

direct	16100 Feb 21 09:55	0°☾32'36	conjunction	16106 Jul 09 05:07	1°♊29'53 -1°04'12
evening set	16100 May 26 19:31	3°☾54'01	minimum elong	16106 Jul 09 05:07	1°♊29'53 1°04'53
			max. Earth dist.	16106 Jul 09 09:38	1°♊30'34 20.18533 AU
conjunction	16100 Jun 11 23:06	4°☾53'06 -1°11'35	morning rise	16106 Jul 25 03:52	2°♊27'03
minimum elong	16100 Jun 11 23:06	4°☾53'06 1°12'19	retrograde	16106 Oct 24 20:56	5°♊39'09
max. Earth dist.	16100 Jun 11 23:33	4°☾53'10 19.81346 AU	opposition	16107 Jan 08 10:09	3°♊39'18 -1°09'56
morning rise	16100 Jun 28 00:53	5°☾51'54	min. Earth dist.	16107 Jan 08 04:51	3°♊39'51 18.21842 AU
retrograde	16100 Sep 28 00:14	9°☾09'01	direct	16107 Mar 26 06:28	1°♊37'34
opposition	16100 Dec 11 20:34	7°☾08'07 -1°19'38	evening set	16107 Jun 27 19:11	4°♊52'02
min. Earth dist.	16100 Dec 11 18:45	7°☾08'18 17.84332 AU			
direct	16101 Feb 26 09:27	5°☾04'59	conjunction	16107 Jul 13 19:03	5°♊49'09 -1°01'37
evening set	16101 May 31 15:31	8°☾25'31	minimum elong	16107 Jul 13 19:04	5°♊49'09 1°02'16
			max. Earth dist.	16107 Jul 14 01:22	5°♊50'06 20.25118 AU
conjunction	16101 Jun 16 18:36	9°☾24'18 -1°11'23	morning rise	16107 Jul 29 17:18	6°♊46'04
minimum elong	16101 Jun 16 18:36	9°☾24'18 1°12'09	retrograde	16107 Oct 29 10:23	9°♊57'24
max. Earth dist.	16101 Jun 16 20:34	9°☾24'37 19.87276 AU	opposition	16108 Jan 13 02:07	7°♊57'46 -1°06'52
morning rise	16101 Jul 02 19:36	10°☾22'50	min. Earth dist.	16108 Jan 12 20:12	7°♊58'23 18.28432 AU
retrograde	16101 Oct 02 16:27	13°☾39'07	direct	16108 Mar 30 00:02	5°♊56'23
opposition	16101 Dec 16 16:38	11°☾38'24 -1°19'10	evening set	16108 Jul 01 08:49	9°♊09'52
min. Earth dist.	16101 Dec 16 15:05	11°☾38'34 17.90308 AU			
direct	16102 Mar 03 06:59	9°☾35'30	conjunction	16108 Jul 17 08:04	10°♊06'43 -0°58'43
evening set	16102 Jun 05 10:31	12°☾55'02	minimum elong	16108 Jul 17 08:04	10°♊06'43 0°59'20
			max. Earth dist.	16108 Jul 17 14:00	10°♊07'36 20.31716 AU
conjunction	16102 Jun 21 12:51	13°☾53'32 -1°10'46	morning rise	16108 Aug 02 06:07	11°♊03'23
minimum elong	16102 Jun 21 12:51	13°☾53'32 1°11'30	retrograde	16108 Nov 01 23:27	14°♊14'00
max. Earth dist.	16102 Jun 21 14:18	13°☾53'46 19.93308 AU	opposition	16109 Jan 16 17:28	12°♊14'37 -1°03'27
morning rise	16102 Jul 07 13:28	14°☾51'47	min. Earth dist.	16109 Jan 16 11:06	12°♊15'16 18.35019 AU
retrograde	16102 Oct 07 09:43	18°☾07'14	direct	16109 Apr 03 15:00	10°♊13'34
opposition	16102 Dec 21 11:52	16°☾06'40 -1°18'12	evening set	16109 Jul 05 21:30	13°♊26'06
min. Earth dist.	16102 Dec 21 09:11	16°☾06'57 17.96389 AU			
direct	16103 Mar 08 04:15	14°☾03'57	conjunction	16109 Jul 21 20:30	14°♊22'42 -0°55'30
evening set	16103 Jun 10 04:30	17°☾22'30	minimum elong	16109 Jul 21 20:30	14°♊22'42 0°56'05
			max. Earth dist.	16109 Jul 22 03:55	14°♊23'48 20.38273 AU
conjunction	16103 Jun 26 06:25	18°☾20'43 -1°09'44		16109 Aug 01 07:31	15°♊
minimum elong	16103 Jun 26 06:25	18°☾20'43 1°10'28	morning rise	16109 Aug 06 18:07	15°♊19'08
max. Earth dist.	16103 Jun 26 09:39	18°☾21'13 19.99437 AU	retrograde	16109 Nov 06 11:57	18°♊29'03
morning rise	16103 Jul 12 06:22	19°☾18'41	opposition	16110 Jan 21 08:19	16°♊29'55 -0°59'42
retrograde	16103 Oct 12 00:49	22°☾33'15	min. Earth dist.	16110 Jan 21 01:18	16°♊30'38 18.41514 AU
opposition	16103 Dec 26 06:22	20°☾32'51 -1°16'47		16110 Mar 03 13:03	15°♊♊
min. Earth dist.	16103 Dec 26 03:39	20°☾33'08 18.02565 AU	direct	16110 Apr 08 07:01	14°♊29'13
direct	16104 Mar 12 00:17	18°☾30'21		16110 May 13 06:30	15°♊
evening set	16104 Jun 13 21:43	21°☾47'52	evening set	16110 Jul 10 09:28	17°♊40'47
conjunction	16104 Jun 29 22:54	22°☾45'48 -1°08'16	conjunction	16110 Jul 26 07:58	18°♊37'09 -0°52'00
minimum elong	16104 Jun 29 22:54	22°☾45'48 1°08'59	minimum elong	16110 Jul 26 07:58	18°♊37'09 0°52'34
max. Earth dist.	16104 Jun 30 01:43	22°☾46'13 20.05677 AU	max. Earth dist.	16110 Jul 26 14:55	18°♊38'11 20.44704 AU
morning rise	16104 Jul 15 22:32	23°☾43'30	morning rise	16110 Aug 11 05:29	19°♊33'21
retrograde	16104 Oct 15 16:25	26°☾57'13	retrograde	16110 Nov 11 00:13	22°♊42'38
opposition	16104 Dec 30 00:17	24°☾56'58 -1°14'56	opposition	16111 Jan 25 22:37	20°♊43'42 -0°55'39
min. Earth dist.	16104 Dec 29 20:28	24°☾57'22 18.08871 AU	min. Earth dist.	16111 Jan 25 15:36	20°♊44'26 18.47865 AU
direct	16105 Mar 16 19:05	22°☾54'40	direct	16111 Apr 12 20:44	18°♊43'20
evening set	16105 Jun 18 13:42	26°☾11'10	evening set	16111 Jul 14 20:44	21°♊54'00
conjunction	16105 Jul 04 14:30	27°☾08'49 -1°06'25	conjunction	16111 Jul 30 19:02	22°♊50'07 -0°48'15
minimum elong	16105 Jul 04 14:30	27°☾08'49 1°07'07	minimum elong	16111 Jul 30 19:03	22°♊50'08 0°48'45
max. Earth dist.	16105 Jul 04 19:16	27°☾09'33 20.12042 AU	max. Earth dist.	16111 Jul 31 03:02	22°♊51'18 20.50950 AU
morning rise	16105 Jul 20 13:29	28°☾06'14	morning rise	16111 Aug 15 16:13	23°♊46'07
	16105 Aug 25 09:34	0°♊	retrograde	16111 Nov 15 11:27	26°♊54'46
retrograde	16105 Oct 20 06:43	1°♊19'08	opposition	16112 Jan 30 12:11	24°♊56'03 -0°51'20
	16105 Dec 17 23:51	30°♊☾	min. Earth dist.	16112 Jan 30 04:37	24°♊56'49 18.53979 AU
opposition	16106 Jan 03 17:36	29°☾19'04 -1°12'38	direct	16112 Apr 16 11:28	22°♊56'01
min. Earth dist.	16106 Jan 03 13:13	29°☾19'31 18.15294 AU	evening set	16112 Jul 18 07:31	26°♊05'46
direct	16106 Mar 21 14:00	27°☾17'03			
	16106 Jun 13 19:09	0°♊	conjunction	16112 Aug 03 05:22	27°♊01'40 -0°44'16
evening set	16106 Jun 23 05:00	0°♊32'31	minimum elong	16112 Aug 03 05:22	27°♊01'40 0°44'44

max. Earth dist.	16112 Aug 03 12:40	27° $\Omega$ 02'45	20.56931 AU	min. Earth dist.	16119 Feb 28 13:36	23° $\mathbb{N}$ 43'58	18.87581 AU
morning rise	16112 Aug 19 02:28	27° $\Omega$ 57'27		direct	16119 May 16 20:35	21° $\mathbb{N}$ 44'38	
	16112 Sep 28 12:39	0° $\mathbb{N}$		evening set	16119 Aug 16 15:55	24° $\mathbb{N}$ 48'49	
retrograde	16112 Nov 18 22:48	1° $\mathbb{N}$ 05'31					
	16113 Jan 11 12:52	30° $\mathbb{R}$ $\Omega$		conjunction	16119 Sep 01 12:41	25° $\mathbb{N}$ 43'30	-0°11'49
opposition	16113 Feb 03 01:28	29° $\Omega$ 06'58	-0°46'46	minimum elong	16119 Sep 01 12:41	25° $\mathbb{N}$ 43'30	0°11'57
min. Earth dist.	16113 Feb 02 18:15	29° $\Omega$ 07'42	18.59820 AU	behind sun begin	16119 Sep 01 08:06	25° $\mathbb{N}$ 42'51	
direct	16113 Apr 21 00:08	27° $\Omega$ 07'13		behind sun end	16119 Sep 01 17:15	25° $\mathbb{N}$ 44'08	
	16113 Jul 18 00:07	0° $\mathbb{N}$		max. Earth dist.	16119 Sep 01 21:30	25° $\mathbb{N}$ 44'45	20.89399 AU
evening set	16113 Jul 22 17:20	0° $\mathbb{N}$ 16'06		morning rise	16119 Sep 17 09:24	26° $\mathbb{N}$ 38'12	
				retrograde	16119 Dec 18 11:26	29° $\mathbb{N}$ 43'02	
conjunction	16113 Aug 07 15:02	1° $\mathbb{N}$ 11'47	-0°40'04	opposition	16120 Mar 04 06:46	27° $\mathbb{N}$ 44'56	-0°10'17
minimum elong	16113 Aug 07 15:02	1° $\mathbb{N}$ 11'48	0°40'29	min. Earth dist.	16120 Mar 03 21:58	27° $\mathbb{N}$ 45'49	18.91144 AU
max. Earth dist.	16113 Aug 07 23:08	1° $\mathbb{N}$ 12'59	20.62609 AU	direct	16120 May 20 06:39	25° $\mathbb{N}$ 46'34	
morning rise	16113 Aug 23 11:52	2° $\mathbb{N}$ 07'23		evening set	16120 Aug 19 22:01	28° $\mathbb{N}$ 50'08	
retrograde	16113 Nov 23 08:59	5° $\mathbb{N}$ 14'53					
opposition	16114 Feb 07 14:08	3° $\mathbb{N}$ 16'29	-0°42'00	conjunction	16120 Sep 04 18:36	29° $\mathbb{N}$ 44'42	-0°06'51
min. Earth dist.	16114 Feb 07 06:16	3° $\mathbb{N}$ 17'17	18.65314 AU	minimum elong	16120 Sep 04 18:36	29° $\mathbb{N}$ 44'42	0°06'56
direct	16114 Apr 25 13:51	1° $\mathbb{N}$ 17'00		behind sun begin	16120 Sep 04 12:29	29° $\mathbb{N}$ 43'51	
evening set	16114 Jul 27 02:46	4° $\mathbb{N}$ 25'01		behind sun end	16120 Sep 05 00:43	29° $\mathbb{N}$ 45'34	
				max. Earth dist.	16120 Sep 05 03:10	29° $\mathbb{N}$ 45'55	20.92819 AU
conjunction	16114 Aug 12 00:06	5° $\mathbb{N}$ 20'30	-0°35'41		16120 Sep 09 04:30	0° $\Omega$	
minimum elong	16114 Aug 12 00:07	5° $\mathbb{N}$ 20'30	0°36'03	morning rise	16120 Sep 20 15:27	0° $\Omega$ 39'19	
max. Earth dist.	16114 Aug 12 07:28	5° $\mathbb{N}$ 21'35	20.67925 AU	retrograde	16120 Dec 21 17:39	3° $\Omega$ 43'54	
morning rise	16114 Aug 27 20:57	6° $\mathbb{N}$ 15'55		opposition	16121 Mar 08 16:11	1° $\Omega$ 45'51	-0°04'45
retrograde	16114 Nov 27 18:33	9° $\mathbb{N}$ 22'53		min. Earth dist.	16121 Mar 08 08:02	1° $\Omega$ 46'41	18.94426 AU
opposition	16115 Feb 12 02:11	7° $\mathbb{N}$ 24'35	-0°37'02		16121 May 02 02:12	30° $\mathbb{R}$ $\mathbb{N}$	
min. Earth dist.	16115 Feb 11 19:00	7° $\mathbb{N}$ 25'18	18.70453 AU	direct	16121 May 24 13:51	29° $\mathbb{N}$ 47'40	
direct	16115 Apr 30 01:37	5° $\mathbb{N}$ 25'19			16121 Jun 15 17:29	0° $\Omega$	
evening set	16115 Jul 31 11:21	8° $\mathbb{N}$ 32'29		evening set	16121 Aug 24 03:33	2° $\Omega$ 50'43	
conjunction	16115 Aug 16 08:40	9° $\mathbb{N}$ 27'48	-0°31'08	conjunction	16121 Sep 09 00:13	3° $\Omega$ 45'11	-0°01'51
minimum elong	16115 Aug 16 08:40	9° $\mathbb{N}$ 27'48	0°31'28	minimum elong	16121 Sep 09 00:12	3° $\Omega$ 45'10	0°01'52
max. Earth dist.	16115 Aug 16 16:38	9° $\mathbb{N}$ 28'57	20.72878 AU	behind sun begin	16121 Sep 08 17:38	3° $\Omega$ 44'15	
morning rise	16115 Sep 01 05:22	10° $\mathbb{N}$ 23'02		behind sun end	16121 Sep 09 06:47	3° $\Omega$ 46'06	
retrograde	16115 Dec 02 04:01	13° $\mathbb{N}$ 29'29		max. Earth dist.	16121 Sep 09 09:24	3° $\Omega$ 46'29	20.95949 AU
opposition	16116 Feb 16 13:40	11° $\mathbb{N}$ 31'15	-0°31'54	morning rise	16121 Sep 24 21:06	4° $\Omega$ 39'42	
min. Earth dist.	16116 Feb 16 05:47	11° $\mathbb{N}$ 32'03	18.75207 AU	retrograde	16121 Dec 26 01:54	7° $\Omega$ 44'05	
direct	16116 May 03 14:09	9° $\mathbb{N}$ 32'11		asc. node	16122 Jan 20 21:57	7° $\Omega$ 28'00	
evening set	16116 Aug 03 19:23	12° $\mathbb{N}$ 38'32		opposition	16122 Mar 13 01:08	5° $\Omega$ 46'07	0°00'48
				min. Earth dist.	16122 Mar 12 15:57	5° $\Omega$ 47'02	18.97380 AU
conjunction	16116 Aug 19 16:23	13° $\mathbb{N}$ 33'39	-0°26'27	direct	16122 May 28 22:41	3° $\Omega$ 48'07	
minimum elong	16116 Aug 19 16:23	13° $\mathbb{N}$ 33'39	0°26'43	evening set	16122 Aug 28 09:06	6° $\Omega$ 50'41	
max. Earth dist.	16116 Aug 19 23:53	13° $\mathbb{N}$ 34'44	20.77455 AU				
morning rise	16116 Sep 04 13:08	14° $\mathbb{N}$ 28'45		conjunction	16122 Sep 13 05:40	7° $\Omega$ 45'04	0°03'17
retrograde	16116 Dec 05 11:37	17° $\mathbb{N}$ 34'43		minimum elong	16122 Sep 13 05:39	7° $\Omega$ 45'04	0°03'18
opposition	16117 Feb 20 00:46	15° $\mathbb{N}$ 36'31	-0°26'38	behind sun begin	16122 Sep 12 23:07	7° $\Omega$ 44'09	
min. Earth dist.	16117 Feb 19 17:31	15° $\mathbb{N}$ 37'15	18.79625 AU	behind sun end	16122 Sep 13 12:12	7° $\Omega$ 45'59	
direct	16117 May 08 00:41	13° $\mathbb{N}$ 37'37		max. Earth dist.	16122 Sep 13 14:26	7° $\Omega$ 46'18	20.98724 AU
evening set	16117 Aug 08 02:43	16° $\mathbb{N}$ 43'11		morning rise	16122 Sep 29 02:46	8° $\Omega$ 39'31	
				retrograde	16122 Dec 30 08:17	11° $\Omega$ 43'46	
conjunction	16117 Aug 23 23:41	17° $\mathbb{N}$ 38'09	-0°21'39	opposition	16123 Mar 17 09:50	9° $\Omega$ 45'51	0°06'19
minimum elong	16117 Aug 23 23:41	17° $\mathbb{N}$ 38'09	0°21'53	min. Earth dist.	16123 Mar 17 01:39	9° $\Omega$ 46'40	18.99976 AU
max. Earth dist.	16117 Aug 24 08:01	17° $\mathbb{N}$ 39'21	20.81720 AU	direct	16123 Jun 02 05:04	7° $\Omega$ 48'02	
morning rise	16117 Sep 08 20:20	18° $\mathbb{N}$ 33'05		evening set	16123 Sep 01 14:23	10° $\Omega$ 50'12	
retrograde	16117 Dec 09 20:35	21° $\mathbb{N}$ 38'37					
opposition	16118 Feb 24 11:13	19° $\mathbb{N}$ 40'27	-0°21'15	conjunction	16123 Sep 17 11:04	11° $\Omega$ 44'30	0°08'14
min. Earth dist.	16118 Feb 24 02:56	19° $\mathbb{N}$ 41'17	18.83738 AU	minimum elong	16123 Sep 17 11:04	11° $\Omega$ 44'30	0°08'19
direct	16118 May 12 12:02	17° $\mathbb{N}$ 41'43		behind sun begin	16123 Sep 17 05:15	11° $\Omega$ 43'41	
evening set	16118 Aug 12 09:33	20° $\mathbb{N}$ 46'33		behind sun end	16123 Sep 17 16:52	11° $\Omega$ 45'19	
				max. Earth dist.	16123 Sep 17 20:07	11° $\Omega$ 45'47	21.01122 AU
conjunction	16118 Aug 28 06:18	21° $\mathbb{N}$ 41'22	-0°16'46	morning rise	16123 Oct 03 08:15	12° $\Omega$ 38'55	
minimum elong	16118 Aug 28 06:18	21° $\mathbb{N}$ 41'22	0°16'56	retrograde	16124 Jan 03 16:28	15° $\Omega$ 43'04	
max. Earth dist.	16118 Aug 28 14:24	21° $\mathbb{N}$ 42'32	20.85690 AU	opposition	16124 Mar 20 18:20	13° $\Omega$ 45'12	0°11'48
morning rise	16118 Sep 13 03:04	22° $\mathbb{N}$ 36'11		min. Earth dist.	16124 Mar 20 09:21	13° $\Omega$ 46'06	19.02157 AU
retrograde	16118 Dec 14 03:02	25° $\mathbb{N}$ 41'21		direct	16124 Jun 05 13:18	11° $\Omega$ 47'34	
opposition	16119 Feb 28 21:19	23° $\mathbb{N}$ 43'12	-0°15'48	evening set	16124 Sep 04 19:35	14° $\Omega$ 49'22	



























































































































conjunction	16124 Sep 20 16:11	15° <u>♂</u> 43'37	0°13'09	max. Earth dist.	16130 Oct 15 05:47	9° <u>♂</u> 36'40	21.03858 AU
minimum elong	16124 Sep 20 16:11	15° <u>♂</u> 43'37	0°13'16	morning rise	16130 Oct 30 22:58	10° <u>♂</u> 30'19	
behind sun begin	16124 Sep 20 12:18	15° <u>♂</u> 43'05		retrograde	16131 Jan 31 19:39	13° <u>♂</u> 35'09	
behind sun end	16124 Sep 20 20:03	15° <u>♂</u> 44'10		opposition	16131 Apr 19 03:15	11° <u>♂</u> 36'51	0°47'07
max. Earth dist.	16124 Sep 21 00:40	15° <u>♂</u> 44'50	21.03075 AU	min. Earth dist.	16131 Apr 18 22:17	11° <u>♂</u> 37'21	19.03137 AU
morning rise	16124 Oct 06 13:34	16° <u>♂</u> 38'00		direct	16131 Jul 04 10:52	9° <u>♂</u> 39'28	
retrograde	16125 Jan 06 23:10	19° <u>♂</u> 42'08		evening set	16131 Oct 03 07:53	12° <u>♂</u> 40'20	
opposition	16125 Mar 25 02:55	17° <u>♂</u> 44'18	0°17'13				
min. Earth dist.	16125 Mar 24 19:09	17° <u>♂</u> 45'04	19.03886 AU	conjunction	16131 Oct 19 05:40	13° <u>♂</u> 34'39	0°44'34
direct	16125 Jun 09 19:07	15° <u>♂</u> 46'49		minimum elong	16131 Oct 19 05:39	13° <u>♂</u> 34'39	0°45'01
evening set	16125 Sep 09 00:43	18° <u>♂</u> 48'19		max. Earth dist.	16131 Oct 19 11:23	13° <u>♂</u> 35'28	21.02286 AU
				morning rise	16131 Nov 04 04:51	14° <u>♂</u> 29'12	
conjunction	16125 Sep 24 21:28	19° <u>♂</u> 42'32	0°18'00		16131 Nov 13 13:08	15° <u>♂</u>	
minimum elong	16125 Sep 24 21:28	19° <u>♂</u> 42'32	0°18'10	retrograde	16132 Feb 05 04:23	17° <u>♂</u> 34'18	
max. Earth dist.	16125 Sep 25 06:00	19° <u>♂</u> 43'45	21.04561 AU	opposition	16132 Apr 22 11:07	15° <u>♂</u> 35'52	0°51'27
morning rise	16125 Oct 10 19:00	20° <u>♂</u> 36'53		min. Earth dist.	16132 Apr 22 05:19	15° <u>♂</u> 36'27	19.01376 AU
retrograde	16126 Jan 11 07:25	23° <u>♂</u> 41'02			16132 May 07 13:52	15° <u>♂</u>	
opposition	16126 Mar 29 11:06	21° <u>♂</u> 43'13	0°22'33	direct	16132 Jul 07 17:51	13° <u>♂</u> 38'26	
min. Earth dist.	16126 Mar 29 02:44	21° <u>♂</u> 44'03	19.05113 AU		16132 Sep 03 23:05	15° <u>♂</u>	
direct	16126 Jun 14 03:13	19° <u>♂</u> 45'51		evening set	16132 Oct 06 13:18	16° <u>♂</u> 39'23	
evening set	16126 Sep 13 05:56	22° <u>♂</u> 47'07					
				conjunction	16132 Oct 22 11:16	17° <u>♂</u> 33'47	0°48'23
conjunction	16126 Sep 29 02:43	23° <u>♂</u> 41'19	0°22'46	minimum elong	16132 Oct 22 11:15	17° <u>♂</u> 33'47	0°48'52
minimum elong	16126 Sep 29 02:42	23° <u>♂</u> 41'18	0°22'59	max. Earth dist.	16132 Oct 22 16:30	17° <u>♂</u> 34'32	21.00337 AU
max. Earth dist.	16126 Sep 29 10:21	23° <u>♂</u> 42'24	21.05510 AU	morning rise	16132 Nov 07 10:50	18° <u>♂</u> 28'26	
morning rise	16126 Oct 15 00:31	24° <u>♂</u> 35'40		retrograde	16133 Feb 08 11:51	21° <u>♂</u> 33'52	
retrograde	16127 Jan 15 14:05	27° <u>♂</u> 39'53		opposition	16133 Apr 26 19:14	19° <u>♂</u> 35'18	0°55'33
opposition	16127 Apr 02 19:24	25° <u>♂</u> 42'01	0°27'46	min. Earth dist.	16133 Apr 26 14:39	19° <u>♂</u> 35'45	18.99264 AU
min. Earth dist.	16127 Apr 02 12:35	25° <u>♂</u> 42'42	19.05790 AU	direct	16133 Jul 11 23:15	17° <u>♂</u> 37'48	
direct	16127 Jun 18 08:35	23° <u>♂</u> 44'44		evening set	16133 Oct 10 19:00	20° <u>♂</u> 38'56	
evening set	16127 Sep 17 11:04	26° <u>♂</u> 45'49					
				conjunction	16133 Oct 26 17:20	21° <u>♂</u> 33'26	0°51'57
conjunction	16127 Oct 03 08:03	27° <u>♂</u> 40'00	0°27'25	minimum elong	16133 Oct 26 17:20	21° <u>♂</u> 33'25	0°52'29
minimum elong	16127 Oct 03 08:02	27° <u>♂</u> 40'00	0°27'42	max. Earth dist.	16133 Oct 26 22:33	21° <u>♂</u> 34'10	20.98060 AU
max. Earth dist.	16127 Oct 03 15:26	27° <u>♂</u> 41'03	21.05903 AU	morning rise	16133 Nov 11 17:16	22° <u>♂</u> 28'11	
morning rise	16127 Oct 19 06:01	28° <u>♂</u> 34'21		retrograde	16134 Feb 12 21:30	25° <u>♂</u> 34'00	
	16127 Nov 15 17:20	0° <u>♂</u>		opposition	16134 May 01 03:09	23° <u>♂</u> 35'19	0°59'23
retrograde	16128 Jan 19 22:19	1° <u>♂</u> 38'40		min. Earth dist.	16134 Apr 30 21:49	23° <u>♂</u> 35'51	18.96819 AU
	16128 Mar 29 02:08	30° <u>♂</u>		direct	16134 Jul 16 05:53	21° <u>♂</u> 37'45	
opposition	16128 Apr 06 03:25	29° <u>♂</u> 40'45	0°32'51	evening set	16134 Oct 15 01:07	24° <u>♂</u> 39'08	
min. Earth dist.	16128 Apr 05 20:07	29° <u>♂</u> 41'29	19.05893 AU				
direct	16128 Jun 21 16:43	27° <u>♂</u> 43'29		conjunction	16134 Oct 30 23:44	25° <u>♂</u> 33'44	0°55'17
	16128 Sep 07 00:26	0° <u>♂</u>		minimum elong	16134 Oct 30 23:43	25° <u>♂</u> 33'44	0°55'51
evening set	16128 Sep 20 16:18	0° <u>♂</u> 44'26		max. Earth dist.	16134 Oct 31 04:20	25° <u>♂</u> 34'24	20.95438 AU
				morning rise	16134 Nov 16 00:05	26° <u>♂</u> 28'37	
conjunction	16128 Oct 06 13:21	1° <u>♂</u> 38'37	0°31'57	retrograde	16135 Feb 17 05:35	29° <u>♂</u> 34'52	
minimum elong	16128 Oct 06 13:21	1° <u>♂</u> 38'37	0°32'17	opposition	16135 May 05 11:31	27° <u>♂</u> 36'04	1°02'56
max. Earth dist.	16128 Oct 06 19:52	1° <u>♂</u> 39'33	21.05724 AU	min. Earth dist.	16135 May 05 07:31	27° <u>♂</u> 36'28	18.94036 AU
morning rise	16128 Oct 22 11:38	2° <u>♂</u> 33'00		direct	16135 Jul 20 11:40	25° <u>♂</u> 38'28	
retrograde	16129 Jan 23 04:45	5° <u>♂</u> 37'27		evening set	16135 Oct 19 07:27	28° <u>♂</u> 40'09	
opposition	16129 Apr 10 11:35	3° <u>♂</u> 39'26	0°37'47				
min. Earth dist.	16129 Apr 10 05:47	3° <u>♂</u> 40'01	19.05452 AU	conjunction	16135 Nov 04 06:28	29° <u>♂</u> 34'53	0°58'22
direct	16129 Jun 25 21:57	1° <u>♂</u> 42'09		minimum elong	16135 Nov 04 06:27	29° <u>♂</u> 34'53	0°58'58
evening set	16129 Sep 24 21:19	4° <u>♂</u> 42'59		max. Earth dist.	16135 Nov 04 10:55	29° <u>♂</u> 35'31	20.92492 AU
					16135 Nov 11 12:53	0° <u>♂</u>	
conjunction	16129 Oct 10 18:40	5° <u>♂</u> 37'13	0°36'20	morning rise	16135 Nov 20 07:12	0° <u>♂</u> 29'53	
minimum elong	16129 Oct 10 18:39	5° <u>♂</u> 37'13	0°36'42	retrograde	16136 Feb 21 16:48	3° <u>♂</u> 36'39	
max. Earth dist.	16129 Oct 11 01:05	5° <u>♂</u> 38'08	21.05032 AU	opposition	16136 May 08 20:01	1° <u>♂</u> 37'43	1°06'11
morning rise	16129 Oct 26 17:13	6° <u>♂</u> 31'38		min. Earth dist.	16136 May 08 15:19	1° <u>♂</u> 38'12	18.90916 AU
retrograde	16130 Jan 27 13:06	9° <u>♂</u> 36'15			16136 Jun 25 07:24	30° <u>♂</u>	
opposition	16130 Apr 14 19:26	7° <u>♂</u> 38'05	0°42'33	direct	16136 Jul 23 18:52	29° <u>♂</u> 40'03	
min. Earth dist.	16130 Apr 14 13:02	7° <u>♂</u> 38'44	19.04513 AU		16136 Aug 20 19:51	0° <u>♂</u>	
direct	16130 Jun 30 05:39	5° <u>♂</u> 40'46		evening set	16136 Oct 22 14:25	2° <u>♂</u> 42'07	
evening set	16130 Sep 29 02:34	8° <u>♂</u> 41'35					
				conjunction	16136 Nov 07 13:45	3° <u>♂</u> 36'59	1°01'09
conjunction	16130 Oct 15 00:03	9° <u>♂</u> 35'51	0°40'33	minimum elong	16136 Nov 07 13:45	3° <u>♂</u> 36'59	1°01'46
minimum elong	16130 Oct 15 00:03	9° <u>♂</u> 35'50	0°40'58	max. Earth dist.	16136 Nov 07 17:38	3° <u>♂</u> 37'33	20.89195 AU

morning rise	16136 Nov 23 14:57	4° $\nearrow$ 32'10			16143 Oct 24 06:51	0° $\searrow$	
retrograde	16137 Feb 25 01:24	7° $\nearrow$ 39'27		evening set	16143 Nov 21 07:21	1° $\searrow$ 29'04	
opposition	16137 May 13 04:56	5° $\nearrow$ 40'25	1°09'08				
min. Earth dist.	16137 May 13 01:44	5° $\nearrow$ 40'44	18.87449 AU	conjunction	16143 Dec 07 10:10	2° $\searrow$ 25'20	1°11'45
direct	16137 Jul 28 00:56	3° $\nearrow$ 42'40		minimum elong	16143 Dec 07 10:10	2° $\searrow$ 25'20	1°12'29
evening set	16137 Oct 26 21:47	6° $\nearrow$ 45'10		max. Earth dist.	16143 Dec 07 08:32	2° $\searrow$ 25'06	20.55044 AU
				morning rise	16143 Dec 23 15:01	3° $\searrow$ 21'56	
conjunction	16137 Nov 11 21:36	7° $\nearrow$ 40'12	1°03'39	retrograde	16144 Mar 26 14:12	6° $\searrow$ 33'41	
minimum elong	16137 Nov 11 21:36	7° $\nearrow$ 40'12	1°04'19	opposition	16144 Jun 11 05:25	4° $\searrow$ 33'12	1°19'40
max. Earth dist.	16137 Nov 12 01:03	7° $\nearrow$ 40'42	20.85550 AU	min. Earth dist.	16144 Jun 11 06:27	4° $\searrow$ 33'06	18.51990 AU
morning rise	16137 Nov 27 23:17	8° $\nearrow$ 35'32		direct	16144 Aug 25 16:05	2° $\searrow$ 33'56	
retrograde	16138 Mar 01 14:02	11° $\nearrow$ 43'24		evening set	16144 Nov 24 19:07	5° $\searrow$ 40'48	
opposition	16138 May 17 14:02	9° $\nearrow$ 44'14	1°11'45				
min. Earth dist.	16138 May 17 10:29	9° $\nearrow$ 44'36	18.83606 AU	conjunction	16144 Dec 10 22:34	6° $\searrow$ 37'20	1°11'50
direct	16138 Aug 01 09:18	7° $\nearrow$ 46'23		minimum elong	16144 Dec 10 22:34	6° $\searrow$ 37'20	1°12'35
evening set	16138 Oct 31 05:55	10° $\nearrow$ 49'24		max. Earth dist.	16144 Dec 10 20:41	6° $\searrow$ 37'03	20.48830 AU
				morning rise	16144 Dec 27 03:56	7° $\searrow$ 34'10	
conjunction	16138 Nov 16 06:06	11° $\nearrow$ 44'37	1°05'51	retrograde	16145 Mar 31 03:10	10° $\searrow$ 46'38	
minimum elong	16138 Nov 16 06:06	11° $\nearrow$ 44'36	1°06'31	opposition	16145 Jun 15 17:24	8° $\searrow$ 45'53	1°19'34
max. Earth dist.	16138 Nov 16 08:44	11° $\nearrow$ 44'59	20.81493 AU	min. Earth dist.	16145 Jun 15 19:38	8° $\searrow$ 45'39	18.45702 AU
morning rise	16138 Dec 02 08:14	12° $\nearrow$ 40'07		direct	16145 Aug 30 02:03	6° $\searrow$ 46'19	
retrograde	16139 Mar 05 23:23	15° $\nearrow$ 48'35		evening set	16145 Nov 29 07:36	9° $\searrow$ 53'58	
opposition	16139 May 21 23:36	13° $\nearrow$ 49'18	1°14'01				
min. Earth dist.	16139 May 21 21:48	13° $\nearrow$ 49'29	18.79345 AU	conjunction	16145 Dec 15 11:38	10° $\searrow$ 50'46	1°11'31
direct	16139 Aug 05 15:45	11° $\nearrow$ 51'19		minimum elong	16145 Dec 15 11:38	10° $\searrow$ 50'46	1°12'15
evening set	16139 Nov 04 14:38	14° $\nearrow$ 54'52		max. Earth dist.	16145 Dec 15 08:49	10° $\searrow$ 50'21	20.42489 AU
				morning rise	16145 Dec 31 17:41	11° $\searrow$ 47'51	
conjunction	16139 Nov 20 15:18	15° $\nearrow$ 50'16	1°07'43	retrograde	16146 Apr 04 18:22	15° $\searrow$ 01'05	
minimum elong	16139 Nov 20 15:18	15° $\nearrow$ 50'16	1°08'25	opposition	16146 Jun 20 05:49	13° $\searrow$ 00'04	1°19'02
max. Earth dist.	16139 Nov 20 17:06	15° $\nearrow$ 50'32	20.77022 AU	min. Earth dist.	16146 Jun 20 07:48	12° $\searrow$ 59'52	18.39309 AU
morning rise	16139 Dec 06 17:55	16° $\nearrow$ 45'58		direct	16146 Sep 03 13:46	11° $\searrow$ 00'11	
retrograde	16140 Mar 09 12:36	19° $\nearrow$ 55'04		evening set	16146 Dec 03 20:50	14° $\searrow$ 08'42	
opposition	16140 May 25 09:34	17° $\nearrow$ 55'36	1°15'55				
min. Earth dist.	16140 May 25 07:37	17° $\nearrow$ 55'48	18.74651 AU	conjunction	16146 Dec 20 01:31	15° $\searrow$ 05'46	1°10'49
direct	16140 Aug 09 01:42	15° $\nearrow$ 57'26		minimum elong	16146 Dec 20 01:31	15° $\searrow$ 05'46	1°11'33
evening set	16140 Nov 07 23:52	19° $\nearrow$ 01'35		max. Earth dist.	16146 Dec 19 22:43	15° $\searrow$ 05'21	20.36049 AU
				morning rise	16147 Jan 05 08:01	16° $\searrow$ 03'07	
conjunction	16140 Nov 24 01:02	19° $\nearrow$ 57'11	1°09'16	retrograde	16147 Apr 09 08:53	19° $\searrow$ 17'07	
minimum elong	16140 Nov 24 01:02	19° $\nearrow$ 57'11	1°09'58	opposition	16147 Jun 24 18:51	17° $\searrow$ 15'52	1°18'03
max. Earth dist.	16140 Nov 24 01:56	19° $\nearrow$ 57'19	20.72097 AU	min. Earth dist.	16147 Jun 24 21:44	17° $\searrow$ 15'34	18.32847 AU
morning rise	16140 Dec 10 04:10	20° $\nearrow$ 53'05		direct	16147 Sep 08 00:59	15° $\searrow$ 15'43	
retrograde	16141 Mar 13 22:57	24° $\nearrow$ 02'50		evening set	16147 Dec 08 10:53	18° $\searrow$ 25'07	
opposition	16141 May 29 20:05	22° $\nearrow$ 03'09	1°17'28				
min. Earth dist.	16141 May 29 19:53	22° $\nearrow$ 03'10	18.69510 AU	conjunction	16147 Dec 24 16:07	19° $\searrow$ 22'27	1°09'42
direct	16141 Aug 13 09:14	20° $\nearrow$ 04'46		minimum elong	16147 Dec 24 16:07	19° $\searrow$ 22'27	1°10'26
evening set	16141 Nov 12 09:49	23° $\nearrow$ 09'31		max. Earth dist.	16147 Dec 24 12:20	19° $\searrow$ 21'54	20.29592 AU
				morning rise	16148 Jan 09 23:20	20° $\searrow$ 20'06	
conjunction	16141 Nov 28 11:32	24° $\nearrow$ 05'20	1°10'28	retrograde	16148 Apr 13 01:28	23° $\searrow$ 34'54	
minimum elong	16141 Nov 28 11:32	24° $\nearrow$ 05'20	1°11'10	opposition	16148 Jun 28 08:24	21° $\searrow$ 33'25	1°16'37
max. Earth dist.	16141 Nov 28 11:24	24° $\nearrow$ 05'19	20.66758 AU	min. Earth dist.	16148 Jun 28 11:05	21° $\searrow$ 33'09	18.26392 AU
morning rise	16141 Dec 14 15:16	25° $\nearrow$ 01'27		direct	16148 Sep 11 13:37	19° $\searrow$ 32'59	
retrograde	16142 Mar 18 12:31	28° $\nearrow$ 11'51		evening set	16148 Dec 12 01:39	22° $\searrow$ 43'19	
opposition	16142 Jun 03 06:39	26° $\nearrow$ 11'54	1°18'36				
min. Earth dist.	16142 Jun 03 06:26	26° $\nearrow$ 11'56	18.63973 AU	conjunction	16148 Dec 28 07:40	23° $\searrow$ 40'58	1°08'12
direct	16142 Aug 17 20:05	24° $\nearrow$ 13'15		minimum elong	16148 Dec 28 07:40	23° $\searrow$ 40'58	1°08'53
evening set	16142 Nov 16 20:21	27° $\nearrow$ 18'40		max. Earth dist.	16148 Dec 28 04:11	23° $\searrow$ 40'26	20.23138 AU
				morning rise	16149 Jan 13 15:21	24° $\searrow$ 38'53	
conjunction	16142 Dec 02 22:38	28° $\nearrow$ 14'42	1°11'18	retrograde	16149 Apr 17 17:38	27° $\searrow$ 54'29	
minimum elong	16142 Dec 02 22:37	28° $\nearrow$ 14'42	1°12'02	opposition	16149 Jul 02 22:41	25° $\searrow$ 52'50	1°14'45
max. Earth dist.	16142 Dec 02 21:49	28° $\nearrow$ 14'35	20.61040 AU	min. Earth dist.	16149 Jul 03 02:05	25° $\searrow$ 52'29	18.19946 AU
morning rise	16142 Dec 19 02:52	29° $\nearrow$ 11'03		direct	16149 Sep 16 02:01	23° $\searrow$ 52'09	
	16143 Jan 02 21:06	0° $\searrow$		evening set	16149 Dec 16 17:31	27° $\searrow$ 03'28	
retrograde	16143 Mar 22 23:55	2° $\searrow$ 22'07					
opposition	16143 Jun 07 17:52	0° $\searrow$ 21'54	1°19'21	conjunction	16150 Jan 02 00:05	28° $\searrow$ 01'23	1°06'17
min. Earth dist.	16143 Jun 07 19:10	0° $\searrow$ 21'46	18.58100 AU	minimum elong	16150 Jan 02 00:05	28° $\searrow$ 01'23	1°06'58
	16143 Jun 16 15:49	30° $\nwarrow$		max. Earth dist.	16150 Jan 01 19:21	28° $\searrow$ 00'41	20.16724 AU
direct	16143 Aug 22 04:53	28° $\nearrow$ 22'58		morning rise	16150 Jan 18 08:29	28° $\searrow$ 59'36	

	16150 Feb 05 07:39	0°≈	opposition	16156 Aug 02 20:36	27°≈03'43	0°49'43
retrograde	16150 Apr 22 11:53	2°≈16'01	min. Earth dist.	16156 Aug 03 03:50	27°≈02'57	17.75826 AU
opposition	16150 Jul 07 13:23	0°≈14'13 1°12'26	direct	16156 Oct 16 15:42	25°≈01'02	
min. Earth dist.	16150 Jul 07 16:56	0°≈13'50 18.13551 AU	evening set	16157 Jan 17 09:32	28°≈19'21	
	16150 Jul 13 04:36	30°≈				
direct	16150 Sep 20 15:43	28°≈13'16	conjunction	16157 Feb 02 20:29	29°≈19'19	0°42'24
	16150 Nov 25 07:40	0°≈	minimum elong	16157 Feb 02 20:30	29°≈19'20	0°42'50
evening set	16150 Dec 21 10:11	1°≈25'36	max. Earth dist.	16157 Feb 02 12:34	29°≈18'07	19.72833 AU
				16157 Feb 13 22:53	0°≈	
conjunction	16151 Jan 06 17:30	2°≈23'50 1°03'59	morning rise	16157 Feb 19 08:12	0°≈19'28	
minimum elong	16151 Jan 06 17:31	2°≈23'50 1°04'38	retrograde	16157 May 24 12:30	3°≈41'02	
max. Earth dist.	16151 Jan 06 13:13	2°≈23'12 20.10345 AU	opposition	16157 Aug 07 15:50	1°≈37'57	0°44'36
morning rise	16151 Jan 23 02:20	3°≈22'20	min. Earth dist.	16157 Aug 07 22:51	1°≈37'12	17.69902 AU
retrograde	16151 Apr 27 06:03	6°≈39'34		16157 Sep 20 12:43	30°≈	
opposition	16151 Jul 12 04:58	4°≈37'38 1°09'41	direct	16157 Oct 21 12:13	29°≈34'56	
min. Earth dist.	16151 Jul 12 09:09	4°≈37'12 18.07186 AU		16157 Nov 21 02:03	0°≈	
direct	16151 Sep 25 05:28	2°≈36'28	evening set	16158 Jan 22 08:21	2°≈54'10	
evening set	16151 Dec 26 03:48	5°≈49'49				
			conjunction	16158 Feb 07 19:36	3°≈54'24	0°37'39
conjunction	16152 Jan 11 11:37	6°≈48'21 1°01'18	minimum elong	16158 Feb 07 19:37	3°≈54'24	0°38'02
minimum elong	16152 Jan 11 11:38	6°≈48'21 1°01'56	max. Earth dist.	16158 Feb 07 10:16	3°≈52'58	19.67041 AU
max. Earth dist.	16152 Jan 11 05:52	6°≈47'29 20.04006 AU	morning rise	16158 Feb 24 07:46	4°≈54'46	
morning rise	16152 Jan 27 21:09	7°≈47'08	retrograde	16158 May 29 09:05	8°≈16'55	
retrograde	16152 May 01 01:57	11°≈05'13	opposition	16158 Aug 12 11:38	6°≈13'37	0°39'10
opposition	16152 Jul 15 21:13	9°≈03'07 1°06'30	min. Earth dist.	16158 Aug 12 19:35	6°≈12'46	17.64264 AU
min. Earth dist.	16152 Jul 16 01:56	9°≈02'37 18.00856 AU	direct	16158 Oct 26 07:21	4°≈10'15	
direct	16152 Sep 28 20:20	7°≈01'41	evening set	16159 Jan 27 07:39	7°≈30'24	
evening set	16152 Dec 29 22:25	10°≈16'05				
			conjunction	16159 Feb 12 19:30	8°≈30'53	0°32'37
conjunction	16153 Jan 15 07:02	11°≈14'55 0°58'13	minimum elong	16159 Feb 12 19:30	8°≈30'53	0°32'58
minimum elong	16153 Jan 15 07:02	11°≈14'55 0°58'49	max. Earth dist.	16159 Feb 12 11:02	8°≈29'35	19.61571 AU
max. Earth dist.	16153 Jan 15 01:36	11°≈14'05 19.97672 AU	morning rise	16159 Mar 01 07:49	9°≈31'28	
morning rise	16153 Jan 31 16:56	12°≈13'59	retrograde	16159 Jun 03 08:34	12°≈54'09	
	16153 Mar 31 06:06	15°≈	opposition	16159 Aug 17 07:57	10°≈50'39	0°33'27
retrograde	16153 May 05 22:18	15°≈32'50	min. Earth dist.	16159 Aug 17 15:07	10°≈49'53	17.58972 AU
	16153 Jun 11 04:11	15°≈	direct	16159 Oct 31 05:31	8°≈46'59	
opposition	16153 Jul 20 14:03	13°≈30'35 1°02'54	evening set	16160 Feb 01 07:40	12°≈07'59	
min. Earth dist.	16153 Jul 20 19:22	13°≈30'01 17.94520 AU				
direct	16153 Oct 03 12:05	11°≈28'53	conjunction	16160 Feb 17 19:46	13°≈08'41	0°27'22
evening set	16154 Jan 03 18:07	14°≈44'17	minimum elong	16160 Feb 17 19:46	13°≈08'42	0°27'39
	16154 Jan 08 03:47	15°≈	max. Earth dist.	16160 Feb 17 10:24	13°≈07'15	19.56481 AU
			morning rise	16160 Mar 05 08:26	14°≈09'29	
conjunction	16154 Jan 20 03:12	15°≈43'25 0°54'47	retrograde	16160 Jun 07 06:00	17°≈32'40	
minimum elong	16154 Jan 20 03:12	15°≈43'25 0°55'20	opposition	16160 Aug 21 04:53	15°≈29'00	0°27'28
max. Earth dist.	16154 Jan 19 19:51	15°≈42'18 19.91349 AU	min. Earth dist.	16160 Aug 21 12:54	15°≈28'08	17.54103 AU
morning rise	16154 Feb 05 13:46	16°≈42'46	direct	16160 Nov 04 01:49	13°≈25'02	
retrograde	16154 May 10 19:04	20°≈02'22	evening set	16161 Feb 05 08:21	16°≈46'54	
opposition	16154 Jul 25 07:39	17°≈59'56 0°58'53				
min. Earth dist.	16154 Jul 25 13:48	17°≈59'16 17.88208 AU	conjunction	16161 Feb 21 20:54	17°≈47'48	0°21'54
direct	16154 Oct 08 04:02	15°≈57'54	minimum elong	16161 Feb 21 20:54	17°≈47'48	0°22'07
evening set	16155 Jan 08 14:23	19°≈14'19	max. Earth dist.	16161 Feb 21 12:18	17°≈46'29	19.51841 AU
			morning rise	16161 Mar 10 09:38	18°≈48'46	
conjunction	16155 Jan 25 00:12	20°≈13'44 0°50'59	retrograde	16161 Jun 12 06:36	22°≈12'23	
minimum elong	16155 Jan 25 00:12	20°≈13'44 0°51'31	opposition	16161 Aug 26 02:06	20°≈08'37	0°21'17
max. Earth dist.	16155 Jan 24 17:19	20°≈12'41 19.85054 AU	min. Earth dist.	16161 Aug 26 09:03	20°≈07'52	17.49699 AU
morning rise	16155 Feb 10 11:02	21°≈13'21	direct	16161 Nov 09 01:08	18°≈04'24	
retrograde	16155 May 15 17:00	24°≈33'39	evening set	16162 Feb 10 09:47	21°≈27'04	
opposition	16155 Jul 30 01:51	22°≈31'01 0°54'29				
min. Earth dist.	16155 Jul 30 08:10	22°≈30'20 17.81944 AU	conjunction	16162 Feb 26 22:28	22°≈28'10	0°16'17
direct	16155 Oct 12 22:23	20°≈28'40	minimum elong	16162 Feb 26 22:29	22°≈28'10	0°16'27
evening set	16156 Jan 13 11:40	23°≈46'02	max. Earth dist.	16162 Feb 26 13:28	22°≈26'47	19.47689 AU
			morning rise	16162 Mar 15 11:20	23°≈29'18	
conjunction	16156 Jan 29 21:53	24°≈45'44 0°46'51	retrograde	16162 Jun 17 05:20	26°≈53'19	
minimum elong	16156 Jan 29 21:54	24°≈45'44 0°47'19	opposition	16162 Aug 31 00:05	24°≈49'29	0°14'56
max. Earth dist.	16156 Jan 29 13:16	24°≈44'25 19.78858 AU	min. Earth dist.	16162 Aug 31 07:47	24°≈48'39	17.45818 AU
morning rise	16156 Feb 15 09:21	25°≈45'38	direct	16162 Nov 13 22:19	22°≈45'04	
retrograde	16156 May 19 13:36	29°≈06'35	evening set	16163 Feb 15 11:30	26°≈08'30	

conjunction	16163 Mar 04 00:27	27° <del>✕</del> 09'46	0°10'32	morning rise	16168 Apr 13 05:11	21° <del>Υ</del> 55'30	
minimum elong	16163 Mar 04 00:27	27° <del>✕</del> 09'46	0°10'38	retrograde	16168 Jul 15 13:47	25° <del>Υ</del> 20'46	
behind sun begin	16163 Mar 03 19:17	27° <del>✕</del> 08'59		opposition	16168 Sep 27 20:23	23° <del>Υ</del> 17'08	-0°24'13
behind sun end	16163 Mar 04 05:37	27° <del>✕</del> 10'33		min. Earth dist.	16168 Sep 28 03:22	23° <del>Υ</del> 16'22	17.33077 AU
max. Earth dist.	16163 Mar 03 16:03	27° <del>✕</del> 08'28	19.44082 AU	direct	16168 Dec 11 23:05	21° <del>Υ</del> 12'09	
morning rise	16163 Mar 20 13:19	28° <del>✕</del> 11'03		evening set	16169 Mar 16 08:56	24° <del>Υ</del> 38'53	
	16163 Apr 22 06:14	0° <del>Υ</del>					
retrograde	16163 Jun 22 07:04	1° <del>Υ</del> 35'27		conjunction	16169 Apr 01 21:21	25° <del>Υ</del> 40'38	-0°24'32
	16163 Aug 24 23:27	30° <del>✕</del>		minimum elong	16169 Apr 01 21:21	25° <del>Υ</del> 40'38	0°24'48
opposition	16163 Sep 04 22:24	29° <del>✕</del> 31'35	0°08'27	max. Earth dist.	16169 Apr 01 12:44	25° <del>Υ</del> 39'17	19.32748 AU
min. Earth dist.	16163 Sep 05 04:52	29° <del>✕</del> 30'53	17.42474 AU	morning rise	16169 Apr 18 08:53	26° <del>Υ</del> 42'15	
direct	16163 Nov 18 22:28	27° <del>✕</del> 27'02			16169 Jul 04 05:38	0° <del>♄</del>	
	16164 Feb 06 02:40	0° <del>Υ</del>		retrograde	16169 Jul 20 15:39	0° <del>♄</del> 07'27	
evening set	16164 Feb 20 14:04	0° <del>Υ</del> 51'11			16169 Aug 06 02:20	30° <del>✕</del> <del>Υ</del>	
				opposition	16169 Oct 02 20:38	28° <del>Υ</del> 03'52	-0°30'28
conjunction	16164 Mar 08 03:07	1° <del>Υ</del> 52'36	0°04'43	min. Earth dist.	16169 Oct 03 03:00	28° <del>Υ</del> 03'10	17.32552 AU
minimum elong	16164 Mar 08 03:06	1° <del>Υ</del> 52'36	0°04'46	direct	16169 Dec 17 02:03	25° <del>Υ</del> 58'47	
behind sun begin	16164 Mar 07 20:31	1° <del>Υ</del> 51'36		evening set	16170 Mar 21 13:07	29° <del>Υ</del> 25'47	
behind sun end	16164 Mar 08 09:41	1° <del>Υ</del> 53'36			16170 Mar 30 18:02	0° <del>♄</del>	
max. Earth dist.	16164 Mar 07 18:50	1° <del>Υ</del> 51'20	19.41003 AU				
morning rise	16164 Mar 24 15:54	2° <del>Υ</del> 54'01		conjunction	16170 Apr 07 01:22	0° <del>♄</del> 27'30	-0°30'03
retrograde	16164 Jun 26 06:59	6° <del>Υ</del> 18'43		minimum elong	16170 Apr 07 01:22	0° <del>♄</del> 27'30	0°30'21
opposition	16164 Sep 08 21:14	4° <del>Υ</del> 14'53	0°01'54	max. Earth dist.	16170 Apr 06 18:05	0° <del>♄</del> 26'22	19.32451 AU
min. Earth dist.	16164 Sep 09 04:36	4° <del>Υ</del> 14'05	17.39661 AU	morning rise	16170 Apr 23 12:15	1° <del>♄</del> 29'05	
direct	16164 Nov 22 20:36	2° <del>Υ</del> 10'13		retrograde	16170 Jul 25 15:49	4° <del>♄</del> 54'08	
desc. node	16164 Dec 21 21:51	2° <del>Υ</del> 33'03		opposition	16170 Oct 07 21:09	2° <del>♄</del> 50'36	-0°36'31
evening set	16165 Feb 24 17:09	5° <del>Υ</del> 35'04		min. Earth dist.	16170 Oct 08 03:36	2° <del>♄</del> 49'53	17.32498 AU
				direct	16170 Dec 22 03:21	0° <del>♄</del> 45'28	
conjunction	16165 Mar 13 06:14	6° <del>Υ</del> 36'36	-0°01'18	evening set	16171 Mar 26 17:11	4° <del>♄</del> 12'35	
minimum elong	16165 Mar 13 06:13	6° <del>Υ</del> 36'36	0°01'18				
behind sun begin	16165 Mar 12 23:29	6° <del>Υ</del> 35'34		conjunction	16171 Apr 12 04:54	5° <del>♄</del> 14'15	-0°35'21
behind sun end	16165 Mar 13 12:58	6° <del>Υ</del> 37'37		minimum elong	16171 Apr 12 04:53	5° <del>♄</del> 14'15	0°35'43
max. Earth dist.	16165 Mar 12 21:53	6° <del>Υ</del> 35'19	19.38446 AU	max. Earth dist.	16171 Apr 11 20:52	5° <del>♄</del> 13'00	19.32653 AU
morning rise	16165 Mar 29 18:58	7° <del>Υ</del> 38'06		morning rise	16171 Apr 28 15:28	6° <del>♄</del> 15'46	
retrograde	16165 Jul 01 09:37	11° <del>Υ</del> 03'04		retrograde	16171 Jul 30 16:28	9° <del>♄</del> 40'36	
opposition	16165 Sep 13 20:25	8° <del>Υ</del> 59'17	-0°04'42	opposition	16171 Oct 12 21:37	7° <del>♄</del> 37'06	-0°42'18
min. Earth dist.	16165 Sep 14 02:48	8° <del>Υ</del> 58'35	17.37342 AU	min. Earth dist.	16171 Oct 13 03:34	7° <del>♄</del> 36'27	17.32963 AU
direct	16165 Nov 27 21:50	6° <del>Υ</del> 54'32		direct	16171 Dec 27 07:06	5° <del>♄</del> 31'55	
evening set	16166 Mar 01 20:40	10° <del>Υ</del> 19'59		evening set	16172 Mar 30 21:03	8° <del>♄</del> 59'04	
conjunction	16166 Mar 18 09:43	11° <del>Υ</del> 21'37	-0°07'14	conjunction	16172 Apr 16 08:31	10° <del>♄</del> 00'41	-0°40'25
minimum elong	16166 Mar 18 09:42	11° <del>Υ</del> 21'37	0°07'18	minimum elong	16172 Apr 16 08:31	10° <del>♄</del> 00'41	0°40'49
behind sun begin	16166 Mar 18 03:32	11° <del>Υ</del> 20'40		max. Earth dist.	16172 Apr 16 02:06	9° <del>♄</del> 59'40	19.33373 AU
behind sun end	16166 Mar 18 15:52	11° <del>Υ</del> 22'33		morning rise	16172 May 02 18:22	11° <del>♄</del> 02'05	
max. Earth dist.	16166 Mar 18 01:49	11° <del>Υ</del> 20'24	19.36348 AU	retrograde	16172 Aug 03 16:00	14° <del>♄</del> 26'36	
morning rise	16166 Apr 03 22:06	12° <del>Υ</del> 23'12		opposition	16172 Oct 16 21:54	12° <del>♄</del> 23'11	-0°47'48
retrograde	16166 Jul 06 10:08	15° <del>Υ</del> 48'20		min. Earth dist.	16172 Oct 17 03:25	12° <del>♄</del> 22'35	17.33950 AU
opposition	16166 Sep 18 20:10	13° <del>Υ</del> 44'37	-0°11'17	direct	16172 Dec 31 09:48	10° <del>♄</del> 17'58	
min. Earth dist.	16166 Sep 19 03:24	13° <del>Υ</del> 43'49	17.35477 AU	evening set	16173 Apr 05 00:50	13° <del>♄</del> 45'04	
direct	16166 Dec 02 20:58	11° <del>Υ</del> 39'47					
evening set	16167 Mar 07 00:34	15° <del>Υ</del> 05'46		conjunction	16173 Apr 21 11:37	14° <del>♄</del> 46'33	-0°45'11
				minimum elong	16173 Apr 21 11:37	14° <del>♄</del> 46'33	0°45'39
conjunction	16167 Mar 23 13:25	16° <del>Υ</del> 07'27	-0°13'05	max. Earth dist.	16173 Apr 21 04:43	14° <del>♄</del> 45'28	19.34639 AU
minimum elong	16167 Mar 23 13:25	16° <del>Υ</del> 07'27	0°13'12		16173 Apr 25 01:18	15° <del>♄</del>	
behind sun begin	16167 Mar 23 09:32	16° <del>Υ</del> 06'51		morning rise	16173 May 07 21:00	15° <del>♄</del> 47'50	
behind sun end	16167 Mar 23 17:17	16° <del>Υ</del> 08'03		retrograde	16173 Aug 08 15:26	19° <del>♄</del> 12'00	
max. Earth dist.	16167 Mar 23 04:53	16° <del>Υ</del> 06'08	19.34711 AU	opposition	16173 Oct 21 22:14	17° <del>♄</del> 08'39	-0°52'57
morning rise	16167 Apr 09 01:40	17° <del>Υ</del> 09'04		min. Earth dist.	16173 Oct 22 03:23	17° <del>♄</del> 08'05	17.35513 AU
retrograde	16167 Jul 11 12:56	20° <del>Υ</del> 34'20		direct	16174 Jan 05 12:46	15° <del>♄</del> 03'25	
opposition	16167 Sep 23 20:04	18° <del>Υ</del> 30'38	-0°17'48	evening set	16174 Apr 10 03:55	18° <del>♄</del> 30'22	
min. Earth dist.	16167 Sep 24 02:28	18° <del>Υ</del> 29'57	17.34063 AU				
direct	16167 Dec 07 22:59	16° <del>Υ</del> 25'43		conjunction	16174 Apr 26 14:17	19° <del>♄</del> 31'44	-0°49'39
evening set	16168 Mar 11 04:35	19° <del>Υ</del> 52'08		minimum elong	16174 Apr 26 14:17	19° <del>♄</del> 31'44	0°50'09
				max. Earth dist.	16174 Apr 26 09:11	19° <del>♄</del> 30'56	19.36489 AU
conjunction	16168 Mar 27 17:24	20° <del>Υ</del> 53'52	-0°18'52	morning rise	16174 May 12 22:52	20° <del>♄</del> 32'51	
minimum elong	16168 Mar 27 17:24	20° <del>Υ</del> 53'52	0°19'04	retrograde	16174 Aug 13 15:22	23° <del>♄</del> 56'35	
max. Earth dist.	16168 Mar 27 09:43	20° <del>Υ</del> 52'40	19.33506 AU	opposition	16174 Oct 26 22:24	21° <del>♄</del> 53'21	-0°57'44

min. Earth dist.	16174 Oct 27 02:22	21° <b>8</b> 52'55	17.37661 AU	conjunction	16181 May 29 18:28	22° <b>II</b> 21'02	-1°09'48
direct	16175 Jan 10 15:39	19° <b>8</b> 48'10		minimum elong	16181 May 29 18:28	22° <b>II</b> 21'02	1°10'31
evening set	16175 Apr 15 06:49	23° <b>8</b> 14'53		max. Earth dist.	16181 May 29 18:22	22° <b>II</b> 21'01	19.64481 AU
				morning rise	16181 Jun 14 22:06	23° <b>II</b> 20'39	
conjunction	16175 May 01 16:28	24° <b>8</b> 16'05	-0°53'45	retrograde	16181 Sep 15 01:41	26° <b>II</b> 40'05	
minimum elong	16175 May 01 16:28	24° <b>8</b> 16'05	0°54'17	opposition	16181 Nov 28 16:20	24° <b>II</b> 38'29	-1°18'27
max. Earth dist.	16175 May 01 11:25	24° <b>8</b> 15'17	19.38940 AU	min. Earth dist.	16181 Nov 28 16:43	24° <b>II</b> 38'26	17.67212 AU
morning rise	16175 May 18 00:28	25° <b>8</b> 17'03		direct	16182 Feb 12 21:06	22° <b>II</b> 34'37	
retrograde	16175 Aug 18 13:57	28° <b>8</b> 40'17		evening set	16182 May 18 11:17	25° <b>II</b> 57'38	
opposition	16175 Oct 31 22:19	26° <b>8</b> 37'13	-1°02'06				
min. Earth dist.	16175 Nov 01 02:03	26° <b>8</b> 36'49	17.40431 AU	conjunction	16182 Jun 03 16:15	26° <b>II</b> 57'15	-1°10'56
direct	16176 Jan 15 16:34	24° <b>8</b> 32'06		minimum elong	16182 Jun 03 16:14	26° <b>II</b> 57'15	1°11'38
evening set	16176 Apr 19 09:09	27° <b>8</b> 58'31		max. Earth dist.	16182 Jun 03 16:03	26° <b>II</b> 57'14	19.69925 AU
				morning rise	16182 Jun 19 19:19	27° <b>II</b> 56'36	
conjunction	16176 May 05 18:19	28° <b>8</b> 59'33	-0°57'28		16182 Jul 28 03:49	0° <b>☾</b>	
minimum elong	16176 May 05 18:19	28° <b>8</b> 59'33	0°58'04	retrograde	16182 Sep 19 22:28	1° <b>☾</b> 15'17	
max. Earth dist.	16176 May 05 14:47	28° <b>8</b> 59'00	19.42010 AU		16182 Nov 15 00:49	30° <b>R</b> <b>II</b>	
	16176 May 21 23:23	0° <b>II</b>		opposition	16182 Dec 03 13:54	29° <b>II</b> 13'53	-1°19'26
morning rise	16176 May 22 01:35	0° <b>II</b> 00'20		min. Earth dist.	16182 Dec 03 12:50	29° <b>II</b> 14'00	17.72750 AU
retrograde	16176 Aug 22 14:34	3° <b>II</b> 23'03		direct	16183 Feb 17 22:10	27° <b>II</b> 10'16	
opposition	16176 Nov 04 22:01	1° <b>II</b> 20'11	-1°06'01		16183 May 14 05:02	0° <b>☾</b>	
min. Earth dist.	16176 Nov 05 00:18	1° <b>II</b> 19'56	17.43783 AU	evening set	16183 May 23 09:04	0° <b>☾</b> 32'28	
	16176 Dec 08 11:26	30° <b>R</b> <b>8</b>					
direct	16177 Jan 19 19:07	29° <b>8</b> 15'14		conjunction	16183 Jun 08 13:28	1° <b>☾</b> 31'49	-1°11'36
	16177 Mar 02 02:43	0° <b>II</b>		minimum elong	16183 Jun 08 13:28	1° <b>☾</b> 31'49	1°12'20
evening set	16177 Apr 24 11:05	2° <b>II</b> 41'16		max. Earth dist.	16183 Jun 08 14:29	1° <b>☾</b> 31'58	19.75546 AU
				morning rise	16183 Jun 24 15:46	2° <b>☾</b> 30'53	
conjunction	16177 May 10 19:30	3° <b>II</b> 42'06	-1°00'48	retrograde	16183 Sep 24 16:05	5° <b>☾</b> 48'45	
minimum elong	16177 May 10 19:29	3° <b>II</b> 42'06	1°01'25	opposition	16183 Dec 08 10:57	3° <b>☾</b> 47'35	-1°19'55
max. Earth dist.	16177 May 10 16:24	3° <b>II</b> 41'37	19.45637 AU	min. Earth dist.	16183 Dec 08 10:29	3° <b>☾</b> 47'38	17.78451 AU
morning rise	16177 May 27 02:03	4° <b>II</b> 42'41		direct	16184 Feb 22 20:30	1° <b>☾</b> 44'11	
retrograde	16177 Aug 27 12:02	8° <b>II</b> 04'49		evening set	16184 May 27 06:05	5° <b>☾</b> 05'31	
opposition	16177 Nov 09 21:33	6° <b>II</b> 02'12	-1°09'29				
min. Earth dist.	16177 Nov 09 23:55	6° <b>II</b> 01'57	17.47682 AU	conjunction	16184 Jun 12 09:43	6° <b>☾</b> 04'35	-1°11'50
direct	16178 Jan 24 18:44	3° <b>II</b> 57'26		minimum elong	16184 Jun 12 09:43	6° <b>☾</b> 04'35	1°12'33
evening set	16178 Apr 29 12:22	7° <b>II</b> 23'01		max. Earth dist.	16184 Jun 12 10:15	6° <b>☾</b> 04'40	19.81325 AU
				morning rise	16184 Jun 28 11:32	7° <b>☾</b> 03'23	
conjunction	16178 May 15 20:10	8° <b>II</b> 23'39	-1°03'42	retrograde	16184 Sep 28 10:57	10° <b>☾</b> 20'26	
minimum elong	16178 May 15 20:10	8° <b>II</b> 23'39	1°04'21	opposition	16184 Dec 12 07:22	8° <b>☾</b> 19'27	-1°19'54
max. Earth dist.	16178 May 15 18:06	8° <b>II</b> 23'19	19.49785 AU	min. Earth dist.	16184 Dec 12 05:33	8° <b>☾</b> 19'39	17.84293 AU
morning rise	16178 Jun 01 02:01	9° <b>II</b> 24'00		direct	16185 Feb 26 20:02	6° <b>☾</b> 16'15	
retrograde	16178 Sep 01 12:03	12° <b>II</b> 45'32		evening set	16185 Jun 01 01:55	9° <b>☾</b> 36'41	
opposition	16178 Nov 14 20:42	10° <b>II</b> 43'10	-1°12'28				
min. Earth dist.	16178 Nov 14 21:32	10° <b>II</b> 43'05	17.52049 AU	conjunction	16185 Jun 17 05:03	10° <b>☾</b> 35'28	-1°11'37
direct	16179 Jan 29 20:52	8° <b>II</b> 38'38		minimum elong	16185 Jun 17 05:03	10° <b>☾</b> 35'28	1°12'20
evening set	16179 May 04 13:05	12° <b>II</b> 03'41		max. Earth dist.	16185 Jun 17 07:07	10° <b>☾</b> 35'47	19.87227 AU
				morning rise	16185 Jul 03 06:06	11° <b>☾</b> 33'59	
conjunction	16179 May 20 20:11	13° <b>II</b> 04'05	-1°06'11	retrograde	16185 Oct 03 03:20	14° <b>☾</b> 50'12	
minimum elong	16179 May 20 20:10	13° <b>II</b> 04'05	1°06'52	opposition	16185 Dec 17 03:18	12° <b>☾</b> 49'24	-1°19'23
max. Earth dist.	16179 May 20 18:50	13° <b>II</b> 03'52	19.54352 AU	min. Earth dist.	16185 Dec 17 01:47	12° <b>☾</b> 49'34	17.90257 AU
morning rise	16179 Jun 06 01:18	14° <b>II</b> 04'12		direct	16186 Mar 03 17:35	10° <b>☾</b> 46'25	
retrograde	16179 Sep 06 08:22	17° <b>II</b> 25'05		evening set	16186 Jun 05 20:57	14° <b>☾</b> 05'53	
opposition	16179 Nov 19 19:41	15° <b>II</b> 22'59	-1°14'58				
min. Earth dist.	16179 Nov 19 20:59	15° <b>II</b> 22'50	17.56808 AU	conjunction	16186 Jun 21 23:19	15° <b>☾</b> 04'23	-1°10'57
direct	16180 Feb 03 20:15	13° <b>II</b> 18'39		minimum elong	16186 Jun 21 23:19	15° <b>☾</b> 04'23	1°11'41
evening set	16180 May 08 13:16	16° <b>II</b> 43'07		max. Earth dist.	16186 Jun 22 00:58	15° <b>☾</b> 04'38	19.93267 AU
				morning rise	16186 Jul 07 24:00	16° <b>☾</b> 02'37	
conjunction	16180 May 24 19:39	17° <b>II</b> 43'16	-1°08'13	retrograde	16186 Oct 07 20:07	19° <b>☾</b> 17'59	
minimum elong	16180 May 24 19:39	17° <b>II</b> 43'16	1°08'54	opposition	16186 Dec 21 22:21	17° <b>☾</b> 17'22	-1°18'23
max. Earth dist.	16180 May 24 18:36	17° <b>II</b> 43'06	19.59279 AU	min. Earth dist.	16186 Dec 21 19:28	17° <b>☾</b> 17'40	17.96370 AU
morning rise	16180 Jun 10 00:06	18° <b>II</b> 43'08		direct	16187 Mar 08 15:07	15° <b>☾</b> 14'35	
retrograde	16180 Sep 10 06:41	22° <b>II</b> 03'19		evening set	16187 Jun 10 14:49	18° <b>☾</b> 33'04	
opposition	16180 Nov 23 18:04	20° <b>II</b> 01'27	-1°16'58				
min. Earth dist.	16180 Nov 23 17:54	20° <b>II</b> 01'28	17.61880 AU	conjunction	16187 Jun 26 16:47	19° <b>☾</b> 31'17	-1°09'52
direct	16181 Feb 07 22:12	17° <b>II</b> 57'22		minimum elong	16187 Jun 26 16:48	19° <b>☾</b> 31'17	1°10'34
evening set	16181 May 13 12:45	21° <b>II</b> 21'08		max. Earth dist.	16187 Jun 26 20:16	19° <b>☾</b> 31'49	19.99448 AU
				morning rise	16187 Jul 12 16:48	20° <b>☾</b> 29'15	

retrograde	16187 Oct 12 11:14	23°  43'47		opposition	16194 Jan 21 18:57	17°  42'11	-0°59'34
opposition	16187 Dec 26 16:55	21°  43'21	-1°16'55	min. Earth dist.	16194 Jan 21 12:11	17°  42'52	18.41922 AU
min. Earth dist.	16187 Dec 26 13:58	21°  43'39	18.02621 AU	direct	16194 Apr 08 16:41	15°  41'36	
direct	16188 Mar 12 10:55	19°  40'49		evening set	16194 Jul 10 20:13	18°  53'15	
evening set	16188 Jun 14 07:58	22°  58'18					
conjunction	16188 Jun 30 09:11	23°  56'14	-1°08'22	conjunction	16194 Jul 26 18:45	19°  49'37	-0°51'53
minimum elong	16188 Jun 30 09:11	23°  56'14	1°09'04	minimum elong	16194 Jul 26 18:45	19°  49'37	0°52'23
max. Earth dist.	16188 Jun 30 12:19	23°  56'43	20.05783 AU	max. Earth dist.	16194 Jul 27 01:23	19°  50'36	20.45075 AU
morning rise	16188 Jul 16 08:51	24°  53'56		morning rise	16194 Aug 11 16:20	20°  45'51	
retrograde	16188 Oct 16 02:47	28°  07'39		retrograde	16194 Nov 11 11:16	23°  55'11	
opposition	16188 Dec 30 10:44	26°  07'24	-1°15'01	opposition	16195 Jan 26 09:11	21°  56'21	-0°55'29
min. Earth dist.	16188 Dec 30 06:26	26°  07'51	18.09039 AU	min. Earth dist.	16195 Jan 26 02:23	21°  57'03	18.48191 AU
direct	16189 Mar 17 06:14	24°  05'09		direct	16195 Apr 13 06:40	19°  56'04	
evening set	16189 Jun 19 00:02	27°  21'39		evening set	16195 Jul 15 07:34	23°  06'47	
conjunction	16189 Jul 05 00:53	28°  19'19	-1°06'29	conjunction	16195 Jul 31 05:57	24°  02'56	-0°48'05
minimum elong	16189 Jul 05 00:53	28°  19'19	1°07'09	minimum elong	16195 Jul 31 05:57	24°  02'56	0°48'35
max. Earth dist.	16189 Jul 05 05:56	28°  20'05	20.12274 AU	max. Earth dist.	16195 Jul 31 13:39	24°  04'04	20.51219 AU
morning rise	16189 Jul 20 23:55	29°  16'44		morning rise	16195 Aug 16 03:10	24°  58'56	
	16189 Aug 02 13:33	0°  00		retrograde	16195 Nov 15 23:24	28°  07'37	
retrograde	16189 Oct 20 16:55	2°  29'39		opposition	16196 Jan 30 22:59	26°  08'58	-0°51'08
opposition	16190 Jan 04 04:02	0°  29'40	-1°12'41	min. Earth dist.	16196 Jan 30 15:51	26°  09'42	18.54186 AU
min. Earth dist.	16190 Jan 03 23:22	0°  30'09	18.15587 AU	direct	16196 Apr 16 21:59	24°  08'59	
	16190 Jan 16 04:05	30°  00		evening set	16196 Jul 18 18:22	27°  18'46	
direct	16190 Mar 21 23:45	28°  27'44		conjunction	16196 Aug 03 16:16	28°  14'40	-0°44'04
	16190 May 22 12:54	0°  00		minimum elong	16196 Aug 03 16:16	28°  14'41	0°44'30
evening set	16190 Jun 23 15:14	1°  43'15		max. Earth dist.	16196 Aug 03 23:09	28°  15'41	20.57065 AU
conjunction	16190 Jul 09 15:26	2°  40'38	-1°04'13	morning rise	16196 Aug 19 13:25	29°  10'28	
minimum elong	16190 Jul 09 15:26	2°  40'38	1°04'52		16196 Sep 03 09:09	0°  00	
max. Earth dist.	16190 Jul 09 20:08	2°  41'20	20.18882 AU	retrograde	16196 Nov 19 09:23	2°  18'33	
morning rise	16190 Jul 25 14:16	3°  37'48		opposition	16197 Feb 03 12:18	0°  20'02	-0°46'32
retrograde	16190 Oct 25 07:40	6°  49'58		min. Earth dist.	16197 Feb 03 05:23	0°  20'44	18.59880 AU
opposition	16191 Jan 08 20:37	4°  50'12	-1°09'56		16197 Feb 11 18:06	30°  00	
min. Earth dist.	16191 Jan 08 14:59	4°  50'47	18.22230 AU	direct	16197 Apr 21 10:45	28°  20'17	
direct	16191 Mar 26 17:07	2°  48'36			16197 Jun 25 05:32	0°  00	
evening set	16191 Jun 28 05:35	6°  03'09		evening set	16197 Jul 23 04:20	1°  29'09	
conjunction	16191 Jul 14 05:30	7°  00'17	-1°01'36	conjunction	16197 Aug 08 02:07	2°  24'51	-0°39'50
minimum elong	16191 Jul 14 05:31	7°  00'17	1°02'14	minimum elong	16197 Aug 08 02:08	2°  24'51	0°40'14
max. Earth dist.	16191 Jul 14 11:54	7°  01'14	20.25540 AU	max. Earth dist.	16197 Aug 08 09:55	2°  26'00	20.62594 AU
morning rise	16191 Jul 30 03:49	7°  57'12		morning rise	16197 Aug 23 23:01	3°  20'27	
retrograde	16191 Oct 29 21:06	11°  08'36		retrograde	16197 Nov 23 20:08	6°  27'55	
opposition	16192 Jan 13 12:31	9°  09'07	-1°06'49	opposition	16198 Feb 08 00:56	4°  29'30	-0°41'43
min. Earth dist.	16192 Jan 13 06:38	9°  09'44	18.28873 AU	min. Earth dist.	16198 Feb 07 17:34	4°  30'15	18.65228 AU
direct	16192 Mar 30 09:13	7°  07'51		direct	16198 Apr 26 01:11	2°  29'59	
evening set	16192 Jul 01 19:19	10°  21'27		evening set	16198 Jul 27 13:40	5°  29'57	
conjunction	16192 Jul 17 18:38	11°  18'18	-0°58'40	conjunction	16198 Aug 12 11:07	6°  33'27	-0°35'25
minimum elong	16192 Jul 17 18:38	11°  18'18	0°59'14	minimum elong	16198 Aug 12 11:07	6°  33'27	0°35'46
max. Earth dist.	16192 Jul 18 00:28	11°  19'11	20.32170 AU	max. Earth dist.	16198 Aug 12 18:08	6°  34'29	20.67773 AU
morning rise	16192 Aug 02 16:45	12°  14'59		morning rise	16198 Aug 28 08:04	7°  28'52	
	16192 Oct 01 23:31	15°  00		retrograde	16198 Nov 28 04:56	10°  35'47	
retrograde	16192 Nov 02 10:37	15°  25'41		opposition	16199 Feb 12 13:03	8°  37'25	-0°36'43
	16192 Dec 04 14:34	15°  00		min. Earth dist.	16199 Feb 12 06:06	8°  38'07	18.70241 AU
opposition	16193 Jan 17 04:00	13°  26'26	-1°03'22	direct	16199 Apr 30 12:24	6°  38'04	
min. Earth dist.	16193 Jan 16 21:35	13°  27'06	18.35468 AU	evening set	16199 Jul 31 22:14	9°  45'10	
direct	16193 Apr 04 00:54	11°  25'31		conjunction	16199 Aug 16 19:36	10°  40'29	-0°30'50
evening set	16193 Jul 06 08:00	14°  38'08		minimum elong	16199 Aug 16 19:37	10°  40'29	0°31'07
	16193 Jul 12 13:11	15°  00		max. Earth dist.	16199 Aug 17 03:31	10°  41'38	20.72622 AU
conjunction	16193 Jul 22 07:04	15°  34'45	-0°55'25	morning rise	16199 Sep 01 16:21	11°  35'43	
minimum elong	16193 Jul 22 07:04	15°  34'45	0°55'59	retrograde	16199 Dec 02 14:00	14°  42'05	
max. Earth dist.	16193 Jul 22 14:24	15°  35'51	20.38707 AU	opposition	16200 Feb 17 00:25	12°  43'46	-0°31'33
morning rise	16193 Aug 07 04:45	16°  31'11		min. Earth dist.	16200 Feb 16 16:47	12°  44'32	18.74923 AU
retrograde	16193 Nov 06 23:31	19°  41'12		direct	16200 May 05 01:37	10°  44'36	
				evening set	16200 Aug 05 06:17	13°  50'53	



conjunction	16200 Aug 21 03:20	14° <u>14</u> 46'00	-0°26'07	direct	16206 May 30 09:25	5° <u>00</u> 0'04	
minimum elong	16200 Aug 21 03:20	14° <u>14</u> 46'00	0°26'23	evening set	16206 Aug 29 20:15	8° <u>02</u> 4'42	
max. Earth dist.	16200 Aug 21 10:45	14° <u>14</u> 47'05	20.77164 AU				
morning rise	16200 Sep 06 00:09	15° <u>14</u> 41'05		conjunction	16206 Sep 14 16:51	8° <u>05</u> 7'06	0°03'46
retrograde	16200 Dec 06 22:19	18° <u>14</u> 46'59		minimum elong	16206 Sep 14 16:51	8° <u>05</u> 7'06	0°03'49
opposition	16201 Feb 21 11:30	16° <u>14</u> 48'41	-0°26'14	behind sun begin	16206 Sep 14 10:20	8° <u>05</u> 56'11	
min. Earth dist.	16201 Feb 21 04:09	16° <u>14</u> 49'26	18.79342 AU	behind sun end	16206 Sep 14 23:22	8° <u>05</u> 58'01	
direct	16201 May 09 11:14	14° <u>14</u> 49'41		max. Earth dist.	16206 Sep 15 01:25	8° <u>05</u> 58'19	20.98688 AU
evening set	16201 Aug 09 13:29	17° <u>14</u> 55'12		morning rise	16206 Sep 30 13:59	9° <u>05</u> 51'35	
				retrograde	16206 Dec 31 20:15	12° <u>05</u> 55'53	
conjunction	16201 Aug 25 10:30	18° <u>14</u> 50'10	-0°21'17	opposition	16207 Mar 18 20:45	10° <u>05</u> 58'01	0°06'52
minimum elong	16201 Aug 25 10:31	18° <u>14</u> 50'10	0°21'29	min. Earth dist.	16207 Mar 18 12:44	10° <u>05</u> 58'50	18.99924 AU
max. Earth dist.	16201 Aug 25 18:59	18° <u>14</u> 51'23	20.81455 AU	direct	16207 Jun 03 15:54	9° <u>05</u> 00'17	
morning rise	16201 Sep 10 07:12	19° <u>14</u> 45'06		evening set	16207 Sep 03 01:36	12° <u>05</u> 02'32	
retrograde	16201 Dec 11 06:29	22° <u>14</u> 50'34					
opposition	16202 Feb 25 21:56	20° <u>14</u> 52'20	-0°20'50	conjunction	16207 Sep 18 22:17	12° <u>05</u> 56'51	0°08'44
min. Earth dist.	16202 Feb 25 13:34	20° <u>14</u> 53'10	18.83502 AU	minimum elong	16207 Sep 18 22:18	12° <u>05</u> 56'51	0°08'49
direct	16202 May 13 22:44	18° <u>14</u> 53'31		behind sun begin	16207 Sep 18 16:37	12° <u>05</u> 56'03	
evening set	16202 Aug 13 20:26	21° <u>14</u> 58'19		behind sun end	16207 Sep 19 03:59	12° <u>05</u> 57'39	
				max. Earth dist.	16207 Sep 19 07:16	12° <u>05</u> 58'08	21.01041 AU
conjunction	16202 Aug 29 17:13	22° <u>14</u> 53'09	-0°16'22	morning rise	16207 Oct 04 19:27	13° <u>05</u> 51'16	
minimum elong	16202 Aug 29 17:14	22° <u>14</u> 53'09	0°16'32	retrograde	16208 Jan 05 04:25	16° <u>05</u> 55'31	
max. Earth dist.	16202 Aug 30 01:16	22° <u>14</u> 54'18	20.85490 AU	opposition	16208 Mar 22 05:17	14° <u>05</u> 57'42	0°12'22
morning rise	16202 Sep 14 14:02	23° <u>14</u> 47'58		min. Earth dist.	16208 Mar 21 20:39	14° <u>05</u> 58'34	19.02040 AU
retrograde	16202 Dec 15 14:21	26° <u>14</u> 53'05		direct	16208 Jun 07 00:25	13° <u>05</u> 00'08	
opposition	16203 Mar 02 07:53	24° <u>14</u> 54'53	-0°15'21	evening set	16208 Sep 06 07:02	16° <u>05</u> 02'03	
min. Earth dist.	16203 Mar 01 23:58	24° <u>14</u> 55'41	18.87418 AU				
direct	16203 May 18 07:01	22° <u>14</u> 56'17		conjunction	16208 Sep 22 03:38	16° <u>05</u> 56'19	0°13'40
evening set	16203 Aug 18 02:51	26° <u>14</u> 00'28		minimum elong	16208 Sep 22 03:38	16° <u>05</u> 56'19	0°13'49
				behind sun begin	16208 Sep 22 00:06	16° <u>05</u> 55'50	
conjunction	16203 Sep 02 23:40	26° <u>14</u> 55'09	-0°11'24	behind sun end	16208 Sep 22 07:09	16° <u>05</u> 56'49	
minimum elong	16203 Sep 02 23:40	26° <u>14</u> 55'09	0°11'31	max. Earth dist.	16208 Sep 22 11:44	16° <u>05</u> 57'28	21.02911 AU
behind sun begin	16203 Sep 02 18:54	26° <u>14</u> 54'29		morning rise	16208 Oct 08 01:02	17° <u>05</u> 50'43	
behind sun end	16203 Sep 03 04:26	26° <u>14</u> 55'50		retrograde	16209 Jan 08 10:42	20° <u>05</u> 54'56	
max. Earth dist.	16203 Sep 03 08:35	26° <u>14</u> 56'26	20.89273 AU	opposition	16209 Mar 26 13:53	18° <u>05</u> 57'09	0°17'48
morning rise	16203 Sep 18 20:25	27° <u>14</u> 49'52		min. Earth dist.	16209 Mar 26 06:31	18° <u>05</u> 57'53	19.03668 AU
	16203 Nov 02 13:49	0° <u>05</u>		direct	16209 Jun 11 06:23	16° <u>05</u> 59'43	
retrograde	16203 Dec 19 22:15	0° <u>05</u> 54'41		evening set	16209 Sep 10 12:08	20° <u>05</u> 01'20	
	16204 Feb 06 23:18	30° <u>05</u>					
opposition	16204 Mar 05 17:30	28° <u>05</u> 56'35	-0°09'49	conjunction	16209 Sep 26 08:56	20° <u>05</u> 55'34	0°18'32
min. Earth dist.	16204 Mar 05 08:36	28° <u>05</u> 57'29	18.91049 AU	minimum elong	16209 Sep 26 08:56	20° <u>05</u> 55'34	0°18'43
direct	16204 May 21 16:59	26° <u>05</u> 58'12		max. Earth dist.	16209 Sep 26 17:08	20° <u>05</u> 56'44	21.04273 AU
	16204 Aug 20 20:05	0° <u>05</u>		morning rise	16209 Oct 12 06:27	21° <u>05</u> 49'56	
evening set	16204 Aug 21 08:54	0° <u>05</u> 01'48		retrograde	16210 Jan 12 18:56	24° <u>05</u> 54'10	
				opposition	16210 Mar 30 22:09	22° <u>05</u> 56'23	0°23'09
conjunction	16204 Sep 06 05:32	0° <u>05</u> 56'23	-0°06'25	min. Earth dist.	16210 Mar 30 14:17	22° <u>05</u> 57'10	19.04748 AU
minimum elong	16204 Sep 06 05:31	0° <u>05</u> 56'23	0°06'28	direct	16210 Jun 15 14:14	20° <u>05</u> 59'01	
behind sun begin	16204 Sep 05 23:19	0° <u>05</u> 55'30		evening set	16210 Sep 14 17:27	24° <u>05</u> 00'24	
behind sun end	16204 Sep 06 11:43	0° <u>05</u> 57'15					
max. Earth dist.	16204 Sep 06 14:01	0° <u>05</u> 57'35	20.92754 AU	conjunction	16210 Sep 30 14:15	24° <u>05</u> 54'37	0°23'19
morning rise	16204 Sep 22 02:26	1° <u>05</u> 51'00		minimum elong	16210 Sep 30 14:15	24° <u>05</u> 54'37	0°23'33
retrograde	16204 Dec 23 05:33	4° <u>05</u> 55'36		max. Earth dist.	16210 Sep 30 21:17	24° <u>05</u> 55'37	21.05066 AU
opposition	16205 Mar 10 02:57	2° <u>05</u> 57'34	-0°04'15	morning rise	16210 Oct 16 12:03	25° <u>05</u> 48'58	
min. Earth dist.	16205 Mar 09 18:43	2° <u>05</u> 58'24	18.94378 AU	retrograde	16211 Jan 17 01:02	28° <u>05</u> 53'15	
direct	16205 May 26 00:27	0° <u>05</u> 59'25		opposition	16211 Apr 04 06:20	26° <u>05</u> 55'24	0°28'22
evening set	16205 Aug 25 14:38	4° <u>05</u> 02'30		min. Earth dist.	16211 Apr 03 23:58	26° <u>05</u> 56'02	19.05268 AU
				direct	16211 Jun 19 20:14	24° <u>05</u> 58'04	
conjunction	16205 Sep 10 11:21	4° <u>05</u> 56'59	-0°01'22	evening set	16211 Sep 18 22:34	27° <u>05</u> 59'15	
minimum elong	16205 Sep 10 11:20	4° <u>05</u> 56'59	0°01'24				
behind sun begin	16205 Sep 10 04:46	4° <u>05</u> 56'04		conjunction	16211 Oct 04 19:36	28° <u>05</u> 53'27	0°27'59
behind sun end	16205 Sep 10 17:55	4° <u>05</u> 57'54		minimum elong	16211 Oct 04 19:35	28° <u>05</u> 53'27	0°28'16
max. Earth dist.	16205 Sep 10 20:33	4° <u>05</u> 58'18	20.95914 AU	max. Earth dist.	16211 Oct 05 02:36	28° <u>05</u> 54'27	21.05313 AU
morning rise	16205 Sep 26 08:15	5° <u>05</u> 51'31		morning rise	16211 Oct 20 17:34	29° <u>05</u> 47'49	
asc. node	16205 Dec 19 04:26	8° <u>05</u> 54'11			16211 Oct 24 09:13	0° <u>05</u>	
retrograde	16205 Dec 27 13:35	8° <u>05</u> 55'57		retrograde	16212 Jan 21 09:08	2° <u>05</u> 52'09	
opposition	16206 Mar 14 11:52	6° <u>05</u> 58'01	0°01'19	opposition	16212 Apr 07 14:23	0° <u>05</u> 54'13	0°33'28
min. Earth dist.	16206 Mar 14 02:50	6° <u>05</u> 58'55	18.97350 AU	min. Earth dist.	16212 Apr 07 07:26	0° <u>05</u> 54'54	19.05242 AU

	16212 May 01 01:17	30° $\mathbb{R}\mathbb{L}$		conjunction	16218 Nov 01 10:50	26° $\mathbb{M}$ 46'34	0°55'47
direct	16212 Jun 23 03:40	28° $\mathbb{L}$ 56'53		minimum elong	16218 Nov 01 10:50	26° $\mathbb{M}$ 46'34	0°56'21
	16212 Aug 13 02:11	0° $\mathbb{M}$		max. Earth dist.	16218 Nov 01 15:33	26° $\mathbb{M}$ 47'15	20.95137 AU
evening set	16212 Sep 22 03:34	1° $\mathbb{M}$ 57'53		morning rise	16218 Nov 17 11:10	27° $\mathbb{M}$ 41'27	
					16219 Jan 05 06:29	0° $\mathbb{L}$	
conjunction	16212 Oct 08 00:40	2° $\mathbb{M}$ 52'05	0°32'31	retrograde	16219 Feb 18 16:26	0° $\mathbb{L}$ 47'42	
minimum elong	16212 Oct 08 00:39	2° $\mathbb{M}$ 52'05	0°32'50		16219 Apr 05 10:02	30° $\mathbb{R}\mathbb{M}$	
max. Earth dist.	16212 Oct 08 06:49	2° $\mathbb{M}$ 52'58	21.05033 AU	opposition	16219 May 06 22:22	28° $\mathbb{M}$ 48'52	1°03'28
morning rise	16212 Oct 23 22:59	3° $\mathbb{M}$ 46'29		min. Earth dist.	16219 May 06 18:16	28° $\mathbb{M}$ 49'17	18.93782 AU
retrograde	16213 Jan 24 15:27	6° $\mathbb{M}$ 50'57		direct	16219 Jul 21 22:41	26° $\mathbb{M}$ 51'13	
opposition	16213 Apr 11 22:29	4° $\mathbb{M}$ 52'51	0°38'24	evening set	16219 Oct 20 18:45	29° $\mathbb{M}$ 52'57	
min. Earth dist.	16213 Apr 11 16:51	4° $\mathbb{M}$ 53'25	19.04734 AU		16219 Oct 22 20:53	0° $\mathbb{L}$	
direct	16213 Jun 27 09:25	2° $\mathbb{M}$ 55'29					
evening set	16213 Sep 26 08:36	5° $\mathbb{M}$ 56'22		conjunction	16219 Nov 05 17:45	0° $\mathbb{L}$ 47'40	0°58'50
				minimum elong	16219 Nov 05 17:44	0° $\mathbb{L}$ 47'40	0°59'25
conjunction	16213 Oct 12 05:58	6° $\mathbb{M}$ 50'36	0°36'53	max. Earth dist.	16219 Nov 05 22:27	0° $\mathbb{L}$ 48'21	20.92283 AU
minimum elong	16213 Oct 12 05:58	6° $\mathbb{M}$ 50'36	0°37'16	morning rise	16219 Nov 21 18:27	1° $\mathbb{L}$ 42'41	
max. Earth dist.	16213 Oct 12 12:20	6° $\mathbb{M}$ 51'31	21.04305 AU	retrograde	16220 Feb 23 03:02	4° $\mathbb{L}$ 49'25	
morning rise	16213 Oct 28 04:32	7° $\mathbb{M}$ 45'02		opposition	16220 May 10 06:57	2° $\mathbb{L}$ 50'30	1°06'42
retrograde	16214 Jan 28 23:44	10° $\mathbb{M}$ 49'38		min. Earth dist.	16220 May 10 02:14	2° $\mathbb{L}$ 50'59	18.90743 AU
opposition	16214 Apr 16 06:09	8° $\mathbb{M}$ 51'25	0°43'10	direct	16220 Jul 25 06:36	0° $\mathbb{L}$ 52'49	
min. Earth dist.	16214 Apr 15 23:48	8° $\mathbb{M}$ 52'03	19.03796 AU	evening set	16220 Oct 24 01:43	3° $\mathbb{L}$ 54'55	
direct	16214 Jul 01 16:46	6° $\mathbb{M}$ 54'00					
evening set	16214 Sep 30 13:48	9° $\mathbb{M}$ 54'51		conjunction	16220 Nov 09 01:01	4° $\mathbb{L}$ 49'47	1°01'36
				minimum elong	16220 Nov 09 01:01	4° $\mathbb{L}$ 49'47	1°02'14
conjunction	16214 Oct 16 11:17	10° $\mathbb{M}$ 49'07	0°41'06	max. Earth dist.	16220 Nov 09 04:54	4° $\mathbb{L}$ 50'21	20.89050 AU
minimum elong	16214 Oct 16 11:16	10° $\mathbb{M}$ 49'07	0°41'30	morning rise	16220 Nov 25 02:13	5° $\mathbb{L}$ 44'57	
max. Earth dist.	16214 Oct 16 16:54	10° $\mathbb{M}$ 49'55	21.03162 AU	retrograde	16221 Feb 26 12:37	8° $\mathbb{L}$ 52'15	
morning rise	16214 Nov 01 10:12	11° $\mathbb{M}$ 43'37		opposition	16221 May 14 16:00	6° $\mathbb{L}$ 53'13	1°09'37
retrograde	16215 Feb 02 06:18	14° $\mathbb{M}$ 48'26		min. Earth dist.	16221 May 14 12:56	6° $\mathbb{L}$ 53'32	18.87320 AU
opposition	16215 Apr 20 14:05	12° $\mathbb{M}$ 50'03	0°47'43	direct	16221 Jul 29 12:23	4° $\mathbb{L}$ 55'27	
min. Earth dist.	16215 Apr 20 08:57	12° $\mathbb{M}$ 50'34	19.02478 AU	evening set	16221 Oct 28 09:18	7° $\mathbb{L}$ 58'00	
direct	16215 Jul 05 21:47	10° $\mathbb{M}$ 52'35					
evening set	16215 Oct 04 18:57	13° $\mathbb{M}$ 53'27		conjunction	16221 Nov 13 09:05	8° $\mathbb{L}$ 53'02	1°04'05
				minimum elong	16221 Nov 13 09:05	8° $\mathbb{L}$ 53'02	1°04'43
conjunction	16215 Oct 20 16:43	14° $\mathbb{M}$ 47'47	0°45'06	max. Earth dist.	16221 Nov 13 12:32	8° $\mathbb{L}$ 53'32	20.85424 AU
minimum elong	16215 Oct 20 16:43	14° $\mathbb{M}$ 47'47	0°45'34	morning rise	16221 Nov 29 10:42	9° $\mathbb{L}$ 48'22	
max. Earth dist.	16215 Oct 20 22:39	14° $\mathbb{M}$ 48'38	21.01666 AU	retrograde	16222 Mar 03 00:06	12° $\mathbb{L}$ 56'14	
	16215 Oct 24 05:46	15° $\mathbb{M}$		opposition	16222 May 19 01:04	10° $\mathbb{L}$ 57'06	1°12'13
morning rise	16215 Nov 05 15:53	15° $\mathbb{M}$ 42'21		min. Earth dist.	16222 May 18 21:43	10° $\mathbb{L}$ 57'26	18.83476 AU
retrograde	16216 Feb 06 15:25	18° $\mathbb{M}$ 47'26		direct	16222 Aug 02 20:31	8° $\mathbb{L}$ 59'14	
opposition	16216 Apr 23 21:55	16° $\mathbb{M}$ 48'56	0°52'02	evening set	16222 Nov 01 17:34	12° $\mathbb{L}$ 02'18	
min. Earth dist.	16216 Apr 23 15:54	16° $\mathbb{M}$ 49'32	19.00807 AU				
	16216 Jun 20 14:51	15° $\mathbb{R}\mathbb{M}$		conjunction	16222 Nov 17 17:42	12° $\mathbb{L}$ 57'30	1°06'16
direct	16216 Jul 09 05:21	14° $\mathbb{M}$ 51'25		minimum elong	16222 Nov 17 17:42	12° $\mathbb{L}$ 57'30	1°06'55
	16216 Jul 27 14:07	15° $\mathbb{M}$		max. Earth dist.	16222 Nov 17 20:01	12° $\mathbb{L}$ 57'50	20.81347 AU
evening set	16216 Oct 08 00:28	17° $\mathbb{M}$ 52'24		morning rise	16222 Dec 03 19:47	13° $\mathbb{L}$ 53'01	
				retrograde	16223 Mar 07 10:41	17° $\mathbb{L}$ 01'29	
conjunction	16216 Oct 23 22:25	18° $\mathbb{M}$ 46'48	0°48'54	opposition	16223 May 23 10:51	15° $\mathbb{L}$ 02'12	1°14'27
minimum elong	16216 Oct 23 22:24	18° $\mathbb{M}$ 46'48	0°49'23	min. Earth dist.	16223 May 23 09:17	15° $\mathbb{L}$ 02'21	18.79179 AU
max. Earth dist.	16216 Oct 24 03:42	18° $\mathbb{M}$ 47'34	20.99821 AU	direct	16223 Aug 07 03:33	13° $\mathbb{L}$ 04'12	
morning rise	16216 Nov 08 21:59	19° $\mathbb{M}$ 41'27		evening set	16223 Nov 06 02:11	16° $\mathbb{L}$ 07'47	
retrograde	16217 Feb 09 22:29	22° $\mathbb{M}$ 46'53					
opposition	16217 Apr 28 05:58	20° $\mathbb{M}$ 48'15	0°56'07	conjunction	16223 Nov 22 02:49	17° $\mathbb{L}$ 03'11	1°08'07
min. Earth dist.	16217 Apr 28 01:12	20° $\mathbb{M}$ 48'44	18.98806 AU	minimum elong	16223 Nov 22 02:49	17° $\mathbb{L}$ 03'11	1°08'47
direct	16217 Jul 13 09:58	18° $\mathbb{M}$ 50'42		max. Earth dist.	16223 Nov 22 04:28	17° $\mathbb{L}$ 03'25	20.76828 AU
evening set	16217 Oct 12 06:06	21° $\mathbb{M}$ 51'50		morning rise	16223 Dec 08 05:23	17° $\mathbb{L}$ 58'53	
				retrograde	16224 Mar 10 23:19	21° $\mathbb{L}$ 07'59	
conjunction	16217 Oct 28 04:28	22° $\mathbb{M}$ 46'20	0°52'28	opposition	16224 May 26 20:50	19° $\mathbb{L}$ 08'30	1°16'20
minimum elong	16217 Oct 28 04:27	22° $\mathbb{M}$ 46'20	0°52'59	min. Earth dist.	16224 May 26 19:00	19° $\mathbb{L}$ 08'41	18.74433 AU
max. Earth dist.	16217 Oct 28 09:55	22° $\mathbb{M}$ 47'07	20.97656 AU	direct	16224 Aug 10 12:26	17° $\mathbb{L}$ 10'18	
morning rise	16217 Nov 13 04:22	23° $\mathbb{M}$ 41'06		evening set	16224 Nov 09 11:30	20° $\mathbb{L}$ 14'28	
retrograde	16218 Feb 14 08:23	26° $\mathbb{M}$ 46'54					
opposition	16218 May 02 14:00	24° $\mathbb{M}$ 48'10	0°59'56	conjunction	16224 Nov 25 12:37	21° $\mathbb{L}$ 10'04	1°09'38
min. Earth dist.	16218 May 02 08:29	24° $\mathbb{M}$ 48'43	18.96467 AU	minimum elong	16224 Nov 25 12:36	21° $\mathbb{L}$ 10'04	1°10'19
direct	16218 Jul 17 17:42	22° $\mathbb{M}$ 50'34		max. Earth dist.	16224 Nov 25 13:13	21° $\mathbb{L}$ 10'09	20.71865 AU
evening set	16218 Oct 16 12:16	25° $\mathbb{M}$ 51'58		morning rise	16224 Dec 11 15:43	22° $\mathbb{L}$ 05'58	

retrograde	16225 Mar 15 10:14	25° $\nearrow$ 15'42		evening set	16231 Dec 09 21:54	19° $\searrow$ 38'09	
opposition	16225 May 31 07:11	23° $\nearrow$ 16'00	1°17'51				
min. Earth dist.	16225 May 31 07:06	23° $\nearrow$ 16'00	18.69275 AU	conjunction	16231 Dec 26 03:07	20° $\searrow$ 35'29	1°09'48
direct	16225 Aug 14 20:47	21° $\nearrow$ 17'34		minimum elong	16231 Dec 26 03:07	20° $\searrow$ 35'29	1°10'29
evening set	16225 Nov 13 21:19	24° $\nearrow$ 22'20		max. Earth dist.	16231 Dec 25 23:53	20° $\searrow$ 35'00	20.30311 AU
				morning rise	16232 Jan 11 10:16	21° $\searrow$ 33'06	
conjunction	16225 Nov 29 23:01	25° $\nearrow$ 18'09	1°10'47	retrograde	16232 Apr 14 12:49	24° $\searrow$ 47'53	
minimum elong	16225 Nov 29 23:01	25° $\nearrow$ 18'09	1°11'30	opposition	16232 Jun 29 19:22	22° $\searrow$ 46'31	1°16'42
max. Earth dist.	16225 Nov 29 22:56	25° $\nearrow$ 18'08	20.66535 AU	min. Earth dist.	16232 Jun 29 21:41	22° $\searrow$ 46'17	18.27195 AU
morning rise	16225 Dec 16 02:41	26° $\nearrow$ 14'16		direct	16232 Sep 13 00:40	20° $\searrow$ 46'11	
retrograde	16226 Mar 19 23:53	29° $\nearrow$ 24'39		evening set	16232 Dec 13 12:46	23° $\searrow$ 56'30	
opposition	16226 Jun 04 17:47	27° $\nearrow$ 24'41	1°18'57				
min. Earth dist.	16226 Jun 04 17:24	27° $\nearrow$ 24'44	18.63776 AU	conjunction	16232 Dec 29 18:43	24° $\searrow$ 54'08	1°08'15
direct	16226 Aug 19 06:40	25° $\nearrow$ 26'00		minimum elong	16232 Dec 29 18:43	24° $\searrow$ 54'08	1°08'56
evening set	16226 Nov 18 07:42	28° $\nearrow$ 31'25		max. Earth dist.	16232 Dec 29 15:34	24° $\searrow$ 53'40	20.24022 AU
				morning rise	16233 Jan 15 02:22	25° $\searrow$ 52'01	
conjunction	16226 Dec 04 09:54	29° $\nearrow$ 27'28	1°11'36	retrograde	16233 Apr 19 04:31	29° $\searrow$ 07'35	
minimum elong	16226 Dec 04 09:53	29° $\nearrow$ 27'28	1°12'18	opposition	16233 Jul 04 09:33	27° $\searrow$ 06'04	1°14'47
max. Earth dist.	16226 Dec 04 09:10	29° $\nearrow$ 27'21	20.60883 AU	min. Earth dist.	16233 Jul 04 12:54	27° $\searrow$ 05'43	18.20899 AU
	16226 Dec 13 16:51	0° $\searrow$		direct	16233 Sep 17 12:42	25° $\searrow$ 05'29	
morning rise	16226 Dec 20 14:04	0° $\searrow$ 23'49		evening set	16233 Dec 18 04:38	28° $\searrow$ 16'47	
retrograde	16227 Mar 24 11:15	3° $\searrow$ 34'51					
opposition	16227 Jun 09 04:54	1° $\searrow$ 34'39	1°19'39	conjunction	16234 Jan 03 11:09	29° $\searrow$ 14'41	1°06'19
min. Earth dist.	16227 Jun 09 05:58	1° $\searrow$ 34'32	18.58003 AU	minimum elong	16234 Jan 03 11:09	29° $\searrow$ 14'41	1°06'57
	16227 Jul 23 11:03	30° $\nwarrow$		max. Earth dist.	16234 Jan 03 06:48	29° $\searrow$ 14'02	20.17733 AU
direct	16227 Aug 23 15:45	29° $\nearrow$ 35'41			16234 Jan 16 03:38	0° $\approx$	
	16227 Sep 23 08:38	0° $\searrow$		morning rise	16234 Jan 19 19:30	0° $\approx$ 12'52	
evening set	16227 Nov 22 18:43	2° $\searrow$ 41'48		retrograde	16234 Apr 23 23:14	3° $\approx$ 29'15	
				opposition	16234 Jul 09 00:25	1° $\approx$ 27'34	1°12'25
conjunction	16227 Dec 08 21:29	3° $\searrow$ 38'04	1°12'01	min. Earth dist.	16234 Jul 09 03:50	1° $\approx$ 27'12	18.14598 AU
minimum elong	16227 Dec 08 21:29	3° $\searrow$ 38'04	1°12'44		16234 Aug 16 18:27	30° $\nwarrow$	
max. Earth dist.	16227 Dec 08 20:12	3° $\searrow$ 37'53	20.55016 AU	direct	16234 Sep 22 02:38	29° $\searrow$ 26'44	
morning rise	16227 Dec 25 02:16	4° $\searrow$ 34'39			16234 Oct 27 16:13	0° $\approx$	
retrograde	16228 Mar 28 01:58	7° $\searrow$ 46'25		evening set	16234 Dec 22 21:16	2° $\approx$ 39'01	
opposition	16228 Jun 12 16:20	5° $\searrow$ 45'56	1°19'56				
min. Earth dist.	16228 Jun 12 16:59	5° $\searrow$ 45'52	18.52044 AU	conjunction	16235 Jan 08 04:30	3° $\approx$ 37'13	1°03'58
direct	16228 Aug 27 03:00	3° $\searrow$ 46'40		minimum elong	16235 Jan 08 04:30	3° $\approx$ 37'13	1°04'36
evening set	16228 Nov 26 06:22	6° $\searrow$ 53'33		max. Earth dist.	16235 Jan 08 00:17	3° $\approx$ 36'35	20.11410 AU
				morning rise	16235 Jan 24 13:15	4° $\approx$ 35'41	
conjunction	16228 Dec 12 09:45	7° $\searrow$ 50'05	1°12'03	retrograde	16235 Apr 28 17:06	7° $\approx$ 52'52	
minimum elong	16228 Dec 12 09:45	7° $\searrow$ 50'05	1°12'46	opposition	16235 Jul 13 16:04	5° $\approx$ 51'02	1°09'38
max. Earth dist.	16228 Dec 12 08:07	7° $\searrow$ 49'50	20.48970 AU	min. Earth dist.	16235 Jul 13 20:26	5° $\approx$ 50'34	18.08255 AU
morning rise	16228 Dec 28 15:04	8° $\searrow$ 46'55		direct	16235 Sep 26 16:24	3° $\approx$ 49'57	
retrograde	16229 Apr 01 14:10	11° $\searrow$ 59'23		evening set	16235 Dec 27 15:04	7° $\approx$ 03'14	
opposition	16229 Jun 17 04:22	9° $\searrow$ 58'39	1°19'47				
min. Earth dist.	16229 Jun 17 06:16	9° $\searrow$ 58'28	18.45934 AU	conjunction	16236 Jan 12 22:49	8° $\approx$ 01'43	1°01'14
direct	16229 Aug 31 12:32	7° $\searrow$ 59'07		minimum elong	16236 Jan 12 22:50	8° $\approx$ 01'43	1°01'50
evening set	16229 Nov 30 18:50	11° $\searrow$ 06'48		max. Earth dist.	16236 Jan 12 16:59	8° $\approx$ 00'50	20.05058 AU
				morning rise	16236 Jan 29 08:16	9° $\approx$ 00'28	
conjunction	16229 Dec 16 22:48	12° $\searrow$ 03'34	1°11'42	retrograde	16236 May 02 13:17	12° $\approx$ 18'27	
minimum elong	16229 Dec 16 22:48	12° $\searrow$ 03'34	1°12'25	opposition	16236 Jul 17 08:18	10° $\approx$ 16'25	1°06'24
max. Earth dist.	16229 Dec 16 20:28	12° $\searrow$ 03'14	20.42815 AU	min. Earth dist.	16236 Jul 17 13:06	10° $\approx$ 15'55	18.01884 AU
morning rise	16230 Jan 02 04:45	13° $\searrow$ 00'40		direct	16236 Sep 30 07:50	8° $\approx$ 15'02	
retrograde	16230 Apr 06 06:04	16° $\searrow$ 13'52		evening set	16236 Dec 31 09:39	11° $\approx$ 29'19	
opposition	16230 Jun 21 16:39	14° $\searrow$ 12'55	1°19'12				
min. Earth dist.	16230 Jun 21 18:12	14° $\searrow$ 12'45	18.39734 AU	conjunction	16237 Jan 16 18:12	12° $\approx$ 28'06	0°58'08
direct	16230 Sep 05 00:57	12° $\searrow$ 13'06		minimum elong	16237 Jan 16 18:13	12° $\approx$ 28'06	0°58'42
evening set	16230 Dec 05 08:02	15° $\searrow$ 21'37		max. Earth dist.	16237 Jan 16 12:27	12° $\approx$ 27'14	19.98659 AU
				morning rise	16237 Feb 02 04:02	13° $\approx$ 27'08	
conjunction	16230 Dec 21 12:39	16° $\searrow$ 18'41	1°10'57		16237 Mar 02 10:25	15° $\approx$	
minimum elong	16230 Dec 21 12:39	16° $\searrow$ 18'41	1°11'39	retrograde	16237 May 07 08:46	16° $\approx$ 45'51	
max. Earth dist.	16230 Dec 21 10:11	16° $\searrow$ 18'19	20.36574 AU		16237 Jul 15 14:47	15° $\nwarrow$	
morning rise	16231 Jan 06 19:06	17° $\searrow$ 16'01		opposition	16237 Jul 22 01:15	14° $\approx$ 43'38	1°02'46
retrograde	16231 Apr 10 19:32	20° $\searrow$ 30'00		min. Earth dist.	16237 Jul 22 06:48	14° $\approx$ 43'03	17.95464 AU
opposition	16231 Jun 26 05:46	18° $\searrow$ 28'50	1°18'10	direct	16237 Oct 04 23:25	12° $\approx$ 41'57	
min. Earth dist.	16231 Jun 26 08:21	18° $\searrow$ 28'34	18.33472 AU		16237 Dec 19 11:03	15° $\approx$	
direct	16231 Sep 09 11:35	16° $\searrow$ 28'46		evening set	16238 Jan 05 05:15	15° $\approx$ 57'12	

conjunction	16238 Jan 21 14:15	16° $\approx$ 56'17	0°54'39	retrograde	16244 Jun 08 17:00	18° $\cancel{H}$ 42'47	
minimum elong	16238 Jan 21 14:15	16° $\approx$ 56'17	0°55'11	opposition	16244 Aug 22 15:13	16° $\cancel{H}$ 39'11	0°27'04
max. Earth dist.	16238 Jan 21 06:40	16° $\approx$ 55'08	19.92249 AU	min. Earth dist.	16244 Aug 22 22:51	16° $\cancel{H}$ 38'21	17.55146 AU
morning rise	16238 Feb 07 00:43	17° $\approx$ 55'35		direct	16244 Nov 05 11:54	14° $\cancel{H}$ 35'18	
retrograde	16238 May 12 05:42	21° $\approx$ 15'02		evening set	16245 Feb 06 18:29	17° $\cancel{H}$ 57'02	
opposition	16238 Jul 26 18:43	19° $\approx$ 12'35	0°58'43				
min. Earth dist.	16238 Jul 27 00:53	19° $\approx$ 11'56	17.89069 AU	conjunction	16245 Feb 23 06:58	18° $\cancel{H}$ 57'55	0°21'32
direct	16238 Oct 09 16:32	17° $\approx$ 10'33		minimum elong	16245 Feb 23 06:58	18° $\cancel{H}$ 57'55	0°21'45
evening set	16239 Jan 10 01:27	20° $\approx$ 26'47		max. Earth dist.	16245 Feb 22 22:45	18° $\cancel{H}$ 56'39	19.52938 AU
				morning rise	16245 Mar 11 19:38	19° $\cancel{H}$ 58'51	
conjunction	16239 Jan 26 11:12	21° $\approx$ 26'10	0°50'49	retrograde	16245 Jun 13 16:52	23° $\cancel{H}$ 22'24	
minimum elong	16239 Jan 26 11:12	21° $\approx$ 26'10	0°51'19	opposition	16245 Aug 27 12:29	21° $\cancel{H}$ 18'43	0°20'52
max. Earth dist.	16239 Jan 26 04:07	21° $\approx$ 25'05	19.85888 AU	min. Earth dist.	16245 Aug 27 19:07	21° $\cancel{H}$ 18'00	17.50849 AU
morning rise	16239 Feb 11 21:59	22° $\approx$ 25'44		direct	16245 Nov 10 10:37	19° $\cancel{H}$ 14'39	
retrograde	16239 May 17 02:21	25° $\approx$ 45'51		evening set	16246 Feb 11 19:46	22° $\cancel{H}$ 37'13	
opposition	16239 Jul 31 12:48	23° $\approx$ 43'12	0°54'16				
min. Earth dist.	16239 Jul 31 19:14	23° $\approx$ 42'30	17.82756 AU	conjunction	16246 Feb 28 08:22	23° $\cancel{H}$ 38'16	0°15'53
direct	16239 Oct 14 09:37	21° $\approx$ 40'50		minimum elong	16246 Feb 28 08:22	23° $\cancel{H}$ 38'16	0°16'02
evening set	16240 Jan 14 22:28	24° $\approx$ 58'01		max. Earth dist.	16246 Feb 27 23:37	23° $\cancel{H}$ 36'55	19.48889 AU
				morning rise	16246 Mar 16 21:10	24° $\cancel{H}$ 39'23	
conjunction	16240 Jan 31 08:38	25° $\approx$ 57'39	0°46'39	retrograde	16246 Jun 18 15:47	28° $\cancel{H}$ 03'21	
minimum elong	16240 Jan 31 08:39	25° $\approx$ 57'39	0°47'06	opposition	16246 Sep 01 10:24	25° $\cancel{H}$ 59'39	0°14'29
max. Earth dist.	16240 Jan 30 23:58	25° $\approx$ 56'20	19.79660 AU	min. Earth dist.	16246 Sep 01 17:49	25° $\cancel{H}$ 58'51	17.47058 AU
morning rise	16240 Feb 16 20:04	26° $\approx$ 57'30		direct	16246 Nov 15 08:18	23° $\cancel{H}$ 55'25	
	16240 Apr 24 15:58	0° $\cancel{H}$		evening set	16247 Feb 16 21:35	27° $\cancel{H}$ 18'47	
retrograde	16240 May 21 00:10	0° $\cancel{H}$ 18'17					
	16240 Jun 16 13:15	30° $\cancel{R}$		conjunction	16247 Mar 05 10:28	28° $\cancel{H}$ 20'00	0°10'07
opposition	16240 Aug 04 07:28	28° $\approx$ 15'23	0°49'28	minimum elong	16247 Mar 05 10:28	28° $\cancel{H}$ 20'00	0°10'13
min. Earth dist.	16240 Aug 04 14:34	28° $\approx$ 14'38	17.76620 AU	behind sun begin	16247 Mar 05 05:08	28° $\cancel{H}$ 19'12	
direct	16240 Oct 18 04:06	26° $\approx$ 12'41		behind sun end	16247 Mar 05 15:48	28° $\cancel{H}$ 20'49	
evening set	16241 Jan 18 20:14	29° $\approx$ 30'49		max. Earth dist.	16247 Mar 05 02:23	28° $\cancel{H}$ 18'46	19.45355 AU
	16241 Jan 26 21:50	0° $\cancel{H}$		morning rise	16247 Mar 21 23:16	29° $\cancel{H}$ 21'15	
conjunction	16241 Feb 04 07:07	0° $\cancel{H}$ 30'44	0°42'09		16247 Apr 01 20:02	0° $\cancel{Y}$	
minimum elong	16241 Feb 04 07:07	0° $\cancel{H}$ 30'44	0°42'33	retrograde	16247 Jun 23 17:16	2° $\cancel{Y}$ 45'37	
max. Earth dist.	16241 Feb 03 23:14	0° $\cancel{H}$ 29'32	19.73631 AU	opposition	16247 Sep 06 08:37	0° $\cancel{Y}$ 41'55	0°07'59
morning rise	16241 Feb 20 18:45	1° $\cancel{H}$ 30'49		min. Earth dist.	16247 Sep 06 15:01	0° $\cancel{Y}$ 41'13	17.43762 AU
retrograde	16241 May 25 21:46	4° $\cancel{H}$ 52'13			16247 Sep 22 17:23	30° $\cancel{R}$ $\cancel{H}$	
opposition	16241 Aug 09 02:28	2° $\cancel{H}$ 49'07	0°44'18	direct	16247 Nov 20 08:25	28° $\cancel{H}$ 37'33	
min. Earth dist.	16241 Aug 09 09:25	2° $\cancel{H}$ 48'22	17.70713 AU		16248 Jan 15 18:46	0° $\cancel{Y}$	
direct	16241 Oct 22 22:51	0° $\cancel{H}$ 46'05		evening set	16248 Feb 22 00:05	2° $\cancel{Y}$ 01'39	
evening set	16242 Jan 23 18:52	4° $\cancel{H}$ 05'09					
				conjunction	16248 Mar 09 13:03	3° $\cancel{Y}$ 03'02	0°04'16
conjunction	16242 Feb 09 06:03	5° $\cancel{H}$ 05'20	0°37'22	minimum elong	16248 Mar 09 13:03	3° $\cancel{Y}$ 03'02	0°04'19
minimum elong	16242 Feb 09 06:03	5° $\cancel{H}$ 05'20	0°37'44	behind sun begin	16248 Mar 09 06:25	3° $\cancel{Y}$ 02'01	
max. Earth dist.	16242 Feb 08 20:48	5° $\cancel{H}$ 03'55	19.67876 AU	behind sun end	16248 Mar 09 19:41	3° $\cancel{Y}$ 04'02	
morning rise	16242 Feb 25 18:10	6° $\cancel{H}$ 05'40		max. Earth dist.	16248 Mar 09 04:44	3° $\cancel{Y}$ 01'45	19.42289 AU
retrograde	16242 May 30 19:59	9° $\cancel{H}$ 27'40		morning rise	16248 Mar 26 01:49	4° $\cancel{Y}$ 04'25	
opposition	16242 Aug 13 22:14	7° $\cancel{H}$ 24'21	0°38'50	retrograde	16248 Jun 27 17:12	7° $\cancel{Y}$ 29'05	
min. Earth dist.	16242 Aug 14 05:50	7° $\cancel{H}$ 23'32	17.65128 AU	opposition	16248 Sep 10 07:30	5° $\cancel{Y}$ 25'25	0°01'24
direct	16242 Oct 27 18:20	5° $\cancel{H}$ 21'00		min. Earth dist.	16248 Sep 10 14:58	5° $\cancel{Y}$ 24'36	17.40927 AU
evening set	16243 Jan 28 17:53	8° $\cancel{H}$ 40'59		direct	16248 Nov 24 06:49	3° $\cancel{Y}$ 20'55	
				desc. node	16248 Nov 25 07:54	3° $\cancel{Y}$ 20'56	
conjunction	16243 Feb 14 05:39	9° $\cancel{H}$ 41'25	0°32'19	evening set	16249 Feb 26 03:10	6° $\cancel{Y}$ 45'42	
minimum elong	16243 Feb 14 05:40	9° $\cancel{H}$ 41'25	0°32'37				
max. Earth dist.	16243 Feb 13 21:29	9° $\cancel{H}$ 40'10	19.62471 AU	conjunction	16249 Mar 14 16:10	7° $\cancel{Y}$ 47'11	-0°01'46
morning rise	16243 Mar 02 17:55	10° $\cancel{H}$ 41'58		minimum elong	16249 Mar 14 16:10	7° $\cancel{Y}$ 47'11	0°01'48
retrograde	16243 Jun 04 18:42	14° $\cancel{H}$ 04'31		behind sun begin	16249 Mar 14 09:26	7° $\cancel{Y}$ 46'10	
opposition	16243 Aug 18 18:28	12° $\cancel{H}$ 01'03	0°33'05	behind sun end	16249 Mar 14 22:54	7° $\cancel{Y}$ 48'13	
min. Earth dist.	16243 Aug 19 01:22	12° $\cancel{H}$ 00'18	17.59914 AU	max. Earth dist.	16249 Mar 14 07:48	7° $\cancel{Y}$ 45'54	19.39672 AU
direct	16243 Nov 01 15:15	9° $\cancel{H}$ 57'26		morning rise	16249 Mar 31 04:49	8° $\cancel{Y}$ 48'40	
evening set	16244 Feb 02 17:55	13° $\cancel{H}$ 18'18		retrograde	16249 Jul 02 19:43	12° $\cancel{Y}$ 13'35	
				opposition	16249 Sep 15 06:35	10° $\cancel{Y}$ 09'55	-0°05'13
conjunction	16244 Feb 19 05:55	14° $\cancel{H}$ 18'57	0°27'02	min. Earth dist.	16249 Sep 15 13:09	10° $\cancel{Y}$ 09'12	17.38518 AU
minimum elong	16244 Feb 19 05:55	14° $\cancel{H}$ 18'57	0°27'17	direct	16249 Nov 29 07:44	8° $\cancel{Y}$ 05'18	
max. Earth dist.	16244 Feb 18 20:46	14° $\cancel{H}$ 17'33	19.57470 AU	evening set	16250 Mar 03 06:39	11° $\cancel{Y}$ 30'40	
morning rise	16244 Mar 06 18:31	15° $\cancel{H}$ 19'43					
				conjunction	16250 Mar 19 19:37	12° $\cancel{Y}$ 32'15	-0°07'42

minimum elong	16250 Mar 19 19:37	12° $\Upsilon$ 32'15	0°07'46	minimum elong	16256 Apr 17 17:18	11° $\text{♄}$ 08'37	0°41'19
behind sun begin	16250 Mar 19 13:34	12° $\Upsilon$ 31'20		max. Earth dist.	16256 Apr 17 11:01	11° $\text{♄}$ 07'38	19.33793 AU
behind sun end	16250 Mar 20 01:41	12° $\Upsilon$ 33'11		morning rise	16256 May 04 03:08	12° $\text{♄}$ 09'59	
max. Earth dist.	16250 Mar 19 11:24	12° $\Upsilon$ 30'59	19.37462 AU		16256 Jun 30 14:12	15° $\text{♄}$	
morning rise	16250 Apr 05 07:59	13° $\Upsilon$ 33'48		retrograde	16256 Aug 05 00:45	15° $\text{♄}$ 34'19	
retrograde	16250 Jul 07 20:28	16° $\Upsilon$ 58'52			16256 Sep 10 03:44	15° $\text{♄}$	
opposition	16250 Sep 20 06:20	14° $\Upsilon$ 55'14	-0°11'49	opposition	16256 Oct 18 07:07	13° $\text{♄}$ 30'47	-0°48'20
min. Earth dist.	16250 Sep 20 13:50	14° $\Upsilon$ 54'24	17.36524 AU	min. Earth dist.	16256 Oct 18 12:40	13° $\text{♄}$ 30'11	17.34362 AU
direct	16250 Dec 04 07:14	12° $\Upsilon$ 50'28		direct	16257 Jan 01 19:30	11° $\text{♄}$ 25'28	
evening set	16251 Mar 08 10:17	16° $\Upsilon$ 16'19		evening set	16257 Apr 06 09:21	14° $\text{♄}$ 52'20	
					16257 Apr 08 11:18	15° $\text{♄}$	
conjunction	16251 Mar 24 23:08	17° $\Upsilon$ 17'58	-0°13'34	conjunction	16257 Apr 22 20:06	15° $\text{♄}$ 53'47	-0°45'40
minimum elong	16251 Mar 24 23:08	17° $\Upsilon$ 17'58	0°13'43	minimum elong	16257 Apr 22 20:05	15° $\text{♄}$ 53'47	0°46'07
behind sun begin	16251 Mar 24 19:37	17° $\Upsilon$ 17'26		max. Earth dist.	16257 Apr 22 13:24	15° $\text{♄}$ 52'44	19.35046 AU
behind sun end	16251 Mar 25 02:38	17° $\Upsilon$ 18'31		morning rise	16257 May 09 05:28	16° $\text{♄}$ 55'02	
max. Earth dist.	16251 Mar 24 14:28	17° $\Upsilon$ 16'38	19.35683 AU	retrograde	16257 Aug 09 23:55	20° $\text{♄}$ 19'02	
morning rise	16251 Apr 10 11:21	18° $\Upsilon$ 19'34		opposition	16257 Oct 23 07:16	18° $\text{♄}$ 15'35	-0°53'29
retrograde	16251 Jul 12 22:49	21° $\Upsilon$ 44'43		min. Earth dist.	16257 Oct 23 12:07	18° $\text{♄}$ 15'03	17.35934 AU
opposition	16251 Sep 25 06:10	19° $\Upsilon$ 41'04	-0°18'21	direct	16258 Jan 06 21:40	16° $\text{♄}$ 10'16	
min. Earth dist.	16251 Sep 25 12:47	19° $\Upsilon$ 40'21	17.34955 AU	evening set	16258 Apr 11 12:22	19° $\text{♄}$ 37'02	
direct	16251 Dec 09 08:49	17° $\Upsilon$ 36'11					
evening set	16252 Mar 12 14:16	21° $\Upsilon$ 02'26		conjunction	16258 Apr 27 22:43	20° $\text{♄}$ 38'21	-0°50'06
conjunction	16252 Mar 29 03:02	22° $\Upsilon$ 04'08	-0°19'22	minimum elong	16258 Apr 27 22:43	20° $\text{♄}$ 38'21	0°50'36
minimum elong	16252 Mar 29 03:02	22° $\Upsilon$ 04'08	0°19'33	max. Earth dist.	16258 Apr 27 17:57	20° $\text{♄}$ 37'36	19.36925 AU
max. Earth dist.	16252 Mar 28 19:04	22° $\Upsilon$ 02'54	19.34322 AU	morning rise	16258 May 14 07:17	21° $\text{♄}$ 39'27	
morning rise	16252 Apr 14 14:48	23° $\Upsilon$ 05'44		retrograde	16258 Aug 14 23:47	25° $\text{♄}$ 03'02	
retrograde	16252 Jul 16 23:17	26° $\Upsilon$ 30'51		opposition	16258 Oct 28 07:16	22° $\text{♄}$ 59'44	-0°58'14
opposition	16252 Sep 29 06:14	24° $\Upsilon$ 27'13	-0°24'46	min. Earth dist.	16258 Oct 28 11:06	22° $\text{♄}$ 59'19	17.38123 AU
min. Earth dist.	16252 Sep 29 13:35	24° $\Upsilon$ 26'25	17.33820 AU	direct	16259 Jan 12 00:23	20° $\text{♄}$ 54'31	
direct	16252 Dec 13 09:37	22° $\Upsilon$ 22'13		evening set	16259 Apr 16 15:05	24° $\text{♄}$ 21'04	
evening set	16253 Mar 17 18:25	25° $\Upsilon$ 48'47					
conjunction	16253 Apr 03 06:50	26° $\Upsilon$ 50'29	-0°25'02	conjunction	16259 May 03 00:45	25° $\text{♄}$ 22'15	-0°54'12
minimum elong	16253 Apr 03 06:49	26° $\Upsilon$ 50'28	0°25'17	minimum elong	16259 May 03 00:44	25° $\text{♄}$ 22'15	0°54'44
max. Earth dist.	16253 Apr 02 22:08	26° $\Upsilon$ 49'07	19.33425 AU	max. Earth dist.	16259 May 02 19:52	25° $\text{♄}$ 21'29	19.39425 AU
morning rise	16253 Apr 19 18:20	27° $\Upsilon$ 52'04		morning rise	16259 May 19 08:48	26° $\text{♄}$ 23'11	
	16253 May 28 22:07	0° $\text{♄}$		retrograde	16259 Aug 19 22:30	29° $\text{♄}$ 46'20	
retrograde	16253 Jul 22 00:37	1° $\text{♄}$ 17'06		opposition	16259 Nov 02 07:10	27° $\text{♄}$ 43'14	-1°02'34
	16253 Sep 16 01:14	30° $\text{♄}$		min. Earth dist.	16259 Nov 02 10:37	27° $\text{♄}$ 42'52	17.40930 AU
opposition	16253 Oct 04 06:24	29° $\Upsilon$ 13'28	-0°31'01	direct	16260 Jan 17 01:38	25° $\text{♄}$ 38'09	
min. Earth dist.	16253 Oct 04 12:54	29° $\Upsilon$ 12'45	17.33166 AU	evening set	16260 Apr 20 17:24	29° $\text{♄}$ 04'27	
direct	16253 Dec 18 11:55	27° $\Upsilon$ 08'21			16260 May 05 15:42	0° $\text{♄}$	
	16254 Mar 13 04:20	0° $\text{♄}$		conjunction	16260 May 07 02:35	0° $\text{♄}$ 05'27	-0°57'54
evening set	16254 Mar 22 22:16	0° $\text{♄}$ 35'07		minimum elong	16260 May 07 02:34	0° $\text{♄}$ 05'27	0°58'28
conjunction	16254 Apr 08 10:29	1° $\text{♄}$ 36'48	-0°30'33	max. Earth dist.	16260 May 06 23:17	0° $\text{♄}$ 04'57	19.42517 AU
minimum elong	16254 Apr 08 10:29	1° $\text{♄}$ 36'48	0°30'52	morning rise	16260 May 23 09:50	1° $\text{♄}$ 06'13	
max. Earth dist.	16254 Apr 08 03:09	1° $\text{♄}$ 35'39	19.33009 AU	retrograde	16260 Aug 23 22:14	4° $\text{♄}$ 28'52	
morning rise	16254 Apr 24 21:22	2° $\text{♄}$ 38'20		opposition	16260 Nov 06 06:43	2° $\text{♄}$ 26'02	-1°06'29
retrograde	16254 Jul 27 00:43	6° $\text{♄}$ 03'13		min. Earth dist.	16260 Nov 06 09:00	2° $\text{♄}$ 25'47	17.44284 AU
opposition	16254 Oct 09 06:45	3° $\text{♄}$ 59'35	-0°37'04	direct	16261 Jan 21 03:48	0° $\text{♄}$ 21'08	
min. Earth dist.	16254 Oct 09 13:25	3° $\text{♄}$ 58'52	17.33009 AU	evening set	16261 Apr 25 19:23	3° $\text{♄}$ 47'06	
direct	16254 Dec 23 14:12	1° $\text{♄}$ 54'24					
evening set	16255 Mar 28 02:14	5° $\text{♄}$ 21'16		conjunction	16261 May 12 03:48	4° $\text{♄}$ 47'55	-1°01'12
conjunction	16255 Apr 13 13:56	6° $\text{♄}$ 22'54	-0°35'51	minimum elong	16261 May 12 03:47	4° $\text{♄}$ 47'55	1°01'49
minimum elong	16255 Apr 13 13:55	6° $\text{♄}$ 22'54	0°36'12	max. Earth dist.	16261 May 12 00:37	4° $\text{♄}$ 47'25	19.46125 AU
max. Earth dist.	16255 Apr 13 05:56	6° $\text{♄}$ 21'39	19.33124 AU	morning rise	16261 May 28 10:24	5° $\text{♄}$ 48'29	
morning rise	16255 Apr 30 00:29	7° $\text{♄}$ 24'22		retrograde	16261 Aug 28 20:36	9° $\text{♄}$ 10'37	
retrograde	16255 Aug 01 00:44	10° $\text{♄}$ 49'01		opposition	16261 Nov 11 06:18	7° $\text{♄}$ 08'02	-1°09'55
opposition	16255 Oct 14 06:54	8° $\text{♄}$ 45'25	-0°42'51	min. Earth dist.	16261 Nov 11 08:37	7° $\text{♄}$ 07'47	17.48138 AU
min. Earth dist.	16255 Oct 14 12:49	8° $\text{♄}$ 44'46	17.33406 AU	direct	16262 Jan 26 04:01	5° $\text{♄}$ 03'19	
direct	16255 Dec 28 16:39	6° $\text{♄}$ 40'08		evening set	16262 Apr 30 20:35	8° $\text{♄}$ 28'52	
evening set	16256 Apr 01 05:51	10° $\text{♄}$ 07'03					
conjunction	16256 Apr 17 17:18	11° $\text{♄}$ 08'37	-0°40'54	conjunction	16262 May 17 04:24	9° $\text{♄}$ 29'29	-1°04'06
				minimum elong	16262 May 17 04:24	9° $\text{♄}$ 29'29	1°04'43
				max. Earth dist.	16262 May 17 02:21	9° $\text{♄}$ 29'10	19.50194 AU
				morning rise	16262 Jun 02 10:16	10° $\text{♄}$ 29'51	

retrograde	16262 Sep 02 19:59	13° $\Pi$ 51'24	evening set	16269 Jun 02 10:11	10° $\mathfrak{C}$ 43'14
opposition	16262 Nov 16 05:28	11° $\Pi$ 49'05 -1°12'53			
min. Earth dist.	16262 Nov 16 06:29	11° $\Pi$ 48'58 17.52399 AU	conjunction	16269 Jun 18 13:21	11° $\mathfrak{C}$ 42'03 -1°11'49
direct	16263 Jan 31 05:38	9° $\Pi$ 44'35	minimum elong	16269 Jun 18 13:21	11° $\mathfrak{C}$ 42'03 1°12'32
evening set	16263 May 05 21:27	13° $\Pi$ 09'38	max. Earth dist.	16269 Jun 18 15:18	11° $\mathfrak{C}$ 42'21 19.86641 AU
			morning rise	16269 Jul 04 14:30	12° $\mathfrak{C}$ 40'35
conjunction	16263 May 22 04:33	14° $\Pi$ 10'02 -1°06'33	retrograde	16269 Oct 04 11:19	15° $\mathfrak{C}$ 56'50
minimum elong	16263 May 22 04:33	14° $\Pi$ 10'02 1°07'12	opposition	16269 Dec 18 11:41	13° $\mathfrak{C}$ 55'58 -1°19'36
max. Earth dist.	16263 May 22 02:50	14° $\Pi$ 09'46 19.54631 AU	min. Earth dist.	16269 Dec 18 10:11	13° $\mathfrak{C}$ 56'07 17.89669 AU
morning rise	16263 Jun 07 09:42	15° $\Pi$ 10'09	direct	16270 Mar 05 01:41	11° $\mathfrak{C}$ 52'54
retrograde	16263 Sep 07 17:09	18° $\Pi$ 31'04	evening set	16270 Jun 07 05:02	15° $\mathfrak{C}$ 12'23
opposition	16263 Nov 21 04:20	16° $\Pi$ 29'00 -1°15'22			
min. Earth dist.	16263 Nov 21 05:49	16° $\Pi$ 28'51 17.57014 AU	conjunction	16270 Jun 23 07:30	16° $\mathfrak{C}$ 10'54 -1°11'08
direct	16264 Feb 05 04:51	14° $\Pi$ 24'44	minimum elong	16270 Jun 23 07:30	16° $\mathfrak{C}$ 10'54 1°11'49
evening set	16264 May 09 21:39	17° $\Pi$ 49'12	max. Earth dist.	16270 Jun 23 09:20	16° $\mathfrak{C}$ 11'10 19.92692 AU
			morning rise	16270 Jul 09 08:16	17° $\mathfrak{C}$ 09'09
conjunction	16264 May 26 04:05	18° $\Pi$ 49'21 -1°08'34	retrograde	16270 Oct 09 04:51	20° $\mathfrak{C}$ 24'33
minimum elong	16264 May 26 04:05	18° $\Pi$ 49'21 1°09'14	opposition	16270 Dec 23 06:45	18° $\mathfrak{C}$ 23'51 -1°18'34
max. Earth dist.	16264 May 26 02:47	18° $\Pi$ 49'09 19.59398 AU	min. Earth dist.	16270 Dec 23 03:37	18° $\mathfrak{C}$ 24'11 17.95825 AU
morning rise	16264 Jun 11 08:33	19° $\Pi$ 49'14	direct	16271 Mar 09 23:32	16° $\mathfrak{C}$ 21'01
retrograde	16264 Sep 11 15:37	23° $\Pi$ 09'28	evening set	16271 Jun 11 22:59	19° $\mathfrak{C}$ 39'31
opposition	16264 Nov 25 02:48	21° $\Pi$ 07'38 -1°17'20			
min. Earth dist.	16264 Nov 25 02:54	21° $\Pi$ 07'38 17.61913 AU	conjunction	16271 Jun 28 01:00	20° $\mathfrak{C}$ 37'45 -1°10'00
direct	16265 Feb 09 06:16	19° $\Pi$ 03'35	minimum elong	16271 Jun 28 01:00	20° $\mathfrak{C}$ 37'45 1°10'41
evening set	16265 May 14 21:02	22° $\Pi$ 27'23	max. Earth dist.	16271 Jun 28 04:41	20° $\mathfrak{C}$ 38'18 19.98948 AU
			morning rise	16271 Jul 14 01:04	21° $\mathfrak{C}$ 35'43
conjunction	16265 May 31 02:45	23° $\Pi$ 27'17 -1°10'07	retrograde	16271 Oct 13 19:18	24° $\mathfrak{C}$ 50'16
minimum elong	16265 May 31 02:45	23° $\Pi$ 27'17 1°10'48	opposition	16271 Dec 28 01:13	22° $\mathfrak{C}$ 49'47 -1°17'03
max. Earth dist.	16265 May 31 02:11	23° $\Pi$ 27'12 19.64420 AU	min. Earth dist.	16271 Dec 27 22:06	22° $\mathfrak{C}$ 50'07 18.02181 AU
morning rise	16265 Jun 16 06:27	24° $\Pi$ 26'55	direct	16272 Mar 13 18:57	20° $\mathfrak{C}$ 47'13
retrograde	16265 Sep 16 10:51	27° $\Pi$ 46'25	evening set	16272 Jun 15 16:10	24° $\mathfrak{C}$ 04'44
opposition	16265 Nov 30 01:00	25° $\Pi$ 44'49 -1°18'48			
min. Earth dist.	16265 Nov 30 01:38	25° $\Pi$ 44'45 17.67063 AU	conjunction	16272 Jul 01 17:28	25° $\mathfrak{C}$ 02'40 -1°08'29
direct	16266 Feb 14 05:12	23° $\Pi$ 40'59	minimum elong	16272 Jul 01 17:28	25° $\mathfrak{C}$ 02'40 1°09'07
evening set	16266 May 19 19:40	27° $\Pi$ 04'02	max. Earth dist.	16272 Jul 01 20:55	25° $\mathfrak{C}$ 03'12 20.05411 AU
			morning rise	16272 Jul 17 17:12	26° $\mathfrak{C}$ 00'23
conjunction	16266 Jun 05 00:41	28° $\Pi$ 03'40 -1°11'14	retrograde	16272 Oct 17 11:31	29° $\mathfrak{C}$ 14'07
minimum elong	16266 Jun 05 00:41	28° $\Pi$ 03'40 1°11'55	opposition	16272 Dec 31 19:06	27° $\mathfrak{C}$ 13'52 -1°15'06
max. Earth dist.	16266 Jun 05 00:09	28° $\Pi$ 03'35 19.69687 AU	min. Earth dist.	16272 Dec 31 14:28	27° $\mathfrak{C}$ 14'21 18.08731 AU
morning rise	16266 Jun 21 03:47	29° $\Pi$ 03'02	direct	16273 Mar 18 14:06	25° $\mathfrak{C}$ 11'35
	16266 Jul 07 11:34	0° $\mathfrak{C}$	evening set	16273 Jun 20 08:08	28° $\mathfrak{C}$ 28'07
retrograde	16266 Sep 21 07:31	2° $\mathfrak{C}$ 21'46			
opposition	16266 Dec 04 22:24	0° $\mathfrak{C}$ 20'22 -1°19'45	conjunction	16273 Jul 06 09:04	29° $\mathfrak{C}$ 25'47 -1°06'33
min. Earth dist.	16266 Dec 04 21:36	0° $\mathfrak{C}$ 20'27 17.72430 AU	minimum elong	16273 Jul 06 09:04	29° $\mathfrak{C}$ 25'47 1°07'11
	16266 Dec 12 23:04	30° $\mathfrak{R}$ $\Pi$	max. Earth dist.	16273 Jul 06 14:28	29° $\mathfrak{C}$ 26'36 20.12030 AU
direct	16267 Feb 19 06:08	28° $\Pi$ 16'44		16273 Jul 15 19:56	0° $\mathfrak{Q}$
	16267 Apr 24 23:45	0° $\mathfrak{C}$	morning rise	16273 Jul 22 08:12	0° $\mathfrak{Q}$ 23'14
evening set	16267 May 24 17:24	1° $\mathfrak{C}$ 38'58	retrograde	16273 Oct 22 01:32	3° $\mathfrak{Q}$ 36'11
			opposition	16274 Jan 05 12:27	1° $\mathfrak{Q}$ 36'11 -1°12'44
conjunction	16267 Jun 09 21:51	2° $\mathfrak{C}$ 38'21 -1°11'53	min. Earth dist.	16274 Jan 05 07:42	1° $\mathfrak{Q}$ 36'40 18.15395 AU
minimum elong	16267 Jun 09 21:51	2° $\mathfrak{C}$ 38'21 1°12'34		16274 Feb 18 23:03	30° $\mathfrak{R}$ $\mathfrak{C}$
max. Earth dist.	16267 Jun 09 22:23	2° $\mathfrak{C}$ 38'26 19.75149 AU	direct	16274 Mar 23 08:11	29° $\mathfrak{C}$ 34'15
morning rise	16267 Jun 26 00:14	3° $\mathfrak{C}$ 37'26		16274 Apr 24 02:12	0° $\mathfrak{Q}$
retrograde	16267 Sep 26 00:55	6° $\mathfrak{C}$ 55'22	evening set	16274 Jun 24 23:32	2° $\mathfrak{Q}$ 49'47
opposition	16267 Dec 09 19:31	4° $\mathfrak{C}$ 54'10 -1°20'12			
min. Earth dist.	16267 Dec 09 19:15	4° $\mathfrak{C}$ 54'11 17.77986 AU	conjunction	16274 Jul 10 23:49	3° $\mathfrak{Q}$ 47'11 -1°04'15
direct	16268 Feb 24 04:30	2° $\mathfrak{C}$ 50'43	minimum elong	16274 Jul 10 23:49	3° $\mathfrak{Q}$ 47'11 1°04'52
evening set	16268 May 28 14:20	6° $\mathfrak{C}$ 12'05	max. Earth dist.	16274 Jul 11 04:46	3° $\mathfrak{Q}$ 47'56 20.18737 AU
			morning rise	16274 Jul 26 22:44	4° $\mathfrak{Q}$ 44'23
conjunction	16268 Jun 13 18:01	7° $\mathfrak{C}$ 11'11 -1°12'04	retrograde	16274 Oct 26 16:30	7° $\mathfrak{Q}$ 56'34
minimum elong	16268 Jun 13 18:01	7° $\mathfrak{C}$ 11'11 1°12'47	opposition	16275 Jan 10 04:58	5° $\mathfrak{Q}$ 56'49 -1°09'57
max. Earth dist.	16268 Jun 13 18:22	7° $\mathfrak{C}$ 11'14 19.80803 AU	min. Earth dist.	16275 Jan 09 23:13	5° $\mathfrak{Q}$ 57'24 18.22116 AU
morning rise	16268 Jun 29 19:53	8° $\mathfrak{C}$ 09'59	direct	16275 Mar 28 01:13	3° $\mathfrak{Q}$ 55'12
retrograde	16268 Sep 29 19:47	11° $\mathfrak{C}$ 27'05	evening set	16275 Jun 29 14:02	7° $\mathfrak{Q}$ 09'48
opposition	16268 Dec 13 15:48	9° $\mathfrak{C}$ 26'03 -1°20'09			
min. Earth dist.	16268 Dec 13 14:02	9° $\mathfrak{C}$ 26'14 17.83729 AU	conjunction	16275 Jul 15 14:02	8° $\mathfrak{Q}$ 06'56 -1°01'36
direct	16269 Feb 28 04:42	7° $\mathfrak{C}$ 22'48	minimum elong	16275 Jul 15 14:03	8° $\mathfrak{Q}$ 06'56 1°02'12

max. Earth dist.	16275 Jul 15 20:36	8°07'55	20.25449 AU	morning rise	16281 Aug 25 08:18	4°07'27	52
morning rise	16275 Jul 31 12:25	9°03'52		retrograde	16281 Nov 25 04:55	7°03'35	24
retrograde	16275 Oct 31 05:40	12°01'51	18	opposition	16282 Feb 09 10:00	5°03'36	57 -0°41'29
opposition	16276 Jan 14 21:09	10°01'54	-1°06'48	min. Earth dist.	16282 Feb 09 02:54	5°03'37	41 18.64604 AU
min. Earth dist.	16276 Jan 14 15:22	10°01'62	5	direct	16282 Apr 27 09:06	3°03'37	24
direct	16276 Mar 31 18:15	8°01'43	34	evening set	16282 Jul 28 22:51	6°03'45	27
evening set	16276 Jul 03 03:52	11°01'28	11				
				conjunction	16282 Aug 13 20:22	7°03'40	58 -0°35'11
conjunction	16276 Jul 19 03:14	12°01'25	04 -0°58'38	minimum elong	16282 Aug 13 20:22	7°03'40	58 0°35'30
minimum elong	16276 Jul 19 03:14	12°01'25	04 0°59'12	max. Earth dist.	16282 Aug 14 03:05	7°03'41	57 20.67119 AU
max. Earth dist.	16276 Jul 19 09:06	12°01'25	56 20.32084 AU	morning rise	16282 Aug 29 17:23	8°03'36	25
morning rise	16276 Aug 04 01:25	13°01'21	45	retrograde	16282 Nov 29 14:33	11°03'43	23
	16276 Sep 03 15:43	15°01'		opposition	16283 Feb 13 21:58	9°03'45	00 -0°36'26
retrograde	16276 Nov 03 19:30	16°01'32	29	min. Earth dist.	16283 Feb 13 15:02	9°03'45	42 18.69569 AU
	16277 Jan 07 14:24	15°01'38		direct	16283 May 01 21:12	7°03'45	38
opposition	16277 Jan 18 12:44	14°01'33	14 -1°03'18	evening set	16283 Aug 02 07:27	10°03'52	50
min. Earth dist.	16277 Jan 18 06:19	14°01'33	54 18.35369 AU				
direct	16277 Apr 05 09:57	12°01'32	19	conjunction	16283 Aug 18 04:54	11°03'48	11 -0°30'34
	16277 Jun 24 10:17	15°01'		minimum elong	16283 Aug 18 04:54	11°03'48	11 0°30'52
evening set	16277 Jul 07 16:49	15°01'44	59	max. Earth dist.	16283 Aug 18 12:50	11°03'49	20 20.71953 AU
				morning rise	16283 Sep 03 01:42	12°03'43	27
conjunction	16277 Jul 23 15:56	16°01'41	37 -0°55'21	retrograde	16283 Dec 03 23:59	15°03'49	54
minimum elong	16277 Jul 23 15:57	16°01'41	37 0°55'52	opposition	16284 Feb 18 09:29	13°03'51	35 -0°31'14
max. Earth dist.	16277 Jul 23 23:12	16°01'42	41 20.38581 AU	min. Earth dist.	16284 Feb 18 01:53	13°03'52	21 18.74273 AU
morning rise	16277 Aug 08 13:40	17°01'38	04	direct	16284 May 05 09:31	11°03'52	24
retrograde	16277 Nov 08 07:40	20°01'48	06	evening set	16284 Aug 05 15:28	14°03'58	48
opposition	16278 Jan 23 03:44	18°01'49	06 -0°59'29				
min. Earth dist.	16278 Jan 22 21:16	18°01'49	45 18.41765 AU	conjunction	16284 Aug 21 12:33	15°03'53	58 -0°25'49
direct	16278 Apr 10 01:30	16°01'48	31	minimum elong	16284 Aug 21 12:34	15°03'53	58 0°26'03
evening set	16278 Jul 12 05:07	20°01'00	13	max. Earth dist.	16284 Aug 21 20:02	15°03'55	03 20.76543 AU
				morning rise	16284 Sep 06 09:25	16°03'49	05
conjunction	16278 Jul 28 03:44	20°01'56	36 -0°51'47	retrograde	16284 Dec 07 07:57	19°03'55	05
minimum elong	16278 Jul 28 03:45	20°01'56	36 0°52'17	opposition	16285 Feb 21 20:37	17°03'56	49 -0°25'54
max. Earth dist.	16278 Jul 28 10:04	20°01'57	32 20.44870 AU	min. Earth dist.	16285 Feb 21 13:03	17°03'57	35 18.78763 AU
morning rise	16278 Aug 13 01:24	21°01'52	50	direct	16285 May 09 20:02	15°03'57	51
retrograde	16278 Nov 12 20:27	25°01'02	13	evening set	16285 Aug 09 22:52	19°03'03	30
opposition	16279 Jan 27 18:10	23°01'03	23 -0°55'22				
min. Earth dist.	16279 Jan 27 11:30	23°01'04	04 18.47932 AU	conjunction	16285 Aug 25 19:57	19°03'58	30 -0°20'58
direct	16279 Apr 14 16:02	21°01'03	06	minimum elong	16285 Aug 25 19:58	19°03'58	30 0°21'10
evening set	16279 Jul 16 16:38	24°01'13	53	max. Earth dist.	16285 Aug 26 04:39	19°03'59	45 20.80921 AU
				morning rise	16285 Sep 10 16:41	20°03'53	28
conjunction	16279 Aug 01 15:04	25°01'10	02 -0°47'58	retrograde	16285 Dec 11 17:09	23°03'59	04
minimum elong	16279 Aug 01 15:04	25°01'10	02 0°48'24	opposition	16286 Feb 26 07:00	22°03'00	52 -0°20'28
max. Earth dist.	16279 Aug 01 22:27	25°01'11	08 20.50894 AU	min. Earth dist.	16286 Feb 25 22:38	22°03'01	43 18.83017 AU
morning rise	16279 Aug 17 12:20	26°01'06	03	direct	16286 May 14 07:07	20°03'02	07
retrograde	16279 Nov 17 07:27	29°01'14	47	evening set	16286 Aug 14 05:55	23°03'07	05
opposition	16280 Feb 01 07:59	27°01'16	09 -0°50'58				
min. Earth dist.	16280 Feb 01 01:12	27°01'16	50 18.53797 AU	conjunction	16286 Aug 30 02:46	24°03'01	57 -0°16'02
direct	16280 Apr 18 06:19	25°01'16	08	minimum elong	16286 Aug 30 02:46	24°03'01	57 0°16'10
evening set	16280 Jul 20 03:34	28°01'25	59	max. Earth dist.	16286 Aug 30 10:52	24°03'03	07 20.85053 AU
				morning rise	16286 Sep 14 23:38	24°03'56	48
conjunction	16280 Aug 05 01:32	29°01'21	55 -0°43'54	retrograde	16286 Dec 16 00:09	28°03'02	03
minimum elong	16280 Aug 05 01:33	29°01'21	55 0°44'19	opposition	16287 Mar 02 17:10	26°03'03	56 -0°14'57
max. Earth dist.	16280 Aug 05 07:56	29°01'22	52 20.56612 AU	min. Earth dist.	16287 Mar 02 09:08	26°03'04	45 18.87022 AU
	16280 Aug 15 20:27	0°03'		direct	16287 May 18 15:45	24°03'05	24
morning rise	16280 Aug 20 22:46	0°03'17	44	evening set	16287 Aug 18 12:24	27°03'09	44
retrograde	16280 Nov 20 18:59	3°03'25	52				
opposition	16281 Feb 04 21:20	1°03'27	20 -0°46'20	conjunction	16287 Sep 03 09:17	28°03'04	28 -0°11'02
min. Earth dist.	16281 Feb 04 14:34	1°03'28	02 18.59363 AU	minimum elong	16287 Sep 03 09:17	28°03'04	28 0°11'08
	16281 Mar 16 23:20	30°03'30		behind sun begin	16287 Sep 03 04:21	28°03'03	46
direct	16281 Apr 22 19:43	29°01'27	34	behind sun end	16287 Sep 03 14:12	28°03'05	10
	16281 May 28 21:06	0°03'		max. Earth dist.	16287 Sep 03 18:24	28°03'05	46 20.88913 AU
evening set	16281 Jul 24 13:26	2°03'36	30	morning rise	16287 Sep 19 06:03	28°03'59	12
					16287 Oct 08 00:03	0°03'	
conjunction	16281 Aug 09 11:19	3°03'32	14 -0°39'38	retrograde	16287 Dec 20 08:40	2°03'04	09
minimum elong	16281 Aug 09 11:19	3°03'32	14 0°40'01	opposition	16288 Mar 06 02:51	0°03'06	08 -0°09'23
max. Earth dist.	16281 Aug 09 18:49	3°03'33	20 20.62021 AU	min. Earth dist.	16288 Mar 05 18:03	0°03'07	01 18.90719 AU

	16288 Mar 08 15:56	30° <u>8</u> ′ <u>10</u> ″		minimum elong	16293 Sep 26 19:33	22° <u>0</u> ′ <u>06</u> ″ <u>40</u>	0°19′14″
direct	16288 May 22 02:06	28° <u>10</u> ′ <u>07</u> ″ <u>50</u>		max. Earth dist.	16293 Sep 27 03:19	22° <u>0</u> ′ <u>07</u> ″ <u>46</u>	21.03671 AU
	16288 Jul 30 08:57	0° <u>0</u> ′ <u>0</u> ″		morning rise	16293 Oct 12 17:05	23° <u>0</u> ′ <u>01</u> ″ <u>03</u>	
evening set	16288 Aug 21 18:41	1° <u>0</u> ′ <u>11</u> ″ <u>35</u>		retrograde	16294 Jan 13 05:08	26° <u>0</u> ′ <u>05</u> ″ <u>16</u>	
				opposition	16294 Mar 31 08:12	24° <u>0</u> ′ <u>07</u> ″ <u>24</u>	0°23′43″
conjunction	16288 Sep 06 15:21	2° <u>0</u> ′ <u>06</u> ″ <u>12</u>	-0°06′01″	min. Earth dist.	16294 Mar 31 00:44	24° <u>0</u> ′ <u>08</u> ″ <u>09</u>	19.04081 AU
minimum elong	16288 Sep 06 15:21	2° <u>0</u> ′ <u>06</u> ″ <u>12</u>	0°06′04″	direct	16294 Jun 16 00:57	22° <u>0</u> ′ <u>09</u> ″ <u>57</u>	
behind sun begin	16288 Sep 06 09:05	2° <u>0</u> ′ <u>05</u> ″ <u>19</u>		evening set	16294 Sep 15 04:03	25° <u>0</u> ′ <u>11</u> ″ <u>21</u>	
behind sun end	16288 Sep 06 21:37	2° <u>0</u> ′ <u>07</u> ″ <u>05</u>					
max. Earth dist.	16288 Sep 06 23:49	2° <u>0</u> ′ <u>07</u> ″ <u>24</u>	20.92449 AU	conjunction	16294 Oct 01 00:53	26° <u>0</u> ′ <u>05</u> ″ <u>34</u>	0°23′50″
morning rise	16288 Sep 22 12:19	3° <u>0</u> ′ <u>00</u> ″ <u>50</u>		minimum elong	16294 Oct 01 00:53	26° <u>0</u> ′ <u>05</u> ″ <u>34</u>	0°24′04″
retrograde	16288 Dec 23 15:38	6° <u>0</u> ′ <u>05</u> ″ <u>34</u>		max. Earth dist.	16294 Oct 01 07:27	26° <u>0</u> ′ <u>06</u> ″ <u>30</u>	21.04345 AU
opposition	16289 Mar 10 12:23	4° <u>0</u> ′ <u>07</u> ″ <u>37</u>	-0°03′47″	morning rise	16294 Oct 16 22:44	26° <u>0</u> ′ <u>05</u> ″ <u>57</u>	
min. Earth dist.	16289 Mar 10 04:11	4° <u>0</u> ′ <u>08</u> ″ <u>26</u>	18.94089 AU		16295 Jan 04 12:56	0° <u>0</u> ′ <u>0</u> ″	
direct	16289 May 26 09:23	2° <u>0</u> ′ <u>09</u> ″ <u>31</u>		retrograde	16295 Jan 17 11:47	0° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>11</u>	
evening set	16289 Aug 26 00:29	5° <u>0</u> ′ <u>12</u> ″ <u>45</u>			16295 Jan 30 14:17	30° <u>8</u> ′ <u>0</u> ″	
				opposition	16295 Apr 04 16:31	28° <u>0</u> ′ <u>06</u> ″ <u>14</u>	0°28′57″
conjunction	16289 Sep 10 21:15	6° <u>0</u> ′ <u>07</u> ″ <u>15</u>	-0°00′56″	min. Earth dist.	16295 Apr 04 10:22	28° <u>0</u> ′ <u>06</u> ″ <u>51</u>	19.04499 AU
minimum elong	16289 Sep 10 21:16	6° <u>0</u> ′ <u>07</u> ″ <u>15</u>	0°00′55″	direct	16295 Jun 20 06:42	26° <u>0</u> ′ <u>08</u> ″ <u>47</u>	
behind sun begin	16289 Sep 10 14:42	6° <u>0</u> ′ <u>06</u> ″ <u>20</u>		evening set	16295 Sep 19 09:00	29° <u>0</u> ′ <u>09</u> ″ <u>57</u>	
behind sun end	16289 Sep 11 03:50	6° <u>0</u> ′ <u>08</u> ″ <u>11</u>			16295 Oct 04 01:03	0° <u>0</u> ′ <u>0</u> ″	
max. Earth dist.	16289 Sep 11 06:29	6° <u>0</u> ′ <u>08</u> ″ <u>34</u>	20.95630 AU				
morning rise	16289 Sep 26 18:13	7° <u>0</u> ′ <u>01</u> ″ <u>49</u>		conjunction	16295 Oct 05 06:04	0° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>10</u>	0°28′30″
asc. node	16289 Nov 17 20:11	9° <u>0</u> ′ <u>26</u> ″ <u>49</u>		minimum elong	16295 Oct 05 06:04	0° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>10</u>	0°28′47″
retrograde	16289 Dec 27 23:38	10° <u>0</u> ′ <u>06</u> ″ <u>21</u>		max. Earth dist.	16295 Oct 05 13:02	0° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>09</u>	21.04515 AU
opposition	16290 Mar 14 21:31	8° <u>0</u> ′ <u>08</u> ″ <u>29</u>	0°01′48″	morning rise	16295 Oct 21 04:03	0° <u>0</u> ′ <u>0</u> ″ <u>58</u> ′ <u>32</u>	
min. Earth dist.	16290 Mar 14 12:42	8° <u>0</u> ′ <u>09</u> ″ <u>22</u>	18.97058 AU	retrograde	16296 Jan 21 19:22	4° <u>0</u> ′ <u>0</u> ″ <u>02</u> ′ <u>51</u>	
direct	16290 May 30 18:46	6° <u>0</u> ′ <u>10</u> ″ <u>35</u>		opposition	16296 Apr 08 00:33	2° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>46</u>	0°34′04″
evening set	16290 Aug 30 06:21	9° <u>0</u> ′ <u>13</u> ″ <u>21</u>		min. Earth dist.	16296 Apr 07 17:47	2° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>27</u>	19.04430 AU
				direct	16296 Jun 23 14:57	0° <u>0</u> ′ <u>0</u> ″ <u>07</u> ′ <u>19</u>	
conjunction	16290 Sep 15 02:59	10° <u>0</u> ′ <u>07</u> ″ <u>46</u>	0°04′13″	evening set	16296 Sep 22 14:07	3° <u>0</u> ′ <u>0</u> ″ <u>08</u> ′ <u>19</u>	
minimum elong	16290 Sep 15 02:57	10° <u>0</u> ′ <u>07</u> ″ <u>46</u>	0°04′16″				
behind sun begin	16290 Sep 14 20:29	10° <u>0</u> ′ <u>06</u> ″ <u>51</u>		conjunction	16296 Oct 08 11:12	4° <u>0</u> ′ <u>0</u> ″ <u>02</u> ′ <u>32</u>	0°33′03″
behind sun end	16290 Sep 15 09:26	10° <u>0</u> ′ <u>08</u> ″ <u>40</u>		minimum elong	16296 Oct 08 11:11	4° <u>0</u> ′ <u>0</u> ″ <u>02</u> ′ <u>32</u>	0°33′23″
max. Earth dist.	16290 Sep 15 11:12	10° <u>0</u> ′ <u>08</u> ″ <u>56</u>	20.98380 AU	max. Earth dist.	16296 Oct 08 17:18	4° <u>0</u> ′ <u>0</u> ″ <u>03</u> ′ <u>24</u>	21.04225 AU
morning rise	16290 Oct 01 00:07	11° <u>0</u> ′ <u>02</u> ″ <u>15</u>		morning rise	16296 Oct 24 09:32	4° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>56</u>	
retrograde	16291 Jan 01 06:43	14° <u>0</u> ′ <u>06</u> ″ <u>39</u>		retrograde	16297 Jan 25 01:43	8° <u>0</u> ′ <u>0</u> ″ <u>01</u> ′ <u>22</u>	
opposition	16291 Mar 19 06:27	12° <u>0</u> ′ <u>08</u> ″ <u>49</u>	0°07′22″	opposition	16297 Apr 12 08:31	6° <u>0</u> ′ <u>0</u> ″ <u>03</u> ′ <u>10</u>	0°39′00″
min. Earth dist.	16291 Mar 18 22:37	12° <u>0</u> ′ <u>09</u> ″ <u>36</u>	18.99591 AU	min. Earth dist.	16297 Apr 12 02:54	6° <u>0</u> ′ <u>0</u> ″ <u>03</u> ′ <u>43</u>	19.03951 AU
direct	16291 Jun 04 01:27	10° <u>0</u> ′ <u>11</u> ″ <u>05</u>		direct	16297 Jun 27 20:12	4° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>41</u>	
evening set	16291 Sep 03 11:55	13° <u>0</u> ′ <u>13</u> ″ <u>27</u>		evening set	16297 Sep 26 19:02	7° <u>0</u> ′ <u>0</u> ″ <u>06</u> ′ <u>35</u>	
conjunction	16291 Sep 19 08:40	14° <u>0</u> ′ <u>07</u> ″ <u>48</u>	0°09′12″	conjunction	16297 Oct 12 16:26	8° <u>0</u> ′ <u>0</u> ″ <u>00</u> ′ <u>50</u>	0°37′26″
minimum elong	16291 Sep 19 08:39	14° <u>0</u> ′ <u>07</u> ″ <u>48</u>	0°09′19″	minimum elong	16297 Oct 12 16:26	8° <u>0</u> ′ <u>0</u> ″ <u>00</u> ′ <u>50</u>	0°37′47″
behind sun begin	16291 Sep 19 03:06	14° <u>0</u> ′ <u>07</u> ″ <u>01</u>		max. Earth dist.	16297 Oct 12 23:02	8° <u>0</u> ′ <u>0</u> ″ <u>01</u> ′ <u>46</u>	21.03551 AU
behind sun end	16291 Sep 19 14:12	14° <u>0</u> ′ <u>08</u> ″ <u>34</u>		morning rise	16297 Oct 28 14:58	8° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>16</u>	
max. Earth dist.	16291 Sep 19 17:20	14° <u>0</u> ′ <u>09</u> ″ <u>01</u>	21.00672 AU	retrograde	16298 Jan 29 09:45	11° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>52</u>	
morning rise	16291 Oct 05 05:50	15° <u>0</u> ′ <u>02</u> ″ <u>14</u>		opposition	16298 Apr 16 16:16	10° <u>0</u> ′ <u>0</u> ″ <u>01</u> ′ <u>34</u>	0°43′45″
retrograde	16292 Jan 05 14:27	18° <u>0</u> ′ <u>06</u> ″ <u>32</u>		min. Earth dist.	16298 Apr 16 09:53	10° <u>0</u> ′ <u>0</u> ″ <u>02</u> ′ <u>12</u>	19.03087 AU
opposition	16292 Mar 22 15:14	16° <u>0</u> ′ <u>08</u> ″ <u>44</u>	0°12′54″	direct	16298 Jul 02 03:37	8° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>04</u>	
min. Earth dist.	16292 Mar 22 06:55	16° <u>0</u> ′ <u>09</u> ″ <u>34</u>	19.01625 AU	evening set	16298 Oct 01 00:14	11° <u>0</u> ′ <u>0</u> ″ <u>04</u> ′ <u>57</u>	
direct	16292 Jun 07 10:13	14° <u>0</u> ′ <u>11</u> ″ <u>09</u>					
evening set	16292 Sep 06 17:23	17° <u>0</u> ′ <u>13</u> ″ <u>07</u>		conjunction	16298 Oct 16 21:41	11° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>14</u>	0°41′38″
				minimum elong	16298 Oct 16 21:40	11° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>14</u>	0°42′03″
conjunction	16292 Sep 22 14:01	18° <u>0</u> ′ <u>07</u> ″ <u>25</u>	0°14′09″	max. Earth dist.	16298 Oct 17 03:25	12° <u>0</u> ′ <u>0</u> ″ <u>00</u> ′ <u>04</u>	21.02501 AU
minimum elong	16292 Sep 22 14:01	18° <u>0</u> ′ <u>07</u> ″ <u>25</u>	0°14′18″	morning rise	16298 Nov 01 20:34	12° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>34</u>	
behind sun begin	16292 Sep 22 10:51	18° <u>0</u> ′ <u>06</u> ″ <u>58</u>			16298 Dec 15 06:15	15° <u>0</u> ′ <u>0</u> ″	
behind sun end	16292 Sep 22 17:10	18° <u>0</u> ′ <u>07</u> ″ <u>51</u>		retrograde	16299 Feb 02 16:19	15° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>58</u> ′ <u>35</u>	
max. Earth dist.	16292 Sep 22 21:35	18° <u>0</u> ′ <u>08</u> ″ <u>29</u>	21.02440 AU		16299 Mar 25 23:12	15° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>58</u> ′ <u>35</u>	
morning rise	16292 Oct 08 11:28	19° <u>0</u> ′ <u>01</u> ″ <u>49</u>		opposition	16299 Apr 21 00:09	14° <u>0</u> ′ <u>0</u> ″ <u>00</u> ′ <u>10</u>	0°48′18″
retrograde	16293 Jan 08 21:34	22° <u>0</u> ′ <u>06</u> ″ <u>04</u>		min. Earth dist.	16299 Apr 20 18:52	14° <u>0</u> ′ <u>0</u> ″ <u>00</u> ′ <u>42</u>	19.01875 AU
opposition	16293 Mar 26 23:59	20° <u>0</u> ′ <u>08</u> ″ <u>15</u>	0°18′21″	direct	16299 Jul 06 08:48	12° <u>0</u> ′ <u>0</u> ″ <u>02</u> ′ <u>39</u>	
min. Earth dist.	16293 Mar 26 16:52	20° <u>0</u> ′ <u>08</u> ″ <u>58</u>	19.03133 AU		16299 Oct 04 03:38	15° <u>0</u> ′ <u>0</u> ″	
direct	16293 Jun 11 16:28	18° <u>0</u> ′ <u>10</u> ″ <u>45</u>		evening set	16299 Oct 05 05:27	15° <u>0</u> ′ <u>0</u> ″ <u>03</u> ′ <u>36</u>	
evening set	16293 Sep 10 22:42	21° <u>0</u> ′ <u>12</u> ″ <u>25</u>					
				conjunction	16299 Oct 21 03:14	15° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>57</u>	0°45′38″
conjunction	16293 Sep 26 19:33	22° <u>0</u> ′ <u>06</u> ″ <u>40</u>	0°19′02″	minimum elong	16299 Oct 21 03:14	15° <u>0</u> ′ <u>0</u> ″ <u>05</u> ′ <u>57</u>	0°46′04″



max. Earth dist.	16299 Oct 21 09:25	15° $\mathbb{M}$ 58'50	21.01121 AU	min. Earth dist.	16306 May 20 08:21	12° $\mathbb{X}$ 09'33	18.83167 AU
morning rise	16299 Nov 06 02:21	16° $\mathbb{M}$ 52'31		direct	16306 Aug 04 07:07	10° $\mathbb{X}$ 11'22	
retrograde	16300 Feb 07 01:05	19° $\mathbb{M}$ 57'39		evening set	16306 Nov 03 04:23	13° $\mathbb{X}$ 14'30	
opposition	16300 Apr 25 08:01	17° $\mathbb{M}$ 59'09	0°52'37				
min. Earth dist.	16300 Apr 25 01:52	17° $\mathbb{M}$ 59'46	19.00323 AU	conjunction	16306 Nov 19 04:28	14° $\mathbb{X}$ 09'43	1°06'41
direct	16300 Jul 10 15:27	16° $\mathbb{M}$ 01'37		minimum elong	16306 Nov 19 04:27	14° $\mathbb{X}$ 09'43	1°07'19
evening set	16300 Oct 09 10:54	19° $\mathbb{M}$ 02'42		max. Earth dist.	16306 Nov 19 06:21	14° $\mathbb{X}$ 09'59	20.80987 AU
				morning rise	16306 Dec 05 06:30	15° $\mathbb{X}$ 05'14	
conjunction	16300 Oct 25 08:51	19° $\mathbb{M}$ 57'07	0°49'25	retrograde	16307 Mar 08 20:54	18° $\mathbb{X}$ 13'43	
minimum elong	16300 Oct 25 08:50	19° $\mathbb{M}$ 57'07	0°49'54	opposition	16307 May 24 21:14	16° $\mathbb{X}$ 14'24	1°14'54
max. Earth dist.	16300 Oct 25 14:12	19° $\mathbb{M}$ 57'53	20.99395 AU	min. Earth dist.	16307 May 24 19:54	16° $\mathbb{X}$ 14'32	18.78770 AU
morning rise	16300 Nov 10 08:25	20° $\mathbb{M}$ 51'47		direct	16307 Aug 08 13:39	14° $\mathbb{X}$ 16'21	
retrograde	16301 Feb 11 08:39	23° $\mathbb{M}$ 57'17		evening set	16307 Nov 07 13:01	17° $\mathbb{X}$ 19'58	
opposition	16301 Apr 29 16:08	21° $\mathbb{M}$ 58'41	0°56'41				
min. Earth dist.	16301 Apr 29 11:13	21° $\mathbb{M}$ 59'11	18.98432 AU	conjunction	16307 Nov 23 13:39	18° $\mathbb{X}$ 15'22	1°08'30
direct	16301 Jul 14 20:43	20° $\mathbb{M}$ 01'09		minimum elong	16307 Nov 23 13:39	18° $\mathbb{X}$ 15'22	1°09'10
evening set	16301 Oct 13 16:40	23° $\mathbb{M}$ 02'25		max. Earth dist.	16307 Nov 23 15:08	18° $\mathbb{X}$ 15'35	20.76379 AU
				morning rise	16307 Dec 09 16:09	19° $\mathbb{X}$ 11'04	
conjunction	16301 Oct 29 15:01	23° $\mathbb{M}$ 56'56	0°52'58	retrograde	16308 Mar 12 09:43	22° $\mathbb{X}$ 20'08	
minimum elong	16301 Oct 29 15:01	23° $\mathbb{M}$ 56'56	0°53'29	opposition	16308 May 28 07:07	20° $\mathbb{X}$ 20'35	1°16'46
max. Earth dist.	16301 Oct 29 20:37	23° $\mathbb{M}$ 57'44	20.97331 AU	min. Earth dist.	16308 May 28 05:29	20° $\mathbb{X}$ 20'45	18.73951 AU
morning rise	16301 Nov 14 14:53	24° $\mathbb{M}$ 51'42		direct	16308 Aug 11 23:51	18° $\mathbb{X}$ 22'18	
retrograde	16302 Feb 15 18:20	27° $\mathbb{M}$ 57'35		evening set	16308 Nov 10 22:10	21° $\mathbb{X}$ 26'27	
opposition	16302 May 04 00:05	25° $\mathbb{M}$ 58'55	1°00'29				
min. Earth dist.	16302 May 03 18:32	25° $\mathbb{M}$ 59'29	18.96184 AU	conjunction	16308 Nov 26 23:16	22° $\mathbb{X}$ 22'03	1°10'00
direct	16302 Jul 19 03:27	24° $\mathbb{M}$ 01'21		minimum elong	16308 Nov 26 23:16	22° $\mathbb{X}$ 22'03	1°10'40
evening set	16302 Oct 17 22:56	27° $\mathbb{M}$ 02'54		max. Earth dist.	16308 Nov 26 23:41	22° $\mathbb{X}$ 22'07	20.71368 AU
				morning rise	16308 Dec 13 02:21	23° $\mathbb{X}$ 17'57	
conjunction	16302 Nov 02 21:28	27° $\mathbb{M}$ 57'31	0°56'16	retrograde	16309 Mar 16 20:08	26° $\mathbb{X}$ 27'38	
minimum elong	16302 Nov 02 21:28	27° $\mathbb{M}$ 57'31	0°56'48	opposition	16309 Jun 01 17:29	24° $\mathbb{X}$ 27'49	1°18'14
max. Earth dist.	16302 Nov 03 02:05	27° $\mathbb{M}$ 58'11	20.94893 AU	min. Earth dist.	16309 Jun 01 17:31	24° $\mathbb{X}$ 27'49	18.68772 AU
morning rise	16302 Nov 18 21:47	28° $\mathbb{M}$ 52'25		direct	16309 Aug 16 07:14	22° $\mathbb{X}$ 29'16	
	16302 Dec 10 00:25	0° $\mathbb{X}$		evening set	16309 Nov 15 07:53	25° $\mathbb{X}$ 34'00	
retrograde	16303 Feb 20 02:44	1° $\mathbb{X}$ 58'45					
opposition	16303 May 08 08:36	0° $\mathbb{X}$ 00'00	1°04'00	conjunction	16309 Dec 01 09:33	26° $\mathbb{X}$ 29'49	1°11'08
min. Earth dist.	16303 May 08 04:29	0° $\mathbb{X}$ 00'25	18.93565 AU	minimum elong	16309 Dec 01 09:33	26° $\mathbb{X}$ 29'49	1°11'49
	16303 May 08 08:37	30° $\mathbb{R}$ $\mathbb{M}$		max. Earth dist.	16309 Dec 01 09:37	26° $\mathbb{X}$ 29'49	20.66043 AU
direct	16303 Jul 23 08:50	28° $\mathbb{M}$ 02'25		morning rise	16309 Dec 17 13:08	27° $\mathbb{X}$ 25'55	
	16303 Oct 02 04:51	0° $\mathbb{X}$			16310 Feb 11 00:38	0° $\mathbb{Z}$	
evening set	16303 Oct 22 05:21	1° $\mathbb{X}$ 04'16		retrograde	16310 Mar 21 09:12	0° $\mathbb{Z}$ 36'13	
					16310 Apr 29 10:04	30° $\mathbb{R}$ $\mathbb{X}$	
conjunction	16303 Nov 07 04:20	1° $\mathbb{X}$ 59'01	0°59'18	opposition	16310 Jun 06 03:54	28° $\mathbb{X}$ 36'09	1°19'19
minimum elong	16303 Nov 07 04:19	1° $\mathbb{X}$ 59'01	0°59'53	min. Earth dist.	16310 Jun 06 03:30	28° $\mathbb{X}$ 36'11	18.63310 AU
max. Earth dist.	16303 Nov 07 09:03	1° $\mathbb{X}$ 59'42	20.92082 AU	direct	16310 Aug 20 18:02	26° $\mathbb{X}$ 37'20	
morning rise	16303 Nov 23 04:58	2° $\mathbb{X}$ 54'03		evening set	16310 Nov 19 18:14	29° $\mathbb{X}$ 42'43	
retrograde	16304 Feb 24 14:03	6° $\mathbb{X}$ 00'54			16310 Nov 24 18:34	0° $\mathbb{Z}$	
opposition	16304 May 11 17:15	4° $\mathbb{X}$ 02'03	1°07'13				
min. Earth dist.	16304 May 11 12:38	4° $\mathbb{X}$ 02'31	18.90545 AU	conjunction	16310 Dec 05 20:22	0° $\mathbb{Z}$ 38'44	1°11'54
direct	16304 Jul 26 16:31	2° $\mathbb{X}$ 04'24		minimum elong	16310 Dec 05 20:22	0° $\mathbb{Z}$ 38'44	1°12'35
evening set	16304 Oct 25 12:34	5° $\mathbb{X}$ 06'38		max. Earth dist.	16310 Dec 05 19:42	0° $\mathbb{Z}$ 38'39	20.60458 AU
				morning rise	16310 Dec 22 00:30	1° $\mathbb{Z}$ 35'04	
conjunction	16304 Nov 10 11:49	6° $\mathbb{X}$ 01'32	1°02'04	retrograde	16311 Mar 25 20:50	4° $\mathbb{Z}$ 46'02	
minimum elong	16304 Nov 10 11:48	6° $\mathbb{X}$ 01'32	1°02'39	opposition	16311 Jun 10 15:02	2° $\mathbb{Z}$ 45'43	1°19'58
max. Earth dist.	16304 Nov 10 15:23	6° $\mathbb{X}$ 02'02	20.88841 AU	min. Earth dist.	16311 Jun 10 16:01	2° $\mathbb{Z}$ 45'36	18.57632 AU
morning rise	16304 Nov 26 12:57	6° $\mathbb{X}$ 56'43		direct	16311 Aug 25 02:26	0° $\mathbb{Z}$ 46'38	
retrograde	16305 Feb 27 22:56	10° $\mathbb{X}$ 04'05		evening set	16311 Nov 24 05:01	3° $\mathbb{Z}$ 52'41	
opposition	16305 May 16 02:14	8° $\mathbb{X}$ 05'07	1°10'07				
min. Earth dist.	16305 May 15 23:23	8° $\mathbb{X}$ 05'24	18.87092 AU	conjunction	16311 Dec 10 07:46	4° $\mathbb{Z}$ 48'57	1°12'17
direct	16305 Jul 30 22:13	6° $\mathbb{X}$ 07'23		minimum elong	16311 Dec 10 07:46	4° $\mathbb{Z}$ 48'57	1°12'58
evening set	16305 Oct 29 20:11	9° $\mathbb{X}$ 10'03		max. Earth dist.	16311 Dec 10 06:51	4° $\mathbb{Z}$ 48'49	20.54703 AU
				morning rise	16311 Dec 26 12:28	5° $\mathbb{Z}$ 45'31	
conjunction	16305 Nov 14 19:56	10° $\mathbb{X}$ 05'06	1°04'31	retrograde	16312 Mar 29 11:04	8° $\mathbb{Z}$ 57'11	
minimum elong	16305 Nov 14 19:56	10° $\mathbb{X}$ 05'06	1°05'09	opposition	16312 Jun 14 02:27	6° $\mathbb{Z}$ 56'37	1°20'13
max. Earth dist.	16305 Nov 14 23:09	10° $\mathbb{X}$ 05'33	20.85158 AU	min. Earth dist.	16312 Jun 14 02:50	6° $\mathbb{Z}$ 56'34	18.51800 AU
morning rise	16305 Nov 30 21:28	11° $\mathbb{X}$ 00'26		direct	16312 Aug 28 13:26	4° $\mathbb{Z}$ 57'16	
retrograde	16306 Mar 04 11:31	14° $\mathbb{X}$ 08'21		evening set	16312 Nov 27 16:42	8° $\mathbb{Z}$ 04'05	
opposition	16306 May 20 11:28	12° $\mathbb{X}$ 09'14	1°12'41				

conjunction	16312 Dec 13 20:01	9°30'35"	1°12'17"	retrograde	16319 Apr 30 03:23	9°03'06"	
minimum elong	16312 Dec 13 20:01	9°30'35"	1°12'59"	opposition	16319 Jul 15 02:21	7°01'21"	1°09'38"
max. Earth dist.	16312 Dec 13 18:34	9°30'23"	20.48798 AU	min. Earth dist.	16319 Jul 15 06:51	7°00'52"	18.08786 AU
morning rise	16312 Dec 30 01:17	9°57'24"		direct	16319 Sep 28 02:52	5°00'20"	
retrograde	16313 Apr 03 00:06	13°09'47"		evening set	16319 Dec 29 01:26	8°13'37"	
opposition	16313 Jun 18 14:20	11°09'00"	1°20'02"				
min. Earth dist.	16313 Jun 18 16:01	11°08'50"	18.45846 AU	conjunction	16320 Jan 14 09:08	9°12'05"	1°01'14"
direct	16313 Sep 01 23:04	9°09'24"		minimum elong	16320 Jan 14 09:08	9°12'05"	1°01'49"
evening set	16313 Dec 02 05:04	12°31'01"		max. Earth dist.	16320 Jan 14 03:12	9°11'12"	20.05560 AU
				morning rise	16320 Jan 30 18:30	10°10'49"	
conjunction	16313 Dec 18 09:01	13°31'47"	1°11'54"	retrograde	16320 May 03 23:14	13°28'47"	
minimum elong	16313 Dec 18 09:01	13°31'47"	1°12'34"	opposition	16320 Jul 18 18:36	11°26'49"	1°06'23"
max. Earth dist.	16313 Dec 18 07:05	13°31'30"	20.42809 AU	min. Earth dist.	16320 Jul 18 23:25	11°26'19"	18.02349 AU
morning rise	16314 Jan 03 14:54	14°31'05"		direct	16320 Oct 01 18:28	9°25'30"	
retrograde	16314 Apr 07 15:34	17°32'40"		evening set	16321 Jan 01 19:59	12°39'45"	
opposition	16314 Jun 23 02:43	15°32'01"	1°19'24"				
min. Earth dist.	16314 Jun 23 03:51	15°32'54"	18.39815 AU	conjunction	16321 Jan 18 04:26	13°38'32"	0°58'06"
direct	16314 Sep 06 10:35	13°32'10"		minimum elong	16321 Jan 18 04:27	13°38'32"	0°58'38"
evening set	16314 Dec 06 18:08	16°31'39"		max. Earth dist.	16321 Jan 17 22:28	13°37'38"	19.99090 AU
				morning rise	16321 Feb 03 14:12	14°37'32"	
conjunction	16314 Dec 22 22:41	17°32'41"	1°11'07"		16321 Feb 10 00:27	15°	
minimum elong	16314 Dec 22 22:41	17°32'41"	1°11'48"	retrograde	16321 May 08 18:36	17°56'14"	
max. Earth dist.	16314 Dec 22 20:30	17°32'22"	20.36741 AU	opposition	16321 Jul 23 11:21	15°54'04"	1°02'42"
morning rise	16315 Jan 08 05:05	18°32'01"		min. Earth dist.	16321 Jul 23 17:08	15°53'27"	17.95862 AU
retrograde	16315 Apr 12 06:14	21°39'57"			16321 Aug 14 10:29	15°R	
opposition	16315 Jun 27 15:54	19°38'48"	1°18'20"	direct	16321 Oct 06 10:06	13°52'25"	
min. Earth dist.	16315 Jun 27 18:09	19°38'33"	18.33723 AU		16321 Nov 26 15:39	15°	
direct	16315 Sep 10 21:36	17°38'44"		evening set	16322 Jan 06 15:26	17°07'39"	
evening set	16315 Dec 11 08:08	20°34'06"					
				conjunction	16322 Jan 23 00:22	18°06'42"	0°54'35"
conjunction	16315 Dec 27 13:19	21°34'25"	1°09'56"	minimum elong	16322 Jan 23 00:23	18°06'42"	0°55'05"
minimum elong	16315 Dec 27 13:19	21°34'25"	1°10'36"	max. Earth dist.	16322 Jan 22 16:48	18°05'33"	19.92626 AU
max. Earth dist.	16315 Dec 27 10:28	21°34'00"	20.30642 AU	morning rise	16322 Feb 08 10:47	19°06'00"	
morning rise	16316 Jan 12 20:24	22°34'02"		retrograde	16322 May 13 15:15	22°25'24"	
retrograde	16316 Apr 15 23:09	25°35'46"		opposition	16322 Jul 28 04:46	20°22'59"	0°58'37"
opposition	16316 Jul 01 05:26	23°35'27"	1°16'49"	min. Earth dist.	16322 Jul 28 10:55	20°22'20"	17.89425 AU
min. Earth dist.	16316 Jul 01 07:23	23°35'15"	18.27599 AU	direct	16322 Oct 11 02:27	18°20'59"	
direct	16316 Sep 14 10:22	21°35'10"		evening set	16323 Jan 11 11:21	21°37'10"	
evening set	16316 Dec 14 23:04	25°30'29"					
				conjunction	16323 Jan 27 21:03	22°36'31"	0°50'43"
conjunction	16316 Dec 31 04:56	26°30'40"	1°08'21"	minimum elong	16323 Jan 27 21:03	22°36'31"	0°51'11"
minimum elong	16316 Dec 31 04:56	26°30'40"	1°08'59"	max. Earth dist.	16323 Jan 27 14:01	22°35'27"	19.86233 AU
max. Earth dist.	16316 Dec 31 01:52	26°30'39"	20.24485 AU	morning rise	16323 Feb 13 07:47	23°36'05"	
morning rise	16317 Jan 16 12:32	27°30'15"		retrograde	16323 May 18 12:32	26°56'10"	
	16317 Mar 25 12:14	0°		opposition	16323 Aug 01 22:48	24°53'31"	0°54'08"
retrograde	16317 Apr 20 15:17	0°17'32"		min. Earth dist.	16323 Aug 02 05:21	24°52'49"	17.83094 AU
	16317 May 17 03:00	30°R		direct	16323 Oct 15 20:05	22°51'11"	
opposition	16317 Jul 05 19:47	28°31'06"	1°14'52"	evening set	16324 Jan 16 08:22	26°08'19"	
min. Earth dist.	16317 Jul 05 23:00	28°31'45"	18.21408 AU				
direct	16317 Sep 18 22:38	26°31'53"		conjunction	16324 Feb 01 18:29	27°07'56"	0°46'31"
evening set	16317 Dec 19 14:57	29°32'54"		minimum elong	16324 Feb 01 18:29	27°07'56"	0°46'55"
	16317 Dec 28 23:33	0°		max. Earth dist.	16324 Feb 01 09:58	27°06'39"	19.80002 AU
				morning rise	16324 Feb 18 05:50	28°07'46"	
conjunction	16318 Jan 04 21:23	0°24'47"	1°06'22"		16324 Mar 23 21:45	0°H	
minimum elong	16318 Jan 04 21:23	0°24'47"	1°07'00"	retrograde	16324 May 22 09:31	1°28'30"	
max. Earth dist.	16318 Jan 04 17:10	0°24'09"	20.18268 AU		16324 Jul 23 04:19	30°R	
morning rise	16318 Jan 21 05:37	1°22'57"		opposition	16324 Aug 05 17:15	29°25'38"	0°49'17"
retrograde	16318 Apr 25 09:48	4°39'20"		min. Earth dist.	16324 Aug 06 00:16	29°24'52"	17.76973 AU
opposition	16318 Jul 10 10:38	2°37'44"	1°12'28"	direct	16324 Oct 19 13:24	27°22'56"	
min. Earth dist.	16318 Jul 10 13:56	2°37'23"	18.15147 AU		16325 Jan 08 12:21	0°H	
direct	16318 Sep 23 13:00	0°36'59"		evening set	16325 Jan 20 06:01	0°H41'01"	
evening set	16318 Dec 24 07:46	3°49'17"					
				conjunction	16325 Feb 05 16:50	1°40'55"	0°41'59"
conjunction	16319 Jan 09 14:53	4°47'28"	1°04'00"	minimum elong	16325 Feb 05 16:50	1°40'55"	0°42'23"
minimum elong	16319 Jan 09 14:54	4°47'29"	1°04'35"	max. Earth dist.	16325 Feb 05 09:09	1°39'44"	19.73999 AU
max. Earth dist.	16319 Jan 09 10:29	4°46'49"	20.11954 AU	morning rise	16325 Feb 22 04:24	2°40'59"	
morning rise	16319 Jan 25 23:33	5°45'55"		retrograde	16325 May 27 08:07	6°H02'20"	

opposition	16325 Aug 10 12:20	3° <del>✕</del> 59'15	0°44'06		16331 Oct 31 01:49	30° <del>✕</del>	
min. Earth dist.	16325 Aug 10 19:16	3° <del>✕</del> 58'30	17.71105 AU	direct	16331 Nov 21 17:57	29° <del>✕</del> 47'29	
direct	16325 Oct 24 08:59	1° <del>✕</del> 56'14			16331 Dec 13 03:29	0° <del>♀</del>	
evening set	16326 Jan 25 04:28	5° <del>✕</del> 15'14		evening set	16332 Feb 23 09:57	3° <del>♀</del> 11'32	
conjunction	16326 Feb 10 15:34	6° <del>✕</del> 15'23	0°37'10	conjunction	16332 Mar 10 22:49	4° <del>♀</del> 12'53	0°03'55
minimum elong	16326 Feb 10 15:34	6° <del>✕</del> 15'24	0°37'30	minimum elong	16332 Mar 10 22:50	4° <del>♀</del> 12'53	0°03'56
max. Earth dist.	16326 Feb 10 06:36	6° <del>✕</del> 14'01	19.68294 AU	behind sun begin	16332 Mar 10 16:10	4° <del>♀</del> 11'53	
morning rise	16326 Feb 27 03:37	7° <del>✕</del> 15'42		behind sun end	16332 Mar 11 05:30	4° <del>♀</del> 13'54	
retrograde	16326 Jun 01 05:08	10° <del>✕</del> 37'39		max. Earth dist.	16332 Mar 10 14:11	4° <del>♀</del> 11'34	19.42903 AU
opposition	16326 Aug 15 08:03	8° <del>✕</del> 34'22	0°38'36	morning rise	16332 Mar 27 11:34	5° <del>♀</del> 14'15	
min. Earth dist.	16326 Aug 15 15:25	8° <del>✕</del> 33'34	17.65582 AU	retrograde	16332 Jun 29 03:16	8° <del>♀</del> 38'54	
direct	16326 Oct 29 04:03	6° <del>✕</del> 31'02		opposition	16332 Sep 11 17:34	6° <del>♀</del> 35'16	0°00'59
evening set	16327 Jan 30 03:33	9° <del>✕</del> 50'57		min. Earth dist.	16332 Sep 12 01:14	6° <del>♀</del> 34'26	17.41481 AU
conjunction	16327 Feb 15 15:15	10° <del>✕</del> 51'21	0°32'05	desc. node	16332 Nov 04 00:26	4° <del>♀</del> 43'23	
minimum elong	16327 Feb 15 15:15	10° <del>✕</del> 51'21	0°32'23	direct	16332 Nov 25 16:37	4° <del>♀</del> 30'49	
max. Earth dist.	16327 Feb 15 07:24	10° <del>✕</del> 50'09	19.62961 AU	evening set	16333 Feb 27 13:03	7° <del>♀</del> 55'32	
morning rise	16327 Mar 04 03:26	11° <del>✕</del> 51'53		conjunction	16333 Mar 16 02:04	8° <del>♀</del> 57'01	-0°02'09
retrograde	16327 Jun 06 04:28	15° <del>✕</del> 14'23		minimum elong	16333 Mar 16 02:02	8° <del>♀</del> 57'01	0°02'11
opposition	16327 Aug 20 04:13	13° <del>✕</del> 10'57	0°32'48	behind sun begin	16333 Mar 15 19:18	8° <del>♀</del> 55'59	
min. Earth dist.	16327 Aug 20 11:00	13° <del>✕</del> 10'13	17.60450 AU	behind sun end	16333 Mar 16 08:46	8° <del>♀</del> 58'02	
direct	16327 Nov 03 01:15	11° <del>✕</del> 07'22		max. Earth dist.	16333 Mar 15 17:28	8° <del>♀</del> 55'42	19.40155 AU
evening set	16328 Feb 04 03:29	14° <del>✕</del> 28'09		morning rise	16333 Apr 01 14:39	9° <del>♀</del> 58'28	
conjunction	16328 Feb 20 15:27	15° <del>✕</del> 28'48	0°26'46	retrograde	16333 Jul 04 05:42	13° <del>♀</del> 23'21	
minimum elong	16328 Feb 20 15:27	15° <del>✕</del> 28'48	0°27'01	opposition	16333 Sep 16 16:50	11° <del>♀</del> 19'43	-0°05'39
max. Earth dist.	16328 Feb 20 06:31	15° <del>✕</del> 27'25	19.58050 AU	min. Earth dist.	16333 Sep 16 23:34	11° <del>♀</del> 18'59	17.38925 AU
morning rise	16328 Mar 08 04:01	16° <del>✕</del> 29'32		direct	16333 Nov 30 18:08	9° <del>♀</del> 15'08	
retrograde	16328 Jun 10 02:20	19° <del>✕</del> 52'33		evening set	16334 Mar 04 16:26	12° <del>♀</del> 40'25	
opposition	16328 Aug 24 01:05	17° <del>✕</del> 49'00	0°26'46	conjunction	16334 Mar 21 05:22	13° <del>♀</del> 41'59	-0°08'05
min. Earth dist.	16328 Aug 24 08:27	17° <del>✕</del> 48'12	17.55767 AU	minimum elong	16334 Mar 21 05:21	13° <del>♀</del> 41'59	0°08'12
direct	16328 Nov 06 21:40	15° <del>✕</del> 45'11		behind sun begin	16334 Mar 20 23:24	13° <del>♀</del> 41'04	
evening set	16329 Feb 08 04:03	19° <del>✕</del> 06'51		behind sun end	16334 Mar 21 11:19	13° <del>♀</del> 42'53	
conjunction	16329 Feb 24 16:29	20° <del>✕</del> 07'42	0°21'16	max. Earth dist.	16334 Mar 20 20:44	13° <del>♀</del> 40'39	19.37790 AU
minimum elong	16329 Feb 24 16:29	20° <del>✕</del> 07'42	0°21'26	morning rise	16334 Apr 06 17:43	14° <del>♀</del> 43'31	
max. Earth dist.	16329 Feb 24 08:34	20° <del>✕</del> 06'29	19.53596 AU	retrograde	16334 Jul 09 05:41	18° <del>♀</del> 08'34	
morning rise	16329 Mar 13 05:05	21° <del>✕</del> 08'37		opposition	16334 Sep 21 16:37	16° <del>♀</del> 04'55	-0°12'16
retrograde	16329 Jun 15 02:48	24° <del>✕</del> 32'07		min. Earth dist.	16334 Sep 22 00:19	16° <del>♀</del> 04'05	17.36772 AU
opposition	16329 Aug 28 22:19	22° <del>✕</del> 28'31	0°20'32	direct	16334 Dec 05 17:35	14° <del>♀</del> 00'11	
min. Earth dist.	16329 Aug 29 04:50	22° <del>✕</del> 27'48	17.51535 AU	evening set	16335 Mar 09 20:10	17° <del>♀</del> 25'57	
direct	16329 Nov 11 20:25	20° <del>✕</del> 24'31		conjunction	16335 Mar 26 08:59	18° <del>♀</del> 27'36	-0°13'59
evening set	16330 Feb 13 05:26	23° <del>✕</del> 47'02		minimum elong	16335 Mar 26 08:58	18° <del>♀</del> 27'36	0°14'07
conjunction	16330 Mar 01 17:58	24° <del>✕</del> 48'04	0°15'35	behind sun begin	16335 Mar 26 05:47	18° <del>♀</del> 27'07	
minimum elong	16330 Mar 01 17:59	24° <del>✕</del> 48'04	0°15'43	behind sun end	16335 Mar 26 12:10	18° <del>♀</del> 28'05	
behind sun begin	16330 Mar 01 17:03	24° <del>✕</del> 47'56		max. Earth dist.	16335 Mar 26 00:06	18° <del>♀</del> 26'13	19.35856 AU
behind sun end	16330 Mar 01 18:54	24° <del>✕</del> 48'13		morning rise	16335 Apr 11 21:10	19° <del>♀</del> 29'10	
max. Earth dist.	16330 Mar 01 09:15	24° <del>✕</del> 46'44	19.49597 AU	retrograde	16335 Jul 14 08:30	22° <del>♀</del> 54'18	
morning rise	16330 Mar 18 06:46	25° <del>✕</del> 49'09		opposition	16335 Sep 26 16:18	20° <del>♀</del> 50'38	-0°18'50
retrograde	16330 Jun 20 01:45	29° <del>✕</del> 13'06		min. Earth dist.	16335 Sep 26 23:01	20° <del>♀</del> 49'55	17.35058 AU
opposition	16330 Sep 02 20:18	27° <del>✕</del> 09'29	0°14'07	direct	16335 Dec 10 19:54	18° <del>♀</del> 45'45	
min. Earth dist.	16330 Sep 03 03:39	27° <del>✕</del> 08'41	17.47769 AU	evening set	16336 Mar 14 00:04	22° <del>♀</del> 11'57	
direct	16330 Nov 16 17:47	25° <del>✕</del> 05'19		conjunction	16336 Mar 30 12:48	23° <del>♀</del> 13'38	-0°19'48
evening set	16331 Feb 18 07:13	28° <del>✕</del> 28'38		minimum elong	16336 Mar 30 12:48	23° <del>♀</del> 13'38	0°20'00
conjunction	16331 Mar 06 20:04	29° <del>✕</del> 29'50	0°09'47	max. Earth dist.	16336 Mar 30 04:30	23° <del>♀</del> 12'21	19.34362 AU
minimum elong	16331 Mar 06 20:05	29° <del>✕</del> 29'50	0°09'51	morning rise	16336 Apr 16 00:34	24° <del>♀</del> 15'14	
behind sun begin	16331 Mar 06 14:37	29° <del>✕</del> 29'01		retrograde	16336 Jul 18 08:35	27° <del>♀</del> 40'21	
behind sun end	16331 Mar 07 01:32	29° <del>✕</del> 30'40		opposition	16336 Sep 30 16:27	25° <del>♀</del> 36'42	-0°25'16
max. Earth dist.	16331 Mar 06 12:04	29° <del>✕</del> 28'37	19.46052 AU	min. Earth dist.	16336 Sep 30 23:54	25° <del>♀</del> 35'53	17.33805 AU
morning rise	16331 Mar 14 22:13	0° <del>♀</del>		direct	16336 Dec 14 19:42	23° <del>♀</del> 31'41	
retrograde	16331 Jun 23 08:51	0° <del>♀</del> 31'05		evening set	16337 Mar 19 04:04	26° <del>♀</del> 58'11	
opposition	16331 Sep 07 18:40	1° <del>♀</del> 51'47	0°07'36	conjunction	16337 Apr 04 16:26	27° <del>♀</del> 59'53	-0°25'29
min. Earth dist.	16331 Sep 08 01:11	1° <del>♀</del> 51'04	17.44425 AU	minimum elong	16337 Apr 04 16:26	27° <del>♀</del> 59'53	0°25'45
				max. Earth dist.	16337 Apr 04 07:41	27° <del>♀</del> 58'31	19.33362 AU

morning rise	16337 Apr 21 03:55	29° $\Upsilon$ 01'28			16343 Jul 06 12:58	0° $\Pi$
	16337 May 07 16:03	0° $\mathcal{B}$		retrograde	16343 Aug 21 08:41	0° $\Pi$ 56'29
retrograde	16337 Jul 23 10:52	2° $\mathcal{B}$ 26'32			16343 Oct 07 16:13	30° $\mathcal{R}\mathcal{B}$
opposition	16337 Oct 05 16:30	0° $\mathcal{B}$ 22'51 -0°31'32		opposition	16343 Nov 03 17:06	28° $\mathcal{B}$ 53'27 -1°03'03
min. Earth dist.	16337 Oct 05 22:54	0° $\mathcal{B}$ 22'10 17.33066 AU		min. Earth dist.	16343 Nov 03 20:23	28° $\mathcal{B}$ 53'06 17.41044 AU
	16337 Oct 14 11:08	30° $\mathcal{R}\Upsilon$		direct	16344 Jan 18 11:18	26° $\mathcal{B}$ 48'27
direct	16337 Dec 19 22:34	28° $\Upsilon$ 17'44			16344 Apr 18 01:16	0° $\Pi$
	16338 Feb 21 09:48	0° $\mathcal{B}$		evening set	16344 Apr 22 03:04	0° $\Pi$ 14'48
evening set	16338 Mar 24 07:56	1° $\mathcal{B}$ 44'28				
				conjunction	16344 May 08 12:15	1° $\Pi$ 15'49 -0°58'19
conjunction	16338 Apr 09 20:07	2° $\mathcal{B}$ 46'09 -0°31'00		minimum elong	16344 May 08 12:14	1° $\Pi$ 15'49 0°58'53
minimum elong	16338 Apr 09 20:06	2° $\mathcal{B}$ 46'09 0°31'18		max. Earth dist.	16344 May 08 09:08	1° $\Pi$ 15'20 19.42635 AU
max. Earth dist.	16338 Apr 09 12:42	2° $\mathcal{B}$ 44'59 19.32884 AU		morning rise	16344 May 24 19:31	2° $\Pi$ 16'36
morning rise	16338 Apr 26 07:00	3° $\mathcal{B}$ 47'41		retrograde	16344 Aug 25 08:39	5° $\Pi$ 39'20
retrograde	16338 Jul 28 10:26	7° $\mathcal{B}$ 12'35		opposition	16344 Nov 07 16:50	3° $\Pi$ 36'33 -1°06'56
opposition	16338 Oct 10 16:44	5° $\mathcal{B}$ 08'57 -0°37'35		min. Earth dist.	16344 Nov 07 19:13	3° $\Pi$ 36'18 17.44390 AU
min. Earth dist.	16338 Oct 10 23:23	5° $\mathcal{B}$ 08'13 17.32871 AU		direct	16345 Jan 22 13:26	1° $\Pi$ 31'43
direct	16338 Dec 24 22:58	3° $\mathcal{B}$ 03'44		evening set	16345 Apr 27 05:02	4° $\Pi$ 57'43
evening set	16339 Mar 29 11:45	6° $\mathcal{B}$ 30'36				
				conjunction	16345 May 13 13:25	5° $\Pi$ 58'32 -1°01'37
conjunction	16339 Apr 14 23:26	7° $\mathcal{B}$ 32'14 -0°36'19		minimum elong	16345 May 13 13:25	5° $\Pi$ 58'32 1°02'11
minimum elong	16339 Apr 14 23:26	7° $\mathcal{B}$ 32'14 0°36'41		max. Earth dist.	16345 May 13 10:11	5° $\Pi$ 58'02 19.46204 AU
max. Earth dist.	16339 Apr 14 15:33	7° $\mathcal{B}$ 31'00 19.32981 AU		morning rise	16345 May 29 20:03	6° $\Pi$ 59'07
morning rise	16339 May 01 10:01	8° $\mathcal{B}$ 33'42		retrograde	16345 Aug 30 06:44	10° $\Pi$ 21'19
retrograde	16339 Aug 02 11:40	11° $\mathcal{B}$ 58'24		opposition	16345 Nov 12 16:26	8° $\Pi$ 18'45 -1°10'22
opposition	16339 Oct 15 16:55	9° $\mathcal{B}$ 54'46 -0°43'22		min. Earth dist.	16345 Nov 12 18:51	8° $\Pi$ 18'30 17.48182 AU
min. Earth dist.	16339 Oct 15 22:34	9° $\mathcal{B}$ 54'09 17.33269 AU		direct	16346 Jan 27 13:43	6° $\Pi$ 14'05
direct	16339 Dec 30 02:36	7° $\mathcal{B}$ 49'30		evening set	16346 May 02 06:26	9° $\Pi$ 39'39
evening set	16340 Apr 02 15:23	11° $\mathcal{B}$ 16'25				
				conjunction	16346 May 18 14:15	10° $\Pi$ 40'16 -1°04'29
conjunction	16340 Apr 19 02:47	12° $\mathcal{B}$ 17'59 -0°41'22		minimum elong	16346 May 18 14:15	10° $\Pi$ 40'15 1°05'06
minimum elong	16340 Apr 19 02:46	12° $\mathcal{B}$ 17'59 0°41'46		max. Earth dist.	16346 May 18 12:10	10° $\Pi$ 39'56 19.50188 AU
max. Earth dist.	16340 Apr 18 20:41	12° $\mathcal{B}$ 17'02 19.33671 AU		morning rise	16346 Jun 03 20:07	11° $\Pi$ 40'37
morning rise	16340 May 05 12:36	13° $\mathcal{B}$ 19'22		retrograde	16346 Sep 04 06:21	15° $\Pi$ 02'12
	16340 Jun 04 03:15	15° $\mathcal{B}$		opposition	16346 Nov 17 15:33	12° $\Pi$ 59'52 -1°13'19
retrograde	16340 Aug 06 10:24	16° $\mathcal{B}$ 43'45		min. Earth dist.	16346 Nov 17 16:53	12° $\Pi$ 59'44 17.52341 AU
	16340 Oct 12 02:52	15° $\mathcal{R}\mathcal{B}$		direct	16347 Feb 01 15:36	10° $\Pi$ 55'23
opposition	16340 Oct 19 17:04	14° $\mathcal{B}$ 40'13 -0°48'51		evening set	16347 May 07 07:21	14° $\Pi$ 20'24
min. Earth dist.	16340 Oct 19 22:26	14° $\mathcal{B}$ 39'38 17.34271 AU				
direct	16341 Jan 03 04:16	12° $\mathcal{B}$ 34'56		conjunction	16347 May 23 14:27	15° $\Pi$ 20'48 -1°06'55
	16341 Mar 21 06:34	15° $\mathcal{B}$		minimum elong	16347 May 23 14:27	15° $\Pi$ 20'48 1°07'33
evening set	16341 Apr 07 18:54	16° $\mathcal{B}$ 01'50		max. Earth dist.	16347 May 23 12:23	15° $\Pi$ 20'29 19.54508 AU
				morning rise	16347 Jun 08 19:39	16° $\Pi$ 20'56
conjunction	16341 Apr 24 05:37	17° $\mathcal{B}$ 03'17 -0°46'07		retrograde	16347 Sep 09 03:03	19° $\Pi$ 41'51
minimum elong	16341 Apr 24 05:37	17° $\mathcal{B}$ 03'17 0°46'34		opposition	16347 Nov 22 14:32	17° $\Pi$ 39'44 -1°15'46
max. Earth dist.	16341 Apr 23 23:09	17° $\mathcal{B}$ 02'17 19.34995 AU		min. Earth dist.	16347 Nov 22 16:16	17° $\Pi$ 39'33 17.56825 AU
morning rise	16341 May 10 14:59	18° $\mathcal{B}$ 04'33		direct	16348 Feb 06 15:22	15° $\Pi$ 35'24
retrograde	16341 Aug 11 10:23	21° $\mathcal{B}$ 28'37		evening set	16348 May 11 07:31	18° $\Pi$ 59'50
opposition	16341 Oct 24 17:15	19° $\mathcal{B}$ 25'12 -0°53'58				
min. Earth dist.	16341 Oct 24 21:39	19° $\mathcal{B}$ 24'43 17.35925 AU		conjunction	16348 May 27 13:57	19° $\Pi$ 59'59 -1°08'55
direct	16342 Jan 08 07:27	17° $\mathcal{B}$ 19'57		minimum elong	16348 May 27 13:57	19° $\Pi$ 59'59 1°09'34
evening set	16342 Apr 12 21:46	20° $\mathcal{B}$ 46'44		max. Earth dist.	16348 May 27 12:32	19° $\Pi$ 59'46 19.59136 AU
				morning rise	16348 Jun 12 18:25	20° $\Pi$ 59'52
conjunction	16342 Apr 29 08:09	21° $\mathcal{B}$ 48'05 -0°50'33		retrograde	16348 Sep 13 01:05	24° $\Pi$ 20'05
minimum elong	16342 Apr 29 08:09	21° $\mathcal{B}$ 48'04 0°51'02		opposition	16348 Nov 26 12:57	22° $\Pi$ 18'11 -1°17'43
max. Earth dist.	16342 Apr 29 03:41	21° $\mathcal{B}$ 47'23 19.36959 AU		min. Earth dist.	16348 Nov 26 13:20	22° $\Pi$ 18'08 17.61582 AU
morning rise	16342 May 15 16:44	22° $\mathcal{B}$ 49'11		direct	16349 Feb 10 16:56	20° $\Pi$ 14'02
retrograde	16342 Aug 16 09:36	26° $\mathcal{B}$ 12'52		evening set	16349 May 16 06:58	23° $\Pi$ 37'46
opposition	16342 Oct 29 17:19	24° $\mathcal{B}$ 09'38 -0°58'43				
min. Earth dist.	16342 Oct 29 20:58	24° $\mathcal{B}$ 09'14 17.38191 AU		conjunction	16349 Jun 01 12:43	24° $\Pi$ 37'41 -1°10'27
direct	16343 Jan 13 09:41	22° $\mathcal{B}$ 04'30		minimum elong	16349 Jun 01 12:42	24° $\Pi$ 37'41 1°11'07
evening set	16343 Apr 18 00:40	25° $\mathcal{B}$ 31'06		max. Earth dist.	16349 Jun 01 11:47	24° $\Pi$ 37'32 19.64021 AU
				morning rise	16349 Jun 17 16:28	25° $\Pi$ 37'18
conjunction	16343 May 04 10:19	26° $\mathcal{B}$ 32'17 -0°54'37		retrograde	16349 Sep 17 20:22	28° $\Pi$ 56'46
minimum elong	16343 May 04 10:19	26° $\mathcal{B}$ 32'17 0°55'08		opposition	16349 Dec 01 11:05	26° $\Pi$ 55'03 -1°19'09
max. Earth dist.	16343 May 04 05:35	26° $\mathcal{B}$ 31'33 19.39525 AU		min. Earth dist.	16349 Dec 01 11:57	26° $\Pi$ 54'58 17.66601 AU
morning rise	16343 May 20 18:24	27° $\mathcal{B}$ 33'15		direct	16350 Feb 15 15:53	24° $\Pi$ 51'05



























































































































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			morning rise	16356 Jul 19 02:44	27° $\mathfrak{D}$ 09'08	
conjunction	16350 Jun 06 10:31	29° $\Pi$ 13'43 -1°11'32		16356 Sep 19 10:29	0° $\mathcal{O}$	
minimum elong	16350 Jun 06 10:31	29° $\Pi$ 13'43 1°12'11	retrograde	16356 Oct 18 21:34	0° $\mathcal{O}$ 22'59	
max. Earth dist.	16350 Jun 06 09:55	29° $\Pi$ 13'37 19.69166 AU		16356 Nov 17 23:13	30° $\mathcal{R}\mathfrak{D}$	
	16350 Jun 18 23:21	0° $\mathfrak{D}$	opposition	16357 Jan 02 04:52	28° $\mathfrak{D}$ 22'44 -1°15'11	
morning rise	16350 Jun 22 13:41	0° $\mathfrak{D}$ 13'05	min. Earth dist.	16357 Jan 01 23:51	28° $\mathfrak{D}$ 23'16 18.08416 AU	
retrograde	16350 Sep 22 16:48	3° $\mathfrak{D}$ 31'46	direct	16357 Mar 19 23:58	26° $\mathfrak{D}$ 20'31	
opposition	16350 Dec 06 08:29	1° $\mathfrak{D}$ 30'14 -1°20'04	evening set	16357 Jun 21 17:45	29° $\mathfrak{D}$ 37'09	
min. Earth dist.	16350 Dec 06 07:51	1° $\mathfrak{D}$ 30'18 17.71852 AU		16357 Jun 28 03:28	0° $\mathcal{O}$	
	16351 Jan 15 00:18	30° $\mathcal{R}\Pi$				
direct	16351 Feb 20 16:40	29° $\Pi$ 26'27	conjunction	16357 Jul 07 18:45	0° $\mathcal{O}$ 34'51 -1°06'36	
	16351 Mar 28 15:59	0° $\mathfrak{D}$	minimum elong	16357 Jul 07 18:45	0° $\mathcal{O}$ 34'51 1°07'13	
evening set	16351 May 26 03:08	2° $\mathfrak{D}$ 48'37	max. Earth dist.	16357 Jul 08 00:17	0° $\mathcal{O}$ 35'41 20.11755 AU	
			morning rise	16357 Jul 23 17:57	1° $\mathcal{O}$ 32'19	
conjunction	16351 Jun 11 07:37	3° $\mathfrak{D}$ 48'00 -1°12'09	retrograde	16357 Oct 23 11:37	4° $\mathcal{O}$ 45'24	
minimum elong	16351 Jun 11 07:37	3° $\mathfrak{D}$ 48'00 1°12'49	opposition	16358 Jan 06 22:11	2° $\mathcal{O}$ 45'27 -1°12'46	
max. Earth dist.	16351 Jun 11 08:01	3° $\mathfrak{D}$ 48'03 19.74529 AU	min. Earth dist.	16358 Jan 06 17:22	2° $\mathcal{O}$ 45'57 18.15151 AU	
morning rise	16351 Jun 27 10:04	4° $\mathfrak{D}$ 47'05	direct	16358 Mar 24 17:30	0° $\mathcal{O}$ 43'34	
retrograde	16351 Sep 27 10:27	8° $\mathfrak{D}$ 04'57	evening set	16358 Jun 26 09:15	3° $\mathcal{O}$ 59'15	
opposition	16351 Dec 11 05:25	6° $\mathfrak{D}$ 03'36 -1°20'29				
min. Earth dist.	16351 Dec 11 05:16	6° $\mathfrak{D}$ 03'37 17.77336 AU	conjunction	16358 Jul 12 09:36	4° $\mathcal{O}$ 56'40 -1°04'16	
direct	16352 Feb 25 14:49	4° $\mathfrak{D}$ 00'00	minimum elong	16358 Jul 12 09:37	4° $\mathcal{O}$ 56'41 1°04'52	
evening set	16352 May 29 23:55	7° $\mathfrak{D}$ 21'18	max. Earth dist.	16358 Jul 12 14:36	4° $\mathcal{O}$ 57'26 20.18514 AU	
			morning rise	16358 Jul 28 08:36	5° $\mathcal{O}$ 53'53	
conjunction	16352 Jun 15 03:42	8° $\mathfrak{D}$ 20'24 -1°12'19	retrograde	16358 Oct 28 02:45	9° $\mathcal{O}$ 06'13	
minimum elong	16352 Jun 15 03:42	8° $\mathfrak{D}$ 20'24 1°12'59	opposition	16359 Jan 11 14:54	7° $\mathcal{O}$ 06'32 -1°09'57	
max. Earth dist.	16352 Jun 15 04:15	8° $\mathfrak{D}$ 20'29 19.80139 AU	min. Earth dist.	16359 Jan 11 08:59	7° $\mathcal{O}$ 07'08 18.21903 AU	
morning rise	16352 Jul 01 05:38	9° $\mathfrak{D}$ 19'13	direct	16359 Mar 29 11:15	5° $\mathcal{O}$ 05'00	
retrograde	16352 Oct 01 05:12	12° $\mathfrak{D}$ 36'16	evening set	16359 Jun 30 23:52	8° $\mathcal{O}$ 19'43	
opposition	16352 Dec 15 01:41	10° $\mathfrak{D}$ 35'05 -1°20'23				
min. Earth dist.	16352 Dec 14 23:48	10° $\mathfrak{D}$ 35'17 17.83064 AU	conjunction	16359 Jul 16 23:55	9° $\mathcal{O}$ 16'53 -1°01'36	
direct	16353 Mar 01 14:07	8° $\mathfrak{D}$ 31'41	minimum elong	16359 Jul 16 23:55	9° $\mathcal{O}$ 16'53 1°02'10	
evening set	16353 Jun 03 19:33	11° $\mathfrak{D}$ 52'05	max. Earth dist.	16359 Jul 17 06:27	9° $\mathcal{O}$ 17'52 20.25238 AU	
			morning rise	16359 Aug 01 22:20	10° $\mathcal{O}$ 13'51	
conjunction	16353 Jun 19 22:46	12° $\mathfrak{D}$ 50'54 -1°12'01	retrograde	16359 Nov 01 15:56	13° $\mathcal{O}$ 25'25	
minimum elong	16353 Jun 19 22:46	12° $\mathfrak{D}$ 50'54 1°12'41	opposition	16360 Jan 16 07:06	11° $\mathcal{O}$ 26'00 -1°06'46	
max. Earth dist.	16353 Jun 20 00:57	12° $\mathfrak{D}$ 51'14 19.85990 AU	min. Earth dist.	16360 Jan 16 01:26	11° $\mathcal{O}$ 26'35 18.28579 AU	
morning rise	16353 Jul 05 24:00	13° $\mathfrak{D}$ 49'26	direct	16360 Apr 02 03:30	9° $\mathcal{O}$ 24'49	
retrograde	16353 Oct 05 21:31	17° $\mathfrak{D}$ 05'40	evening set	16360 Jul 04 13:52	12° $\mathcal{O}$ 38'33	
opposition	16353 Dec 19 21:31	15° $\mathfrak{D}$ 04'41 -1°19'48				
min. Earth dist.	16353 Dec 19 19:47	15° $\mathfrak{D}$ 04'52 17.89050 AU	conjunction	16360 Jul 20 13:18	13° $\mathcal{O}$ 35'27 -0°58'35	
direct	16354 Mar 06 11:22	13° $\mathfrak{D}$ 01'31	minimum elong	16360 Jul 20 13:18	13° $\mathcal{O}$ 35'27 0°59'06	
evening set	16354 Jun 08 14:28	16° $\mathfrak{D}$ 20'59	max. Earth dist.	16360 Jul 20 19:03	13° $\mathcal{O}$ 36'19 20.31865 AU	
			morning rise	16360 Aug 05 11:33	14° $\mathcal{O}$ 32'11	
conjunction	16354 Jun 24 16:59	17° $\mathfrak{D}$ 19'31 -1°11'17		16360 Aug 13 13:17	15° $\mathcal{O}$	
minimum elong	16354 Jun 24 16:59	17° $\mathfrak{D}$ 19'31 1°11'57	retrograde	16360 Nov 05 05:48	17° $\mathcal{O}$ 43'01	
max. Earth dist.	16354 Jun 24 19:12	17° $\mathfrak{D}$ 19'51 19.92114 AU	opposition	16361 Jan 19 22:45	15° $\mathcal{O}$ 43'50 -1°03'14	
morning rise	16354 Jul 10 17:48	18° $\mathfrak{D}$ 17'47	min. Earth dist.	16361 Jan 19 16:20	15° $\mathcal{O}$ 44'30 18.35138 AU	
retrograde	16354 Oct 10 14:26	21° $\mathfrak{D}$ 33'12		16361 Feb 07 02:39	15° $\mathcal{R}\mathcal{O}$	
opposition	16354 Dec 24 16:25	19° $\mathfrak{D}$ 32'25 -1°18'43	direct	16361 Apr 06 19:30	13° $\mathcal{O}$ 42'58	
min. Earth dist.	16354 Dec 24 12:54	19° $\mathfrak{D}$ 32'47 17.95300 AU		16361 Jun 01 23:12	15° $\mathcal{O}$	
direct	16355 Mar 11 08:48	17° $\mathfrak{D}$ 29'32	evening set	16361 Jul 09 02:47	16° $\mathcal{O}$ 55'44	
evening set	16355 Jun 13 08:27	20° $\mathfrak{D}$ 48'04				
			conjunction	16361 Jul 25 02:00	17° $\mathcal{O}$ 52'23 -0°55'16	
conjunction	16355 Jun 29 10:31	21° $\mathfrak{D}$ 46'19 -1°10'08	minimum elong	16361 Jul 25 02:00	17° $\mathcal{O}$ 52'23 0°55'46	
minimum elong	16355 Jun 29 10:31	21° $\mathfrak{D}$ 46'19 1°10'46	max. Earth dist.	16361 Jul 25 09:08	17° $\mathcal{O}$ 53'27 20.38330 AU	
max. Earth dist.	16355 Jun 29 14:27	21° $\mathfrak{D}$ 46'55 19.98481 AU	morning rise	16361 Aug 09 23:48	18° $\mathcal{O}$ 48'51	
morning rise	16355 Jul 15 10:39	22° $\mathfrak{D}$ 44'19	retrograde	16361 Nov 09 18:20	21° $\mathcal{O}$ 59'00	
retrograde	16355 Oct 15 05:40	25° $\mathfrak{D}$ 58'56	opposition	16362 Jan 24 13:50	20° $\mathcal{O}$ 00'01 -0°59'22	
opposition	16355 Dec 29 11:00	23° $\mathfrak{D}$ 58'25 -1°17'10	min. Earth dist.	16362 Jan 24 07:36	20° $\mathcal{O}$ 00'39 18.41490 AU	
min. Earth dist.	16355 Dec 29 07:33	23° $\mathfrak{D}$ 58'47 18.01771 AU	direct	16362 Apr 11 11:13	17° $\mathcal{O}$ 59'27	
direct	16356 Mar 15 04:21	21° $\mathfrak{D}$ 55'51	evening set	16362 Jul 13 15:16	21° $\mathcal{O}$ 11'14	
evening set	16356 Jun 17 01:34	25° $\mathfrak{D}$ 13'26				
			conjunction	16362 Jul 29 13:56	22° $\mathcal{O}$ 07'38 -0°51'40	
conjunction	16356 Jul 03 02:56	26° $\mathfrak{D}$ 11'25 -1°08'34	minimum elong	16362 Jul 29 13:57	22° $\mathcal{O}$ 07'38 0°52'07	
minimum elong	16356 Jul 03 02:56	26° $\mathfrak{D}$ 11'25 1°09'12	max. Earth dist.	16362 Jul 29 20:03	22° $\mathcal{O}$ 08'32 20.44569 AU	

morning rise	16362 Aug 14 11:39	23° $\Omega$ 03'54	direct	16369 May 11 05:30	17° $\Upsilon$ 07'40
retrograde	16362 Nov 14 06:31	26° $\Omega$ 13'20	evening set	16369 Aug 11 08:46	20° $\Upsilon$ 13'17
opposition	16363 Jan 29 04:09	24° $\Omega$ 14'30 -0°55'13			
min. Earth dist.	16363 Jan 28 21:35	24° $\Omega$ 15'11 18.47603 AU	conjunction	16369 Aug 27 05:58	21° $\Upsilon$ 08'18 -0°20'39
direct	16363 Apr 16 01:26	22° $\Omega$ 14'12	minimum elong	16369 Aug 27 05:58	21° $\Upsilon$ 08'18 0°20'49
evening set	16363 Jul 18 02:49	25° $\Omega$ 25'01	max. Earth dist.	16369 Aug 27 14:53	21° $\Upsilon$ 09'35 20.81062 AU
			morning rise	16369 Sep 12 02:45	22° $\Upsilon$ 03'16
conjunction	16363 Aug 03 01:20	26° $\Omega$ 21'12 -0°47'49	retrograde	16369 Dec 13 02:02	25° $\Upsilon$ 08'48
minimum elong	16363 Aug 03 01:21	26° $\Omega$ 21'12 0°48'15	opposition	16370 Feb 27 16:48	23° $\Upsilon$ 10'37 -0°20'06
max. Earth dist.	16363 Aug 03 08:37	26° $\Omega$ 22'16 20.50544 AU	min. Earth dist.	16370 Feb 27 08:15	23° $\Upsilon$ 11'29 18.83220 AU
morning rise	16363 Aug 18 22:39	27° $\Omega$ 17'13	direct	16370 May 15 16:30	21° $\Upsilon$ 11'53
	16363 Oct 17 21:24	0° $\Upsilon$	evening set	16370 Aug 15 15:54	24° $\Upsilon$ 16'50
retrograde	16363 Nov 18 17:57	0° $\Upsilon$ 25'58			
	16363 Dec 21 07:05	30° $\Upsilon$ 02	conjunction	16370 Aug 31 12:48	25° $\Upsilon$ 11'41 -0°15'42
opposition	16364 Feb 02 18:03	28° $\Omega$ 27'17 -0°50'47	minimum elong	16370 Aug 31 12:48	25° $\Upsilon$ 11'41 0°15'49
min. Earth dist.	16364 Feb 02 11:31	28° $\Omega$ 27'57 18.53427 AU	behind sun begin	16370 Aug 31 11:27	25° $\Upsilon$ 11'29
direct	16364 Apr 19 16:49	26° $\Omega$ 27'14	behind sun end	16370 Aug 31 14:09	25° $\Upsilon$ 11'52
evening set	16364 Jul 21 13:37	29° $\Omega$ 37'04	max. Earth dist.	16370 Aug 31 20:56	25° $\Upsilon$ 12'51 20.85312 AU
	16364 Jul 28 03:25	0° $\Upsilon$	morning rise	16370 Sep 16 09:43	26° $\Upsilon$ 06'32
			retrograde	16370 Dec 17 10:47	29° $\Upsilon$ 11'45
conjunction	16364 Aug 06 11:39	0° $\Upsilon$ 33'01 -0°43'44	opposition	16371 Mar 04 02:56	27° $\Upsilon$ 13'41 -0°14'34
minimum elong	16364 Aug 06 11:40	0° $\Upsilon$ 33'01 0°44'07	min. Earth dist.	16371 Mar 03 18:39	27° $\Upsilon$ 14'31 18.87325 AU
max. Earth dist.	16364 Aug 06 18:02	0° $\Upsilon$ 33'57 20.56234 AU	direct	16371 May 20 01:11	25° $\Upsilon$ 15'11
morning rise	16364 Aug 22 08:58	1° $\Upsilon$ 28'51	evening set	16371 Aug 19 22:31	28° $\Upsilon$ 19'31
retrograde	16364 Nov 22 04:33	4° $\Upsilon$ 36'57			
opposition	16365 Feb 06 07:19	2° $\Upsilon$ 38'20 -0°46'07	conjunction	16371 Sep 04 19:27	29° $\Upsilon$ 14'15 -0°10'41
min. Earth dist.	16365 Feb 06 00:33	2° $\Upsilon$ 39'02 18.58982 AU	minimum elong	16371 Sep 04 19:27	29° $\Upsilon$ 14'15 0°10'45
direct	16365 Apr 24 05:42	0° $\Upsilon$ 38'29	behind sun begin	16371 Sep 04 14:23	29° $\Upsilon$ 13'32
evening set	16365 Jul 25 23:31	3° $\Upsilon$ 47'23	behind sun end	16371 Sep 05 00:32	29° $\Upsilon$ 14'58
			max. Earth dist.	16371 Sep 05 04:39	29° $\Upsilon$ 15'34 20.89255 AU
conjunction	16365 Aug 10 21:29	4° $\Upsilon$ 43'07 -0°39'26		16371 Sep 18 00:53	0° $\Omega$
minimum elong	16365 Aug 10 21:30	4° $\Upsilon$ 43'07 0°39'47	morning rise	16371 Sep 20 16:16	0° $\Omega$ 08'59
max. Earth dist.	16365 Aug 11 05:11	4° $\Upsilon$ 44'15 20.61655 AU	retrograde	16371 Dec 21 18:48	3° $\Omega$ 13'56
morning rise	16365 Aug 26 18:31	5° $\Upsilon$ 38'44	opposition	16372 Mar 07 12:48	1° $\Omega$ 15'59 -0°08'59
retrograde	16365 Nov 26 14:27	8° $\Upsilon$ 46'12	min. Earth dist.	16372 Mar 07 03:59	1° $\Omega$ 16'52 18.91084 AU
opposition	16366 Feb 10 19:47	6° $\Upsilon$ 47'40 -0°41'14		16372 Apr 10 18:04	30° $\Upsilon$ 00
min. Earth dist.	16366 Feb 10 12:47	6° $\Upsilon$ 48'23 18.64269 AU	direct	16372 May 23 10:58	29° $\Upsilon$ 17'44
direct	16366 Apr 28 19:52	4° $\Upsilon$ 48'01		16372 Jul 03 20:33	0° $\Omega$
evening set	16366 Jul 30 08:54	7° $\Upsilon$ 56'01	evening set	16372 Aug 23 04:50	2° $\Omega$ 21'31
conjunction	16366 Aug 15 06:28	8° $\Upsilon$ 51'32 -0°34'57	conjunction	16372 Sep 08 01:33	3° $\Omega$ 16'07 -0°05'39
minimum elong	16366 Aug 15 06:28	8° $\Upsilon$ 51'32 0°35'16	minimum elong	16372 Sep 08 01:32	3° $\Omega$ 16'07 0°05'40
max. Earth dist.	16366 Aug 15 13:24	8° $\Upsilon$ 52'33 20.66829 AU	behind sun begin	16372 Sep 07 19:13	3° $\Omega$ 15'14
morning rise	16366 Aug 31 03:34	9° $\Upsilon$ 46'59	behind sun end	16372 Sep 08 07:52	3° $\Omega$ 17'01
retrograde	16366 Nov 30 23:59	12° $\Upsilon$ 53'52	max. Earth dist.	16372 Sep 08 09:53	3° $\Omega$ 17'19 20.92829 AU
opposition	16367 Feb 15 07:49	10° $\Upsilon$ 55'24 -0°36'10	morning rise	16372 Sep 23 22:33	4° $\Omega$ 10'47
min. Earth dist.	16367 Feb 15 00:36	10° $\Upsilon$ 56'07 18.69339 AU	retrograde	16372 Dec 25 02:44	7° $\Omega$ 15'31
direct	16367 May 03 07:13	8° $\Upsilon$ 55'55	opposition	16373 Mar 11 22:26	5° $\Omega$ 17'39 -0°03'22
evening set	16367 Aug 03 17:23	12° $\Upsilon$ 03'05	min. Earth dist.	16373 Mar 11 14:14	5° $\Omega$ 18'28 18.94468 AU
			direct	16373 May 27 19:05	3° $\Omega$ 19'38
conjunction	16367 Aug 19 14:52	12° $\Upsilon$ 58'24 -0°30'18	evening set	16373 Aug 27 10:52	6° $\Omega$ 22'54
minimum elong	16367 Aug 19 14:53	12° $\Upsilon$ 58'24 0°30'33			
max. Earth dist.	16367 Aug 19 23:12	12° $\Upsilon$ 59'37 20.71786 AU	conjunction	16373 Sep 12 07:42	7° $\Omega$ 17'25 -0°00'32
morning rise	16367 Sep 04 11:42	13° $\Upsilon$ 53'41	minimum elong	16373 Sep 12 07:41	7° $\Omega$ 17'25 0°00'31
retrograde	16367 Dec 05 08:41	17° $\Upsilon$ 00'03	behind sun begin	16373 Sep 12 01:08	7° $\Omega$ 16'30
opposition	16368 Feb 19 19:16	15° $\Upsilon$ 01'40 -0°30'56	behind sun end	16373 Sep 12 14:15	7° $\Omega$ 18'20
min. Earth dist.	16368 Feb 19 11:26	15° $\Upsilon$ 02'27 18.74185 AU	max. Earth dist.	16373 Sep 12 16:48	7° $\Omega$ 18'43 20.95996 AU
direct	16368 May 06 19:51	13° $\Upsilon$ 02'25	morning rise	16373 Sep 28 04:39	8° $\Omega$ 11'59
evening set	16368 Aug 07 01:28	16° $\Upsilon$ 08'46	asc. node	16373 Oct 20 19:05	9° $\Omega$ 24'07
			retrograde	16373 Dec 29 10:58	11° $\Omega$ 16'32
conjunction	16368 Aug 22 22:37	17° $\Upsilon$ 03'56 -0°25'32	opposition	16374 Mar 16 07:32	9° $\Omega$ 18'46 0°02'15
minimum elong	16368 Aug 22 22:37	17° $\Upsilon$ 03'56 0°25'45	min. Earth dist.	16374 Mar 15 23:04	9° $\Omega$ 19'37 18.97402 AU
max. Earth dist.	16368 Aug 23 06:18	17° $\Upsilon$ 05'03 20.76534 AU	direct	16374 Jun 01 04:11	7° $\Omega$ 20'57
morning rise	16368 Sep 07 19:32	17° $\Upsilon$ 59'03	evening set	16374 Aug 31 16:54	10° $\Omega$ 23'47
retrograde	16368 Dec 08 17:58	21° $\Upsilon$ 04'59			
opposition	16369 Feb 23 06:18	19° $\Upsilon$ 06'41 -0°25'34	conjunction	16374 Sep 16 13:32	11° $\Omega$ 18'13 0°04'37
min. Earth dist.	16369 Feb 22 22:21	19° $\Upsilon$ 07'29 18.78833 AU	minimum elong	16374 Sep 16 13:32	11° $\Omega$ 18'13 0°04'42

behind sun begin	16374 Sep 16 07:06	11° <u>♄</u> 17'18		conjunction	16380 Oct 09 21:39	5° <u>♄</u> 14'01	0°33'31
behind sun end	16374 Sep 16 19:58	11° <u>♄</u> 19'07		minimum elong	16380 Oct 09 21:39	5° <u>♄</u> 14'01	0°33'51
max. Earth dist.	16374 Sep 16 21:28	11° <u>♄</u> 19'20	20.98690 AU	max. Earth dist.	16380 Oct 10 03:41	5° <u>♄</u> 14'53	21.04116 AU
morning rise	16374 Oct 02 10:43	12° <u>♄</u> 12'43		morning rise	16380 Oct 25 20:00	6° <u>♄</u> 08'26	
retrograde	16375 Jan 02 17:53	15° <u>♄</u> 17'09		retrograde	16381 Jan 26 12:03	9° <u>♄</u> 12'52	
opposition	16375 Mar 20 16:41	13° <u>♄</u> 19'25	0°07'50	opposition	16381 Apr 13 18:40	7° <u>♄</u> 14'40	0°39'32
min. Earth dist.	16375 Mar 20 09:09	13° <u>♄</u> 20'10	18.99856 AU	min. Earth dist.	16381 Apr 13 12:52	7° <u>♄</u> 15'15	19.03875 AU
direct	16375 Jun 05 11:29	11° <u>♄</u> 21'46		direct	16381 Jun 29 06:34	5° <u>♄</u> 17'11	
evening set	16375 Sep 04 22:29	14° <u>♄</u> 24'11		evening set	16381 Sep 28 05:34	8° <u>♄</u> 18'08	
conjunction	16375 Sep 20 19:15	15° <u>♄</u> 18'33	0°09'38	conjunction	16381 Oct 14 02:58	9° <u>♄</u> 12'23	0°37'54
minimum elong	16375 Sep 20 19:15	15° <u>♄</u> 18'33	0°09'44	minimum elong	16381 Oct 14 02:58	9° <u>♄</u> 12'23	0°38'17
behind sun begin	16375 Sep 20 13:49	15° <u>♄</u> 17'47		max. Earth dist.	16381 Oct 14 09:36	9° <u>♄</u> 13'20	21.03512 AU
behind sun end	16375 Sep 21 00:40	15° <u>♄</u> 19'18		morning rise	16381 Oct 30 01:27	10° <u>♄</u> 06'49	
max. Earth dist.	16375 Sep 21 03:41	15° <u>♄</u> 19'45	21.00878 AU	retrograde	16382 Jan 30 19:43	13° <u>♄</u> 11'25	
morning rise	16375 Oct 06 16:25	16° <u>♄</u> 13'00		opposition	16382 Apr 18 02:17	11° <u>♄</u> 13'08	0°44'16
retrograde	16376 Jan 07 02:06	19° <u>♄</u> 17'20		min. Earth dist.	16382 Apr 17 19:47	11° <u>♄</u> 13'47	19.03092 AU
opposition	16376 Mar 24 01:33	17° <u>♄</u> 19'37	0°13'23	direct	16382 Jul 03 13:53	9° <u>♄</u> 15'38	
min. Earth dist.	16376 Mar 23 17:42	17° <u>♄</u> 20'24	19.01768 AU	evening set	16382 Oct 02 10:48	12° <u>♄</u> 16'34	
direct	16376 Jun 08 20:28	15° <u>♄</u> 22'05		conjunction	16382 Oct 18 08:14	13° <u>♄</u> 10'51	0°42'06
evening set	16376 Sep 08 04:07	18° <u>♄</u> 24'08		minimum elong	16382 Oct 18 08:14	13° <u>♄</u> 10'51	0°42'30
conjunction	16376 Sep 24 00:47	19° <u>♄</u> 18'27	0°14'36	max. Earth dist.	16382 Oct 18 13:55	13° <u>♄</u> 11'40	21.02552 AU
minimum elong	16376 Sep 24 00:47	19° <u>♄</u> 18'27	0°14'45	morning rise	16382 Nov 03 07:07	14° <u>♄</u> 05'22	
behind sun begin	16376 Sep 23 22:02	19° <u>♄</u> 18'04			16382 Nov 20 05:01	15° <u>♄</u>	
behind sun end	16376 Sep 24 03:32	19° <u>♄</u> 18'50		retrograde	16383 Feb 04 02:51	17° <u>♄</u> 10'11	
max. Earth dist.	16376 Sep 24 07:54	19° <u>♄</u> 19'27	21.02517 AU	opposition	16383 Apr 22 10:15	15° <u>♄</u> 11'48	0°48'49
morning rise	16376 Oct 09 22:15	20° <u>♄</u> 12'52		min. Earth dist.	16383 Apr 22 04:47	15° <u>♄</u> 12'21	19.01970 AU
retrograde	16377 Jan 10 08:21	23° <u>♄</u> 17'09			16383 Apr 27 07:54	15° <u>♄</u>	
opposition	16377 Mar 28 10:11	21° <u>♄</u> 19'23	0°18'51	direct	16383 Jul 07 18:33	13° <u>♄</u> 14'18	
min. Earth dist.	16377 Mar 28 03:29	21° <u>♄</u> 20'03	19.03146 AU	evening set	16383 Sep 12 19:14	15° <u>♄</u>	
direct	16377 Jun 13 03:00	19° <u>♄</u> 21'55		conjunction	16383 Oct 06 15:55	16° <u>♄</u> 15'16	
evening set	16377 Sep 12 09:22	22° <u>♄</u> 23'38		minimum elong	16383 Oct 22 13:43	17° <u>♄</u> 09'37	0°46'06
conjunction	16377 Sep 28 06:17	23° <u>♄</u> 17'54	0°19'30	max. Earth dist.	16383 Oct 22 13:43	17° <u>♄</u> 09'37	0°46'32
minimum elong	16377 Sep 28 06:16	23° <u>♄</u> 17'54	0°19'41	morning rise	16383 Oct 22 20:02	17° <u>♄</u> 10'31	21.01256 AU
max. Earth dist.	16377 Sep 28 13:46	23° <u>♄</u> 18'58	21.03625 AU	retrograde	16383 Nov 07 12:49	18° <u>♄</u> 04'11	
morning rise	16377 Oct 14 03:50	24° <u>♄</u> 12'17		opposition	16384 Feb 08 11:32	21° <u>♄</u> 09'18	
retrograde	16378 Jan 14 15:58	27° <u>♄</u> 16'32		min. Earth dist.	16384 Apr 25 18:10	19° <u>♄</u> 10'50	0°53'07
opposition	16378 Apr 01 18:30	25° <u>♄</u> 18'42	0°24'13	direct	16384 Apr 25 11:59	19° <u>♄</u> 11'27	19.00492 AU
min. Earth dist.	16378 Apr 01 11:25	25° <u>♄</u> 19'24	19.03984 AU	evening set	16384 Jul 11 02:08	17° <u>♄</u> 13'19	
direct	16378 Jun 17 11:23	23° <u>♄</u> 21'16		conjunction	16384 Oct 09 21:33	20° <u>♄</u> 14'25	
evening set	16378 Sep 16 14:36	26° <u>♄</u> 22'41		minimum elong	16384 Oct 25 19:28	21° <u>♄</u> 08'50	0°49'52
conjunction	16378 Oct 02 11:27	27° <u>♄</u> 16'56	0°24'18	max. Earth dist.	16384 Oct 25 19:28	21° <u>♄</u> 08'50	0°50'20
minimum elong	16378 Oct 02 11:26	27° <u>♄</u> 16'55	0°24'33	morning rise	16384 Oct 26 00:47	21° <u>♄</u> 09'35	20.99595 AU
max. Earth dist.	16378 Oct 02 17:46	27° <u>♄</u> 17'49	21.04214 AU	retrograde	16384 Nov 10 19:02	22° <u>♄</u> 03'29	
morning rise	16378 Oct 18 09:18	28° <u>♄</u> 11'18		opposition	16385 Feb 11 19:15	25° <u>♄</u> 08'57	
	16378 Nov 23 11:20	0° <u>♄</u>		min. Earth dist.	16385 Apr 30 02:11	23° <u>♄</u> 10'24	0°57'11
retrograde	16379 Jan 18 22:05	1° <u>♄</u> 15'34		direct	16385 Apr 29 21:19	23° <u>♄</u> 10'53	18.98656 AU
	16379 Mar 19 01:18	30° <u>♄</u>		evening set	16385 Jul 15 06:39	21° <u>♄</u> 12'52	
opposition	16379 Apr 06 02:42	29° <u>♄</u> 17'37	0°29'29	conjunction	16385 Oct 14 03:21	24° <u>♄</u> 14'09	
min. Earth dist.	16379 Apr 05 20:40	29° <u>♄</u> 18'13	19.04350 AU	minimum elong	16385 Oct 30 01:42	25° <u>♄</u> 08'40	0°53'25
direct	16379 Jun 21 17:34	27° <u>♄</u> 20'10		max. Earth dist.	16385 Oct 30 01:42	25° <u>♄</u> 08'40	0°53'55
	16379 Sep 14 08:54	0° <u>♄</u>		morning rise	16385 Oct 30 07:22	25° <u>♄</u> 09'28	20.97569 AU
evening set	16379 Sep 20 19:35	0° <u>♄</u> 21'22		retrograde	16385 Nov 15 01:31	26° <u>♄</u> 03'25	
conjunction	16379 Oct 06 16:40	1° <u>♄</u> 15'35	0°28'59	opposition	16386 Feb 16 04:52	29° <u>♄</u> 09'17	
minimum elong	16379 Oct 06 16:40	1° <u>♄</u> 15'35	0°29'16	min. Earth dist.	16386 May 04 10:22	27° <u>♄</u> 10'38	1°00'58
max. Earth dist.	16379 Oct 06 23:37	1° <u>♄</u> 16'35	21.04364 AU	direct	16386 May 04 04:59	27° <u>♄</u> 11'11	18.96426 AU
morning rise	16379 Oct 22 14:38	2° <u>♄</u> 09'58		evening set	16386 Jul 19 14:23	25° <u>♄</u> 13'06	
retrograde	16380 Jan 23 05:28	5° <u>♄</u> 14'17		conjunction	16386 Oct 18 09:38	28° <u>♄</u> 14'38	
opposition	16380 Apr 09 10:41	3° <u>♄</u> 16'13	0°34'35	minimum elong	16386 Nov 03 08:08	29° <u>♄</u> 09'15	0°56'43
min. Earth dist.	16380 Apr 09 03:57	3° <u>♄</u> 16'54	19.04297 AU	max. Earth dist.	16386 Nov 03 08:07	29° <u>♄</u> 09'15	0°57'15
direct	16380 Jun 25 01:06	1° <u>♄</u> 18'46			16386 Nov 03 12:37	29° <u>♄</u> 09'53	20.95128 AU
evening set	16380 Sep 24 00:34	4° <u>♄</u> 19'48			16386 Nov 18 03:04	0° <u>♄</u>	

morning rise	16386 Nov 19 08:24	0°♊04'08		evening set	16393 Nov 15 18:25	26°♊44'29	
retrograde	16387 Feb 20 13:26	3°♊10'27					
opposition	16387 May 08 18:57	1°♊11'42	1°04'28	conjunction	16393 Dec 01 20:03	27°♊40'17	1°11'26
min. Earth dist.	16387 May 08 15:05	1°♊12'06	18.93781 AU	minimum elong	16393 Dec 01 20:02	27°♊40'17	1°12'05
	16387 Jun 09 14:47	30°♋♌		max. Earth dist.	16393 Dec 01 20:14	27°♊40'19	20.65756 AU
direct	16387 Jul 23 19:44	29°♌14'07		morning rise	16393 Dec 17 23:34	28°♊36'23	
	16387 Sep 04 18:44	0°♊			16394 Jan 13 04:11	0°♊	
evening set	16387 Oct 22 16:17	2°♊15'59		retrograde	16394 Mar 21 19:40	1°♊46'40	
					16394 Jun 01 02:57	30°♋♊	
conjunction	16387 Nov 07 15:14	3°♊10'43	0°59'44	opposition	16394 Jun 06 14:04	29°♊46'33	1°19'37
minimum elong	16387 Nov 07 15:14	3°♊10'43	1°00'17	min. Earth dist.	16394 Jun 06 13:30	29°♊46'37	18.63057 AU
max. Earth dist.	16387 Nov 07 19:47	3°♊11'22	20.92263 AU	direct	16394 Aug 21 03:49	27°♊47'42	
morning rise	16387 Nov 23 15:49	4°♊05'44			16394 Nov 04 02:08	0°♊	
retrograde	16388 Feb 24 23:54	7°♊12'32		evening set	16394 Nov 20 04:33	0°♊53'05	
opposition	16388 May 12 03:38	5°♊13'41	1°07'41				
min. Earth dist.	16388 May 11 23:26	5°♊14'07	18.90684 AU	conjunction	16394 Dec 06 06:36	1°♊49'07	1°12'10
direct	16388 Jul 27 03:36	3°♊16'02		minimum elong	16394 Dec 06 06:36	1°♊49'07	1°12'49
evening set	16388 Oct 25 23:31	6°♊18'15		max. Earth dist.	16394 Dec 06 06:02	1°♊49'02	20.60245 AU
				morning rise	16394 Dec 22 10:42	2°♊45'27	
conjunction	16388 Nov 10 22:44	7°♊13'08	1°02'29	retrograde	16395 Mar 26 06:54	5°♊56'25	
minimum elong	16388 Nov 10 22:43	7°♊13'08	1°03'04	opposition	16395 Jun 11 01:09	3°♊56'05	1°20'15
max. Earth dist.	16388 Nov 11 01:47	7°♊13'35	20.88919 AU	min. Earth dist.	16395 Jun 11 01:55	3°♊56'00	18.57469 AU
morning rise	16388 Nov 26 23:51	8°♊08'18		direct	16395 Aug 25 12:06	1°♊56'59	
retrograde	16389 Feb 28 09:32	11°♊15'38		evening set	16395 Nov 24 15:21	5°♊03'05	
opposition	16389 May 16 12:46	9°♊16'38	1°10'34				
min. Earth dist.	16389 May 16 10:20	9°♊16'53	18.87103 AU	conjunction	16395 Dec 10 18:04	5°♊59'21	1°12'31
direct	16389 Jul 31 09:52	7°♊18'51		minimum elong	16395 Dec 10 18:04	5°♊59'21	1°13'11
evening set	16389 Oct 30 07:09	10°♊21'30		max. Earth dist.	16395 Dec 10 17:27	5°♊59'15	20.54592 AU
				morning rise	16395 Dec 26 22:41	6°♊55'55	
conjunction	16389 Nov 15 06:53	11°♊16'32	1°04'56	retrograde	16396 Mar 29 22:02	10°♊07'35	
minimum elong	16389 Nov 15 06:53	11°♊16'32	1°05'31	opposition	16396 Jun 14 12:25	8°♊07'02	1°20'27
max. Earth dist.	16389 Nov 15 09:40	11°♊16'56	20.85093 AU	min. Earth dist.	16396 Jun 14 12:32	8°♊07'02	18.51750 AU
morning rise	16389 Dec 01 08:20	12°♊11'52		direct	16396 Aug 28 23:19	6°♊07'42	
retrograde	16390 Mar 04 20:37	15°♊19'43		evening set	16396 Nov 28 02:57	9°♊14'34	
opposition	16390 May 20 21:56	13°♊20'33	1°13'07				
min. Earth dist.	16390 May 20 19:14	13°♊20'50	18.83030 AU	conjunction	16396 Dec 14 06:12	10°♊11'05	1°12'29
direct	16390 Aug 04 18:11	11°♊22'37		minimum elong	16396 Dec 14 06:12	10°♊11'05	1°13'08
evening set	16390 Nov 03 15:20	14°♊25'43		max. Earth dist.	16396 Dec 14 04:55	10°♊10'53	20.48809 AU
				morning rise	16396 Dec 30 11:26	11°♊07'54	
conjunction	16390 Nov 19 15:23	15°♊20'55	1°07'04	retrograde	16397 Apr 03 10:19	14°♊20'19	
minimum elong	16390 Nov 19 15:23	15°♊20'55	1°07'41	opposition	16397 Jun 19 00:24	12°♊19'34	1°20'13
max. Earth dist.	16390 Nov 19 16:44	15°♊21'07	20.80791 AU	min. Earth dist.	16397 Jun 19 01:51	12°♊19'25	18.45920 AU
morning rise	16390 Dec 05 17:24	16°♊16'25		direct	16397 Sep 02 08:08	10°♊20'01	
retrograde	16391 Mar 09 06:52	19°♊24'50		evening set	16397 Dec 02 15:14	13°♊27'41	
opposition	16391 May 25 07:40	17°♊25'27	1°15'19				
min. Earth dist.	16391 May 25 06:37	17°♊25'34	18.78521 AU	conjunction	16397 Dec 18 19:06	14°♊24'27	1°12'04
direct	16391 Aug 09 01:17	15°♊27'19		minimum elong	16397 Dec 18 19:07	14°♊24'27	1°12'43
evening set	16391 Nov 07 23:42	18°♊30'54		max. Earth dist.	16397 Dec 18 17:35	14°♊24'14	20.42944 AU
				morning rise	16398 Jan 04 00:53	15°♊21'31	
conjunction	16391 Nov 24 00:21	19°♊26'17	1°08'52	retrograde	16398 Apr 08 02:31	18°♊34'42	
minimum elong	16391 Nov 24 00:20	19°♊26'17	1°09'30	opposition	16398 Jun 23 12:46	16°♊33'47	1°19'33
max. Earth dist.	16391 Nov 24 01:39	19°♊26'28	20.76094 AU	min. Earth dist.	16398 Jun 23 13:38	16°♊33'41	18.40009 AU
morning rise	16391 Dec 10 02:49	20°♊21'58		direct	16398 Sep 06 20:55	14°♊34'00	
retrograde	16392 Mar 12 19:13	23°♊30'59		evening set	16398 Dec 07 04:25	17°♊42'32	
opposition	16392 May 28 17:29	21°♊31'22	1°17'09				
min. Earth dist.	16392 May 28 15:59	21°♊31'31	18.73641 AU	conjunction	16398 Dec 23 08:53	18°♊39'35	1°11'14
direct	16392 Aug 12 10:16	19°♊32'59		minimum elong	16398 Dec 23 08:53	18°♊39'35	1°11'53
evening set	16392 Nov 11 08:50	22°♊37'07		max. Earth dist.	16398 Dec 23 06:52	18°♊39'17	20.36993 AU
				morning rise	16399 Jan 08 15:14	19°♊36'54	
conjunction	16392 Nov 27 09:53	23°♊32'42	1°10'20	retrograde	16399 Apr 12 16:09	22°♊50'53	
minimum elong	16392 Nov 27 09:53	23°♊32'42	1°10'58	opposition	16399 Jun 28 01:55	20°♊49'48	1°18'27
max. Earth dist.	16392 Nov 27 10:05	23°♊32'44	20.71051 AU	min. Earth dist.	16399 Jun 28 04:08	20°♊49'34	18.34025 AU
morning rise	16392 Dec 13 12:56	24°♊28'36		direct	16399 Sep 11 07:02	18°♊49'48	
retrograde	16393 Mar 17 05:46	27°♊38'13		evening set	16399 Dec 11 18:21	21°♊59'14	
opposition	16393 Jun 02 03:37	25°♊38'22	1°18'35				
min. Earth dist.	16393 Jun 02 03:40	25°♊38'21	18.68465 AU	conjunction	16399 Dec 27 23:29	22°♊56'32	1°10'01
direct	16393 Aug 16 17:59	23°♊39'45		minimum elong	16399 Dec 27 23:29	22°♊56'32	1°10'39



max. Earth dist.	16399 Dec 27 20:55	22°  56'09	20.30981 AU	opposition	16406 Jul 28 14:40	21°  32'46	0°58'27
morning rise	16400 Jan 13 06:29	23°  54'09		min. Earth dist.	16406 Jul 28 20:28	21°  32'09	17.89759 AU
retrograde	16400 Apr 16 09:45	27°  08'55		direct	16406 Oct 11 13:44	19°  30'41	
opposition	16400 Jul 01 15:32	25°  07'41	1°16'53	evening set	16407 Jan 11 21:13	22°  46'42	
min. Earth dist.	16400 Jul 01 17:28	25°  07'29	18.27959 AU				
direct	16400 Sep 14 20:43	23°  07'28		conjunction	16407 Jan 28 06:49	23°  46'01	0°50'34
evening set	16400 Dec 15 09:26	26°  17'49		minimum elong	16407 Jan 28 06:50	23°  46'01	0°51'00
				max. Earth dist.	16407 Jan 28 00:01	23°  44'59	19.86624 AU
conjunction	16400 Dec 31 15:11	27°  15'25	1°08'24	morning rise	16407 Feb 13 17:30	24°  45'32	
minimum elong	16400 Dec 31 15:12	27°  15'25	1°09'01	retrograde	16407 May 18 20:35	28°  05'26	
max. Earth dist.	16400 Dec 31 12:03	27°  14'57	20.24854 AU	opposition	16407 Aug 02 08:31	26°  02'43	0°53'56
morning rise	16401 Jan 16 22:42	28°  13'17		min. Earth dist.	16407 Aug 02 14:49	26°  02'03	17.83556 AU
	16401 Feb 19 14:02	0°  00		direct	16407 Oct 16 06:17	24°  00'19	
retrograde	16401 Apr 21 01:13	1°  28'51		evening set	16408 Jan 16 18:00	27°  17'16	
	16401 Jun 23 03:25	30°  08'30					
opposition	16401 Jul 06 05:49	29°  27'28	1°14'54	conjunction	16408 Feb 02 04:04	28°  16'51	0°46'19
min. Earth dist.	16401 Jul 06 09:17	29°  27'06	18.21776 AU	minimum elong	16408 Feb 02 04:04	28°  16'51	0°46'44
direct	16401 Sep 19 08:42	27°  27'00		max. Earth dist.	16408 Feb 01 19:57	28°  15'37	19.80540 AU
	16401 Dec 08 20:15	0°  00		morning rise	16408 Feb 18 15:22	29°  16'38	
evening set	16401 Dec 20 01:22	0°  38'18			16408 Mar 02 02:28	0°  00	
				retrograde	16408 May 22 18:34	2°  37'12	
conjunction	16402 Jan 05 07:44	1°  36'11	1°06'23	opposition	16408 Aug 06 02:56	0°  34'16	0°49'04
minimum elong	16402 Jan 05 07:45	1°  36'11	1°06'58	min. Earth dist.	16408 Aug 06 09:24	0°  33'35	17.77597 AU
max. Earth dist.	16402 Jan 05 03:30	1°  35'33	20.18620 AU		16408 Aug 19 14:33	30°  08'30	
morning rise	16402 Jan 21 15:53	2°  34'20		direct	16408 Oct 20 00:39	28°  31'32	
retrograde	16402 Apr 25 19:57	5°  50'41			16408 Dec 17 23:08	0°  00	
opposition	16402 Jul 10 20:47	3°  49'06	1°12'28	evening set	16409 Jan 20 15:29	1°  49'27	
min. Earth dist.	16402 Jul 11 00:11	3°  48'45	18.15476 AU				
direct	16402 Sep 23 23:25	1°  48'22		conjunction	16409 Feb 06 02:12	2°  49'18	0°41'46
evening set	16402 Dec 24 18:02	5°  00'37		minimum elong	16409 Feb 06 02:12	2°  49'18	0°42'07
				max. Earth dist.	16409 Feb 05 18:58	2°  48'12	19.74711 AU
conjunction	16403 Jan 10 01:06	5°  58'47	1°03'59	morning rise	16409 Feb 22 13:41	3°  49'19	
minimum elong	16403 Jan 10 01:06	5°  58'47	1°04'33	retrograde	16409 May 27 15:56	7°  10'31	
max. Earth dist.	16403 Jan 09 20:27	5°  58'05	20.12254 AU	opposition	16409 Aug 10 21:51	5°  07'25	0°43'50
morning rise	16403 Jan 26 09:43	6°  57'12		min. Earth dist.	16409 Aug 11 04:20	5°  06'43	17.71918 AU
retrograde	16403 Apr 30 13:16	10°  14'19		direct	16409 Oct 24 18:42	3°  04'24	
opposition	16403 Jul 15 12:32	8°  12'32	1°09'36	evening set	16410 Jan 25 13:50	6°  23'14	
min. Earth dist.	16403 Jul 15 17:14	8°  12'02	18.09057 AU				
direct	16403 Sep 28 13:12	6°  11'29		conjunction	16410 Feb 11 00:51	7°  23'20	0°36'55
evening set	16403 Dec 29 11:42	9°  24'40		minimum elong	16410 Feb 11 00:51	7°  23'20	0°37'14
				max. Earth dist.	16410 Feb 10 16:23	7°  22'03	19.69212 AU
conjunction	16404 Jan 14 19:22	10°  23'07	1°01'11	morning rise	16410 Feb 27 12:50	8°  23'36	
minimum elong	16404 Jan 14 19:23	10°  23'07	1°01'43	retrograde	16410 Jun 01 14:43	11°  45'25	
max. Earth dist.	16404 Jan 14 13:22	10°  22'13	20.05812 AU	opposition	16410 Aug 15 17:28	9°  42'09	0°38'18
morning rise	16404 Jan 31 04:41	11°  21'49		min. Earth dist.	16410 Aug 16 00:10	9°  41'26	17.66607 AU
retrograde	16404 May 04 09:06	14°  39'40		direct	16410 Oct 29 13:49	7°  38'53	
opposition	16404 Jul 19 04:34	12°  37'39	1°06'18	evening set	16411 Jan 30 12:39	10°  58'38	
min. Earth dist.	16404 Jul 19 09:22	12°  37'08	18.02589 AU				
direct	16404 Oct 02 05:12	10°  36'15		conjunction	16411 Feb 16 00:18	11°  59'00	0°31'49
evening set	16405 Jan 02 06:08	13°  50'23		minimum elong	16411 Feb 16 00:19	11°  59'00	0°32'05
				max. Earth dist.	16411 Feb 15 16:59	11°  57'53	19.64090 AU
conjunction	16405 Jan 18 14:32	14°  49'08	0°58'01	morning rise	16411 Mar 04 12:26	12°  59'29	
minimum elong	16405 Jan 18 14:32	14°  49'08	0°58'31	retrograde	16411 Jun 06 13:33	16°  21'52	
max. Earth dist.	16405 Jan 18 08:28	14°  48'13	19.99335 AU	opposition	16411 Aug 20 13:39	14°  18'31	0°32'29
	16405 Jan 21 14:34	15°  00		min. Earth dist.	16411 Aug 20 19:57	14°  17'50	17.61675 AU
morning rise	16405 Feb 04 00:15	15°  48'06		direct	16411 Nov 03 09:59	12°  15'02	
retrograde	16405 May 09 03:42	19°  06'39		evening set	16412 Feb 04 12:33	15°  35'42	
opposition	16405 Jul 23 21:22	17°  04'24	1°02'35				
min. Earth dist.	16405 Jul 24 03:08	17°  03'47	17.96123 AU	conjunction	16412 Feb 21 00:26	16°  36'17	0°26'29
direct	16405 Oct 06 20:26	15°  02'40		minimum elong	16412 Feb 21 00:27	16°  36'17	0°26'41
evening set	16406 Jan 07 01:18	18°  17'44		max. Earth dist.	16412 Feb 20 15:56	16°  34'59	19.59367 AU
				morning rise	16412 Mar 08 12:58	17°  37'00	
conjunction	16406 Jan 23 10:11	19°  16'46	0°54'28	retrograde	16412 Jun 10 12:25	20°  35'55	
minimum elong	16406 Jan 23 10:11	19°  16'46	0°54'57	opposition	16412 Aug 24 10:18	18°  56'30	0°26'26
max. Earth dist.	16406 Jan 23 02:50	19°  15'39	19.92917 AU	min. Earth dist.	16412 Aug 24 17:12	18°  55'45	17.57159 AU
morning rise	16406 Feb 08 20:32	20°  16'01		direct	16412 Nov 07 06:09	16°  52'50	
retrograde	16406 May 14 00:35	23°  35'16		evening set	16413 Feb 08 13:03	20°  14'24	

conjunction	16413 Feb 25 01:25	21° $\text{H}$ 15'13	0°20'57	morning rise	16418 Apr 07 02:15	15° $\text{Y}$ 51'08	
minimum elong	16413 Feb 25 01:25	21° $\text{H}$ 15'13	0°21'07	retrograde	16418 Jul 09 14:31	19° $\text{Y}$ 16'05	
max. Earth dist.	16413 Feb 24 17:56	21° $\text{H}$ 14'04	19.55051 AU	opposition	16418 Sep 22 01:26	17° $\text{Y}$ 12'29	-0°12'42
morning rise	16413 Mar 13 13:57	22° $\text{H}$ 16'06		min. Earth dist.	16418 Sep 22 09:20	17° $\text{Y}$ 11'38	17.37877 AU
retrograde	16413 Jun 15 12:27	25° $\text{H}$ 39'32		direct	16418 Dec 06 02:45	15° $\text{Y}$ 07'49	
opposition	16413 Aug 29 07:36	23° $\text{H}$ 36'05	0°20'10	evening set	16419 Mar 10 04:35	18° $\text{Y}$ 33'25	
min. Earth dist.	16413 Aug 29 13:59	23° $\text{H}$ 35'24	17.53031 AU				
direct	16413 Nov 12 04:35	21° $\text{H}$ 32'17		conjunction	16419 Mar 26 17:23	19° $\text{Y}$ 35'01	-0°14'22
evening set	16414 Feb 13 14:16	24° $\text{H}$ 54'42		minimum elong	16419 Mar 26 17:23	19° $\text{Y}$ 35'01	0°14'32
				behind sun begin	16419 Mar 26 14:35	19° $\text{Y}$ 34'35	
conjunction	16414 Mar 02 02:43	25° $\text{H}$ 55'42	0°15'15	behind sun end	16419 Mar 26 20:11	19° $\text{Y}$ 35'26	
minimum elong	16414 Mar 02 02:43	25° $\text{H}$ 55'42	0°15'22	max. Earth dist.	16419 Mar 26 08:30	19° $\text{Y}$ 33'38	19.36907 AU
behind sun begin	16414 Mar 02 00:58	25° $\text{H}$ 55'26		morning rise	16419 Apr 12 05:32	20° $\text{Y}$ 36'33	
behind sun end	16414 Mar 02 04:28	25° $\text{H}$ 55'58		retrograde	16419 Jul 14 16:36	24° $\text{Y}$ 01'33	
max. Earth dist.	16414 Mar 01 18:11	25° $\text{H}$ 54'23	19.51115 AU	opposition	16419 Sep 27 01:04	21° $\text{Y}$ 57'55	-0°19'16
morning rise	16414 Mar 18 15:27	26° $\text{H}$ 56'45		min. Earth dist.	16419 Sep 27 07:54	21° $\text{Y}$ 57'10	17.36056 AU
	16414 May 23 20:22	0° $\text{Y}$		direct	16419 Dec 11 04:29	19° $\text{Y}$ 53'04	
retrograde	16414 Jun 20 11:33	0° $\text{Y}$ 20'39		evening set	16420 Mar 14 08:22	23° $\text{Y}$ 19'04	
	16414 Jul 18 11:40	30° $\text{R}$ $\text{H}$					
opposition	16414 Sep 03 05:34	28° $\text{H}$ 17'11	0°13'45	conjunction	16420 Mar 30 21:02	24° $\text{Y}$ 20'42	-0°20'11
min. Earth dist.	16414 Sep 03 12:52	28° $\text{H}$ 16'24	17.49285 AU	minimum elong	16420 Mar 30 21:01	24° $\text{Y}$ 20'42	0°20'24
direct	16414 Nov 17 02:22	26° $\text{H}$ 13'14		max. Earth dist.	16420 Mar 30 12:37	24° $\text{Y}$ 19'24	19.35318 AU
evening set	16415 Feb 18 16:10	29° $\text{H}$ 36'26		morning rise	16420 Apr 16 08:46	25° $\text{Y}$ 22'15	
	16415 Feb 25 02:25	0° $\text{Y}$		retrograde	16420 Jul 18 16:55	28° $\text{Y}$ 47'13	
				opposition	16420 Oct 01 00:58	26° $\text{Y}$ 43'34	-0°25'42
conjunction	16415 Mar 07 04:57	0° $\text{Y}$ 37'36	0°09'27	min. Earth dist.	16420 Oct 01 08:35	26° $\text{Y}$ 42'44	17.34726 AU
minimum elong	16415 Mar 07 04:56	0° $\text{Y}$ 37'36	0°09'31	direct	16420 Dec 15 04:54	24° $\text{Y}$ 38'33	
behind sun begin	16415 Mar 06 23:22	0° $\text{Y}$ 36'46		evening set	16421 Mar 19 12:12	28° $\text{Y}$ 04'52	
behind sun end	16415 Mar 07 10:30	0° $\text{Y}$ 38'27					
max. Earth dist.	16415 Mar 06 21:03	0° $\text{Y}$ 36'24	19.47545 AU	conjunction	16421 Apr 05 00:33	29° $\text{Y}$ 06'30	-0°25'53
morning rise	16415 Mar 23 17:37	1° $\text{Y}$ 38'48		minimum elong	16421 Apr 05 00:32	29° $\text{Y}$ 06'30	0°26'09
retrograde	16415 Jun 25 12:37	5° $\text{Y}$ 03'05		max. Earth dist.	16421 Apr 04 15:58	29° $\text{Y}$ 05'10	19.34259 AU
opposition	16415 Sep 08 03:49	2° $\text{Y}$ 59'36	0°07'12		16421 Apr 19 07:36	0° $\text{B}$	
min. Earth dist.	16415 Sep 08 10:30	2° $\text{Y}$ 58'52	17.45884 AU	morning rise	16421 Apr 21 12:00	0° $\text{B}$ 08'03	
direct	16415 Nov 22 02:50	0° $\text{Y}$ 55'29		retrograde	16421 Jul 23 18:20	3° $\text{B}$ 32'56	
evening set	16416 Feb 23 18:49	4° $\text{Y}$ 19'24		opposition	16421 Oct 06 00:57	1° $\text{B}$ 29'15	-0°31'58
				min. Earth dist.	16421 Oct 06 07:17	1° $\text{B}$ 28'33	17.33944 AU
conjunction	16416 Mar 11 07:37	5° $\text{Y}$ 20'43	0°03'34		16421 Nov 13 00:24	30° $\text{R}$ $\text{Y}$	
minimum elong	16416 Mar 11 07:37	5° $\text{Y}$ 20'43	0°03'34	direct	16421 Dec 20 07:05	29° $\text{Y}$ 24'07	
behind sun begin	16416 Mar 11 00:56	5° $\text{Y}$ 19'43			16422 Jan 25 23:17	0° $\text{B}$	
behind sun end	16416 Mar 11 14:18	5° $\text{Y}$ 21'44		evening set	16422 Mar 24 15:47	2° $\text{B}$ 50'37	
max. Earth dist.	16416 Mar 10 22:44	5° $\text{Y}$ 19'22	19.44312 AU				
morning rise	16416 Mar 27 20:18	6° $\text{Y}$ 22'03		conjunction	16422 Apr 10 03:56	3° $\text{B}$ 52'15	-0°31'24
retrograde	16416 Jun 29 12:14	9° $\text{Y}$ 46'37		minimum elong	16422 Apr 10 03:56	3° $\text{B}$ 52'15	0°31'43
opposition	16416 Sep 12 02:45	7° $\text{Y}$ 43'07	0°00'35	max. Earth dist.	16422 Apr 09 20:40	3° $\text{B}$ 51'07	19.33752 AU
min. Earth dist.	16416 Sep 12 10:33	7° $\text{Y}$ 42'16	17.42834 AU	morning rise	16422 Apr 26 14:50	4° $\text{B}$ 53'45	
desc. node	16416 Oct 13 06:27	6° $\text{Y}$ 27'28		retrograde	16422 Jul 28 18:16	8° $\text{B}$ 18'29	
direct	16416 Nov 26 01:40	5° $\text{Y}$ 38'48		opposition	16422 Oct 11 01:08	6° $\text{B}$ 14'49	-0°38'01
evening set	16417 Feb 27 21:43	9° $\text{Y}$ 03'23		min. Earth dist.	16422 Oct 11 07:45	6° $\text{B}$ 14'05	17.33738 AU
				direct	16422 Dec 25 08:27	4° $\text{B}$ 09'35	
conjunction	16417 Mar 16 10:38	10° $\text{Y}$ 04'49	-0°02'32	evening set	16423 Mar 29 19:34	7° $\text{B}$ 36'14	
minimum elong	16417 Mar 16 10:37	10° $\text{Y}$ 04'49	0°02'35				
behind sun begin	16417 Mar 16 03:54	10° $\text{Y}$ 03'47		conjunction	16423 Apr 15 07:14	8° $\text{B}$ 37'49	-0°36'42
behind sun end	16417 Mar 16 17:21	10° $\text{Y}$ 05'50		minimum elong	16423 Apr 15 07:13	8° $\text{B}$ 37'49	0°37'03
max. Earth dist.	16417 Mar 16 02:01	10° $\text{Y}$ 03'29	19.41442 AU	max. Earth dist.	16423 Apr 14 23:38	8° $\text{B}$ 36'38	19.33854 AU
morning rise	16417 Apr 01 23:09	11° $\text{Y}$ 06'13		morning rise	16423 May 01 17:47	9° $\text{B}$ 39'15	
retrograde	16417 Jul 04 14:14	14° $\text{Y}$ 31'02		retrograde	16423 Aug 02 18:39	13° $\text{B}$ 03'47	
opposition	16417 Sep 17 01:52	12° $\text{Y}$ 27'29	-0°06'04	opposition	16423 Oct 16 01:05	11° $\text{B}$ 00'08	-0°43'48
min. Earth dist.	16417 Sep 17 08:46	12° $\text{Y}$ 26'43	17.40148 AU	min. Earth dist.	16423 Oct 16 06:28	10° $\text{B}$ 59'33	17.34159 AU
direct	16417 Dec 01 03:10	10° $\text{Y}$ 23'00		direct	16423 Dec 30 10:47	8° $\text{B}$ 54'52	
evening set	16418 Mar 05 01:05	13° $\text{Y}$ 48'07		evening set	16424 Apr 02 23:06	12° $\text{B}$ 21'36	
conjunction	16418 Mar 21 13:56	14° $\text{Y}$ 49'39	-0°08'28	conjunction	16424 Apr 19 10:29	13° $\text{B}$ 23'07	-0°41'45
minimum elong	16418 Mar 21 13:55	14° $\text{Y}$ 49'39	0°08'34	minimum elong	16424 Apr 19 10:29	13° $\text{B}$ 23'07	0°42'09
behind sun begin	16418 Mar 21 08:04	14° $\text{Y}$ 48'46		max. Earth dist.	16424 Apr 19 04:37	13° $\text{B}$ 22'12	19.34583 AU
behind sun end	16418 Mar 21 19:47	14° $\text{Y}$ 50'33		morning rise	16424 May 05 20:18	14° $\text{B}$ 24'27	
max. Earth dist.	16418 Mar 21 05:02	14° $\text{Y}$ 48'17	19.38952 AU		16424 May 15 17:08	15° $\text{B}$	

retrograde	16424 Aug 06 18:36	17° <del>8</del> 48'42	min. Earth dist.	16430 Nov 18 01:24	14° <del>II</del> 04'20	17.52772 AU
opposition	16424 Oct 20 01:18	15° <del>8</del> 45'11 -0°49'16	direct	16431 Feb 01 23:58	12° <del>II</del> 00'04	
min. Earth dist.	16424 Oct 20 06:30	15° <del>8</del> 44'37 17.35208 AU	evening set	16431 May 07 15:06	15° <del>II</del> 25'04	
	16424 Nov 06 17:35	15° <del>8</del>				
direct	16425 Jan 03 12:44	13° <del>8</del> 39'56	conjunction	16431 May 23 22:12	16° <del>II</del> 25'27 -1°07'15	
	16425 Feb 28 08:06	15° <del>8</del>	minimum elong	16431 May 23 22:12	16° <del>II</del> 25'27 1°07'52	
evening set	16425 Apr 08 02:26	17° <del>8</del> 06'39	max. Earth dist.	16431 May 23 19:34	16° <del>II</del> 25'02 19.54836 AU	
			morning rise	16431 Jun 09 03:27	17° <del>II</del> 25'35	
conjunction	16425 Apr 24 13:09	18° <del>8</del> 08'04 -0°46'30	retrograde	16431 Sep 09 10:51	20° <del>II</del> 46'31	
minimum elong	16425 Apr 24 13:08	18° <del>8</del> 08'04 0°46'56	opposition	16431 Nov 22 22:36	18° <del>II</del> 44'26 -1°16'07	
max. Earth dist.	16425 Apr 24 06:58	18° <del>8</del> 07'06 19.35954 AU	min. Earth dist.	16431 Nov 23 00:32	18° <del>II</del> 44'14 17.57053 AU	
morning rise	16425 May 10 22:32	19° <del>8</del> 09'17	direct	16432 Feb 06 23:23	16° <del>II</del> 40'09	
retrograde	16425 Aug 11 18:17	22° <del>8</del> 33'15	evening set	16432 May 11 15:13	20° <del>II</del> 04'33	
opposition	16425 Oct 25 01:24	20° <del>8</del> 29'52 -0°54'24				
min. Earth dist.	16425 Oct 25 05:31	20° <del>8</del> 29'26 17.36898 AU	conjunction	16432 May 27 21:43	21° <del>II</del> 04'43 -1°09'13	
direct	16426 Jan 08 14:57	18° <del>8</del> 24'42	minimum elong	16432 May 27 21:43	21° <del>II</del> 04'43 1°09'51	
evening set	16426 Apr 13 05:26	21° <del>8</del> 51'21	max. Earth dist.	16432 May 27 19:58	21° <del>II</del> 04'26 19.59264 AU	
			morning rise	16432 Jun 13 02:14	22° <del>II</del> 04'36	
conjunction	16426 Apr 29 15:49	22° <del>8</del> 52'39 -0°50'56	retrograde	16432 Sep 13 09:17	25° <del>II</del> 24'50	
minimum elong	16426 Apr 29 15:49	22° <del>8</del> 52'39 0°51'24	opposition	16432 Nov 26 21:03	23° <del>II</del> 22'56 -1°18'03	
max. Earth dist.	16426 Apr 29 11:32	22° <del>8</del> 51'59 19.37939 AU	min. Earth dist.	16432 Nov 26 21:42	23° <del>II</del> 22'52 17.61613 AU	
morning rise	16426 May 16 00:25	23° <del>8</del> 53'44	direct	16433 Feb 11 00:54	21° <del>II</del> 18'49	
retrograde	16426 Aug 16 18:03	27° <del>8</del> 17'20	evening set	16433 May 16 14:28	24° <del>II</del> 42'32	
opposition	16426 Oct 30 01:20	25° <del>8</del> 14'10 -0°59'08				
min. Earth dist.	16426 Oct 30 05:05	25° <del>8</del> 13'46 17.39163 AU	conjunction	16433 Jun 01 20:15	25° <del>II</del> 42'26 -1°10'45	
direct	16427 Jan 13 17:07	23° <del>8</del> 09'08	minimum elong	16433 Jun 01 20:15	25° <del>II</del> 42'26 1°11'22	
evening set	16427 Apr 18 08:22	26° <del>8</del> 35'38	max. Earth dist.	16433 Jun 01 18:54	25° <del>II</del> 42'14 19.63962 AU	
			morning rise	16433 Jun 18 00:06	26° <del>II</del> 42'05	
conjunction	16427 May 04 18:01	27° <del>8</del> 36'47 -0°54'59		16433 Sep 10 13:34	0° <del>III</del>	
minimum elong	16427 May 04 18:00	27° <del>8</del> 36'47 0°55'31	retrograde	16433 Sep 18 04:17	0° <del>III</del> 01'35	
max. Earth dist.	16427 May 04 13:13	27° <del>8</del> 36'02 19.40473 AU		16433 Sep 25 19:02	30° <del>R</del> <del>II</del>	
morning rise	16427 May 21 02:07	28° <del>8</del> 37'43	opposition	16433 Dec 01 19:05	27° <del>II</del> 59'51 -1°19'28	
	16427 Jun 13 20:49	0° <del>II</del>	min. Earth dist.	16433 Dec 01 20:08	27° <del>II</del> 59'44 17.66458 AU	
retrograde	16427 Aug 21 17:07	2° <del>II</del> 00'55	direct	16434 Feb 15 23:16	25° <del>II</del> 55'52	
	16427 Nov 03 06:23	30° <del>R</del> <del>8</del>	evening set	16434 May 21 12:56	29° <del>II</del> 18'51	
opposition	16427 Nov 04 01:14	29° <del>8</del> 57'58 -1°03'27		16434 Jun 01 18:27	0° <del>III</del>	
min. Earth dist.	16427 Nov 04 04:31	29° <del>8</del> 57'36 17.41953 AU				
direct	16428 Jan 18 18:56	27° <del>8</del> 53'03	conjunction	16434 Jun 06 18:07	0° <del>III</del> 18'30 -1°11'48	
	16428 Mar 30 12:57	0° <del>II</del>	minimum elong	16434 Jun 06 18:07	0° <del>III</del> 18'30 1°12'27	
evening set	16428 Apr 22 10:46	1° <del>II</del> 19'20	max. Earth dist.	16434 Jun 06 17:22	0° <del>III</del> 18'23 19.68949 AU	
			morning rise	16434 Jun 22 21:20	1° <del>III</del> 17'52	
conjunction	16428 May 08 19:56	2° <del>II</del> 20'19 -0°58'41	retrograde	16434 Sep 23 01:13	4° <del>III</del> 36'35	
minimum elong	16428 May 08 19:56	2° <del>II</del> 20'19 0°59'13	opposition	16434 Dec 06 16:16	2° <del>III</del> 35'01 -1°20'21	
max. Earth dist.	16428 May 08 16:44	2° <del>II</del> 19'49 19.43485 AU	min. Earth dist.	16434 Dec 06 15:51	2° <del>III</del> 35'03 17.71573 AU	
morning rise	16428 May 25 03:11	3° <del>II</del> 21'04	direct	16435 Feb 21 00:13	0° <del>III</del> 31'11	
retrograde	16428 Aug 25 16:32	6° <del>II</del> 43'47	evening set	16435 May 26 10:36	3° <del>III</del> 53'21	
opposition	16428 Nov 08 00:58	4° <del>II</del> 41'05 -1°07'20				
min. Earth dist.	16428 Nov 08 03:37	4° <del>II</del> 40'47 17.45177 AU	conjunction	16435 Jun 11 15:07	4° <del>III</del> 52'45 -1°12'23	
direct	16429 Jan 22 21:19	2° <del>II</del> 36'20	minimum elong	16435 Jun 11 15:07	4° <del>III</del> 52'45 1°13'02	
evening set	16429 Apr 27 12:51	6° <del>II</del> 02'16	max. Earth dist.	16435 Jun 11 15:16	4° <del>III</del> 52'46 19.74201 AU	
			morning rise	16435 Jun 27 17:39	5° <del>III</del> 51'51	
conjunction	16429 May 13 21:14	7° <del>II</del> 03'04 -1°01'58	retrograde	16435 Sep 27 18:12	9° <del>III</del> 09'45	
minimum elong	16429 May 13 21:13	7° <del>II</del> 03'04 1°02'33	opposition	16435 Dec 11 13:12	7° <del>III</del> 08'20 -1°20'44	
max. Earth dist.	16429 May 13 17:34	7° <del>II</del> 02'30 19.46912 AU	min. Earth dist.	16435 Dec 11 13:06	7° <del>III</del> 08'21 17.76976 AU	
morning rise	16429 May 30 03:54	8° <del>II</del> 03'38	direct	16436 Feb 25 21:50	5° <del>III</del> 04'41	
retrograde	16429 Aug 30 14:45	11° <del>II</del> 25'49	evening set	16436 May 30 07:13	8° <del>III</del> 25'59	
opposition	16429 Nov 13 00:32	9° <del>II</del> 23'19 -1°10'45				
min. Earth dist.	16429 Nov 13 03:06	9° <del>II</del> 23'03 17.48809 AU	conjunction	16436 Jun 15 11:02	9° <del>III</del> 25'06 -1°12'31	
direct	16430 Jan 27 22:06	7° <del>II</del> 18'43	minimum elong	16436 Jun 15 11:03	9° <del>III</del> 25'06 1°13'10	
evening set	16430 May 02 14:08	10° <del>II</del> 44'14	max. Earth dist.	16436 Jun 15 11:42	9° <del>III</del> 25'12 19.79757 AU	
			morning rise	16436 Jul 01 13:01	10° <del>III</del> 23'55	
conjunction	16430 May 18 22:01	11° <del>II</del> 44'51 -1°04'49	retrograde	16436 Oct 01 13:21	13° <del>III</del> 41'01	
minimum elong	16430 May 18 22:01	11° <del>II</del> 44'51 1°05'25	opposition	16436 Dec 15 09:24	11° <del>III</del> 39'46 -1°20'37	
max. Earth dist.	16430 May 18 19:36	11° <del>II</del> 44'28 19.50718 AU	min. Earth dist.	16436 Dec 15 07:26	11° <del>III</del> 39'59 17.82680 AU	
morning rise	16430 Jun 04 03:55	12° <del>II</del> 45'12	direct	16437 Mar 01 22:04	9° <del>III</del> 36'20	
retrograde	16430 Sep 04 13:50	16° <del>II</del> 06'47	evening set	16437 Jun 04 02:58	12° <del>III</del> 56'44	
opposition	16430 Nov 17 23:46	14° <del>II</del> 04'30 -1°13'41				

conjunction	16437 Jun 20 06:13	13°☾55'34	-1°12'12	retrograde	16443 Nov 01 23:55	14°♊30'30	
minimum elong	16437 Jun 20 06:13	13°☾55'34	1°12'51	opposition	16444 Jan 16 15:02	12°♊31'01	-1°06'45
max. Earth dist.	16437 Jun 20 08:21	13°☾55'53	19.85611 AU	min. Earth dist.	16444 Jan 16 09:46	12°♊31'34	18.27921 AU
morning rise	16437 Jul 06 07:31	14°☾54'07		direct	16444 Apr 02 11:46	10°♊29'46	
retrograde	16437 Oct 06 04:42	18°☾10'23		evening set	16444 Jul 04 21:45	13°♊43'33	
opposition	16437 Dec 20 05:06	16°☾09'21	-1°19'59				
min. Earth dist.	16437 Dec 20 03:17	16°☾09'33	17.88691 AU	conjunction	16444 Jul 20 21:16	14°♊40'28	-0°58'33
direct	16438 Mar 06 18:11	14°☾06'10		minimum elong	16444 Jul 20 21:16	14°♊40'28	0°59'03
evening set	16438 Jun 08 21:52	17°☾25'39		max. Earth dist.	16444 Jul 21 02:41	14°♊41'16	20.31128 AU
					16444 Jul 26 07:54	15°♊	
conjunction	16438 Jun 25 00:28	18°☾24'12	-1°11'26	morning rise	16444 Aug 05 19:35	15°♊37'12	
minimum elong	16438 Jun 25 00:28	18°☾24'12	1°12'04	retrograde	16444 Nov 05 13:58	18°♊48'06	
max. Earth dist.	16438 Jun 25 02:48	18°☾24'33	19.91772 AU	opposition	16445 Jan 20 06:43	16°♊48'49	-1°03'11
morning rise	16438 Jul 11 01:20	19°☾22'29		min. Earth dist.	16445 Jan 20 00:32	16°♊49'27	18.34320 AU
retrograde	16438 Oct 10 22:41	22°☾37'57			16445 Mar 16 02:14	15°♋♊	
opposition	16438 Dec 25 00:05	20°☾37'09	-1°18'52	direct	16445 Apr 07 04:18	14°♊47'52	
min. Earth dist.	16438 Dec 24 20:27	20°☾37'32	17.94971 AU		16445 Apr 28 23:09	15°♊	
direct	16439 Mar 11 16:31	18°☾34'15		evening set	16445 Jul 09 10:54	18°♊00'41	
evening set	16439 Jun 13 15:52	21°☾52'49					
				conjunction	16445 Jul 25 10:11	18°♊57'21	-0°55'12
conjunction	16439 Jun 29 17:59	22°☾51'05	-1°10'15	minimum elong	16445 Jul 25 10:12	18°♊57'21	0°55'40
minimum elong	16439 Jun 29 17:59	22°☾51'05	1°10'53	max. Earth dist.	16445 Jul 25 16:53	18°♊58'21	20.37428 AU
max. Earth dist.	16439 Jun 29 21:56	22°☾51'41	19.98161 AU	morning rise	16445 Aug 10 08:04	19°♊53'52	
morning rise	16439 Jul 15 18:12	23°☾49'06		retrograde	16445 Nov 10 01:38	23°♊04'02	
retrograde	16439 Oct 15 13:03	27°☾03'46		opposition	16446 Jan 24 21:43	21°♊04'57	-0°59'17
opposition	16439 Dec 29 18:38	25°☾03'14	-1°17'17	min. Earth dist.	16446 Jan 24 15:56	21°♊05'33	18.40510 AU
min. Earth dist.	16439 Dec 29 15:18	25°☾03'35	18.01452 AU	direct	16446 Apr 11 19:29	19°♊04'17	
direct	16440 Mar 15 11:25	23°☾00'40		evening set	16446 Jul 13 23:24	22°♊16'08	
evening set	16440 Jun 17 09:07	26°☾18'18					
				conjunction	16446 Jul 29 22:11	23°♊12'34	-0°51'35
conjunction	16440 Jul 03 10:34	27°☾16'17	-1°08'39	minimum elong	16446 Jul 29 22:12	23°♊12'34	0°52'01
minimum elong	16440 Jul 03 10:34	27°☾16'17	1°09'15	max. Earth dist.	16446 Jul 30 03:51	23°♊13'24	20.43512 AU
max. Earth dist.	16440 Jul 03 14:23	27°☾16'52	20.04729 AU	morning rise	16446 Aug 14 20:00	24°♊08'51	
morning rise	16440 Jul 19 10:27	28°☾14'02		retrograde	16446 Nov 14 14:25	27°♊18'20	
	16440 Aug 21 05:50	0°♊		opposition	16447 Jan 29 12:08	25°♊19'24	-0°55'06
retrograde	16440 Oct 19 05:50	1°♊27'55		min. Earth dist.	16447 Jan 29 05:45	25°♊20'03	18.46476 AU
	16440 Dec 20 10:55	30°♋☾		direct	16447 Apr 16 10:40	23°♊18'58	
opposition	16441 Jan 02 12:33	29°☾27'40	-1°15'16	evening set	16447 Jul 18 10:52	26°♊29'52	
min. Earth dist.	16441 Jan 02 07:39	29°☾28'11	18.08072 AU				
direct	16441 Mar 20 07:19	27°☾25'25		conjunction	16447 Aug 03 09:29	27°♊26'04	-0°47'41
	16441 Jun 09 20:18	0°♊		minimum elong	16447 Aug 03 09:29	27°♊26'04	0°48'05
evening set	16441 Jun 22 01:19	0°♊42'05		max. Earth dist.	16447 Aug 03 16:28	27°♊27'06	20.49358 AU
				morning rise	16447 Aug 19 06:54	28°♊22'08	
conjunction	16441 Jul 08 02:23	1°♊39'49	-1°06'40		16447 Sep 19 02:13	0°♋	
minimum elong	16441 Jul 08 02:24	1°♊39'49	1°07'15	retrograde	16447 Nov 19 00:57	1°♋30'56	
max. Earth dist.	16441 Jul 08 07:49	1°♊40'38	20.11381 AU		16448 Jan 22 14:36	30°♋♊	
morning rise	16441 Jul 24 01:41	2°♊37'18		opposition	16448 Feb 03 02:02	29°♊32'08	-0°50'38
retrograde	16441 Oct 23 19:40	5°♊50'25		min. Earth dist.	16448 Feb 02 19:45	29°♊32'47	18.52197 AU
opposition	16442 Jan 07 06:01	3°♊50'26	-1°12'49	direct	16448 Apr 20 00:26	27°♊31'57	
min. Earth dist.	16442 Jan 07 01:30	3°♊50'54	18.14735 AU		16448 Jul 09 10:48	0°♋	
direct	16442 Mar 25 01:03	1°♊48'32		evening set	16448 Jul 21 21:44	0°♋41'53	
evening set	16442 Jun 26 17:00	5°♊04'15					
				conjunction	16448 Aug 06 19:52	1°♋37'51	-0°43'34
conjunction	16442 Jul 12 17:26	6°♊01'41	-1°04'18	minimum elong	16448 Aug 06 19:53	1°♋37'52	0°43'56
minimum elong	16442 Jul 12 17:26	6°♊01'41	1°04'51	max. Earth dist.	16448 Aug 07 02:04	1°♋38'46	20.54982 AU
max. Earth dist.	16442 Jul 12 22:16	6°♊02'25	20.18047 AU	morning rise	16448 Aug 22 17:17	2°♋33'43	
morning rise	16442 Jul 28 16:29	6°♊58'55		retrograde	16448 Nov 22 12:18	5°♋41'54	
retrograde	16442 Oct 28 10:58	10°♊11'17		opposition	16449 Feb 06 15:12	3°♋43'11	-0°45'56
opposition	16443 Jan 11 22:40	8°♊11'33	-1°09'58	min. Earth dist.	16449 Feb 06 08:21	3°♋43'53	18.57728 AU
min. Earth dist.	16443 Jan 11 17:01	8°♊12'08	18.21378 AU	direct	16449 Apr 24 14:09	1°♋43'12	
direct	16443 Mar 29 19:07	6°♊09'58		evening set	16449 Jul 26 07:33	4°♋52'13	
evening set	16443 Jul 01 07:47	9°♊24'44					
				conjunction	16449 Aug 11 05:37	5°♋48'00	-0°39'14
conjunction	16443 Jul 17 07:54	10°♊21'55	-1°01'35	minimum elong	16449 Aug 11 05:37	5°♋48'00	0°39'34
minimum elong	16443 Jul 17 07:54	10°♊21'55	1°02'07	max. Earth dist.	16449 Aug 11 13:21	5°♋49'08	20.60416 AU
max. Earth dist.	16443 Jul 17 14:07	10°♊22'51	20.24648 AU	morning rise	16449 Aug 27 02:44	6°♋43'39	
morning rise	16443 Aug 02 06:23	11°♊18'53		retrograde	16449 Nov 26 22:09	9°♋51'14	

opposition	16450 Feb 11 03:49	7° $\mathring{M}$ 52'37	-0°41'01	opposition	16456 Mar 07 21:24	2° $\mathring{A}$ 23'43	-0°08'35
min. Earth dist.	16450 Feb 10 20:44	7° $\mathring{M}$ 53'20	18.63066 AU	min. Earth dist.	16456 Mar 07 12:44	2° $\mathring{A}$ 24'35	18.90598 AU
direct	16450 Apr 29 02:46	5° $\mathring{M}$ 52'52		direct	16456 May 23 19:32	0° $\mathring{A}$ 25'31	
evening set	16450 Jul 30 16:59	9° $\mathring{M}$ 01'01		evening set	16456 Aug 23 13:52	3° $\mathring{A}$ 29'27	
conjunction	16450 Aug 15 14:36	9° $\mathring{M}$ 56'34	-0°34'44	conjunction	16456 Sep 08 10:36	4° $\mathring{A}$ 24'06	-0°05'17
minimum elong	16450 Aug 15 14:37	9° $\mathring{M}$ 56'35	0°35'00	minimum elong	16456 Sep 08 10:36	4° $\mathring{A}$ 24'06	0°05'18
max. Earth dist.	16450 Aug 15 21:40	9° $\mathring{M}$ 57'36	20.65675 AU	behind sun begin	16456 Sep 08 04:14	4° $\mathring{A}$ 23'12	
morning rise	16450 Aug 31 11:45	10° $\mathring{M}$ 52'04		behind sun end	16456 Sep 08 16:58	4° $\mathring{A}$ 24'59	
retrograde	16450 Dec 01 08:07	13° $\mathring{M}$ 59'05		max. Earth dist.	16456 Sep 08 18:54	4° $\mathring{A}$ 25'17	20.92360 AU
opposition	16451 Feb 15 15:48	12° $\mathring{M}$ 00'35	-0°35'54	morning rise	16456 Sep 24 07:39	5° $\mathring{A}$ 18'46	
min. Earth dist.	16451 Feb 15 08:12	12° $\mathring{M}$ 01'21	18.68249 AU	retrograde	16456 Dec 25 12:10	8° $\mathring{A}$ 23'37	
direct	16451 May 03 14:44	10° $\mathring{M}$ 01'05		opposition	16457 Mar 12 07:03	6° $\mathring{A}$ 25'48	-0°02'57
evening set	16451 Aug 04 01:35	13° $\mathring{M}$ 08'24		min. Earth dist.	16457 Mar 11 22:55	6° $\mathring{A}$ 26'37	18.94008 AU
conjunction	16451 Aug 19 23:10	14° $\mathring{M}$ 03'47	-0°30'04	direct	16457 May 28 03:17	4° $\mathring{A}$ 27'48	
minimum elong	16451 Aug 19 23:10	14° $\mathring{M}$ 03'47	0°30'18	evening set	16457 Aug 27 20:03	7° $\mathring{A}$ 31'13	
max. Earth dist.	16451 Aug 20 07:45	14° $\mathring{M}$ 05'02	20.70772 AU	conjunction	16457 Sep 12 16:55	8° $\mathring{A}$ 25'45	-0°00'08
morning rise	16451 Sep 04 20:03	14° $\mathring{M}$ 59'06		minimum elong	16457 Sep 12 16:55	8° $\mathring{A}$ 25'45	0°00'06
retrograde	16451 Dec 05 17:45	18° $\mathring{M}$ 05'38		behind sun begin	16457 Sep 12 10:37	8° $\mathring{A}$ 24'52	
opposition	16452 Feb 20 03:24	16° $\mathring{M}$ 07'15	-0°30'39	behind sun end	16457 Sep 12 23:12	8° $\mathring{A}$ 26'38	
min. Earth dist.	16452 Feb 19 19:22	16° $\mathring{M}$ 08'04	18.73247 AU	max. Earth dist.	16457 Sep 13 01:53	8° $\mathring{A}$ 27'02	20.95528 AU
direct	16452 May 07 02:34	14° $\mathring{M}$ 08'01		asc. node	16457 Sep 22 02:24	8° $\mathring{A}$ 58'15	
evening set	16452 Aug 07 09:40	17° $\mathring{M}$ 14'33		morning rise	16457 Sep 28 13:54	9° $\mathring{A}$ 20'21	
conjunction	16452 Aug 23 06:54	18° $\mathring{M}$ 09'46	-0°25'16	retrograde	16457 Dec 29 19:44	12° $\mathring{A}$ 24'59	
minimum elong	16452 Aug 23 06:54	18° $\mathring{M}$ 09'46	0°25'26	opposition	16458 Mar 16 16:26	10° $\mathring{A}$ 27'13	0°02'41
max. Earth dist.	16452 Aug 23 14:50	18° $\mathring{M}$ 10'55	20.75676 AU	min. Earth dist.	16458 Mar 16 08:12	10° $\mathring{A}$ 28'03	18.96918 AU
morning rise	16452 Sep 08 03:54	19° $\mathring{M}$ 04'56		direct	16458 Jun 01 13:11	8° $\mathring{A}$ 29'24	
retrograde	16452 Dec 09 02:35	22° $\mathring{M}$ 11'02		evening set	16458 Sep 01 02:11	11° $\mathring{A}$ 32'19	
opposition	16453 Feb 23 14:31	20° $\mathring{M}$ 12'46	-0°25'15	conjunction	16458 Sep 16 22:49	12° $\mathring{A}$ 26'46	0°05'02
min. Earth dist.	16453 Feb 23 06:14	20° $\mathring{M}$ 13'37	18.78044 AU	minimum elong	16458 Sep 16 22:50	12° $\mathring{A}$ 26'46	0°05'06
direct	16453 May 11 12:50	18° $\mathring{M}$ 13'49		behind sun begin	16458 Sep 16 16:26	12° $\mathring{A}$ 25'53	
evening set	16453 Aug 11 17:13	21° $\mathring{M}$ 19'38		behind sun end	16458 Sep 17 05:14	12° $\mathring{A}$ 27'40	
conjunction	16453 Aug 27 14:28	22° $\mathring{M}$ 14'41	-0°20'21	max. Earth dist.	16458 Sep 17 06:24	12° $\mathring{A}$ 27'50	20.98174 AU
minimum elong	16453 Aug 27 14:28	22° $\mathring{M}$ 14'41	0°20'31	morning rise	16458 Oct 02 20:02	13° $\mathring{A}$ 21'18	
max. Earth dist.	16453 Aug 27 23:43	22° $\mathring{M}$ 16'01	20.80344 AU	retrograde	16459 Jan 03 03:34	16° $\mathring{A}$ 25'47	
morning rise	16453 Sep 12 11:18	23° $\mathring{M}$ 09'42		opposition	16459 Mar 21 01:37	14° $\mathring{A}$ 28'01	0°08'18
retrograde	16453 Dec 13 11:49	26° $\mathring{M}$ 15'24		min. Earth dist.	16459 Mar 20 18:11	14° $\mathring{A}$ 28'46	18.99306 AU
opposition	16454 Feb 28 01:01	24° $\mathring{M}$ 17'17	-0°19'46	direct	16459 Jun 05 20:27	12° $\mathring{A}$ 30'19	
min. Earth dist.	16454 Feb 27 16:28	24° $\mathring{M}$ 18'09	18.82563 AU	evening set	16459 Sep 05 07:56	15° $\mathring{A}$ 32'48	
direct	16454 May 15 23:57	22° $\mathring{M}$ 18'36		conjunction	16459 Sep 21 04:46	16° $\mathring{A}$ 27'11	0°10'03
evening set	16454 Aug 16 00:33	25° $\mathring{M}$ 23'44		minimum elong	16459 Sep 21 04:45	16° $\mathring{A}$ 27'11	0°10'11
conjunction	16454 Aug 31 21:30	26° $\mathring{M}$ 18'38	-0°15'23	behind sun begin	16459 Sep 20 23:28	16° $\mathring{A}$ 26'27	
minimum elong	16454 Aug 31 21:30	26° $\mathring{M}$ 18'38	0°15'28	behind sun end	16459 Sep 21 10:01	16° $\mathring{A}$ 27'55	
behind sun begin	16454 Aug 31 19:34	26° $\mathring{M}$ 18'22		max. Earth dist.	16459 Sep 21 12:50	16° $\mathring{A}$ 28'20	21.00291 AU
behind sun end	16454 Aug 31 23:26	26° $\mathring{M}$ 18'55		morning rise	16459 Oct 07 01:56	17° $\mathring{A}$ 21'38	
max. Earth dist.	16454 Sep 01 05:50	26° $\mathring{M}$ 19'50	20.84714 AU	retrograde	16460 Jan 07 10:33	20° $\mathring{A}$ 25'59	
morning rise	16454 Sep 16 18:29	27° $\mathring{M}$ 13'32		opposition	16460 Mar 24 10:31	18° $\mathring{A}$ 28'13	0°13'51
	16454 Nov 20 08:17	0° $\mathring{A}$		min. Earth dist.	16460 Mar 24 02:56	18° $\mathring{A}$ 28'58	19.01145 AU
retrograde	16454 Dec 17 19:48	0° $\mathring{A}$ 18'54		direct	16460 Jun 09 05:30	16° $\mathring{A}$ 30'36	
	16455 Jan 14 17:49	30° $\mathring{R}$ $\mathring{M}$		evening set	16460 Sep 08 13:30	19° $\mathring{A}$ 32'40	
opposition	16455 Mar 04 11:23	28° $\mathring{M}$ 20'54	-0°14'12	conjunction	16460 Sep 24 10:13	20° $\mathring{A}$ 26'59	0°15'02
min. Earth dist.	16455 Mar 04 02:58	28° $\mathring{M}$ 21'45	18.86773 AU	minimum elong	16460 Sep 24 10:13	20° $\mathring{A}$ 26'59	0°15'11
direct	16455 May 20 08:51	26° $\mathring{M}$ 22'28		behind sun begin	16460 Sep 24 07:55	20° $\mathring{A}$ 26'40	
evening set	16455 Aug 20 07:13	29° $\mathring{M}$ 26'59		behind sun end	16460 Sep 24 12:31	20° $\mathring{A}$ 27'18	
	16455 Aug 29 22:07	0° $\mathring{A}$		max. Earth dist.	16460 Sep 24 16:57	20° $\mathring{A}$ 27'56	21.01866 AU
conjunction	16455 Sep 05 04:14	0° $\mathring{A}$ 21'45	-0°10'20	morning rise	16460 Oct 10 07:44	21° $\mathring{A}$ 21'25	
minimum elong	16455 Sep 05 04:13	0° $\mathring{A}$ 21'45	0°10'24	retrograde	16461 Jan 10 17:53	24° $\mathring{A}$ 25'40	
behind sun begin	16455 Sep 04 23:01	0° $\mathring{A}$ 21'01		opposition	16461 Mar 28 19:11	22° $\mathring{A}$ 27'49	0°19'20
behind sun end	16455 Sep 05 09:25	0° $\mathring{A}$ 22'29		min. Earth dist.	16461 Mar 28 12:31	22° $\mathring{A}$ 28'29	19.02470 AU
max. Earth dist.	16455 Sep 05 13:39	0° $\mathring{A}$ 23'06	20.88740 AU	direct	16461 Jun 13 12:15	20° $\mathring{A}$ 30'15	
morning rise	16455 Sep 21 01:03	1° $\mathring{A}$ 16'31		evening set	16461 Sep 12 18:46	23° $\mathring{A}$ 31'58	
retrograde	16455 Dec 22 04:17	4° $\mathring{A}$ 21'36		conjunction	16461 Sep 28 15:42	24° $\mathring{A}$ 26'14	0°19'56

minimum elong	16461 Sep 28 15:42	24° <u>♂</u> 26'14	0°20'09	max. Earth dist.	16467 Oct 23 06:01	18° <u>♂</u> 19'01	21.01227 AU
max. Earth dist.	16461 Sep 28 23:06	24° <u>♂</u> 27'17	21.02944 AU	morning rise	16467 Nov 07 22:35	19° <u>♂</u> 12'40	
morning rise	16461 Oct 14 13:15	25° <u>♂</u> 20'38		retrograde	16468 Feb 08 21:25	22° <u>♂</u> 17'52	
retrograde	16462 Jan 15 00:43	28° <u>♂</u> 24'50		opposition	16468 Apr 26 03:30	20° <u>♂</u> 19'29	0°53'37
opposition	16462 Apr 02 03:22	26° <u>♂</u> 26'54	0°24'43	min. Earth dist.	16468 Apr 25 21:20	20° <u>♂</u> 20'07	19.00511 AU
min. Earth dist.	16462 Apr 01 20:24	26° <u>♂</u> 27'36	19.03312 AU	direct	16468 Jul 11 11:10	18° <u>♂</u> 22'05	
direct	16462 Jun 17 20:37	24° <u>♂</u> 29'21		evening set	16468 Oct 10 07:24	21° <u>♂</u> 23'18	
evening set	16462 Sep 17 00:04	27° <u>♂</u> 30'47					
				conjunction	16468 Oct 26 05:20	22° <u>♂</u> 17'44	0°50'19
conjunction	16462 Oct 02 20:55	28° <u>♂</u> 25'01	0°24'45	minimum elong	16468 Oct 26 05:19	22° <u>♂</u> 17'44	0°50'48
minimum elong	16462 Oct 02 20:54	28° <u>♂</u> 25'01	0°25'00	max. Earth dist.	16468 Oct 26 10:34	22° <u>♂</u> 18'30	20.99652 AU
max. Earth dist.	16462 Oct 03 03:13	28° <u>♂</u> 25'55	21.03573 AU	morning rise	16468 Nov 11 04:53	23° <u>♂</u> 12'25	
morning rise	16462 Oct 18 18:48	29° <u>♂</u> 19'25		retrograde	16469 Feb 12 05:20	26° <u>♂</u> 18'00	
	16462 Oct 31 04:26	0° <u>♂</u>		opposition	16469 Apr 30 11:46	24° <u>♂</u> 19'33	0°57'40
retrograde	16463 Jan 19 07:33	2° <u>♂</u> 23'38		min. Earth dist.	16469 Apr 30 06:51	24° <u>♂</u> 20'02	18.98738 AU
opposition	16463 Apr 06 11:40	0° <u>♂</u> 25'35	0°29'59	direct	16469 Jul 15 16:38	22° <u>♂</u> 22'08	
min. Earth dist.	16463 Apr 06 05:28	0° <u>♂</u> 26'13	19.03753 AU	evening set	16469 Oct 14 13:22	25° <u>♂</u> 23'34	
	16463 Apr 17 05:06	30° <u>♂</u>					
direct	16463 Jun 22 02:39	28° <u>♂</u> 28'03		conjunction	16469 Oct 30 11:41	26° <u>♂</u> 18'06	0°53'52
	16463 Aug 23 08:44	0° <u>♂</u>		minimum elong	16469 Oct 30 11:41	26° <u>♂</u> 18'06	0°54'21
evening set	16463 Sep 21 04:56	1° <u>♂</u> 29'16		max. Earth dist.	16469 Oct 30 17:18	26° <u>♂</u> 18'54	20.97661 AU
				morning rise	16469 Nov 15 11:27	27° <u>♂</u> 12'52	
conjunction	16463 Oct 07 02:03	2° <u>♂</u> 23'30	0°29'26		16470 Jan 19 23:33	0° <u>♂</u>	
minimum elong	16463 Oct 07 02:02	2° <u>♂</u> 23'30	0°29'43	retrograde	16470 Feb 16 14:50	0° <u>♂</u> 18'51	
max. Earth dist.	16463 Oct 07 09:16	2° <u>♂</u> 24'32	21.03818 AU		16470 Mar 16 17:44	30° <u>♂</u>	
morning rise	16463 Oct 22 24:00	3° <u>♂</u> 17'53		opposition	16470 May 04 20:01	28° <u>♂</u> 20'20	1°01'27
retrograde	16464 Jan 23 15:01	6° <u>♂</u> 22'11		min. Earth dist.	16470 May 04 14:47	28° <u>♂</u> 20'52	18.96520 AU
opposition	16464 Apr 09 19:42	4° <u>♂</u> 24'03	0°35'06	direct	16470 Jul 19 23:46	26° <u>♂</u> 22'54	
min. Earth dist.	16464 Apr 09 12:53	4° <u>♂</u> 24'44	19.03813 AU	evening set	16470 Oct 18 19:53	29° <u>♂</u> 24'35	
direct	16464 Jun 25 10:32	2° <u>♂</u> 26'33			16470 Oct 29 04:47	0° <u>♂</u>	
evening set	16464 Sep 24 10:05	5° <u>♂</u> 27'37					
				conjunction	16470 Nov 03 18:21	0° <u>♂</u> 19'13	0°57'09
conjunction	16464 Oct 10 07:11	6° <u>♂</u> 21'51	0°33'59	minimum elong	16470 Nov 03 18:21	0° <u>♂</u> 19'13	0°57'40
minimum elong	16464 Oct 10 07:10	6° <u>♂</u> 21'51	0°34'19	max. Earth dist.	16470 Nov 03 22:28	0° <u>♂</u> 19'49	20.95210 AU
max. Earth dist.	16464 Oct 10 13:23	6° <u>♂</u> 22'44	21.03698 AU	morning rise	16470 Nov 19 18:36	1° <u>♂</u> 14'07	
morning rise	16464 Oct 26 05:32	7° <u>♂</u> 16'16		retrograde	16471 Feb 20 23:37	4° <u>♂</u> 20'33	
retrograde	16465 Jan 26 21:38	10° <u>♂</u> 20'43		opposition	16471 May 09 04:46	2° <u>♂</u> 21'55	1°04'57
opposition	16465 Apr 14 03:36	8° <u>♂</u> 22'30	0°40'02	min. Earth dist.	16471 May 09 01:03	2° <u>♂</u> 22'18	18.93840 AU
min. Earth dist.	16465 Apr 13 21:38	8° <u>♂</u> 23'06	19.03530 AU	direct	16471 Jul 24 05:17	0° <u>♂</u> 24'26	
direct	16465 Jun 29 15:52	6° <u>♂</u> 25'00		evening set	16471 Oct 23 02:34	3° <u>♂</u> 26'25	
evening set	16465 Sep 28 15:08	9° <u>♂</u> 26'02					
				conjunction	16471 Nov 08 01:31	4° <u>♂</u> 21'10	1°00'10
conjunction	16465 Oct 14 12:33	10° <u>♂</u> 20'17	0°38'22	minimum elong	16471 Nov 08 01:30	4° <u>♂</u> 21'10	1°00'43
minimum elong	16465 Oct 14 12:33	10° <u>♂</u> 20'17	0°38'43	max. Earth dist.	16471 Nov 08 05:45	4° <u>♂</u> 21'47	20.92279 AU
max. Earth dist.	16465 Oct 14 19:30	10° <u>♂</u> 21'17	21.03236 AU	morning rise	16471 Nov 24 02:03	5° <u>♂</u> 16'12	
morning rise	16465 Oct 30 11:02	11° <u>♂</u> 14'45		retrograde	16472 Feb 25 10:23	8° <u>♂</u> 23'05	
retrograde	16466 Jan 31 05:42	14° <u>♂</u> 19'22		opposition	16472 May 12 13:36	6° <u>♂</u> 24'20	1°08'09
opposition	16466 Apr 18 11:27	12° <u>♂</u> 21'07	0°44'47	min. Earth dist.	16472 May 12 09:40	6° <u>♂</u> 24'44	18.90650 AU
min. Earth dist.	16466 Apr 18 04:54	12° <u>♂</u> 21'46	19.02885 AU	direct	16472 Jul 27 13:35	4° <u>♂</u> 26'43	
direct	16466 Jul 03 23:07	10° <u>♂</u> 23'39		evening set	16472 Oct 26 09:57	7° <u>♂</u> 29'03	
evening set	16466 Oct 02 20:21	13° <u>♂</u> 24'40					
				conjunction	16472 Nov 11 09:08	8° <u>♂</u> 23'56	1°02'54
conjunction	16466 Oct 18 17:48	14° <u>♂</u> 18'58	0°42'33	minimum elong	16472 Nov 11 09:08	8° <u>♂</u> 23'56	1°03'27
minimum elong	16466 Oct 18 17:47	14° <u>♂</u> 18'58	0°42'58	max. Earth dist.	16472 Nov 11 11:42	8° <u>♂</u> 24'19	20.88833 AU
max. Earth dist.	16466 Oct 18 23:39	14° <u>♂</u> 19'49	21.02410 AU	morning rise	16472 Nov 27 10:13	9° <u>♂</u> 19'07	
	16466 Oct 30 16:53	15° <u>♂</u>		retrograde	16473 Feb 28 19:23	12° <u>♂</u> 26'29	
morning rise	16466 Nov 03 16:41	15° <u>♂</u> 13'29		opposition	16473 May 16 22:38	10° <u>♂</u> 27'32	1°11'01
retrograde	16467 Feb 04 12:42	18° <u>♂</u> 18'23		min. Earth dist.	16473 May 16 20:27	10° <u>♂</u> 27'46	18.86962 AU
opposition	16467 Apr 22 19:32	16° <u>♂</u> 20'04	0°49'19	direct	16473 Jul 31 19:19	8° <u>♂</u> 29'46	
min. Earth dist.	16467 Apr 22 13:54	16° <u>♂</u> 20'37	19.01887 AU	evening set	16473 Oct 30 17:32	11° <u>♂</u> 32'28	
	16467 May 29 08:28	15° <u>♂</u>					
direct	16467 Jul 08 04:27	14° <u>♂</u> 22'37		conjunction	16473 Nov 15 17:16	12° <u>♂</u> 27'31	1°05'20
	16467 Aug 15 22:29	15° <u>♂</u>		minimum elong	16473 Nov 15 17:16	12° <u>♂</u> 27'31	1°05'55
evening set	16467 Oct 07 01:41	17° <u>♂</u> 23'43		max. Earth dist.	16473 Nov 15 19:51	12° <u>♂</u> 27'53	20.84910 AU
				morning rise	16473 Dec 01 18:41	13° <u>♂</u> 22'50	
conjunction	16467 Oct 22 23:30	18° <u>♂</u> 18'05	0°46'33	retrograde	16474 Mar 05 07:04	16° <u>♂</u> 30'42	
minimum elong	16467 Oct 22 23:30	18° <u>♂</u> 18'05	0°46'58	opposition	16474 May 21 07:53	14° <u>♂</u> 31'32	1°13'33

min. Earth dist.	16474 May 21 05:24	14° $\mathring{A}$ 31'47	18.82810 AU	conjunction	16480 Dec 14 16:02	11° $\mathring{Z}$ 20'30	1°12'41
direct	16474 Aug 05 04:35	12° $\mathring{A}$ 33'34		minimum elong	16480 Dec 14 16:02	11° $\mathring{Z}$ 20'30	1°13'19
evening set	16474 Nov 04 01:31	15° $\mathring{A}$ 36'40		max. Earth dist.	16480 Dec 14 14:44	11° $\mathring{Z}$ 20'18	20.49057 AU
				morning rise	16480 Dec 30 21:11	12° $\mathring{Z}$ 17'18	
conjunction	16474 Nov 20 01:32	16° $\mathring{A}$ 31'52	1°07'27	retrograde	16481 Apr 03 19:47	15° $\mathring{Z}$ 29'37	
minimum elong	16474 Nov 20 01:32	16° $\mathring{A}$ 31'52	1°08'02	opposition	16481 Jun 19 09:56	13° $\mathring{Z}$ 28'52	1°20'25
max. Earth dist.	16474 Nov 20 02:46	16° $\mathring{A}$ 32'03	20.80553 AU	min. Earth dist.	16481 Jun 19 11:16	13° $\mathring{Z}$ 28'44	18.46217 AU
morning rise	16474 Dec 06 03:32	17° $\mathring{A}$ 27'23		direct	16481 Sep 02 18:31	11° $\mathring{Z}$ 29'18	
retrograde	16475 Mar 09 16:34	20° $\mathring{A}$ 35'47		evening set	16481 Dec 03 01:09	14° $\mathring{Z}$ 36'55	
opposition	16475 May 25 17:33	18° $\mathring{A}$ 36'21	1°15'44				
min. Earth dist.	16475 May 25 16:36	18° $\mathring{A}$ 36'27	18.78276 AU	conjunction	16481 Dec 19 04:59	15° $\mathring{Z}$ 33'40	1°12'14
direct	16475 Aug 09 11:03	16° $\mathring{A}$ 38'09		minimum elong	16481 Dec 19 04:59	15° $\mathring{Z}$ 33'40	1°12'50
evening set	16475 Nov 08 09:55	19° $\mathring{A}$ 41'43		max. Earth dist.	16481 Dec 19 03:37	15° $\mathring{Z}$ 33'28	20.43285 AU
				morning rise	16482 Jan 04 10:41	16° $\mathring{Z}$ 30'43	
conjunction	16475 Nov 24 10:31	20° $\mathring{A}$ 37'06	1°09'14	retrograde	16482 Apr 08 11:38	19° $\mathring{Z}$ 43'49	
minimum elong	16475 Nov 24 10:31	20° $\mathring{A}$ 37'06	1°09'51	opposition	16482 Jun 23 22:22	17° $\mathring{Z}$ 42'55	1°19'43
max. Earth dist.	16475 Nov 24 11:59	20° $\mathring{A}$ 37'19	20.75856 AU	min. Earth dist.	16482 Jun 23 23:07	17° $\mathring{Z}$ 42'50	18.40381 AU
morning rise	16475 Dec 10 12:55	21° $\mathring{A}$ 32'47		direct	16482 Sep 07 05:58	15° $\mathring{Z}$ 43'09	
retrograde	16476 Mar 13 04:41	24° $\mathring{A}$ 41'44		evening set	16482 Dec 07 14:14	18° $\mathring{Z}$ 51'38	
opposition	16476 May 29 03:10	22° $\mathring{A}$ 42'04	1°17'31				
min. Earth dist.	16476 May 29 01:43	22° $\mathring{A}$ 42'13	18.73428 AU	conjunction	16482 Dec 23 18:38	19° $\mathring{Z}$ 48'39	1°11'22
direct	16476 Aug 12 20:51	20° $\mathring{A}$ 43'37		minimum elong	16482 Dec 23 18:38	19° $\mathring{Z}$ 48'39	1°11'59
evening set	16476 Nov 11 18:57	23° $\mathring{A}$ 47'43		max. Earth dist.	16482 Dec 23 16:31	19° $\mathring{Z}$ 48'20	20.37385 AU
				morning rise	16483 Jan 09 00:57	20° $\mathring{Z}$ 45'58	
conjunction	16476 Nov 27 19:55	24° $\mathring{A}$ 43'18	1°10'39	retrograde	16483 Apr 13 02:25	23° $\mathring{Z}$ 59'53	
minimum elong	16476 Nov 27 19:55	24° $\mathring{A}$ 43'18	1°11'17	opposition	16483 Jun 28 11:35	21° $\mathring{Z}$ 58'50	1°18'34
max. Earth dist.	16476 Nov 27 20:11	24° $\mathring{A}$ 43'20	20.70869 AU	min. Earth dist.	16483 Jun 28 13:53	21° $\mathring{Z}$ 58'36	18.34418 AU
morning rise	16476 Dec 13 22:55	25° $\mathring{A}$ 39'11		direct	16483 Sep 11 16:50	19° $\mathring{Z}$ 58'52	
retrograde	16477 Mar 17 15:26	28° $\mathring{A}$ 48'44		evening set	16483 Dec 12 04:20	23° $\mathring{Z}$ 08'15	
opposition	16477 Jun 02 13:21	26° $\mathring{A}$ 48'48	1°18'56				
min. Earth dist.	16477 Jun 02 13:20	26° $\mathring{A}$ 48'48	18.68326 AU	conjunction	16483 Dec 28 09:24	24° $\mathring{Z}$ 05'33	1°10'07
direct	16477 Aug 17 04:07	24° $\mathring{A}$ 50'06		minimum elong	16483 Dec 28 09:24	24° $\mathring{Z}$ 05'33	1°10'43
evening set	16477 Nov 16 04:23	27° $\mathring{A}$ 54'48		max. Earth dist.	16483 Dec 28 06:45	24° $\mathring{Z}$ 05'10	20.31359 AU
				morning rise	16484 Jan 13 16:18	25° $\mathring{Z}$ 03'08	
conjunction	16477 Dec 02 05:57	28° $\mathring{A}$ 50'35	1°11'44	retrograde	16484 Apr 16 19:40	28° $\mathring{Z}$ 17'52	
minimum elong	16477 Dec 02 05:56	28° $\mathring{A}$ 50'35	1°12'22	opposition	16484 Jul 02 01:06	26° $\mathring{Z}$ 16'39	1°16'59
max. Earth dist.	16477 Dec 02 06:26	28° $\mathring{A}$ 50'39	20.65659 AU	min. Earth dist.	16484 Jul 02 03:11	26° $\mathring{Z}$ 16'26	18.28308 AU
morning rise	16477 Dec 18 09:21	29° $\mathring{A}$ 46'40		direct	16484 Sep 15 05:54	24° $\mathring{Z}$ 16'27	
	16477 Dec 22 07:44	0° $\mathring{Z}$		evening set	16484 Dec 15 19:24	27° $\mathring{Z}$ 26'47	
retrograde	16478 Mar 22 04:09	2° $\mathring{Z}$ 56'51					
opposition	16478 Jun 06 23:43	0° $\mathring{Z}$ 56'42	1°19'56	conjunction	16485 Jan 01 01:05	28° $\mathring{Z}$ 24'22	1°08'28
min. Earth dist.	16478 Jun 06 23:00	0° $\mathring{Z}$ 56'46	18.63016 AU	minimum elong	16485 Jan 01 01:06	28° $\mathring{Z}$ 24'22	1°09'03
	16478 Jun 30 22:46	30° $\mathring{R}$ $\mathring{A}$		max. Earth dist.	16484 Dec 31 21:31	28° $\mathring{Z}$ 23'50	20.25158 AU
direct	16478 Aug 21 14:24	28° $\mathring{A}$ 57'46		morning rise	16485 Jan 17 08:32	29° $\mathring{Z}$ 22'14	
	16478 Oct 10 10:42	0° $\mathring{Z}$			16485 Jan 28 10:22	0° $\mathring{\approx}$	
evening set	16478 Nov 20 14:33	2° $\mathring{Z}$ 03'06		retrograde	16485 Apr 21 11:29	2° $\mathring{\approx}$ 37'45	
				opposition	16485 Jul 06 15:33	0° $\mathring{\approx}$ 36'23	1°14'57
conjunction	16478 Dec 06 16:32	2° $\mathring{Z}$ 59'07	1°12'26	min. Earth dist.	16485 Jul 06 19:16	0° $\mathring{\approx}$ 35'59	18.22025 AU
minimum elong	16478 Dec 06 16:32	2° $\mathring{Z}$ 59'06	1°13'04		16485 Jul 21 07:46	30° $\mathring{R}$ $\mathring{Z}$	
max. Earth dist.	16478 Dec 06 16:02	2° $\mathring{Z}$ 59'02	20.60261 AU	direct	16485 Sep 19 18:08	28° $\mathring{Z}$ 35'55	
morning rise	16478 Dec 22 20:34	3° $\mathring{Z}$ 55'25			16485 Nov 16 15:17	0° $\mathring{\approx}$	
retrograde	16479 Mar 26 16:17	7° $\mathring{Z}$ 06'18		evening set	16485 Dec 20 11:10	1° $\mathring{\approx}$ 47'11	
opposition	16479 Jun 11 10:44	5° $\mathring{Z}$ 05'54	1°20'31				
min. Earth dist.	16479 Jun 11 11:20	5° $\mathring{Z}$ 05'51	18.57549 AU	conjunction	16486 Jan 05 17:29	2° $\mathring{\approx}$ 45'03	1°06'26
direct	16479 Aug 25 22:30	3° $\mathring{Z}$ 06'45		minimum elong	16486 Jan 05 17:29	2° $\mathring{\approx}$ 45'03	1°07'00
evening set	16479 Nov 25 01:13	6° $\mathring{Z}$ 12'47		max. Earth dist.	16486 Jan 05 13:00	2° $\mathring{\approx}$ 44'23	20.18805 AU
				morning rise	16486 Jan 22 01:32	3° $\mathring{\approx}$ 43'11	
conjunction	16479 Dec 11 03:54	7° $\mathring{Z}$ 09'02	1°12'45	retrograde	16486 Apr 26 05:58	6° $\mathring{\approx}$ 59'30	
minimum elong	16479 Dec 11 03:54	7° $\mathring{Z}$ 09'02	1°13'23	opposition	16486 Jul 11 06:29	4° $\mathring{\approx}$ 57'54	1°12'29
max. Earth dist.	16479 Dec 11 03:32	7° $\mathring{Z}$ 08'59	20.54729 AU	min. Earth dist.	16486 Jul 11 10:01	4° $\mathring{\approx}$ 57'32	18.15597 AU
morning rise	16479 Dec 27 08:28	8° $\mathring{Z}$ 05'35		direct	16486 Sep 24 09:19	2° $\mathring{\approx}$ 57'09	
retrograde	16480 Mar 30 06:28	11° $\mathring{Z}$ 17'09		evening set	16486 Dec 25 03:50	6° $\mathring{\approx}$ 09'21	
opposition	16480 Jun 14 22:03	9° $\mathring{Z}$ 16'35	1°20'41				
min. Earth dist.	16480 Jun 14 21:58	9° $\mathring{Z}$ 16'35	18.51944 AU	conjunction	16487 Jan 10 10:50	7° $\mathring{\approx}$ 07'31	1°03'59
direct	16480 Aug 29 09:09	7° $\mathring{Z}$ 17'12		minimum elong	16487 Jan 10 10:50	7° $\mathring{\approx}$ 07'31	1°04'31
evening set	16480 Nov 28 12:51	10° $\mathring{Z}$ 24'01		max. Earth dist.	16487 Jan 10 05:46	7° $\mathring{\approx}$ 06'46	20.12318 AU
				morning rise	16487 Jan 26 19:24	8° $\mathring{\approx}$ 05'56	

retrograde	16487 Apr 30 22:34	11° $\approx$ 23'00		opposition	16493 Aug 11 06:52	6° $\text{H}$ 15'20	0°43'37
opposition	16487 Jul 15 22:03	9° $\approx$ 21'11	1°09'35	min. Earth dist.	16493 Aug 11 13:07	6° $\text{H}$ 14'39	17.72115 AU
min. Earth dist.	16487 Jul 16 03:01	9° $\approx$ 20'40	18.09070 AU	direct	16493 Oct 25 03:45	4° $\text{H}$ 12'21	
direct	16487 Sep 28 22:58	7° $\approx$ 20'07		evening set	16494 Jan 25 22:24	7° $\text{H}$ 31'08	
evening set	16487 Dec 29 21:17	10° $\approx$ 33'15					
conjunction	16488 Jan 15 04:55	11° $\approx$ 31'42	1°01'09	conjunction	16494 Feb 11 09:22	8° $\text{H}$ 31'14	0°36'43
minimum elong	16488 Jan 15 04:56	11° $\approx$ 31'42	1°01'41	minimum elong	16494 Feb 11 09:23	8° $\text{H}$ 31'14	0°36'59
max. Earth dist.	16488 Jan 14 22:51	11° $\approx$ 30'47	20.05786 AU	max. Earth dist.	16494 Feb 11 01:22	8° $\text{H}$ 30'00	19.69473 AU
morning rise	16488 Jan 31 14:10	12° $\approx$ 30'23		morning rise	16494 Feb 27 21:19	9° $\text{H}$ 31'29	
	16488 Mar 22 04:31	15° $\approx$		retrograde	16494 Jun 01 23:08	12° $\text{H}$ 53'17	
retrograde	16488 May 04 18:14	15° $\approx$ 48'12		opposition	16494 Aug 16 02:28	10° $\text{H}$ 50'03	0°38'03
	16488 Jun 18 07:29	15° $\text{R}$		min. Earth dist.	16494 Aug 16 08:45	10° $\text{H}$ 49'22	17.66931 AU
opposition	16488 Jul 19 14:04	13° $\approx$ 46'08	1°06'15	direct	16494 Oct 29 22:48	8° $\text{H}$ 46'49	
min. Earth dist.	16488 Jul 19 18:54	13° $\approx$ 45'37	18.02530 AU	evening set	16495 Jan 30 21:21	12° $\text{H}$ 06'32	
direct	16488 Oct 02 15:14	11° $\approx$ 44'43		conjunction	16495 Feb 16 08:57	13° $\text{H}$ 06'53	0°31'35
evening set	16489 Jan 02 15:31	14° $\approx$ 58'49		minimum elong	16495 Feb 16 08:57	13° $\text{H}$ 06'53	0°31'49
	16489 Jan 02 23:36	15° $\approx$		max. Earth dist.	16495 Feb 16 02:02	13° $\text{H}$ 05'49	19.64477 AU
conjunction	16489 Jan 18 23:50	15° $\approx$ 57'33	0°57'57	morning rise	16495 Mar 04 21:01	14° $\text{H}$ 07'21	
minimum elong	16489 Jan 18 23:50	15° $\approx$ 57'33	0°58'26	retrograde	16495 Jun 06 22:22	17° $\text{H}$ 29'43	
max. Earth dist.	16489 Jan 18 17:43	15° $\approx$ 56'37	19.99257 AU	opposition	16495 Aug 20 22:32	15° $\text{H}$ 26'24	0°32'13
morning rise	16489 Feb 04 09:29	16° $\approx$ 56'31		min. Earth dist.	16495 Aug 21 04:43	15° $\text{H}$ 25'44	17.62118 AU
retrograde	16489 May 09 12:26	20° $\approx$ 15'02		direct	16495 Nov 03 18:49	13° $\text{H}$ 22'59	
opposition	16489 Jul 24 06:41	18° $\approx$ 12'44	1°02'29	evening set	16496 Feb 04 21:17	16° $\text{H}$ 43'37	
min. Earth dist.	16489 Jul 24 12:34	18° $\approx$ 12'07	17.96037 AU	conjunction	16496 Feb 21 09:06	17° $\text{H}$ 44'11	0°26'13
direct	16489 Oct 07 06:26	16° $\approx$ 10'59		minimum elong	16496 Feb 21 09:06	17° $\text{H}$ 44'11	0°26'25
evening set	16490 Jan 07 10:34	19° $\approx$ 26'01		max. Earth dist.	16496 Feb 21 00:54	17° $\text{H}$ 42'55	19.59860 AU
conjunction	16490 Jan 23 19:24	20° $\approx$ 25'02	0°54'22	morning rise	16496 Mar 08 21:35	18° $\text{H}$ 44'52	
minimum elong	16490 Jan 23 19:25	20° $\approx$ 25'02	0°54'49	retrograde	16496 Jun 10 21:05	22° $\text{H}$ 07'46	
max. Earth dist.	16490 Jan 23 12:17	20° $\approx$ 23'57	19.92838 AU	opposition	16496 Aug 24 19:20	20° $\text{H}$ 04'24	0°26'08
morning rise	16490 Feb 09 05:41	21° $\approx$ 24'16		min. Earth dist.	16496 Aug 25 02:01	20° $\text{H}$ 03'41	17.57685 AU
retrograde	16490 May 14 09:04	24° $\approx$ 43'30		direct	16496 Nov 07 15:33	18° $\text{H}$ 00'48	
opposition	16490 Jul 28 23:51	22° $\approx$ 40'58	0°58'20	evening set	16497 Feb 08 21:47	21° $\text{H}$ 22'19	
min. Earth dist.	16490 Jul 29 05:30	22° $\approx$ 40'22	17.89696 AU	conjunction	16497 Feb 25 10:03	22° $\text{H}$ 23'05	0°20'40
direct	16490 Oct 11 23:10	20° $\approx$ 38'52		minimum elong	16497 Feb 25 10:03	22° $\text{H}$ 23'06	0°20'48
evening set	16491 Jan 12 06:14	23° $\approx$ 54'51		max. Earth dist.	16497 Feb 25 02:48	22° $\text{H}$ 21'59	19.55596 AU
conjunction	16491 Jan 28 15:46	24° $\approx$ 54'09	0°50'26	morning rise	16497 Mar 13 22:30	23° $\text{H}$ 23'57	
minimum elong	16491 Jan 28 15:47	24° $\approx$ 54'09	0°50'51	retrograde	16497 Jun 15 21:13	26° $\text{H}$ 47'21	
max. Earth dist.	16491 Jan 28 09:10	24° $\approx$ 53'09	19.86583 AU	opposition	16497 Aug 29 16:39	24° $\text{H}$ 43'57	0°19'51
morning rise	16491 Feb 14 02:25	25° $\approx$ 53'39		min. Earth dist.	16497 Aug 29 23:03	24° $\text{H}$ 43'16	17.53584 AU
retrograde	16491 May 19 05:27	29° $\approx$ 13'33		direct	16497 Nov 12 13:37	22° $\text{H}$ 40'11	
opposition	16491 Aug 02 17:40	27° $\approx$ 10'48	0°53'47	evening set	16498 Feb 13 23:12	26° $\text{H}$ 02'31	
min. Earth dist.	16491 Aug 02 23:54	27° $\approx$ 10'08	17.83547 AU	conjunction	16498 Mar 02 11:34	27° $\text{H}$ 03'29	0°14'57
direct	16491 Oct 16 15:53	25° $\approx$ 08'23		minimum elong	16498 Mar 02 11:34	27° $\text{H}$ 03'29	0°15'03
evening set	16492 Jan 17 02:56	28° $\approx$ 25'19		behind sun begin	16498 Mar 02 09:22	27° $\text{H}$ 03'09	
conjunction	16492 Feb 02 12:55	29° $\approx$ 24'53	0°46'10	behind sun end	16498 Mar 02 13:46	27° $\text{H}$ 03'49	
minimum elong	16492 Feb 02 12:56	29° $\approx$ 24'53	0°46'31	max. Earth dist.	16498 Mar 02 02:56	27° $\text{H}$ 02'10	19.51661 AU
max. Earth dist.	16492 Feb 02 05:10	29° $\approx$ 23'42	19.80570 AU	morning rise	16498 Mar 19 00:15	28° $\text{H}$ 04'31	
	16492 Feb 12 03:48	0° $\text{H}$			16498 Apr 23 03:31	0° $\text{Y}$	
morning rise	16492 Feb 19 00:09	0° $\text{H}$ 24'39		retrograde	16498 Jun 20 20:29	1° $\text{Y}$ 28'21	
retrograde	16492 May 23 03:00	3° $\text{H}$ 45'12			16498 Aug 20 22:29	30° $\text{R}$ $\text{H}$	
opposition	16492 Aug 06 11:53	1° $\text{H}$ 42'16	0°48'52	opposition	16498 Sep 03 14:36	29° $\text{H}$ 24'54	0°13'24
min. Earth dist.	16492 Aug 06 18:02	1° $\text{H}$ 41'36	17.77676 AU	min. Earth dist.	16498 Sep 03 21:51	29° $\text{H}$ 24'07	17.49820 AU
	16492 Sep 22 10:42	30° $\text{R}$		direct	16498 Nov 17 11:39	27° $\text{H}$ 20'57	
direct	16492 Oct 20 09:25	29° $\approx$ 39'31		evening set	16499 Feb 06 14:44	0° $\text{Y}$	
	16492 Nov 17 00:27	0° $\text{H}$			16499 Feb 19 01:02	0° $\text{Y}$ 44'02	
evening set	16493 Jan 21 00:17	2° $\text{H}$ 57'24		conjunction	16499 Mar 07 13:46	1° $\text{Y}$ 45'11	0°09'08
conjunction	16493 Feb 06 10:56	3° $\text{H}$ 57'14	0°41'35	minimum elong	16499 Mar 07 13:47	1° $\text{Y}$ 45'11	0°09'10
minimum elong	16493 Feb 06 10:56	3° $\text{H}$ 57'15	0°41'55	behind sun begin	16499 Mar 07 08:06	1° $\text{Y}$ 44'19	
max. Earth dist.	16493 Feb 06 04:02	3° $\text{H}$ 56'11	19.74845 AU	behind sun end	16499 Mar 07 19:28	1° $\text{Y}$ 46'03	
morning rise	16493 Feb 22 22:22	4° $\text{H}$ 57'15		max. Earth dist.	16499 Mar 07 05:48	1° $\text{Y}$ 43'58	19.48053 AU
retrograde	16493 May 28 01:03	8° $\text{H}$ 18'26		morning rise	16499 Mar 24 02:24	2° $\text{Y}$ 46'21	
				retrograde	16499 Jun 25 21:37	6° $\text{Y}$ 10'33	



opposition	16499 Sep 08 12:57	4°♊07'03	0°06'50	max. Earth dist.	16505 Apr 06 00:16	0°♏10'40	19.34638 AU
min. Earth dist.	16499 Sep 08 19:40	4°♊06'19	17.46363 AU	morning rise	16505 Apr 22 19:58	1°♏13'28	
direct	16499 Nov 22 11:37	2°♊02'54		retrograde	16505 Jul 25 02:49	4°♏38'19	
evening set	16500 Feb 24 03:38	5°♊26'42		opposition	16505 Oct 07 09:30	2°♏34'38	-0°32'24
				min. Earth dist.	16505 Oct 07 15:30	2°♏33'59	17.34350 AU
conjunction	16500 Mar 12 16:21	6°♊27'59	0°03'13	direct	16505 Dec 21 16:11	0°♏29'32	
minimum elong	16500 Mar 12 16:21	6°♊27'59	0°03'12	evening set	16506 Mar 25 23:50	3°♏55'58	
behind sun begin	16500 Mar 12 09:39	6°♊26'58					
behind sun end	16500 Mar 12 23:04	6°♊29'00		conjunction	16506 Apr 11 11:56	4°♏57'35	-0°31'47
max. Earth dist.	16500 Mar 12 07:14	6°♊26'35	19.44760 AU	minimum elong	16506 Apr 11 11:56	4°♏57'35	0°32'05
morning rise	16500 Mar 29 05:00	7°♊29'16		max. Earth dist.	16506 Apr 11 04:50	4°♏56'28	19.34189 AU
retrograde	16500 Jun 30 21:01	10°♊53'45		morning rise	16506 Apr 27 22:49	5°♏59'04	
opposition	16500 Sep 13 11:44	8°♊50'11	0°00'11	retrograde	16506 Jul 30 02:16	9°♏23'47	
min. Earth dist.	16500 Sep 13 19:29	8°♊49'21	17.43253 AU	opposition	16506 Oct 12 09:32	7°♏20'09	-0°38'27
desc. node	16500 Sep 23 11:01	8°♊24'20		min. Earth dist.	16506 Oct 12 15:54	7°♏19'27	17.34219 AU
direct	16500 Nov 27 10:50	6°♊45'51		direct	16506 Dec 26 15:57	5°♏14'59	
evening set	16501 Mar 01 06:27	10°♊10'17		evening set	16507 Mar 31 03:32	8°♏41'37	
conjunction	16501 Mar 17 19:19	11°♊11'41	-0°02'54	conjunction	16507 Apr 16 15:11	9°♏43'11	-0°37'05
minimum elong	16501 Mar 17 19:20	11°♊11'41	0°02'57	minimum elong	16507 Apr 16 15:10	9°♏43'11	0°37'27
behind sun begin	16501 Mar 17 12:37	11°♊10'40		max. Earth dist.	16507 Apr 16 07:54	9°♏42'03	19.34377 AU
behind sun end	16501 Mar 18 02:03	11°♊12'42		morning rise	16507 May 03 01:43	10°♏44'37	
max. Earth dist.	16501 Mar 17 10:43	11°♊10'22	19.41839 AU	retrograde	16507 Aug 04 04:16	14°♏09'09	
morning rise	16501 Apr 03 07:49	12°♊13'04		opposition	16507 Oct 17 09:36	12°♏05'36	-0°44'13
retrograde	16501 Jul 05 22:43	15°♊37'45		min. Earth dist.	16507 Oct 17 14:34	12°♏05'04	17.34724 AU
opposition	16501 Sep 18 10:49	13°♊34'09	-0°06'29	direct	16507 Dec 31 18:52	10°♏00'27	
min. Earth dist.	16501 Sep 18 17:39	13°♊33'24	17.40523 AU	evening set	16508 Apr 04 06:59	13°♏27'10	
direct	16501 Dec 02 12:07	11°♊29'38					
evening set	16502 Mar 06 09:33	14°♊54'36		conjunction	16508 Apr 20 18:20	14°♏28'41	-0°42'08
				minimum elong	16508 Apr 20 18:19	14°♏28'41	0°42'31
conjunction	16502 Mar 22 22:22	15°♊56'06	-0°08'50	max. Earth dist.	16508 Apr 20 12:43	14°♏27'49	19.35186 AU
minimum elong	16502 Mar 22 22:22	15°♊56'06	0°08'58		16508 Apr 29 02:11	15°♏	
behind sun begin	16502 Mar 22 16:37	15°♊55'14		morning rise	16508 May 07 04:08	15°♏30'01	
behind sun end	16502 Mar 23 04:07	15°♊56'59		retrograde	16508 Aug 08 03:04	18°♏54'20	
max. Earth dist.	16502 Mar 22 13:22	15°♊54'43	19.39314 AU	opposition	16508 Oct 21 09:46	16°♏50'56	-0°49'41
morning rise	16502 Apr 08 10:43	16°♊57'34		min. Earth dist.	16508 Oct 21 14:47	16°♏50'24	17.35843 AU
retrograde	16502 Jul 10 22:18	20°♊22'24			16508 Dec 12 18:04	15°♏♏	
opposition	16502 Sep 23 10:19	18°♊18'45	-0°13'07	direct	16509 Jan 04 19:31	14°♏45'51	
min. Earth dist.	16502 Sep 23 18:07	18°♊17'54	17.38225 AU		16509 Jan 27 18:56	15°♏	
direct	16502 Dec 07 11:53	16°♊14'03		evening set	16509 Apr 09 10:25	18°♏12'36	
evening set	16503 Mar 11 13:00	19°♊39'30					
				conjunction	16509 Apr 25 21:08	19°♏14'01	-0°46'52
conjunction	16503 Mar 28 01:47	20°♊41'04	-0°14'45	minimum elong	16509 Apr 25 21:07	19°♏14'01	0°47'18
minimum elong	16503 Mar 28 01:46	20°♊41'04	0°14'54	max. Earth dist.	16509 Apr 25 15:10	19°♏13'05	19.36613 AU
behind sun begin	16503 Mar 27 23:23	20°♊40'42		morning rise	16509 May 12 06:32	20°♏15'14	
behind sun end	16503 Mar 28 04:10	20°♊41'26		retrograde	16509 Aug 13 03:59	23°♏39'17	
max. Earth dist.	16503 Mar 27 17:03	20°♊39'43	19.37250 AU	opposition	16509 Oct 26 09:51	21°♏36'03	-0°54'48
morning rise	16503 Apr 13 13:54	21°♊42'34		min. Earth dist.	16509 Oct 26 13:49	21°♏35'37	17.37561 AU
retrograde	16503 Jul 16 00:39	25°♊07'29		direct	16510 Jan 09 22:43	19°♏31'03	
opposition	16503 Sep 28 09:43	23°♊03'48	-0°19'42	evening set	16510 Apr 14 13:26	22°♏57'44	
min. Earth dist.	16503 Sep 28 16:26	23°♊03'04	17.36397 AU				
direct	16503 Dec 12 14:05	20°♊58'56		conjunction	16510 Apr 30 23:49	23°♏59'03	-0°51'17
evening set	16504 Mar 15 16:39	24°♊24'48		minimum elong	16510 Apr 30 23:49	23°♏59'03	0°51'46
				max. Earth dist.	16510 Apr 30 19:35	23°♏58'23	19.38590 AU
conjunction	16504 Apr 01 05:16	25°♊26'25	-0°20'35	morning rise	16510 May 17 08:27	25°♏00'08	
minimum elong	16504 Apr 01 05:16	25°♊26'25	0°20'48	retrograde	16510 Aug 18 02:45	28°♏23'49	
max. Earth dist.	16504 Mar 31 20:52	25°♊25'06	19.35667 AU	opposition	16510 Oct 31 09:58	26°♏20'47	-0°59'32
morning rise	16504 Apr 17 17:00	26°♊27'56		min. Earth dist.	16510 Oct 31 13:53	26°♏20'22	17.39785 AU
retrograde	16504 Jul 20 00:13	29°♊52'50		direct	16511 Jan 15 00:39	24°♏15'54	
opposition	16504 Oct 02 09:38	27°♊49'09	-0°26'08	evening set	16511 Apr 19 16:31	27°♏42'27	
min. Earth dist.	16504 Oct 02 17:03	27°♊48'20	17.35088 AU				
direct	16504 Dec 16 13:42	25°♊44'08		conjunction	16511 May 06 02:09	28°♏43'36	-0°55'21
evening set	16505 Mar 20 20:12	29°♊10'20		minimum elong	16511 May 06 02:08	28°♏43'36	0°55'51
	16505 Apr 03 04:18	0°♏		max. Earth dist.	16511 May 05 21:13	28°♏42'50	19.41049 AU
				morning rise	16511 May 22 10:16	29°♏44'32	
conjunction	16505 Apr 06 08:31	0°♏11'57	-0°26'16		16511 May 26 16:12	0°♏	
minimum elong	16505 Apr 06 08:31	0°♏11'57	0°26'32	retrograde	16511 Aug 23 02:15	3°♏07'48	

opposition	16511 Nov 05 09:52	1°II04'58 -1°03'51			16518 May 15 18:05	0°☿
min. Earth dist.	16511 Nov 05 13:15	1°II04'36 17.42475 AU	evening set		16518 May 22 21:22	0°☿25'27
	16511 Dec 01 17:28	30°☿8				
direct	16512 Jan 20 03:18	29°☿00'11	conjunction		16518 Jun 08 02:36	1°☿25'06 -1°12'04
	16512 Mar 08 02:50	0°II	minimum elong		16518 Jun 08 02:36	1°☿25'06 1°12'40
evening set	16512 Apr 23 19:03	2°II26'28	max. Earth dist.		16518 Jun 08 01:59	1°☿25'00 19.68579 AU
			morning rise		16518 Jun 24 05:53	2°☿24'28
conjunction	16512 May 10 04:14	3°II27'28 -0°59'02	retrograde		16518 Sep 24 08:42	5°☿43'08
minimum elong	16512 May 10 04:13	3°II27'28 0°59'34	opposition		16518 Dec 08 01:02	3°☿41'28 -1°20'38
max. Earth dist.	16512 May 10 00:52	3°II26'56 19.43940 AU	min. Earth dist.		16518 Dec 08 00:36	3°☿41'31 17.71191 AU
morning rise	16512 May 26 11:30	4°II28'13	direct		16519 Feb 22 09:13	1°☿37'33
retrograde	16512 Aug 27 01:21	7°II50'59	evening set		16519 May 27 18:59	4°☿59'39
opposition	16512 Nov 09 09:47	5°II48'21 -1°07'43				
min. Earth dist.	16512 Nov 09 12:45	5°II48'02 17.45560 AU	conjunction		16519 Jun 12 23:31	5°☿59'02 -1°12'37
direct	16513 Jan 24 05:26	3°II43'41	minimum elong		16519 Jun 12 23:31	5°☿59'02 1°13'15
evening set	16513 Apr 28 21:06	7°II09'37	max. Earth dist.		16519 Jun 12 23:45	5°☿59'04 19.73819 AU
			morning rise		16519 Jun 29 02:06	6°☿58'09
conjunction	16513 May 15 05:29	8°II10'25 -1°02'19	retrograde		16519 Sep 29 02:44	10°☿16'02
minimum elong	16513 May 15 05:28	8°II10'25 1°02'51	opposition		16519 Dec 12 21:55	8°☿14'32 -1°20'59
max. Earth dist.	16513 May 15 01:33	8°II09'48 19.47214 AU	min. Earth dist.		16519 Dec 12 21:36	8°☿14'34 17.76614 AU
morning rise	16513 May 31 12:12	9°II10'59	direct		16520 Feb 27 07:04	6°☿10'48
retrograde	16513 Aug 31 23:47	12°II33'12	evening set		16520 May 31 15:41	9°☿32'05
opposition	16513 Nov 14 09:25	10°II30'44 -1°11'07				
min. Earth dist.	16513 Nov 14 12:11	10°II30'26 17.49025 AU	conjunction		16520 Jun 16 19:34	10°☿31'12 -1°12'43
direct	16514 Jan 29 06:44	8°II26'10	minimum elong		16520 Jun 16 19:34	10°☿31'12 1°13'20
evening set	16514 May 03 22:35	11°II51'40	max. Earth dist.		16520 Jun 16 20:33	10°☿31'21 19.79422 AU
			morning rise		16520 Jul 02 21:35	11°☿30'03
conjunction	16514 May 20 06:29	12°II52'16 -1°05'10	retrograde		16520 Oct 02 21:39	14°☿47'08
minimum elong	16514 May 20 06:29	12°II52'16 1°05'44	opposition		16520 Dec 16 18:08	12°☿45'51 -1°20'49
max. Earth dist.	16514 May 20 03:53	12°II51'51 19.50846 AU	min. Earth dist.		16520 Dec 16 15:53	12°☿46'06 17.82382 AU
morning rise	16514 Jun 05 12:23	13°II52'37	direct		16521 Mar 03 05:50	10°☿42'23
retrograde	16514 Sep 05 22:33	17°II14'12	evening set		16521 Jun 05 11:23	14°☿02'48
opposition	16514 Nov 19 08:32	15°II11'55 -1°14'03				
min. Earth dist.	16514 Nov 19 10:36	15°II11'42 17.52815 AU	conjunction		16521 Jun 21 14:42	15°☿01'39 -1°12'22
direct	16515 Feb 03 08:29	13°II07'28	minimum elong		16521 Jun 21 14:42	15°☿01'39 1°12'59
evening set	16515 May 08 23:36	16°II32'26	max. Earth dist.		16521 Jun 21 16:58	15°☿02'00 19.85350 AU
			morning rise		16521 Jul 07 16:05	16°☿00'14
conjunction	16515 May 25 06:43	17°II32'49 -1°07'34	retrograde		16521 Oct 07 14:21	19°☿16'32
minimum elong	16515 May 25 06:42	17°II32'49 1°08'10	opposition		16521 Dec 21 13:55	17°☿15'31 -1°20'09
max. Earth dist.	16515 May 25 03:45	17°II32'21 19.54798 AU	min. Earth dist.		16521 Dec 21 11:52	17°☿15'44 17.88460 AU
morning rise	16515 Jun 10 12:01	18°II32'56	direct		16522 Mar 08 02:37	15°☿12'20
retrograde	16515 Sep 10 19:35	21°II53'52	evening set		16522 Jun 10 06:24	18°☿31'53
opposition	16515 Nov 24 07:28	19°II51'44 -1°16'28				
min. Earth dist.	16515 Nov 24 09:38	19°II51'30 17.56936 AU	conjunction		16522 Jun 26 09:05	19°☿30'28 -1°11'35
direct	16516 Feb 08 08:43	17°II47'23	minimum elong		16522 Jun 26 09:06	19°☿30'28 1°12'11
evening set	16516 May 12 23:36	21°II11'45	max. Earth dist.		16522 Jun 26 11:38	19°☿30'51 19.91568 AU
			morning rise		16522 Jul 12 10:01	20°☿28'46
conjunction	16516 May 29 06:09	22°II11'54 -1°09'32	retrograde		16522 Oct 12 07:51	23°☿44'18
minimum elong	16516 May 29 06:09	22°II11'53 1°10'08	opposition		16522 Dec 26 08:50	21°☿43'33 -1°19'00
max. Earth dist.	16516 May 29 04:22	22°II11'37 19.59075 AU	min. Earth dist.		16522 Dec 26 05:05	21°☿43'57 17.94780 AU
morning rise	16516 Jun 14 10:41	23°II11'47	direct		16523 Mar 12 23:59	19°☿40'42
retrograde	16516 Sep 14 17:08	26°II31'59	evening set		16523 Jun 15 00:33	22°☿59'22
opposition	16516 Nov 28 05:51	24°II30'01 -1°18'23				
min. Earth dist.	16516 Nov 28 06:48	24°II29'54 17.61361 AU	conjunction		16523 Jul 01 02:44	23°☿57'40 -1°10'21
direct	16517 Feb 12 09:52	22°II25'48	minimum elong		16523 Jul 01 02:44	23°☿57'40 1°10'56
evening set	16517 May 17 22:58	25°II49'27	max. Earth dist.		16523 Jul 01 06:37	23°☿58'16 19.97978 AU
			morning rise		16523 Jul 17 03:02	24°☿55'42
conjunction	16517 Jun 03 04:47	26°II49'22 -1°11'02	retrograde		16523 Oct 16 23:16	28°☿10'29
minimum elong	16517 Jun 03 04:46	26°II49'22 1°11'39	opposition		16523 Dec 31 03:33	26°☿10'01 -1°17'23
max. Earth dist.	16517 Jun 03 03:13	26°II49'07 19.63659 AU	min. Earth dist.		16523 Dec 31 00:12	26°☿10'22 18.01263 AU
morning rise	16517 Jun 19 08:41	27°II49'00	direct		16524 Mar 16 19:36	24°☿07'30
	16517 Jul 30 12:02	0°☿	evening set		16524 Jun 18 17:48	27°☿25'15
retrograde	16517 Sep 19 12:37	1°☿08'27				
	16517 Nov 11 14:00	30°☿II	conjunction		16524 Jul 04 19:19	28°☿23'16 -1°08'43
opposition	16517 Dec 03 03:44	29°II06'37 -1°19'46	minimum elong		16524 Jul 04 19:20	28°☿23'16 1°09'18
min. Earth dist.	16517 Dec 03 04:54	29°II06'30 17.66116 AU	max. Earth dist.		16524 Jul 04 23:07	28°☿23'51 20.04523 AU
direct	16518 Feb 17 09:00	27°II02'32	morning rise		16524 Jul 20 19:16	29°☿21'03

	16524 Aug 01 00:38	0°♈	opposition	16531 Jan 30 21:17	26°♏28'13	-0°54'56
retrograde	16524 Oct 20 15:32	2°♏35'04	min. Earth dist.	16531 Jan 30 15:03	26°♏28'52	18.45505 AU
opposition	16525 Jan 03 21:32	0°♏34'52 -1°15'19	direct	16531 Apr 17 19:28	24°♏27'41	
min. Earth dist.	16525 Jan 03 16:41	0°♏35'22 18.07837 AU	evening set	16531 Jul 19 20:02	27°♏38'36	
	16525 Jan 18 00:29	30°♌♌				
direct	16525 Mar 21 15:49	28°♌32'42	conjunction	16531 Aug 04 18:43	28°♏34'50	-0°47'32
	16525 May 20 06:18	0°♏	minimum elong	16531 Aug 04 18:44	28°♏34'50	0°47'54
evening set	16525 Jun 23 10:15	1°♏49'30	max. Earth dist.	16531 Aug 05 01:40	28°♏35'52	20.48363 AU
			morning rise	16531 Aug 20 16:13	29°♏30'55	
conjunction	16525 Jul 09 11:22	2°♏47'15 -1°06'42		16531 Aug 29 05:03	0°♐	
minimum elong	16525 Jul 09 11:23	2°♏47'15 1°07'14	retrograde	16531 Nov 20 09:54	2°♐39'45	
max. Earth dist.	16525 Jul 09 16:29	2°♏48'01 20.11107 AU	opposition	16532 Feb 04 11:08	0°♐40'49	-0°50'26
morning rise	16525 Jul 25 10:45	3°♏44'46	min. Earth dist.	16532 Feb 04 05:01	0°♐41'26	18.51195 AU
retrograde	16525 Oct 25 05:21	6°♏58'01		16532 Feb 21 10:17	30°♌♏	
opposition	16526 Jan 08 14:57	4°♏58'05 -1°12'50	direct	16532 Apr 21 10:17	28°♏40'29	
min. Earth dist.	16526 Jan 08 10:42	4°♏58'32 18.14417 AU		16532 Jun 17 16:51	0°♐	
direct	16526 Mar 26 09:41	2°♏56'14	evening set	16532 Jul 23 06:42	1°♐50'26	
evening set	16526 Jun 28 02:02	6°♏12'06				
			conjunction	16532 Aug 08 04:56	2°♐46'26	-0°43'23
conjunction	16526 Jul 14 02:33	7°♏09'34 -1°04'18	minimum elong	16532 Aug 08 04:56	2°♐46'26	0°43'42
minimum elong	16526 Jul 14 02:34	7°♏09'34 1°04'50	max. Earth dist.	16532 Aug 08 11:17	2°♐47'22	20.53989 AU
max. Earth dist.	16526 Jul 14 07:05	7°♏10'15 20.17673 AU	morning rise	16532 Aug 24 02:26	3°♐42'19	
morning rise	16526 Jul 30 01:40	8°♏06'50	retrograde	16532 Nov 23 21:11	6°♐50'30	
retrograde	16526 Oct 29 20:44	11°♏19'20	opposition	16533 Feb 08 00:16	4°♐51'39	-0°45'42
opposition	16527 Jan 13 07:49	9°♏19'38 -1°09'57	min. Earth dist.	16533 Feb 07 17:13	4°♐52'22	18.56759 AU
min. Earth dist.	16527 Jan 13 02:22	9°♏20'12 18.20943 AU	direct	16533 Apr 25 23:09	2°♐51'33	
direct	16527 Mar 31 04:12	7°♏18'05	evening set	16533 Jul 27 16:38	6°♐00'35	
evening set	16527 Jul 02 16:51	10°♏32'59				
			conjunction	16533 Aug 12 14:45	6°♐56'22	-0°39'01
conjunction	16527 Jul 18 17:00	11°♏30'12 -1°01'34	minimum elong	16533 Aug 12 14:46	6°♐56'22	0°39'18
minimum elong	16527 Jul 18 17:01	11°♏30'12 1°02'04	max. Earth dist.	16533 Aug 12 22:42	6°♐57'32	20.59484 AU
max. Earth dist.	16527 Jul 18 22:49	11°♏31'04 20.24140 AU	morning rise	16533 Aug 28 11:55	7°♐52'03	
morning rise	16527 Aug 03 15:34	12°♏27'12	retrograde	16533 Nov 28 06:29	10°♐59'37	
	16527 Sep 25 15:23	15°♏	opposition	16534 Feb 12 12:44	9°♐00'54	-0°40'44
retrograde	16527 Nov 03 09:17	15°♏38'56	min. Earth dist.	16534 Feb 12 05:34	9°♐01'38	18.62183 AU
	16527 Dec 13 08:42	15°♌♏	direct	16534 Apr 30 12:32	7°♐01'02	
opposition	16528 Jan 18 00:14	13°♏39'28 -1°06'42	evening set	16534 Aug 01 02:06	10°♐09'13	
min. Earth dist.	16528 Jan 17 19:21	13°♏39'59 18.27343 AU				
direct	16528 Apr 03 20:47	11°♏38'13	conjunction	16534 Aug 16 23:48	11°♐04'48	-0°34'28
evening set	16528 Jul 06 06:59	14°♏52'07	minimum elong	16534 Aug 16 23:48	11°♐04'48	0°34'44
	16528 Jul 08 12:52	15°♏	max. Earth dist.	16534 Aug 17 07:03	11°♐05'51	20.64847 AU
			morning rise	16534 Sep 01 21:00	12°♐00'18	
conjunction	16528 Jul 22 06:34	15°♏49'04 -0°58'29	retrograde	16534 Dec 02 17:08	15°♐07'20	
minimum elong	16528 Jul 22 06:35	15°♏49'04 0°58'57	opposition	16535 Feb 17 00:48	13°♐08'44	-0°35'36
max. Earth dist.	16528 Jul 22 11:36	15°♏49'49 20.30475 AU	min. Earth dist.	16535 Feb 16 16:53	13°♐09'32	18.67475 AU
morning rise	16528 Aug 07 04:58	16°♏45'51	direct	16535 May 05 00:04	11°♐09'08	
retrograde	16528 Nov 06 23:18	19°♏56'50	evening set	16535 Aug 05 10:39	14°♐16'30	
opposition	16529 Jan 21 15:52	17°♏57'32 -1°03'05				
min. Earth dist.	16529 Jan 21 10:00	17°♏58'09 18.33593 AU	conjunction	16535 Aug 21 08:18	15°♐11'54	-0°29'47
direct	16529 Apr 08 13:16	15°♏56'33	minimum elong	16535 Aug 21 08:18	15°♐11'54	0°29'59
evening set	16529 Jul 10 20:05	19°♏09'27	max. Earth dist.	16535 Aug 21 17:06	15°♐13'11	20.70050 AU
			morning rise	16535 Sep 06 05:14	16°♐07'14	
conjunction	16529 Jul 26 19:28	20°♏06'10 -0°55'07	retrograde	16535 Dec 07 01:48	19°♐13'47	
minimum elong	16529 Jul 26 19:29	20°♏06'10 0°55'34	opposition	16536 Feb 21 12:26	17°♐15'20	-0°30'19
max. Earth dist.	16529 Jul 27 01:46	20°♏07'06 20.36629 AU	min. Earth dist.	16536 Feb 21 04:19	17°♐16'09	18.72571 AU
morning rise	16529 Aug 11 17:27	21°♏02'42	direct	16536 May 08 11:51	15°♐16'02	
retrograde	16529 Nov 11 11:00	24°♏12'57	evening set	16536 Aug 08 18:56	18°♐22'37	
opposition	16530 Jan 26 06:59	22°♏13'48 -0°59'10				
min. Earth dist.	16530 Jan 26 01:36	22°♏14'21 18.39641 AU	conjunction	16536 Aug 24 16:13	19°♐17'51	-0°24'57
direct	16530 Apr 13 04:53	20°♏13'03	minimum elong	16536 Aug 24 16:14	19°♐17'51	0°25'08
evening set	16530 Jul 15 08:34	23°♏24'58	max. Earth dist.	16536 Aug 25 00:14	19°♐19'00	20.75044 AU
			morning rise	16536 Sep 09 13:18	20°♐13'01	
conjunction	16530 Jul 31 07:26	24°♏21'25 -0°51'27	retrograde	16536 Dec 10 11:53	23°♐19'09	
minimum elong	16530 Jul 31 07:26	24°♏21'25 0°51'51	opposition	16537 Feb 24 23:28	21°♐20'51	-0°24'54
max. Earth dist.	16530 Jul 31 12:52	24°♏22'13 20.42588 AU	min. Earth dist.	16537 Feb 24 15:01	21°♐21'42	18.77448 AU
morning rise	16530 Aug 16 05:19	25°♏17'44	direct	16537 May 12 22:06	19°♐21'50	
retrograde	16530 Nov 15 23:21	28°♏27'15	evening set	16537 Aug 13 02:34	22°♐27'43	

conjunction	16537 Aug 28 23:54	23° <u>17</u> 22'47	-0°20'02	morning rise	16542 Oct 04 06:04	14° <u>0</u> 30'13	
minimum elong	16537 Aug 28 23:54	23° <u>17</u> 22'47	0°20'09	retrograde	16543 Jan 04 13:21	17° <u>0</u> 34'46	
max. Earth dist.	16537 Aug 29 09:10	23° <u>17</u> 24'07	20.79777 AU	opposition	16543 Mar 22 11:06	15° <u>0</u> 36'59	0°08'47
morning rise	16537 Sep 13 20:47	24° <u>17</u> 17'49		min. Earth dist.	16543 Mar 22 03:48	15° <u>0</u> 37'43	18.98600 AU
retrograde	16537 Dec 14 20:06	27° <u>17</u> 23'34		direct	16543 Jun 07 05:48	13° <u>0</u> 39'15	
opposition	16538 Mar 01 10:12	25° <u>17</u> 25'25	-0°19'23	evening set	16543 Sep 06 17:42	16° <u>0</u> 41'49	
min. Earth dist.	16538 Mar 01 01:43	25° <u>17</u> 26'16	18.82015 AU				
direct	16538 May 17 08:31	23° <u>17</u> 26'42		conjunction	16543 Sep 22 14:36	17° <u>0</u> 36'13	0°10'29
evening set	16538 Aug 17 09:58	26° <u>17</u> 31'54		minimum elong	16543 Sep 22 14:36	17° <u>0</u> 36'13	0°10'37
				behind sun begin	16543 Sep 22 09:28	17° <u>0</u> 35'30	
conjunction	16538 Sep 02 06:58	27° <u>17</u> 26'49	-0°15'01	behind sun end	16543 Sep 22 19:43	17° <u>0</u> 36'56	
minimum elong	16538 Sep 02 06:58	27° <u>17</u> 26'49	0°15'07	max. Earth dist.	16543 Sep 22 22:40	17° <u>0</u> 37'22	20.99571 AU
behind sun begin	16538 Sep 02 04:35	27° <u>17</u> 26'29		morning rise	16543 Oct 08 11:50	18° <u>0</u> 30'42	
behind sun end	16538 Sep 02 09:21	27° <u>17</u> 27'09		retrograde	16544 Jan 08 21:13	21° <u>0</u> 35'06	
max. Earth dist.	16538 Sep 02 15:12	27° <u>17</u> 28'00	20.84179 AU	opposition	16544 Mar 25 20:00	19° <u>0</u> 37'17	0°14'21
morning rise	16538 Sep 18 03:59	28° <u>17</u> 21'44		min. Earth dist.	16544 Mar 25 12:38	19° <u>0</u> 38'02	19.00421 AU
	16538 Oct 19 19:37	0° <u>0</u>		direct	16544 Jun 10 15:00	17° <u>0</u> 39'38	
retrograde	16538 Dec 19 05:28	1° <u>0</u> 27'10		evening set	16544 Sep 09 23:20	20° <u>0</u> 41'47	
	16539 Feb 20 22:20	30° <u>0</u> 17					
opposition	16539 Mar 05 20:37	29° <u>0</u> 29'09	-0°13'48	conjunction	16544 Sep 25 20:05	21° <u>0</u> 36'08	0°15'29
min. Earth dist.	16539 Mar 05 12:09	29° <u>0</u> 30'00	18.86243 AU	minimum elong	16544 Sep 25 20:05	21° <u>0</u> 36'08	0°15'40
direct	16539 May 21 18:01	27° <u>0</u> 30'41		behind sun begin	16544 Sep 25 18:28	21° <u>0</u> 35'54	
	16539 Aug 11 01:33	0° <u>0</u>		behind sun end	16544 Sep 25 21:43	21° <u>0</u> 36'21	
evening set	16539 Aug 21 16:53	0° <u>0</u> 35'17		max. Earth dist.	16544 Sep 26 02:53	21° <u>0</u> 37'05	21.01161 AU
				morning rise	16544 Oct 11 17:39	22° <u>0</u> 30'35	
conjunction	16539 Sep 06 13:56	1° <u>0</u> 30'05	-0°09'58	retrograde	16545 Jan 12 03:36	25° <u>0</u> 34'53	
minimum elong	16539 Sep 06 13:56	1° <u>0</u> 30'05	0°10'01	opposition	16545 Mar 30 04:29	23° <u>0</u> 36'59	0°19'51
behind sun begin	16539 Sep 06 08:36	1° <u>0</u> 29'19		min. Earth dist.	16545 Mar 29 21:46	23° <u>0</u> 37'39	19.01799 AU
behind sun end	16539 Sep 06 19:16	1° <u>0</u> 30'50		direct	16545 Jun 14 21:48	21° <u>0</u> 39'22	
max. Earth dist.	16539 Sep 06 23:12	1° <u>0</u> 31'24	20.88207 AU	evening set	16545 Sep 14 04:34	24° <u>0</u> 41'11	
morning rise	16539 Sep 22 10:48	2° <u>0</u> 24'52					
retrograde	16539 Dec 23 13:39	5° <u>0</u> 30'01		conjunction	16545 Sep 30 01:33	25° <u>0</u> 35'28	0°20'24
opposition	16540 Mar 09 06:41	3° <u>0</u> 32'07	-0°08'10	minimum elong	16545 Sep 30 01:33	25° <u>0</u> 35'28	0°20'36
min. Earth dist.	16540 Mar 08 22:15	3° <u>0</u> 32'58	18.90058 AU	max. Earth dist.	16545 Sep 30 09:13	25° <u>0</u> 36'34	21.02322 AU
direct	16540 May 25 03:37	1° <u>0</u> 33'54		morning rise	16545 Oct 15 23:07	26° <u>0</u> 29'53	
evening set	16540 Aug 24 23:32	4° <u>0</u> 37'56		retrograde	16546 Jan 16 10:41	29° <u>0</u> 34'08	
				opposition	16546 Apr 03 12:48	27° <u>0</u> 36'10	0°25'14
conjunction	16540 Sep 09 20:19	5° <u>0</u> 32'36	-0°04'54	min. Earth dist.	16546 Apr 03 05:45	27° <u>0</u> 36'53	19.02757 AU
minimum elong	16540 Sep 09 20:20	5° <u>0</u> 32'36	0°04'53	direct	16546 Jun 19 06:19	25° <u>0</u> 38'36	
behind sun begin	16540 Sep 09 13:55	5° <u>0</u> 31'42		evening set	16546 Sep 18 09:45	28° <u>0</u> 40'07	
behind sun end	16540 Sep 10 02:45	5° <u>0</u> 33'30					
max. Earth dist.	16540 Sep 10 04:21	5° <u>0</u> 33'44	20.91800 AU	conjunction	16546 Oct 04 06:36	29° <u>0</u> 34'23	0°25'13
morning rise	16540 Sep 25 17:26	6° <u>0</u> 27'19		minimum elong	16546 Oct 04 06:36	29° <u>0</u> 34'23	0°25'28
retrograde	16540 Dec 26 22:02	9° <u>0</u> 32'13		max. Earth dist.	16546 Oct 04 13:10	29° <u>0</u> 35'19	21.03090 AU
opposition	16541 Mar 13 16:28	7° <u>0</u> 34'24	-0°02'30		16546 Oct 11 17:20	0° <u>0</u>	
min. Earth dist.	16541 Mar 13 08:26	7° <u>0</u> 35'12	18.93422 AU	morning rise	16546 Oct 20 04:29	0° <u>0</u> 28'47	
direct	16541 May 29 12:27	5° <u>0</u> 36'23		retrograde	16547 Jan 20 17:34	3° <u>0</u> 33'03	
asc. node	16541 Aug 23 15:45	8° <u>0</u> 21'13		opposition	16547 Apr 07 21:04	1° <u>0</u> 35'01	0°30'30
evening set	16541 Aug 29 05:53	8° <u>0</u> 39'54		min. Earth dist.	16547 Apr 07 14:29	1° <u>0</u> 35'40	19.03356 AU
					16547 May 23 21:01	30° <u>0</u> 17	
conjunction	16541 Sep 14 02:49	9° <u>0</u> 34'28	0°00'18	direct	16547 Jun 23 12:22	29° <u>0</u> 37'28	
minimum elong	16541 Sep 14 02:47	9° <u>0</u> 34'28	0°00'21		16547 Jul 23 12:26	0° <u>0</u>	
behind sun begin	16541 Sep 13 20:14	9° <u>0</u> 33'33		evening set	16547 Sep 22 14:44	2° <u>0</u> 38'47	
behind sun end	16541 Sep 14 09:21	9° <u>0</u> 35'23					
max. Earth dist.	16541 Sep 14 11:30	9° <u>0</u> 35'42	20.94908 AU	conjunction	16547 Oct 08 11:52	3° <u>0</u> 33'02	0°29'54
morning rise	16541 Sep 29 23:47	10° <u>0</u> 29'05		minimum elong	16547 Oct 08 11:51	3° <u>0</u> 33'02	0°30'11
retrograde	16541 Dec 31 06:14	13° <u>0</u> 33'47		max. Earth dist.	16547 Oct 08 19:22	3° <u>0</u> 34'06	21.03506 AU
opposition	16542 Mar 18 01:49	11° <u>0</u> 36'01	0°03'09	morning rise	16547 Oct 24 09:49	4° <u>0</u> 27'26	
min. Earth dist.	16542 Mar 17 17:57	11° <u>0</u> 36'48	18.96265 AU	retrograde	16548 Jan 25 00:23	7° <u>0</u> 31'47	
direct	16542 Jun 02 21:48	9° <u>0</u> 38'10		opposition	16548 Apr 11 05:02	5° <u>0</u> 33'41	0°35'36
evening set	16542 Sep 02 12:06	12° <u>0</u> 41'12		min. Earth dist.	16548 Apr 10 21:59	5° <u>0</u> 34'23	19.03592 AU
				direct	16548 Jun 26 19:53	3° <u>0</u> 36'11	
conjunction	16542 Sep 18 08:49	13° <u>0</u> 35'40	0°05'27	evening set	16548 Sep 25 19:51	6° <u>0</u> 37'20	
minimum elong	16542 Sep 18 08:49	13° <u>0</u> 35'40	0°05'33				
behind sun begin	16542 Sep 18 02:29	13° <u>0</u> 34'47		conjunction	16548 Oct 11 16:58	7° <u>0</u> 31'35	0°34'26
behind sun end	16542 Sep 18 15:09	13° <u>0</u> 36'34		minimum elong	16548 Oct 11 16:57	7° <u>0</u> 31'35	0°34'46
max. Earth dist.	16542 Sep 18 16:05	13° <u>0</u> 36'42	20.97495 AU	max. Earth dist.	16548 Oct 11 23:18	7° <u>0</u> 32'30	21.03562 AU

morning rise	16548 Oct 27 15:19	8° $\overline{\text{M}}$ 26'01		retrograde	16555 Feb 22 10:01	5° $\overline{\text{A}}$ 31'07	
retrograde	16549 Jan 28 07:52	11° $\overline{\text{M}}$ 30'30		opposition	16555 May 10 14:46	3° $\overline{\text{A}}$ 32'30	1°05'25
opposition	16549 Apr 15 13:03	9° $\overline{\text{M}}$ 32'20	0°40'32	min. Earth dist.	16555 May 10 11:23	3° $\overline{\text{A}}$ 32'50	18.93961 AU
min. Earth dist.	16549 Apr 15 06:41	9° $\overline{\text{M}}$ 32'59	19.03474 AU	direct	16555 Jul 25 16:05	1° $\overline{\text{A}}$ 34'59	
direct	16549 Jul 01 01:18	7° $\overline{\text{M}}$ 34'53		evening set	16555 Oct 24 13:05	4° $\overline{\text{A}}$ 36'57	
evening set	16549 Sep 30 00:54	10° $\overline{\text{M}}$ 35'58					
				conjunction	16555 Nov 09 12:01	5° $\overline{\text{A}}$ 31'42	1°00'35
conjunction	16549 Oct 15 22:20	11° $\overline{\text{M}}$ 30'15	0°38'49	minimum elong	16555 Nov 09 12:01	5° $\overline{\text{A}}$ 31'42	1°01'06
minimum elong	16549 Oct 15 22:19	11° $\overline{\text{M}}$ 30'15	0°39'11	max. Earth dist.	16555 Nov 09 15:57	5° $\overline{\text{A}}$ 32'16	20.92343 AU
max. Earth dist.	16549 Oct 16 05:29	11° $\overline{\text{M}}$ 31'16	21.03252 AU	morning rise	16555 Nov 25 12:30	6° $\overline{\text{A}}$ 26'43	
morning rise	16549 Oct 31 20:46	12° $\overline{\text{M}}$ 24'42		retrograde	16556 Feb 26 19:59	9° $\overline{\text{A}}$ 33'32	
	16549 Dec 28 23:54	15° $\overline{\text{M}}$		opposition	16556 May 13 23:30	7° $\overline{\text{A}}$ 34'45	1°08'36
retrograde	16550 Feb 01 15:06	15° $\overline{\text{M}}$ 29'22		min. Earth dist.	16556 May 13 20:01	7° $\overline{\text{A}}$ 35'06	18.90659 AU
	16550 Mar 09 01:28	15° $\overline{\text{R}}$ $\overline{\text{M}}$		direct	16556 Jul 29 00:05	5° $\overline{\text{A}}$ 37'06	
opposition	16550 Apr 19 20:56	13° $\overline{\text{M}}$ 31'10	0°45'17	evening set	16556 Oct 27 20:25	8° $\overline{\text{A}}$ 39'24	
min. Earth dist.	16550 Apr 19 14:11	13° $\overline{\text{M}}$ 31'51	19.02967 AU				
direct	16550 Jul 05 08:35	11° $\overline{\text{M}}$ 33'45		conjunction	16556 Nov 12 19:35	9° $\overline{\text{A}}$ 34'17	1°03'18
evening set	16550 Oct 04 06:18	14° $\overline{\text{M}}$ 34'50		minimum elong	16556 Nov 12 19:35	9° $\overline{\text{A}}$ 34'17	1°03'51
	16550 Oct 11 16:24	15° $\overline{\text{M}}$		max. Earth dist.	16556 Nov 12 21:45	9° $\overline{\text{A}}$ 34'35	20.88796 AU
				morning rise	16556 Nov 28 20:39	10° $\overline{\text{A}}$ 29'26	
conjunction	16550 Oct 20 03:44	15° $\overline{\text{M}}$ 29'08	0°43'00	retrograde	16557 Mar 02 05:17	13° $\overline{\text{A}}$ 36'44	
minimum elong	16550 Oct 20 03:44	15° $\overline{\text{M}}$ 29'08	0°43'23	opposition	16557 May 18 08:36	11° $\overline{\text{A}}$ 37'45	1°11'27
max. Earth dist.	16550 Oct 20 09:39	15° $\overline{\text{M}}$ 29'59	21.02555 AU	min. Earth dist.	16557 May 18 06:39	11° $\overline{\text{A}}$ 37'56	18.86888 AU
morning rise	16550 Nov 05 02:37	16° $\overline{\text{M}}$ 23'40		direct	16557 Aug 02 06:48	9° $\overline{\text{A}}$ 39'54	
retrograde	16551 Feb 05 23:02	19° $\overline{\text{M}}$ 28'35		evening set	16557 Nov 01 03:51	12° $\overline{\text{A}}$ 42'35	
opposition	16551 Apr 24 05:06	17° $\overline{\text{M}}$ 30'19	0°49'49				
min. Earth dist.	16551 Apr 23 23:15	17° $\overline{\text{M}}$ 30'54	19.02081 AU	conjunction	16557 Nov 17 03:32	13° $\overline{\text{A}}$ 37'37	1°05'43
direct	16551 Jul 09 13:31	15° $\overline{\text{M}}$ 32'56		minimum elong	16557 Nov 17 03:32	13° $\overline{\text{A}}$ 37'36	1°06'16
evening set	16551 Oct 08 11:38	18° $\overline{\text{M}}$ 34'04		max. Earth dist.	16557 Nov 17 06:00	13° $\overline{\text{A}}$ 37'58	20.84811 AU
				morning rise	16557 Dec 03 04:53	14° $\overline{\text{A}}$ 32'55	
conjunction	16551 Oct 24 09:28	19° $\overline{\text{M}}$ 28'26	0°47'00	retrograde	16558 Mar 06 15:53	17° $\overline{\text{A}}$ 40'43	
minimum elong	16551 Oct 24 09:27	19° $\overline{\text{M}}$ 28'26	0°47'26	opposition	16558 May 22 17:47	15° $\overline{\text{A}}$ 41'30	1°13'58
max. Earth dist.	16551 Oct 24 16:06	19° $\overline{\text{M}}$ 29'23	21.01459 AU	min. Earth dist.	16558 May 22 15:26	15° $\overline{\text{A}}$ 41'45	18.82704 AU
morning rise	16551 Nov 09 08:31	20° $\overline{\text{M}}$ 23'01		direct	16558 Aug 06 15:03	13° $\overline{\text{A}}$ 43'28	
retrograde	16552 Feb 10 07:26	23° $\overline{\text{M}}$ 28'14		evening set	16558 Nov 05 11:53	16° $\overline{\text{A}}$ 46'34	
opposition	16552 Apr 27 13:14	21° $\overline{\text{M}}$ 29'55	0°54'06				
min. Earth dist.	16552 Apr 27 07:08	21° $\overline{\text{M}}$ 30'32	19.00766 AU	conjunction	16558 Nov 21 11:51	17° $\overline{\text{A}}$ 41'46	1°07'48
direct	16552 Jul 12 21:05	19° $\overline{\text{M}}$ 32'33		minimum elong	16558 Nov 21 11:51	17° $\overline{\text{A}}$ 41'46	1°08'24
evening set	16552 Oct 11 17:35	22° $\overline{\text{M}}$ 33'49		max. Earth dist.	16558 Nov 21 12:55	17° $\overline{\text{A}}$ 41'55	20.80454 AU
				morning rise	16558 Dec 07 13:49	18° $\overline{\text{A}}$ 37'15	
conjunction	16552 Oct 27 15:29	23° $\overline{\text{M}}$ 28'15	0°50'46	retrograde	16559 Mar 11 01:57	21° $\overline{\text{A}}$ 45'36	
minimum elong	16552 Oct 27 15:28	23° $\overline{\text{M}}$ 28'15	0°51'12	opposition	16559 May 27 03:22	19° $\overline{\text{A}}$ 46'09	1°16'07
max. Earth dist.	16552 Oct 27 20:38	23° $\overline{\text{M}}$ 28'59	20.99919 AU	min. Earth dist.	16559 May 27 02:22	19° $\overline{\text{A}}$ 46'15	18.78200 AU
morning rise	16552 Nov 12 15:00	24° $\overline{\text{M}}$ 22'55		direct	16559 Aug 10 22:00	17° $\overline{\text{A}}$ 47'54	
retrograde	16553 Feb 13 15:46	27° $\overline{\text{M}}$ 28'29		evening set	16559 Nov 09 20:10	20° $\overline{\text{A}}$ 51'29	
opposition	16553 May 01 21:28	25° $\overline{\text{M}}$ 30'06	0°58'09				
min. Earth dist.	16553 May 01 16:42	25° $\overline{\text{M}}$ 30'35	18.99002 AU	conjunction	16559 Nov 25 20:45	21° $\overline{\text{A}}$ 46'52	1°09'34
direct	16553 Jul 17 02:09	23° $\overline{\text{M}}$ 32'43		minimum elong	16559 Nov 25 20:45	21° $\overline{\text{A}}$ 46'52	1°10'09
evening set	16553 Oct 15 23:43	26° $\overline{\text{M}}$ 34'11		max. Earth dist.	16559 Nov 25 22:16	21° $\overline{\text{A}}$ 47'05	20.75807 AU
				morning rise	16559 Dec 11 23:06	22° $\overline{\text{A}}$ 42'32	
conjunction	16553 Oct 31 22:02	27° $\overline{\text{M}}$ 28'42	0°54'18	retrograde	16560 Mar 14 14:03	25° $\overline{\text{A}}$ 51'28	
minimum elong	16553 Oct 31 22:01	27° $\overline{\text{M}}$ 28'42	0°54'47	opposition	16560 May 30 13:04	23° $\overline{\text{A}}$ 51'47	1°17'53
max. Earth dist.	16553 Nov 01 03:32	27° $\overline{\text{M}}$ 29'29	20.97908 AU	min. Earth dist.	16560 May 30 11:29	23° $\overline{\text{A}}$ 51'57	18.73418 AU
morning rise	16553 Nov 16 21:44	28° $\overline{\text{M}}$ 23'28		direct	16560 Aug 14 06:53	21° $\overline{\text{A}}$ 53'20	
	16553 Dec 18 05:13	0° $\overline{\text{A}}$		evening set	16560 Nov 13 05:13	24° $\overline{\text{A}}$ 57'28	
retrograde	16554 Feb 18 01:08	1° $\overline{\text{A}}$ 29'25					
	16554 Apr 24 02:22	30° $\overline{\text{R}}$ $\overline{\text{M}}$		conjunction	16560 Nov 29 06:08	25° $\overline{\text{A}}$ 53'02	1°10'58
opposition	16554 May 06 05:56	29° $\overline{\text{M}}$ 30'56	1°01'55	minimum elong	16560 Nov 29 06:08	25° $\overline{\text{A}}$ 53'02	1°11'34
min. Earth dist.	16554 May 06 01:05	29° $\overline{\text{M}}$ 31'26	18.96738 AU	max. Earth dist.	16560 Nov 29 06:23	25° $\overline{\text{A}}$ 53'04	20.70901 AU
direct	16554 Jul 21 10:04	27° $\overline{\text{M}}$ 33'31		morning rise	16560 Dec 15 09:04	26° $\overline{\text{A}}$ 48'55	
	16554 Oct 09 13:32	0° $\overline{\text{A}}$		retrograde	16561 Mar 19 00:44	29° $\overline{\text{A}}$ 58'28	
evening set	16554 Oct 20 06:16	0° $\overline{\text{A}}$ 35'13		opposition	16561 Jun 03 23:10	27° $\overline{\text{A}}$ 58'35	1°19'15
				min. Earth dist.	16561 Jun 03 22:56	27° $\overline{\text{A}}$ 58'36	18.68411 AU
conjunction	16554 Nov 05 04:41	1° $\overline{\text{A}}$ 29'50	0°57'34	direct	16561 Aug 18 14:01	25° $\overline{\text{A}}$ 59'54	
minimum elong	16554 Nov 05 04:41	1° $\overline{\text{A}}$ 29'50	0°58'04	evening set	16561 Nov 17 14:40	29° $\overline{\text{A}}$ 04'39	
max. Earth dist.	16554 Nov 05 08:30	1° $\overline{\text{A}}$ 30'23	20.95383 AU				
morning rise	16554 Nov 21 04:54	2° $\overline{\text{A}}$ 24'43		conjunction	16561 Dec 03 16:13	0° $\overline{\text{Z}}$ 00'26	1°12'01

minimum elong	16561 Dec 03 16:12	0°30'26"	1°12'37"	direct	16568 Sep 16 16:42	25°32'19"	
	16561 Dec 03 13:13	0°30'		evening set	16568 Dec 17 05:57	28°33'38"	
max. Earth dist.	16561 Dec 03 16:54	0°30'32"	20.65799 AU				
morning rise	16561 Dec 19 19:33	0°35'31"		conjunction	16569 Jan 02 11:32	29°33'12"	1°08'31"
retrograde	16562 Mar 23 14:47	4°30'44"		minimum elong	16569 Jan 02 11:33	29°33'12"	1°09'04"
opposition	16562 Jun 08 09:39	2°30'39"	1°20'13"	max. Earth dist.	16569 Jan 02 07:32	29°33'36"	20.25455 AU
min. Earth dist.	16562 Jun 08 08:42	2°30'45"	18.63214 AU		16569 Jan 09 03:31	0°33'	
direct	16562 Aug 22 23:53	0°30'46"		morning rise	16569 Jan 18 18:55	0°33'40"	
evening set	16562 Nov 22 00:45	3°31'11"		retrograde	16569 Apr 22 21:27	3°33'49"	
				opposition	16569 Jul 08 01:54	1°33'48'03"	1°14'59"
conjunction	16562 Dec 08 02:42	4°30'9"11"	1°12'41"	min. Earth dist.	16569 Jul 08 05:55	1°33'47'43"	18.22267 AU
minimum elong	16562 Dec 08 02:42	4°30'9"11"	1°13'17"		16569 Aug 30 09:43	30°33'	
max. Earth dist.	16562 Dec 08 02:20	4°30'9"08"	20.60516 AU	direct	16569 Sep 21 04:56	29°33'47'40"	
morning rise	16562 Dec 24 06:42	5°30'5'30"			16569 Oct 12 19:06	0°33'	
retrograde	16563 Mar 28 02:19	8°30'16'25"		evening set	16569 Dec 21 21:39	2°33'58'51"	
opposition	16563 Jun 12 20:45	6°30'16'08"	1°20'46"				
min. Earth dist.	16563 Jun 12 21:08	6°30'16'06"	18.57857 AU	conjunction	16570 Jan 07 03:56	3°33'56'42"	1°06'26"
direct	16563 Aug 27 07:34	4°30'17'04"		minimum elong	16570 Jan 07 03:57	3°33'56'42"	1°06'57"
evening set	16563 Nov 26 11:32	7°30'23'11"		max. Earth dist.	16570 Jan 06 23:17	3°33'56'00"	20.19000 AU
				morning rise	16570 Jan 23 11:55	4°33'54'49"	
conjunction	16563 Dec 12 14:11	8°30'19'26"	1°12'58"	retrograde	16570 Apr 27 15:40	8°33'11'01"	
minimum elong	16563 Dec 12 14:11	8°30'19'26"	1°13'34"	opposition	16570 Jul 12 16:43	6°33'09'23"	1°12'28"
max. Earth dist.	16563 Dec 12 14:07	8°30'19'25"	20.55088 AU	min. Earth dist.	16570 Jul 12 20:25	6°33'09'00"	18.15752 AU
morning rise	16563 Dec 28 18:40	9°30'15'59"		direct	16570 Sep 25 19:58	4°33'08'34"	
retrograde	16564 Mar 31 17:47	12°30'27'37"		evening set	16570 Dec 26 14:06	7°33'20'40"	
opposition	16564 Jun 16 07:59	10°30'27'10"	1°20'54"				
min. Earth dist.	16564 Jun 16 07:49	10°30'27'11"	18.52348 AU	conjunction	16571 Jan 11 21:02	8°33'18'47"	1°03'57"
direct	16564 Aug 30 18:45	8°30'27'54"		minimum elong	16571 Jan 11 21:03	8°33'18'48"	1°04'28"
evening set	16564 Nov 29 23:13	11°30'34'47"		max. Earth dist.	16571 Jan 11 15:45	8°33'18'00"	20.12447 AU
				morning rise	16571 Jan 28 05:35	9°33'17'11"	
conjunction	16564 Dec 16 02:20	12°30'31'17"	1°12'52"	retrograde	16571 May 02 08:23	12°33'34'07"	
minimum elong	16564 Dec 16 02:20	12°30'31'17"	1°13'27"	opposition	16571 Jul 17 08:14	10°33'32'13"	1°09'31"
max. Earth dist.	16564 Dec 16 01:08	12°30'31'07"	20.49504 AU	min. Earth dist.	16571 Jul 17 13:19	10°33'31'41"	18.09180 AU
morning rise	16565 Jan 01 07:27	13°30'28'05"		direct	16571 Sep 30 09:43	8°33'31'03"	
retrograde	16565 Apr 05 06:30	16°30'40'28"		evening set	16571 Dec 31 07:25	11°33'44'03"	
opposition	16565 Jun 20 20:04	14°30'39'51"	1°20'36"				
min. Earth dist.	16565 Jun 20 21:24	14°30'39'43"	18.46692 AU	conjunction	16572 Jan 16 15:00	12°33'42'28"	1°01'05"
direct	16565 Sep 04 03:22	12°30'40'24"		minimum elong	16572 Jan 16 15:00	12°33'42'28"	1°01'33"
evening set	16565 Dec 04 11:27	15°30'48'07"		max. Earth dist.	16572 Jan 16 08:59	12°33'41'34"	20.05891 AU
				morning rise	16572 Feb 02 00:09	13°33'41'08"	
conjunction	16565 Dec 20 15:15	16°30'44'51"	1°12'22"		16572 Feb 25 17:52	15°33'	
minimum elong	16565 Dec 20 15:15	16°30'44'51"	1°12'59"	retrograde	16572 May 06 03:35	16°33'58'47"	
max. Earth dist.	16565 Dec 20 14:06	16°30'44'41"	20.43775 AU		16572 Jul 19 16:03	15°33'33'	
morning rise	16566 Jan 05 20:52	17°30'41'54"		opposition	16572 Jul 20 23:57	14°33'56'37"	1°06'08"
retrograde	16566 Apr 09 22:52	20°30'55'04"		min. Earth dist.	16572 Jul 21 04:41	14°33'56'07"	18.02643 AU
opposition	16566 Jun 25 08:35	18°30'54'18"	1°19'51"	direct	16572 Oct 04 01:45	12°33'55'06"	
min. Earth dist.	16566 Jun 25 09:28	18°30'54'13"	18.40873 AU		16572 Dec 14 12:25	15°33'	
direct	16566 Sep 08 16:18	16°30'54'39"		evening set	16573 Jan 04 01:29	16°33'09'02"	
evening set	16566 Dec 09 00:48	20°30'03'12"					
				conjunction	16573 Jan 20 09:43	17°33'07'44"	0°57'50"
conjunction	16566 Dec 25 05:07	21°30'00'13"	1°11'29"	minimum elong	16573 Jan 20 09:43	17°33'07'44"	0°58'17"
minimum elong	16566 Dec 25 05:07	21°30'00'13"	1°12'04"	max. Earth dist.	16573 Jan 20 03:35	17°33'06'49"	19.99390 AU
max. Earth dist.	16566 Dec 25 02:48	20°30'59'52"	20.37863 AU	morning rise	16573 Feb 05 19:19	18°33'06'40"	
morning rise	16567 Jan 10 11:22	21°30'57'32"		retrograde	16573 May 10 21:37	21°33'25'02"	
retrograde	16567 Apr 14 12:54	25°30'11'29"		opposition	16573 Jul 25 16:32	19°33'22'38"	1°02'20"
opposition	16567 Jun 29 21:48	23°30'10'31"	1°18'40"	min. Earth dist.	16573 Jul 25 22:16	19°33'22'01"	17.96202 AU
min. Earth dist.	16567 Jun 30 00:25	23°30'10'15"	18.34871 AU	direct	16573 Oct 08 16:36	17°33'20'47"	
direct	16567 Sep 13 02:29	21°30'10'38"		evening set	16574 Jan 08 20:14	20°33'35'39"	
evening set	16567 Dec 13 14:55	24°30'20'03"					
				conjunction	16574 Jan 25 05:01	21°33'34'37"	0°54'13"
conjunction	16567 Dec 29 19:57	25°30'17'21"	1°10'12"	minimum elong	16574 Jan 25 05:01	21°33'34'37"	0°54'38"
minimum elong	16567 Dec 29 19:57	25°30'17'21"	1°10'46"	max. Earth dist.	16574 Jan 24 22:10	21°33'33'35"	19.93040 AU
max. Earth dist.	16567 Dec 29 17:06	25°30'16'55"	20.31766 AU	morning rise	16574 Feb 10 15:13	22°33'33'50"	
morning rise	16568 Jan 15 02:46	26°30'14'55"		retrograde	16574 May 15 18:17	25°33'52'54"	
retrograde	16568 Apr 18 06:18	29°30'29'38"		opposition	16574 Jul 30 09:35	23°33'50'16"	0°58'08"
opposition	16568 Jul 03 11:30	27°30'28'29"	1°17'03"	min. Earth dist.	16574 Jul 30 14:52	23°33'49'42"	17.89945 AU
min. Earth dist.	16568 Jul 03 13:51	27°30'28'15"	18.28665 AU	direct	16574 Oct 13 09:50	21°33'48'05"	

evening set	16575 Jan 13 15:53	25° $\approx$ 03'54		max. Earth dist.	16581 Feb 26 11:58	23° $\cancel{\text{H}}$ 29'59	19.56382 AU
				morning rise	16581 Mar 15 07:39	24° $\cancel{\text{H}}$ 31'57	
conjunction	16575 Jan 30 01:20	26° $\approx$ 03'10	0°50'15	retrograde	16581 Jun 17 07:09	27° $\cancel{\text{H}}$ 55'19	
minimum elong	16575 Jan 30 01:20	26° $\approx$ 03'10	0°50'37	opposition	16581 Aug 31 02:02	25° $\cancel{\text{H}}$ 52'00	0°19'26
max. Earth dist.	16575 Jan 29 18:53	26° $\approx$ 02'11	19.86884 AU	min. Earth dist.	16581 Aug 31 08:35	25° $\cancel{\text{H}}$ 51'17	17.54339 AU
morning rise	16575 Feb 15 11:54	27° $\approx$ 02'38		direct	16581 Nov 13 22:26	23° $\cancel{\text{H}}$ 48'19	
	16575 Apr 21 09:08	0° $\cancel{\text{H}}$		evening set	16582 Feb 15 08:16	27° $\cancel{\text{H}}$ 10'35	
retrograde	16575 May 20 13:46	0° $\cancel{\text{H}}$ 22'23					
	16575 Jun 19 04:24	30° $\cancel{\text{R}}$		conjunction	16582 Mar 03 20:35	28° $\cancel{\text{H}}$ 11'32	0°14'35
opposition	16575 Aug 04 03:11	28° $\approx$ 19'34	0°53'33	minimum elong	16582 Mar 03 20:35	28° $\cancel{\text{H}}$ 11'32	0°14'38
min. Earth dist.	16575 Aug 04 09:11	28° $\approx$ 18'56	17.83912 AU	behind sun begin	16582 Mar 03 17:54	28° $\cancel{\text{H}}$ 11'07	
direct	16575 Oct 18 01:56	26° $\approx$ 17'05		behind sun end	16582 Mar 03 23:17	28° $\cancel{\text{H}}$ 11'56	
evening set	16576 Jan 18 12:26	29° $\approx$ 33'53		max. Earth dist.	16582 Mar 03 11:50	28° $\cancel{\text{H}}$ 10'11	19.52374 AU
	16576 Jan 25 18:42	0° $\cancel{\text{H}}$		morning rise	16582 Mar 20 09:15	29° $\cancel{\text{H}}$ 12'32	
					16582 Apr 02 19:51	0° $\cancel{\text{Y}}$	
conjunction	16576 Feb 03 22:22	0° $\cancel{\text{H}}$ 33'25	0°45'57	retrograde	16582 Jun 22 06:08	2° $\cancel{\text{Y}}$ 36'21	
minimum elong	16576 Feb 03 22:22	0° $\cancel{\text{H}}$ 33'25	0°46'18	opposition	16582 Sep 04 23:57	0° $\cancel{\text{Y}}$ 32'56	0°12'58
max. Earth dist.	16576 Feb 03 14:57	0° $\cancel{\text{H}}$ 32'17	19.80999 AU	min. Earth dist.	16582 Sep 05 07:14	0° $\cancel{\text{Y}}$ 32'09	17.50485 AU
morning rise	16576 Feb 20 09:31	1° $\cancel{\text{H}}$ 33'08			16582 Sep 17 19:10	30° $\cancel{\text{R}}$ $\cancel{\text{H}}$	
retrograde	16576 May 24 11:50	4° $\cancel{\text{H}}$ 53'34		direct	16582 Nov 18 20:18	28° $\cancel{\text{H}}$ 29'03	
opposition	16576 Aug 07 21:26	2° $\cancel{\text{H}}$ 50'35	0°48'36		16583 Jan 17 11:26	0° $\cancel{\text{Y}}$	
min. Earth dist.	16576 Aug 08 03:06	2° $\cancel{\text{H}}$ 49'59	17.78174 AU	evening set	16583 Feb 20 10:03	1° $\cancel{\text{Y}}$ 52'04	
direct	16576 Oct 21 20:04	0° $\cancel{\text{H}}$ 47'50					
evening set	16577 Jan 22 09:37	4° $\cancel{\text{H}}$ 05'35		conjunction	16583 Mar 08 22:44	2° $\cancel{\text{Y}}$ 53'11	0°08'44
				minimum elong	16583 Mar 08 22:45	2° $\cancel{\text{Y}}$ 53'11	0°08'46
conjunction	16577 Feb 07 20:10	5° $\cancel{\text{H}}$ 05'24	0°41'20	behind sun begin	16583 Mar 08 16:57	2° $\cancel{\text{Y}}$ 52'19	
minimum elong	16577 Feb 07 20:10	5° $\cancel{\text{H}}$ 05'24	0°41'37	behind sun end	16583 Mar 09 04:33	2° $\cancel{\text{Y}}$ 54'04	
max. Earth dist.	16577 Feb 07 13:34	5° $\cancel{\text{H}}$ 04'24	19.75411 AU	max. Earth dist.	16583 Mar 08 14:44	2° $\cancel{\text{Y}}$ 51'58	19.48673 AU
morning rise	16577 Feb 24 07:31	6° $\cancel{\text{H}}$ 05'22		morning rise	16583 Mar 25 11:18	3° $\cancel{\text{Y}}$ 54'20	
retrograde	16577 May 29 09:12	9° $\cancel{\text{H}}$ 26'27		retrograde	16583 Jun 27 06:40	7° $\cancel{\text{Y}}$ 18'28	
opposition	16577 Aug 12 16:23	7° $\cancel{\text{H}}$ 23'22	0°43'18	opposition	16583 Sep 09 22:04	5° $\cancel{\text{Y}}$ 15'00	0°06'23
min. Earth dist.	16577 Aug 12 22:20	7° $\cancel{\text{H}}$ 22'44	17.72748 AU	min. Earth dist.	16583 Sep 10 04:59	5° $\cancel{\text{Y}}$ 14'15	17.46942 AU
direct	16577 Oct 26 13:37	5° $\cancel{\text{H}}$ 20'25		direct	16583 Nov 23 20:48	3° $\cancel{\text{Y}}$ 10'54	
evening set	16578 Jan 27 07:47	8° $\cancel{\text{H}}$ 39'07		evening set	16584 Feb 25 12:29	6° $\cancel{\text{Y}}$ 34'36	
conjunction	16578 Feb 12 18:41	9° $\cancel{\text{H}}$ 39'10	0°36'26	conjunction	16584 Mar 13 01:11	7° $\cancel{\text{Y}}$ 35'52	0°02'48
minimum elong	16578 Feb 12 18:42	9° $\cancel{\text{H}}$ 39'10	0°36'42	minimum elong	16584 Mar 13 01:09	7° $\cancel{\text{Y}}$ 35'52	0°02'47
max. Earth dist.	16578 Feb 12 11:03	9° $\cancel{\text{H}}$ 38'00	19.70172 AU	behind sun begin	16584 Mar 12 18:26	7° $\cancel{\text{Y}}$ 34'50	
morning rise	16578 Mar 01 06:34	10° $\cancel{\text{H}}$ 39'24		behind sun end	16584 Mar 13 07:53	7° $\cancel{\text{Y}}$ 36'53	
retrograde	16578 Jun 03 08:27	14° $\cancel{\text{H}}$ 01'07		max. Earth dist.	16584 Mar 12 15:59	7° $\cancel{\text{Y}}$ 34'27	19.45310 AU
opposition	16578 Aug 17 11:51	11° $\cancel{\text{H}}$ 57'57	0°37'43	morning rise	16584 Mar 29 13:47	8° $\cancel{\text{Y}}$ 37'08	
min. Earth dist.	16578 Aug 17 17:47	11° $\cancel{\text{H}}$ 57'18	17.67682 AU	retrograde	16584 Jul 01 05:41	12° $\cancel{\text{Y}}$ 01'32	
direct	16578 Oct 31 08:31	9° $\cancel{\text{H}}$ 54'47		desc. node	16584 Aug 29 20:30	10° $\cancel{\text{Y}}$ 36'30	
evening set	16579 Feb 01 06:38	13° $\cancel{\text{H}}$ 14'27		opposition	16584 Sep 13 20:49	9° $\cancel{\text{Y}}$ 57'59	-0°00'17
				min. Earth dist.	16584 Sep 14 04:34	9° $\cancel{\text{Y}}$ 57'08	17.43777 AU
conjunction	16579 Feb 17 18:10	14° $\cancel{\text{H}}$ 14'46	0°31'16	direct	16584 Nov 27 19:51	7° $\cancel{\text{Y}}$ 53'40	
minimum elong	16579 Feb 17 18:10	14° $\cancel{\text{H}}$ 14'46	0°31'29	evening set	16585 Mar 01 14:58	11° $\cancel{\text{Y}}$ 17'58	
max. Earth dist.	16579 Feb 17 11:28	14° $\cancel{\text{H}}$ 13'44	19.65269 AU				
morning rise	16579 Mar 06 06:12	15° $\cancel{\text{H}}$ 15'12		conjunction	16585 Mar 18 03:50	12° $\cancel{\text{Y}}$ 19'21	-0°03'19
retrograde	16579 Jun 08 07:36	18° $\cancel{\text{H}}$ 37'32		minimum elong	16585 Mar 18 03:49	12° $\cancel{\text{Y}}$ 19'21	0°03'23
opposition	16579 Aug 22 08:00	16° $\cancel{\text{H}}$ 34'19	0°31'51	behind sun begin	16585 Mar 17 21:07	12° $\cancel{\text{Y}}$ 18'20	
min. Earth dist.	16579 Aug 22 14:09	16° $\cancel{\text{H}}$ 33'39	17.62932 AU	behind sun end	16585 Mar 18 10:30	12° $\cancel{\text{Y}}$ 20'22	
direct	16579 Nov 05 04:06	14° $\cancel{\text{H}}$ 31'00		max. Earth dist.	16585 Mar 17 19:29	12° $\cancel{\text{Y}}$ 18'04	19.42350 AU
evening set	16580 Feb 06 06:34	17° $\cancel{\text{H}}$ 51'34		morning rise	16585 Apr 03 16:15	13° $\cancel{\text{Y}}$ 20'42	
				retrograde	16585 Jul 06 06:58	16° $\cancel{\text{Y}}$ 45'18	
conjunction	16580 Feb 22 18:17	18° $\cancel{\text{H}}$ 52'07	0°25'53	opposition	16585 Sep 18 19:45	14° $\cancel{\text{Y}}$ 41'41	-0°06'57
minimum elong	16580 Feb 22 18:17	18° $\cancel{\text{H}}$ 52'07	0°26'03	min. Earth dist.	16585 Sep 19 02:35	14° $\cancel{\text{Y}}$ 40'56	17.41029 AU
max. Earth dist.	16580 Feb 22 10:10	18° $\cancel{\text{H}}$ 50'52	19.60679 AU	direct	16585 Dec 02 21:30	12° $\cancel{\text{Y}}$ 37'10	
morning rise	16580 Mar 10 06:41	19° $\cancel{\text{H}}$ 52'47		evening set	16586 Mar 06 18:01	16° $\cancel{\text{Y}}$ 02'00	
retrograde	16580 Jun 12 07:01	23° $\cancel{\text{H}}$ 15'40					
opposition	16580 Aug 26 04:41	21° $\cancel{\text{H}}$ 12'23	0°25'44	conjunction	16586 Mar 23 06:47	17° $\cancel{\text{Y}}$ 03'28	-0°09'16
min. Earth dist.	16580 Aug 26 11:18	21° $\cancel{\text{H}}$ 11'40	17.58496 AU	minimum elong	16586 Mar 23 06:46	17° $\cancel{\text{Y}}$ 03'28	0°09'23
direct	16580 Nov 09 00:09	19° $\cancel{\text{H}}$ 08'53		behind sun begin	16586 Mar 23 01:09	17° $\cancel{\text{Y}}$ 02'36	
evening set	16581 Feb 10 07:04	22° $\cancel{\text{H}}$ 30'21		behind sun end	16586 Mar 23 12:23	17° $\cancel{\text{Y}}$ 04'19	
				max. Earth dist.	16586 Mar 22 21:56	17° $\cancel{\text{Y}}$ 02'06	19.39830 AU
conjunction	16581 Feb 26 19:16	23° $\cancel{\text{H}}$ 31'06	0°20'19	morning rise	16586 Apr 08 19:06	18° $\cancel{\text{Y}}$ 04'53	
minimum elong	16581 Feb 26 19:16	23° $\cancel{\text{H}}$ 31'06	0°20'26	retrograde	16586 Jul 11 06:34	21° $\cancel{\text{Y}}$ 29'37	

opposition	16586 Sep 23 18:58	19° $\Upsilon$ 25'56	-0°13'36	retrograde	16592 Aug 08 10:55	19° $\mathcal{S}$ 58'46	
min. Earth dist.	16586 Sep 24 02:38	19° $\Upsilon$ 25'06	17.38762 AU	opposition	16592 Oct 21 17:45	17° $\mathcal{S}$ 55'27	-0°50'08
direct	16586 Dec 07 20:58	17° $\Upsilon$ 21'13		min. Earth dist.	16592 Oct 21 22:31	17° $\mathcal{S}$ 54'55	17.37221 AU
evening set	16587 Mar 11 21:12	20° $\Upsilon$ 46'30		direct	16593 Jan 05 03:55	15° $\mathcal{S}$ 50'27	
				evening set	16593 Apr 09 17:46	19° $\mathcal{S}$ 16'58	
conjunction	16587 Mar 28 09:58	21° $\Upsilon$ 48'02	-0°15'11	conjunction	16593 Apr 26 04:28	20° $\mathcal{S}$ 18'20	-0°47'17
minimum elong	16587 Mar 28 09:57	21° $\Upsilon$ 48'02	0°15'21	minimum elong	16593 Apr 26 04:27	20° $\mathcal{S}$ 18'20	0°47'42
behind sun begin	16587 Mar 28 08:12	21° $\Upsilon$ 47'46		max. Earth dist.	16593 Apr 25 22:49	20° $\mathcal{S}$ 17'27	19.38021 AU
behind sun end	16587 Mar 28 11:43	21° $\Upsilon$ 48'18		morning rise	16593 May 12 13:52	21° $\mathcal{S}$ 19'31	
max. Earth dist.	16587 Mar 28 01:43	21° $\Upsilon$ 46'45	19.37818 AU	retrograde	16593 Aug 13 11:23	24° $\mathcal{S}$ 43'25	
morning rise	16587 Apr 13 22:03	22° $\Upsilon$ 49'30		opposition	16593 Oct 26 17:47	22° $\mathcal{S}$ 40'15	-0°55'15
retrograde	16587 Jul 16 08:16	26° $\Upsilon$ 14'16		min. Earth dist.	16593 Oct 26 21:31	22° $\mathcal{S}$ 39'51	17.38976 AU
opposition	16587 Sep 28 18:19	24° $\Upsilon$ 10'33	-0°20'11	direct	16594 Jan 10 06:24	20° $\mathcal{S}$ 35'20	
min. Earth dist.	16587 Sep 29 00:45	24° $\Upsilon$ 09'51	17.37010 AU	evening set	16594 Apr 14 20:55	24° $\mathcal{S}$ 01'49	
direct	16587 Dec 12 22:41	22° $\Upsilon$ 05'40					
evening set	16588 Mar 16 00:35	25° $\Upsilon$ 31'20		conjunction	16594 May 01 07:15	25° $\mathcal{S}$ 03'05	-0°51'41
				minimum elong	16594 May 01 07:15	25° $\mathcal{S}$ 03'05	0°52'09
conjunction	16588 Apr 01 13:07	26° $\Upsilon$ 32'54	-0°21'01	max. Earth dist.	16594 May 01 03:02	25° $\mathcal{S}$ 02'25	19.39994 AU
minimum elong	16588 Apr 01 13:07	26° $\Upsilon$ 32'54	0°21'13	morning rise	16594 May 17 15:52	26° $\mathcal{S}$ 04'07	
max. Earth dist.	16588 Apr 01 05:08	26° $\Upsilon$ 31'40	19.36333 AU	retrograde	16594 Aug 18 10:52	29° $\mathcal{S}$ 27'39	
morning rise	16588 Apr 18 00:50	27° $\Upsilon$ 34'23		opposition	16594 Oct 31 17:45	27° $\mathcal{S}$ 24'42	-0°59'58
	16588 Jun 03 06:12	0° $\mathcal{S}$		min. Earth dist.	16594 Oct 31 21:47	27° $\mathcal{S}$ 24'16	17.41166 AU
retrograde	16588 Jul 20 08:19	0° $\mathcal{S}$ 59'08		direct	16595 Jan 15 07:56	25° $\mathcal{S}$ 19'54	
	16588 Sep 06 18:48	30° $\mathcal{R}\Upsilon$		evening set	16595 Apr 19 23:58	28° $\mathcal{S}$ 46'14	
opposition	16588 Oct 02 18:02	28° $\Upsilon$ 55'24	-0°26'37				
min. Earth dist.	16588 Oct 03 01:03	28° $\Upsilon$ 54'38	17.35826 AU	conjunction	16595 May 06 09:34	29° $\mathcal{S}$ 47'21	-0°55'44
direct	16588 Dec 16 22:37	26° $\Upsilon$ 50'23		minimum elong	16595 May 06 09:33	29° $\mathcal{S}$ 47'21	0°56'14
	16589 Mar 16 15:56	0° $\mathcal{S}$		max. Earth dist.	16595 May 06 04:30	29° $\mathcal{S}$ 46'33	19.42390 AU
evening set	16589 Mar 21 04:01	0° $\mathcal{S}$ 16'22			16595 May 09 18:27	0° $\mathcal{I}$	
conjunction	16589 Apr 06 16:18	1° $\mathcal{S}$ 17'56	-0°26'42	morning rise	16595 May 22 17:41	0° $\mathcal{I}$ 48'14	
minimum elong	16589 Apr 06 16:18	1° $\mathcal{S}$ 17'56	0°26'58	retrograde	16595 Aug 23 10:18	4° $\mathcal{I}$ 11'21	
max. Earth dist.	16589 Apr 06 08:45	1° $\mathcal{S}$ 16'45	19.35453 AU	opposition	16595 Nov 05 17:41	2° $\mathcal{I}$ 08'35	-1°04'16
morning rise	16589 Apr 23 03:42	2° $\mathcal{S}$ 19'24		min. Earth dist.	16595 Nov 05 21:03	2° $\mathcal{I}$ 08'13	17.43765 AU
retrograde	16589 Jul 25 09:52	5° $\mathcal{S}$ 44'05		direct	16596 Jan 20 10:35	0° $\mathcal{I}$ 03'52	
opposition	16589 Oct 07 17:43	3° $\mathcal{S}$ 40'22	-0°32'53	evening set	16596 Apr 24 02:18	3° $\mathcal{I}$ 29'59	
min. Earth dist.	16589 Oct 07 23:11	3° $\mathcal{S}$ 39'46	17.35256 AU				
direct	16589 Dec 22 00:31	1° $\mathcal{S}$ 35'16		conjunction	16596 May 10 11:27	4° $\mathcal{I}$ 30'56	-0°59'25
evening set	16590 Mar 26 07:26	5° $\mathcal{S}$ 01'29		minimum elong	16596 May 10 11:27	4° $\mathcal{I}$ 30'56	0°59'55
				max. Earth dist.	16596 May 10 07:54	4° $\mathcal{I}$ 30'22	19.45164 AU
conjunction	16590 Apr 11 19:30	6° $\mathcal{S}$ 03'03	-0°32'13	morning rise	16596 May 26 18:42	5° $\mathcal{I}$ 31'38	
minimum elong	16590 Apr 11 19:30	6° $\mathcal{S}$ 03'03	0°32'32	retrograde	16596 Aug 27 08:58	8° $\mathcal{I}$ 54'17	
max. Earth dist.	16590 Apr 11 12:55	6° $\mathcal{S}$ 02'01	19.35188 AU	opposition	16596 Nov 09 17:28	6° $\mathcal{I}$ 51'42	-1°08'07
morning rise	16590 Apr 28 06:24	7° $\mathcal{S}$ 04'29		min. Earth dist.	16596 Nov 09 20:41	6° $\mathcal{I}$ 51'21	17.46717 AU
retrograde	16590 Jul 30 09:48	10° $\mathcal{S}$ 29'03		direct	16597 Jan 24 12:46	4° $\mathcal{I}$ 47'07	
opposition	16590 Oct 12 17:44	8° $\mathcal{S}$ 25'24	-0°38'55	evening set	16597 Apr 29 04:23	8° $\mathcal{I}$ 12'52	
min. Earth dist.	16590 Oct 12 23:36	8° $\mathcal{S}$ 24'46	17.35310 AU				
direct	16590 Dec 27 00:49	6° $\mathcal{S}$ 20'17		conjunction	16597 May 15 12:45	9° $\mathcal{I}$ 13'38	-1°02'41
evening set	16591 Mar 31 11:02	9° $\mathcal{S}$ 46'41		minimum elong	16597 May 15 12:45	9° $\mathcal{I}$ 13'38	1°03'13
				max. Earth dist.	16597 May 15 08:26	9° $\mathcal{I}$ 12'58	19.48296 AU
conjunction	16591 Apr 16 22:40	10° $\mathcal{S}$ 48'12	-0°37'31	morning rise	16597 May 31 19:29	10° $\mathcal{I}$ 14'10	
minimum elong	16591 Apr 16 22:40	10° $\mathcal{S}$ 48'12	0°37'51	retrograde	16597 Sep 01 07:07	13° $\mathcal{I}$ 36'16	
max. Earth dist.	16591 Apr 16 16:03	10° $\mathcal{S}$ 47'10	19.35558 AU	opposition	16597 Nov 14 16:51	11° $\mathcal{I}$ 33'51	-1°11'31
morning rise	16591 May 03 09:11	11° $\mathcal{S}$ 49'35		min. Earth dist.	16597 Nov 14 19:44	11° $\mathcal{I}$ 33'32	17.50032 AU
	16591 Jul 12 22:33	15° $\mathcal{S}$		direct	16598 Jan 29 14:25	9° $\mathcal{I}$ 29'21	
retrograde	16591 Aug 04 10:59	15° $\mathcal{S}$ 13'58		evening set	16598 May 04 05:43	12° $\mathcal{I}$ 54'42	
	16591 Aug 27 03:05	15° $\mathcal{R}\mathcal{S}$					
opposition	16591 Oct 17 17:35	13° $\mathcal{S}$ 10'27	-0°44'41	conjunction	16598 May 20 13:39	13° $\mathcal{I}$ 55'16	-1°05'31
min. Earth dist.	16591 Oct 17 22:02	13° $\mathcal{S}$ 09'58	17.35982 AU	minimum elong	16598 May 20 13:38	13° $\mathcal{I}$ 55'16	1°06'03
direct	16592 Jan 01 03:04	11° $\mathcal{S}$ 05'22		max. Earth dist.	16598 May 20 10:44	13° $\mathcal{I}$ 54'49	19.51775 AU
evening set	16592 Apr 04 14:29	14° $\mathcal{S}$ 31'53		morning rise	16598 Jun 05 19:34	14° $\mathcal{I}$ 55'35	
	16592 Apr 12 04:40	15° $\mathcal{S}$		retrograde	16598 Sep 06 05:22	18° $\mathcal{I}$ 17'05	
conjunction	16592 Apr 21 01:47	15° $\mathcal{S}$ 33'20	-0°42'33	opposition	16598 Nov 19 15:59	16° $\mathcal{I}$ 14'51	-1°14'25
minimum elong	16592 Apr 21 01:47	15° $\mathcal{S}$ 33'20	0°42'56	min. Earth dist.	16598 Nov 19 18:19	16° $\mathcal{I}$ 14'36	17.53669 AU
max. Earth dist.	16592 Apr 20 20:34	15° $\mathcal{S}$ 32'31	19.36515 AU	direct	16599 Feb 03 16:14	14° $\mathcal{I}$ 10'27	
morning rise	16592 May 07 11:36	16° $\mathcal{S}$ 34'37		evening set	16599 May 09 06:34	17° $\mathcal{I}$ 35'17	



conjunction	16599 May 25 13:41	18° $\Pi$ 35'39	-1°07'54
minimum elong	16599 May 25 13:41	18° $\Pi$ 35'39	1°08'29
max. Earth dist.	16599 May 25 10:19	18° $\Pi$ 35'07	19.55579 AU
morning rise	16599 Jun 10 19:01	19° $\Pi$ 35'45	
retrograde	16599 Sep 11 02:15	22° $\Pi$ 56'36	
opposition	16599 Nov 24 14:43	20° $\Pi$ 54'30	-1°16'49
min. Earth dist.	16599 Nov 24 16:55	20° $\Pi$ 54'16	17.57651 AU
direct	16600 Feb 08 16:08	18° $\Pi$ 50'12	
evening set	16600 May 14 06:29	22° $\Pi$ 14'27	

conjunction	16600 May 30 13:05	23° $\Pi$ 14'35	-1°09'51
minimum elong	16600 May 30 13:05	23° $\Pi$ 14'35	1°10'26
max. Earth dist.	16600 May 30 11:09	23° $\Pi$ 14'17	19.59734 AU
morning rise	16600 Jun 15 17:39	24° $\Pi$ 14'27	
retrograde	16600 Sep 16 00:09	27° $\Pi$ 34'36	
opposition	16600 Nov 29 12:58	25° $\Pi$ 32'39	-1°18'43
min. Earth dist.	16600 Nov 29 14:05	25° $\Pi$ 32'32	17.61974 AU
direct	16601 Feb 13 17:18	23° $\Pi$ 28'29	
evening set	16601 May 19 05:38	26° $\Pi$ 52'03	

conjunction	16601 Jun 04 11:29	27° $\Pi$ 51'56	-1°11'19
minimum elong	16601 Jun 04 11:29	27° $\Pi$ 51'56	1°11'54
max. Earth dist.	16601 Jun 04 09:44	27° $\Pi$ 51'40	19.64236 AU
morning rise	16601 Jun 20 15:29	28° $\Pi$ 51'34	
	16601 Jul 10 09:58	0° $\mathfrak{D}$	
retrograde	16601 Sep 20 19:17	2° $\mathfrak{D}$ 10'58	
opposition	16601 Dec 04 10:49	0° $\mathfrak{D}$ 09'10	-1°20'04
min. Earth dist.	16601 Dec 04 11:53	0° $\mathfrak{D}$ 09'03	17.66668 AU
	16601 Dec 08 00:45	30° $\mathfrak{R}\Pi$	