

opposition	13600 Feb 01 20:54	22° Ω 38'16	-0°22'35	evening set	13605 Aug 08 04:14	13° η 45'39	
min. Earth dist.	13600 Feb 01 11:37	22° Ω 39'12	18.92875 AU				
direct	13600 Apr 18 15:17	20° Ω 40'27		conjunction	13605 Aug 24 00:35	14° η 39'57	0°04'32
evening set	13600 Jul 19 01:37	23° Ω 43'41		minimum elong	13605 Aug 24 00:34	14° η 39'57	0°04'08
				behind sun begin	13605 Aug 23 18:05	14° η 39'02	
conjunction	13600 Aug 03 20:54	24° Ω 38'09	-0°18'12	behind sun end	13605 Aug 24 07:04	14° η 40'51	
minimum elong	13600 Aug 03 20:54	24° Ω 38'09	0°18'53	max. Earth dist.	13605 Aug 24 10:38	14° η 41'23	20.99862 AU
max. Earth dist.	13600 Aug 04 05:50	24° Ω 39'26	20.94062 AU	morning rise	13605 Sep 08 22:06	15° η 34'27	
morning rise	13600 Aug 19 17:00	25° Ω 32'43		retrograde	13605 Dec 10 19:48	18° η 39'37	
retrograde	13600 Nov 20 04:10	28° Ω 38'01		opposition	13606 Feb 26 03:46	16° η 41'18	0°07'26
opposition	13601 Feb 05 06:49	26° Ω 40'08	-0°17'42	min. Earth dist.	13606 Feb 25 18:25	16° η 42'15	18.99945 AU
min. Earth dist.	13601 Feb 04 21:40	26° Ω 41'02	18.95134 AU	direct	13606 May 13 14:20	14° η 43'52	
direct	13601 Apr 22 22:57	24° Ω 42'25		evening set	13606 Aug 12 09:20	17° η 45'04	
evening set	13601 Jul 23 07:19	27° Ω 45'11					
				conjunction	13606 Aug 28 05:45	18° η 39'22	0°09'03
conjunction	13601 Aug 08 02:54	28° Ω 39'35	-0°13'45	minimum elong	13606 Aug 28 05:45	18° η 39'22	0°08'44
minimum elong	13601 Aug 08 02:54	28° Ω 39'35	0°14'23	behind sun begin	13606 Aug 28 00:02	18° η 38'34	
behind sun begin	13601 Aug 07 23:48	28° Ω 39'09		behind sun end	13606 Aug 28 11:27	18° η 40'10	
behind sun end	13601 Aug 08 06:00	28° Ω 40'01		max. Earth dist.	13606 Aug 28 14:45	18° η 40'39	20.99935 AU
max. Earth dist.	13601 Aug 08 12:46	28° Ω 41'00	20.96065 AU	morning rise	13606 Sep 13 03:49	19° η 33'54	
morning rise	13601 Aug 23 23:06	29° Ω 34'06		retrograde	13606 Dec 15 04:45	22° η 39'13	
	13601 Aug 31 17:45	0° η		opposition	13607 Mar 02 12:20	20° η 40'49	0°12'25
retrograde	13601 Nov 24 12:03	2° η 39'16		min. Earth dist.	13607 Mar 02 03:13	20° η 41'44	18.99858 AU
opposition	13602 Feb 09 16:12	0° η 41'20	-0°12'44	direct	13607 May 17 20:24	18° η 43'25	
min. Earth dist.	13602 Feb 09 07:13	0° η 42'14	18.96884 AU	evening set	13607 Aug 16 14:24	21° η 44'31	
	13602 Feb 27 06:10	30° κ Ω					
direct	13602 Apr 27 08:17	28° Ω 43'43		conjunction	13607 Sep 01 11:18	22° η 38'52	0°13'31
	13602 Jun 22 14:14	0° η		minimum elong	13607 Sep 01 11:18	22° η 38'51	0°13'16
evening set	13602 Jul 27 12:55	1° η 46'02		behind sun begin	13607 Sep 01 07:25	22° η 38'19	
				behind sun end	13607 Sep 01 15:10	22° η 39'24	
conjunction	13602 Aug 12 08:28	2° η 40'23	-0°09'15	max. Earth dist.	13607 Sep 01 21:24	22° η 40'18	20.99676 AU
minimum elong	13602 Aug 12 08:28	2° η 40'23	0°09'50	morning rise	13607 Sep 17 09:38	23° η 33'26	
behind sun begin	13602 Aug 12 03:04	2° η 39'38		retrograde	13607 Dec 19 12:13	26° η 38'56	
behind sun end	13602 Aug 12 13:51	2° η 41'08		opposition	13608 Mar 05 20:48	24° η 40'29	0°17'22
max. Earth dist.	13602 Aug 12 17:10	2° η 41'37	20.97594 AU	min. Earth dist.	13608 Mar 05 11:21	24° η 41'25	18.99420 AU
morning rise	13602 Aug 28 05:08	3° η 34'53		direct	13608 May 21 03:44	22° η 43'08	
retrograde	13602 Nov 28 20:26	6° η 39'58		evening set	13608 Aug 19 19:44	25° η 44'10	
opposition	13603 Feb 14 01:31	4° η 41'56	-0°07'43				
min. Earth dist.	13603 Feb 13 16:38	4° η 42'50	18.98204 AU	conjunction	13608 Sep 04 16:49	26° η 38'33	0°17'56
direct	13603 May 01 15:05	2° η 44'21		minimum elong	13608 Sep 04 16:49	26° η 38'33	0°17'46
evening set	13603 Jul 31 18:00	5° η 46'18		max. Earth dist.	13608 Sep 05 01:44	26° η 39'49	20.99064 AU
				morning rise	13608 Sep 20 15:47	27° η 33'12	
conjunction	13603 Aug 16 13:53	6° η 40'37	-0°04'44		13608 Nov 12 17:43	0° Ω	
minimum elong	13603 Aug 16 13:53	6° η 40'37	0°05'15	retrograde	13608 Dec 22 21:13	0° Ω 38'57	
behind sun begin	13603 Aug 16 07:30	6° η 39'43			13609 Feb 01 23:19	30° κ η	
behind sun end	13603 Aug 16 20:15	6° η 41'30		opposition	13609 Mar 10 05:20	28° η 40'25	0°22'13
max. Earth dist.	13603 Aug 16 23:49	6° η 42'02	20.98706 AU	min. Earth dist.	13609 Mar 09 20:29	28° η 41'18	18.98626 AU
morning rise	13603 Sep 01 10:41	7° η 35'06		direct	13609 May 25 09:48	26° η 43'05	
retrograde	13603 Dec 03 03:56	10° η 40'09		evening set	13609 Aug 24 01:14	29° η 44'09	
opposition	13604 Feb 18 10:31	8° η 42'02	-0°02'40		13609 Aug 28 17:26	0° Ω	
min. Earth dist.	13604 Feb 18 01:23	8° η 42'57	18.99124 AU				
direct	13604 May 05 00:01	6° η 44'30		conjunction	13609 Sep 08 22:49	0° Ω 38'37	0°22'17
evening set	13604 Aug 03 23:13	9° η 46'07		minimum elong	13609 Sep 08 22:49	0° Ω 38'37	0°22'11
				max. Earth dist.	13609 Sep 09 08:36	0° Ω 40'01	20.98070 AU
conjunction	13604 Aug 19 19:08	10° η 40'25	-0°00'07	morning rise	13609 Sep 24 22:04	1° Ω 33'20	
minimum elong	13604 Aug 19 19:08	10° η 40'25	0°00'34	retrograde	13609 Dec 27 05:33	4° Ω 39'22	
behind sun begin	13604 Aug 19 12:35	10° η 39'30		opposition	13610 Mar 14 13:46	2° Ω 40'45	0°26'59
behind sun end	13604 Aug 20 01:42	10° η 41'20		min. Earth dist.	13610 Mar 14 04:48	2° Ω 41'39	18.97425 AU
max. Earth dist.	13604 Aug 20 04:04	10° η 41'41	20.99453 AU	direct	13610 May 29 16:55	0° Ω 43'28	
asc. node	13604 Aug 28 09:58	11° η 10'09		evening set	13610 Aug 28 07:12	3° Ω 44'37	
morning rise	13604 Sep 04 16:28	11° η 34'54					
retrograde	13604 Dec 06 12:31	14° η 40'00		conjunction	13610 Sep 13 04:59	4° Ω 39'08	0°26'31
opposition	13605 Feb 21 19:12	12° η 41'46	0°02'23	minimum elong	13610 Sep 13 04:58	4° Ω 39'08	0°26'29
min. Earth dist.	13605 Feb 21 10:12	12° η 42'40	18.99709 AU	max. Earth dist.	13610 Sep 13 13:21	4° Ω 40'20	20.96666 AU
direct	13605 May 09 06:16	10° η 44'16		morning rise	13610 Sep 29 04:51	5° Ω 33'58	

retrograde	13610 Dec 31 14:28	8° <u>♂</u> 40'20		evening set	13617 Sep 25 10:31	2° <u>♂</u> 05'55	
opposition	13611 Mar 18 22:33	6° <u>♂</u> 41'38	0°31'37				
min. Earth dist.	13611 Mar 18 14:31	6° <u>♂</u> 42'27	18.95811 AU	conjunction	13617 Oct 11 11:51	3° <u>♂</u> 01'24	0°51'46
direct	13611 Jun 02 23:04	4° <u>♂</u> 44'21		minimum elong	13617 Oct 11 11:50	3° <u>♂</u> 01'24	0°52'15
evening set	13611 Sep 01 13:14	7° <u>♂</u> 45'38		max. Earth dist.	13617 Oct 11 16:58	3° <u>♂</u> 02'09	20.74047 AU
				morning rise	13617 Oct 27 15:21	3° <u>♂</u> 57'15	
conjunction	13611 Sep 17 11:35	8° <u>♂</u> 40'16	0°30'38	retrograde	13618 Jan 29 12:59	7° <u>♂</u> 06'49	
minimum elong	13611 Sep 17 11:35	8° <u>♂</u> 40'15	0°30'42	opposition	13618 Apr 16 15:20	5° <u>♂</u> 06'48	0°58'55
max. Earth dist.	13611 Sep 17 20:36	8° <u>♂</u> 41'33	20.94817 AU	min. Earth dist.	13618 Apr 16 10:38	5° <u>♂</u> 07'17	18.71769 AU
morning rise	13611 Oct 03 11:48	9° <u>♂</u> 35'11		direct	13618 Jul 01 04:59	3° <u>♂</u> 08'29	
retrograde	13612 Jan 05 00:12	12° <u>♂</u> 41'56		evening set	13618 Sep 29 19:42	6° <u>♂</u> 12'12	
opposition	13612 Mar 22 07:22	10° <u>♂</u> 43'08	0°36'07				
min. Earth dist.	13612 Mar 21 23:23	10° <u>♂</u> 43'56	18.93720 AU	conjunction	13618 Oct 15 21:25	7° <u>♂</u> 07'53	0°54'30
direct	13612 Jun 06 06:39	8° <u>♂</u> 45'49		minimum elong	13618 Oct 15 21:25	7° <u>♂</u> 07'53	0°55'03
evening set	13612 Sep 04 19:59	11° <u>♂</u> 47'17		max. Earth dist.	13618 Oct 16 01:06	7° <u>♂</u> 08'25	20.69405 AU
				morning rise	13618 Nov 01 01:39	8° <u>♂</u> 03'56	
conjunction	13612 Sep 20 18:37	12° <u>♂</u> 42'02	0°34'37	retrograde	13619 Feb 03 00:03	11° <u>♂</u> 14'06	
minimum elong	13612 Sep 20 18:36	12° <u>♂</u> 42'01	0°34'44	opposition	13619 Apr 21 01:31	9° <u>♂</u> 13'51	1°01'49
max. Earth dist.	13612 Sep 21 01:49	12° <u>♂</u> 43'04	20.92480 AU	min. Earth dist.	13619 Apr 20 22:01	9° <u>♂</u> 14'13	18.67035 AU
morning rise	13612 Oct 06 19:30	13° <u>♂</u> 37'05		direct	13619 Jul 05 12:11	7° <u>♂</u> 15'20	
retrograde	13613 Jan 08 09:08	16° <u>♂</u> 44'14		evening set	13619 Oct 04 05:13	10° <u>♂</u> 19'38	
opposition	13613 Mar 26 16:17	14° <u>♂</u> 45'17	0°40'27				
min. Earth dist.	13613 Mar 26 09:37	14° <u>♂</u> 45'57	18.91138 AU	conjunction	13619 Oct 20 07:43	11° <u>♂</u> 15'32	0°56'58
direct	13613 Jun 10 12:54	12° <u>♂</u> 47'52		minimum elong	13619 Oct 20 07:42	11° <u>♂</u> 15'32	0°57'34
evening set	13613 Sep 09 02:56	15° <u>♂</u> 49'36		max. Earth dist.	13619 Oct 20 11:59	11° <u>♂</u> 16'10	20.64576 AU
				morning rise	13619 Nov 05 12:25	12° <u>♂</u> 11'47	
conjunction	13613 Sep 25 02:12	16° <u>♂</u> 44'28	0°38'27		13620 Jan 08 10:07	15° <u>♂</u>	
minimum elong	13613 Sep 25 02:11	16° <u>♂</u> 44'28	0°38'39	retrograde	13620 Feb 07 12:46	15° <u>♂</u> 22'35	
max. Earth dist.	13613 Sep 25 09:40	16° <u>♂</u> 45'32	20.89640 AU		13620 Mar 09 02:33	15° <u>♂</u>	
morning rise	13613 Oct 11 03:26	17° <u>♂</u> 39'39		opposition	13620 Apr 24 11:54	13° <u>♂</u> 22'09	1°04'24
retrograde	13614 Jan 12 19:32	20° <u>♂</u> 47'13		min. Earth dist.	13620 Apr 24 07:54	13° <u>♂</u> 22'33	18.62113 AU
opposition	13614 Mar 31 01:22	18° <u>♂</u> 48'06	0°44'36	direct	13620 Jul 08 21:59	11° <u>♂</u> 23'26	
min. Earth dist.	13614 Mar 30 18:44	18° <u>♂</u> 48'46	18.88043 AU	evening set	13620 Oct 07 15:42	14° <u>♂</u> 28'23	
direct	13614 Jun 14 21:18	16° <u>♂</u> 50'34			13620 Oct 16 19:00	15° <u>♂</u>	
evening set	13614 Sep 13 10:15	19° <u>♂</u> 52'34					
				conjunction	13620 Oct 23 18:38	15° <u>♂</u> 24'29	0°59'08
conjunction	13614 Sep 29 09:49	20° <u>♂</u> 47'34	0°42'05	minimum elong	13620 Oct 23 18:38	15° <u>♂</u> 24'29	0°59'49
minimum elong	13614 Sep 29 09:49	20° <u>♂</u> 47'34	0°42'21	max. Earth dist.	13620 Oct 23 21:27	15° <u>♂</u> 24'54	20.59570 AU
max. Earth dist.	13614 Sep 29 15:32	20° <u>♂</u> 48'23	20.86311 AU	morning rise	13620 Nov 09 00:04	16° <u>♂</u> 20'58	
morning rise	13614 Oct 15 11:46	21° <u>♂</u> 42'54		retrograde	13621 Feb 11 00:53	19° <u>♂</u> 32'24	
retrograde	13615 Jan 17 04:50	24° <u>♂</u> 50'56		opposition	13621 Apr 28 22:40	17° <u>♂</u> 31'48	1°06'40
opposition	13615 Apr 04 10:44	22° <u>♂</u> 51'35	0°48'32	min. Earth dist.	13621 Apr 28 20:04	17° <u>♂</u> 32'04	18.57039 AU
min. Earth dist.	13615 Apr 04 05:24	22° <u>♂</u> 52'08	18.84498 AU	direct	13621 Jul 13 05:23	15° <u>♂</u> 32'53	
direct	13615 Jun 19 03:56	20° <u>♂</u> 53'52		evening set	13621 Oct 12 02:39	18° <u>♂</u> 38'32	
evening set	13615 Sep 17 17:52	23° <u>♂</u> 56'13					
				conjunction	13621 Oct 28 06:22	19° <u>♂</u> 34'53	1°01'01
conjunction	13615 Oct 03 18:08	24° <u>♂</u> 51'22	0°45'32	minimum elong	13621 Oct 28 06:22	19° <u>♂</u> 34'52	1°01'44
minimum elong	13615 Oct 03 18:07	24° <u>♂</u> 51'22	0°45'53	max. Earth dist.	13621 Oct 28 09:36	19° <u>♂</u> 35'21	20.54425 AU
max. Earth dist.	13615 Oct 04 00:18	24° <u>♂</u> 52'16	20.82560 AU	morning rise	13621 Nov 13 12:16	20° <u>♂</u> 31'35	
morning rise	13615 Oct 19 20:30	25° <u>♂</u> 46'52		retrograde	13622 Feb 15 15:33	23° <u>♂</u> 43'41	
retrograde	13616 Jan 21 15:35	28° <u>♂</u> 55'22		opposition	13622 May 03 09:52	21° <u>♂</u> 42'56	1°08'36
opposition	13616 Apr 07 20:00	26° <u>♂</u> 55'48	0°52'15	min. Earth dist.	13622 May 03 06:47	21° <u>♂</u> 43'15	18.51819 AU
min. Earth dist.	13616 Apr 07 14:29	26° <u>♂</u> 56'21	18.80557 AU	direct	13622 Jul 17 16:08	19° <u>♂</u> 43'50	
direct	13616 Jun 22 12:50	24° <u>♂</u> 57'54		evening set	13622 Oct 16 14:25	22° <u>♂</u> 50'14	
evening set	13616 Sep 21 02:02	28° <u>♂</u> 00'38					
				conjunction	13622 Nov 01 18:37	23° <u>♂</u> 46'49	1°02'34
conjunction	13616 Oct 07 02:41	28° <u>♂</u> 55'57	0°48'46	minimum elong	13622 Nov 01 18:37	23° <u>♂</u> 46'49	1°03'21
minimum elong	13616 Oct 07 02:40	28° <u>♂</u> 55'57	0°49'11	max. Earth dist.	13622 Nov 01 20:31	23° <u>♂</u> 47'06	20.49136 AU
max. Earth dist.	13616 Oct 07 07:14	28° <u>♂</u> 56'36	20.78450 AU	morning rise	13622 Nov 18 01:15	24° <u>♂</u> 43'46	
morning rise	13616 Oct 23 05:47	29° <u>♂</u> 51'37		retrograde	13623 Feb 20 05:00	27° <u>♂</u> 56'36	
	13616 Oct 25 17:24	0° <u>♂</u>		opposition	13623 May 07 21:45	25° <u>♂</u> 55'42	1°10'10
retrograde	13617 Jan 25 01:38	3° <u>♂</u> 00'38		min. Earth dist.	13623 May 07 20:13	25° <u>♂</u> 55'51	18.46464 AU
opposition	13617 Apr 12 05:38	1° <u>♂</u> 00'49	0°55'43	direct	13623 Jul 22 00:28	23° <u>♂</u> 56'24	
min. Earth dist.	13617 Apr 12 01:22	1° <u>♂</u> 01'15	18.76299 AU	evening set	13623 Oct 21 03:01	27° <u>♂</u> 03'36	
	13617 May 08 07:33	30° <u>♂</u>					
direct	13617 Jun 26 19:47	29° <u>♂</u> 02'43		conjunction	13623 Nov 06 08:00	28° <u>♂</u> 00'27	1°03'48
	13617 Aug 13 15:29	0° <u>♂</u>		minimum elong	13623 Nov 06 08:00	28° <u>♂</u> 00'27	1°04'38

max. Earth dist.	13623 Nov 06 10:02	28° \mathbb{M} 00'45	20.43709 AU	min. Earth dist.	13630 Jun 07 01:55	26° \mathbb{A} 11'15	18.04493 AU
morning rise	13623 Nov 22 15:09	28° \mathbb{M} 57'39		direct	13630 Aug 20 19:32	24° \mathbb{A} 10'15	
	13623 Dec 11 11:57	0° \mathbb{A}		evening set	13630 Nov 20 18:57	27° \mathbb{A} 23'41	
retrograde	13624 Feb 24 21:32	2° \mathbb{A} 11'11					
opposition	13624 May 11 09:50	0° \mathbb{A} 10'09	1°11'22	conjunction	13630 Dec 07 04:29	28° \mathbb{A} 22'26	1°02'26
min. Earth dist.	13624 May 11 08:06	0° \mathbb{A} 10'20	18.40951 AU	minimum elong	13630 Dec 07 04:29	28° \mathbb{A} 22'26	1°03'29
	13624 May 15 11:25	30° \mathbb{R} \mathbb{M}		max. Earth dist.	13630 Dec 06 23:49	28° \mathbb{A} 21'44	20.01366 AU
direct	13624 Jul 25 12:12	28° \mathbb{M} 10'39		morning rise	13630 Dec 23 15:35	29° \mathbb{A} 21'27	
	13624 Sep 30 11:16	0° \mathbb{A}			13631 Jan 03 20:06	0° \mathbb{B}	
evening set	13624 Oct 24 16:40	1° \mathbb{A} 18'42		retrograde	13631 Mar 27 21:43	2° \mathbb{B} 39'44	
				opposition	13631 Jun 11 14:51	0° \mathbb{B} 37'15	1°08'35
conjunction	13624 Nov 09 22:11	2° \mathbb{A} 15'48	1°04'42	min. Earth dist.	13631 Jun 11 19:22	0° \mathbb{B} 36'47	17.98312 AU
minimum elong	13624 Nov 09 22:10	2° \mathbb{A} 15'48	1°05'34		13631 Jun 26 10:23	30° \mathbb{R} \mathbb{A}	
max. Earth dist.	13624 Nov 09 22:34	2° \mathbb{A} 15'52	20.38102 AU	direct	13631 Aug 25 10:43	28° \mathbb{A} 35'34	
morning rise	13624 Nov 26 06:00	3° \mathbb{A} 13'16			13631 Oct 22 04:32	0° \mathbb{B}	
retrograde	13625 Feb 28 12:30	6° \mathbb{A} 27'31		evening set	13631 Nov 25 14:07	1° \mathbb{B} 49'57	
opposition	13625 May 15 22:46	4° \mathbb{A} 26'20	1°12'11				
min. Earth dist.	13625 May 15 22:54	4° \mathbb{A} 26'19	18.35255 AU	conjunction	13631 Dec 12 00:16	2° \mathbb{B} 48'59	1°00'43
direct	13625 Jul 29 22:18	2° \mathbb{A} 26'37		minimum elong	13631 Dec 12 00:17	2° \mathbb{B} 48'59	1°01'46
evening set	13625 Oct 29 06:57	5° \mathbb{A} 35'32		max. Earth dist.	13631 Dec 11 18:51	2° \mathbb{B} 48'10	19.95264 AU
				morning rise	13631 Dec 28 11:56	3° \mathbb{B} 48'15	
conjunction	13625 Nov 14 13:13	6° \mathbb{A} 32'54	1°05'14	retrograde	13632 Mar 31 17:32	7° \mathbb{B} 07'09	
minimum elong	13625 Nov 14 13:13	6° \mathbb{A} 32'54	1°06'10	opposition	13632 Jun 15 07:08	5° \mathbb{B} 04'29	1°06'30
max. Earth dist.	13625 Nov 14 13:15	6° \mathbb{A} 32'54	20.32306 AU	min. Earth dist.	13632 Jun 15 11:20	5° \mathbb{B} 04'02	17.92294 AU
morning rise	13625 Nov 30 21:31	7° \mathbb{A} 30'37		direct	13632 Aug 29 03:42	3° \mathbb{B} 02'26	
retrograde	13626 Mar 05 05:55	10° \mathbb{A} 45'35		evening set	13632 Nov 29 10:05	6° \mathbb{B} 17'49	
opposition	13626 May 20 12:07	8° \mathbb{A} 44'14	1°12'37				
min. Earth dist.	13626 May 20 12:05	8° \mathbb{A} 44'14	18.29354 AU	conjunction	13632 Dec 15 20:51	7° \mathbb{B} 17'07	0°58'38
direct	13626 Aug 03 11:27	6° \mathbb{A} 44'15		minimum elong	13632 Dec 15 20:51	7° \mathbb{B} 17'07	0°59'42
evening set	13626 Nov 02 22:17	9° \mathbb{A} 54'02		max. Earth dist.	13632 Dec 15 15:14	7° \mathbb{B} 16'16	19.89336 AU
				morning rise	13633 Jan 01 08:51	8° \mathbb{B} 16'38	
conjunction	13626 Nov 19 05:07	10° \mathbb{A} 51'40	1°05'26	retrograde	13633 Apr 05 12:41	11° \mathbb{B} 36'08	
minimum elong	13626 Nov 19 05:07	10° \mathbb{A} 51'40	1°06'22	opposition	13633 Jun 20 00:16	9° \mathbb{B} 33'19	1°03'59
max. Earth dist.	13626 Nov 19 03:32	10° \mathbb{A} 51'26	20.26305 AU	min. Earth dist.	13633 Jun 20 05:33	9° \mathbb{B} 32'45	17.86484 AU
morning rise	13626 Dec 05 14:03	11° \mathbb{A} 49'39		direct	13633 Sep 02 19:59	7° \mathbb{B} 30'58	
retrograde	13627 Mar 09 22:06	15° \mathbb{A} 05'19		evening set	13633 Dec 04 06:41	10° \mathbb{B} 47'18	
opposition	13627 May 25 02:08	13° \mathbb{A} 03'45	1°12'39				
min. Earth dist.	13627 May 25 04:01	13° \mathbb{A} 03'33	18.23270 AU	conjunction	13633 Dec 20 17:56	11° \mathbb{B} 46'52	0°56'11
direct	13627 Aug 07 23:24	11° \mathbb{A} 03'27		minimum elong	13633 Dec 20 17:56	11° \mathbb{B} 46'52	0°57'14
evening set	13627 Nov 07 14:14	14° \mathbb{A} 14'08		max. Earth dist.	13633 Dec 20 11:27	11° \mathbb{B} 45'53	19.83666 AU
				morning rise	13634 Jan 06 06:26	12° \mathbb{B} 46'38	
conjunction	13627 Nov 23 21:52	15° \mathbb{A} 12'03	1°05'15	retrograde	13634 Apr 10 09:43	16° \mathbb{B} 06'45	
minimum elong	13627 Nov 23 21:52	15° \mathbb{A} 12'03	1°06'14	opposition	13634 Jun 24 17:52	14° \mathbb{B} 03'47	1°01'05
max. Earth dist.	13627 Nov 23 19:41	15° \mathbb{A} 11'44	20.20152 AU	min. Earth dist.	13634 Jun 24 22:46	14° \mathbb{B} 03'16	17.80954 AU
morning rise	13627 Dec 10 07:23	16° \mathbb{A} 10'18		direct	13634 Sep 07 14:28	12° \mathbb{B} 01'09	
retrograde	13628 Mar 13 16:13	19° \mathbb{A} 26'38		evening set	13634 Dec 09 04:11	15° \mathbb{B} 18'28	
opposition	13628 May 28 16:30	17° \mathbb{A} 24'50	1°12'16				
min. Earth dist.	13628 May 28 18:13	17° \mathbb{A} 24'40	18.17048 AU	conjunction	13634 Dec 25 16:04	16° \mathbb{B} 18'19	0°53'22
direct	13628 Aug 11 14:04	15° \mathbb{A} 24'13		minimum elong	13634 Dec 25 16:04	16° \mathbb{B} 18'19	0°54'24
evening set	13628 Nov 11 07:09	18° \mathbb{A} 35'47		max. Earth dist.	13634 Dec 25 09:51	16° \mathbb{B} 17'22	19.78281 AU
				morning rise	13635 Jan 11 04:48	17° \mathbb{B} 18'19	
conjunction	13628 Nov 27 15:21	19° \mathbb{A} 33'59	1°04'41	retrograde	13635 Apr 15 06:07	20° \mathbb{B} 38'59	
minimum elong	13628 Nov 27 15:21	19° \mathbb{A} 33'59	1°05'42	opposition	13635 Jun 29 12:04	18° \mathbb{B} 35'58	0°57'46
max. Earth dist.	13628 Nov 27 11:55	19° \mathbb{A} 33'28	20.13881 AU	min. Earth dist.	13635 Jun 29 17:50	18° \mathbb{B} 35'20	17.75727 AU
morning rise	13628 Dec 14 01:25	20° \mathbb{A} 32'29		direct	13635 Sep 12 07:59	16° \mathbb{B} 33'05	
retrograde	13629 Mar 18 08:57	23° \mathbb{A} 49'28		evening set	13635 Dec 14 02:34	19° \mathbb{B} 51'23	
opposition	13629 Jun 02 07:26	21° \mathbb{A} 47'27	1°11'28				
min. Earth dist.	13629 Jun 02 10:53	21° \mathbb{A} 47'05	18.10758 AU	conjunction	13635 Dec 30 14:51	20° \mathbb{B} 51'28	0°50'12
direct	13629 Aug 16 03:45	19° \mathbb{A} 46'28		minimum elong	13635 Dec 30 14:51	20° \mathbb{B} 51'28	0°51'14
evening set	13629 Nov 16 00:41	22° \mathbb{A} 58'58		max. Earth dist.	13635 Dec 30 07:25	20° \mathbb{B} 50'20	19.73228 AU
				morning rise	13636 Jan 16 04:03	21° \mathbb{B} 51'42	
conjunction	13629 Dec 02 09:36	23° \mathbb{A} 57'27	1°03'45	retrograde	13636 Apr 19 04:32	25° \mathbb{B} 12'56	
minimum elong	13629 Dec 02 09:36	23° \mathbb{A} 57'27	1°04'46	opposition	13636 Jul 03 06:50	23° \mathbb{B} 09'51	0°54'04
max. Earth dist.	13629 Dec 02 05:34	23° \mathbb{A} 56'50	20.07602 AU	min. Earth dist.	13636 Jul 03 12:33	23° \mathbb{B} 09'14	17.70833 AU
morning rise	13629 Dec 18 20:12	24° \mathbb{A} 56'12		direct	13636 Sep 16 03:36	21° \mathbb{B} 06'45	
retrograde	13630 Mar 23 03:52	28° \mathbb{A} 13'51		evening set	13636 Dec 18 01:38	24° \mathbb{B} 26'03	
opposition	13630 Jun 06 22:48	26° \mathbb{A} 11'35	1°10'14				

conjunction	13637 Jan 03 14:27	25° \mathbb{Z} 26'22	0°46'42	morning rise	13643 Feb 18 14:11	24° \approx 27'11	
minimum elong	13637 Jan 03 14:27	25° \mathbb{Z} 26'22	0°47'41	retrograde	13643 May 23 02:28	27° \approx 50'49	
max. Earth dist.	13637 Jan 03 07:34	25° \mathbb{Z} 25'19	19.68486 AU	opposition	13643 Aug 05 09:17	25° \approx 47'30	0°19'23
morning rise	13637 Jan 20 03:43	26° \mathbb{Z} 26'48		min. Earth dist.	13643 Aug 05 17:56	25° \approx 46'34	17.44828 AU
retrograde	13637 Apr 24 02:39	29° \mathbb{Z} 48'34		direct	13643 Oct 19 10:56	23° \approx 42'54	
opposition	13637 Jul 08 02:14	27° \mathbb{Z} 45'29	0°50'00	evening set	13644 Jan 21 13:36	27° \approx 07'34	
min. Earth dist.	13637 Jul 08 08:40	27° \mathbb{Z} 44'48	17.66241 AU				
direct	13637 Sep 20 22:45	25° \mathbb{Z} 42'12		conjunction	13644 Feb 07 03:40	28° \approx 09'02	0°14'44
evening set	13637 Dec 23 01:39	29° \mathbb{Z} 02'26		minimum elong	13644 Feb 07 03:40	28° \approx 09'02	0°15'23
	13638 Jan 07 19:19	0° \approx		behind sun begin	13644 Feb 07 02:00	28° \approx 08'47	
				behind sun end	13644 Feb 07 05:20	28° \approx 09'17	
conjunction	13638 Jan 08 14:42	0° \approx 02'58	0°42'53	max. Earth dist.	13644 Feb 06 16:30	28° \approx 07'19	19.43614 AU
minimum elong	13638 Jan 08 14:42	0° \approx 02'58	0°43'52	morning rise	13644 Feb 23 17:02	29° \approx 10'25	
max. Earth dist.	13638 Jan 08 06:16	0° \approx 01'41	19.64054 AU		13644 Mar 08 17:15	0° \mathbb{H}	
morning rise	13638 Jan 25 04:19	1° \approx 03'37		retrograde	13644 May 27 00:36	2° \mathbb{H} 34'07	
retrograde	13638 Apr 29 02:05	4° \approx 25'52		opposition	13644 Aug 09 07:50	0° \mathbb{H} 30'46	0°13'33
opposition	13638 Jul 12 22:12	2° \approx 22'46	0°45'36	min. Earth dist.	13644 Aug 09 17:23	0° \mathbb{H} 29'43	17.42525 AU
min. Earth dist.	13638 Jul 13 05:01	2° \approx 22'02	17.61956 AU		13644 Aug 21 04:44	30° \mathbb{R} \approx	
direct	13638 Sep 25 19:00	0° \approx 19'16		direct	13644 Oct 23 10:16	28° \approx 25'56	
evening set	13638 Dec 28 02:13	3° \approx 40'25			13644 Dec 23 06:00	0° \mathbb{H}	
				evening set	13645 Jan 25 16:38	1° \mathbb{H} 51'06	
conjunction	13639 Jan 13 15:46	4° \approx 41'10	0°38'47	conjunction	13645 Feb 11 06:41	2° \mathbb{H} 52'38	0°09'28
minimum elong	13639 Jan 13 15:46	4° \approx 41'10	0°39'42	minimum elong	13645 Feb 11 06:41	2° \mathbb{H} 52'38	0°10'03
max. Earth dist.	13639 Jan 13 07:50	4° \approx 39'57	19.59896 AU	behind sun begin	13645 Feb 11 01:17	2° \mathbb{H} 51'49	
morning rise	13639 Jan 30 05:22	5° \approx 41'59		behind sun end	13645 Feb 11 12:05	2° \mathbb{H} 53'27	
retrograde	13639 May 04 02:12	9° \approx 04'39		max. Earth dist.	13645 Feb 10 20:14	2° \mathbb{H} 51'01	19.41547 AU
opposition	13639 Jul 17 18:47	7° \approx 01'32	0°40'52	morning rise	13645 Feb 27 19:41	3° \mathbb{H} 54'02	
min. Earth dist.	13639 Jul 18 02:08	7° \approx 00'45	17.57923 AU	retrograde	13645 Jun 01 01:21	7° \mathbb{H} 17'46	
direct	13639 Sep 30 16:01	4° \approx 57'50		opposition	13645 Aug 14 06:30	5° \mathbb{H} 14'23	0°07'36
evening set	13640 Jan 02 03:44	8° \approx 19'49		min. Earth dist.	13645 Aug 14 15:07	5° \mathbb{H} 13'26	17.40699 AU
				direct	13645 Oct 28 12:40	3° \mathbb{H} 09'23	
conjunction	13640 Jan 18 17:22	9° \approx 20'46	0°34'24	evening set	13646 Jan 30 19:59	6° \mathbb{H} 34'57	
minimum elong	13640 Jan 18 17:22	9° \approx 20'46	0°35'16				
max. Earth dist.	13640 Jan 18 07:34	9° \approx 19'15	19.56000 AU	conjunction	13646 Feb 16 09:47	7° \mathbb{H} 36'31	0°04'08
morning rise	13640 Feb 04 07:11	10° \approx 21'45		minimum elong	13646 Feb 16 09:47	7° \mathbb{H} 36'31	0°04'39
retrograde	13640 May 08 01:44	13° \approx 44'45		behind sun begin	13646 Feb 16 03:11	7° \mathbb{H} 35'31	
opposition	13640 Jul 21 15:47	11° \approx 41'36	0°35'51	behind sun end	13646 Feb 16 16:23	7° \mathbb{H} 37'31	
min. Earth dist.	13640 Jul 21 23:52	11° \approx 40'43	17.54166 AU	max. Earth dist.	13646 Feb 15 23:00	7° \mathbb{H} 34'51	19.39980 AU
direct	13640 Oct 04 12:53	9° \approx 37'40		morning rise	13646 Mar 04 22:27	8° \mathbb{H} 37'56	
evening set	13641 Jan 06 05:33	13° \approx 00'26		retrograde	13646 Jun 05 23:30	12° \mathbb{H} 01'38	
conjunction	13641 Jan 22 19:34	14° \approx 01'33	0°29'46	opposition	13646 Aug 19 05:26	9° \mathbb{H} 58'14	0°01'36
minimum elong	13641 Jan 22 19:34	14° \approx 01'33	0°30'36	min. Earth dist.	13646 Aug 19 14:49	9° \mathbb{H} 57'12	17.39415 AU
max. Earth dist.	13641 Jan 22 10:19	14° \approx 00'07	19.52383 AU	direct	13646 Nov 02 12:23	7° \mathbb{H} 53'04	
	13641 Feb 07 15:38	15° \approx		desc. node	13646 Nov 20 16:24	8° \mathbb{H} 02'00	
morning rise	13641 Feb 08 09:12	15° \approx 02'39		evening set	13647 Feb 04 23:20	11° \mathbb{H} 19'00	
retrograde	13641 May 13 02:51	18° \approx 25'56					
opposition	13641 Jul 26 13:18	16° \approx 22'45	0°30'35	conjunction	13647 Feb 21 12:57	12° \mathbb{H} 20'35	-0°01'22
min. Earth dist.	13641 Jul 26 21:27	16° \approx 21'52	17.50695 AU	minimum elong	13647 Feb 21 12:56	12° \mathbb{H} 20'35	0°00'57
	13641 Aug 30 06:59	15° \mathbb{R} \approx		behind sun begin	13647 Feb 21 06:13	12° \mathbb{H} 19'33	
direct	13641 Oct 09 11:59	14° \approx 18'36		behind sun end	13647 Feb 21 19:40	12° \mathbb{H} 21'36	
	13641 Nov 18 00:04	15° \approx		max. Earth dist.	13647 Feb 21 02:39	12° \mathbb{H} 18'59	19.38981 AU
evening set	13642 Jan 11 07:50	17° \approx 42'03		morning rise	13647 Mar 10 01:13	13° \mathbb{H} 21'59	
				retrograde	13647 Jun 11 00:37	16° \mathbb{H} 45'35	
conjunction	13642 Jan 27 21:49	18° \approx 43'19	0°24'56	opposition	13647 Aug 24 04:29	14° \mathbb{H} 42'13	-0°04'25
minimum elong	13642 Jan 27 21:49	18° \approx 43'19	0°25'41	min. Earth dist.	13647 Aug 24 12:34	14° \mathbb{H} 41'20	17.38701 AU
max. Earth dist.	13642 Jan 27 11:03	18° \approx 41'39	19.49081 AU	direct	13647 Nov 07 15:02	12° \mathbb{H} 36'58	
morning rise	13642 Feb 13 11:33	19° \approx 44'32		evening set	13648 Feb 10 02:47	16° \mathbb{H} 03'10	
retrograde	13642 May 18 01:31	23° \approx 08'02					
opposition	13642 Jul 31 11:15	21° \approx 04'47	0°25'05	conjunction	13648 Feb 26 16:02	17° \mathbb{H} 04'44	-0°06'46
min. Earth dist.	13642 Jul 31 20:15	21° \approx 03'48	17.47573 AU	minimum elong	13648 Feb 26 16:02	17° \mathbb{H} 04'44	0°06'26
direct	13642 Oct 14 09:58	19° \approx 00'23		behind sun begin	13648 Feb 26 09:42	17° \mathbb{H} 03'46	
evening set	13643 Jan 16 10:29	22° \approx 24'30		behind sun end	13648 Feb 26 22:23	17° \mathbb{H} 05'42	
				max. Earth dist.	13648 Feb 26 06:09	17° \mathbb{H} 03'12	19.38557 AU
conjunction	13643 Feb 02 00:42	23° \approx 25'52	0°19'54	morning rise	13648 Mar 14 03:44	18° \mathbb{H} 06'06	
minimum elong	13643 Feb 02 00:42	23° \approx 25'52	0°20'38	retrograde	13648 Jun 14 23:21	21° \mathbb{H} 29'33	
max. Earth dist.	13643 Feb 01 14:37	23° \approx 24'19	19.46147 AU	opposition	13648 Aug 28 03:50	19° \mathbb{H} 26'16	-0°10'24

min. Earth dist.	13648 Aug 28 12:30	19° H 25'20	17.38588 AU	evening set	13655 Mar 15 22:31	19° Y 08'34	
direct	13648 Nov 11 14:57	17° H 21'00					
evening set	13649 Feb 14 06:10	20° H 47'24		conjunction	13655 Apr 01 07:36	20° Y 09'21	-0°41'03
				minimum elong	13655 Apr 01 07:35	20° Y 09'21	0°41'19
conjunction	13649 Mar 02 18:59	21° H 48'56	-0°12'05	max. Earth dist.	13655 Mar 31 23:42	20° Y 08'07	19.50367 AU
minimum elong	13649 Mar 02 18:59	21° H 48'56	0°11'50	morning rise	13655 Apr 17 14:33	21° Y 09'48	
behind sun begin	13649 Mar 02 14:20	21° H 48'13		retrograde	13655 Jul 18 20:12	24° Y 30'58	
behind sun end	13649 Mar 02 23:38	21° H 49'38		opposition	13655 Sep 30 23:58	22° Y 28'50	-0°48'01
max. Earth dist.	13649 Mar 02 09:18	21° H 47'26	19.38757 AU	min. Earth dist.	13655 Oct 01 05:47	22° Y 28'13	17.51986 AU
morning rise	13649 Mar 19 06:13	22° H 50'14		direct	13655 Dec 16 00:43	20° Y 24'10	
retrograde	13649 Jun 20 00:31	26° H 13'32		evening set	13656 Mar 19 23:38	23° Y 49'42	
opposition	13649 Sep 02 03:10	24° H 10'23	-0°16'19				
min. Earth dist.	13649 Sep 02 10:24	24° H 09'35	17.39080 AU	conjunction	13656 Apr 05 08:06	24° Y 50'17	-0°45'04
direct	13649 Nov 16 17:15	22° H 05'07		minimum elong	13656 Apr 05 08:05	24° Y 50'17	0°45'24
evening set	13650 Feb 19 09:21	25° H 31'40		max. Earth dist.	13656 Apr 05 01:47	24° Y 49'18	19.53650 AU
				morning rise	13656 Apr 21 14:03	25° Y 50'32	
conjunction	13650 Mar 07 21:48	26° H 33'08	-0°17'19	retrograde	13656 Jul 22 16:53	29° Y 11'08	
minimum elong	13650 Mar 07 21:47	26° H 33'08	0°17'09	opposition	13656 Oct 04 22:56	27° Y 09'10	-0°52'19
max. Earth dist.	13650 Mar 07 13:09	26° H 31'47	19.39533 AU	min. Earth dist.	13656 Oct 05 04:31	27° Y 08'34	17.55432 AU
morning rise	13650 Mar 24 08:20	27° H 34'21		direct	13656 Dec 20 01:47	25° Y 04'38	
	13650 May 09 18:05	0° Y		evening set	13657 Mar 25 00:16	28° Y 29'39	
retrograde	13650 Jun 24 23:36	0° Y 57'26					
	13650 Aug 11 14:50	30° R H		conjunction	13657 Apr 10 07:47	29° Y 30'00	-0°48'46
opposition	13650 Sep 07 02:46	28° H 54'27	-0°22'07	minimum elong	13657 Apr 10 07:46	29° Y 30'00	0°49'12
min. Earth dist.	13650 Sep 07 10:37	28° H 53'36	17.40131 AU	max. Earth dist.	13657 Apr 10 00:55	29° Y 28'57	19.57270 AU
direct	13650 Nov 21 17:14	26° H 49'16			13657 Apr 18 09:08	0° B	
	13651 Feb 20 03:34	0° Y		morning rise	13657 Apr 26 13:05	0° B 30'02	
evening set	13651 Feb 24 12:38	0° Y 15'52		retrograde	13657 Jul 27 13:42	3° B 50'03	
				opposition	13657 Oct 09 21:26	1° B 48'12	-0°56'16
conjunction	13651 Mar 13 00:27	1° Y 17'15	-0°22'27	min. Earth dist.	13657 Oct 10 02:30	1° B 47'39	17.59230 AU
minimum elong	13651 Mar 13 00:26	1° Y 17'15	0°22'21		13657 Nov 30 00:31	30° R Y	
max. Earth dist.	13651 Mar 12 15:25	1° Y 15'51	19.40847 AU	direct	13657 Dec 25 03:23	29° Y 43'46	
morning rise	13651 Mar 29 10:27	2° Y 18'22			13658 Jan 18 23:20	0° B	
retrograde	13651 Jun 30 00:29	5° Y 41'11		evening set	13658 Mar 29 23:56	3° B 08'14	
opposition	13651 Sep 12 02:10	3° Y 38'22	-0°27'46				
min. Earth dist.	13651 Sep 12 08:54	3° Y 37'39	17.41688 AU	conjunction	13658 Apr 15 06:50	4° B 08'21	-0°52'09
direct	13651 Nov 26 19:35	1° Y 33'16		minimum elong	13658 Apr 15 06:50	4° B 08'21	0°52'38
evening set	13652 Feb 29 15:39	4° Y 59'52		max. Earth dist.	13658 Apr 15 01:38	4° B 07'32	19.61233 AU
				morning rise	13658 May 01 11:13	5° B 08'07	
conjunction	13652 Mar 17 02:58	6° Y 01'08	-0°27'25	retrograde	13658 Aug 01 09:14	8° B 27'29	
minimum elong	13652 Mar 17 02:58	6° Y 01'08	0°27'26	opposition	13658 Oct 14 19:36	6° B 25'47	-0°59'49
max. Earth dist.	13652 Mar 16 19:10	5° Y 59'55	19.42625 AU	min. Earth dist.	13658 Oct 14 23:55	6° B 25'19	17.63354 AU
morning rise	13652 Apr 02 12:05	7° Y 02'07		direct	13658 Dec 30 04:35	4° B 21'29	
retrograde	13652 Jul 03 23:20	10° Y 24'36		evening set	13659 Apr 03 23:02	7° B 45'17	
opposition	13652 Sep 16 01:55	8° Y 21'59	-0°33'13				
min. Earth dist.	13652 Sep 16 09:08	8° Y 21'12	17.43686 AU	conjunction	13659 Apr 20 04:58	8° B 45'09	-0°55'10
direct	13652 Nov 30 19:48	6° Y 16'59		minimum elong	13659 Apr 20 04:57	8° B 45'09	0°55'44
evening set	13653 Mar 05 18:18	9° Y 43'27		max. Earth dist.	13659 Apr 19 23:40	8° B 44'20	19.65532 AU
				morning rise	13659 May 06 08:37	9° B 44'41	
conjunction	13653 Mar 22 04:48	10° Y 44'34	-0°32'12	retrograde	13659 Aug 06 04:11	13° B 03'22	
minimum elong	13653 Mar 22 04:48	10° Y 44'34	0°32'17	opposition	13659 Oct 19 17:19	11° B 01'47	-1°02'58
max. Earth dist.	13653 Mar 21 20:20	10° Y 43'15	19.44832 AU	min. Earth dist.	13659 Oct 19 21:13	11° B 01'23	17.67845 AU
morning rise	13653 Apr 07 13:20	11° Y 45'24		direct	13660 Jan 04 04:28	8° B 57'38	
retrograde	13653 Jul 08 23:24	15° Y 07'31		evening set	13660 Apr 07 21:08	12° B 20'44	
opposition	13653 Sep 21 01:26	13° Y 05'04	-0°38'26				
min. Earth dist.	13653 Sep 21 07:40	13° Y 04'23	17.46095 AU	conjunction	13660 Apr 24 02:21	13° B 20'20	-0°57'48
direct	13653 Dec 05 22:01	11° Y 00'10		minimum elong	13660 Apr 24 02:21	13° B 20'20	0°58'27
evening set	13654 Mar 10 20:33	14° Y 26'25		max. Earth dist.	13660 Apr 23 22:47	13° B 19'47	19.70207 AU
				morning rise	13660 May 10 05:07	14° B 19'36	
conjunction	13654 Mar 27 06:31	15° Y 27'22	-0°36'45		13660 May 21 15:37	15° B	
minimum elong	13654 Mar 27 06:31	15° Y 27'22	0°36'55	retrograde	13660 Aug 09 23:19	17° B 37'36	
max. Earth dist.	13654 Mar 26 23:28	15° Y 26'17	19.47420 AU	opposition	13660 Oct 23 14:38	15° B 36'10	-1°05'42
morning rise	13654 Apr 12 14:07	16° Y 28'02		min. Earth dist.	13660 Oct 23 17:07	15° B 35'55	17.72705 AU
retrograde	13654 Jul 13 21:32	19° Y 49'41			13660 Nov 07 00:01	15° R B	
opposition	13654 Sep 26 00:47	17° Y 47'25	-0°43'22	direct	13661 Jan 08 04:38	13° B 32'13	
min. Earth dist.	13654 Sep 26 07:18	17° Y 46'42	17.48862 AU		13661 Mar 08 13:36	15° B	
direct	13654 Dec 10 22:25	15° Y 42'38		evening set	13661 Apr 12 18:22	16° B 54'32	

conjunction	13661 Apr 28 22:41	17°♄53'52	-1°00'04	retrograde	13667 Sep 10 21:39	18°♄52'19	
minimum elong	13661 Apr 28 22:41	17°♄53'52	1°00'46	opposition	13667 Nov 25 06:18	16°♄52'31	-1°12'30
max. Earth dist.	13661 Apr 28 19:36	17°♄53'23	19.75256 AU	min. Earth dist.	13667 Nov 25 04:23	16°♄52'43	18.14105 AU
morning rise	13661 May 15 00:45	18°♄52'53		direct	13668 Feb 10 03:37	14°♄50'39	
retrograde	13661 Aug 14 17:03	22°♄10'11		evening set	13668 May 14 00:34	18°♄06'47	
opposition	13661 Oct 28 11:32	20°♄08'56	-1°07'59				
min. Earth dist.	13661 Oct 28 13:38	20°♄08'43	17.77951 AU	conjunction	13668 May 29 23:51	19°♄04'11	-1°04'55
direct	13662 Jan 13 01:54	18°♄05'12		minimum elong	13668 May 29 23:51	19°♄04'11	1°05'55
evening set	13662 Apr 17 14:49	21°♄26'44		max. Earth dist.	13668 May 30 02:17	19°♄04'33	20.17169 AU
				morning rise	13668 Jun 14 21:26	20°♄01'20	
conjunction	13662 May 03 18:27	22°♄25'47	-1°01'56	retrograde	13668 Sep 14 13:00	23°♄13'42	
minimum elong	13662 May 03 18:26	22°♄25'47	1°02'42	opposition	13668 Nov 28 23:35	21°♄14'06	-1°11'45
max. Earth dist.	13662 May 03 16:47	22°♄25'32	19.80681 AU	min. Earth dist.	13668 Nov 28 20:06	21°♄14'27	18.20255 AU
morning rise	13662 May 19 19:42	23°♄24'32		direct	13669 Feb 13 22:58	19°♄12'31	
retrograde	13662 Aug 19 12:01	26°♄41'07		evening set	13669 May 18 15:12	22°♄27'41	
opposition	13662 Nov 02 07:42	24°♄40'07	-1°09'50				
min. Earth dist.	13662 Nov 02 08:14	24°♄40'03	17.83529 AU	conjunction	13669 Jun 03 14:00	23°♄24'49	-1°04'06
direct	13663 Jan 18 00:49	22°♄36'40		minimum elong	13669 Jun 03 14:00	23°♄24'49	1°05'08
evening set	13663 Apr 22 10:34	25°♄57'22		max. Earth dist.	13669 Jun 03 17:27	23°♄25'20	20.23260 AU
				morning rise	13669 Jun 19 11:03	24°♄21'43	
conjunction	13663 May 08 13:21	26°♄56'09	-1°03'25	retrograde	13669 Sep 19 02:01	27°♄33'23	
minimum elong	13663 May 08 13:20	26°♄56'09	1°04'13	opposition	13669 Dec 03 16:28	25°♄33'58	-1°10'37
max. Earth dist.	13663 May 08 12:24	26°♄56'00	19.86408 AU	min. Earth dist.	13669 Dec 03 13:34	25°♄34'15	18.26283 AU
morning rise	13663 May 24 13:54	27°♄54'38		direct	13670 Feb 18 16:08	23°♄32'39	
	13663 Jul 03 03:39	0°♄		evening set	13670 May 23 05:10	26°♄46'51	
retrograde	13663 Aug 24 04:41	1°♄10'30					
	13663 Oct 17 15:11	30°♄		conjunction	13670 Jun 08 03:21	27°♄43'43	-1°02'54
opposition	13663 Nov 07 03:41	29°♄09'45	-1°11'14	minimum elong	13670 Jun 08 03:21	27°♄43'43	1°03'56
min. Earth dist.	13663 Nov 07 04:11	29°♄09'42	17.89395 AU	max. Earth dist.	13670 Jun 08 06:33	27°♄44'11	20.29223 AU
direct	13664 Jan 22 20:24	27°♄06'36		morning rise	13670 Jun 24 00:06	28°♄40'22	
	13664 Apr 18 17:00	0°♄			13670 Jul 18 03:07	0°♄	
evening set	13664 Apr 26 05:16	0°♄26'27		retrograde	13670 Sep 23 15:57	1°♄51'22	
					13670 Dec 05 03:22	30°♄	
conjunction	13664 May 12 07:19	1°♄24'57	-1°04'30	opposition	13670 Dec 08 08:29	29°♄52'04	-1°09'05
minimum elong	13664 May 12 07:19	1°♄24'57	1°05'22	min. Earth dist.	13670 Dec 08 04:07	29°♄52'31	18.32166 AU
max. Earth dist.	13664 May 12 07:26	1°♄24'58	19.92388 AU	direct	13671 Feb 23 09:51	27°♄51'01	
morning rise	13664 May 28 07:11	2°♄23'09			13671 May 08 12:57	0°♄	
retrograde	13664 Aug 27 22:55	5°♄38'20		evening set	13671 May 27 18:10	1°♄04'13	
opposition	13664 Nov 10 23:03	3°♄37'50	-1°12'12				
min. Earth dist.	13664 Nov 10 21:53	3°♄37'57	17.95457 AU	conjunction	13671 Jun 12 15:57	2°♄00'51	-1°01'22
direct	13665 Jan 26 18:11	1°♄35'01		minimum elong	13671 Jun 12 15:58	2°♄00'51	1°02'25
evening set	13665 Apr 30 23:20	4°♄53'58		max. Earth dist.	13671 Jun 12 20:25	2°♄01'30	20.35030 AU
				morning rise	13671 Jun 28 12:14	2°♄57'16	
conjunction	13665 May 17 00:38	5°♄52'12	-1°05'11	retrograde	13671 Sep 28 03:32	6°♄07'35	
minimum elong	13665 May 17 00:38	5°♄52'12	1°06'05	opposition	13671 Dec 13 00:11	4°♄08'25	-1°07'10
max. Earth dist.	13665 May 17 01:36	5°♄52'20	19.98518 AU	min. Earth dist.	13671 Dec 12 20:15	4°♄08'49	18.37905 AU
morning rise	13665 Jun 01 23:50	6°♄50'08		direct	13672 Feb 28 01:59	2°♄07'36	
retrograde	13665 Sep 01 14:31	10°♄04'36		evening set	13672 May 31 06:13	5°♄19'49	
opposition	13665 Nov 15 17:56	8°♄04'21	-1°12'44				
min. Earth dist.	13665 Nov 15 17:06	8°♄04'26	18.01650 AU	conjunction	13672 Jun 16 03:29	6°♄16'11	-0°59'30
direct	13666 Jan 31 12:51	6°♄01'51		minimum elong	13672 Jun 16 03:29	6°♄16'11	1°00'34
evening set	13666 May 05 16:34	9°♄19'54		max. Earth dist.	13672 Jun 16 07:50	6°♄16'50	20.40714 AU
				morning rise	13672 Jul 01 23:36	7°♄12'24	
conjunction	13666 May 21 17:11	10°♄17'50	-1°05'29	retrograde	13672 Oct 01 16:13	10°♄22'05	
minimum elong	13666 May 21 17:11	10°♄17'50	1°06'25	opposition	13672 Dec 16 15:04	8°♄23'00	-1°04'55
max. Earth dist.	13666 May 21 18:35	10°♄18'03	20.04747 AU	min. Earth dist.	13672 Dec 16 09:31	8°♄23'34	18.43529 AU
morning rise	13666 Jun 06 15:50	11°♄15'31		direct	13673 Mar 03 18:08	6°♄22'25	
retrograde	13666 Sep 06 07:14	14°♄29'16		evening set	13673 Jun 04 17:30	9°♄33'40	
opposition	13666 Nov 20 12:17	12°♄29'15	-1°12'49				
min. Earth dist.	13666 Nov 20 09:53	12°♄29'30	18.07885 AU	conjunction	13673 Jun 20 14:28	10°♄29'49	-0°57'20
direct	13667 Feb 05 09:41	10°♄27'05		minimum elong	13673 Jun 20 14:28	10°♄29'49	0°58'22
evening set	13667 May 10 08:59	13°♄44'11		max. Earth dist.	13673 Jun 20 20:24	10°♄30'42	20.46282 AU
				morning rise	13673 Jul 06 10:12	11°♄25'48	
conjunction	13667 May 26 08:56	14°♄41'51	-1°05'23	retrograde	13673 Oct 06 02:19	14°♄34'52	
minimum elong	13667 May 26 08:56	14°♄41'51	1°06'23	opposition	13673 Dec 21 05:20	12°♄35'55	-1°02'18
max. Earth dist.	13667 May 26 11:17	14°♄42'12	20.10974 AU	min. Earth dist.	13673 Dec 21 00:01	12°♄36'27	18.49055 AU
morning rise	13667 Jun 11 06:56	15°♄39'15		direct	13674 Mar 08 08:31	10°♄35'34	

evening set	13674 Jun 09 04:09	13°☾45'54		max. Earth dist.	13680 Jul 19 11:01	9°♈29'16	20.81314 AU
				morning rise	13680 Aug 03 21:33	10°♈22'52	
conjunction	13674 Jun 25 00:38	14°☾41'49 -0°54'51		retrograde	13680 Nov 04 00:15	13°♈28'58	
minimum elong	13674 Jun 25 00:38	14°☾41'49 0°55'54		opposition	13681 Jan 19 19:56	11°♈30'58 -0°36'23	
max. Earth dist.	13674 Jun 25 06:24	14°☾42'40 20.51773 AU		min. Earth dist.	13681 Jan 19 10:34	11°♈31'54 18.83307 AU	
morning rise	13674 Jul 10 20:18	15°☾37'37		direct	13681 Apr 06 17:47	9°♈32'34	
retrograde	13674 Oct 10 14:18	18°☾46'07		evening set	13681 Jul 07 13:44	12°♈37'32	
opposition	13674 Dec 25 19:03	16°☾47'17 -0°59'23					
min. Earth dist.	13674 Dec 25 12:06	16°☾47'59 18.54503 AU		conjunction	13681 Jul 23 09:07	13°♈32'17 -0°30'48	
direct	13675 Mar 12 22:50	14°☾47'12		minimum elong	13681 Jul 23 09:07	13°♈32'17 0°31'38	
evening set	13675 Jun 13 13:53	17°☾56'39		max. Earth dist.	13681 Jul 23 19:06	13°♈33'44 20.85169 AU	
				morning rise	13681 Aug 08 04:30	14°♈27'04	
conjunction	13675 Jun 29 10:10	18°☾52'22 -0°52'06			13681 Aug 18 01:24	15°♈	
minimum elong	13675 Jun 29 10:10	18°☾52'22 0°53'07		retrograde	13681 Nov 08 08:14	17°♈32'53	
max. Earth dist.	13675 Jun 29 17:41	18°☾53'29 20.57169 AU		opposition	13682 Jan 24 06:39	15°♈34'58 -0°31'51	
morning rise	13675 Jul 15 05:31	19°☾47'58		min. Earth dist.	13682 Jan 23 21:45	15°♈35'52 18.86936 AU	
retrograde	13675 Oct 14 23:13	22°☾55'59			13682 Feb 08 00:27	15°♈♈	
opposition	13675 Dec 30 08:24	20°☾57'17 -0°56'10		direct	13682 Apr 11 03:53	13°♈36'47	
min. Earth dist.	13675 Dec 30 01:30	20°☾57'59 18.59843 AU			13682 Jun 09 01:23	15°♈	
direct	13676 Mar 16 11:30	18°☾57'30		evening set	13682 Jul 11 20:30	16°♈41'08	
evening set	13676 Jun 16 23:09	22°☾06'06					
				conjunction	13682 Jul 27 15:42	17°♈35'47 -0°26'39	
conjunction	13676 Jul 02 19:03	23°☾01'37 -0°49'05		minimum elong	13682 Jul 27 15:42	17°♈35'47 0°27'25	
minimum elong	13676 Jul 02 19:03	23°☾01'37 0°50'06		max. Earth dist.	13682 Jul 28 00:31	17°♈37'03 20.88575 AU	
max. Earth dist.	13676 Jul 03 02:18	23°☾02'41 20.62456 AU		morning rise	13682 Aug 12 11:23	18°♈30'28	
morning rise	13676 Jul 18 14:28	23°☾57'03		retrograde	13682 Nov 12 18:04	21°♈36'03	
retrograde	13676 Oct 18 10:44	27°☾04'36		opposition	13683 Jan 28 17:10	19°♈38'09 -0°27'10	
opposition	13677 Jan 02 21:01	25°☾06'03 -0°52'40		min. Earth dist.	13683 Jan 28 07:54	19°♈39'05 18.90107 AU	
min. Earth dist.	13677 Jan 02 12:47	25°☾06'53 18.65053 AU		direct	13683 Apr 15 12:53	17°♈40'08	
direct	13677 Mar 20 23:48	23°☾06'34		evening set	13683 Jul 16 02:37	20°♈43'54	
evening set	13677 Jun 21 07:41	26°☾14'22					
				conjunction	13683 Jul 31 22:00	21°♈38'26 -0°22'22	
conjunction	13677 Jul 07 03:33	27°☾09'43 -0°45'49		minimum elong	13683 Jul 31 22:01	21°♈38'27 0°23'07	
minimum elong	13677 Jul 07 03:33	27°☾09'43 0°46'48		max. Earth dist.	13683 Aug 01 07:49	21°♈39'51 20.91497 AU	
max. Earth dist.	13677 Jul 07 12:23	27°☾11'00 20.67570 AU		morning rise	13683 Aug 16 17:43	22°♈33'04	
morning rise	13677 Jul 22 22:46	28°☾04'59		retrograde	13683 Nov 17 01:33	25°♈38'26	
	13677 Aug 29 13:48	0°♈		opposition	13684 Feb 02 03:22	23°♈40'31 -0°22'22	
retrograde	13677 Oct 22 19:05	1°♈12'06		min. Earth dist.	13684 Feb 01 18:29	23°♈41'25 18.92779 AU	
	13677 Dec 18 18:41	30°♈☾		direct	13684 Apr 18 22:05	21°♈42'38	
opposition	13678 Jan 07 09:21	29°☾13'43 -0°48'56		evening set	13684 Jul 19 08:40	24°♈45'50	
min. Earth dist.	13678 Jan 07 01:21	29°☾14'32 18.70053 AU					
direct	13678 Mar 25 11:09	27°☾14'32		conjunction	13684 Aug 04 04:00	25°♈40'17 -0°17'59	
	13678 Jun 19 06:57	0°♈		minimum elong	13684 Aug 04 04:00	25°♈40'17 0°18'40	
evening set	13678 Jun 25 15:54	0°♈21'35		max. Earth dist.	13684 Aug 04 12:38	25°♈41'32 20.93940 AU	
				morning rise	13684 Aug 20 00:08	26°♈34'51	
conjunction	13678 Jul 11 11:24	1°♈16'45 -0°42'21		retrograde	13684 Nov 20 10:40	29°♈40'02	
minimum elong	13678 Jul 11 11:25	1°♈16'45 0°43'18		opposition	13685 Feb 05 13:01	27°♈42'04 -0°17'28	
max. Earth dist.	13678 Jul 11 19:43	1°♈17'57 20.72455 AU		min. Earth dist.	13685 Feb 05 03:59	27°♈42'58 18.94994 AU	
morning rise	13678 Jul 27 06:45	2°♈11'53		direct	13685 Apr 23 06:47	25°♈44'15	
retrograde	13678 Oct 27 05:44	5°♈18'37		evening set	13685 Jul 23 14:14	28°♈46'57	
opposition	13679 Jan 11 21:11	3°♈20'23 -0°44'57					
min. Earth dist.	13679 Jan 11 12:10	3°♈21'18 18.74804 AU		conjunction	13685 Aug 08 09:51	29°♈41'21 -0°13'32	
direct	13679 Mar 29 21:47	1°♈21'29		minimum elong	13685 Aug 08 09:51	29°♈41'21 0°14'10	
evening set	13679 Jun 29 23:32	4°♈27'48		behind sun begin	13685 Aug 08 06:34	29°♈40'53	
				behind sun end	13685 Aug 08 13:07	29°♈41'48	
conjunction	13679 Jul 15 19:03	5°♈22'49 -0°38'40		max. Earth dist.	13685 Aug 08 19:33	29°♈42'44 20.95928 AU	
minimum elong	13679 Jul 15 19:03	5°♈22'49 0°39'36			13685 Aug 13 18:59	0°♈	
max. Earth dist.	13679 Jul 16 04:47	5°♈24'14 20.77053 AU		morning rise	13685 Aug 24 06:04	0°♈35'51	
morning rise	13679 Jul 31 14:16	6°♈17'49		retrograde	13685 Nov 24 17:47	3°♈40'53	
retrograde	13679 Oct 31 14:07	9°♈24'13		opposition	13686 Feb 09 22:27	1°♈42'51 -0°12'29	
opposition	13680 Jan 16 08:48	7°♈26'07 -0°40'46		min. Earth dist.	13686 Feb 09 13:35	1°♈43'44 18.96768 AU	
min. Earth dist.	13680 Jan 16 00:05	7°♈26'59 18.79236 AU			13686 Apr 02 22:12	30°♈♈	
direct	13680 Apr 02 08:27	5°♈27'29		direct	13686 Apr 27 14:55	29°♈45'06	
evening set	13680 Jul 03 06:49	8°♈33'06			13686 May 21 23:42	0°♈	
				evening set	13686 Jul 27 19:37	2°♈47'21	
conjunction	13680 Jul 19 02:06	9°♈27'58 -0°34'49					
minimum elong	13680 Jul 19 02:06	9°♈27'58 0°35'41		conjunction	13686 Aug 12 15:10	3°♈41'41 -0°09'02	

minimum elong	13686 Aug 12 15:10	3° <u>10</u> 41'41	0°09'36	opposition	13692 Mar 06 02:57	25° <u>10</u> 40'30	0°17'39
behind sun begin	13686 Aug 12 09:43	3° <u>10</u> 40'55		min. Earth dist.	13692 Mar 05 17:40	25° <u>10</u> 41'26	19.00019 AU
behind sun end	13686 Aug 12 20:38	3° <u>10</u> 42'27		direct	13692 May 21 09:27	23° <u>10</u> 43'13	
max. Earth dist.	13686 Aug 12 23:57	3° <u>10</u> 42'56	20.97512 AU	evening set	13692 Aug 20 02:26	26° <u>10</u> 44'16	
morning rise	13686 Aug 28 11:50	4° <u>10</u> 36'09					
retrograde	13686 Nov 29 02:08	7° <u>10</u> 41'07		conjunction	13692 Sep 04 23:29	27° <u>10</u> 38'39	0°18'12
opposition	13687 Feb 14 07:39	5° <u>10</u> 42'59	-0°07'27	minimum elong	13692 Sep 04 23:29	27° <u>10</u> 38'39	0°18'03
min. Earth dist.	13687 Feb 13 22:31	5° <u>10</u> 43'54	18.98176 AU	max. Earth dist.	13692 Sep 05 08:23	27° <u>10</u> 39'55	20.99687 AU
direct	13687 May 01 22:54	3° <u>10</u> 45'18		morning rise	13692 Sep 20 22:25	28° <u>10</u> 33'17	
evening set	13687 Aug 01 00:44	6° <u>10</u> 47'10			13692 Oct 18 16:36	0° <u>10</u>	
				retrograde	13692 Dec 23 03:30	1° <u>10</u> 39'01	
conjunction	13687 Aug 16 20:36	7° <u>10</u> 41'28	-0°04'30		13693 Mar 02 08:57	30° <u>10</u>	
minimum elong	13687 Aug 16 20:37	7° <u>10</u> 41'28	0°04'59	opposition	13693 Mar 10 11:23	29° <u>10</u> 40'35	0°22'31
behind sun begin	13687 Aug 16 14:13	7° <u>10</u> 40'34		min. Earth dist.	13693 Mar 10 02:40	29° <u>10</u> 41'28	18.99257 AU
behind sun end	13687 Aug 17 03:01	7° <u>10</u> 42'22		direct	13693 May 25 14:55	27° <u>10</u> 43'21	
max. Earth dist.	13687 Aug 17 06:41	7° <u>10</u> 42'54	20.98741 AU		13693 Aug 10 17:18	0° <u>10</u>	
morning rise	13687 Sep 01 17:25	8° <u>10</u> 35'55		evening set	13693 Aug 24 08:02	0° <u>10</u> 44'28	
retrograde	13687 Dec 03 09:30	11° <u>10</u> 40'51					
opposition	13688 Feb 18 16:34	9° <u>10</u> 42'39	-0°02'24	conjunction	13693 Sep 09 05:35	1° <u>10</u> 38'55	0°22'33
min. Earth dist.	13688 Feb 18 07:20	9° <u>10</u> 43'35	18.99235 AU	minimum elong	13693 Sep 09 05:35	1° <u>10</u> 38'55	0°22'28
direct	13688 May 05 06:19	7° <u>10</u> 45'03		max. Earth dist.	13693 Sep 09 15:12	1° <u>10</u> 40'17	20.98696 AU
evening set	13688 Aug 04 05:49	10° <u>10</u> 46'36		morning rise	13693 Sep 25 04:47	2° <u>10</u> 33'38	
asc. node	13688 Aug 07 16:09	10° <u>10</u> 58'13		retrograde	13693 Dec 27 12:17	5° <u>10</u> 39'40	
				opposition	13694 Mar 14 20:01	3° <u>10</u> 41'11	0°27'17
conjunction	13688 Aug 20 01:48	11° <u>10</u> 40'53	0°00'08	min. Earth dist.	13694 Mar 14 11:28	3° <u>10</u> 42'03	18.98033 AU
minimum elong	13688 Aug 20 01:46	11° <u>10</u> 40'53	0°00'19	direct	13694 May 29 22:44	1° <u>10</u> 44'00	
behind sun begin	13688 Aug 19 19:13	11° <u>10</u> 39'58		evening set	13694 Aug 28 13:59	4° <u>10</u> 45'12	
behind sun end	13688 Aug 20 08:18	11° <u>10</u> 41'47					
max. Earth dist.	13688 Aug 20 10:52	11° <u>10</u> 42'10	20.99638 AU	conjunction	13694 Sep 13 11:43	5° <u>10</u> 39'44	0°26'47
morning rise	13688 Sep 04 23:05	12° <u>10</u> 35'21		minimum elong	13694 Sep 13 11:43	5° <u>10</u> 39'44	0°26'47
retrograde	13688 Dec 06 17:41	15° <u>10</u> 40'19		max. Earth dist.	13694 Sep 13 19:44	5° <u>10</u> 40'53	20.97236 AU
opposition	13689 Feb 22 01:17	13° <u>10</u> 42'03	0°02'40	morning rise	13694 Sep 29 11:32	6° <u>10</u> 34'32	
min. Earth dist.	13689 Feb 21 15:56	13° <u>10</u> 43'00	18.99969 AU	retrograde	13694 Dec 31 22:13	9° <u>10</u> 40'57	
direct	13689 May 09 13:00	11° <u>10</u> 44'31		opposition	13695 Mar 19 04:53	7° <u>10</u> 42'22	0°31'56
evening set	13689 Aug 08 10:47	14° <u>10</u> 45'51		min. Earth dist.	13695 Mar 18 21:08	7° <u>10</u> 43'09	18.96332 AU
				direct	13695 Jun 03 04:45	5° <u>10</u> 45'10	
conjunction	13689 Aug 24 07:08	15° <u>10</u> 40'08	0°04'47	evening set	13695 Sep 01 20:13	8° <u>10</u> 46'31	
minimum elong	13689 Aug 24 07:07	15° <u>10</u> 40'08	0°04'26				
behind sun begin	13689 Aug 24 00:39	15° <u>10</u> 39'14		conjunction	13695 Sep 17 18:32	9° <u>10</u> 41'09	0°30'55
behind sun end	13689 Aug 24 13:35	15° <u>10</u> 41'02		minimum elong	13695 Sep 17 18:32	9° <u>10</u> 41'09	0°30'58
max. Earth dist.	13689 Aug 24 17:23	15° <u>10</u> 41'35	21.00194 AU	max. Earth dist.	13695 Sep 18 03:01	9° <u>10</u> 42'22	20.95271 AU
morning rise	13689 Sep 09 04:37	16° <u>10</u> 34'36		morning rise	13695 Oct 03 18:40	10° <u>10</u> 36'04	
retrograde	13689 Dec 11 01:31	19° <u>10</u> 39'41		retrograde	13696 Jan 05 06:52	13° <u>10</u> 42'51	
opposition	13690 Feb 26 09:48	17° <u>10</u> 41'23	0°07'42	opposition	13696 Mar 22 13:40	11° <u>10</u> 44'09	0°36'26
min. Earth dist.	13690 Feb 26 00:24	17° <u>10</u> 42'19	19.00346 AU	min. Earth dist.	13696 Mar 22 06:12	11° <u>10</u> 44'54	18.94104 AU
direct	13690 May 13 20:15	15° <u>10</u> 43'56		direct	13696 Jun 06 12:46	9° <u>10</u> 46'54	
evening set	13690 Aug 12 15:57	18° <u>10</u> 45'06		evening set	13696 Sep 05 02:56	12° <u>10</u> 48'26	
conjunction	13690 Aug 28 12:22	19° <u>10</u> 39'24	0°09'18	conjunction	13696 Sep 21 01:32	13° <u>10</u> 43'10	0°34'54
minimum elong	13690 Aug 28 12:22	19° <u>10</u> 39'24	0°09'00	minimum elong	13696 Sep 21 01:32	13° <u>10</u> 43'10	0°35'03
behind sun begin	13690 Aug 28 06:44	19° <u>10</u> 38'36		max. Earth dist.	13696 Sep 21 08:06	13° <u>10</u> 44'07	20.92785 AU
behind sun end	13690 Aug 28 18:01	19° <u>10</u> 40'11		morning rise	13696 Oct 07 02:22	14° <u>10</u> 38'13	
max. Earth dist.	13690 Aug 28 21:33	19° <u>10</u> 40'42	21.00403 AU	retrograde	13697 Jan 08 17:10	17° <u>10</u> 45'23	
morning rise	13690 Sep 13 10:25	20° <u>10</u> 33'55		opposition	13697 Mar 26 22:42	15° <u>10</u> 46'30	0°40'46
retrograde	13690 Dec 15 10:00	23° <u>10</u> 39'10		min. Earth dist.	13697 Mar 26 16:18	15° <u>10</u> 47'09	18.91364 AU
opposition	13691 Mar 02 18:25	21° <u>10</u> 40'49	0°12'43	direct	13697 Jun 10 19:29	13° <u>10</u> 49'08	
min. Earth dist.	13691 Mar 02 09:07	21° <u>10</u> 41'45	19.00380 AU	evening set	13697 Sep 09 09:45	16° <u>10</u> 50'54	
direct	13691 May 18 01:58	19° <u>10</u> 43'27					
evening set	13691 Aug 16 20:56	22° <u>10</u> 44'31		conjunction	13697 Sep 25 08:58	17° <u>10</u> 45'46	0°38'44
				minimum elong	13697 Sep 25 08:57	17° <u>10</u> 45'46	0°38'57
conjunction	13691 Sep 01 17:50	23° <u>10</u> 38'51	0°13'47	max. Earth dist.	13697 Sep 25 15:59	17° <u>10</u> 46'47	20.89793 AU
minimum elong	13691 Sep 01 17:50	23° <u>10</u> 38'51	0°13'34	morning rise	13697 Oct 11 10:07	18° <u>10</u> 40'56	
behind sun begin	13691 Sep 01 14:09	23° <u>10</u> 38'20		retrograde	13698 Jan 13 01:50	21° <u>10</u> 48'31	
behind sun end	13691 Sep 01 21:31	23° <u>10</u> 39'22		opposition	13698 Mar 31 07:42	19° <u>10</u> 49'26	0°44'55
max. Earth dist.	13691 Sep 02 04:05	23° <u>10</u> 40'19	21.00244 AU	min. Earth dist.	13698 Mar 31 01:25	19° <u>10</u> 50'04	18.88134 AU
morning rise	13691 Sep 17 16:09	24° <u>10</u> 33'25		direct	13698 Jun 15 03:40	17° <u>10</u> 51'55	
retrograde	13691 Dec 19 18:29	27° <u>10</u> 38'53		evening set	13698 Sep 13 17:04	20° <u>10</u> 53'57	

conjunction	13698 Sep 29 16:35	21° $\underline{\text{Q}}$ 48'56	0°42'23	morning rise	13704 Nov 10 06:36	17° M 22'16	
minimum elong	13698 Sep 29 16:35	21° $\underline{\text{Q}}$ 48'56	0°42'40	retrograde	13705 Feb 12 07:35	20° M 33'41	
max. Earth dist.	13698 Sep 29 21:58	21° $\underline{\text{Q}}$ 49'43	20.86358 AU	opposition	13705 Apr 30 05:06	18° M 33'06	1°06'56
morning rise	13698 Oct 15 18:28	22° $\underline{\text{Q}}$ 44'16		min. Earth dist.	13705 Apr 30 02:30	18° M 33'22	18.57227 AU
retrograde	13699 Jan 17 11:52	25° $\underline{\text{Q}}$ 52'18		direct	13705 Jul 14 12:19	16° M 34'13	
opposition	13699 Apr 04 16:58	23° $\underline{\text{Q}}$ 52'58	0°48'52	evening set	13705 Oct 13 09:18	19° M 39'52	
min. Earth dist.	13699 Apr 04 11:44	23° $\underline{\text{Q}}$ 53'30	18.84513 AU				
direct	13699 Jun 19 10:48	21° $\underline{\text{Q}}$ 55'15		conjunction	13705 Oct 29 12:57	20° M 36'13	1°01'15
evening set	13699 Sep 18 00:32	24° $\underline{\text{Q}}$ 57'37		minimum elong	13705 Oct 29 12:56	20° M 36'12	1°02'00
				max. Earth dist.	13705 Oct 29 16:14	20° M 36'42	20.54620 AU
conjunction	13699 Oct 04 00:45	25° $\underline{\text{Q}}$ 52'46	0°45'50	morning rise	13705 Nov 14 18:45	21° M 32'54	
minimum elong	13699 Oct 04 00:45	25° $\underline{\text{Q}}$ 52'46	0°46'11	retrograde	13706 Feb 16 22:00	24° M 45'01	
max. Earth dist.	13699 Oct 04 06:48	25° $\underline{\text{Q}}$ 53'38	20.82555 AU	opposition	13706 May 04 16:26	22° M 44'18	1°08'51
morning rise	13699 Oct 20 03:03	26° $\underline{\text{Q}}$ 48'15		min. Earth dist.	13706 May 04 13:30	22° M 44'36	18.52009 AU
retrograde	13700 Jan 21 21:46	29° $\underline{\text{Q}}$ 56'44		direct	13706 Jul 18 22:38	20° M 45'14	
opposition	13700 Apr 09 02:16	27° $\underline{\text{Q}}$ 57'10	0°52'34	evening set	13706 Oct 17 21:19	23° M 51'38	
min. Earth dist.	13700 Apr 08 20:54	27° $\underline{\text{Q}}$ 57'43	18.80544 AU				
direct	13700 Jun 23 19:13	25° $\underline{\text{Q}}$ 59'16		conjunction	13706 Nov 03 01:25	24° M 48'13	1°02'48
evening set	13700 Sep 22 08:42	29° $\underline{\text{Q}}$ 02'01		minimum elong	13706 Nov 03 01:24	24° M 48'13	1°03'36
				max. Earth dist.	13706 Nov 03 03:03	24° M 48'28	20.49312 AU
conjunction	13700 Oct 08 09:16	29° $\underline{\text{Q}}$ 57'20	0°49'03	morning rise	13706 Nov 19 07:58	25° M 45'10	
minimum elong	13700 Oct 08 09:15	29° $\underline{\text{Q}}$ 57'19	0°49'29	retrograde	13707 Feb 21 11:49	28° M 58'00	
max. Earth dist.	13700 Oct 08 13:45	29° $\underline{\text{Q}}$ 57'59	20.78439 AU	opposition	13707 May 09 04:22	26° M 57'07	1°10'25
	13700 Oct 09 03:44	0° M		min. Earth dist.	13707 May 09 03:02	26° M 57'16	18.46612 AU
morning rise	13700 Oct 24 12:16	0° M 52'59		direct	13707 Jul 23 07:52	24° M 57'52	
retrograde	13701 Jan 26 07:50	4° M 01'59		evening set	13707 Oct 22 09:59	28° M 05'05	
opposition	13701 Apr 13 11:44	2° M 02'11	0°56'02				
min. Earth dist.	13701 Apr 13 07:26	2° M 02'37	18.76302 AU	conjunction	13707 Nov 07 14:54	29° M 01'55	1°04'01
direct	13701 Jun 28 02:19	0° M 04'04		minimum elong	13707 Nov 07 14:54	29° M 01'55	1°04'52
evening set	13701 Sep 26 17:11	3° M 07'17		max. Earth dist.	13707 Nov 07 16:38	29° M 02'10	20.43808 AU
				morning rise	13707 Nov 23 21:56	29° M 59'07	
conjunction	13701 Oct 12 18:27	4° M 02'46	0°52'02		13707 Nov 24 04:08	0° J	
minimum elong	13701 Oct 12 18:27	4° M 02'46	0°52'33	retrograde	13708 Feb 26 03:55	3° J 12'40	
max. Earth dist.	13701 Oct 12 23:40	4° M 03'31	20.74069 AU	opposition	13708 May 12 16:41	1° J 11'39	1°11'36
morning rise	13701 Oct 28 21:51	4° M 58'36		min. Earth dist.	13708 May 12 15:16	1° J 11'48	18.40989 AU
retrograde	13702 Jan 30 19:13	8° M 08'09			13708 Jun 12 11:10	30° R M	
opposition	13702 Apr 17 21:32	6° M 08'08	0°59'13	direct	13708 Jul 26 19:39	29° M 12'10	
min. Earth dist.	13702 Apr 17 16:54	6° M 08'36	18.71815 AU		13708 Sep 07 22:45	0° J	
direct	13702 Jul 02 11:13	4° M 09'49		evening set	13708 Oct 25 23:44	2° J 20'14	
evening set	13702 Oct 01 02:14	7° M 13'33					
				conjunction	13708 Nov 11 05:08	3° J 17'20	1°04'54
conjunction	13702 Oct 17 03:54	8° M 09'13	0°54'46	minimum elong	13708 Nov 11 05:08	3° J 17'20	1°05'48
minimum elong	13702 Oct 17 03:53	8° M 09'13	0°55'19	max. Earth dist.	13708 Nov 11 04:56	3° J 17'18	20.38061 AU
max. Earth dist.	13702 Oct 17 07:39	8° M 09'46	20.69479 AU	morning rise	13708 Nov 27 12:51	4° J 14'47	
morning rise	13702 Nov 02 08:03	9° M 05'16		retrograde	13709 Mar 01 18:42	7° J 29'03	
retrograde	13703 Feb 04 06:18	12° M 15'25		opposition	13709 May 17 05:40	5° J 27'52	1°12'25
opposition	13703 Apr 22 07:47	10° M 15'11	1°02'06	min. Earth dist.	13709 May 17 06:06	5° J 27'49	18.35130 AU
min. Earth dist.	13703 Apr 22 04:13	10° M 15'32	18.67135 AU	direct	13709 Jul 31 05:53	3° J 28'08	
direct	13703 Jul 06 18:41	8° M 16'39		evening set	13709 Oct 30 14:07	6° J 37'03	
evening set	13703 Oct 05 11:53	11° M 20'58					
				conjunction	13709 Nov 15 20:19	7° J 34'25	1°05'26
conjunction	13703 Oct 21 14:19	12° M 16'51	0°57'13	minimum elong	13709 Nov 15 20:18	7° J 34'25	1°06'21
minimum elong	13703 Oct 21 14:18	12° M 16'51	0°57'51	max. Earth dist.	13709 Nov 15 19:54	7° J 34'22	20.32092 AU
max. Earth dist.	13703 Oct 21 18:42	12° M 17'29	20.64701 AU	morning rise	13709 Dec 02 04:31	8° J 32'08	
morning rise	13703 Nov 06 18:55	13° M 13'06		retrograde	13710 Mar 06 12:29	11° J 47'07	
	13703 Dec 11 09:13	15° M		opposition	13710 May 21 19:05	9° J 45'43	1°12'50
retrograde	13704 Feb 08 19:09	16° M 23'51		min. Earth dist.	13710 May 21 19:21	9° J 45'42	18.29052 AU
	13704 Apr 10 16:55	15° R M		direct	13710 Aug 04 19:22	7° J 45'42	
opposition	13704 Apr 25 18:06	14° M 23'27	1°04'41	evening set	13710 Nov 04 05:17	10° J 55'30	
min. Earth dist.	13704 Apr 25 14:13	14° M 23'50	18.62264 AU				
direct	13704 Jul 10 04:03	12° M 24'45		conjunction	13710 Nov 20 12:03	11° J 53'08	1°05'36
	13704 Sep 30 02:08	15° M		minimum elong	13710 Nov 20 12:02	11° J 53'08	1°06'34
evening set	13704 Oct 08 22:22	15° M 29'42		max. Earth dist.	13710 Nov 20 09:58	11° J 52'49	20.25923 AU
				morning rise	13710 Dec 06 20:57	12° J 51'06	
conjunction	13704 Oct 25 01:15	16° M 25'48	0°59'23	retrograde	13711 Mar 11 03:58	16° J 06'47	
minimum elong	13704 Oct 25 01:14	16° M 25'48	1°00'04	opposition	13711 May 26 09:08	14° J 05'11	1°12'50
max. Earth dist.	13704 Oct 25 04:02	16° M 26'12	20.59744 AU	min. Earth dist.	13711 May 26 11:14	14° J 04'57	18.22811 AU

direct	13711 Aug 09 06:37	12°♊04'49		minimum elong	13717 Dec 22 00:28	12°♊48'42	0°57'13
evening set	13711 Nov 08 21:13	15°♊15'31		max. Earth dist.	13717 Dec 21 18:25	12°♊47'47	19.83233 AU
				morning rise	13718 Jan 07 12:53	13°♊48'29	
conjunction	13711 Nov 25 04:47	16°♊13'26	1°05'24	retrograde	13718 Apr 11 16:47	17°♊08'42	
minimum elong	13711 Nov 25 04:47	16°♊13'26	1°06'23	opposition	13718 Jun 26 00:43	15°♊05'46	1°01'03
max. Earth dist.	13711 Nov 25 02:27	16°♊13'05	20.19633 AU	min. Earth dist.	13718 Jun 26 05:20	15°♊05'16	17.80563 AU
morning rise	13711 Dec 11 14:12	17°♊11'40		direct	13718 Sep 08 21:05	13°♊03'10	
retrograde	13712 Mar 14 23:10	20°♊28'02		evening set	13718 Dec 10 10:45	16°♊20'34	
opposition	13712 May 29 23:20	18°♊26'11	1°12'26				
min. Earth dist.	13712 May 30 01:12	18°♊25'59	18.16478 AU	conjunction	13718 Dec 26 22:34	17°♊20'25	0°53'20
direct	13712 Aug 12 21:32	16°♊25'29		minimum elong	13718 Dec 26 22:35	17°♊20'25	0°54'22
evening set	13712 Nov 12 14:01	19°♊37'06		max. Earth dist.	13718 Dec 26 16:34	17°♊19'30	19.77928 AU
				morning rise	13719 Jan 12 11:17	18°♊20'26	
conjunction	13712 Nov 28 22:09	20°♊35'18	1°04'49	retrograde	13719 Apr 16 12:55	21°♊41'14	
minimum elong	13712 Nov 28 22:09	20°♊35'18	1°05'50	opposition	13719 Jun 30 19:04	19°♊38'14	0°57'42
max. Earth dist.	13712 Nov 28 18:32	20°♊34'45	20.13281 AU	min. Earth dist.	13719 Jul 01 00:47	19°♊37'37	17.75399 AU
morning rise	13712 Dec 15 08:10	21°♊33'48		direct	13719 Sep 13 14:44	17°♊35'24	
retrograde	13713 Mar 19 15:20	24°♊50'50		evening set	13719 Dec 15 09:15	20°♊53'47	
opposition	13713 Jun 03 14:19	22°♊48'45	1°11'36				
min. Earth dist.	13713 Jun 03 17:48	22°♊48'23	18.10134 AU	conjunction	13719 Dec 31 21:28	21°♊53'53	0°50'08
direct	13713 Aug 17 10:00	20°♊47'43		minimum elong	13719 Dec 31 21:29	21°♊53'53	0°51'09
evening set	13713 Nov 17 07:19	24°♊00'15		max. Earth dist.	13719 Dec 31 14:20	21°♊52'47	19.72916 AU
				morning rise	13720 Jan 17 10:36	22°♊54'07	
conjunction	13713 Dec 03 16:10	24°♊58'44	1°03'51	retrograde	13720 Apr 20 11:36	26°♊15'28	
minimum elong	13713 Dec 03 16:10	24°♊58'44	1°04'53	opposition	13720 Jul 04 13:48	24°♊12'25	0°53'59
max. Earth dist.	13713 Dec 03 12:22	24°♊58'10	20.06966 AU	min. Earth dist.	13720 Jul 04 19:26	24°♊11'49	17.70521 AU
morning rise	13713 Dec 20 02:41	25°♊57'30		direct	13720 Sep 17 10:30	22°♊09'21	
retrograde	13714 Mar 24 11:19	29°♊15'12		evening set	13720 Dec 19 08:30	25°♊28'43	
opposition	13714 Jun 08 05:41	27°♊12'54	1°10'20				
min. Earth dist.	13714 Jun 08 08:41	27°♊12'35	18.03856 AU	conjunction	13721 Jan 04 21:14	26°♊29'03	0°46'37
direct	13714 Aug 22 02:32	25°♊11'31		minimum elong	13721 Jan 04 21:15	26°♊29'03	0°47'37
evening set	13714 Nov 22 01:38	28°♊25'00		max. Earth dist.	13721 Jan 04 14:18	26°♊27'59	19.68161 AU
				morning rise	13721 Jan 21 10:28	27°♊29'30	
conjunction	13714 Dec 08 11:04	29°♊23'46	1°02'30		13721 Mar 12 00:43	0°♊	
minimum elong	13714 Dec 08 11:04	29°♊23'46	1°03'32	retrograde	13721 Apr 25 09:35	0°♊51'22	
max. Earth dist.	13714 Dec 08 06:28	29°♊23'05	20.00737 AU		13721 Jun 09 19:30	30°♊	
	13714 Dec 18 12:19	0°♊		opposition	13721 Jul 09 09:24	28°♊48'17	0°49'53
morning rise	13714 Dec 24 22:07	0°♊22'48		min. Earth dist.	13721 Jul 09 16:00	28°♊47'34	17.65890 AU
retrograde	13715 Mar 29 04:20	3°♊41'09		direct	13721 Sep 22 05:31	26°♊45'00	
opposition	13715 Jun 12 21:35	1°♊38'39	1°08'39		13721 Dec 22 21:12	0°♊	
min. Earth dist.	13715 Jun 13 02:03	1°♊38'10	17.97704 AU	evening set	13721 Dec 24 08:29	0°♊05'16	
	13715 Jul 27 21:46	30°♊					
direct	13715 Aug 26 16:27	29°♊36'55		conjunction	13722 Jan 09 21:29	1°♊05'49	0°42'46
	13715 Sep 25 04:35	0°♊		minimum elong	13722 Jan 09 21:29	1°♊05'50	0°43'43
evening set	13715 Nov 26 20:42	2°♊51'22		max. Earth dist.	13722 Jan 09 12:58	1°♊04'31	19.63659 AU
				morning rise	13722 Jan 26 11:05	2°♊06'29	
conjunction	13715 Dec 13 06:47	3°♊50'25	1°00'46	retrograde	13722 Apr 30 09:29	5°♊28'48	
minimum elong	13715 Dec 13 06:47	3°♊50'25	1°01'50	opposition	13722 Jul 14 05:30	3°♊25'40	0°45'27
max. Earth dist.	13715 Dec 13 01:44	3°♊49'39	19.94678 AU	min. Earth dist.	13722 Jul 14 12:21	3°♊24'55	17.61508 AU
morning rise	13715 Dec 29 18:21	4°♊49'43		direct	13722 Sep 27 02:34	1°♊22'08	
retrograde	13716 Apr 02 01:05	8°♊08'42		evening set	13722 Dec 29 09:13	4°♊43'17	
opposition	13716 Jun 16 13:59	6°♊06'00	1°06'32				
min. Earth dist.	13716 Jun 16 17:55	6°♊05'35	17.91741 AU	conjunction	13723 Jan 14 22:43	5°♊44'03	0°38'38
direct	13716 Aug 30 10:27	4°♊03'58		minimum elong	13723 Jan 14 22:43	5°♊44'03	0°39'33
evening set	13716 Nov 30 16:35	7°♊19'24		max. Earth dist.	13723 Jan 14 14:30	5°♊42'47	19.59388 AU
				morning rise	13723 Jan 31 12:17	6°♊44'52	
conjunction	13716 Dec 17 03:14	8°♊18'43	0°58'39	retrograde	13723 May 05 08:35	10°♊07'34	
minimum elong	13716 Dec 17 03:14	8°♊18'43	0°59'42	opposition	13723 Jul 19 02:03	8°♊04'23	0°40'42
max. Earth dist.	13716 Dec 16 21:50	8°♊17'54	19.88817 AU	min. Earth dist.	13723 Jul 19 09:39	8°♊03'33	17.57355 AU
morning rise	13717 Jan 02 15:09	9°♊18'15		direct	13723 Oct 01 23:08	6°♊00'36	
retrograde	13717 Apr 06 19:09	12°♊37'52		evening set	13724 Jan 03 10:42	9°♊22'34	
opposition	13717 Jun 21 07:07	10°♊35'02	1°04'00				
min. Earth dist.	13717 Jun 21 12:14	10°♊34'29	17.86008 AU	conjunction	13724 Jan 20 00:19	10°♊23'31	0°34'14
direct	13717 Sep 04 02:17	8°♊32'42		minimum elong	13724 Jan 20 00:19	10°♊23'31	0°35'06
evening set	13717 Dec 05 13:16	11°♊49'07		max. Earth dist.	13724 Jan 19 14:19	10°♊21'59	19.55378 AU
				morning rise	13724 Feb 05 14:07	11°♊24'30	
conjunction	13717 Dec 22 00:28	12°♊48'42	0°56'10	retrograde	13724 May 09 08:45	14°♊47'32	

opposition	13724 Jul 22 23:10	12° 44 '16	0°35'40	max. Earth dist.	13730 Feb 17 06:02	8° 36 '23	19.39521 AU
min. Earth dist.	13724 Jul 23 07:13	12° 43 '24	17.53492 AU	morning rise	13730 Mar 06 05:06	9° 39 '25	
direct	13724 Oct 05 21:23	10° 40 '14		retrograde	13730 Jun 07 07:22	13° 03 '11	
evening set	13725 Jan 07 12:22	14° 02 '58		opposition	13730 Aug 20 12:46	10° 59 '44	0°01'17
	13725 Jan 22 23:58	15° 00 '		min. Earth dist.	13730 Aug 20 21:27	10° 58 '47	17.39053 AU
				desc. node	13730 Nov 02 19:12	8° 54 '36	
conjunction	13725 Jan 24 02:21	15° 04 '05	0°29'35	direct	13730 Nov 03 19:03	8° 54 '35	
minimum elong	13725 Jan 24 02:21	15° 04 '05	0°30'24	evening set	13731 Feb 06 05:57	12° 20 '31	
max. Earth dist.	13725 Jan 23 17:04	15° 02 '39	19.51666 AU				
morning rise	13725 Feb 09 15:59	16° 05 '12		conjunction	13731 Feb 22 19:34	13° 22 '07	-0°01'40
retrograde	13725 May 14 08:26	19° 28 '29		minimum elong	13731 Feb 22 19:35	13° 22 '07	0°01'15
opposition	13725 Jul 27 20:41	17° 25 '10	0°30'22	behind sun begin	13731 Feb 22 12:51	13° 21 '05	
min. Earth dist.	13725 Jul 28 04:54	17° 24 '16	17.49944 AU	behind sun end	13731 Feb 23 02:19	13° 23 '08	
direct	13725 Oct 10 19:30	15° 20 '54		max. Earth dist.	13731 Feb 22 10:00	13° 20 '38	19.38722 AU
evening set	13726 Jan 12 14:44	18° 44 '19		morning rise	13731 Mar 11 07:51	14° 23 '32	
				retrograde	13731 Jun 12 07:49	17° 47 '13	
conjunction	13726 Jan 29 04:41	19° 45 '34	0°24'43	opposition	13731 Aug 25 11:46	15° 43 '52	-0°04'45
minimum elong	13726 Jan 29 04:42	19° 45 '34	0°25'30	min. Earth dist.	13731 Aug 25 19:13	15° 43 '03	17.38549 AU
max. Earth dist.	13726 Jan 28 17:54	19° 43 '54	19.48313 AU	direct	13731 Nov 08 21:15	13° 38 '41	
morning rise	13726 Feb 14 18:26	20° 46 '49		evening set	13732 Feb 11 09:28	17° 04 '55	
retrograde	13726 May 19 08:31	24° 10 '19					
opposition	13726 Aug 01 18:29	22° 06 '55	0°24'50	conjunction	13732 Feb 27 22:42	18° 06 '30	-0°07'04
min. Earth dist.	13726 Aug 02 03:17	22° 05 '57	17.46796 AU	minimum elong	13732 Feb 27 22:43	18° 06 '30	0°06'45
direct	13726 Oct 15 18:31	20° 02 '24		behind sun begin	13732 Feb 27 16:26	18° 05 '33	
evening set	13727 Jan 17 17:18	23° 26 '28		behind sun end	13732 Feb 28 05:00	18° 07 '28	
				max. Earth dist.	13732 Feb 27 13:21	18° 05 '04	19.38518 AU
conjunction	13727 Feb 03 07:31	24° 27 '51	0°19'41	morning rise	13732 Mar 15 10:28	19° 07 '53	
minimum elong	13727 Feb 03 07:31	24° 27 '51	0°20'23	retrograde	13732 Jun 16 06:46	22° 31 '28	
max. Earth dist.	13727 Feb 02 21:37	24° 26 '19	19.45374 AU	opposition	13732 Aug 29 11:13	20° 28 '15	-0°10'45
morning rise	13727 Feb 19 21:00	25° 29 '10		min. Earth dist.	13732 Aug 29 19:17	20° 27 '22	17.38648 AU
retrograde	13727 May 24 08:37	28° 52 '49		direct	13732 Nov 12 21:33	18° 23 '04	
opposition	13727 Aug 06 16:37	26° 49 '22	0°19'07	evening set	13733 Feb 15 12:45	21° 49 '32	
min. Earth dist.	13727 Aug 07 01:04	26° 48 '27	17.44072 AU				
direct	13727 Oct 20 18:10	24° 44 '39		conjunction	13733 Mar 04 01:37	22° 51 '05	-0°12'24
evening set	13728 Jan 22 20:19	28° 09 '17		minimum elong	13733 Mar 04 01:36	22° 51 '05	0°12'09
				behind sun begin	13733 Mar 03 21:07	22° 50 '24	
conjunction	13728 Feb 08 10:20	29° 10 '45	0°14'29	behind sun end	13733 Mar 04 06:05	22° 51 '46	
minimum elong	13728 Feb 08 10:20	29° 10 '45	0°15'08	max. Earth dist.	13733 Mar 03 16:38	22° 49 '41	19.38909 AU
behind sun begin	13728 Feb 08 08:15	29° 10 '26		morning rise	13733 Mar 20 12:53	23° 52 '24	
behind sun end	13728 Feb 08 12:25	29° 11 '04		retrograde	13733 Jun 21 07:57	27° 15 '50	
max. Earth dist.	13728 Feb 07 23:22	29° 09 '04	19.42888 AU	opposition	13733 Sep 03 10:37	25° 12 '46	-0°16'40
	13728 Feb 21 16:09	0° 00 '		min. Earth dist.	13733 Sep 03 17:25	25° 12 '01	17.39303 AU
morning rise	13728 Feb 24 23:42	0° 12 '09		direct	13733 Nov 18 00:08	23° 07 '39	
retrograde	13728 May 28 08:06	3° 35 '53		evening set	13734 Feb 20 16:13	26° 34 '15	
opposition	13728 Aug 10 15:05	1° 32 '24	0°13'16				
min. Earth dist.	13728 Aug 11 00:09	1° 31 '25	17.41845 AU	conjunction	13734 Mar 09 04:38	27° 35 '44	-0°17'38
	13728 Sep 19 09:16	30° 00 '		minimum elong	13734 Mar 09 04:38	27° 35 '44	0°17'29
direct	13728 Oct 24 17:43	29° 27 '29		max. Earth dist.	13734 Mar 08 20:16	27° 34 '26	19.39815 AU
	13728 Nov 28 15:48	0° 00 '		morning rise	13734 Mar 25 15:13	28° 36 '58	
evening set	13729 Jan 26 23:21	2° 52 '38			13734 Apr 18 16:31	0° 00 '	
				retrograde	13734 Jun 26 07:02	2° 00 '10	
conjunction	13729 Feb 12 13:24	3° 54 '11	0°09'12		13734 Sep 07 09:11	30° 00 '	
minimum elong	13729 Feb 12 13:24	3° 54 '11	0°09'46	opposition	13734 Sep 08 10:10	29° 57 '17	-0°22'29
behind sun begin	13729 Feb 12 07:55	3° 53 '20		min. Earth dist.	13734 Sep 08 17:51	29° 56 '27	17.40455 AU
behind sun end	13729 Feb 12 18:54	3° 55 '01		direct	13734 Nov 23 00:20	27° 52 '13	
max. Earth dist.	13729 Feb 12 03:27	3° 52 '38	19.40926 AU		13735 Feb 03 00:50	0° 00 '	
morning rise	13729 Mar 01 02:24	4° 55 '36		evening set	13735 Feb 25 19:37	1° 18 '54	
retrograde	13729 Jun 02 08:23	8° 19 '22					
opposition	13729 Aug 15 13:45	6° 15 '53	0°07'18	conjunction	13735 Mar 14 07:26	2° 20 '16	-0°22'46
min. Earth dist.	13729 Aug 15 21:52	6° 15 '00	17.40155 AU	minimum elong	13735 Mar 14 07:26	2° 20 '16	0°22'43
direct	13729 Oct 29 18:49	4° 10 '50		max. Earth dist.	13735 Mar 13 22:43	2° 18 '55	19.41195 AU
evening set	13730 Feb 01 02:34	7° 36 '24		morning rise	13735 Mar 30 17:27	3° 21 '24	
				retrograde	13735 Jul 01 08:10	6° 44 '19	
conjunction	13730 Feb 17 16:22	8° 37 '59	0°03'51	opposition	13735 Sep 13 09:45	4° 41 '36	-0°28'08
minimum elong	13730 Feb 17 16:22	8° 37 '59	0°04'20	min. Earth dist.	13735 Sep 13 16:19	4° 40 '53	17.42046 AU
behind sun begin	13730 Feb 17 09:44	8° 36 '58		direct	13735 Nov 28 02:29	2° 36 '36	
behind sun end	13730 Feb 17 23:00	8° 38 '59		evening set	13736 Mar 01 22:38	6° 03 '13	

conjunction	13736 Mar 18 09:55	7° Υ 04'29	-0°27'45	retrograde	13742 Aug 02 16:23	9° δ 30'07	
minimum elong	13736 Mar 18 09:55	7° Υ 04'29	0°27'45	opposition	13742 Oct 16 02:46	7° δ 28'20	-1°00'10
max. Earth dist.	13736 Mar 18 02:11	7° Υ 03'17	19.42976 AU	min. Earth dist.	13742 Oct 16 07:04	7° δ 27'52	17.63458 AU
morning rise	13736 Apr 03 19:04	8° Υ 05'28		direct	13742 Dec 31 11:51	5° δ 23'59	
retrograde	13736 Jul 05 07:12	11° Υ 28'02		evening set	13743 Apr 05 05:53	8° δ 47'40	
opposition	13736 Sep 17 09:30	9° Υ 25'29	-0°33'35				
min. Earth dist.	13736 Sep 17 16:46	9° Υ 24'41	17.44026 AU	conjunction	13743 Apr 21 11:52	9° δ 47'30	-0°55'28
direct	13736 Dec 02 03:05	7° Υ 20'34		minimum elong	13743 Apr 21 11:51	9° δ 47'30	0°56'03
evening set	13737 Mar 07 01:26	10° Υ 47'01		max. Earth dist.	13743 Apr 21 06:50	9° δ 46'44	19.65667 AU
				morning rise	13743 May 07 15:35	10° δ 47'02	
conjunction	13737 Mar 23 11:57	11° Υ 48'08	-0°32'32	retrograde	13743 Aug 07 11:16	14° δ 05'38	
minimum elong	13737 Mar 23 11:56	11° Υ 48'08	0°32'38	opposition	13743 Oct 21 00:32	12° δ 04'00	-1°03'18
max. Earth dist.	13737 Mar 23 03:32	11° Υ 46'49	19.45149 AU	min. Earth dist.	13743 Oct 21 04:02	12° δ 03'37	17.68024 AU
morning rise	13737 Apr 08 20:30	12° Υ 48'58		direct	13744 Jan 05 11:18	9° δ 59'48	
retrograde	13737 Jul 10 07:06	16° Υ 11'07		evening set	13744 Apr 09 03:51	13° δ 22'48	
opposition	13737 Sep 22 08:54	14° Υ 08'42	-0°38'48				
min. Earth dist.	13737 Sep 22 15:11	14° Υ 08'01	17.46384 AU	conjunction	13744 Apr 25 09:08	14° δ 22'23	-0°58'05
direct	13737 Dec 07 04:52	12° Υ 03'51		minimum elong	13744 Apr 25 09:08	14° δ 22'23	0°58'45
evening set	13738 Mar 12 03:40	15° Υ 30'04		max. Earth dist.	13744 Apr 25 06:03	14° δ 21'54	19.70434 AU
					13744 May 05 13:22	15° δ	
conjunction	13738 Mar 28 13:40	16° Υ 31'02	-0°37'05	morning rise	13744 May 11 11:57	15° δ 21'38	
minimum elong	13738 Mar 28 13:40	16° Υ 31'02	0°37'17	retrograde	13744 Aug 11 06:34	18° δ 39'35	
max. Earth dist.	13738 Mar 28 06:31	16° Υ 29'55	19.47675 AU	opposition	13744 Oct 24 21:49	16° δ 38'08	-1°06'00
morning rise	13738 Apr 13 21:18	17° Υ 31'41		min. Earth dist.	13744 Oct 25 00:05	16° δ 37'54	17.72986 AU
retrograde	13738 Jul 15 05:11	20° Υ 53'20			13744 Dec 08 08:55	15° δ	
opposition	13738 Sep 27 08:21	18° Υ 51'04	-0°43'45	direct	13745 Jan 09 11:26	14° δ 34'11	
min. Earth dist.	13738 Sep 27 15:03	18° Υ 50'20	17.49081 AU		13745 Feb 09 23:22	15° δ	
direct	13738 Dec 12 06:11	16° Υ 46'18		evening set	13745 Apr 14 01:15	17° δ 56'26	
evening set	13739 Mar 17 05:35	20° Υ 12'10					
				conjunction	13745 Apr 30 05:37	18° δ 55'45	-1°00'20
conjunction	13739 Apr 02 14:41	21° Υ 12'56	-0°41'23	minimum elong	13745 Apr 30 05:36	18° δ 55'45	1°01'03
minimum elong	13739 Apr 02 14:40	21° Υ 12'56	0°41'40	max. Earth dist.	13745 Apr 30 02:44	18° δ 55'19	19.75592 AU
max. Earth dist.	13739 Apr 02 06:45	21° Υ 11'42	19.50549 AU	morning rise	13745 May 16 07:45	19° δ 54'46	
morning rise	13739 Apr 18 21:40	22° Υ 13'24		retrograde	13745 Aug 16 00:23	23° δ 12'01	
retrograde	13739 Jul 20 03:07	25° Υ 34'32		opposition	13745 Oct 29 18:33	21° δ 10'48	-1°08'16
opposition	13739 Oct 02 07:24	23° Υ 32'22	-0°48'23	min. Earth dist.	13745 Oct 29 20:20	21° δ 10'37	17.78335 AU
min. Earth dist.	13739 Oct 02 13:12	23° Υ 31'45	17.52133 AU	direct	13746 Jan 14 09:04	19° δ 07'07	
direct	13739 Dec 17 07:50	21° Υ 27'41		evening set	13746 Apr 18 21:45	22° δ 28'37	
evening set	13740 Mar 21 06:41	24° Υ 53'08					
				conjunction	13746 May 05 01:28	23° δ 27'41	-1°02'12
conjunction	13740 Apr 06 15:12	25° Υ 53'42	-0°45'24	minimum elong	13746 May 05 01:27	23° δ 27'41	1°02'58
minimum elong	13740 Apr 06 15:12	25° Υ 53'42	0°45'46	max. Earth dist.	13746 May 05 00:07	23° δ 27'28	19.81105 AU
max. Earth dist.	13740 Apr 06 08:55	25° Υ 52'43	19.53772 AU	morning rise	13746 May 21 02:48	24° δ 26'25	
morning rise	13740 Apr 22 21:13	26° Υ 53'56		retrograde	13746 Aug 20 19:08	27° δ 43'00	
	13740 Jul 01 01:24	0° δ		opposition	13746 Nov 03 14:53	25° δ 42'03	-1°10'06
retrograde	13740 Jul 24 00:13	0° δ 14'29		min. Earth dist.	13746 Nov 03 15:20	25° δ 42'00	17.83979 AU
	13740 Aug 16 04:53	30° δ		direct	13747 Jan 19 07:47	23° δ 38'41	
opposition	13740 Oct 06 06:18	28° Υ 12'27	-0°52'41	evening set	13747 Apr 23 17:31	26° δ 59'23	
min. Earth dist.	13740 Oct 06 12:01	28° Υ 11'50	17.55533 AU				
direct	13740 Dec 21 09:39	26° Υ 07'52		conjunction	13747 May 09 20:20	27° δ 58'10	-1°03'39
evening set	13741 Mar 26 07:07	29° Υ 32'47		minimum elong	13747 May 09 20:20	27° δ 58'10	1°04'30
	13741 Apr 02 17:10	0° δ		max. Earth dist.	13747 May 09 19:23	27° δ 58'01	19.86872 AU
				morning rise	13747 May 25 20:59	28° δ 56'38	
conjunction	13741 Apr 11 14:42	0° δ 33'07	-0°49'06		13747 Jun 13 07:19	0° Π	
minimum elong	13741 Apr 11 14:42	0° δ 33'07	0°49'32	retrograde	13747 Aug 25 11:58	2° Π 12'33	
max. Earth dist.	13741 Apr 11 07:57	0° δ 32'04	19.57357 AU	opposition	13747 Nov 08 10:53	0° Π 11'52	-1°11'29
morning rise	13741 Apr 27 20:06	1° δ 33'08		min. Earth dist.	13747 Nov 08 11:15	0° Π 11'50	17.89862 AU
retrograde	13741 Jul 28 20:18	4° δ 53'04			13747 Nov 13 03:55	30° δ	
opposition	13741 Oct 11 04:47	2° δ 51'08	-0°56'37	direct	13748 Jan 24 03:54	28° δ 08'49	
min. Earth dist.	13741 Oct 11 09:41	2° δ 50'37	17.59309 AU		13748 Mar 31 22:14	0° Π	
direct	13741 Dec 26 10:36	0° δ 46'39		evening set	13748 Apr 27 12:24	1° Π 28'41	
evening set	13742 Mar 31 06:48	4° δ 10'59					
				conjunction	13748 May 13 14:32	2° Π 27'12	-1°04'43
conjunction	13742 Apr 16 13:46	5° δ 11'05	-0°52'27	minimum elong	13748 May 13 14:32	2° Π 27'12	1°05'36
minimum elong	13742 Apr 16 13:45	5° δ 11'05	0°52'59	max. Earth dist.	13748 May 13 14:42	2° Π 27'13	19.92844 AU
max. Earth dist.	13742 Apr 16 08:51	5° δ 10'19	19.61317 AU	morning rise	13748 May 29 14:28	3° Π 25'24	
morning rise	13742 May 02 18:11	6° δ 10'51		retrograde	13748 Aug 29 06:09	6° Π 40'37	

opposition	13748 Nov 12 06:18	4°II40'13	-1°12'26	conjunction	13755 Jun 13 23:20	3°☾04'30	-1°01'27
min. Earth dist.	13748 Nov 12 05:15	4°II40'19	17.95893 AU	minimum elong	13755 Jun 13 23:21	3°☾04'30	1°02'30
direct	13749 Jan 28 01:27	2°II37'29		max. Earth dist.	13755 Jun 14 03:39	3°☾05'09	20.34752 AU
evening set	13749 May 02 06:31	5°II56'29		morning rise	13755 Jun 29 19:42	4°☾00'56	
				retrograde	13755 Sep 29 10:48	7°☾11'15	
conjunction	13749 May 18 07:54	6°II54'43	-1°05'23	opposition	13755 Dec 14 07:27	5°☾12'02	-1°07'15
minimum elong	13749 May 18 07:54	6°II54'43	1°06'19	min. Earth dist.	13755 Dec 14 03:40	5°☾12'26	18.37620 AU
max. Earth dist.	13749 May 18 08:33	6°II54'49	19.98920 AU	direct	13756 Feb 29 08:43	3°☾11'10	
morning rise	13749 Jun 03 07:13	7°II52'40		evening set	13756 Jun 01 13:36	6°☾23'23	
retrograde	13749 Sep 02 21:45	11°II07'11					
opposition	13749 Nov 17 01:22	9°II07'01	-1°12'57	conjunction	13756 Jun 17 10:56	7°☾19'46	-0°59'33
min. Earth dist.	13749 Nov 17 00:38	9°II07'06	18.02009 AU	minimum elong	13756 Jun 17 10:56	7°☾19'46	1°00'37
direct	13750 Feb 01 19:57	7°II04'37		max. Earth dist.	13756 Jun 17 15:27	7°☾20'26	20.40437 AU
evening set	13750 May 06 23:53	10°II22'42		morning rise	13756 Jul 03 07:06	8°☾15'59	
				retrograde	13756 Oct 02 23:37	11°☾25'38	
conjunction	13750 May 23 00:34	11°II20'40	-1°05'40	opposition	13756 Dec 17 22:09	9°☾26'31	-1°04'57
minimum elong	13750 May 23 00:34	11°II20'40	1°06'38	min. Earth dist.	13756 Dec 17 16:35	9°☾27'05	18.43279 AU
max. Earth dist.	13750 May 23 01:47	11°II20'51	20.05049 AU	direct	13757 Mar 05 01:43	7°☾25'52	
morning rise	13750 Jun 07 23:16	12°II18'21		evening set	13757 Jun 06 00:51	10°☾37'08	
retrograde	13750 Sep 07 15:21	15°II32'10					
opposition	13750 Nov 21 19:43	13°II32'14	-1°13'02	conjunction	13757 Jun 21 21:52	11°☾33'17	-0°57'21
min. Earth dist.	13750 Nov 21 17:34	13°II32'27	18.08129 AU	minimum elong	13757 Jun 21 21:52	11°☾33'17	0°58'25
direct	13751 Feb 06 16:44	11°II30'08		max. Earth dist.	13757 Jun 22 03:53	11°☾34'11	20.46065 AU
evening set	13751 May 11 16:26	14°II47'17		morning rise	13757 Jul 07 17:41	12°☾29'17	
				retrograde	13757 Oct 07 09:30	15°☾38'20	
conjunction	13751 May 27 16:27	15°II44'58	-1°05'34	opposition	13757 Dec 22 12:30	13°☾39'20	-1°02'19
minimum elong	13751 May 27 16:27	15°II44'58	1°06'33	min. Earth dist.	13757 Dec 22 07:08	13°☾39'53	18.48881 AU
max. Earth dist.	13751 May 27 18:18	15°II45'15	20.11154 AU	direct	13758 Mar 09 15:27	11°☾38'57	
morning rise	13751 Jun 12 14:32	16°II42'24		evening set	13758 Jun 10 11:26	14°☾49'17	
retrograde	13751 Sep 12 05:11	19°II55'31					
opposition	13751 Nov 26 13:49	17°II55'47	-1°12'41	conjunction	13758 Jun 26 07:59	15°☾45'13	-0°54'50
min. Earth dist.	13751 Nov 26 12:08	17°II55'58	18.14218 AU	minimum elong	13758 Jun 26 07:59	15°☾45'13	0°55'52
direct	13752 Feb 11 10:07	15°II53'58		max. Earth dist.	13758 Jun 26 14:01	15°☾46'06	20.51642 AU
evening set	13752 May 15 07:57	19°II10'10		morning rise	13758 Jul 12 03:41	16°☾41'00	
				retrograde	13758 Oct 11 21:11	19°☾49'30	
conjunction	13752 May 31 07:20	20°II07'34	-1°05'05	opposition	13758 Dec 27 02:09	17°☾50'38	-0°59'22
minimum elong	13752 May 31 07:20	20°II07'34	1°06'06	min. Earth dist.	13758 Dec 26 19:03	17°☾51'22	18.54414 AU
max. Earth dist.	13752 May 31 09:28	20°II07'54	20.17210 AU	direct	13759 Mar 14 06:04	15°☾50'32	
morning rise	13752 Jun 16 04:59	21°II04'44		evening set	13759 Jun 14 21:16	18°☾59'59	
retrograde	13752 Sep 15 21:37	24°II17'09					
opposition	13752 Nov 30 07:07	22°II17'35	-1°11'55	conjunction	13759 Jun 30 17:37	19°☾55'42	-0°52'03
min. Earth dist.	13752 Nov 30 03:57	22°II17'55	18.20221 AU	minimum elong	13759 Jun 30 17:37	19°☾55'42	0°53'06
direct	13753 Feb 15 06:09	20°II16'02		max. Earth dist.	13759 Jul 01 01:12	19°☾56'49	20.57122 AU
evening set	13753 May 19 22:44	23°II31'15		morning rise	13759 Jul 16 13:02	20°☾51'19	
				retrograde	13759 Oct 16 06:50	23°☾59'17	
conjunction	13753 Jun 04 21:36	24°II28'24	-1°04'13	opposition	13759 Dec 31 15:28	22°☾00'35	-0°56'07
minimum elong	13753 Jun 04 21:36	24°II28'24	1°05'15	min. Earth dist.	13759 Dec 31 08:36	22°☾01'17	18.59830 AU
max. Earth dist.	13753 Jun 05 00:32	24°II28'50	20.23158 AU	direct	13760 Mar 17 18:17	20°☾00'47	
morning rise	13753 Jun 20 18:44	25°II25'19		evening set	13760 Jun 18 06:27	23°☾09'23	
retrograde	13753 Sep 20 09:40	28°II37'01					
opposition	13753 Dec 04 23:48	26°II37'36	-1°10'45	conjunction	13760 Jul 04 02:27	24°☾04'54	-0°49'01
min. Earth dist.	13753 Dec 04 21:15	26°II37'52	18.26119 AU	minimum elong	13760 Jul 04 02:27	24°☾04'54	0°50'01
direct	13754 Feb 19 22:24	24°II36'17		max. Earth dist.	13760 Jul 04 09:49	24°☾05'59	20.62469 AU
evening set	13754 May 24 12:39	27°II50'31		morning rise	13760 Jul 19 21:56	25°☾00'20	
				retrograde	13760 Oct 19 17:46	28°☾07'51	
conjunction	13754 Jun 09 10:57	28°II47'23	-1°03'00	opposition	13761 Jan 04 04:09	26°☾09'18	-0°52'35
minimum elong	13754 Jun 09 10:57	28°II47'23	1°04'04	min. Earth dist.	13761 Jan 03 19:51	26°☾10'08	18.65077 AU
max. Earth dist.	13754 Jun 09 13:58	28°II47'51	20.29010 AU	direct	13761 Mar 22 07:05	24°☾09'47	
morning rise	13754 Jun 25 07:46	29°II44'04		evening set	13761 Jun 22 15:09	27°☾17'35	
retrograde	13754 Jun 29 21:40	0°☾					
retrograde	13754 Sep 25 00:07	2°☾55'03		conjunction	13761 Jul 08 11:02	28°☾12'56	-0°45'44
opposition	13754 Dec 09 15:50	0°☾55'45	-1°09'11	minimum elong	13761 Jul 08 11:03	28°☾12'56	0°46'43
min. Earth dist.	13754 Dec 09 11:43	0°☾56'10	18.31911 AU	max. Earth dist.	13761 Jul 08 19:43	28°☾14'12	20.67598 AU
	13755 Jan 02 03:12	30°RII		morning rise	13761 Jul 24 06:18	29°☾08'13	
direct	13755 Feb 24 17:36	28°II54'40			13761 Aug 08 21:00	0°♈	
	13755 Apr 17 04:38	0°☾		retrograde	13761 Oct 24 02:50	2°♈15'17	
evening set	13755 May 29 01:30	2°☾07'52		opposition	13762 Jan 08 16:24	0°♈16'54	-0°48'49

min. Earth dist.	13762 Jan 08 08:35	0°Ω17'41	18.70079 AU	evening set	13768 Jul 20 16:06	25°Ω48'10	
	13762 Jan 15 16:04	30°κϷ					
direct	13762 Mar 26 18:08	28°Ϸ17'41		conjunction	13768 Aug 05 11:30	26°Ω42'37	-0°17'45
	13762 May 31 10:24	0°Ω		minimum elong	13768 Aug 05 11:30	26°Ω42'37	0°18'25
evening set	13762 Jun 26 23:27	1°Ω24'43		max. Earth dist.	13768 Aug 05 20:03	26°Ω43'51	20.93386 AU
				morning rise	13768 Aug 21 07:40	27°Ω37'12	
conjunction	13762 Jul 12 19:01	2°Ω19'54	-0°42'14		13768 Oct 11 02:41	0°η	
minimum elong	13762 Jul 12 19:01	2°Ω19'54	0°43'11	retrograde	13768 Nov 21 17:05	0°η42'21	
max. Earth dist.	13762 Jul 13 03:08	2°Ω21'05	20.72470 AU		13769 Jan 03 15:06	30°κΩ	
morning rise	13762 Jul 28 14:24	3°Ω15'01		opposition	13769 Feb 06 20:01	28°Ω44'19	-0°17'11
retrograde	13762 Oct 28 13:23	6°Ω21'43		min. Earth dist.	13769 Feb 06 11:01	28°Ω45'13	18.94437 AU
opposition	13763 Jan 13 04:18	4°Ω23'28	-0°44'48	direct	13769 Apr 24 13:42	26°Ω46'25	
min. Earth dist.	13763 Jan 12 19:23	4°Ω24'22	18.74796 AU	evening set	13769 Jul 24 21:34	29°Ω49'09	
direct	13763 Mar 31 05:40	2°Ω24'32			13769 Jul 28 02:16	0°η	
evening set	13763 Jul 01 07:04	5°Ω30'51					
				conjunction	13769 Aug 09 17:11	0°η43'33	-0°13'17
conjunction	13763 Jul 17 02:37	6°Ω25'52	-0°38'32	minimum elong	13769 Aug 09 17:11	0°η43'33	0°13'53
minimum elong	13763 Jul 17 02:37	6°Ω25'52	0°39'26	behind sun begin	13769 Aug 09 13:43	0°η43'04	
max. Earth dist.	13763 Jul 17 11:59	6°Ω27'14	20.77013 AU	behind sun end	13769 Aug 09 20:40	0°η44'02	
morning rise	13763 Aug 01 21:53	7°Ω20'52		max. Earth dist.	13769 Aug 10 02:57	0°η44'57	20.95385 AU
retrograde	13763 Nov 01 21:49	10°Ω27'13		morning rise	13769 Aug 25 13:25	1°η38'04	
opposition	13764 Jan 17 15:57	8°Ω29'06	-0°40'36	retrograde	13769 Nov 25 23:55	4°η43'06	
min. Earth dist.	13764 Jan 17 07:36	8°Ω29'57	18.79155 AU	opposition	13770 Feb 11 05:20	2°η45'01	-0°12'11
direct	13764 Apr 03 15:49	6°Ω30'26		min. Earth dist.	13770 Feb 10 20:33	2°η45'54	18.96261 AU
evening set	13764 Jul 04 14:30	9°Ω36'03		direct	13770 Apr 28 22:23	0°η47'13	
				evening set	13770 Jul 29 02:58	3°η49'31	
conjunction	13764 Jul 20 09:51	10°Ω30'56	-0°34'39				
minimum elong	13764 Jul 20 09:51	10°Ω30'56	0°35'32	conjunction	13770 Aug 13 22:32	4°η43'52	-0°08'45
max. Earth dist.	13764 Jul 20 18:20	10°Ω32'10	20.81182 AU	minimum elong	13770 Aug 13 22:33	4°η43'52	0°09'18
morning rise	13764 Aug 05 05:19	11°Ω25'49		behind sun begin	13770 Aug 13 17:00	4°η43'05	
retrograde	13764 Nov 05 07:58	14°Ω31'52		behind sun end	13770 Aug 14 04:06	4°η44'38	
opposition	13765 Jan 21 02:57	12°Ω33'50	-0°36'12	max. Earth dist.	13770 Aug 14 07:30	4°η45'08	20.97055 AU
min. Earth dist.	13765 Jan 20 17:54	12°Ω34'44	18.83117 AU	morning rise	13770 Aug 29 19:12	5°η38'21	
direct	13765 Apr 08 02:14	10°Ω35'23		retrograde	13770 Nov 30 08:55	8°η43'20	
evening set	13765 Jul 08 21:28	13°Ω40'22		opposition	13771 Feb 15 14:28	6°η45'12	-0°07'09
				min. Earth dist.	13771 Feb 15 05:03	6°η46'08	18.97778 AU
conjunction	13765 Jul 24 16:54	14°Ω35'08	-0°30'37	direct	13771 May 03 05:03	4°η47'29	
minimum elong	13765 Jul 24 16:55	14°Ω35'08	0°31'26	evening set	13771 Aug 02 07:56	7°η49'26	
max. Earth dist.	13765 Jul 25 02:20	14°Ω36'30	20.84914 AU				
	13765 Jul 31 20:00	15°Ω		conjunction	13771 Aug 18 03:51	8°η43'44	-0°04'13
morning rise	13765 Aug 09 12:20	15°Ω29'55		minimum elong	13771 Aug 18 03:50	8°η43'44	0°04'42
retrograde	13765 Nov 09 15:39	18°Ω35'41		behind sun begin	13771 Aug 17 21:24	8°η42'50	
opposition	13766 Jan 25 13:50	16°Ω37'43	-0°31'38	behind sun end	13771 Aug 18 10:16	8°η44'38	
min. Earth dist.	13766 Jan 25 05:27	16°Ω38'34	18.86615 AU	max. Earth dist.	13771 Aug 18 14:04	8°η45'12	20.98406 AU
	13766 Mar 14 06:58	15°κΩ		morning rise	13771 Sep 03 00:39	9°η38'13	
direct	13766 Apr 12 11:41	14°Ω39'28		retrograde	13771 Dec 04 15:49	12°η43'11	
	13766 May 11 02:31	15°Ω		opposition	13772 Feb 19 23:23	10°η45'01	-0°02'05
evening set	13766 Jul 13 04:06	17°Ω43'50		min. Earth dist.	13772 Feb 19 14:03	10°η45'57	18.98967 AU
				direct	13772 May 06 12:54	8°η47'25	
conjunction	13766 Jul 28 23:22	18°Ω38'28	-0°26'26	asc. node	13772 Jul 15 04:35	10°η40'53	
minimum elong	13766 Jul 28 23:23	18°Ω38'28	0°27'14	evening set	13772 Aug 05 13:06	11°η49'04	
max. Earth dist.	13766 Jul 29 07:47	18°Ω39'41	20.88187 AU				
morning rise	13766 Aug 13 19:05	19°Ω33'10		conjunction	13772 Aug 21 09:04	12°η43'21	0°00'27
retrograde	13766 Nov 14 01:05	22°Ω38'42		minimum elong	13772 Aug 21 09:03	12°η43'21	0°00'02
opposition	13767 Jan 30 00:18	20°Ω40'45	-0°26'56	behind sun begin	13772 Aug 21 03:34	12°η42'36	
min. Earth dist.	13767 Jan 29 15:21	20°Ω41'38	18.89656 AU	behind sun end	13772 Aug 21 14:33	12°η44'07	
direct	13767 Apr 16 21:00	18°Ω42'38		max. Earth dist.	13772 Aug 21 18:18	12°η44'40	20.99440 AU
evening set	13767 Jul 17 10:15	21°Ω46'25		morning rise	13772 Sep 06 06:22	13°η37'50	
				retrograde	13772 Dec 08 01:09	16°η42'51	
conjunction	13767 Aug 02 05:43	22°Ω40'58	-0°22'08	opposition	13773 Feb 23 07:57	14°η44'38	0°03'00
minimum elong	13767 Aug 02 05:43	22°Ω40'58	0°22'52	min. Earth dist.	13773 Feb 22 22:19	14°η45'36	18.99838 AU
max. Earth dist.	13767 Aug 02 15:09	22°Ω42'19	20.90997 AU	direct	13773 May 10 19:30	12°η47'08	
morning rise	13767 Aug 18 01:28	23°Ω35'35		evening set	13773 Aug 09 18:07	15°η48'34	
retrograde	13767 Nov 18 08:17	26°Ω40'55					
opposition	13768 Feb 03 10:22	24°Ω42'56	-0°22'06	conjunction	13773 Aug 25 14:27	16°η42'52	0°05'05
min. Earth dist.	13768 Feb 03 01:55	24°Ω43'47	18.92243 AU	minimum elong	13773 Aug 25 14:27	16°η42'52	0°04'43
direct	13768 Apr 20 06:01	22°Ω44'57		behind sun begin	13773 Aug 25 08:01	16°η41'58	

behind sun end	13773 Aug 25 20:53	16° <u>17</u> 43'46		minimum elong	13779 Sep 19 02:08	10° <u>04</u> 44'30	0°31'22
max. Earth dist.	13773 Aug 26 00:48	16° <u>17</u> 44'20	21.00132 AU	max. Earth dist.	13779 Sep 19 10:20	10° <u>04</u> 45'40	20.95410 AU
morning rise	13773 Sep 10 11:57	17° <u>17</u> 37'21		morning rise	13779 Oct 05 02:14	11° <u>04</u> 39'24	
retrograde	13773 Dec 12 08:21	20° <u>17</u> 42'28		retrograde	13780 Jan 06 13:52	14° <u>04</u> 46'04	
opposition	13774 Feb 27 16:38	18° <u>17</u> 44'14	0°08'03	opposition	13780 Mar 23 20:45	12° <u>04</u> 47'20	0°36'49
min. Earth dist.	13774 Feb 27 07:10	18° <u>17</u> 45'11	19.00346 AU	min. Earth dist.	13780 Mar 23 13:39	12° <u>04</u> 48'02	18.94206 AU
direct	13774 May 15 02:22	16° <u>17</u> 46'51		direct	13780 Jun 07 20:05	10° <u>04</u> 50'00	
evening set	13774 Aug 13 23:13	19° <u>17</u> 48'06		evening set	13780 Sep 06 10:31	13° <u>04</u> 51'28	
conjunction	13774 Aug 29 19:38	20° <u>17</u> 42'24	0°09'36	conjunction	13780 Sep 22 09:05	14° <u>04</u> 46'10	0°35'15
minimum elong	13774 Aug 29 19:38	20° <u>17</u> 42'24	0°09'20	minimum elong	13780 Sep 22 09:04	14° <u>04</u> 46'10	0°35'24
behind sun begin	13774 Aug 29 14:05	20° <u>17</u> 41'37		max. Earth dist.	13780 Sep 22 15:26	14° <u>04</u> 47'05	20.92863 AU
behind sun end	13774 Aug 30 01:11	20° <u>17</u> 43'11		morning rise	13780 Oct 08 09:50	15° <u>04</u> 41'12	
max. Earth dist.	13774 Aug 30 04:56	20° <u>17</u> 43'43	21.00464 AU	retrograde	13781 Jan 09 22:54	18° <u>04</u> 48'14	
morning rise	13774 Sep 14 17:40	21° <u>17</u> 36'56		opposition	13781 Mar 28 05:34	16° <u>04</u> 49'17	0°41'09
retrograde	13774 Dec 16 17:53	24° <u>17</u> 42'13		min. Earth dist.	13781 Mar 27 23:19	16° <u>04</u> 49'55	18.91422 AU
opposition	13775 Mar 04 01:17	22° <u>17</u> 43'56	0°13'03	direct	13781 Jun 12 02:43	14° <u>04</u> 51'49	
min. Earth dist.	13775 Mar 03 15:45	22° <u>17</u> 44'53	19.00491 AU	evening set	13781 Sep 10 17:16	17° <u>04</u> 53'30	
direct	13775 May 19 09:14	20° <u>17</u> 46'38		conjunction	13781 Sep 26 16:26	18° <u>04</u> 48'20	0°39'05
evening set	13775 Aug 18 04:25	23° <u>17</u> 47'47		minimum elong	13781 Sep 26 16:25	18° <u>04</u> 48'20	0°39'19
conjunction	13775 Sep 03 01:17	24° <u>17</u> 42'07	0°14'06	max. Earth dist.	13781 Sep 26 23:22	18° <u>04</u> 49'20	20.89852 AU
minimum elong	13775 Sep 03 01:17	24° <u>17</u> 42'07	0°13'53	morning rise	13781 Oct 12 17:32	19° <u>04</u> 43'29	
behind sun begin	13775 Sep 02 21:49	24° <u>17</u> 41'38		retrograde	13782 Jan 14 08:34	22° <u>04</u> 50'55	
behind sun end	13775 Sep 03 04:45	24° <u>17</u> 42'36		opposition	13782 Apr 01 14:35	20° <u>04</u> 51'46	0°45'18
max. Earth dist.	13775 Sep 03 11:33	24° <u>17</u> 43'35	21.00401 AU	min. Earth dist.	13782 Apr 01 08:31	20° <u>04</u> 52'23	18.88203 AU
morning rise	13775 Sep 18 23:34	25° <u>17</u> 36'41		direct	13782 Jun 16 10:57	18° <u>04</u> 54'09	
retrograde	13775 Dec 21 01:36	28° <u>17</u> 42'10		evening set	13782 Sep 15 00:21	21° <u>04</u> 56'06	
opposition	13776 Mar 07 09:47	26° <u>17</u> 43'51	0°18'01	conjunction	13782 Sep 30 23:50	22° <u>04</u> 51'04	0°42'43
min. Earth dist.	13776 Mar 07 00:38	26° <u>17</u> 44'47	19.00214 AU	minimum elong	13782 Sep 30 23:50	22° <u>04</u> 51'04	0°43'01
direct	13776 May 22 15:45	24° <u>17</u> 46'37		max. Earth dist.	13782 Oct 01 05:16	22° <u>04</u> 51'51	20.86451 AU
evening set	13776 Aug 21 09:58	27° <u>17</u> 47'44		morning rise	13782 Oct 17 01:40	23° <u>04</u> 46'22	
conjunction	13776 Sep 06 07:00	28° <u>17</u> 42'07	0°18'32	retrograde	13783 Jan 18 18:26	26° <u>04</u> 54'16	
minimum elong	13776 Sep 06 07:00	28° <u>17</u> 42'07	0°18'23	opposition	13783 Apr 05 23:48	24° <u>04</u> 54'52	0°49'14
max. Earth dist.	13776 Sep 06 15:51	28° <u>17</u> 43'22	20.99907 AU	min. Earth dist.	13783 Apr 05 18:27	24° <u>04</u> 55'25	18.84639 AU
morning rise	13776 Sep 22 05:53	29° <u>17</u> 36'45		direct	13783 Jun 20 17:37	22° <u>04</u> 57'06	
retrograde	13776 Sep 29 05:54	0° <u>17</u>		evening set	13783 Sep 19 07:51	25° <u>04</u> 59'23	
retrograde	13776 Dec 24 10:59	2° <u>17</u> 42'29		conjunction	13783 Oct 05 08:00	26° <u>04</u> 54'31	0°46'10
opposition	13777 Mar 11 18:24	0° <u>17</u> 44'06	0°22'53	minimum elong	13783 Oct 05 07:59	26° <u>04</u> 54'31	0°46'32
min. Earth dist.	13777 Mar 11 09:39	0° <u>17</u> 44'59	18.99492 AU	max. Earth dist.	13783 Oct 05 14:08	26° <u>04</u> 55'24	20.82719 AU
direct	13777 Mar 30 12:52	30° <u>17</u>		morning rise	13783 Oct 21 10:12	27° <u>04</u> 49'59	
direct	13777 May 26 22:36	28° <u>17</u> 46'54		retrograde	13783 Dec 04 20:53	0° <u>17</u>	
evening set	13777 Jul 20 18:47	0° <u>17</u>		retrograde	13784 Jan 23 04:30	0° <u>17</u> 58'21	
evening set	13777 Aug 25 15:36	1° <u>17</u> 48'02		retrograde	13784 Mar 14 00:21	30° <u>17</u>	
conjunction	13777 Sep 10 13:05	2° <u>17</u> 42'29	0°22'53	opposition	13784 Apr 09 08:56	28° <u>17</u> 58'46	0°52'56
minimum elong	13777 Sep 10 13:05	2° <u>17</u> 42'29	0°22'49	min. Earth dist.	13784 Apr 09 03:36	28° <u>17</u> 59'19	18.80759 AU
max. Earth dist.	13777 Sep 10 22:34	2° <u>17</u> 43'50	20.98928 AU	direct	13784 Jun 24 02:09	27° <u>17</u> 00'50	
morning rise	13777 Sep 26 12:12	3° <u>17</u> 37'11		evening set	13784 Sep 21 14:49	0° <u>17</u>	
retrograde	13777 Dec 28 19:26	6° <u>17</u> 43'12		evening set	13784 Sep 22 15:56	0° <u>17</u> 03'32	
opposition	13778 Mar 16 03:05	4° <u>17</u> 44'45	0°27'39	conjunction	13784 Oct 08 16:26	0° <u>17</u> 58'50	0°49'23
min. Earth dist.	13778 Mar 15 18:49	4° <u>17</u> 45'35	18.98256 AU	minimum elong	13784 Oct 08 16:26	0° <u>17</u> 58'50	0°49'49
direct	13778 May 31 05:40	2° <u>17</u> 47'34		max. Earth dist.	13784 Oct 08 21:00	0° <u>17</u> 59'30	20.78705 AU
evening set	13778 Aug 29 21:43	5° <u>17</u> 48'46		morning rise	13784 Oct 24 19:22	1° <u>17</u> 54'28	
conjunction	13778 Sep 14 19:25	6° <u>17</u> 43'16	0°27'08	retrograde	13785 Jan 26 15:32	5° <u>17</u> 03'24	
minimum elong	13778 Sep 14 19:25	6° <u>17</u> 43'16	0°27'08	opposition	13785 Apr 13 18:31	3° <u>17</u> 03'36	0°56'23
max. Earth dist.	13778 Sep 15 03:11	6° <u>17</u> 44'23	20.97437 AU	min. Earth dist.	13785 Apr 13 13:57	3° <u>17</u> 04'04	18.76625 AU
morning rise	13778 Sep 30 19:10	7° <u>17</u> 38'04		direct	13785 Jun 28 09:06	1° <u>17</u> 05'30	
retrograde	13779 Jan 02 04:39	10° <u>17</u> 44'25		evening set	13785 Sep 27 00:15	4° <u>17</u> 08'42	
opposition	13779 Mar 20 11:55	8° <u>17</u> 45'49	0°32'18	conjunction	13785 Oct 13 01:27	5° <u>17</u> 04'10	0°52'21
min. Earth dist.	13779 Mar 20 04:19	8° <u>17</u> 46'35	18.96505 AU	minimum elong	13785 Oct 13 01:26	5° <u>17</u> 04'10	0°52'52
direct	13779 Jun 04 12:24	6° <u>17</u> 48'35		max. Earth dist.	13785 Oct 13 06:48	5° <u>17</u> 04'57	20.74443 AU
evening set	13779 Sep 03 03:51	9° <u>17</u> 49'53		morning rise	13785 Oct 29 04:46	6° <u>17</u> 00'00	
conjunction	13779 Sep 19 02:09	10° <u>17</u> 44'30	0°31'16	retrograde	13786 Jan 31 02:15	9° <u>17</u> 09'30	

opposition	13786 Apr 18 04:21	7° \mathbb{M} 09'32	0°59'33	min. Earth dist.	13792 May 12 22:57	2° \mathbb{A} 15'13	18.41386 AU
min. Earth dist.	13786 Apr 17 23:34	7° \mathbb{M} 10'02	18.72246 AU	direct	13792 Jul 27 02:49	0° \mathbb{A} 15'43	
direct	13786 Jul 02 18:00	5° \mathbb{M} 11'17		evening set	13792 Oct 26 07:18	3° \mathbb{A} 23'49	
evening set	13786 Oct 01 09:25	8° \mathbb{M} 15'01					
				conjunction	13792 Nov 11 12:37	4° \mathbb{A} 20'54	1°05'08
conjunction	13786 Oct 17 11:00	9° \mathbb{M} 10'41	0°55'04	minimum elong	13792 Nov 11 12:36	4° \mathbb{A} 20'54	1°06'02
minimum elong	13786 Oct 17 10:59	9° \mathbb{M} 10'41	0°55'39	max. Earth dist.	13792 Nov 11 11:57	4° \mathbb{A} 20'49	20.38381 AU
max. Earth dist.	13786 Oct 17 14:50	9° \mathbb{M} 11'15	20.69961 AU	morning rise	13792 Nov 27 20:15	5° \mathbb{A} 18'21	
morning rise	13786 Nov 02 15:05	10° \mathbb{M} 06'43		retrograde	13793 Mar 02 02:16	8° \mathbb{A} 32'38	
retrograde	13787 Feb 04 14:16	13° \mathbb{M} 16'52		opposition	13793 May 17 13:01	6° \mathbb{A} 31'30	1°12'40
opposition	13787 Apr 22 14:33	11° \mathbb{M} 16'43	1°02'26	min. Earth dist.	13793 May 17 13:47	6° \mathbb{A} 31'25	18.35369 AU
min. Earth dist.	13787 Apr 22 10:43	11° \mathbb{M} 17'06	18.67667 AU	direct	13793 Jul 31 13:37	4° \mathbb{A} 31'48	
direct	13787 Jul 07 01:32	9° \mathbb{M} 18'18		evening set	13793 Oct 30 21:27	7° \mathbb{A} 40'43	
evening set	13787 Oct 05 19:01	12° \mathbb{M} 22'39					
				conjunction	13793 Nov 16 03:35	8° \mathbb{A} 38'04	1°05'39
conjunction	13787 Oct 21 21:23	13° \mathbb{M} 18'32	0°57'31	minimum elong	13793 Nov 16 03:35	8° \mathbb{A} 38'04	1°06'36
minimum elong	13787 Oct 21 21:23	13° \mathbb{M} 18'32	0°58'09	max. Earth dist.	13793 Nov 16 02:58	8° \mathbb{A} 37'59	20.32260 AU
max. Earth dist.	13787 Oct 22 01:52	13° \mathbb{M} 19'11	20.65275 AU	morning rise	13793 Dec 02 11:42	9° \mathbb{A} 35'46	
morning rise	13787 Nov 07 01:55	14° \mathbb{M} 14'46		retrograde	13794 Mar 06 19:06	12° \mathbb{A} 50'44	
	13787 Nov 20 17:15	15° \mathbb{M}		opposition	13794 May 22 02:24	10° \mathbb{A} 49'21	1°13'04
retrograde	13788 Feb 09 02:24	17° \mathbb{M} 25'33		min. Earth dist.	13794 May 22 03:00	10° \mathbb{A} 49'17	18.29151 AU
opposition	13788 Apr 26 01:04	15° \mathbb{M} 25'17	1°05'00	direct	13794 Aug 05 02:30	8° \mathbb{A} 49'19	
min. Earth dist.	13788 Apr 25 21:05	15° \mathbb{M} 25'41	18.62871 AU	evening set	13794 Nov 04 12:38	11° \mathbb{A} 59'05	
	13788 May 06 08:51	15° \mathbb{R} \mathbb{M}					
direct	13788 Jul 10 10:58	13° \mathbb{M} 26'43		conjunction	13794 Nov 20 19:18	12° \mathbb{A} 56'42	1°05'48
	13788 Sep 10 03:43	15° \mathbb{M}		minimum elong	13794 Nov 20 19:18	12° \mathbb{A} 56'42	1°06'46
evening set	13788 Oct 09 05:32	16° \mathbb{M} 31'43		max. Earth dist.	13794 Nov 20 16:56	12° \mathbb{A} 56'21	20.25973 AU
				morning rise	13794 Dec 07 04:08	13° \mathbb{A} 54'40	
conjunction	13788 Oct 25 08:19	17° \mathbb{M} 27'49	0°59'40	retrograde	13795 Mar 11 11:22	17° \mathbb{A} 10'18	
minimum elong	13788 Oct 25 08:18	17° \mathbb{M} 27'49	1°00'23	opposition	13795 May 26 16:15	15° \mathbb{A} 08'39	1°13'03
max. Earth dist.	13788 Oct 25 11:08	17° \mathbb{M} 28'14	20.60375 AU	min. Earth dist.	13795 May 26 18:34	15° \mathbb{A} 08'24	18.22819 AU
morning rise	13788 Nov 10 13:34	18° \mathbb{M} 24'17		direct	13795 Aug 09 14:43	13° \mathbb{A} 08'15	
retrograde	13789 Feb 12 15:14	21° \mathbb{M} 35'46		evening set	13795 Nov 09 04:28	16° \mathbb{A} 18'54	
opposition	13789 Apr 30 12:04	19° \mathbb{M} 35'20	1°07'15				
min. Earth dist.	13789 Apr 30 09:23	19° \mathbb{M} 35'37	18.57870 AU	conjunction	13795 Nov 25 11:57	17° \mathbb{A} 16'48	1°05'35
direct	13789 Jul 14 19:10	17° \mathbb{M} 36'36		minimum elong	13795 Nov 25 11:57	17° \mathbb{A} 16'48	1°06'35
evening set	13789 Oct 13 16:40	20° \mathbb{M} 42'20		max. Earth dist.	13795 Nov 25 09:36	17° \mathbb{A} 16'27	20.19612 AU
				morning rise	13795 Dec 11 21:16	18° \mathbb{A} 15'01	
conjunction	13789 Oct 29 20:12	21° \mathbb{M} 38'41	1°01'31	retrograde	13796 Mar 15 05:05	21° \mathbb{A} 31'18	
minimum elong	13789 Oct 29 20:12	21° \mathbb{M} 38'40	1°02'17	opposition	13796 May 30 06:30	19° \mathbb{A} 29'25	1°12'37
max. Earth dist.	13789 Oct 29 23:30	21° \mathbb{M} 39'09	20.55263 AU	min. Earth dist.	13796 May 30 08:27	19° \mathbb{A} 29'12	18.16439 AU
morning rise	13789 Nov 15 01:54	22° \mathbb{M} 35'22		direct	13796 Aug 13 04:55	17° \mathbb{A} 28'39	
retrograde	13790 Feb 17 05:19	25° \mathbb{M} 47'33		evening set	13796 Nov 12 21:05	20° \mathbb{A} 40'11	
opposition	13790 May 04 23:32	23° \mathbb{M} 46'59	1°09'09				
min. Earth dist.	13790 May 04 20:49	23° \mathbb{M} 47'16	18.52636 AU	conjunction	13796 Nov 29 05:05	21° \mathbb{A} 38'22	1°04'58
direct	13790 Jul 19 05:47	21° \mathbb{M} 48'04		minimum elong	13796 Nov 29 05:05	21° \mathbb{A} 38'22	1°06'00
evening set	13790 Oct 18 04:42	24° \mathbb{M} 54'34		max. Earth dist.	13796 Nov 29 01:22	21° \mathbb{A} 37'49	20.13231 AU
				morning rise	13796 Dec 15 15:01	22° \mathbb{A} 36'51	
conjunction	13790 Nov 03 08:43	25° \mathbb{M} 51'09	1°03'04	retrograde	13797 Mar 19 22:03	25° \mathbb{A} 53'49	
minimum elong	13790 Nov 03 08:43	25° \mathbb{M} 51'09	1°03'52	opposition	13797 Jun 03 21:26	23° \mathbb{A} 51'40	1°11'45
max. Earth dist.	13790 Nov 03 10:08	25° \mathbb{M} 51'21	20.49905 AU	min. Earth dist.	13797 Jun 04 00:53	23° \mathbb{A} 51'18	18.10088 AU
morning rise	13790 Nov 19 15:11	26° \mathbb{M} 48'05		direct	13797 Aug 17 18:20	21° \mathbb{A} 50'33	
	13791 Feb 15 14:47	0° \mathbb{A}		evening set	13797 Nov 17 14:25	25° \mathbb{A} 03'01	
retrograde	13791 Feb 21 19:23	0° \mathbb{A} 00'59					
	13791 Feb 28 01:52	30° \mathbb{R} \mathbb{M}		conjunction	13797 Dec 03 23:11	26° \mathbb{A} 01'29	1°03'59
opposition	13791 May 09 11:37	28° \mathbb{M} 00'16	1°10'42	minimum elong	13797 Dec 03 23:11	26° \mathbb{A} 01'29	1°05'01
min. Earth dist.	13791 May 09 10:33	28° \mathbb{M} 00'22	18.47153 AU	max. Earth dist.	13797 Dec 03 19:32	26° \mathbb{A} 00'56	20.06927 AU
direct	13791 Jul 23 14:58	26° \mathbb{M} 01'07		morning rise	13797 Dec 20 09:36	27° \mathbb{A} 00'13	
evening set	13791 Oct 22 17:33	29° \mathbb{M} 08'25			13798 Feb 26 09:57	0° \mathbb{B}	
	13791 Nov 06 10:48	0° \mathbb{A}		retrograde	13798 Mar 24 17:05	0° \mathbb{B} 17'51	
					13798 Apr 20 04:07	30° \mathbb{R} \mathbb{A}	
conjunction	13791 Nov 07 22:22	0° \mathbb{A} 05'15	1°04'16	opposition	13798 Jun 08 12:42	28° \mathbb{A} 15'29	1°10'28
minimum elong	13791 Nov 07 22:22	0° \mathbb{A} 05'14	1°05'08	min. Earth dist.	13798 Jun 08 15:35	28° \mathbb{A} 15'10	18.03837 AU
max. Earth dist.	13791 Nov 07 23:47	0° \mathbb{A} 05'27	20.44280 AU	direct	13798 Aug 22 09:59	26° \mathbb{A} 14'01	
morning rise	13791 Nov 24 05:16	1° \mathbb{A} 02'25		evening set	13798 Nov 22 08:39	29° \mathbb{A} 27'26	
retrograde	13792 Feb 26 11:07	4° \mathbb{A} 16'01			13798 Dec 01 11:54	0° \mathbb{B}	
opposition	13792 May 12 23:55	2° \mathbb{A} 15'07	1°11'52				

conjunction	13798 Dec 08 17:58	0°32'10	1°02'36	opposition	13805 Jul 10 16:53	29°35'31	0°49'48
minimum elong	13798 Dec 08 17:58	0°32'10	1°03'40	min. Earth dist.	13805 Jul 10 23:47	29°34'47	17.65858 AU
max. Earth dist.	13798 Dec 08 13:21	0°32'529	20.00740 AU	direct	13805 Sep 23 12:36	27°34'16	
morning rise	13798 Dec 25 04:58	1°32'511			13805 Dec 05 23:59	0°	
retrograde	13799 Mar 29 10:59	4°34'328		evening set	13805 Dec 25 15:39	1°07'34	
opposition	13799 Jun 13 04:44	2°34'054	1°08'44				
min. Earth dist.	13799 Jun 13 08:59	2°34'027	17.97736 AU	conjunction	13806 Jan 11 04:36	2°08'07	0°42'41
direct	13799 Aug 27 00:32	0°33'08		minimum elong	13806 Jan 11 04:36	2°08'07	0°43'38
evening set	13799 Nov 27 03:41	3°35'31		max. Earth dist.	13806 Jan 10 19:53	2°06'47	19.63547 AU
				morning rise	13806 Jan 27 18:08	3°08'47	
conjunction	13799 Dec 13 13:41	4°35'232	1°00'50	retrograde	13806 May 01 16:28	6°31'10	
minimum elong	13799 Dec 13 13:41	4°35'232	1°01'53	opposition	13806 Jul 15 12:54	4°28'01	0°45'20
max. Earth dist.	13799 Dec 13 08:53	4°35'149	19.94738 AU	min. Earth dist.	13806 Jul 15 19:55	4°27'16	17.61314 AU
morning rise	13799 Dec 30 01:07	5°35'148		direct	13806 Sep 28 10:09	2°24'30	
retrograde	13800 Apr 03 07:21	9°31'044		evening set	13806 Dec 30 16:18	5°45'40	
opposition	13800 Jun 17 21:03	7°38'01	1°06'36				
min. Earth dist.	13800 Jun 18 00:42	7°37'37	17.91834 AU	conjunction	13807 Jan 16 05:46	6°46'27	0°38'31
direct	13800 Aug 31 17:31	5°35'56		minimum elong	13807 Jan 16 05:46	6°46'27	0°39'25
evening set	13800 Dec 01 23:35	8°32'119		max. Earth dist.	13807 Jan 15 21:15	6°45'08	19.59115 AU
				morning rise	13807 Feb 01 19:18	7°47'16	
conjunction	13800 Dec 18 10:08	9°32'037	0°58'42	retrograde	13807 May 06 15:35	11°10'02	
minimum elong	13800 Dec 18 10:08	9°32'037	0°59'46	opposition	13807 Jul 20 09:33	9°06'49	0°40'33
max. Earth dist.	13800 Dec 18 04:46	9°31'949	19.88948 AU	min. Earth dist.	13807 Jul 20 17:27	9°05'58	17.57006 AU
morning rise	13801 Jan 03 22:00	10°32'009		direct	13807 Oct 03 07:01	7°03'02	
retrograde	13801 Apr 08 02:31	13°33'943		evening set	13808 Jan 04 17:38	10°25'01	
opposition	13801 Jun 22 14:17	11°33'654	1°04'01				
min. Earth dist.	13801 Jun 22 19:10	11°33'622	17.86169 AU	conjunction	13808 Jan 21 07:12	11°25'58	0°34'05
direct	13801 Sep 05 09:07	9°33'434		minimum elong	13808 Jan 21 07:12	11°25'58	0°34'57
evening set	13801 Dec 06 20:08	12°35'057		max. Earth dist.	13808 Jan 20 21:07	11°24'25	19.54960 AU
				morning rise	13808 Feb 06 20:58	12°26'58	
conjunction	13801 Dec 23 07:18	13°35'031	0°56'11		13808 Mar 28 02:04	15°	
minimum elong	13801 Dec 23 07:18	13°35'031	0°57'14	retrograde	13808 May 10 15:20	15°50'04	
max. Earth dist.	13801 Dec 23 01:31	13°34'939	19.83421 AU		13808 Jun 24 03:27	15°R	
morning rise	13802 Jan 08 19:39	14°35'018		opposition	13808 Jul 24 06:33	13°46'46	0°35'29
retrograde	13802 Apr 13 00:18	18°31'031		min. Earth dist.	13808 Jul 24 14:37	13°45'53	17.53013 AU
opposition	13802 Jun 27 07:57	16°37'36	1°01'03	direct	13808 Oct 07 04:50	11°42'42	
min. Earth dist.	13802 Jun 27 12:21	16°37'07	17.80759 AU		13809 Jan 07 07:07	15°	
direct	13802 Sep 10 03:52	14°35'02		evening set	13809 Jan 08 19:16	15°05'27	
evening set	13802 Dec 11 17:48	17°32'226					
				conjunction	13809 Jan 25 09:13	16°06'34	0°29'24
conjunction	13802 Dec 28 05:31	18°32'217	0°53'19	minimum elong	13809 Jan 25 09:13	16°06'34	0°30'14
minimum elong	13802 Dec 28 05:31	18°32'217	0°54'21	max. Earth dist.	13809 Jan 24 23:54	16°05'08	19.51140 AU
max. Earth dist.	13802 Dec 27 23:26	18°32'121	19.78126 AU	morning rise	13809 Feb 10 22:50	17°07'42	
morning rise	13803 Jan 13 18:11	19°32'218		retrograde	13809 May 15 15:51	20°31'03	
retrograde	13803 Apr 17 20:33	22°34'307		opposition	13809 Jul 29 03:57	18°27'40	0°30'09
opposition	13803 Jul 02 02:15	20°34'009	0°57'40	min. Earth dist.	13809 Jul 29 12:20	18°26'46	17.49379 AU
min. Earth dist.	13803 Jul 02 08:04	20°33'932	17.75582 AU	direct	13809 Oct 12 03:05	16°23'21	
direct	13803 Sep 14 20:52	18°33'722		evening set	13810 Jan 13 21:25	19°46'47	
evening set	13803 Dec 16 16:21	21°35'547					
				conjunction	13810 Jan 30 11:22	20°48'03	0°24'31
conjunction	13804 Jan 02 04:30	22°35'552	0°50'06	minimum elong	13810 Jan 30 11:22	20°48'03	0°25'16
minimum elong	13804 Jan 02 04:31	22°35'552	0°51'07	max. Earth dist.	13810 Jan 30 00:40	20°46'24	19.47719 AU
max. Earth dist.	13804 Jan 01 21:21	22°35'447	19.73067 AU	morning rise	13810 Feb 16 01:08	21°49'18	
morning rise	13804 Jan 18 17:34	23°35'607		retrograde	13810 May 20 15:10	25°12'52	
retrograde	13804 Apr 21 19:31	27°31'731		opposition	13810 Aug 03 01:45	23°09'24	0°24'36
opposition	13804 Jul 05 21:11	25°31'430	0°53'55	min. Earth dist.	13810 Aug 03 10:26	23°08'27	17.46179 AU
min. Earth dist.	13804 Jul 06 02:53	25°31'353	17.70625 AU	direct	13810 Oct 17 01:23	21°04'49	
direct	13804 Sep 18 17:30	23°31'130		evening set	13811 Jan 18 23:55	24°28'54	
evening set	13804 Dec 20 15:33	26°33'052					
				conjunction	13811 Feb 04 14:06	25°30'17	0°19'27
conjunction	13805 Jan 06 04:12	27°33'112	0°46'33	minimum elong	13811 Feb 04 14:06	25°30'17	0°20'09
minimum elong	13805 Jan 06 04:12	27°33'113	0°47'31	max. Earth dist.	13811 Feb 04 04:26	25°28'48	19.44745 AU
max. Earth dist.	13805 Jan 05 20:58	27°33'006	19.68200 AU	morning rise	13811 Feb 21 03:33	26°31'38	
morning rise	13805 Jan 22 17:22	28°33'140		retrograde	13811 May 25 16:01	29°55'19	
	13805 Feb 18 00:01	0°		opposition	13811 Aug 07 23:43	27°51'48	0°18'51
retrograde	13805 Apr 26 16:54	1°53'35		min. Earth dist.	13811 Aug 08 08:10	27°50'53	17.43445 AU
	13805 Jul 07 01:02	30°R		direct	13811 Oct 22 01:14	25°47'01	

evening set	13812 Jan 24 02:50	29° \approx 11'39		behind sun end	13817 Mar 05 12:44	23° \mathbb{H} 54'15	
	13812 Feb 06 04:30	0° \mathbb{H}		max. Earth dist.	13817 Mar 04 23:46	23° \mathbb{H} 52'16	19.38636 AU
				morning rise	13817 Mar 21 19:42	24° \mathbb{H} 54'56	
conjunction	13812 Feb 09 16:49	0° \mathbb{H} 13'08	0°14'15	retrograde	13817 Jun 22 15:22	28° \mathbb{H} 18'26	
minimum elong	13812 Feb 09 16:50	0° \mathbb{H} 13'08	0°14'51	opposition	13817 Sep 04 17:53	26° \mathbb{H} 15'21	-0°17'02
behind sun begin	13812 Feb 09 14:24	0° \mathbb{H} 12'46		min. Earth dist.	13817 Sep 05 00:39	26° \mathbb{H} 14'37	17.39027 AU
behind sun end	13812 Feb 09 19:15	0° \mathbb{H} 13'30		direct	13817 Nov 19 06:54	24° \mathbb{H} 10'14	
max. Earth dist.	13812 Feb 09 06:08	0° \mathbb{H} 11'29	19.42274 AU	evening set	13818 Feb 21 23:09	27° \mathbb{H} 36'51	
morning rise	13812 Feb 26 06:13	1° \mathbb{H} 14'32					
retrograde	13812 May 29 14:36	4° \mathbb{H} 38'20		conjunction	13818 Mar 10 11:34	28° \mathbb{H} 38'21	-0°17'58
opposition	13812 Aug 11 22:12	2° \mathbb{H} 34'46	0°12'58	minimum elong	13818 Mar 10 11:33	28° \mathbb{H} 38'21	0°17'50
min. Earth dist.	13812 Aug 12 06:57	2° \mathbb{H} 33'49	17.41256 AU	max. Earth dist.	13818 Mar 10 03:07	28° \mathbb{H} 37'02	19.39522 AU
direct	13812 Oct 26 00:39	0° \mathbb{H} 29'48		morning rise	13818 Mar 26 22:11	29° \mathbb{H} 39'36	
evening set	13813 Jan 28 05:41	3° \mathbb{H} 54'56			13818 Apr 01 13:14	0° \mathbb{Y}	
				retrograde	13818 Jun 27 14:19	3° \mathbb{Y} 02'52	
conjunction	13813 Feb 13 19:44	4° \mathbb{H} 56'29	0°08'56	opposition	13818 Sep 09 17:40	0° \mathbb{Y} 59'56	-0°22'51
minimum elong	13813 Feb 13 19:44	4° \mathbb{H} 56'29	0°09'29	min. Earth dist.	13818 Sep 10 01:19	0° \mathbb{Y} 59'06	17.40142 AU
behind sun begin	13813 Feb 13 14:09	4° \mathbb{H} 55'38			13818 Oct 03 16:47	30° \mathbb{R} \mathbb{H}	
behind sun end	13813 Feb 14 01:19	4° \mathbb{H} 57'20		direct	13818 Nov 24 07:25	28° \mathbb{H} 54'52	
max. Earth dist.	13813 Feb 13 10:19	4° \mathbb{H} 55'02	19.40368 AU		13819 Jan 13 11:24	0° \mathbb{Y}	
morning rise	13813 Mar 02 08:44	5° \mathbb{H} 57'55		evening set	13819 Feb 27 02:37	2° \mathbb{Y} 21'32	
retrograde	13813 Jun 03 15:20	9° \mathbb{H} 21'45					
opposition	13813 Aug 16 20:54	7° \mathbb{H} 18'12	0°07'00	conjunction	13819 Mar 15 14:27	3° \mathbb{Y} 22'56	-0°23'07
min. Earth dist.	13813 Aug 17 04:47	7° \mathbb{H} 17'20	17.39637 AU	minimum elong	13819 Mar 15 14:26	3° \mathbb{Y} 22'56	0°23'04
direct	13813 Oct 31 01:58	5° \mathbb{H} 13'07		max. Earth dist.	13819 Mar 15 05:49	3° \mathbb{Y} 21'35	19.40849 AU
evening set	13814 Feb 02 09:03	8° \mathbb{H} 38'40		morning rise	13819 Apr 01 00:28	4° \mathbb{Y} 24'04	
				retrograde	13819 Jul 02 15:24	7° \mathbb{Y} 47'02	
conjunction	13814 Feb 18 22:48	9° \mathbb{H} 40'16	0°03'35	opposition	13819 Sep 14 17:16	5° \mathbb{Y} 44'16	-0°28'31
minimum elong	13814 Feb 18 22:49	9° \mathbb{H} 40'16	0°04'03	min. Earth dist.	13819 Sep 14 23:46	5° \mathbb{Y} 43'34	17.41671 AU
behind sun begin	13814 Feb 18 16:10	9° \mathbb{H} 39'15		direct	13819 Nov 29 10:24	3° \mathbb{Y} 39'15	
behind sun end	13814 Feb 19 05:29	9° \mathbb{H} 41'17		evening set	13820 Mar 03 05:46	7° \mathbb{Y} 05'52	
max. Earth dist.	13814 Feb 18 12:49	9° \mathbb{H} 38'43	19.39051 AU				
morning rise	13814 Mar 07 11:34	10° \mathbb{H} 41'43		conjunction	13820 Mar 19 17:04	8° \mathbb{Y} 07'08	-0°28'06
retrograde	13814 Jun 08 13:51	14° \mathbb{H} 05'32		minimum elong	13820 Mar 19 17:04	8° \mathbb{Y} 07'08	0°28'09
opposition	13814 Aug 21 19:49	12° \mathbb{H} 02'02	0°00'58	max. Earth dist.	13820 Mar 19 09:10	8° \mathbb{Y} 05'54	19.42573 AU
min. Earth dist.	13814 Aug 22 04:09	12° \mathbb{H} 01'08	17.38631 AU	morning rise	13820 Apr 05 02:16	9° \mathbb{Y} 08'08	
desc. node	13814 Oct 16 04:14	10° \mathbb{H} 07'28		retrograde	13820 Jul 06 13:44	12° \mathbb{Y} 30'44	
direct	13814 Nov 05 01:54	9° \mathbb{H} 56'52		opposition	13820 Sep 18 17:04	10° \mathbb{Y} 28'07	-0°33'59
evening set	13815 Feb 07 12:29	13° \mathbb{H} 22'49		min. Earth dist.	13820 Sep 19 00:18	10° \mathbb{Y} 27'20	17.43600 AU
				direct	13820 Dec 03 10:39	8° \mathbb{Y} 23'10	
conjunction	13815 Feb 24 02:09	14° \mathbb{H} 24'26	-0°01'58	evening set	13821 Mar 08 08:29	11° \mathbb{Y} 49'37	
minimum elong	13815 Feb 24 02:08	14° \mathbb{H} 24'26	0°01'35				
behind sun begin	13815 Feb 23 19:23	14° \mathbb{H} 23'24		conjunction	13821 Mar 24 19:05	12° \mathbb{Y} 50'45	-0°32'53
behind sun end	13815 Feb 24 08:52	14° \mathbb{H} 25'27		minimum elong	13821 Mar 24 19:04	12° \mathbb{Y} 50'45	0°33'00
max. Earth dist.	13815 Feb 23 17:04	14° \mathbb{H} 23'02	19.38350 AU	max. Earth dist.	13821 Mar 24 10:42	12° \mathbb{Y} 49'27	19.44701 AU
morning rise	13815 Mar 12 14:25	15° \mathbb{H} 25'52		morning rise	13821 Apr 10 03:42	13° \mathbb{Y} 51'36	
retrograde	13815 Jun 13 15:04	18° \mathbb{H} 49'37		retrograde	13821 Jul 11 14:18	17° \mathbb{Y} 13'47	
opposition	13815 Aug 26 18:59	16° \mathbb{H} 46'14	-0°05'05	opposition	13821 Sep 23 16:33	15° \mathbb{Y} 11'18	-0°39'12
min. Earth dist.	13815 Aug 27 02:11	16° \mathbb{H} 45'27	17.38215 AU	min. Earth dist.	13821 Sep 23 22:37	15° \mathbb{Y} 10'39	17.45916 AU
direct	13815 Nov 10 04:09	14° \mathbb{H} 41'03		direct	13821 Dec 08 13:25	13° \mathbb{Y} 06'24	
evening set	13816 Feb 12 16:01	18° \mathbb{H} 07'19		evening set	13822 Mar 13 10:50	16° \mathbb{Y} 32'37	
conjunction	13816 Feb 29 05:14	19° \mathbb{H} 08'54	-0°07'22	conjunction	13822 Mar 29 20:52	17° \mathbb{Y} 33'35	-0°37'27
minimum elong	13816 Feb 29 05:14	19° \mathbb{H} 08'54	0°07'03	minimum elong	13822 Mar 29 20:52	17° \mathbb{Y} 33'35	0°37'40
behind sun begin	13816 Feb 28 23:00	19° \mathbb{H} 07'57		max. Earth dist.	13822 Mar 29 13:41	17° \mathbb{Y} 32'28	19.47200 AU
behind sun end	13816 Feb 29 11:27	19° \mathbb{H} 09'51		morning rise	13822 Apr 15 04:34	18° \mathbb{Y} 34'16	
max. Earth dist.	13816 Feb 28 20:06	19° \mathbb{H} 07'30	19.38218 AU	retrograde	13822 Jul 16 11:50	21° \mathbb{Y} 55'57	
morning rise	13816 Mar 16 17:02	20° \mathbb{H} 10'18		opposition	13822 Sep 28 15:53	19° \mathbb{Y} 53'37	-0°44'09
retrograde	13816 Jun 17 13:57	23° \mathbb{H} 33'58		min. Earth dist.	13822 Sep 28 22:30	19° \mathbb{Y} 52'54	17.48607 AU
opposition	13816 Aug 30 18:28	21° \mathbb{H} 30'43	-0°11'06	direct	13822 Dec 13 13:22	17° \mathbb{Y} 48'48	
min. Earth dist.	13816 Aug 31 02:20	21° \mathbb{H} 29'52	17.38367 AU	evening set	13823 Mar 18 12:45	21° \mathbb{Y} 14'40	
direct	13816 Nov 14 04:21	19° \mathbb{H} 25'34					
evening set	13817 Feb 16 19:34	22° \mathbb{H} 52'03		conjunction	13823 Apr 03 21:55	22° \mathbb{Y} 15'27	-0°41'45
				minimum elong	13823 Apr 03 21:54	22° \mathbb{Y} 15'27	0°42'02
conjunction	13817 Mar 05 08:26	23° \mathbb{H} 53'36	-0°12'42	max. Earth dist.	13823 Apr 03 14:08	22° \mathbb{Y} 14'15	19.50090 AU
minimum elong	13817 Mar 05 08:25	23° \mathbb{H} 53'36	0°12'29	morning rise	13823 Apr 20 04:59	23° \mathbb{Y} 15'55	
behind sun begin	13817 Mar 05 04:07	23° \mathbb{H} 52'57		retrograde	13823 Jul 21 11:08	26° \mathbb{Y} 37'05	

opposition	13823 Oct 03 14:58	24° Υ 34'52	-0°48'47	min. Earth dist.	13829 Oct 31 03:23	22° \mathcal{S} 13'59	17.78802 AU
min. Earth dist.	13823 Oct 03 20:26	24° Υ 34'17	17.51694 AU	direct	13830 Jan 15 15:59	20° \mathcal{S} 10'34	
direct	13823 Dec 18 15:47	22° Υ 30'08		evening set	13830 Apr 20 04:50	23° \mathcal{S} 32'07	
evening set	13824 Mar 22 13:40	25° Υ 55'34					
				conjunction	13830 May 06 08:36	24° \mathcal{S} 31'11	-1°02'27
conjunction	13824 Apr 07 22:14	26° Υ 56'09	-0°45'45	minimum elong	13830 May 06 08:35	24° \mathcal{S} 31'11	1°03'16
minimum elong	13824 Apr 07 22:14	26° Υ 56'09	0°46'07	max. Earth dist.	13830 May 06 07:37	24° \mathcal{S} 31'02	19.81618 AU
max. Earth dist.	13824 Apr 07 16:14	26° Υ 55'13	19.53367 AU	morning rise	13830 May 22 09:58	25° \mathcal{S} 29'56	
morning rise	13824 Apr 24 04:20	27° Υ 56'24		retrograde	13830 Aug 22 02:46	28° \mathcal{S} 46'34	
	13824 Jun 01 05:39	0° \mathcal{S}		opposition	13830 Nov 04 22:20	26° \mathcal{S} 45'44	-1°10'23
retrograde	13824 Jul 25 07:20	1° \mathcal{S} 16'59		min. Earth dist.	13830 Nov 04 22:46	26° \mathcal{S} 45'41	17.84523 AU
	13824 Sep 19 15:59	30° $\mathcal{R}\Upsilon$		direct	13831 Jan 20 14:41	24° \mathcal{S} 42'29	
opposition	13824 Oct 07 13:49	29° Υ 14'54	-0°53'04	evening set	13831 Apr 25 00:48	28° \mathcal{S} 03'12	
min. Earth dist.	13824 Oct 07 19:18	29° Υ 14'19	17.55172 AU				
direct	13824 Dec 22 15:46	27° Υ 10'17		conjunction	13831 May 11 03:39	29° \mathcal{S} 01'59	-1°03'54
	13825 Mar 17 17:01	0° \mathcal{S}		minimum elong	13831 May 11 03:39	29° \mathcal{S} 01'59	1°04'44
evening set	13825 Mar 27 14:10	0° \mathcal{S} 35'12		max. Earth dist.	13831 May 11 02:45	29° \mathcal{S} 01'51	19.87437 AU
				morning rise	13831 May 27 04:23	0° \mathcal{I} 00'28	
conjunction	13825 Apr 12 21:47	1° \mathcal{S} 35'33	-0°49'26		13831 May 27 01:13	0° \mathcal{I}	
minimum elong	13825 Apr 12 21:47	1° \mathcal{S} 35'33	0°49'54	retrograde	13831 Aug 26 20:02	3° \mathcal{I} 16'25	
max. Earth dist.	13825 Apr 12 15:24	1° \mathcal{S} 34'33	19.57056 AU	opposition	13831 Nov 09 18:26	1° \mathcal{I} 15'50	-1°11'45
morning rise	13825 Apr 29 03:16	2° \mathcal{S} 35'34		min. Earth dist.	13831 Nov 09 18:44	1° \mathcal{I} 15'48	17.90433 AU
retrograde	13825 Jul 30 04:50	5° \mathcal{S} 55'32			13831 Dec 12 04:17	30° $\mathcal{R}\mathcal{S}$	
opposition	13825 Oct 12 12:06	3° \mathcal{S} 53'35	-0°57'00	direct	13832 Jan 25 10:57	29° \mathcal{S} 12'52	
min. Earth dist.	13825 Oct 12 16:31	3° \mathcal{S} 53'06	17.59080 AU		13832 Mar 08 13:19	0° \mathcal{I}	
direct	13825 Dec 27 17:42	1° \mathcal{S} 49'04		evening set	13832 Apr 28 19:41	2° \mathcal{I} 32'44	
evening set	13826 Apr 01 13:47	5° \mathcal{S} 13'25					
				conjunction	13832 May 14 21:54	3° \mathcal{I} 31'15	-1°04'57
conjunction	13826 Apr 17 20:47	6° \mathcal{S} 13'32	-0°52'47	minimum elong	13832 May 14 21:53	3° \mathcal{I} 31'14	1°05'51
minimum elong	13826 Apr 17 20:47	6° \mathcal{S} 13'32	0°53'19	max. Earth dist.	13832 May 14 22:13	3° \mathcal{I} 31'17	19.93406 AU
max. Earth dist.	13826 Apr 17 16:21	6° \mathcal{S} 12'51	19.61168 AU	morning rise	13832 May 30 21:53	4° \mathcal{I} 29'27	
morning rise	13826 May 04 01:16	7° \mathcal{S} 13'19		retrograde	13832 Aug 30 13:51	7° \mathcal{I} 44'40	
retrograde	13826 Aug 03 23:44	10° \mathcal{S} 32'38		opposition	13832 Nov 13 13:56	5° \mathcal{I} 44'20	-1°12'41
opposition	13826 Oct 17 10:12	8° \mathcal{S} 30'50	-1°00'31	min. Earth dist.	13832 Nov 13 13:04	5° \mathcal{I} 44'26	17.96438 AU
min. Earth dist.	13826 Oct 17 14:04	8° \mathcal{S} 30'25	17.63404 AU	direct	13833 Jan 29 08:33	3° \mathcal{I} 41'41	
direct	13827 Jan 01 17:56	6° \mathcal{S} 26'31		evening set	13833 May 03 14:02	7° \mathcal{I} 00'39	
evening set	13827 Apr 06 12:45	9° \mathcal{S} 50'13					
				conjunction	13833 May 19 15:26	7° \mathcal{I} 58'52	-1°05'36
conjunction	13827 Apr 22 18:45	10° \mathcal{S} 50'04	-0°55'46	minimum elong	13833 May 19 15:26	7° \mathcal{I} 58'52	1°06'32
minimum elong	13827 Apr 22 18:44	10° \mathcal{S} 50'04	0°56'23	max. Earth dist.	13833 May 19 15:52	7° \mathcal{I} 58'56	19.99436 AU
max. Earth dist.	13827 Apr 22 14:11	10° \mathcal{S} 49'22	19.65709 AU	morning rise	13833 Jun 04 14:48	8° \mathcal{I} 56'49	
morning rise	13827 May 08 22:32	11° \mathcal{S} 49'36		retrograde	13833 Sep 04 05:49	12° \mathcal{I} 11'18	
	13827 Jul 22 10:44	15° \mathcal{S}		opposition	13833 Nov 18 08:53	10° \mathcal{I} 11'11	-1°13'11
retrograde	13827 Aug 08 19:23	15° \mathcal{S} 08'17		min. Earth dist.	13833 Nov 18 08:19	10° \mathcal{I} 11'15	18.02492 AU
	13827 Aug 26 08:02	15° $\mathcal{R}\mathcal{S}$		direct	13834 Feb 03 03:49	8° \mathcal{I} 08'48	
opposition	13827 Oct 22 07:53	13° \mathcal{S} 06'40	-1°03'38	evening set	13834 May 08 07:28	11° \mathcal{I} 26'51	
min. Earth dist.	13827 Oct 22 10:44	13° \mathcal{S} 06'22	17.68166 AU				
direct	13828 Jan 06 18:22	11° \mathcal{S} 02'34		conjunction	13834 May 24 08:14	12° \mathcal{I} 24'48	-1°05'52
evening set	13828 Apr 10 10:48	14° \mathcal{S} 25'35		minimum elong	13834 May 24 08:13	12° \mathcal{I} 24'48	1°06'50
	13828 Apr 19 20:50	15° \mathcal{S}		max. Earth dist.	13834 May 24 09:23	12° \mathcal{I} 24'58	20.05492 AU
				morning rise	13834 Jun 09 06:58	13° \mathcal{I} 22'28	
conjunction	13828 Apr 26 16:10	15° \mathcal{S} 25'11	-0°58'23	retrograde	13834 Sep 08 22:16	16° \mathcal{I} 36'14	
minimum elong	13828 Apr 26 16:10	15° \mathcal{S} 25'11	0°59'03	opposition	13834 Nov 23 03:20	14° \mathcal{I} 36'19	-1°13'14
max. Earth dist.	13828 Apr 26 13:35	15° \mathcal{S} 24'48	19.70675 AU	min. Earth dist.	13834 Nov 23 01:27	14° \mathcal{I} 36'30	18.08527 AU
morning rise	13828 May 12 19:02	16° \mathcal{S} 24'28		direct	13835 Feb 08 00:23	12° \mathcal{I} 34'12	
retrograde	13828 Aug 12 13:59	19° \mathcal{S} 42'28		evening set	13835 May 12 23:57	15° \mathcal{I} 51'17	
opposition	13828 Oct 26 05:07	17° \mathcal{S} 41'06	-1°06'19				
min. Earth dist.	13828 Oct 26 07:03	17° \mathcal{S} 40'54	17.73316 AU	conjunction	13835 May 29 00:00	16° \mathcal{I} 48'57	-1°05'44
direct	13829 Jan 10 17:52	15° \mathcal{S} 37'16		minimum elong	13835 May 29 00:00	16° \mathcal{I} 48'57	1°06'44
evening set	13829 Apr 15 08:13	18° \mathcal{S} 59'34		max. Earth dist.	13835 May 29 01:33	16° \mathcal{I} 49'11	20.11503 AU
				morning rise	13835 Jun 13 22:11	17° \mathcal{I} 46'22	
conjunction	13829 May 01 12:39	19° \mathcal{S} 58'54	-1°00'37	retrograde	13835 Sep 13 12:54	20° \mathcal{I} 59'24	
minimum elong	13829 May 01 12:39	19° \mathcal{S} 58'54	1°01'21	opposition	13835 Nov 27 21:23	18° \mathcal{I} 59'39	-1°12'52
max. Earth dist.	13829 May 01 10:04	19° \mathcal{S} 58'30	19.76001 AU	min. Earth dist.	13835 Nov 27 19:52	18° \mathcal{I} 59'48	18.14520 AU
morning rise	13829 May 17 14:54	20° \mathcal{S} 57'55		direct	13836 Feb 12 18:37	16° \mathcal{I} 57'47	
retrograde	13829 Aug 17 08:21	24° \mathcal{S} 15'15		evening set	13836 May 16 15:34	20° \mathcal{I} 13'54	
opposition	13829 Oct 31 01:58	22° \mathcal{S} 14'08	-1°08'34				

conjunction	13836 Jun 01 15:02	21°II11'17	-1°05'14	retrograde	13842 Oct 13 05:45	20°☾51'42	
minimum elong	13836 Jun 01 15:02	21°II11'17	1°06'14	opposition	13842 Dec 28 09:14	18°☾52'56	-0°59'20
max. Earth dist.	13836 Jun 01 17:04	21°II11'36	20.17468 AU	min. Earth dist.	13842 Dec 28 01:59	18°☾53'40	18.54987 AU
morning rise	13836 Jun 17 12:44	22°II08'27		direct	13843 Mar 15 12:36	16°☾52'55	
retrograde	13836 Sep 17 03:51	25°II20'44		evening set	13843 Jun 16 04:31	20°☾02'24	
opposition	13836 Dec 01 14:29	23°II21'08	-1°12'04				
min. Earth dist.	13836 Dec 01 11:32	23°II21'26	18.20441 AU	conjunction	13843 Jul 02 00:56	20°☾58'07	-0°52'01
direct	13837 Feb 16 13:53	21°II19'31		minimum elong	13843 Jul 02 00:56	20°☾58'07	0°53'02
evening set	13837 May 21 06:17	24°II34'37		max. Earth dist.	13843 Jul 02 08:27	20°☾59'14	20.57729 AU
				morning rise	13843 Jul 17 20:27	21°☾53'44	
conjunction	13837 Jun 06 05:13	25°II31'45	-1°04'21	retrograde	13843 Oct 17 14:40	25°☾01'43	
minimum elong	13837 Jun 06 05:13	25°II31'45	1°05'24	opposition	13844 Jan 01 22:34	23°☾03'07	-0°56'03
max. Earth dist.	13837 Jun 06 07:55	25°II32'10	20.23351 AU	min. Earth dist.	13844 Jan 01 15:46	23°☾03'49	18.60455 AU
morning rise	13837 Jun 22 02:27	26°II28'39		direct	13844 Mar 19 00:46	21°☾03'26	
retrograde	13837 Sep 21 16:43	29°II40'14		evening set	13844 Jun 19 13:52	24°☾12'04	
opposition	13837 Dec 06 07:13	27°II40'45	-1°10'52				
min. Earth dist.	13837 Dec 06 04:43	27°II41'00	18.26295 AU	conjunction	13844 Jul 05 09:56	25°☾07'36	-0°48'57
direct	13838 Feb 21 06:52	25°II39'21		minimum elong	13844 Jul 05 09:57	25°☾07'36	0°49'57
evening set	13838 May 25 20:03	28°II53'27		max. Earth dist.	13844 Jul 05 17:18	25°☾08'41	20.63104 AU
				morning rise	13844 Jul 21 05:28	26°☾03'02	
conjunction	13838 Jun 10 18:24	29°II50'19	-1°03'07	retrograde	13844 Oct 21 02:25	29°☾10'33	
minimum elong	13838 Jun 10 18:24	29°II50'19	1°04'10	opposition	13845 Jan 05 11:07	27°☾12'08	-0°52'30
max. Earth dist.	13838 Jun 10 21:35	29°II50'48	20.29180 AU	min. Earth dist.	13845 Jan 05 03:01	27°☾12'57	18.65709 AU
	13838 Jun 13 10:55	0°☾		direct	13845 Mar 23 14:02	25°☾12'44	
morning rise	13838 Jun 26 15:16	0°☾46'59		evening set	13845 Jun 23 22:39	28°☾20'36	
retrograde	13838 Sep 26 06:39	3°☾57'51					
opposition	13838 Dec 10 23:09	1°☾58'29	-1°09'17	conjunction	13845 Jul 09 18:36	29°☾15'57	-0°45'39
min. Earth dist.	13838 Dec 10 18:55	1°☾58'55	18.32096 AU	minimum elong	13845 Jul 09 18:36	29°☾15'57	0°46'37
	13839 Feb 15 17:30	30°RII		max. Earth dist.	13845 Jul 10 03:03	29°☾17'11	20.68220 AU
direct	13839 Feb 26 00:34	29°II57'19			13845 Jul 22 07:56	0°♂	
	13839 Mar 08 07:10	0°☾		morning rise	13845 Jul 25 13:55	0°♂11'13	
evening set	13839 May 30 08:55	3°☾10'26		retrograde	13845 Oct 25 10:35	3°♂18'19	
				opposition	13846 Jan 09 23:35	1°♂20'03	-0°48'42
conjunction	13839 Jun 15 06:49	4°☾07'03	-1°01'31	min. Earth dist.	13846 Jan 09 16:08	1°♂20'48	18.70677 AU
minimum elong	13839 Jun 15 06:49	4°☾07'03	1°02'35		13846 Feb 15 04:24	30°R☾	
max. Earth dist.	13839 Jun 15 11:09	4°☾07'42	20.34966 AU	direct	13846 Mar 28 01:11	29°☾20'56	
morning rise	13839 Jul 01 03:15	5°☾03'28			13846 May 06 16:22	0°♂	
retrograde	13839 Sep 30 17:54	8°☾13'41		evening set	13846 Jun 28 06:55	2°♂28'02	
opposition	13839 Dec 15 14:39	6°☾14'25	-1°07'18				
min. Earth dist.	13839 Dec 15 10:39	6°☾14'50	18.37882 AU	conjunction	13846 Jul 14 02:33	3°♂23'12	-0°42'07
direct	13840 Mar 01 16:06	4°☾13'31		minimum elong	13846 Jul 14 02:34	3°♂23'12	0°43'04
evening set	13840 Jun 02 20:54	7°☾25'40		max. Earth dist.	13846 Jul 14 10:33	3°♂24'22	20.73032 AU
				morning rise	13846 Jul 29 21:58	4°♂18'20	
conjunction	13840 Jun 18 18:19	8°☾22'02	-0°59'36	retrograde	13846 Oct 29 21:25	7°♂25'03	
minimum elong	13840 Jun 18 18:19	8°☾22'02	1°00'40	opposition	13847 Jan 14 11:31	5°♂26'54	-0°44'40
max. Earth dist.	13840 Jun 18 23:04	8°☾22'45	20.40749 AU	min. Earth dist.	13847 Jan 14 02:56	5°♂27'46	18.75313 AU
morning rise	13840 Jul 04 14:33	9°☾18'14		direct	13847 Apr 01 12:56	3°♂28'03	
retrograde	13840 Oct 04 07:10	12°☾27'49		evening set	13847 Jul 02 14:43	6°♂34'24	
opposition	13840 Dec 19 05:20	10°☾28'43	-1°04'59				
min. Earth dist.	13840 Dec 18 23:29	10°☾29'19	18.43646 AU	conjunction	13847 Jul 18 10:19	7°♂29'25	-0°38'24
direct	13841 Mar 06 08:05	8°☾28'04		minimum elong	13847 Jul 18 10:19	7°♂29'25	0°39'18
evening set	13841 Jun 07 08:10	11°☾39'18		max. Earth dist.	13847 Jul 18 19:16	7°♂30'43	20.77472 AU
				morning rise	13847 Aug 03 05:37	8°♂24'25	
conjunction	13841 Jun 23 05:14	12°☾35'27	-0°57'22	retrograde	13847 Nov 03 05:23	11°♂30'46	
minimum elong	13841 Jun 23 05:15	12°☾35'27	0°58'24	opposition	13848 Jan 18 23:06	9°♂32'43	-0°40'25
max. Earth dist.	13841 Jun 23 11:15	12°☾36'20	20.46490 AU	min. Earth dist.	13848 Jan 18 15:17	9°♂33'30	18.79554 AU
morning rise	13841 Jul 09 01:06	13°☾31'27		direct	13848 Apr 04 23:12	7°♂34'05	
retrograde	13841 Oct 08 17:08	16°☾40'26		evening set	13848 Jul 05 22:07	10°♂39'44	
opposition	13841 Dec 23 19:32	14°☾41'30	-1°02'19				
min. Earth dist.	13841 Dec 23 14:00	14°☾42'04	18.49362 AU	conjunction	13848 Jul 21 17:32	11°♂34'36	-0°34'29
direct	13842 Mar 10 21:51	12°☾41'10		minimum elong	13848 Jul 21 17:32	11°♂34'36	0°35'21
evening set	13842 Jun 11 18:46	15°☾51'31		max. Earth dist.	13848 Jul 22 01:38	11°♂35'47	20.81507 AU
				morning rise	13848 Aug 06 13:03	12°♂29'29	
conjunction	13842 Jun 27 15:25	16°☾47'26	-0°54'50		13848 Sep 29 20:16	15°♂	
minimum elong	13842 Jun 27 15:26	16°☾47'26	0°55'52	retrograde	13848 Nov 06 15:12	15°♂35'31	
max. Earth dist.	13842 Jun 27 21:35	16°☾48'21	20.52176 AU		13848 Dec 15 12:37	15°R♂	
morning rise	13842 Jul 13 11:11	17°☾43'14		opposition	13849 Jan 22 10:10	13°♂37'30	-0°36'00

min. Earth dist.	13849 Jan 22 01:29	13°Ω38'22	18.83364 AU	opposition	13855 Feb 16 20:53	7°♊46'38	-0°06'50
direct	13849 Apr 09 09:41	11°Ω39'03		min. Earth dist.	13855 Feb 16 11:18	7°♊47'36	18.97878 AU
evening set	13849 Jul 10 05:02	14°Ω44'01		direct	13855 May 04 13:05	5°♊48'51	
	13849 Jul 14 21:00	15°Ω		evening set	13855 Aug 03 14:55	8°♊50'44	
conjunction	13849 Jul 26 00:29	15°Ω38'46	-0°30'26	conjunction	13855 Aug 19 10:49	9°♊45'02	-0°03'55
minimum elong	13849 Jul 26 00:29	15°Ω38'46	0°31'15	minimum elong	13855 Aug 19 10:49	9°♊45'02	0°04'23
max. Earth dist.	13849 Jul 26 09:24	15°Ω40'03	20.85083 AU	behind sun begin	13855 Aug 19 04:21	9°♊44'08	
morning rise	13849 Aug 10 19:56	16°Ω33'32		behind sun end	13855 Aug 19 17:17	9°♊45'56	
retrograde	13849 Nov 10 22:41	19°Ω39'15		max. Earth dist.	13855 Aug 19 21:00	9°♊46'29	20.98545 AU
opposition	13850 Jan 26 20:54	17°Ω41'15	-0°31'25	morning rise	13855 Sep 04 07:37	10°♊39'29	
min. Earth dist.	13850 Jan 26 12:58	17°Ω42'03	18.86712 AU	retrograde	13855 Dec 05 22:06	13°♊44'20	
direct	13850 Apr 13 19:10	15°Ω42'57		opposition	13856 Feb 21 05:37	11°♊46'08	-0°01'45
evening set	13850 Jul 14 11:35	18°Ω47'16		min. Earth dist.	13856 Feb 20 20:27	11°♊47'03	18.99142 AU
conjunction	13850 Jul 30 06:55	19°Ω41'54	-0°26'13	direct	13856 May 07 19:48	9°♊48'28	
minimum elong	13850 Jul 30 06:55	19°Ω41'54	0°26'59	asc. node	13856 Jun 21 17:02	10°♊38'03	
max. Earth dist.	13850 Jul 30 14:58	19°Ω43'03	20.88227 AU	evening set	13856 Aug 06 19:59	12°♊50'05	
morning rise	13850 Aug 15 02:40	20°Ω36'35		conjunction	13856 Aug 22 15:58	13°♊44'21	0°00'45
retrograde	13850 Nov 15 07:53	23°Ω42'01		minimum elong	13856 Aug 22 15:58	13°♊44'21	0°00'20
opposition	13851 Jan 31 07:12	21°Ω43'59	-0°26'41	behind sun begin	13856 Aug 22 09:25	13°♊43'26	
min. Earth dist.	13851 Jan 30 22:25	21°Ω44'52	18.89646 AU	behind sun end	13856 Aug 22 22:32	13°♊45'16	
direct	13851 Apr 18 04:50	19°Ω45'47		max. Earth dist.	13856 Aug 23 01:17	13°♊45'40	20.99647 AU
evening set	13851 Jul 18 17:28	22°Ω49'28		morning rise	13856 Sep 07 13:16	14°♊38'49	
conjunction	13851 Aug 03 12:58	23°Ω44'00	-0°21'54	retrograde	13856 Dec 09 06:49	17°♊43'44	
minimum elong	13851 Aug 03 12:58	23°Ω44'00	0°22'38	opposition	13857 Feb 24 14:17	15°♊45'31	0°03'20
max. Earth dist.	13851 Aug 03 22:07	23°Ω45'19	20.90955 AU	min. Earth dist.	13857 Feb 24 04:38	15°♊46'29	19.00068 AU
morning rise	13851 Aug 19 08:47	24°Ω38'37		direct	13857 May 12 02:25	13°♊47'59	
retrograde	13851 Nov 19 14:45	27°Ω43'49		evening set	13857 Aug 11 00:57	16°♊49'23	
opposition	13852 Feb 04 17:09	25°Ω45'44	-0°21'50	conjunction	13857 Aug 26 21:15	17°♊43'40	0°05'23
min. Earth dist.	13852 Feb 04 08:54	25°Ω46'34	18.92186 AU	minimum elong	13857 Aug 26 21:15	17°♊43'40	0°05'04
direct	13852 Apr 21 13:07	23°Ω47'38		behind sun begin	13857 Aug 26 14:52	17°♊42'46	
evening set	13852 Jul 21 23:16	26°Ω50'46		behind sun end	13857 Aug 27 03:39	17°♊44'34	
conjunction	13852 Aug 06 18:41	27°Ω45'12	-0°17'30	max. Earth dist.	13857 Aug 27 07:35	17°♊45'08	21.00378 AU
minimum elong	13852 Aug 06 18:42	27°Ω45'12	0°18'08	morning rise	13857 Sep 11 18:44	18°♊38'08	
max. Earth dist.	13852 Aug 07 03:08	27°Ω46'25	20.93328 AU	retrograde	13857 Dec 13 14:15	21°♊43'12	
morning rise	13852 Aug 22 14:51	28°Ω39'45		opposition	13858 Feb 28 22:56	19°♊44'58	0°08'24
	13852 Sep 16 23:06	0°♊		min. Earth dist.	13858 Feb 28 13:44	19°♊45'54	19.00602 AU
retrograde	13852 Nov 22 23:31	1°♊44'46		direct	13858 May 16 09:22	17°♊47'34	
	13853 Feb 02 12:45	30°♊Ω		evening set	13858 Aug 15 06:08	20°♊48'49	
opposition	13853 Feb 08 02:31	29°Ω46'38	-0°16'54	conjunction	13858 Aug 31 02:34	21°♊43'07	0°09'56
min. Earth dist.	13853 Feb 07 17:26	29°Ω47'32	18.94395 AU	minimum elong	13858 Aug 31 02:34	21°♊43'07	0°09'39
direct	13853 Apr 25 21:58	27°Ω48'37		behind sun begin	13858 Aug 30 21:07	21°♊42'21	
	13853 Jul 10 11:07	0°♊		behind sun end	13858 Aug 31 08:00	21°♊43'52	
evening set	13853 Jul 26 04:41	0°♊51'16		max. Earth dist.	13858 Aug 31 11:48	21°♊44'26	21.00722 AU
conjunction	13853 Aug 11 00:18	1°♊45'39	-0°13'00	morning rise	13858 Sep 16 00:34	22°♊37'38	
minimum elong	13853 Aug 11 00:18	1°♊45'39	0°13'36	retrograde	13858 Dec 17 23:33	25°♊42'52	
behind sun begin	13853 Aug 10 20:38	1°♊45'08		opposition	13859 Mar 05 07:31	23°♊44'37	0°13'25
behind sun end	13853 Aug 11 03:59	1°♊46'10		min. Earth dist.	13859 Mar 04 22:09	23°♊45'34	19.00740 AU
max. Earth dist.	13853 Aug 11 09:57	1°♊47'02	20.95371 AU	direct	13859 May 20 15:06	21°♊47'19	
morning rise	13853 Aug 26 20:32	2°♊40'09		evening set	13859 Aug 19 11:19	24°♊48'30	
retrograde	13853 Nov 27 06:19	5°♊45'02		conjunction	13859 Sep 04 08:11	25°♊42'49	0°14'25
opposition	13854 Feb 12 11:51	3°♊46'52	-0°11'53	minimum elong	13859 Sep 04 08:10	25°♊42'49	0°14'14
min. Earth dist.	13854 Feb 12 03:04	3°♊47'45	18.96284 AU	behind sun begin	13859 Sep 04 04:58	25°♊42'23	
direct	13854 Apr 30 05:10	1°♊48'58		behind sun end	13859 Sep 04 11:22	25°♊43'16	
evening set	13854 Jul 30 09:52	4°♊51'12		max. Earth dist.	13859 Sep 04 18:08	25°♊44'15	21.00627 AU
conjunction	13854 Aug 15 05:29	5°♊45'31	-0°08'29	morning rise	13859 Sep 20 06:26	26°♊37'23	
minimum elong	13854 Aug 15 05:28	5°♊45'31	0°09'01	retrograde	13859 Dec 22 07:22	29°♊42'51	
behind sun begin	13854 Aug 14 23:50	5°♊44'44		opposition	13860 Mar 08 16:08	27°♊44'35	0°18'23
behind sun end	13854 Aug 15 11:06	5°♊46'18		min. Earth dist.	13860 Mar 08 07:26	27°♊45'27	19.00408 AU
max. Earth dist.	13854 Aug 15 14:29	5°♊46'48	20.97117 AU	direct	13860 May 23 22:22	25°♊47'22	
morning rise	13854 Aug 31 02:06	6°♊39'59		evening set	13860 Aug 22 16:57	28°♊48'31	
retrograde	13854 Dec 01 15:00	9°♊44'50		conjunction	13860 Sep 07 13:57	29°♊42'53	0°18'52

minimum elong	13860 Sep 07 13:56	29° <u>17</u> 42'53	0°18'45	opposition	13867 Apr 07 05:48	25° <u>05</u> 55'45	0°49'36
max. Earth dist.	13860 Sep 07 22:25	29° <u>17</u> 44'06	21.00053 AU	min. Earth dist.	13867 Apr 07 00:11	25° <u>05</u> 56'19	18.84507 AU
	13860 Sep 12 12:53	0° <u>05</u>		direct	13867 Jun 22 00:13	23° <u>05</u> 57'57	
morning rise	13860 Sep 23 12:45	0° <u>05</u> 37'31		evening set	13867 Sep 20 14:19	27° <u>05</u> 00'16	
retrograde	13860 Dec 25 17:19	3° <u>05</u> 43'15					
opposition	13861 Mar 13 00:41	1° <u>05</u> 44'55	0°23'16	conjunction	13867 Oct 06 14:25	27° <u>05</u> 55'24	0°46'29
min. Earth dist.	13861 Mar 12 16:14	1° <u>05</u> 45'45	18.99583 AU	minimum elong	13867 Oct 06 14:24	27° <u>05</u> 55'24	0°46'53
	13861 May 05 22:19	30° <u>05</u> 17		max. Earth dist.	13867 Oct 06 20:45	27° <u>05</u> 56'19	20.82644 AU
direct	13861 May 28 04:26	29° <u>05</u> 17'47'43		morning rise	13867 Oct 22 16:33	28° <u>05</u> 50'51	
	13861 Jun 19 05:33	0° <u>05</u>			13867 Nov 13 04:44	0° <u>05</u>	
evening set	13861 Aug 26 22:40	2° <u>05</u> 48'54		retrograde	13868 Jan 24 10:51	1° <u>05</u> 59'14	
				opposition	13868 Apr 10 15:03	29° <u>05</u> 59'39	0°53'18
conjunction	13861 Sep 11 20:08	3° <u>05</u> 43'21	0°23'13	min. Earth dist.	13868 Apr 10 09:35	0° <u>05</u> 00'12	18.80750 AU
minimum elong	13861 Sep 11 20:08	3° <u>05</u> 43'21	0°23'11		13868 Apr 10 11:32	30° <u>05</u> 17	
max. Earth dist.	13861 Sep 12 05:02	3° <u>05</u> 44'37	20.98956 AU	direct	13868 Jun 25 08:01	28° <u>05</u> 01'43	
morning rise	13861 Sep 27 19:13	4° <u>05</u> 38'03			13868 Sep 03 23:20	0° <u>05</u>	
retrograde	13861 Dec 30 01:24	7° <u>05</u> 44'04		evening set	13868 Sep 23 22:19	1° <u>05</u> 04'26	
opposition	13862 Mar 17 09:29	5° <u>05</u> 45'38	0°28'02				
min. Earth dist.	13862 Mar 17 01:42	5° <u>05</u> 46'25	18.98217 AU	conjunction	13868 Oct 09 22:44	1° <u>05</u> 59'43	0°49'42
direct	13862 Jun 01 11:45	3° <u>05</u> 48'27		minimum elong	13868 Oct 09 22:43	1° <u>05</u> 59'43	0°50'10
evening set	13862 Aug 31 04:38	6° <u>05</u> 49'41		max. Earth dist.	13868 Oct 10 03:37	2° <u>05</u> 00'25	20.78761 AU
				morning rise	13868 Oct 26 01:34	2° <u>05</u> 55'21	
conjunction	13862 Sep 16 02:20	7° <u>05</u> 44'12	0°27'28	retrograde	13869 Jan 27 21:15	6° <u>05</u> 04'16	
minimum elong	13862 Sep 16 02:20	7° <u>05</u> 44'12	0°27'31	opposition	13869 Apr 15 00:35	4° <u>05</u> 04'30	0°56'44
max. Earth dist.	13862 Sep 16 09:36	7° <u>05</u> 45'15	20.97332 AU	min. Earth dist.	13869 Apr 14 19:41	4° <u>05</u> 05'00	18.76748 AU
morning rise	13862 Oct 02 02:03	8° <u>05</u> 39'00		direct	13869 Jun 29 15:30	2° <u>05</u> 06'24	
retrograde	13863 Jan 03 11:50	11° <u>05</u> 45'21		evening set	13869 Sep 28 06:43	5° <u>05</u> 09'37	
opposition	13863 Mar 21 18:17	9° <u>05</u> 46'46	0°32'42				
min. Earth dist.	13863 Mar 21 10:56	9° <u>05</u> 47'30	18.96332 AU	conjunction	13869 Oct 14 07:50	6° <u>05</u> 05'04	0°52'40
direct	13863 Jun 05 18:44	7° <u>05</u> 49'30		minimum elong	13869 Oct 14 07:50	6° <u>05</u> 05'04	0°53'12
evening set	13863 Sep 04 10:47	10° <u>05</u> 50'51		max. Earth dist.	13869 Oct 14 13:26	6° <u>05</u> 05'53	20.74632 AU
				morning rise	13869 Oct 30 11:04	7° <u>05</u> 00'53	
conjunction	13863 Sep 20 09:03	11° <u>05</u> 45'27	0°31'37	retrograde	13870 Feb 01 08:43	10° <u>05</u> 10'23	
minimum elong	13863 Sep 20 09:03	11° <u>05</u> 45'27	0°31'42	opposition	13870 Apr 19 10:28	8° <u>05</u> 10'26	0°59'54
max. Earth dist.	13863 Sep 20 16:47	11° <u>05</u> 46'34	20.95187 AU	min. Earth dist.	13870 Apr 19 05:37	8° <u>05</u> 10'56	18.72498 AU
morning rise	13863 Oct 06 09:07	12° <u>05</u> 40'22		direct	13870 Jul 03 23:59	6° <u>05</u> 12'13	
retrograde	13864 Jan 07 19:47	15° <u>05</u> 47'01		evening set	13870 Oct 02 15:48	9° <u>05</u> 15'57	
opposition	13864 Mar 25 02:56	13° <u>05</u> 48'16	0°37'12				
min. Earth dist.	13864 Mar 24 20:12	13° <u>05</u> 48'56	18.93945 AU	conjunction	13870 Oct 18 17:20	10° <u>05</u> 11'36	0°55'22
direct	13864 Jun 09 01:53	11° <u>05</u> 50'54		minimum elong	13870 Oct 18 17:19	10° <u>05</u> 11'36	0°55'58
evening set	13864 Sep 07 17:18	14° <u>05</u> 52'24		max. Earth dist.	13870 Oct 18 21:22	10° <u>05</u> 12'12	20.70270 AU
				morning rise	13870 Nov 03 21:20	11° <u>05</u> 07'37	
conjunction	13864 Sep 23 15:51	15° <u>05</u> 47'06	0°35'36	retrograde	13871 Feb 05 20:11	14° <u>05</u> 17'44	
minimum elong	13864 Sep 23 15:50	15° <u>05</u> 47'06	0°35'47	opposition	13871 Apr 23 20:45	12° <u>05</u> 17'38	1°02'46
max. Earth dist.	13864 Sep 23 22:02	15° <u>05</u> 48'00	20.92586 AU	min. Earth dist.	13871 Apr 23 16:45	12° <u>05</u> 18'03	18.68019 AU
morning rise	13864 Oct 09 16:34	16° <u>05</u> 42'08		direct	13871 Jul 08 07:43	10° <u>05</u> 19'15	
retrograde	13865 Jan 11 06:12	19° <u>05</u> 49'10		evening set	13871 Oct 07 01:32	13° <u>05</u> 23'36	
opposition	13865 Mar 29 11:47	17° <u>05</u> 50'11	0°41'32				
min. Earth dist.	13865 Mar 29 05:29	17° <u>05</u> 50'49	18.91144 AU	conjunction	13871 Oct 23 03:49	14° <u>05</u> 19'28	0°57'48
direct	13865 Jun 13 09:20	15° <u>05</u> 52'41		minimum elong	13871 Oct 23 03:48	14° <u>05</u> 19'28	0°58'28
evening set	13865 Sep 11 23:49	18° <u>05</u> 54'24		max. Earth dist.	13871 Oct 23 08:22	14° <u>05</u> 20'08	20.65660 AU
					13871 Nov 03 18:39	15° <u>05</u>	
conjunction	13865 Sep 27 22:56	19° <u>05</u> 49'14	0°39'25	morning rise	13871 Nov 08 08:14	15° <u>05</u> 15'41	
minimum elong	13865 Sep 27 22:56	19° <u>05</u> 49'14	0°39'40	retrograde	13872 Feb 10 08:53	18° <u>05</u> 26'27	
max. Earth dist.	13865 Sep 28 05:54	19° <u>05</u> 50'14	20.89588 AU	opposition	13872 Apr 27 07:13	16° <u>05</u> 26'13	1°05'19
morning rise	13865 Oct 13 24:00	20° <u>05</u> 44'23		min. Earth dist.	13872 Apr 27 03:26	16° <u>05</u> 26'36	18.63277 AU
retrograde	13866 Jan 15 14:38	23° <u>05</u> 51'49			13872 Jun 05 10:30	15° <u>05</u> 17	
opposition	13866 Apr 02 20:45	21° <u>05</u> 52'38	0°45'41	direct	13872 Jul 11 17:05	14° <u>05</u> 27'42	
min. Earth dist.	13866 Apr 02 14:42	21° <u>05</u> 53'15	18.87972 AU		13872 Aug 16 03:09	15° <u>05</u>	
direct	13866 Jun 17 16:44	19° <u>05</u> 55'00		evening set	13872 Oct 10 12:10	17° <u>05</u> 32'42	
evening set	13866 Sep 16 06:57	22° <u>05</u> 56'59					
				conjunction	13872 Oct 26 14:51	18° <u>05</u> 28'47	0°59'57
conjunction	13866 Oct 02 06:22	23° <u>05</u> 51'57	0°43'04	minimum elong	13872 Oct 26 14:50	18° <u>05</u> 28'47	1°00'40
minimum elong	13866 Oct 02 06:22	23° <u>05</u> 51'57	0°43'23	max. Earth dist.	13872 Oct 26 17:34	18° <u>05</u> 29'11	20.60790 AU
max. Earth dist.	13866 Oct 02 11:58	23° <u>05</u> 52'45	20.86262 AU	morning rise	13872 Nov 11 20:01	19° <u>05</u> 25'14	
morning rise	13866 Oct 18 08:08	24° <u>05</u> 47'15		retrograde	13873 Feb 13 21:50	22° <u>05</u> 36'41	
retrograde	13867 Jan 20 00:59	27° <u>05</u> 55'09		opposition	13873 May 01 18:22	20° <u>05</u> 36'18	1°07'33

min. Earth dist.	13873 May 01 15:47	20° \mathbb{M} 36'34	18.58274 AU	conjunction	13879 Nov 26 18:25	18° \mathbb{A} 17'11	1°05'46
direct	13873 Jul 16 01:37	18° \mathbb{M} 37'36		minimum elong	13879 Nov 26 18:25	18° \mathbb{A} 17'11	1°06'46
evening set	13873 Oct 14 23:16	21° \mathbb{M} 43'19		max. Earth dist.	13879 Nov 26 16:11	18° \mathbb{A} 16'52	20.19372 AU
				morning rise	13879 Dec 13 03:37	19° \mathbb{A} 15'24	
conjunction	13873 Oct 31 02:43	22° \mathbb{M} 39'39	1°01'48	retrograde	13880 Mar 16 11:31	22° \mathbb{A} 31'44	
minimum elong	13873 Oct 31 02:42	22° \mathbb{M} 39'38	1°02'34	opposition	13880 May 31 13:00	20° \mathbb{A} 29'51	1°12'48
max. Earth dist.	13873 Oct 31 05:46	22° \mathbb{M} 40'05	20.55633 AU	min. Earth dist.	13880 May 31 14:56	20° \mathbb{A} 29'38	18.16202 AU
morning rise	13873 Nov 16 08:18	23° \mathbb{M} 36'19		direct	13880 Aug 14 12:04	18° \mathbb{A} 29'05	
retrograde	13874 Feb 18 11:58	26° \mathbb{M} 48'28		evening set	13880 Nov 14 03:42	21° \mathbb{A} 40'41	
opposition	13874 May 06 05:56	24° \mathbb{M} 47'56	1°09'27				
min. Earth dist.	13874 May 06 03:35	24° \mathbb{M} 48'11	18.52961 AU	conjunction	13880 Nov 30 11:35	22° \mathbb{A} 38'52	1°05'08
direct	13874 Jul 20 12:14	22° \mathbb{M} 49'03		minimum elong	13880 Nov 30 11:35	22° \mathbb{A} 38'52	1°06'10
evening set	13874 Oct 19 11:31	25° \mathbb{M} 55'31		max. Earth dist.	13880 Nov 30 07:56	22° \mathbb{A} 38'19	20.13007 AU
				morning rise	13880 Dec 16 21:27	23° \mathbb{A} 37'21	
conjunction	13874 Nov 04 15:25	26° \mathbb{M} 52'05	1°03'20	retrograde	13881 Mar 21 04:09	26° \mathbb{A} 54'23	
minimum elong	13874 Nov 04 15:25	26° \mathbb{M} 52'05	1°04'09	opposition	13881 Jun 05 04:00	24° \mathbb{A} 52'16	1°11'55
max. Earth dist.	13874 Nov 04 16:20	26° \mathbb{M} 52'13	20.50167 AU	min. Earth dist.	13881 Jun 05 07:19	24° \mathbb{A} 51'55	18.09884 AU
morning rise	13874 Nov 20 21:47	27° \mathbb{M} 49'00		direct	13881 Aug 19 00:29	22° \mathbb{A} 51'10	
	13875 Jan 03 17:43	0° \mathbb{A}		evening set	13881 Nov 18 20:53	26° \mathbb{A} 03'43	
retrograde	13875 Feb 23 02:03	1° \mathbb{A} 01'52					
	13875 Apr 15 23:46	30° \mathbb{R} \mathbb{M}		conjunction	13881 Dec 05 05:35	27° \mathbb{A} 02'11	1°04'07
opposition	13875 May 10 17:58	29° \mathbb{M} 01'08	1°10'59	minimum elong	13881 Dec 05 05:35	27° \mathbb{A} 02'11	1°05'10
min. Earth dist.	13875 May 10 17:10	29° \mathbb{M} 01'13	18.47345 AU	max. Earth dist.	13881 Dec 05 02:17	27° \mathbb{A} 01'41	20.06745 AU
direct	13875 Jul 24 21:59	27° \mathbb{M} 01'59		morning rise	13881 Dec 21 15:55	28° \mathbb{A} 00'56	
	13875 Oct 21 07:36	0° \mathbb{A}			13882 Jan 28 13:08	0° \mathbb{B}	
evening set	13875 Oct 24 00:19	0° \mathbb{A} 09'15		retrograde	13882 Mar 26 00:15	1° \mathbb{B} 18'39	
					13882 May 23 06:28	30° \mathbb{R} \mathbb{A}	
conjunction	13875 Nov 09 05:04	1° \mathbb{A} 06'05	1°04'32	opposition	13882 Jun 09 19:23	29° \mathbb{A} 16'20	1°10'36
minimum elong	13875 Nov 09 05:04	1° \mathbb{A} 06'05	1°05'23	min. Earth dist.	13882 Jun 09 22:07	29° \mathbb{A} 16'03	18.03681 AU
max. Earth dist.	13875 Nov 09 06:01	1° \mathbb{A} 06'13	20.44393 AU	direct	13882 Aug 23 16:19	27° \mathbb{A} 14'57	
morning rise	13875 Nov 25 11:52	2° \mathbb{A} 03'14			13882 Nov 15 10:13	0° \mathbb{B}	
retrograde	13876 Feb 27 17:24	5° \mathbb{A} 16'47		evening set	13882 Nov 23 15:14	0° \mathbb{B} 28'27	
opposition	13876 May 14 06:27	3° \mathbb{A} 15'52	1°12'09				
min. Earth dist.	13876 May 14 05:48	3° \mathbb{A} 15'56	18.41421 AU	conjunction	13882 Dec 10 00:28	1° \mathbb{B} 27'12	1°02'42
direct	13876 Jul 28 10:00	1° \mathbb{A} 16'27		minimum elong	13882 Dec 10 00:28	1° \mathbb{B} 27'12	1°03'45
evening set	13876 Oct 27 13:56	4° \mathbb{A} 24'31		max. Earth dist.	13882 Dec 09 19:58	1° \mathbb{B} 26'31	20.00615 AU
				morning rise	13882 Dec 26 11:24	2° \mathbb{B} 26'14	
conjunction	13876 Nov 12 19:09	5° \mathbb{A} 21'35	1°05'23	retrograde	13883 Mar 30 18:06	5° \mathbb{B} 44'38	
minimum elong	13876 Nov 12 19:08	5° \mathbb{A} 21'35	1°06'18	opposition	13883 Jun 14 11:23	3° \mathbb{B} 42'09	1°08'51
max. Earth dist.	13876 Nov 12 18:04	5° \mathbb{A} 21'25	20.38347 AU	min. Earth dist.	13883 Jun 14 15:31	3° \mathbb{B} 41'42	17.97644 AU
morning rise	13876 Nov 29 02:42	6° \mathbb{A} 19'00		direct	13883 Aug 28 06:19	1° \mathbb{B} 40'27	
retrograde	13877 Mar 03 08:12	9° \mathbb{A} 33'16		evening set	13883 Nov 28 10:17	4° \mathbb{B} 54'57	
opposition	13877 May 18 19:31	7° \mathbb{A} 32'05	1°12'56				
min. Earth dist.	13877 May 18 20:25	7° \mathbb{A} 32'00	18.35271 AU	conjunction	13883 Dec 14 20:14	5° \mathbb{B} 53'59	1°00'55
direct	13877 Aug 01 20:44	5° \mathbb{A} 32'21		minimum elong	13883 Dec 14 20:14	5° \mathbb{B} 53'59	1°01'59
evening set	13877 Nov 01 04:09	8° \mathbb{A} 41'15		max. Earth dist.	13883 Dec 14 15:48	5° \mathbb{B} 53'19	19.94680 AU
				morning rise	13883 Dec 31 07:36	6° \mathbb{B} 53'17	
conjunction	13877 Nov 17 10:12	9° \mathbb{A} 38'36	1°05'53	retrograde	13884 Apr 03 15:02	10° \mathbb{B} 12'20	
minimum elong	13877 Nov 17 10:12	9° \mathbb{A} 38'36	1°06'49	opposition	13884 Jun 18 03:56	8° \mathbb{B} 09'43	1°06'40
max. Earth dist.	13877 Nov 17 09:23	9° \mathbb{A} 38'28	20.32112 AU	min. Earth dist.	13884 Jun 18 07:25	8° \mathbb{B} 09'21	17.91803 AU
morning rise	13877 Dec 03 18:13	10° \mathbb{A} 36'16		direct	13884 Aug 31 23:34	6° \mathbb{B} 07'46	
retrograde	13878 Mar 08 01:06	13° \mathbb{A} 51'13		evening set	13884 Dec 02 06:09	9° \mathbb{B} 23'16	
opposition	13878 May 23 08:51	11° \mathbb{A} 49'48	1°13'18				
min. Earth dist.	13878 May 23 09:37	11° \mathbb{A} 49'43	18.28966 AU	conjunction	13884 Dec 18 16:38	10° \mathbb{B} 22'35	0°58'45
direct	13878 Aug 06 10:07	9° \mathbb{A} 49'44		minimum elong	13884 Dec 18 16:38	10° \mathbb{B} 22'35	0°59'48
evening set	13878 Nov 05 19:15	12° \mathbb{A} 59'30		max. Earth dist.	13884 Dec 18 11:24	10° \mathbb{B} 21'48	19.88941 AU
				morning rise	13885 Jan 04 04:28	11° \mathbb{B} 22'08	
conjunction	13878 Nov 22 01:50	13° \mathbb{A} 57'07	1°06'00	retrograde	13885 Apr 08 10:00	14° \mathbb{B} 41'52	
minimum elong	13878 Nov 22 01:50	13° \mathbb{A} 57'07	1°07'00	opposition	13885 Jun 22 21:19	12° \mathbb{B} 39'09	1°04'04
max. Earth dist.	13878 Nov 21 23:17	13° \mathbb{A} 56'44	20.25761 AU	min. Earth dist.	13885 Jun 23 02:12	12° \mathbb{B} 38'37	17.86172 AU
morning rise	13878 Dec 08 10:37	14° \mathbb{A} 55'04		direct	13885 Sep 05 15:25	10° \mathbb{B} 36'56	
retrograde	13879 Mar 12 16:48	18° \mathbb{A} 10'43		evening set	13885 Dec 07 02:59	13° \mathbb{B} 53'26	
opposition	13879 May 27 22:48	16° \mathbb{A} 09'03	1°13'16				
min. Earth dist.	13879 May 28 01:06	16° \mathbb{A} 08'48	18.22590 AU	conjunction	13885 Dec 23 14:05	14° \mathbb{B} 53'02	0°56'13
direct	13879 Aug 10 21:25	14° \mathbb{A} 08'37		minimum elong	13885 Dec 23 14:05	14° \mathbb{B} 53'02	0°57'16
evening set	13879 Nov 10 11:01	17° \mathbb{A} 19'18		max. Earth dist.	13885 Dec 23 08:32	14° \mathbb{B} 52'11	19.83423 AU
				morning rise	13886 Jan 09 02:22	15° \mathbb{B} 52'50	

retrograde	13886 Apr 13 07:56	19°♄13'12		min. Earth dist.	13892 Jul 24 21:59	14°♄49'04	17.52327 AU
opposition	13886 Jun 27 15:02	17°♄10'23	1°01'04	direct	13892 Oct 07 13:03	12°♄45'45	
min. Earth dist.	13886 Jun 27 19:33	17°♄09'54	17.80746 AU		13892 Dec 20 07:49	15°♄	
direct	13886 Sep 10 10:12	15°♄07'56		evening set	13893 Jan 09 02:17	16°♄08'26	
evening set	13886 Dec 12 00:50	18°♄25'27					
conjunction	13886 Dec 28 12:27	19°♄25'18	0°53'19	conjunction	13893 Jan 25 16:11	17°♄09'34	0°29'13
minimum elong	13886 Dec 28 12:27	19°♄25'18	0°54'21	minimum elong	13893 Jan 25 16:12	17°♄09'34	0°30'00
max. Earth dist.	13886 Dec 28 06:10	19°♄24'21	19.78079 AU	max. Earth dist.	13893 Jan 25 06:54	17°♄08'08	19.50439 AU
morning rise	13887 Jan 14 01:04	20°♄25'20		morning rise	13893 Feb 11 05:48	18°♄10'42	
retrograde	13887 Apr 18 04:13	23°♄46'18		retrograde	13893 May 15 21:44	21°♄34'03	
opposition	13887 Jul 02 09:39	21°♄43'25	0°57'39	opposition	13893 Jul 29 11:32	19°♄30'32	0°29'55
min. Earth dist.	13887 Jul 02 15:43	21°♄42'45	17.75488 AU	min. Earth dist.	13893 Jul 29 19:52	19°♄29'37	17.48672 AU
direct	13887 Sep 15 04:15	19°♄40'42		direct	13893 Oct 12 10:56	17°♄26'05	
evening set	13887 Dec 16 23:26	22°♄59'11		evening set	13894 Jan 14 04:30	20°♄49'28	
conjunction	13888 Jan 02 11:31	23°♄59'17	0°50'04	conjunction	13894 Jan 30 18:25	21°♄50'44	0°24'17
minimum elong	13888 Jan 02 11:31	23°♄59'17	0°51'04	minimum elong	13894 Jan 30 18:25	21°♄50'44	0°25'02
max. Earth dist.	13888 Jan 02 04:16	23°♄58'11	19.72907 AU	max. Earth dist.	13894 Jan 30 07:52	21°♄49'06	19.47018 AU
morning rise	13888 Jan 19 00:29	24°♄59'33		morning rise	13894 Feb 16 08:10	22°♄52'00	
retrograde	13888 Apr 22 02:50	28°♄21'03		retrograde	13894 May 20 22:06	26°♄15'34	
opposition	13888 Jul 06 04:40	26°♄18'04	0°53'52	opposition	13894 Aug 03 09:10	24°♄11'57	0°24'19
min. Earth dist.	13888 Jul 06 10:30	26°♄17'26	17.70395 AU	min. Earth dist.	13894 Aug 03 17:33	24°♄11'02	17.45495 AU
direct	13888 Sep 19 00:36	24°♄15'05		direct	13894 Oct 17 09:59	22°♄07'16	
evening set	13888 Dec 20 22:48	27°♄34'30		evening set	13895 Jan 19 06:58	25°♄31'18	
conjunction	13889 Jan 06 11:22	28°♄34'50	0°46'29	conjunction	13895 Feb 04 21:07	26°♄32'42	0°19'12
minimum elong	13889 Jan 06 11:23	28°♄34'50	0°47'28	minimum elong	13895 Feb 04 21:07	26°♄32'42	0°19'52
max. Earth dist.	13889 Jan 06 03:43	28°♄33'40	19.67895 AU	max. Earth dist.	13895 Feb 04 11:43	26°♄31'15	19.44087 AU
morning rise	13889 Jan 23 00:31	29°♄35'18		morning rise	13895 Feb 21 10:34	27°♄34'03	
	13889 Jan 29 23:43	0°♄			13895 Apr 09 04:53	0°♄	
retrograde	13889 Apr 27 00:20	2°♄57'17		retrograde	13895 May 25 22:04	0°♄57'46	
opposition	13889 Jul 11 00:25	0°♄54'12	0°49'42		13895 Jul 12 18:12	30°♄	
min. Earth dist.	13889 Jul 11 07:35	0°♄53'25	17.65479 AU	opposition	13895 Aug 08 07:18	28°♄54'08	0°18'33
	13889 Aug 01 15:50	30°♄		min. Earth dist.	13895 Aug 08 15:30	28°♄53'14	17.42825 AU
direct	13889 Sep 23 20:09	28°♄50'55		direct	13895 Oct 22 09:01	26°♄49'15	
	13889 Nov 14 10:16	0°♄			13896 Jan 20 13:41	0°♄	
evening set	13889 Dec 25 22:49	2°♄11'13		evening set	13896 Jan 24 09:46	0°♄13'52	
conjunction	13890 Jan 11 11:45	3°♄11'47	0°42'35	conjunction	13896 Feb 09 23:42	1°♄15'21	0°13'58
minimum elong	13890 Jan 11 11:46	3°♄11'47	0°43'31	minimum elong	13896 Feb 09 23:42	1°♄15'21	0°14'35
max. Earth dist.	13890 Jan 11 02:50	3°♄10'25	19.63097 AU	behind sun begin	13896 Feb 09 20:58	1°♄14'56	
morning rise	13890 Jan 28 01:16	4°♄12'26		behind sun end	13896 Feb 10 02:27	1°♄15'46	
retrograde	13890 May 01 23:58	7°♄34'52		max. Earth dist.	13896 Feb 09 13:20	1°♄13'45	19.41699 AU
opposition	13890 Jul 15 20:31	5°♄31'38	0°45'12	morning rise	13896 Feb 26 13:06	2°♄16'46	
min. Earth dist.	13890 Jul 16 03:33	5°♄30'53	17.60794 AU	retrograde	13896 May 29 22:16	5°♄40'37	
direct	13890 Sep 28 17:51	3°♄28'03		opposition	13896 Aug 12 05:48	3°♄36'59	0°12'39
evening set	13890 Dec 30 23:31	6°♄49'12		min. Earth dist.	13896 Aug 12 14:00	3°♄36'05	17.40734 AU
				direct	13896 Oct 26 08:15	1°♄31'58	
				evening set	13897 Jan 28 12:44	4°♄57'07	
conjunction	13891 Jan 16 12:53	7°♄49'58	0°38'23	conjunction	13897 Feb 14 02:47	5°♄58'41	0°08'38
minimum elong	13891 Jan 16 12:54	7°♄49'58	0°39'17	minimum elong	13897 Feb 14 02:47	5°♄58'41	0°09'11
max. Earth dist.	13891 Jan 16 04:05	7°♄48'37	19.58537 AU	behind sun begin	13897 Feb 13 21:06	5°♄57'49	
morning rise	13891 Feb 02 02:24	8°♄50'48		behind sun end	13897 Feb 14 08:27	5°♄59'33	
retrograde	13891 May 06 22:17	12°♄13'35		max. Earth dist.	13897 Feb 13 17:45	5°♄57'17	19.39902 AU
opposition	13891 Jul 20 17:04	10°♄10'16	0°40'23	morning rise	13897 Mar 02 15:46	7°♄00'08	
min. Earth dist.	13891 Jul 21 01:06	10°♄09'23	17.56380 AU	retrograde	13897 Jun 03 22:49	10°♄24'02	
direct	13891 Oct 03 14:30	8°♄06'22		opposition	13897 Aug 17 04:27	8°♄20'28	0°06'39
evening set	13892 Jan 05 00:48	11°♄28'19		min. Earth dist.	13897 Aug 17 11:59	8°♄19'38	17.39229 AU
conjunction	13892 Jan 21 14:20	12°♄29'16	0°33'55	direct	13897 Oct 31 08:44	6°♄15'22	
minimum elong	13892 Jan 21 14:21	12°♄29'16	0°34'46	evening set	13898 Feb 02 16:07	9°♄41'00	
max. Earth dist.	13892 Jan 21 04:13	12°♄27'43	19.54302 AU				
morning rise	13892 Feb 07 04:05	13°♄30'16		conjunction	13898 Feb 19 05:54	10°♄42'36	0°03'15
	13892 Mar 04 16:13	15°♄		minimum elong	13898 Feb 19 05:53	10°♄42'36	0°03'43
retrograde	13892 May 10 22:30	16°♄53'22		behind sun begin	13898 Feb 18 23:12	10°♄41'35	
	13892 Jul 20 17:13	15°♄		behind sun end	13898 Feb 19 12:34	10°♄43'37	
opposition	13892 Jul 24 14:05	14°♄49'55	0°35'17	max. Earth dist.	13898 Feb 18 20:08	10°♄41'06	19.38699 AU

morning rise	13898 Mar 07 18:40	11° H 44'05		conjunction	13904 Mar 21 00:24	9° Y 11'27	-0°28'30
retrograde	13898 Jun 08 22:26	15° H 08'01		minimum elong	13904 Mar 21 00:24	9° Y 11'27	0°28'32
opposition	13898 Aug 22 03:30	13° H 04'32	0°00'35	max. Earth dist.	13904 Mar 20 16:22	9° Y 10'12	19.42003 AU
min. Earth dist.	13898 Aug 22 11:26	13° H 03'40	17.38321 AU	morning rise	13904 Apr 06 09:40	10° Y 12'29	
desc. node	13898 Sep 25 03:08	11° H 42'52		retrograde	13904 Jul 07 21:48	13° Y 35'11	
direct	13898 Nov 05 08:29	10° H 59'25		opposition	13904 Sep 20 01:01	11° Y 32'31	-0°34'26
evening set	13899 Feb 07 19:35	14° H 25'27		min. Earth dist.	13904 Sep 20 08:23	11° Y 31'43	17.42984 AU
				direct	13904 Dec 04 18:45	9° Y 27'30	
conjunction	13899 Feb 24 09:13	15° H 27'05	-0°02'18	evening set	13905 Mar 09 15:52	12° Y 53'59	
minimum elong	13899 Feb 24 09:13	15° H 27'05	0°01'55				
behind sun begin	13899 Feb 24 02:28	15° H 26'03		conjunction	13905 Mar 26 02:30	13° Y 55'08	-0°33'17
behind sun end	13899 Feb 24 15:57	15° H 28'06		minimum elong	13905 Mar 26 02:30	13° Y 55'08	0°33'26
max. Earth dist.	13899 Feb 24 00:33	15° H 25'45	19.38072 AU	max. Earth dist.	13905 Mar 25 18:14	13° Y 53'51	19.44047 AU
morning rise	13899 Mar 12 21:29	16° H 28'32		morning rise	13905 Apr 11 11:10	14° Y 56'01	
retrograde	13899 Jun 13 23:11	19° H 52'27		retrograde	13905 Jul 12 21:36	18° Y 18'15	
opposition	13899 Aug 27 02:40	17° H 49'06	-0°05'28	opposition	13905 Sep 25 00:18	16° Y 15'41	-0°39'39
min. Earth dist.	13899 Aug 27 09:46	17° H 48'19	17.37955 AU	min. Earth dist.	13905 Sep 25 06:26	16° Y 15'02	17.45231 AU
direct	13899 Nov 10 10:36	15° H 44'00		direct	13905 Dec 09 20:50	14° Y 10'43	
evening set	13900 Feb 12 23:18	19° H 10'21		evening set	13906 Mar 14 18:08	17° Y 36'55	
conjunction	13900 Mar 01 12:30	20° H 11'58	-0°07'43	conjunction	13906 Mar 31 04:13	18° Y 37'55	-0°37'51
minimum elong	13900 Mar 01 12:30	20° H 11'58	0°07'27	minimum elong	13906 Mar 31 04:12	18° Y 37'55	0°38'04
behind sun begin	13900 Mar 01 06:22	20° H 11'02		max. Earth dist.	13906 Mar 30 21:05	18° Y 36'48	19.46495 AU
behind sun end	13900 Mar 01 18:38	20° H 12'54		morning rise	13906 Apr 16 11:59	19° Y 38'36	
max. Earth dist.	13900 Mar 01 03:23	20° H 10'34	19.37963 AU	retrograde	13906 Jul 17 19:36	23° Y 00'20	
morning rise	13900 Mar 18 00:20	21° H 13'24		opposition	13906 Sep 29 23:42	20° Y 57'53	-0°44'36
retrograde	13900 Jun 18 22:20	24° H 37'13		min. Earth dist.	13906 Sep 30 06:21	20° Y 57'10	17.47892 AU
opposition	13900 Sep 01 02:13	22° H 34'01	-0°11'30	direct	13906 Dec 14 21:38	18° Y 52'58	
min. Earth dist.	13900 Sep 01 10:03	22° H 33'10	17.38103 AU	evening set	13907 Mar 19 19:52	22° Y 18'48	
direct	13900 Nov 15 11:07	20° H 28'55					
evening set	13901 Feb 18 02:51	23° H 55'31		conjunction	13907 Apr 05 05:04	23° Y 19'36	-0°42'08
				minimum elong	13907 Apr 05 05:03	23° Y 19'35	0°42'27
conjunction	13901 Mar 06 15:44	24° H 57'05	-0°13'05	max. Earth dist.	13907 Apr 04 21:38	23° Y 18'26	19.49375 AU
minimum elong	13901 Mar 06 15:44	24° H 57'05	0°12'52	morning rise	13907 Apr 21 12:11	24° Y 20'05	
behind sun begin	13901 Mar 06 11:39	24° H 56'28		retrograde	13907 Jul 22 17:51	27° Y 41'16	
behind sun end	13901 Mar 06 19:49	24° H 57'43		opposition	13907 Oct 04 22:39	25° Y 38'55	-0°49'13
max. Earth dist.	13901 Mar 06 07:11	24° H 55'46	19.38345 AU	min. Earth dist.	13907 Oct 05 03:54	25° Y 38'21	17.50995 AU
morning rise	13901 Mar 23 03:02	25° H 58'27		direct	13907 Dec 19 23:21	23° Y 34'03	
retrograde	13901 Jun 23 23:19	29° H 22'06		evening set	13908 Mar 23 20:50	26° Y 59'27	
opposition	13901 Sep 06 01:49	27° H 19'03	-0°17'28				
min. Earth dist.	13901 Sep 06 08:40	27° H 18'18	17.38699 AU	conjunction	13908 Apr 09 05:26	28° Y 00'02	-0°46'08
direct	13901 Nov 20 14:23	25° H 13'59		minimum elong	13908 Apr 09 05:25	28° Y 00'02	0°46'32
evening set	13902 Feb 23 06:35	28° H 40'42		max. Earth dist.	13908 Apr 08 23:47	27° Y 59'10	19.52698 AU
				morning rise	13908 Apr 25 11:35	29° Y 00'18	
conjunction	13902 Mar 11 18:59	29° H 42'12	-0°18'21		13908 May 12 12:01	0° B	
minimum elong	13902 Mar 11 18:59	29° H 42'12	0°18'14	retrograde	13908 Jul 26 14:38	2° B 20'53	
max. Earth dist.	13902 Mar 11 10:18	29° H 40'52	19.39149 AU	opposition	13908 Oct 08 21:23	0° B 18'39	-0°53'30
	13902 Mar 16 12:46	0° Y		min. Earth dist.	13908 Oct 09 02:39	0° B 18'05	17.54554 AU
morning rise	13902 Mar 28 05:38	0° Y 43'29			13908 Oct 16 03:17	30° R Y	
retrograde	13902 Jun 28 22:07	4° Y 06'53		direct	13908 Dec 24 00:16	28° Y 13'55	
opposition	13902 Sep 11 01:32	2° Y 03'58	-0°23'17		13909 Feb 27 11:51	0° B	
min. Earth dist.	13902 Sep 11 09:19	2° Y 03'07	17.39721 AU	evening set	13909 Mar 28 21:15	1° B 38'46	
	13902 Nov 19 05:28	30° R H					
direct	13902 Nov 25 15:05	29° H 58'54		conjunction	13909 Apr 14 04:55	2° B 39'08	-0°49'49
	13902 Dec 01 23:00	0° Y		minimum elong	13909 Apr 14 04:55	2° B 39'08	0°50'17
evening set	13903 Feb 28 10:04	3° Y 25'40		max. Earth dist.	13909 Apr 13 23:02	2° B 38'13	19.56497 AU
				morning rise	13909 Apr 30 10:27	3° B 39'10	
conjunction	13903 Mar 16 21:56	4° Y 27'04	-0°23'30	retrograde	13909 Jul 31 11:18	6° B 59'08	
minimum elong	13903 Mar 16 21:56	4° Y 27'04	0°23'29	opposition	13909 Oct 13 19:45	4° B 57'03	-0°57'24
max. Earth dist.	13903 Mar 16 13:17	4° Y 25'44	19.40379 AU	min. Earth dist.	13909 Oct 13 23:35	4° B 56'38	17.58596 AU
morning rise	13903 Apr 02 07:59	5° Y 28'14		direct	13909 Dec 29 01:09	2° B 52'27	
retrograde	13903 Jul 03 23:01	8° Y 51'19		evening set	13910 Apr 02 20:54	6° B 16'45	
opposition	13903 Sep 16 01:14	6° Y 48'31	-0°28'58				
min. Earth dist.	13903 Sep 16 07:50	6° Y 47'49	17.41150 AU	conjunction	13910 Apr 19 03:56	7° B 16'52	-0°53'09
direct	13903 Nov 30 18:00	4° Y 43'30		minimum elong	13910 Apr 19 03:55	7° B 16'52	0°53'43
evening set	13904 Mar 04 13:05	8° Y 10'09		max. Earth dist.	13910 Apr 19 00:04	7° B 16'16	19.60768 AU
				morning rise	13910 May 05 08:27	8° B 16'39	












































































































retrograde	13910 Aug 05 07:17	11°♄35'58	direct	13917 Jan 30 16:41	4°♄45'14
opposition	13910 Oct 18 17:48	9°♄34'06 -1°00'55	evening set	13917 May 04 21:46	8°♄04'13
min. Earth dist.	13910 Oct 18 21:14	9°♄33'44 17.63097 AU			
direct	13911 Jan 03 01:37	7°♄29'43	conjunction	13917 May 20 23:14	9°♄02'26 -1°05'51
evening set	13911 Apr 07 19:58	10°♄53'24	minimum elong	13917 May 20 23:14	9°♄02'26 1°06'48
			max. Earth dist.	13917 May 20 23:22	9°♄02'27 19.99661 AU
conjunction	13911 Apr 24 02:02	11°♄53'16 -0°56'07	morning rise	13917 Jun 05 22:41	10°♄00'23
minimum elong	13911 Apr 24 02:01	11°♄53'16 0°56'44	retrograde	13917 Sep 05 13:16	13°♄14'53
max. Earth dist.	13911 Apr 23 21:59	11°♄52'38 19.65501 AU	opposition	13917 Nov 19 16:40	11°♄14'48 -1°13'27
morning rise	13911 May 10 05:54	12°♄52'48	min. Earth dist.	13917 Nov 19 16:04	11°♄14'52 18.02696 AU
	13911 Jun 18 23:30	15°♄	direct	13918 Feb 04 11:28	9°♄12'27
retrograde	13911 Aug 10 02:54	16°♄11'29	evening set	13918 May 09 15:08	12°♄30'30
	13911 Oct 03 10:48	15°♄			
opposition	13911 Oct 23 15:30	14°♄09'50 -1°04'01	conjunction	13918 May 25 15:58	13°♄28'27 -1°06'06
min. Earth dist.	13911 Oct 23 17:43	14°♄09'36 17.68049 AU	minimum elong	13918 May 25 15:58	13°♄28'27 1°07'05
direct	13912 Jan 08 01:14	12°♄05'43	max. Earth dist.	13918 May 25 17:02	13°♄28'37 20.05667 AU
	13912 Apr 03 16:08	15°♄	morning rise	13918 Jun 10 14:44	14°♄26'08
evening set	13912 Apr 11 17:59	15°♄28'43	retrograde	13918 Sep 10 06:09	17°♄39'54
			opposition	13918 Nov 24 11:04	15°♄40'00 -1°13'29
conjunction	13912 Apr 27 23:26	16°♄28'20 -0°58'43	min. Earth dist.	13918 Nov 24 09:19	15°♄40'11 18.08676 AU
minimum elong	13912 Apr 27 23:25	16°♄28'20 0°59'24	direct	13919 Feb 09 08:28	13°♄37'55
max. Earth dist.	13912 Apr 27 21:25	16°♄28'01 19.70644 AU	evening set	13919 May 14 07:42	16°♄55'00
morning rise	13912 May 14 02:22	17°♄27'37			
retrograde	13912 Aug 13 22:06	20°♄45'38	conjunction	13919 May 30 07:49	17°♄52'41 -1°05'57
opposition	13912 Oct 27 12:49	18°♄44'16 -1°06'41	minimum elong	13919 May 30 07:49	17°♄52'41 1°06'57
min. Earth dist.	13912 Oct 27 14:29	18°♄44'06 17.73355 AU	max. Earth dist.	13919 May 30 09:04	17°♄52'52 20.11629 AU
direct	13913 Jan 12 00:57	16°♄40'27	morning rise	13919 Jun 15 06:05	18°♄50'06
evening set	13913 Apr 16 15:37	20°♄02'44	retrograde	13919 Sep 14 20:06	22°♄03'07
			opposition	13919 Nov 29 04:57	20°♄03'23 -1°13'05
conjunction	13913 May 02 20:06	21°♄02'05 -1°00'56	min. Earth dist.	13919 Nov 29 03:30	20°♄03'32 18.14628 AU
minimum elong	13913 May 02 20:05	21°♄02'05 1°01'41	direct	13920 Feb 14 01:31	18°♄01'32
max. Earth dist.	13913 May 02 17:48	21°♄01'44 19.76105 AU	evening set	13920 May 17 23:06	21°♄17'38
morning rise	13913 May 18 22:25	22°♄01'06			
retrograde	13913 Aug 18 16:35	25°♄18'27	conjunction	13920 Jun 02 22:42	22°♄15'02 -1°05'25
opposition	13913 Nov 01 09:35	23°♄17'21 -1°08'55	minimum elong	13920 Jun 02 22:42	22°♄15'02 1°06'27
min. Earth dist.	13913 Nov 01 10:40	23°♄17'15 17.78955 AU	max. Earth dist.	13920 Jun 03 00:46	22°♄15'21 20.17564 AU
direct	13914 Jan 16 23:13	21°♄13'50	morning rise	13920 Jun 18 20:29	23°♄12'12
evening set	13914 Apr 21 12:21	24°♄35'23	retrograde	13920 Sep 18 11:58	26°♄24'28
			opposition	13920 Dec 02 22:02	24°♄24'52 -1°12'16
conjunction	13914 May 07 16:11	25°♄34'27 -1°02'45	min. Earth dist.	13920 Dec 02 19:12	24°♄25'10 18.20531 AU
minimum elong	13914 May 07 16:10	25°♄34'27 1°03'33	direct	13921 Feb 17 21:26	22°♄23'15
max. Earth dist.	13914 May 07 15:29	25°♄34'20 19.81812 AU	evening set	13921 May 22 13:46	25°♄38'20
morning rise	13914 May 23 17:36	26°♄33'12			
retrograde	13914 Aug 23 10:53	29°♄49'51	conjunction	13921 Jun 07 12:45	26°♄35'29 -1°04'31
opposition	13914 Nov 06 06:06	27°♄49'03 -1°10'43	minimum elong	13921 Jun 07 12:45	26°♄35'29 1°05'33
min. Earth dist.	13914 Nov 06 06:28	27°♄49'00 17.84747 AU	max. Earth dist.	13921 Jun 07 15:24	26°♄35'53 20.23450 AU
direct	13915 Jan 21 22:09	25°♄45'50	morning rise	13921 Jun 23 10:04	27°♄32'23
evening set	13915 Apr 26 08:18	29°♄06'34		13921 Aug 12 18:48	0°♄
	13915 May 11 00:16	0°♄	retrograde	13921 Sep 23 00:13	0°♄43'56
				13921 Nov 04 13:58	30°♄
conjunction	13915 May 12 11:12	0°♄05'21 -1°04'11	opposition	13921 Dec 07 14:36	28°♄44'27 -1°11'02
minimum elong	13915 May 12 11:11	0°♄05'21 1°05'03	min. Earth dist.	13921 Dec 07 12:02	28°♄44'43 18.26419 AU
max. Earth dist.	13915 May 12 10:17	0°♄05'12 19.87678 AU	direct	13922 Feb 22 13:19	26°♄43'03
morning rise	13915 May 28 11:59	1°♄03'50	evening set	13922 May 27 03:29	29°♄57'09
retrograde	13915 Aug 28 04:03	4°♄19'47		13922 May 27 22:55	0°♄
opposition	13915 Nov 11 02:13	2°♄19'14 -1°12'04			
min. Earth dist.	13915 Nov 11 02:19	2°♄19'13 17.90684 AU	conjunction	13922 Jun 12 01:56	0°♄54'01 -1°03'14
direct	13916 Jan 26 18:56	0°♄16'19	minimum elong	13922 Jun 12 01:56	0°♄54'01 1°04'18
evening set	13916 Apr 30 03:23	3°♄36'12	max. Earth dist.	13922 Jun 12 05:24	0°♄54'33 20.29344 AU
			morning rise	13922 Jun 27 22:50	1°♄50'41
conjunction	13916 May 16 05:39	4°♄34'42 -1°05'13	retrograde	13922 Sep 27 14:21	5°♄01'32
minimum elong	13916 May 16 05:39	4°♄34'42 1°06'07	opposition	13922 Dec 12 06:31	3°♄02'11 -1°09'25
max. Earth dist.	13916 May 16 05:59	4°♄34'46 19.93654 AU	min. Earth dist.	13922 Dec 12 02:08	3°♄02'38 18.32311 AU
morning rise	13916 Jun 01 05:40	5°♄32'55	direct	13923 Feb 27 08:02	1°♄01'02
retrograde	13916 Aug 31 21:30	8°♄48'09	evening set	13923 May 31 16:13	4°♄14'08
opposition	13916 Nov 14 21:36	6°♄47'51 -1°12'59			
min. Earth dist.	13916 Nov 14 20:51	6°♄47'56 17.96680 AU	conjunction	13923 Jun 16 14:10	5°♄10'46 -1°01'38

minimum elong	13923 Jun 16 14:10	5°☿10'46	1°02'41	opposition	13930 Jan 11 07:10	2°♄24'10	-0°48'38
max. Earth dist.	13923 Jun 16 18:40	5°☿11'26	20.35238 AU	min. Earth dist.	13930 Jan 10 23:59	2°♄24'54	18.71166 AU
morning rise	13923 Jul 02 10:41	6°☿07'11		direct	13930 Mar 29 08:33	0°♄25'05	
retrograde	13923 Oct 02 01:49	9°☿17'23		evening set	13930 Jun 29 14:56	3°♄32'08	
opposition	13923 Dec 16 21:59	7°☿18'10	-1°07'25				
min. Earth dist.	13923 Dec 16 17:45	7°☿18'36	18.38217 AU	conjunction	13930 Jul 15 10:38	4°♄27'18	-0°42'03
direct	13924 Mar 02 22:31	5°☿17'18		minimum elong	13930 Jul 15 10:38	4°♄27'18	0°42'59
evening set	13924 Jun 04 04:17	8°☿29'27		max. Earth dist.	13930 Jul 15 18:14	4°♄28'25	20.73466 AU
				morning rise	13930 Jul 31 06:03	5°♄22'25	
conjunction	13924 Jun 20 01:47	9°☿25'50	-0°59'41	retrograde	13930 Oct 31 05:34	8°♄29'03	
minimum elong	13924 Jun 20 01:48	9°☿25'50	1°00'44	opposition	13931 Jan 15 19:07	6°♄30'55	-0°44'34
max. Earth dist.	13924 Jun 20 06:53	9°☿26'35	20.41146 AU	min. Earth dist.	13931 Jan 15 10:47	6°♄31'46	18.75687 AU
morning rise	13924 Jul 05 22:04	10°☿22'02		direct	13931 Apr 02 20:43	4°♄32'04	
retrograde	13924 Oct 05 14:28	13°☿31'36		evening set	13931 Jul 03 22:42	7°♄38'22	
opposition	13924 Dec 20 12:32	11°☿32'33	-1°05'03				
min. Earth dist.	13924 Dec 20 06:33	11°☿33'10	18.44099 AU	conjunction	13931 Jul 19 18:21	8°♄33'23	-0°38'18
direct	13925 Mar 07 15:25	9°☿31'58		minimum elong	13931 Jul 19 18:21	8°♄33'23	0°39'11
evening set	13925 Jun 08 15:38	12°☿43'13		max. Earth dist.	13931 Jul 20 02:41	8°♄34'36	20.77777 AU
				morning rise	13931 Aug 04 13:42	9°♄28'23	
conjunction	13925 Jun 24 12:46	13°☿39'22	-0°57'25	retrograde	13931 Nov 04 13:32	12°♄34'39	
minimum elong	13925 Jun 24 12:46	13°☿39'22	0°58'28	opposition	13932 Jan 20 06:45	10°♄36'35	-0°40'18
max. Earth dist.	13925 Jun 24 18:53	13°☿40'16	20.46997 AU	min. Earth dist.	13932 Jan 19 23:19	10°♄37'20	18.79786 AU
morning rise	13925 Jul 10 08:44	14°☿35'21		direct	13932 Apr 06 07:01	8°♄37'56	
retrograde	13925 Oct 10 01:09	17°☿44'20		evening set	13932 Jul 07 06:10	11°♄43'31	
opposition	13925 Dec 25 02:54	15°☿45'28	-1°02'21				
min. Earth dist.	13925 Dec 24 21:17	15°☿46'02	18.49909 AU	conjunction	13932 Jul 23 01:38	12°♄38'23	-0°34'22
direct	13926 Mar 12 04:47	13°☿45'12		minimum elong	13932 Jul 23 01:39	12°♄38'23	0°35'13
evening set	13926 Jun 13 02:12	16°☿55'33		max. Earth dist.	13932 Jul 23 09:16	12°♄39'30	20.81668 AU
				morning rise	13932 Aug 07 21:09	13°♄33'16	
conjunction	13926 Jun 28 22:56	17°☿51'28	-0°54'51		13932 Sep 04 06:35	15°♄	
minimum elong	13926 Jun 28 22:56	17°☿51'28	0°55'53	retrograde	13932 Nov 07 23:33	16°♄39'11	
max. Earth dist.	13926 Jun 29 05:22	17°☿52'25	20.52755 AU		13933 Jan 15 21:19	15°♄♄	
morning rise	13926 Jul 14 18:44	18°☿47'16		opposition	13933 Jan 23 17:38	14°♄41'09	-0°35'50
retrograde	13926 Oct 14 12:57	21°☿55'42		min. Earth dist.	13933 Jan 23 09:17	14°♄41'59	18.83456 AU
opposition	13926 Dec 29 16:38	19°☿57'01	-0°59'21	direct	13933 Apr 10 18:03	12°♄42'39	
min. Earth dist.	13926 Dec 29 09:22	19°☿57'45	18.55584 AU		13933 Jun 27 02:30	15°♄	
direct	13927 Mar 16 19:44	17°☿57'03		evening set	13933 Jul 11 13:03	15°♄47'34	
evening set	13927 Jun 17 12:12	21°☿06'32					
				conjunction	13933 Jul 27 08:33	16°♄42'19	-0°30'16
conjunction	13927 Jul 03 08:40	22°☿02'15	-0°52'01	minimum elong	13933 Jul 27 08:33	16°♄42'19	0°31'04
minimum elong	13927 Jul 03 08:40	22°☿02'15	0°53'03	max. Earth dist.	13933 Jul 27 17:00	16°♄43'32	20.85126 AU
max. Earth dist.	13927 Jul 03 16:05	22°☿03'20	20.58336 AU	morning rise	13933 Aug 12 04:04	17°♄37'05	
morning rise	13927 Jul 19 04:14	22°☿57'51		retrograde	13933 Nov 12 06:18	20°♄42'42	
retrograde	13927 Oct 18 22:47	26°☿05'47		opposition	13934 Jan 28 04:23	18°♄44'39	-0°31'13
opposition	13928 Jan 03 05:57	24°☿07'16	-0°56'02	min. Earth dist.	13934 Jan 27 20:50	18°♄45'25	18.86712 AU
min. Earth dist.	13928 Jan 02 23:18	24°☿07'56	18.61063 AU	direct	13934 Apr 15 03:27	16°♄46'18	
direct	13928 Mar 20 07:58	22°☿07'37		evening set	13934 Jul 15 19:23	19°♄50'33	
evening set	13928 Jun 20 21:37	25°☿16'15					
				conjunction	13934 Jul 31 14:46	20°♄45'11	-0°26'03
conjunction	13928 Jul 06 17:47	26°☿11'46	-0°48'56	minimum elong	13934 Jul 31 14:47	20°♄45'11	0°26'48
minimum elong	13928 Jul 06 17:47	26°☿11'46	0°49'55	max. Earth dist.	13934 Jul 31 22:47	20°♄46'20	20.88202 AU
max. Earth dist.	13928 Jul 07 01:03	26°☿12'50	20.63698 AU	morning rise	13934 Aug 16 10:33	21°♄39'51	
morning rise	13928 Jul 22 13:20	27°☿07'12		retrograde	13934 Nov 16 15:39	24°♄45'13	
	13928 Sep 28 09:48	0°♄		opposition	13935 Feb 01 14:34	22°♄47'09	-0°26'28
retrograde	13928 Oct 22 09:54	0°♄14'40		min. Earth dist.	13935 Feb 01 05:56	22°♄48'01	18.89610 AU
	13928 Nov 15 18:06	30°♄☿		direct	13935 Apr 19 13:01	20°♄48'54	
opposition	13929 Jan 06 18:42	28°☿16'18	-0°52'28	evening set	13935 Jul 20 01:19	23°♄52'34	
min. Earth dist.	13929 Jan 06 10:43	28°☿17'06	18.66278 AU				
direct	13929 Mar 24 21:17	26°☿16'56		conjunction	13935 Aug 04 20:50	24°♄47'06	-0°21'42
evening set	13929 Jun 25 06:30	29°☿24'46		minimum elong	13935 Aug 04 20:50	24°♄47'06	0°22'24
	13929 Jul 05 09:28	0°♄		max. Earth dist.	13935 Aug 05 05:56	24°♄48'25	20.90927 AU
				morning rise	13935 Aug 20 16:39	25°♄41'42	
conjunction	13929 Jul 11 02:28	0°♄20'06	-0°45'36	retrograde	13935 Nov 20 21:57	28°♄46'51	
minimum elong	13929 Jul 11 02:28	0°♄20'06	0°46'34	opposition	13936 Feb 06 00:19	26°♄48'45	-0°21'36
max. Earth dist.	13929 Jul 11 10:32	0°♄21'17	20.68751 AU	min. Earth dist.	13936 Feb 05 16:16	26°♄49'33	18.92181 AU
morning rise	13929 Jul 26 21:49	1°♄15'22		direct	13936 Apr 22 21:19	24°♄50'37	
retrograde	13929 Oct 26 18:53	4°♄22'24		evening set	13936 Jul 23 07:03	27°♄53'46	

conjunction	13936 Aug 08 02:31	28° <u>0</u> 48'13	-0°17'16	morning rise	13941 Sep 13 02:30	19° <u>0</u> 42'10	
minimum elong	13936 Aug 08 02:31	28° <u>0</u> 48'13	0°17'55	retrograde	13941 Dec 14 21:45	22° <u>0</u> 47'14	
max. Earth dist.	13936 Aug 08 11:06	28° <u>0</u> 49'27	20.93354 AU	opposition	13942 Mar 02 06:11	20° <u>0</u> 49'05	0°08'45
morning rise	13936 Aug 23 22:40	29° <u>0</u> 42'45		min. Earth dist.	13942 Mar 01 21:14	20° <u>0</u> 49'59	19.00878 AU
	13936 Aug 29 02:05	0° <u>0</u>		direct	13942 May 17 15:43	18° <u>0</u> 51'45	
retrograde	13936 Nov 24 06:49	2° <u>0</u> 47'45		evening set	13942 Aug 16 13:53	21° <u>0</u> 53'03	
opposition	13937 Feb 09 09:44	0° <u>0</u> 49'38	-0°16'38				
min. Earth dist.	13937 Feb 09 00:35	0° <u>0</u> 50'33	18.94460 AU	conjunction	13942 Sep 01 10:20	22° <u>0</u> 47'21	0°10'15
	13937 Mar 02 16:28	30° <u>0</u> 48'0		minimum elong	13942 Sep 01 10:20	22° <u>0</u> 47'20	0°10'01
direct	13937 Apr 27 05:15	28° <u>0</u> 51'37		behind sun begin	13942 Sep 01 05:00	22° <u>0</u> 46'36	
	13937 Jun 19 07:25	0° <u>0</u>		behind sun end	13942 Sep 01 15:39	22° <u>0</u> 48'05	
evening set	13937 Jul 27 12:20	1° <u>0</u> 54'19		max. Earth dist.	13942 Sep 01 19:18	22° <u>0</u> 48'37	21.00972 AU
				morning rise	13942 Sep 17 08:18	23° <u>0</u> 41'51	
conjunction	13937 Aug 12 07:58	2° <u>0</u> 48'42	-0°12'46	retrograde	13942 Dec 19 07:21	26° <u>0</u> 47'06	
minimum elong	13937 Aug 12 07:58	2° <u>0</u> 48'42	0°13'20	opposition	13943 Mar 06 14:49	24° <u>0</u> 48'55	0°13'47
behind sun begin	13937 Aug 12 04:07	2° <u>0</u> 48'10		min. Earth dist.	13943 Mar 06 05:40	24° <u>0</u> 49'50	19.00951 AU
behind sun end	13937 Aug 12 11:48	2° <u>0</u> 49'14		direct	13943 May 21 23:17	22° <u>0</u> 51'38	
max. Earth dist.	13937 Aug 12 17:39	2° <u>0</u> 50'05	20.95474 AU	evening set	13943 Aug 20 19:15	25° <u>0</u> 52'51	
morning rise	13937 Aug 28 04:11	3° <u>0</u> 43'12					
retrograde	13937 Nov 28 13:22	6° <u>0</u> 48'06		conjunction	13943 Sep 05 16:05	26° <u>0</u> 47'11	0°14'46
opposition	13938 Feb 13 19:01	4° <u>0</u> 49'59	-0°11'36	minimum elong	13943 Sep 05 16:05	26° <u>0</u> 47'11	0°14'35
min. Earth dist.	13938 Feb 13 10:17	4° <u>0</u> 50'51	18.96430 AU	behind sun begin	13943 Sep 05 13:10	26° <u>0</u> 46'46	
direct	13938 May 01 12:52	2° <u>0</u> 52'07		behind sun end	13943 Sep 05 18:59	26° <u>0</u> 47'35	
evening set	13938 Jul 31 17:34	5° <u>0</u> 54'25		max. Earth dist.	13943 Sep 06 01:32	26° <u>0</u> 48'31	21.00787 AU
				morning rise	13943 Sep 21 14:18	27° <u>0</u> 41'44	
conjunction	13938 Aug 16 13:13	6° <u>0</u> 48'45	-0°08'13		13943 Nov 09 09:40	0° <u>0</u>	
minimum elong	13938 Aug 16 13:13	6° <u>0</u> 48'45	0°08'44	retrograde	13943 Dec 23 15:04	0° <u>0</u> 47'10	
behind sun begin	13938 Aug 16 07:31	6° <u>0</u> 47'57			13944 Feb 07 05:46	30° <u>0</u> 48'0	
behind sun end	13938 Aug 16 18:56	6° <u>0</u> 49'33		opposition	13944 Mar 09 23:21	28° <u>0</u> 48'55	0°18'46
max. Earth dist.	13938 Aug 16 22:19	6° <u>0</u> 50'02	20.97302 AU	min. Earth dist.	13944 Mar 09 15:11	28° <u>0</u> 49'44	19.00508 AU
morning rise	13938 Sep 01 09:51	7° <u>0</u> 43'13		direct	13944 May 25 05:18	26° <u>0</u> 51'41	
retrograde	13938 Dec 02 22:26	10° <u>0</u> 48'05		evening set	13944 Aug 24 00:54	29° <u>0</u> 52'51	
opposition	13939 Feb 18 03:58	8° <u>0</u> 49'58	-0°06'31		13944 Aug 26 03:48	0° <u>0</u>	
min. Earth dist.	13939 Feb 17 18:17	8° <u>0</u> 50'56	18.98100 AU				
direct	13939 May 05 19:55	6° <u>0</u> 52'14		conjunction	13944 Sep 08 21:55	0° <u>0</u> 47'13	0°19'13
evening set	13939 Aug 04 22:33	9° <u>0</u> 54'11		minimum elong	13944 Sep 08 21:55	0° <u>0</u> 47'13	0°19'07
				max. Earth dist.	13944 Sep 09 05:56	0° <u>0</u> 48'21	21.00085 AU
conjunction	13939 Aug 20 18:28	10° <u>0</u> 48'30	-0°03'38	morning rise	13944 Sep 24 20:41	1° <u>0</u> 41'50	
minimum elong	13939 Aug 20 18:29	10° <u>0</u> 48'30	0°04'06	retrograde	13944 Dec 27 00:26	4° <u>0</u> 47'30	
behind sun begin	13939 Aug 20 12:00	10° <u>0</u> 47'35		opposition	13945 Mar 14 08:01	2° <u>0</u> 49'08	0°23'40
behind sun end	13939 Aug 21 00:58	10° <u>0</u> 49'24		min. Earth dist.	13945 Mar 13 23:55	2° <u>0</u> 49'57	18.99540 AU
max. Earth dist.	13939 Aug 21 04:32	10° <u>0</u> 49'55	20.98796 AU	direct	13945 May 29 12:49	0° <u>0</u> 51'53	
morning rise	13939 Sep 05 15:19	11° <u>0</u> 42'57		evening set	13945 Aug 28 06:28	3° <u>0</u> 53'02	
retrograde	13939 Dec 07 05:11	14° <u>0</u> 47'50					
opposition	13940 Feb 22 12:50	12° <u>0</u> 49'43	-0°01'25	conjunction	13945 Sep 13 03:56	4° <u>0</u> 47'28	0°23'35
min. Earth dist.	13940 Feb 22 03:44	12° <u>0</u> 50'38	18.99414 AU	minimum elong	13945 Sep 13 03:55	4° <u>0</u> 47'28	0°23'34
direct	13940 May 09 02:38	10° <u>0</u> 52'08		max. Earth dist.	13945 Sep 13 12:20	4° <u>0</u> 48'40	20.98839 AU
asc. node	13940 May 30 06:24	11° <u>0</u> 03'24		morning rise	13945 Sep 29 02:59	5° <u>0</u> 42'09	
evening set	13940 Aug 08 03:40	13° <u>0</u> 53'49		retrograde	13945 Dec 31 08:33	8° <u>0</u> 48'05	
				opposition	13946 Mar 18 16:46	6° <u>0</u> 49'34	0°28'27
conjunction	13940 Aug 23 23:39	14° <u>0</u> 48'06	0°01'04	min. Earth dist.	13946 Mar 18 09:31	6° <u>0</u> 50'18	18.98027 AU
minimum elong	13940 Aug 23 23:39	14° <u>0</u> 48'06	0°00'42	direct	13946 Jun 02 19:46	4° <u>0</u> 52'17	
behind sun begin	13940 Aug 23 17:06	14° <u>0</u> 47'11		evening set	13946 Sep 01 12:24	7° <u>0</u> 53'27	
behind sun end	13940 Aug 24 06:13	14° <u>0</u> 49'01					
max. Earth dist.	13940 Aug 24 08:53	14° <u>0</u> 49'24	20.99932 AU	conjunction	13946 Sep 17 10:06	8° <u>0</u> 47'57	0°27'51
morning rise	13940 Sep 08 20:55	15° <u>0</u> 42'33		minimum elong	13946 Sep 17 10:06	8° <u>0</u> 47'56	0°27'53
retrograde	13940 Dec 10 14:37	18° <u>0</u> 47'31		max. Earth dist.	13946 Sep 17 17:07	8° <u>0</u> 48'57	20.97086 AU
opposition	13941 Feb 25 21:26	16° <u>0</u> 49'23	0°03'41	morning rise	13946 Oct 03 09:47	9° <u>0</u> 42'44	
min. Earth dist.	13941 Feb 25 11:45	16° <u>0</u> 50'21	19.00357 AU	retrograde	13947 Jan 04 17:45	12° <u>0</u> 48'56	
direct	13941 May 13 09:48	14° <u>0</u> 51'55		opposition	13947 Mar 23 01:20	10° <u>0</u> 50'14	0°33'06
evening set	13941 Aug 12 08:44	17° <u>0</u> 53'24		min. Earth dist.	13947 Mar 22 18:15	10° <u>0</u> 50'57	18.96041 AU
				direct	13947 Jun 07 02:38	8° <u>0</u> 52'50	
conjunction	13941 Aug 28 05:03	18° <u>0</u> 47'41	0°05'42	evening set	13947 Sep 05 18:21	11° <u>0</u> 54'06	
minimum elong	13941 Aug 28 05:02	18° <u>0</u> 47'41	0°05'23				
behind sun begin	13941 Aug 27 22:41	18° <u>0</u> 46'47		conjunction	13947 Sep 21 16:36	12° <u>0</u> 48'41	0°31'59
behind sun end	13941 Aug 28 11:24	18° <u>0</u> 48'34		minimum elong	13947 Sep 21 16:36	12° <u>0</u> 48'41	0°32'07
max. Earth dist.	13941 Aug 28 15:03	18° <u>0</u> 49'06	21.00666 AU	max. Earth dist.	13947 Sep 22 00:08	12° <u>0</u> 49'46	20.94868 AU

morning rise	13947 Oct 07 16:38	13° <u>♏</u> 43'35		direct	13954 Jul 05 06:04	7° <u>♏</u> 13'51	
retrograde	13948 Jan 09 02:04	16° <u>♏</u> 50'06		evening set	13954 Oct 03 23:02	10° <u>♏</u> 17'39	
opposition	13948 Mar 26 10:00	14° <u>♏</u> 51'13	0°37'37				
min. Earth dist.	13948 Mar 26 03:33	14° <u>♏</u> 51'52	18.93615 AU	conjunction	13954 Oct 20 00:30	11° <u>♏</u> 13'18	0°55'42
direct	13948 Jun 10 10:03	12° <u>♏</u> 53'42		minimum elong	13954 Oct 20 00:29	11° <u>♏</u> 13'18	0°56'19
evening set	13948 Sep 09 00:40	15° <u>♏</u> 55'07		max. Earth dist.	13954 Oct 20 04:39	11° <u>♏</u> 13'54	20.70492 AU
				morning rise	13954 Nov 05 04:25	12° <u>♏</u> 09'19	
conjunction	13948 Sep 24 23:10	16° <u>♏</u> 49'48	0°35'58		13955 Jan 10 03:42	15° <u>♏</u>	
minimum elong	13948 Sep 24 23:09	16° <u>♏</u> 49'48	0°36'10	retrograde	13955 Feb 07 04:33	15° <u>♏</u> 19'28	
max. Earth dist.	13948 Sep 25 05:25	16° <u>♏</u> 50'42	20.92258 AU		13955 Mar 07 12:26	15° <u>♏</u>	
morning rise	13948 Oct 10 23:48	17° <u>♏</u> 44'48		opposition	13955 Apr 25 03:26	13° <u>♏</u> 19'28	1°03'07
retrograde	13949 Jan 12 11:41	20° <u>♏</u> 51'43		min. Earth dist.	13955 Apr 24 23:19	13° <u>♏</u> 19'53	18.68272 AU
opposition	13949 Mar 30 18:42	18° <u>♏</u> 52'37	0°41'57	direct	13955 Jul 09 14:23	11° <u>♏</u> 21'10	
min. Earth dist.	13949 Mar 30 12:18	18° <u>♏</u> 53'16	18.90836 AU	evening set	13955 Oct 08 08:50	14° <u>♏</u> 25'36	
direct	13949 Jun 14 16:35	16° <u>♏</u> 54'59			13955 Oct 18 07:44	15° <u>♏</u>	
evening set	13949 Sep 13 07:12	19° <u>♏</u> 56'37					
				conjunction	13955 Oct 24 11:01	15° <u>♏</u> 21'29	0°58'08
conjunction	13949 Sep 29 06:15	20° <u>♏</u> 51'26	0°39'47	minimum elong	13955 Oct 24 11:01	15° <u>♏</u> 21'29	0°58'47
minimum elong	13949 Sep 29 06:14	20° <u>♏</u> 51'26	0°40'05	max. Earth dist.	13955 Oct 24 15:35	15° <u>♏</u> 22'09	20.65933 AU
max. Earth dist.	13949 Sep 29 13:12	20° <u>♏</u> 52'26	20.89308 AU	morning rise	13955 Nov 09 15:21	16° <u>♏</u> 17'42	
morning rise	13949 Oct 15 07:14	21° <u>♏</u> 46'34		retrograde	13956 Feb 11 16:22	19° <u>♏</u> 28'31	
retrograde	13950 Jan 16 20:37	24° <u>♏</u> 53'54		opposition	13956 Apr 28 14:08	17° <u>♏</u> 28'23	1°05'41
opposition	13950 Apr 04 03:35	22° <u>♏</u> 54'38	0°46'05	min. Earth dist.	13956 Apr 28 10:30	17° <u>♏</u> 28'46	18.63558 AU
min. Earth dist.	13950 Apr 03 21:32	22° <u>♏</u> 55'14	18.87738 AU	direct	13956 Jul 12 23:29	15° <u>♏</u> 29'58	
direct	13950 Jun 19 00:07	20° <u>♏</u> 56'53		evening set	13956 Oct 11 19:26	18° <u>♏</u> 35'03	
evening set	13950 Sep 17 14:08	23° <u>♏</u> 58'48					
				conjunction	13956 Oct 27 22:01	19° <u>♏</u> 31'08	1°00'16
conjunction	13950 Oct 03 13:32	24° <u>♏</u> 53'46	0°43'25	minimum elong	13956 Oct 27 22:01	19° <u>♏</u> 31'08	1°01'01
minimum elong	13950 Oct 03 13:31	24° <u>♏</u> 53'46	0°43'46	max. Earth dist.	13956 Oct 28 00:42	19° <u>♏</u> 31'32	20.61063 AU
max. Earth dist.	13950 Oct 03 19:14	24° <u>♏</u> 54'35	20.86073 AU	morning rise	13956 Nov 13 03:05	20° <u>♏</u> 27'35	
morning rise	13950 Oct 19 15:13	25° <u>♏</u> 49'03		retrograde	13957 Feb 15 05:43	23° <u>♏</u> 39'06	
retrograde	13951 Jan 21 07:27	28° <u>♏</u> 56'52		opposition	13957 May 03 01:22	21° <u>♏</u> 38'49	1°07'54
opposition	13951 Apr 08 12:37	26° <u>♏</u> 57'24	0°50'00	min. Earth dist.	13957 May 02 22:50	21° <u>♏</u> 39'04	18.58530 AU
min. Earth dist.	13951 Apr 08 06:43	26° <u>♏</u> 58'00	18.84368 AU	direct	13957 Jul 17 08:51	19° <u>♏</u> 40'12	
direct	13951 Jun 23 06:53	24° <u>♏</u> 59'33		evening set	13957 Oct 16 06:44	22° <u>♏</u> 46'00	
evening set	13951 Sep 21 21:32	28° <u>♏</u> 01'51					
				conjunction	13957 Nov 01 10:06	23° <u>♏</u> 42'19	1°02'06
conjunction	13951 Oct 07 21:33	28° <u>♏</u> 56'57	0°46'51	minimum elong	13957 Nov 01 10:05	23° <u>♏</u> 42'19	1°02'53
minimum elong	13951 Oct 07 21:32	28° <u>♏</u> 56'57	0°47'16	max. Earth dist.	13957 Nov 01 12:57	23° <u>♏</u> 42'44	20.55858 AU
max. Earth dist.	13951 Oct 08 03:54	28° <u>♏</u> 57'52	20.82556 AU	morning rise	13957 Nov 17 15:35	24° <u>♏</u> 38'59	
morning rise	13951 Oct 23 23:36	29° <u>♏</u> 52'24		retrograde	13958 Feb 19 19:13	27° <u>♏</u> 51'11	
	13951 Oct 26 05:40	0° <u>♏</u>		opposition	13958 May 07 12:58	25° <u>♏</u> 50'43	1°09'47
retrograde	13952 Jan 25 17:02	3° <u>♏</u> 00'43		min. Earth dist.	13958 May 07 10:55	25° <u>♏</u> 50'55	18.53153 AU
opposition	13952 Apr 11 21:43	1° <u>♏</u> 01'07	0°53'41	direct	13958 Jul 21 19:21	23° <u>♏</u> 51'52	
min. Earth dist.	13952 Apr 11 16:12	1° <u>♏</u> 01'41	18.80719 AU	evening set	13958 Oct 20 18:53	26° <u>♏</u> 58'23	
	13952 May 08 05:04	30° <u>♏</u>					
direct	13952 Jun 26 14:30	29° <u>♏</u> 03'10		conjunction	13958 Nov 05 22:44	27° <u>♏</u> 54'57	1°03'38
	13952 Aug 13 07:43	0° <u>♏</u>		minimum elong	13958 Nov 05 22:44	27° <u>♏</u> 54'57	1°04'28
evening set	13952 Sep 25 05:31	2° <u>♏</u> 05'54		max. Earth dist.	13958 Nov 05 23:25	27° <u>♏</u> 55'03	20.50322 AU
				morning rise	13958 Nov 22 05:01	28° <u>♏</u> 51'52	
conjunction	13952 Oct 11 05:53	3° <u>♏</u> 01'10	0°50'03		13958 Dec 13 00:04	0° <u>♏</u>	
minimum elong	13952 Oct 11 05:52	3° <u>♏</u> 01'10	0°50'32	retrograde	13959 Feb 24 09:09	2° <u>♏</u> 04'44	
max. Earth dist.	13952 Oct 11 10:52	3° <u>♏</u> 01'54	20.78789 AU	opposition	13959 May 12 01:05	0° <u>♏</u> 04'03	1°11'19
morning rise	13952 Oct 27 08:38	3° <u>♏</u> 56'48		min. Earth dist.	13959 May 12 00:23	0° <u>♏</u> 04'07	18.47462 AU
retrograde	13953 Jan 29 05:09	7° <u>♏</u> 05'42			13959 May 13 16:11	30° <u>♏</u>	
opposition	13953 Apr 16 07:19	5° <u>♏</u> 05'57	0°57'07	direct	13959 Jul 26 05:33	28° <u>♏</u> 04'55	
min. Earth dist.	13953 Apr 16 02:06	5° <u>♏</u> 06'28	18.76831 AU		13959 Oct 03 04:38	0° <u>♏</u>	
direct	13953 Jun 30 21:56	3° <u>♏</u> 07'53		evening set	13959 Oct 25 07:35	1° <u>♏</u> 12'11	
evening set	13953 Sep 29 13:49	6° <u>♏</u> 11'07					
				conjunction	13959 Nov 10 12:15	2° <u>♏</u> 09'00	1°04'49
conjunction	13953 Oct 15 14:52	7° <u>♏</u> 06'35	0°53'00	minimum elong	13959 Nov 10 12:14	2° <u>♏</u> 09'00	1°05'42
minimum elong	13953 Oct 15 14:51	7° <u>♏</u> 06'35	0°53'33	max. Earth dist.	13959 Nov 10 13:05	2° <u>♏</u> 09'07	20.44482 AU
max. Earth dist.	13953 Oct 15 20:34	7° <u>♏</u> 07'24	20.74768 AU	morning rise	13959 Nov 26 18:56	3° <u>♏</u> 06'09	
morning rise	13953 Oct 31 18:02	8° <u>♏</u> 02'23		retrograde	13960 Feb 28 23:54	6° <u>♏</u> 19'40	
retrograde	13954 Feb 02 15:35	11° <u>♏</u> 11'54		opposition	13960 May 15 13:26	4° <u>♏</u> 18'45	1°12'28
opposition	13954 Apr 20 17:15	9° <u>♏</u> 12'01	1°00'16	min. Earth dist.	13960 May 15 13:01	4° <u>♏</u> 18'47	18.41491 AU
min. Earth dist.	13954 Apr 20 12:22	9° <u>♏</u> 12'31	18.72679 AU	direct	13960 Jul 29 17:18	2° <u>♏</u> 19'19	

evening set	13960 Oct 28 21:08	5° \nearrow 27'22		max. Earth dist.	13966 Dec 11 02:33	2° \searrow 27'57	20.01130 AU
				morning rise	13966 Dec 27 17:49	3° \searrow 27'37	
conjunction	13960 Nov 14 02:16	6° \nearrow 24'25	1°05'39	retrograde	13967 Apr 01 00:19	6° \searrow 45'58	
minimum elong	13960 Nov 14 02:16	6° \nearrow 24'25	1°06'34	opposition	13967 Jun 15 18:14	4° \searrow 43'31	1°08'59
max. Earth dist.	13960 Nov 14 01:10	6° \nearrow 24'15	20.38416 AU	min. Earth dist.	13967 Jun 15 22:04	4° \searrow 43'06	17.98195 AU
morning rise	13960 Nov 30 09:44	7° \nearrow 21'50		direct	13967 Aug 29 13:28	2° \searrow 41'52	
retrograde	13961 Mar 04 14:53	10° \nearrow 36'02		evening set	13967 Nov 29 16:49	5° \searrow 56'19	
opposition	13961 May 20 02:25	8° \nearrow 34'50	1°13'13				
min. Earth dist.	13961 May 20 03:17	8° \nearrow 34'45	18.35347 AU	conjunction	13967 Dec 16 02:40	6° \searrow 55'20	1°01'02
direct	13961 Aug 03 04:24	6° \nearrow 35'04		minimum elong	13967 Dec 16 02:41	6° \searrow 55'20	1°02'06
evening set	13961 Nov 02 11:06	9° \nearrow 43'55		max. Earth dist.	13967 Dec 15 22:32	6° \searrow 54'42	19.95257 AU
				morning rise	13968 Jan 01 13:56	7° \searrow 54'35	
conjunction	13961 Nov 18 17:05	10° \nearrow 41'15	1°06'08	retrograde	13968 Apr 04 21:33	11° \searrow 13'38	
minimum elong	13961 Nov 18 17:05	10° \nearrow 41'15	1°07'06	opposition	13968 Jun 19 10:50	9° \searrow 11'05	1°06'47
max. Earth dist.	13961 Nov 18 16:26	10° \nearrow 41'09	20.32203 AU	min. Earth dist.	13968 Jun 19 14:09	9° \searrow 10'44	17.92393 AU
morning rise	13961 Dec 05 01:02	11° \nearrow 38'54		direct	13968 Sep 02 06:38	7° \searrow 09'12	
retrograde	13962 Mar 09 07:09	14° \nearrow 53'47		evening set	13968 Dec 03 12:56	10° \searrow 24'40	
opposition	13962 May 24 15:43	12° \nearrow 52'20	1°13'34				
min. Earth dist.	13962 May 24 16:30	12° \nearrow 52'15	18.29081 AU	conjunction	13968 Dec 19 23:17	11° \searrow 23'58	0°58'51
direct	13962 Aug 07 16:56	10° \nearrow 52'14		minimum elong	13968 Dec 19 23:17	11° \searrow 23'58	0°59'55
evening set	13962 Nov 07 02:10	14° \nearrow 01'56		max. Earth dist.	13968 Dec 19 17:59	11° \searrow 23'10	19.89533 AU
				morning rise	13969 Jan 05 11:03	12° \searrow 23'30	
conjunction	13962 Nov 23 08:39	14° \nearrow 59'31	1°06'14	retrograde	13969 Apr 09 16:58	15° \searrow 43'14	
minimum elong	13962 Nov 23 08:39	14° \nearrow 59'31	1°07'13	opposition	13969 Jun 24 04:14	13° \searrow 40'35	1°04'10
max. Earth dist.	13962 Nov 23 06:11	14° \nearrow 59'09	20.25907 AU	min. Earth dist.	13969 Jun 24 09:10	13° \searrow 40'04	17.86749 AU
morning rise	13962 Dec 09 17:20	15° \nearrow 57'27		direct	13969 Sep 06 21:54	11° \searrow 38'28	
retrograde	13963 Mar 13 23:27	19° \nearrow 13'01		evening set	13969 Dec 08 09:48	14° \searrow 35'48	
opposition	13963 May 29 05:28	17° \nearrow 11'18	1°13'31				
min. Earth dist.	13963 May 29 07:35	17° \nearrow 11'05	18.22775 AU	conjunction	13969 Dec 24 20:50	15° \searrow 54'32	0°56'17
direct	13963 Aug 12 05:08	15° \nearrow 10'51		minimum elong	13969 Dec 24 20:50	15° \searrow 54'32	0°57'20
evening set	13963 Nov 11 17:48	18° \nearrow 21'26		max. Earth dist.	13969 Dec 24 15:16	15° \searrow 53'41	19.83962 AU
				morning rise	13970 Jan 10 09:00	16° \searrow 54'19	
conjunction	13963 Nov 28 01:07	19° \nearrow 19'19	1°05'58	retrograde	13970 Apr 14 15:35	20° \searrow 14'42	
minimum elong	13963 Nov 28 01:07	19° \nearrow 19'19	1°06'59	opposition	13970 Jun 28 22:09	18° \searrow 11'58	1°01'08
max. Earth dist.	13963 Nov 27 23:07	19° \nearrow 19'01	20.19598 AU	min. Earth dist.	13970 Jun 29 02:47	18° \searrow 11'28	17.81230 AU
morning rise	13963 Dec 14 10:13	20° \nearrow 17'30		direct	13970 Sep 11 17:05	16° \searrow 09'36	
retrograde	13964 Mar 17 17:08	23° \nearrow 33'45		evening set	13970 Dec 13 07:48	19° \searrow 27'06	
opposition	13964 Jun 01 19:45	21° \nearrow 31'49	1°13'01				
min. Earth dist.	13964 Jun 01 21:29	21° \nearrow 31'38	18.16477 AU	conjunction	13970 Dec 29 19:18	20° \searrow 26'57	0°53'22
direct	13964 Aug 15 18:52	19° \nearrow 31'03		minimum elong	13970 Dec 29 19:18	20° \searrow 26'57	0°54'23
evening set	13964 Nov 15 10:15	22° \nearrow 42'33		max. Earth dist.	13970 Dec 29 12:35	20° \searrow 25'55	19.78493 AU
				morning rise	13971 Jan 15 07:49	21° \searrow 26'58	
conjunction	13964 Dec 01 18:03	23° \nearrow 40'41	1°05'19	retrograde	13971 Apr 19 11:40	24° \searrow 47'57	
minimum elong	13964 Dec 01 18:02	23° \nearrow 40'41	1°06'21	opposition	13971 Jul 03 16:45	22° \searrow 45'07	0°57'42
max. Earth dist.	13964 Dec 01 14:33	23° \nearrow 40'10	20.13330 AU	min. Earth dist.	13971 Jul 03 23:06	22° \searrow 44'27	17.75826 AU
morning rise	13964 Dec 18 03:50	24° \nearrow 39'09		direct	13971 Sep 16 10:09	20° \searrow 42'28	
retrograde	13965 Mar 22 10:34	27° \nearrow 56'07		evening set	13971 Dec 18 06:28	24° \searrow 00'58	
opposition	13965 Jun 06 10:45	25° \nearrow 53'58	1°12'07				
min. Earth dist.	13965 Jun 06 13:43	25° \nearrow 53'39	18.10257 AU	conjunction	13972 Jan 03 18:29	25° \searrow 01'03	0°50'05
direct	13965 Aug 20 08:02	23° \nearrow 52'52		minimum elong	13972 Jan 03 18:29	25° \searrow 01'03	0°51'06
evening set	13965 Nov 20 03:31	27° \nearrow 05'19		max. Earth dist.	13972 Jan 03 11:00	24° \searrow 59'55	19.73164 AU
				morning rise	13972 Jan 20 07:22	26° \searrow 01'18	
conjunction	13965 Dec 06 12:08	28° \nearrow 03'46	1°04'17	retrograde	13972 Apr 23 10:56	29° \searrow 22'50	
minimum elong	13965 Dec 06 12:08	28° \nearrow 03'46	1°05'19	opposition	13972 Jul 07 11:53	27° \searrow 19'53	0°53'53
max. Earth dist.	13965 Dec 06 09:06	28° \nearrow 03'19	20.07165 AU	min. Earth dist.	13972 Jul 07 17:54	27° \searrow 19'14	17.70567 AU
morning rise	13965 Dec 22 22:22	29° \nearrow 02'29		direct	13972 Sep 20 07:33	25° \searrow 16'57	
	13966 Jan 08 22:03	0° \searrow		evening set	13972 Dec 22 05:42	28° \searrow 36'22	
retrograde	13966 Mar 27 05:59	2° \searrow 20'09					
opposition	13966 Jun 11 02:05	0° \searrow 17'50	1°10'46	conjunction	13973 Jan 07 18:13	29° \searrow 36'42	0°46'29
min. Earth dist.	13966 Jun 11 04:32	0° \searrow 17'34	18.04151 AU	minimum elong	13973 Jan 07 18:13	29° \searrow 36'42	0°47'26
	13966 Jun 18 02:46	30° \nearrow		max. Earth dist.	13973 Jan 07 10:12	29° \searrow 35'29	19.67990 AU
direct	13966 Aug 24 23:27	28° \nearrow 16'27			13973 Jan 14 02:13	0° \approx	
	13966 Oct 28 11:16	0° \searrow		morning rise	13973 Jan 24 07:20	0° \approx 37'10	
evening set	13966 Nov 24 21:49	1° \searrow 29'53		retrograde	13973 Apr 28 07:31	3° \approx 59'12	
				opposition	13973 Jul 12 07:42	1° \approx 56'07	0°49'41
conjunction	13966 Dec 11 06:57	2° \searrow 28'37	1°02'51	min. Earth dist.	13973 Jul 12 15:09	1° \approx 55'19	17.65496 AU
minimum elong	13966 Dec 11 06:57	2° \searrow 28'37	1°03'55		13973 Sep 08 20:09	30° \nearrow	

direct	13973 Sep 25 02:32	29°  52'53			13980 Jan 03 12:22	0° 	
	13973 Oct 11 07:51	0° 		evening set	13980 Jan 25 16:31	1° 	16'38
evening set	13973 Dec 27 05:46	3°  13'11					
				conjunction	13980 Feb 11 06:27	2° 	18'08 0°13'46
conjunction	13974 Jan 12 18:40	4°  13'45 0°42'33		minimum elong	13980 Feb 11 06:26	2° 	18'08 0°14'21
minimum elong	13974 Jan 12 18:41	4°  13'45 0°43'29		behind sun begin	13980 Feb 11 03:29	2° 	17'41
max. Earth dist.	13974 Jan 12 09:41	4°  12'22 19.63049 AU		behind sun end	13980 Feb 11 09:24	2° 	18'35
morning rise	13974 Jan 29 08:07	5°  14'25		max. Earth dist.	13980 Feb 10 20:23	2° 	16'35 19.41578 AU
retrograde	13974 May 03 07:10	8°  36'52		morning rise	13980 Feb 27 19:50	3° 	19'33
opposition	13974 Jul 17 03:40	6°  33'40 0°45'09		retrograde	13980 May 31 05:25	6° 	43'29
min. Earth dist.	13974 Jul 17 10:51	6°  32'53 17.60686 AU		opposition	13980 Aug 13 13:04	4° 	39'52 0°12'25
direct	13974 Sep 30 01:05	4°  30'06		min. Earth dist.	13980 Aug 13 20:54	4° 	39'01 17.40650 AU
evening set	13975 Jan 01 06:25	7°  51'16		direct	13980 Oct 27 15:21	2° 	34'54
				evening set	13981 Jan 29 19:27	6° 	00'05
conjunction	13975 Jan 17 19:45	8°  52'03 0°38'19					
minimum elong	13975 Jan 17 19:45	8°  52'03 0°39'13		conjunction	13981 Feb 15 09:31	7° 	01'40 0°08'25
max. Earth dist.	13975 Jan 17 10:50	8°  50'41 19.58384 AU		minimum elong	13981 Feb 15 09:31	7° 	01'40 0°08'56
morning rise	13975 Feb 03 09:14	9°  52'53		behind sun begin	13981 Feb 15 03:45	7° 	00'47
retrograde	13975 May 08 05:07	13°  15'43		behind sun end	13981 Feb 15 15:16	7° 	02'33
opposition	13975 Jul 22 00:20	11°  12'24 0°40'18		max. Earth dist.	13981 Feb 15 00:51	7° 	00'20 19.39851 AU
min. Earth dist.	13975 Jul 22 08:34	11°  11'30 17.56188 AU		morning rise	13981 Mar 03 22:31	8° 	03'08
direct	13975 Oct 04 21:44	9°  08'32		retrograde	13981 Jun 05 06:15	11° 	27'08
evening set	13976 Jan 06 07:30	12°  30'30		opposition	13981 Aug 18 11:53	9° 	23'36 0°06'23
				min. Earth dist.	13981 Aug 18 19:20	9° 	22'47 17.39196 AU
conjunction	13976 Jan 22 21:00	13°  31'27 0°33'50		direct	13981 Nov 01 15:27	7° 	18'34
minimum elong	13976 Jan 22 21:00	13°  31'27 0°34'40		evening set	13982 Feb 03 23:00	10° 	44'13
max. Earth dist.	13976 Jan 22 11:06	13°  29'56 19.54081 AU					
morning rise	13976 Feb 08 10:43	14°  32'28		conjunction	13982 Feb 20 12:44	11° 	45'50 0°03'00
	13976 Feb 16 03:55	15° 		minimum elong	13982 Feb 20 12:44	11° 	45'50 0°03'27
retrograde	13976 May 12 05:06	17°  55'38		behind sun begin	13982 Feb 20 06:02	11° 	44'49
opposition	13976 Jul 25 21:19	15°  52'11 0°35'10		behind sun end	13982 Feb 20 19:26	11° 	46'51
min. Earth dist.	13976 Jul 26 05:09	15°  51'20 17.52087 AU		max. Earth dist.	13982 Feb 20 03:07	11° 	44'21 19.38677 AU
	13976 Aug 15 12:36	15° 		morning rise	13982 Mar 09 01:33	12° 	47'19
direct	13976 Oct 08 20:31	13°  48'01		retrograde	13982 Jun 10 05:48	16° 	11'21
	13976 Nov 30 10:58	15° 		opposition	13982 Aug 23 10:54	14° 	07'54 0°00'18
evening set	13977 Jan 10 09:05	17°  10'44		min. Earth dist.	13982 Aug 23 18:43	14° 	07'02 17.38292 AU
				desc. node	13982 Sep 09 11:11	13° 	24'15
conjunction	13977 Jan 26 22:56	18°  11'52 0°29'05		direct	13982 Nov 06 16:01	12° 	02'49
minimum elong	13977 Jan 26 22:56	18°  11'52 0°29'53		evening set	13983 Feb 09 02:36	15° 	28'53
max. Earth dist.	13977 Jan 26 13:47	18°  10'28 19.50189 AU					
morning rise	13977 Feb 12 12:32	19°  13'01		conjunction	13983 Feb 25 16:14	16° 	30'31 -0°02'35
retrograde	13977 May 17 04:39	22°  36'27		minimum elong	13983 Feb 25 16:14	16° 	30'31 0°02'14
opposition	13977 Jul 30 18:41	20°  32'55 0°29'46		behind sun begin	13983 Feb 25 09:29	16° 	29'30
min. Earth dist.	13977 Jul 31 03:03	20°  32'00 17.48426 AU		behind sun end	13983 Feb 25 22:58	16° 	31'33
direct	13977 Oct 13 18:07	18°  28'29		max. Earth dist.	13983 Feb 25 07:40	16° 	29'12 19.38023 AU
evening set	13978 Jan 15 11:13	21°  51'54		morning rise	13983 Mar 14 04:30	17° 	31'59
				retrograde	13983 Jun 15 06:46	20° 	55'58
conjunction	13978 Feb 01 01:06	22°  53'10 0°24'09		opposition	13983 Aug 28 10:17	18° 	52'38 -0°05'48
minimum elong	13978 Feb 01 01:06	22°  53'10 0°24'52		min. Earth dist.	13983 Aug 28 17:30	18° 	51'51 17.37872 AU
max. Earth dist.	13978 Jan 31 14:51	22°  51'35 19.46781 AU		direct	13983 Nov 11 17:43	16° 	47'33
morning rise	13978 Feb 17 14:50	23°  54'26		evening set	13984 Feb 14 06:17	20° 	13'54
retrograde	13978 May 22 04:59	27°  18'06					
opposition	13978 Aug 04 16:26	25°  14'29 0°24'09		conjunction	13984 Mar 01 19:27	21° 	15'31 -0°08'01
min. Earth dist.	13978 Aug 05 00:30	25°  13'36 17.45278 AU		minimum elong	13984 Mar 01 19:28	21° 	15'31 0°07'45
direct	13978 Oct 18 17:04	23°  09'49		behind sun begin	13984 Mar 01 13:24	21° 	14'36
evening set	13979 Jan 20 13:38	26°  33'53		behind sun end	13984 Mar 02 01:32	21° 	16'27
				max. Earth dist.	13984 Mar 01 10:10	21° 	14'05 19.37832 AU
conjunction	13979 Feb 06 03:44	27°  35'17 0°19'01		morning rise	13984 Mar 18 07:21	22° 	16'58
minimum elong	13979 Feb 06 03:44	27°  35'17 0°19'41		retrograde	13984 Jun 19 06:00	25° 	40'50
max. Earth dist.	13979 Feb 05 18:40	27° 33'53 19.43892 AU		opposition	13984 Sep 01 09:57	23°	37'36 -0°11'51
morning rise	13979 Feb 22 17:08	28° 36'38		min. Earth dist.	13984 Sep 01 17:48	23°	36'45 17.37914 AU
	13979 Mar 19 00:09	0°		direct	13984 Nov 15 18:47	21°	32'30
retrograde	13979 May 27 05:30	2° 00'26		evening set	13985 Feb 18 10:00	24°	59'04
	13979 Aug 08 09:25	30°					
opposition	13979 Aug 09 14:34	29° 56'49 0°18'21		conjunction	13985 Mar 06 22:55	26°	00'39 -0°13'24
min. Earth dist.	13979 Aug 09 22:34	29° 55'57 17.42666 AU		minimum elong	13985 Mar 06 22:55	26°	00'39 0°13'13
direct	13979 Oct 23 15:47	27° 51'59		behind sun begin	13985 Mar 06 19:03	26°	00'03

behind sun end	13985 Mar 07 02:47	26° H 01'14		opposition	13991 Oct 05 06:11	26° Y 41'23	-0°49'39
max. Earth dist.	13985 Mar 06 14:16	25° H 59'18	19.38087 AU	min. Earth dist.	13991 Oct 05 11:05	26° Y 40'51	17.50235 AU
morning rise	13985 Mar 23 10:13	27° H 02'01		direct	13991 Dec 20 07:27	24° Y 36'27	
	13985 May 24 16:45	0° Y		evening set	13992 Mar 24 03:49	28° Y 01'52	
retrograde	13985 Jun 24 06:59	0° Y 25'42					
	13985 Jul 25 08:15	30° R H		conjunction	13992 Apr 09 12:27	29° Y 02'29	-0°46'30
opposition	13985 Sep 06 09:30	28° H 22'35	-0°17'50	minimum elong	13992 Apr 09 12:27	29° Y 02'29	0°46'55
min. Earth dist.	13985 Sep 06 16:31	28° H 21'49	17.38373 AU	max. Earth dist.	13992 Apr 09 07:02	29° Y 01'38	19.51975 AU
direct	13985 Nov 20 21:28	26° H 17'28		morning rise	13992 Apr 25 18:41	0° S 02'47	
evening set	13986 Feb 23 13:49	29° H 44'09			13992 Apr 25 00:24	0° S	
	13986 Feb 27 21:10	0° Y		retrograde	13992 Jul 26 21:40	3° S 23'27	
				opposition	13992 Oct 09 04:59	1° S 21'10	-0°53'55
conjunction	13986 Mar 12 02:12	0° Y 45'39	-0°18'41	min. Earth dist.	13992 Oct 09 09:56	1° S 20'37	17.53880 AU
minimum elong	13986 Mar 12 02:12	0° Y 45'39	0°18'35		13992 Nov 12 10:40	30° R Y	
max. Earth dist.	13986 Mar 11 17:09	0° Y 44'15	19.38750 AU	direct	13992 Dec 24 06:41	29° Y 16'22	
morning rise	13986 Mar 28 12:55	1° Y 46'57			13993 Feb 03 08:10	0° S	
retrograde	13986 Jun 29 05:47	5° Y 10'22		evening set	13993 Mar 29 04:19	2° S 41'18	
opposition	13986 Sep 11 09:21	3° Y 07'21	-0°23'41				
min. Earth dist.	13986 Sep 11 17:12	3° Y 06'30	17.39253 AU	conjunction	13993 Apr 14 12:03	3° S 41'42	-0°50'10
direct	13986 Nov 25 22:43	1° Y 02'13		minimum elong	13993 Apr 14 12:02	3° S 41'41	0°50'40
evening set	13987 Feb 28 17:11	4° Y 28'56		max. Earth dist.	13993 Apr 14 06:28	3° S 40'50	19.55880 AU
				morning rise	13993 Apr 30 17:37	4° S 41'46	
conjunction	13987 Mar 17 05:05	5° Y 30'21	-0°23'51	retrograde	13993 Jul 31 19:51	8° S 01'50	
minimum elong	13987 Mar 17 05:04	5° Y 30'21	0°23'50	opposition	13993 Oct 14 03:12	5° S 59'44	-0°57'48
max. Earth dist.	13987 Mar 16 20:22	5° Y 28'59	19.39839 AU	min. Earth dist.	13993 Oct 14 06:37	5° S 59'22	17.58038 AU
morning rise	13987 Apr 02 15:08	6° Y 31'31		direct	13993 Dec 29 08:14	3° S 55'09	
retrograde	13987 Jul 04 06:25	9° Y 54'37		evening set	13994 Apr 03 04:01	7° S 19'33	
opposition	13987 Sep 16 09:00	7° Y 51'43	-0°29'22				
min. Earth dist.	13987 Sep 16 15:40	7° Y 50'59	17.40546 AU	conjunction	13994 Apr 19 11:07	8° S 19'43	-0°53'30
direct	13987 Dec 01 01:54	5° Y 46'36		minimum elong	13994 Apr 19 11:07	8° S 19'43	0°54'03
evening set	13988 Mar 04 20:20	9° Y 13'13		max. Earth dist.	13994 Apr 19 07:34	8° S 19'10	19.60275 AU
				morning rise	13994 May 05 15:43	9° S 19'32	
conjunction	13988 Mar 21 07:40	10° Y 14'31	-0°28'52	retrograde	13994 Aug 05 15:05	12° S 38'59	
minimum elong	13988 Mar 21 07:39	10° Y 14'31	0°28'56	opposition	13994 Oct 19 01:22	10° S 37'09	-1°01'18
max. Earth dist.	13988 Mar 20 23:20	10° Y 13'13	19.41345 AU	min. Earth dist.	13994 Oct 19 04:36	10° S 36'48	17.62658 AU
morning rise	13988 Apr 06 16:59	11° Y 15'33		direct	13995 Jan 03 07:32	8° S 32'49	
retrograde	13988 Jul 08 04:23	14° Y 38'16		evening set	13995 Apr 08 03:02	11° S 56'37	
opposition	13988 Sep 20 08:39	12° Y 35'28	-0°34'51				
min. Earth dist.	13988 Sep 20 16:03	12° Y 34'40	17.42279 AU	conjunction	13995 Apr 24 09:09	12° S 56'30	-0°56'27
direct	13988 Dec 05 02:32	10° Y 30'22		minimum elong	13995 Apr 24 09:09	12° S 56'30	0°57'06
evening set	13989 Mar 09 23:02	13° Y 56'49		max. Earth dist.	13995 Apr 24 05:25	12° S 55'56	19.65113 AU
				morning rise	13995 May 10 13:07	13° S 56'05	
conjunction	13989 Mar 26 09:44	14° Y 57'59	-0°33'40		13995 May 28 22:33	15° S	
minimum elong	13989 Mar 26 09:43	14° Y 57'58	0°33'49	retrograde	13995 Aug 10 11:38	17° S 14'55	
max. Earth dist.	13989 Mar 26 01:26	14° Y 56'41	19.43303 AU	opposition	13995 Oct 23 23:05	15° S 13'20	-1°04'23
morning rise	13989 Apr 11 18:27	15° Y 58'52		min. Earth dist.	13995 Oct 24 01:04	15° S 13'07	17.67693 AU
retrograde	13989 Jul 13 04:45	19° Y 21'08			13995 Oct 29 04:23	15° R S	
opposition	13989 Sep 25 08:00	17° Y 18'26	-0°40'05	direct	13996 Jan 08 08:12	13° S 09'16	
min. Earth dist.	13989 Sep 25 14:02	17° Y 17'47	17.44456 AU		13996 Mar 15 13:46	15° S	
direct	13989 Dec 10 05:31	15° Y 13'21		evening set	13996 Apr 12 01:18	16° S 32'25	
evening set	13990 Mar 15 01:16	18° Y 39'33					
				conjunction	13996 Apr 28 06:48	17° S 32'03	-0°59'02
conjunction	13990 Mar 31 11:21	19° Y 40'33	-0°38'13	minimum elong	13996 Apr 28 06:47	17° S 32'03	0°59'44
minimum elong	13990 Mar 31 11:21	19° Y 40'33	0°38'29	max. Earth dist.	13996 Apr 28 04:59	17° S 31'47	19.70314 AU
max. Earth dist.	13990 Mar 31 04:09	19° Y 39'26	19.45701 AU	morning rise	13996 May 14 09:48	18° S 31'22	
morning rise	13990 Apr 16 19:10	20° Y 41'16		retrograde	13996 Aug 14 06:07	21° S 49'32	
retrograde	13990 Jul 18 01:49	24° Y 03'02		opposition	13996 Oct 27 20:21	19° S 48'13	-1°07'02
opposition	13990 Sep 30 07:16	22° Y 00'27	-0°45'01	min. Earth dist.	13996 Oct 27 22:07	19° S 48'02	17.73041 AU
min. Earth dist.	13990 Sep 30 13:47	21° Y 59'45	17.47095 AU	direct	13997 Jan 12 07:34	17° S 44'28	
direct	13990 Dec 15 05:21	19° Y 55'26		evening set	13997 Apr 16 23:03	21° S 06'53	
evening set	13991 Mar 20 02:58	23° Y 21'17					
				conjunction	13997 May 03 03:35	22° S 06'15	-1°01'14
conjunction	13991 Apr 05 12:13	24° Y 22'05	-0°42'31	minimum elong	13997 May 03 03:35	22° S 06'15	1°02'00
minimum elong	13991 Apr 05 12:13	24° Y 22'05	0°42'51	max. Earth dist.	13997 May 03 01:19	22° S 05'54	19.75796 AU
max. Earth dist.	13991 Apr 05 05:00	24° Y 20'58	19.48589 AU	morning rise	13997 May 19 05:59	23° S 05'18	
morning rise	13991 Apr 21 19:23	25° Y 22'36		retrograde	13997 Aug 19 00:50	26° S 22'46	
retrograde	13991 Jul 23 01:23	28° Y 43'50		opposition	13997 Nov 01 17:19	24° S 21'43	-1°09'15

min. Earth dist.	13997 Nov 01 18:20	24° 8 21'37	17.78644 AU	conjunction	14004 Jun 03 06:21	23° II 18'57	-1°05'35
direct	13998 Jan 17 06:42	22° 8 18'14		minimum elong	14004 Jun 03 06:21	23° II 18'57	1°06'36
evening set	13998 Apr 21 19:50	25° 8 39'53		max. Earth dist.	14004 Jun 03 08:51	23° II 19'19	20.17234 AU
				morning rise	14004 Jun 19 04:12	24° II 16'06	
conjunction	13998 May 07 23:43	26° 8 38'58	-1°03'03	retrograde	14004 Sep 18 18:14	27° II 28'17	
minimum elong	13998 May 07 23:43	26° 8 38'58	1°03'53	opposition	14004 Dec 03 05:34	25° II 28'34	-1°12'26
max. Earth dist.	13998 May 07 23:07	26° 8 38'53	19.81486 AU	min. Earth dist.	14004 Dec 03 02:27	25° II 28'54	18.20274 AU
morning rise	13998 May 24 01:11	27° 8 37'45		direct	14005 Feb 18 05:29	23° II 26'49	
	13998 Jul 09 08:29	0° II		evening set	14005 May 22 21:19	26° II 41'50	
retrograde	13998 Aug 23 18:48	0° II 54'30					
	13998 Oct 09 20:52	30° R 8		conjunction	14005 Jun 07 20:21	27° II 38'58	-1°04'39
opposition	13998 Nov 06 13:54	28° 8 53'43	-1°11'02	minimum elong	14005 Jun 07 20:21	27° II 38'58	1°05'42
min. Earth dist.	13998 Nov 06 14:25	28° 8 53'39	17.84408 AU	max. Earth dist.	14005 Jun 07 23:20	27° II 39'25	20.23283 AU
direct	13999 Jan 22 05:28	26° 8 50'31		morning rise	14005 Jun 23 17:45	28° II 35'52	
	13999 Apr 23 11:45	0° II			14005 Jul 19 07:12	0° II	
evening set	13999 Apr 26 15:58	0° II 11'19		retrograde	14005 Sep 23 07:08	1° II 47'19	
					14005 Dec 02 23:17	30° R II	
conjunction	13999 May 12 18:55	1° II 10'07	-1°04'28	opposition	14005 Dec 07 22:10	29° II 47'45	-1°11'10
minimum elong	13999 May 12 18:55	1° II 10'07	1°05'20	min. Earth dist.	14005 Dec 07 19:02	29° II 48'05	18.26356 AU
max. Earth dist.	13999 May 12 17:54	1° II 09'58	19.87319 AU	direct	14006 Feb 22 21:56	27° II 46'16	
morning rise	13999 May 28 19:47	2° II 08'38			14006 May 09 12:36	0° II	
retrograde	13999 Aug 28 12:06	5° II 24'39		evening set	14006 May 27 10:53	1° II 00'18	
opposition	13999 Nov 11 09:57	3° II 24'05	-1°12'22				
min. Earth dist.	13999 Nov 11 10:05	3° II 24'04	17.90307 AU	conjunction	14006 Jun 12 09:25	1° II 57'10	-1°03'21
direct	14000 Jan 27 02:35	1° II 21'09		minimum elong	14006 Jun 12 09:25	1° II 57'10	1°04'24
evening set	14000 Apr 30 11:01	4° II 41'04		max. Earth dist.	14006 Jun 12 13:30	1° II 57'46	20.29389 AU
				morning rise	14006 Jun 28 06:22	2° II 53'49	
conjunction	14000 May 16 13:24	5° II 39'35	-1°05'29	retrograde	14006 Sep 27 21:14	6° II 04'35	
minimum elong	14000 May 16 13:23	5° II 39'35	1°06'24	opposition	14006 Dec 12 14:02	4° II 05'12	-1°09'31
max. Earth dist.	14000 May 16 13:46	5° II 39'39	19.93252 AU	min. Earth dist.	14006 Dec 12 09:08	4° II 05'42	18.32470 AU
morning rise	14000 Jun 01 13:30	6° II 37'49		direct	14007 Feb 27 15:20	2° II 04'01	
retrograde	14000 Sep 01 05:18	9° II 53'05		evening set	14007 May 31 23:46	5° II 17'05	
opposition	14000 Nov 15 05:30	7° II 52'44	-1°13'16				
min. Earth dist.	14000 Nov 15 04:55	7° II 52'47	17.96256 AU	conjunction	14007 Jun 16 21:46	6° II 13'42	-1°01'43
direct	14001 Jan 31 00:12	5° II 50'03		minimum elong	14007 Jun 16 21:46	6° II 13'42	1°02'46
evening set	14001 May 05 05:28	9° II 09'02		max. Earth dist.	14007 Jun 17 02:35	6° II 14'25	20.35513 AU
				morning rise	14007 Jul 02 18:22	7° II 10'07	
conjunction	14001 May 21 06:59	10° II 07'17	-1°06'06	retrograde	14007 Oct 02 08:43	10° II 20'15	
minimum elong	14001 May 21 06:59	10° II 07'17	1°07'03	opposition	14007 Dec 17 05:20	8° II 21'03	-1°07'29
max. Earth dist.	14001 May 21 07:02	10° II 07'17	19.99218 AU	min. Earth dist.	14007 Dec 17 00:38	8° II 21'32	18.38599 AU
morning rise	14001 Jun 06 06:31	11° II 05'14		direct	14008 Mar 03 05:55	6° II 20'12	
retrograde	14001 Sep 05 21:14	14° II 19'44		evening set	14008 Jun 04 11:48	9° II 32'20	
opposition	14001 Nov 20 00:27	12° II 19'34	-1°13'42				
min. Earth dist.	14001 Nov 19 23:48	12° II 19'38	18.02242 AU	conjunction	14008 Jun 20 09:25	10° II 28'43	-0°59'44
direct	14002 Feb 04 19:59	10° II 17'07		minimum elong	14008 Jun 20 09:25	10° II 28'43	1°00'48
evening set	14002 May 09 22:50	13° II 35'09		max. Earth dist.	14008 Jun 20 14:55	10° II 29'32	20.41627 AU
				morning rise	14008 Jul 06 05:44	11° II 24'55	
conjunction	14002 May 25 23:47	14° II 33'07	-1°06'19	retrograde	14008 Oct 05 22:36	14° II 34'26	
minimum elong	14002 May 25 23:47	14° II 33'07	1°07'18	opposition	14008 Dec 20 20:00	12° II 35'27	-1°05'06
max. Earth dist.	14002 May 26 01:01	14° II 33'18	20.05214 AU	min. Earth dist.	14008 Dec 20 13:42	12° II 36'06	18.44663 AU
morning rise	14002 Jun 10 22:38	15° II 30'48		direct	14009 Mar 07 21:57	10° II 34'56	
retrograde	14002 Sep 10 13:12	18° II 44'31		evening set	14009 Jun 08 23:11	13° II 46'10	
opposition	14002 Nov 24 18:51	16° II 44'31	-1°13'43				
min. Earth dist.	14002 Nov 24 17:07	16° II 44'42	18.08231 AU	conjunction	14009 Jun 24 20:21	14° II 42'19	-0°57'27
direct	14003 Feb 09 16:15	14° II 42'19		minimum elong	14009 Jun 24 20:21	14° II 42'19	0°58'30
evening set	14003 May 14 15:13	17° II 59'20		max. Earth dist.	14009 Jun 25 02:35	14° II 43'15	20.47634 AU
				morning rise	14009 Jul 10 16:22	15° II 38'19	
conjunction	14003 May 30 15:26	18° II 57'00	-1°06'08	retrograde	14009 Oct 10 08:49	18° II 47'16	
minimum elong	14003 May 30 15:25	18° II 57'00	1°07'10	opposition	14009 Dec 25 10:20	16° II 48'30	-1°02'23
max. Earth dist.	14003 May 30 16:47	18° II 57'13	20.11210 AU	min. Earth dist.	14009 Dec 25 04:31	16° II 49'06	18.50604 AU
morning rise	14003 Jun 15 13:49	19° II 54'26		direct	14010 Mar 12 11:10	14° II 48'20	
retrograde	14003 Sep 15 03:39	23° II 07'23		evening set	14010 Jun 13 09:53	17° II 58'41	
opposition	14003 Nov 29 12:40	21° II 07'31	-1°13'17				
min. Earth dist.	14003 Nov 29 10:56	21° II 07'42	18.14244 AU	conjunction	14010 Jun 29 06:42	18° II 54'36	-0°54'52
direct	14004 Feb 14 10:36	19° II 05'32		minimum elong	14010 Jun 29 06:42	18° II 54'36	0°55'55
evening set	14004 May 18 06:40	22° II 21'33		max. Earth dist.	14010 Jun 29 13:18	18° II 55'35	20.53498 AU
				morning rise	14010 Jul 15 02:31	19° II 50'24	

retrograde	14010 Oct 14 21:50	22°♄58'49			14017 Feb 12 05:56	15°♄♂	
opposition	14010 Dec 30 00:04	21°♄00'15 -0°59'20	direct		14017 Apr 11 01:50	13°♄♂46'40	
min. Earth dist.	14010 Dec 29 16:47	21°♄01'00 18.56360 AU			14017 Jun 05 02:41	15°♄	
direct	14011 Mar 17 02:27	19°♄00'25	evening set		14017 Jul 11 20:34	16°♄51'31	
evening set	14011 Jun 17 19:53	22°♄09'54					
			conjunction		14017 Jul 27 16:06	17°♄♂46'15 -0°30'07	
conjunction	14011 Jul 03 16:23	23°♄05'37 -0°52'00	minimum elong		14017 Jul 27 16:07	17°♄♂46'15 0°30'55	
minimum elong	14011 Jul 03 16:23	23°♄05'38 0°53'01	max. Earth dist.		14017 Jul 28 00:24	17°♄♂47'27 20.85582 AU	
max. Earth dist.	14011 Jul 03 23:40	23°♄06'42 20.59131 AU	morning rise		14017 Aug 12 11:40	18°♄♂40'59	
morning rise	14011 Jul 19 12:02	24°♄01'14	retrograde		14017 Nov 12 13:43	21°♄♂46'30	
retrograde	14011 Oct 19 07:04	27°♄09'10	opposition		14018 Jan 28 11:29	19°♄♂48'27 -0°31'03	
opposition	14012 Jan 03 13:27	25°♄10'46 -0°56'00	min. Earth dist.		14018 Jan 28 04:01	19°♄♂49'12 18.87178 AU	
min. Earth dist.	14012 Jan 03 06:56	25°♄11'26 18.61863 AU	direct		14018 Apr 15 10:45	17°♄♂50'03	
direct	14012 Mar 20 14:14	23°♄11'14	evening set		14018 Jul 16 02:54	20°♄♂54'15	
evening set	14012 Jun 21 05:25	26°♄19'54					
			conjunction		14018 Jul 31 22:20	21°♄♂48'51 -0°25'52	
conjunction	14012 Jul 07 01:37	27°♄15'25 -0°48'53	minimum elong		14018 Jul 31 22:21	21°♄♂48'51 0°26'37	
minimum elong	14012 Jul 07 01:38	27°♄15'25 0°49'53	max. Earth dist.		14018 Aug 01 06:25	21°♄♂50'01 20.88690 AU	
max. Earth dist.	14012 Jul 07 08:50	27°♄16'29 20.64490 AU	morning rise		14018 Aug 16 18:07	22°♄♂43'30	
morning rise	14012 Jul 22 21:11	28°♄10'51	retrograde		14018 Nov 16 22:23	25°♄♂48'45	
	14012 Aug 27 03:12	0°♄	opposition		14019 Feb 01 21:30	23°♄♂50'39 -0°26'16	
retrograde	14012 Oct 22 18:41	1°♄18'18	min. Earth dist.		14019 Feb 01 12:42	23°♄♂51'32 18.90137 AU	
	14012 Dec 21 07:23	30°♄♂	direct		14019 Apr 19 20:38	21°♄♂52'23	
opposition	14013 Jan 07 02:06	29°♄20'04 -0°52'24	evening set		14019 Jul 20 08:44	24°♄♂55'59	
min. Earth dist.	14013 Jan 06 18:22	29°♄20'51 18.67052 AU					
direct	14013 Mar 25 04:38	27°♄20'49	conjunction		14019 Aug 05 04:16	25°♄♂50'30 -0°21'31	
	14013 Jun 17 02:39	0°♄	minimum elong		14019 Aug 05 04:16	25°♄♂50'30 0°22'12	
evening set	14013 Jun 25 14:25	0°♄28'40	max. Earth dist.		14019 Aug 05 13:16	25°♄♂51'47 20.91494 AU	
			morning rise		14019 Aug 21 00:08	26°♄♂45'04	
conjunction	14013 Jul 11 10:24	1°♄24'01 -0°45'32	retrograde		14019 Nov 21 05:10	29°♄♂50'05	
minimum elong	14013 Jul 11 10:25	1°♄24'01 0°46'29	opposition		14020 Feb 06 07:19	27°♄♂52'00 -0°21'22	
max. Earth dist.	14013 Jul 11 18:08	1°♄25'09 20.69497 AU	min. Earth dist.		14020 Feb 05 23:07	27°♄♂52'49 18.92798 AU	
morning rise	14013 Jul 27 05:48	2°♄19'16	direct		14020 Apr 23 04:11	25°♄♂53'51	
retrograde	14013 Oct 27 03:08	5°♄26'18	evening set		14020 Jul 23 14:22	28°♄♂56'55	
opposition	14014 Jan 11 14:38	3°♄28'10 -0°48'33					
min. Earth dist.	14014 Jan 11 07:48	3°♄28'51 18.71876 AU	conjunction		14020 Aug 08 09:53	29°♄♂51'21 -0°17'03	
direct	14014 Mar 29 15:36	1°♄29'10	minimum elong		14020 Aug 08 09:53	29°♄♂51'21 0°17'40	
evening set	14014 Jun 29 22:43	4°♄36'14	max. Earth dist.		14020 Aug 08 18:33	29°♄♂52'35 20.94018 AU	
					14020 Aug 10 21:42	0°♄♂	
conjunction	14014 Jul 15 18:29	5°♄31'24 -0°41'58	morning rise		14020 Aug 24 06:00	0°♄♂45'52	
minimum elong	14014 Jul 15 18:29	5°♄31'24 0°42'53	retrograde		14020 Nov 24 13:59	3°♄♂50'44	
max. Earth dist.	14014 Jul 16 01:55	5°♄32'29 20.74131 AU	opposition		14021 Feb 09 16:37	1°♄♂52'38 -0°16'23	
morning rise	14014 Jul 31 13:55	6°♄26'31	min. Earth dist.		14021 Feb 09 07:13	1°♄♂53'34 18.95170 AU	
retrograde	14014 Oct 31 13:36	9°♄33'07			14021 Apr 12 19:31	30°♄♂♂	
opposition	14015 Jan 16 02:32	7°♄35'04 -0°44'28	direct		14021 Apr 27 13:01	29°♄♂54'38	
min. Earth dist.	14015 Jan 15 18:32	7°♄35'52 18.76301 AU			14021 May 12 02:05	0°♄♂	
direct	14015 Apr 03 04:28	5°♄36'16	evening set		14021 Jul 27 19:43	2°♄♂57'15	
evening set	14015 Jul 04 06:35	8°♄42'34					
			conjunction		14021 Aug 12 15:22	3°♄♂51'37 -0°12'32	
conjunction	14015 Jul 20 02:16	9°♄37'34 -0°38'11	minimum elong		14021 Aug 12 15:22	3°♄♂51'37 0°13'06	
minimum elong	14015 Jul 20 02:16	9°♄37'34 0°39'04	behind sun begin		14021 Aug 12 11:23	3°♄♂51'03	
max. Earth dist.	14015 Jul 20 10:12	9°♄38'43 20.78343 AU	behind sun end		14021 Aug 12 19:21	3°♄♂52'10	
morning rise	14015 Aug 04 21:40	10°♄32'33	max. Earth dist.		14021 Aug 13 00:58	3°♄♂52'59 20.96232 AU	
retrograde	14015 Nov 04 21:21	13°♄38'45	morning rise		14021 Aug 28 11:38	4°♄♂46'05	
opposition	14016 Jan 20 13:56	11°♄40'44 -0°40'10	retrograde		14021 Nov 28 20:39	7°♄♂50'52	
min. Earth dist.	14016 Jan 20 06:56	11°♄41'26 18.80308 AU	opposition		14022 Feb 14 01:56	5°♄♂52'47 -0°11'20	
direct	14016 Apr 06 14:32	9°♄42'06	min. Earth dist.		14022 Feb 13 17:10	5°♄♂53'39 18.97226 AU	
evening set	14016 Jul 07 13:54	12°♄47'39	direct		14022 May 01 19:48	3°♄♂54'57	
			evening set		14022 Aug 01 00:51	6°♄♂57'09	
conjunction	14016 Jul 23 09:28	13°♄42'31 -0°34'14					
minimum elong	14016 Jul 23 09:28	13°♄42'31 0°35'04	conjunction		14022 Aug 16 20:32	7°♄♂51'28 -0°07'58	
max. Earth dist.	14016 Jul 23 16:58	13°♄43'36 20.82158 AU	minimum elong		14022 Aug 16 20:33	7°♄♂51'28 0°08'28	
morning rise	14016 Aug 08 05:01	14°♄37'22	behind sun begin		14022 Aug 16 14:47	7°♄♂50'39	
	14016 Aug 14 22:22	15°♄	behind sun end		14022 Aug 17 02:19	7°♄♂52'16	
retrograde	14016 Nov 08 06:31	17°♄43'12	max. Earth dist.		14022 Aug 17 05:44	7°♄♂52'46 20.98131 AU	
opposition	14017 Jan 24 00:49	15°♄45'11 -0°35'41	morning rise		14022 Sep 01 17:11	8°♄♂45'54	
min. Earth dist.	14017 Jan 23 16:40	15°♄46'00 18.83920 AU	retrograde		14022 Dec 03 05:44	11°♄♂50'40	

opposition	14023 Feb 18 10:53	9° <u>♏</u> 52'35	-0°06'15	evening set	14028 Aug 24 08:21	0° <u>♏</u> 54'58	
min. Earth dist.	14023 Feb 18 01:12	9° <u>♏</u> 53'33	18.98945 AU				
direct	14023 May 06 03:42	7° <u>♏</u> 54'53		conjunction	14028 Sep 09 05:21	1° <u>♏</u> 49'19	0°19'33
evening set	14023 Aug 05 05:58	10° <u>♏</u> 56'47		minimum elong	14028 Sep 09 05:20	1° <u>♏</u> 49'19	0°19'28
				max. Earth dist.	14028 Sep 09 12:51	1° <u>♏</u> 50'24	21.00434 AU
conjunction	14023 Aug 21 01:55	11° <u>♏</u> 51'04	-0°03'23	morning rise	14028 Sep 25 04:03	2° <u>♏</u> 43'55	
minimum elong	14023 Aug 21 01:54	11° <u>♏</u> 51'03	0°03'48	retrograde	14028 Dec 27 07:06	5° <u>♏</u> 49'31	
behind sun begin	14023 Aug 20 19:23	11° <u>♏</u> 50'09		opposition	14029 Mar 14 14:53	3° <u>♏</u> 51'10	0°24'02
behind sun end	14023 Aug 21 08:24	11° <u>♏</u> 51'58		min. Earth dist.	14029 Mar 14 07:07	3° <u>♏</u> 51'57	18.99801 AU
max. Earth dist.	14023 Aug 21 11:48	11° <u>♏</u> 52'28	20.99654 AU	direct	14029 May 29 20:02	1° <u>♏</u> 53'53	
morning rise	14023 Sep 05 22:43	12° <u>♏</u> 45'29		evening set	14029 Aug 28 13:53	4° <u>♏</u> 55'00	
retrograde	14023 Dec 07 12:25	15° <u>♏</u> 50'16					
opposition	14024 Feb 22 19:38	13° <u>♏</u> 52'12	-0°01'08	conjunction	14029 Sep 13 11:18	5° <u>♏</u> 49'25	0°23'56
min. Earth dist.	14024 Feb 22 10:52	13° <u>♏</u> 53'04	19.00273 AU	minimum elong	14029 Sep 13 11:18	5° <u>♏</u> 49'25	0°23'55
direct	14024 May 09 10:13	11° <u>♏</u> 54'39		max. Earth dist.	14029 Sep 13 19:07	5° <u>♏</u> 50'32	20.99029 AU
asc. node	14024 May 09 09:51	11° <u>♏</u> 54'39		morning rise	14029 Sep 29 10:20	6° <u>♏</u> 44'06	
evening set	14024 Aug 08 11:09	14° <u>♏</u> 56'17		retrograde	14029 Dec 31 14:15	9° <u>♏</u> 49'56	
				opposition	14030 Mar 18 23:28	7° <u>♏</u> 51'25	0°28'50
conjunction	14024 Aug 24 07:10	15° <u>♏</u> 50'33	0°01'21	min. Earth dist.	14030 Mar 18 16:39	7° <u>♏</u> 52'06	18.98158 AU
minimum elong	14024 Aug 24 07:10	15° <u>♏</u> 50'33	0°00'59	direct	14030 Jun 03 02:22	5° <u>♏</u> 54'05	
behind sun begin	14024 Aug 24 00:36	15° <u>♏</u> 49'37		evening set	14030 Sep 01 19:33	8° <u>♏</u> 55'13	
behind sun end	14024 Aug 24 13:44	15° <u>♏</u> 51'28					
max. Earth dist.	14024 Aug 24 16:20	15° <u>♏</u> 51'51	21.00785 AU	conjunction	14030 Sep 17 17:15	9° <u>♏</u> 49'42	0°28'12
morning rise	14024 Sep 09 04:24	16° <u>♏</u> 44'59		minimum elong	14030 Sep 17 17:15	9° <u>♏</u> 49'42	0°28'16
retrograde	14024 Dec 10 21:34	19° <u>♏</u> 49'50		max. Earth dist.	14030 Sep 17 23:58	9° <u>♏</u> 50'40	20.97172 AU
opposition	14025 Feb 26 04:22	17° <u>♏</u> 51'46	0°03'59	morning rise	14030 Oct 03 16:53	10° <u>♏</u> 44'29	
min. Earth dist.	14025 Feb 25 18:58	17° <u>♏</u> 52'42	19.01186 AU	retrograde	14031 Jan 05 00:26	13° <u>♏</u> 50'37	
direct	14025 May 13 17:12	15° <u>♏</u> 54'21		opposition	14031 Mar 23 07:55	11° <u>♏</u> 51'54	0°33'30
evening set	14025 Aug 12 16:11	18° <u>♏</u> 55'47		min. Earth dist.	14031 Mar 23 00:54	11° <u>♏</u> 52'36	18.96095 AU
				direct	14031 Jun 07 09:48	9° <u>♏</u> 54'28	
conjunction	14025 Aug 28 12:28	19° <u>♏</u> 50'02	0°06'00	evening set	14031 Sep 06 01:25	12° <u>♏</u> 55'42	
minimum elong	14025 Aug 28 12:28	19° <u>♏</u> 50'02	0°05'42				
behind sun begin	14025 Aug 28 06:09	19° <u>♏</u> 49'09		conjunction	14031 Sep 21 23:35	13° <u>♏</u> 50'17	0°32'20
behind sun end	14025 Aug 28 18:47	19° <u>♏</u> 50'55		minimum elong	14031 Sep 21 23:35	13° <u>♏</u> 50'17	0°32'29
max. Earth dist.	14025 Aug 28 22:11	19° <u>♏</u> 51'25	21.01460 AU	max. Earth dist.	14031 Sep 22 06:49	13° <u>♏</u> 51'19	20.94904 AU
morning rise	14025 Sep 13 09:55	20° <u>♏</u> 44'29		morning rise	14031 Oct 07 23:33	14° <u>♏</u> 45'10	
retrograde	14025 Dec 15 04:36	23° <u>♏</u> 49'29		retrograde	14032 Jan 09 08:01	17° <u>♏</u> 51'38	
opposition	14026 Mar 02 13:11	21° <u>♏</u> 51'24	0°09'05	opposition	14032 Mar 26 16:20	15° <u>♏</u> 52'44	0°38'00
min. Earth dist.	14026 Mar 02 04:46	21° <u>♏</u> 52'15	19.01625 AU	min. Earth dist.	14032 Mar 26 10:05	15° <u>♏</u> 53'22	18.93651 AU
direct	14026 May 17 23:54	19° <u>♏</u> 54'06		direct	14032 Jun 10 15:39	13° <u>♏</u> 55'12	
evening set	14026 Aug 16 21:30	22° <u>♏</u> 55'22		evening set	14032 Sep 09 07:39	16° <u>♏</u> 56'36	
conjunction	14026 Sep 01 17:56	23° <u>♏</u> 49'38	0°10'34	conjunction	14032 Sep 25 06:06	17° <u>♏</u> 51'17	0°36'19
minimum elong	14026 Sep 01 17:56	23° <u>♏</u> 49'38	0°10'19	minimum elong	14032 Sep 25 06:06	17° <u>♏</u> 51'17	0°36'33
behind sun begin	14026 Sep 01 12:42	23° <u>♏</u> 48'55		max. Earth dist.	14032 Sep 25 12:19	17° <u>♏</u> 52'11	20.92304 AU
behind sun end	14026 Sep 01 23:09	23° <u>♏</u> 50'22		morning rise	14032 Oct 11 06:40	18° <u>♏</u> 46'17	
max. Earth dist.	14026 Sep 02 02:34	23° <u>♏</u> 50'52	21.01657 AU	retrograde	14033 Jan 12 18:21	21° <u>♏</u> 53'09	
morning rise	14026 Sep 17 15:51	24° <u>♏</u> 44'08		opposition	14033 Mar 31 00:59	19° <u>♏</u> 54'03	0°42'20
retrograde	14026 Dec 19 14:06	27° <u>♏</u> 49'18		min. Earth dist.	14033 Mar 30 18:29	19° <u>♏</u> 54'43	18.90899 AU
opposition	14027 Mar 06 21:42	25° <u>♏</u> 51'10	0°14'08	direct	14033 Jun 14 23:25	17° <u>♏</u> 56'25	
min. Earth dist.	14027 Mar 06 13:00	25° <u>♏</u> 52'02	19.01564 AU	evening set	14033 Sep 13 13:58	20° <u>♏</u> 58'03	
direct	14027 May 22 06:21	23° <u>♏</u> 53'54					
evening set	14027 Aug 21 02:51	26° <u>♏</u> 55'05		conjunction	14033 Sep 29 12:57	21° <u>♏</u> 52'52	0°40'08
				minimum elong	14033 Sep 29 12:57	21° <u>♏</u> 52'52	0°40'25
conjunction	14027 Sep 05 23:39	27° <u>♏</u> 49'24	0°15'05	max. Earth dist.	14033 Sep 29 19:51	21° <u>♏</u> 53'52	20.89391 AU
minimum elong	14027 Sep 05 23:39	27° <u>♏</u> 49'24	0°14'56	morning rise	14033 Oct 15 13:53	22° <u>♏</u> 48'00	
behind sun begin	14027 Sep 05 21:05	27° <u>♏</u> 49'02		retrograde	14034 Jan 17 03:07	25° <u>♏</u> 55'18	
behind sun end	14027 Sep 06 02:13	27° <u>♏</u> 49'46		opposition	14034 Apr 04 09:50	23° <u>♏</u> 56'02	0°46'28
max. Earth dist.	14027 Sep 06 08:27	27° <u>♏</u> 50'39	21.01315 AU	min. Earth dist.	14034 Apr 04 03:55	23° <u>♏</u> 56'38	18.87843 AU
morning rise	14027 Sep 21 21:51	28° <u>♏</u> 43'56		direct	14034 Jun 19 05:48	21° <u>♏</u> 58'18	
	14027 Oct 15 22:37	0° <u>♏</u>		evening set	14034 Sep 17 20:54	25° <u>♏</u> 00'14	
retrograde	14027 Dec 23 21:12	1° <u>♏</u> 49'18					
	14028 Mar 06 13:17	30° <u>♏</u>		conjunction	14034 Oct 03 20:16	25° <u>♏</u> 55'11	0°43'46
opposition	14028 Mar 10 06:22	29° <u>♏</u> 51'05	0°19'08	minimum elong	14034 Oct 03 20:15	25° <u>♏</u> 55'11	0°44'08
min. Earth dist.	14028 Mar 09 22:46	29° <u>♏</u> 51'51	19.00948 AU	max. Earth dist.	14034 Oct 04 02:03	25° <u>♏</u> 56'01	20.86203 AU
direct	14028 May 25 13:09	27° <u>♏</u> 53'51		morning rise	14034 Oct 19 21:52	26° <u>♏</u> 50'28	
	14028 Aug 07 08:08	0° <u>♏</u>		retrograde	14035 Jan 21 13:45	29° <u>♏</u> 58'14	

opposition	14035 Apr 08 18:41	27° <u>♄</u> 58'49	0°50'23	evening set	14041 Oct 16 13:26	23° <u>♄</u> 47'01	
min. Earth dist.	14035 Apr 08 12:45	27° <u>♄</u> 59'25	18.84522 AU				
direct	14035 Jun 23 13:21	26° <u>♄</u> 00'58		conjunction	14041 Nov 01 16:44	24° <u>♄</u> 43'19	1°02'24
evening set	14035 Sep 22 04:14	29° <u>♄</u> 03'17		minimum elong	14041 Nov 01 16:43	24° <u>♄</u> 43'19	1°03'12
				max. Earth dist.	14041 Nov 01 19:01	24° <u>♄</u> 43'39	20.55608 AU
conjunction	14035 Oct 08 04:11	29° <u>♄</u> 58'24	0°47'11	morning rise	14041 Nov 17 22:09	25° <u>♄</u> 39'59	
minimum elong	14035 Oct 08 04:11	29° <u>♄</u> 58'23	0°47'36	retrograde	14042 Feb 20 01:23	28° <u>♄</u> 52'06	
max. Earth dist.	14035 Oct 08 10:31	29° <u>♄</u> 59'18	20.82733 AU	opposition	14042 May 07 19:25	26° <u>♄</u> 51'33	1°10'06
	14035 Oct 08 15:18	0° <u>♄</u>		min. Earth dist.	14042 May 07 17:48	26° <u>♄</u> 51'43	18.52819 AU
morning rise	14035 Oct 24 06:11	0° <u>♄</u> 53'50		direct	14042 Jul 22 02:06	24° <u>♄</u> 52'37	
retrograde	14036 Jan 25 23:48	4° <u>♄</u> 02'08		evening set	14042 Oct 21 01:32	27° <u>♄</u> 59'04	
opposition	14036 Apr 12 03:57	2° <u>♄</u> 02'33	0°54'03				
min. Earth dist.	14036 Apr 11 22:36	2° <u>♄</u> 03'06	18.80914 AU	conjunction	14042 Nov 06 05:19	28° <u>♄</u> 55'37	1°03'54
direct	14036 Jun 26 20:41	0° <u>♄</u> 04'37		minimum elong	14042 Nov 06 05:19	28° <u>♄</u> 55'37	1°04'45
evening set	14036 Sep 25 12:03	3° <u>♄</u> 07'22		max. Earth dist.	14042 Nov 06 05:35	28° <u>♄</u> 55'39	20.49921 AU
				morning rise	14042 Nov 22 11:31	29° <u>♄</u> 52'31	
conjunction	14036 Oct 11 12:23	4° <u>♄</u> 02'38	0°50'22		14042 Nov 24 15:57	0° <u>♄</u>	
minimum elong	14036 Oct 11 12:22	4° <u>♄</u> 02'38	0°50'52	retrograde	14043 Feb 24 15:44	3° <u>♄</u> 05'18	
max. Earth dist.	14036 Oct 11 17:28	4° <u>♄</u> 03'22	20.78997 AU	opposition	14043 May 12 07:20	1° <u>♄</u> 04'30	1°11'37
morning rise	14036 Oct 27 15:04	4° <u>♄</u> 58'15		min. Earth dist.	14043 May 12 06:46	1° <u>♄</u> 04'34	18.47003 AU
retrograde	14037 Jan 29 10:53	8° <u>♄</u> 07'08			14043 Jun 08 16:50	30° <u>♄</u>	
opposition	14037 Apr 16 13:34	6° <u>♄</u> 07'24	0°57'28	direct	14043 Jul 26 12:24	29° <u>♄</u> 05'16	
min. Earth dist.	14037 Apr 16 08:22	6° <u>♄</u> 07'56	18.77043 AU		14043 Sep 10 20:45	0° <u>♄</u>	
direct	14037 Jul 01 04:17	4° <u>♄</u> 09'22		evening set	14043 Oct 25 14:07	2° <u>♄</u> 12'29	
evening set	14037 Sep 29 20:30	7° <u>♄</u> 12'36					
				conjunction	14043 Nov 10 18:42	3° <u>♄</u> 09'17	1°05'05
conjunction	14037 Oct 15 21:28	8° <u>♄</u> 08'03	0°53'19	minimum elong	14043 Nov 10 18:42	3° <u>♄</u> 09'17	1°05'58
minimum elong	14037 Oct 15 21:28	8° <u>♄</u> 08'03	0°53'53	max. Earth dist.	14043 Nov 10 19:20	3° <u>♄</u> 09'23	20.43986 AU
max. Earth dist.	14037 Oct 16 03:02	8° <u>♄</u> 08'52	20.74975 AU	morning rise	14043 Nov 27 01:20	4° <u>♄</u> 06'26	
morning rise	14037 Nov 01 00:34	9° <u>♄</u> 03'51		retrograde	14044 Feb 29 05:53	7° <u>♄</u> 19'54	
retrograde	14038 Feb 02 22:15	12° <u>♄</u> 13'20		opposition	14044 May 15 19:44	5° <u>♄</u> 18'52	1°12'45
opposition	14038 Apr 20 23:28	10° <u>♄</u> 13'29	1°00'37	min. Earth dist.	14044 May 15 19:27	5° <u>♄</u> 18'54	18.40970 AU
min. Earth dist.	14038 Apr 20 18:56	10° <u>♄</u> 13'57	18.72874 AU	direct	14044 Jul 30 00:02	3° <u>♄</u> 19'20	
direct	14038 Jul 05 12:36	8° <u>♄</u> 15'20		evening set	14044 Oct 29 03:25	6° <u>♄</u> 27'20	
evening set	14038 Oct 04 05:42	11° <u>♄</u> 19'08					
				conjunction	14044 Nov 14 08:28	7° <u>♄</u> 24'23	1°05'54
conjunction	14038 Oct 20 07:07	12° <u>♄</u> 14'47	0°56'01	minimum elong	14044 Nov 14 08:28	7° <u>♄</u> 24'23	1°06'50
minimum elong	14038 Oct 20 07:06	12° <u>♄</u> 14'47	0°56'38	max. Earth dist.	14044 Nov 14 07:24	7° <u>♄</u> 24'13	20.37886 AU
max. Earth dist.	14038 Oct 20 11:03	12° <u>♄</u> 15'21	20.70659 AU	morning rise	14044 Nov 30 15:53	8° <u>♄</u> 21'47	
morning rise	14038 Nov 05 10:57	13° <u>♄</u> 10'47		retrograde	14045 Mar 04 21:01	11° <u>♄</u> 35'58	
	14038 Dec 11 00:42	15° <u>♄</u>		opposition	14045 May 20 08:41	9° <u>♄</u> 34'40	1°13'29
retrograde	14039 Feb 07 10:21	16° <u>♄</u> 20'55		min. Earth dist.	14045 May 20 09:22	9° <u>♄</u> 34'36	18.34821 AU
	14039 Apr 09 04:47	15° <u>♄</u>		direct	14045 Aug 03 11:13	7° <u>♄</u> 34'49	
opposition	14039 Apr 25 09:48	14° <u>♄</u> 20'55	1°03'28	evening set	14045 Nov 02 17:26	10° <u>♄</u> 43'39	
min. Earth dist.	14039 Apr 25 05:54	14° <u>♄</u> 21'19	18.68396 AU				
direct	14039 Jul 09 20:46	12° <u>♄</u> 22'37		conjunction	14045 Nov 18 23:19	11° <u>♄</u> 40'59	1°06'21
	14039 Sep 30 14:22	15° <u>♄</u>		minimum elong	14045 Nov 18 23:19	11° <u>♄</u> 40'59	1°07'19
evening set	14039 Oct 08 15:34	15° <u>♄</u> 27'02		max. Earth dist.	14045 Nov 18 22:49	11° <u>♄</u> 40'54	20.31693 AU
				morning rise	14045 Dec 05 07:09	12° <u>♄</u> 38'38	
conjunction	14039 Oct 24 17:38	16° <u>♄</u> 22'53	0°58'26	retrograde	14046 Mar 09 12:48	15° <u>♄</u> 53'31	
minimum elong	14039 Oct 24 17:38	16° <u>♄</u> 22'53	0°59'08	opposition	14046 May 24 21:50	13° <u>♄</u> 52'00	1°13'49
max. Earth dist.	14039 Oct 24 21:45	16° <u>♄</u> 23'29	20.65996 AU	min. Earth dist.	14046 May 24 22:33	13° <u>♄</u> 51'55	18.28602 AU
morning rise	14039 Nov 09 21:51	17° <u>♄</u> 19'06		direct	14046 Aug 07 23:56	11° <u>♄</u> 51'50	
retrograde	14040 Feb 11 22:42	20° <u>♄</u> 29'52		evening set	14046 Nov 07 08:23	15° <u>♄</u> 01'33	
opposition	14040 Apr 28 20:30	18° <u>♄</u> 29'44	1°06'01				
min. Earth dist.	14040 Apr 28 17:22	18° <u>♄</u> 30'03	18.63554 AU	conjunction	14046 Nov 23 14:46	15° <u>♄</u> 59'09	1°06'27
direct	14040 Jul 13 06:13	16° <u>♄</u> 31'16		minimum elong	14046 Nov 23 14:46	15° <u>♄</u> 59'09	1°07'27
evening set	14040 Oct 12 02:16	19° <u>♄</u> 36'20		max. Earth dist.	14046 Nov 23 12:33	15° <u>♄</u> 58'49	20.25467 AU
				morning rise	14046 Dec 09 23:22	16° <u>♄</u> 57'04	
conjunction	14040 Oct 28 04:47	20° <u>♄</u> 32'24	1°00'34	retrograde	14047 Mar 14 04:57	20° <u>♄</u> 12'40	
minimum elong	14040 Oct 28 04:47	20° <u>♄</u> 32'24	1°01'18	opposition	14047 May 29 11:42	18° <u>♄</u> 10'56	1°13'44
max. Earth dist.	14040 Oct 28 06:56	20° <u>♄</u> 32'43	20.60981 AU	min. Earth dist.	14047 May 29 13:29	18° <u>♄</u> 10'45	18.22386 AU
morning rise	14040 Nov 13 09:45	21° <u>♄</u> 28'50		direct	14047 Aug 12 11:36	16° <u>♄</u> 10'27	
retrograde	14041 Feb 15 12:10	24° <u>♄</u> 40'18		evening set	14047 Nov 11 23:55	19° <u>♄</u> 21'05	
opposition	14041 May 03 07:47	22° <u>♄</u> 39'57	1°08'14				
min. Earth dist.	14041 May 03 05:31	22° <u>♄</u> 40'11	18.58365 AU	conjunction	14047 Nov 28 07:06	20° <u>♄</u> 18'58	1°06'09
direct	14041 Jul 17 15:27	20° <u>♄</u> 41'16		minimum elong	14047 Nov 28 07:06	20° <u>♄</u> 18'58	1°07'10

max. Earth dist.	14047 Nov 28 05:33	20° \mathbb{A} 18'44	20.19260 AU	min. Earth dist.	14054 Jun 29 09:44	19° \mathbb{B} 13'30	17.81201 AU
morning rise	14047 Dec 14 16:05	21° \mathbb{A} 17'09		direct	14054 Sep 11 23:13	17° \mathbb{B} 11'42	
retrograde	14048 Mar 17 22:49	24° \mathbb{A} 33'28		evening set	14054 Dec 13 14:29	20° \mathbb{B} 29'15	
opposition	14048 Jun 02 02:00	22° \mathbb{A} 31'33	1°13'13				
min. Earth dist.	14048 Jun 02 03:29	22° \mathbb{A} 31'23	18.16203 AU	conjunction	14054 Dec 30 01:54	21° \mathbb{B} 29'06	0°53'24
direct	14048 Aug 16 01:38	20° \mathbb{A} 30'48		minimum elong	14054 Dec 30 01:54	21° \mathbb{B} 29'06	0°54'25
evening set	14048 Nov 15 16:28	23° \mathbb{A} 42'22		max. Earth dist.	14054 Dec 29 18:46	21° \mathbb{B} 28'00	19.78402 AU
				morning rise	14055 Jan 15 14:24	22° \mathbb{B} 29'07	
conjunction	14048 Dec 02 00:10	24° \mathbb{A} 40'31	1°05'29	retrograde	14055 Apr 19 18:45	25° \mathbb{B} 50'10	
minimum elong	14048 Dec 02 00:10	24° \mathbb{A} 40'31	1°06'31	opposition	14055 Jul 03 23:40	23° \mathbb{B} 47'20	0°57'43
max. Earth dist.	14048 Dec 01 21:02	24° \mathbb{A} 40'03	20.13122 AU	min. Earth dist.	14055 Jul 04 06:13	23° \mathbb{B} 46'38	17.75671 AU
morning rise	14048 Dec 18 09:52	25° \mathbb{A} 38'59		direct	14055 Sep 16 17:33	21° \mathbb{B} 44'42	
retrograde	14049 Mar 22 16:21	28° \mathbb{A} 56'02		evening set	14055 Dec 18 12:58	25° \mathbb{B} 03'11	
opposition	14049 Jun 06 16:59	26° \mathbb{A} 53'57	1°12'17				
min. Earth dist.	14049 Jun 06 19:37	26° \mathbb{A} 53'40	18.10120 AU	conjunction	14056 Jan 04 00:57	26° \mathbb{B} 03'17	0°50'06
direct	14049 Aug 20 14:16	24° \mathbb{A} 52'54		minimum elong	14056 Jan 04 00:57	26° \mathbb{B} 03'17	0°51'05
evening set	14049 Nov 20 09:43	28° \mathbb{A} 05'27		max. Earth dist.	14056 Jan 03 17:23	26° \mathbb{B} 02'07	19.72946 AU
				morning rise	14056 Jan 20 13:46	27° \mathbb{B} 03'32	
conjunction	14049 Dec 06 18:16	29° \mathbb{A} 03'54	1°04'25		14056 Mar 23 21:24	0° \mathbb{B}	
minimum elong	14049 Dec 06 18:16	29° \mathbb{A} 03'54	1°05'28	retrograde	14056 Apr 23 17:09	0° \mathbb{B} 25'06	
max. Earth dist.	14049 Dec 06 15:41	29° \mathbb{A} 03'31	20.07094 AU		14056 May 24 21:14	30° \mathbb{R} \mathbb{B}	
	14049 Dec 22 10:26	0° \mathbb{B}		opposition	14056 Jul 07 18:50	28° \mathbb{B} 22'07	0°53'52
morning rise	14049 Dec 23 04:25	0° \mathbb{B} 02'38		min. Earth dist.	14056 Jul 08 00:56	28° \mathbb{B} 21'28	17.70290 AU
retrograde	14050 Mar 27 12:18	3° \mathbb{B} 20'24		direct	14056 Sep 20 14:09	26° \mathbb{B} 19'09	
opposition	14050 Jun 11 08:28	1° \mathbb{B} 18'10	1°10'55	evening set	14056 Dec 22 12:21	29° \mathbb{B} 38'33	
min. Earth dist.	14050 Jun 11 10:44	1° \mathbb{B} 17'56	18.04138 AU		14056 Dec 28 10:36	0° \mathbb{B}	
	14050 Jul 14 17:29	30° \mathbb{R} \mathbb{A}					
direct	14050 Aug 25 05:19	29° \mathbb{A} 16'53		conjunction	14057 Jan 08 00:46	0° \mathbb{B} 38'53	0°46'28
	14050 Oct 04 19:21	0° \mathbb{B}		minimum elong	14057 Jan 08 00:47	0° \mathbb{B} 38'53	0°47'26
evening set	14050 Nov 25 04:08	2° \mathbb{B} 30'26		max. Earth dist.	14057 Jan 07 16:28	0° \mathbb{B} 37'37	19.67665 AU
				morning rise	14057 Jan 24 13:52	1° \mathbb{B} 39'21	
conjunction	14050 Dec 11 13:09	3° \mathbb{B} 29'10	1°02'58	retrograde	14057 Apr 28 14:23	5° \mathbb{B} 01'23	
minimum elong	14050 Dec 11 13:09	3° \mathbb{B} 29'10	1°04'01	opposition	14057 Jul 12 14:33	2° \mathbb{B} 58'15	0°49'39
max. Earth dist.	14050 Dec 11 09:00	3° \mathbb{B} 28'32	20.01170 AU	min. Earth dist.	14057 Jul 12 22:08	2° \mathbb{B} 57'26	17.65130 AU
morning rise	14050 Dec 27 23:56	4° \mathbb{B} 28'10		direct	14057 Sep 25 09:54	0° \mathbb{B} 54'57	
retrograde	14051 Apr 01 07:20	7° \mathbb{B} 46'39		evening set	14057 Dec 27 12:20	4° \mathbb{B} 15'13	
opposition	14051 Jun 16 00:36	5° \mathbb{B} 44'19	1°09'07				
min. Earth dist.	14051 Jun 16 04:19	5° \mathbb{B} 43'55	17.98274 AU	conjunction	14058 Jan 13 01:12	5° \mathbb{B} 15'47	0°42'30
direct	14051 Aug 29 19:41	3° \mathbb{B} 42'47		minimum elong	14058 Jan 13 01:13	5° \mathbb{B} 15'47	0°43'26
evening set	14051 Nov 29 23:17	6° \mathbb{B} 57'21		max. Earth dist.	14058 Jan 12 16:16	5° \mathbb{B} 14'25	19.62651 AU
				morning rise	14058 Jan 29 14:37	6° \mathbb{B} 16'27	
conjunction	14051 Dec 16 09:04	7° \mathbb{B} 56'22	1°01'08	retrograde	14058 May 03 13:43	9° \mathbb{B} 38'55	
minimum elong	14051 Dec 16 09:04	7° \mathbb{B} 56'22	1°02'12	opposition	14058 Jul 17 10:38	7° \mathbb{B} 35'37	0°45'06
max. Earth dist.	14051 Dec 16 05:11	7° \mathbb{B} 55'47	19.95363 AU	min. Earth dist.	14058 Jul 17 17:42	7° \mathbb{B} 34'51	17.60262 AU
morning rise	14052 Jan 01 20:14	8° \mathbb{B} 55'39		direct	14058 Sep 30 07:52	5° \mathbb{B} 31'59	
retrograde	14052 Apr 05 04:23	12° \mathbb{B} 14'49		evening set	14059 Jan 01 12:55	8° \mathbb{B} 53'07	
opposition	14052 Jun 19 17:22	10° \mathbb{B} 12'23	1°06'53				
min. Earth dist.	14052 Jun 19 20:45	10° \mathbb{B} 12'02	17.92509 AU	conjunction	14059 Jan 18 02:10	9° \mathbb{B} 53'53	0°38'15
direct	14052 Sep 02 12:11	8° \mathbb{B} 10'37		minimum elong	14059 Jan 18 02:10	9° \mathbb{B} 53'53	0°39'09
evening set	14052 Dec 03 19:25	11° \mathbb{B} 26'11		max. Earth dist.	14059 Jan 17 17:11	9° \mathbb{B} 52'30	19.57944 AU
				morning rise	14059 Feb 03 15:37	10° \mathbb{B} 54'43	
conjunction	14052 Dec 20 05:40	12° \mathbb{B} 25'29	0°58'56	retrograde	14059 May 08 11:41	14° \mathbb{B} 17'34	
minimum elong	14052 Dec 20 05:40	12° \mathbb{B} 25'29	0°59'58	opposition	14059 Jul 22 07:17	12° \mathbb{B} 14'09	0°40'13
max. Earth dist.	14052 Dec 20 00:14	12° \mathbb{B} 24'40	19.89637 AU	min. Earth dist.	14059 Jul 22 15:25	12° \mathbb{B} 13'16	17.55745 AU
morning rise	14053 Jan 05 17:23	13° \mathbb{B} 25'02		direct	14059 Oct 05 04:31	10° \mathbb{B} 10'12	
retrograde	14053 Apr 10 00:30	16° \mathbb{B} 44'53		evening set	14060 Jan 06 14:04	13° \mathbb{B} 32'08	
opposition	14053 Jun 24 10:58	14° \mathbb{B} 42'20	1°04'14				
min. Earth dist.	14053 Jun 24 16:02	14° \mathbb{B} 41'47	17.86823 AU	conjunction	14060 Jan 23 03:31	14° \mathbb{B} 33'05	0°33'44
direct	14053 Sep 07 04:29	12° \mathbb{B} 40'18		minimum elong	14060 Jan 23 03:32	14° \mathbb{B} 33'05	0°34'34
evening set	14053 Dec 08 16:28	15° \mathbb{B} 56'52		max. Earth dist.	14060 Jan 22 17:49	14° \mathbb{B} 31'36	19.53643 AU
					14060 Jan 30 09:43	15° \mathbb{B}	
conjunction	14053 Dec 25 03:26	16° \mathbb{B} 56'27	0°56'21	morning rise	14060 Feb 08 17:12	15° \mathbb{B} 34'06	
minimum elong	14053 Dec 25 03:26	16° \mathbb{B} 56'27	0°57'23	retrograde	14060 May 12 11:55	18° \mathbb{B} 57'17	
max. Earth dist.	14053 Dec 24 21:43	16° \mathbb{B} 55'35	19.83987 AU	opposition	14060 Jul 26 04:16	16° \mathbb{B} 53'44	0°35'02
morning rise	14054 Jan 10 15:31	17° \mathbb{B} 56'14		min. Earth dist.	14060 Jul 26 11:45	16° \mathbb{B} 52'55	17.51665 AU
retrograde	14054 Apr 14 22:18	21° \mathbb{B} 16'42			14060 Sep 19 07:43	15° \mathbb{R} \mathbb{B}	
opposition	14054 Jun 29 04:53	19° \mathbb{B} 14'02	1°01'11	direct	14060 Oct 09 03:23	14° \mathbb{B} 49'31	

	14060 Oct 28 17:25	15°♊	opposition	14066 Aug 23 18:41	15°♊10'52	0°00'00
evening set	14061 Jan 10 15:34	18°♊12'12	desc. node	14066 Aug 23 23:20	15°♊10'21	
			min. Earth dist.	14066 Aug 24 02:27	15°♊10'01	17.38142 AU
conjunction	14061 Jan 27 05:22	19°♊13'20 0°28'58	direct	14066 Nov 06 22:19	13°♊05'53	
minimum elong	14061 Jan 27 05:23	19°♊13'20 0°29'44	evening set	14067 Feb 09 09:50	16°♊32'04	
max. Earth dist.	14061 Jan 26 20:21	19°♊11'57 19.49789 AU				
morning rise	14061 Feb 12 18:58	20°♊14'29	conjunction	14067 Feb 25 23:25	17°♊33'44	-0°02'52
retrograde	14061 May 17 10:55	23°♊37'57	minimum elong	14067 Feb 25 23:26	17°♊33'44	0°02'31
opposition	14061 Jul 31 01:47	21°♊34'21 0°29'37	behind sun begin	14067 Feb 25 16:42	17°♊32'43	
min. Earth dist.	14061 Jul 31 09:54	21°♊33'28 17.48056 AU	behind sun end	14067 Feb 26 06:10	17°♊34'46	
direct	14061 Oct 14 01:04	19°♊29'53	max. Earth dist.	14067 Feb 25 14:56	17°♊32'26	19.37828 AU
evening set	14062 Jan 15 17:46	22°♊53'17	morning rise	14067 Mar 14 11:41	18°♊35'14	
			retrograde	14067 Jun 15 15:37	21°♊59'24	
conjunction	14062 Feb 01 07:37	23°♊54'34 0°24'00	opposition	14067 Aug 28 18:14	19°♊56'08	-0°06'07
minimum elong	14062 Feb 01 07:37	23°♊54'34 0°24'43	min. Earth dist.	14067 Aug 29 01:38	19°♊55'20	17.37631 AU
max. Earth dist.	14062 Jan 31 21:41	23°♊53'02 19.46447 AU	direct	14067 Nov 12 00:36	17°♊51'09	
morning rise	14062 Feb 17 21:19	24°♊55'50	evening set	14068 Feb 14 13:49	21°♊17'37	
retrograde	14062 May 22 11:38	28°♊19'33				
opposition	14062 Aug 04 23:33	26°♊15'54 0°23'58	conjunction	14068 Mar 02 02:59	22°♊19'16	-0°08'19
min. Earth dist.	14062 Aug 05 07:08	26°♊15'05 17.44986 AU	minimum elong	14068 Mar 02 02:58	22°♊19'16	0°08'04
direct	14062 Oct 19 00:22	24°♊11'15	behind sun begin	14068 Mar 01 20:59	22°♊18'21	
evening set	14063 Jan 20 20:16	27°♊35'20	behind sun end	14068 Mar 02 08:58	22°♊20'11	
			max. Earth dist.	14068 Mar 01 17:28	22°♊17'48	19.37534 AU
conjunction	14063 Feb 06 10:20	28°♊36'45 0°18'51	morning rise	14068 Mar 18 14:52	23°♊20'44	
minimum elong	14063 Feb 06 10:20	28°♊36'45 0°19'29	retrograde	14068 Jun 19 14:43	26°♊44'47	
max. Earth dist.	14063 Feb 06 01:33	28°♊35'24 19.43649 AU	opposition	14068 Sep 01 17:55	24°♊41'36	-0°12'12
morning rise	14063 Feb 22 23:45	29°♊38'07	min. Earth dist.	14068 Sep 02 01:53	24°♊40'44	17.37561 AU
	14063 Mar 01 01:37	0°♊	direct	14068 Nov 16 01:28	22°♊36'33	
retrograde	14063 May 27 11:52	3°♊02'01	evening set	14069 Feb 18 17:37	26°♊03'14	
opposition	14063 Aug 09 21:52	0°♊58'24 0°18'08				
min. Earth dist.	14063 Aug 10 05:36	0°♊57'34 17.42467 AU	conjunction	14069 Mar 07 06:34	27°♊04'51	-0°13'43
	14063 Sep 02 02:50	30°♊	minimum elong	14069 Mar 07 06:33	27°♊04'51	0°13'33
direct	14063 Oct 23 23:01	28°♊53'37	behind sun begin	14069 Mar 07 02:55	27°♊04'17	
	14063 Dec 13 09:17	0°♊	behind sun end	14069 Mar 07 10:11	27°♊05'24	
evening set	14064 Jan 25 23:06	2°♊18'20	max. Earth dist.	14069 Mar 06 21:51	27°♊03'30	19.37673 AU
			morning rise	14069 Mar 23 17:51	28°♊06'15	
conjunction	14064 Feb 11 13:01	3°♊19'50 0°13'34		14069 Apr 26 22:13	0°♊	
minimum elong	14064 Feb 11 13:01	3°♊19'50 0°14'09	retrograde	14069 Jun 24 15:27	1°♊30'05	
behind sun begin	14064 Feb 11 09:53	3°♊19'21		14069 Aug 24 22:48	30°♊	
behind sun end	14064 Feb 11 16:10	3°♊20'19	opposition	14069 Sep 06 17:39	29°♊26'59	-0°18'12
max. Earth dist.	14064 Feb 11 03:21	3°♊18'20 19.41422 AU	min. Earth dist.	14069 Sep 07 00:54	29°♊26'12	17.37900 AU
morning rise	14064 Feb 28 02:27	4°♊21'17	direct	14069 Nov 21 05:10	27°♊21'55	
retrograde	14064 May 31 12:57	7°♊45'22		14070 Feb 10 04:59	0°♊	
opposition	14064 Aug 13 20:31	5°♊41'48 0°12'10	evening set	14070 Feb 23 21:28	0°♊48'41	
min. Earth dist.	14064 Aug 14 03:59	5°♊40'59 17.40518 AU				
direct	14064 Oct 27 22:23	3°♊36'56	conjunction	14070 Mar 12 09:50	1°♊50'14	-0°19'02
evening set	14065 Jan 30 02:22	7°♊02'12	minimum elong	14070 Mar 12 09:50	1°♊50'14	0°18'57
			max. Earth dist.	14070 Mar 12 00:36	1°♊48'48	19.38223 AU
conjunction	14065 Feb 15 16:23	8°♊03'48 0°08'12	morning rise	14070 Mar 28 20:34	2°♊51'33	
minimum elong	14065 Feb 15 16:24	8°♊03'48 0°08'42	retrograde	14070 Jun 29 13:48	6°♊15'07	
behind sun begin	14065 Feb 15 10:34	8°♊02'55	opposition	14070 Sep 11 17:27	4°♊12'05	-0°24'04
behind sun end	14065 Feb 15 22:13	8°♊04'42	min. Earth dist.	14070 Sep 12 01:23	4°♊11'14	17.38677 AU
max. Earth dist.	14065 Feb 15 07:58	8°♊02'31 19.39738 AU	direct	14070 Nov 26 06:23	2°♊06'58	
morning rise	14065 Mar 04 05:24	9°♊05'18	evening set	14071 Mar 01 00:54	5°♊33'45	
retrograde	14065 Jun 05 14:05	12°♊29'28				
opposition	14065 Aug 18 19:22	10°♊26'00 0°06'07	conjunction	14071 Mar 17 12:50	6°♊35'12	-0°24'13
min. Earth dist.	14065 Aug 19 02:52	10°♊25'11 17.39084 AU	minimum elong	14071 Mar 17 12:50	6°♊35'12	0°24'14
direct	14065 Nov 01 22:31	8°♊21'05	max. Earth dist.	14071 Mar 17 04:13	6°♊33'51	19.39226 AU
evening set	14066 Feb 04 06:08	11°♊46'52	morning rise	14071 Apr 02 22:55	7°♊36'24	
			retrograde	14071 Jul 04 14:18	10°♊59'37	
conjunction	14066 Feb 20 19:49	12°♊48'30 0°02'46	opposition	14071 Sep 16 17:07	8°♊56'40	-0°29'47
minimum elong	14066 Feb 20 19:50	12°♊48'30 0°03'11	min. Earth dist.	14071 Sep 16 23:52	8°♊55'56	17.39901 AU
behind sun begin	14066 Feb 20 13:08	12°♊47'29	direct	14071 Dec 01 09:56	6°♊51'32	
behind sun end	14066 Feb 21 02:33	12°♊49'31	evening set	14072 Mar 05 03:56	10°♊18'12	
max. Earth dist.	14066 Feb 20 10:15	12°♊47'01 19.38553 AU				
morning rise	14066 Mar 09 08:40	13°♊50'01	conjunction	14072 Mar 21 15:18	11°♊19'32	-0°29'14
retrograde	14066 Jun 10 14:27	17°♊14'13	minimum elong	14072 Mar 21 15:18	11°♊19'31	0°29'19

max. Earth dist.	14072 Mar 21 06:57	11° Υ 18'14	19.40679 AU	evening set	14079 Apr 08 10:50	13° \mathcal{B} 01'17	
morning rise	14072 Apr 07 00:42	12° Υ 20'35					
retrograde	14072 Jul 08 12:30	15° Υ 43'24		conjunction	14079 Apr 24 17:01	14° \mathcal{B} 01'11	-0°56'48
opposition	14072 Sep 20 16:48	13° Υ 40'32	-0°35'16	minimum elong	14079 Apr 24 17:00	14° \mathcal{B} 01'11	0°57'27
min. Earth dist.	14072 Sep 21 00:11	13° Υ 39'44	17.41598 AU	max. Earth dist.	14079 Apr 24 13:26	14° \mathcal{B} 00'38	19.64944 AU
direct	14072 Dec 05 10:49	11° Υ 35'22		morning rise	14079 May 10 21:02	15° \mathcal{B} 00'47	
evening set	14073 Mar 10 06:40	15° Υ 01'51			14079 May 10 15:53	15° \mathcal{B}	
				retrograde	14079 Aug 10 19:37	18° \mathcal{B} 19'38	
conjunction	14073 Mar 26 17:25	16° Υ 03'02	-0°34'02	opposition	14079 Oct 24 07:11	16° \mathcal{B} 18'01	-1°04'46
minimum elong	14073 Mar 26 17:25	16° Υ 03'02	0°34'14	min. Earth dist.	14079 Oct 24 09:00	16° \mathcal{B} 17'49	17.67530 AU
max. Earth dist.	14073 Mar 26 09:26	16° Υ 01'47	19.42619 AU		14079 Nov 26 07:12	15° \mathcal{R} \mathcal{B}	
morning rise	14073 Apr 12 02:10	17° Υ 03'56		direct	14080 Jan 08 15:56	14° \mathcal{B} 13'56	
retrograde	14073 Jul 13 12:11	20° Υ 26'16			14080 Feb 20 00:02	15° \mathcal{B}	
opposition	14073 Sep 25 16:01	18° Υ 23'29	-0°40'30	evening set	14080 Apr 12 09:09	17° \mathcal{B} 37'05	
min. Earth dist.	14073 Sep 25 21:58	18° Υ 22'51	17.43781 AU				
direct	14073 Dec 10 13:20	16° Υ 18'20		conjunction	14080 Apr 28 14:43	18° \mathcal{B} 36'44	-0°59'22
evening set	14074 Mar 15 08:54	19° Υ 44'32		minimum elong	14080 Apr 28 14:42	18° \mathcal{B} 36'44	1°00'06
				max. Earth dist.	14080 Apr 28 12:54	18° \mathcal{B} 36'27	19.70140 AU
conjunction	14074 Mar 31 19:00	20° Υ 45'33	-0°38'36	morning rise	14080 May 14 17:48	19° \mathcal{B} 36'04	
minimum elong	14074 Mar 31 19:00	20° Υ 45'33	0°38'52	retrograde	14080 Aug 14 14:34	22° \mathcal{B} 54'14	
max. Earth dist.	14074 Mar 31 12:03	20° Υ 44'28	19.45051 AU	opposition	14080 Oct 28 04:38	20° \mathcal{B} 52'54	-1°07'24
morning rise	14074 Apr 17 02:54	21° Υ 46'16		min. Earth dist.	14080 Oct 28 06:29	20° \mathcal{B} 52'42	17.72849 AU
retrograde	14074 Jul 18 09:58	25° Υ 08'05		direct	14081 Jan 12 15:08	18° \mathcal{B} 49'07	
opposition	14074 Sep 30 15:23	23° Υ 05'25	-0°45'27	evening set	14081 Apr 17 07:00	22° \mathcal{B} 11'32	
min. Earth dist.	14074 Sep 30 21:40	23° Υ 04'44	17.46484 AU				
direct	14074 Dec 15 13:39	21° Υ 00'19		conjunction	14081 May 03 11:34	23° \mathcal{B} 10'54	-1°01'34
evening set	14075 Mar 20 10:26	24° Υ 26'08		minimum elong	14081 May 03 11:34	23° \mathcal{B} 10'54	1°02'21
				max. Earth dist.	14081 May 03 09:09	23° \mathcal{B} 10'32	19.75570 AU
conjunction	14075 Apr 05 19:44	25° Υ 26'58	-0°42'53	morning rise	14081 May 19 14:01	24° \mathcal{B} 09'58	
minimum elong	14075 Apr 05 19:44	25° Υ 26'58	0°43'15	retrograde	14081 Aug 19 09:47	27° \mathcal{B} 27'28	
max. Earth dist.	14075 Apr 05 13:05	25° Υ 25'56	19.48023 AU	opposition	14081 Nov 02 01:34	25° \mathcal{B} 26'22	-1°09'37
morning rise	14075 Apr 22 02:57	26° Υ 27'29		min. Earth dist.	14081 Nov 02 02:33	25° \mathcal{B} 26'16	17.78382 AU
retrograde	14075 Jul 23 08:43	29° Υ 48'46		direct	14082 Jan 17 14:29	23° \mathcal{B} 22'51	
opposition	14075 Oct 05 14:19	27° Υ 46'13	-0°50'04	evening set	14082 Apr 22 03:53	26° \mathcal{B} 44'30	
min. Earth dist.	14075 Oct 05 18:48	27° Υ 45'44	17.49727 AU				
direct	14075 Dec 20 15:26	25° Υ 41'13		conjunction	14082 May 08 07:50	27° \mathcal{B} 43'36	-1°03'22
evening set	14076 Mar 24 11:26	29° Υ 06'37		minimum elong	14082 May 08 07:50	27° \mathcal{B} 43'36	1°04'11
	14076 Apr 07 21:34	0° \mathcal{B}		max. Earth dist.	14082 May 08 07:03	27° \mathcal{B} 43'29	19.81180 AU
conjunction	14076 Apr 09 20:06	0° \mathcal{B} 07'15	-0°46'52	morning rise	14082 May 24 09:21	28° \mathcal{B} 42'23	
minimum elong	14076 Apr 09 20:06	0° \mathcal{B} 07'15	0°47'18		14082 Jun 16 05:04	0° \mathcal{I}	
max. Earth dist.	14076 Apr 09 15:05	0° \mathcal{B} 06'28	19.51530 AU	retrograde	14082 Aug 24 03:20	1° \mathcal{I} 59'10	
morning rise	14076 Apr 26 02:23	1° \mathcal{B} 07'33		opposition	14082 Nov 06 22:13	29° \mathcal{B} 58'20	-1°11'22
retrograde	14076 Jul 27 05:25	4° \mathcal{B} 28'14			14082 Nov 06 06:22	30° \mathcal{R} \mathcal{B}	
opposition	14076 Oct 09 12:59	2° \mathcal{B} 25'53	-0°54'19	min. Earth dist.	14082 Nov 06 22:56	29° \mathcal{B} 58'15	17.84057 AU
min. Earth dist.	14076 Oct 09 17:38	2° \mathcal{B} 25'23	17.53503 AU	direct	14083 Jan 22 13:16	27° \mathcal{B} 55'05	
direct	14076 Dec 24 15:15	0° \mathcal{B} 21'04			14083 Apr 04 15:21	0° \mathcal{I}	
evening set	14077 Mar 29 11:57	3° \mathcal{B} 45'59		evening set	14083 Apr 26 23:56	1° \mathcal{I} 15'53	
conjunction	14077 Apr 14 19:45	4° \mathcal{B} 46'23	-0°50'32	conjunction	14083 May 13 02:57	2° \mathcal{I} 14'42	-1°04'45
minimum elong	14077 Apr 14 19:45	4° \mathcal{B} 46'23	0°51'02	minimum elong	14083 May 13 02:57	2° \mathcal{I} 14'42	1°05'39
max. Earth dist.	14077 Apr 14 14:38	4° \mathcal{B} 45'35	19.55567 AU	max. Earth dist.	14083 May 13 01:38	2° \mathcal{I} 14'30	19.86915 AU
morning rise	14077 May 01 01:24	5° \mathcal{B} 46'28		morning rise	14083 May 29 03:55	3° \mathcal{I} 13'14	
retrograde	14077 Aug 01 03:10	9° \mathcal{B} 06'34		retrograde	14083 Aug 28 20:58	6° \mathcal{I} 29'17	
opposition	14077 Oct 14 11:20	7° \mathcal{B} 04'26	-0°58'12	opposition	14083 Nov 11 18:17	4° \mathcal{I} 28'39	-1°12'41
min. Earth dist.	14077 Oct 14 14:20	7° \mathcal{B} 04'07	17.57778 AU	min. Earth dist.	14083 Nov 11 18:26	4° \mathcal{I} 28'38	17.89848 AU
direct	14077 Dec 29 16:13	4° \mathcal{B} 59'49		direct	14084 Jan 27 11:03	2° \mathcal{I} 25'40	
evening set	14078 Apr 03 11:39	8° \mathcal{B} 24'13		evening set	14084 Apr 30 19:06	5° \mathcal{I} 45'36	
conjunction	14078 Apr 19 18:47	9° \mathcal{B} 24'23	-0°53'51	conjunction	14084 May 16 21:33	6° \mathcal{I} 44'08	-1°05'45
minimum elong	14078 Apr 19 18:46	9° \mathcal{B} 24'23	0°54'26	minimum elong	14084 May 16 21:33	6° \mathcal{I} 44'08	1°06'40
max. Earth dist.	14078 Apr 19 15:32	9° \mathcal{B} 23'53	19.60058 AU	max. Earth dist.	14084 May 16 21:41	6° \mathcal{I} 44'10	19.92742 AU
morning rise	14078 May 05 23:26	10° \mathcal{B} 24'13		morning rise	14084 Jun 01 21:42	7° \mathcal{I} 42'23	
retrograde	14078 Aug 05 23:04	13° \mathcal{B} 43'42		retrograde	14084 Sep 01 13:18	10° \mathcal{I} 57'40	
opposition	14078 Oct 19 09:29	11° \mathcal{B} 41'50	-1°01'41	opposition	14084 Nov 15 13:38	8° \mathcal{I} 57'16	-1°13'33
min. Earth dist.	14078 Oct 19 12:34	11° \mathcal{B} 41'30	17.62472 AU	min. Earth dist.	14084 Nov 15 13:19	8° \mathcal{I} 57'18	17.95697 AU
direct	14079 Jan 03 15:46	9° \mathcal{B} 37'30		direct	14085 Jan 31 08:47	6° \mathcal{I} 54'31	
				evening set	14085 May 05 13:32	10° \mathcal{I} 13'32	

conjunction	14085 May 21 15:07	11° Π 11'47	-1°06'21	retrograde	14091 Oct 02 17:32	11° \mathfrak{C} 25'11	
minimum elong	14085 May 21 15:07	11° Π 11'47	1°07'19	opposition	14091 Dec 17 13:09	9° \mathfrak{C} 26'02	-1°07'34
max. Earth dist.	14085 May 21 14:51	11° Π 11'45	19.98623 AU	min. Earth dist.	14091 Dec 17 08:12	9° \mathfrak{C} 26'33	18.38540 AU
morning rise	14085 Jun 06 14:45	12° Π 09'46		direct	14092 Mar 03 13:10	7° \mathfrak{C} 25'13	
retrograde	14085 Sep 06 05:10	15° Π 24'17		evening set	14092 Jun 04 19:43	10° \mathfrak{C} 37'25	
opposition	14085 Nov 20 08:35	13° Π 24'03	-1°13'58				
min. Earth dist.	14085 Nov 20 07:56	13° Π 24'07	18.01613 AU	conjunction	14092 Jun 20 17:25	11° \mathfrak{C} 33'48	-0°59'48
direct	14086 Feb 05 04:17	11° Π 21'32		minimum elong	14092 Jun 20 17:25	11° \mathfrak{C} 33'48	1°00'51
evening set	14086 May 10 06:41	14° Π 39'35		max. Earth dist.	14092 Jun 20 23:17	11° \mathfrak{C} 34'41	20.41626 AU
				morning rise	14092 Jul 06 13:46	12° \mathfrak{C} 30'01	
conjunction	14086 May 26 07:43	15° Π 37'34	-1°06'32	retrograde	14092 Oct 06 06:05	15° \mathfrak{C} 39'34	
minimum elong	14086 May 26 07:43	15° Π 37'34	1°07'32	opposition	14092 Dec 21 03:45	13° \mathfrak{C} 40'39	-1°05'09
max. Earth dist.	14086 May 26 09:00	15° Π 37'45	20.04566 AU	min. Earth dist.	14092 Dec 20 21:24	13° \mathfrak{C} 41'18	18.44710 AU
morning rise	14086 Jun 11 06:39	16° Π 35'15		direct	14093 Mar 08 05:39	11° \mathfrak{C} 40'10	
retrograde	14086 Sep 10 20:49	19° Π 49'01		evening set	14093 Jun 09 07:14	14° \mathfrak{C} 51'27	
opposition	14086 Nov 25 02:53	17° Π 48'56	-1°13'57				
min. Earth dist.	14086 Nov 25 01:14	17° Π 49'06	18.07578 AU	conjunction	14093 Jun 25 04:28	15° \mathfrak{C} 47'36	-0°57'29
direct	14087 Feb 10 01:00	15° Π 46'40		minimum elong	14093 Jun 25 04:28	15° \mathfrak{C} 47'37	0°58'32
evening set	14087 May 14 23:07	19° Π 03'43		max. Earth dist.	14093 Jun 25 10:45	15° \mathfrak{C} 48'32	20.47728 AU
				morning rise	14093 Jul 11 00:33	16° \mathfrak{C} 43'36	
conjunction	14087 May 30 23:22	20° Π 01'24	-1°06'20	retrograde	14093 Oct 10 17:31	19° \mathfrak{C} 52'34	
minimum elong	14087 May 30 23:22	20° Π 01'24	1°07'21	opposition	14093 Dec 25 18:12	17° \mathfrak{C} 53'51	-1°02'24
max. Earth dist.	14087 May 31 00:45	20° Π 01'37	20.10569 AU	min. Earth dist.	14093 Dec 25 12:16	17° \mathfrak{C} 54'27	18.50734 AU
morning rise	14087 Jun 15 21:50	20° Π 58'51		direct	14094 Mar 12 19:07	15° \mathfrak{C} 53'42	
retrograde	14087 Sep 15 11:02	24° Π 11'50		evening set	14094 Jun 13 17:54	19° \mathfrak{C} 04'04	
opposition	14087 Nov 29 20:28	22° Π 11'54	-1°13'29				
min. Earth dist.	14087 Nov 29 18:34	22° Π 12'06	18.13635 AU	conjunction	14094 Jun 29 14:47	20° \mathfrak{C} 00'00	-0°54'53
direct	14088 Feb 14 18:03	20° Π 09'51		minimum elong	14094 Jun 29 14:48	20° \mathfrak{C} 00'00	0°55'54
evening set	14088 May 18 14:28	23° Π 25'55		max. Earth dist.	14094 Jun 29 21:35	20° \mathfrak{C} 01'00	20.53653 AU
				morning rise	14094 Jul 15 10:40	20° \mathfrak{C} 55'47	
conjunction	14088 Jun 03 14:14	24° Π 23'20	-1°05'45	retrograde	14094 Oct 15 05:16	24° \mathfrak{C} 04'12	
minimum elong	14088 Jun 03 14:14	24° Π 23'20	1°06'48	opposition	14094 Dec 30 07:58	22° \mathfrak{C} 05'40	-0°59'21
max. Earth dist.	14088 Jun 03 17:06	24° Π 23'46	20.16669 AU	min. Earth dist.	14094 Dec 30 00:43	22° \mathfrak{C} 06'24	18.56531 AU
morning rise	14088 Jun 19 12:08	25° Π 20'30		direct	14095 Mar 17 10:06	20° \mathfrak{C} 05'49	
retrograde	14088 Sep 19 02:02	28° Π 32'44		evening set	14095 Jun 18 04:06	23° \mathfrak{C} 15'19	
opposition	14088 Dec 03 13:27	26° Π 32'59	-1°12'37				
min. Earth dist.	14088 Dec 03 10:10	26° Π 33'19	18.19770 AU	conjunction	14095 Jul 04 00:39	24° \mathfrak{C} 11'02	-0°52'00
direct	14089 Feb 18 13:21	24° Π 31'12		minimum elong	14095 Jul 04 00:39	24° \mathfrak{C} 11'02	0°53'01
evening set	14089 May 23 05:05	27° Π 46'17		max. Earth dist.	14095 Jul 04 07:45	24° \mathfrak{C} 12'04	20.59310 AU
				morning rise	14095 Jul 19 20:21	25° \mathfrak{C} 06'38	
conjunction	14089 Jun 08 04:08	28° Π 43'25	-1°04'48	retrograde	14095 Oct 19 15:12	28° \mathfrak{C} 14'31	
minimum elong	14089 Jun 08 04:08	28° Π 43'25	1°05'50	opposition	14096 Jan 03 21:15	26° \mathfrak{C} 16'07	-0°55'59
max. Earth dist.	14089 Jun 08 07:24	28° Π 43'55	20.22848 AU	min. Earth dist.	14096 Jan 03 14:49	26° \mathfrak{C} 16'47	18.62045 AU
morning rise	14089 Jun 24 01:36	29° Π 40'21		direct	14096 Mar 20 22:37	24° \mathfrak{C} 16'34	
	14089 Jun 29 17:00	0° \mathfrak{C}		evening set	14096 Jun 21 13:41	27° \mathfrak{C} 25'12	
retrograde	14089 Sep 23 15:06	2° \mathfrak{C} 51'52					
opposition	14089 Dec 08 05:58	0° \mathfrak{C} 52'18	-1°11'19	conjunction	14096 Jul 07 09:59	28° \mathfrak{C} 20'43	-0°48'52
min. Earth dist.	14089 Dec 08 02:27	0° \mathfrak{C} 52'39	18.26000 AU	minimum elong	14096 Jul 07 09:59	28° \mathfrak{C} 20'43	0°49'50
	14089 Dec 30 01:19	30° \mathfrak{R} Π		max. Earth dist.	14096 Jul 07 17:06	28° \mathfrak{C} 21'46	20.64663 AU
direct	14090 Feb 23 05:01	28° Π 50'48		morning rise	14096 Jul 23 05:34	29° \mathfrak{C} 16'09	
	14090 Apr 17 06:35	0° \mathfrak{C}			14096 Aug 05 07:56	0° \mathfrak{Q}	
evening set	14090 May 27 18:44	2° \mathfrak{C} 04'55		retrograde	14096 Oct 23 02:25	2° \mathfrak{Q} 23'32	
				opposition	14097 Jan 07 10:04	0° \mathfrak{Q} 25'16	-0°52'21
conjunction	14090 Jun 12 17:21	3° \mathfrak{C} 01'48	-1°03'28	min. Earth dist.	14097 Jan 07 02:27	0° \mathfrak{Q} 26'03	18.67210 AU
minimum elong	14090 Jun 12 17:21	3° \mathfrak{C} 01'48	1°04'32		14097 Jan 17 21:52	30° \mathfrak{R} \mathfrak{C}	
max. Earth dist.	14090 Jun 12 21:53	3° \mathfrak{C} 02'28	20.29114 AU	direct	14097 Mar 25 12:14	28° \mathfrak{C} 25'58	
morning rise	14090 Jun 28 14:21	3° \mathfrak{C} 58'28			14097 May 27 06:24	0° \mathfrak{Q}	
retrograde	14090 Sep 28 05:05	7° \mathfrak{C} 09'18		evening set	14097 Jun 25 22:38	1° \mathfrak{Q} 33'47	
opposition	14090 Dec 12 21:46	5° \mathfrak{C} 09'56	-1°09'38				
min. Earth dist.	14090 Dec 12 16:41	5° \mathfrak{C} 10'28	18.32273 AU	conjunction	14097 Jul 11 18:40	2° \mathfrak{Q} 29'06	-0°45'29
direct	14091 Feb 27 22:43	3° \mathfrak{C} 08'47		minimum elong	14097 Jul 11 18:40	2° \mathfrak{Q} 29'06	0°46'26
evening set	14091 Jun 01 07:34	6° \mathfrak{C} 21'55		max. Earth dist.	14097 Jul 12 02:03	2° \mathfrak{Q} 30'11	20.69634 AU
				morning rise	14097 Jul 27 14:08	3° \mathfrak{Q} 24'22	
conjunction	14091 Jun 17 05:39	7° \mathfrak{C} 18'34	-1°01'48	retrograde	14097 Oct 27 11:08	6° \mathfrak{Q} 31'17	
minimum elong	14091 Jun 17 05:39	7° \mathfrak{C} 18'34	1°02'51	opposition	14098 Jan 11 22:35	4° \mathfrak{Q} 33'07	-0°48'28
max. Earth dist.	14091 Jun 17 10:41	7° \mathfrak{C} 19'19	20.35391 AU	min. Earth dist.	14098 Jan 11 15:52	4° \mathfrak{Q} 33'48	18.71992 AU
morning rise	14091 Jul 03 02:21	8° \mathfrak{C} 15'00		direct	14098 Mar 29 23:47	2° \mathfrak{Q} 34'03	

evening set	14098 Jun 30 07:01	5°Ω41'02	
conjunction	14098 Jul 16 02:52	6°Ω36'11	-0°41'53
minimum elong	14098 Jul 16 02:52	6°Ω36'12	0°42'48
max. Earth dist.	14098 Jul 16 10:08	6°Ω37'15	20.74226 AU
morning rise	14098 Jul 31 22:21	7°Ω31'18	
retrograde	14098 Oct 31 21:44	10°Ω37'47	
opposition	14099 Jan 16 10:20	8°Ω39'40	-0°44'22
min. Earth dist.	14099 Jan 16 02:29	8°Ω40'27	18.76378 AU
direct	14099 Apr 03 12:18	6°Ω40'46	
evening set	14099 Jul 04 14:44	9°Ω46'59	
conjunction	14099 Jul 20 10:30	10°Ω41'59	-0°38'05
minimum elong	14099 Jul 20 10:30	10°Ω41'59	0°38'58
max. Earth dist.	14099 Jul 20 18:09	10°Ω43'06	20.78415 AU
morning rise	14099 Aug 05 05:59	11°Ω36'57	
retrograde	14099 Nov 05 05:10	14°Ω43'02	
opposition	14100 Jan 20 21:46	12°Ω44'56	-0°40'02
min. Earth dist.	14100 Jan 20 14:50	12°Ω45'38	18.80381 AU
direct	14100 Apr 07 22:26	10°Ω46'13	
evening set	14100 Jul 08 21:56	13°Ω51'41	
conjunction	14100 Jul 24 17:33	14°Ω46'32	-0°34'07
minimum elong	14100 Jul 24 17:33	14°Ω46'32	0°34'56
max. Earth dist.	14100 Jul 25 01:11	14°Ω47'38	20.82247 AU
	14100 Jul 28 14:03	15°Ω	
morning rise	14100 Aug 09 13:07	15°Ω41'22	
retrograde	14100 Nov 09 14:58	18°Ω47'05	
opposition	14101 Jan 25 08:31	16°Ω49'00	-0°35'32
min. Earth dist.	14101 Jan 25 00:17	16°Ω49'50	18.84042 AU
	14101 Mar 23 14:33	15°♄Ω	
direct	14101 Apr 12 09:52	14°Ω50'26	
	14101 May 01 20:31	15°Ω	
evening set	14101 Jul 13 04:37	17°Ω55'13	
conjunction	14101 Jul 29 00:11	18°Ω49'56	-0°29'59
minimum elong	14101 Jul 29 00:11	18°Ω49'56	0°30'45
max. Earth dist.	14101 Jul 29 08:32	18°Ω51'09	20.85750 AU
morning rise	14101 Aug 13 19:46	19°Ω44'40	
retrograde	14101 Nov 13 21:30	22°Ω50'05	