



















































































































direct	15600 Mar 05 08:02	11° $\mathring{O}$ 20'20	conjunction	15606 Jul 19 14:45	11° $\mathring{O}$ 23'44 -0°53'02
evening set	15600 Jun 07 06:20	14° $\mathring{O}$ 37'30	minimum elong	15606 Jul 19 14:46	11° $\mathring{O}$ 23'44 0°53'45
			max. Earth dist.	15606 Jul 19 21:14	11° $\mathring{O}$ 24'42 20.48410 AU
conjunction	15600 Jun 23 07:08	15° $\mathring{O}$ 35'17 -1°07'50	morning rise	15606 Aug 04 11:46	12° $\mathring{O}$ 19'46
minimum elong	15600 Jun 23 07:08	15° $\mathring{O}$ 35'17 1°08'41		15606 Oct 01 20:16	15° $\mathring{O}$
max. Earth dist.	15600 Jun 23 11:18	15° $\mathring{O}$ 35'55 20.09923 AU	retrograde	15606 Nov 04 04:19	15° $\mathring{O}$ 28'29
morning rise	15600 Jul 09 06:16	16° $\mathring{O}$ 32'50		15606 Dec 08 07:35	15° $\mathring{R}$ $\mathring{O}$
retrograde	15600 Oct 09 00:27	19° $\mathring{O}$ 46'10	opposition	15607 Jan 19 05:18	13° $\mathring{O}$ 29'35 -0°56'55
opposition	15600 Dec 23 08:10	17° $\mathring{O}$ 46'18 -1°14'34	min. Earth dist.	15607 Jan 18 23:25	13° $\mathring{O}$ 30'11 18.51371 AU
min. Earth dist.	15600 Dec 23 03:57	17° $\mathring{O}$ 46'44 18.13346 AU	direct	15607 Apr 06 06:01	11° $\mathring{O}$ 29'14
direct	15601 Mar 10 02:05	15° $\mathring{O}$ 44'25	evening set	15607 Jul 08 03:16	14° $\mathring{O}$ 39'16
evening set	15601 Jun 11 22:13	19° $\mathring{O}$ 00'34		15607 Jul 14 02:06	15° $\mathring{O}$
conjunction	15601 Jun 27 22:34	19° $\mathring{O}$ 58'04 -1°06'13	conjunction	15607 Jul 24 01:03	15° $\mathring{O}$ 35'12 -0°49'31
minimum elong	15601 Jun 27 22:34	19° $\mathring{O}$ 58'04 1°07'04	minimum elong	15607 Jul 24 01:03	15° $\mathring{O}$ 35'13 0°50'11
max. Earth dist.	15601 Jun 28 03:33	19° $\mathring{O}$ 58'50 20.16702 AU	max. Earth dist.	15607 Jul 24 07:56	15° $\mathring{O}$ 36'13 20.54281 AU
morning rise	15601 Jul 13 21:12	20° $\mathring{O}$ 55'21	morning rise	15607 Aug 08 21:52	16° $\mathring{O}$ 31'01
retrograde	15601 Oct 13 16:11	24° $\mathring{O}$ 07'52	retrograde	15607 Nov 08 15:48	19° $\mathring{O}$ 39'05
opposition	15601 Dec 28 01:09	22° $\mathring{O}$ 08'14 -1°12'32	opposition	15608 Jan 23 18:30	17° $\mathring{O}$ 40'18 -0°52'52
min. Earth dist.	15601 Dec 27 19:59	22° $\mathring{O}$ 08'46 18.20070 AU	min. Earth dist.	15608 Jan 23 10:58	17° $\mathring{O}$ 41'04 18.57176 AU
direct	15602 Mar 14 21:34	20° $\mathring{O}$ 06'39	direct	15608 Apr 09 21:15	15° $\mathring{O}$ 40'12
evening set	15602 Jun 16 13:23	23° $\mathring{O}$ 21'47	evening set	15608 Jul 11 13:02	18° $\mathring{O}$ 49'17
conjunction	15602 Jul 02 13:09	24° $\mathring{O}$ 19'01 -1°04'15	conjunction	15608 Jul 27 10:32	19° $\mathring{O}$ 45'00 -0°45'45
minimum elong	15602 Jul 02 13:09	24° $\mathring{O}$ 19'01 1°05'05	minimum elong	15608 Jul 27 10:32	19° $\mathring{O}$ 45'00 0°46'22
max. Earth dist.	15602 Jul 02 18:04	24° $\mathring{O}$ 19'45 20.23368 AU	max. Earth dist.	15608 Jul 27 18:15	19° $\mathring{O}$ 46'08 20.60022 AU
morning rise	15602 Jul 18 11:24	25° $\mathring{O}$ 16'01	morning rise	15608 Aug 12 07:10	20° $\mathring{O}$ 40'37
retrograde	15602 Oct 18 04:45	28° $\mathring{O}$ 27'45	retrograde	15608 Nov 12 00:39	23° $\mathring{O}$ 48'05
opposition	15603 Jan 01 17:49	26° $\mathring{O}$ 28'19 -1°10'08	opposition	15609 Jan 27 07:12	21° $\mathring{O}$ 49'26 -0°48'32
min. Earth dist.	15603 Jan 01 13:10	26° $\mathring{O}$ 28'48 18.26675 AU	min. Earth dist.	15609 Jan 27 00:10	21° $\mathring{O}$ 50'09 18.62858 AU
direct	15603 Mar 19 14:17	24° $\mathring{O}$ 27'02	direct	15609 Apr 14 08:54	19° $\mathring{O}$ 49'36
evening set	15603 Jun 21 03:30	27° $\mathring{O}$ 41'07	evening set	15609 Jul 15 22:12	22° $\mathring{O}$ 57'48
conjunction	15603 Jul 07 02:49	28° $\mathring{O}$ 38'04 -1°01'55	conjunction	15609 Jul 31 19:26	23° $\mathring{O}$ 53'19 -0°41'45
minimum elong	15603 Jul 07 02:49	28° $\mathring{O}$ 38'05 1°02'43	minimum elong	15609 Jul 31 19:26	23° $\mathring{O}$ 53'19 0°42'21
max. Earth dist.	15603 Jul 07 08:14	28° $\mathring{O}$ 38'53 20.29897 AU	max. Earth dist.	15609 Aug 01 03:18	23° $\mathring{O}$ 54'28 20.65639 AU
morning rise	15603 Jul 23 00:39	29° $\mathring{O}$ 34'49	morning rise	15609 Aug 16 15:59	24° $\mathring{O}$ 48'44
	15603 Jul 30 07:35	0° $\mathring{O}$	retrograde	15609 Nov 16 10:56	27° $\mathring{O}$ 55'39
retrograde	15603 Oct 22 19:08	2° $\mathring{O}$ 45'46	opposition	15610 Jan 31 19:02	25° $\mathring{O}$ 57'09 -0°44'00
opposition	15604 Jan 06 09:42	0° $\mathring{O}$ 46'31 -1°07'20	min. Earth dist.	15610 Jan 31 10:31	25° $\mathring{O}$ 58'01 18.68383 AU
min. Earth dist.	15604 Jan 06 03:54	0° $\mathring{O}$ 47'06 18.33107 AU	direct	15610 Apr 18 22:01	23° $\mathring{O}$ 57'37
	15604 Jan 25 17:25	30° $\mathring{R}$ $\mathring{O}$	evening set	15610 Jul 20 06:45	27° $\mathring{O}$ 04'59
direct	15604 Mar 23 08:49	28° $\mathring{O}$ 45'29			
	15604 May 17 12:17	0° $\mathring{O}$	conjunction	15610 Aug 05 03:47	28° $\mathring{O}$ 00'18 -0°37'35
evening set	15604 Jun 24 16:49	1° $\mathring{O}$ 58'32	minimum elong	15610 Aug 05 03:47	28° $\mathring{O}$ 00'18 0°38'06
			max. Earth dist.	15610 Aug 05 12:25	28° $\mathring{O}$ 01'34 20.71067 AU
conjunction	15604 Jul 10 15:40	2° $\mathring{O}$ 55'13 -0°59'16	morning rise	15610 Aug 21 00:12	28° $\mathring{O}$ 55'33
minimum elong	15604 Jul 10 15:41	2° $\mathring{O}$ 55'13 1°00'03		15610 Sep 09 17:50	0° $\mathring{O}$ $\mathring{O}$
max. Earth dist.	15604 Jul 10 21:16	2° $\mathring{O}$ 56'03 20.36240 AU	retrograde	15610 Nov 20 19:18	2° $\mathring{O}$ 01'58
morning rise	15604 Jul 26 13:12	3° $\mathring{O}$ 51'43	opposition	15611 Feb 05 06:45	0° $\mathring{O}$ 03'39 -0°39'15
retrograde	15604 Oct 26 05:59	7° $\mathring{O}$ 01'55	min. Earth dist.	15611 Feb 04 22:53	0° $\mathring{O}$ 04'26 18.73706 AU
opposition	15605 Jan 10 00:57	5° $\mathring{O}$ 02'47 -1°04'11		15611 Feb 06 18:46	30° $\mathring{R}$ $\mathring{O}$
min. Earth dist.	15605 Jan 09 19:49	5° $\mathring{O}$ 03'19 18.39367 AU	direct	15611 Apr 23 08:14	28° $\mathring{O}$ 04'25
direct	15605 Mar 27 23:39	3° $\mathring{O}$ 01'59		15611 Jul 02 15:40	0° $\mathring{O}$ $\mathring{O}$
evening set	15605 Jun 29 05:07	6° $\mathring{O}$ 14'00	evening set	15611 Jul 24 14:37	1° $\mathring{O}$ 10'59
conjunction	15605 Jul 15 03:38	7° $\mathring{O}$ 10'26 -0°56'17	conjunction	15611 Aug 09 11:25	2° $\mathring{O}$ 06'07 -0°33'14
minimum elong	15605 Jul 15 03:39	7° $\mathring{O}$ 10'26 0°57'02	minimum elong	15611 Aug 09 11:25	2° $\mathring{O}$ 06'07 0°33'44
max. Earth dist.	15605 Jul 15 09:35	7° $\mathring{O}$ 11'19 20.42417 AU	max. Earth dist.	15611 Aug 09 20:01	2° $\mathring{O}$ 07'22 20.76278 AU
morning rise	15605 Jul 31 00:56	8° $\mathring{O}$ 06'42	morning rise	15611 Aug 25 07:50	3° $\mathring{O}$ 01'12
retrograde	15605 Oct 30 18:45	11° $\mathring{O}$ 16'08	retrograde	15611 Nov 25 04:48	6° $\mathring{O}$ 07'12
opposition	15606 Jan 14 15:24	9° $\mathring{O}$ 17'07 -1°00'42	opposition	15612 Feb 09 17:49	4° $\mathring{O}$ 09'01 -0°34'20
min. Earth dist.	15606 Jan 14 08:57	9° $\mathring{O}$ 17'47 18.45443 AU	min. Earth dist.	15612 Feb 09 08:38	4° $\mathring{O}$ 09'57 18.78774 AU
direct	15606 Apr 01 16:51	7° $\mathring{O}$ 16'33	direct	15612 Apr 26 19:52	2° $\mathring{O}$ 10'05
evening set	15606 Jul 03 16:38	10° $\mathring{O}$ 27'33	evening set	15612 Jul 27 22:05	5° $\mathring{O}$ 15'54

conjunction	15612 Aug 12 18:45	6° $\mathring{M}$ 10'52	-0°28'44	asc. node	15618 Aug 30 21:11	29° $\mathring{M}$ 58'47	
minimum elong	15612 Aug 12 18:46	6° $\mathring{M}$ 10'52	0°29'10		15618 Aug 31 05:39	0° $\mathring{A}$	
max. Earth dist.	15612 Aug 13 04:00	6° $\mathring{M}$ 12'13	20.81191 AU				
morning rise	15612 Aug 28 15:06	7° $\mathring{M}$ 05'49		conjunction	15618 Sep 06 07:22	0° $\mathring{A}$ 20'56	0°00'05
retrograde	15612 Nov 28 12:27	10° $\mathring{M}$ 11'24		minimum elong	15618 Sep 06 07:22	0° $\mathring{A}$ 20'56	0°00'01
opposition	15613 Feb 13 04:31	8° $\mathring{M}$ 13'23	-0°29'17	behind sun begin	15618 Sep 06 03:10	0° $\mathring{A}$ 20'23	
min. Earth dist.	15613 Feb 12 20:17	8° $\mathring{M}$ 14'13	18.83527 AU	behind sun end	15618 Sep 06 11:33	0° $\mathring{A}$ 21'30	
direct	15613 May 01 04:35	6° $\mathring{M}$ 14'43		max. Earth dist.	15618 Sep 06 15:37	0° $\mathring{A}$ 22'06	21.01724 AU
evening set	15613 Aug 01 05:09	9° $\mathring{M}$ 19'51		morning rise	15618 Sep 22 04:11	1° $\mathring{A}$ 15'18	
				retrograde	15618 Dec 23 10:21	4° $\mathring{A}$ 19'20	
conjunction	15613 Aug 17 01:40	10° $\mathring{M}$ 14'40	-0°24'07	opposition	15619 Mar 10 13:19	2° $\mathring{A}$ 21'33	0°02'48
minimum elong	15613 Aug 17 01:40	10° $\mathring{M}$ 14'40	0°24'30	min. Earth dist.	15619 Mar 10 06:08	2° $\mathring{A}$ 22'16	19.02636 AU
max. Earth dist.	15613 Aug 17 10:26	10° $\mathring{M}$ 15'56	20.85771 AU	direct	15619 May 26 07:48	0° $\mathring{A}$ 23'52	
morning rise	15613 Sep 01 22:05	11° $\mathring{M}$ 09'28		evening set	15619 Aug 25 15:54	3° $\mathring{A}$ 25'36	
retrograde	15613 Dec 02 21:41	14° $\mathring{M}$ 14'43					
opposition	15614 Feb 17 14:45	12° $\mathring{M}$ 16'49	-0°24'06	conjunction	15619 Sep 10 12:16	4° $\mathring{A}$ 19'49	0°05'03
min. Earth dist.	15614 Feb 17 05:32	12° $\mathring{M}$ 17'44	18.87907 AU	minimum elong	15619 Sep 10 12:15	4° $\mathring{A}$ 19'49	0°05'02
direct	15614 May 05 15:03	10° $\mathring{M}$ 18'25		behind sun begin	15619 Sep 10 05:51	4° $\mathring{A}$ 18'55	
evening set	15614 Aug 05 11:46	13° $\mathring{M}$ 22'53		behind sun end	15619 Sep 10 18:39	4° $\mathring{A}$ 20'42	
				max. Earth dist.	15619 Sep 10 19:51	4° $\mathring{A}$ 20'53	21.03444 AU
conjunction	15614 Aug 21 08:12	14° $\mathring{M}$ 17'34	-0°19'24	morning rise	15619 Sep 26 09:22	5° $\mathring{A}$ 14'08	
minimum elong	15614 Aug 21 08:12	14° $\mathring{M}$ 17'34	0°19'43	retrograde	15619 Dec 27 18:20	8° $\mathring{A}$ 18'03	
max. Earth dist.	15614 Aug 21 17:26	14° $\mathring{M}$ 18'53	20.89932 AU	opposition	15620 Mar 13 21:37	6° $\mathring{A}$ 20'10	0°08'12
morning rise	15614 Sep 06 04:33	15° $\mathring{M}$ 12'15		min. Earth dist.	15620 Mar 13 13:37	6° $\mathring{A}$ 20'58	19.04144 AU
retrograde	15614 Dec 07 04:33	18° $\mathring{M}$ 17'11		direct	15620 May 29 15:13	4° $\mathring{A}$ 22'32	
opposition	15615 Feb 22 00:50	16° $\mathring{M}$ 19'24	-0°18'49	evening set	15620 Aug 28 20:41	7° $\mathring{A}$ 23'54	
min. Earth dist.	15615 Feb 21 16:43	16° $\mathring{M}$ 20'12	18.91851 AU				
direct	15615 May 09 22:54	14° $\mathring{M}$ 21'13		conjunction	15620 Sep 13 17:11	8° $\mathring{A}$ 18'03	0°09'53
evening set	15615 Aug 09 18:07	17° $\mathring{M}$ 25'04		minimum elong	15620 Sep 13 17:11	8° $\mathring{A}$ 18'03	0°09'55
				behind sun begin	15620 Sep 13 11:49	8° $\mathring{A}$ 17'18	
conjunction	15615 Aug 25 14:25	18° $\mathring{M}$ 19'37	-0°14'36	behind sun end	15620 Sep 13 22:33	8° $\mathring{A}$ 18'48	
minimum elong	15615 Aug 25 14:25	18° $\mathring{M}$ 19'37	0°14'52	max. Earth dist.	15620 Sep 14 01:21	8° $\mathring{A}$ 19'12	21.04741 AU
behind sun begin	15615 Aug 25 11:46	18° $\mathring{M}$ 19'15		morning rise	15620 Sep 29 14:24	9° $\mathring{A}$ 12'20	
behind sun end	15615 Aug 25 17:04	18° $\mathring{M}$ 19'59		retrograde	15620 Dec 30 23:51	12° $\mathring{A}$ 16'12	
max. Earth dist.	15615 Aug 25 22:56	18° $\mathring{M}$ 20'50	20.93650 AU	opposition	15621 Mar 18 05:36	10° $\mathring{A}$ 18'14	0°13'33
morning rise	15615 Sep 10 10:55	19° $\mathring{M}$ 14'12		min. Earth dist.	15621 Mar 17 22:31	10° $\mathring{A}$ 18'57	19.05256 AU
retrograde	15615 Dec 11 13:36	22° $\mathring{M}$ 18'52		direct	15621 Jun 02 22:05	8° $\mathring{A}$ 20'39	
opposition	15616 Feb 26 10:25	20° $\mathring{M}$ 21'08	-0°13'27	evening set	15621 Sep 02 01:23	11° $\mathring{A}$ 21'42	
min. Earth dist.	15616 Feb 26 01:31	20° $\mathring{M}$ 22'02	18.95324 AU				
direct	15616 May 13 08:25	18° $\mathring{M}$ 23'09		conjunction	15621 Sep 17 21:54	12° $\mathring{A}$ 15'49	0°14'41
evening set	15616 Aug 12 24:00	21° $\mathring{M}$ 26'25		minimum elong	15621 Sep 17 21:54	12° $\mathring{A}$ 15'49	0°14'46
				behind sun begin	15621 Sep 17 19:10	12° $\mathring{A}$ 15'26	
conjunction	15616 Aug 28 20:20	22° $\mathring{M}$ 20'52	-0°09'46	behind sun end	15621 Sep 18 00:39	12° $\mathring{A}$ 16'12	
minimum elong	15616 Aug 28 20:21	22° $\mathring{M}$ 20'52	0°09'58	max. Earth dist.	15621 Sep 18 05:22	12° $\mathring{A}$ 16'53	21.05674 AU
behind sun begin	15616 Aug 28 15:00	22° $\mathring{M}$ 20'07		morning rise	15621 Oct 03 19:27	13° $\mathring{A}$ 10'06	
behind sun end	15616 Aug 29 01:41	22° $\mathring{M}$ 21'37		retrograde	15622 Jan 04 08:13	16° $\mathring{A}$ 13'58	
max. Earth dist.	15616 Aug 29 05:08	22° $\mathring{M}$ 22'07	20.96859 AU	opposition	15622 Mar 22 13:26	14° $\mathring{A}$ 15'56	0°18'50
morning rise	15616 Sep 13 16:53	23° $\mathring{M}$ 15'22		min. Earth dist.	15622 Mar 22 05:29	14° $\mathring{A}$ 16'43	19.06010 AU
retrograde	15616 Dec 14 20:03	26° $\mathring{M}$ 19'47		direct	15622 Jun 07 04:45	12° $\mathring{A}$ 18'24	
opposition	15617 Mar 01 19:47	24° $\mathring{M}$ 22'05	-0°08'03	evening set	15622 Sep 06 05:50	15° $\mathring{A}$ 19'13	
min. Earth dist.	15617 Mar 01 12:09	24° $\mathring{M}$ 22'50	18.98272 AU				
direct	15617 May 17 15:54	22° $\mathring{M}$ 24'14		conjunction	15622 Sep 22 02:33	16° $\mathring{A}$ 13'19	0°19'24
evening set	15617 Aug 17 05:42	25° $\mathring{M}$ 26'57		minimum elong	15622 Sep 22 02:32	16° $\mathring{A}$ 13'19	0°19'33
				max. Earth dist.	15622 Sep 22 10:37	16° $\mathring{A}$ 14'28	21.06238 AU
conjunction	15617 Sep 02 01:59	26° $\mathring{M}$ 21'18	-0°04'54	morning rise	15622 Oct 08 00:12	17° $\mathring{A}$ 07'36	
minimum elong	15617 Sep 02 01:58	26° $\mathring{M}$ 21'18	0°05'02	retrograde	15623 Jan 08 13:45	20° $\mathring{A}$ 11'33	
behind sun begin	15617 Sep 01 19:35	26° $\mathring{M}$ 20'24		opposition	15623 Mar 26 21:19	18° $\mathring{A}$ 13'27	0°24'01
behind sun end	15617 Sep 02 08:22	26° $\mathring{M}$ 22'12		min. Earth dist.	15623 Mar 26 14:08	18° $\mathring{A}$ 14'10	19.06398 AU
max. Earth dist.	15617 Sep 02 09:51	26° $\mathring{M}$ 22'25	20.99551 AU	direct	15623 Jun 11 10:47	16° $\mathring{A}$ 16'00	
morning rise	15617 Sep 17 22:43	27° $\mathring{M}$ 15'43		evening set	15623 Sep 10 10:26	19° $\mathring{A}$ 16'38	
	15617 Nov 20 19:54	0° $\mathring{A}$					
retrograde	15617 Dec 19 04:17	0° $\mathring{A}$ 19'56		conjunction	15623 Sep 26 07:14	20° $\mathring{A}$ 10'45	0°24'02
	15618 Jan 17 01:57	30° $\mathring{R}$ $\mathring{M}$		minimum elong	15623 Sep 26 07:14	20° $\mathring{A}$ 10'45	0°24'14
opposition	15618 Mar 06 04:34	28° $\mathring{M}$ 22'12	-0°02'38	max. Earth dist.	15623 Sep 26 14:34	20° $\mathring{A}$ 11'48	21.06455 AU
min. Earth dist.	15618 Mar 05 20:19	28° $\mathring{M}$ 23'02	19.00700 AU	morning rise	15623 Oct 12 05:17	21° $\mathring{A}$ 05'03	
direct	15618 May 22 00:27	26° $\mathring{M}$ 24'27		retrograde	15624 Jan 12 22:31	24° $\mathring{A}$ 09'08	
evening set	15618 Aug 21 11:00	29° $\mathring{M}$ 26'40		opposition	15624 Mar 30 04:52	22° $\mathring{A}$ 11'00	0°29'05

min. Earth dist.	15624 Mar 29 21:03	22° <u>♄</u> 11'47	19.06433 AU		15630 Aug 23 23:32	15° <u>♍</u>	
direct	15624 Jun 14 17:14	20° <u>♄</u> 13'36		evening set	15630 Oct 08 00:14	17° <u>♍</u> 09'38	
evening set	15624 Sep 13 15:00	23° <u>♄</u> 14'10					
				conjunction	15630 Oct 23 23:00	18° <u>♍</u> 04'16	0°52'13
conjunction	15624 Sep 29 12:06	24° <u>♄</u> 08'18	0°28'33	minimum elong	15630 Oct 23 23:00	18° <u>♍</u> 04'16	0°52'47
minimum elong	15624 Sep 29 12:05	24° <u>♄</u> 08'18	0°28'50	max. Earth dist.	15630 Oct 24 03:34	18° <u>♍</u> 04'55	20.95786 AU
max. Earth dist.	15624 Sep 29 19:55	24° <u>♄</u> 09'25	21.06289 AU	morning rise	15630 Nov 08 23:27	18° <u>♍</u> 59'11	
morning rise	15624 Oct 15 10:21	25° <u>♄</u> 02'39		retrograde	15631 Feb 10 08:57	22° <u>♍</u> 05'41	
retrograde	15625 Jan 16 04:38	28° <u>♄</u> 06'56		opposition	15631 Apr 28 13:18	20° <u>♍</u> 06'58	0°59'36
opposition	15625 Apr 03 12:35	26° <u>♄</u> 08'45	0°34'01	min. Earth dist.	15631 Apr 28 09:44	20° <u>♍</u> 07'20	18.94095 AU
min. Earth dist.	15625 Apr 03 05:43	26° <u>♄</u> 09'27	19.06070 AU	direct	15631 Jul 13 12:50	18° <u>♍</u> 09'32	
direct	15625 Jun 18 22:14	24° <u>♄</u> 11'27		evening set	15631 Oct 12 07:01	21° <u>♍</u> 11'14	
evening set	15625 Sep 17 19:51	27° <u>♄</u> 11'59					
				conjunction	15631 Oct 28 06:05	22° <u>♍</u> 06'01	0°55'25
conjunction	15625 Oct 03 17:03	28° <u>♄</u> 06'09	0°32'56	minimum elong	15631 Oct 28 06:05	22° <u>♍</u> 06'01	0°56'03
minimum elong	15625 Oct 03 17:03	28° <u>♄</u> 06'09	0°33'15	max. Earth dist.	15631 Oct 28 09:08	22° <u>♍</u> 06'27	20.92247 AU
max. Earth dist.	15625 Oct 03 23:57	28° <u>♄</u> 07'08	21.05729 AU	morning rise	15631 Nov 13 07:09	23° <u>♍</u> 01'05	
morning rise	15625 Oct 19 15:43	29° <u>♄</u> 00'33		retrograde	15632 Feb 14 18:45	26° <u>♍</u> 08'04	
	15625 Nov 07 03:57	0° <u>♍</u>		opposition	15632 May 01 21:52	24° <u>♍</u> 09'08	1°03'01
retrograde	15626 Jan 20 13:36	2° <u>♍</u> 05'06		min. Earth dist.	15632 May 01 18:32	24° <u>♍</u> 09'28	18.90329 AU
opposition	15626 Apr 07 20:14	0° <u>♍</u> 06'53	0°38'47	direct	15632 Jul 16 19:51	22° <u>♍</u> 11'30	
min. Earth dist.	15626 Apr 07 13:00	0° <u>♍</u> 07'37	19.05301 AU	evening set	15632 Oct 15 14:04	25° <u>♍</u> 13'35	
	15626 Apr 10 16:59	30° <u>♋</u>					
direct	15626 Jun 23 04:59	28° <u>♄</u> 09'38		conjunction	15632 Oct 31 13:40	26° <u>♍</u> 08'31	0°58'21
	15626 Aug 30 20:49	0° <u>♍</u>		minimum elong	15632 Oct 31 13:40	26° <u>♍</u> 08'30	0°59'01
evening set	15626 Sep 22 00:51	1° <u>♍</u> 10'14		max. Earth dist.	15632 Oct 31 16:53	26° <u>♍</u> 08'58	20.88259 AU
				morning rise	15632 Nov 16 15:04	27° <u>♍</u> 03'44	
conjunction	15626 Oct 07 22:22	2° <u>♍</u> 04'28	0°37'10		15633 Jan 27 20:52	0° <u>♋</u>	
minimum elong	15626 Oct 07 22:21	2° <u>♍</u> 04'28	0°37'33	retrograde	15633 Feb 18 03:51	0° <u>♋</u> 11'13	
max. Earth dist.	15626 Oct 08 05:38	2° <u>♍</u> 05'30	21.04734 AU		15633 Mar 11 15:19	30° <u>♋</u>	
morning rise	15626 Oct 23 21:15	2° <u>♍</u> 58'56		opposition	15633 May 06 06:48	28° <u>♍</u> 12'04	1°06'08
retrograde	15627 Jan 24 20:51	6° <u>♍</u> 03'48		min. Earth dist.	15633 May 06 04:21	28° <u>♍</u> 12'19	18.86146 AU
opposition	15627 Apr 12 04:10	4° <u>♍</u> 05'33	0°43'23	direct	15633 Jul 21 03:42	26° <u>♍</u> 14'15	
min. Earth dist.	15627 Apr 11 22:01	4° <u>♍</u> 06'10	19.04084 AU	evening set	15633 Oct 19 21:33	29° <u>♍</u> 16'45	
direct	15627 Jun 27 09:53	2° <u>♍</u> 08'20			15633 Nov 01 11:43	0° <u>♋</u>	
evening set	15627 Sep 26 06:08	5° <u>♍</u> 09'03					
				conjunction	15633 Nov 04 21:27	0° <u>♋</u> 11'50	1°01'01
conjunction	15627 Oct 12 03:50	6° <u>♍</u> 03'21	0°41'13	minimum elong	15633 Nov 04 21:27	0° <u>♋</u> 11'50	1°01'44
minimum elong	15627 Oct 12 03:50	6° <u>♍</u> 03'21	0°41'39	max. Earth dist.	15633 Nov 04 23:22	0° <u>♋</u> 12'07	20.83905 AU
max. Earth dist.	15627 Oct 12 09:57	6° <u>♍</u> 04'14	21.03288 AU	morning rise	15633 Nov 20 23:28	1° <u>♋</u> 07'14	
morning rise	15627 Oct 28 03:14	6° <u>♍</u> 57'55		retrograde	15634 Feb 22 14:30	4° <u>♋</u> 15'17	
retrograde	15628 Jan 29 06:17	10° <u>♍</u> 03'09		opposition	15634 May 10 15:57	2° <u>♋</u> 15'53	1°08'56
opposition	15628 Apr 15 12:09	8° <u>♍</u> 04'50	0°47'47	min. Earth dist.	15634 May 10 13:35	2° <u>♋</u> 16'07	18.81635 AU
min. Earth dist.	15628 Apr 15 05:59	8° <u>♍</u> 05'27	19.02392 AU	direct	15634 Jul 25 11:19	0° <u>♋</u> 17'52	
direct	15628 Jun 30 16:47	6° <u>♍</u> 07'38		evening set	15634 Oct 24 05:30	3° <u>♋</u> 20'51	
evening set	15628 Sep 29 11:51	9° <u>♍</u> 08'32					
				conjunction	15634 Nov 09 05:58	4° <u>♋</u> 16'07	1°03'23
conjunction	15628 Oct 15 09:56	10° <u>♍</u> 02'56	0°45'06	minimum elong	15634 Nov 09 05:58	4° <u>♋</u> 16'07	1°04'07
minimum elong	15628 Oct 15 09:55	10° <u>♍</u> 02'56	0°45'35	max. Earth dist.	15634 Nov 09 08:19	4° <u>♋</u> 16'27	20.79238 AU
max. Earth dist.	15628 Oct 15 16:03	10° <u>♍</u> 03'49	21.01323 AU	morning rise	15634 Nov 25 08:20	5° <u>♋</u> 11'42	
morning rise	15628 Oct 31 09:34	10° <u>♍</u> 57'36		retrograde	15635 Feb 27 00:02	8° <u>♋</u> 20'20	
retrograde	15629 Feb 01 14:29	14° <u>♍</u> 03'13		opposition	15635 May 15 01:25	6° <u>♋</u> 20'43	1°11'24
opposition	15629 Apr 19 20:15	12° <u>♍</u> 04'49	0°51'58	min. Earth dist.	15635 May 14 23:41	6° <u>♋</u> 20'53	18.76835 AU
min. Earth dist.	15629 Apr 19 15:24	12° <u>♍</u> 05'19	19.00163 AU	direct	15635 Jul 29 19:18	4° <u>♋</u> 22'29	
direct	15629 Jul 04 22:41	10° <u>♍</u> 07'36		evening set	15635 Oct 28 14:02	7° <u>♋</u> 26'01	
evening set	15629 Oct 03 17:59	13° <u>♍</u> 08'44					
				conjunction	15635 Nov 13 14:55	8° <u>♋</u> 21'29	1°05'26
conjunction	15629 Oct 19 16:18	14° <u>♍</u> 03'14	0°48'46	minimum elong	15635 Nov 13 14:54	8° <u>♋</u> 21'28	1°06'12
minimum elong	15629 Oct 19 16:17	14° <u>♍</u> 03'14	0°49'18	max. Earth dist.	15635 Nov 13 15:57	8° <u>♋</u> 21'38	20.74318 AU
max. Earth dist.	15629 Oct 19 20:52	14° <u>♍</u> 03'54	20.98830 AU	morning rise	15635 Nov 29 17:58	9° <u>♋</u> 17'15	
morning rise	15629 Nov 04 16:26	14° <u>♍</u> 58'02		retrograde	15636 Mar 02 12:11	12° <u>♋</u> 26'33	
	15629 Nov 05 06:31	15° <u>♍</u>		opposition	15636 May 18 11:13	10° <u>♋</u> 26'41	1°13'30
retrograde	15630 Feb 06 00:11	18° <u>♍</u> 04'05		min. Earth dist.	15636 May 18 09:40	10° <u>♋</u> 26'51	18.71799 AU
opposition	15630 Apr 24 04:39	16° <u>♍</u> 05'32	0°55'55	direct	15636 Aug 02 03:26	8° <u>♋</u> 28'15	
min. Earth dist.	15630 Apr 23 23:56	16° <u>♍</u> 06'01	18.97399 AU	evening set	15636 Oct 31 23:09	11° <u>♋</u> 32'23	
	15630 May 22 23:06	15° <u>♋</u>					
direct	15630 Jul 09 05:34	14° <u>♍</u> 08'14		conjunction	15636 Nov 17 00:40	12° <u>♋</u> 28'04	1°07'09

minimum elong	15636 Nov 17 00:39	12°  28'04	1°07'57	opposition	15643 Jun 17 21:51	9°  51'50	1°17'17
max. Earth dist.	15636 Nov 17 02:10	12°  28'17	20.69157 AU	min. Earth dist.	15643 Jun 18 00:28	9°  51'34	18.30648 AU
morning rise	15636 Dec 03 04:04	13°  24'03		direct	15643 Sep 01 01:36	7°  51'49	
retrograde	15637 Mar 06 22:34	16°  34'00		evening set	15643 Dec 01 13:00	11°  01'43	
opposition	15637 May 22 21:22	14°  33'58	1°15'15				
min. Earth dist.	15637 May 22 20:21	14°  34'04	18.66531 AU	conjunction	15643 Dec 17 18:35	11°  05'13	1°09'07
direct	15637 Aug 06 11:52	12°  35'19		minimum elong	15643 Dec 17 18:36	11°  05'13	1°09'59
evening set	15637 Nov 05 09:02	15°  40'08		max. Earth dist.	15643 Dec 17 14:04	11°  05'58'33	20.27266 AU
				morning rise	15644 Jan 03 02:14	12°  05'01	
conjunction	15637 Nov 21 10:57	16°  36'02	1°08'32	retrograde	15644 Apr 06 06:40	16°  05'12'26	
minimum elong	15637 Nov 21 10:56	16°  36'02	1°09'21	opposition	15644 Jun 21 12:03	14°  05'11'03	1°16'08
max. Earth dist.	15637 Nov 21 11:04	16°  36'03	20.63799 AU	min. Earth dist.	15644 Jun 21 15:56	14°  05'10'39	18.23889 AU
morning rise	15637 Dec 07 15:04	17°  32'15		direct	15644 Sep 04 14:08	12°  05'10'42	
retrograde	15638 Mar 11 11:57	20°  42'55		evening set	15644 Dec 05 04:34	15°  05'21'33	
opposition	15638 May 27 08:07	18°  42'40	1°16'36				
min. Earth dist.	15638 May 27 07:25	18°  42'45	18.61079 AU	conjunction	15644 Dec 21 10:59	16°  05'19'21	1°07'52
direct	15638 Aug 10 20:33	16°  43'49		minimum elong	15644 Dec 21 10:59	16°  05'19'21	1°08'43
evening set	15638 Nov 09 19:23	19°  49'22		max. Earth dist.	15644 Dec 21 06:44	16°  05'18'43	20.20424 AU
				morning rise	15645 Jan 06 19:02	17°  05'17'27	
conjunction	15638 Nov 25 22:01	20°  45'30	1°09'34	retrograde	15645 Apr 11 00:14	20°  05'33'38	
minimum elong	15638 Nov 25 22:01	20°  45'30	1°10'24	opposition	15645 Jun 26 02:42	18°  05'32'00	1°14'33
max. Earth dist.	15638 Nov 25 22:43	20°  45'36	20.58246 AU	min. Earth dist.	15645 Jun 26 06:40	18°  05'31'35	18.16978 AU
morning rise	15638 Dec 12 02:34	21°  41'58		direct	15645 Sep 09 03:46	16°  05'31'19	
retrograde	15639 Mar 16 00:26	24°  45'32		evening set	15645 Dec 09 21:07	19°  05'34'08	
opposition	15639 May 31 19:21	22°  45'52'58	1°17'34				
min. Earth dist.	15639 May 31 19:08	22°  45'52'59	18.55425 AU	conjunction	15645 Dec 26 04:01	20°  05'34'11'13	1°06'12
direct	15639 Aug 15 06:00	20°  45'53'55		minimum elong	15645 Dec 26 04:01	20°  05'34'11'13	1°07'04
evening set	15639 Nov 14 06:50	24°  45'00'15		max. Earth dist.	15645 Dec 25 21:57	20°  05'34'40'19	20.13487 AU
				morning rise	15646 Jan 11 12:49	21°  05'39'36	
conjunction	15639 Nov 30 09:55	24°  45'56'38	1°10'14	retrograde	15646 Apr 15 18:31	24°  05'36'35	
minimum elong	15639 Nov 30 09:55	24°  45'56'38	1°11'04	opposition	15646 Jun 30 18:02	22°  05'35'44'1	1°12'31
max. Earth dist.	15639 Nov 30 08:59	24°  45'56'30	20.52504 AU	min. Earth dist.	15646 Jun 30 23:11	22°  05'35'40'9	18.10031 AU
morning rise	15639 Dec 16 15:13	25°  45'53'21		direct	15646 Sep 13 17:36	20°  05'35'37	
retrograde	15640 Mar 19 14:58	29°  45'05'32		evening set	15646 Dec 14 14:14	24°  05'30'6'25	
opposition	15640 Jun 04 06:59	27°  45'04'57	1°18'07				
min. Earth dist.	15640 Jun 04 07:32	27°  45'04'54	18.49583 AU	conjunction	15646 Dec 30 21:59	25°  05'30'44'9	1°04'09
direct	15640 Aug 18 15:26	25°  45'05'42		minimum elong	15646 Dec 30 21:59	25°  05'30'44'50	1°04'58
evening set	15640 Nov 17 19:01	28°  45'12'53		max. Earth dist.	15646 Dec 30 16:30	25°  05'30'40'00	20.06544 AU
				morning rise	15647 Jan 16 07:14	26°  05'30'33'0	
conjunction	15640 Dec 03 22:51	29°  45'09'32	1°10'31	retrograde	15647 Apr 20 13:32	29°  05'21'15	
minimum elong	15640 Dec 03 22:51	29°  45'09'32	1°11'24	opposition	15647 Jul 05 09:50	27°  05'19'06	1°10'02
max. Earth dist.	15640 Dec 03 22:15	29°  45'09'27	20.46546 AU	min. Earth dist.	15647 Jul 05 14:42	27°  05'18'35	18.03102 AU
	15640 Dec 18 07:23	0°  05'03'06'30		direct	15647 Sep 18 08:36	25°  05'17'41	
morning rise	15640 Dec 20 04:32	0°  05'03'06'30		evening set	15647 Dec 19 08:29	28°  05'31'29	
retrograde	15641 Mar 24 05:33	3°  05'19'29					
opposition	15641 Jun 08 19:18	1°  05'18'45	1°18'16	conjunction	15648 Jan 04 16:43	29°  05'30'11	1°01'42
min. Earth dist.	15641 Jun 08 20:25	1°  05'18'38	18.43509 AU	minimum elong	15648 Jan 04 16:44	29°  05'30'11	1°02'30
	15641 Jul 13 07:47	30°  05'18'38		max. Earth dist.	15648 Jan 04 09:39	29°  05'30'29'07	19.99659 AU
direct	15641 Aug 23 02:18	29°  05'19'17			15648 Jan 12 22:41	0°  05'00'00'00	
	15641 Oct 01 20:02	0°  05'00'00'00		morning rise	15648 Jan 21 02:39	0°  05'29'09	
evening set	15641 Nov 22 08:05	2°  05'27'20		retrograde	15648 Apr 24 08:46	3°  05'47'40	
				opposition	15648 Jul 09 02:13	1°  05'45'15	1°07'07
conjunction	15641 Dec 08 12:21	3°  05'24'16	1°10'27	min. Earth dist.	15648 Jul 09 08:16	1°  05'44'37	17.96282 AU
minimum elong	15641 Dec 08 12:21	3°  05'24'16	1°11'18		15648 Aug 27 21:41	30°  05'18'38	
max. Earth dist.	15641 Dec 08 09:50	3°  05'23'53	20.40360 AU	direct	15648 Sep 21 23:33	29°  05'43'29	
morning rise	15641 Dec 24 18:47	4°  05'21'30			15648 Oct 16 20:57	0°  05'00'00'00	
retrograde	15642 Mar 28 21:25	7°  05'35'19		evening set	15648 Dec 23 03:21	2°  05'58'18	
opposition	15642 Jun 13 08:21	5°  05'34'23	1°17'59				
min. Earth dist.	15642 Jun 13 10:30	5°  05'34'10	18.37205 AU	conjunction	15649 Jan 08 12:23	3°  05'57'19	0°58'52
direct	15642 Aug 27 13:13	3°  05'34'39		minimum elong	15649 Jan 08 12:23	3°  05'57'19	0°59'38
evening set	15642 Nov 26 22:03	6°  05'43'38		max. Earth dist.	15649 Jan 08 05:58	3°  05'56'20	19.92918 AU
				morning rise	15649 Jan 24 22:42	4°  05'56'33	
conjunction	15642 Dec 13 03:08	7°  05'40'51	1°09'59	retrograde	15649 Apr 29 05:13	8°  05'15'50	
minimum elong	15642 Dec 13 03:08	7°  05'40'51	1°10'50	opposition	15649 Jul 13 19:14	6°  05'13'12	1°03'46
max. Earth dist.	15642 Dec 13 00:45	7°  05'40'29	20.33927 AU	min. Earth dist.	15649 Jul 14 00:36	6°  05'12'37	17.89630 AU
morning rise	15642 Dec 29 10:00	8°  05'38'22		direct	15649 Sep 26 16:28	4°  05'11'06	
retrograde	15643 Apr 02 13:41	11°  05'52'58		evening set	15649 Dec 27 23:05	7°  05'26'55	

conjunction	15650 Jan 13 08:35	8° $\approx$ 26'14	0°55'39	minimum elong	15656 Feb 11 04:45	5° $\times$ 58'21	0°29'51
minimum elong	15650 Jan 13 08:35	8° $\approx$ 26'14	0°56'23	max. Earth dist.	15656 Feb 10 20:11	5° $\times$ 57'02	19.53417 AU
max. Earth dist.	15650 Jan 13 01:03	8° $\approx$ 25'05	19.86376 AU	morning rise	15656 Feb 27 17:36	6° $\times$ 59'20	
morning rise	15650 Jan 29 19:31	9° $\approx$ 25'46		retrograde	15656 May 31 16:32	10° $\times$ 23'09	
retrograde	15650 May 04 00:58	12° $\approx$ 45'48		opposition	15656 Aug 14 12:38	8° $\times$ 19'40	0°29'52
opposition	15650 Jul 18 13:02	10° $\approx$ 42'56	1°00'01	min. Earth dist.	15656 Aug 14 20:33	8° $\times$ 18'48	17.51164 AU
min. Earth dist.	15650 Jul 18 19:29	10° $\approx$ 42'15	17.83217 AU	direct	15656 Oct 28 08:34	6° $\times$ 15'46	
direct	15650 Oct 01 08:49	8° $\approx$ 40'31		evening set	15657 Jan 29 17:55	9° $\times$ 38'27	
evening set	15651 Jan 01 19:42	11° $\approx$ 57'23					
conjunction	15651 Jan 18 05:56	12° $\approx$ 56'59	0°52'04	conjunction	15657 Feb 15 06:42	10° $\times$ 39'33	0°24'06
minimum elong	15651 Jan 18 05:56	12° $\approx$ 56'59	0°52'46	minimum elong	15657 Feb 15 06:42	10° $\times$ 39'33	0°24'28
max. Earth dist.	15651 Jan 17 23:00	12° $\approx$ 55'56	19.80105 AU	max. Earth dist.	15657 Feb 14 21:22	10° $\times$ 38'07	19.48984 AU
morning rise	15651 Feb 03 17:15	13° $\approx$ 56'47		morning rise	15657 Mar 03 19:46	11° $\times$ 40'43	
	15651 Feb 22 04:20	15° $\approx$		retrograde	15657 Jun 05 18:02	15° $\times$ 04'58	
retrograde	15651 May 08 22:41	17° $\approx$ 17'32		opposition	15657 Aug 19 10:40	13° $\times$ 01'23	0°23'50
opposition	15651 Jul 23 07:11	15° $\approx$ 14'30	0°55'51	min. Earth dist.	15657 Aug 19 18:01	13° $\times$ 00'35	17.46886 AU
min. Earth dist.	15651 Jul 23 12:50	15° $\approx$ 13'54	17.77086 AU	direct	15657 Nov 02 07:49	10° $\times$ 57'14	
	15651 Jul 28 22:43	15° $\approx$		evening set	15658 Feb 03 20:04	14° $\times$ 20'42	
direct	15651 Oct 06 03:39	13° $\approx$ 11'49		conjunction	15658 Feb 20 09:11	15° $\times$ 21'59	0°18'37
	15651 Dec 10 20:09	15° $\approx$		minimum elong	15658 Feb 20 09:11	15° $\times$ 21'59	0°18'55
evening set	15652 Jan 06 17:21	16° $\approx$ 29'42		max. Earth dist.	15658 Feb 20 00:12	15° $\times$ 20'36	19.44869 AU
conjunction	15652 Jan 23 04:03	17° $\approx$ 29'35	0°48'09	morning rise	15658 Mar 08 22:13	16° $\times$ 23'19	
minimum elong	15652 Jan 23 04:03	17° $\approx$ 29'35	0°48'47	retrograde	15658 Jun 10 18:31	19° $\times$ 47'55	
max. Earth dist.	15652 Jan 22 20:15	17° $\approx$ 28'24	19.74130 AU	opposition	15658 Aug 24 09:16	17° $\times$ 44'14	0°17'38
morning rise	15652 Feb 08 15:51	18° $\approx$ 29'40		min. Earth dist.	15658 Aug 24 17:31	17° $\times$ 43'20	17.42949 AU
retrograde	15652 May 12 19:20	21° $\approx$ 51'06		direct	15658 Nov 07 06:13	15° $\times$ 39'50	
opposition	15652 Jul 27 02:16	19° $\approx$ 47'57	0°51'18	evening set	15659 Feb 08 22:56	19° $\times$ 04'01	
min. Earth dist.	15652 Jul 27 09:03	19° $\approx$ 47'13	17.71275 AU	conjunction	15659 Feb 25 12:08	20° $\times$ 05'28	0°12'59
direct	15652 Oct 09 21:26	17° $\approx$ 45'00		minimum elong	15659 Feb 25 12:08	20° $\times$ 05'28	0°13'13
evening set	15653 Jan 10 15:39	21° $\approx$ 03'55		behind sun begin	15659 Feb 25 08:16	20° $\times$ 04'53	
conjunction	15653 Jan 27 02:55	22° $\approx$ 04'04	0°43'53	behind sun end	15659 Feb 25 16:00	20° $\times$ 06'03	
minimum elong	15653 Jan 27 02:56	22° $\approx$ 04'05	0°44'30	max. Earth dist.	15659 Feb 25 02:08	20° $\times$ 03'55	19.41136 AU
max. Earth dist.	15653 Jan 26 19:29	22° $\approx$ 02'56	19.68490 AU	morning rise	15659 Mar 14 01:19	21° $\times$ 06'56	
morning rise	15653 Feb 12 15:03	23° $\approx$ 04'23		retrograde	15659 Jun 15 19:52	24° $\times$ 31'49	
retrograde	15653 May 17 18:30	26° $\approx$ 26'31		opposition	15659 Aug 29 08:00	22° $\times$ 28'01	0°11'16
opposition	15653 Jul 31 21:51	24° $\approx$ 23'16	0°46'24	min. Earth dist.	15659 Aug 29 15:50	22° $\times$ 27'10	17.39425 AU
min. Earth dist.	15653 Aug 01 03:48	24° $\approx$ 22'37	17.65792 AU	direct	15659 Nov 12 06:19	20° $\times$ 23'22	
direct	15653 Oct 14 18:21	22° $\approx$ 20'05		evening set	15660 Feb 14 02:09	23° $\times$ 48'14	
evening set	15654 Jan 15 15:01	25° $\approx$ 40'00		conjunction	15660 Mar 01 15:34	24° $\times$ 49'49	0°07'15
conjunction	15654 Feb 01 02:42	26° $\approx$ 40'26	0°39'20	minimum elong	15660 Mar 01 15:34	24° $\times$ 49'49	0°07'25
minimum elong	15654 Feb 01 02:43	26° $\approx$ 40'26	0°39'53	behind sun begin	15660 Mar 01 09:25	24° $\times$ 48'53	
max. Earth dist.	15654 Jan 31 18:46	26° $\approx$ 39'12	19.63166 AU	behind sun end	15660 Mar 01 21:43	24° $\times$ 50'45	
morning rise	15654 Feb 17 15:09	27° $\approx$ 40'59		max. Earth dist.	15660 Mar 01 06:30	24° $\times$ 48'25	19.37826 AU
	15654 Apr 03 01:48	0° $\times$		morning rise	15660 Mar 18 04:30	25° $\times$ 51'23	
retrograde	15654 May 22 16:22	1° $\times$ 03'44		retrograde	15660 Jun 19 20:52	29° $\times$ 16'29	
	15654 Jul 12 18:18	30° $\approx$		opposition	15660 Sep 02 07:19	27° $\times$ 12'36	0°04'48
opposition	15654 Aug 05 18:12	29° $\approx$ 00'25	0°41'11	min. Earth dist.	15660 Sep 02 15:30	27° $\times$ 11'42	17.36350 AU
min. Earth dist.	15654 Aug 06 01:27	28° $\approx$ 59'38	17.60628 AU	direct	15660 Nov 16 06:19	25° $\times$ 07'44	
direct	15654 Oct 19 13:22	26° $\approx$ 57'00		evening set	15661 Feb 18 05:37	28° $\times$ 33'10	
	15655 Jan 15 15:09	0° $\times$		conjunction	15661 Mar 06 18:54	29° $\times$ 34'51	0°01'25
evening set	15655 Jan 20 15:11	0° $\times$ 17'54		minimum elong	15661 Mar 06 18:54	29° $\times$ 34'51	0°01'32
conjunction	15655 Feb 06 03:21	1° $\times$ 18'34	0°34'30	behind sun begin	15661 Mar 06 12:10	29° $\times$ 33'49	
minimum elong	15655 Feb 06 03:21	1° $\times$ 18'34	0°34'59	behind sun end	15661 Mar 07 01:39	29° $\times$ 35'53	
max. Earth dist.	15655 Feb 05 19:05	1° $\times$ 17'18	19.58158 AU	max. Earth dist.	15661 Mar 06 08:57	29° $\times$ 33'19	19.35010 AU
morning rise	15655 Feb 22 16:06	2° $\times$ 19'21			15661 Mar 13 11:41	0° $\gamma$	
retrograde	15655 May 27 17:15	5° $\times$ 42'40		morning rise	15661 Mar 23 07:52	0° $\gamma$ 36'30	
opposition	15655 Aug 10 15:05	3° $\times$ 39'16	0°35'39	desc. node	15661 Jun 05 00:47	3° $\gamma$ 50'54	
min. Earth dist.	15655 Aug 10 21:45	3° $\times$ 38'33	17.55757 AU	retrograde	15661 Jun 24 21:39	4° $\gamma$ 01'46	
direct	15655 Oct 24 11:50	1° $\times$ 35'38		opposition	15661 Sep 07 06:53	1° $\gamma$ 57'48	-0°01'42
evening set	15656 Jan 25 16:15	4° $\times$ 57'27		min. Earth dist.	15661 Sep 07 14:38	1° $\gamma$ 56'57	17.33804 AU
conjunction	15656 Feb 11 04:45	5° $\times$ 58'21	0°29'24		15661 Nov 04 22:10	30° $\approx$	
				direct	15661 Nov 21 07:06	29° $\times$ 52'43	
					15661 Dec 07 14:52	0° $\gamma$	

evening set	15662 Feb 23 09:22	3° $\Upsilon$ 18'41		evening set	15668 Mar 24 10:20	1° $\mathcal{B}$ 58'03	
conjunction	15662 Mar 11 22:46	4° $\Upsilon$ 20'27	-0°04'32	conjunction	15668 Apr 09 21:49	2° $\mathcal{B}$ 59'42	-0°37'34
minimum elong	15662 Mar 11 22:47	4° $\Upsilon$ 20'27	0°04'31	minimum elong	15668 Apr 09 21:49	2° $\mathcal{B}$ 59'42	0°37'57
behind sun begin	15662 Mar 11 16:10	4° $\Upsilon$ 19'26		max. Earth dist.	15668 Apr 09 16:06	2° $\mathcal{B}$ 58'48	19.32265 AU
behind sun end	15662 Mar 12 05:23	4° $\Upsilon$ 21'28		morning rise	15668 Apr 26 07:42	4° $\mathcal{B}$ 01'09	
max. Earth dist.	15662 Mar 11 14:15	4° $\Upsilon$ 19'08	19.32733 AU	retrograde	15668 Jul 28 04:26	7° $\mathcal{B}$ 25'44	
morning rise	15662 Mar 28 11:21	5° $\Upsilon$ 22'09		opposition	15668 Oct 10 08:47	5° $\mathcal{B}$ 22'24	-0°44'38
retrograde	15662 Jun 29 23:04	8° $\Upsilon$ 47'29		min. Earth dist.	15668 Oct 10 12:58	5° $\mathcal{B}$ 21'57	17.33203 AU
opposition	15662 Sep 12 06:36	6° $\Upsilon$ 43'29	-0°08'13	direct	15668 Dec 24 22:11	3° $\mathcal{B}$ 17'12	
min. Earth dist.	15662 Sep 12 14:08	6° $\Upsilon$ 42'40	17.31814 AU	evening set	15669 Mar 29 14:10	6° $\mathcal{B}$ 44'39	
direct	15662 Nov 26 08:25	4° $\Upsilon$ 38'15					
evening set	15663 Feb 28 13:30	8° $\Upsilon$ 04'38		conjunction	15669 Apr 15 01:05	7° $\mathcal{B}$ 46'11	-0°42'23
				minimum elong	15669 Apr 15 01:04	7° $\mathcal{B}$ 46'11	0°42'50
conjunction	15663 Mar 17 02:38	9° $\Upsilon$ 06'28	-0°10'20	max. Earth dist.	15669 Apr 14 19:38	7° $\mathcal{B}$ 45'20	19.34233 AU
minimum elong	15663 Mar 17 02:37	9° $\Upsilon$ 06'28	0°10'22	morning rise	15669 May 01 10:19	8° $\mathcal{B}$ 47'31	
behind sun begin	15663 Mar 16 21:20	9° $\Upsilon$ 05'39		retrograde	15669 Aug 02 04:14	12° $\mathcal{B}$ 11'44	
behind sun end	15663 Mar 17 07:54	9° $\Upsilon$ 07'16		opposition	15669 Oct 15 09:29	10° $\mathcal{B}$ 08'36	-0°49'50
max. Earth dist.	15663 Mar 16 17:19	9° $\Upsilon$ 05'01	19.31047 AU	min. Earth dist.	15669 Oct 15 14:16	10° $\mathcal{B}$ 08'05	17.35417 AU
morning rise	15663 Apr 02 15:04	10° $\Upsilon$ 08'12		direct	15669 Dec 29 23:06	8° $\mathcal{B}$ 03'29	
retrograde	15663 Jul 04 23:18	13° $\Upsilon$ 33'34		evening set	15670 Apr 03 17:50	11° $\mathcal{B}$ 30'47	
opposition	15663 Sep 17 06:38	11° $\Upsilon$ 29'32	-0°14'42				
min. Earth dist.	15663 Sep 17 13:54	11° $\Upsilon$ 28'45	17.30450 AU	conjunction	15670 Apr 20 04:11	12° $\mathcal{B}$ 32'10	-0°46'53
direct	15663 Dec 01 09:48	9° $\Upsilon$ 24'10		minimum elong	15670 Apr 20 04:10	12° $\mathcal{B}$ 32'10	0°47'24
evening set	15664 Mar 04 17:32	12° $\Upsilon$ 50'57		max. Earth dist.	15670 Apr 19 23:01	12° $\mathcal{B}$ 31'22	19.36672 AU
				morning rise	15670 May 06 12:46	13° $\mathcal{B}$ 33'20	
conjunction	15664 Mar 21 06:35	13° $\Upsilon$ 52'47	-0°16'04		15670 May 31 15:07	15° $\mathcal{B}$	
minimum elong	15664 Mar 21 06:34	13° $\Upsilon$ 52'47	0°16'11	retrograde	15670 Aug 07 05:58	16° $\mathcal{B}$ 57'07	
max. Earth dist.	15664 Mar 20 22:57	13° $\Upsilon$ 51'36	19.29996 AU		15670 Oct 18 03:51	15° $\mathcal{R}$ $\mathcal{B}$	
morning rise	15664 Apr 06 18:28	14° $\Upsilon$ 54'31		opposition	15670 Oct 20 09:45	14° $\mathcal{B}$ 54'09	-0°54'42
retrograde	15664 Jul 09 00:46	18° $\Upsilon$ 19'50		min. Earth dist.	15670 Oct 20 13:14	14° $\mathcal{B}$ 53'47	17.38067 AU
opposition	15664 Sep 21 06:50	16° $\Upsilon$ 15'52	-0°21'04	direct	15671 Jan 04 02:34	12° $\mathcal{B}$ 49'08	
min. Earth dist.	15664 Sep 21 13:12	16° $\Upsilon$ 15'10	17.29725 AU		15671 Mar 18 00:01	15° $\mathcal{B}$	
direct	15664 Dec 05 12:21	14° $\Upsilon$ 10'27		evening set	15671 Apr 08 21:06	16° $\mathcal{B}$ 16'10	
evening set	15665 Mar 09 21:48	17° $\Upsilon$ 37'31					
				conjunction	15671 Apr 25 06:50	17° $\mathcal{B}$ 17'24	-0°51'04
conjunction	15665 Mar 26 10:25	18° $\Upsilon$ 39'21	-0°21'42	minimum elong	15671 Apr 25 06:50	17° $\mathcal{B}$ 17'24	0°51'38
minimum elong	15665 Mar 26 10:25	18° $\Upsilon$ 39'21	0°21'54	max. Earth dist.	15671 Apr 25 02:21	17° $\mathcal{B}$ 16'42	19.39521 AU
max. Earth dist.	15665 Mar 26 02:24	18° $\Upsilon$ 38'06	19.29610 AU	morning rise	15671 May 11 14:38	18° $\mathcal{B}$ 18'23	
morning rise	15665 Apr 11 22:00	19° $\Upsilon$ 41'03		retrograde	15671 Aug 12 04:33	21° $\mathcal{B}$ 41'38	
retrograde	15665 Jul 14 00:38	23° $\Upsilon$ 06'18		opposition	15671 Oct 25 10:07	19° $\mathcal{B}$ 38'52	-0°59'10
opposition	15665 Sep 26 07:13	21° $\Upsilon$ 02'25	-0°27'17	min. Earth dist.	15671 Oct 25 14:15	19° $\mathcal{B}$ 38'25	17.41128 AU
min. Earth dist.	15665 Sep 26 13:28	21° $\Upsilon$ 01'44	17.29685 AU	direct	15672 Jan 09 03:04	17° $\mathcal{B}$ 33'57	
direct	15665 Dec 10 13:53	18° $\Upsilon$ 56'59		evening set	15672 Apr 12 23:43	21° $\mathcal{B}$ 00'36	
evening set	15666 Mar 15 01:54	22° $\Upsilon$ 24'17					
				conjunction	15672 Apr 29 08:43	22° $\mathcal{B}$ 01'39	-0°54'54
conjunction	15666 Mar 31 14:21	23° $\Upsilon$ 26'06	-0°27'12	minimum elong	15672 Apr 29 08:42	22° $\mathcal{B}$ 01'39	0°55'31
minimum elong	15666 Mar 31 14:20	23° $\Upsilon$ 26'06	0°27'27	max. Earth dist.	15672 Apr 29 04:10	22° $\mathcal{B}$ 00'56	19.42784 AU
max. Earth dist.	15666 Mar 31 07:49	23° $\Upsilon$ 25'04	19.29897 AU	morning rise	15672 May 15 15:52	23° $\mathcal{B}$ 02'25	
morning rise	15666 Apr 17 01:23	24° $\Upsilon$ 27'44		retrograde	15672 Aug 16 04:53	26° $\mathcal{B}$ 25'07	
retrograde	15666 Jul 19 02:28	27° $\Upsilon$ 52'49		opposition	15672 Oct 29 10:04	24° $\mathcal{B}$ 22'29	-1°03'13
opposition	15666 Oct 01 07:39	25° $\Upsilon$ 49'07	-0°33'19	min. Earth dist.	15672 Oct 29 12:43	24° $\mathcal{B}$ 22'11	17.44585 AU
min. Earth dist.	15666 Oct 01 12:46	25° $\Upsilon$ 48'33	17.30278 AU	direct	15673 Jan 13 06:32	22° $\mathcal{B}$ 17'40	
direct	15666 Dec 15 17:18	23° $\Upsilon$ 43'44		evening set	15673 Apr 18 01:43	25° $\mathcal{B}$ 43'52	
evening set	15667 Mar 20 06:15	27° $\Upsilon$ 11'11					
				conjunction	15673 May 04 10:08	26° $\mathcal{B}$ 44'41	-0°58'21
conjunction	15667 Apr 05 18:08	28° $\Upsilon$ 12'56	-0°32'30	minimum elong	15673 May 04 10:08	26° $\mathcal{B}$ 44'41	0°59'00
minimum elong	15667 Apr 05 18:08	28° $\Upsilon$ 12'56	0°32'50	max. Earth dist.	15673 May 04 06:49	26° $\mathcal{B}$ 44'10	19.46431 AU
max. Earth dist.	15667 Apr 05 11:28	28° $\Upsilon$ 11'53	19.30793 AU	morning rise	15673 May 20 16:26	27° $\mathcal{B}$ 45'15	
morning rise	15667 Apr 22 04:40	29° $\Upsilon$ 14'29			15673 Jul 01 18:27	0° $\Pi$	
	15667 May 04 21:05	0° $\mathcal{B}$		retrograde	15673 Aug 21 01:54	1° $\Pi$ 07'16	
retrograde	15667 Jul 24 02:21	2° $\mathcal{B}$ 39'22			15673 Oct 12 06:18	30° $\mathcal{R}$ $\mathcal{B}$	
opposition	15667 Oct 06 08:13	0° $\mathcal{B}$ 35'50	-0°39'07	opposition	15673 Nov 03 09:39	29° $\mathcal{B}$ 04'48	-1°06'50
min. Earth dist.	15667 Oct 06 13:41	0° $\mathcal{B}$ 35'14	17.31475 AU	min. Earth dist.	15673 Nov 03 12:49	29° $\mathcal{B}$ 04'28	17.48430 AU
	15667 Oct 20 05:12	30° $\mathcal{R}$ $\Upsilon$		direct	15674 Jan 18 07:08	27° $\mathcal{B}$ 00'06	
direct	15667 Dec 20 18:46	28° $\Upsilon$ 30'32			15674 Apr 15 23:26	0° $\Pi$	
	15668 Feb 17 21:35	0° $\mathcal{B}$		evening set	15674 Apr 23 03:08	0° $\Pi$ 25'45	




























































































































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max. Earth dist.	15674 May 09 07:07	1° $\Pi$ 25'46	19.50474 AU	direct	15681 Feb 20 07:14	29° $\Pi$ 11'56	
morning rise	15674 May 25 16:29	2° $\Pi$ 26'39			15681 Apr 04 17:42	0° $\mathfrak{D}$	
retrograde	15674 Aug 26 00:21	5° $\Pi$ 47'59		evening set	15681 May 25 13:05	2° $\mathfrak{D}$ 32'00	
opposition	15674 Nov 08 08:46	3° $\Pi$ 45'39	-1°09'59				
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direct	15675 Jan 23 10:31	1° $\Pi$ 41'04		minimum elong	15681 Jun 10 15:55	3° $\mathfrak{D}$ 30'40	1°11'21
evening set	15675 Apr 28 03:39	5° $\Pi$ 06'04		max. Earth dist.	15681 Jun 10 19:21	3° $\mathfrak{D}$ 31'11	19.89645 AU
				morning rise	15681 Jun 26 16:39	4° $\mathfrak{D}$ 29'03	
conjunction	15675 May 14 10:41	6° $\Pi$ 06'25	-1°04'01	retrograde	15681 Sep 26 12:10	7° $\mathfrak{D}$ 44'50	
minimum elong	15675 May 14 10:40	6° $\Pi$ 06'25	1°04'47	opposition	15681 Dec 10 12:55	5° $\mathfrak{D}$ 44'10	-1°18'16
max. Earth dist.	15675 May 14 08:47	6° $\Pi$ 06'07	19.54895 AU	min. Earth dist.	15681 Dec 10 09:41	5° $\mathfrak{D}$ 44'30	17.93022 AU
morning rise	15675 May 30 15:29	7° $\Pi$ 06'28		direct	15682 Feb 25 04:42	3° $\mathfrak{D}$ 41'19	
retrograde	15675 Aug 30 19:42	10° $\Pi$ 27'03		evening set	15682 May 30 07:50	7° $\mathfrak{D}$ 00'27	
opposition	15675 Nov 13 07:34	8° $\Pi$ 24'53	-1°12'39				
min. Earth dist.	15675 Nov 13 09:26	8° $\Pi$ 24'41	17.57286 AU	conjunction	15682 Jun 15 09:52	7° $\mathfrak{D}$ 58'49	-1°10'03
direct	15676 Jan 28 11:00	6° $\Pi$ 20'26		minimum elong	15682 Jun 15 09:52	7° $\mathfrak{D}$ 58'49	1°10'55
evening set	15676 May 02 03:27	9° $\Pi$ 44'43		max. Earth dist.	15682 Jun 15 12:59	7° $\mathfrak{D}$ 59'17	19.96382 AU
				morning rise	15682 Jul 01 10:09	8° $\mathfrak{D}$ 56'56	
conjunction	15676 May 18 09:36	10° $\Pi$ 44'47	-1°06'13	retrograde	15682 Oct 01 04:48	12° $\mathfrak{D}$ 11'54	
minimum elong	15676 May 18 09:35	10° $\Pi$ 44'47	1°06'59	opposition	15682 Dec 15 07:59	10° $\mathfrak{D}$ 11'31	-1°17'30
max. Earth dist.	15676 May 18 07:30	10° $\Pi$ 44'28	19.59726 AU	min. Earth dist.	15682 Dec 15 04:29	10° $\mathfrak{D}$ 11'53	17.99810 AU
morning rise	15676 Jun 03 13:50	11° $\Pi$ 44'35		direct	15683 Mar 02 00:02	8° $\mathfrak{D}$ 09'00	
retrograde	15676 Sep 03 16:38	15° $\Pi$ 04'23		evening set	15683 Jun 04 01:28	11° $\mathfrak{D}$ 27'11	
opposition	15676 Nov 17 05:45	13° $\Pi$ 02'22	-1°14'50				
min. Earth dist.	15676 Nov 17 06:09	13° $\Pi$ 02'20	17.62332 AU	conjunction	15683 Jun 20 03:00	12° $\mathfrak{D}$ 25'16	-1°09'11
direct	15677 Feb 01 12:46	10° $\Pi$ 58'04		minimum elong	15683 Jun 20 03:00	12° $\mathfrak{D}$ 25'16	1°10'02
evening set	15677 May 07 02:10	14° $\Pi$ 21'35		max. Earth dist.	15683 Jun 20 07:26	12° $\mathfrak{D}$ 25'56	20.03191 AU
				morning rise	15683 Jul 06 02:36	13° $\mathfrak{D}$ 23'05	
conjunction	15677 May 23 07:46	15° $\Pi$ 21'23	-1°07'58	retrograde	15683 Oct 05 21:17	16° $\mathfrak{D}$ 37'15	
minimum elong	15677 May 23 07:46	15° $\Pi$ 21'23	1°08'47	opposition	15683 Dec 20 02:25	14° $\mathfrak{D}$ 37'10	-1°16'18
max. Earth dist.	15677 May 23 07:46	15° $\Pi$ 21'23	19.64976 AU	min. Earth dist.	15683 Dec 19 22:08	14° $\mathfrak{D}$ 37'36	18.06618 AU
morning rise	15677 Jun 08 11:08	16° $\Pi$ 20'54		direct	15684 Mar 05 20:18	12° $\mathfrak{D}$ 34'59	
retrograde	15677 Sep 08 11:08	19° $\Pi$ 39'54		evening set	15684 Jun 07 18:25	15° $\mathfrak{D}$ 52'10	
opposition	15677 Nov 22 03:33	17° $\Pi$ 38'06	-1°16'31				
min. Earth dist.	15677 Nov 22 03:36	17° $\Pi$ 38'06	17.67786 AU	conjunction	15684 Jun 23 19:15	16° $\mathfrak{D}$ 49'57	-1°07'56
direct	15678 Feb 06 12:24	15° $\Pi$ 34'01		minimum elong	15684 Jun 23 19:15	16° $\mathfrak{D}$ 49'57	1°08'46
evening set	15678 May 12 00:20	18° $\Pi$ 56'42		max. Earth dist.	15684 Jun 23 23:23	16° $\mathfrak{D}$ 50'35	20.09992 AU
				morning rise	15684 Jul 09 18:26	17° $\mathfrak{D}$ 47'30	
conjunction	15678 May 28 05:02	19° $\Pi$ 56'14	-1°09'16	retrograde	15684 Oct 09 12:39	21° $\mathfrak{D}$ 00'52	
minimum elong	15678 May 28 05:02	19° $\Pi$ 56'14	1°10'05	opposition	15684 Dec 23 20:14	19° $\mathfrak{D}$ 01'01	-1°14'39
max. Earth dist.	15678 May 28 04:50	19° $\Pi$ 56'12	19.70638 AU	min. Earth dist.	15684 Dec 23 16:05	19° $\mathfrak{D}$ 01'27	18.13405 AU
morning rise	15678 Jun 13 07:51	20° $\Pi$ 55'28		direct	15685 Mar 10 14:16	16° $\mathfrak{D}$ 59'09	
retrograde	15678 Sep 13 06:32	24° $\Pi$ 13'40		evening set	15685 Jun 12 10:20	20° $\mathfrak{D}$ 15'20	
opposition	15678 Nov 27 00:38	22° $\Pi$ 12'06	-1°17'41				
min. Earth dist.	15678 Nov 26 23:25	22° $\Pi$ 12'14	17.73650 AU	conjunction	15685 Jun 28 10:45	21° $\mathfrak{D}$ 12'51	-1°06'17
direct	15679 Feb 11 11:41	20° $\Pi$ 08'16		minimum elong	15685 Jun 28 10:45	21° $\mathfrak{D}$ 12'51	1°07'07
evening set	15679 May 16 21:27	23° $\Pi$ 30'07		max. Earth dist.	15685 Jun 28 15:44	21° $\mathfrak{D}$ 13'36	20.16739 AU
				morning rise	15685 Jul 14 09:25	22° $\mathfrak{D}$ 10'08	
conjunction	15679 Jun 02 01:37	24° $\Pi$ 29'22	-1°10'07	retrograde	15685 Oct 14 03:42	25° $\mathfrak{D}$ 22'40	
minimum elong	15679 Jun 02 01:37	24° $\Pi$ 29'22	1°10'57	opposition	15685 Dec 28 13:22	23° $\mathfrak{D}$ 23'04	-1°12'35
max. Earth dist.	15679 Jun 02 03:28	24° $\Pi$ 29'39	19.76686 AU	min. Earth dist.	15685 Dec 28 08:21	23° $\mathfrak{D}$ 23'35	18.20084 AU
morning rise	15679 Jun 18 03:35	25° $\Pi$ 28'19		direct	15686 Mar 15 09:15	21° $\mathfrak{D}$ 21'30	
retrograde	15679 Sep 18 00:42	28° $\Pi$ 45'42		evening set	15686 Jun 17 01:30	24° $\mathfrak{D}$ 36'39	
opposition	15679 Dec 01 21:22	26° $\Pi$ 44'26	-1°18'22				
min. Earth dist.	15679 Dec 01 19:32	26° $\Pi$ 44'38	17.79856 AU	conjunction	15686 Jul 03 01:17	25° $\mathfrak{D}$ 33'53	-1°04'16
direct	15680 Feb 16 10:10	24° $\Pi$ 40'55		minimum elong	15686 Jul 03 01:18	25° $\mathfrak{D}$ 33'53	1°05'04
evening set	15680 May 20 17:42	28° $\Pi$ 01'53		max. Earth dist.	15686 Jul 03 06:01	25° $\mathfrak{D}$ 34'35	20.23354 AU
				morning rise	15686 Jul 18 23:35	26° $\mathfrak{D}$ 30'54	
conjunction	15680 Jun 05 21:01	29° $\Pi$ 00'50	-1°10'32	retrograde	15686 Oct 18 17:41	29° $\mathfrak{D}$ 42'39	
minimum elong	15680 Jun 05 21:01	29° $\Pi$ 00'50	1°11'23	opposition	15687 Jan 02 05:56	27° $\mathfrak{D}$ 43'14	-1°10'07
max. Earth dist.	15680 Jun 05 22:44	29° $\Pi$ 01'06	19.83047 AU	min. Earth dist.	15687 Jan 02 01:18	27° $\mathfrak{D}$ 43'42	18.26634 AU
morning rise	15680 Jun 21 22:30	29° $\Pi$ 59'31		direct	15687 Mar 20 02:07	25° $\mathfrak{D}$ 41'56	
	15680 Jun 22 01:45	0° $\mathfrak{D}$		evening set	15687 Jun 21 15:38	28° $\mathfrak{D}$ 56'03	
retrograde	15680 Sep 21 18:44	3° $\mathfrak{D}$ 16'07					
opposition	15680 Dec 05 17:29	1° $\mathfrak{D}$ 15'08	-1°18'33	conjunction	15687 Jul 07 15:02	29° $\mathfrak{D}$ 53'01	-1°01'54

minimum elong	15687 Jul 07 15:03	29° $\mathring{O}$ 53'01	1°02'41	retrograde	15693 Nov 16 23:31	29° $\mathring{O}$ 11'11	
max. Earth dist.	15687 Jul 07 20:25	29° $\mathring{O}$ 53'49	20.29835 AU	opposition	15694 Feb 01 07:00	27° $\mathring{O}$ 12'46	-0°43'41
	15687 Jul 09 13:39	0° $\mathring{O}$		min. Earth dist.	15694 Jan 31 22:23	27° $\mathring{O}$ 13'38	18.68767 AU
morning rise	15687 Jul 23 12:56	0° $\mathring{O}$ 49'46		direct	15694 Apr 19 09:31	25° $\mathring{O}$ 13'18	
retrograde	15687 Oct 23 07:00	4° $\mathring{O}$ 00'44		evening set	15694 Jul 20 18:43	28° $\mathring{O}$ 20'42	
opposition	15688 Jan 06 21:45	2° $\mathring{O}$ 01'28	-1°07'17				
min. Earth dist.	15688 Jan 06 16:01	2° $\mathring{O}$ 02'04	18.33027 AU	conjunction	15694 Aug 05 15:47	29° $\mathring{O}$ 16'01	-0°37'17
direct	15688 Mar 23 19:59	0° $\mathring{O}$ 00'26		minimum elong	15694 Aug 05 15:47	29° $\mathring{O}$ 16'01	0°37'49
evening set	15688 Jun 25 04:44	3° $\mathring{O}$ 13'30		max. Earth dist.	15694 Aug 06 00:26	29° $\mathring{O}$ 17'17	20.71482 AU
					15694 Aug 18 05:40	0° $\mathring{O}$	
conjunction	15688 Jul 11 03:40	4° $\mathring{O}$ 10'12	-0°59'12	morning rise	15694 Aug 21 12:15	0° $\mathring{O}$ 11'16	
minimum elong	15688 Jul 11 03:40	4° $\mathring{O}$ 10'12	0°59'57	retrograde	15694 Nov 21 07:15	3° $\mathring{O}$ 17'43	
max. Earth dist.	15688 Jul 11 09:10	4° $\mathring{O}$ 11'01	20.36154 AU	opposition	15695 Feb 05 18:46	1° $\mathring{O}$ 19'27	-0°38'55
morning rise	15688 Jul 27 01:18	5° $\mathring{O}$ 06'42		min. Earth dist.	15695 Feb 05 10:54	1° $\mathring{O}$ 20'15	18.74139 AU
retrograde	15688 Oct 26 18:57	8° $\mathring{O}$ 16'54			15695 Mar 13 14:47	30° $\mathring{R}$ $\mathring{O}$	
opposition	15689 Jan 10 12:57	6° $\mathring{O}$ 17'46	-1°04'05	direct	15695 Apr 23 19:47	29° $\mathring{O}$ 20'17	
min. Earth dist.	15689 Jan 10 07:41	6° $\mathring{O}$ 18'18	18.39280 AU		15695 Jun 02 20:41	0° $\mathring{O}$	
direct	15689 Mar 28 11:41	4° $\mathring{O}$ 16'57		evening set	15695 Jul 25 02:48	2° $\mathring{O}$ 26'52	
evening set	15689 Jun 29 16:59	7° $\mathring{O}$ 28'59					
				conjunction	15695 Aug 09 23:40	3° $\mathring{O}$ 22'00	-0°32'54
conjunction	15689 Jul 15 15:35	8° $\mathring{O}$ 25'26	-0°56'11	minimum elong	15695 Aug 09 23:40	3° $\mathring{O}$ 22'01	0°33'22
minimum elong	15689 Jul 15 15:35	8° $\mathring{O}$ 25'26	0°56'55	max. Earth dist.	15695 Aug 10 08:21	3° $\mathring{O}$ 23'16	20.76721 AU
max. Earth dist.	15689 Jul 15 21:42	8° $\mathring{O}$ 26'20	20.42346 AU	morning rise	15695 Aug 25 20:07	4° $\mathring{O}$ 17'06	
morning rise	15689 Jul 31 12:55	9° $\mathring{O}$ 21'41		retrograde	15695 Nov 25 17:35	7° $\mathring{O}$ 23'05	
retrograde	15689 Oct 31 06:51	12° $\mathring{O}$ 31'08		opposition	15696 Feb 10 05:52	5° $\mathring{O}$ 24'58	-0°33'58
opposition	15690 Jan 15 03:13	10° $\mathring{O}$ 32'07	-1°00'34	min. Earth dist.	15696 Feb 09 20:49	5° $\mathring{O}$ 25'53	18.79216 AU
min. Earth dist.	15690 Jan 14 20:38	10° $\mathring{O}$ 32'48	18.45402 AU	direct	15696 Apr 27 07:21	3° $\mathring{O}$ 26'05	
direct	15690 Apr 02 03:57	8° $\mathring{O}$ 31'33		evening set	15696 Jul 28 10:20	6° $\mathring{O}$ 31'54	
evening set	15690 Jul 04 04:29	11° $\mathring{O}$ 42'35					
				conjunction	15696 Aug 13 07:03	7° $\mathring{O}$ 26'53	-0°28'23
conjunction	15690 Jul 20 02:39	12° $\mathring{O}$ 38'46	-0°52'53	minimum elong	15696 Aug 13 07:04	7° $\mathring{O}$ 26'53	0°28'48
minimum elong	15690 Jul 20 02:39	12° $\mathring{O}$ 38'46	0°53'34	max. Earth dist.	15696 Aug 13 16:07	7° $\mathring{O}$ 28'12	20.81620 AU
max. Earth dist.	15690 Jul 20 09:14	12° $\mathring{O}$ 39'44	20.48414 AU	morning rise	15696 Aug 29 03:27	8° $\mathring{O}$ 21'49	
morning rise	15690 Aug 04 23:44	13° $\mathring{O}$ 34'48		retrograde	15696 Nov 29 00:50	11° $\mathring{O}$ 27'24	
	15690 Aug 31 08:02	15° $\mathring{O}$		opposition	15697 Feb 13 16:44	9° $\mathring{O}$ 29'25	-0°28'52
retrograde	15690 Nov 04 16:51	16° $\mathring{O}$ 43'32		min. Earth dist.	15697 Feb 13 08:44	9° $\mathring{O}$ 30'13	18.83931 AU
	15691 Jan 13 10:34	15° $\mathring{R}$ $\mathring{O}$		direct	15697 May 01 16:39	7° $\mathring{O}$ 30'48	
opposition	15691 Jan 19 17:10	14° $\mathring{O}$ 44'39	-0°56'44	evening set	15697 Aug 01 17:31	10° $\mathring{O}$ 35'54	
min. Earth dist.	15691 Jan 19 10:57	14° $\mathring{O}$ 45'17	18.51431 AU				
direct	15691 Apr 06 18:03	12° $\mathring{O}$ 44'20		conjunction	15697 Aug 17 14:05	11° $\mathring{O}$ 30'43	-0°23'44
	15691 Jun 22 07:06	15° $\mathring{O}$		minimum elong	15697 Aug 17 14:05	11° $\mathring{O}$ 30'43	0°24'05
evening set	15691 Jul 08 14:58	15° $\mathring{O}$ 54'23		max. Earth dist.	15697 Aug 17 22:45	11° $\mathring{O}$ 31'58	20.86136 AU
				morning rise	15697 Sep 02 10:31	12° $\mathring{O}$ 25'31	
conjunction	15691 Jul 24 12:49	16° $\mathring{O}$ 50'20	-0°49'20	retrograde	15697 Dec 03 10:24	15° $\mathring{O}$ 30'44	
minimum elong	15691 Jul 24 12:50	16° $\mathring{O}$ 50'20	0°49'58	opposition	15698 Feb 18 02:59	13° $\mathring{O}$ 32'52	-0°23'39
max. Earth dist.	15691 Jul 24 20:03	16° $\mathring{O}$ 51'24	20.54400 AU	min. Earth dist.	15698 Feb 17 18:03	13° $\mathring{O}$ 33'46	18.88227 AU
morning rise	15691 Aug 09 09:42	17° $\mathring{O}$ 46'09		direct	15698 May 06 03:10	11° $\mathring{O}$ 34'28	
retrograde	15691 Nov 09 04:04	20° $\mathring{O}$ 54'15		evening set	15698 Aug 06 00:19	14° $\mathring{O}$ 38'55	
opposition	15692 Jan 24 06:22	18° $\mathring{O}$ 55'30	-0°52'38				
min. Earth dist.	15692 Jan 23 22:33	18° $\mathring{O}$ 56'18	18.57356 AU	conjunction	15698 Aug 21 20:47	15° $\mathring{O}$ 33'36	-0°18'59
direct	15692 Apr 10 08:40	16° $\mathring{O}$ 55'28		minimum elong	15698 Aug 21 20:47	15° $\mathring{O}$ 33'36	0°19'17
evening set	15692 Jul 12 00:53	20° $\mathring{O}$ 04'35		max. Earth dist.	15698 Aug 22 05:38	15° $\mathring{O}$ 34'52	20.90198 AU
				morning rise	15698 Sep 06 17:10	16° $\mathring{O}$ 28'17	
conjunction	15692 Jul 27 22:26	21° $\mathring{O}$ 00'18	-0°45'31	retrograde	15698 Dec 07 17:21	19° $\mathring{O}$ 33'10	
minimum elong	15692 Jul 27 22:26	21° $\mathring{O}$ 00'18	0°46'08	opposition	15699 Feb 22 13:10	17° $\mathring{O}$ 35'23	-0°18'20
max. Earth dist.	15692 Jul 28 06:15	21° $\mathring{O}$ 01'27	20.60265 AU	min. Earth dist.	15699 Feb 22 05:23	17° $\mathring{O}$ 36'09	18.92057 AU
morning rise	15692 Aug 12 19:08	21° $\mathring{O}$ 55'55		direct	15699 May 10 11:40	15° $\mathring{O}$ 37'12	
retrograde	15692 Nov 12 12:45	25° $\mathring{O}$ 03'25		evening set	15699 Aug 10 06:36	18° $\mathring{O}$ 41'00	
opposition	15693 Jan 27 18:57	23° $\mathring{O}$ 04'50	-0°48'16				
min. Earth dist.	15693 Jan 27 11:43	23° $\mathring{O}$ 05'34	18.63156 AU	conjunction	15699 Aug 26 02:59	19° $\mathring{O}$ 35'33	-0°14'10
direct	15693 Apr 14 20:25	21° $\mathring{O}$ 05'04		minimum elong	15699 Aug 26 02:59	19° $\mathring{O}$ 35'33	0°14'24
evening set	15693 Jul 16 10:07	24° $\mathring{O}$ 13'18		behind sun begin	15699 Aug 25 23:54	19° $\mathring{O}$ 35'07	
				behind sun end	15699 Aug 26 06:03	19° $\mathring{O}$ 35'59	
conjunction	15693 Aug 01 07:26	25° $\mathring{O}$ 08'50	-0°41'30	max. Earth dist.	15699 Aug 26 11:12	19° $\mathring{O}$ 36'44	20.93788 AU
minimum elong	15693 Aug 01 07:26	25° $\mathring{O}$ 08'50	0°42'04	morning rise	15699 Sep 10 23:31	20° $\mathring{O}$ 30'08	
max. Earth dist.	15693 Aug 01 15:32	25° $\mathring{O}$ 10'01	20.65987 AU	retrograde	15699 Dec 12 02:10	23° $\mathring{O}$ 34'45	
morning rise	15693 Aug 17 04:03	26° $\mathring{O}$ 04'15		opposition	15700 Feb 26 22:46	21° $\mathring{O}$ 36'59	-0°12'57



min. Earth dist.	15700 Feb 26 14:11	21° $\mathbb{M}$ 37'51	18.95388 AU	conjunction	15705 Sep 19 10:16	13° $\mathbb{A}$ 30'57	0°15'14
direct	15700 May 14 21:28	19° $\mathbb{M}$ 38'57		minimum elong	15705 Sep 19 10:15	13° $\mathbb{A}$ 30'57	0°15'21
evening set	15700 Aug 14 12:37	22° $\mathbb{M}$ 42'11		behind sun begin	15705 Sep 19 08:10	13° $\mathbb{A}$ 30'40	
				behind sun end	15705 Sep 19 12:21	13° $\mathbb{A}$ 31'15	
conjunction	15700 Aug 30 09:00	23° $\mathbb{M}$ 36'37	-0°09'17	max. Earth dist.	15705 Sep 19 17:55	13° $\mathbb{A}$ 32'02	21.05702 AU
minimum elong	15700 Aug 30 09:00	23° $\mathbb{M}$ 36'37	0°09'28	morning rise	15705 Oct 05 07:46	14° $\mathbb{A}$ 25'14	
behind sun begin	15700 Aug 30 03:30	23° $\mathbb{M}$ 35'51		retrograde	15706 Jan 05 19:48	17° $\mathbb{A}$ 29'08	
behind sun end	15700 Aug 30 14:30	23° $\mathbb{M}$ 37'24		opposition	15706 Mar 24 01:26	15° $\mathbb{A}$ 31'09	0°19'28
max. Earth dist.	15700 Aug 30 17:18	23° $\mathbb{M}$ 37'48	20.96858 AU	min. Earth dist.	15706 Mar 23 17:20	15° $\mathbb{A}$ 31'58	19.06086 AU
morning rise	15700 Sep 15 05:35	24° $\mathbb{M}$ 31'07		direct	15706 Jun 08 16:52	13° $\mathbb{A}$ 33'40	
retrograde	15700 Dec 16 08:25	27° $\mathbb{M}$ 35'28		evening set	15706 Sep 07 18:15	16° $\mathbb{A}$ 34'33	
opposition	15701 Mar 03 07:59	25° $\mathbb{M}$ 37'42	-0°07'31				
min. Earth dist.	15701 Mar 03 00:41	25° $\mathbb{M}$ 38'26	18.98209 AU	conjunction	15706 Sep 23 14:59	17° $\mathbb{A}$ 28'40	0°19'58
direct	15701 May 19 04:57	23° $\mathbb{M}$ 39'48		minimum elong	15706 Sep 23 14:59	17° $\mathbb{A}$ 28'40	0°20'08
evening set	15701 Aug 18 18:16	26° $\mathbb{M}$ 42'29		max. Earth dist.	15706 Sep 23 23:07	17° $\mathbb{A}$ 29'49	21.06363 AU
				morning rise	15706 Oct 09 12:40	18° $\mathbb{A}$ 22'57	
conjunction	15701 Sep 03 14:36	27° $\mathbb{M}$ 36'49	-0°04'24	retrograde	15707 Jan 10 02:19	21° $\mathbb{A}$ 26'56	
minimum elong	15701 Sep 03 14:37	27° $\mathbb{M}$ 36'49	0°04'32	opposition	15707 Mar 28 09:19	19° $\mathbb{A}$ 28'56	0°24'39
behind sun begin	15701 Sep 03 08:10	27° $\mathbb{M}$ 35'55		min. Earth dist.	15707 Mar 28 02:10	19° $\mathbb{A}$ 29'39	19.06569 AU
behind sun end	15701 Sep 03 21:03	27° $\mathbb{M}$ 37'44		direct	15707 Jun 12 22:06	17° $\mathbb{A}$ 31'33	
max. Earth dist.	15701 Sep 03 22:15	27° $\mathbb{M}$ 37'54	20.99445 AU	evening set	15707 Sep 11 22:46	20° $\mathbb{A}$ 32'16	
morning rise	15701 Sep 19 11:23	28° $\mathbb{M}$ 31'14					
	15701 Oct 17 22:41	0° $\mathbb{A}$		conjunction	15707 Sep 27 19:37	21° $\mathbb{A}$ 26'23	0°24'36
retrograde	15701 Dec 20 16:33	1° $\mathbb{A}$ 35'23		minimum elong	15707 Sep 27 19:37	21° $\mathbb{A}$ 26'23	0°24'50
	15702 Feb 26 07:30	30° $\mathbb{R}$ $\mathbb{M}$		max. Earth dist.	15707 Sep 28 03:10	21° $\mathbb{A}$ 27'28	21.06665 AU
opposition	15702 Mar 07 16:49	29° $\mathbb{M}$ 37'35	-0°02'04	morning rise	15707 Oct 13 17:41	22° $\mathbb{A}$ 20'43	
min. Earth dist.	15702 Mar 07 08:40	29° $\mathbb{M}$ 38'24	19.00560 AU	retrograde	15708 Jan 14 10:35	25° $\mathbb{A}$ 24'50	
direct	15702 May 23 13:56	27° $\mathbb{M}$ 39'46		opposition	15708 Mar 31 16:58	23° $\mathbb{A}$ 26'48	0°29'43
asc. node	15702 Jul 22 16:49	29° $\mathbb{M}$ 05'50		min. Earth dist.	15708 Mar 31 09:07	23° $\mathbb{A}$ 27'35	19.06672 AU
	15702 Aug 10 03:42	0° $\mathbb{A}$		direct	15708 Jun 16 04:26	21° $\mathbb{A}$ 29'30	
evening set	15702 Aug 22 23:25	0° $\mathbb{A}$ 41'57		evening set	15708 Sep 15 03:29	24° $\mathbb{A}$ 30'08	
conjunction	15702 Sep 07 19:47	1° $\mathbb{A}$ 36'13	0°00'37	conjunction	15708 Oct 01 00:34	25° $\mathbb{A}$ 24'17	0°29'07
minimum elong	15702 Sep 07 19:48	1° $\mathbb{A}$ 36'13	0°00'34	minimum elong	15708 Oct 01 00:33	25° $\mathbb{A}$ 24'17	0°29'24
behind sun begin	15702 Sep 07 13:14	1° $\mathbb{A}$ 35'18		max. Earth dist.	15708 Oct 01 08:22	25° $\mathbb{A}$ 25'24	21.06552 AU
behind sun end	15702 Sep 08 02:21	1° $\mathbb{A}$ 37'07		morning rise	15708 Oct 16 22:50	26° $\mathbb{A}$ 18'38	
max. Earth dist.	15702 Sep 08 03:51	1° $\mathbb{A}$ 37'21	21.01569 AU	retrograde	15709 Jan 17 17:20	29° $\mathbb{A}$ 22'58	
morning rise	15702 Sep 23 16:39	2° $\mathbb{A}$ 30'34		opposition	15709 Apr 05 00:39	27° $\mathbb{A}$ 24'54	0°34'39
retrograde	15702 Dec 24 22:11	5° $\mathbb{A}$ 34'34		min. Earth dist.	15709 Apr 04 17:58	27° $\mathbb{A}$ 25'34	19.06349 AU
opposition	15703 Mar 12 01:30	3° $\mathbb{A}$ 36'43	0°03'23	direct	15709 Jun 20 10:15	25° $\mathbb{A}$ 27'40	
min. Earth dist.	15703 Mar 11 18:20	3° $\mathbb{A}$ 37'25	19.02485 AU	evening set	15709 Sep 19 08:24	28° $\mathbb{A}$ 28'17	
direct	15703 May 27 20:15	1° $\mathbb{A}$ 38'59					
evening set	15703 Aug 27 04:22	4° $\mathbb{A}$ 40'43		conjunction	15709 Oct 05 05:38	29° $\mathbb{A}$ 22'29	0°33'30
				minimum elong	15709 Oct 05 05:37	29° $\mathbb{A}$ 22'29	0°33'51
conjunction	15703 Sep 12 00:46	5° $\mathbb{A}$ 34'55	0°05'35	max. Earth dist.	15709 Oct 05 12:33	29° $\mathbb{A}$ 23'28	21.06018 AU
minimum elong	15703 Sep 12 00:45	5° $\mathbb{A}$ 34'55	0°05'34		15709 Oct 16 04:20	0° $\mathbb{M}$	
behind sun begin	15703 Sep 11 18:25	5° $\mathbb{A}$ 34'02		morning rise	15709 Oct 21 04:17	0° $\mathbb{M}$ 16'53	
behind sun end	15703 Sep 12 07:05	5° $\mathbb{A}$ 35'48		retrograde	15710 Jan 22 02:28	3° $\mathbb{M}$ 21'28	
max. Earth dist.	15703 Sep 12 08:24	5° $\mathbb{A}$ 35'59	21.03308 AU	opposition	15710 Apr 09 08:26	1° $\mathbb{M}$ 23'21	0°39'25
morning rise	15703 Sep 27 21:52	6° $\mathbb{A}$ 29'14		min. Earth dist.	15710 Apr 09 01:18	1° $\mathbb{M}$ 24'04	19.05587 AU
retrograde	15703 Dec 29 06:07	9° $\mathbb{A}$ 33'07			15710 May 17 21:57	30° $\mathbb{R}$ $\mathbb{A}$	
opposition	15704 Mar 15 09:36	7° $\mathbb{A}$ 35'13	0°08'48	direct	15710 Jun 24 16:11	29° $\mathbb{A}$ 26'10	
min. Earth dist.	15704 Mar 15 01:29	7° $\mathbb{A}$ 36'02	19.04043 AU		15710 Jul 31 13:54	0° $\mathbb{M}$	
direct	15704 May 31 04:15	5° $\mathbb{A}$ 37'33		evening set	15710 Sep 23 13:24	2° $\mathbb{M}$ 26'50	
evening set	15704 Aug 30 09:06	8° $\mathbb{A}$ 38'56					
				conjunction	15710 Oct 09 10:54	3° $\mathbb{M}$ 21'04	0°37'44
conjunction	15704 Sep 15 05:38	9° $\mathbb{A}$ 33'06	0°10'26	minimum elong	15710 Oct 09 10:53	3° $\mathbb{M}$ 21'04	0°38'07
minimum elong	15704 Sep 15 05:37	9° $\mathbb{A}$ 33'06	0°10'29	max. Earth dist.	15710 Oct 09 17:56	3° $\mathbb{M}$ 22'04	21.05005 AU
behind sun begin	15704 Sep 15 00:27	9° $\mathbb{A}$ 32'23		morning rise	15710 Oct 25 09:47	4° $\mathbb{M}$ 15'33	
behind sun end	15704 Sep 15 10:48	9° $\mathbb{A}$ 33'49		retrograde	15711 Jan 26 09:21	7° $\mathbb{M}$ 20'26	
max. Earth dist.	15704 Sep 15 13:45	9° $\mathbb{A}$ 34'15	21.04677 AU	opposition	15711 Apr 13 16:28	5° $\mathbb{M}$ 22'15	0°44'01
morning rise	15704 Oct 01 02:52	10° $\mathbb{A}$ 27'23		min. Earth dist.	15711 Apr 13 10:36	5° $\mathbb{M}$ 22'50	19.04329 AU
retrograde	15705 Jan 01 11:54	13° $\mathbb{A}$ 31'15		direct	15711 Jun 28 22:35	3° $\mathbb{M}$ 25'05	
opposition	15705 Mar 19 17:40	11° $\mathbb{A}$ 33'18	0°14'10	evening set	15711 Sep 27 18:52	6° $\mathbb{M}$ 25'50	
min. Earth dist.	15705 Mar 19 10:29	11° $\mathbb{A}$ 34'01	19.05239 AU				
direct	15705 Jun 04 09:34	9° $\mathbb{A}$ 35'44		conjunction	15711 Oct 13 16:34	7° $\mathbb{M}$ 20'09	0°41'47
evening set	15705 Sep 03 13:43	12° $\mathbb{A}$ 36'50		minimum elong	15711 Oct 13 16:34	7° $\mathbb{M}$ 20'09	0°42'14

max. Earth dist.	15711 Oct 13 22:23	7°M.20'59	21.03492 AU	morning rise	15717 Nov 22 11:30	2°♂21'50	
morning rise	15711 Oct 29 15:55	8°M.14'42		retrograde	15718 Feb 24 01:37	5°♂29'44	
retrograde	15712 Jan 30 19:17	11°M.19'56		opposition	15718 May 12 03:38	3°♂30'15	1°09'25
opposition	15712 Apr 17 00:19	9°M.21'38	0°48'24	min. Earth dist.	15718 May 12 01:00	3°♂30'31	18.81739 AU
min. Earth dist.	15712 Apr 16 18:23	9°M.22'14	19.02551 AU	direct	15718 Jul 26 23:28	1°♂32'08	
direct	15712 Jul 02 05:05	7°M.24'26		evening set	15718 Oct 25 17:25	4°♂35'01	
evening set	15712 Oct 01 00:35	10°M.25'21					
conjunction	15712 Oct 16 22:40	11°M.19'45	0°45'39	conjunction	15718 Nov 10 17:51	5°♂30'16	1°03'48
minimum elong	15712 Oct 16 22:39	11°M.19'45	0°46'09	minimum elong	15718 Nov 10 17:51	5°♂30'16	1°04'32
max. Earth dist.	15712 Oct 17 04:14	11°M.20'33	21.01426 AU	max. Earth dist.	15718 Nov 10 20:29	5°♂30'39	20.79409 AU
morning rise	15712 Nov 01 22:17	12°M.14'24		morning rise	15718 Nov 26 20:11	6°♂25'49	
	15713 Jan 05 13:38	15°M.		retrograde	15719 Feb 28 11:36	9°♂34'20	
retrograde	15713 Feb 03 02:19	15°M.19'58		opposition	15719 May 16 13:04	7°♂34'39	1°11'50
	15713 Mar 04 02:03	15°R.M.		min. Earth dist.	15719 May 16 11:12	7°♂34'51	18.77081 AU
opposition	15713 Apr 21 08:34	13°M.21'33	0°52'35	direct	15719 Jul 31 06:48	5°♂36'23	
min. Earth dist.	15713 Apr 21 04:00	13°M.22'01	19.00209 AU	evening set	15719 Oct 30 01:58	8°♂39'49	
direct	15713 Jul 06 11:25	11°M.24'17		conjunction	15719 Nov 15 02:48	9°♂35'16	1°05'49
evening set	15713 Oct 05 06:32	14°M.25'22		minimum elong	15719 Nov 15 02:47	9°♂35'15	1°06'34
	15713 Oct 15 10:38	15°M.		max. Earth dist.	15719 Nov 15 04:11	9°♂35'28	20.74639 AU
conjunction	15713 Oct 21 04:51	15°M.19'52	0°49'19	morning rise	15719 Dec 01 05:46	10°♂31'01	
minimum elong	15713 Oct 21 04:51	15°M.19'52	0°49'51	retrograde	15720 Mar 03 23:16	13°♂40'11	
max. Earth dist.	15713 Oct 21 09:06	15°M.20'28	20.98820 AU	opposition	15720 May 19 22:38	11°♂40'19	1°13'55
morning rise	15713 Nov 06 04:58	16°M.14'38		min. Earth dist.	15720 May 19 20:48	11°♂40'31	18.72198 AU
retrograde	15714 Feb 07 12:28	19°M.20'36		direct	15720 Aug 03 14:51	9°♂41'52	
opposition	15714 Apr 25 16:50	17°M.21'59	0°56'30	evening set	15720 Nov 02 11:00	12°♂45'57	
min. Earth dist.	15714 Apr 25 12:15	17°M.22'27	18.97340 AU	conjunction	15720 Nov 18 12:27	13°♂41'37	1°07'30
direct	15714 Jul 10 18:57	15°M.24'35		minimum elong	15720 Nov 18 12:27	13°♂41'37	1°08'17
evening set	15714 Oct 09 12:47	18°M.25'54		max. Earth dist.	15720 Nov 18 14:11	13°♂41'52	20.69635 AU
conjunction	15714 Oct 25 11:32	19°M.20'31	0°52'45	morning rise	15720 Dec 04 15:49	14°♂37'35	
minimum elong	15714 Oct 25 11:31	19°M.20'31	0°53'20	retrograde	15721 Mar 08 10:52	17°♂47'26	
max. Earth dist.	15714 Oct 25 15:46	19°M.21'07	20.95697 AU	opposition	15721 May 24 08:51	15°♂47'25	1°15'37
morning rise	15714 Nov 10 11:58	20°M.15'24		min. Earth dist.	15721 May 24 07:42	15°♂47'33	18.67085 AU
retrograde	15715 Feb 11 19:49	23°M.21'47		direct	15721 Aug 07 23:12	13°♂48'49	
opposition	15715 Apr 30 01:18	21°M.22'58	1°00'11	evening set	15721 Nov 06 20:43	16°♂53'35	
min. Earth dist.	15715 Apr 29 21:55	21°M.23'18	18.93989 AU	conjunction	15721 Nov 22 22:35	17°♂49'28	1°08'51
direct	15715 Jul 15 01:06	19°M.25'24		minimum elong	15721 Nov 22 22:35	17°♂49'28	1°09'40
evening set	15715 Oct 13 19:19	22°M.27'00		max. Earth dist.	15721 Nov 22 23:01	17°♂49'32	20.64427 AU
conjunction	15715 Oct 29 18:24	23°M.21'45	0°55'55	morning rise	15721 Dec 09 02:39	18°♂45'40	
minimum elong	15715 Oct 29 18:24	23°M.21'45	0°56'33	retrograde	15722 Mar 12 23:36	21°♂56'17	
max. Earth dist.	15715 Oct 29 21:29	23°M.22'11	20.92141 AU	opposition	15722 May 28 19:34	19°♂56'06	1°16'56
morning rise	15715 Nov 14 19:26	24°M.16'47		min. Earth dist.	15722 May 28 18:36	19°♂56'12	18.61772 AU
retrograde	15716 Feb 16 06:16	27°M.23'37		direct	15722 Aug 12 08:01	17°♂57'20	
opposition	15716 May 03 09:49	25°M.24'34	1°03'34	evening set	15722 Nov 11 07:12	21°♂02'52	
min. Earth dist.	15716 May 03 06:23	25°M.24'55	18.90238 AU	conjunction	15722 Nov 27 09:46	21°♂58'59	1°09'51
direct	15716 Jul 18 09:02	23°M.26'49		minimum elong	15722 Nov 27 09:46	21°♂58'59	1°10'39
evening set	15716 Oct 17 02:16	26°M.28'47		max. Earth dist.	15722 Nov 27 10:33	21°♂59'06	20.58996 AU
conjunction	15716 Nov 02 01:48	27°M.23'41	0°58'50	morning rise	15722 Dec 13 14:15	22°♂55'25	
minimum elong	15716 Nov 02 01:48	27°M.23'41	0°59'31	retrograde	15723 Mar 17 12:32	26°♂06'47	
max. Earth dist.	15716 Nov 02 05:06	27°M.24'09	20.88194 AU	opposition	15723 Jun 02 06:42	24°♂06'29	1°17'51
morning rise	15716 Nov 18 03:09	28°M.18'52		min. Earth dist.	15723 Jun 02 06:30	24°♂06'30	18.56226 AU
	15716 Dec 21 00:19	0°♂		direct	15723 Aug 16 17:26	22°♂07'33	
retrograde	15717 Feb 19 14:32	1°♂26'13		evening set	15723 Nov 15 18:39	25°♂13'53	
	15717 Apr 24 00:15	30°R.M.		conjunction	15723 Dec 01 21:41	26°♂10'15	1°10'29
opposition	15717 May 07 18:34	29°M.26'57	1°06'39	minimum elong	15723 Dec 01 21:41	26°♂10'15	1°11'19
min. Earth dist.	15717 May 07 16:06	29°M.27'12	18.86128 AU	max. Earth dist.	15723 Dec 01 20:47	26°♂10'07	20.53340 AU
direct	15717 Jul 22 15:33	27°M.29'01		morning rise	15723 Dec 18 02:54	27°♂06'57	
	15717 Oct 11 22:20	0°♂			15724 Feb 22 13:35	0°♂	
evening set	15717 Oct 21 09:41	0°♂31'24		retrograde	15724 Mar 21 02:55	0°♂19'07	
conjunction	15717 Nov 06 09:34	1°♂26'28	1°01'28		15724 Apr 18 01:20	30°R.♂	
minimum elong	15717 Nov 06 09:33	1°♂26'28	1°02'10	opposition	15724 Jun 05 18:27	28°♂18'39	1°18'23
max. Earth dist.	15717 Nov 06 11:47	1°♂26'47	20.83942 AU	min. Earth dist.	15724 Jun 05 18:55	28°♂18'36	18.50443 AU
				direct	15724 Aug 20 03:20	26°♂19'30	

evening set	15724 Nov 19 06:50	29°  26'41			15731 Mar 16 15:43	0° 	
	15724 Nov 28 20:05	0° 		retrograde	15731 Apr 22 00:16	0°  33'44	
					15731 May 28 20:42	30°  R 	
conjunction	15724 Dec 05 10:33	0°  23'19	1°10'44	opposition	15731 Jul 06 20:28	28°  31'35	1°10'00
minimum elong	15724 Dec 05 10:33	0°  23'19	1°11'35	min. Earth dist.	15731 Jul 07 01:13	28°  31'05	18.04151 AU
max. Earth dist.	15724 Dec 05 09:49	0°  23'13	20.47410 AU	direct	15731 Sep 19 20:04	26°  30'10	
morning rise	15724 Dec 21 16:09	1°  20'16		evening set	15731 Dec 20 19:10	29°  34'47	
retrograde	15725 Mar 25 17:06	4°  33'14			15731 Dec 25 08:51	0° 	
opposition	15725 Jun 10 06:48	2°  32'36	1°18'29				
min. Earth dist.	15725 Jun 10 08:02	2°  32'29	18.44372 AU	conjunction	15732 Jan 06 03:19	0°  42'25	1°01'40
direct	15725 Aug 24 14:03	0°  33'14		minimum elong	15732 Jan 06 03:19	0°  42'26	1°02'26
evening set	15725 Nov 23 20:00	3°  34'17		max. Earth dist.	15732 Jan 05 20:35	0°  41'25	20.00766 AU
				morning rise	15732 Jan 22 13:11	1°  41'20	
conjunction	15725 Dec 10 00:12	4°  38'11	1°10'38	retrograde	15732 Apr 25 18:22	4°  59'39	
minimum elong	15725 Dec 10 00:12	4°  38'11	1°11'29	opposition	15732 Jul 10 12:49	2°  57'15	1°07'03
max. Earth dist.	15725 Dec 09 21:29	4°  37'47	20.41211 AU	min. Earth dist.	15732 Jul 10 18:35	2°  56'38	17.97452 AU
morning rise	15725 Dec 26 06:33	5°  35'24		direct	15732 Sep 23 10:28	0°  55'29	
retrograde	15726 Mar 30 08:52	8°  34'09		evening set	15732 Dec 24 13:44	4°  10'05	
opposition	15726 Jun 14 19:47	6°  34'19	1°18'10				
min. Earth dist.	15726 Jun 14 21:55	6°  34'05	18.38041 AU	conjunction	15733 Jan 09 22:40	5°  09'02	0°58'48
direct	15726 Aug 29 01:10	4°  34'39		minimum elong	15733 Jan 09 22:40	5°  09'02	0°59'32
evening set	15726 Nov 28 09:46	7°  35'34		max. Earth dist.	15733 Jan 09 16:44	5°  08'08	19.94145 AU
				morning rise	15733 Jan 26 08:54	6°  08'14	
conjunction	15726 Dec 14 14:48	8°  35'46	1°10'07	retrograde	15733 Apr 30 15:07	9°  27'18	
minimum elong	15726 Dec 14 14:48	8°  35'46	1°10'59	opposition	15733 Jul 15 05:43	7°  24'41	1°03'40
max. Earth dist.	15726 Dec 14 12:14	8°  35'23	20.34747 AU	min. Earth dist.	15733 Jul 15 10:54	7°  24'08	17.90920 AU
morning rise	15726 Dec 30 21:37	9°  35'21		direct	15733 Sep 28 03:42	5°  22'37	
retrograde	15727 Apr 04 00:50	13°  30'46		evening set	15733 Dec 29 09:27	8°  38'14	
opposition	15727 Jun 19 09:17	11°  30'54	1°17'25				
min. Earth dist.	15727 Jun 19 11:59	11°  30'25	18.31453 AU	conjunction	15734 Jan 14 18:52	9°  37'28	0°55'33
direct	15727 Sep 02 13:29	9°  30'54		minimum elong	15734 Jan 14 18:52	9°  37'29	0°56'15
evening set	15727 Dec 03 00:34	12°  31'53		max. Earth dist.	15734 Jan 14 11:37	9°  36'23	19.87726 AU
				morning rise	15734 Jan 31 05:43	10°  36'57	
conjunction	15727 Dec 19 06:05	13°  31'00	1°09'14	retrograde	15734 May 05 10:29	13°  36'46	
minimum elong	15727 Dec 19 06:06	13°  31'00	1°10'04	opposition	15734 Jul 19 23:21	11°  53'58	0°59'52
max. Earth dist.	15727 Dec 19 01:32	13°  31'20	20.28070 AU	min. Earth dist.	15734 Jul 20 05:35	11°  53'18	17.84626 AU
morning rise	15728 Jan 04 13:40	14°  31'04		direct	15734 Oct 02 19:36	9°  51'35	
retrograde	15728 Apr 07 17:23	17°  32'04		evening set	15735 Jan 03 05:54	13°  38'15	
opposition	15728 Jun 22 23:12	15°  32'43	1°16'14				
min. Earth dist.	15728 Jun 23 02:58	15°  32'40	18.24698 AU	conjunction	15735 Jan 19 16:05	14°  37'47	0°51'56
direct	15728 Sep 06 01:23	13°  32'43		minimum elong	15735 Jan 19 16:05	14°  37'48	0°52'36
evening set	15728 Dec 06 15:56	16°  33'08		max. Earth dist.	15735 Jan 19 09:28	14°  36'47	19.81563 AU
					15735 Feb 03 00:44	15° 	
conjunction	15728 Dec 22 22:17	17°  32'53	1°07'56	morning rise	15735 Feb 05 03:19	15°  37'32	
minimum elong	15728 Dec 22 22:17	17°  32'53	1°08'47	retrograde	15735 May 10 08:40	18°  38'05	
max. Earth dist.	15728 Dec 22 18:10	17°  32'16	20.21255 AU	opposition	15735 Jul 24 17:32	16°  35'09	0°55'40
morning rise	15729 Jan 08 06:17	18°  30'56		min. Earth dist.	15735 Jul 24 23:02	16°  34'33	17.78582 AU
retrograde	15729 Apr 12 11:18	21°  34'59			15735 Aug 30 07:05	15°  R 	
opposition	15729 Jun 27 13:45	19°  34'52	1°14'36	direct	15735 Oct 07 14:18	14°  32'32	
min. Earth dist.	15729 Jun 27 17:40	19°  34'57	18.17839 AU		15735 Nov 14 04:08	15° 	
direct	15729 Sep 10 15:29	17°  34'41		evening set	15736 Jan 08 03:27	17°  34'14	
evening set	15729 Dec 11 08:08	20°  35'20					
				conjunction	15736 Jan 24 14:02	18°  34'03	0°47'59
conjunction	15729 Dec 27 14:58	21°  35'23	1°06'15	minimum elong	15736 Jan 24 14:03	18°  34'03	0°48'36
minimum elong	15729 Dec 27 14:58	21°  35'23	1°07'03	max. Earth dist.	15736 Jan 24 06:20	18°  38'53	19.75653 AU
max. Earth dist.	15729 Dec 27 09:11	21°  35'31	20.14386 AU	morning rise	15736 Feb 10 01:46	19°  34'04	
morning rise	15730 Jan 12 23:44	22°  35'24		retrograde	15736 May 14 05:19	23°  34'20	
retrograde	15730 Apr 17 04:40	26°  30'33		opposition	15736 Jul 28 12:30	20°  38'17	0°51'06
opposition	15730 Jul 02 04:56	24°  30'73	1°12'31	min. Earth dist.	15736 Jul 28 19:15	20°  37'34	17.72810 AU
min. Earth dist.	15730 Jul 02 09:51	24°  30'08	18.10974 AU	direct	15736 Oct 11 07:43	18°  35'26	
direct	15730 Sep 15 04:18	22°  30'63		evening set	15737 Jan 12 01:49	22°  34'11	
evening set	15730 Dec 16 01:08	25°  31'12					
				conjunction	15737 Jan 28 13:00	23°  34'18	0°43'42
conjunction	15731 Jan 01 08:49	26°  31'73	1°04'09	minimum elong	15737 Jan 28 13:01	23°  34'18	0°44'16
minimum elong	15731 Jan 01 08:49	26°  31'73	1°04'57	max. Earth dist.	15737 Jan 28 05:37	23°  33'10	19.70020 AU
max. Earth dist.	15731 Jan 01 03:40	26°  31'47	20.07535 AU	morning rise	15737 Feb 14 01:02	24°  33'33	
morning rise	15731 Jan 17 17:59	27°  31'11		retrograde	15737 May 19 04:58	27°  36'31	

opposition	15737 Aug 02 08:03	25° $\approx$ 33'23	0°46'10	direct	15743 Nov 13 16:51	21° $\mathbb{H}$ 32'26	
min. Earth dist.	15737 Aug 02 14:08	25° $\approx$ 32'44	17.67297 AU	evening set	15744 Feb 15 11:35	24° $\mathbb{H}$ 57'13	
direct	15737 Oct 16 04:01	23° $\approx$ 30'19					
evening set	15738 Jan 17 01:06	26° $\approx$ 50'05		conjunction	15744 Mar 03 00:56	25° $\mathbb{H}$ 58'46	0°06'53
				minimum elong	15744 Mar 03 00:56	25° $\mathbb{H}$ 58'46	0°07'02
conjunction	15738 Feb 02 12:42	27° $\approx$ 50'27	0°39'06	behind sun begin	15744 Mar 02 18:42	25° $\mathbb{H}$ 57'49	
minimum elong	15738 Feb 02 12:42	27° $\approx$ 50'27	0°39'38	behind sun end	15744 Mar 03 07:10	25° $\mathbb{H}$ 59'43	
max. Earth dist.	15738 Feb 02 04:24	27° $\approx$ 49'11	19.64625 AU	max. Earth dist.	15744 Mar 02 15:39	25° $\mathbb{H}$ 57'20	19.38352 AU
morning rise	15738 Feb 19 01:05	28° $\approx$ 50'57		morning rise	15744 Mar 19 13:50	27° $\mathbb{H}$ 00'19	
	15738 Mar 11 02:51	0° $\mathbb{H}$			15744 May 21 16:34	0° $\mathbb{Y}$	
retrograde	15738 May 24 02:53	2° $\mathbb{H}$ 13'34		retrograde	15744 Jun 21 05:54	0° $\mathbb{Y}$ 25'23	
opposition	15738 Aug 07 04:27	0° $\mathbb{H}$ 10'21	0°40'55		15744 Jul 22 04:43	30° $\mathbb{R}$ $\mathbb{H}$	
min. Earth dist.	15738 Aug 07 11:58	0° $\mathbb{H}$ 09'32	17.62023 AU	opposition	15744 Sep 03 17:05	28° $\mathbb{H}$ 21'32	0°04'23
	15738 Aug 11 04:20	30° $\mathbb{R}$ $\approx$		min. Earth dist.	15744 Sep 04 01:22	28° $\mathbb{H}$ 20'37	17.36836 AU
direct	15738 Oct 20 23:31	28° $\approx$ 07'02		direct	15744 Nov 17 15:37	26° $\mathbb{H}$ 16'42	
	15738 Dec 27 01:45	0° $\mathbb{H}$		evening set	15745 Feb 19 15:02	29° $\mathbb{H}$ 42'04	
evening set	15739 Jan 22 01:19	1° $\mathbb{H}$ 27'47			15745 Feb 24 11:49	0° $\mathbb{Y}$	
conjunction	15739 Feb 07 13:24	2° $\mathbb{H}$ 28'24	0°34'15	conjunction	15745 Mar 08 04:17	0° $\mathbb{Y}$ 43'44	0°01'02
minimum elong	15739 Feb 07 13:24	2° $\mathbb{H}$ 28'24	0°34'43	minimum elong	15745 Mar 08 04:16	0° $\mathbb{Y}$ 43'44	0°01'06
max. Earth dist.	15739 Feb 07 04:49	2° $\mathbb{H}$ 27'05	19.59473 AU	behind sun begin	15745 Mar 07 21:32	0° $\mathbb{Y}$ 42'42	
morning rise	15739 Feb 24 02:03	3° $\mathbb{H}$ 29'08		behind sun end	15745 Mar 08 11:01	0° $\mathbb{Y}$ 44'46	
retrograde	15739 May 29 03:21	6° $\mathbb{H}$ 52'20		max. Earth dist.	15745 Mar 07 18:17	0° $\mathbb{Y}$ 42'11	19.35464 AU
opposition	15739 Aug 12 01:12	4° $\mathbb{H}$ 49'00	0°35'21	morning rise	15745 Mar 24 17:12	1° $\mathbb{Y}$ 45'22	
min. Earth dist.	15739 Aug 12 08:10	4° $\mathbb{H}$ 48'15	17.56984 AU	desc. node	15745 May 12 04:57	4° $\mathbb{Y}$ 16'22	
direct	15739 Oct 25 21:40	2° $\mathbb{H}$ 45'27		retrograde	15745 Jun 26 08:08	5° $\mathbb{Y}$ 10'37	
evening set	15740 Jan 27 02:18	6° $\mathbb{H}$ 07'08		opposition	15745 Sep 08 16:28	3° $\mathbb{Y}$ 06'40	-0°02'09
				min. Earth dist.	15745 Sep 09 00:06	3° $\mathbb{Y}$ 05'50	17.34237 AU
conjunction	15740 Feb 12 14:44	7° $\mathbb{H}$ 07'59	0°29'08	direct	15745 Nov 22 16:50	1° $\mathbb{Y}$ 01'38	
minimum elong	15740 Feb 12 14:44	7° $\mathbb{H}$ 07'59	0°29'32	evening set	15746 Feb 24 18:36	4° $\mathbb{Y}$ 27'32	
max. Earth dist.	15740 Feb 12 05:36	7° $\mathbb{H}$ 06'34	19.54553 AU				
morning rise	15740 Feb 29 03:32	8° $\mathbb{H}$ 08'55		conjunction	15746 Mar 13 07:59	5° $\mathbb{Y}$ 29'18	-0°04'56
retrograde	15740 Jun 02 02:11	11° $\mathbb{H}$ 32'37		minimum elong	15746 Mar 13 07:59	5° $\mathbb{Y}$ 29'18	0°04'55
opposition	15740 Aug 15 22:49	9° $\mathbb{H}$ 29'11	0°29'32	behind sun begin	15746 Mar 13 01:25	5° $\mathbb{Y}$ 28'17	
min. Earth dist.	15740 Aug 16 07:02	9° $\mathbb{H}$ 28'18	17.52204 AU	behind sun end	15746 Mar 13 14:33	5° $\mathbb{Y}$ 30'18	
direct	15740 Oct 29 18:48	7° $\mathbb{H}$ 25'23		max. Earth dist.	15746 Mar 12 23:27	5° $\mathbb{Y}$ 27'58	19.33150 AU
evening set	15741 Jan 31 03:44	10° $\mathbb{H}$ 47'55		morning rise	15746 Mar 29 20:32	6° $\mathbb{Y}$ 30'59	
				retrograde	15746 Jul 01 08:14	9° $\mathbb{Y}$ 56'19	
conjunction	15741 Feb 16 16:28	11° $\mathbb{H}$ 48'58	0°23'48	opposition	15746 Sep 13 16:15	7° $\mathbb{Y}$ 52'20	-0°08'41
minimum elong	15741 Feb 16 16:28	11° $\mathbb{H}$ 48'58	0°24'09	min. Earth dist.	15746 Sep 13 23:45	7° $\mathbb{Y}$ 51'31	17.32225 AU
max. Earth dist.	15741 Feb 16 06:50	11° $\mathbb{H}$ 47'29	19.49934 AU	direct	15746 Nov 27 17:07	5° $\mathbb{Y}$ 47'09	
morning rise	15741 Mar 05 05:29	12° $\mathbb{H}$ 50'06		evening set	15747 Mar 01 22:40	9° $\mathbb{Y}$ 13'31	
retrograde	15741 Jun 07 03:42	16° $\mathbb{H}$ 14'16					
opposition	15741 Aug 20 20:46	14° $\mathbb{H}$ 10'43	0°23'29	conjunction	15747 Mar 18 11:44	10° $\mathbb{Y}$ 15'19	-0°10'44
min. Earth dist.	15741 Aug 21 04:18	14° $\mathbb{H}$ 09'53	17.47744 AU	minimum elong	15747 Mar 18 11:43	10° $\mathbb{Y}$ 15'19	0°10'49
direct	15741 Nov 03 18:32	12° $\mathbb{H}$ 06'38		behind sun begin	15747 Mar 18 06:37	10° $\mathbb{Y}$ 14'32	
evening set	15742 Feb 05 05:53	15° $\mathbb{H}$ 29'58		behind sun end	15747 Mar 18 16:50	10° $\mathbb{Y}$ 16'06	
				max. Earth dist.	15747 Mar 18 02:30	10° $\mathbb{Y}$ 13'53	19.31457 AU
conjunction	15742 Feb 21 18:56	16° $\mathbb{H}$ 31'13	0°18'17	morning rise	15747 Apr 04 00:08	11° $\mathbb{Y}$ 17'02	
minimum elong	15742 Feb 21 18:56	16° $\mathbb{H}$ 31'13	0°18'34	retrograde	15747 Jul 06 09:30	14° $\mathbb{Y}$ 42'25	
max. Earth dist.	15742 Feb 21 09:29	16° $\mathbb{H}$ 29'46	19.45647 AU	opposition	15747 Sep 18 16:11	12° $\mathbb{Y}$ 38'26	-0°15'10
morning rise	15742 Mar 10 07:57	17° $\mathbb{H}$ 32'31		min. Earth dist.	15747 Sep 18 23:09	12° $\mathbb{Y}$ 37'40	17.30865 AU
retrograde	15742 Jun 12 03:17	20° $\mathbb{H}$ 57'02		direct	15747 Dec 02 19:07	10° $\mathbb{Y}$ 33'09	
opposition	15742 Aug 25 19:09	18° $\mathbb{H}$ 53'23	0°17'15	evening set	15748 Mar 06 02:41	13° $\mathbb{Y}$ 59'53	
min. Earth dist.	15742 Aug 26 03:40	18° $\mathbb{H}$ 52'28	17.43653 AU				
direct	15742 Nov 08 16:22	16° $\mathbb{H}$ 49'02		conjunction	15748 Mar 22 15:43	15° $\mathbb{Y}$ 01'44	-0°16'29
evening set	15743 Feb 10 08:37	20° $\mathbb{H}$ 13'08		minimum elong	15748 Mar 22 15:42	15° $\mathbb{Y}$ 01'44	0°16'37
				max. Earth dist.	15748 Mar 22 08:11	15° $\mathbb{Y}$ 00'34	19.30421 AU
conjunction	15743 Feb 26 21:46	21° $\mathbb{H}$ 14'33	0°12'38	morning rise	15748 Apr 08 03:35	16° $\mathbb{Y}$ 03'27	
minimum elong	15743 Feb 26 21:46	21° $\mathbb{H}$ 14'33	0°12'51	retrograde	15748 Jul 10 10:01	19° $\mathbb{Y}$ 28'48	
behind sun begin	15743 Feb 26 17:41	21° $\mathbb{H}$ 13'56		opposition	15748 Sep 22 16:26	17° $\mathbb{Y}$ 24'53	-0°21'32
behind sun end	15743 Feb 27 01:52	21° $\mathbb{H}$ 15'10		min. Earth dist.	15748 Sep 22 22:43	17° $\mathbb{Y}$ 24'12	17.30154 AU
max. Earth dist.	15743 Feb 26 11:33	21° $\mathbb{H}$ 12'58	19.41774 AU	direct	15748 Dec 06 21:08	15° $\mathbb{Y}$ 19'34	
morning rise	15743 Mar 15 10:55	22° $\mathbb{H}$ 15'59		evening set	15749 Mar 11 06:51	18° $\mathbb{Y}$ 46'37	
retrograde	15743 Jun 17 05:44	25° $\mathbb{H}$ 40'49					
opposition	15743 Aug 30 17:53	23° $\mathbb{H}$ 37'03	0°10'52	conjunction	15749 Mar 27 19:27	19° $\mathbb{Y}$ 48'27	-0°22'08
min. Earth dist.	15743 Aug 31 01:45	23° $\mathbb{H}$ 36'11	17.40002 AU	minimum elong	15749 Mar 27 19:27	19° $\mathbb{Y}$ 48'27	0°22'20

max. Earth dist.	15749 Mar 27 11:29	19° $\Upsilon$ 47'12	19.30041 AU	morning rise	15755 May 13 00:02	19° $\text{8}$ 27'32	
morning rise	15749 Apr 13 07:05	20° $\Upsilon$ 50'08		retrograde	15755 Aug 13 13:45	22° $\text{8}$ 50'48	
retrograde	15749 Jul 15 10:40	24° $\Upsilon$ 15'25		opposition	15755 Oct 26 20:00	20° $\text{8}$ 47'55	-0°59'39
opposition	15749 Sep 27 16:53	22° $\Upsilon$ 11'37	-0°27'46	min. Earth dist.	15755 Oct 27 00:27	20° $\text{8}$ 47'25	17.40538 AU
min. Earth dist.	15749 Sep 27 23:01	22° $\Upsilon$ 10'57	17.30097 AU	direct	15756 Jan 10 13:55	18° $\text{8}$ 42'53	
direct	15749 Dec 11 23:21	20° $\Upsilon$ 06'17		evening set	15756 Apr 14 09:11	22° $\text{8}$ 09'31	
evening set	15750 Mar 16 11:06	23° $\Upsilon$ 33'34					
conjunction	15750 Apr 01 23:32	24° $\Upsilon$ 35'23	-0°27'38	conjunction	15756 Apr 30 18:13	23° $\text{8}$ 10'34	-0°55'20
minimum elong	15750 Apr 01 23:31	24° $\Upsilon$ 35'23	0°27'54	minimum elong	15756 Apr 30 18:13	23° $\text{8}$ 10'34	0°55'56
max. Earth dist.	15750 Apr 01 17:03	24° $\Upsilon$ 34'22	19.30282 AU	max. Earth dist.	15756 Apr 30 13:29	23° $\text{8}$ 09'49	19.42103 AU
morning rise	15750 Apr 18 10:33	25° $\Upsilon$ 37'01		morning rise	15756 May 17 01:24	24° $\text{8}$ 11'21	
retrograde	15750 Jul 20 12:05	29° $\Upsilon$ 02'09		retrograde	15756 Aug 17 13:44	27° $\text{8}$ 34'03	
opposition	15750 Oct 02 17:16	26° $\Upsilon$ 58'29	-0°33'49	opposition	15756 Oct 30 19:50	25° $\text{8}$ 31'18	-1°03'41
min. Earth dist.	15750 Oct 02 22:38	26° $\Upsilon$ 57'54	17.30619 AU	min. Earth dist.	15756 Oct 30 22:48	25° $\text{8}$ 30'59	17.43821 AU
direct	15750 Dec 17 02:18	24° $\Upsilon$ 53'12		direct	15757 Jan 14 16:41	23° $\text{8}$ 26'22	
evening set	15751 Mar 21 15:33	28° $\Upsilon$ 20'38		evening set	15757 Apr 19 11:07	26° $\text{8}$ 52'32	
conjunction	15751 Apr 07 03:25	29° $\Upsilon$ 22'22	-0°32'56	conjunction	15757 May 05 19:34	27° $\text{8}$ 53'23	-0°58'45
minimum elong	15751 Apr 07 03:24	29° $\Upsilon$ 22'22	0°33'16	minimum elong	15757 May 05 19:34	27° $\text{8}$ 53'23	0°59'26
max. Earth dist.	15751 Apr 06 20:31	29° $\Upsilon$ 21'17	19.31077 AU	max. Earth dist.	15757 May 05 16:01	27° $\text{8}$ 52'50	19.45591 AU
morning rise	15751 Apr 17 03:19	0° $\text{8}$		morning rise	15757 May 22 01:57	28° $\text{8}$ 53'57	
retrograde	15751 Apr 23 13:58	0° $\text{8}$ 23'56		retrograde	15757 Jun 09 22:05	0° $\text{II}$	
opposition	15751 Jul 25 12:26	3° $\text{8}$ 48'50		opposition	15757 Aug 22 11:22	2° $\text{II}$ 16'01	
min. Earth dist.	15751 Oct 07 18:02	1° $\text{8}$ 45'20	-0°39'37	min. Earth dist.	15757 Nov 04 19:30	0° $\text{II}$ 13'25	-1°07'17
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evening set	15751 Nov 24 15:31	30° $\text{R}$ $\Upsilon$		evening set	15757 Nov 09 23:57	30° $\text{R}$ $\text{8}$	
conjunction	15751 Dec 22 04:10	29° $\Upsilon$ 40'05		conjunction	15758 Jan 19 17:40	28° $\text{8}$ 08'35	
minimum elong	15752 Jan 18 08:48	0° $\text{8}$		minimum elong	15758 Mar 27 18:40	0° $\text{II}$	
max. Earth dist.	15752 Mar 25 19:35	3° $\text{8}$ 07'33		max. Earth dist.	15758 Apr 24 12:32	1° $\text{II}$ 34'13	
morning rise	15752 Apr 11 07:03	4° $\text{8}$ 09'12	-0°38'01	morning rise	15758 May 10 20:11	2° $\text{II}$ 34'50	-1°01'47
retrograde	15752 Apr 11 07:03	4° $\text{8}$ 09'12	0°38'25	retrograde	15758 May 10 20:11	2° $\text{II}$ 34'50	1°02'29
opposition	15752 Apr 11 01:13	4° $\text{8}$ 08'17	19.32390 AU	opposition	15758 May 10 16:34	2° $\text{II}$ 34'16	19.49514 AU
min. Earth dist.	15752 Apr 27 16:55	5° $\text{8}$ 10'39		min. Earth dist.	15758 May 27 01:57	3° $\text{II}$ 35'11	
direct	15752 Jul 29 14:19	8° $\text{8}$ 35'16		direct	15758 Aug 27 09:41	6° $\text{II}$ 56'33	
evening set	15752 Oct 11 18:40	6° $\text{8}$ 31'55	-0°45'08	evening set	15758 Nov 09 18:31	4° $\text{II}$ 54'06	-1°10'24
conjunction	15752 Oct 11 23:14	6° $\text{8}$ 31'26	17.33236 AU	conjunction	15758 Nov 09 20:20	4° $\text{II}$ 53'54	17.51666 AU
minimum elong	15752 Dec 26 07:38	4° $\text{8}$ 26'43		minimum elong	15759 Jan 24 19:40	2° $\text{II}$ 49'23	
max. Earth dist.	15753 Mar 30 23:37	7° $\text{8}$ 54'08		max. Earth dist.	15759 Apr 29 13:03	6° $\text{II}$ 14'25	
morning rise	15753 Apr 16 10:29	8° $\text{8}$ 55'40	-0°42'49	morning rise	15759 May 15 20:07	7° $\text{II}$ 14'48	-1°04'23
retrograde	15753 Apr 16 10:28	8° $\text{8}$ 55'40	0°43'17	retrograde	15759 May 15 20:06	7° $\text{II}$ 14'48	1°05'07
opposition	15753 Apr 16 04:35	8° $\text{8}$ 54'44	19.34164 AU	opposition	15759 May 15 18:17	7° $\text{II}$ 14'31	19.53874 AU
min. Earth dist.	15753 May 02 19:44	9° $\text{8}$ 56'59		min. Earth dist.	15759 Jun 01 00:58	8° $\text{II}$ 14'53	
direct	15753 Aug 03 13:50	13° $\text{8}$ 21'13		direct	15759 Sep 01 06:04	11° $\text{II}$ 35'32	
evening set	15753 Oct 16 19:16	11° $\text{8}$ 18'02	-0°50'20	evening set	15759 Nov 14 17:22	9° $\text{II}$ 33'15	-1°13'03
conjunction	15753 Oct 17 00:27	11° $\text{8}$ 17'28	17.35247 AU	conjunction	15759 Nov 14 19:13	9° $\text{II}$ 33'04	17.56260 AU
minimum elong	15753 Dec 31 09:10	9° $\text{8}$ 12'52		minimum elong	15760 Jan 29 20:36	7° $\text{II}$ 28'43	
max. Earth dist.	15754 Apr 05 03:17	12° $\text{8}$ 40'07		max. Earth dist.	15760 May 03 12:43	10° $\text{II}$ 53'03	
morning rise	15754 Apr 21 13:38	13° $\text{8}$ 41'31	-0°47'20	morning rise	15760 May 19 18:55	11° $\text{II}$ 53'10	-1°06'33
retrograde	15754 Apr 21 13:38	13° $\text{8}$ 41'31	0°47'50	retrograde	15760 May 19 18:54	11° $\text{II}$ 53'10	1°07'19
opposition	15754 Apr 21 08:12	13° $\text{8}$ 40'40	19.36392 AU	opposition	15760 May 19 17:04	11° $\text{II}$ 52'53	19.58704 AU
min. Earth dist.	15754 May 07 22:14	14° $\text{8}$ 42'41		min. Earth dist.	15760 Jun 04 23:12	12° $\text{II}$ 53'00	
direct	15754 May 12 16:17	15° $\text{8}$		direct	15760 Sep 05 02:23	16° $\text{II}$ 12'56	
evening set	15754 Aug 08 15:05	18° $\text{8}$ 06'28		evening set	15760 Nov 18 15:36	14° $\text{II}$ 10'50	-1°15'11
conjunction	15754 Oct 21 19:40	16° $\text{8}$ 03'25	-0°55'11	conjunction	15760 Nov 18 15:42	14° $\text{II}$ 10'50	17.61325 AU
minimum elong	15754 Oct 21 23:33	16° $\text{8}$ 03'00	17.37681 AU	minimum elong	15761 Feb 02 21:33	12° $\text{II}$ 06'29	
max. Earth dist.	15754 Nov 16 08:38	15° $\text{R}$ $\text{8}$		max. Earth dist.	15761 May 08 11:36	15° $\text{II}$ 30'07	
morning rise	15755 Jan 05 12:32	13° $\text{8}$ 58'20		morning rise	15761 May 24 17:15	16° $\text{II}$ 29'58	-1°08'16
retrograde	15755 Feb 23 05:21	15° $\text{8}$		retrograde	15761 May 24 17:14	16° $\text{II}$ 29'58	1°09'03
opposition	15755 Apr 10 06:31	17° $\text{8}$ 25'19		opposition	15761 May 24 17:26	16° $\text{II}$ 30'00	19.63990 AU
min. Earth dist.	15755 Apr 26 16:13	18° $\text{8}$ 26'33	-0°51'30	min. Earth dist.	15761 Jun 09 20:39	17° $\text{II}$ 29'32	
direct	15755 Apr 26 16:13	18° $\text{8}$ 26'33	0°52'05	direct	15761 Sep 09 21:40	20° $\text{II}$ 48'41	
evening set	15755 Apr 26 11:17	18° $\text{8}$ 25'47	19.39029 AU	evening set	15761 Nov 23 13:18	18° $\text{II}$ 46'52	-1°16'50
conjunction				conjunction	15761 Nov 23 13:12	18° $\text{II}$ 46'52	17.66827 AU



























































































































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evening set	15762 May 13 09:51	20°II05'38	retrograde	15768 Oct 10 23:24	22°☿13'14
			opposition	15768 Dec 25 06:56	20°☿13'19 -1°14'42
conjunction	15762 May 29 14:37	21°II05'12 -1°09'32	min. Earth dist.	15768 Dec 25 02:50	20°☿13'44 18.12102 AU
minimum elong	15762 May 29 14:37	21°II05'12 1°10'21	direct	15769 Mar 12 00:34	18°☿11'22
max. Earth dist.	15762 May 29 14:36	21°II05'12 19.69706 AU	evening set	15769 Jun 13 20:53	21°☿27'40
morning rise	15762 Jun 14 17:30	22°II04'29			
retrograde	15762 Sep 14 16:45	25°II22'53	conjunction	15769 Jun 29 21:24	22°☿25'14 -1°06'19
opposition	15762 Nov 28 10:32	23°II21'20 -1°17'58	minimum elong	15769 Jun 29 21:24	22°☿25'14 1°07'06
min. Earth dist.	15762 Nov 28 09:04	23°II21'29 17.72734 AU	max. Earth dist.	15769 Jun 30 02:11	22°☿25'57 20.15388 AU
direct	15763 Feb 12 21:07	21°II17'32	morning rise	15769 Jul 15 20:08	23°☿22'33
evening set	15763 May 18 06:59	24°II39'35	retrograde	15769 Oct 15 14:54	26°☿35'13
			opposition	15769 Dec 30 00:03	24°☿35'30 -1°12'36
conjunction	15763 Jun 03 11:13	25°II38'53 -1°10'21	min. Earth dist.	15769 Dec 29 19:14	24°☿36'00 18.18691 AU
minimum elong	15763 Jun 03 11:13	25°II38'53 1°11'11	direct	15770 Mar 16 20:17	22°☿33'49
max. Earth dist.	15763 Jun 03 13:14	25°II39'12 19.75780 AU	evening set	15770 Jun 18 12:09	25°☿49'04
morning rise	15763 Jun 19 13:14	26°II37'53			
retrograde	15763 Sep 19 11:00	29°II55'30	conjunction	15770 Jul 04 12:02	26°☿46'20 -1°04'15
opposition	15763 Dec 03 07:22	27°II54'16 -1°18'37	minimum elong	15770 Jul 04 12:02	26°☿46'20 1°05'02
min. Earth dist.	15763 Dec 03 05:33	27°II54'27 17.78950 AU	max. Earth dist.	15770 Jul 04 16:32	26°☿47'01 20.21935 AU
direct	15764 Feb 17 19:40	25°II50'47	morning rise	15770 Jul 20 10:27	27°☿43'24
evening set	15764 May 22 03:33	29°II11'58		15770 Sep 03 17:30	0°♂
	15764 Jun 04 07:24	0°☿	retrograde	15770 Oct 20 03:42	0°♂55'14
				15770 Dec 07 07:38	30°♂☿
conjunction	15764 Jun 07 06:55	0°☿10'59 -1°10'44	opposition	15771 Jan 03 16:44	28°☿55'40 -1°10'06
minimum elong	15764 Jun 07 06:55	0°☿10'59 1°11'34	min. Earth dist.	15771 Jan 03 12:06	28°☿56'09 18.25197 AU
max. Earth dist.	15764 Jun 07 08:35	0°☿11'14 19.82131 AU	direct	15771 Mar 21 12:58	26°☿54'14
morning rise	15764 Jun 23 08:28	1°☿09'42		15771 Jun 20 16:22	0°♂
retrograde	15764 Sep 23 05:14	4°☿26'32	evening set	15771 Jun 23 02:10	0°♂08'24
opposition	15764 Dec 07 03:30	2°☿25'35 -1°18'46			
min. Earth dist.	15764 Dec 07 00:51	2°☿25'51 17.85417 AU	conjunction	15771 Jul 09 01:41	1°♂05'24 -1°01'51
direct	15765 Feb 21 17:11	0°☿22'25	minimum elong	15771 Jul 09 01:41	1°♂05'24 1°02'36
evening set	15765 May 26 23:06	3°☿42'42	max. Earth dist.	15771 Jul 09 07:16	1°♂06'14 20.28400 AU
			morning rise	15771 Jul 24 23:40	2°♂02'12
conjunction	15765 Jun 12 02:00	4°☿41'26 -1°10'40	retrograde	15771 Oct 24 17:46	5°♂13'13
minimum elong	15765 Jun 12 02:00	4°☿41'26 1°11'32	opposition	15772 Jan 08 08:35	3°♂13'48 -1°07'13
max. Earth dist.	15765 Jun 12 05:19	4°☿41'56 19.88680 AU	min. Earth dist.	15772 Jan 08 02:52	3°♂14'23 18.31608 AU
morning rise	15765 Jun 28 02:48	5°☿39'52	direct	15772 Mar 25 07:31	1°♂12'36
retrograde	15765 Sep 27 22:45	8°☿55'52	evening set	15772 Jun 26 15:27	4°♂25'42
opposition	15765 Dec 11 23:13	6°☿55'13 -1°18'27			
min. Earth dist.	15765 Dec 11 20:12	6°☿55'33 17.92022 AU	conjunction	15772 Jul 12 14:27	5°♂22'26 -0°59'06
direct	15766 Feb 26 14:13	4°☿52'23	minimum elong	15772 Jul 12 14:27	5°♂22'26 0°59'51
evening set	15766 May 31 18:01	8°☿11'44	max. Earth dist.	15772 Jul 12 20:10	5°♂23'17 20.34775 AU
			morning rise	15772 Jul 28 12:11	6°♂18'59
conjunction	15766 Jun 16 20:05	9°☿10'09 -1°10'12	retrograde	15772 Oct 28 04:50	9°♂29'13
minimum elong	15766 Jun 16 20:05	9°☿10'09 1°11'02	opposition	15773 Jan 11 23:42	7°♂29'55 -1°03'58
max. Earth dist.	15766 Jun 16 22:53	9°☿10'35 19.95335 AU	min. Earth dist.	15773 Jan 11 18:12	7°♂30'29 18.37962 AU
morning rise	15766 Jul 02 20:25	10°☿08'19	direct	15773 Mar 29 22:13	5°♂28'57
retrograde	15766 Oct 02 15:40	13°☿23'29	evening set	15773 Jul 01 03:47	8°♂41'03
opposition	15766 Dec 16 18:22	11°☿23'06 -1°17'39			
min. Earth dist.	15766 Dec 16 14:56	11°☿23'28 17.98718 AU	conjunction	15773 Jul 17 02:28	9°♂37'31 -0°56'03
direct	15767 Mar 03 10:07	9°☿20'35	minimum elong	15773 Jul 17 02:28	9°♂37'31 0°56'45
evening set	15767 Jun 05 11:51	12°☿38'56	max. Earth dist.	15773 Jul 17 09:08	9°♂38'31 20.41104 AU
			morning rise	15773 Aug 01 23:51	10°♂33'49
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minimum elong	15767 Jun 21 13:28	13°☿37'05 1°10'08	opposition	15774 Jan 16 14:10	11°♂44'10 -1°00'24
max. Earth dist.	15767 Jun 21 17:38	13°☿37'43 20.02047 AU	min. Earth dist.	15774 Jan 16 07:15	11°♂44'53 18.44253 AU
morning rise	15767 Jul 07 13:07	14°☿34'57	direct	15774 Apr 03 15:11	9°♂43'29
retrograde	15767 Oct 07 08:21	17°☿49'17	evening set	15774 Jul 05 15:19	12°♂54'34
opposition	15767 Dec 21 12:57	15°☿49'10 -1°16'24			
min. Earth dist.	15767 Dec 21 08:53	15°☿49'35 18.05424 AU	conjunction	15774 Jul 21 13:31	13°♂50'47 -0°52'43
direct	15768 Mar 07 06:22	13°☿46'56	minimum elong	15774 Jul 21 13:32	13°♂50'47 0°53'23
evening set	15768 Jun 09 04:49	17°☿04'16	max. Earth dist.	15774 Jul 21 20:33	13°♂51'50 20.47365 AU
			morning rise	15774 Aug 06 10:40	14°♂46'51
conjunction	15768 Jun 25 05:44	18°☿02'07 -1°08'00		15774 Aug 10 06:17	15°♂
minimum elong	15768 Jun 25 05:44	18°☿02'07 1°08'49	retrograde	15774 Nov 06 03:47	17°♂55'40
max. Earth dist.	15768 Jun 25 09:28	18°☿02'41 20.08744 AU	opposition	15775 Jan 21 04:10	15°♂56'42 -0°56'32

min. Earth dist.	15775 Jan 20 21:27	15°Ω57'23	18.50489 AU	evening set	15781 Aug 03 05:32	11°Π50'22	
	15775 Feb 14 05:33	15°κΩ					
direct	15775 Apr 08 04:04	13°Ω56'18		conjunction	15781 Aug 19 02:09	12°Π45'13	-0°23'20
	15775 May 29 03:54	15°Ω		minimum elong	15781 Aug 19 02:09	12°Π45'13	0°23'39
evening set	15775 Jul 10 02:00	17°Ω06'26		max. Earth dist.	15781 Aug 19 10:39	12°Π46'26	20.85828 AU
				morning rise	15781 Sep 03 22:36	13°Π40'03	
conjunction	15775 Jul 25 23:57	18°Ω02'25	-0°49'07	retrograde	15781 Dec 04 22:52	16°Π45'22	
minimum elong	15775 Jul 25 23:57	18°Ω02'25	0°49'44	opposition	15782 Feb 19 14:45	14°Π47'34	-0°23'11
max. Earth dist.	15775 Jul 26 07:45	18°Ω03'34	20.53566 AU	min. Earth dist.	15782 Feb 19 05:59	14°Π48'27	18.87893 AU
morning rise	15775 Aug 10 20:53	18°Ω58'16		direct	15782 May 07 15:03	12°Π49'14	
retrograde	15775 Nov 10 15:15	22°Ω06'26		evening set	15782 Aug 07 12:20	15°Π53'49	
opposition	15776 Jan 25 17:22	20°Ω07'40	-0°52'23				
min. Earth dist.	15776 Jan 25 09:11	20°Ω08'30	18.56624 AU	conjunction	15782 Aug 23 08:50	16°Π48'31	-0°18'33
direct	15776 Apr 11 19:11	18°Ω07'36		minimum elong	15782 Aug 23 08:50	16°Π48'31	0°18'50
evening set	15776 Jul 13 12:00	21°Ω16'49		max. Earth dist.	15782 Aug 23 17:20	16°Π49'44	20.89833 AU
				morning rise	15782 Sep 08 05:17	17°Π43'14	
conjunction	15776 Jul 29 09:37	22°Ω12'35	-0°45'17	retrograde	15782 Dec 09 05:35	20°Π48'14	
minimum elong	15776 Jul 29 09:38	22°Ω12'36	0°45'51	opposition	15783 Feb 24 00:59	18°Π50'29	-0°17'50
max. Earth dist.	15776 Jul 29 17:46	22°Ω13'47	20.59629 AU	min. Earth dist.	15783 Feb 23 17:26	18°Π51'14	18.91658 AU
morning rise	15776 Aug 14 06:26	23°Ω08'14		direct	15783 May 11 23:22	16°Π52'19	
retrograde	15776 Nov 14 01:01	26°Ω15'50		evening set	15783 Aug 11 18:47	19°Π56'14	
opposition	15777 Jan 29 06:10	24°Ω17'15	-0°47'59				
min. Earth dist.	15777 Jan 28 22:33	24°Ω18'02	18.62602 AU	conjunction	15783 Aug 27 15:14	20°Π50'49	-0°13'42
direct	15777 Apr 16 06:44	22°Ω17'31		minimum elong	15783 Aug 27 15:14	20°Π50'49	0°13'55
evening set	15777 Jul 17 21:22	25°Ω25'52		behind sun begin	15783 Aug 27 11:47	20°Π50'20	
				behind sun end	15783 Aug 27 18:41	20°Π51'18	
conjunction	15777 Aug 02 18:45	26°Ω21'25	-0°41'13	max. Earth dist.	15783 Aug 27 23:17	20°Π51'58	20.93361 AU
minimum elong	15777 Aug 02 18:45	26°Ω21'25	0°41'45	morning rise	15783 Sep 12 11:48	21°Π45'25	
max. Earth dist.	15777 Aug 03 03:15	26°Ω22'40	20.65507 AU	retrograde	15783 Dec 13 14:19	24°Π50'05	
morning rise	15777 Aug 18 15:24	27°Ω16'53		opposition	15784 Feb 28 10:28	22°Π52'20	-0°12'25
	15777 Oct 18 17:50	0°Π		min. Earth dist.	15784 Feb 28 02:07	22°Π53'11	18.94937 AU
retrograde	15777 Nov 18 11:24	0°Π23'56		direct	15784 May 15 09:12	20°Π54'18	
	15777 Dec 19 19:19	30°κΩ		evening set	15784 Aug 15 00:45	23°Π57'36	
opposition	15778 Feb 02 18:16	28°Ω25'33	-0°43'22				
min. Earth dist.	15778 Feb 02 09:25	28°Ω26'27	18.68348 AU	conjunction	15784 Aug 30 21:11	24°Π52'04	-0°08'49
direct	15778 Apr 20 20:09	26°Ω26'09		minimum elong	15784 Aug 30 21:11	24°Π52'04	0°08'59
evening set	15778 Jul 22 06:12	29°Ω33'40		behind sun begin	15784 Aug 30 15:33	24°Π51'17	
	15778 Jul 29 20:44	0°Π		behind sun end	15784 Aug 31 02:50	24°Π52'52	
conjunction	15778 Aug 07 03:19	0°Π29'02	-0°36'59	max. Earth dist.	15784 Aug 31 05:18	24°Π53'13	20.96397 AU
minimum elong	15778 Aug 07 03:19	0°Π29'02	0°37'27	morning rise	15784 Sep 15 17:51	25°Π46'35	
max. Earth dist.	15778 Aug 07 12:03	0°Π30'18	20.71116 AU	retrograde	15784 Dec 16 20:10	28°Π50'59	
morning rise	15778 Aug 22 23:51	1°Π24'19		opposition	15785 Mar 03 19:47	26°Π53'12	-0°06'58
retrograde	15778 Nov 22 20:18	4°Π30'53		min. Earth dist.	15785 Mar 03 12:37	26°Π53'55	18.97751 AU
opposition	15779 Feb 07 06:11	2°Π32'41	-0°38'33	direct	15785 May 19 16:50	24°Π55'15	
min. Earth dist.	15779 Feb 06 22:09	2°Π33'30	18.73814 AU	evening set	15785 Aug 19 06:16	27°Π57'59	
direct	15779 Apr 25 06:42	0°Π33'35					
evening set	15779 Jul 26 14:20	3°Π40'19		conjunction	15785 Sep 04 02:41	28°Π52'20	-0°03'54
				minimum elong	15785 Sep 04 02:40	28°Π52'20	0°03'59
conjunction	15779 Aug 11 11:16	4°Π35'29	-0°32'34	behind sun begin	15785 Sep 03 20:10	28°Π51'26	
minimum elong	15779 Aug 11 11:16	4°Π35'29	0°33'00	behind sun end	15785 Sep 04 09:09	28°Π53'15	
max. Earth dist.	15779 Aug 11 20:05	4°Π36'46	20.76422 AU	max. Earth dist.	15785 Sep 04 10:31	28°Π53'27	20.99004 AU
morning rise	15779 Aug 27 07:46	5°Π30'36		morning rise	15785 Sep 19 23:28	29°Π46'46	
retrograde	15779 Nov 27 05:54	8°Π36'44			15785 Sep 23 22:18	0°Ω	
opposition	15780 Feb 11 17:27	6°Π38'42	-0°33'33	retrograde	15785 Dec 21 04:18	2°Ω50'56	
min. Earth dist.	15780 Feb 11 08:22	6°Π39'37	18.78930 AU	opposition	15786 Mar 08 04:35	0°Ω53'06	-0°01'30
direct	15780 Apr 28 18:44	4°Π39'53		min. Earth dist.	15786 Mar 07 20:22	0°Ω53'56	19.00156 AU
evening set	15780 Jul 29 22:09	7°Π45'52			15786 Mar 31 02:35	30°κΠ	
				direct	15786 May 24 01:27	28°Π55'15	
conjunction	15780 Aug 14 18:54	8°Π40'52	-0°28'00	asc. node	15786 Jun 14 00:04	29°Π06'16	
minimum elong	15780 Aug 14 18:55	8°Π40'52	0°28'22		15786 Jul 14 18:45	0°Ω	
max. Earth dist.	15780 Aug 15 03:45	8°Π42'09	20.81336 AU	evening set	15786 Aug 23 11:30	1°Ω57'28	
morning rise	15780 Aug 30 15:21	9°Π35'50					
retrograde	15780 Nov 30 13:42	12°Π41'33		conjunction	15786 Sep 08 07:55	2°Ω51'44	0°01'09
opposition	15781 Feb 15 04:18	10°Π43'39	-0°28'26	minimum elong	15786 Sep 08 07:55	2°Ω51'44	0°01'06
min. Earth dist.	15781 Feb 14 20:25	10°Π44'27	18.83641 AU	behind sun begin	15786 Sep 08 01:20	2°Ω50'49	
direct	15781 May 03 04:00	8°Π45'06		behind sun end	15786 Sep 08 14:29	2°Ω52'39	
				max. Earth dist.	15786 Sep 08 16:08	2°Ω52'54	21.01215 AU

morning rise	15786 Sep 24 04:48	3° <u>♊</u> 46'06			15792 Dec 09 10:40	0° <u>♋</u>	
retrograde	15786 Dec 25 10:02	6° <u>♊</u> 50'06		retrograde	15793 Jan 18 05:18	0° <u>♋</u> 38'26	
opposition	15787 Mar 12 13:15	4° <u>♊</u> 52'13	0°03'58		15793 Feb 28 02:51	30° <u>♋</u> <u>♈</u>	
min. Earth dist.	15787 Mar 12 05:57	4° <u>♊</u> 52'57	19.02197 AU	opposition	15793 Apr 05 12:49	28° <u>♊</u> 40'24	0°35'17
direct	15787 May 28 08:19	2° <u>♊</u> 54'27		min. Earth dist.	15793 Apr 05 06:15	28° <u>♊</u> 41'04	19.06664 AU
evening set	15787 Aug 27 16:22	5° <u>♊</u> 56'13		direct	15793 Jun 20 22:09	26° <u>♊</u> 43'12	
				evening set	15793 Sep 19 20:54	29° <u>♊</u> 43'49	
					15793 Sep 24 16:01	0° <u>♋</u>	
conjunction	15787 Sep 12 12:50	6° <u>♊</u> 50'25	0°06'06				
minimum elong	15787 Sep 12 12:49	6° <u>♊</u> 50'25	0°06'08				
behind sun begin	15787 Sep 12 06:34	6° <u>♊</u> 49'33		conjunction	15793 Oct 05 18:07	0° <u>♋</u> 38'00	0°34'04
behind sun end	15787 Sep 12 19:04	6° <u>♊</u> 51'18		minimum elong	15793 Oct 05 18:07	0° <u>♋</u> 38'00	0°34'25
max. Earth dist.	15787 Sep 12 20:50	6° <u>♊</u> 51'33	21.03088 AU	max. Earth dist.	15793 Oct 06 00:58	0° <u>♋</u> 38'58	21.06319 AU
morning rise	15787 Sep 28 09:58	7° <u>♊</u> 44'45		morning rise	15793 Oct 21 16:44	1° <u>♋</u> 32'23	
retrograde	15787 Dec 29 18:08	10° <u>♊</u> 48'38		retrograde	15794 Jan 22 14:20	4° <u>♋</u> 36'57	
opposition	15788 Mar 15 21:26	8° <u>♊</u> 50'43	0°09'24	opposition	15794 Apr 09 20:40	2° <u>♋</u> 38'52	0°40'03
min. Earth dist.	15788 Mar 15 13:03	8° <u>♊</u> 51'33	19.03893 AU	min. Earth dist.	15794 Apr 09 13:42	2° <u>♋</u> 39'34	19.05865 AU
direct	15788 May 31 15:49	6° <u>♊</u> 53'02		direct	15794 Jun 25 05:27	0° <u>♋</u> 41'42	
evening set	15788 Aug 30 21:11	9° <u>♊</u> 54'26		evening set	15794 Sep 24 02:07	3° <u>♋</u> 42'22	
conjunction	15788 Sep 15 17:43	10° <u>♊</u> 48'36	0°10'58	conjunction	15794 Oct 09 23:36	4° <u>♋</u> 36'36	0°38'18
minimum elong	15788 Sep 15 17:43	10° <u>♊</u> 48'36	0°11'03	minimum elong	15794 Oct 09 23:35	4° <u>♋</u> 36'36	0°38'42
behind sun begin	15788 Sep 15 12:45	10° <u>♊</u> 47'54		max. Earth dist.	15794 Oct 10 06:15	4° <u>♋</u> 37'33	21.05243 AU
behind sun end	15788 Sep 15 22:41	10° <u>♊</u> 49'18		morning rise	15794 Oct 25 22:28	5° <u>♋</u> 31'04	
max. Earth dist.	15788 Sep 16 02:00	10° <u>♊</u> 49'46	21.04599 AU	retrograde	15795 Jan 26 21:35	8° <u>♋</u> 35'56	
morning rise	15788 Oct 01 14:58	11° <u>♊</u> 42'54		opposition	15795 Apr 14 04:40	6° <u>♋</u> 37'46	0°44'38
retrograde	15789 Jan 01 23:46	14° <u>♊</u> 46'44		min. Earth dist.	15795 Apr 13 23:13	6° <u>♋</u> 38'19	19.04522 AU
opposition	15789 Mar 20 05:28	12° <u>♊</u> 48'47	0°14'47	direct	15795 Jun 29 10:22	4° <u>♋</u> 40'36	
min. Earth dist.	15789 Mar 19 22:05	12° <u>♊</u> 49'32	19.05233 AU	evening set	15795 Sep 28 07:34	7° <u>♋</u> 41'21	
direct	15789 Jun 04 22:00	10° <u>♊</u> 51'13					
evening set	15789 Sep 04 01:53	13° <u>♊</u> 52'19		conjunction	15795 Oct 14 05:17	8° <u>♋</u> 35'39	0°42'21
				minimum elong	15795 Oct 14 05:17	8° <u>♋</u> 35'39	0°42'48
conjunction	15789 Sep 19 22:29	14° <u>♊</u> 46'27	0°15'47	max. Earth dist.	15795 Oct 14 10:47	8° <u>♋</u> 36'27	21.03625 AU
minimum elong	15789 Sep 19 22:29	14° <u>♊</u> 46'27	0°15'55	morning rise	15795 Oct 30 04:36	9° <u>♋</u> 30'13	
behind sun begin	15789 Sep 19 21:23	14° <u>♊</u> 46'18		retrograde	15796 Jan 31 06:45	12° <u>♋</u> 35'23	
behind sun end	15789 Sep 19 23:35	14° <u>♊</u> 46'36		opposition	15796 Apr 17 12:38	10° <u>♋</u> 37'06	0°49'01
max. Earth dist.	15789 Sep 20 06:24	14° <u>♊</u> 47'34	21.05767 AU	min. Earth dist.	15796 Apr 17 07:02	10° <u>♋</u> 37'40	19.02618 AU
morning rise	15789 Oct 05 20:01	15° <u>♊</u> 40'44		direct	15796 Jul 02 17:43	8° <u>♋</u> 39'53	
retrograde	15790 Jan 06 08:19	18° <u>♊</u> 44'36		evening set	15796 Oct 01 13:14	11° <u>♋</u> 40'47	
opposition	15790 Mar 24 13:22	16° <u>♊</u> 46'38	0°20'04				
min. Earth dist.	15790 Mar 24 04:59	16° <u>♊</u> 47'28	19.06213 AU	conjunction	15796 Oct 17 11:17	12° <u>♋</u> 35'10	0°46'13
direct	15790 Jun 09 05:02	14° <u>♊</u> 49'09		minimum elong	15796 Oct 17 11:16	12° <u>♋</u> 35'10	0°46'43
evening set	15790 Sep 08 06:25	17° <u>♊</u> 50'02		max. Earth dist.	15796 Oct 17 16:26	12° <u>♋</u> 35'55	21.01430 AU
				morning rise	15796 Nov 02 10:52	13° <u>♋</u> 29'49	
conjunction	15790 Sep 24 03:10	18° <u>♊</u> 44'09	0°20'31		15796 Dec 01 12:05	15° <u>♋</u>	
minimum elong	15790 Sep 24 03:09	18° <u>♊</u> 44'09	0°20'43	retrograde	15797 Feb 03 14:30	16° <u>♋</u> 35'21	
max. Earth dist.	15790 Sep 24 11:21	18° <u>♊</u> 45'19	21.06547 AU		15797 Apr 12 05:25	15° <u>♋</u> <u>♌</u>	
morning rise	15790 Oct 10 00:53	19° <u>♊</u> 38'26		opposition	15797 Apr 21 20:45	14° <u>♋</u> 36'54	0°53'11
retrograde	15791 Jan 10 14:09	22° <u>♊</u> 42'24		min. Earth dist.	15797 Apr 21 16:37	14° <u>♋</u> 37'19	19.00157 AU
opposition	15791 Mar 28 21:20	20° <u>♊</u> 44'25	0°25'16	direct	15797 Jul 06 23:38	12° <u>♋</u> 39'35	
min. Earth dist.	15791 Mar 28 14:03	20° <u>♊</u> 45'08	19.06798 AU		15797 Sep 23 08:48	15° <u>♋</u>	
direct	15791 Jun 13 10:28	18° <u>♊</u> 47'03		evening set	15797 Oct 05 19:07	15° <u>♋</u> 40'39	
evening set	15791 Sep 12 11:08	21° <u>♊</u> 47'46					
				conjunction	15797 Oct 21 17:27	16° <u>♋</u> 35'09	0°49'52
conjunction	15791 Sep 28 08:01	22° <u>♊</u> 41'53	0°25'10	minimum elong	15797 Oct 21 17:26	16° <u>♋</u> 35'09	0°50'24
minimum elong	15791 Sep 28 08:00	22° <u>♊</u> 41'53	0°25'24	max. Earth dist.	15797 Oct 21 21:33	16° <u>♋</u> 35'44	20.98728 AU
max. Earth dist.	15791 Sep 28 15:39	22° <u>♊</u> 42'58	21.06932 AU	morning rise	15797 Nov 06 17:32	17° <u>♋</u> 29'55	
morning rise	15791 Oct 14 06:04	23° <u>♊</u> 36'11		retrograde	15798 Feb 07 23:57	20° <u>♋</u> 35'50	
retrograde	15792 Jan 14 23:00	26° <u>♊</u> 40'17		opposition	15798 Apr 26 04:55	18° <u>♋</u> 37'11	0°57'06
opposition	15792 Apr 01 04:55	24° <u>♊</u> 42'17	0°30'21	min. Earth dist.	15798 Apr 26 00:32	18° <u>♋</u> 37'38	18.97219 AU
min. Earth dist.	15792 Mar 31 21:01	24° <u>♊</u> 43'04	19.06965 AU	direct	15798 Jul 11 06:34	16° <u>♋</u> 39'44	
direct	15792 Jun 16 17:23	22° <u>♊</u> 45'00		evening set	15798 Oct 10 01:09	19° <u>♋</u> 41'02	
evening set	15792 Sep 15 15:58	25° <u>♊</u> 45'39					
				conjunction	15798 Oct 25 23:53	20° <u>♋</u> 35'39	0°53'16
conjunction	15792 Oct 01 13:03	26° <u>♊</u> 39'47	0°29'41	minimum elong	15798 Oct 25 23:53	20° <u>♋</u> 35'39	0°53'51
minimum elong	15792 Oct 01 13:02	26° <u>♊</u> 39'47	0°29'59	max. Earth dist.	15798 Oct 26 03:58	20° <u>♋</u> 36'14	20.95561 AU
max. Earth dist.	15792 Oct 01 20:41	26° <u>♊</u> 40'53	21.06862 AU	morning rise	15798 Nov 11 00:19	21° <u>♋</u> 30'32	
morning rise	15792 Oct 17 11:19	27° <u>♊</u> 34'08		retrograde	15799 Feb 12 08:00	24° <u>♋</u> 36'52	



opposition	15799 Apr 30 13:17	22° $\mathbb{M}$ 38'01	1°00'45	conjunction	15805 Nov 24 10:34	19° $\mathbb{X}$ 04'39	1°09'11
min. Earth dist.	15799 Apr 30 10:05	22° $\mathbb{M}$ 38'21	18.93853 AU	minimum elong	15805 Nov 24 10:34	19° $\mathbb{X}$ 04'39	1°09'58
direct	15799 Jul 15 13:27	20° $\mathbb{M}$ 40'25		max. Earth dist.	15805 Nov 24 11:05	19° $\mathbb{X}$ 04'44	20.64732 AU
evening set	15799 Oct 14 07:39	23° $\mathbb{M}$ 42'01		morning rise	15805 Dec 10 14:34	20° $\mathbb{X}$ 00'50	
				retrograde	15806 Mar 14 11:53	23° $\mathbb{X}$ 11'26	
conjunction	15799 Oct 30 06:42	24° $\mathbb{M}$ 36'46	0°56'26	opposition	15806 May 30 07:12	21° $\mathbb{X}$ 11'18	1°17'17
minimum elong	15799 Oct 30 06:42	24° $\mathbb{M}$ 36'46	0°57'04	min. Earth dist.	15806 May 30 06:17	21° $\mathbb{X}$ 11'23	18.62080 AU
max. Earth dist.	15799 Oct 30 09:49	24° $\mathbb{M}$ 37'13	20.92015 AU	direct	15806 Aug 13 19:58	19° $\mathbb{X}$ 12'32	
morning rise	15799 Nov 15 07:40	25° $\mathbb{M}$ 31'48		evening set	15806 Nov 12 19:13	22° $\mathbb{X}$ 18'04	
retrograde	15800 Feb 16 18:05	28° $\mathbb{M}$ 38'36					
opposition	15800 May 04 21:32	26° $\mathbb{M}$ 39'32	1°04'07	conjunction	15806 Nov 28 21:44	23° $\mathbb{X}$ 14'11	1°10'09
min. Earth dist.	15800 May 04 18:02	26° $\mathbb{M}$ 39'53	18.90137 AU	minimum elong	15806 Nov 28 21:44	23° $\mathbb{X}$ 14'11	1°10'58
direct	15800 Jul 19 20:17	24° $\mathbb{M}$ 41'45		max. Earth dist.	15806 Nov 28 22:22	23° $\mathbb{X}$ 14'16	20.59291 AU
evening set	15800 Oct 18 14:31	27° $\mathbb{M}$ 43'45		morning rise	15806 Dec 15 02:10	24° $\mathbb{X}$ 10'36	
				retrograde	15807 Mar 19 00:00	27° $\mathbb{X}$ 21'56	
conjunction	15800 Nov 03 14:01	28° $\mathbb{M}$ 38'38	0°59'19	opposition	15807 Jun 03 18:28	25° $\mathbb{X}$ 21'39	1°18'10
minimum elong	15800 Nov 03 14:00	28° $\mathbb{M}$ 38'38	0°59'58	min. Earth dist.	15807 Jun 03 18:36	25° $\mathbb{X}$ 21'38	18.56493 AU
max. Earth dist.	15800 Nov 03 17:14	28° $\mathbb{M}$ 39'06	20.88126 AU	direct	15807 Aug 18 05:04	23° $\mathbb{X}$ 22'43	
morning rise	15800 Nov 19 15:19	29° $\mathbb{M}$ 33'50		evening set	15807 Nov 17 06:45	26° $\mathbb{X}$ 29'01	
	15800 Nov 27 12:12	0° $\mathbb{X}$					
retrograde	15801 Feb 21 02:39	2° $\mathbb{X}$ 41'09		conjunction	15807 Dec 03 09:42	27° $\mathbb{X}$ 25'22	1°10'45
opposition	15801 May 09 06:19	0° $\mathbb{X}$ 41'53	1°07'10	minimum elong	15807 Dec 03 09:42	27° $\mathbb{X}$ 25'22	1°11'34
min. Earth dist.	15801 May 09 03:46	0° $\mathbb{X}$ 42'09	18.86101 AU	max. Earth dist.	15807 Dec 03 08:36	27° $\mathbb{X}$ 25'13	20.53561 AU
	15801 May 26 20:15	30° $\mathbb{R}$ $\mathbb{M}$		morning rise	15807 Dec 19 14:50	28° $\mathbb{X}$ 22'03	
direct	15801 Jul 24 03:31	28° $\mathbb{M}$ 43'57			15808 Jan 19 15:36	0° $\mathbb{Z}$	
	15801 Sep 17 22:07	0° $\mathbb{X}$		retrograde	15808 Mar 22 14:44	1° $\mathbb{Z}$ 34'09	
evening set	15801 Oct 22 21:42	1° $\mathbb{X}$ 46'21			15808 May 27 13:17	30° $\mathbb{R}$ $\mathbb{X}$	
				opposition	15808 Jun 07 06:08	29° $\mathbb{X}$ 33'41	1°18'39
conjunction	15801 Nov 07 21:34	2° $\mathbb{X}$ 41'25	1°01'56	min. Earth dist.	15808 Jun 07 06:53	29° $\mathbb{X}$ 33'36	18.50610 AU
minimum elong	15801 Nov 07 21:33	2° $\mathbb{X}$ 41'25	1°02'38	direct	15808 Aug 21 15:21	27° $\mathbb{X}$ 34'30	
max. Earth dist.	15801 Nov 07 23:55	2° $\mathbb{X}$ 41'45	20.83956 AU		15808 Nov 08 09:08	0° $\mathbb{Z}$	
morning rise	15801 Nov 23 23:26	3° $\mathbb{X}$ 36'47		evening set	15808 Nov 20 18:57	0° $\mathbb{Z}$ 41'38	
retrograde	15802 Feb 25 13:56	6° $\mathbb{X}$ 44'41					
opposition	15802 May 13 15:18	4° $\mathbb{X}$ 45'12	1°09'54	conjunction	15808 Dec 06 22:38	1° $\mathbb{Z}$ 38'15	1°10'59
min. Earth dist.	15802 May 13 12:25	4° $\mathbb{X}$ 45'30	18.81799 AU	minimum elong	15808 Dec 06 22:38	1° $\mathbb{Z}$ 38'15	1°11'49
direct	15802 Jul 28 11:09	2° $\mathbb{X}$ 47'07		max. Earth dist.	15808 Dec 06 21:28	1° $\mathbb{Z}$ 38'05	20.47514 AU
evening set	15802 Oct 27 05:30	5° $\mathbb{X}$ 50'01		morning rise	15808 Dec 23 04:10	2° $\mathbb{Z}$ 35'11	
				retrograde	15809 Mar 27 04:44	5° $\mathbb{Z}$ 48'03	
conjunction	15802 Nov 12 05:54	6° $\mathbb{X}$ 45'16	1°04'14	opposition	15809 Jun 11 18:34	3° $\mathbb{Z}$ 47'22	1°18'44
minimum elong	15802 Nov 12 05:53	6° $\mathbb{X}$ 45'16	1°04'56	min. Earth dist.	15809 Jun 11 20:13	3° $\mathbb{Z}$ 47'12	18.44409 AU
max. Earth dist.	15802 Nov 12 08:28	6° $\mathbb{X}$ 45'38	20.79513 AU	direct	15809 Aug 26 02:01	1° $\mathbb{Z}$ 47'55	
morning rise	15802 Nov 28 08:11	7° $\mathbb{X}$ 40'49		evening set	15809 Nov 25 07:54	4° $\mathbb{Z}$ 55'53	
retrograde	15803 Mar 01 23:10	10° $\mathbb{X}$ 49'19					
opposition	15803 May 18 00:36	8° $\mathbb{X}$ 49'40	1°12'18	conjunction	15809 Dec 11 12:05	5° $\mathbb{Z}$ 52'46	1°10'50
min. Earth dist.	15803 May 17 22:39	8° $\mathbb{X}$ 49'52	18.77233 AU	minimum elong	15809 Dec 11 12:05	5° $\mathbb{Z}$ 52'46	1°11'39
direct	15803 Aug 01 18:21	6° $\mathbb{X}$ 51'25		max. Earth dist.	15809 Dec 11 09:04	5° $\mathbb{Z}$ 52'19	20.41184 AU
evening set	15803 Oct 31 13:56	9° $\mathbb{X}$ 54'53		morning rise	15809 Dec 27 18:24	6° $\mathbb{Z}$ 49'58	
				retrograde	15810 Mar 31 20:24	10° $\mathbb{Z}$ 03'37	
conjunction	15803 Nov 16 14:46	10° $\mathbb{X}$ 50'19	1°06'13	opposition	15810 Jun 16 07:29	8° $\mathbb{Z}$ 02'41	1°18'22
minimum elong	15803 Nov 16 14:45	10° $\mathbb{X}$ 50'19	1°06'58	min. Earth dist.	15810 Jun 16 09:51	8° $\mathbb{Z}$ 02'26	18.37950 AU
max. Earth dist.	15803 Nov 16 16:15	10° $\mathbb{X}$ 50'32	20.74834 AU	direct	15810 Aug 30 13:34	6° $\mathbb{Z}$ 02'55	
morning rise	15803 Dec 02 17:41	11° $\mathbb{X}$ 46'04		evening set	15810 Nov 29 21:38	9° $\mathbb{Z}$ 11'44	
retrograde	15804 Mar 05 11:49	14° $\mathbb{X}$ 55'14					
opposition	15804 May 21 10:17	12° $\mathbb{X}$ 55'24	1°14'20	conjunction	15810 Dec 16 02:37	10° $\mathbb{Z}$ 08'54	1°10'17
min. Earth dist.	15804 May 21 08:14	12° $\mathbb{X}$ 55'37	18.72431 AU	minimum elong	15810 Dec 16 02:37	10° $\mathbb{Z}$ 08'54	1°11'07
direct	15804 Aug 05 02:50	10° $\mathbb{X}$ 56'59		max. Earth dist.	15810 Dec 15 23:45	10° $\mathbb{Z}$ 08'29	20.34609 AU
evening set	15804 Nov 03 22:54	14° $\mathbb{X}$ 01'05		morning rise	15811 Jan 01 09:23	11° $\mathbb{Z}$ 06'22	
				retrograde	15811 Apr 05 11:45	14° $\mathbb{Z}$ 20'46	
conjunction	15804 Nov 20 00:18	14° $\mathbb{X}$ 56'44	1°07'52	opposition	15811 Jun 20 20:45	12° $\mathbb{Z}$ 19'35	1°17'35
minimum elong	15804 Nov 20 00:18	14° $\mathbb{X}$ 56'44	1°08'39	min. Earth dist.	15811 Jun 20 23:47	12° $\mathbb{Z}$ 19'16	18.31278 AU
max. Earth dist.	15804 Nov 20 02:03	14° $\mathbb{X}$ 57'00	20.69899 AU	direct	15811 Sep 04 01:36	10° $\mathbb{Z}$ 19'30	
morning rise	15804 Dec 06 03:37	15° $\mathbb{X}$ 52'42		evening set	15811 Dec 04 12:15	13° $\mathbb{Z}$ 29'13	
retrograde	15805 Mar 09 22:00	19° $\mathbb{X}$ 02'33					
opposition	15805 May 25 20:31	17° $\mathbb{X}$ 02'35	1°16'00	conjunction	15811 Dec 20 17:44	14° $\mathbb{Z}$ 26'40	1°09'21
min. Earth dist.	15805 May 25 19:24	17° $\mathbb{X}$ 02'42	18.67374 AU	minimum elong	15811 Dec 20 17:44	14° $\mathbb{Z}$ 26'40	1°10'11
direct	15805 Aug 09 10:42	15° $\mathbb{X}$ 04'00		max. Earth dist.	15811 Dec 20 13:05	14° $\mathbb{Z}$ 25'58	20.27876 AU
evening set	15805 Nov 08 08:44	18° $\mathbb{X}$ 08'47		morning rise	15812 Jan 06 01:16	15° $\mathbb{Z}$ 24'25	

retrograde	15812 Apr 09 04:27	18°  39'36		min. Earth dist.	15818 Jul 21 16:24	13°  06'07	17.85095 AU
opposition	15812 Jun 24 10:40	16°  38'08	1°16'21	direct	15818 Oct 04 06:04	11°  04'29	
min. Earth dist.	15812 Jun 24 14:26	16°  37'45	18.24497 AU	evening set	15819 Jan 04 17:09	14°  21'11	
direct	15812 Sep 07 14:13	14°  37'42			15819 Jan 15 11:09	15° 	
evening set	15812 Dec 08 03:23	17°  48'21					
				conjunction	15819 Jan 21 03:15	15°  20'44	0°51'47
conjunction	15812 Dec 24 09:40	18°  46'05	1°08'01	minimum elong	15819 Jan 21 03:16	15°  20'44	0°52'26
minimum elong	15812 Dec 24 09:40	18°  46'05	1°08'50	max. Earth dist.	15819 Jan 20 21:00	15°  19'46	19.82097 AU
max. Earth dist.	15812 Dec 24 05:35	18°  45'29	20.21058 AU	morning rise	15819 Feb 06 14:25	16°  20'28	
morning rise	15813 Jan 09 17:35	19°  44'07		retrograde	15819 May 11 20:38	19°  41'04	
retrograde	15813 Apr 13 21:18	23°  00'04		opposition	15819 Jul 26 04:42	17°  38'15	0°55'29
opposition	15813 Jun 29 01:10	20°  58'22	1°14'40	min. Earth dist.	15819 Jul 26 10:04	17°  37'41	17.79166 AU
min. Earth dist.	15813 Jun 29 05:04	20°  57'57	18.17663 AU	direct	15819 Oct 09 00:41	15°  35'47	
direct	15813 Sep 12 03:23	18°  57'36		evening set	15820 Jan 09 14:47	18°  53'31	
evening set	15813 Dec 12 19:35	22°  09'11					
				conjunction	15820 Jan 26 01:17	19°  53'21	0°47'48
conjunction	15813 Dec 29 02:21	23°  07'13	1°06'17	minimum elong	15820 Jan 26 01:18	19°  53'21	0°48'23
minimum elong	15813 Dec 29 02:21	23°  07'13	1°07'05	max. Earth dist.	15820 Jan 25 17:42	19°  52'11	19.76276 AU
max. Earth dist.	15813 Dec 28 20:41	23°  06'22	20.14241 AU	morning rise	15820 Feb 11 12:58	20°  53'21	
morning rise	15814 Jan 14 11:03	24°  05'32		retrograde	15820 May 15 17:24	24°  14'41	
retrograde	15814 Apr 18 15:25	27°  02'17		opposition	15820 Jul 29 23:48	22°  11'46	0°50'52
opposition	15814 Jul 03 16:09	25°  20'19	1°12'33	min. Earth dist.	15820 Jul 30 06:29	22°  11'03	17.73451 AU
min. Earth dist.	15814 Jul 03 20:48	25°  19'50	18.10875 AU	direct	15820 Oct 12 18:11	20°  09'03	
direct	15814 Sep 16 17:02	23°  19'12		evening set	15821 Jan 13 13:04	23°  27'49	
evening set	15814 Dec 17 12:27	26°  31'47					
				conjunction	15821 Jan 30 00:12	24°  27'55	0°43'29
conjunction	15815 Jan 02 20:04	27°  30'08	1°04'10	minimum elong	15821 Jan 30 00:13	24°  27'55	0°44'02
minimum elong	15815 Jan 02 20:04	27°  30'08	1°04'55	max. Earth dist.	15821 Jan 29 16:58	24°  26'49	19.70658 AU
max. Earth dist.	15815 Jan 02 15:08	27°  29'23	20.07485 AU	morning rise	15821 Feb 15 12:10	25°  28'10	
morning rise	15815 Jan 19 05:10	28°  28'44		retrograde	15821 May 20 16:44	28°  50'11	
	15815 Feb 16 02:40	0° 		opposition	15821 Aug 03 19:28	26°  47'09	0°45'54
retrograde	15815 Apr 23 10:08	1°  46'16		min. Earth dist.	15821 Aug 04 01:40	26°  46'29	17.67917 AU
	15815 Jul 02 01:00	30°  08'30		direct	15821 Oct 17 15:17	24°  44'12	
opposition	15815 Jul 08 07:45	29°  44'05	1°09'59	evening set	15822 Jan 18 12:31	28°  03'57	
min. Earth dist.	15815 Jul 08 12:13	29°  43'36	18.04163 AU				
direct	15815 Sep 21 07:24	27°  42'39		conjunction	15822 Feb 04 00:02	29°  04'19	0°38'52
	15815 Dec 05 17:02	0° 		minimum elong	15822 Feb 04 00:03	29°  04'19	0°39'21
evening set	15815 Dec 22 06:23	0°  56'14		max. Earth dist.	15822 Feb 03 15:33	29°  03'00	19.65211 AU
					15822 Feb 19 04:25	0° 	
conjunction	15816 Jan 07 14:26	1°  54'52	1°01'38	morning rise	15822 Feb 20 12:23	0°  04'48	
minimum elong	15816 Jan 07 14:27	1°  54'52	1°02'23	retrograde	15822 May 25 14:13	3°  02'25	
max. Earth dist.	15816 Jan 07 07:59	1°  53'54	20.00844 AU	opposition	15822 Aug 08 15:48	1°  24'16	0°40'37
morning rise	15816 Jan 24 00:14	2°  53'46		min. Earth dist.	15822 Aug 08 23:30	1°  23'26	17.62568 AU
retrograde	15816 Apr 27 05:35	6°  12'05			15822 Sep 13 11:22	30°  08'30	
opposition	15816 Jul 12 00:01	4°  09'42	1°06'59	direct	15822 Oct 22 10:30	29°  21'01	
min. Earth dist.	15816 Jul 12 05:17	4°  09'08	17.97607 AU		15822 Nov 29 17:04	0° 	
direct	15816 Sep 24 22:02	2°  07'57		evening set	15823 Jan 23 12:40	2°  04'44	
evening set	15816 Dec 26 00:59	5°  22'34					
				conjunction	15823 Feb 09 00:42	3°  04'20	0°33'58
conjunction	15817 Jan 11 09:51	6°  21'31	0°58'43	minimum elong	15823 Feb 09 00:43	3°  04'20	0°34'24
minimum elong	15817 Jan 11 09:52	6°  21'31	0°59'26	max. Earth dist.	15823 Feb 08 16:03	3°  04'10	19.59968 AU
max. Earth dist.	15817 Jan 11 04:15	6°  20'40	19.94380 AU	morning rise	15823 Feb 25 13:18	4°  03'03	
morning rise	15817 Jan 27 20:00	7°  20'42		retrograde	15823 May 30 14:44	8°  06'13	
retrograde	15817 May 02 02:11	10°  39'47		opposition	15823 Aug 13 12:38	6°  02'55	0°35'01
opposition	15817 Jul 16 16:54	8°  37'14	1°03'33	min. Earth dist.	15823 Aug 13 19:46	6°  02'09	17.57427 AU
min. Earth dist.	15817 Jul 16 21:41	8°  36'43	17.91238 AU	direct	15823 Oct 27 09:29	3°  05'24	
direct	15817 Sep 29 14:20	6°  35'14		evening set	15824 Jan 28 13:28	7°  21'00	
evening set	15817 Dec 30 20:36	9°  50'52					
				conjunction	15824 Feb 14 01:50	8°  21'49	0°28'49
conjunction	15818 Jan 16 05:58	10°  50'07	0°55'26	minimum elong	15824 Feb 14 01:50	8°  21'50	0°29'13
minimum elong	15818 Jan 16 05:58	10°  50'07	0°56'06	max. Earth dist.	15824 Feb 13 16:29	8°  20'23	19.54947 AU
max. Earth dist.	15818 Jan 15 23:01	10°  49'03	19.88126 AU	morning rise	15824 Mar 01 14:35	9°  22'44	
morning rise	15818 Feb 01 16:47	11°  49'35		retrograde	15824 Jun 03 13:14	12°  04'24	
	15818 Apr 18 00:06	15° 		opposition	15824 Aug 17 10:10	10°  04'25	0°29'10
retrograde	15818 May 06 22:27	15°  09'27		min. Earth dist.	15824 Aug 17 18:35	10°  04'20	17.52551 AU
	15818 May 25 23:04	15° 		direct	15824 Oct 31 06:13	8°  03'08	
opposition	15818 Jul 21 10:36	13°  06'44	0°59'43	evening set	15825 Feb 01 14:54	12°  01'35	

conjunction	15825 Feb 18 03:36	13° <del>✕</del> 02'37	0°23'28	opposition	15830 Sep 15 03:19	9° <del>Υ</del> 04'10	-0°09'11
minimum elong	15825 Feb 18 03:36	13° <del>✕</del> 02'37	0°23'47	min. Earth dist.	15830 Sep 15 10:37	9° <del>Υ</del> 03'22	17.32556 AU
max. Earth dist.	15825 Feb 17 17:59	13° <del>✕</del> 01'08	19.50242 AU	direct	15830 Nov 29 04:36	6° <del>Υ</del> 59'00	
morning rise	15825 Mar 06 16:34	14° <del>✕</del> 03'43		evening set	15831 Mar 03 09:20	10° <del>Υ</del> 25'17	
retrograde	15825 Jun 08 14:31	17° <del>✕</del> 27'47					
opposition	15825 Aug 22 07:57	15° <del>✕</del> 24'12	0°23'06	conjunction	15831 Mar 19 22:22	11° <del>Υ</del> 27'05	-0°11'11
min. Earth dist.	15825 Aug 22 15:37	15° <del>✕</del> 23'22	17.48017 AU	minimum elong	15831 Mar 19 22:22	11° <del>Υ</del> 27'05	0°11'16
direct	15825 Nov 05 05:51	13° <del>✕</del> 20'05		behind sun begin	15831 Mar 19 17:27	11° <del>Υ</del> 26'20	
evening set	15826 Feb 06 16:54	16° <del>✕</del> 43'19		behind sun end	15831 Mar 20 03:17	11° <del>Υ</del> 27'50	
				max. Earth dist.	15831 Mar 19 13:27	11° <del>Υ</del> 25'42	19.31827 AU
conjunction	15826 Feb 23 05:54	17° <del>✕</del> 44'33	0°17'55	morning rise	15831 Apr 05 10:46	12° <del>Υ</del> 28'47	
minimum elong	15826 Feb 23 05:55	17° <del>✕</del> 44'33	0°18'11	retrograde	15831 Jul 07 20:14	15° <del>Υ</del> 54'10	
max. Earth dist.	15826 Feb 22 20:22	17° <del>✕</del> 43'05	19.45893 AU	opposition	15831 Sep 20 03:22	13° <del>Υ</del> 50'14	-0°15'40
morning rise	15826 Mar 11 18:54	18° <del>✕</del> 45'49		min. Earth dist.	15831 Sep 20 09:59	13° <del>Υ</del> 49'30	17.31267 AU
retrograde	15826 Jun 13 14:22	22° <del>✕</del> 10'15		direct	15831 Dec 04 06:00	11° <del>Υ</del> 45'00	
opposition	15826 Aug 27 06:23	20° <del>✕</del> 06'32	0°16'50	evening set	15832 Mar 07 13:16	15° <del>Υ</del> 11'43	
min. Earth dist.	15826 Aug 27 15:01	20° <del>✕</del> 05'36	17.43877 AU				
direct	15826 Nov 10 03:55	18° <del>✕</del> 02'08		conjunction	15832 Mar 24 02:16	16° <del>Υ</del> 13'33	-0°16'57
evening set	15827 Feb 11 19:29	21° <del>✕</del> 26'06		minimum elong	15832 Mar 24 02:16	16° <del>Υ</del> 13'33	0°17'06
				max. Earth dist.	15832 Mar 23 19:04	16° <del>Υ</del> 12'26	19.30849 AU
conjunction	15827 Feb 28 08:36	22° <del>✕</del> 27'29	0°12'15	morning rise	15832 Apr 09 14:09	17° <del>Υ</del> 15'16	
minimum elong	15827 Feb 28 08:36	22° <del>✕</del> 27'29	0°12'26	retrograde	15832 Jul 11 21:51	20° <del>Υ</del> 40'39	
behind sun begin	15827 Feb 28 04:16	22° <del>✕</del> 26'50		opposition	15832 Sep 24 03:42	18° <del>Υ</del> 36'50	-0°22'03
behind sun end	15827 Feb 28 12:55	22° <del>✕</del> 28'09		min. Earth dist.	15832 Sep 24 09:55	18° <del>Υ</del> 36'09	17.30594 AU
max. Earth dist.	15827 Feb 27 22:35	22° <del>✕</del> 25'57	19.41984 AU	direct	15832 Dec 08 07:30	16° <del>Υ</del> 31'37	
morning rise	15827 Mar 16 21:41	23° <del>✕</del> 28'54		evening set	15833 Mar 12 17:42	19° <del>Υ</del> 58'40	
retrograde	15827 Jun 18 15:49	26° <del>✕</del> 53'38					
opposition	15827 Sep 01 04:58	24° <del>✕</del> 49'48	0°10'25	conjunction	15833 Mar 29 06:17	21° <del>Υ</del> 00'30	-0°22'36
min. Earth dist.	15827 Sep 01 12:46	24° <del>✕</del> 48'57	17.40206 AU	minimum elong	15833 Mar 29 06:16	21° <del>Υ</del> 00'30	0°22'49
direct	15827 Nov 15 04:16	22° <del>✕</del> 45'08		max. Earth dist.	15833 Mar 28 22:23	20° <del>Υ</del> 59'16	19.30481 AU
evening set	15828 Feb 16 22:24	26° <del>✕</del> 09'47		morning rise	15833 Apr 14 17:53	22° <del>Υ</del> 02'12	
				retrograde	15833 Jul 16 22:29	25° <del>Υ</del> 27'33	
conjunction	15828 Mar 04 11:42	27° <del>✕</del> 11'19	0°06'29	opposition	15833 Sep 29 04:06	23° <del>Υ</del> 23'50	-0°28'18
minimum elong	15828 Mar 04 11:42	27° <del>✕</del> 11'19	0°06'36	min. Earth dist.	15833 Sep 29 10:13	23° <del>Υ</del> 23'10	17.30521 AU
behind sun begin	15828 Mar 04 05:23	27° <del>✕</del> 10'21		direct	15833 Dec 13 09:39	21° <del>Υ</del> 18'37	
behind sun end	15828 Mar 04 18:01	27° <del>✕</del> 12'17		evening set	15834 Mar 17 22:07	24° <del>Υ</del> 45'58	
max. Earth dist.	15828 Mar 04 02:33	27° <del>✕</del> 09'54	19.38560 AU				
morning rise	15828 Mar 21 00:35	28° <del>✕</del> 12'50		conjunction	15834 Apr 03 10:31	25° <del>Υ</del> 47'46	-0°28'06
	15828 Apr 21 23:40	0° <del>Υ</del>		minimum elong	15834 Apr 03 10:30	25° <del>Υ</del> 47'46	0°28'22
retrograde	15828 Jun 22 16:22	1° <del>Υ</del> 37'49		max. Earth dist.	15834 Apr 03 04:00	25° <del>Υ</del> 46'45	19.30673 AU
	15828 Aug 26 03:17	30° <del>✕</del>		morning rise	15834 Apr 19 21:30	26° <del>Υ</del> 49'25	
opposition	15828 Sep 05 04:10	29° <del>✕</del> 33'53	0°03'55		15834 Jun 29 00:50	0° <del>♄</del>	
min. Earth dist.	15828 Sep 05 12:24	29° <del>✕</del> 32'59	17.37058 AU	retrograde	15834 Jul 22 00:05	0° <del>♄</del> 14'37	
direct	15828 Nov 19 03:24	27° <del>✕</del> 29'01			15834 Aug 14 05:23	30° <del>✕</del> <del>Υ</del>	
	15829 Feb 05 17:47	0° <del>Υ</del>		opposition	15834 Oct 04 04:45	28° <del>Υ</del> 11'05	-0°34'21
evening set	15829 Feb 21 01:38	0° <del>Υ</del> 54'16		min. Earth dist.	15834 Oct 04 10:17	28° <del>Υ</del> 10'28	17.30966 AU
				direct	15834 Dec 18 12:49	26° <del>Υ</del> 05'54	
conjunction	15829 Mar 09 14:52	1° <del>Υ</del> 55'54	0°00'35	evening set	15835 Mar 23 02:38	29° <del>Υ</del> 33'23	
minimum elong	15829 Mar 09 14:52	1° <del>Υ</del> 55'54	0°00'39		15835 Mar 30 06:39	0° <del>♄</del>	
behind sun begin	15829 Mar 09 08:08	1° <del>Υ</del> 54'53					
behind sun end	15829 Mar 09 21:35	1° <del>Υ</del> 56'56		conjunction	15835 Apr 08 14:26	0° <del>♄</del> 35'08	-0°33'25
max. Earth dist.	15829 Mar 09 05:12	1° <del>Υ</del> 54'24	19.35704 AU	minimum elong	15835 Apr 08 14:26	0° <del>♄</del> 35'08	0°33'46
morning rise	15829 Mar 26 03:47	2° <del>Υ</del> 57'31		max. Earth dist.	15835 Apr 08 07:15	0° <del>♄</del> 34'00	19.31362 AU
desc. node	15829 Apr 15 23:04	4° <del>Υ</del> 10'09		morning rise	15835 Apr 25 00:57	1° <del>♄</del> 36'42	
retrograde	15829 Jun 27 17:50	6° <del>Υ</del> 22'41		retrograde	15835 Jul 27 00:03	5° <del>♄</del> 01'43	
opposition	15829 Sep 10 03:35	4° <del>Υ</del> 18'42	-0°02'38	opposition	15835 Oct 09 05:33	2° <del>♄</del> 58'17	-0°40'09
min. Earth dist.	15829 Sep 10 10:55	4° <del>Υ</del> 17'54	17.34501 AU	min. Earth dist.	15835 Oct 09 11:18	2° <del>♄</del> 57'40	17.31908 AU
direct	15829 Nov 24 04:21	2° <del>Υ</del> 13'39		direct	15835 Dec 23 15:17	0° <del>♄</del> 53'08	
evening set	15830 Feb 26 05:17	5° <del>Υ</del> 39'27		evening set	15836 Mar 27 06:51	4° <del>♄</del> 20'40	
conjunction	15830 Mar 14 18:36	6° <del>Υ</del> 41'11	-0°05'22	conjunction	15836 Apr 12 18:19	5° <del>♄</del> 22'20	-0°38'30
minimum elong	15830 Mar 14 18:36	6° <del>Υ</del> 41'11	0°05'24	minimum elong	15836 Apr 12 18:18	5° <del>♄</del> 22'20	0°38'54
behind sun begin	15830 Mar 14 12:06	6° <del>Υ</del> 40'11		max. Earth dist.	15836 Apr 12 12:13	5° <del>♄</del> 21'23	19.32536 AU
behind sun end	15830 Mar 15 01:07	6° <del>Υ</del> 42'11		morning rise	15836 Apr 29 04:09	6° <del>♄</del> 23'47	
max. Earth dist.	15830 Mar 14 10:19	6° <del>Υ</del> 39'54	19.33444 AU	retrograde	15836 Jul 31 01:41	9° <del>♄</del> 48'30	
morning rise	15830 Mar 31 07:08	7° <del>Υ</del> 42'51		opposition	15836 Oct 13 06:13	7° <del>♄</del> 45'14	-0°45'41
retrograde	15830 Jul 02 19:04	11° <del>Υ</del> 08'08		min. Earth dist.	15836 Oct 13 11:01	7° <del>♄</del> 44'42	17.33309 AU

direct	15836 Dec 27 18:59	5°♄40'06	conjunction	15843 May 17 07:09	8°♄28'46 -1°04'46
evening set	15837 Apr 01 10:54	9°♄07'34	minimum elong	15843 May 17 07:09	8°♄28'46 1°05'30
			max. Earth dist.	15843 May 17 05:30	8°♄28'31 19.53464 AU
conjunction	15837 Apr 17 21:46	10°♄09'07 -0°43'18	morning rise	15843 Jun 02 12:02	9°♄28'52
minimum elong	15837 Apr 17 21:45	10°♄09'07 0°43'46	retrograde	15843 Sep 02 16:45	12°♄49'33
max. Earth dist.	15837 Apr 17 15:24	10°♄08'07 19.34158 AU	opposition	15843 Nov 16 04:55	10°♄47'13 -1°13'28
morning rise	15837 May 04 07:03	11°♄10'27	min. Earth dist.	15843 Nov 16 06:30	10°♄47'02 17.55892 AU
retrograde	15837 Aug 05 01:17	14°♄34'47	direct	15844 Jan 31 07:26	8°♄42'37
opposition	15837 Oct 18 06:57	12°♄31'38 -0°50'53	evening set	15844 May 04 23:54	12°♄06'58
min. Earth dist.	15837 Oct 18 12:14	12°♄31'04 17.35162 AU			
direct	15838 Jan 01 20:39	10°♄26'32	conjunction	15844 May 21 06:07	13°♄07'05 -1°06'54
evening set	15838 Apr 06 14:36	13°♄53'51	minimum elong	15844 May 21 06:07	13°♄07'05 1°07'39
			max. Earth dist.	15844 May 21 04:32	13°♄06'50 19.58380 AU
conjunction	15838 Apr 23 00:57	14°♄55'15 -0°47'49	morning rise	15844 Jun 06 10:26	14°♄06'55
minimum elong	15838 Apr 23 00:56	14°♄55'15 0°48'20	retrograde	15844 Sep 06 14:17	17°♄26'52
max. Earth dist.	15838 Apr 22 19:17	14°♄54'22 19.36231 AU	opposition	15844 Nov 20 03:01	15°♄24'45 -1°15'34
	15838 Apr 24 07:10	15°♄	min. Earth dist.	15844 Nov 20 02:51	15°♄24'46 17.61047 AU
morning rise	15838 May 09 09:32	15°♄56'26	direct	15845 Feb 04 09:24	13°♄20'22
retrograde	15838 Aug 10 02:49	19°♄20'18	evening set	15845 May 09 22:48	16°♄44'00
opposition	15838 Oct 23 07:17	17°♄17'17 -0°55'43			
min. Earth dist.	15838 Oct 23 11:20	17°♄16'51 17.37450 AU	conjunction	15845 May 26 04:30	17°♄43'52 -1°08'35
direct	15839 Jan 07 00:24	15°♄12'13	minimum elong	15845 May 26 04:29	17°♄43'52 1°09'23
evening set	15839 Apr 11 17:52	18°♄39'16	max. Earth dist.	15845 May 26 04:52	17°♄43'55 19.63756 AU
			morning rise	15845 Jun 11 07:57	18°♄43'26
conjunction	15839 Apr 28 03:34	19°♄40'30 -0°51'59	retrograde	15845 Sep 11 08:45	22°♄02'37
minimum elong	15839 Apr 28 03:34	19°♄40'30 0°52'33	opposition	15845 Nov 25 00:53	20°♄00'46 -1°17'11
max. Earth dist.	15839 Apr 27 22:18	19°♄39'41 19.38739 AU	min. Earth dist.	15845 Nov 25 00:42	20°♄00'47 17.66624 AU
morning rise	15839 May 14 11:26	20°♄41'31	direct	15846 Feb 09 08:24	17°♄56'40
retrograde	15839 Aug 15 01:09	24°♄04'51	evening set	15846 May 14 21:04	21°♄19'32
opposition	15839 Oct 28 07:38	22°♄01'57 -1°00'10			
min. Earth dist.	15839 Oct 28 12:10	22°♄01'28 17.40194 AU	conjunction	15846 May 31 01:52	22°♄19'07 -1°09'49
direct	15840 Jan 12 00:53	19°♄56'56	minimum elong	15846 May 31 01:51	22°♄19'07 1°10'37
evening set	15840 Apr 15 20:21	23°♄23'35	max. Earth dist.	15846 May 31 02:01	22°♄19'08 19.69524 AU
			morning rise	15846 Jun 16 04:47	23°♄18'25
conjunction	15840 May 02 05:25	24°♄24'39 -0°55'47	retrograde	15846 Sep 16 04:55	26°♄36'50
minimum elong	15840 May 02 05:25	24°♄24'39 0°56'25	opposition	15846 Nov 29 22:07	24°♄35'17 -1°18'17
max. Earth dist.	15840 May 02 00:39	24°♄23'54 19.41714 AU	min. Earth dist.	15846 Nov 29 20:34	24°♄35'27 17.72560 AU
morning rise	15840 May 18 12:38	25°♄25'27	direct	15847 Feb 14 08:26	22°♄31'28
retrograde	15840 Aug 19 01:50	28°♄48'13	evening set	15847 May 19 18:22	25°♄53'32
opposition	15840 Nov 01 07:29	26°♄45'25 -1°04'11			
min. Earth dist.	15840 Nov 01 10:27	26°♄45'06 17.43393 AU	conjunction	15847 Jun 04 22:38	26°♄52'50 -1°10'37
direct	15841 Jan 16 04:26	24°♄40'27	minimum elong	15847 Jun 04 22:38	26°♄52'50 1°11'25
evening set	15841 Apr 20 22:21	28°♄06'39	max. Earth dist.	15847 Jun 05 00:41	26°♄53'09 19.75604 AU
			morning rise	15847 Jun 21 00:42	27°♄51'51
conjunction	15841 May 07 06:49	29°♄07'30 -0°59'12		15847 Jul 31 09:31	0°♄
minimum elong	15841 May 07 06:48	29°♄07'30 0°59'51	retrograde	15847 Sep 20 22:52	1°♄09'29
max. Earth dist.	15841 May 07 03:07	29°♄06'55 19.45141 AU		15847 Nov 13 18:00	30°♄♄
	15841 May 21 08:24	0°♄	opposition	15847 Dec 04 19:02	29°♄08'13 -1°18'53
morning rise	15841 May 23 13:13	0°♄08'05	min. Earth dist.	15847 Dec 04 17:23	29°♄08'24 17.78762 AU
retrograde	15841 Aug 23 22:31	3°♄30'11	direct	15848 Feb 19 06:41	27°♄04'44
opposition	15841 Nov 06 06:59	1°♄27'31 -1°07'46		15848 May 16 07:17	0°♄
min. Earth dist.	15841 Nov 06 10:21	1°♄27'10 17.47066 AU	evening set	15848 May 23 14:55	0°♄25'55
	15841 Dec 13 18:31	30°♄♄			
direct	15842 Jan 21 04:33	29°♄22'38	conjunction	15848 Jun 08 18:21	1°♄24'56 -1°10'57
	15842 Feb 28 00:04	0°♄	minimum elong	15848 Jun 08 18:21	1°♄24'56 1°11'47
evening set	15842 Apr 25 23:42	2°♄48'17	max. Earth dist.	15848 Jun 08 19:57	1°♄25'11 19.81915 AU
			morning rise	15848 Jun 24 19:59	2°♄23'41
conjunction	15842 May 12 07:23	3°♄48'54 -1°02'12	retrograde	15848 Sep 24 17:26	5°♄40'32
minimum elong	15842 May 12 07:23	3°♄48'54 1°02'54	opposition	15848 Dec 08 15:19	3°♄39'33 -1°19'00
max. Earth dist.	15842 May 12 03:57	3°♄48'22 19.49059 AU	min. Earth dist.	15848 Dec 08 12:45	3°♄39'49 17.85163 AU
morning rise	15842 May 28 13:10	4°♄49'15	direct	15849 Feb 23 04:48	1°♄36'21
retrograde	15842 Aug 28 21:27	8°♄10'40	evening set	15849 May 28 10:37	4°♄56'39
opposition	15842 Nov 11 06:05	6°♄08'08 -1°10'51			
min. Earth dist.	15842 Nov 11 07:39	6°♄07'58 17.51230 AU	conjunction	15849 Jun 13 13:33	5°♄55'23 -1°10'52
direct	15843 Jan 26 07:46	4°♄03'22	minimum elong	15849 Jun 13 13:34	5°♄55'23 1°11'40
evening set	15843 May 01 00:07	7°♄28'23	max. Earth dist.	15849 Jun 13 16:46	5°♄55'52 19.88378 AU
			morning rise	15849 Jun 29 14:23	6°♄53'50

retrograde	15849 Sep 29 10:26	10°☾09'51	evening set	15856 Jun 28 02:56	5°♊39'28
opposition	15849 Dec 13 11:02	8°☾09'10 -1°18'38			
min. Earth dist.	15849 Dec 13 08:18	8°☾09'27 17.91669 AU	conjunction	15856 Jul 14 01:59	6°♊36'13 -0°59'01
direct	15850 Feb 28 02:15	6°☾06'17	minimum elong	15856 Jul 14 01:59	6°♊36'13 0°59'43
evening set	15850 Jun 02 05:38	9°☾25'38	max. Earth dist.	15856 Jul 14 07:47	6°♊37'05 20.33985 AU
			morning rise	15856 Jul 29 23:48	7°♊32'48
conjunction	15850 Jun 18 07:45	10°☾24'04 -1°10'21	retrograde	15856 Oct 29 17:10	10°♊43'07
minimum elong	15850 Jun 18 07:45	10°☾24'04 1°11'10	opposition	15857 Jan 13 11:18	8°♊43'47 -1°03'51
max. Earth dist.	15850 Jun 18 10:20	10°☾24'28 19.94924 AU	min. Earth dist.	15857 Jan 13 05:23	8°♊44'23 18.37226 AU
morning rise	15850 Jul 04 08:09	11°☾22'15	direct	15857 Mar 31 09:42	6°♊42'47
retrograde	15850 Oct 04 03:27	14°☾37'27	evening set	15857 Jul 02 15:14	9°♊54'57
opposition	15850 Dec 18 06:16	12°☾37'01 -1°17'48			
min. Earth dist.	15850 Dec 18 02:58	12°☾37'22 17.98246 AU	conjunction	15857 Jul 18 13:59	10°♊51'28 -0°55'55
direct	15851 Mar 04 22:27	10°☾34'26	minimum elong	15857 Jul 18 13:59	10°♊51'28 0°56'36
evening set	15851 Jun 06 23:23	13°☾52'49	max. Earth dist.	15857 Jul 18 20:57	10°♊52'30 20.40427 AU
			morning rise	15857 Aug 03 11:24	11°♊47'47
conjunction	15851 Jun 23 01:04	14°☾50'57 -1°09'25	retrograde	15857 Nov 03 05:25	14°♊57'22
minimum elong	15851 Jun 23 01:04	14°☾50'57 1°10'12	opposition	15858 Jan 18 01:42	12°♊58'14 -1°00'14
max. Earth dist.	15851 Jun 23 05:08	14°☾51'34 20.01508 AU	min. Earth dist.	15858 Jan 17 18:28	12°♊58'58 18.43643 AU
morning rise	15851 Jul 09 00:47	15°☾48'51	direct	15858 Apr 05 01:37	10°♊57'32
retrograde	15851 Oct 08 19:24	19°☾03'14	evening set	15858 Jul 07 02:51	14°♊08'45
opposition	15851 Dec 23 00:51	17°☾03'02 -1°16'30		15858 Jul 21 15:29	15°♊
min. Earth dist.	15851 Dec 22 21:08	17°☾03'25 18.04817 AU			
direct	15852 Mar 08 18:34	15°☾00'45	conjunction	15858 Jul 23 01:08	15°♊04'59 -0°52'33
evening set	15852 Jun 10 16:31	18°☾18'06	minimum elong	15858 Jul 23 01:08	15°♊04'59 0°53'10
			max. Earth dist.	15858 Jul 23 08:17	15°♊06'03 20.46827 AU
conjunction	15852 Jun 26 17:29	19°☾15'58 -1°08'04	morning rise	15858 Aug 07 22:22	16°♊01'05
minimum elong	15852 Jun 26 17:29	19°☾15'58 1°08'52	retrograde	15858 Nov 07 15:57	19°♊10'00
max. Earth dist.	15852 Jun 26 20:57	19°☾16'30 20.08073 AU	opposition	15859 Jan 22 15:43	17°♊11'03 -0°56'19
morning rise	15852 Jul 12 16:51	20°☾13'35	min. Earth dist.	15859 Jan 22 08:37	17°♊11'47 18.50016 AU
retrograde	15852 Oct 12 10:56	23°☾27'08	direct	15859 Apr 09 15:31	15°♊10'42
opposition	15852 Dec 26 18:38	21°☾27'09 -1°14'46	evening set	15859 Jul 11 13:28	18°♊20'56
min. Earth dist.	15852 Dec 26 14:44	21°☾27'33 18.11372 AU			
direct	15853 Mar 13 13:09	19°☾25'06	conjunction	15859 Jul 27 11:31	19°♊16'57 -0°48'54
evening set	15853 Jun 15 08:34	22°☾41'27	minimum elong	15859 Jul 27 11:31	19°♊16'57 0°49'30
			max. Earth dist.	15859 Jul 27 19:37	19°♊18'09 20.53154 AU
conjunction	15853 Jul 01 09:09	23°☾39'02 -1°06'21	morning rise	15859 Aug 12 08:31	20°♊12'50
minimum elong	15853 Jul 01 09:10	23°☾39'02 1°07'07	retrograde	15859 Nov 12 03:48	23°♊21'06
max. Earth dist.	15853 Jul 01 13:50	23°☾39'44 20.14606 AU	opposition	15860 Jan 27 04:59	21°♊22'22 -0°52'07
morning rise	15853 Jul 17 07:57	24°☾36'23	min. Earth dist.	15860 Jan 26 20:39	21°♊23'13 18.56261 AU
retrograde	15853 Oct 17 01:32	27°☾49'05	direct	15860 Apr 13 06:07	19°♊22'21
opposition	15853 Dec 31 11:49	25°☾49'17 -1°12'37	evening set	15860 Jul 14 23:40	22°♊31'40
min. Earth dist.	15853 Dec 31 07:14	25°☾49'46 18.17867 AU			
direct	15854 Mar 18 07:41	23°☾47'31	conjunction	15860 Jul 30 21:21	23°♊27'28 -0°45'02
evening set	15854 Jun 19 23:40	27°☾02'48	minimum elong	15860 Jul 30 21:21	23°♊27'28 0°45'35
			max. Earth dist.	15860 Jul 31 05:32	23°♊28'40 20.59315 AU
conjunction	15854 Jul 05 23:36	28°☾00'06 -1°04'15	morning rise	15860 Aug 15 18:13	24°♊23'08
minimum elong	15854 Jul 05 23:37	28°☾00'06 1°05'00	retrograde	15860 Nov 15 12:45	27°♊30'48
max. Earth dist.	15854 Jul 06 04:02	28°☾00'46 20.21084 AU	opposition	15861 Jan 30 17:43	25°♊32'16 -0°47'41
morning rise	15854 Jul 21 22:06	28°☾57'11	min. Earth dist.	15861 Jan 30 10:01	25°♊33'03 18.62325 AU
	15854 Aug 09 13:32	0°♊	direct	15861 Apr 17 18:05	23°♊32'34
retrograde	15854 Oct 21 15:40	2°♊09'04	evening set	15861 Jul 19 09:10	26°♊41'01
opposition	15855 Jan 05 04:24	0°♊09'25 -1°10'04			
min. Earth dist.	15855 Jan 04 23:40	0°♊09'54 18.24335 AU	conjunction	15861 Aug 04 06:37	27°♊36'35 -0°40'57
	15855 Jan 08 23:28	30°♊☾	minimum elong	15861 Aug 04 06:38	27°♊36'36 0°41'27
direct	15855 Mar 23 00:55	28°☾07'53	max. Earth dist.	15861 Aug 04 15:20	27°♊37'52 20.65265 AU
	15855 May 30 14:25	0°♊	morning rise	15861 Aug 20 03:19	28°♊32'04
evening set	15855 Jun 24 13:43	1°♊22'07		15861 Sep 16 16:59	0°♊
			retrograde	15861 Nov 19 23:50	1°♊39'11
conjunction	15855 Jul 10 13:18	2°♊19'09 -1°01'48		15862 Jan 27 08:12	30°♊♊
minimum elong	15855 Jul 10 13:18	2°♊19'09 1°02'32	opposition	15862 Feb 04 05:59	29°♊40'50 -0°43'02
max. Earth dist.	15855 Jul 10 19:03	2°♊20'00 20.27543 AU	min. Earth dist.	15862 Feb 03 21:12	29°♊41'44 18.68131 AU
morning rise	15855 Jul 26 11:20	3°♊15'58	direct	15862 Apr 22 07:39	27°♊41'27
retrograde	15855 Oct 26 04:45	6°♊27'03		15862 Jul 08 22:55	0°♊
opposition	15856 Jan 09 20:07	4°♊27'33 -1°07'08	evening set	15862 Jul 23 18:02	0°♊49'02
min. Earth dist.	15856 Jan 09 14:16	4°♊28'09 18.30780 AU			
direct	15856 Mar 26 18:08	2°♊26'17	conjunction	15862 Aug 08 15:11	1°♊44'25 -0°36'40

minimum elong	15862 Aug 08 15:11	1° $\mathring{M}$ 44'25	0°37'08		15868 Dec 03 18:27	0° $\mathring{A}$	
max. Earth dist.	15862 Aug 08 23:56	1° $\mathring{M}$ 45'41	20.70918 AU	retrograde	15868 Dec 18 08:19	0° $\mathring{A}$ 05'21	
morning rise	15862 Aug 24 11:48	2° $\mathring{M}$ 39'43			15869 Jan 02 03:04	30° $\mathring{R}$ $\mathring{M}$	
retrograde	15862 Nov 24 07:55	5° $\mathring{M}$ 46'19		opposition	15869 Mar 05 07:33	28° $\mathring{M}$ 07'29	-0°06'27
opposition	15863 Feb 08 18:00	3° $\mathring{M}$ 48'08	-0°38'11	min. Earth dist.	15869 Mar 05 00:11	28° $\mathring{M}$ 08'13	18.97550 AU
min. Earth dist.	15863 Feb 08 10:02	3° $\mathring{M}$ 48'56	18.73627 AU	direct	15869 May 21 05:09	26° $\mathring{M}$ 09'28	
direct	15863 Apr 26 18:05	1° $\mathring{M}$ 49'02		evening set	15869 Aug 20 18:16	29° $\mathring{M}$ 12'09	
evening set	15863 Jul 28 02:23	4° $\mathring{M}$ 55'49			15869 Sep 03 17:30	0° $\mathring{A}$	
conjunction	15863 Aug 12 23:23	5° $\mathring{M}$ 51'00	-0°32'13	conjunction	15869 Sep 05 14:43	0° $\mathring{A}$ 06'31	-0°03'25
minimum elong	15863 Aug 12 23:24	5° $\mathring{M}$ 51'00	0°32'37	minimum elong	15869 Sep 05 14:43	0° $\mathring{A}$ 06'31	0°03'30
max. Earth dist.	15863 Aug 13 08:16	5° $\mathring{M}$ 52'17	20.76236 AU	behind sun begin	15869 Sep 05 08:11	0° $\mathring{A}$ 05'36	
morning rise	15863 Aug 28 19:55	6° $\mathring{M}$ 46'07		behind sun end	15869 Sep 05 21:14	0° $\mathring{A}$ 07'26	
retrograde	15863 Nov 28 18:07	9° $\mathring{M}$ 52'15		max. Earth dist.	15869 Sep 05 22:51	0° $\mathring{A}$ 07'40	20.98861 AU
opposition	15864 Feb 13 05:12	7° $\mathring{M}$ 54'12	-0°33'10	morning rise	15869 Sep 21 11:31	1° $\mathring{A}$ 00'56	
min. Earth dist.	15864 Feb 12 20:20	7° $\mathring{M}$ 55'06	18.78742 AU	retrograde	15869 Dec 22 16:08	4° $\mathring{A}$ 05'03	
direct	15864 Apr 30 06:23	5° $\mathring{M}$ 55'22		opposition	15870 Mar 09 16:22	2° $\mathring{A}$ 07'10	-0°00'57
evening set	15864 Jul 31 10:18	9° $\mathring{M}$ 01'22		min. Earth dist.	15870 Mar 09 07:49	2° $\mathring{A}$ 08'02	19.00081 AU
conjunction	15864 Aug 16 07:07	9° $\mathring{M}$ 56'23	-0°27'38	asc. node	15870 May 10 10:22	0° $\mathring{A}$ 14'55	
minimum elong	15864 Aug 16 07:07	9° $\mathring{M}$ 56'23	0°28'00	direct	15870 May 25 14:13	0° $\mathring{A}$ 09'17	
max. Earth dist.	15864 Aug 16 15:45	9° $\mathring{M}$ 57'38	20.81135 AU	evening set	15870 Aug 24 23:23	3° $\mathring{A}$ 11'29	
morning rise	15864 Sep 01 03:37	10° $\mathring{M}$ 51'21		conjunction	15870 Sep 09 19:49	4° $\mathring{A}$ 05'46	0°01'40
retrograde	15864 Dec 02 01:36	13° $\mathring{M}$ 57'03		minimum elong	15870 Sep 09 19:49	4° $\mathring{A}$ 05'46	0°01'39
opposition	15865 Feb 16 16:16	11° $\mathring{M}$ 59'06	-0°28'00	behind sun begin	15870 Sep 09 13:14	4° $\mathring{A}$ 04'51	
min. Earth dist.	15865 Feb 16 08:31	11° $\mathring{M}$ 59'53	18.83423 AU	behind sun end	15870 Sep 10 02:24	4° $\mathring{A}$ 06'41	
direct	15865 May 04 15:51	10° $\mathring{M}$ 00'30		max. Earth dist.	15870 Sep 10 04:12	4° $\mathring{A}$ 06'57	21.01213 AU
evening set	15865 Aug 04 17:38	13° $\mathring{M}$ 05'45		morning rise	15870 Sep 25 16:45	5° $\mathring{A}$ 00'08	
conjunction	15865 Aug 20 14:20	14° $\mathring{M}$ 00'36	-0°22'56	retrograde	15870 Dec 26 22:03	8° $\mathring{A}$ 04'07	
minimum elong	15865 Aug 20 14:20	14° $\mathring{M}$ 00'36	0°23'14	opposition	15871 Mar 14 01:01	6° $\mathring{A}$ 06'14	0°04'31
max. Earth dist.	15865 Aug 20 22:47	14° $\mathring{M}$ 01'49	20.85587 AU	min. Earth dist.	15871 Mar 13 17:24	6° $\mathring{A}$ 07'00	19.02270 AU
morning rise	15865 Sep 05 10:49	14° $\mathring{M}$ 55'26		direct	15871 May 29 20:08	4° $\mathring{A}$ 08'29	
retrograde	15865 Dec 06 10:54	18° $\mathring{M}$ 00'43		evening set	15871 Aug 29 04:23	7° $\mathring{A}$ 10'16	
opposition	15866 Feb 21 02:43	16° $\mathring{M}$ 02'51	-0°22'44	conjunction	15871 Sep 14 00:53	8° $\mathring{A}$ 04'29	0°06'36
min. Earth dist.	15866 Feb 20 18:05	16° $\mathring{M}$ 03'43	18.87630 AU	minimum elong	15871 Sep 14 00:52	8° $\mathring{A}$ 04'29	0°06'38
direct	15866 May 09 03:10	14° $\mathring{M}$ 04'26		behind sun begin	15871 Sep 13 18:42	8° $\mathring{A}$ 03'38	
evening set	15866 Aug 09 00:33	17° $\mathring{M}$ 08'58		behind sun end	15871 Sep 14 07:02	8° $\mathring{A}$ 05'21	
conjunction	15866 Aug 24 21:06	18° $\mathring{M}$ 03'40	-0°18'08	max. Earth dist.	15871 Sep 14 09:10	8° $\mathring{A}$ 05'40	21.03234 AU
minimum elong	15866 Aug 24 21:07	18° $\mathring{M}$ 03'40	0°18'23	morning rise	15871 Sep 29 22:00	8° $\mathring{A}$ 58'49	
max. Earth dist.	15866 Aug 25 05:22	18° $\mathring{M}$ 04'51	20.89555 AU	retrograde	15871 Dec 31 05:59	12° $\mathring{A}$ 02'43	
morning rise	15866 Sep 09 17:38	18° $\mathring{M}$ 58'23		opposition	15872 Mar 17 09:04	10° $\mathring{A}$ 04'50	0°09'58
retrograde	15866 Dec 10 17:50	22° $\mathring{M}$ 03'18		min. Earth dist.	15872 Mar 17 00:26	10° $\mathring{A}$ 05'42	19.04110 AU
opposition	15867 Feb 25 12:53	20° $\mathring{M}$ 05'27	-0°17'21	direct	15872 Jun 02 04:06	8° $\mathring{A}$ 07'13	
min. Earth dist.	15867 Feb 25 05:24	20° $\mathring{M}$ 06'12	18.91371 AU	evening set	15872 Sep 01 09:16	11° $\mathring{A}$ 08'41	
direct	15867 May 13 11:41	18° $\mathring{M}$ 07'12		conjunction	15872 Sep 17 05:49	12° $\mathring{A}$ 02'52	0°11'29
evening set	15867 Aug 13 06:48	21° $\mathring{M}$ 11'03		minimum elong	15872 Sep 17 05:49	12° $\mathring{A}$ 02'51	0°11'34
conjunction	15867 Aug 29 03:21	22° $\mathring{M}$ 05'37	-0°13'16	behind sun begin	15872 Sep 17 01:04	12° $\mathring{A}$ 02'12	
minimum elong	15867 Aug 29 03:21	22° $\mathring{M}$ 05'37	0°13'27	behind sun end	15872 Sep 17 10:33	12° $\mathring{A}$ 03'31	
behind sun begin	15867 Aug 28 23:35	22° $\mathring{M}$ 05'05		max. Earth dist.	15872 Sep 17 14:12	12° $\mathring{A}$ 04'03	21.04886 AU
behind sun end	15867 Aug 29 07:06	22° $\mathring{M}$ 06'09		morning rise	15872 Oct 03 03:06	12° $\mathring{A}$ 57'09	
max. Earth dist.	15867 Aug 29 11:28	22° $\mathring{M}$ 06'47	20.93075 AU	retrograde	15873 Jan 03 11:56	16° $\mathring{A}$ 01'02	
morning rise	15867 Sep 13 23:59	23° $\mathring{M}$ 00'13		opposition	15873 Mar 21 17:16	14° $\mathring{A}$ 03'11	0°15'21
retrograde	15867 Dec 15 02:07	26° $\mathring{M}$ 04'49		min. Earth dist.	15873 Mar 21 09:44	14° $\mathring{A}$ 03'57	19.05580 AU
opposition	15868 Feb 29 22:23	24° $\mathring{M}$ 06'58	-0°11'55	direct	15873 Jun 06 09:23	12° $\mathring{A}$ 05'43	
min. Earth dist.	15868 Feb 29 13:57	24° $\mathring{M}$ 07'48	18.94662 AU	evening set	15873 Sep 05 13:55	15° $\mathring{A}$ 06'54	
direct	15868 May 16 21:55	22° $\mathring{M}$ 08'50		conjunction	15873 Sep 21 10:33	16° $\mathring{A}$ 01'02	0°16'18
evening set	15868 Aug 16 12:44	25° $\mathring{M}$ 12'04		minimum elong	15873 Sep 21 10:32	16° $\mathring{A}$ 01'02	0°16'26
conjunction	15868 Sep 01 09:12	26° $\mathring{M}$ 06'31	-0°08'21	max. Earth dist.	15873 Sep 21 18:45	16° $\mathring{A}$ 02'12	21.06167 AU
minimum elong	15868 Sep 01 09:12	26° $\mathring{M}$ 06'31	0°08'29	morning rise	15873 Oct 07 08:04	16° $\mathring{A}$ 55'19	
behind sun begin	15868 Sep 01 03:26	26° $\mathring{M}$ 05'43		retrograde	15874 Jan 07 20:12	19° $\mathring{A}$ 59'15	
behind sun end	15868 Sep 01 14:59	26° $\mathring{M}$ 07'20		opposition	15874 Mar 26 01:14	18° $\mathring{A}$ 01'25	0°20'39
max. Earth dist.	15868 Sep 01 17:20	26° $\mathring{M}$ 07'41	20.96151 AU	min. Earth dist.	15874 Mar 25 16:46	18° $\mathring{A}$ 02'15	19.06656 AU
morning rise	15868 Sep 17 05:54	27° $\mathring{M}$ 01'02		direct	15874 Jun 10 16:37	16° $\mathring{A}$ 04'04	
				evening set	15874 Sep 09 18:40	19° $\mathring{A}$ 05'02	

conjunction	15874 Sep 25 15:25	19° <u>♏</u> 59'10	0°21'03			15880 Nov 08 01:30	15° <u>♍</u>
minimum elong	15874 Sep 25 15:25	19° <u>♏</u> 59'10	0°21'14	retrograde		15881 Feb 05 02:03	17° <u>♍</u> 51'49
max. Earth dist.	15874 Sep 25 23:38	20° <u>♏</u> 00'20	21.07026 AU	opposition		15881 Apr 23 08:50	15° <u>♍</u> 53'21 0°53'45
morning rise	15874 Oct 11 13:09	20° <u>♏</u> 53'27		min. Earth dist.		15881 Apr 23 04:50	15° <u>♍</u> 53'45 19.00305 AU
retrograde	15875 Jan 12 02:40	23° <u>♏</u> 57'29				15881 May 16 07:23	15° <u>♌</u>
opposition	15875 Mar 30 09:11	21° <u>♏</u> 59'39	0°25'51	direct		15881 Jul 08 12:05	13° <u>♍</u> 55'59
min. Earth dist.	15875 Mar 30 02:02	22° <u>♏</u> 00'22	19.07305 AU			15881 Aug 28 17:21	15° <u>♍</u>
direct	15875 Jun 14 21:52	20° <u>♏</u> 02'24		evening set		15881 Oct 07 07:31	16° <u>♍</u> 56'59
evening set	15875 Sep 13 23:27	23° <u>♏</u> 03'14					
conjunction	15875 Sep 29 20:21	23° <u>♏</u> 57'22	0°25'41	conjunction		15881 Oct 23 05:51	17° <u>♍</u> 51'27 0°50'22
minimum elong	15875 Sep 29 20:21	23° <u>♏</u> 57'22	0°25'57	minimum elong		15881 Oct 23 05:50	17° <u>♍</u> 51'27 0°50'54
max. Earth dist.	15875 Sep 30 04:03	23° <u>♏</u> 58'28	21.07451 AU	max. Earth dist.		15881 Oct 23 09:58	17° <u>♍</u> 52'03 20.98876 AU
morning rise	15875 Oct 15 18:23	24° <u>♏</u> 51'41		morning rise		15881 Nov 08 05:54	18° <u>♍</u> 46'12
retrograde	15876 Jan 16 11:13	27° <u>♏</u> 55'51		retrograde		15882 Feb 09 12:02	21° <u>♍</u> 52'00
opposition	15876 Apr 02 16:57	25° <u>♏</u> 58'00	0°30'56	opposition		15882 Apr 27 16:56	19° <u>♍</u> 53'19 0°57'39
min. Earth dist.	15876 Apr 02 09:12	25° <u>♏</u> 58'46	19.07486 AU	min. Earth dist.		15882 Apr 27 12:28	19° <u>♍</u> 53'46 18.97381 AU
direct	15876 Jun 18 04:26	24° <u>♏</u> 00'51		direct		15882 Jul 12 19:54	17° <u>♍</u> 55'47
evening set	15876 Sep 17 04:23	27° <u>♏</u> 01'35		evening set		15882 Oct 11 13:36	20° <u>♍</u> 57'01
conjunction	15876 Oct 03 01:25	27° <u>♏</u> 55'44	0°30'13	conjunction		15882 Oct 27 12:18	21° <u>♍</u> 51'37 0°53'46
minimum elong	15876 Oct 03 01:25	27° <u>♏</u> 55'44	0°30'31	minimum elong		15882 Oct 27 12:17	21° <u>♍</u> 51'37 0°54'21
max. Earth dist.	15876 Oct 03 08:51	27° <u>♏</u> 56'48	21.07368 AU	max. Earth dist.		15882 Oct 27 16:21	21° <u>♍</u> 52'12 20.95751 AU
morning rise	15876 Oct 18 23:40	28° <u>♏</u> 50'05		morning rise		15882 Nov 12 12:42	22° <u>♍</u> 46'29
retrograde	15876 Nov 10 00:07	0° <u>♍</u>		retrograde		15883 Feb 13 19:13	25° <u>♍</u> 52'42
opposition	15877 Jan 19 17:55	1° <u>♍</u> 54'27		opposition		15883 May 02 01:08	23° <u>♍</u> 53'48 1°01'17
min. Earth dist.	15877 Apr 05 14:26	30° <u>♌</u>		min. Earth dist.		15883 May 01 21:55	23° <u>♍</u> 54'07 18.94087 AU
direct	15877 Apr 07 00:54	29° <u>♏</u> 56'33	0°35'52	direct		15883 Jul 17 01:19	21° <u>♍</u> 56'07
evening set	15877 Apr 06 18:38	29° <u>♏</u> 57'11	19.07148 AU	evening set		15883 Oct 15 20:00	24° <u>♍</u> 57'39
conjunction	15877 Jun 22 10:15	27° <u>♏</u> 59'27		conjunction		15883 Oct 31 19:03	25° <u>♍</u> 52'22 0°56'54
minimum elong	15877 Sep 02 14:40	0° <u>♍</u>		minimum elong		15883 Oct 31 19:02	25° <u>♍</u> 52'22 0°57'31
max. Earth dist.	15877 Sep 21 09:31	1° <u>♍</u> 00'10		max. Earth dist.		15883 Oct 31 22:25	25° <u>♍</u> 52'51 20.92295 AU
morning rise	15877 Oct 07 06:45	1° <u>♍</u> 54'21	0°34'36	morning rise		15883 Nov 16 19:58	26° <u>♍</u> 47'22
retrograde	15877 Oct 07 06:44	1° <u>♍</u> 54'21	0°34'58	retrograde		15884 Feb 18 05:30	29° <u>♍</u> 54'03
max. Earth dist.	15877 Oct 07 13:21	1° <u>♍</u> 55'17	21.06767 AU	opposition		15884 May 05 09:29	27° <u>♍</u> 54'57 1°04'37
morning rise	15877 Oct 23 05:19	2° <u>♍</u> 48'45		min. Earth dist.		15884 May 05 05:47	27° <u>♍</u> 55'20 18.90474 AU
retrograde	15878 Jan 24 03:14	5° <u>♍</u> 53'20		direct		15884 Jul 20 09:21	25° <u>♍</u> 57'08
opposition	15878 Apr 11 08:48	3° <u>♍</u> 55'22	0°40'38	evening set		15884 Oct 19 02:43	28° <u>♍</u> 59'01
min. Earth dist.	15878 Apr 11 02:06	3° <u>♍</u> 56'02	19.06270 AU	conjunction		15884 Nov 04 02:10	29° <u>♍</u> 53'54 0°59'46
direct	15878 Jun 26 16:48	1° <u>♍</u> 58'16		minimum elong		15884 Nov 04 02:10	29° <u>♍</u> 53'54 1°00'26
evening set	15878 Sep 25 14:43	4° <u>♍</u> 58'59		max. Earth dist.		15884 Nov 04 05:35	29° <u>♍</u> 54'23 20.88519 AU
conjunction	15878 Oct 11 12:12	5° <u>♍</u> 53'13	0°38'50			15884 Nov 05 20:28	0° <u>♌</u>
minimum elong	15878 Oct 11 12:11	5° <u>♍</u> 53'13	0°39'14	morning rise		15884 Nov 20 03:26	0° <u>♌</u> 49'03
max. Earth dist.	15878 Oct 11 18:19	5° <u>♍</u> 54'05	21.05593 AU	retrograde		15885 Feb 21 14:00	3° <u>♌</u> 56'16
morning rise	15878 Oct 27 11:04	6° <u>♍</u> 47'41		opposition		15885 May 09 18:15	1° <u>♌</u> 56'59 1°07'39
retrograde	15879 Jan 28 09:47	9° <u>♍</u> 52'32		min. Earth dist.		15885 May 09 15:36	1° <u>♌</u> 57'15 18.86558 AU
opposition	15879 Apr 15 16:52	7° <u>♍</u> 54'26	0°45'13			15885 Jul 18 10:45	30° <u>♌</u>
min. Earth dist.	15879 Apr 15 11:44	7° <u>♍</u> 54'56	19.04814 AU	direct		15885 Jul 24 15:15	29° <u>♍</u> 59'01
direct	15879 Jun 30 23:01	5° <u>♍</u> 57'17				15885 Jul 30 20:31	0° <u>♌</u>
evening set	15879 Sep 29 20:12	8° <u>♍</u> 58'03		evening set		15885 Oct 23 09:58	3° <u>♌</u> 01'21
conjunction	15879 Oct 15 17:57	9° <u>♍</u> 52'21	0°42'53	conjunction		15885 Nov 08 09:49	3° <u>♌</u> 56'23 1°02'21
minimum elong	15879 Oct 15 17:56	9° <u>♍</u> 52'21	0°43'20	minimum elong		15885 Nov 08 09:48	3° <u>♌</u> 56'23 1°03'01
max. Earth dist.	15879 Oct 15 23:04	9° <u>♍</u> 53'05	21.03864 AU	max. Earth dist.		15885 Nov 08 12:30	3° <u>♌</u> 56'46 20.84475 AU
morning rise	15879 Oct 31 17:13	10° <u>♍</u> 46'53		morning rise		15885 Nov 24 11:38	4° <u>♌</u> 51'43
retrograde	15880 Feb 01 19:34	13° <u>♍</u> 52'01		retrograde		15886 Feb 26 01:12	7° <u>♌</u> 59'30
opposition	15880 Apr 19 00:40	11° <u>♍</u> 53'44	0°49'36	opposition		15886 May 14 03:10	6° <u>♌</u> 00'03 1°10'21
min. Earth dist.	15880 Apr 18 19:16	11° <u>♍</u> 54'17	19.02810 AU	min. Earth dist.		15886 May 14 00:05	6° <u>♌</u> 00'22 18.82382 AU
direct	15880 Jul 04 06:11	9° <u>♍</u> 56'29		direct		15886 Jul 28 23:08	4° <u>♌</u> 01'57
evening set	15880 Oct 03 01:50	12° <u>♍</u> 57'21		evening set		15886 Oct 27 17:42	7° <u>♌</u> 04'47
conjunction	15880 Oct 18 23:53	13° <u>♍</u> 51'44	0°46'44	conjunction		15886 Nov 12 18:04	8° <u>♌</u> 00'00 1°04'37
minimum elong	15880 Oct 18 23:52	13° <u>♍</u> 51'44	0°47'14	minimum elong		15886 Nov 12 18:03	8° <u>♌</u> 00'00 1°05'20
max. Earth dist.	15880 Oct 19 04:40	13° <u>♍</u> 52'25	21.01595 AU	max. Earth dist.		15886 Nov 12 20:47	8° <u>♌</u> 00'24 20.80155 AU
morning rise	15880 Nov 03 23:29	14° <u>♍</u> 46'23		morning rise		15886 Nov 28 20:20	8° <u>♌</u> 55'32
retrograde				retrograde		15887 Mar 02 11:18	12° <u>♌</u> 03'56

opposition	15887 May 18 12:33	10° $\mathring{A}$ 04'20	1°12'42	conjunction	15893 Dec 11 23:57	7° $\mathring{B}$ 07'11	1°10'59
min. Earth dist.	15887 May 18 10:34	10° $\mathring{A}$ 04'32	18.77927 AU	minimum elong	15893 Dec 11 23:58	7° $\mathring{B}$ 07'11	1°11'47
direct	15887 Aug 02 06:05	8° $\mathring{A}$ 06'06		max. Earth dist.	15893 Dec 11 20:47	7° $\mathring{B}$ 06'43	20.41705 AU
evening set	15887 Nov 01 02:08	11° $\mathring{A}$ 09'31		morning rise	15893 Dec 28 06:12	8° $\mathring{B}$ 04'21	
				retrograde	15894 Apr 01 07:49	11° $\mathring{B}$ 17'53	
conjunction	15887 Nov 17 02:55	12° $\mathring{A}$ 04'56	1°06'34	opposition	15894 Jun 16 18:55	9° $\mathring{B}$ 16'58	1°18'31
minimum elong	15887 Nov 17 02:55	12° $\mathring{A}$ 04'56	1°07'18	min. Earth dist.	15894 Jun 16 21:20	9° $\mathring{B}$ 16'43	18.38449 AU
max. Earth dist.	15887 Nov 17 04:39	12° $\mathring{A}$ 05'11	20.75574 AU	direct	15894 Aug 31 01:47	7° $\mathring{B}$ 17'11	
morning rise	15887 Dec 03 05:46	13° $\mathring{A}$ 00'39		evening set	15894 Nov 30 09:20	10° $\mathring{B}$ 25'56	
retrograde	15888 Mar 05 23:22	16° $\mathring{A}$ 09'44					
opposition	15888 May 21 22:09	14° $\mathring{A}$ 09'59	1°14'42	conjunction	15894 Dec 16 14:15	11° $\mathring{B}$ 23'04	1°10'24
min. Earth dist.	15888 May 21 20:01	14° $\mathring{A}$ 10'12	18.73210 AU	minimum elong	15894 Dec 16 14:15	11° $\mathring{B}$ 23'04	1°11'12
direct	15888 Aug 05 14:10	12° $\mathring{A}$ 11'37		max. Earth dist.	15894 Dec 16 11:17	11° $\mathring{B}$ 22'38	20.35098 AU
evening set	15888 Nov 04 11:12	15° $\mathring{A}$ 15'41		morning rise	15895 Jan 01 20:57	12° $\mathring{B}$ 20'30	
				retrograde	15895 Apr 05 22:31	15° $\mathring{B}$ 34'47	
conjunction	15888 Nov 20 12:32	16° $\mathring{A}$ 11'18	1°08'11	opposition	15895 Jun 21 08:07	13° $\mathring{B}$ 33'36	1°17'41
minimum elong	15888 Nov 20 12:32	16° $\mathring{A}$ 11'18	1°08'57	min. Earth dist.	15895 Jun 21 11:14	13° $\mathring{B}$ 33'16	18.31770 AU
max. Earth dist.	15888 Nov 20 14:15	16° $\mathring{A}$ 11'33	20.70711 AU	direct	15895 Sep 04 13:38	11° $\mathring{B}$ 33'29	
morning rise	15888 Dec 06 15:48	17° $\mathring{A}$ 07'15		evening set	15895 Dec 04 23:40	14° $\mathring{B}$ 43'06	
retrograde	15889 Mar 10 10:56	20° $\mathring{A}$ 17'02					
opposition	15889 May 26 08:28	18° $\mathring{A}$ 17'09	1°16'20	conjunction	15895 Dec 21 05:04	15° $\mathring{B}$ 40'31	1°09'26
min. Earth dist.	15889 May 26 07:26	18° $\mathring{A}$ 17'15	18.68204 AU	minimum elong	15895 Dec 21 05:04	15° $\mathring{B}$ 40'31	1°10'13
direct	15889 Aug 09 22:26	16° $\mathring{A}$ 18'39		max. Earth dist.	15895 Dec 21 00:36	15° $\mathring{B}$ 39'51	20.28381 AU
evening set	15889 Nov 08 20:56	19° $\mathring{A}$ 23'24		morning rise	15896 Jan 06 12:30	16° $\mathring{B}$ 38'14	
				retrograde	15896 Apr 09 15:00	19° $\mathring{B}$ 53'17	
conjunction	15889 Nov 24 22:44	20° $\mathring{A}$ 19'15	1°09'28	opposition	15896 Jun 24 21:48	17° $\mathring{B}$ 51'49	1°16'24
minimum elong	15889 Nov 24 22:44	20° $\mathring{A}$ 19'15	1°10'15	min. Earth dist.	15896 Jun 25 01:22	17° $\mathring{B}$ 51'27	18.25028 AU
max. Earth dist.	15889 Nov 24 23:13	20° $\mathring{A}$ 19'19	20.65564 AU	direct	15896 Sep 08 01:46	15° $\mathring{B}$ 51'21	
morning rise	15889 Dec 11 02:40	21° $\mathring{A}$ 15'25		evening set	15896 Dec 08 14:42	19° $\mathring{B}$ 01'53	
retrograde	15890 Mar 15 00:07	24° $\mathring{A}$ 25'57					
opposition	15890 May 30 19:09	22° $\mathring{A}$ 25'55	1°17'35	conjunction	15896 Dec 24 20:54	19° $\mathring{B}$ 59'35	1°08'03
min. Earth dist.	15890 May 30 18:19	22° $\mathring{A}$ 26'00	18.62899 AU	minimum elong	15896 Dec 24 20:54	19° $\mathring{B}$ 59'35	1°08'51
direct	15890 Aug 14 07:35	20° $\mathring{A}$ 27'14		max. Earth dist.	15896 Dec 24 17:00	19° $\mathring{B}$ 59'01	20.21623 AU
evening set	15890 Nov 13 07:34	23° $\mathring{A}$ 32'44		morning rise	15897 Jan 10 04:45	20° $\mathring{B}$ 57'35	
				retrograde	15897 Apr 14 07:54	24° $\mathring{B}$ 13'24	
conjunction	15890 Nov 29 10:00	24° $\mathring{A}$ 28'50	1°10'24	opposition	15897 Jun 29 12:07	22° $\mathring{B}$ 11'40	1°14'40
minimum elong	15890 Nov 29 10:00	24° $\mathring{A}$ 28'50	1°11'11	min. Earth dist.	15897 Jun 29 15:56	22° $\mathring{B}$ 11'16	18.18273 AU
max. Earth dist.	15890 Nov 29 10:15	24° $\mathring{A}$ 28'52	20.60081 AU	direct	15897 Sep 12 15:00	20° $\mathring{B}$ 10'53	
morning rise	15890 Dec 15 14:22	25° $\mathring{A}$ 25'14		evening set	15897 Dec 13 06:37	23° $\mathring{B}$ 22'21	
retrograde	15891 Mar 19 12:40	28° $\mathring{A}$ 36'31					
opposition	15891 Jun 04 06:17	26° $\mathring{A}$ 36'19	1°18'26	conjunction	15897 Dec 29 13:20	24° $\mathring{B}$ 20'20	1°06'17
min. Earth dist.	15891 Jun 04 06:45	26° $\mathring{A}$ 36'16	18.57245 AU	minimum elong	15897 Dec 29 13:20	24° $\mathring{B}$ 20'20	1°07'02
direct	15891 Aug 18 17:03	24° $\mathring{A}$ 37'26		max. Earth dist.	15897 Dec 29 07:57	24° $\mathring{B}$ 19'32	20.14899 AU
evening set	15891 Nov 17 19:01	27° $\mathring{A}$ 43'42		morning rise	15898 Jan 14 21:57	25° $\mathring{B}$ 18'37	
				retrograde	15898 Apr 19 01:43	28° $\mathring{B}$ 35'13	
conjunction	15891 Dec 03 21:57	28° $\mathring{A}$ 40'03	1°10'58	opposition	15898 Jul 04 03:01	26° $\mathring{B}$ 33'15	1°12'30
minimum elong	15891 Dec 03 21:57	28° $\mathring{A}$ 40'03	1°11'47	min. Earth dist.	15898 Jul 04 07:22	26° $\mathring{B}$ 32'47	18.11585 AU
max. Earth dist.	15891 Dec 03 20:28	28° $\mathring{A}$ 39'50	20.54264 AU	direct	15898 Sep 17 03:53	24° $\mathring{B}$ 32'06	
morning rise	15891 Dec 20 03:00	29° $\mathring{A}$ 36'42		evening set	15898 Dec 17 23:22	27° $\mathring{B}$ 44'33	
	15891 Dec 26 23:57	0° $\mathring{B}$					
retrograde	15892 Mar 23 03:04	2° $\mathring{B}$ 48'44		conjunction	15899 Jan 03 06:54	28° $\mathring{B}$ 42'51	1°04'06
opposition	15892 Jun 07 18:01	0° $\mathring{B}$ 48'19	1°18'53	minimum elong	15899 Jan 03 06:55	28° $\mathring{B}$ 42'51	1°04'51
min. Earth dist.	15892 Jun 07 18:54	0° $\mathring{B}$ 48'13	18.51261 AU	max. Earth dist.	15899 Jan 03 02:14	28° $\mathring{B}$ 42'09	20.08250 AU
	15892 Jun 27 19:27	30° $\mathring{R}$ $\mathring{A}$		morning rise	15899 Jan 19 15:55	29° $\mathring{B}$ 41'25	
direct	15892 Aug 22 03:36	28° $\mathring{A}$ 49'10			15899 Jan 25 00:05	0° $\mathring{A}$	
	15892 Oct 14 07:05	0° $\mathring{B}$		retrograde	15899 Apr 23 20:35	2° $\mathring{A}$ 58'46	
evening set	15892 Nov 21 06:59	1° $\mathring{B}$ 56'14		opposition	15899 Jul 08 18:24	0° $\mathring{A}$ 56'35	1°09'54
				min. Earth dist.	15899 Jul 08 22:45	0° $\mathring{A}$ 56'08	18.04990 AU
conjunction	15892 Dec 07 10:35	2° $\mathring{B}$ 52'50	1°11'10		15899 Jul 31 22:06	30° $\mathring{R}$ $\mathring{B}$	
minimum elong	15892 Dec 07 10:35	2° $\mathring{B}$ 52'50	1°11'58	direct	15899 Sep 21 18:43	28° $\mathring{B}$ 55'10	
max. Earth dist.	15892 Dec 07 09:02	2° $\mathring{B}$ 52'36	20.48113 AU		15899 Nov 11 00:04	0° $\mathring{A}$	
morning rise	15892 Dec 23 16:04	3° $\mathring{B}$ 49'44		evening set	15899 Dec 22 17:08	2° $\mathring{A}$ 08'36	
retrograde	15893 Mar 27 16:16	7° $\mathring{B}$ 02'32					
opposition	15893 Jun 12 06:19	5° $\mathring{B}$ 01'52	1°18'55	conjunction	15900 Jan 08 01:08	3° $\mathring{A}$ 07'11	1°01'32
min. Earth dist.	15893 Jun 12 08:13	5° $\mathring{B}$ 01'41	18.44963 AU	minimum elong	15900 Jan 08 01:08	3° $\mathring{A}$ 07'11	1°02'15
direct	15893 Aug 26 14:18	3° $\mathring{B}$ 02'26		max. Earth dist.	15900 Jan 07 18:59	3° $\mathring{A}$ 06'16	20.01736 AU
evening set	15893 Nov 25 19:49	6° $\mathring{B}$ 10'19		morning rise	15900 Jan 24 10:52	4° $\mathring{A}$ 06'02	



retrograde	15900 Apr 28 15:32	7° $\approx$ 24'11		opposition	15906 Aug 10 02:06	2° $\approx$ 34'08	0°40'17
opposition	15900 Jul 13 10:38	5° $\approx$ 21'49	1°06'51	min. Earth dist.	15906 Aug 10 09:51	2° $\approx$ 33'18	17.63479 AU
min. Earth dist.	15900 Jul 13 15:36	5° $\approx$ 21'17	17.98559 AU	direct	15906 Oct 23 21:09	0° $\approx$ 30'54	
direct	15900 Sep 26 09:02	3° $\approx$ 20'05		evening set	15907 Jan 24 22:38	3° $\approx$ 51'24	
evening set	15900 Dec 27 11:29	6° $\approx$ 34'33					
				conjunction	15907 Feb 10 10:37	4° $\approx$ 51'58	0°33'40
conjunction	15901 Jan 12 20:18	7° $\approx$ 33'26	0°58'35	minimum elong	15907 Feb 10 10:38	4° $\approx$ 51'58	0°34'05
minimum elong	15901 Jan 12 20:19	7° $\approx$ 33'26	0°59'16	max. Earth dist.	15907 Feb 10 01:54	4° $\approx$ 50'37	19.60843 AU
max. Earth dist.	15901 Jan 12 15:03	7° $\approx$ 32'39	19.95390 AU	morning rise	15907 Feb 26 23:08	5° $\approx$ 52'38	
morning rise	15901 Jan 29 06:24	8° $\approx$ 32'35		retrograde	15907 Jun 01 00:23	9° $\approx$ 15'37	
retrograde	15901 May 03 12:08	11° $\approx$ 51'30		opposition	15907 Aug 14 22:42	7° $\approx$ 12'18	0°34'40
opposition	15901 Jul 18 03:29	9° $\approx$ 48'59	1°03'23	min. Earth dist.	15907 Aug 15 05:49	7° $\approx$ 11'32	17.58274 AU
min. Earth dist.	15901 Jul 18 08:11	9° $\approx$ 48'28	17.92295 AU	direct	15907 Oct 28 19:09	5° $\approx$ 08'47	
direct	15901 Oct 01 01:21	7° $\approx$ 47'01		evening set	15908 Jan 29 23:17	8° $\approx$ 30'11	
evening set	15902 Jan 01 07:08	11° $\approx$ 02'30					
				conjunction	15908 Feb 15 11:34	9° $\approx$ 30'58	0°28'30
conjunction	15902 Jan 17 16:25	12° $\approx$ 01'42	0°55'16	minimum elong	15908 Feb 15 11:34	9° $\approx$ 30'58	0°28'51
minimum elong	15902 Jan 17 16:25	12° $\approx$ 01'42	0°55'55	max. Earth dist.	15908 Feb 15 02:05	9° $\approx$ 29'30	19.55783 AU
max. Earth dist.	15902 Jan 17 09:40	12° $\approx$ 00'40	19.89227 AU	morning rise	15908 Mar 03 00:18	10° $\approx$ 31'50	
morning rise	15902 Feb 03 03:11	13° $\approx$ 01'07		retrograde	15908 Jun 04 22:47	13° $\approx$ 55'20	
	15902 Mar 12 11:21	15° $\approx$		opposition	15908 Aug 18 20:03	11° $\approx$ 51'52	0°28'48
retrograde	15902 May 08 08:20	16° $\approx$ 20'49		min. Earth dist.	15908 Aug 19 04:22	11° $\approx$ 50'58	17.53382 AU
	15902 Jul 06 04:55	15° $\approx$		direct	15908 Nov 01 16:23	9° $\approx$ 48'03	
opposition	15902 Jul 22 20:59	14° $\approx$ 18'09	0°59'30	evening set	15909 Feb 03 00:21	13° $\approx$ 10'18	
min. Earth dist.	15902 Jul 23 02:44	14° $\approx$ 17'32	17.86223 AU				
direct	15902 Oct 05 17:25	12° $\approx$ 15'57		conjunction	15909 Feb 19 13:01	14° $\approx$ 11'18	0°23'07
	15902 Dec 27 20:35	15° $\approx$		minimum elong	15909 Feb 19 13:01	14° $\approx$ 11'18	0°23'25
evening set	15903 Jan 06 03:37	15° $\approx$ 32'30		max. Earth dist.	15909 Feb 19 03:37	14° $\approx$ 09'51	19.51077 AU
				morning rise	15909 Mar 08 01:57	15° $\approx$ 12'21	
conjunction	15903 Jan 22 13:39	16° $\approx$ 31'59	0°51'35	retrograde	15909 Jun 09 23:35	18° $\approx$ 36'17	
minimum elong	15903 Jan 22 13:40	16° $\approx$ 31'59	0°52'12	opposition	15909 Aug 23 17:42	16° $\approx$ 32'41	0°22'42
max. Earth dist.	15903 Jan 22 07:31	16° $\approx$ 31'03	19.83237 AU	min. Earth dist.	15909 Aug 24 01:08	16° $\approx$ 31'52	17.48861 AU
morning rise	15903 Feb 08 00:44	17° $\approx$ 31'40		direct	15909 Nov 06 15:57	14° $\approx$ 28'35	
retrograde	15903 May 13 06:19	20° $\approx$ 52'07		evening set	15910 Feb 08 02:12	17° $\approx$ 51'38	
opposition	15903 Jul 27 15:11	18° $\approx$ 49'21	0°55'14				
min. Earth dist.	15903 Jul 27 20:40	18° $\approx$ 48'46	17.80304 AU	conjunction	15910 Feb 24 15:07	18° $\approx$ 52'49	0°17'34
direct	15903 Oct 10 11:24	16° $\approx$ 46'55		minimum elong	15910 Feb 24 15:07	18° $\approx$ 52'49	0°17'47
evening set	15904 Jan 11 01:08	20° $\approx$ 04'30		max. Earth dist.	15910 Feb 24 05:39	18° $\approx$ 51'21	19.46758 AU
				morning rise	15910 Mar 13 04:04	19° $\approx$ 54'02	
conjunction	15904 Jan 27 11:32	21° $\approx$ 04'16	0°47'34	retrograde	15910 Jun 14 22:35	23° $\approx$ 18'20	
minimum elong	15904 Jan 27 11:32	21° $\approx$ 04'16	0°48'09	opposition	15910 Aug 28 15:49	21° $\approx$ 14'37	0°16'25
max. Earth dist.	15904 Jan 27 03:48	21° $\approx$ 03'05	19.77393 AU	min. Earth dist.	15910 Aug 29 00:14	21° $\approx$ 13'42	17.44771 AU
morning rise	15904 Feb 12 23:08	22° $\approx$ 04'14		direct	15910 Nov 11 13:47	19° $\approx$ 10'15	
retrograde	15904 May 17 03:37	25° $\approx$ 25'24		evening set	15911 Feb 13 04:32	22° $\approx$ 34'03	
opposition	15904 Jul 31 10:15	23° $\approx$ 22'31	0°50'36				
min. Earth dist.	15904 Jul 31 17:01	23° $\approx$ 21'47	17.74537 AU	conjunction	15911 Mar 01 17:35	23° $\approx$ 35'24	0°11'52
direct	15904 Oct 14 05:18	21° $\approx$ 19'49		minimum elong	15911 Mar 01 17:35	23° $\approx$ 35'24	0°12'03
evening set	15905 Jan 14 23:27	24° $\approx$ 38'25		behind sun begin	15911 Mar 01 13:03	23° $\approx$ 34'42	
				behind sun end	15911 Mar 01 22:08	23° $\approx$ 36'05	
conjunction	15905 Jan 31 10:32	25° $\approx$ 38'28	0°43'14	max. Earth dist.	15911 Mar 01 07:56	23° $\approx$ 33'54	19.42913 AU
minimum elong	15905 Jan 31 10:32	25° $\approx$ 38'28	0°43'44	morning rise	15911 Mar 18 06:37	24° $\approx$ 36'45	
max. Earth dist.	15905 Jan 31 03:06	25° $\approx$ 37'20	19.71702 AU	retrograde	15911 Jun 20 00:42	28° $\approx$ 01'22	
morning rise	15905 Feb 16 22:24	26° $\approx$ 38'40		opposition	15911 Sep 02 14:19	25° $\approx$ 57'34	0°09'59
	15905 May 17 18:52	0° $\approx$		min. Earth dist.	15911 Sep 02 21:42	25° $\approx$ 56'45	17.41177 AU
retrograde	15905 May 22 02:45	0° $\approx$ 00'30		direct	15911 Nov 16 14:06	23° $\approx$ 52'58	
	15905 May 26 10:21	30° $\approx$		evening set	15912 Feb 18 07:08	27° $\approx$ 17'26	
opposition	15905 Aug 05 05:47	27° $\approx$ 57'29	0°45'36				
min. Earth dist.	15905 Aug 05 12:08	27° $\approx$ 56'48	17.68917 AU	conjunction	15912 Mar 05 20:20	28° $\approx$ 18'55	0°06'06
direct	15905 Oct 19 01:23	25° $\approx$ 54'32		minimum elong	15912 Mar 05 20:21	28° $\approx$ 18'56	0°06'12
evening set	15906 Jan 19 22:43	29° $\approx$ 14'06		behind sun begin	15912 Mar 05 13:58	28° $\approx$ 17'57	
	15906 Feb 01 12:29	0° $\approx$		behind sun end	15912 Mar 06 02:44	28° $\approx$ 19'54	
				max. Earth dist.	15912 Mar 05 11:28	28° $\approx$ 17'34	19.39577 AU
conjunction	15906 Feb 05 10:11	0° $\approx$ 14'25	0°38'35	morning rise	15912 Mar 22 09:11	29° $\approx$ 20'24	
minimum elong	15906 Feb 05 10:11	0° $\approx$ 14'25	0°39'03		15912 Apr 02 11:02	0° $\approx$	
max. Earth dist.	15906 Feb 05 01:19	0° $\approx$ 13'03	19.66166 AU	retrograde	15912 Jun 24 00:41	2° $\approx$ 45'17	
morning rise	15906 Feb 21 22:29	1° $\approx$ 14'52		opposition	15912 Sep 06 13:24	0° $\approx$ 41'25	0°03'29
retrograde	15906 May 27 00:38	4° $\approx$ 37'18		min. Earth dist.	15912 Sep 06 21:18	0° $\approx$ 40'33	17.38125 AU

	15912 Sep 22 15:49	30° $\mathbb{R}$ $\mathbb{H}$	retrograde	15918 Jul 23 08:44	1° $\mathbb{B}$ 22'03
direct	15912 Nov 20 12:35	28° $\mathbb{H}$ 36'37		15918 Sep 19 10:18	30° $\mathbb{R}$ $\mathbb{Y}$
	15913 Jan 16 07:46	0° $\mathbb{Y}$	opposition	15918 Oct 05 13:38	29° $\mathbb{Y}$ 18'34 -0°34'47
evening set	15913 Feb 22 10:20	2° $\mathbb{Y}$ 01'43	min. Earth dist.	15918 Oct 05 19:36	29° $\mathbb{Y}$ 17'55 17.31902 AU
			direct	15918 Dec 19 21:28	27° $\mathbb{Y}$ 13'28
conjunction	15913 Mar 10 23:29	3° $\mathbb{Y}$ 03'19 0°00'11		15919 Mar 13 02:25	0° $\mathbb{B}$
minimum elong	15913 Mar 10 23:30	3° $\mathbb{Y}$ 03'19 0°00'13	evening set	15919 Mar 24 11:11	0° $\mathbb{B}$ 40'50
behind sun begin	15913 Mar 10 16:50	3° $\mathbb{Y}$ 02'18			
behind sun end	15913 Mar 11 06:10	3° $\mathbb{Y}$ 04'20	conjunction	15919 Apr 09 22:57	1° $\mathbb{B}$ 42'33 -0°33'49
max. Earth dist.	15913 Mar 10 14:14	3° $\mathbb{Y}$ 01'53 19.36822 AU	minimum elong	15919 Apr 09 22:57	1° $\mathbb{B}$ 42'33 0°34'09
desc. node	15913 Mar 22 11:16	3° $\mathbb{Y}$ 46'18	max. Earth dist.	15919 Apr 09 15:19	1° $\mathbb{B}$ 41'21 19.32195 AU
morning rise	15913 Mar 27 12:21	4° $\mathbb{Y}$ 04'54	morning rise	15919 Apr 26 09:29	2° $\mathbb{B}$ 44'05
retrograde	15913 Jun 29 03:15	7° $\mathbb{Y}$ 29'58	retrograde	15919 Jul 28 09:08	6° $\mathbb{B}$ 09'01
opposition	15913 Sep 11 12:35	5° $\mathbb{Y}$ 26'05 -0°03'04	opposition	15919 Oct 10 14:27	4° $\mathbb{B}$ 05'38 -0°40'36
min. Earth dist.	15913 Sep 11 19:30	5° $\mathbb{Y}$ 25'19 17.35671 AU	min. Earth dist.	15919 Oct 10 20:30	4° $\mathbb{B}$ 04'58 17.32635 AU
direct	15913 Nov 25 13:16	3° $\mathbb{Y}$ 21'09	direct	15919 Dec 24 23:58	2° $\mathbb{B}$ 00'30
evening set	15914 Feb 27 13:52	6° $\mathbb{Y}$ 46'49	evening set	15920 Mar 28 15:14	5° $\mathbb{B}$ 27'54
conjunction	15914 Mar 16 03:09	7° $\mathbb{Y}$ 48'31 -0°05'46	conjunction	15920 Apr 14 02:43	6° $\mathbb{B}$ 29'32 -0°38'54
minimum elong	15914 Mar 16 03:08	7° $\mathbb{Y}$ 48'31 0°05'47	minimum elong	15920 Apr 14 02:42	6° $\mathbb{B}$ 29'32 0°39'19
behind sun begin	15914 Mar 15 20:41	7° $\mathbb{Y}$ 47'32	max. Earth dist.	15920 Apr 13 20:21	6° $\mathbb{B}$ 28'32 19.33149 AU
behind sun end	15914 Mar 16 09:35	7° $\mathbb{Y}$ 49'30	morning rise	15920 Apr 30 12:33	7° $\mathbb{B}$ 30'58
max. Earth dist.	15914 Mar 15 19:06	7° $\mathbb{Y}$ 47'17 19.34661 AU	retrograde	15920 Aug 01 10:25	10° $\mathbb{B}$ 55'37
morning rise	15914 Apr 01 15:38	8° $\mathbb{Y}$ 50'09	opposition	15920 Oct 14 15:09	8° $\mathbb{B}$ 52'19 -0°46'07
retrograde	15914 Jul 04 03:46	12° $\mathbb{Y}$ 15'22	min. Earth dist.	15920 Oct 14 20:25	8° $\mathbb{B}$ 51'45 17.33808 AU
opposition	15914 Sep 16 12:20	10° $\mathbb{Y}$ 11'31 -0°09'37	direct	15920 Dec 29 03:39	6° $\mathbb{B}$ 47'12
min. Earth dist.	15914 Sep 16 19:28	10° $\mathbb{Y}$ 10'44 17.33809 AU	evening set	15921 Apr 02 19:22	10° $\mathbb{B}$ 14'32
direct	15914 Nov 30 12:51	8° $\mathbb{Y}$ 06'30			
evening set	15915 Mar 04 17:46	11° $\mathbb{Y}$ 32'41	conjunction	15921 Apr 19 06:13	11° $\mathbb{B}$ 16'03 -0°43'42
			minimum elong	15921 Apr 19 06:12	11° $\mathbb{B}$ 16'03 0°44'10
conjunction	15915 Mar 21 06:45	12° $\mathbb{Y}$ 34'26 -0°11'35	max. Earth dist.	15921 Apr 18 23:23	11° $\mathbb{B}$ 14'59 19.34548 AU
minimum elong	15915 Mar 21 06:45	12° $\mathbb{Y}$ 34'26 0°11'41	morning rise	15921 May 05 15:31	12° $\mathbb{B}$ 17'22
behind sun begin	15915 Mar 21 02:01	12° $\mathbb{Y}$ 33'43		15921 Jun 28 08:17	15° $\mathbb{B}$
behind sun end	15915 Mar 21 11:28	12° $\mathbb{Y}$ 35'10	retrograde	15921 Aug 06 09:55	15° $\mathbb{B}$ 41'37
max. Earth dist.	15915 Mar 20 22:06	12° $\mathbb{Y}$ 33'06 19.33104 AU		15921 Sep 15 11:16	15° $\mathbb{R}$ $\mathbb{B}$
morning rise	15915 Apr 06 19:06	13° $\mathbb{Y}$ 36'07	opposition	15921 Oct 19 15:42	13° $\mathbb{B}$ 38'26 -0°51'19
retrograde	15915 Jul 09 05:54	17° $\mathbb{Y}$ 01'26	min. Earth dist.	15921 Oct 19 21:22	13° $\mathbb{B}$ 37'49 17.35446 AU
opposition	15915 Sep 21 12:16	14° $\mathbb{Y}$ 57'39 -0°16'07	direct	15922 Jan 03 05:39	11° $\mathbb{B}$ 33'18
min. Earth dist.	15915 Sep 21 18:43	14° $\mathbb{Y}$ 56'57 17.32548 AU	evening set	15922 Apr 07 23:00	15° $\mathbb{B}$ 00'29
direct	15915 Dec 05 14:25	12° $\mathbb{Y}$ 52'35		15922 Apr 07 19:49	15° $\mathbb{B}$
evening set	15916 Mar 08 21:49	16° $\mathbb{Y}$ 19'12			
			conjunction	15922 Apr 24 09:24	16° $\mathbb{B}$ 01'53 -0°48'12
conjunction	15916 Mar 25 10:46	17° $\mathbb{Y}$ 21'00 -0°17'21	minimum elong	15922 Apr 24 09:23	16° $\mathbb{B}$ 01'52 0°48'42
minimum elong	15916 Mar 25 10:46	17° $\mathbb{Y}$ 21'00 0°17'30	max. Earth dist.	15922 Apr 24 03:32	16° $\mathbb{B}$ 00'58 19.36416 AU
max. Earth dist.	15916 Mar 25 03:35	17° $\mathbb{Y}$ 19'53 19.32120 AU	morning rise	15922 May 10 17:59	17° $\mathbb{B}$ 03'02
morning rise	15916 Apr 10 22:36	18° $\mathbb{Y}$ 22'41	retrograde	15922 Aug 11 10:47	20° $\mathbb{B}$ 26'50
retrograde	15916 Jul 13 06:32	21° $\mathbb{Y}$ 48'02	opposition	15922 Oct 24 16:06	18° $\mathbb{B}$ 23'45 -0°56'09
opposition	15916 Sep 25 12:32	19° $\mathbb{Y}$ 44'20 -0°22'30	min. Earth dist.	15922 Oct 24 20:32	18° $\mathbb{B}$ 23'16 17.37542 AU
min. Earth dist.	15916 Sep 25 18:59	19° $\mathbb{Y}$ 43'38 17.31835 AU	direct	15923 Jan 08 09:09	16° $\mathbb{B}$ 18'39
direct	15916 Dec 09 15:55	17° $\mathbb{Y}$ 39'16	evening set	15923 Apr 13 02:06	19° $\mathbb{B}$ 45'34
evening set	15917 Mar 14 02:13	21° $\mathbb{Y}$ 06'14			
			conjunction	15923 Apr 29 11:48	20° $\mathbb{B}$ 46'48 -0°52'22
conjunction	15917 Mar 30 14:44	22° $\mathbb{Y}$ 08'01 -0°23'00	minimum elong	15923 Apr 29 11:48	20° $\mathbb{B}$ 46'48 0°52'56
minimum elong	15917 Mar 30 14:44	22° $\mathbb{Y}$ 08'01 0°23'13	max. Earth dist.	15923 Apr 29 06:15	20° $\mathbb{B}$ 45'56 19.38747 AU
max. Earth dist.	15917 Mar 30 06:40	22° $\mathbb{Y}$ 06'46 19.31669 AU	morning rise	15923 May 15 19:43	21° $\mathbb{B}$ 47'47
morning rise	15917 Apr 16 02:21	23° $\mathbb{Y}$ 09'42	retrograde	15923 Aug 16 09:25	25° $\mathbb{B}$ 11'05
retrograde	15917 Jul 18 07:42	26° $\mathbb{Y}$ 34'59	opposition	15923 Oct 29 16:23	23° $\mathbb{B}$ 08'06 -1°00'35
opposition	15917 Sep 30 13:02	24° $\mathbb{Y}$ 31'24 -0°28'44	min. Earth dist.	15923 Oct 29 21:08	23° $\mathbb{B}$ 07'35 17.40129 AU
min. Earth dist.	15917 Sep 30 19:18	24° $\mathbb{Y}$ 30'43 17.31639 AU	direct	15924 Jan 13 10:39	21° $\mathbb{B}$ 03'01
direct	15917 Dec 14 18:20	22° $\mathbb{Y}$ 26'18	evening set	15924 Apr 17 04:38	24° $\mathbb{B}$ 29'36
evening set	15918 Mar 19 06:39	25° $\mathbb{Y}$ 53'31			
			conjunction	15924 May 03 13:44	25° $\mathbb{B}$ 30'39 -0°56'09
conjunction	15918 Apr 04 18:59	26° $\mathbb{Y}$ 55'18 -0°28'30	minimum elong	15924 May 03 13:44	25° $\mathbb{B}$ 30'38 0°56'45
minimum elong	15918 Apr 04 18:59	26° $\mathbb{Y}$ 55'18 0°28'48	max. Earth dist.	15924 May 03 09:00	25° $\mathbb{B}$ 29'54 19.41586 AU
max. Earth dist.	15918 Apr 04 12:12	26° $\mathbb{Y}$ 54'14 19.31702 AU	morning rise	15924 May 19 20:59	26° $\mathbb{B}$ 31'27
morning rise	15918 Apr 21 05:56	27° $\mathbb{Y}$ 56'54	retrograde	15924 Aug 20 09:12	29° $\mathbb{B}$ 54'10
	15918 May 28 13:28	0° $\mathbb{B}$	opposition	15924 Nov 02 16:05	27° $\mathbb{B}$ 51'18 -1°04'35

min. Earth dist.	15924 Nov 02 19:13	27° <b>8</b> 50'58	17.43218 AU	max. Earth dist.	15931 Jun 06 09:22	28° <b>II</b> 01'11	19.75116 AU
direct	15925 Jan 17 13:16	25° <b>8</b> 46'17		morning rise	15931 Jun 22 09:42	28° <b>II</b> 59'58	
evening set	15925 Apr 22 06:35	29° <b>8</b> 12'25			15931 Jul 09 17:00	0° <b>8</b>	
	15925 May 05 02:06	0° <b>II</b>		retrograde	15931 Sep 22 08:55	2° <b>8</b> 17'50	
				opposition	15931 Dec 06 04:26	0° <b>8</b> 16'38	-1°19'06
conjunction	15925 May 08 15:03	0° <b>II</b> 13'17	-0°59'33	min. Earth dist.	15931 Dec 06 03:05	0° <b>8</b> 16'47	17.78200 AU
minimum elong	15925 May 08 15:03	0° <b>II</b> 13'17	1°00'12		15931 Dec 12 17:55	30° <b>R</b> <b>II</b>	
max. Earth dist.	15925 May 08 11:18	0° <b>II</b> 12'42	19.44927 AU	direct	15932 Feb 20 15:31	28° <b>II</b> 13'13	
morning rise	15925 May 24 21:31	1° <b>II</b> 13'52			15932 Apr 26 15:18	0° <b>8</b>	
retrograde	15925 Aug 25 07:01	4° <b>II</b> 35'59		evening set	15932 May 25 00:08	1° <b>8</b> 34'36	
opposition	15925 Nov 07 15:42	2° <b>II</b> 33'16	-1°08'08				
min. Earth dist.	15925 Nov 07 19:03	2° <b>II</b> 32'54	17.46832 AU	conjunction	15932 Jun 10 03:36	2° <b>8</b> 33'39	-1°11'08
direct	15926 Jan 22 13:53	0° <b>II</b> 28'20		minimum elong	15932 Jun 10 03:36	2° <b>8</b> 33'39	1°11'55
evening set	15926 Apr 27 07:52	3° <b>II</b> 53'59		max. Earth dist.	15932 Jun 10 04:49	2° <b>8</b> 33'50	19.81269 AU
				morning rise	15932 Jun 26 05:17	3° <b>8</b> 32'26	
conjunction	15926 May 13 15:34	4° <b>II</b> 54'37	-1°02'32	retrograde	15932 Sep 26 03:23	6° <b>8</b> 49'29	
minimum elong	15926 May 13 15:33	4° <b>II</b> 54'37	1°03'13	opposition	15932 Dec 10 00:43	4° <b>8</b> 48'33	-1°19'11
max. Earth dist.	15926 May 13 12:22	4° <b>II</b> 54'07	19.48807 AU	min. Earth dist.	15932 Dec 09 22:23	4° <b>8</b> 48'48	17.84430 AU
morning rise	15926 May 29 21:22	5° <b>II</b> 54'59		direct	15933 Feb 24 14:00	2° <b>8</b> 45'24	
retrograde	15926 Aug 30 05:41	9° <b>II</b> 16'26		evening set	15933 May 29 20:01	6° <b>8</b> 05'53	
opposition	15926 Nov 12 14:49	7° <b>II</b> 13'54	-1°11'13				
min. Earth dist.	15926 Nov 12 16:13	7° <b>II</b> 13'45	17.50977 AU	conjunction	15933 Jun 14 23:01	7° <b>8</b> 04'39	-1°11'01
direct	15927 Jan 27 15:40	5° <b>II</b> 09'09		minimum elong	15933 Jun 14 23:01	7° <b>8</b> 04'39	1°11'49
evening set	15927 May 02 08:25	8° <b>II</b> 34'13		max. Earth dist.	15933 Jun 15 01:46	7° <b>8</b> 05'05	19.87550 AU
				morning rise	15933 Jun 30 23:54	8° <b>8</b> 03'09	
conjunction	15927 May 18 15:29	9° <b>II</b> 34'38	-1°05'05	retrograde	15933 Sep 30 20:21	11° <b>8</b> 19'22	
minimum elong	15927 May 18 15:29	9° <b>II</b> 34'38	1°05'47	opposition	15933 Dec 14 20:41	9° <b>8</b> 18'41	-1°18'47
max. Earth dist.	15927 May 18 13:54	9° <b>II</b> 34'23	19.53214 AU	min. Earth dist.	15933 Dec 14 18:23	9° <b>8</b> 18'55	17.90749 AU
morning rise	15927 Jun 03 20:26	10° <b>II</b> 34'45		direct	15934 Mar 01 11:25	7° <b>8</b> 15'48	
retrograde	15927 Sep 04 02:23	13° <b>II</b> 55'32		evening set	15934 Jun 03 15:04	10° <b>8</b> 35'19	
opposition	15927 Nov 17 13:41	11° <b>II</b> 53'14	-1°13'47				
min. Earth dist.	15927 Nov 17 15:10	11° <b>II</b> 53'05	17.55646 AU	conjunction	15934 Jun 19 17:14	11° <b>8</b> 33'48	-1°10'28
direct	15928 Feb 01 15:44	9° <b>II</b> 48'42		minimum elong	15934 Jun 19 17:14	11° <b>8</b> 33'48	1°11'15
evening set	15928 May 06 08:12	13° <b>II</b> 13'09		max. Earth dist.	15934 Jun 19 19:19	11° <b>8</b> 34'07	19.93905 AU
				morning rise	15934 Jul 05 17:42	12° <b>8</b> 32'01	
conjunction	15928 May 22 14:31	14° <b>II</b> 13'18	-1°07'11	retrograde	15934 Oct 05 13:25	15° <b>8</b> 47'24	
minimum elong	15928 May 22 14:30	14° <b>II</b> 13'18	1°07'56	opposition	15934 Dec 19 15:59	13° <b>8</b> 46'55	-1°17'54
max. Earth dist.	15928 May 22 13:06	14° <b>II</b> 13'05	19.58133 AU	min. Earth dist.	15934 Dec 19 12:56	13° <b>8</b> 47'14	17.97131 AU
morning rise	15928 Jun 07 18:54	15° <b>II</b> 13'10		direct	15935 Mar 06 07:59	11° <b>8</b> 44'17	
retrograde	15928 Sep 07 23:37	18° <b>II</b> 33'17		evening set	15935 Jun 08 09:03	15° <b>8</b> 02'48	
opposition	15928 Nov 21 11:58	16° <b>II</b> 31'14	-1°15'52				
min. Earth dist.	15928 Nov 21 11:41	16° <b>II</b> 31'16	17.60784 AU	conjunction	15935 Jun 24 10:48	16° <b>8</b> 01'00	-1°09'29
direct	15929 Feb 05 16:36	14° <b>II</b> 26'57		minimum elong	15935 Jun 24 10:48	16° <b>8</b> 01'00	1°10'17
evening set	15929 May 11 07:21	17° <b>II</b> 50'44		max. Earth dist.	15935 Jun 24 14:24	16° <b>8</b> 01'33	20.00300 AU
				morning rise	15935 Jul 10 10:35	16° <b>8</b> 58'56	
conjunction	15929 May 27 13:04	18° <b>II</b> 50'38	-1°08'51	retrograde	15935 Oct 10 05:26	20° <b>8</b> 13'27	
minimum elong	15929 May 27 13:04	18° <b>II</b> 50'38	1°09'36	opposition	15935 Dec 24 10:32	18° <b>8</b> 13'10	-1°16'34
max. Earth dist.	15929 May 27 13:22	18° <b>II</b> 50'40	19.63470 AU	min. Earth dist.	15935 Dec 24 07:16	18° <b>8</b> 13'31	18.03526 AU
morning rise	15929 Jun 12 16:35	19° <b>II</b> 50'14		direct	15936 Mar 10 04:13	16° <b>8</b> 10'47	
retrograde	15929 Sep 12 19:07	23° <b>II</b> 09'36		evening set	15936 Jun 12 02:12	19° <b>8</b> 28'16	
opposition	15929 Nov 26 09:53	21° <b>II</b> 07'51	-1°17'27				
min. Earth dist.	15929 Nov 26 09:50	21° <b>II</b> 07'52	17.66304 AU	conjunction	15936 Jun 28 03:16	20° <b>8</b> 26'10	-1°08'07
direct	15930 Feb 10 16:31	19° <b>II</b> 03'52		minimum elong	15936 Jun 28 03:16	20° <b>8</b> 26'10	1°08'53
evening set	15930 May 16 05:51	22° <b>II</b> 26'54		max. Earth dist.	15936 Jun 28 06:16	20° <b>8</b> 26'37	20.06706 AU
				morning rise	15936 Jul 14 02:45	21° <b>8</b> 23'50	
conjunction	15930 Jun 01 10:42	23° <b>II</b> 26'32	-1°10'03	retrograde	15936 Oct 13 20:41	24° <b>8</b> 37'29	
minimum elong	15930 Jun 01 10:42	23° <b>II</b> 26'32	1°10'50	opposition	15936 Dec 28 04:28	22° <b>8</b> 37'22	-1°14'48
max. Earth dist.	15930 Jun 01 10:44	23° <b>II</b> 26'32	19.69161 AU	min. Earth dist.	15936 Dec 28 00:44	22° <b>8</b> 37'45	18.09937 AU
morning rise	15930 Jun 17 13:41	24° <b>II</b> 25'52		direct	15937 Mar 14 22:43	20° <b>8</b> 35'12	
retrograde	15930 Sep 17 14:47	27° <b>II</b> 44'30		evening set	15937 Jun 16 18:15	23° <b>8</b> 51'38	
opposition	15930 Dec 01 07:21	25° <b>II</b> 43'01	-1°18'31				
min. Earth dist.	15930 Dec 01 05:51	25° <b>II</b> 43'11	17.72140 AU	conjunction	15937 Jul 02 18:55	24° <b>8</b> 49'15	-1°06'21
direct	15931 Feb 15 16:39	23° <b>II</b> 39'19		minimum elong	15937 Jul 02 18:56	24° <b>8</b> 49'15	1°07'06
evening set	15931 May 21 03:15	27° <b>II</b> 01'34		max. Earth dist.	15937 Jul 02 23:28	24° <b>8</b> 49'56	20.13119 AU
				morning rise	15937 Jul 18 17:47	25° <b>8</b> 46'38	
conjunction	15931 Jun 06 07:34	28° <b>II</b> 00'54	-1°10'49	retrograde	15937 Oct 18 11:31	28° <b>8</b> 59'25	
minimum elong	15931 Jun 06 07:33	28° <b>II</b> 00'54	1°11'36	opposition	15938 Jan 01 21:39	26° <b>8</b> 59'28	-1°12'36

min. Earth dist.	15938 Jan 01 17:18	26°☿59'55	18.16345 AU	direct	15944 Apr 14 15:47	20°♄32'54	
direct	15938 Mar 19 18:16	24°☿57'31		evening set	15944 Jul 16 10:10	23°♄42'25	
evening set	15938 Jun 21 09:27	28°☿12'53					
				conjunction	15944 Aug 01 07:55	24°♄38'15	-0°44'45
conjunction	15938 Jul 07 09:27	29°☿10'13	-1°04'12	minimum elong	15944 Aug 01 07:55	24°♄38'15	0°45'17
minimum elong	15938 Jul 07 09:28	29°☿10'13	1°04'57	max. Earth dist.	15944 Aug 01 16:00	24°♄39'27	20.58083 AU
max. Earth dist.	15938 Jul 07 13:48	29°☿10'52	20.19547 AU	morning rise	15944 Aug 17 04:53	25°♄33'59	
	15938 Jul 21 06:12	0°♄		retrograde	15944 Nov 17 00:32	28°♄41'49	
morning rise	15938 Jul 23 08:03	0°♄07'21		opposition	15945 Feb 01 04:15	26°♄43'16	-0°47'22
retrograde	15938 Oct 23 00:50	3°♄19'18		min. Earth dist.	15945 Jan 31 20:32	26°♄44'03	18.61089 AU
opposition	15939 Jan 06 14:15	1°♄19'29	-1°10'00	direct	15945 Apr 19 03:43	24°♄43'31	
min. Earth dist.	15939 Jan 06 09:25	1°♄19'59	18.22803 AU	evening set	15945 Jul 20 19:46	27°♄52'10	
	15939 Feb 10 10:29	30°♄☿					
direct	15939 Mar 24 10:44	29°☿17'47		conjunction	15945 Aug 05 17:19	28°♄47'47	-0°40'38
	15939 May 04 10:50	0°♄		minimum elong	15945 Aug 05 17:20	28°♄47'48	0°41'07
evening set	15939 Jun 25 23:26	2°♄32'06		max. Earth dist.	15945 Aug 06 02:01	28°♄49'04	20.64014 AU
				morning rise	15945 Aug 21 14:04	29°♄43'19	
conjunction	15939 Jul 11 23:07	3°♄29'09	-1°01'43		15945 Aug 26 11:36	0°♄	
minimum elong	15939 Jul 11 23:08	3°♄29'09	1°02'25	retrograde	15945 Nov 21 10:54	2°♄50'37	
max. Earth dist.	15939 Jul 12 05:07	3°♄30'03	20.26026 AU	opposition	15946 Feb 05 16:42	0°♄52'15	-0°42'40
morning rise	15939 Jul 27 21:15	4°♄26'01		min. Earth dist.	15946 Feb 05 08:01	0°♄53'08	18.66861 AU
retrograde	15939 Oct 27 14:31	7°♄37'10			15946 Feb 27 22:13	30°♄♄	
opposition	15940 Jan 11 06:04	5°♄37'32	-1°07'01	direct	15946 Apr 23 17:23	28°♄52'51	
min. Earth dist.	15940 Jan 11 00:11	5°♄38'08	18.29292 AU		15946 Jun 15 05:13	0°♄	
direct	15940 Mar 28 04:49	3°♄36'06		evening set	15946 Jul 25 04:57	2°♄00'38	
evening set	15940 Jun 29 12:49	6°♄49'23					
				conjunction	15946 Aug 10 02:10	2°♄56'04	-0°36'19
conjunction	15940 Jul 15 11:56	7°♄46'11	-0°58'53	minimum elong	15946 Aug 10 02:10	2°♄56'04	0°36'45
minimum elong	15940 Jul 15 11:57	7°♄46'11	0°59'34	max. Earth dist.	15946 Aug 10 10:35	2°♄57'18	20.69623 AU
max. Earth dist.	15940 Jul 15 17:51	7°♄47'04	20.32535 AU	morning rise	15946 Aug 25 22:52	3°♄51'25	
morning rise	15940 Jul 31 09:49	8°♄42'48		retrograde	15946 Nov 25 20:16	6°♄58'13	
retrograde	15940 Oct 31 02:26	11°♄53'12		opposition	15947 Feb 10 04:47	5°♄00'01	-0°37'47
opposition	15941 Jan 14 21:11	9°♄53'45	-1°03'41	min. Earth dist.	15947 Feb 09 20:55	5°♄00'49	18.72303 AU
min. Earth dist.	15941 Jan 14 15:05	9°♄54'23	18.35818 AU	direct	15947 Apr 28 04:32	3°♄00'54	
direct	15941 Apr 01 19:24	7°♄52'38		evening set	15947 Jul 29 13:23	6°♄07'52	
evening set	15941 Jul 04 01:14	11°♄04'56					
				conjunction	15947 Aug 14 10:30	7°♄03'07	-0°31'51
conjunction	15941 Jul 20 00:05	12°♄01'29	-0°55'46	minimum elong	15947 Aug 14 10:31	7°♄03'07	0°32'14
minimum elong	15941 Jul 20 00:06	12°♄01'29	0°56'23	max. Earth dist.	15947 Aug 14 19:10	7°♄04'23	20.74874 AU
max. Earth dist.	15941 Jul 20 07:21	12°♄02'34	20.39064 AU	morning rise	15947 Aug 30 07:06	7°♄58'18	
morning rise	15941 Aug 04 21:35	12°♄57'51		retrograde	15947 Nov 30 05:55	11°♄04'37	
	15941 Sep 13 17:00	15°♄		opposition	15948 Feb 14 16:14	9°♄06'33	-0°32'44
retrograde	15941 Nov 04 15:02	16°♄07'32		min. Earth dist.	15948 Feb 14 07:32	9°♄07'25	18.77338 AU
	15941 Dec 28 18:47	15°♄♄		direct	15948 May 01 16:55	7°♄07'41	
opposition	15942 Jan 19 11:47	14°♄08'19	-1°00'02	evening set	15948 Aug 01 21:29	10°♄13'52	
min. Earth dist.	15942 Jan 19 04:30	14°♄09'04	18.42317 AU				
direct	15942 Apr 06 11:49	12°♄07'33		conjunction	15948 Aug 17 18:20	11°♄08'56	-0°27'14
	15942 Jul 03 01:00	15°♄		minimum elong	15948 Aug 17 18:21	11°♄08'56	0°27'33
evening set	15942 Jul 08 12:52	15°♄18'52		max. Earth dist.	15948 Aug 18 02:34	11°♄10'08	20.79691 AU
				morning rise	15948 Sep 02 14:55	12°♄03'58	
conjunction	15942 Jul 24 11:13	16°♄15'10	-0°52'20	retrograde	15948 Dec 03 13:39	15°♄09'50	
minimum elong	15942 Jul 24 11:14	16°♄15'10	0°52'57	opposition	15949 Feb 18 03:17	13°♄11'51	-0°27'32
max. Earth dist.	15942 Jul 24 18:31	16°♄16'15	20.45537 AU	min. Earth dist.	15949 Feb 17 19:40	13°♄12'37	18.81943 AU
morning rise	15942 Aug 09 08:34	17°♄11'19		direct	15949 May 06 02:56	11°♄13'12	
retrograde	15942 Nov 09 02:26	20°♄20'22		evening set	15949 Aug 06 04:55	14°♄18'38	
opposition	15943 Jan 24 01:53	18°♄21'22	-0°56'04				
min. Earth dist.	15943 Jan 23 18:41	18°♄22'06	18.48750 AU	conjunction	15949 Aug 22 01:42	15°♄13'32	-0°22'29
direct	15943 Apr 11 00:50	16°♄20'56		minimum elong	15949 Aug 22 01:43	15°♄13'32	0°22'46
evening set	15943 Jul 12 23:46	19°♄31'20		max. Earth dist.	15949 Aug 22 10:03	15°♄14'45	20.84084 AU
				morning rise	15949 Sep 06 22:15	16°♄08'25	
conjunction	15943 Jul 28 21:54	20°♄27'24	-0°48'40	retrograde	15949 Dec 07 22:40	19°♄13'52	
minimum elong	15943 Jul 28 21:55	20°♄27'24	0°49'14	opposition	15950 Feb 22 13:49	17°♄15'56	-0°22'13
max. Earth dist.	15943 Jul 29 06:11	20°♄28'38	20.51908 AU	min. Earth dist.	15950 Feb 22 05:17	17°♄16'47	18.86111 AU
morning rise	15943 Aug 13 18:59	21°♄23'20		direct	15950 May 10 14:23	15°♄17'27	
retrograde	15943 Nov 13 13:49	24°♄31'45		evening set	15950 Aug 10 11:43	18°♄22'09	
opposition	15944 Jan 28 15:12	22°♄32'59	-0°51'50				
min. Earth dist.	15944 Jan 28 06:59	22°♄33'49	18.55025 AU	conjunction	15950 Aug 26 08:22	19°♄16'54	-0°17'40

minimum elong	15950 Aug 26 08:22	19° <u>♏</u> 16'54	0°17'53	retrograde	15956 Jan 01 17:39	13° <u>♊</u> 17'03	
max. Earth dist.	15950 Aug 26 16:34	19° <u>♏</u> 18'05	20.88043 AU	opposition	15956 Mar 18 20:24	11° <u>♊</u> 19'11	0°10'35
morning rise	15950 Sep 11 04:59	20° <u>♏</u> 11'40		min. Earth dist.	15956 Mar 18 11:24	11° <u>♊</u> 20'05	19.03571 AU
retrograde	15950 Dec 12 05:06	23° <u>♏</u> 16'44		direct	15956 Jun 03 15:10	9° <u>♊</u> 21'33	
opposition	15951 Feb 26 23:59	21° <u>♏</u> 18'48	-0°16'50	evening set	15956 Sep 02 20:54	12° <u>♊</u> 23'06	
min. Earth dist.	15951 Feb 26 16:28	21° <u>♏</u> 19'33	18.89877 AU				
direct	15951 May 14 22:57	19° <u>♏</u> 20'27		conjunction	15956 Sep 18 17:27	13° <u>♊</u> 17'17	0°12'02
evening set	15951 Aug 14 18:05	22° <u>♏</u> 24'28		minimum elong	15956 Sep 18 17:27	13° <u>♊</u> 17'17	0°12'08
				behind sun begin	15956 Sep 18 12:58	13° <u>♊</u> 16'39	
conjunction	15951 Aug 30 14:42	23° <u>♏</u> 19'05	-0°12'46	behind sun end	15956 Sep 18 21:56	13° <u>♊</u> 17'54	
minimum elong	15951 Aug 30 14:42	23° <u>♏</u> 19'05	0°12'57	max. Earth dist.	15956 Sep 19 02:06	13° <u>♊</u> 18'30	21.04445 AU
behind sun begin	15951 Aug 30 10:38	23° <u>♏</u> 18'31		morning rise	15956 Oct 04 14:46	14° <u>♊</u> 11'36	
behind sun end	15951 Aug 30 18:46	23° <u>♏</u> 19'39		retrograde	15957 Jan 04 23:46	17° <u>♊</u> 15'32	
max. Earth dist.	15951 Aug 30 23:08	23° <u>♏</u> 20'17	20.91624 AU	opposition	15957 Mar 23 04:40	15° <u>♊</u> 17'40	0°15'58
morning rise	15951 Sep 15 11:22	24° <u>♏</u> 13'43		min. Earth dist.	15957 Mar 22 20:49	15° <u>♊</u> 18'27	19.05230 AU
retrograde	15951 Dec 16 13:30	27° <u>♏</u> 18'26		direct	15957 Jun 07 20:57	13° <u>♊</u> 20'12	
opposition	15952 Mar 02 09:22	25° <u>♏</u> 20'30	-0°11'22	evening set	15957 Sep 07 01:44	16° <u>♊</u> 21'26	
min. Earth dist.	15952 Mar 02 00:48	25° <u>♏</u> 21'22	18.93275 AU				
direct	15952 May 18 08:57	23° <u>♏</u> 22'18		conjunction	15957 Sep 22 22:24	17° <u>♊</u> 15'36	0°16'52
evening set	15952 Aug 18 00:07	26° <u>♏</u> 25'41		minimum elong	15957 Sep 22 22:24	17° <u>♊</u> 15'36	0°17'01
				max. Earth dist.	15957 Sep 23 06:55	17° <u>♊</u> 16'48	21.05899 AU
conjunction	15952 Sep 02 20:36	27° <u>♏</u> 20'11	-0°07'51	morning rise	15957 Oct 08 19:55	18° <u>♊</u> 09'53	
minimum elong	15952 Sep 02 20:37	27° <u>♏</u> 20'11	0°07'58	retrograde	15958 Jan 09 08:17	21° <u>♊</u> 13'51	
behind sun begin	15952 Sep 02 14:43	27° <u>♏</u> 19'21		opposition	15958 Mar 27 12:41	19° <u>♊</u> 16'01	0°21'17
behind sun end	15952 Sep 03 02:31	27° <u>♏</u> 21'01		min. Earth dist.	15958 Mar 27 04:00	19° <u>♊</u> 16'53	19.06458 AU
max. Earth dist.	15952 Sep 03 05:03	27° <u>♏</u> 21'23	20.94847 AU	direct	15958 Jun 12 04:29	17° <u>♊</u> 18'40	
morning rise	15952 Sep 18 17:22	28° <u>♏</u> 14'44		evening set	15958 Sep 11 06:33	20° <u>♊</u> 19'41	
	15952 Oct 23 06:13	0° <u>♊</u>					
retrograde	15952 Dec 19 19:16	1° <u>♊</u> 19'10		conjunction	15958 Sep 27 03:19	21° <u>♊</u> 13'49	0°21'37
	15953 Feb 18 08:32	30° <u>♏</u>		minimum elong	15958 Sep 27 03:18	21° <u>♊</u> 13'49	0°21'50
opposition	15953 Mar 06 18:42	29° <u>♏</u> 21'14	-0°05'52	max. Earth dist.	15958 Sep 27 11:32	21° <u>♊</u> 14'59	21.06886 AU
min. Earth dist.	15953 Mar 06 11:00	29° <u>♏</u> 22'00	18.96344 AU	morning rise	15958 Oct 13 01:05	22° <u>♊</u> 08'07	
direct	15953 May 22 16:22	27° <u>♏</u> 23'09		retrograde	15959 Jan 13 14:35	25° <u>♊</u> 12'10	
	15953 Aug 14 09:50	0° <u>♊</u>		opposition	15959 Mar 31 20:48	23° <u>♊</u> 14'20	0°26'29
evening set	15953 Aug 22 05:35	0° <u>♊</u> 25'58		min. Earth dist.	15959 Mar 31 13:34	23° <u>♊</u> 15'03	19.07206 AU
				direct	15959 Jun 16 09:40	21° <u>♊</u> 17'06	
conjunction	15953 Sep 07 02:06	1° <u>♊</u> 20'22	-0°02'53	evening set	15959 Sep 15 11:31	24° <u>♊</u> 17'57	
minimum elong	15953 Sep 07 02:05	1° <u>♊</u> 20'22	0°02'57				
behind sun begin	15953 Sep 06 19:32	1° <u>♊</u> 19'27		conjunction	15959 Oct 01 08:27	25° <u>♊</u> 12'06	0°26'16
behind sun end	15953 Sep 07 08:38	1° <u>♊</u> 21'17		minimum elong	15959 Oct 01 08:26	25° <u>♊</u> 12'06	0°26'31
max. Earth dist.	15953 Sep 07 10:48	1° <u>♊</u> 21'36	20.97760 AU	max. Earth dist.	15959 Oct 01 16:10	25° <u>♊</u> 13'12	21.07378 AU
morning rise	15953 Sep 22 22:55	2° <u>♊</u> 14'50		morning rise	15959 Oct 17 06:27	26° <u>♊</u> 06'24	
retrograde	15953 Dec 24 03:30	5° <u>♊</u> 19'03		retrograde	15960 Jan 17 23:17	29° <u>♊</u> 10'35	
opposition	15954 Mar 11 03:33	3° <u>♊</u> 21'08	-0°00'22	opposition	15960 Apr 04 04:35	27° <u>♊</u> 12'44	0°31'34
min. Earth dist.	15954 Mar 10 18:37	3° <u>♊</u> 22'01	18.99093 AU	min. Earth dist.	15960 Apr 03 20:52	27° <u>♊</u> 13'30	19.07427 AU
asc. node	15954 Apr 03 14:34	2° <u>♊</u> 26'50		direct	15960 Jun 19 17:12	25° <u>♊</u> 15'34	
direct	15954 May 27 00:57	1° <u>♊</u> 23'12		evening set	15960 Sep 18 16:40	28° <u>♊</u> 16'20	
evening set	15954 Aug 26 10:55	4° <u>♊</u> 25'31					
				conjunction	15960 Oct 04 13:42	29° <u>♊</u> 10'30	0°30'47
conjunction	15954 Sep 11 07:24	5° <u>♊</u> 19'50	0°02'13	minimum elong	15960 Oct 04 13:42	29° <u>♊</u> 10'30	0°31'06
minimum elong	15954 Sep 11 07:23	5° <u>♊</u> 19'50	0°02'11	max. Earth dist.	15960 Oct 04 20:51	29° <u>♊</u> 11'31	21.07311 AU
behind sun begin	15954 Sep 11 00:48	5° <u>♊</u> 18'55			15960 Oct 19 01:24	0° <u>♏</u>	
behind sun end	15954 Sep 11 13:58	5° <u>♊</u> 20'45		morning rise	15960 Oct 20 11:57	0° <u>♏</u> 04'50	
max. Earth dist.	15954 Sep 11 16:08	5° <u>♊</u> 21'04	21.00340 AU	retrograde	15961 Jan 21 05:47	3° <u>♏</u> 09'12	
morning rise	15954 Sep 27 04:22	6° <u>♊</u> 14'14		opposition	15961 Apr 08 12:44	1° <u>♏</u> 11'17	0°36'30
retrograde	15954 Dec 28 09:23	9° <u>♊</u> 18'17		min. Earth dist.	15961 Apr 08 06:36	1° <u>♏</u> 11'54	19.07081 AU
opposition	15955 Mar 15 12:09	7° <u>♊</u> 20'23	0°05'07		15961 May 10 10:43	30° <u>♏</u>	
min. Earth dist.	15955 Mar 15 04:10	7° <u>♊</u> 21'11	19.01515 AU	direct	15961 Jun 23 22:10	29° <u>♊</u> 14'10	
direct	15955 May 31 07:24	5° <u>♊</u> 22'36			15961 Aug 06 02:36	0° <u>♏</u>	
evening set	15955 Aug 30 15:56	8° <u>♊</u> 24'30		evening set	15961 Sep 22 21:45	2° <u>♏</u> 14'53	
conjunction	15955 Sep 15 12:30	9° <u>♊</u> 18'45	0°07'09	conjunction	15961 Oct 08 19:00	3° <u>♏</u> 09'04	0°35'10
minimum elong	15955 Sep 15 12:30	9° <u>♊</u> 18'45	0°07'12	minimum elong	15961 Oct 08 19:00	3° <u>♏</u> 09'04	0°35'31
behind sun begin	15955 Sep 15 06:26	9° <u>♊</u> 17'54		max. Earth dist.	15961 Oct 09 01:29	3° <u>♏</u> 10'00	21.06679 AU
behind sun end	15955 Sep 15 18:33	9° <u>♊</u> 19'36		morning rise	15961 Oct 24 17:34	4° <u>♏</u> 03'28	
max. Earth dist.	15955 Sep 15 21:16	9° <u>♊</u> 19'59	21.02590 AU	retrograde	15962 Jan 25 14:38	7° <u>♏</u> 08'02	
morning rise	15955 Oct 01 09:39	10° <u>♊</u> 13'06		opposition	15962 Apr 12 20:42	5° <u>♏</u> 10'02	0°41'16

min. Earth dist.	15962 Apr 12 14:11	5° $\overline{\text{M}}$ .10'41	19.06154 AU		15968 Oct 16 11:39	0° $\overline{\text{A}}$	
direct	15962 Jun 28 05:52	3° $\overline{\text{M}}$ .12'54		evening set	15968 Oct 20 14:51	0° $\overline{\text{A}}$ 13'50	
evening set	15962 Sep 27 03:05	6° $\overline{\text{M}}$ .13'37					
				conjunction	15968 Nov 05 14:15	1° $\overline{\text{A}}$ 08'42	1°00'13
conjunction	15962 Oct 13 00:34	7° $\overline{\text{M}}$ .07'51	0°39'24	minimum elong	15968 Nov 05 14:15	1° $\overline{\text{A}}$ 08'42	1°00'52
minimum elong	15962 Oct 13 00:33	7° $\overline{\text{M}}$ .07'51	0°39'48	max. Earth dist.	15968 Nov 05 17:44	1° $\overline{\text{A}}$ 09'12	20.88864 AU
max. Earth dist.	15962 Oct 13 06:24	7° $\overline{\text{M}}$ .08'41	21.05457 AU	morning rise	15968 Nov 21 15:30	2° $\overline{\text{A}}$ 03'52	
morning rise	15962 Oct 28 23:27	8° $\overline{\text{M}}$ .02'19		retrograde	15969 Feb 23 02:12	5° $\overline{\text{A}}$ 11'07	
retrograde	15963 Jan 29 21:32	11° $\overline{\text{M}}$ .07'07		opposition	15969 May 11 06:02	3° $\overline{\text{A}}$ 11'56	1°08'08
opposition	15963 Apr 17 04:39	9° $\overline{\text{M}}$ .08'59	0°45'51	min. Earth dist.	15969 May 11 03:09	3° $\overline{\text{A}}$ 12'14	18.86970 AU
min. Earth dist.	15963 Apr 16 23:47	9° $\overline{\text{M}}$ .09'28	19.04660 AU	direct	15969 Jul 26 02:42	1° $\overline{\text{A}}$ 14'05	
direct	15963 Jul 02 11:02	7° $\overline{\text{M}}$ .11'47		evening set	15969 Oct 24 22:01	4° $\overline{\text{A}}$ 16'28	
evening set	15963 Oct 01 08:28	10° $\overline{\text{M}}$ .12'33					
				conjunction	15969 Nov 09 21:51	5° $\overline{\text{A}}$ 11'30	1°02'46
conjunction	15963 Oct 17 06:14	11° $\overline{\text{M}}$ .06'51	0°43'26	minimum elong	15969 Nov 09 21:50	5° $\overline{\text{A}}$ 11'30	1°03'27
minimum elong	15963 Oct 17 06:14	11° $\overline{\text{M}}$ .06'51	0°43'53	max. Earth dist.	15969 Nov 10 00:45	5° $\overline{\text{A}}$ 11'55	20.84946 AU
max. Earth dist.	15963 Oct 17 11:24	11° $\overline{\text{M}}$ .07'35	21.03707 AU	morning rise	15969 Nov 25 23:38	6° $\overline{\text{A}}$ 06'50	
morning rise	15963 Nov 02 05:30	12° $\overline{\text{M}}$ .01'23		retrograde	15970 Feb 27 14:14	9° $\overline{\text{A}}$ 14'40	
	15964 Jan 18 01:40	15° $\overline{\text{M}}$ .		opposition	15970 May 15 15:00	7° $\overline{\text{A}}$ 15'19	1°10'48
retrograde	15964 Feb 03 06:19	15° $\overline{\text{M}}$ .06'28		min. Earth dist.	15970 May 15 11:40	7° $\overline{\text{A}}$ 15'40	18.82902 AU
	15964 Feb 19 14:00	15° $\overline{\text{R}}$ .		direct	15970 Jul 30 10:36	5° $\overline{\text{A}}$ 17'20	
opposition	15964 Apr 20 12:31	13° $\overline{\text{M}}$ .08'10	0°50'13	evening set	15970 Oct 29 05:54	8° $\overline{\text{A}}$ 20'14	
min. Earth dist.	15964 Apr 20 07:12	13° $\overline{\text{M}}$ .08'42	19.02659 AU				
direct	15964 Jul 05 18:23	11° $\overline{\text{M}}$ .10'53		conjunction	15970 Nov 14 06:12	9° $\overline{\text{A}}$ 15'27	1°05'01
evening set	15964 Oct 04 13:56	14° $\overline{\text{M}}$ .11'45		minimum elong	15970 Nov 14 06:12	9° $\overline{\text{A}}$ 15'27	1°05'42
	15964 Oct 18 17:17	15° $\overline{\text{M}}$ .		max. Earth dist.	15970 Nov 14 08:54	9° $\overline{\text{A}}$ 15'50	20.80719 AU
				morning rise	15970 Nov 30 08:26	10° $\overline{\text{A}}$ 10'58	
conjunction	15964 Oct 20 11:57	15° $\overline{\text{M}}$ .06'07	0°47'16	retrograde	15971 Mar 03 23:25	13° $\overline{\text{A}}$ 19'24	
minimum elong	15964 Oct 20 11:56	15° $\overline{\text{M}}$ .06'07	0°47'47	opposition	15971 May 20 00:20	11° $\overline{\text{A}}$ 19'56	1°13'08
max. Earth dist.	15964 Oct 20 16:48	15° $\overline{\text{M}}$ .06'49	21.01465 AU	min. Earth dist.	15971 May 19 22:20	11° $\overline{\text{A}}$ 20'08	18.78525 AU
morning rise	15964 Nov 05 11:32	16° $\overline{\text{M}}$ .00'45		direct	15971 Aug 03 17:14	9° $\overline{\text{A}}$ 21'49	
retrograde	15965 Feb 06 13:48	19° $\overline{\text{M}}$ .06'10		evening set	15971 Nov 02 14:25	12° $\overline{\text{A}}$ 25'17	
opposition	15965 Apr 24 20:38	17° $\overline{\text{M}}$ .07'41	0°54'21				
min. Earth dist.	15965 Apr 24 16:39	17° $\overline{\text{M}}$ .08'05	19.00213 AU	conjunction	15971 Nov 18 15:10	13° $\overline{\text{A}}$ 20'41	1°06'57
direct	15965 Jul 10 00:06	15° $\overline{\text{M}}$ .10'17		minimum elong	15971 Nov 18 15:09	13° $\overline{\text{A}}$ 20'41	1°07'40
evening set	15965 Oct 08 19:39	18° $\overline{\text{M}}$ .11'19		max. Earth dist.	15971 Nov 18 16:58	13° $\overline{\text{A}}$ 20'57	20.76196 AU
				morning rise	15971 Dec 04 17:57	14° $\overline{\text{A}}$ 16'24	
conjunction	15965 Oct 24 17:59	19° $\overline{\text{M}}$ .05'48	0°50'53	retrograde	15972 Mar 07 12:27	17° $\overline{\text{A}}$ 25'30	
minimum elong	15965 Oct 24 17:59	19° $\overline{\text{M}}$ .05'48	0°51'26	opposition	15972 May 23 10:04	15° $\overline{\text{A}}$ 25'52	1°15'06
max. Earth dist.	15965 Oct 24 22:22	19° $\overline{\text{M}}$ .06'25	20.98829 AU	min. Earth dist.	15972 May 23 07:56	15° $\overline{\text{A}}$ 26'05	18.73839 AU
morning rise	15965 Nov 09 18:00	20° $\overline{\text{M}}$ .00'32		direct	15972 Aug 07 02:25	13° $\overline{\text{A}}$ 27'37	
retrograde	15966 Feb 10 23:14	23° $\overline{\text{M}}$ .06'20		evening set	15972 Nov 05 23:27	16° $\overline{\text{A}}$ 31'42	
opposition	15966 Apr 29 04:38	21° $\overline{\text{M}}$ .07'40	0°58'13				
min. Earth dist.	15966 Apr 28 24:00	21° $\overline{\text{M}}$ .08'08	18.97396 AU	conjunction	15972 Nov 22 00:43	17° $\overline{\text{A}}$ 27'19	1°08'32
direct	15966 Jul 14 06:50	19° $\overline{\text{M}}$ .10'09		minimum elong	15972 Nov 22 00:43	17° $\overline{\text{A}}$ 27'19	1°09'17
evening set	15966 Oct 13 01:39	22° $\overline{\text{M}}$ .11'25		max. Earth dist.	15972 Nov 22 02:16	17° $\overline{\text{A}}$ 27'33	20.71330 AU
				morning rise	15972 Dec 08 03:56	18° $\overline{\text{A}}$ 23'15	
conjunction	15966 Oct 29 00:19	23° $\overline{\text{M}}$ .06'00	0°54'16	retrograde	15973 Mar 11 22:41	21° $\overline{\text{A}}$ 33'02	
minimum elong	15966 Oct 29 00:19	23° $\overline{\text{M}}$ .06'00	0°54'51	opposition	15973 May 27 20:26	19° $\overline{\text{A}}$ 33'15	1°16'42
max. Earth dist.	15966 Oct 29 04:30	23° $\overline{\text{M}}$ .06'36	20.95825 AU	min. Earth dist.	15973 May 27 19:44	19° $\overline{\text{A}}$ 33'19	18.68800 AU
morning rise	15966 Nov 14 00:44	24° $\overline{\text{M}}$ .00'53		direct	15973 Aug 11 09:57	17° $\overline{\text{A}}$ 34'49	
retrograde	15967 Feb 15 07:07	27° $\overline{\text{M}}$ .07'06		evening set	15973 Nov 10 09:25	20° $\overline{\text{A}}$ 39'35	
opposition	15967 May 03 12:55	25° $\overline{\text{M}}$ .08'15	1°01'50				
min. Earth dist.	15967 May 03 09:30	25° $\overline{\text{M}}$ .08'36	18.94229 AU	conjunction	15973 Nov 26 11:10	21° $\overline{\text{A}}$ 35'25	1°09'48
direct	15967 Jul 18 13:11	23° $\overline{\text{M}}$ .10'38		minimum elong	15973 Nov 26 11:10	21° $\overline{\text{A}}$ 35'25	1°10'33
evening set	15967 Oct 17 08:02	26° $\overline{\text{M}}$ .12'12		max. Earth dist.	15973 Nov 26 11:26	21° $\overline{\text{A}}$ 35'27	20.66118 AU
				morning rise	15973 Dec 12 15:00	22° $\overline{\text{A}}$ 31'34	
conjunction	15967 Nov 02 07:03	27° $\overline{\text{M}}$ .06'56	0°57'23	retrograde	15974 Mar 16 12:37	25° $\overline{\text{A}}$ 42'03	
minimum elong	15967 Nov 02 07:02	27° $\overline{\text{M}}$ .06'56	0°58'00	opposition	15974 Jun 01 07:04	23° $\overline{\text{A}}$ 42'04	1°17'55
max. Earth dist.	15967 Nov 02 10:41	27° $\overline{\text{M}}$ .07'27	20.92502 AU	min. Earth dist.	15974 Jun 01 06:33	23° $\overline{\text{A}}$ 42'07	18.63402 AU
morning rise	15967 Nov 18 07:53	28° $\overline{\text{M}}$ .01'56		direct	15974 Aug 15 20:07	21° $\overline{\text{A}}$ 43'25	
	15967 Dec 27 22:58	0° $\overline{\text{A}}$		evening set	15974 Nov 14 20:02	24° $\overline{\text{A}}$ 48'53	
retrograde	15968 Feb 19 17:47	1° $\overline{\text{A}}$ 08'39					
	15968 Apr 15 10:48	30° $\overline{\text{R}}$ .		conjunction	15974 Nov 30 22:25	25° $\overline{\text{A}}$ 44'57	1°10'42
opposition	15968 May 06 21:12	29° $\overline{\text{M}}$ .09'38	1°05'08	minimum elong	15974 Nov 30 22:25	25° $\overline{\text{A}}$ 44'57	1°11'28
min. Earth dist.	15968 May 06 17:10	29° $\overline{\text{M}}$ .10'02	18.90750 AU	max. Earth dist.	15974 Nov 30 22:12	25° $\overline{\text{A}}$ 44'55	20.60518 AU
direct	15968 Jul 21 20:03	27° $\overline{\text{M}}$ .11'52		morning rise	15974 Dec 17 02:44	26° $\overline{\text{A}}$ 41'20	

retrograde	15975 Mar 21 00:16	29° <del>7</del> 52'32		conjunction	15981 Dec 31 00:55	25° <del>3</del> 33'31	1°06'17
opposition	15975 Jun 05 18:21	27° <del>7</del> 52'20	1°18'44	minimum elong	15981 Dec 31 00:55	25° <del>3</del> 33'31	1°07'01
min. Earth dist.	15975 Jun 05 19:16	27° <del>7</del> 52'14	18.57615 AU	max. Earth dist.	15981 Dec 30 19:39	25° <del>3</del> 32'44	20.15169 AU
direct	15975 Aug 20 05:09	25° <del>7</del> 53'25		morning rise	15982 Jan 16 09:28	26° <del>3</del> 31'47	
evening set	15975 Nov 19 07:21	28° <del>7</del> 59'37		retrograde	15982 Apr 20 12:42	29° <del>3</del> 48'18	
				opposition	15982 Jul 05 14:23	27° <del>3</del> 46'19	1°12'29
conjunction	15975 Dec 05 10:13	29° <del>7</del> 55'55	1°11'14	min. Earth dist.	15982 Jul 05 18:28	27° <del>3</del> 45'53	18.11898 AU
minimum elong	15975 Dec 05 10:13	29° <del>7</del> 55'55	1°12'00	direct	15982 Sep 18 16:27	25° <del>3</del> 45'10	
max. Earth dist.	15975 Dec 05 08:30	29° <del>7</del> 55'40	20.54567 AU	evening set	15982 Dec 19 10:54	28° <del>3</del> 57'34	
	15975 Dec 06 13:59	0° <del>3</del>					
morning rise	15975 Dec 21 15:11	0° <del>3</del> 52'33		conjunction	15983 Jan 04 18:23	29° <del>3</del> 55'51	1°04'04
retrograde	15976 Mar 24 14:42	4° <del>3</del> 04'28		minimum elong	15983 Jan 04 18:23	29° <del>3</del> 55'51	1°04'46
opposition	15976 Jun 09 05:59	2° <del>3</del> 04'00	1°19'09	max. Earth dist.	15983 Jan 04 13:48	29° <del>3</del> 55'10	20.08605 AU
min. Earth dist.	15976 Jun 09 07:08	2° <del>3</del> 03'53	18.51501 AU		15983 Jan 05 22:01	0° <del>3</del>	
direct	15976 Aug 23 16:09	0° <del>3</del> 04'47		morning rise	15983 Jan 21 03:20	0° <del>3</del> 54'24	
evening set	15976 Nov 22 19:18	3° <del>3</del> 11'45		retrograde	15983 Apr 25 07:07	4° <del>3</del> 11'43	
				opposition	15983 Jul 10 05:52	2° <del>3</del> 09'34	1°09'49
conjunction	15976 Dec 08 22:51	4° <del>3</del> 08'19	1°11'23	min. Earth dist.	15983 Jul 10 10:04	2° <del>3</del> 09'07	18.05385 AU
minimum elong	15976 Dec 08 22:51	4° <del>3</del> 08'19	1°12'11	direct	15983 Sep 23 06:16	0° <del>3</del> 08'10	
max. Earth dist.	15976 Dec 08 20:59	4° <del>3</del> 08'03	20.48307 AU	evening set	15983 Dec 24 04:28	3° <del>3</del> 21'35	
morning rise	15976 Dec 25 04:18	5° <del>3</del> 05'12					
retrograde	15977 Mar 29 03:58	8° <del>3</del> 17'50		conjunction	15984 Jan 09 12:25	4° <del>3</del> 20'10	1°01'27
opposition	15977 Jun 13 18:10	6° <del>3</del> 17'06	1°19'08	minimum elong	15984 Jan 09 12:26	4° <del>3</del> 20'10	1°02'09
min. Earth dist.	15977 Jun 13 20:24	6° <del>3</del> 16'52	18.45120 AU	max. Earth dist.	15984 Jan 09 06:28	4° <del>3</del> 19'16	20.02167 AU
direct	15977 Aug 28 02:29	4° <del>3</del> 17'34		morning rise	15984 Jan 25 22:06	5° <del>3</del> 19'00	
evening set	15977 Nov 27 07:56	7° <del>3</del> 25'19		retrograde	15984 Apr 29 02:48	8° <del>3</del> 37'09	
				opposition	15984 Jul 13 22:05	6° <del>3</del> 34'50	1°06'44
conjunction	15977 Dec 13 12:03	8° <del>3</del> 22'09	1°11'10	min. Earth dist.	15984 Jul 14 02:49	6° <del>3</del> 34'20	17.99016 AU
minimum elong	15977 Dec 13 12:03	8° <del>3</del> 22'09	1°11'57	direct	15984 Sep 26 20:46	4° <del>3</del> 33'12	
max. Earth dist.	15977 Dec 13 08:48	8° <del>3</del> 21'41	20.41838 AU	evening set	15984 Dec 27 22:57	7° <del>3</del> 47'40	
morning rise	15977 Dec 29 18:15	9° <del>3</del> 19'18					
retrograde	15978 Apr 02 19:13	12° <del>3</del> 32'41		conjunction	15985 Jan 13 07:43	8° <del>3</del> 46'33	0°58'28
opposition	15978 Jun 18 06:45	10° <del>3</del> 31'40	1°18'41	minimum elong	15985 Jan 13 07:43	8° <del>3</del> 46'33	0°59'08
min. Earth dist.	15978 Jun 18 09:12	10° <del>3</del> 31'24	18.38567 AU	max. Earth dist.	15985 Jan 13 02:32	8° <del>3</del> 45'46	19.95866 AU
direct	15978 Sep 01 14:14	8° <del>3</del> 31'47		morning rise	15985 Jan 29 17:45	9° <del>3</del> 45'40	
evening set	15978 Dec 01 21:21	11° <del>3</del> 40'24		retrograde	15985 May 03 23:30	13° <del>3</del> 04'37	
				opposition	15985 Jul 18 14:52	11° <del>3</del> 02'11	1°03'13
conjunction	15978 Dec 18 02:11	12° <del>3</del> 37'30	1°10'32	min. Earth dist.	15985 Jul 18 19:38	11° <del>3</del> 01'41	17.92776 AU
minimum elong	15978 Dec 18 02:12	12° <del>3</del> 37'30	1°11'19	direct	15985 Oct 01 12:33	9° <del>3</del> 00'19	
max. Earth dist.	15978 Dec 17 23:06	12° <del>3</del> 37'03	20.35212 AU	evening set	15986 Jan 01 18:36	12° <del>3</del> 15'50	
morning rise	15979 Jan 03 08:50	13° <del>3</del> 34'55					
retrograde	15979 Apr 07 09:53	16° <del>3</del> 49'03		conjunction	15986 Jan 18 03:49	13° <del>3</del> 15'01	0°55'06
opposition	15979 Jun 22 19:45	14° <del>3</del> 47'46	1°17'48	minimum elong	15986 Jan 18 03:49	13° <del>3</del> 15'01	0°55'44
min. Earth dist.	15979 Jun 22 22:58	14° <del>3</del> 47'26	18.31894 AU	max. Earth dist.	15986 Jan 17 20:59	13° <del>3</del> 13'59	19.89695 AU
direct	15979 Sep 06 01:45	12° <del>3</del> 47'34		morning rise	15986 Feb 03 14:32	14° <del>3</del> 14'26	
evening set	15979 Dec 06 11:34	15° <del>3</del> 57'04			15986 Feb 16 18:54	15° <del>3</del>	
				retrograde	15986 May 08 20:13	17° <del>3</del> 34'10	
conjunction	15979 Dec 22 16:56	16° <del>3</del> 54'27	1°09'31	opposition	15986 Jul 23 08:29	15° <del>3</del> 31'37	0°59'18
minimum elong	15979 Dec 22 16:56	16° <del>3</del> 54'27	1°10'17	min. Earth dist.	15986 Jul 23 14:17	15° <del>3</del> 31'00	17.86662 AU
max. Earth dist.	15979 Dec 22 12:29	16° <del>3</del> 53'47	20.28522 AU		15986 Aug 04 19:55	15° <del>3</del> 3	
morning rise	15980 Jan 08 00:18	17° <del>3</del> 52'08		direct	15986 Oct 06 04:08	13° <del>3</del> 29'30	
retrograde	15980 Apr 11 02:21	21° <del>3</del> 07'03			15986 Dec 04 23:15	15° <del>3</del>	
opposition	15980 Jun 26 09:24	19° <del>3</del> 05'31	1°16'28	evening set	15987 Jan 06 15:05	16° <del>3</del> 46'04	
min. Earth dist.	15980 Jun 26 12:46	19° <del>3</del> 05'09	18.25196 AU				
direct	15980 Sep 09 14:19	17° <del>3</del> 04'58		conjunction	15987 Jan 23 01:01	17° <del>3</del> 45'33	0°51'24
evening set	15980 Dec 10 02:21	20° <del>3</del> 15'24		minimum elong	15987 Jan 23 01:02	17° <del>3</del> 45'33	0°51'59
				max. Earth dist.	15987 Jan 22 18:42	17° <del>3</del> 44'35	19.83627 AU
conjunction	15980 Dec 26 08:29	21° <del>3</del> 13'05	1°08'06	morning rise	15987 Feb 08 12:00	18° <del>3</del> 45'14	
minimum elong	15980 Dec 26 08:29	21° <del>3</del> 13'05	1°08'51	retrograde	15987 May 13 18:33	22° <del>3</del> 05'43	
max. Earth dist.	15980 Dec 26 04:37	21° <del>3</del> 12'31	20.21819 AU	opposition	15987 Jul 28 02:39	20° <del>3</del> 03'02	0°55'00
morning rise	15981 Jan 11 16:18	22° <del>3</del> 11'03		min. Earth dist.	15987 Jul 28 08:24	20° <del>3</del> 02'25	17.80636 AU
retrograde	15981 Apr 15 18:40	25° <del>3</del> 26'46		direct	15987 Oct 10 22:39	18° <del>3</del> 00'39	
opposition	15981 Jun 30 23:40	23° <del>3</del> 25'00	1°14'42	evening set	15988 Jan 11 12:38	21° <del>3</del> 18'15	
min. Earth dist.	15981 Jul 01 03:24	23° <del>3</del> 24'36	18.18506 AU				
direct	15981 Sep 14 02:58	21° <del>3</del> 24'10		conjunction	15988 Jan 27 22:57	22° <del>3</del> 18'01	0°47'20
evening set	15981 Dec 14 18:14	24° <del>3</del> 35'33		minimum elong	15988 Jan 27 22:58	22° <del>3</del> 18'01	0°47'52
				max. Earth dist.	15988 Jan 27 14:52	22° <del>3</del> 16'47	19.77658 AU

morning rise	15988 Feb 13 10:30	23° $\approx$ 17'58	direct	15994 Nov 12 00:52	20° $\times$ 22'27	
retrograde	15988 May 17 15:14	26° $\approx$ 39'09	evening set	15995 Feb 13 15:02	23° $\times$ 46'08	
opposition	15988 Jul 31 21:42	24° $\approx$ 36'18 0°50'19				
min. Earth dist.	15988 Aug 01 04:40	24° $\approx$ 35'33 17.74731 AU	conjunction	15995 Mar 02 04:03	24° $\times$ 47'27 0°11'26	
direct	15988 Oct 14 16:03	22° $\approx$ 33'38	minimum elong	15995 Mar 02 04:03	24° $\times$ 47'27 0°11'35	
evening set	15989 Jan 15 10:45	25° $\approx$ 52'13	behind sun begin	15995 Mar 01 23:17	24° $\times$ 46'44	
			behind sun end	15995 Mar 02 08:48	24° $\times$ 48'11	
conjunction	15989 Jan 31 21:47	26° $\approx$ 52'16 0°42'57	max. Earth dist.	15995 Mar 01 18:53	24° $\times$ 46'03 19.42824 AU	
minimum elong	15989 Jan 31 21:48	26° $\approx$ 52'16 0°43'27	morning rise	15995 Mar 18 17:01	25° $\times$ 48'48	
max. Earth dist.	15989 Jan 31 14:09	26° $\approx$ 51'05 19.71821 AU	retrograde	15995 Jun 20 10:42	29° $\times$ 13'21	
morning rise	15989 Feb 17 09:36	27° $\approx$ 52'28	opposition	15995 Sep 03 01:11	27° $\times$ 09'27 0°09'30	
	15989 Mar 29 12:52	0° $\times$	min. Earth dist.	15995 Sep 03 08:14	27° $\times$ 08'41 17.41143 AU	
retrograde	15989 May 22 14:24	1° $\times$ 14'17	direct	15995 Nov 17 01:13	25° $\times$ 04'48	
	15989 Jul 17 07:23	30° $\times$	evening set	15996 Feb 18 17:42	28° $\times$ 29'11	
opposition	15989 Aug 05 17:12	29° $\approx$ 11'16 0°45'17				
min. Earth dist.	15989 Aug 05 23:51	29° $\approx$ 10'33 17.68962 AU	conjunction	15996 Mar 06 06:52	29° $\times$ 30'39 0°05'39	
direct	15989 Oct 19 13:03	27° $\approx$ 08'18	minimum elong	15996 Mar 06 06:51	29° $\times$ 30'39 0°05'44	
	15990 Jan 12 13:16	0° $\times$	behind sun begin	15996 Mar 06 00:24	29° $\times$ 29'40	
evening set	15990 Jan 20 09:57	0° $\times$ 27'50	behind sun end	15996 Mar 06 13:19	29° $\times$ 31'37	
			max. Earth dist.	15996 Mar 05 22:18	29° $\times$ 29'20 19.39603 AU	
conjunction	15990 Feb 05 21:20	1° $\times$ 28'08 0°38'17		15996 Mar 14 03:10	0° $\gamma$	
minimum elong	15990 Feb 05 21:20	1° $\times$ 28'08 0°38'43	morning rise	15996 Mar 22 19:40	0° $\gamma$ 32'06	
max. Earth dist.	15990 Feb 05 12:12	1° $\times$ 26'44 19.66149 AU	retrograde	15996 Jun 24 10:51	3° $\gamma$ 56'55	
morning rise	15990 Feb 22 09:36	2° $\times$ 28'34	opposition	15996 Sep 07 00:12	1° $\gamma$ 53'00 0°02'58	
retrograde	15990 May 27 11:17	5° $\times$ 50'59	min. Earth dist.	15996 Sep 07 07:48	1° $\gamma$ 52'10 17.38222 AU	
opposition	15990 Aug 10 13:15	3° $\times$ 47'47 0°39'56		15996 Oct 31 00:32	30° $\times$	
min. Earth dist.	15990 Aug 10 21:14	3° $\times$ 46'55 17.63404 AU	direct	15996 Nov 20 23:37	29° $\times$ 48'11	
direct	15990 Oct 24 08:17	1° $\times$ 44'29		15996 Dec 11 19:17	0° $\gamma$	
evening set	15991 Jan 25 09:43	5° $\times$ 04'57	desc. node	15997 Feb 20 11:01	3° $\gamma$ 04'27	
			evening set	15997 Feb 22 20:49	3° $\gamma$ 13'13	
conjunction	15991 Feb 10 21:40	6° $\times$ 05'29 0°33'20				
minimum elong	15991 Feb 10 21:40	6° $\times$ 05'30 0°33'43	conjunction	15997 Mar 11 09:59	4° $\gamma$ 14'48 -0°00'18	
max. Earth dist.	15991 Feb 10 12:56	6° $\times$ 04'09 19.60726 AU	minimum elong	15997 Mar 11 09:58	4° $\gamma$ 14'48 0°00'16	
morning rise	15991 Feb 27 10:07	7° $\times$ 06'09	behind sun begin	15997 Mar 11 03:17	4° $\gamma$ 13'47	
retrograde	15991 Jun 01 11:14	10° $\times$ 29'05	behind sun end	15997 Mar 11 16:40	4° $\gamma$ 15'49	
opposition	15991 Aug 15 09:50	8° $\times$ 25'42 0°34'17	max. Earth dist.	15997 Mar 11 01:12	4° $\gamma$ 13'27 19.36990 AU	
min. Earth dist.	15991 Aug 15 17:06	8° $\times$ 24'55 17.58121 AU	morning rise	15997 Mar 27 22:48	5° $\gamma$ 16'21	
direct	15991 Oct 29 07:07	6° $\times$ 22'07	retrograde	15997 Jun 29 13:07	8° $\gamma$ 41'24	
evening set	15992 Jan 30 10:06	9° $\times$ 43'26	opposition	15997 Sep 11 23:28	6° $\gamma$ 37'30 -0°03'36	
			min. Earth dist.	15997 Sep 12 05:57	6° $\gamma$ 36'47 17.35903 AU	
conjunction	15992 Feb 15 22:19	10° $\times$ 44'12 0°28'08	direct	15997 Nov 26 00:39	4° $\gamma$ 32'35	
minimum elong	15992 Feb 15 22:19	10° $\times$ 44'12 0°28'28	evening set	15998 Feb 28 00:23	7° $\gamma$ 58'12	
max. Earth dist.	15992 Feb 15 12:50	10° $\times$ 42'45 19.55608 AU				
morning rise	15992 Mar 03 11:02	11° $\times$ 45'04	conjunction	15998 Mar 16 13:35	8° $\gamma$ 59'53 -0°06'14	
retrograde	15992 Jun 05 09:02	15° $\times$ 08'30	minimum elong	15998 Mar 16 13:35	8° $\gamma$ 59'53 0°06'18	
opposition	15992 Aug 19 07:07	13° $\times$ 04'56 0°28'22	behind sun begin	15998 Mar 16 07:13	8° $\gamma$ 58'55	
min. Earth dist.	15992 Aug 19 15:28	13° $\times$ 04'02 17.53192 AU	behind sun end	15998 Mar 16 19:57	9° $\gamma$ 00'51	
direct	15992 Nov 02 03:36	11° $\times$ 01'02	max. Earth dist.	15998 Mar 16 05:53	8° $\gamma$ 58'42 19.34956 AU	
evening set	15993 Feb 03 11:09	14° $\times$ 23'12	morning rise	15998 Apr 02 02:03	10° $\gamma$ 01'30	
			retrograde	15998 Jul 04 14:06	13° $\gamma$ 26'43	
conjunction	15993 Feb 19 23:47	15° $\times$ 24'10 0°22'44	opposition	15998 Sep 16 23:10	11° $\gamma$ 22'53 -0°10'09	
minimum elong	15993 Feb 19 23:47	15° $\times$ 24'10 0°23'00	min. Earth dist.	15998 Sep 17 06:06	11° $\gamma$ 22'08 17.34157 AU	
max. Earth dist.	15993 Feb 19 14:38	15° $\times$ 22'45 19.50885 AU	direct	15998 Nov 30 23:59	9° $\gamma$ 17'56	
morning rise	15993 Mar 08 12:39	16° $\times$ 25'13	evening set	15999 Mar 05 04:22	12° $\gamma$ 44'04	
retrograde	15993 Jun 10 09:59	19° $\times$ 49'04				
opposition	15993 Aug 24 04:33	17° $\times$ 45'22 0°22'15	conjunction	15999 Mar 21 17:19	13° $\gamma$ 45'49 -0°12'04	
min. Earth dist.	15993 Aug 24 11:57	17° $\times$ 44'33 17.48680 AU	minimum elong	15999 Mar 21 17:19	13° $\gamma$ 45'49 0°12'10	
direct	15993 Nov 07 03:16	15° $\times$ 41'10	behind sun begin	15999 Mar 21 12:50	13° $\gamma$ 45'08	
evening set	15994 Feb 08 12:54	19° $\times$ 04'07	behind sun end	15999 Mar 21 21:48	13° $\gamma$ 46'30	
			max. Earth dist.	15999 Mar 21 08:58	13° $\gamma$ 44'31 19.33496 AU	
conjunction	15994 Feb 25 01:45	20° $\times$ 05'17 0°17'09	morning rise	15999 Apr 07 05:40	14° $\gamma$ 47'29	
minimum elong	15994 Feb 25 01:45	20° $\times$ 05'17 0°17'22	retrograde	15999 Jul 09 16:22	18° $\gamma$ 12'49	
max. Earth dist.	15994 Feb 24 16:26	20° $\times$ 03'51 19.46597 AU	opposition	15999 Sep 21 23:11	16° $\gamma$ 09'04 -0°16'40	
morning rise	15994 Mar 13 14:41	21° $\times$ 06'29	min. Earth dist.	15999 Sep 22 05:21	16° $\gamma$ 08'23 17.32968 AU	
retrograde	15994 Jun 15 09:08	24° $\times$ 30'42	direct	15999 Dec 06 01:36	14° $\gamma$ 04'04	
opposition	15994 Aug 29 02:44	22° $\times$ 26'53 0°15'56	evening set	16000 Mar 09 08:24	17° $\gamma$ 30'40	
min. Earth dist.	15994 Aug 29 11:01	22° $\times$ 25'59 17.44643 AU				



conjunction	16000 Mar 25 21:18	18° $\Upsilon$ 32'27	-0°17'50	minimum elong	16006 Apr 24 19:38	17° $\mathcal{B}$ 13'32	0°49'12
minimum elong	16000 Mar 25 21:18	18° $\Upsilon$ 32'27	0°18'01	max. Earth dist.	16006 Apr 24 13:54	17° $\mathcal{B}$ 12'38	19.36568 AU
max. Earth dist.	16000 Mar 25 14:15	18° $\Upsilon$ 31'21	19.32553 AU	morning rise	16006 May 11 04:14	18° $\mathcal{B}$ 14'41	
morning rise	16000 Apr 11 09:08	19° $\Upsilon$ 34'07		retrograde	16006 Aug 11 21:11	21° $\mathcal{B}$ 38'30	
retrograde	16000 Jul 13 17:50	22° $\Upsilon$ 59'28		opposition	16006 Oct 25 02:50	19° $\mathcal{B}$ 35'25	-0°56'40
opposition	16000 Sep 25 23:36	20° $\Upsilon$ 55'50	-0°23'03	min. Earth dist.	16006 Oct 25 07:10	19° $\mathcal{B}$ 34'56	17.37684 AU
min. Earth dist.	16000 Sep 26 06:02	20° $\Upsilon$ 55'08	17.32268 AU	direct	16007 Jan 08 20:07	17° $\mathcal{B}$ 30'19	
direct	16000 Dec 10 02:16	18° $\Upsilon$ 50'50		evening set	16007 Apr 13 12:21	20° $\mathcal{B}$ 57'11	
evening set	16001 Mar 14 12:56	22° $\Upsilon$ 17'46					
conjunction	16001 Mar 31 01:26	23° $\Upsilon$ 19'33	-0°23'30	conjunction	16007 Apr 29 22:02	21° $\mathcal{B}$ 58'25	-0°52'49
minimum elong	16001 Mar 31 01:26	23° $\Upsilon$ 19'33	0°23'45	minimum elong	16007 Apr 29 22:01	21° $\mathcal{B}$ 58'25	0°53'23
max. Earth dist.	16001 Mar 30 17:20	23° $\Upsilon$ 18'17	19.32090 AU	max. Earth dist.	16007 Apr 29 16:29	21° $\mathcal{B}$ 57'33	19.38889 AU
morning rise	16001 Apr 16 13:01	24° $\Upsilon$ 21'13		morning rise	16007 May 16 05:58	22° $\mathcal{B}$ 59'24	
retrograde	16001 Jul 18 19:11	27° $\Upsilon$ 46'31		retrograde	16007 Aug 16 19:29	26° $\mathcal{B}$ 22'42	
opposition	16001 Oct 01 00:01	25° $\Upsilon$ 42'58	-0°29'18	opposition	16007 Oct 30 02:59	24° $\mathcal{B}$ 19'43	-1°01'05
min. Earth dist.	16001 Oct 01 06:11	25° $\Upsilon$ 42'17	17.32042 AU	min. Earth dist.	16007 Oct 30 07:30	24° $\mathcal{B}$ 19'14	17.40282 AU
direct	16001 Dec 15 05:04	23° $\Upsilon$ 37'55		direct	16008 Jan 13 20:45	22° $\mathcal{B}$ 14'38	
evening set	16002 Mar 19 17:22	27° $\Upsilon$ 05'07		evening set	16008 Apr 17 14:43	25° $\mathcal{B}$ 41'10	
conjunction	16002 Apr 05 05:42	28° $\Upsilon$ 06'53	-0°29'01	conjunction	16008 May 03 23:51	26° $\mathcal{B}$ 42'13	-0°56'36
minimum elong	16002 Apr 05 05:42	28° $\Upsilon$ 06'53	0°29'18	minimum elong	16008 May 03 23:51	26° $\mathcal{B}$ 42'13	0°57'12
max. Earth dist.	16002 Apr 04 22:51	28° $\Upsilon$ 05'49	19.32079 AU	max. Earth dist.	16008 May 03 19:25	26° $\mathcal{B}$ 41'31	19.41755 AU
morning rise	16002 Apr 21 16:37	29° $\Upsilon$ 08'29		morning rise	16008 May 20 07:07	27° $\mathcal{B}$ 43'01	
retrograde	16002 May 06 02:57	0° $\mathcal{B}$		retrograde	16008 Jul 02 03:15	0° $\mathcal{B}$	
opposition	16002 Jul 23 20:05	2° $\mathcal{B}$ 33'38		opposition	16008 Aug 20 20:19	1° $\mathcal{B}$ 05'45	
min. Earth dist.	16002 Oct 06 00:44	0° $\mathcal{B}$ 30'12	-0°35'21	min. Earth dist.	16008 Oct 11 05:33	30° $\mathcal{B}$	
direct	16002 Oct 06 06:45	0° $\mathcal{B}$ 29'32	17.32250 AU	direct	16008 Nov 03 02:45	29° $\mathcal{B}$ 02'53	-1°05'04
evening set	16002 Oct 17 16:20	30° $\mathcal{B}$		evening set	16008 Nov 03 05:38	29° $\mathcal{B}$ 02'34	17.43413 AU
conjunction	16002 Dec 20 07:27	28° $\Upsilon$ 25'09		conjunction	16009 Jan 17 23:58	26° $\mathcal{B}$ 57'53	
minimum elong	16003 Feb 19 07:28	0° $\mathcal{B}$		minimum elong	16009 Apr 16 01:19	0° $\mathcal{B}$	
max. Earth dist.	16003 Mar 24 21:44	1° $\mathcal{B}$ 52'28		max. Earth dist.	16009 Apr 22 16:44	0° $\mathcal{B}$ 23'59	
morning rise	16003 Apr 10 09:29	2° $\mathcal{B}$ 54'10	-0°34'19	morning rise	16009 May 09 01:10	1° $\mathcal{B}$ 24'50	-0°59'58
retrograde	16003 Apr 10 09:28	2° $\mathcal{B}$ 54'10	0°34'41	retrograde	16009 May 09 01:09	1° $\mathcal{B}$ 24'50	1°00'36
opposition	16003 Apr 10 01:44	2° $\mathcal{B}$ 52'58	19.32510 AU	opposition	16009 May 08 21:32	1° $\mathcal{B}$ 24'16	19.45155 AU
min. Earth dist.	16003 Apr 26 20:01	3° $\mathcal{B}$ 55'42		min. Earth dist.	16009 May 25 07:38	2° $\mathcal{B}$ 25'25	
direct	16003 Jul 28 20:18	7° $\mathcal{B}$ 20'39		direct	16009 Aug 25 17:10	5° $\mathcal{B}$ 47'32	
evening set	16003 Oct 11 01:29	5° $\mathcal{B}$ 17'17	-0°41'09	evening set	16009 Nov 08 02:17	3° $\mathcal{B}$ 44'51	-1°08'35
conjunction	16003 Oct 11 07:26	5° $\mathcal{B}$ 16'38	17.32916 AU	conjunction	16009 Nov 08 05:19	3° $\mathcal{B}$ 44'31	17.47103 AU
minimum elong	16003 Dec 25 10:47	3° $\mathcal{B}$ 12'12		minimum elong	16010 Jan 22 23:40	1° $\mathcal{B}$ 39'58	
max. Earth dist.	16004 Mar 29 01:49	6° $\mathcal{B}$ 39'34		max. Earth dist.	16010 Apr 27 18:04	5° $\mathcal{B}$ 05'35	
morning rise	16004 Apr 14 13:17	7° $\mathcal{B}$ 41'12	-0°39'24	morning rise	16010 May 14 01:47	6° $\mathcal{B}$ 06'13	-1°02'55
retrograde	16004 Apr 14 13:17	7° $\mathcal{B}$ 41'12	0°39'48	retrograde	16010 May 14 01:47	6° $\mathcal{B}$ 06'13	1°03'36
opposition	16004 Apr 14 06:52	7° $\mathcal{B}$ 40'12	19.33398 AU	opposition	16010 May 13 22:54	6° $\mathcal{B}$ 05'46	19.49125 AU
min. Earth dist.	16004 Apr 30 23:07	8° $\mathcal{B}$ 42'38		min. Earth dist.	16010 May 30 07:35	7° $\mathcal{B}$ 06'34	
direct	16004 Aug 01 20:58	12° $\mathcal{B}$ 07'16		direct	16010 Aug 30 16:50	10° $\mathcal{B}$ 28'03	
evening set	16004 Oct 15 01:59	10° $\mathcal{B}$ 04'00	-0°46'40	evening set	16010 Nov 13 01:27	8° $\mathcal{B}$ 25'34	-1°11'38
conjunction	16004 Oct 15 07:19	10° $\mathcal{B}$ 03'25	17.34028 AU	conjunction	16010 Nov 13 02:34	8° $\mathcal{B}$ 25'26	17.51334 AU
minimum elong	16004 Dec 29 14:13	7° $\mathcal{B}$ 58'54		minimum elong	16011 Jan 28 02:18	6° $\mathcal{B}$ 20'52	
max. Earth dist.	16005 Apr 03 05:49	11° $\mathcal{B}$ 26'12		max. Earth dist.	16011 May 02 18:33	9° $\mathcal{B}$ 45'55	
morning rise	16005 Apr 19 16:39	12° $\mathcal{B}$ 27'43	-0°44'12	morning rise	16011 May 19 01:38	10° $\mathcal{B}$ 46'20	-1°05'27
retrograde	16005 Apr 19 16:39	12° $\mathcal{B}$ 27'43	0°44'39	retrograde	16011 May 19 01:37	10° $\mathcal{B}$ 46'20	1°06'09
opposition	16005 Apr 19 09:40	12° $\mathcal{B}$ 26'38	19.34742 AU	opposition	16011 May 19 00:10	10° $\mathcal{B}$ 46'06	19.53608 AU
min. Earth dist.	16005 May 06 02:00	13° $\mathcal{B}$ 29'02		min. Earth dist.	16011 Jun 04 06:38	11° $\mathcal{B}$ 46'27	
direct	16005 Jun 01 12:42	15° $\mathcal{B}$		direct	16011 Sep 04 12:40	15° $\mathcal{B}$ 07'16	
evening set	16005 Aug 06 20:21	16° $\mathcal{B}$ 53'18		evening set	16011 Nov 18 00:23	13° $\mathcal{B}$ 05'02	-1°14'11
conjunction	16005 Oct 16 07:27	15° $\mathcal{B}$		conjunction	16011 Nov 18 01:44	13° $\mathcal{B}$ 04'53	17.56059 AU
minimum elong	16005 Oct 20 02:34	14° $\mathcal{B}$ 50'07	-0°51'51	minimum elong	16012 Feb 02 01:33	11° $\mathcal{B}$ 00'34	
max. Earth dist.	16005 Oct 20 08:05	14° $\mathcal{B}$ 49'31	17.35617 AU	max. Earth dist.	16012 May 06 18:33	14° $\mathcal{B}$ 25'00	
morning rise	16006 Jan 03 16:38	12° $\mathcal{B}$ 45'00		morning rise	16012 May 23 00:53	15° $\mathcal{B}$ 25'09	-1°07'31
retrograde	16006 Mar 18 18:30	15° $\mathcal{B}$		retrograde	16012 May 23 00:53	15° $\mathcal{B}$ 25'09	1°08'14
opposition	16006 Apr 08 09:16	16° $\mathcal{B}$ 12'09		opposition	16012 May 22 23:37	15° $\mathcal{B}$ 24'58	19.58557 AU
min. Earth dist.	16006 Apr 24 19:39	17° $\mathcal{B}$ 13'32	-0°48'41	min. Earth dist.	16012 Jun 08 05:18	16° $\mathcal{B}$ 25'02	
direct				direct	16012 Sep 08 10:50	19° $\mathcal{B}$ 45'09	
evening set				evening set			

opposition	16012 Nov 21 22:35	17° $\Pi$ 43'10	-1°16'14	conjunction	16019 Jun 24 21:45	17° $\mathfrak{D}$ 12'59	-1°09'36
min. Earth dist.	16012 Nov 21 22:20	17° $\Pi$ 43'12	17.61202 AU	minimum elong	16019 Jun 24 21:45	17° $\mathfrak{D}$ 12'59	1°10'21
direct	16013 Feb 06 03:38	15° $\Pi$ 38'57		max. Earth dist.	16019 Jun 25 01:11	17° $\mathfrak{D}$ 13'30	19.99917 AU
evening set	16013 May 11 17:51	19° $\Pi$ 02'44		morning rise	16019 Jul 10 21:37	18° $\mathfrak{D}$ 10'56	
				retrograde	16019 Oct 10 16:01	21° $\mathfrak{D}$ 25'28	
conjunction	16013 May 27 23:34	20° $\Pi$ 02'38	-1°09'09	opposition	16019 Dec 24 21:38	19° $\mathfrak{D}$ 25'07	-1°16'41
minimum elong	16013 May 27 23:34	20° $\Pi$ 02'38	1°09'55	min. Earth dist.	16019 Dec 24 18:37	19° $\mathfrak{D}$ 25'26	18.03086 AU
max. Earth dist.	16013 May 27 23:48	20° $\Pi$ 02'40	19.63871 AU	direct	16020 Mar 10 15:32	17° $\mathfrak{D}$ 22'41	
morning rise	16013 Jun 13 03:07	21° $\Pi$ 02'14		evening set	16020 Jun 12 13:04	20° $\mathfrak{D}$ 40'10	
retrograde	16013 Sep 13 05:34	24° $\Pi$ 21'37					
opposition	16013 Nov 26 20:44	22° $\Pi$ 19'55	-1°17'47	conjunction	16020 Jun 28 14:12	21° $\mathfrak{D}$ 38'05	-1°08'11
min. Earth dist.	16013 Nov 26 20:53	22° $\Pi$ 19'54	17.66676 AU	minimum elong	16020 Jun 28 14:12	21° $\mathfrak{D}$ 38'05	1°08'56
direct	16014 Feb 11 02:29	20° $\Pi$ 15'59		max. Earth dist.	16020 Jun 28 17:05	21° $\mathfrak{D}$ 38'32	20.06224 AU
evening set	16014 May 16 16:22	23° $\Pi$ 39'00		morning rise	16020 Jul 14 13:45	22° $\mathfrak{D}$ 35'46	
				retrograde	16020 Oct 14 07:29	25° $\mathfrak{D}$ 49'27	
conjunction	16014 Jun 01 21:14	24° $\Pi$ 38'37	-1°10'20	opposition	16020 Dec 28 15:25	23° $\mathfrak{D}$ 49'16	-1°14'51
minimum elong	16014 Jun 01 21:13	24° $\Pi$ 38'37	1°11'06	min. Earth dist.	16020 Dec 28 11:40	23° $\mathfrak{D}$ 49'40	18.09428 AU
max. Earth dist.	16014 Jun 01 21:13	24° $\Pi$ 38'37	19.69486 AU	direct	16021 Mar 15 10:39	21° $\mathfrak{D}$ 47'02	
morning rise	16014 Jun 18 00:14	25° $\Pi$ 37'58		evening set	16021 Jun 17 05:05	25° $\mathfrak{D}$ 03'31	
retrograde	16014 Sep 18 02:17	28° $\Pi$ 56'36					
opposition	16014 Dec 01 18:16	26° $\Pi$ 55'09	-1°18'49	conjunction	16021 Jul 03 05:50	26° $\mathfrak{D}$ 01'09	-1°06'23
min. Earth dist.	16014 Dec 01 16:58	26° $\Pi$ 55'18	17.72415 AU	minimum elong	16021 Jul 03 05:50	26° $\mathfrak{D}$ 01'09	1°07'06
direct	16015 Feb 16 03:21	24° $\Pi$ 51'29		max. Earth dist.	16021 Jul 03 10:29	26° $\mathfrak{D}$ 01'51	20.12600 AU
evening set	16015 May 21 14:01	28° $\Pi$ 13'42		morning rise	16021 Jul 19 04:46	26° $\mathfrak{D}$ 58'33	
					16021 Sep 28 04:31	0° $\mathcal{O}$	
conjunction	16015 Jun 06 18:20	29° $\Pi$ 13'03	-1°11'04	retrograde	16021 Oct 18 21:40	0° $\mathcal{O}$ 11'24	
minimum elong	16015 Jun 06 18:20	29° $\Pi$ 13'03	1°11'50		16021 Nov 08 23:04	30° $\mathfrak{R}$ $\mathfrak{D}$	
max. Earth dist.	16015 Jun 06 19:54	29° $\Pi$ 13'17	19.75326 AU	opposition	16022 Jan 02 08:40	28° $\mathfrak{D}$ 11'24	-1°12'36
	16015 Jun 19 12:22	0° $\mathfrak{D}$		min. Earth dist.	16022 Jan 02 04:16	28° $\mathfrak{D}$ 11'51	18.15835 AU
morning rise	16015 Jun 22 20:31	0° $\mathfrak{D}$ 12'06		direct	16022 Mar 20 04:39	26° $\mathfrak{D}$ 09'25	
retrograde	16015 Sep 22 20:03	3° $\mathfrak{D}$ 29'57		evening set	16022 Jun 21 20:09	29° $\mathfrak{D}$ 24'51	
opposition	16015 Dec 06 15:20	1° $\mathfrak{D}$ 28'46	-1°19'22		16022 Jul 01 16:36	0° $\mathcal{O}$	
min. Earth dist.	16015 Dec 06 14:24	1° $\mathfrak{D}$ 28'52	17.78347 AU				
	16016 Jan 14 15:45	30° $\mathfrak{R}$ $\Pi$		conjunction	16022 Jul 07 20:13	0° $\mathcal{O}$ 22'12	-1°04'12
direct	16016 Feb 21 01:42	29° $\Pi$ 25'22		minimum elong	16022 Jul 07 20:13	0° $\mathcal{O}$ 22'12	1°04'53
	16016 Mar 28 16:51	0° $\mathfrak{D}$		max. Earth dist.	16022 Jul 08 00:41	0° $\mathcal{O}$ 22'52	20.19055 AU
evening set	16016 May 25 10:58	2° $\mathfrak{D}$ 46'44		morning rise	16022 Jul 23 18:53	1° $\mathcal{O}$ 19'21	
				retrograde	16022 Oct 23 12:00	4° $\mathcal{O}$ 31'24	
conjunction	16016 Jun 10 14:29	3° $\mathfrak{D}$ 45'47	-1°11'21	opposition	16023 Jan 07 01:15	2° $\mathcal{O}$ 31'34	-1°09'57
minimum elong	16016 Jun 10 14:29	3° $\mathfrak{D}$ 45'47	1°12'08	min. Earth dist.	16023 Jan 06 20:06	2° $\mathcal{O}$ 32'06	18.22341 AU
max. Earth dist.	16016 Jun 10 15:24	3° $\mathfrak{D}$ 45'56	19.81338 AU	direct	16023 Mar 24 21:59	0° $\mathcal{O}$ 29'51	
morning rise	16016 Jun 26 16:13	4° $\mathfrak{D}$ 44'34		evening set	16023 Jun 26 10:16	3° $\mathcal{O}$ 44'16	
retrograde	16016 Sep 26 14:56	8° $\mathfrak{D}$ 01'37					
opposition	16016 Dec 10 11:48	6° $\mathfrak{D}$ 00'40	-1°19'25	conjunction	16023 Jul 12 10:02	4° $\mathcal{O}$ 41'21	-1°01'39
min. Earth dist.	16016 Dec 10 09:44	6° $\mathfrak{D}$ 00'53	17.84421 AU	minimum elong	16023 Jul 12 10:02	4° $\mathcal{O}$ 41'21	1°02'20
direct	16017 Feb 25 00:50	3° $\mathfrak{D}$ 57'30		max. Earth dist.	16023 Jul 12 16:12	4° $\mathcal{O}$ 42'17	20.25600 AU
evening set	16017 May 30 06:54	7° $\mathfrak{D}$ 17'58		morning rise	16023 Jul 28 08:13	5° $\mathcal{O}$ 38'15	
				retrograde	16023 Oct 28 01:16	8° $\mathcal{O}$ 49'30	
conjunction	16017 Jun 15 09:55	8° $\mathfrak{D}$ 16'45	-1°11'12	opposition	16024 Jan 11 16:58	6° $\mathcal{O}$ 49'54	-1°06'56
minimum elong	16017 Jun 15 09:55	8° $\mathfrak{D}$ 16'45	1°11'58	min. Earth dist.	16024 Jan 11 10:58	6° $\mathcal{O}$ 50'31	18.28904 AU
max. Earth dist.	16017 Jun 15 12:23	8° $\mathfrak{D}$ 17'08	19.87457 AU	direct	16024 Mar 28 14:26	4° $\mathcal{O}$ 48'30	
morning rise	16017 Jul 01 10:51	9° $\mathfrak{D}$ 15'15		evening set	16024 Jun 29 23:44	8° $\mathcal{O}$ 01'55	
retrograde	16017 Oct 01 07:38	12° $\mathfrak{D}$ 31'28					
opposition	16017 Dec 15 07:46	10° $\mathfrak{D}$ 30'45	-1°18'58	conjunction	16024 Jul 15 22:56	8° $\mathcal{O}$ 58'44	-0°58'47
min. Earth dist.	16017 Dec 15 05:51	10° $\mathfrak{D}$ 30'57	17.90576 AU	minimum elong	16024 Jul 15 22:56	8° $\mathcal{O}$ 58'44	0°59'25
direct	16018 Mar 01 22:24	8° $\mathfrak{D}$ 27'51		max. Earth dist.	16024 Jul 16 04:51	8° $\mathcal{O}$ 59'37	20.32185 AU
evening set	16018 Jun 04 02:03	11° $\mathfrak{D}$ 47'21		morning rise	16024 Jul 31 20:55	9° $\mathcal{O}$ 55'23	
				retrograde	16024 Oct 31 14:17	13° $\mathcal{O}$ 05'55	
conjunction	16018 Jun 20 04:18	12° $\mathfrak{D}$ 45'50	-1°10'37	opposition	16025 Jan 15 08:16	11° $\mathcal{O}$ 06'31	-1°03'33
minimum elong	16018 Jun 20 04:18	12° $\mathfrak{D}$ 45'50	1°11'24	min. Earth dist.	16025 Jan 15 01:54	11° $\mathcal{O}$ 07'10	18.35495 AU
max. Earth dist.	16018 Jun 20 06:04	12° $\mathfrak{D}$ 46'07	19.93657 AU	direct	16025 Apr 02 05:56	9° $\mathcal{O}$ 05'28	
morning rise	16018 Jul 06 04:49	13° $\mathfrak{D}$ 44'04		evening set	16025 Jul 04 12:10	12° $\mathcal{O}$ 17'53	
retrograde	16018 Oct 06 00:39	16° $\mathfrak{D}$ 59'27					
opposition	16018 Dec 20 03:02	14° $\mathfrak{D}$ 58'56	-1°18'03	conjunction	16025 Jul 20 11:05	13° $\mathcal{O}$ 14'28	-0°55'37
min. Earth dist.	16018 Dec 20 00:10	14° $\mathfrak{D}$ 59'14	17.96812 AU	minimum elong	16025 Jul 20 11:05	13° $\mathcal{O}$ 14'28	0°56'14
direct	16019 Mar 06 19:31	12° $\mathfrak{D}$ 56'15		max. Earth dist.	16025 Jul 20 18:28	13° $\mathcal{O}$ 15'34	20.38762 AU
evening set	16019 Jun 08 19:54	16° $\mathfrak{D}$ 14'46		morning rise	16025 Aug 05 08:38	14° $\mathcal{O}$ 10'52	

	16025 Aug 19 21:57	15°♈	direct	16032 May 02 04:49	8°♏21'51	
retrograde	16025 Nov 05 03:00	17°♏20'42	evening set	16032 Aug 02 09:10	11°♏28'03	
opposition	16026 Jan 19 22:56	15°♏21'32 -0°59'51				
min. Earth dist.	16026 Jan 19 15:39	15°♏22'17 18.42025 AU	conjunction	16032 Aug 18 06:06	12°♏23'08 -0°26'50	
	16026 Jan 28 17:54	15°♏♏	minimum elong	16032 Aug 18 06:06	12°♏23'08 0°27'08	
direct	16026 Apr 06 21:44	13°♏20'50	max. Earth dist.	16032 Aug 18 13:55	12°♏24'16 20.78793 AU	
	16026 Jun 10 06:18	15°♏	morning rise	16032 Sep 03 02:45	13°♏18'11	
evening set	16026 Jul 09 00:02	16°♏32'18	retrograde	16032 Dec 04 00:50	16°♏24'01	
			opposition	16033 Feb 18 14:42	14°♏25'53 -0°27'04	
conjunction	16026 Jul 24 22:27	17°♏28'37 -0°52'09	min. Earth dist.	16033 Feb 18 07:21	14°♏26'37 18.80989 AU	
minimum elong	16026 Jul 24 22:27	17°♏28'37 0°52'44	direct	16033 May 06 14:27	12°♏27'03	
max. Earth dist.	16026 Jul 25 05:35	17°♏29'41 20.45249 AU	evening set	16033 Aug 06 16:25	15°♏32'28	
morning rise	16026 Aug 09 19:52	18°♏24'48				
retrograde	16026 Nov 09 14:11	21°♏33'58	conjunction	16033 Aug 22 13:18	16°♏27'23 -0°22'04	
opposition	16027 Jan 24 13:03	19°♏35'01 -0°55'50	minimum elong	16033 Aug 22 13:18	16°♏27'23 0°22'19	
min. Earth dist.	16027 Jan 24 05:52	19°♏35'45 18.48454 AU	max. Earth dist.	16033 Aug 22 21:34	16°♏28'35 20.83092 AU	
direct	16027 Apr 11 11:37	17°♏34'39	morning rise	16033 Sep 07 09:54	17°♏22'17	
evening set	16027 Jul 13 11:00	20°♏45'10	retrograde	16033 Dec 08 09:30	20°♏27'41	
			opposition	16034 Feb 23 01:09	18°♏29'35 -0°21'44	
conjunction	16027 Jul 29 09:14	21°♏41'16 -0°48'26	min. Earth dist.	16034 Feb 22 16:47	18°♏30'25 18.85096 AU	
minimum elong	16027 Jul 29 09:14	21°♏41'16 0°48'59	direct	16034 May 11 02:07	16°♏30'55	
max. Earth dist.	16027 Jul 29 17:27	21°♏42'29 20.51593 AU	evening set	16034 Aug 10 23:17	19°♏35'35	
morning rise	16027 Aug 14 06:22	22°♏37'13				
retrograde	16027 Nov 14 02:23	25°♏45'45	conjunction	16034 Aug 26 19:58	20°♏30'22 -0°17'13	
opposition	16028 Jan 29 02:34	23°♏47'01 -0°51'34	minimum elong	16034 Aug 26 19:58	20°♏30'22 0°17'25	
min. Earth dist.	16028 Jan 28 18:36	23°♏47'50 18.54681 AU	max. Earth dist.	16034 Aug 27 04:02	20°♏31'31 20.87025 AU	
direct	16028 Apr 15 02:32	21°♏46'58	morning rise	16034 Sep 11 16:39	21°♏25'08	
evening set	16028 Jul 16 21:33	24°♏56'35	retrograde	16034 Dec 12 16:39	24°♏30'09	
			opposition	16035 Feb 27 11:08	22°♏32'03 -0°16'18	
conjunction	16028 Aug 01 19:20	25°♏52'27 -0°44'30	min. Earth dist.	16035 Feb 27 03:34	22°♏32'49 18.88879 AU	
minimum elong	16028 Aug 01 19:20	25°♏52'27 0°44'59	direct	16035 May 15 10:28	20°♏33'33	
max. Earth dist.	16028 Aug 02 03:07	25°♏53'35 20.57698 AU	evening set	16035 Aug 15 05:35	23°♏37'33	
morning rise	16028 Aug 17 16:21	26°♏48'12				
retrograde	16028 Nov 17 11:46	29°♏56'07	conjunction	16035 Aug 31 02:17	24°♏32'12 -0°12'18	
opposition	16029 Feb 01 15:37	27°♏57'34 -0°47'03	minimum elong	16035 Aug 31 02:17	24°♏32'12 0°12'27	
min. Earth dist.	16029 Feb 01 08:09	27°♏58'20 18.60660 AU	behind sun begin	16035 Aug 30 21:57	24°♏31'35	
direct	16029 Apr 19 14:56	25°♏57'50	behind sun end	16035 Aug 31 06:37	24°♏32'48	
evening set	16029 Jul 21 07:19	29°♏06'33	max. Earth dist.	16035 Aug 31 10:50	24°♏33'25 20.90654 AU	
	16029 Aug 05 13:57	0°♏	morning rise	16035 Sep 15 22:59	25°♏26'51	
			retrograde	16035 Dec 17 00:37	28°♏31'33	
conjunction	16029 Aug 06 04:56	0°♏02'12 -0°40'20	opposition	16036 Mar 02 20:37	26°♏33'29 -0°10'49	
minimum elong	16029 Aug 06 04:57	0°♏02'12 0°40'47	min. Earth dist.	16036 Mar 02 11:52	26°♏34'22 18.92350 AU	
max. Earth dist.	16029 Aug 06 13:26	0°♏03'27 20.63530 AU	direct	16036 May 18 20:37	24°♏35'09	
morning rise	16029 Aug 22 01:43	0°♏57'45	evening set	16036 Aug 18 11:32	27°♏38'34	
retrograde	16029 Nov 21 22:55	4°♏05'06				
opposition	16030 Feb 06 04:10	2°♏06'43 -0°42'19	conjunction	16036 Sep 03 08:04	28°♏33'05 -0°07'21	
min. Earth dist.	16030 Feb 05 19:54	2°♏07'33 18.66317 AU	minimum elong	16036 Sep 03 08:04	28°♏33'05 0°07'26	
direct	16030 Apr 24 05:01	0°♏07'16	behind sun begin	16036 Sep 03 02:03	28°♏32'14	
evening set	16030 Jul 25 16:29	3°♏15'06	behind sun end	16036 Sep 03 14:05	28°♏33'56	
			max. Earth dist.	16036 Sep 03 16:32	28°♏34'17 20.93971 AU	
conjunction	16030 Aug 10 13:45	4°♏10'33 -0°35'59	morning rise	16036 Sep 19 04:51	29°♏27'39	
minimum elong	16030 Aug 10 13:46	4°♏10'33 0°36'24		16036 Sep 28 23:11	0°♏	
max. Earth dist.	16030 Aug 10 21:46	4°♏11'43 20.69009 AU	retrograde	16036 Dec 20 07:17	2°♏32'06	
morning rise	16030 Aug 26 10:31	5°♏05'55	opposition	16037 Mar 07 05:53	0°♏34'05 -0°05'19	
retrograde	16030 Nov 26 07:20	8°♏12'45	min. Earth dist.	16037 Mar 06 21:54	0°♏34'53 18.95528 AU	
opposition	16031 Feb 10 16:17	6°♏14'29 -0°37'23		16037 Mar 21 14:12	30°♏	
min. Earth dist.	16031 Feb 10 08:47	6°♏15'14 18.71615 AU	direct	16037 May 23 03:43	28°♏35'55	
direct	16031 Apr 28 15:49	4°♏15'16		16037 Jul 21 12:27	0°♏	
evening set	16031 Jul 30 01:04	7°♏22'16	evening set	16037 Aug 22 17:05	1°♏38'48	
conjunction	16031 Aug 14 22:15	8°♏17'32 -0°31'29	conjunction	16037 Sep 07 13:39	2°♏33'14 -0°02'22	
minimum elong	16031 Aug 14 22:15	8°♏17'32 0°31'49	minimum elong	16037 Sep 07 13:39	2°♏33'14 0°02'25	
max. Earth dist.	16031 Aug 15 06:36	8°♏18'45 20.74110 AU	behind sun begin	16037 Sep 07 07:05	2°♏32'18	
morning rise	16031 Aug 30 18:53	9°♏12'44	behind sun end	16037 Sep 07 20:13	2°♏34'09	
retrograde	16031 Nov 30 17:04	12°♏19'02	max. Earth dist.	16037 Sep 07 22:34	2°♏34'29 20.97004 AU	
opposition	16032 Feb 15 03:35	10°♏20'51 -0°32'18	morning rise	16037 Sep 23 10:31	3°♏27'42	
min. Earth dist.	16032 Feb 14 19:22	10°♏21'41 18.76501 AU	retrograde	16037 Dec 24 15:10	6°♏31'58	

asc. node	16038 Feb 25 22:56	5°♌06'27		retrograde	16044 Jan 18 11:14	0°♍25'46	
opposition	16038 Mar 11 14:44	4°♌34'00	0°00'13		16044 Feb 20 14:19	30°♌♌	
min. Earth dist.	16038 Mar 11 05:35	4°♌34'55	18.98397 AU	opposition	16044 Apr 04 16:26	28°♌27'58	0°32'12
direct	16038 May 27 12:42	2°♌36'03		min. Earth dist.	16044 Apr 04 08:54	28°♌28'43	19.07005 AU
evening set	16038 Aug 26 22:22	5°♌38'28		direct	16044 Jun 20 04:25	26°♌30'50	
				evening set	16044 Sep 19 04:50	29°♌31'44	
					16044 Sep 27 12:54	0°♍	
conjunction	16038 Sep 11 18:53	6°♌32'48	0°02'45				
minimum elong	16038 Sep 11 18:54	6°♌32'48	0°02'46				
behind sun begin	16038 Sep 11 12:20	6°♌31'53		conjunction	16044 Oct 05 01:53	0°♍25'54	0°31'22
behind sun end	16038 Sep 12 01:28	6°♌33'43		minimum elong	16044 Oct 05 01:53	0°♍25'54	0°31'40
max. Earth dist.	16038 Sep 12 03:41	6°♌34'03	20.99703 AU	max. Earth dist.	16044 Oct 05 08:44	0°♍26'53	21.06864 AU
morning rise	16038 Sep 27 15:57	7°♌27'13		morning rise	16044 Oct 21 00:08	1°♍20'16	
retrograde	16038 Dec 28 21:31	10°♌31'22		retrograde	16045 Jan 21 17:47	4°♍24'42	
opposition	16039 Mar 15 23:27	8°♌33'28	0°05'43	opposition	16045 Apr 09 00:37	2°♍26'49	0°37'08
min. Earth dist.	16039 Mar 15 15:18	8°♌34'17	19.00927 AU	min. Earth dist.	16045 Apr 08 18:39	2°♍27'25	19.06613 AU
direct	16039 May 31 18:39	6°♌35'42		direct	16045 Jun 24 10:20	0°♍29'41	
evening set	16039 Aug 31 03:31	9°♌37'43		evening set	16045 Sep 23 10:00	3°♍30'29	
conjunction	16039 Sep 16 00:08	10°♌31'59	0°07'41	conjunction	16045 Oct 09 07:18	4°♍24'41	0°35'45
minimum elong	16039 Sep 16 00:07	10°♌31'59	0°07'45	minimum elong	16045 Oct 09 07:18	4°♍24'41	0°36'07
behind sun begin	16039 Sep 15 18:11	10°♌31'09		max. Earth dist.	16045 Oct 09 13:40	4°♍25'35	21.06196 AU
behind sun end	16039 Sep 16 06:04	10°♌32'49		morning rise	16045 Oct 25 05:52	5°♍19'05	
max. Earth dist.	16039 Sep 16 09:07	10°♌33'15	21.02051 AU	retrograde	16046 Jan 26 02:42	8°♍23'42	
morning rise	16039 Oct 01 21:17	11°♌26'21		opposition	16046 Apr 13 08:29	6°♍25'40	0°41'54
retrograde	16040 Jan 02 05:35	14°♌30'25		min. Earth dist.	16046 Apr 13 02:02	6°♍26'19	19.05666 AU
opposition	16040 Mar 19 07:42	12°♌32'35	0°11'11	direct	16046 Jun 28 17:31	4°♍28'29	
min. Earth dist.	16040 Mar 18 22:39	12°♌33'29	19.03072 AU	evening set	16046 Sep 27 15:13	7°♍29'15	
direct	16040 Jun 04 02:49	10°♌35'00					
evening set	16040 Sep 03 08:39	13°♌36'41		conjunction	16046 Oct 13 12:43	8°♍23'29	0°39'58
				minimum elong	16046 Oct 13 12:43	8°♍23'29	0°40'22
conjunction	16040 Sep 19 05:14	14°♌30'54	0°12'35	max. Earth dist.	16046 Oct 13 18:24	8°♍24'18	21.04978 AU
minimum elong	16040 Sep 19 05:14	14°♌30'54	0°12'42	morning rise	16046 Oct 29 11:38	9°♍17'58	
behind sun begin	16040 Sep 19 01:02	14°♌30'19		retrograde	16047 Jan 30 09:03	12°♍22'46	
behind sun end	16040 Sep 19 09:26	14°♌31'29		opposition	16047 Apr 17 16:28	10°♍24'35	0°46'28
max. Earth dist.	16040 Sep 19 13:54	14°♌32'08	21.03987 AU	min. Earth dist.	16047 Apr 17 11:32	10°♍25'04	19.04205 AU
morning rise	16040 Oct 05 02:35	15°♌25'15		direct	16047 Jul 02 23:15	8°♍27'19	
retrograde	16041 Jan 05 11:46	18°♌29'18		evening set	16047 Oct 01 20:31	11°♍28'05	
opposition	16041 Mar 23 16:10	16°♌31'31	0°16'35				
min. Earth dist.	16041 Mar 23 08:19	16°♌32'18	19.04801 AU	conjunction	16047 Oct 17 18:17	12°♍22'23	0°44'00
direct	16041 Jun 08 08:23	14°♌34'05		minimum elong	16047 Oct 17 18:17	12°♍22'23	0°44'28
evening set	16041 Sep 07 13:31	17°♌35'30		max. Earth dist.	16047 Oct 17 23:40	12°♍23'09	21.03288 AU
				morning rise	16047 Nov 02 17:31	13°♍16'55	
conjunction	16041 Sep 23 10:14	18°♌29'41	0°17'25		16047 Dec 06 15:07	15°♍	
minimum elong	16041 Sep 23 10:14	18°♌29'41	0°17'35	retrograde	16048 Feb 03 18:29	16°♍21'59	
max. Earth dist.	16041 Sep 23 18:55	18°♌30'55	21.05493 AU		16048 Apr 05 16:02	15°♌♍	
morning rise	16041 Oct 09 07:46	19°♌24'00		opposition	16048 Apr 21 00:15	14°♍23'37	0°50'49
retrograde	16042 Jan 09 20:15	22°♌28'06		min. Earth dist.	16048 Apr 20 18:40	14°♍24'11	19.02296 AU
opposition	16042 Mar 28 00:20	20°♌30'20	0°21'54	direct	16048 Jul 06 06:44	12°♍26'15	
min. Earth dist.	16042 Mar 27 15:46	20°♌31'12	19.06065 AU		16048 Sep 26 20:53	15°♍	
direct	16042 Jun 12 15:47	18°♌33'03		evening set	16048 Oct 05 02:03	15°♍27'07	
evening set	16042 Sep 11 18:37	21°♌34'15					
				conjunction	16048 Oct 21 00:02	16°♍21'30	0°47'49
conjunction	16042 Sep 27 15:23	22°♌28'25	0°22'11	minimum elong	16048 Oct 21 00:01	16°♍21'29	0°48'19
minimum elong	16042 Sep 27 15:23	22°♌28'25	0°22'24	max. Earth dist.	16048 Oct 21 05:00	16°♍22'12	21.01169 AU
max. Earth dist.	16042 Sep 27 23:29	22°♌29'34	21.06497 AU	morning rise	16048 Nov 05 23:36	17°♍16'07	
morning rise	16042 Oct 13 13:10	23°♌22'44		retrograde	16049 Feb 07 01:01	20°♍21'30	
retrograde	16043 Jan 14 02:37	26°♌26'54		opposition	16049 Apr 25 08:20	18°♍22'57	0°54'56
opposition	16043 Apr 01 08:25	24°♌29'09	0°27'07	min. Earth dist.	16049 Apr 25 04:02	18°♍23'23	18.99997 AU
min. Earth dist.	16043 Apr 01 01:24	24°♌29'51	19.06816 AU	direct	16049 Jul 10 11:56	16°♍25'30	
direct	16043 Jun 16 21:22	22°♌31'57		evening set	16049 Oct 09 07:39	19°♍26'30	
evening set	16043 Sep 15 23:43	25°♌32'59					
				conjunction	16049 Oct 25 05:58	20°♍20'58	0°51'25
conjunction	16043 Oct 01 20:40	26°♌27'09	0°26'50	minimum elong	16049 Oct 25 05:58	20°♍20'58	0°51'57
minimum elong	16043 Oct 01 20:40	26°♌27'09	0°27'06	max. Earth dist.	16049 Oct 25 10:45	20°♍21'39	20.98693 AU
max. Earth dist.	16043 Oct 02 04:18	26°♌28'14	21.06973 AU	morning rise	16049 Nov 10 05:57	21°♍15'42	
morning rise	16043 Oct 17 18:40	27°♌21'29		retrograde	16050 Feb 11 10:58	24°♍21'27	
	16043 Dec 17 01:04	0°♍		opposition	16050 Apr 29 16:21	22°♍22'44	0°58'47

min. Earth dist.	16050 Apr 29 11:20	22° <del>11</del> 23'14	18.97344 AU	conjunction	16056 Nov 22 13:15	18° <del>11</del> 42'24	1°08'53
direct	16050 Jul 14 19:44	20° <del>11</del> 25'10		minimum elong	16056 Nov 22 13:15	18° <del>11</del> 42'24	1°09'37
evening set	16050 Oct 13 13:45	23° <del>11</del> 26'25		max. Earth dist.	16056 Nov 22 14:27	18° <del>11</del> 42'35	20.71942 AU
				morning rise	16056 Dec 08 16:25	19° <del>11</del> 38'20	
conjunction	16050 Oct 29 12:23	24° <del>11</del> 21'00	0°54'46	retrograde	16057 Mar 12 11:45	22° <del>11</del> 48'06	
minimum elong	16050 Oct 29 12:22	24° <del>11</del> 21'00	0°55'21	opposition	16057 May 28 08:34	20° <del>11</del> 48'24	1°17'03
max. Earth dist.	16050 Oct 29 16:45	24° <del>11</del> 21'38	20.95859 AU	min. Earth dist.	16057 May 28 08:07	20° <del>11</del> 48'27	18.69388 AU
morning rise	16050 Nov 14 12:44	25° <del>11</del> 15'51		direct	16057 Aug 11 22:01	18° <del>11</del> 50'02	
retrograde	16051 Feb 15 18:27	28° <del>11</del> 22'01		evening set	16057 Nov 10 21:58	21° <del>11</del> 54'48	
opposition	16051 May 04 00:30	26° <del>11</del> 23'09	1°02'22				
min. Earth dist.	16051 May 03 20:51	26° <del>11</del> 23'31	18.94352 AU	conjunction	16057 Nov 26 23:42	22° <del>11</del> 50'38	1°10'06
direct	16051 Jul 19 00:41	24° <del>11</del> 25'30		minimum elong	16057 Nov 26 23:42	22° <del>11</del> 50'38	1°10'51
evening set	16051 Oct 17 20:08	27° <del>11</del> 27'03		max. Earth dist.	16057 Nov 26 23:41	22° <del>11</del> 50'38	20.66666 AU
				morning rise	16057 Dec 13 03:30	23° <del>11</del> 46'46	
conjunction	16051 Nov 02 19:09	28° <del>11</del> 21'46	0°57'52	retrograde	16058 Mar 17 01:14	26° <del>11</del> 57'15	
minimum elong	16051 Nov 02 19:08	28° <del>11</del> 21'46	0°58'27	opposition	16058 Jun 01 19:19	24° <del>11</del> 57'20	1°18'14
max. Earth dist.	16051 Nov 02 23:10	28° <del>11</del> 22'21	20.92711 AU	min. Earth dist.	16058 Jun 01 18:54	24° <del>11</del> 57'22	18.63908 AU
morning rise	16051 Nov 18 19:56	29° <del>11</del> 16'46		direct	16058 Aug 16 07:43	22° <del>11</del> 58'44	
	16051 Dec 02 00:33	0° <del>11</del>		evening set	16058 Nov 15 08:37	26° <del>11</del> 04'12	
retrograde	16052 Feb 20 04:52	2° <del>11</del> 23'24					
opposition	16052 May 07 08:54	0° <del>11</del> 24'24	1°05'39	conjunction	16058 Dec 01 10:56	27° <del>11</del> 00'16	1°10'58
min. Earth dist.	16052 May 07 04:36	0° <del>11</del> 24'50	18.91042 AU	minimum elong	16058 Dec 01 10:56	27° <del>11</del> 00'16	1°11'43
	16052 May 17 11:58	30° <del>11</del> 16'46		max. Earth dist.	16058 Dec 01 10:17	27° <del>11</del> 00'10	20.60987 AU
direct	16052 Jul 22 08:42	28° <del>11</del> 26'39		morning rise	16058 Dec 17 15:11	27° <del>11</del> 56'38	
	16052 Sep 22 16:56	0° <del>11</del>			16059 Jan 27 13:52	0° <del>11</del>	
evening set	16052 Oct 21 02:53	1° <del>11</del> 28'35		retrograde	16059 Mar 21 13:08	1° <del>11</del> 30'47	
					16059 May 15 07:33	30° <del>11</del> 16'46	
conjunction	16052 Nov 06 02:16	2° <del>11</del> 23'27	1°00'40	opposition	16059 Jun 06 06:29	29° <del>11</del> 07'39	1°19'01
minimum elong	16052 Nov 06 02:15	2° <del>11</del> 23'27	1°01'19	min. Earth dist.	16059 Jun 06 07:34	29° <del>11</del> 07'32	18.58053 AU
max. Earth dist.	16052 Nov 06 05:58	2° <del>11</del> 23'59	20.89233 AU	direct	16059 Aug 20 17:15	27° <del>11</del> 08'46	
morning rise	16052 Nov 22 03:29	3° <del>11</del> 18'36			16059 Nov 15 10:20	0° <del>11</del>	
retrograde	16053 Feb 23 13:57	6° <del>11</del> 25'48		evening set	16059 Nov 19 19:51	0° <del>11</del> 14'57	
opposition	16053 May 11 17:48	4° <del>11</del> 26'39	1°08'37				
min. Earth dist.	16053 May 11 14:49	4° <del>11</del> 26'57	18.87408 AU	conjunction	16059 Dec 05 22:42	1° <del>11</del> 31'16	1°11'28
direct	16053 Jul 26 14:20	2° <del>11</del> 28'49		minimum elong	16059 Dec 05 22:42	1° <del>11</del> 31'16	1°12'14
evening set	16053 Oct 25 10:14	5° <del>11</del> 31'12		max. Earth dist.	16059 Dec 05 20:52	1° <del>11</del> 30'59	20.54992 AU
				morning rise	16059 Dec 22 03:37	2° <del>11</del> 30'52	
conjunction	16053 Nov 10 10:03	6° <del>11</del> 26'13	1°03'12	retrograde	16060 Mar 25 03:32	5° <del>11</del> 31'45	
minimum elong	16053 Nov 10 10:02	6° <del>11</del> 26'13	1°03'51	opposition	16060 Jun 09 18:05	3° <del>11</del> 31'19	1°19'23
max. Earth dist.	16053 Nov 10 13:15	6° <del>11</del> 26'41	20.85447 AU	min. Earth dist.	16060 Jun 09 19:09	3° <del>11</del> 31'12	18.51920 AU
morning rise	16053 Nov 26 11:46	7° <del>11</del> 21'33		direct	16060 Aug 24 04:19	1° <del>11</del> 32'08	
retrograde	16054 Feb 28 01:21	10° <del>11</del> 29'19		evening set	16060 Nov 23 07:34	4° <del>11</del> 32'05	
opposition	16054 May 16 02:43	8° <del>11</del> 30'04	1°11'15				
min. Earth dist.	16054 May 15 23:20	8° <del>11</del> 30'24	18.83456 AU	conjunction	16060 Dec 09 11:05	5° <del>11</del> 32'38	1°11'35
direct	16054 Jul 30 22:16	6° <del>11</del> 32'07		minimum elong	16060 Dec 09 11:05	5° <del>11</del> 32'38	1°12'20
evening set	16054 Oct 29 18:12	9° <del>11</del> 35'02		max. Earth dist.	16060 Dec 09 09:09	5° <del>11</del> 32'21	20.48736 AU
				morning rise	16060 Dec 25 16:30	6° <del>11</del> 32'30	
conjunction	16054 Nov 14 18:28	10° <del>11</del> 30'14	1°05'25	retrograde	16061 Mar 29 16:00	9° <del>11</del> 33'06	
minimum elong	16054 Nov 14 18:27	10° <del>11</del> 30'14	1°06'07	opposition	16061 Jun 14 06:14	7° <del>11</del> 32'24	1°19'19
max. Earth dist.	16054 Nov 14 21:10	10° <del>11</del> 30'38	20.81314 AU	min. Earth dist.	16061 Jun 14 08:26	7° <del>11</del> 32'10	18.45568 AU
morning rise	16054 Nov 30 20:39	11° <del>11</del> 25'45		direct	16061 Aug 28 14:35	5° <del>11</del> 32'54	
retrograde	16055 Mar 04 11:47	14° <del>11</del> 34'09		evening set	16061 Nov 27 20:11	8° <del>11</del> 34'03	
opposition	16055 May 20 12:16	12° <del>11</del> 34'46	1°13'33				
min. Earth dist.	16055 May 20 10:24	12° <del>11</del> 34'57	18.79148 AU	conjunction	16061 Dec 14 00:15	9° <del>11</del> 37'27	1°11'19
direct	16055 Aug 04 05:07	10° <del>11</del> 36'44		minimum elong	16061 Dec 14 00:16	9° <del>11</del> 37'27	1°12'05
evening set	16055 Nov 03 02:45	13° <del>11</del> 40'13		max. Earth dist.	16061 Dec 13 21:13	9° <del>11</del> 37'00	20.42317 AU
				morning rise	16061 Dec 30 06:23	10° <del>11</del> 34'34	
conjunction	16055 Nov 19 03:27	14° <del>11</del> 35'37	1°07'19	retrograde	16062 Apr 03 07:37	13° <del>11</del> 34'75	
minimum elong	16055 Nov 19 03:26	14° <del>11</del> 35'37	1°08'02	opposition	16062 Jun 18 18:34	11° <del>11</del> 34'56	1°18'50
max. Earth dist.	16055 Nov 19 05:18	14° <del>11</del> 35'53	20.76827 AU	min. Earth dist.	16062 Jun 18 20:49	11° <del>11</del> 34'42	18.39089 AU
morning rise	16055 Dec 05 06:09	15° <del>11</del> 31'19		direct	16062 Sep 02 02:30	9° <del>11</del> 34'05	
retrograde	16056 Mar 08 00:20	18° <del>11</del> 40'24		evening set	16062 Dec 02 09:29	12° <del>11</del> 35'41	
opposition	16056 May 23 22:07	16° <del>11</del> 40'52	1°15'29				
min. Earth dist.	16056 May 23 20:05	16° <del>11</del> 41'05	18.74470 AU	conjunction	16062 Dec 18 14:16	13° <del>11</del> 35'24	1°10'39
direct	16056 Aug 07 13:34	14° <del>11</del> 42'41		minimum elong	16062 Dec 18 14:16	13° <del>11</del> 35'24	1°11'24
evening set	16056 Nov 06 12:03	17° <del>11</del> 46'48		max. Earth dist.	16062 Dec 18 11:22	13° <del>11</del> 35'20	20.35783 AU
				morning rise	16063 Jan 03 20:51	14° <del>11</del> 35'09	

retrograde	16063 Apr 07 21:23	18°30'14"		evening set	16070 Jan 02 06:21	13°30'14"	
opposition	16063 Jun 23 07:39	16°30'00"	1°17'54"				
min. Earth dist.	16063 Jun 23 10:42	16°30'24"	18.32524 AU	conjunction	16070 Jan 18 15:28	14°29'22"	0°54'54"
direct	16063 Sep 06 13:46	14°30'25"		minimum elong	16070 Jan 18 15:29	14°29'22"	0°55'30"
evening set	16063 Dec 06 23:27	17°31'18"		max. Earth dist.	16070 Jan 18 08:26	14°28'18"	19.90891 AU
					16070 Jan 27 01:49	15°	
conjunction	16063 Dec 23 04:46	18°30'40"	1°09'35"	morning rise	16070 Feb 04 02:06	15°28'44"	
minimum elong	16063 Dec 23 04:46	18°30'40"	1°10'19"	retrograde	16070 May 09 07:17	18°48'18"	
max. Earth dist.	16063 Dec 23 00:46	18°30'04"	20.29213 AU	opposition	16070 Jul 23 19:58	16°45'46"	0°59'03"
morning rise	16064 Jan 08 12:03	19°30'19"		min. Earth dist.	16070 Jul 24 01:56	16°45'08"	17.87821 AU
retrograde	16064 Apr 11 14:09	22°32'11"			16070 Sep 11 18:49	15°	
opposition	16064 Jun 26 21:14	20°32'42"	1°16'31"	direct	16070 Oct 06 17:02	14°43'40"	
min. Earth dist.	16064 Jun 27 00:15	20°32'23"	18.25954 AU		16070 Oct 31 09:32	15°	
direct	16064 Sep 10 02:18	18°32'13"		evening set	16071 Jan 07 02:46	18°00'03"	
evening set	16064 Dec 10 14:17	21°33'35"					
				conjunction	16071 Jan 23 12:38	18°59'29"	0°51'09"
conjunction	16064 Dec 26 20:22	22°32'15"	1°08'07"	minimum elong	16071 Jan 23 12:39	18°59'29"	0°51'42"
minimum elong	16064 Dec 26 20:22	22°32'15"	1°08'51"	max. Earth dist.	16071 Jan 23 06:00	18°58'28"	19.84737 AU
max. Earth dist.	16064 Dec 26 16:49	22°32'43"	20.22646 AU	morning rise	16071 Feb 08 23:32	19°59'07"	
morning rise	16065 Jan 12 04:06	23°32'11"		retrograde	16071 May 14 04:38	23°19'23"	
retrograde	16065 Apr 16 06:13	26°34'49"		opposition	16071 Jul 28 14:09	21°16'42"	0°54'42"
opposition	16065 Jul 01 11:23	24°34'06"	1°14'41"	min. Earth dist.	16071 Jul 28 20:11	21°16'03"	17.81693 AU
min. Earth dist.	16065 Jul 01 14:58	24°33'44"	18.19406 AU	direct	16071 Oct 11 10:33	19°14'19"	
direct	16065 Sep 14 14:48	22°33'20"		evening set	16072 Jan 12 00:01	22°31'41"	
evening set	16065 Dec 15 06:03	25°35'39"					
				conjunction	16072 Jan 28 10:17	23°31'23"	0°47'03"
conjunction	16065 Dec 31 12:41	26°34'35"	1°06'15"	minimum elong	16072 Jan 28 10:17	23°31'23"	0°47'34"
minimum elong	16065 Dec 31 12:41	26°34'35"	1°06'57"	max. Earth dist.	16072 Jan 28 01:52	23°30'06"	19.78661 AU
max. Earth dist.	16065 Dec 31 07:50	26°34'52"	20.16139 AU	morning rise	16072 Feb 13 21:47	24°31'17"	
morning rise	16066 Jan 16 21:11	27°34'49"		retrograde	16072 May 18 02:12	27°52'15"	
	16066 Mar 01 15:18	0°		opposition	16072 Aug 01 09:03	25°49'22"	0°49'59"
retrograde	16066 Apr 21 00:27	1°03'14"		min. Earth dist.	16072 Aug 01 16:09	25°48'36"	17.75677 AU
	16066 Jun 11 20:58	30°		direct	16072 Oct 15 04:51	23°46'40"	
opposition	16066 Jul 06 02:10	29°30'12"	1°12'25"	evening set	16073 Jan 15 22:02	27°05'00"	
min. Earth dist.	16066 Jul 06 05:54	29°30'56"	18.12933 AU				
direct	16066 Sep 19 04:04	27°30'16"		conjunction	16073 Feb 01 09:01	28°04'59"	0°42'39"
	16066 Dec 16 08:07	0°		minimum elong	16073 Feb 01 09:01	28°04'59"	0°43'06"
evening set	16066 Dec 19 22:37	0°12'34"		max. Earth dist.	16073 Feb 01 01:09	28°03'47"	19.72721 AU
				morning rise	16073 Feb 17 20:46	29°05'08"	
conjunction	16067 Jan 05 06:01	1°10'48"	1°03'59"		16073 Mar 05 16:49	0°	
minimum elong	16067 Jan 05 06:01	1°10'48"	1°04'41"	retrograde	16073 May 23 00:27	2°26'43"	
max. Earth dist.	16067 Jan 05 01:45	1°10'10"	20.09700 AU	opposition	16073 Aug 06 04:16	0°23'39"	0°44'54"
morning rise	16067 Jan 21 14:53	2°09'19"		min. Earth dist.	16073 Aug 06 11:06	0°22'55"	17.69820 AU
retrograde	16067 Apr 25 18:39	5°26'31"			16073 Aug 15 09:22	30°	
opposition	16067 Jul 10 17:34	3°24'27"	1°09'42"	direct	16073 Oct 20 00:19	28°20'38"	
min. Earth dist.	16067 Jul 10 21:41	3°24'01"	18.06532 AU		16073 Dec 21 16:33	0°	
direct	16067 Sep 23 18:07	1°23'09"		evening set	16074 Jan 20 20:59	1°39'56"	
evening set	16067 Dec 24 16:16	4°36'27"					
				conjunction	16074 Feb 06 08:19	2°40'11"	0°37'56"
conjunction	16068 Jan 10 00:08	5°34'59"	1°01'20"	minimum elong	16074 Feb 06 08:19	2°40'11"	0°38'21"
minimum elong	16068 Jan 10 00:09	5°34'59"	1°02'00"	max. Earth dist.	16074 Feb 05 22:57	2°38'44"	19.66978 AU
max. Earth dist.	16068 Jan 09 18:24	5°34'07"	20.03359 AU	morning rise	16074 Feb 22 20:32	3°40'34"	
morning rise	16068 Jan 26 09:44	6°33'47"		retrograde	16074 May 27 22:20	7°02'45"	
retrograde	16068 Apr 29 14:24	9°51'48"		opposition	16074 Aug 11 00:15	4°59'29"	0°39'31"
opposition	16068 Jul 14 09:42	7°49'34"	1°06'34"	min. Earth dist.	16074 Aug 11 08:11	4°58'38"	17.64209 AU
min. Earth dist.	16068 Jul 14 14:21	7°49'05"	18.00236 AU	direct	16074 Oct 24 19:58	2°56'09"	
direct	16068 Sep 27 08:44	5°48'00"		evening set	16075 Jan 25 20:22	6°16'22"	
evening set	16068 Dec 28 10:39	9°02'20"					
				conjunction	16075 Feb 11 08:15	7°16'52"	0°32'57"
conjunction	16069 Jan 13 19:20	10°01'11"	0°58'18"	minimum elong	16075 Feb 11 08:15	7°16'52"	0°33'19"
minimum elong	16069 Jan 13 19:20	10°01'11"	0°58'56"	max. Earth dist.	16075 Feb 10 23:34	7°15'32"	19.61514 AU
max. Earth dist.	16069 Jan 13 14:11	10°00'24"	19.97096 AU	morning rise	16075 Feb 27 20:37	8°17'28"	
morning rise	16069 Jan 30 05:18	11°00'15"		retrograde	16075 Jun 01 21:23	11°40'12"	
retrograde	16069 May 04 10:33	14°19'03"		opposition	16075 Aug 15 20:36	9°36'46"	0°33'50"
opposition	16069 Jul 19 02:31	12°16'41"	1°03'01"	min. Earth dist.	16075 Aug 16 03:48	9°35'59"	17.58902 AU
min. Earth dist.	16069 Jul 19 07:30	12°16'10"	17.93998 AU	direct	16075 Oct 29 17:27	7°33'08"	
direct	16069 Oct 02 00:28	10°14'53"		evening set	16076 Jan 30 20:37	10°54'14"	

conjunction	16076 Feb 16 08:45	11° $\mathbf{\text{X}}$ 54'57	0°27'44	direct	16081 Nov 26 10:02	5° $\mathbf{\text{Y}}$ 42'02	
minimum elong	16076 Feb 16 08:46	11° $\mathbf{\text{X}}$ 54'57	0°28'02	evening set	16082 Feb 28 09:46	9° $\mathbf{\text{Y}}$ 07'35	
max. Earth dist.	16076 Feb 15 23:13	11° $\mathbf{\text{X}}$ 53'29	19.56392 AU				
morning rise	16076 Mar 03 21:26	12° $\mathbf{\text{X}}$ 55'46		conjunction	16082 Mar 16 22:54	10° $\mathbf{\text{Y}}$ 09'14	-0°06'43
retrograde	16076 Jun 05 19:33	16° $\mathbf{\text{X}}$ 19'01		minimum elong	16082 Mar 16 22:55	10° $\mathbf{\text{Y}}$ 09'14	0°06'46
opposition	16076 Aug 19 17:35	14° $\mathbf{\text{X}}$ 15'25	0°27'54	behind sun begin	16082 Mar 16 16:38	10° $\mathbf{\text{Y}}$ 08'16	
min. Earth dist.	16076 Aug 20 01:46	14° $\mathbf{\text{X}}$ 14'32	17.53988 AU	behind sun end	16082 Mar 17 05:11	10° $\mathbf{\text{Y}}$ 10'11	
direct	16076 Nov 02 14:27	12° $\mathbf{\text{X}}$ 11'30		max. Earth dist.	16082 Mar 16 15:11	10° $\mathbf{\text{Y}}$ 08'03	19.36011 AU
evening set	16077 Feb 03 21:20	15° $\mathbf{\text{X}}$ 33'27		morning rise	16082 Apr 02 11:22	11° $\mathbf{\text{Y}}$ 10'50	
				retrograde	16082 Jul 04 23:53	14° $\mathbf{\text{Y}}$ 36'00	
conjunction	16077 Feb 20 09:56	16° $\mathbf{\text{X}}$ 34'23	0°22'18	opposition	16082 Sep 17 08:56	12° $\mathbf{\text{Y}}$ 32'17	-0°10'42
minimum elong	16077 Feb 20 09:56	16° $\mathbf{\text{X}}$ 34'23	0°22'34	min. Earth dist.	16082 Sep 17 16:01	12° $\mathbf{\text{Y}}$ 31'30	17.35184 AU
max. Earth dist.	16077 Feb 20 00:59	16° $\mathbf{\text{X}}$ 33'00	19.51695 AU	direct	16082 Dec 01 09:24	10° $\mathbf{\text{Y}}$ 27'26	
morning rise	16077 Mar 08 22:44	17° $\mathbf{\text{X}}$ 35'23		evening set	16083 Mar 05 13:33	13° $\mathbf{\text{Y}}$ 53'29	
retrograde	16077 Jun 10 19:41	20° $\mathbf{\text{X}}$ 59'04					
opposition	16077 Aug 24 14:55	18° $\mathbf{\text{X}}$ 55'21	0°21'45	conjunction	16083 Mar 22 02:28	14° $\mathbf{\text{Y}}$ 55'11	-0°12'33
min. Earth dist.	16077 Aug 24 22:04	18° $\mathbf{\text{X}}$ 54'34	17.49512 AU	minimum elong	16083 Mar 22 02:27	14° $\mathbf{\text{Y}}$ 55'11	0°12'41
direct	16077 Nov 07 13:34	16° $\mathbf{\text{X}}$ 51'10		behind sun begin	16083 Mar 21 22:15	14° $\mathbf{\text{Y}}$ 54'33	
evening set	16078 Feb 08 22:51	20° $\mathbf{\text{X}}$ 13'57		behind sun end	16083 Mar 22 06:39	14° $\mathbf{\text{Y}}$ 55'50	
				max. Earth dist.	16083 Mar 21 18:08	14° $\mathbf{\text{Y}}$ 53'54	19.34479 AU
conjunction	16078 Feb 25 11:36	21° $\mathbf{\text{X}}$ 15'04	0°16'42	morning rise	16083 Apr 07 14:45	15° $\mathbf{\text{Y}}$ 56'50	
minimum elong	16078 Feb 25 11:36	21° $\mathbf{\text{X}}$ 15'04	0°16'53	retrograde	16083 Jul 10 02:24	19° $\mathbf{\text{Y}}$ 22'07	
max. Earth dist.	16078 Feb 25 02:23	21° $\mathbf{\text{X}}$ 13'39	19.47455 AU	opposition	16083 Sep 22 08:53	17° $\mathbf{\text{Y}}$ 18'27	-0°17'12
morning rise	16078 Mar 14 00:28	22° $\mathbf{\text{X}}$ 16'13		min. Earth dist.	16083 Sep 22 15:12	17° $\mathbf{\text{Y}}$ 17'45	17.33894 AU
retrograde	16078 Jun 15 18:28	25° $\mathbf{\text{X}}$ 40'19		direct	16083 Dec 06 10:53	15° $\mathbf{\text{Y}}$ 13'32	
opposition	16078 Aug 29 12:50	23° $\mathbf{\text{X}}$ 36'31	0°15'26	evening set	16084 Mar 09 17:39	18° $\mathbf{\text{Y}}$ 40'00	
min. Earth dist.	16078 Aug 29 20:50	23° $\mathbf{\text{X}}$ 35'39	17.45538 AU				
direct	16078 Nov 12 11:16	21° $\mathbf{\text{X}}$ 32'07		conjunction	16084 Mar 26 06:30	19° $\mathbf{\text{Y}}$ 41'46	-0°18'20
evening set	16079 Feb 14 00:48	24° $\mathbf{\text{X}}$ 55'40		minimum elong	16084 Mar 26 06:30	19° $\mathbf{\text{Y}}$ 41'46	0°18'30
				max. Earth dist.	16084 Mar 25 23:13	19° $\mathbf{\text{Y}}$ 40'38	19.33407 AU
conjunction	16079 Mar 02 13:46	25° $\mathbf{\text{X}}$ 56'56	0°10'59	morning rise	16084 Apr 11 18:18	20° $\mathbf{\text{Y}}$ 43'24	
minimum elong	16079 Mar 02 13:46	25° $\mathbf{\text{X}}$ 56'56	0°11'07	retrograde	16084 Jul 14 03:02	24° $\mathbf{\text{Y}}$ 08'42	
behind sun begin	16079 Mar 02 08:47	25° $\mathbf{\text{X}}$ 56'11		opposition	16084 Sep 26 09:08	22° $\mathbf{\text{Y}}$ 05'06	-0°23'36
behind sun end	16079 Mar 02 18:44	25° $\mathbf{\text{X}}$ 57'42		min. Earth dist.	16084 Sep 26 15:56	22° $\mathbf{\text{Y}}$ 04'21	17.33050 AU
max. Earth dist.	16079 Mar 02 04:55	25° $\mathbf{\text{X}}$ 55'35	19.43758 AU	direct	16084 Dec 10 12:04	20° $\mathbf{\text{Y}}$ 00'07	
morning rise	16079 Mar 19 02:40	26° $\mathbf{\text{X}}$ 58'15		evening set	16085 Mar 14 22:04	23° $\mathbf{\text{Y}}$ 26'56	
	16079 May 22 22:02	0° $\mathbf{\text{Y}}$					
retrograde	16079 Jun 20 20:14	0° $\mathbf{\text{Y}}$ 22'42		conjunction	16085 Mar 31 10:32	24° $\mathbf{\text{Y}}$ 28'41	-0°24'00
	16079 Jul 20 03:04	30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$		minimum elong	16085 Mar 31 10:31	24° $\mathbf{\text{Y}}$ 28'41	0°24'14
opposition	16079 Sep 03 11:10	28° $\mathbf{\text{X}}$ 18'51	0°08'58	max. Earth dist.	16085 Mar 31 02:12	24° $\mathbf{\text{Y}}$ 27'23	19.32792 AU
min. Earth dist.	16079 Sep 03 17:51	28° $\mathbf{\text{X}}$ 18'07	17.42117 AU	morning rise	16085 Apr 16 22:05	25° $\mathbf{\text{Y}}$ 30'19	
direct	16079 Nov 17 11:20	26° $\mathbf{\text{X}}$ 14'17		retrograde	16085 Jul 19 04:22	28° $\mathbf{\text{Y}}$ 55'31	
evening set	16080 Feb 19 03:12	29° $\mathbf{\text{X}}$ 38'32		opposition	16085 Oct 01 09:34	26° $\mathbf{\text{Y}}$ 51'58	-0°29'51
	16080 Feb 24 23:16	0° $\mathbf{\text{Y}}$		min. Earth dist.	16085 Oct 01 15:53	26° $\mathbf{\text{Y}}$ 51'17	17.32663 AU
				direct	16085 Dec 15 14:30	24° $\mathbf{\text{Y}}$ 46'56	
conjunction	16080 Mar 06 16:18	0° $\mathbf{\text{Y}}$ 39'58	0°05'11	evening set	16086 Mar 20 02:19	28° $\mathbf{\text{Y}}$ 13'58	
minimum elong	16080 Mar 06 16:18	0° $\mathbf{\text{Y}}$ 39'58	0°05'15				
behind sun begin	16080 Mar 06 09:46	0° $\mathbf{\text{Y}}$ 38'58		conjunction	16086 Apr 05 14:35	29° $\mathbf{\text{Y}}$ 15'42	-0°29'30
behind sun end	16080 Mar 06 22:49	0° $\mathbf{\text{Y}}$ 40'57		minimum elong	16086 Apr 05 14:35	29° $\mathbf{\text{Y}}$ 15'42	0°29'49
max. Earth dist.	16080 Mar 06 07:53	0° $\mathbf{\text{Y}}$ 38'40	19.40616 AU	max. Earth dist.	16086 Apr 05 07:34	29° $\mathbf{\text{Y}}$ 14'36	19.32619 AU
morning rise	16080 Mar 23 05:07	1° $\mathbf{\text{Y}}$ 41'24			16086 Apr 17 09:34	0° $\mathbf{\text{Z}}$	
retrograde	16080 Jun 24 20:14	5° $\mathbf{\text{Y}}$ 06'09		morning rise	16086 Apr 22 01:28	0° $\mathbf{\text{Z}}$ 17'16	
opposition	16080 Sep 07 10:07	3° $\mathbf{\text{Y}}$ 02'19	0°02'26	retrograde	16086 Jul 24 04:54	3° $\mathbf{\text{Z}}$ 42'19	
min. Earth dist.	16080 Sep 07 17:30	3° $\mathbf{\text{Y}}$ 01'30	17.39261 AU	opposition	16086 Oct 06 10:07	1° $\mathbf{\text{Z}}$ 38'50	-0°35'54
direct	16080 Nov 21 09:34	0° $\mathbf{\text{Y}}$ 57'37		min. Earth dist.	16086 Oct 06 16:25	1° $\mathbf{\text{Z}}$ 38'08	17.32717 AU
desc. node	16081 Jan 20 19:24	2° $\mathbf{\text{Y}}$ 31'12			16086 Nov 19 00:39	30° $\mathbf{\text{R}}$ $\mathbf{\text{Y}}$	
evening set	16081 Feb 23 06:15	4° $\mathbf{\text{Y}}$ 22'33		direct	16086 Dec 20 17:27	29° $\mathbf{\text{Y}}$ 33'45	
					16087 Jan 21 00:15	0° $\mathbf{\text{Z}}$	
conjunction	16081 Mar 11 19:22	5° $\mathbf{\text{Y}}$ 24'05	-0°00'48	evening set	16087 Mar 25 06:39	3° $\mathbf{\text{Z}}$ 00'54	
minimum elong	16081 Mar 11 19:22	5° $\mathbf{\text{Y}}$ 24'06	0°00'48				
behind sun begin	16081 Mar 11 12:39	5° $\mathbf{\text{Y}}$ 23'04		conjunction	16087 Apr 10 18:21	4° $\mathbf{\text{Z}}$ 02'34	-0°34'48
behind sun end	16081 Mar 12 02:06	5° $\mathbf{\text{Y}}$ 25'07		minimum elong	16087 Apr 10 18:21	4° $\mathbf{\text{Z}}$ 02'34	0°35'09
max. Earth dist.	16081 Mar 11 10:51	5° $\mathbf{\text{Y}}$ 22'47	19.38050 AU	max. Earth dist.	16087 Apr 10 10:27	4° $\mathbf{\text{Z}}$ 01'20	19.32914 AU
morning rise	16081 Mar 28 08:10	6° $\mathbf{\text{Y}}$ 25'37		morning rise	16087 Apr 27 04:53	5° $\mathbf{\text{Z}}$ 04'04	
retrograde	16081 Jun 29 22:59	9° $\mathbf{\text{Y}}$ 50'37		retrograde	16087 Jul 29 05:05	8° $\mathbf{\text{Z}}$ 28'54	
opposition	16081 Sep 12 09:10	7° $\mathbf{\text{Y}}$ 46'49	-0°04'08	opposition	16087 Oct 11 10:40	6° $\mathbf{\text{Z}}$ 25'27	-0°41'42
min. Earth dist.	16081 Sep 12 15:33	7° $\mathbf{\text{Y}}$ 46'08	17.36966 AU	min. Earth dist.	16087 Oct 11 16:41	6° $\mathbf{\text{Z}}$ 24'48	17.33264 AU

direct	16087 Dec 25 20:05	4°820'19	evening set	16094 Apr 28 02:08	6°II11'05	
evening set	16088 Mar 29 10:32	7°847'30				
conjunction	16088 Apr 14 22:01	8°849'05 -0°39'52	conjunction	16094 May 14 09:53	7°II11'42 -1°03'17	
minimum elong	16088 Apr 14 22:00	8°849'05 0°40'18	minimum elong	16094 May 14 09:53	7°II11'41 1°03'56	
max. Earth dist.	16088 Apr 14 15:37	8°848'05 19.33699 AU	max. Earth dist.	16094 May 14 07:29	7°II11'19 19.49699 AU	
morning rise	16088 May 01 07:51	9°850'29	morning rise	16094 May 30 15:43	8°II12'03	
retrograde	16088 Aug 02 05:39	13°815'00	retrograde	16094 Aug 31 00:49	11°II33'31	
opposition	16088 Oct 15 11:09	11°811'38 -0°47'12	opposition	16094 Nov 13 10:04	9°II31'07 -1°12'01	
min. Earth dist.	16088 Oct 15 16:39	11°811'02 17.34290 AU	min. Earth dist.	16094 Nov 13 10:59	9°II31'01 17.51937 AU	
direct	16088 Dec 29 23:34	9°806'28	direct	16095 Jan 28 10:27	7°II26'32	
evening set	16089 Apr 03 14:27	12°833'34	evening set	16095 May 03 02:48	10°II51'34	
conjunction	16089 Apr 20 01:15	13°835'03 -0°44'40	conjunction	16095 May 19 09:54	11°II51'58 -1°05'47	
minimum elong	16089 Apr 20 01:15	13°835'03 0°45'08	minimum elong	16095 May 19 09:53	11°II51'58 1°06'28	
max. Earth dist.	16089 Apr 19 18:18	13°833'58 19.34979 AU	max. Earth dist.	16095 May 19 08:30	11°II51'45 19.54225 AU	
morning rise	16089 May 06 10:36	14°836'20	morning rise	16095 Jun 04 14:57	12°II52'05	
	16089 May 12 22:53	15°8	retrograde	16095 Sep 04 21:52	16°II12'56	
retrograde	16089 Aug 07 04:55	18°800'27	opposition	16095 Nov 18 08:53	14°II10'48 -1°14'32	
opposition	16089 Oct 20 11:29	15°857'10 -0°52'22	min. Earth dist.	16095 Nov 18 10:14	14°II10'39 17.56676 AU	
min. Earth dist.	16089 Oct 20 16:55	15°856'34 17.35842 AU	direct	16096 Feb 02 09:49	12°II06'27	
	16089 Nov 12 05:19	15°8	evening set	16096 May 07 02:51	15°II30'55	
direct	16090 Jan 04 01:46	13°851'58	conjunction	16096 May 23 09:14	16°II31'04 -1°07'50	
	16090 Feb 24 07:23	15°8	minimum elong	16096 May 23 09:13	16°II31'04 1°08'34	
evening set	16090 Apr 08 17:46	17°818'56	max. Earth dist.	16096 May 23 08:01	16°II30'53 19.59152 AU	
conjunction	16090 Apr 25 04:09	18°820'17 -0°49'08	morning rise	16096 Jun 08 13:40	17°II30'57	
minimum elong	16090 Apr 25 04:09	18°820'17 0°49'39	retrograde	16096 Sep 08 19:56	20°II51'07	
max. Earth dist.	16090 Apr 24 22:45	18°819'26 19.36797 AU	opposition	16096 Nov 22 07:17	18°II49'16 -1°16'34	
morning rise	16090 May 11 12:44	19°821'24	min. Earth dist.	16096 Nov 22 07:06	18°II49'17 17.61760 AU	
retrograde	16090 Aug 12 05:11	22°845'04	direct	16097 Feb 06 10:56	16°II45'10	
opposition	16090 Oct 25 11:42	20°841'53 -0°57'10	evening set	16097 May 12 02:13	20°II08'59	
min. Earth dist.	16090 Oct 25 15:57	20°841'26 17.37931 AU	conjunction	16097 May 28 07:56	21°II08'53 -1°09'27	
direct	16091 Jan 09 05:03	18°836'43	minimum elong	16097 May 28 07:56	21°II08'53 1°10'10	
evening set	16091 Apr 13 20:36	22°803'25	max. Earth dist.	16097 May 28 07:53	21°II08'53 19.64374 AU	
conjunction	16091 Apr 30 06:17	23°804'37 -0°53'15	morning rise	16097 Jun 13 11:32	22°II08'30	
minimum elong	16091 Apr 30 06:16	23°804'37 0°53'49	retrograde	16097 Sep 13 15:25	25°II27'58	
max. Earth dist.	16091 Apr 30 01:01	23°803'47 19.39163 AU	opposition	16097 Nov 27 05:27	23°II26'22 -1°18'05	
morning rise	16091 May 16 14:16	24°805'34	min. Earth dist.	16097 Nov 27 05:47	23°II26'20 17.67120 AU	
retrograde	16091 Aug 17 03:44	27°828'46	direct	16098 Feb 11 10:26	21°II22'33	
opposition	16091 Oct 30 11:47	25°825'42 -1°01'33	evening set	16098 May 17 00:51	24°II45'38	
min. Earth dist.	16091 Oct 30 15:57	25°825'15 17.40597 AU	conjunction	16098 Jun 02 05:46	25°II45'16 -1°10'37	
direct	16092 Jan 14 06:24	23°820'35	minimum elong	16098 Jun 02 05:46	25°II45'16 1°11'21	
evening set	16092 Apr 17 22:59	26°846'58	max. Earth dist.	16098 Jun 02 05:28	25°II45'13 19.69856 AU	
conjunction	16092 May 04 08:08	27°847'59 -0°57'00	morning rise	16098 Jun 18 08:48	26°II44'36	
minimum elong	16092 May 04 08:07	27°847'59 0°57'35		16098 Sep 07 10:25	0°8	
max. Earth dist.	16092 May 04 04:11	27°847'22 19.42117 AU	retrograde	16098 Sep 18 11:39	0°803'20	
morning rise	16092 May 20 15:22	28°848'46		16098 Sep 29 13:06	30°8II	
	16092 Jun 10 00:32	0°II	opposition	16098 Dec 02 02:59	28°II01'59 -1°19'06	
retrograde	16092 Aug 21 03:27	2°II11'24	min. Earth dist.	16098 Dec 02 01:53	28°II02'06 17.72707 AU	
opposition	16092 Nov 03 11:22	0°II08'31 -1°05'31	direct	16099 Feb 16 11:06	25°II58'24	
min. Earth dist.	16092 Nov 03 13:57	0°II08'14 17.43833 AU	evening set	16099 May 21 22:29	29°II20'41	
	16092 Nov 06 18:07	30°8		16099 Jun 01 16:46	0°8	
direct	16093 Jan 18 08:43	28°803'31	conjunction	16099 Jun 07 02:52	0°820'02 -1°11'19	
	16093 Mar 27 20:51	0°II	minimum elong	16099 Jun 07 02:51	0°820'02 1°12'04	
evening set	16093 Apr 23 00:58	1°II29'32	max. Earth dist.	16099 Jun 07 03:55	0°820'12 19.75526 AU	
conjunction	16093 May 09 09:23	2°II30'21 -1°00'21	morning rise	16099 Jun 23 05:07	1°819'07	
minimum elong	16093 May 09 09:23	2°II30'21 1°00'59	retrograde	16099 Sep 23 05:31	4°837'03	
max. Earth dist.	16093 May 09 06:03	2°II29'50 19.45634 AU	opposition	16099 Dec 07 00:12	2°835'56 -1°19'37	
morning rise	16093 May 25 15:55	3°II30'55	min. Earth dist.	16099 Dec 06 23:35	2°836'00 17.78454 AU	
retrograde	16093 Aug 26 01:38	6°II53'00	direct	16100 Feb 21 09:55	0°832'36	
opposition	16093 Nov 08 10:57	4°II50'20 -1°09'00	evening set	16100 May 26 19:31	3°854'01	
min. Earth dist.	16093 Nov 08 13:36	4°II50'03 17.47634 AU	conjunction	16100 Jun 11 23:06	4°853'06 -1°11'35	
direct	16094 Jan 23 08:55	2°II45'31	minimum elong	16100 Jun 11 23:06	4°853'06 1°12'19	



max. Earth dist.	16100 Jun 11 23:33	4° $\mathring{U}$ 53'10	19.81346 AU
morning rise	16100 Jun 28 00:53	5° $\mathring{U}$ 51'54	
retrograde	16100 Sep 28 00:14	9° $\mathring{U}$ 09'01	
opposition	16100 Dec 11 20:34	7° $\mathring{U}$ 08'07	-1°19'38
min. Earth dist.	16100 Dec 11 18:45	7° $\mathring{U}$ 08'18	17.84332 AU
direct	16101 Feb 26 09:27	5° $\mathring{U}$ 04'59	
evening set	16101 May 31 15:31	8° $\mathring{U}$ 25'31	
conjunction	16101 Jun 16 18:36	9° $\mathring{U}$ 24'18	-1°11'23
minimum elong	16101 Jun 16 18:36	9° $\mathring{U}$ 24'18	1°12'09
max. Earth dist.	16101 Jun 16 20:34	9° $\mathring{U}$ 24'37	19.87276 AU
morning rise	16101 Jul 02 19:36	10° $\mathring{U}$ 22'50	
retrograde	16101 Oct 02 16:27	13° $\mathring{U}$ 39'07	
opposition	16101 Dec 16 16:38	11° $\mathring{U}$ 38'24	-1°19'10
min. Earth dist.	16101 Dec 16 15:05	11° $\mathring{U}$ 38'34	17.90308 AU