$ 43'59 | | retrograde | 14494 Jul 23 03:23 | 0° $\mathbf{\text{Z}}$ 32'37 | |
| | 14488 Apr 14 01:13 | 0° $\mathbf{\text{Y}}$ | | | 14494 Aug 27 10:12 | 30° $\mathbf{\text{R}}$ $\mathbf{\text{Y}}$ | |
| retrograde | 14488 Jun 24 07:18 | 2° $\mathbf{\text{Y}}$ 08'17 | | opposition | 14494 Oct 05 09:08 | 28° $\mathbf{\text{Y}}$ 30'00 | -0°47'32 |
| opposition | 14488 Sep 06 10:44 | 0° $\mathbf{\text{Y}}$ 04'41 | -0°14'09 | min. Earth dist. | 14494 Oct 05 13:54 | 28° $\mathbf{\text{Y}}$ 29'29 | 17.45217 AU |
| min. Earth dist. | 14488 Sep 06 17:58 | 0° $\mathbf{\text{Y}}$ 03'53 | 17.34551 AU | direct | 14494 Dec 20 05:28 | 26° $\mathbf{\text{Y}}$ 25'08 | |
| | 14488 Sep 08 05:35 | 30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$ | | evening set | 14495 Mar 25 01:53 | 29° $\mathbf{\text{Y}}$ 51'19 | |
| direct | 14488 Nov 20 18:57 | 27° $\mathbf{\text{X}}$ 59'18 | | | 14495 Mar 27 10:49 | 0° $\mathbf{\text{Z}}$ | |
| | 14489 Jan 29 08:48 | 0° $\mathbf{\text{Y}}$ | | | | | |
| evening set | 14489 Feb 23 07:46 | 1° $\mathbf{\text{Y}}$ 25'58 | | conjunction | 14495 Apr 10 11:25 | 0° $\mathbf{\text{Z}}$ 52'14 | -0°44'45 |
| | | | | minimum elong | 14495 Apr 10 11:25 | 0° $\mathbf{\text{Z}}$ 52'14 | 0°45'11 |
| conjunction | 14489 Mar 11 20:44 | 2° $\mathbf{\text{Y}}$ 27'39 | -0°15'29 | max. Earth dist. | 14495 Apr 10 06:34 | 0° $\mathbf{\text{Z}}$ 51'29 | 19.46922 AU |
| minimum elong | 14489 Mar 11 20:44 | 2° $\mathbf{\text{Y}}$ 27'39 | 0°15'26 | morning rise | 14495 Apr 26 18:49 | 1° $\mathbf{\text{Z}}$ 52'52 | |
| behind sun begin | 14489 Mar 11 19:05 | 2° $\mathbf{\text{Y}}$ 27'24 | | retrograde | 14495 Jul 28 02:48 | 5° $\mathbf{\text{Z}}$ 14'43 | |
| behind sun end | 14489 Mar 11 22:23 | 2° $\mathbf{\text{Y}}$ 27'54 | | opposition | 14495 Oct 10 08:23 | 3° $\mathbf{\text{Z}}$ 12'21 | -0°52'08 |
| max. Earth dist. | 14489 Mar 11 12:48 | 2° $\mathbf{\text{Y}}$ 26'25 | 19.34601 AU | min. Earth dist. | 14495 Oct 10 12:05 | 3° $\mathbf{\text{Z}}$ 11'57 | 17.48745 AU |
| morning rise | 14489 Mar 28 08:06 | 3° $\mathbf{\text{Y}}$ 29'08 | | direct | 14495 Dec 25 08:03 | 1° $\mathbf{\text{Z}}$ 07'39 | |
| retrograde | 14489 Jun 29 06:49 | 6° $\mathbf{\text{Y}}$ 53'14 | | evening set | 14496 Mar 29 03:42 | 4° $\mathbf{\text{Z}}$ 33'27 | |
| opposition | 14489 Sep 11 10:33 | 4° $\mathbf{\text{Y}}$ 49'42 | -0°20'13 | | | | |
| min. Earth dist. | 14489 Sep 11 17:30 | 4° $\mathbf{\text{Y}}$ 48'56 | 17.34823 AU | conjunction | 14496 Apr 14 12:27 | 5° $\mathbf{\text{Z}}$ 34'10 | -0°48'43 |
| direct | 14489 Nov 25 20:09 | 2° $\mathbf{\text{Y}}$ 44'17 | | minimum elong | 14496 Apr 14 12:27 | 5° $\mathbf{\text{Z}}$ 34'10 | 0°49'14 |
| evening set | 14490 Feb 28 11:28 | 6° $\mathbf{\text{Y}}$ 11'03 | | max. Earth dist. | 14496 Apr 14 07:41 | 5° $\mathbf{\text{Z}}$ 33'26 | 19.50627 AU |
| | | | | morning rise | 14496 Apr 30 19:03 | 6° $\mathbf{\text{Z}}$ 34'36 | |
| conjunction | 14490 Mar 16 23:51 | 7° $\mathbf{\text{Y}}$ 12'39 | -0°20'51 | retrograde | 14496 Aug 01 00:08 | 9° $\mathbf{\text{Z}}$ 55'53 | |
| minimum elong | 14490 Mar 16 23:50 | 7° $\mathbf{\text{Y}}$ 12'39 | 0°20'52 | opposition | 14496 Oct 14 07:42 | 7° $\mathbf{\text{Z}}$ 53'44 | -0°56'22 |
| max. Earth dist. | 14490 Mar 16 15:21 | 7° $\mathbf{\text{Y}}$ 11'20 | 19.35192 AU | min. Earth dist. | 14496 Oct 14 11:54 | 7° $\mathbf{\text{Z}}$ 53'17 | 17.52632 AU |
| morning rise | 14490 Apr 02 10:49 | 8° $\mathbf{\text{Y}}$ 14'04 | | direct | 14496 Dec 29 08:19 | 5° $\mathbf{\text{Z}}$ 49'11 | |
| retrograde | 14490 Jul 04 07:00 | 11° $\mathbf{\text{Y}}$ 37'55 | | evening set | 14497 Apr 03 04:41 | 9° $\mathbf{\text{Z}}$ 14'31 | |
| opposition | 14490 Sep 16 10:17 | 9° $\mathbf{\text{Y}}$ 34'28 | -0°26'09 | | | | |
| min. Earth dist. | 14490 Sep 16 16:37 | 9° $\mathbf{\text{Y}}$ 33'46 | 17.35742 AU | conjunction | 14497 Apr 19 12:42 | 10° $\mathbf{\text{Z}}$ 15'00 | -0°52'21 |
| direct | 14490 Nov 30 21:54 | 7° $\mathbf{\text{Y}}$ 29'03 | | minimum elong | 14497 Apr 19 12:41 | 10° $\mathbf{\text{Z}}$ 15'00 | 0°52'56 |
| evening set | 14491 Mar 05 14:48 | 10° $\mathbf{\text{Y}}$ 55'52 | | max. Earth dist. | 14497 Apr 19 08:26 | 10° $\mathbf{\text{Z}}$ 14'20 | 19.54676 AU |
| | | | | morning rise | 14497 May 05 18:30 | 11° $\mathbf{\text{Z}}$ 15'12 | |
| conjunction | 14491 Mar 22 02:53 | 11° $\mathbf{\text{Y}}$ 57'24 | -0°26'04 | retrograde | 14497 Aug 05 22:47 | 14° $\mathbf{\text{Z}}$ 35'51 | |
| minimum elong | 14491 Mar 22 02:53 | 11° $\mathbf{\text{Y}}$ 57'24 | 0°26'10 | opposition | 14497 Oct 19 06:32 | 12° $\mathbf{\text{Z}}$ 33'55 | -1°00'13 |
| max. Earth dist. | 14491 Mar 21 20:08 | 11° $\mathbf{\text{Y}}$ 56'21 | 19.36425 AU | min. Earth dist. | 14497 Oct 19 09:21 | 12° $\mathbf{\text{Z}}$ 33'36 | 17.56830 AU |
| morning rise | 14491 Apr 07 13:07 | 12° $\mathbf{\text{Y}}$ 58'41 | | direct | 14498 Jan 03 09:49 | 10° $\mathbf{\text{Z}}$ 29'33 | |
| retrograde | 14491 Jul 09 06:40 | 16° $\mathbf{\text{Y}}$ 22'14 | | evening set | 14498 Apr 08 05:07 | 13° $\mathbf{\text{Z}}$ 54'17 | |
| opposition | 14491 Sep 21 10:04 | 14° $\mathbf{\text{Y}}$ 18'57 | -0°31'52 | | | | |
| min. Earth dist. | 14491 Sep 21 15:41 | 14° $\mathbf{\text{Y}}$ 18'20 | 17.37277 AU | conjunction | 14498 Apr 24 12:23 | 14° $\mathbf{\text{Z}}$ 54'33 | -0°55'38 |
| direct | 14491 Dec 06 00:01 | 12° $\mathbf{\text{Y}}$ 13'38 | | minimum elong | 14498 Apr 24 12:22 | 14° $\mathbf{\text{Z}}$ 54'33 | 0°56'16 |
| evening set | 14492 Mar 09 18:10 | 15° $\mathbf{\text{Y}}$ 40'25 | | max. Earth dist. | 14498 Apr 24 08:43 | 14° $\mathbf{\text{Z}}$ 53'59 | 19.59016 AU |
| | | | | | 14498 Apr 25 23:28 | 15° $\mathbf{\text{Z}}$ | |
| conjunction | 14492 Mar 26 05:33 | 16° $\mathbf{\text{Y}}$ 41'49 | -0°31'06 | morning rise | 14498 May 10 17:21 | 15° $\mathbf{\text{Z}}$ 54'30 | |
| minimum elong | 14492 Mar 26 05:32 | 16° $\mathbf{\text{Y}}$ 41'49 | 0°31'18 | retrograde | 14498 Aug 10 19:17 | 19° $\mathbf{\text{Z}}$ 14'29 | |
| max. Earth dist. | 14492 Mar 25 22:25 | 16° $\mathbf{\text{Y}}$ 40'43 | 19.38265 AU | opposition | 14498 Oct 24 04:59 | 17° $\mathbf{\text{Z}}$ 12'43 | -1°03'40 |
| morning rise | 14492 Apr 11 15:13 | 17° $\mathbf{\text{Y}}$ 42'59 | | min. Earth dist. | 14498 Oct 24 08:26 | 17° $\mathbf{\text{Z}}$ 12'21 | 17.61322 AU |
| retrograde | 14492 Jul 13 05:40 | 21° $\mathbf{\text{Y}}$ 06'12 | | direct | 14499 Jan 08 09:19 | 15° $\mathbf{\text{Z}}$ 08'31 | |
| opposition | 14492 Sep 25 09:48 | 19° $\mathbf{\text{Y}}$ 03'07 | -0°37'22 | evening set | 14499 Apr 13 04:48 | 18° $\mathbf{\text{Z}}$ 32'37 | |

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|------------------|--------------------|---------------------------------|------------------|--------------------|----------------------------------|
| conjunction | 14499 Apr 29 11:17 | 19° 8 32'37 -0°58'32 | retrograde | 14505 Sep 12 01:44 | 20° II 56'22 |
| minimum elong | 14499 Apr 29 11:16 | 19° 8 32'37 0°59'15 | opposition | 14505 Nov 26 04:02 | 18° II 55'56 -1°15'09 |
| max. Earth dist. | 14499 Apr 29 07:42 | 19° 8 32'04 19.63650 AU | min. Earth dist. | 14505 Nov 26 01:32 | 18° II 56'11 18.00474 AU |
| morning rise | 14499 May 15 15:33 | 20° 8 32'19 | direct | 14506 Feb 10 23:39 | 16° II 53'17 |
| retrograde | 14499 Aug 15 16:23 | 23° 8 51'34 | evening set | 14506 May 16 01:13 | 20° II 11'21 |
| opposition | 14499 Oct 29 02:57 | 21° 8 50'00 -1°06'40 | | | |
| min. Earth dist. | 14499 Oct 29 04:56 | 21° 8 49'47 17.66083 AU | conjunction | 14506 Jun 01 02:37 | 21° II 09'23 -1°07'31 |
| direct | 14500 Jan 13 10:03 | 19° 8 45'57 | minimum elong | 14506 Jun 01 02:37 | 21° II 09'23 1°08'31 |
| evening set | 14500 Apr 18 03:35 | 23° 8 09'19 | max. Earth dist. | 14506 Jun 01 05:31 | 21° II 09'50 20.03701 AU |
| | | | morning rise | 14506 Jun 17 01:53 | 22° II 07'08 |
| conjunction | 14500 May 04 09:20 | 24° 8 09'04 -1°01'03 | retrograde | 14506 Sep 16 16:35 | 25° II 20'56 |
| minimum elong | 14500 May 04 09:19 | 24° 8 09'04 1°01'49 | opposition | 14506 Nov 30 22:13 | 23° II 20'48 -1°14'57 |
| max. Earth dist. | 14500 May 04 06:55 | 24° 8 08'41 19.68537 AU | min. Earth dist. | 14506 Nov 30 19:43 | 23° II 21'03 18.06997 AU |
| morning rise | 14500 May 20 12:42 | 25° 8 08'29 | direct | 14507 Feb 15 19:03 | 21° II 18'30 |
| retrograde | 14500 Aug 20 11:12 | 28° 8 26'59 | evening set | 14507 May 20 17:56 | 24° II 35'38 |
| opposition | 14500 Nov 03 00:36 | 26° 8 25'34 -1°09'14 | | | |
| min. Earth dist. | 14500 Nov 03 03:01 | 26° 8 25'18 17.71111 AU | conjunction | 14507 Jun 05 18:31 | 25° II 33'22 -1°07'10 |
| direct | 14501 Jan 18 09:11 | 24° 8 21'41 | minimum elong | 14507 Jun 05 18:31 | 25° II 33'22 1°08'12 |
| evening set | 14501 Apr 23 01:32 | 27° 8 44'15 | max. Earth dist. | 14507 Jun 05 20:56 | 25° II 33'44 20.10269 AU |
| | | | morning rise | 14507 Jun 21 17:23 | 26° II 30'51 |
| conjunction | 14501 May 09 06:24 | 28° 8 43'43 -1°03'09 | retrograde | 14507 Sep 21 08:23 | 29° II 43'56 |
| minimum elong | 14501 May 09 06:24 | 28° 8 43'43 1°03'59 | opposition | 14507 Dec 05 15:55 | 27° II 44'03 -1°14'20 |
| max. Earth dist. | 14501 May 09 04:00 | 28° 8 43'21 19.73709 AU | min. Earth dist. | 14507 Dec 05 12:24 | 27° II 44'25 18.13589 AU |
| morning rise | 14501 May 25 09:10 | 29° 8 42'52 | direct | 14508 Feb 20 13:55 | 25° II 42'05 |
| | 14501 May 30 04:04 | 0° II | evening set | 14508 May 24 09:33 | 28° II 58'17 |
| retrograde | 14501 Aug 25 06:27 | 3° II 00'35 | | | |
| opposition | 14501 Nov 07 21:30 | 0° II 59'19 -1°11'21 | conjunction | 14508 Jun 09 09:40 | 29° II 55'45 -1°06'26 |
| min. Earth dist. | 14501 Nov 07 22:15 | 0° II 59'14 17.76423 AU | minimum elong | 14508 Jun 09 09:40 | 29° II 55'45 1°07'28 |
| | 14501 Dec 02 04:48 | 30° 8 | max. Earth dist. | 14508 Jun 09 13:49 | 29° II 56'22 20.16856 AU |
| direct | 14502 Jan 23 09:00 | 28° 8 55'37 | | 14508 Jun 10 13:52 | 0° III |
| | 14502 Mar 14 21:21 | 0° II | morning rise | 14508 Jun 25 07:50 | 0° III 52'58 |
| evening set | 14502 Apr 27 22:23 | 2° II 17'19 | retrograde | 14508 Sep 24 22:09 | 4° III 05'19 |
| | | | opposition | 14508 Dec 09 09:12 | 2° III 05'42 -1°13'17 |
| conjunction | 14502 May 14 02:38 | 3° II 16'31 -1°04'51 | min. Earth dist. | 14508 Dec 09 05:33 | 2° III 06'05 18.20152 AU |
| minimum elong | 14502 May 14 02:38 | 3° II 16'31 1°05'45 | direct | 14509 Feb 24 08:15 | 0° III 04'06 |
| max. Earth dist. | 14502 May 14 01:56 | 3° II 16'24 19.79158 AU | evening set | 14509 May 29 00:36 | 3° III 19'19 |
| morning rise | 14502 May 30 04:32 | 4° II 15'23 | | | |
| retrograde | 14502 Aug 29 23:37 | 7° II 32'17 | conjunction | 14509 Jun 13 23:58 | 4° III 16'30 -1°05'19 |
| opposition | 14502 Nov 12 18:03 | 5° II 31'11 -1°13'00 | minimum elong | 14509 Jun 13 23:58 | 4° III 16'30 1°06'22 |
| min. Earth dist. | 14502 Nov 12 18:57 | 5° II 31'05 17.82020 AU | max. Earth dist. | 14509 Jun 14 03:28 | 4° III 17'02 20.23391 AU |
| direct | 14503 Jan 28 07:37 | 3° II 27'42 | morning rise | 14509 Jun 29 21:50 | 5° III 13'28 |
| evening set | 14503 May 02 18:33 | 6° II 48'31 | retrograde | 14509 Sep 29 12:33 | 8° III 25'07 |
| | | | opposition | 14509 Dec 14 01:44 | 6° III 25'44 -1°11'49 |
| conjunction | 14503 May 18 21:54 | 7° II 47'24 -1°06'09 | min. Earth dist. | 14509 Dec 13 21:29 | 6° III 26'11 18.26647 AU |
| minimum elong | 14503 May 18 21:54 | 7° II 47'24 1°07'03 | direct | 14510 Mar 01 01:12 | 4° III 24'27 |
| max. Earth dist. | 14503 May 18 21:06 | 7° II 47'17 19.84905 AU | evening set | 14510 Jun 02 14:40 | 7° III 38'43 |
| morning rise | 14503 Jun 03 23:13 | 8° II 46'00 | | | |
| retrograde | 14503 Sep 03 17:05 | 12° II 02'07 | conjunction | 14510 Jun 18 13:41 | 8° III 35'39 -1°03'51 |
| opposition | 14503 Nov 17 13:49 | 10° II 01'12 -1°14'10 | minimum elong | 14510 Jun 18 13:41 | 8° III 35'39 1°04'53 |
| min. Earth dist. | 14503 Nov 17 12:58 | 10° II 01'17 17.87915 AU | max. Earth dist. | 14510 Jun 18 18:36 | 8° III 36'23 20.29814 AU |
| direct | 14504 Feb 02 06:02 | 7° II 57'56 | morning rise | 14510 Jul 04 10:59 | 9° III 32'22 |
| evening set | 14504 May 06 13:41 | 11° II 17'52 | retrograde | 14510 Oct 04 01:28 | 12° III 43'18 |
| | | | opposition | 14510 Dec 18 17:50 | 10° III 44'09 -1°09'59 |
| conjunction | 14504 May 22 16:27 | 12° II 16'28 -1°07'01 | min. Earth dist. | 14510 Dec 18 13:25 | 10° III 44'37 18.32979 AU |
| minimum elong | 14504 May 22 16:26 | 12° II 16'28 1°07'59 | direct | 14511 Mar 05 18:28 | 8° III 43'11 |
| max. Earth dist. | 14504 May 22 17:36 | 12° II 16'39 19.90939 AU | evening set | 14511 Jun 07 04:07 | 11° III 56'29 |
| morning rise | 14504 Jun 07 16:55 | 13° II 14'46 | | | |
| retrograde | 14504 Sep 07 09:08 | 16° II 30'06 | conjunction | 14511 Jun 23 02:27 | 12° III 53'09 -1°02'02 |
| opposition | 14504 Nov 21 09:19 | 14° II 29'25 -1°14'53 | minimum elong | 14511 Jun 23 02:28 | 12° III 53'09 1°03'05 |
| min. Earth dist. | 14504 Nov 21 08:19 | 14° II 29'31 17.94081 AU | max. Earth dist. | 14511 Jun 23 06:36 | 12° III 53'46 20.36054 AU |
| direct | 14505 Feb 06 03:02 | 12° II 26'28 | morning rise | 14511 Jul 08 23:30 | 13° III 49'38 |
| evening set | 14505 May 11 07:53 | 15° II 45'27 | retrograde | 14511 Oct 08 14:19 | 16° III 59'54 |
| | | | opposition | 14511 Dec 23 09:21 | 15° III 00'56 -1°07'45 |
| conjunction | 14505 May 27 09:47 | 16° II 43'46 -1°07'28 | min. Earth dist. | 14511 Dec 23 04:37 | 15° III 01'25 18.39123 AU |
| minimum elong | 14505 May 27 09:47 | 16° II 43'46 1°08'26 | direct | 14512 Mar 09 09:25 | 13° III 00'14 |
| max. Earth dist. | 14505 May 27 10:48 | 16° II 43'55 19.97231 AU | evening set | 14512 Jun 10 16:36 | 16° III 12'35 |
| morning rise | 14505 Jun 12 09:48 | 17° II 41'47 | | | |

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|------------------|--------------------|-----------|-------------|------------------|--|--------------------|-----------------------|
| conjunction | 14512 Jun 26 14:39 | 17°☾09'00 | -0°59'54 | | | 14518 Sep 13 19:24 | 15°♊ |
| minimum elong | 14512 Jun 26 14:39 | 17°☾09'00 | 1°00'55 | retrograde | | 14518 Nov 06 16:09 | 16°♊10'46 |
| max. Earth dist. | 14512 Jun 26 20:05 | 17°☾09'49 | 20.42088 AU | | | 14519 Jan 02 00:50 | 15°♋♊ |
| morning rise | 14512 Jul 12 11:13 | 18°☾05'15 | | opposition | | 14519 Jan 22 04:56 | 14°♊12'32 -0°43'23 |
| retrograde | 14512 Oct 12 02:24 | 21°☾14'51 | | min. Earth dist. | | 14519 Jan 21 20:46 | 14°♊13'21 18.76230 AU |
| opposition | 14512 Dec 27 00:17 | 19°☾16'03 | -1°05'10 | direct | | 14519 Apr 09 06:42 | 12°♊13'28 |
| min. Earth dist. | 14512 Dec 26 19:09 | 19°☾16'34 | 18.45031 AU | | | 14519 Jul 04 15:11 | 15°♊ |
| direct | 14513 Mar 14 01:47 | 17°☾15'36 | | evening set | | 14519 Jul 10 10:42 | 15°♊19'37 |
| evening set | 14513 Jun 15 04:16 | 20°☾26'58 | | | | | |
| conjunction | 14513 Jul 01 01:47 | 21°☾23'09 | -0°57'26 | conjunction | | 14519 Jul 26 06:38 | 16°♊14'37 -0°37'09 |
| minimum elong | 14513 Jul 01 01:48 | 21°☾23'10 | 0°58'26 | minimum elong | | 14519 Jul 26 06:39 | 16°♊14'37 0°37'56 |
| max. Earth dist. | 14513 Jul 01 06:36 | 21°☾23'52 | 20.47883 AU | max. Earth dist. | | 14519 Jul 26 14:31 | 16°♊15'45 20.78509 AU |
| morning rise | 14513 Jul 16 22:17 | 22°☾19'11 | | morning rise | | 14519 Aug 11 02:23 | 17°♊09'35 |
| retrograde | 14513 Oct 16 13:57 | 25°☾28'08 | | retrograde | | 14519 Nov 11 01:11 | 20°♊15'26 |
| opposition | 14513 Dec 31 14:34 | 23°☾29'27 | -1°02'15 | opposition | | 14520 Jan 26 16:04 | 18°♊17'18 -0°38'55 |
| min. Earth dist. | 14513 Dec 31 09:21 | 23°☾29'59 | 18.50713 AU | min. Earth dist. | | 14520 Jan 26 08:09 | 18°♊18'06 18.80741 AU |
| direct | 14514 Mar 18 15:01 | 21°☾29'13 | | direct | | 14520 Apr 12 16:29 | 16°♊18'30 |
| evening set | 14514 Jun 19 15:05 | 24°☾39'38 | | evening set | | 14520 Jul 13 17:40 | 19°♊23'56 |
| conjunction | 14514 Jul 05 12:24 | 25°☾35'36 | -0°54'40 | conjunction | | 14520 Jul 29 13:37 | 20°♊18'47 -0°33'02 |
| minimum elong | 14514 Jul 05 12:24 | 25°☾35'36 | 0°55'39 | minimum elong | | 14520 Jul 29 13:38 | 20°♊18'47 0°33'48 |
| max. Earth dist. | 14514 Jul 05 18:30 | 25°☾36'30 | 20.53450 AU | max. Earth dist. | | 14520 Jul 29 22:32 | 20°♊20'05 20.82885 AU |
| morning rise | 14514 Jul 21 08:32 | 26°☾31'25 | | morning rise | | 14520 Aug 14 09:18 | 21°♊13'37 |
| retrograde | 14514 Oct 21 00:48 | 29°☾39'43 | | retrograde | | 14520 Nov 14 10:01 | 24°♊19'08 |
| opposition | 14515 Jan 05 04:03 | 27°☾41'07 | -0°59'01 | opposition | | 14521 Jan 30 02:38 | 22°♊21'07 -0°34'17 |
| min. Earth dist. | 14515 Jan 04 22:13 | 27°☾41'43 | 18.56161 AU | min. Earth dist. | | 14521 Jan 29 17:45 | 22°♊22'01 18.84956 AU |
| direct | 14515 Mar 23 06:10 | 25°☾41'07 | | direct | | 14521 Apr 17 03:10 | 20°♊22'34 |
| evening set | 14515 Jun 24 01:15 | 28°☾50'35 | | evening set | | 14521 Jul 18 00:20 | 23°♊27'20 |
| conjunction | 14515 Jul 09 22:05 | 29°☾46'20 | -0°51'38 | conjunction | | 14521 Aug 02 20:06 | 24°♊22'03 -0°28'47 |
| minimum elong | 14515 Jul 09 22:06 | 29°☾46'20 | 0°52'35 | minimum elong | | 14521 Aug 02 20:06 | 24°♊22'03 0°29'29 |
| max. Earth dist. | 14515 Jul 10 03:49 | 29°☾47'10 | 20.58805 AU | max. Earth dist. | | 14521 Aug 03 04:35 | 24°♊23'16 20.86935 AU |
| morning rise | 14515 Jul 13 18:44 | 0°♊ | | morning rise | | 14521 Aug 18 15:58 | 25°♊16'47 |
| retrograde | 14515 Jul 25 18:09 | 0°♊41'57 | | retrograde | | 14521 Nov 18 17:52 | 28°♊22'00 |
| opposition | 14515 Oct 25 11:23 | 3°♊49'40 | | opposition | | 14522 Feb 03 13:02 | 26°♊24'05 -0°29'29 |
| min. Earth dist. | 14516 Jan 09 17:11 | 1°♊51'08 | -0°55'30 | min. Earth dist. | | 14522 Feb 03 04:48 | 26°♊24'54 18.88832 AU |
| direct | 14516 Jan 09 11:11 | 1°♊51'45 | 18.61436 AU | direct | | 14522 Apr 21 12:03 | 24°♊25'45 |
| evening set | 14516 Mar 08 02:41 | 30°♋☾ | | evening set | | 14522 Jul 22 06:38 | 27°♊29'55 |
| conjunction | 14516 Mar 26 18:16 | 29°☾51'20 | | conjunction | | 14522 Aug 07 02:26 | 28°♊24'31 -0°24'25 |
| minimum elong | 14516 Apr 14 07:43 | 0°♊ | | minimum elong | | 14522 Aug 07 02:26 | 28°♊24'31 0°25'02 |
| max. Earth dist. | 14516 Jun 27 10:23 | 2°♊59'55 | | max. Earth dist. | | 14522 Aug 07 11:37 | 28°♊25'51 20.90616 AU |
| morning rise | 14516 Jul 13 07:04 | 3°♊55'26 | -0°48'21 | morning rise | | 14522 Aug 22 22:17 | 29°♊19'08 |
| retrograde | 14516 Jul 13 07:05 | 3°♊55'26 | 0°49'16 | retrograde | | 14522 Sep 04 07:13 | 0°♋ |
| max. Earth dist. | 14516 Jul 13 14:16 | 3°♊56'30 | 20.63996 AU | opposition | | 14522 Nov 23 02:50 | 2°♋24'07 |
| morning rise | 14516 Jul 29 02:53 | 4°♊50'53 | | min. Earth dist. | | 14523 Feb 07 22:54 | 0°♋26'17 -0°24'34 |
| retrograde | 14516 Oct 28 21:12 | 7°♊58'03 | | direct | | 14523 Feb 18 23:20 | 30°♋♊ |
| opposition | 14517 Jan 13 05:40 | 5°♊59'36 | -0°51'42 | evening set | | 14523 Apr 25 21:58 | 28°♊28'10 |
| min. Earth dist. | 14517 Jan 12 22:35 | 6°♊00'19 | 18.66539 AU | conjunction | | 14523 Jun 27 01:38 | 0°♋ |
| direct | 14517 Mar 31 07:53 | 4°♊00'03 | | minimum elong | | 14523 Jul 26 12:47 | 1°♋31'47 |
| evening set | 14517 Jul 01 19:08 | 7°♊07'45 | | max. Earth dist. | | 14523 Aug 11 08:26 | 2°♋26'16 -0°19'56 |
| conjunction | 14517 Jul 17 15:27 | 8°♊03'05 | -0°44'49 | minimum elong | | 14523 Aug 11 08:26 | 2°♋26'16 0°20'31 |
| minimum elong | 14517 Jul 17 15:27 | 8°♊03'05 | 0°45'41 | max. Earth dist. | | 14523 Aug 11 16:59 | 2°♋27'30 20.93861 AU |
| max. Earth dist. | 14517 Jul 17 22:24 | 8°♊04'06 | 20.69021 AU | morning rise | | 14523 Aug 27 04:28 | 3°♋20'49 |
| morning rise | 14517 Aug 02 11:16 | 8°♊58'21 | | retrograde | | 14523 Nov 27 09:50 | 6°♋25'36 |
| retrograde | 14517 Nov 02 07:10 | 12°♊05'02 | | opposition | | 14524 Feb 12 08:48 | 4°♋27'48 -0°19'33 |
| opposition | 14518 Jan 17 17:31 | 10°♊06'41 | -0°47'39 | min. Earth dist. | | 14524 Feb 12 00:43 | 4°♋28'37 18.95320 AU |
| min. Earth dist. | 14518 Jan 17 10:25 | 10°♊07'24 | 18.71488 AU | direct | | 14524 Apr 29 05:42 | 2°♋29'53 |
| direct | 14518 Apr 04 18:35 | 8°♊07'21 | | evening set | | 14524 Jul 29 18:26 | 5°♋32'58 |
| evening set | 14518 Jul 06 03:08 | 11°♊14'16 | | conjunction | | 14524 Aug 14 14:13 | 6°♋27'22 -0°15'22 |
| conjunction | 14518 Jul 21 23:24 | 12°♊09'26 | -0°41'04 | minimum elong | | 14524 Aug 14 14:14 | 6°♋27'22 0°15'52 |
| minimum elong | 14518 Jul 21 23:24 | 12°♊09'26 | 0°41'56 | behind sun begin | | 14524 Aug 14 12:57 | 6°♋27'11 |
| max. Earth dist. | 14518 Jul 22 07:33 | 12°♊10'37 | 20.73879 AU | behind sun end | | 14524 Aug 14 15:30 | 6°♋27'33 |
| morning rise | 14518 Aug 06 19:04 | 13°♊04'32 | | max. Earth dist. | | 14524 Aug 14 23:14 | 6°♋28'39 20.96641 AU |

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| morning rise | 14524 Aug 30 10:21 | 7° $\overline{10}$ 21'50 | direct | 14530 May 24 03:30 | 26° $\overline{10}$ 27'42 | |
| retrograde | 14524 Nov 30 18:44 | 10° $\overline{10}$ 26'29 | evening set | 14530 Aug 23 00:53 | 29° $\overline{10}$ 28'43 | |
| opposition | 14525 Feb 15 18:13 | 8° $\overline{10}$ 28'42 -0°14'26 | | 14530 Sep 01 05:48 | 0° $\overline{10}$ | |
| min. Earth dist. | 14525 Feb 15 09:29 | 8° $\overline{10}$ 29'34 18.97836 AU | | | | |
| direct | 14525 May 03 15:16 | 6° $\overline{10}$ 30'56 | conjunction | 14530 Sep 07 21:26 | 0° $\overline{10}$ 22'55 | 0°12'45 |
| evening set | 14525 Aug 03 00:08 | 9° $\overline{10}$ 33'32 | minimum elong | 14530 Sep 07 21:26 | 0° $\overline{10}$ 22'55 | 0°12'39 |
| | | | behind sun begin | 14530 Sep 07 17:13 | 0° $\overline{10}$ 22'19 | |
| conjunction | 14525 Aug 18 19:51 | 10° $\overline{10}$ 27'52 -0°10'44 | behind sun end | 14530 Sep 08 01:40 | 0° $\overline{10}$ 23'30 | |
| minimum elong | 14525 Aug 18 19:52 | 10° $\overline{10}$ 27'52 0°11'11 | max. Earth dist. | 14530 Sep 08 05:34 | 0° $\overline{10}$ 24'04 | 21.03057 AU |
| behind sun begin | 14525 Aug 18 14:58 | 10° $\overline{10}$ 27'10 | morning rise | 14530 Sep 23 19:09 | 1° $\overline{10}$ 17'18 | |
| behind sun end | 14525 Aug 19 00:46 | 10° $\overline{10}$ 28'33 | retrograde | 14530 Dec 25 13:54 | 4° $\overline{10}$ 21'55 | |
| max. Earth dist. | 14525 Aug 19 03:59 | 10° $\overline{10}$ 29'01 20.98893 AU | opposition | 14531 Mar 12 21:39 | 2° $\overline{10}$ 23'39 | 0°16'37 |
| morning rise | 14525 Sep 03 16:17 | 11° $\overline{10}$ 22'17 | min. Earth dist. | 14531 Mar 12 13:27 | 2° $\overline{10}$ 24'29 | 19.02946 AU |
| retrograde | 14525 Dec 05 01:11 | 14° $\overline{10}$ 26'48 | direct | 14531 May 28 11:10 | 0° $\overline{10}$ 26'12 | |
| opposition | 14526 Feb 20 03:22 | 12° $\overline{10}$ 28'59 -0°09'16 | evening set | 14531 Aug 27 05:45 | 3° $\overline{10}$ 27'05 | |
| min. Earth dist. | 14526 Feb 19 19:50 | 12° $\overline{10}$ 29'45 18.99831 AU | | | | |
| direct | 14526 May 07 22:02 | 10° $\overline{10}$ 31'19 | conjunction | 14531 Sep 12 02:25 | 4° $\overline{10}$ 21'18 | 0°17'20 |
| evening set | 14526 Aug 07 05:28 | 13° $\overline{10}$ 33'30 | minimum elong | 14531 Sep 12 02:25 | 4° $\overline{10}$ 21'18 | 0°17'18 |
| | | | max. Earth dist. | 14531 Sep 12 10:05 | 4° $\overline{10}$ 22'24 | 21.02739 AU |
| conjunction | 14526 Aug 23 01:25 | 14° $\overline{10}$ 27'46 -0°06'05 | morning rise | 14531 Sep 28 00:33 | 5° $\overline{10}$ 15'45 | |
| minimum elong | 14526 Aug 23 01:24 | 14° $\overline{10}$ 27'46 0°06'27 | retrograde | 14531 Dec 29 20:50 | 8° $\overline{10}$ 20'33 | |
| behind sun begin | 14526 Aug 22 19:12 | 14° $\overline{10}$ 26'54 | opposition | 14532 Mar 16 05:51 | 6° $\overline{10}$ 22'13 | 0°21'38 |
| behind sun end | 14526 Aug 23 07:36 | 14° $\overline{10}$ 28'38 | min. Earth dist. | 14532 Mar 15 22:38 | 6° $\overline{10}$ 22'56 | 19.02468 AU |
| max. Earth dist. | 14526 Aug 23 09:46 | 14° $\overline{10}$ 28'57 21.00629 AU | direct | 14532 May 31 15:59 | 4° $\overline{10}$ 24'48 | |
| morning rise | 14526 Sep 07 21:57 | 15° $\overline{10}$ 22'09 | evening set | 14532 Aug 30 10:30 | 7° $\overline{10}$ 25'38 | |
| retrograde | 14526 Dec 09 09:28 | 18° $\overline{10}$ 26'35 | | | | |
| opposition | 14527 Feb 24 12:14 | 16° $\overline{10}$ 28'43 -0°04'05 | conjunction | 14532 Sep 15 07:34 | 8° $\overline{10}$ 19'54 | 0°21'49 |
| min. Earth dist. | 14527 Feb 24 04:00 | 16° $\overline{10}$ 29'32 19.01300 AU | minimum elong | 14532 Sep 15 07:34 | 8° $\overline{10}$ 19'54 | 0°21'51 |
| direct | 14527 May 12 07:18 | 14° $\overline{10}$ 31'07 | max. Earth dist. | 14532 Sep 15 15:39 | 8° $\overline{10}$ 21'04 | 21.02091 AU |
| evening set | 14527 Aug 11 10:31 | 17° $\overline{10}$ 32'54 | morning rise | 14532 Oct 01 06:02 | 9° $\overline{10}$ 14'24 | |
| | | | retrograde | 14533 Jan 02 05:10 | 12° $\overline{10}$ 19'27 | |
| conjunction | 14527 Aug 27 06:28 | 18° $\overline{10}$ 27'08 -0°01'22 | opposition | 14533 Mar 20 13:50 | 10° $\overline{10}$ 21'03 | 0°26'34 |
| minimum elong | 14527 Aug 27 06:28 | 18° $\overline{10}$ 27'08 0°01'41 | min. Earth dist. | 14533 Mar 20 05:43 | 10° $\overline{10}$ 21'52 | 19.01635 AU |
| behind sun begin | 14527 Aug 26 23:53 | 18° $\overline{10}$ 26'12 | direct | 14533 Jun 04 23:20 | 8° $\overline{10}$ 23'40 | |
| behind sun end | 14527 Aug 27 13:03 | 18° $\overline{10}$ 28'03 | evening set | 14533 Sep 03 15:41 | 11° $\overline{10}$ 24'33 | |
| max. Earth dist. | 14527 Aug 27 14:10 | 18° $\overline{10}$ 28'13 21.01853 AU | | | | |
| morning rise | 14527 Sep 12 03:22 | 19° $\overline{10}$ 21'29 | conjunction | 14533 Sep 19 12:56 | 12° $\overline{10}$ 18'52 | 0°26'12 |
| asc. node | 14527 Dec 12 23:58 | 22° $\overline{10}$ 25'53 | minimum elong | 14533 Sep 19 12:56 | 12° $\overline{10}$ 18'52 | 0°26'20 |
| retrograde | 14527 Dec 13 15:53 | 22° $\overline{10}$ 25'53 | max. Earth dist. | 14533 Sep 19 20:25 | 12° $\overline{10}$ 19'56 | 21.01071 AU |
| opposition | 14528 Feb 28 21:03 | 20° $\overline{10}$ 27'55 0°01'08 | morning rise | 14533 Oct 05 11:50 | 13° $\overline{10}$ 13'26 | |
| min. Earth dist. | 14528 Feb 28 13:51 | 20° $\overline{10}$ 28'38 19.02301 AU | retrograde | 14534 Jan 06 12:21 | 16° $\overline{10}$ 18'48 | |
| direct | 14528 May 15 13:33 | 18° $\overline{10}$ 30'21 | opposition | 14534 Mar 24 21:58 | 14° $\overline{10}$ 20'20 | 0°31'22 |
| evening set | 14528 Aug 14 15:22 | 21° $\overline{10}$ 31'48 | min. Earth dist. | 14534 Mar 24 15:07 | 14° $\overline{10}$ 21'01 | 19.00436 AU |
| | | | direct | 14534 Jun 09 03:49 | 12° $\overline{10}$ 22'59 | |
| conjunction | 14528 Aug 30 11:35 | 22° $\overline{10}$ 26'00 0°03'28 | evening set | 14534 Sep 07 21:01 | 15° $\overline{10}$ 23'57 | |
| minimum elong | 14528 Aug 30 11:34 | 22° $\overline{10}$ 26'00 0°03'13 | | | | |
| behind sun begin | 14528 Aug 30 05:02 | 22° $\overline{10}$ 25'05 | conjunction | 14534 Sep 23 18:40 | 16° $\overline{10}$ 18'21 | 0°30'28 |
| behind sun end | 14528 Aug 30 18:07 | 22° $\overline{10}$ 26'55 | minimum elong | 14534 Sep 23 18:39 | 16° $\overline{10}$ 18'21 | 0°30'39 |
| max. Earth dist. | 14528 Aug 30 19:44 | 22° $\overline{10}$ 27'09 21.02641 AU | max. Earth dist. | 14534 Sep 24 02:22 | 16° $\overline{10}$ 19'27 | 20.99687 AU |
| morning rise | 14528 Sep 15 08:41 | 23° $\overline{10}$ 20'21 | morning rise | 14534 Oct 09 17:55 | 17° $\overline{10}$ 13'00 | |
| retrograde | 14528 Dec 16 23:39 | 26° $\overline{10}$ 24'45 | retrograde | 14535 Jan 10 21:46 | 20° $\overline{10}$ 18'43 | |
| opposition | 14529 Mar 04 05:18 | 24° $\overline{10}$ 26'41 0°06'20 | opposition | 14535 Mar 29 06:11 | 18° $\overline{10}$ 20'11 | 0°36'01 |
| min. Earth dist. | 14529 Mar 03 21:11 | 24° $\overline{10}$ 27'30 19.02882 AU | min. Earth dist. | 14535 Mar 28 22:35 | 18° $\overline{10}$ 20'56 | 18.98849 AU |
| direct | 14529 May 19 21:55 | 22° $\overline{10}$ 29'09 | direct | 14535 Jun 13 11:05 | 16° $\overline{10}$ 22'51 | |
| evening set | 14529 Aug 18 20:13 | 25° $\overline{10}$ 30'21 | evening set | 14535 Sep 12 02:39 | 19° $\overline{10}$ 23'58 | |
| | | | | | | |
| conjunction | 14529 Sep 03 16:30 | 26° $\overline{10}$ 24'32 0°08'08 | conjunction | 14535 Sep 28 00:32 | 20° $\overline{10}$ 18'27 | 0°34'36 |
| minimum elong | 14529 Sep 03 16:30 | 26° $\overline{10}$ 24'32 0°07'58 | minimum elong | 14535 Sep 28 00:32 | 20° $\overline{10}$ 18'27 | 0°34'51 |
| behind sun begin | 14529 Sep 03 10:36 | 26° $\overline{10}$ 23'43 | max. Earth dist. | 14535 Sep 28 07:33 | 20° $\overline{10}$ 19'28 | 20.97890 AU |
| behind sun end | 14529 Sep 03 22:24 | 26° $\overline{10}$ 25'22 | morning rise | 14535 Oct 14 00:17 | 21° $\overline{10}$ 13'13 | |
| max. Earth dist. | 14529 Sep 04 00:07 | 26° $\overline{10}$ 25'37 21.03025 AU | retrograde | 14536 Jan 15 05:41 | 24° $\overline{10}$ 19'20 | |
| morning rise | 14529 Sep 19 14:00 | 27° $\overline{10}$ 18'54 | opposition | 14536 Apr 01 14:45 | 22° $\overline{10}$ 20'43 | 0°40'31 |
| | 14529 Nov 20 09:38 | 0° $\overline{10}$ | min. Earth dist. | 14536 Apr 01 08:38 | 22° $\overline{10}$ 21'20 | 18.96846 AU |
| retrograde | 14529 Dec 21 06:15 | 0° $\overline{10}$ 23'23 | direct | 14536 Jun 16 16:08 | 20° $\overline{10}$ 23'24 | |
| | 14530 Jan 21 17:29 | 30° $\overline{10}$ | evening set | 14536 Sep 15 08:46 | 23° $\overline{10}$ 24'43 | |
| opposition | 14530 Mar 08 13:37 | 28° $\overline{10}$ 25'12 0°11'30 | | | | |
| min. Earth dist. | 14530 Mar 08 06:28 | 28° $\overline{10}$ 25'55 19.03092 AU | conjunction | 14536 Oct 01 07:06 | 24° $\overline{10}$ 19'19 | 0°38'35 |

| | | | | | | | |
|------------------|--------------------|--------------------|-------------|------------------|--------------------|--------------------|-------------|
| minimum elong | 14536 Oct 01 07:06 | 24° <u>♏</u> 19'19 | 0°38'54 | max. Earth dist. | 14542 Oct 26 10:22 | 18° <u>♏</u> 42'08 | 20.72505 AU |
| max. Earth dist. | 14536 Oct 01 13:58 | 24° <u>♏</u> 20'18 | 20.95665 AU | morning rise | 14542 Nov 11 10:53 | 19° <u>♏</u> 37'36 | |
| morning rise | 14536 Oct 17 07:15 | 25° <u>♏</u> 14'12 | | retrograde | 14543 Feb 13 08:07 | 22° <u>♏</u> 47'17 | |
| retrograde | 14537 Jan 18 16:01 | 28° <u>♏</u> 20'45 | | opposition | 14543 May 01 07:51 | 20° <u>♏</u> 47'17 | 1°05'44 |
| opposition | 14537 Apr 05 23:10 | 26° <u>♏</u> 22'02 | 0°44'50 | min. Earth dist. | 14543 May 01 04:49 | 20° <u>♏</u> 47'36 | 18.70011 AU |
| min. Earth dist. | 14537 Apr 05 16:39 | 26° <u>♏</u> 22'41 | 18.94384 AU | direct | 14543 Jul 15 21:16 | 18° <u>♏</u> 48'51 | |
| direct | 14537 Jun 20 23:22 | 24° <u>♏</u> 24'40 | | evening set | 14543 Oct 14 15:50 | 21° <u>♏</u> 52'59 | |
| evening set | 14537 Sep 19 15:24 | 27° <u>♏</u> 26'16 | | | | | |
| conjunction | 14537 Oct 05 14:02 | 28° <u>♏</u> 20'59 | 0°42'23 | conjunction | 14543 Oct 30 17:26 | 22° <u>♏</u> 48'43 | 1°00'26 |
| minimum elong | 14537 Oct 05 14:02 | 28° <u>♏</u> 20'59 | 0°42'46 | minimum elong | 14543 Oct 30 17:25 | 22° <u>♏</u> 48'43 | 1°01'12 |
| max. Earth dist. | 14537 Oct 05 19:48 | 28° <u>♏</u> 21'48 | 20.92949 AU | max. Earth dist. | 14543 Oct 30 19:42 | 22° <u>♏</u> 49'03 | 20.67417 AU |
| morning rise | 14537 Oct 21 14:42 | 29° <u>♏</u> 16'00 | | morning rise | 14543 Nov 15 21:16 | 23° <u>♏</u> 44'49 | |
| | 14537 Nov 04 00:47 | 0° <u>♏</u> | | retrograde | 14544 Feb 17 18:40 | 26° <u>♏</u> 55'08 | |
| retrograde | 14538 Jan 23 00:55 | 2° <u>♏</u> 23'01 | | opposition | 14544 May 04 18:22 | 24° <u>♏</u> 54'54 | 1°08'11 |
| opposition | 14538 Apr 10 08:07 | 0° <u>♏</u> 24'10 | 0°48'56 | min. Earth dist. | 14544 May 04 16:39 | 24° <u>♏</u> 55'04 | 18.64823 AU |
| min. Earth dist. | 14538 Apr 10 03:19 | 0° <u>♏</u> 24'39 | 18.91426 AU | direct | 14544 Jul 19 04:48 | 22° <u>♏</u> 56'15 | |
| | 14538 Apr 20 08:58 | 30° <u>♏</u> | | evening set | 14544 Oct 18 01:50 | 26° <u>♏</u> 01'00 | |
| direct | 14538 Jun 25 05:20 | 28° <u>♏</u> 26'43 | | conjunction | 14544 Nov 03 04:02 | 26° <u>♏</u> 56'58 | 1°02'29 |
| | 14538 Aug 26 12:32 | 0° <u>♏</u> | | minimum elong | 14544 Nov 03 04:02 | 26° <u>♏</u> 56'58 | 1°03'17 |
| evening set | 14538 Sep 23 22:16 | 1° <u>♏</u> 28'37 | | max. Earth dist. | 14544 Nov 03 05:53 | 26° <u>♏</u> 57'14 | 20.62139 AU |
| | | | | morning rise | 14544 Nov 19 08:27 | 27° <u>♏</u> 53'16 | |
| conjunction | 14538 Oct 09 21:24 | 2° <u>♏</u> 23'28 | 0°45'59 | | 14544 Dec 31 18:12 | 0° <u>♏</u> | |
| minimum elong | 14538 Oct 09 21:23 | 2° <u>♏</u> 23'28 | 0°46'27 | retrograde | 14545 Feb 21 08:59 | 1° <u>♏</u> 04'15 | |
| max. Earth dist. | 14538 Oct 10 02:43 | 2° <u>♏</u> 24'14 | 20.89741 AU | | 14545 Apr 15 12:34 | 30° <u>♏</u> | |
| morning rise | 14538 Oct 25 22:29 | 3° <u>♏</u> 18'37 | | opposition | 14545 May 09 04:57 | 29° <u>♏</u> 03'49 | 1°10'18 |
| retrograde | 14539 Jan 27 11:55 | 6° <u>♏</u> 26'07 | | min. Earth dist. | 14545 May 09 02:45 | 29° <u>♏</u> 04'02 | 18.59458 AU |
| opposition | 14539 Apr 14 17:12 | 4° <u>♏</u> 27'06 | 0°52'50 | direct | 14545 Jul 23 15:00 | 27° <u>♏</u> 04'56 | |
| min. Earth dist. | 14539 Apr 14 12:01 | 4° <u>♏</u> 27'37 | 18.87962 AU | | 14545 Oct 19 11:15 | 0° <u>♏</u> | |
| direct | 14539 Jun 29 13:11 | 2° <u>♏</u> 29'31 | | evening set | 14545 Oct 22 12:32 | 0° <u>♏</u> 10'24 | |
| evening set | 14539 Sep 28 05:44 | 5° <u>♏</u> 31'46 | | | | | |
| conjunction | 14539 Oct 14 05:15 | 6° <u>♏</u> 26'45 | 0°49'23 | conjunction | 14545 Nov 07 15:18 | 1° <u>♏</u> 06'36 | 1°04'13 |
| minimum elong | 14539 Oct 14 05:15 | 6° <u>♏</u> 26'45 | 0°49'54 | minimum elong | 14545 Nov 07 15:18 | 1° <u>♏</u> 06'36 | 1°05'04 |
| max. Earth dist. | 14539 Oct 14 09:29 | 6° <u>♏</u> 27'22 | 20.86028 AU | max. Earth dist. | 14545 Nov 07 16:45 | 1° <u>♏</u> 06'48 | 20.56685 AU |
| morning rise | 14539 Oct 30 06:54 | 7° <u>♏</u> 22'05 | | morning rise | 14545 Nov 23 20:15 | 2° <u>♏</u> 03'08 | |
| retrograde | 14540 Jan 31 21:22 | 10° <u>♏</u> 30'05 | | retrograde | 14546 Feb 25 20:59 | 5° <u>♏</u> 14'50 | |
| opposition | 14540 Apr 18 02:35 | 8° <u>♏</u> 30'50 | 0°56'28 | opposition | 14546 May 13 16:19 | 3° <u>♏</u> 14'12 | 1°12'03 |
| min. Earth dist. | 14540 Apr 17 23:05 | 8° <u>♏</u> 31'11 | 18.84023 AU | min. Earth dist. | 14546 May 13 15:20 | 3° <u>♏</u> 14'18 | 18.53935 AU |
| direct | 14540 Jul 02 20:00 | 6° <u>♏</u> 33'04 | | direct | 14546 Jul 27 22:58 | 1° <u>♏</u> 15'07 | |
| evening set | 14540 Oct 01 13:28 | 9° <u>♏</u> 35'42 | | evening set | 14546 Oct 26 23:47 | 4° <u>♏</u> 21'19 | |
| | | | | | | | |
| conjunction | 14540 Oct 17 13:34 | 10° <u>♏</u> 30'52 | 0°52'32 | conjunction | 14546 Nov 12 03:09 | 5° <u>♏</u> 17'46 | 1°05'36 |
| minimum elong | 14540 Oct 17 13:34 | 10° <u>♏</u> 30'52 | 0°53'08 | minimum elong | 14546 Nov 12 03:09 | 5° <u>♏</u> 17'46 | 1°06'29 |
| max. Earth dist. | 14540 Oct 17 17:23 | 10° <u>♏</u> 31'25 | 20.81881 AU | max. Earth dist. | 14546 Nov 12 04:06 | 5° <u>♏</u> 17'54 | 20.51106 AU |
| morning rise | 14540 Nov 02 15:45 | 11° <u>♏</u> 26'21 | | morning rise | 14546 Nov 28 08:45 | 6° <u>♏</u> 14'33 | |
| retrograde | 14541 Feb 04 09:18 | 14° <u>♏</u> 34'52 | | retrograde | 14547 Mar 02 12:33 | 9° <u>♏</u> 27'00 | |
| opposition | 14541 Apr 22 12:01 | 12° <u>♏</u> 35'23 | 0°59'51 | opposition | 14547 May 18 04:03 | 7° <u>♏</u> 26'11 | 1°13'26 |
| min. Earth dist. | 14541 Apr 22 08:06 | 12° <u>♏</u> 35'47 | 18.79671 AU | min. Earth dist. | 14547 May 18 02:39 | 7° <u>♏</u> 26'19 | 18.48292 AU |
| direct | 14541 Jul 07 04:37 | 10° <u>♏</u> 37'24 | | direct | 14547 Aug 01 10:23 | 5° <u>♏</u> 26'54 | |
| evening set | 14541 Oct 05 21:48 | 13° <u>♏</u> 40'29 | | evening set | 14547 Oct 31 11:59 | 8° <u>♏</u> 33'55 | |
| | | | | | | | |
| conjunction | 14541 Oct 21 22:19 | 14° <u>♏</u> 35'49 | 0°55'27 | conjunction | 14547 Nov 16 16:00 | 9° <u>♏</u> 30'37 | 1°06'39 |
| minimum elong | 14541 Oct 21 22:18 | 14° <u>♏</u> 35'49 | 0°56'06 | minimum elong | 14547 Nov 16 16:00 | 9° <u>♏</u> 30'37 | 1°07'35 |
| max. Earth dist. | 14541 Oct 22 01:20 | 14° <u>♏</u> 36'15 | 20.77339 AU | max. Earth dist. | 14547 Nov 16 16:41 | 9° <u>♏</u> 30'43 | 20.45394 AU |
| | 14541 Oct 28 21:07 | 15° <u>♏</u> | | morning rise | 14547 Dec 02 22:09 | 10° <u>♏</u> 27'40 | |
| morning rise | 14541 Nov 07 01:01 | 15° <u>♏</u> 31'30 | | retrograde | 14548 Mar 06 02:12 | 13° <u>♏</u> 40'52 | |
| retrograde | 14542 Feb 08 18:55 | 18° <u>♏</u> 40'34 | | opposition | 14548 May 21 16:19 | 11° <u>♏</u> 39'54 | 1°14'25 |
| opposition | 14542 Apr 26 21:49 | 16° <u>♏</u> 40'50 | 1°02'57 | min. Earth dist. | 14548 May 21 16:14 | 11° <u>♏</u> 39'55 | 18.42520 AU |
| min. Earth dist. | 14542 Apr 26 19:23 | 16° <u>♏</u> 41'04 | 18.74973 AU | direct | 14548 Aug 04 19:38 | 9° <u>♏</u> 40'26 | |
| | 14542 Jun 15 04:26 | 15° <u>♏</u> | | evening set | 14548 Nov 04 01:03 | 12° <u>♏</u> 48'19 | |
| direct | 14542 Jul 11 11:57 | 14° <u>♏</u> 42'38 | | | | | |
| | 14542 Aug 06 12:06 | 15° <u>♏</u> | | conjunction | 14548 Nov 20 05:42 | 13° <u>♏</u> 45'17 | 1°07'20 |
| evening set | 14542 Oct 10 06:33 | 17° <u>♏</u> 46'12 | | minimum elong | 14548 Nov 20 05:41 | 13° <u>♏</u> 45'17 | 1°08'18 |
| | | | | max. Earth dist. | 14548 Nov 20 05:27 | 13° <u>♏</u> 45'15 | 20.39568 AU |
| conjunction | 14542 Oct 26 07:38 | 18° <u>♏</u> 41'44 | 0°58'05 | morning rise | 14548 Dec 06 12:32 | 14° <u>♏</u> 42'36 | |
| minimum elong | 14542 Oct 26 07:37 | 18° <u>♏</u> 41'44 | 0°58'48 | retrograde | 14549 Mar 10 18:58 | 17° <u>♏</u> 56'36 | |
| | | | | opposition | 14549 May 26 05:07 | 15° <u>♏</u> 55'29 | 1°15'00 |

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|------------------|--------------------|---|-------------|------------------|--------------------|---|-------------|
| min. Earth dist. | 14549 May 26 04:58 | 15° $\mathring{\text{A}}$ 55'30 | 18.36623 AU | conjunction | 14555 Dec 22 06:16 | 14° $\mathring{\text{B}}$ 19'20 | 1°01'36 |
| direct | 14549 Aug 09 07:59 | 13° $\mathring{\text{A}}$ 55'49 | | minimum elong | 14555 Dec 22 06:16 | 14° $\mathring{\text{B}}$ 19'20 | 1°02'38 |
| evening set | 14549 Nov 08 14:58 | 17° $\mathring{\text{A}}$ 04'36 | | max. Earth dist. | 14555 Dec 22 00:57 | 14° $\mathring{\text{B}}$ 18'32 | 19.94927 AU |
| | | | | morning rise | 14556 Jan 07 16:58 | 15° $\mathring{\text{B}}$ 18'34 | |
| conjunction | 14549 Nov 24 20:15 | 18° $\mathring{\text{A}}$ 01'51 | 1°07'40 | retrograde | 14556 Apr 10 23:02 | 18° $\mathring{\text{B}}$ 37'46 | |
| minimum elong | 14549 Nov 24 20:15 | 18° $\mathring{\text{A}}$ 01'51 | 1°08'39 | opposition | 14556 Jun 25 15:22 | 16° $\mathring{\text{B}}$ 35'13 | 1°07'18 |
| max. Earth dist. | 14549 Nov 24 19:42 | 18° $\mathring{\text{A}}$ 01'46 | 20.33583 AU | min. Earth dist. | 14556 Jun 25 20:23 | 16° $\mathring{\text{B}}$ 34'41 | 17.91722 AU |
| morning rise | 14549 Dec 11 03:33 | 18° $\mathring{\text{A}}$ 59'25 | | direct | 14556 Sep 08 12:11 | 14° $\mathring{\text{B}}$ 33'19 | |
| retrograde | 14550 Mar 15 10:09 | 22° $\mathring{\text{A}}$ 14'14 | | evening set | 14556 Dec 09 16:54 | 17° $\mathring{\text{B}}$ 48'49 | |
| opposition | 14550 May 30 18:37 | 20° $\mathring{\text{A}}$ 12'58 | 1°15'11 | | | | |
| min. Earth dist. | 14550 May 30 19:50 | 20° $\mathring{\text{A}}$ 12'51 | 18.30559 AU | conjunction | 14556 Dec 26 02:41 | 18° $\mathring{\text{B}}$ 48'04 | 0°59'13 |
| direct | 14550 Aug 13 19:28 | 18° $\mathring{\text{A}}$ 13'05 | | minimum elong | 14556 Dec 26 02:42 | 18° $\mathring{\text{B}}$ 48'04 | 1°00'13 |
| evening set | 14550 Nov 13 05:53 | 21° $\mathring{\text{A}}$ 22'48 | | max. Earth dist. | 14556 Dec 25 19:48 | 18° $\mathring{\text{B}}$ 47'02 | 19.88536 AU |
| | | | | morning rise | 14557 Jan 11 14:03 | 19° $\mathring{\text{B}}$ 47'34 | |
| conjunction | 14550 Nov 29 11:45 | 22° $\mathring{\text{A}}$ 20'20 | 1°07'37 | retrograde | 14557 Apr 15 19:52 | 23° $\mathring{\text{B}}$ 07'27 | |
| minimum elong | 14550 Nov 29 11:45 | 22° $\mathring{\text{A}}$ 20'20 | 1°08'39 | opposition | 14557 Jun 30 08:48 | 21° $\mathring{\text{B}}$ 04'40 | 1°04'28 |
| max. Earth dist. | 14550 Nov 29 09:48 | 22° $\mathring{\text{A}}$ 20'02 | 20.27445 AU | min. Earth dist. | 14557 Jun 30 14:19 | 21° $\mathring{\text{B}}$ 04'04 | 17.85432 AU |
| morning rise | 14550 Dec 15 19:45 | 23° $\mathring{\text{A}}$ 18'11 | | direct | 14557 Sep 13 05:04 | 19° $\mathring{\text{B}}$ 02'23 | |
| retrograde | 14551 Mar 20 03:32 | 26° $\mathring{\text{A}}$ 33'47 | | evening set | 14557 Dec 14 13:21 | 22° $\mathring{\text{B}}$ 18'52 | |
| opposition | 14551 Jun 04 08:40 | 24° $\mathring{\text{A}}$ 32'21 | 1°14'57 | | | | |
| min. Earth dist. | 14551 Jun 04 10:09 | 24° $\mathring{\text{A}}$ 32'12 | 18.24333 AU | conjunction | 14557 Dec 30 23:53 | 23° $\mathring{\text{B}}$ 18'24 | 0°56'28 |
| direct | 14551 Aug 18 08:54 | 22° $\mathring{\text{A}}$ 32'12 | | minimum elong | 14557 Dec 30 23:54 | 23° $\mathring{\text{B}}$ 18'25 | 0°57'28 |
| evening set | 14551 Nov 17 21:37 | 25° $\mathring{\text{A}}$ 42'52 | | max. Earth dist. | 14557 Dec 30 17:50 | 23° $\mathring{\text{B}}$ 17'29 | 19.82352 AU |
| | | | | morning rise | 14558 Jan 16 11:31 | 24° $\mathring{\text{B}}$ 18'10 | |
| conjunction | 14551 Dec 04 04:15 | 26° $\mathring{\text{A}}$ 40'41 | 1°07'12 | retrograde | 14558 Apr 20 16:59 | 27° $\mathring{\text{B}}$ 38'40 | |
| minimum elong | 14551 Dec 04 04:15 | 26° $\mathring{\text{A}}$ 40'41 | 1°08'13 | opposition | 14558 Jul 05 02:49 | 25° $\mathring{\text{B}}$ 35'42 | 1°01'13 |
| max. Earth dist. | 14551 Dec 04 01:54 | 26° $\mathring{\text{A}}$ 40'20 | 20.21118 AU | min. Earth dist. | 14558 Jul 05 08:15 | 25° $\mathring{\text{B}}$ 35'07 | 17.79374 AU |
| morning rise | 14551 Dec 20 12:45 | 27° $\mathring{\text{A}}$ 38'49 | | direct | 14558 Sep 17 22:35 | 23° $\mathring{\text{B}}$ 33'05 | |
| | 14552 Feb 05 20:00 | 0° $\mathring{\text{B}}$ | | evening set | 14558 Dec 19 10:53 | 26° $\mathring{\text{B}}$ 50'32 | |
| retrograde | 14552 Mar 23 20:19 | 0° $\mathring{\text{B}}$ 55'11 | | | | | |
| | 14552 May 11 01:44 | 30° $\mathring{\text{R}}$ $\mathring{\text{A}}$ | | conjunction | 14559 Jan 04 21:50 | 27° $\mathring{\text{B}}$ 50'21 | 0°53'20 |
| opposition | 14552 Jun 07 23:24 | 28° $\mathring{\text{A}}$ 53'34 | 1°14'18 | minimum elong | 14559 Jan 04 21:50 | 27° $\mathring{\text{B}}$ 50'21 | 0°54'18 |
| min. Earth dist. | 14552 Jun 08 02:08 | 28° $\mathring{\text{A}}$ 53'17 | 18.17917 AU | max. Earth dist. | 14559 Jan 04 14:20 | 27° $\mathring{\text{B}}$ 49'12 | 19.76448 AU |
| direct | 14552 Aug 21 22:32 | 26° $\mathring{\text{A}}$ 53'06 | | morning rise | 14559 Jan 21 10:03 | 28° $\mathring{\text{B}}$ 50'22 | |
| | 14552 Nov 20 05:51 | 0° $\mathring{\text{B}}$ | | | 14559 Feb 10 20:12 | 0° $\mathring{\text{B}}$ | |
| evening set | 14552 Nov 21 14:19 | 0° $\mathring{\text{B}}$ 04'44 | | retrograde | 14559 Apr 25 14:40 | 2° $\mathring{\text{B}}$ 11'29 | |
| | | | | opposition | 14559 Jul 09 21:22 | 0° $\mathring{\text{B}}$ 08'20 | 0°57'33 |
| conjunction | 14552 Dec 07 21:32 | 1° $\mathring{\text{B}}$ 02'50 | 1°06'23 | min. Earth dist. | 14559 Jul 10 03:25 | 0° $\mathring{\text{B}}$ 07'41 | 17.73636 AU |
| minimum elong | 14552 Dec 07 21:32 | 1° $\mathring{\text{B}}$ 02'50 | 1°07'26 | | 14559 Jul 13 02:46 | 30° $\mathring{\text{R}}$ $\mathring{\text{B}}$ | |
| max. Earth dist. | 14552 Dec 07 17:25 | 1° $\mathring{\text{B}}$ 02'13 | 20.14638 AU | direct | 14559 Sep 22 16:17 | 28° $\mathring{\text{B}}$ 05'24 | |
| morning rise | 14552 Dec 24 06:43 | 2° $\mathring{\text{B}}$ 01'14 | | | 14559 Nov 29 11:07 | 0° $\mathring{\text{B}}$ | |
| retrograde | 14553 Mar 28 14:11 | 5° $\mathring{\text{B}}$ 18'21 | | evening set | 14559 Dec 24 09:04 | 1° $\mathring{\text{B}}$ 23'49 | |
| opposition | 14553 Jun 12 14:29 | 3° $\mathring{\text{B}}$ 16'30 | 1°13'12 | | | | |
| min. Earth dist. | 14553 Jun 12 17:42 | 3° $\mathring{\text{B}}$ 16'10 | 18.11377 AU | conjunction | 14560 Jan 09 20:45 | 2° $\mathring{\text{B}}$ 23'55 | 0°49'51 |
| direct | 14553 Aug 26 13:21 | 1° $\mathring{\text{B}}$ 15'42 | | minimum elong | 14560 Jan 09 20:45 | 2° $\mathring{\text{B}}$ 23'55 | 0°50'47 |
| evening set | 14553 Nov 26 07:45 | 4° $\mathring{\text{B}}$ 28'18 | | max. Earth dist. | 14560 Jan 09 14:08 | 2° $\mathring{\text{B}}$ 22'54 | 19.70877 AU |
| | | | | morning rise | 14560 Jan 26 09:12 | 3° $\mathring{\text{B}}$ 24'10 | |
| conjunction | 14553 Dec 12 15:44 | 5° $\mathring{\text{B}}$ 26'42 | 1°05'11 | retrograde | 14560 Apr 29 13:24 | 6° $\mathring{\text{B}}$ 45'52 | |
| minimum elong | 14553 Dec 12 15:44 | 5° $\mathring{\text{B}}$ 26'42 | 1°06'13 | opposition | 14560 Jul 13 16:31 | 4° $\mathring{\text{B}}$ 42'35 | 0°53'30 |
| max. Earth dist. | 14553 Dec 12 11:35 | 5° $\mathring{\text{B}}$ 26'04 | 20.08054 AU | min. Earth dist. | 14560 Jul 13 22:10 | 4° $\mathring{\text{B}}$ 41'58 | 17.68235 AU |
| morning rise | 14553 Dec 29 01:20 | 6° $\mathring{\text{B}}$ 25'22 | | direct | 14560 Sep 26 11:51 | 2° $\mathring{\text{B}}$ 39'23 | |
| retrograde | 14554 Apr 02 08:11 | 9° $\mathring{\text{B}}$ 43'12 | | evening set | 14560 Dec 28 08:13 | 5° $\mathring{\text{B}}$ 58'46 | |
| opposition | 14554 Jun 17 06:19 | 7° $\mathring{\text{B}}$ 41'08 | 1°11'40 | | | | |
| min. Earth dist. | 14554 Jun 17 10:22 | 7° $\mathring{\text{B}}$ 40'42 | 18.04770 AU | conjunction | 14561 Jan 13 20:11 | 6° $\mathring{\text{B}}$ 59'06 | 0°46'02 |
| direct | 14554 Aug 31 04:17 | 5° $\mathring{\text{B}}$ 39'58 | | minimum elong | 14561 Jan 13 20:12 | 6° $\mathring{\text{B}}$ 59'07 | 0°46'56 |
| evening set | 14554 Dec 01 01:54 | 8° $\mathring{\text{B}}$ 53'31 | | max. Earth dist. | 14561 Jan 13 12:17 | 6° $\mathring{\text{B}}$ 57'54 | 19.65668 AU |
| | | | | morning rise | 14561 Jan 30 09:05 | 7° $\mathring{\text{B}}$ 59'36 | |
| conjunction | 14554 Dec 17 10:26 | 9° $\mathring{\text{B}}$ 52'12 | 1°03'35 | retrograde | 14561 May 04 11:22 | 11° $\mathring{\text{B}}$ 21'52 | |
| minimum elong | 14554 Dec 17 10:26 | 9° $\mathring{\text{B}}$ 52'12 | 1°04'37 | opposition | 14561 Jul 18 12:18 | 9° $\mathring{\text{B}}$ 18'30 | 0°49'05 |
| max. Earth dist. | 14554 Dec 17 04:43 | 9° $\mathring{\text{B}}$ 51'20 | 20.01462 AU | min. Earth dist. | 14561 Jul 18 18:47 | 9° $\mathring{\text{B}}$ 17'48 | 17.63221 AU |
| morning rise | 14555 Jan 02 20:46 | 10° $\mathring{\text{B}}$ 51'09 | | direct | 14561 Oct 01 06:32 | 7° $\mathring{\text{B}}$ 15'03 | |
| retrograde | 14555 Apr 07 03:35 | 14° $\mathring{\text{B}}$ 09'42 | | evening set | 14562 Jan 02 07:59 | 10° $\mathring{\text{B}}$ 35'24 | |
| opposition | 14555 Jun 21 22:38 | 12° $\mathring{\text{B}}$ 07'22 | 1°09'42 | | | | |
| min. Earth dist. | 14555 Jun 22 03:09 | 12° $\mathring{\text{B}}$ 06'54 | 17.98201 AU | conjunction | 14562 Jan 18 20:33 | 11° $\mathring{\text{B}}$ 35'59 | 0°41'54 |
| direct | 14555 Sep 04 20:13 | 10° $\mathring{\text{B}}$ 05'50 | | minimum elong | 14562 Jan 18 20:34 | 11° $\mathring{\text{B}}$ 35'59 | 0°42'45 |
| evening set | 14555 Dec 05 20:56 | 13° $\mathring{\text{B}}$ 20'21 | | max. Earth dist. | 14562 Jan 18 13:31 | 11° $\mathring{\text{B}}$ 34'54 | 19.60850 AU |
| | | | | morning rise | 14562 Feb 04 09:35 | 12° $\mathring{\text{B}}$ 36'41 | |

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|------------------|--------------------|-----------|---------------|--------------------|--------------------|-----------|-------------|
| | 14562 Mar 22 14:10 | 15°♊ | morning rise | 14568 Mar 05 00:18 | 10°♋48'13 | | |
| retrograde | 14562 May 09 11:38 | 15°♊59'28 | retrograde | 14568 Jun 06 12:42 | 14°♋12'53 | | |
| | 14562 Jun 27 11:19 | 15°♋ | opposition | 14568 Aug 19 21:19 | 12°♋09'15 | 0°10'19 | |
| opposition | 14562 Jul 23 08:37 | 13°♊56'03 | 0°44'19 | min. Earth dist. | 14568 Aug 20 04:53 | 12°♋08'26 | 17.38121 AU |
| min. Earth dist. | 14562 Jul 23 14:33 | 13°♊55'25 | 17.58584 AU | direct | 14568 Nov 02 23:32 | 10°♋04'25 | |
| direct | 14562 Oct 06 04:00 | 11°♊52'26 | | evening set | 14569 Feb 05 00:40 | 13°♋29'58 | |
| | 14563 Jan 03 13:03 | 15°♊ | | | | | |
| evening set | 14563 Jan 07 08:38 | 15°♊13'41 | conjunction | 14569 Feb 21 14:29 | 14°♋31'38 | 0°06'28 | |
| | | | minimum elong | 14569 Feb 21 14:30 | 14°♋31'38 | 0°06'51 | |
| conjunction | 14563 Jan 23 21:28 | 16°♊14'30 | 0°37'29 | behind sun begin | 14569 Feb 21 08:14 | 14°♋30'41 | |
| minimum elong | 14563 Jan 23 21:28 | 16°♊14'30 | 0°38'17 | behind sun end | 14569 Feb 21 20:45 | 14°♋32'36 | |
| max. Earth dist. | 14563 Jan 23 13:15 | 16°♊13'14 | 19.56398 AU | max. Earth dist. | 14569 Feb 21 05:13 | 14°♋30'13 | 19.37060 AU |
| morning rise | 14563 Feb 09 10:50 | 17°♊15'24 | | morning rise | 14569 Mar 10 03:30 | 15°♋33'14 | |
| retrograde | 14563 May 14 10:13 | 20°♊38'41 | | retrograde | 14569 Jun 11 12:38 | 18°♋57'59 | |
| opposition | 14563 Jul 28 05:39 | 18°♊35'14 | 0°39'14 | opposition | 14569 Aug 24 20:42 | 16°♋54'19 | 0°04'06 |
| min. Earth dist. | 14563 Jul 28 12:48 | 18°♊34'27 | 17.54312 AU | min. Earth dist. | 14569 Aug 25 05:08 | 16°♋53'24 | 17.36134 AU |
| direct | 14563 Oct 11 00:04 | 16°♊31'24 | | direct | 14569 Nov 07 23:22 | 14°♋49'17 | |
| evening set | 14564 Jan 12 10:03 | 19°♊53'33 | | evening set | 14570 Feb 10 04:27 | 18°♋15'17 | |
| | | | | | | | |
| conjunction | 14564 Jan 28 23:19 | 20°♊54'34 | 0°32'47 | conjunction | 14570 Feb 26 18:05 | 19°♋17'00 | 0°00'52 |
| minimum elong | 14564 Jan 28 23:20 | 20°♊54'34 | 0°33'31 | minimum elong | 14570 Feb 26 18:06 | 19°♋17'00 | 0°01'10 |
| max. Earth dist. | 14564 Jan 28 15:26 | 20°♊53'21 | 19.52294 AU | behind sun begin | 14570 Feb 26 11:21 | 19°♋15'59 | |
| morning rise | 14564 Feb 14 12:44 | 21°♊55'38 | | behind sun end | 14570 Feb 27 00:50 | 19°♋18'02 | |
| retrograde | 14564 May 18 11:22 | 25°♊19'21 | | max. Earth dist. | 14570 Feb 26 08:21 | 19°♋15'30 | 19.35340 AU |
| opposition | 14564 Aug 01 02:59 | 23°♊15'52 | 0°33'53 | morning rise | 14570 Mar 15 06:57 | 20°♋18'38 | |
| min. Earth dist. | 14564 Aug 01 09:38 | 23°♊15'09 | 17.50364 AU | desc. node | 14570 Apr 25 08:51 | 22°♋31'20 | |
| direct | 14564 Oct 14 23:34 | 21°♊11'51 | | retrograde | 14570 Jun 16 14:15 | 23°♋43'22 | |
| evening set | 14565 Jan 16 12:13 | 24°♊34'50 | | opposition | 14570 Aug 29 20:04 | 21°♋39'41 | -0°02'10 |
| | | | | min. Earth dist. | 14570 Aug 30 03:31 | 21°♋38'52 | 17.34684 AU |
| conjunction | 14565 Feb 02 01:38 | 25°♊36'02 | 0°27'51 | direct | 14570 Nov 13 01:11 | 19°♋34'29 | |
| minimum elong | 14565 Feb 02 01:38 | 25°♊36'02 | 0°28'32 | evening set | 14571 Feb 15 08:16 | 23°♋00'50 | |
| max. Earth dist. | 14565 Feb 01 16:42 | 25°♊34'39 | 19.48505 AU | | | | |
| morning rise | 14565 Feb 18 15:08 | 26°♊37'15 | | conjunction | 14571 Mar 03 21:50 | 24°♋02'35 | -0°04'51 |
| | 14565 May 16 13:01 | 0°♋ | | minimum elong | 14571 Mar 03 21:51 | 24°♋02'36 | 0°04'38 |
| retrograde | 14565 May 23 10:14 | 0°♋01'19 | | behind sun begin | 14571 Mar 03 15:15 | 24°♋01'35 | |
| | 14565 May 30 08:32 | 30°♋ | | behind sun end | 14571 Mar 04 04:27 | 24°♋03'36 | |
| opposition | 14565 Aug 06 01:08 | 27°♊57'48 | 0°28'16 | max. Earth dist. | 14571 Mar 03 13:12 | 24°♋01'15 | 19.34160 AU |
| min. Earth dist. | 14565 Aug 06 09:04 | 27°♊56'56 | 17.46746 AU | morning rise | 14571 Mar 20 10:13 | 25°♋04'13 | |
| direct | 14565 Oct 19 21:07 | 25°♊53'34 | | retrograde | 14571 Jun 21 14:52 | 28°♋28'51 | |
| evening set | 14566 Jan 21 14:37 | 29°♊17'18 | | opposition | 14571 Sep 03 19:47 | 26°♋25'11 | -0°08'25 |
| | 14566 Feb 02 04:24 | 0°♋ | | min. Earth dist. | 14571 Sep 04 03:38 | 26°♋24'19 | 17.33794 AU |
| | | | | direct | 14571 Nov 18 01:27 | 24°♋19'52 | |
| conjunction | 14566 Feb 07 04:18 | 0°♋18'40 | 0°22'44 | evening set | 14572 Feb 20 12:15 | 27°♋46'29 | |
| minimum elong | 14566 Feb 07 04:18 | 0°♋18'40 | 0°23'20 | | | | |
| max. Earth dist. | 14566 Feb 06 19:23 | 0°♋17'17 | 19.45062 AU | conjunction | 14572 Mar 08 01:25 | 28°♋48'14 | -0°10'24 |
| morning rise | 14566 Feb 23 17:48 | 1°♋20'01 | | minimum elong | 14572 Mar 08 01:24 | 28°♋48'14 | 0°10'17 |
| retrograde | 14566 May 28 11:53 | 4°♋44'22 | | behind sun begin | 14572 Mar 07 20:06 | 28°♋47'26 | |
| opposition | 14566 Aug 10 23:32 | 2°♋40'48 | 0°22'27 | behind sun end | 14572 Mar 08 06:43 | 28°♋49'03 | |
| min. Earth dist. | 14566 Aug 11 06:44 | 2°♋40'01 | 17.43472 AU | max. Earth dist. | 14572 Mar 07 16:10 | 28°♋46'48 | 19.33573 AU |
| direct | 14566 Oct 24 22:33 | 0°♋36'22 | | morning rise | 14572 Mar 24 13:28 | 29°♋49'50 | |
| evening set | 14567 Jan 26 17:42 | 4°♋00'47 | | | 14572 Mar 27 08:15 | 0°♌ | |
| | | | | retrograde | 14572 Jun 25 15:45 | 3°♌14'20 | |
| conjunction | 14567 Feb 12 07:29 | 5°♋02'17 | 0°17'25 | opposition | 14572 Sep 07 19:26 | 1°♌10'41 | -0°14'36 |
| minimum elong | 14567 Feb 12 07:29 | 5°♋02'17 | 0°17'57 | min. Earth dist. | 14572 Sep 08 02:18 | 1°♌09'56 | 17.33522 AU |
| max. Earth dist. | 14567 Feb 11 22:09 | 5°♋00'50 | 19.41970 AU | | 14572 Oct 06 10:47 | 30°♌ | |
| morning rise | 14567 Feb 28 20:54 | 6°♋03'44 | | direct | 14572 Nov 22 03:07 | 29°♋05'17 | |
| retrograde | 14567 Jun 02 10:55 | 9°♋28'17 | | | 14573 Jan 06 18:11 | 0°♌ | |
| opposition | 14567 Aug 15 22:17 | 7°♋24'41 | 0°16'27 | evening set | 14573 Feb 24 16:02 | 2°♌32'07 | |
| min. Earth dist. | 14567 Aug 16 06:44 | 7°♋23'46 | 17.40581 AU | | | | |
| direct | 14567 Oct 29 21:24 | 5°♋20'03 | | conjunction | 14573 Mar 13 05:00 | 3°♌33'50 | -0°15'53 |
| evening set | 14568 Jan 31 21:06 | 8°♋45'04 | | minimum elong | 14573 Mar 13 04:59 | 3°♌33'50 | 0°15'50 |
| | | | | behind sun begin | 14573 Mar 13 04:28 | 3°♌33'45 | |
| conjunction | 14568 Feb 17 10:57 | 9°♋46'40 | 0°11'59 | behind sun end | 14573 Mar 13 05:30 | 3°♌33'55 | |
| minimum elong | 14568 Feb 17 10:57 | 9°♋46'40 | 0°12'28 | max. Earth dist. | 14573 Mar 12 21:24 | 3°♌32'39 | 19.33613 AU |
| behind sun begin | 14568 Feb 17 06:38 | 9°♋46'01 | | morning rise | 14573 Mar 29 16:22 | 4°♌35'22 | |
| behind sun end | 14568 Feb 17 15:16 | 9°♋47'19 | | retrograde | 14573 Jun 30 16:21 | 7°♌59'40 | |
| max. Earth dist. | 14568 Feb 17 01:15 | 9°♋45'10 | 19.39296 AU | opposition | 14573 Sep 12 19:22 | 5°♌56'06 | -0°20'41 |

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|------------------|--------------------|-------------------------|-------------|------------------|--------------------|--------------------|-------------|
| min. Earth dist. | 14573 Sep 13 02:02 | 5° Υ 55'22 | 17.33884 AU | conjunction | 14580 Apr 15 21:40 | 6° δ 42'51 | -0°49'10 |
| direct | 14573 Nov 27 04:09 | 3° Υ 50'42 | | minimum elong | 14580 Apr 15 21:40 | 6° δ 42'51 | 0°49'42 |
| evening set | 14574 Mar 01 19:44 | 7° Υ 17'37 | | max. Earth dist. | 14580 Apr 15 16:37 | 6° δ 42'04 | 19.49643 AU |
| | | | | morning rise | 14580 May 02 04:19 | 7° δ 43'18 | |
| conjunction | 14574 Mar 18 08:08 | 8° Υ 19'17 | -0°21'16 | retrograde | 14580 Aug 02 09:31 | 11° δ 04'40 | |
| minimum elong | 14574 Mar 18 08:08 | 8° Υ 19'17 | 0°21'19 | opposition | 14580 Oct 15 17:21 | 9° δ 02'23 | -0°56'53 |
| max. Earth dist. | 14574 Mar 18 00:02 | 8° Υ 18'01 | 19.34306 AU | min. Earth dist. | 14580 Oct 15 21:32 | 9° δ 01'56 | 17.51603 AU |
| morning rise | 14574 Apr 03 19:09 | 9° Υ 20'44 | | direct | 14580 Dec 30 17:47 | 6° δ 57'44 | |
| retrograde | 14574 Jul 05 16:05 | 12° Υ 44'48 | | evening set | 14581 Apr 04 14:02 | 10° δ 23'05 | |
| opposition | 14574 Sep 17 19:16 | 10° Υ 41'21 | -0°26'37 | | | | |
| min. Earth dist. | 14574 Sep 18 01:09 | 10° Υ 40'43 | 17.34899 AU | conjunction | 14581 Apr 20 22:07 | 11° δ 23'36 | -0°52'48 |
| direct | 14574 Dec 02 06:12 | 8° Υ 35'59 | | minimum elong | 14581 Apr 20 22:06 | 11° δ 23'36 | 0°53'23 |
| evening set | 14575 Mar 06 23:18 | 12° Υ 02'58 | | max. Earth dist. | 14581 Apr 20 17:46 | 11° δ 22'56 | 19.53600 AU |
| | | | | morning rise | 14581 May 07 03:58 | 12° δ 23'50 | |
| conjunction | 14575 Mar 23 11:25 | 13° Υ 04'32 | -0°26'30 | | 14581 Jun 27 16:45 | 15° δ | |
| minimum elong | 14575 Mar 23 11:25 | 13° Υ 04'32 | 0°26'37 | retrograde | 14581 Aug 07 08:17 | 15° δ 44'33 | |
| max. Earth dist. | 14575 Mar 23 05:01 | 13° Υ 03'32 | 19.35625 AU | | 14581 Sep 18 01:40 | 15° δ | |
| morning rise | 14575 Apr 08 21:40 | 14° Υ 05'52 | | opposition | 14581 Oct 20 16:09 | 13° δ 42'27 | -1°00'43 |
| retrograde | 14575 Jul 10 16:05 | 17° Υ 29'37 | | min. Earth dist. | 14581 Oct 20 19:03 | 13° δ 42'08 | 17.55716 AU |
| opposition | 14575 Sep 22 19:05 | 15° Υ 26'22 | -0°32'22 | direct | 14582 Jan 04 20:06 | 11° δ 37'56 | |
| min. Earth dist. | 14575 Sep 23 00:36 | 15° Υ 25'46 | 17.36506 AU | | 14582 Apr 08 20:34 | 15° δ | |
| direct | 14575 Dec 07 08:17 | 13° Υ 21'06 | | evening set | 14582 Apr 09 14:26 | 15° δ 02'42 | |
| evening set | 14576 Mar 11 02:52 | 16° Υ 48'02 | | | | | |
| | | | | conjunction | 14582 Apr 25 21:45 | 16° δ 02'59 | -0°56'04 |
| conjunction | 14576 Mar 27 14:16 | 17° Υ 49'30 | -0°31'32 | minimum elong | 14582 Apr 25 21:45 | 16° δ 02'59 | 0°56'44 |
| minimum elong | 14576 Mar 27 14:15 | 17° Υ 49'29 | 0°31'44 | max. Earth dist. | 14582 Apr 25 17:51 | 16° δ 02'23 | 19.57869 AU |
| max. Earth dist. | 14576 Mar 27 07:18 | 17° Υ 48'24 | 19.37517 AU | morning rise | 14582 May 12 02:49 | 17° δ 02'58 | |
| morning rise | 14576 Apr 12 23:59 | 18° Υ 50'42 | | retrograde | 14582 Aug 12 03:50 | 20° δ 22'59 | |
| retrograde | 14576 Jul 14 15:04 | 22° Υ 14'06 | | opposition | 14582 Oct 25 14:42 | 18° δ 21'04 | -1°04'09 |
| opposition | 14576 Sep 26 19:02 | 20° Υ 11'02 | -0°37'52 | min. Earth dist. | 14582 Oct 25 18:07 | 18° δ 20'42 | 17.60147 AU |
| min. Earth dist. | 14576 Sep 27 00:17 | 20° Υ 10'28 | 17.38672 AU | direct | 14583 Jan 09 19:15 | 16° δ 16'42 | |
| direct | 14576 Dec 11 10:28 | 18° Υ 05'52 | | evening set | 14583 Apr 14 14:06 | 19° δ 40'49 | |
| evening set | 14577 Mar 16 05:50 | 21° Υ 32'41 | | | | | |
| | | | | conjunction | 14583 Apr 30 20:39 | 20° δ 40'50 | -0°58'57 |
| conjunction | 14577 Apr 01 16:46 | 22° Υ 33'59 | -0°36'21 | minimum elong | 14583 Apr 30 20:38 | 20° δ 40'50 | 0°59'40 |
| minimum elong | 14577 Apr 01 16:45 | 22° Υ 33'59 | 0°36'39 | max. Earth dist. | 14583 Apr 30 17:08 | 20° δ 40'18 | 19.62458 AU |
| max. Earth dist. | 14577 Apr 01 11:18 | 22° Υ 33'08 | 19.39924 AU | morning rise | 14583 May 17 00:58 | 21° δ 40'34 | |
| morning rise | 14577 Apr 18 01:39 | 23° Υ 35'02 | | retrograde | 14583 Aug 17 01:36 | 24° δ 59'51 | |
| retrograde | 14577 Jul 19 14:47 | 26° Υ 58'02 | | opposition | 14583 Oct 30 12:35 | 22° δ 58'06 | -1°07'08 |
| opposition | 14577 Oct 01 18:53 | 24° Υ 55'10 | -0°43'07 | min. Earth dist. | 14583 Oct 30 14:29 | 22° δ 57'54 | 17.64886 AU |
| min. Earth dist. | 14577 Oct 01 23:27 | 24° Υ 54'40 | 17.41306 AU | direct | 14584 Jan 14 20:50 | 20° δ 53'54 | |
| direct | 14577 Dec 16 13:18 | 22° Υ 50'08 | | evening set | 14584 Apr 18 12:54 | 24° δ 17'16 | |
| evening set | 14578 Mar 21 08:44 | 26° Υ 16'43 | | | | | |
| | | | | conjunction | 14584 May 04 18:41 | 25° δ 17'02 | -1°01'27 |
| conjunction | 14578 Apr 06 18:53 | 27° Υ 17'51 | -0°40'55 | minimum elong | 14584 May 04 18:41 | 25° δ 17'02 | 1°02'14 |
| minimum elong | 14578 Apr 06 18:52 | 27° Υ 17'51 | 0°41'17 | max. Earth dist. | 14584 May 04 16:17 | 25° δ 16'40 | 19.67354 AU |
| max. Earth dist. | 14578 Apr 06 12:56 | 27° Υ 16'56 | 19.42776 AU | morning rise | 14584 May 20 22:09 | 26° δ 16'30 | |
| morning rise | 14578 Apr 23 03:08 | 28° Υ 18'43 | | retrograde | 14584 Aug 20 19:38 | 29° δ 35'02 | |
| | 14578 May 23 02:29 | 0° δ | | opposition | 14584 Nov 03 10:14 | 27° δ 33'27 | -1°09'40 |
| retrograde | 14578 Jul 24 12:58 | 1° δ 41'14 | | min. Earth dist. | 14584 Nov 03 12:25 | 27° δ 33'13 | 17.69955 AU |
| | 14578 Sep 28 11:26 | 30° κ Υ | | direct | 14585 Jan 18 18:43 | 25° δ 29'25 | |
| opposition | 14578 Oct 06 18:33 | 29° Υ 38'34 | -0°48'03 | evening set | 14585 Apr 23 10:38 | 28° δ 52'00 | |
| min. Earth dist. | 14578 Oct 06 23:18 | 29° Υ 38'03 | 17.44377 AU | | | | |
| direct | 14578 Dec 21 14:41 | 27° Υ 33'39 | | conjunction | 14585 May 09 15:36 | 29° δ 51'30 | -1°03'32 |
| | 14579 Mar 09 10:23 | 0° δ | | minimum elong | 14585 May 09 15:35 | 29° δ 51'30 | 1°04'22 |
| evening set | 14579 Mar 26 11:04 | 0° δ 59'55 | | max. Earth dist. | 14585 May 09 13:34 | 29° δ 51'11 | 19.72595 AU |
| | | | | | 14585 May 11 22:42 | 0° Π | |
| conjunction | 14579 Apr 11 20:40 | 2° δ 00'52 | -0°45'12 | morning rise | 14585 May 25 18:25 | 0° Π 50'41 | |
| minimum elong | 14579 Apr 11 20:39 | 2° δ 00'52 | 0°45'39 | retrograde | 14585 Aug 25 16:02 | 4° Π 08'27 | |
| max. Earth dist. | 14579 Apr 11 15:43 | 2° δ 00'06 | 19.46036 AU | opposition | 14585 Nov 08 07:10 | 2° Π 07'03 | -1°11'45 |
| morning rise | 14579 Apr 28 04:05 | 3° δ 01'32 | | min. Earth dist. | 14585 Nov 08 07:32 | 2° Π 07'00 | 17.75365 AU |
| retrograde | 14579 Jul 29 12:25 | 6° δ 23'30 | | direct | 14586 Jan 23 19:08 | 0° Π 03'14 | |
| opposition | 14579 Oct 11 18:02 | 4° δ 21'02 | -0°52'39 | evening set | 14586 Apr 28 07:37 | 3° Π 24'59 | |
| min. Earth dist. | 14579 Oct 11 21:49 | 4° δ 20'38 | 17.47813 AU | | | | |
| direct | 14579 Dec 26 17:23 | 2° δ 16'15 | | conjunction | 14586 May 14 11:54 | 4° Π 24'12 | -1°05'12 |
| evening set | 14580 Mar 30 12:55 | 5° δ 42'06 | | minimum elong | 14586 May 14 11:54 | 4° Π 24'12 | 1°06'05 |
| | | | | max. Earth dist. | 14586 May 14 11:31 | 4° Π 24'09 | 19.78170 AU |

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| morning rise | 14586 May 30 13:52 | 5° Π 23'06 | direct | 14593 Feb 24 17:49 | 1° \mathcal{E} 14'16 |
| retrograde | 14586 Aug 30 08:47 | 8° Π 40'06 | evening set | 14593 May 29 10:32 | 4° \mathcal{E} 29'35 |
| opposition | 14586 Nov 13 03:36 | 6° Π 38'55 -1°13'22 | | | |
| min. Earth dist. | 14586 Nov 13 04:07 | 6° Π 38'52 17.81116 AU | conjunction | 14593 Jun 14 09:59 | 5° \mathcal{E} 26'47 -1°05'27 |
| direct | 14587 Jan 28 15:49 | 4° Π 35'21 | minimum elong | 14593 Jun 14 09:59 | 5° \mathcal{E} 26'47 1°06'29 |
| evening set | 14587 May 03 03:50 | 7° Π 56'16 | max. Earth dist. | 14593 Jun 14 13:33 | 5° \mathcal{E} 27'19 20.23200 AU |
| | | | morning rise | 14593 Jun 30 07:55 | 6° \mathcal{E} 23'46 |
| conjunction | 14587 May 19 07:15 | 8° Π 55'12 -1°06'27 | retrograde | 14593 Sep 29 22:44 | 9° \mathcal{E} 35'30 |
| minimum elong | 14587 May 19 07:15 | 8° Π 55'12 1°07'23 | opposition | 14593 Dec 14 11:49 | 7° \mathcal{E} 36'08 -1°11'57 |
| max. Earth dist. | 14587 May 19 06:57 | 8° Π 55'09 19.84092 AU | min. Earth dist. | 14593 Dec 14 07:25 | 7° \mathcal{E} 36'36 18.26460 AU |
| morning rise | 14587 Jun 04 08:38 | 9° Π 53'49 | direct | 14594 Mar 01 11:23 | 5° \mathcal{E} 34'52 |
| retrograde | 14587 Sep 04 03:44 | 13° Π 10'03 | evening set | 14594 Jun 03 00:43 | 8° \mathcal{E} 49'11 |
| opposition | 14587 Nov 17 23:29 | 11° Π 09'06 -1°14'30 | | | |
| min. Earth dist. | 14587 Nov 17 22:09 | 11° Π 09'15 17.87191 AU | conjunction | 14594 Jun 18 23:48 | 9° \mathcal{E} 46'08 -1°03'57 |
| direct | 14588 Feb 02 15:08 | 9° Π 05'51 | minimum elong | 14594 Jun 18 23:48 | 9° \mathcal{E} 46'08 1°05'00 |
| evening set | 14588 May 06 22:56 | 12° Π 25'53 | max. Earth dist. | 14594 Jun 19 04:44 | 9° \mathcal{E} 46'52 20.29627 AU |
| | | | morning rise | 14594 Jul 04 21:08 | 10° \mathcal{E} 42'52 |
| conjunction | 14588 May 23 01:44 | 13° Π 24'32 -1°07'18 | retrograde | 14594 Oct 04 11:26 | 13° \mathcal{E} 53'50 |
| minimum elong | 14588 May 23 01:44 | 13° Π 24'32 1°08'14 | opposition | 14594 Dec 19 03:50 | 11° \mathcal{E} 54'41 -1°10'04 |
| max. Earth dist. | 14588 May 23 03:21 | 13° Π 24'47 19.90304 AU | min. Earth dist. | 14594 Dec 18 23:29 | 11° \mathcal{E} 55'07 18.32792 AU |
| morning rise | 14588 Jun 08 02:16 | 14° Π 22'52 | direct | 14595 Mar 06 04:04 | 9° \mathcal{E} 53'41 |
| retrograde | 14588 Sep 07 19:17 | 17° Π 38'21 | evening set | 14595 Jun 07 14:13 | 13° \mathcal{E} 07'00 |
| opposition | 14588 Nov 21 19:00 | 15° Π 37'41 -1°15'11 | | | |
| min. Earth dist. | 14588 Nov 21 17:44 | 15° Π 37'49 17.93526 AU | conjunction | 14595 Jun 23 12:38 | 14° \mathcal{E} 03'41 -1°02'06 |
| direct | 14589 Feb 06 11:14 | 13° Π 34'46 | minimum elong | 14595 Jun 23 12:38 | 14° \mathcal{E} 03'41 1°03'07 |
| evening set | 14589 May 11 17:22 | 16° Π 53'55 | max. Earth dist. | 14595 Jun 23 16:43 | 14° \mathcal{E} 04'17 20.35871 AU |
| | | | morning rise | 14595 Jul 09 09:45 | 15° \mathcal{E} 00'09 |
| conjunction | 14589 May 27 19:20 | 17° Π 52'15 -1°07'43 | retrograde | 14595 Oct 09 00:30 | 18° \mathcal{E} 10'24 |
| minimum elong | 14589 May 27 19:19 | 17° Π 52'15 1°08'42 | opposition | 14595 Dec 23 19:20 | 16° \mathcal{E} 11'24 -1°07'49 |
| max. Earth dist. | 14589 May 27 20:47 | 17° Π 52'29 19.96752 AU | min. Earth dist. | 14595 Dec 23 14:28 | 16° \mathcal{E} 11'54 18.38941 AU |
| morning rise | 14589 Jun 12 19:24 | 18° Π 50'19 | direct | 14596 Mar 09 20:11 | 14° \mathcal{E} 10'39 |
| retrograde | 14589 Sep 12 12:32 | 22° Π 05'02 | evening set | 14596 Jun 11 02:31 | 17° \mathcal{E} 22'57 |
| opposition | 14589 Nov 26 13:41 | 20° Π 04'40 -1°15'24 | | | |
| min. Earth dist. | 14589 Nov 26 10:57 | 20° Π 04'57 18.00059 AU | conjunction | 14596 Jun 27 00:40 | 18° \mathcal{E} 19'23 -0°59'56 |
| direct | 14590 Feb 11 08:43 | 18° Π 02'05 | minimum elong | 14596 Jun 27 00:40 | 18° \mathcal{E} 19'23 1°00'57 |
| evening set | 14590 May 16 10:51 | 21° Π 20'19 | max. Earth dist. | 14596 Jun 27 06:10 | 18° \mathcal{E} 20'12 20.41915 AU |
| | | | morning rise | 14596 Jul 12 21:19 | 19° \mathcal{E} 15'37 |
| conjunction | 14590 Jun 01 12:18 | 22° Π 18'23 -1°07'44 | retrograde | 14596 Oct 12 12:06 | 22° \mathcal{E} 25'09 |
| minimum elong | 14590 Jun 01 12:18 | 22° Π 18'23 1°08'45 | opposition | 14596 Dec 27 10:11 | 20° \mathcal{E} 26'16 -1°05'12 |
| max. Earth dist. | 14590 Jun 01 15:30 | 22° Π 18'52 20.03342 AU | min. Earth dist. | 14596 Dec 27 05:05 | 20° \mathcal{E} 26'48 18.44870 AU |
| morning rise | 14590 Jun 17 11:38 | 23° Π 16'10 | direct | 14597 Mar 14 11:32 | 18° \mathcal{E} 25'45 |
| retrograde | 14590 Sep 17 03:17 | 26° Π 30'08 | evening set | 14597 Jun 15 14:13 | 21° \mathcal{E} 37'03 |
| opposition | 14590 Dec 01 08:06 | 24° Π 30'02 -1°15'11 | | | |
| min. Earth dist. | 14590 Dec 01 05:32 | 24° Π 30'18 18.06684 AU | conjunction | 14597 Jul 01 11:48 | 22° \mathcal{E} 33'13 -0°57'26 |
| direct | 14591 Feb 16 04:11 | 22° Π 27'49 | minimum elong | 14597 Jul 01 11:49 | 22° \mathcal{E} 33'13 0°58'25 |
| evening set | 14591 May 21 03:39 | 25° Π 45'06 | max. Earth dist. | 14597 Jul 01 16:39 | 22° \mathcal{E} 33'56 20.47751 AU |
| | | | morning rise | 14597 Jul 17 08:22 | 23° \mathcal{E} 29'14 |
| conjunction | 14591 Jun 06 04:17 | 26° Π 42'52 -1°07'21 | retrograde | 14597 Oct 16 23:33 | 26° \mathcal{E} 38'05 |
| minimum elong | 14591 Jun 06 04:17 | 26° Π 42'52 1°08'23 | opposition | 14598 Jan 01 00:12 | 24° \mathcal{E} 39'18 -1°02'14 |
| max. Earth dist. | 14591 Jun 06 06:58 | 26° Π 43'16 20.09992 AU | min. Earth dist. | 14597 Dec 31 18:46 | 24° \mathcal{E} 39'51 18.50619 AU |
| morning rise | 14591 Jun 22 03:11 | 27° Π 40'23 | direct | 14598 Mar 19 02:00 | 22° \mathcal{E} 38'58 |
| | 14591 Aug 07 07:10 | 0° \mathcal{E} | evening set | 14598 Jun 20 00:57 | 25° \mathcal{E} 49'18 |
| retrograde | 14591 Sep 21 18:39 | 0° \mathcal{E} 53'36 | | | |
| | 14591 Nov 07 22:31 | 30° \mathcal{R} Π | conjunction | 14598 Jul 05 22:21 | 26° \mathcal{E} 45'14 -0°54'38 |
| opposition | 14591 Dec 06 01:51 | 28° Π 53'47 -1°14'31 | minimum elong | 14598 Jul 05 22:21 | 26° \mathcal{E} 45'15 0°55'36 |
| min. Earth dist. | 14591 Dec 05 22:08 | 28° Π 54'10 18.13342 AU | max. Earth dist. | 14598 Jul 06 04:40 | 26° \mathcal{E} 46'11 20.53409 AU |
| direct | 14592 Feb 20 23:42 | 26° Π 51'53 | morning rise | 14598 Jul 21 18:31 | 27° \mathcal{E} 41'03 |
| | 14592 May 22 11:31 | 0° \mathcal{E} | | 14598 Sep 07 05:38 | 0° \mathcal{J} |
| evening set | 14592 May 24 19:29 | 0° \mathcal{E} 08'12 | retrograde | 14598 Oct 21 10:14 | 0° \mathcal{J} 49'14 |
| | | | | 14598 Dec 06 05:01 | 30° \mathcal{R} \mathcal{E} |
| conjunction | 14592 Jun 09 19:39 | 1° \mathcal{E} 05'41 -1°06'36 | opposition | 14599 Jan 05 13:45 | 28° \mathcal{E} 50'32 -0°58'58 |
| minimum elong | 14592 Jun 09 19:39 | 1° \mathcal{E} 05'41 1°07'38 | min. Earth dist. | 14599 Jan 05 07:42 | 28° \mathcal{E} 51'09 18.56187 AU |
| max. Earth dist. | 14592 Jun 09 23:57 | 1° \mathcal{E} 06'20 20.16633 AU | direct | 14599 Mar 23 16:17 | 26° \mathcal{E} 50'26 |
| morning rise | 14592 Jun 25 17:52 | 2° \mathcal{E} 02'56 | evening set | 14599 Jun 24 10:58 | 29° \mathcal{E} 59'49 |
| retrograde | 14592 Sep 25 08:37 | 5° \mathcal{E} 15'23 | | 14599 Jun 24 12:14 | 0° \mathcal{J} |
| opposition | 14592 Dec 09 19:11 | 3° \mathcal{E} 15'49 -1°13'27 | | | |
| min. Earth dist. | 14592 Dec 09 15:33 | 3° \mathcal{E} 16'12 18.19951 AU | conjunction | 14599 Jul 10 07:50 | 0° \mathcal{J} 55'32 -0°51'34 |

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| minimum elong | 14599 Jul 10 07:50 | 0° Ω 55'32 0°52'31 |
| max. Earth dist. | 14599 Jul 10 13:48 | 0° Ω 56'25 20.58905 AU |
| morning rise | 14599 Jul 26 03:57 | 1° Ω 51'09 |
| retrograde | 14599 Oct 25 20:22 | 4° Ω 58'45 |
| opposition | 14600 Jan 10 02:47 | 3° Ω 00'09 -0°55'24 |
| min. Earth dist. | 14600 Jan 09 20:18 | 3° Ω 00'49 18.61621 AU |
| direct | 14600 Mar 28 04:40 | 1° Ω 00'17 |
| evening set | 14600 Jun 28 20:10 | 4° Ω 08'47 |

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| conjunction | 14600 Jul 14 16:55 | 5° Ω 04'18 -0°48'15 |
| minimum elong | 14600 Jul 14 16:55 | 5° Ω 04'18 0°49'09 |
| max. Earth dist. | 14600 Jul 15 00:25 | 5° Ω 05'24 20.64268 AU |
| morning rise | 14600 Jul 30 12:45 | 5° Ω 59'43 |
| retrograde | 14600 Oct 30 06:36 | 9° Ω 06'47 |
| opposition | 14601 Jan 14 15:08 | 7° Ω 08'19 -0°51'34 |
| min. Earth dist. | 14601 Jan 14 07:50 | 7° Ω 09'03 18.66899 AU |
| direct | 14601 Apr 01 17:42 | 5° Ω 08'43 |
| evening set | 14601 Jul 03 04:50 | 8° Ω 16'22 |

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| conjunction | 14601 Jul 19 01:13 | 9° Ω 11'42 -0°44'42 |
| minimum elong | 14601 Jul 19 01:13 | 9° Ω 11'42 0°45'34 |
| max. Earth dist. | 14601 Jul 19 08:20 | 9° Ω 12'44 20.69464 AU |
| morning rise | 14601 Aug 03 21:07 | 10° Ω 06'57 |
| retrograde | 14601 Nov 03 15:52 | 13° Ω 13'33 |