










































































































opposition	13100 Feb 12 19:34	2° <u>17</u> 32'34	-0°04'18	conjunction	13105 Sep 04 05:46	24° <u>17</u> 32'00	0°20'28
min. Earth dist.	13100 Feb 12 08:11	2° <u>17</u> 33'42	18.99889 AU	minimum elong	13105 Sep 04 05:45	24° <u>17</u> 32'00	0°20'16
direct	13100 Apr 30 08:46	0° <u>17</u> 35'16		max. Earth dist.	13105 Sep 04 15:00	24° <u>17</u> 33'19	20.98470 AU
evening set	13100 Jul 30 04:55	3° <u>17</u> 36'50		morning rise	13105 Sep 20 05:21	25° <u>17</u> 26'44	
				retrograde	13105 Dec 22 13:45	28° <u>17</u> 32'51	
conjunction	13100 Aug 15 00:50	4° <u>17</u> 31'08	-0°01'41	opposition	13106 Mar 09 23:53	26° <u>17</u> 34'09	0°24'57
minimum elong	13100 Aug 15 00:49	4° <u>17</u> 31'08	0°02'12	min. Earth dist.	13106 Mar 09 14:44	26° <u>17</u> 35'05	18.97626 AU
behind sun begin	13100 Aug 14 18:14	4° <u>17</u> 30'13		direct	13106 May 25 02:29	24° <u>17</u> 36'50	
behind sun end	13100 Aug 15 07:24	4° <u>17</u> 32'03		evening set	13106 Aug 23 13:49	27° <u>17</u> 37'45	
max. Earth dist.	13100 Aug 15 11:55	4° <u>17</u> 32'43	21.00415 AU				
morning rise	13100 Aug 30 22:09	5° <u>17</u> 25'38		conjunction	13106 Sep 08 11:52	28° <u>17</u> 32'17	0°24'40
retrograde	13100 Dec 01 20:01	8° <u>17</u> 30'58		minimum elong	13106 Sep 08 11:52	28° <u>17</u> 32'17	0°24'32
asc. node	13101 Jan 01 10:55	8° <u>17</u> 08'51		max. Earth dist.	13106 Sep 08 20:41	28° <u>17</u> 33'32	20.96676 AU
opposition	13101 Feb 17 04:38	6° <u>17</u> 32'54	0°00'39	morning rise	13106 Sep 24 12:01	29° <u>17</u> 27'06	
min. Earth dist.	13101 Feb 16 18:35	6° <u>17</u> 33'54	19.00830 AU		13106 Oct 04 11:15	0° <u>17</u>	
direct	13101 May 04 14:45	4° <u>17</u> 35'43		retrograde	13106 Dec 26 21:17	2° <u>17</u> 33'29	
evening set	13101 Aug 03 10:08	7° <u>17</u> 37'04		opposition	13107 Mar 14 08:25	0° <u>17</u> 34'37	0°29'33
				min. Earth dist.	13107 Mar 14 00:31	0° <u>17</u> 35'24	18.95659 AU
conjunction	13101 Aug 19 06:23	8° <u>17</u> 31'21	0°02'55		13107 Mar 28 20:49	30° <u>17</u>	
minimum elong	13101 Aug 19 06:23	8° <u>17</u> 31'21	0°02'27	direct	13107 May 29 07:48	28° <u>17</u> 37'12	
behind sun begin	13101 Aug 18 23:48	8° <u>17</u> 30'26			13107 Jul 26 18:43	0° <u>17</u>	
behind sun end	13101 Aug 19 12:57	8° <u>17</u> 32'16		evening set	13107 Aug 27 19:47	1° <u>17</u> 38'13	
max. Earth dist.	13101 Aug 19 17:26	8° <u>17</u> 32'56	21.01098 AU				
morning rise	13101 Sep 04 04:05	9° <u>17</u> 25'52		conjunction	13107 Sep 12 18:19	2° <u>17</u> 32'50	0°28'45
retrograde	13101 Dec 06 05:30	12° <u>17</u> 31'18		minimum elong	13107 Sep 12 18:19	2° <u>17</u> 32'50	0°28'43
opposition	13102 Feb 21 13:30	10° <u>17</u> 33'12	0°05'36	max. Earth dist.	13107 Sep 13 03:02	2° <u>17</u> 34'05	20.94542 AU
min. Earth dist.	13102 Feb 21 02:46	10° <u>17</u> 34'16	19.01238 AU	morning rise	13107 Sep 28 18:57	3° <u>17</u> 27'46	
direct	13102 May 08 23:02	8° <u>17</u> 36'05		retrograde	13107 Dec 31 07:11	6° <u>17</u> 34'28	
evening set	13102 Aug 07 15:38	11° <u>17</u> 37'14		opposition	13108 Mar 17 16:43	4° <u>17</u> 35'25	0°34'01
				min. Earth dist.	13108 Mar 17 08:03	4° <u>17</u> 36'17	18.93362 AU
conjunction	13102 Aug 23 12:07	12° <u>17</u> 31'33	0°07'23	direct	13108 Jun 01 15:33	2° <u>17</u> 37'54	
minimum elong	13102 Aug 23 12:07	12° <u>17</u> 31'33	0°06'59	evening set	13108 Aug 31 02:06	5° <u>17</u> 39'06	
behind sun begin	13102 Aug 23 06:00	12° <u>17</u> 30'42					
behind sun end	13102 Aug 23 18:14	12° <u>17</u> 32'25		conjunction	13108 Sep 16 01:03	6° <u>17</u> 33'49	0°32'43
max. Earth dist.	13102 Aug 23 22:23	12° <u>17</u> 33'01	21.01224 AU	minimum elong	13108 Sep 16 01:02	6° <u>17</u> 33'49	0°32'43
morning rise	13102 Sep 08 10:18	13° <u>17</u> 26'06		max. Earth dist.	13108 Sep 16 09:24	6° <u>17</u> 35'01	20.92083 AU
retrograde	13102 Dec 10 12:14	16° <u>17</u> 31'40		morning rise	13108 Oct 02 02:13	7° <u>17</u> 28'53	
opposition	13103 Feb 25 22:15	14° <u>17</u> 33'28	0°10'32	retrograde	13109 Jan 03 15:20	10° <u>17</u> 35'57	
min. Earth dist.	13103 Feb 25 13:05	14° <u>17</u> 34'23	19.01093 AU	opposition	13109 Mar 22 01:26	8° <u>17</u> 36'45	0°38'19
direct	13103 May 13 04:58	12° <u>17</u> 36'21		min. Earth dist.	13109 Mar 21 17:58	8° <u>17</u> 37'30	18.90759 AU
evening set	13103 Aug 11 21:03	15° <u>17</u> 37'23		direct	13109 Jun 05 20:46	6° <u>17</u> 39'10	
				evening set	13109 Sep 04 08:35	9° <u>17</u> 40'35	
conjunction	13103 Aug 27 17:59	16° <u>17</u> 31'43	0°11'48				
minimum elong	13103 Aug 27 17:59	16° <u>17</u> 31'43	0°11'27	conjunction	13109 Sep 20 08:05	10° <u>17</u> 35'26	0°36'31
behind sun begin	13103 Aug 27 13:12	16° <u>17</u> 31'03		minimum elong	13109 Sep 20 08:05	10° <u>17</u> 35'26	0°36'36
behind sun end	13103 Aug 27 22:47	16° <u>17</u> 32'24		max. Earth dist.	13109 Sep 20 16:18	10° <u>17</u> 36'37	20.89339 AU
max. Earth dist.	13103 Aug 28 03:56	16° <u>17</u> 33'08	21.00810 AU	morning rise	13109 Oct 06 09:50	11° <u>17</u> 30'37	
morning rise	13103 Sep 12 16:36	17° <u>17</u> 26'19		retrograde	13110 Jan 08 02:16	14° <u>17</u> 38'08	
retrograde	13103 Dec 14 21:27	20° <u>17</u> 32'01		opposition	13110 Mar 26 10:08	12° <u>17</u> 38'46	0°42'27
opposition	13104 Mar 01 06:50	18° <u>17</u> 33'41	0°15'25	min. Earth dist.	13110 Mar 26 02:00	12° <u>17</u> 39'36	18.87865 AU
min. Earth dist.	13104 Feb 29 21:04	18° <u>17</u> 34'40	19.00403 AU	direct	13110 Jun 10 04:38	10° <u>17</u> 41'06	
direct	13104 May 16 12:54	16° <u>17</u> 36'32		evening set	13110 Sep 08 15:43	13° <u>17</u> 42'51	
evening set	13104 Aug 15 02:32	19° <u>17</u> 37'28					
				conjunction	13110 Sep 24 15:42	14° <u>17</u> 37'50	0°40'09
conjunction	13104 Aug 30 23:46	20° <u>17</u> 31'51	0°16'10	minimum elong	13110 Sep 24 15:42	14° <u>17</u> 37'50	0°40'18
minimum elong	13104 Aug 30 23:45	20° <u>17</u> 31'51	0°15'53	max. Earth dist.	13110 Sep 24 23:29	14° <u>17</u> 38'57	20.86290 AU
behind sun begin	13104 Aug 30 22:38	20° <u>17</u> 31'42		morning rise	13110 Oct 10 18:02	15° <u>17</u> 33'11	
behind sun end	13104 Aug 31 00:53	20° <u>17</u> 32'01		retrograde	13111 Jan 12 11:20	18° <u>17</u> 41'10	
max. Earth dist.	13104 Aug 31 09:04	20° <u>17</u> 33'11	20.99861 AU	opposition	13111 Mar 30 19:02	16° <u>17</u> 41'41	0°46'23
morning rise	13104 Sep 15 22:53	21° <u>17</u> 26'31		min. Earth dist.	13111 Mar 30 12:18	16° <u>17</u> 42'22	18.84672 AU
retrograde	13104 Dec 18 04:28	24° <u>17</u> 32'24		direct	13111 Jun 14 10:20	14° <u>17</u> 43'55	
opposition	13105 Mar 05 15:29	22° <u>17</u> 33'54	0°20'13	evening set	13111 Sep 12 23:17	17° <u>17</u> 46'03	
min. Earth dist.	13105 Mar 05 07:06	22° <u>17</u> 34'44	18.99222 AU				
direct	13105 May 20 18:44	20° <u>17</u> 36'40		conjunction	13111 Sep 28 23:51	18° <u>17</u> 41'12	0°43'36
evening set	13105 Aug 19 08:05	23° <u>17</u> 37'34		minimum elong	13111 Sep 28 23:51	18° <u>17</u> 41'12	0°43'48

max. Earth dist.	13111 Sep 29 07:11	18° <u>0</u> 42'16	20.82955 AU	opposition	13118 Apr 28 18:32	15° <u>1</u> 35'25	1°06'46
morning rise	13111 Oct 15 02:46	19° <u>0</u> 36'43		min. Earth dist.	13118 Apr 28 16:20	15° <u>1</u> 35'39	18.52751 AU
retrograde	13112 Jan 16 23:08	22° <u>0</u> 45'13			13118 May 13 06:06	15° <u>1</u> 36'00	
opposition	13112 Apr 03 04:11	20° <u>0</u> 45'36	0°50'05	direct	13118 Jul 12 21:51	13° <u>1</u> 36'25	
min. Earth dist.	13112 Apr 02 21:01	20° <u>0</u> 46'20	18.81179 AU		13118 Sep 08 23:45	15° <u>1</u> 36'43	
direct	13112 Jun 17 18:16	18° <u>0</u> 47'46		evening set	13118 Oct 11 21:52	16° <u>1</u> 36'43	
evening set	13112 Sep 16 07:21	21° <u>0</u> 48'21					
				conjunction	13118 Oct 28 02:42	17° <u>1</u> 39'20	1°00'59
conjunction	13112 Oct 02 08:25	22° <u>0</u> 45'40	0°46'50	minimum elong	13118 Oct 28 02:41	17° <u>1</u> 39'20	1°01'39
minimum elong	13112 Oct 02 08:24	22° <u>0</u> 45'40	0°47'08	max. Earth dist.	13118 Oct 28 04:11	17° <u>1</u> 39'33	20.49839 AU
max. Earth dist.	13112 Oct 02 15:16	22° <u>0</u> 46'40	20.79293 AU	morning rise	13118 Nov 13 09:47	18° <u>1</u> 36'20	
morning rise	13112 Oct 18 11:53	23° <u>0</u> 41'22		retrograde	13119 Feb 15 15:35	21° <u>1</u> 49'05	
retrograde	13113 Jan 20 09:33	26° <u>0</u> 50'26		opposition	13119 May 03 06:04	19° <u>1</u> 48'10	1°08'27
opposition	13113 Apr 07 13:49	24° <u>0</u> 50'43	0°53'34	min. Earth dist.	13119 May 03 05:16	19° <u>1</u> 48'15	18.46922 AU
min. Earth dist.	13113 Apr 07 08:10	24° <u>0</u> 51'17	18.77357 AU	direct	13119 Jul 17 07:38	17° <u>1</u> 48'53	
direct	13113 Jun 22 00:55	22° <u>0</u> 52'46		evening set	13119 Oct 16 10:36	20° <u>1</u> 55'55	
evening set	13113 Sep 20 16:08	25° <u>0</u> 55'52					
				conjunction	13119 Nov 01 16:01	21° <u>1</u> 52'48	1°02'19
conjunction	13113 Oct 06 17:47	26° <u>0</u> 51'23	0°49'51	minimum elong	13119 Nov 01 16:01	21° <u>1</u> 52'48	1°03'03
minimum elong	13113 Oct 06 17:46	26° <u>0</u> 51'23	0°50'11	max. Earth dist.	13119 Nov 01 16:16	21° <u>1</u> 52'50	20.43939 AU
max. Earth dist.	13113 Oct 06 23:50	26° <u>0</u> 52'15	20.75307 AU	morning rise	13119 Nov 17 23:48	22° <u>1</u> 50'02	
morning rise	13113 Oct 22 21:53	27° <u>0</u> 47'16		retrograde	13120 Feb 20 07:19	26° <u>1</u> 03'27	
	13113 Dec 07 07:29	0° <u>1</u> 00'00		opposition	13120 May 06 18:04	24° <u>1</u> 02'16	1°09'45
retrograde	13114 Jan 24 22:24	0° <u>1</u> 05'56		min. Earth dist.	13120 May 06 17:19	24° <u>1</u> 02'21	18.40961 AU
	13114 Mar 15 22:42	30° <u>1</u> 08'00		direct	13120 Jul 20 19:40	22° <u>1</u> 02'39	
opposition	13114 Apr 11 23:33	28° <u>1</u> 05'05	0°56'47	evening set	13120 Oct 19 23:50	25° <u>1</u> 10'30	
min. Earth dist.	13114 Apr 11 17:50	28° <u>1</u> 05'40	18.73190 AU				
direct	13114 Jun 26 09:09	26° <u>1</u> 05'00		conjunction	13120 Nov 05 05:59	26° <u>1</u> 07'38	1°03'18
	13114 Sep 24 06:40	0° <u>1</u> 10'00		minimum elong	13120 Nov 05 05:59	26° <u>1</u> 07'38	1°04'04
evening set	13114 Sep 25 01:37	0° <u>1</u> 10'41		max. Earth dist.	13120 Nov 05 06:14	26° <u>1</u> 07'40	20.37920 AU
				morning rise	13120 Nov 21 14:15	27° <u>1</u> 05'07	
conjunction	13114 Oct 11 03:52	0° <u>1</u> 15'24	0°52'37		13121 Jan 27 08:06	0° <u>1</u> 15'00	
minimum elong	13114 Oct 11 03:52	0° <u>1</u> 15'24	0°53'03	retrograde	13121 Feb 23 20:43	0° <u>1</u> 15'12	
max. Earth dist.	13114 Oct 11 09:06	0° <u>1</u> 15'09	20.70936 AU		13121 Mar 23 16:21	30° <u>1</u> 08'00	
morning rise	13114 Oct 27 08:32	1° <u>1</u> 15'29		opposition	13121 May 11 06:36	28° <u>1</u> 17'47	1°10'41
retrograde	13115 Jan 29 09:58	5° <u>1</u> 04'45		min. Earth dist.	13121 May 11 06:53	28° <u>1</u> 17'45	18.34910 AU
opposition	13115 Apr 16 09:49	3° <u>1</u> 04'45	0°59'44	direct	13121 Jul 25 06:18	26° <u>1</u> 17'52	
min. Earth dist.	13115 Apr 16 05:50	3° <u>1</u> 05'10	18.68625 AU	evening set	13121 Oct 24 14:03	29° <u>1</u> 26'33	
direct	13115 Jun 30 17:02	1° <u>1</u> 06'31			13121 Nov 03 03:04	0° <u>1</u> 27'00	
evening set	13115 Sep 29 11:43	4° <u>1</u> 10'48					
				conjunction	13121 Nov 09 20:47	0° <u>1</u> 27'56	1°03'57
conjunction	13115 Oct 15 14:34	5° <u>1</u> 06'43	0°55'08	minimum elong	13121 Nov 09 20:47	0° <u>1</u> 27'56	1°04'46
minimum elong	13115 Oct 15 14:33	5° <u>1</u> 06'43	0°55'38	max. Earth dist.	13121 Nov 09 19:43	0° <u>1</u> 27'47	20.31858 AU
max. Earth dist.	13115 Oct 15 18:32	5° <u>1</u> 07'18	20.66177 AU	morning rise	13121 Nov 26 05:47	1° <u>1</u> 27'41	
morning rise	13115 Oct 31 19:51	6° <u>1</u> 03'01		retrograde	13122 Feb 28 13:25	4° <u>1</u> 36'26	
retrograde	13116 Feb 02 23:52	9° <u>1</u> 13'55		opposition	13122 May 15 19:24	2° <u>1</u> 34'48	1°11'14
opposition	13116 Apr 19 20:18	7° <u>1</u> 13'43	1°02'24	min. Earth dist.	13122 May 15 19:54	2° <u>1</u> 34'45	18.28844 AU
min. Earth dist.	13116 Apr 19 16:25	7° <u>1</u> 14'07	18.63670 AU	direct	13122 Jul 29 19:31	0° <u>1</u> 34'33	
direct	13116 Jul 04 02:13	5° <u>1</u> 15'16		evening set	13122 Oct 29 04:59	3° <u>1</u> 34'08	
evening set	13116 Oct 02 22:31	8° <u>1</u> 20'11					
				conjunction	13122 Nov 14 12:30	4° <u>1</u> 34'49	1°04'14
conjunction	13116 Oct 19 02:00	9° <u>1</u> 16'20	0°57'23	minimum elong	13122 Nov 14 12:30	4° <u>1</u> 34'48	1°05'05
minimum elong	13116 Oct 19 01:59	9° <u>1</u> 16'20	0°57'56	max. Earth dist.	13122 Nov 14 11:34	4° <u>1</u> 34'40	20.25783 AU
max. Earth dist.	13116 Oct 19 05:12	9° <u>1</u> 16'48	20.61030 AU	morning rise	13122 Nov 30 21:56	5° <u>1</u> 39'48	
morning rise	13116 Nov 04 07:50	10° <u>1</u> 12'51		retrograde	13123 Mar 05 04:03	8° <u>1</u> 55'14	
retrograde	13117 Feb 06 11:59	13° <u>1</u> 24'22		opposition	13123 May 20 08:53	6° <u>1</u> 53'25	1°11'22
opposition	13117 Apr 24 07:19	11° <u>1</u> 23'57	1°04'45	min. Earth dist.	13123 May 20 10:11	6° <u>1</u> 53'16	18.22782 AU
min. Earth dist.	13117 Apr 24 05:00	11° <u>1</u> 24'11	18.58352 AU	direct	13123 Aug 03 07:33	4° <u>1</u> 52'53	
direct	13117 Jul 08 11:20	9° <u>1</u> 25'15		evening set	13123 Nov 02 20:43	8° <u>1</u> 50'23	
evening set	13117 Oct 07 09:48	12° <u>1</u> 30'49					
				conjunction	13123 Nov 19 04:46	9° <u>1</u> 50'19	1°04'09
conjunction	13117 Oct 23 13:56	13° <u>1</u> 27'12	0°59'20	minimum elong	13123 Nov 19 04:46	9° <u>1</u> 50'19	1°05'03
minimum elong	13117 Oct 23 13:55	13° <u>1</u> 27'12	0°59'58	max. Earth dist.	13123 Nov 19 02:24	9° <u>1</u> 50'58	20.19752 AU
max. Earth dist.	13117 Oct 23 15:52	13° <u>1</u> 27'29	20.55569 AU	morning rise	13123 Dec 05 14:53	9° <u>1</u> 59'34	
morning rise	13117 Nov 08 20:29	14° <u>1</u> 23'57		retrograde	13124 Mar 08 21:36	13° <u>1</u> 54'43	
	13117 Nov 19 14:22	15° <u>1</u> 00'00		opposition	13124 May 23 22:55	11° <u>1</u> 53'43	1°11'06
retrograde	13118 Feb 11 02:54	17° <u>1</u> 36'06		min. Earth dist.	13124 May 24 00:30	11° <u>1</u> 53'33	18.16784 AU

direct	13124 Aug 06 21:28	9° \nearrow 12'55		minimum elong	13130 Dec 21 00:42	10° \searrow 08'49	0°54'15
evening set	13124 Nov 06 13:18	12° \nearrow 24'21		max. Earth dist.	13130 Dec 20 17:13	10° \searrow 07'41	19.79201 AU
				morning rise	13131 Jan 06 13:45	11° \searrow 08'51	
conjunction	13124 Nov 22 22:09	13° \nearrow 22'35	1°03'42	retrograde	13131 Apr 10 15:31	14° \searrow 29'27	
minimum elong	13124 Nov 22 22:08	13° \nearrow 22'35	1°04'39	opposition	13131 Jun 24 18:11	12° \searrow 26'37	0°57'43
max. Earth dist.	13124 Nov 22 20:07	13° \nearrow 22'17	20.13785 AU	min. Earth dist.	13131 Jun 25 00:49	12° \searrow 25'54	17.76462 AU
morning rise	13124 Dec 09 08:39	14° \nearrow 21'06		direct	13131 Sep 07 14:06	10° \searrow 23'48	
retrograde	13125 Mar 13 14:29	17° \nearrow 37'56		evening set	13131 Dec 09 10:55	13° \searrow 42'13	
opposition	13125 May 28 13:31	15° \nearrow 35'49	1°10'26				
min. Earth dist.	13125 May 28 15:46	15° \nearrow 35'34	18.10852 AU	conjunction	13131 Dec 25 23:34	14° \searrow 42'20	0°50'15
direct	13125 Aug 11 11:00	13° \nearrow 34'45		minimum elong	13131 Dec 25 23:34	14° \searrow 42'20	0°51'15
evening set	13125 Nov 11 06:54	16° \nearrow 47'11		max. Earth dist.	13131 Dec 25 14:19	14° \searrow 40'56	19.73749 AU
				morning rise	13132 Jan 11 13:02	15° \searrow 42'36	
conjunction	13125 Nov 27 16:16	17° \nearrow 45'42	1°02'53	retrograde	13132 Apr 14 13:06	19° \searrow 03'43	
minimum elong	13125 Nov 27 16:16	17° \nearrow 45'42	1°03'51	opposition	13132 Jun 28 13:02	17° \searrow 00'43	0°54'12
max. Earth dist.	13125 Nov 27 12:31	17° \nearrow 45'08	20.07902 AU	min. Earth dist.	13132 Jun 28 20:56	16° \searrow 59'52	17.71125 AU
morning rise	13125 Dec 14 03:29	18° \nearrow 44'29		direct	13132 Sep 11 08:48	14° \searrow 57'35	
retrograde	13126 Mar 18 09:17	22° \nearrow 02'01		evening set	13132 Dec 13 10:07	18° \searrow 16'56	
opposition	13126 Jun 02 04:45	19° \nearrow 59'47	1°09'21				
min. Earth dist.	13126 Jun 02 07:45	19° \nearrow 59'28	18.05002 AU	conjunction	13132 Dec 29 23:21	19° \searrow 17'17	0°46'54
direct	13126 Aug 16 01:40	17° \nearrow 58'28		minimum elong	13132 Dec 29 23:21	19° \searrow 17'17	0°47'53
evening set	13126 Nov 16 01:25	21° \nearrow 11'55		max. Earth dist.	13132 Dec 29 14:29	19° \searrow 15'56	19.68541 AU
				morning rise	13133 Jan 15 12:57	20° \searrow 17'45	
conjunction	13126 Dec 02 11:32	22° \nearrow 10'43	1°01'42	retrograde	13133 Apr 19 11:42	23° \searrow 39'19	
minimum elong	13126 Dec 02 11:32	22° \nearrow 10'43	1°02'42	opposition	13133 Jul 03 08:08	21° \searrow 36'12	0°50'19
max. Earth dist.	13126 Dec 02 08:00	22° \nearrow 10'11	20.02070 AU	min. Earth dist.	13133 Jul 03 15:42	21° \searrow 35'23	17.66053 AU
morning rise	13126 Dec 18 23:01	23° \nearrow 09'45		direct	13133 Sep 16 04:53	19° \searrow 32'44	
retrograde	13127 Mar 23 04:18	26° \nearrow 27'58		evening set	13133 Dec 18 10:11	22° \searrow 53'00	
opposition	13127 Jun 06 20:33	24° \nearrow 25'39	1°07'50				
min. Earth dist.	13127 Jun 07 00:14	24° \nearrow 25'15	17.99189 AU	conjunction	13134 Jan 03 23:39	23° \searrow 53'34	0°43'14
direct	13127 Aug 20 16:57	22° \nearrow 24'04		minimum elong	13134 Jan 03 23:40	23° \searrow 53'34	0°44'13
evening set	13127 Nov 20 20:58	25° \nearrow 38'33		max. Earth dist.	13134 Jan 03 13:24	23° \searrow 52'00	19.63630 AU
				morning rise	13134 Jan 20 13:31	24° \searrow 54'14	
conjunction	13127 Dec 07 07:30	26° \nearrow 37'37	1°00'08	retrograde	13134 Apr 24 09:41	28° \searrow 16'13	
minimum elong	13127 Dec 07 07:31	26° \nearrow 37'37	1°01'08	opposition	13134 Jul 08 03:58	26° \searrow 12'58	0°46'05
max. Earth dist.	13127 Dec 07 01:53	26° \nearrow 36'46	19.96282 AU	min. Earth dist.	13134 Jul 08 12:47	26° \searrow 12'01	17.61323 AU
morning rise	13127 Dec 23 19:37	27° \nearrow 36'56		direct	13134 Sep 21 00:33	24° \searrow 09'12	
	13128 Feb 09 04:02	0° \searrow		evening set	13134 Dec 23 10:37	27° \searrow 30'20	
retrograde	13128 Mar 27 00:18	0° \searrow 55'48					
	13128 May 13 23:49	30° \nwarrow		conjunction	13135 Jan 09 00:28	28° \searrow 31'07	0°39'17
opposition	13128 Jun 10 13:08	28° \nearrow 53'22	1°05'55	minimum elong	13135 Jan 09 00:28	28° \searrow 31'07	0°40'13
min. Earth dist.	13128 Jun 10 17:55	28° \nearrow 52'51	17.93423 AU	max. Earth dist.	13135 Jan 08 14:36	28° \searrow 29'36	19.59092 AU
direct	13128 Aug 24 08:53	26° \nearrow 51'30		morning rise	13135 Jan 25 14:20	29° \searrow 31'57	
	13128 Nov 22 17:31	0° \searrow			13135 Feb 02 11:53	0° \approx	
evening set	13128 Nov 24 17:08	0° \searrow 07'00		retrograde	13135 Apr 29 08:53	2° \approx 54'18	
				opposition	13135 Jul 13 00:05	0° \approx 50'58	0°41'32
conjunction	13128 Dec 11 04:26	1° \searrow 06'21	0°58'12	min. Earth dist.	13135 Jul 13 08:10	0° \approx 50'05	17.56988 AU
minimum elong	13128 Dec 11 04:27	1° \searrow 06'21	0°59'13		13135 Aug 02 03:50	30° \nwarrow	
max. Earth dist.	13128 Dec 10 22:58	1° \searrow 05'31	19.90525 AU	direct	13135 Sep 25 22:30	28° \searrow 46'56	
morning rise	13128 Dec 27 16:48	2° \searrow 05'54			13135 Nov 18 02:32	0° \approx	
retrograde	13129 Mar 31 21:01	5° \searrow 25'24		evening set	13135 Dec 28 11:45	2° \approx 08'54	
opposition	13129 Jun 15 06:19	3° \searrow 22'50	1°03'35				
min. Earth dist.	13129 Jun 15 11:32	3° \searrow 22'17	17.87678 AU	conjunction	13136 Jan 14 01:44	3° \approx 09'52	0°35'03
direct	13129 Aug 29 02:03	1° \searrow 20'41		minimum elong	13136 Jan 14 01:45	3° \approx 09'52	0°35'57
evening set	13129 Nov 29 14:27	4° \searrow 37'10		max. Earth dist.	13136 Jan 13 15:12	3° \approx 08'14	19.54979 AU
				morning rise	13136 Jan 30 15:39	4° \approx 10'51	
conjunction	13129 Dec 16 02:08	5° \searrow 36'47	0°55'54	retrograde	13136 May 03 06:55	7° \approx 33'32	
minimum elong	13129 Dec 16 02:08	5° \searrow 36'47	0°56'55	opposition	13136 Jul 16 20:52	5° \approx 30'08	0°36'40
max. Earth dist.	13129 Dec 15 18:27	5° \searrow 35'37	19.84814 AU	min. Earth dist.	13136 Jul 17 06:01	5° \approx 29'08	17.53120 AU
morning rise	13130 Jan 01 15:02	6° \searrow 36'35		direct	13136 Sep 29 19:26	3° \approx 25'52	
retrograde	13130 Apr 05 17:44	9° \searrow 56'39		evening set	13137 Jan 01 13:15	6° \approx 48'37	
opposition	13130 Jun 19 23:57	7° \searrow 53'57	1°00'51				
min. Earth dist.	13130 Jun 20 06:32	7° \searrow 53'15	17.82011 AU	conjunction	13137 Jan 18 03:29	7° \approx 49'45	0°30'34
direct	13130 Sep 02 19:30	5° \searrow 51'28		minimum elong	13137 Jan 18 03:29	7° \approx 49'45	0°31'26
evening set	13130 Dec 04 12:19	9° \searrow 08'56		max. Earth dist.	13137 Jan 17 17:07	7° \approx 48'09	19.51365 AU
				morning rise	13137 Feb 03 17:23	8° \approx 50'51	
conjunction	13130 Dec 21 00:41	10° \searrow 08'49	0°53'15	retrograde	13137 May 08 06:40	12° \approx 13'50	

opposition	13137 Jul 21 17:58	10° \approx 10'25	0°31'34	behind sun begin	13143 Feb 16 14:29	6° \times 08'06	
min. Earth dist.	13137 Jul 22 02:08	10° \approx 09'32	17.49753 AU	behind sun end	13143 Feb 17 03:56	6° \times 10'09	
direct	13137 Oct 04 18:58	8° \approx 05'58		max. Earth dist.	13143 Feb 16 09:39	6° \times 07'20	19.39963 AU
evening set	13138 Jan 06 15:26	11° \approx 29'28		morning rise	13143 Mar 05 09:23	7° \times 10'32	
				desc. node	13143 Mar 07 13:40	7° \times 18'29	
conjunction	13138 Jan 23 05:45	12° \approx 30'45	0°25'53	retrograde	13143 Jun 06 08:21	10° \times 34'06	
minimum elong	13138 Jan 23 05:45	12° \approx 30'45	0°26'41	opposition	13143 Aug 19 09:32	8° \times 31'06	-0°02'36
max. Earth dist.	13138 Jan 22 19:16	12° \approx 29'08	19.48254 AU	min. Earth dist.	13143 Aug 19 18:38	8° \times 30'07	17.39721 AU
morning rise	13138 Feb 08 19:28	13° \approx 31'58		direct	13143 Nov 02 19:10	6° \times 26'03	
	13138 Mar 06 16:05	15° \approx		evening set	13144 Feb 05 11:25	9° \times 52'34	
retrograde	13138 May 13 05:12	16° \approx 55'11					
	13138 Jul 23 12:21	15° \times		conjunction	13144 Feb 22 00:43	10° \times 54'10	-0°05'07
opposition	13138 Jul 26 15:36	14° \approx 51'48	0°26'13	minimum elong	13144 Feb 22 00:43	10° \times 54'10	0°04'41
min. Earth dist.	13138 Jul 27 00:48	14° \approx 50'48	17.46907 AU	behind sun begin	13144 Feb 21 18:08	10° \times 53'09	
direct	13138 Oct 09 17:01	12° \approx 47'12		behind sun end	13144 Feb 22 07:18	10° \times 55'10	
	13138 Dec 22 03:26	15° \approx		max. Earth dist.	13144 Feb 21 14:12	10° \times 52'32	19.39560 AU
evening set	13139 Jan 11 18:01	16° \approx 11'25		morning rise	13144 Mar 09 12:12	11° \times 55'31	
				retrograde	13144 Jun 10 08:32	15° \times 18'56	
conjunction	13139 Jan 28 08:19	17° \approx 12'48	0°21'00	opposition	13144 Aug 23 09:03	13° \times 16'00	-0°08'30
minimum elong	13139 Jan 28 08:19	17° \approx 12'48	0°21'45	min. Earth dist.	13144 Aug 23 18:35	13° \times 14'57	17.39520 AU
max. Earth dist.	13139 Jan 27 21:37	17° \approx 11'09	19.45680 AU	direct	13144 Nov 06 20:17	11° \times 10'53	
morning rise	13139 Feb 13 21:56	18° \approx 14'07		evening set	13145 Feb 09 15:11	14° \times 37'34	
retrograde	13139 May 18 06:01	21° \approx 37'32					
opposition	13139 Jul 31 13:36	19° \approx 34'13	0°20'41	conjunction	13145 Feb 26 03:55	15° \times 39'07	-0°10'21
min. Earth dist.	13139 Jul 31 21:52	19° \approx 33'19	17.44582 AU	minimum elong	13145 Feb 26 03:54	15° \times 39'07	0°10'00
direct	13139 Oct 14 17:49	17° \approx 29'31		behind sun begin	13145 Feb 25 22:30	15° \times 38'17	
evening set	13140 Jan 16 20:51	20° \approx 54'22		behind sun end	13145 Feb 26 09:19	15° \times 39'56	
				max. Earth dist.	13145 Feb 25 16:14	15° \times 37'18	19.39573 AU
conjunction	13140 Feb 02 11:09	21° \approx 55'51	0°15'58	morning rise	13145 Mar 14 14:59	16° \times 40'25	
minimum elong	13140 Feb 02 11:09	21° \approx 55'51	0°16'40	retrograde	13145 Jun 15 08:21	20° \times 03'37	
max. Earth dist.	13140 Feb 02 00:54	21° \approx 54'16	19.43594 AU	opposition	13145 Aug 28 08:39	18° \times 00'43	-0°14'20
morning rise	13140 Feb 19 00:25	22° \approx 57'13		min. Earth dist.	13145 Aug 28 17:55	17° \times 59'43	17.39746 AU
retrograde	13140 May 22 05:26	26° \approx 20'48		direct	13145 Nov 11 21:44	15° \times 55'32	
opposition	13140 Aug 04 12:11	24° \approx 17'34	0°15'00	evening set	13146 Feb 14 18:37	19° \times 22'19	
min. Earth dist.	13140 Aug 04 21:29	24° \approx 16'34	17.42732 AU				
direct	13140 Oct 18 16:41	22° \approx 12'47		conjunction	13146 Mar 03 07:00	20° \times 23'47	-0°15'32
evening set	13141 Jan 21 00:18	25° \approx 38'11		minimum elong	13146 Mar 03 06:59	20° \times 23'47	0°15'16
				behind sun begin	13146 Mar 03 05:03	20° \times 23'30	
conjunction	13141 Feb 06 14:22	26° \approx 39'44	0°10'49	behind sun end	13146 Mar 03 08:55	20° \times 24'05	
minimum elong	13141 Feb 06 14:22	26° \approx 39'44	0°11'27	max. Earth dist.	13146 Mar 02 20:39	20° \times 22'11	19.40009 AU
behind sun begin	13141 Feb 06 09:33	26° \approx 39'00		morning rise	13146 Mar 19 17:15	21° \times 24'59	
behind sun end	13141 Feb 06 19:12	26° \approx 40'28		retrograde	13146 Jun 20 08:11	24° \times 47'55	
max. Earth dist.	13141 Feb 06 03:17	26° \approx 38'01	19.41975 AU	opposition	13146 Sep 02 08:17	22° \times 45'04	-0°20'05
morning rise	13141 Feb 23 03:27	27° \approx 41'09		min. Earth dist.	13146 Sep 02 17:23	22° \times 44'05	17.40400 AU
	13141 Apr 07 20:32	0° \times		direct	13146 Nov 17 00:12	20° \times 39'51	
retrograde	13141 May 27 06:58	1° \times 04'47		evening set	13147 Feb 19 21:54	24° \times 06'37	
	13141 Jul 17 04:45	30° \times					
opposition	13141 Aug 09 10:51	29° \approx 01'39	0°09'12	conjunction	13147 Mar 08 09:31	25° \times 07'59	-0°20'37
min. Earth dist.	13141 Aug 09 19:36	29° \approx 00'42	17.41326 AU	minimum elong	13147 Mar 08 09:31	25° \times 07'59	0°20'24
direct	13141 Oct 23 17:53	26° \approx 56'46		max. Earth dist.	13147 Mar 07 22:27	25° \times 06'16	19.40899 AU
	13142 Jan 19 21:20	0° \times		morning rise	13147 Mar 24 19:14	26° \times 09'04	
evening set	13142 Jan 26 03:58	0° \times 22'39		retrograde	13147 Jun 25 06:29	29° \times 31'41	
				opposition	13147 Sep 07 07:52	27° \times 28'53	-0°25'41
conjunction	13142 Feb 11 17:55	1° \times 24'15	0°05'36	min. Earth dist.	13147 Sep 07 16:47	27° \times 27'55	17.41538 AU
minimum elong	13142 Feb 11 17:56	1° \times 24'15	0°06'11	direct	13147 Nov 22 01:32	25° \times 23'38	
behind sun begin	13142 Feb 11 11:32	1° \times 23'17		evening set	13148 Feb 25 00:31	28° \times 50'18	
behind sun end	13142 Feb 12 00:19	1° \times 25'13					
max. Earth dist.	13142 Feb 11 07:29	1° \times 22'38	19.40765 AU	conjunction	13148 Mar 12 11:42	29° \times 51'33	-0°25'32
morning rise	13142 Feb 28 06:26	2° \times 25'40		minimum elong	13148 Mar 12 11:41	29° \times 51'33	0°25'27
retrograde	13142 Jun 01 07:15	5° \times 49'18		max. Earth dist.	13148 Mar 12 02:11	29° \times 50'04	19.42278 AU
opposition	13142 Aug 14 10:08	3° \times 46'15	0°03'19		13148 Mar 14 17:46	0° γ	
min. Earth dist.	13142 Aug 14 19:44	3° \times 45'12	17.40319 AU	morning rise	13148 Mar 28 20:35	0° γ 52'29	
direct	13142 Oct 28 17:51	1° \times 41'17		retrograde	13148 Jun 29 05:53	4° γ 14'43	
evening set	13143 Jan 31 07:43	5° \times 07'32		opposition	13148 Sep 11 07:22	2° γ 12'00	-0°31'05
				min. Earth dist.	13148 Sep 11 15:29	2° γ 11'07	17.43159 AU
conjunction	13143 Feb 16 21:11	6° \times 09'07	0°00'17	direct	13148 Nov 26 04:32	0° γ 06'46	
minimum elong	13143 Feb 16 21:12	6° \times 09'07	0°00'47	evening set	13149 Mar 01 03:03	3° γ 33'15	

conjunction	13149 Mar 17 13:24	4° Υ 34'21	-0°30'18	retrograde	13155 Aug 01 10:15	6° Σ 50'32	
minimum elong	13149 Mar 17 13:24	4° Υ 34'21	0°30'16	opposition	13155 Oct 14 22:50	4° Σ 49'13	-1°00'53
max. Earth dist.	13149 Mar 17 03:40	4° Υ 32'50	19.44158 AU	min. Earth dist.	13155 Oct 15 02:47	4° Σ 48'48	17.68560 AU
morning rise	13149 Apr 02 21:36	5° Υ 35'08		direct	13155 Dec 30 08:51	2° Σ 45'17	
retrograde	13149 Jul 04 03:03	8° Υ 56'57		evening set	13156 Apr 03 04:32	6° Σ 08'36	
opposition	13149 Sep 16 06:42	6° Υ 54'20	-0°36'17				
min. Earth dist.	13149 Sep 16 14:42	6° Υ 53'28	17.45319 AU	conjunction	13156 Apr 19 09:18	7° Σ 08'11	-0°55'59
direct	13149 Dec 01 05:30	4° Υ 49'08		minimum elong	13156 Apr 19 09:17	7° Σ 08'11	0°56'31
evening set	13150 Mar 06 04:57	8° Υ 15'23		max. Earth dist.	13156 Apr 19 05:11	7° Σ 07'33	19.71044 AU
				morning rise	13156 May 05 11:44	8° Σ 07'26	
conjunction	13150 Mar 22 14:41	9° Υ 16'18	-0°34'50	retrograde	13156 Aug 05 07:33	11° Σ 25'31	
minimum elong	13150 Mar 22 14:40	9° Υ 16'18	0°34'53	opposition	13156 Oct 18 20:26	9° Σ 24'25	-1°03'41
max. Earth dist.	13150 Mar 22 06:26	9° Υ 15'02	19.46589 AU	min. Earth dist.	13156 Oct 18 22:48	9° Σ 24'10	17.73610 AU
morning rise	13150 Apr 07 21:59	10° Υ 16'54		direct	13157 Jan 03 09:06	7° Σ 20'43	
retrograde	13150 Jul 09 01:57	13° Υ 38'17		evening set	13157 Apr 08 02:07	10° Σ 43'18	
opposition	13150 Sep 21 05:57	11° Υ 35'48	-0°41'12				
min. Earth dist.	13150 Sep 21 12:30	11° Υ 35'06	17.48020 AU	conjunction	13157 Apr 24 06:07	11° Σ 42'37	-0°58'19
direct	13150 Dec 06 08:27	9° Υ 30'44		minimum elong	13157 Apr 24 06:06	11° Σ 42'37	0°58'55
evening set	13151 Mar 11 06:18	12° Υ 56'39		max. Earth dist.	13157 Apr 24 03:17	11° Σ 42'11	19.76178 AU
				morning rise	13157 May 10 07:36	12° Σ 41'36	
conjunction	13151 Mar 27 15:10	13° Υ 57'24	-0°39'07		13157 Jun 23 18:45	15° Σ	
minimum elong	13151 Mar 27 15:10	13° Υ 57'23	0°39'16	retrograde	13157 Aug 10 01:17	15° Σ 59'00	
max. Earth dist.	13151 Mar 27 07:24	13° Υ 56'11	19.49564 AU		13157 Sep 28 03:15	15° Σ	
morning rise	13151 Apr 12 21:42	14° Υ 57'48		opposition	13157 Oct 23 17:45	13° Σ 58'07	-1°06'04
retrograde	13151 Jul 13 22:24	18° Υ 18'43		min. Earth dist.	13157 Oct 23 20:34	13° Σ 57'49	17.78832 AU
opposition	13151 Sep 26 05:06	16° Υ 16'26	-0°45'50	direct	13158 Jan 08 06:48	11° Σ 54'40	
min. Earth dist.	13151 Sep 26 11:34	16° Υ 15'44	17.51274 AU		13158 Apr 08 08:15	15° Σ	
direct	13151 Dec 11 08:33	14° Υ 11'31		evening set	13158 Apr 12 22:56	15° Σ 16'26	
evening set	13152 Mar 15 07:08	17° Υ 37'04					
				conjunction	13158 Apr 29 02:00	16° Σ 15'29	-1°00'17
conjunction	13152 Mar 31 15:17	18° Υ 37'36	-0°43'07	minimum elong	13158 Apr 29 01:59	16° Σ 15'29	1°00'57
minimum elong	13152 Mar 31 15:17	18° Υ 37'36	0°43'20	max. Earth dist.	13158 Apr 28 22:56	16° Σ 15'01	19.81479 AU
max. Earth dist.	13152 Mar 31 08:39	18° Υ 36'34	19.53080 AU	morning rise	13158 May 15 02:52	17° Σ 14'12	
morning rise	13152 Apr 16 21:00	19° Υ 37'48		retrograde	13158 Aug 14 21:03	20° Σ 30'55	
retrograde	13152 Jul 17 20:52	22° Υ 58'12		opposition	13158 Oct 28 14:31	18° Σ 30'12	-1°08'02
opposition	13152 Sep 30 03:45	20° Υ 56'10	-0°50'08	min. Earth dist.	13158 Oct 28 15:44	18° Σ 30'04	17.84200 AU
min. Earth dist.	13152 Sep 30 08:37	20° Υ 55'38	17.55021 AU	direct	13159 Jan 13 06:25	16° Σ 26'59	
direct	13152 Dec 15 10:33	18° Υ 51'28		evening set	13159 Apr 17 18:37	19° Σ 47'53	
evening set	13153 Mar 20 07:31	22° Υ 16'34					
				conjunction	13159 May 03 21:02	20° Σ 46'38	-1°01'52
conjunction	13153 Apr 05 14:51	23° Υ 16'54	-0°46'50	minimum elong	13159 May 03 21:02	20° Σ 46'38	1°02'35
minimum elong	13153 Apr 05 14:50	23° Υ 16'54	0°47'08	max. Earth dist.	13159 May 03 19:35	20° Σ 46'25	19.86902 AU
max. Earth dist.	13153 Apr 05 08:59	23° Υ 15'59	19.57048 AU	morning rise	13159 May 19 21:03	21° Σ 45'05	
morning rise	13153 Apr 21 19:41	24° Υ 16'52		retrograde	13159 Aug 19 13:09	25° Σ 01'06	
retrograde	13153 Jul 22 17:00	27° Υ 36'45		opposition	13159 Nov 02 10:50	23° Σ 00'31	-1°09'34
opposition	13153 Oct 05 02:27	25° Υ 34'57	-0°54'06	min. Earth dist.	13159 Nov 02 12:21	23° Σ 00'22	17.89677 AU
min. Earth dist.	13153 Oct 05 07:36	25° Υ 34'24	17.59202 AU	direct	13160 Jan 18 03:38	20° Σ 57'32	
direct	13153 Dec 20 09:45	23° Υ 30'30		evening set	13160 Apr 21 13:39	24° Σ 17'31	
evening set	13154 Mar 25 07:11	26° Υ 55'05					
				conjunction	13160 May 07 15:11	25° Σ 15'59	-1°03'04
conjunction	13154 Apr 10 13:38	27° Υ 55'10	-0°50'13	minimum elong	13160 May 07 15:10	25° Σ 15'59	1°03'49
minimum elong	13154 Apr 10 13:37	27° Υ 55'10	0°50'36	max. Earth dist.	13160 May 07 13:23	25° Σ 15'43	19.92436 AU
max. Earth dist.	13154 Apr 10 08:23	27° Υ 54'22	19.61416 AU	morning rise	13160 May 23 14:41	26° Σ 14'10	
morning rise	13154 Apr 26 17:40	28° Υ 54'55		retrograde	13160 Aug 23 06:56	29° Σ 29'26	
	13154 May 15 10:18	0° Σ		opposition	13160 Nov 06 06:19	27° Σ 28'59	-1°10'40
retrograde	13154 Jul 27 14:58	2° Σ 14'14		min. Earth dist.	13160 Nov 06 06:25	27° Σ 28'58	17.95263 AU
opposition	13154 Oct 10 00:45	0° Σ 12'41	-0°57'41	direct	13161 Jan 22 02:27	25° Σ 26'12	
min. Earth dist.	13154 Oct 10 04:15	0° Σ 12'19	17.63734 AU	evening set	13161 Apr 26 07:36	28° Σ 45'13	
	13154 Oct 14 23:48	30° Σ					
direct	13154 Dec 25 10:47	28° Υ 08'30		conjunction	13161 May 12 08:33	29° Σ 43'25	-1°03'52
	13155 Mar 02 20:16	0° Σ		minimum elong	13161 May 12 08:33	29° Σ 43'25	1°04'41
evening set	13155 Mar 30 06:13	1° Σ 32'29		max. Earth dist.	13161 May 12 08:40	29° Σ 43'26	19.98074 AU
					13161 May 16 21:21	0° Π	
conjunction	13155 Apr 15 11:51	2° Σ 32'19	-0°53'17	morning rise	13161 May 28 07:14	0° Π 41'19	
minimum elong	13155 Apr 15 11:51	2° Σ 32'19	0°53'44	retrograde	13161 Aug 27 21:14	3° Π 55'50	
max. Earth dist.	13155 Apr 15 07:42	2° Σ 31'41	19.66095 AU	opposition	13161 Nov 11 01:29	1° Π 55'31	-1°11'19
morning rise	13155 May 01 14:59	3° Σ 31'49		min. Earth dist.	13161 Nov 11 01:30	1° Π 55'31	18.00958 AU




























































































































	13162 Jan 10 06:40	30° 	minimum elong	13168 Jun 11 09:14	0°  04'51	1°00'03
direct	13162 Jan 26 22:47	29°  52'57	max. Earth dist.	13168 Jun 11 14:55	0°  05'42	20.40459 AU
	13162 Feb 12 11:46	0° 	morning rise	13168 Jun 27 04:58	1°  01'03	
evening set	13162 May 01 00:34	3°  10'59	retrograde	13168 Sep 26 21:09	4°  10'56	
			opposition	13168 Dec 11 22:42	2°  11'56	-1°04'28
conjunction	13162 May 17 00:38	4°  10'53	min. Earth dist.	13168 Dec 11 16:29	2°  12'34	18.43474 AU
minimum elong	13162 May 17 00:37	4°  10'53	direct	13169 Feb 27 00:27	0°  11'30	
max. Earth dist.	13162 May 17 00:41	4°  10'53	evening set	13169 May 30 23:49	3°  22'49	
morning rise	13162 Jun 01 22:53	5°  10'6'31				
retrograde	13162 Sep 01 13:24	8°  12'0'18	conjunction	13169 Jun 15 20:20	4°  18'57	-0°57'00
opposition	13162 Nov 15 19:56	6°  12'0'06	minimum elong	13169 Jun 15 20:20	4°  18'57	0°58'00
min. Earth dist.	13162 Nov 15 18:23	6°  12'0'15	max. Earth dist.	13169 Jun 16 03:34	4°  20'01	20.46402 AU
direct	13163 Jan 31 19:27	4°  11'7'45	morning rise	13169 Jul 01 15:41	5°  14'56	
evening set	13163 May 05 16:32	7°  11'3'47	retrograde	13169 Oct 01 09:03	8°  24'15	
			opposition	13169 Dec 16 13:24	6°  25'27	-1°02'01
conjunction	13163 May 21 16:07	8°  11'3'25	min. Earth dist.	13169 Dec 16 06:30	6°  26'09	18.49306 AU
minimum elong	13163 May 21 16:07	8°  11'3'25	direct	13170 Mar 03 15:15	4°  25'22	
max. Earth dist.	13163 May 21 18:22	8°  11'3'45	evening set	13170 Jun 04 10:32	7°  35'46	
morning rise	13163 Jun 06 13:39	9°  11'2'9'47				
retrograde	13163 Sep 06 02:41	12°  11'4'2'50	conjunction	13170 Jun 20 06:33	8°  31'40	-0°54'40
opposition	13163 Nov 20 13:45	10°  11'4'2'47	minimum elong	13170 Jun 20 06:33	8°  31'40	0°55'41
min. Earth dist.	13163 Nov 20 11:43	10°  11'4'3'00	max. Earth dist.	13170 Jun 20 13:19	8°  32'40	20.52119 AU
direct	13164 Feb 05 14:17	8°  11'4'0'42	morning rise	13170 Jul 06 01:52	9°  27'28	
evening set	13164 May 09 07:49	11°  11'5'6'45	retrograde	13170 Oct 05 20:38	12°  36'17	
			opposition	13170 Dec 21 03:37	10°  37'38	-0°59'15
conjunction	13164 May 25 06:37	12°  11'5'4'06	min. Earth dist.	13170 Dec 20 20:35	10°  38'21	18.54899 AU
minimum elong	13164 May 25 06:37	12°  11'5'4'06	direct	13171 Mar 08 04:33	8°  37'50	
max. Earth dist.	13164 May 25 08:45	12°  11'5'4'25	evening set	13171 Jun 08 20:35	11°  34'7'22	
morning rise	13164 Jun 10 03:50	13°  11'5'1'13				
retrograde	13164 Sep 09 17:27	17°  11'5'0'3'35	conjunction	13171 Jun 24 16:28	12°  43'04	-0°52'03
opposition	13164 Nov 24 07:00	15°  11'5'0'3'43	minimum elong	13171 Jun 24 16:28	12°  43'04	0°53'03
min. Earth dist.	13164 Nov 24 03:35	15°  11'5'0'4'04	max. Earth dist.	13171 Jun 25 00:25	12°  44'14	20.57562 AU
direct	13165 Feb 09 08:18	13°  11'5'0'1'55	morning rise	13171 Jul 10 11:31	13°  38'40	
evening set	13165 May 13 22:01	16°  11'5'0'1'7'00	retrograde	13171 Oct 10 07:43	16°  46'58	
			opposition	13171 Dec 25 17:05	14°  48'28	-0°56'11
conjunction	13165 May 29 20:24	17°  11'5'0'1'4'05	min. Earth dist.	13171 Dec 25 09:24	14°  49'15	18.60175 AU
minimum elong	13165 May 29 20:24	17°  11'5'0'1'4'05	direct	13172 Mar 11 17:55	12°  48'56	
max. Earth dist.	13165 May 30 00:41	17°  11'5'0'1'4'44	evening set	13172 Jun 12 06:12	15°  57'37	
morning rise	13165 Jun 14 17:00	18°  11'5'0'1'0'57				
retrograde	13165 Sep 14 06:31	21°  11'5'0'2'2'39	conjunction	13172 Jun 28 01:41	16°  53'07	-0°49'10
opposition	13165 Nov 28 23:47	19°  11'5'0'2'3'00	minimum elong	13172 Jun 28 01:42	16°  53'07	0°50'10
min. Earth dist.	13165 Nov 28 19:40	19°  11'5'0'2'3'25	max. Earth dist.	13172 Jun 28 08:59	16°  54'11	20.62674 AU
direct	13166 Feb 14 01:51	17°  11'5'0'2'1'33	morning rise	13172 Jul 13 20:47	17°  48'34	
evening set	13166 May 18 11:39	20°  11'5'0'3'5'40	retrograde	13172 Oct 13 18:17	20°  56'23	
			opposition	13172 Dec 29 06:17	18°  57'58	-0°52'51
conjunction	13166 Jun 03 09:20	21°  11'5'0'3'2'29	min. Earth dist.	13172 Dec 28 22:46	18°  58'44	18.65122 AU
minimum elong	13166 Jun 03 09:20	21°  11'5'0'3'2'29	direct	13173 Mar 16 06:06	16°  58'40	
max. Earth dist.	13166 Jun 03 13:30	21°  11'5'0'3'3'07	evening set	13173 Jun 16 14:53	20°  06'29	
morning rise	13166 Jun 19 05:42	22°  11'5'0'3'2'9'08				
retrograde	13166 Sep 18 20:06	25°  11'5'0'4'0'12	conjunction	13173 Jul 02 10:19	21°  01'49	-0°46'03
opposition	13166 Dec 03 15:57	23°  11'5'0'4'0'45	minimum elong	13173 Jul 02 10:19	21°  01'49	0°47'02
min. Earth dist.	13166 Dec 03 10:51	23°  11'5'0'4'1'16	max. Earth dist.	13173 Jul 02 18:45	21°  03'03	20.67450 AU
direct	13167 Feb 18 17:43	21°  11'5'0'3'9'38	morning rise	13173 Jul 18 05:15	21°  05'7'06	
evening set	13167 May 23 00:15	24°  11'5'0'5'2'48	retrograde	13173 Oct 18 04:49	25°  04'28	
			opposition	13174 Jan 02 18:52	23°  06'06	-0°49'16
conjunction	13167 Jun 07 21:39	25°  11'5'0'4'9'23	min. Earth dist.	13174 Jan 02 10:29	23°  06'57	18.69716 AU
minimum elong	13167 Jun 07 21:39	25°  11'5'0'4'9'23	direct	13174 Mar 20 18:51	21°  07'01	
max. Earth dist.	13167 Jun 08 03:42	25°  11'5'0'5'0'18	evening set	13174 Jun 20 23:08	24°  13'59	
morning rise	13167 Jun 23 17:33	26° 11'5'0'4'5'48				
retrograde	13167 Sep 23 08:43	29° 11'5'0'5'6'15	conjunction	13174 Jul 06 18:18	25° 09'09	-0°42'43
opposition	13167 Dec 08 07:36	27° 11'5'0'5'7'02	minimum elong	13174 Jul 06 18:19	25° 09'09	0°43'40
min. Earth dist.	13167 Dec 08 01:53	27° 11'5'0'5'7'38	max. Earth dist.	13174 Jul 07 02:21	25° 10'19	20.71887 AU
direct	13168 Feb 23 10:02	25° 11'5'0'5'6'17	morning rise	13174 Jul 22 13:24	26° 04'17	
evening set	13168 May 26 12:28	29° 11'5'0'8'3'1	retrograde	13174 Oct 22 13:57	29° 11'13	
	13168 Jun 10 00:39	0°	opposition	13175 Jan 07 06:54	27° 12'53	-0°45'26
			min. Earth dist.	13175 Jan 06 22:46	27° 13'42	18.74010 AU
conjunction	13168 Jun 11 09:14	0° 04'51	direct	13175 Mar 25 05:37	25° 13'57	

evening set	13175 Jun 25 06:37	28° $\mathring{\text{U}}$ 20'08	conjunction	13181 Aug 03 14:53	23° $\mathring{\text{U}}$ 30'56	-0°14'45
			minimum elong	13181 Aug 03 14:53	23° $\mathring{\text{U}}$ 30'56	0°15'26
conjunction	13175 Jul 11 01:50	29° $\mathring{\text{U}}$ 15'09 -0°39'10	behind sun begin	13181 Aug 03 12:52	23° $\mathring{\text{U}}$ 30'39	
minimum elong	13175 Jul 11 01:50	29° $\mathring{\text{U}}$ 15'09 0°40'07	behind sun end	13181 Aug 03 16:54	23° $\mathring{\text{U}}$ 31'13	
max. Earth dist.	13175 Jul 11 11:06	29° $\mathring{\text{U}}$ 16'30 20.76037 AU	max. Earth dist.	13181 Aug 04 02:30	23° $\mathring{\text{U}}$ 32'36	20.95370 AU
	13175 Jul 23 22:02	0° $\mathring{\text{U}}$	morning rise	13181 Aug 19 11:07	24° $\mathring{\text{U}}$ 25'27	
morning rise	13175 Jul 26 20:54	0° $\mathring{\text{U}}$ 10'09	retrograde	13181 Nov 20 02:46	27° $\mathring{\text{U}}$ 30'44	
retrograde	13175 Oct 27 00:13	3° $\mathring{\text{U}}$ 16'41	opposition	13182 Feb 05 07:26	25° $\mathring{\text{U}}$ 32'39	-0°13'54
opposition	13176 Jan 11 18:21	1° $\mathring{\text{U}}$ 18'22 -0°41'23	min. Earth dist.	13182 Feb 04 20:02	25° $\mathring{\text{U}}$ 33'47	18.96455 AU
min. Earth dist.	13176 Jan 11 09:07	1° $\mathring{\text{U}}$ 19'18 18.78015 AU	direct	13182 Apr 23 00:06	23° $\mathring{\text{U}}$ 35'02	
	13176 Feb 16 03:46	30° $\mathring{\text{R}}$ $\mathring{\text{U}}$	evening set	13182 Jul 23 00:59	26° $\mathring{\text{U}}$ 37'15	
direct	13176 Mar 28 17:31	29° $\mathring{\text{U}}$ 19'37				
	13176 May 08 01:58	0° $\mathring{\text{U}}$	conjunction	13182 Aug 07 20:27	27° $\mathring{\text{U}}$ 31'35	-0°10'21
evening set	13176 Jun 28 13:45	2° $\mathring{\text{U}}$ 25'03	minimum elong	13182 Aug 07 20:27	27° $\mathring{\text{U}}$ 31'35	0°10'59
			behind sun begin	13182 Aug 07 15:28	27° $\mathring{\text{U}}$ 30'53	
conjunction	13176 Jul 14 08:44	3° $\mathring{\text{U}}$ 19'55 -0°35'26	behind sun end	13182 Aug 08 01:26	27° $\mathring{\text{U}}$ 32'17	
minimum elong	13176 Jul 14 08:44	3° $\mathring{\text{U}}$ 19'55 0°36'20	max. Earth dist.	13182 Aug 08 07:31	27° $\mathring{\text{U}}$ 33'10	20.97429 AU
max. Earth dist.	13176 Jul 14 17:50	3° $\mathring{\text{U}}$ 21'14 20.79913 AU	morning rise	13182 Aug 23 17:06	28° $\mathring{\text{U}}$ 26'06	
morning rise	13176 Jul 30 03:58	4° $\mathring{\text{U}}$ 14'49		13182 Sep 22 23:42	0° $\mathring{\text{U}}$	
retrograde	13176 Oct 30 07:59	7° $\mathring{\text{U}}$ 20'59	retrograde	13182 Nov 24 10:40	1° $\mathring{\text{U}}$ 31'20	
opposition	13177 Jan 15 05:27	5° $\mathring{\text{U}}$ 22'41 -0°37'09		13183 Jan 29 11:05	30° $\mathring{\text{R}}$ $\mathring{\text{U}}$	
min. Earth dist.	13177 Jan 14 20:25	5° $\mathring{\text{U}}$ 23'36 18.81780 AU	opposition	13183 Feb 09 16:44	29° $\mathring{\text{U}}$ 33'16	-0°08'59
direct	13177 Apr 02 02:51	3° $\mathring{\text{U}}$ 24'07	min. Earth dist.	13183 Feb 09 06:23	29° $\mathring{\text{U}}$ 34'18	18.98305 AU
evening set	13177 Jul 02 20:17	6° $\mathring{\text{U}}$ 28'53	direct	13183 Apr 27 06:21	27° $\mathring{\text{U}}$ 35'49	
				13183 Jul 15 19:32	0° $\mathring{\text{U}}$	
conjunction	13177 Jul 18 15:23	7° $\mathring{\text{U}}$ 23'37 -0°31'33	evening set	13183 Jul 27 06:21	0° $\mathring{\text{U}}$ 37'41	
minimum elong	13177 Jul 18 15:23	7° $\mathring{\text{U}}$ 23'37 0°32'25				
max. Earth dist.	13177 Jul 19 01:43	7° $\mathring{\text{U}}$ 25'07 20.83563 AU	conjunction	13183 Aug 12 02:09	1° $\mathring{\text{U}}$ 32'01	-0°05'55
morning rise	13177 Aug 03 10:39	8° $\mathring{\text{U}}$ 18'24	minimum elong	13183 Aug 12 02:08	1° $\mathring{\text{U}}$ 32'01	0°06'29
retrograde	13177 Nov 03 17:57	11° $\mathring{\text{U}}$ 24'17	behind sun begin	13183 Aug 11 19:57	1° $\mathring{\text{U}}$ 31'08	
opposition	13178 Jan 19 16:04	9° $\mathring{\text{U}}$ 26'02 -0°32'45	behind sun end	13183 Aug 12 08:20	1° $\mathring{\text{U}}$ 32'53	
min. Earth dist.	13178 Jan 19 05:44	9° $\mathring{\text{U}}$ 27'04 18.85302 AU	max. Earth dist.	13183 Aug 12 13:32	1° $\mathring{\text{U}}$ 33'38	20.99048 AU
direct	13178 Apr 06 13:49	7° $\mathring{\text{U}}$ 27'39	morning rise	13183 Aug 27 23:03	2° $\mathring{\text{U}}$ 26'30	
evening set	13178 Jul 07 02:29	10° $\mathring{\text{U}}$ 31'46	retrograde	13183 Nov 28 19:17	5° $\mathring{\text{U}}$ 31'45	
			opposition	13184 Feb 14 01:49	3° $\mathring{\text{U}}$ 33'41	-0°04'02
conjunction	13178 Jul 22 21:30	11° $\mathring{\text{U}}$ 26'24 -0°27'30	min. Earth dist.	13184 Feb 13 14:45	3° $\mathring{\text{U}}$ 34'48	18.99672 AU
minimum elong	13178 Jul 22 21:30	11° $\mathring{\text{U}}$ 26'24 0°28'20	direct	13184 Apr 30 14:58	1° $\mathring{\text{U}}$ 36'22	
max. Earth dist.	13178 Jul 23 07:41	11° $\mathring{\text{U}}$ 27'53 20.86961 AU	evening set	13184 Jul 30 11:46	4° $\mathring{\text{U}}$ 37'57	
morning rise	13178 Aug 07 17:04	12° $\mathring{\text{U}}$ 21'07				
	13178 Oct 06 04:15	15° $\mathring{\text{U}}$	conjunction	13184 Aug 15 07:39	5° $\mathring{\text{U}}$ 32'15	-0°01'25
retrograde	13178 Nov 08 01:21	15° $\mathring{\text{U}}$ 26'47	minimum elong	13184 Aug 15 07:39	5° $\mathring{\text{U}}$ 32'15	0°01'57
	13178 Dec 11 15:39	15° $\mathring{\text{R}}$ $\mathring{\text{U}}$	behind sun begin	13184 Aug 15 01:04	5° $\mathring{\text{U}}$ 31'20	
opposition	13179 Jan 24 02:23	13° $\mathring{\text{U}}$ 28'33 -0°28'12	behind sun end	13184 Aug 15 14:14	5° $\mathring{\text{U}}$ 33'10	
min. Earth dist.	13179 Jan 23 16:28	13° $\mathring{\text{U}}$ 29'33 18.88574 AU	max. Earth dist.	13184 Aug 15 18:13	5° $\mathring{\text{U}}$ 33'45	21.00153 AU
direct	13179 Apr 10 21:31	11° $\mathring{\text{U}}$ 30'22	morning rise	13184 Aug 31 04:59	6° $\mathring{\text{U}}$ 26'45	
evening set	13179 Jul 11 08:21	14° $\mathring{\text{U}}$ 33'56	retrograde	13184 Dec 02 03:00	9° $\mathring{\text{U}}$ 32'04	
	13179 Jul 18 22:55	15° $\mathring{\text{U}}$	asc. node	13184 Dec 11 10:27	9° $\mathring{\text{U}}$ 29'55	
			opposition	13185 Feb 17 11:00	7° $\mathring{\text{U}}$ 33'57	0°00'57
conjunction	13179 Jul 27 03:32	15° $\mathring{\text{U}}$ 28'28 -0°23'21	min. Earth dist.	13185 Feb 17 01:12	7° $\mathring{\text{U}}$ 34'56	19.00522 AU
minimum elong	13179 Jul 27 03:33	15° $\mathring{\text{U}}$ 28'28 0°24'08	direct	13185 May 04 21:19	5° $\mathring{\text{U}}$ 36'43	
max. Earth dist.	13179 Jul 27 14:42	15° $\mathring{\text{U}}$ 30'04 20.90092 AU	evening set	13185 Aug 03 17:08	8° $\mathring{\text{U}}$ 38'04	
morning rise	13179 Aug 11 23:14	16° $\mathring{\text{U}}$ 23'05				
retrograde	13179 Nov 12 10:23	19° $\mathring{\text{U}}$ 28'34	conjunction	13185 Aug 19 13:24	9° $\mathring{\text{U}}$ 32'22	0°03'12
opposition	13180 Jan 28 12:07	17° $\mathring{\text{U}}$ 30'23 -0°23'31	minimum elong	13185 Aug 19 13:24	9° $\mathring{\text{U}}$ 32'22	0°02'45
min. Earth dist.	13180 Jan 28 01:05	17° $\mathring{\text{U}}$ 31'30 18.91543 AU	behind sun begin	13185 Aug 19 06:50	9° $\mathring{\text{U}}$ 31'27	
direct	13180 Apr 14 07:52	15° $\mathring{\text{U}}$ 32'25	behind sun end	13185 Aug 19 19:58	9° $\mathring{\text{U}}$ 33'17	
evening set	13180 Jul 14 14:07	18° $\mathring{\text{U}}$ 35'28	max. Earth dist.	13185 Aug 20 00:05	9° $\mathring{\text{U}}$ 33'53	21.00738 AU
			morning rise	13185 Sep 04 11:04	10° $\mathring{\text{U}}$ 26'52	
conjunction	13180 Jul 30 09:17	19° $\mathring{\text{U}}$ 29'56 -0°19'05	retrograde	13185 Dec 06 11:53	13° $\mathring{\text{U}}$ 32'16	
minimum elong	13180 Jul 30 09:17	19° $\mathring{\text{U}}$ 29'56 0°19'50	opposition	13186 Feb 21 19:49	11° $\mathring{\text{U}}$ 34'05	0°05'55
max. Earth dist.	13180 Jul 30 20:07	19° $\mathring{\text{U}}$ 31'29 20.92902 AU	min. Earth dist.	13186 Feb 21 09:24	11° $\mathring{\text{U}}$ 35'08	19.00829 AU
morning rise	13180 Aug 15 05:20	20° $\mathring{\text{U}}$ 24'30	direct	13186 May 09 05:32	9° $\mathring{\text{U}}$ 36'53	
retrograde	13180 Nov 15 18:08	23° $\mathring{\text{U}}$ 29'51	evening set	13186 Aug 07 22:32	12° $\mathring{\text{U}}$ 38'02	
opposition	13181 Jan 31 21:58	21° $\mathring{\text{U}}$ 31'43 -0°18'45				
min. Earth dist.	13181 Jan 31 11:35	21° $\mathring{\text{U}}$ 32'46 18.94189 AU	conjunction	13186 Aug 23 19:02	13° $\mathring{\text{U}}$ 32'21	0°07'40
direct	13181 Apr 18 14:34	19° $\mathring{\text{U}}$ 33'56	minimum elong	13186 Aug 23 19:02	13° $\mathring{\text{U}}$ 32'21	0°07'16
evening set	13181 Jul 18 19:28	22° $\mathring{\text{U}}$ 36'32	behind sun begin	13186 Aug 23 12:59	13° $\mathring{\text{U}}$ 31'30	

behind sun end	13186 Aug 24 01:06	13° <u>0</u> 33'12		morning rise	13192 Oct 02 08:45	8° <u>0</u> 29'10	
max. Earth dist.	13186 Aug 24 04:49	13° <u>0</u> 33'44	21.00774 AU	retrograde	13193 Jan 03 21:44	11° <u>0</u> 36'19	
morning rise	13186 Sep 08 17:14	14° <u>0</u> 26'54		opposition	13193 Mar 22 07:44	9° <u>0</u> 37'10	0°38'39
retrograde	13186 Dec 10 19:09	17° <u>0</u> 32'24		min. Earth dist.	13193 Mar 22 00:11	9° <u>0</u> 37'56	18.90805 AU
opposition	13187 Feb 26 04:39	15° <u>0</u> 34'07	0°10'51	direct	13193 Jun 06 03:35	7° <u>0</u> 39'40	
min. Earth dist.	13187 Feb 25 19:39	15° <u>0</u> 35'01	19.00607 AU	evening set	13193 Sep 04 15:22	10° <u>0</u> 41'12	
direct	13187 May 13 11:43	13° <u>0</u> 36'54					
evening set	13187 Aug 12 03:53	16° <u>0</u> 37'54		conjunction	13193 Sep 20 14:50	11° <u>0</u> 36'03	0°36'49
				minimum elong	13193 Sep 20 14:49	11° <u>0</u> 36'03	0°36'54
conjunction	13187 Aug 28 00:49	17° <u>0</u> 32'15	0°12'05	max. Earth dist.	13193 Sep 20 23:15	11° <u>0</u> 37'16	20.89439 AU
minimum elong	13187 Aug 28 00:48	17° <u>0</u> 32'15	0°11'46	morning rise	13193 Oct 06 16:29	12° <u>0</u> 31'15	
behind sun begin	13187 Aug 27 20:09	17° <u>0</u> 31'35		retrograde	13194 Jan 08 08:44	15° <u>0</u> 38'51	
behind sun end	13187 Aug 28 05:28	17° <u>0</u> 32'54		opposition	13194 Mar 26 16:23	13° <u>0</u> 39'36	0°42'47
max. Earth dist.	13187 Aug 28 10:42	17° <u>0</u> 33'39	21.00307 AU	min. Earth dist.	13194 Mar 26 08:10	13° <u>0</u> 40'26	18.88014 AU
morning rise	13187 Sep 12 23:22	18° <u>0</u> 26'50		direct	13194 Jun 10 10:57	11° <u>0</u> 42'01	
retrograde	13187 Dec 15 04:08	21° <u>0</u> 32'29		evening set	13194 Sep 08 22:32	14° <u>0</u> 43'54	
opposition	13188 Mar 01 13:05	19° <u>0</u> 34'03	0°15'44				
min. Earth dist.	13188 Mar 01 03:25	19° <u>0</u> 35'01	18.99897 AU	conjunction	13194 Sep 24 22:27	15° <u>0</u> 38'54	0°40'27
direct	13188 May 16 19:50	17° <u>0</u> 36'48		minimum elong	13194 Sep 24 22:26	15° <u>0</u> 38'54	0°40'37
evening set	13188 Aug 15 09:23	20° <u>0</u> 37'43		max. Earth dist.	13194 Sep 25 06:07	15° <u>0</u> 40'00	20.86477 AU
				morning rise	13194 Oct 11 00:43	16° <u>0</u> 34'15	
conjunction	13188 Aug 31 06:34	21° <u>0</u> 32'06	0°16'28	retrograde	13195 Jan 12 17:57	19° <u>0</u> 42'20	
minimum elong	13188 Aug 31 06:33	21° <u>0</u> 32'06	0°16'13	opposition	13195 Mar 31 01:30	17° <u>0</u> 42'58	0°46'42
max. Earth dist.	13188 Aug 31 15:48	21° <u>0</u> 33'25	20.99377 AU	min. Earth dist.	13195 Mar 30 18:47	17° <u>0</u> 43'39	18.84887 AU
morning rise	13188 Sep 16 05:39	22° <u>0</u> 26'46		direct	13195 Jun 14 16:36	15° <u>0</u> 45'20	
retrograde	13188 Dec 18 11:01	25° <u>0</u> 32'36		evening set	13195 Sep 13 06:10	18° <u>0</u> 47'36	
opposition	13189 Mar 05 21:43	23° <u>0</u> 34'01	0°20'34				
min. Earth dist.	13189 Mar 05 13:18	23° <u>0</u> 34'52	18.98773 AU	conjunction	13195 Sep 29 06:39	19° <u>0</u> 42'46	0°43'53
direct	13189 May 21 01:33	21° <u>0</u> 36'43		minimum elong	13195 Sep 29 06:38	19° <u>0</u> 42'45	0°44'08
evening set	13189 Aug 19 14:45	24° <u>0</u> 37'37		max. Earth dist.	13195 Sep 29 14:01	19° <u>0</u> 43'49	20.83182 AU
				morning rise	13195 Oct 15 09:26	20° <u>0</u> 38'16	
conjunction	13189 Sep 04 12:25	25° <u>0</u> 32'03	0°20'46	retrograde	13196 Jan 17 06:17	23° <u>0</u> 46'53	
minimum elong	13189 Sep 04 12:25	25° <u>0</u> 32'03	0°20'35	opposition	13196 Apr 03 10:42	21° <u>0</u> 47'25	0°50'25
max. Earth dist.	13189 Sep 04 21:58	25° <u>0</u> 33'25	20.98066 AU	min. Earth dist.	13196 Apr 03 03:36	21° <u>0</u> 48'08	18.81407 AU
morning rise	13189 Sep 20 11:57	26° <u>0</u> 26'47		direct	13196 Jun 18 00:53	19° <u>0</u> 49'41	
retrograde	13189 Dec 22 20:32	29° <u>0</u> 32'53		evening set	13196 Sep 16 14:30	22° <u>0</u> 52'24	
opposition	13190 Mar 10 06:07	27° <u>0</u> 34'08	0°25'17				
min. Earth dist.	13190 Mar 09 20:51	27° <u>0</u> 35'04	18.97277 AU	conjunction	13196 Oct 02 15:27	23° <u>0</u> 47'44	0°47'08
direct	13190 May 25 09:16	25° <u>0</u> 36'47		minimum elong	13196 Oct 02 15:27	23° <u>0</u> 47'44	0°47'26
evening set	13190 Aug 23 20:34	28° <u>0</u> 37'44		max. Earth dist.	13196 Oct 02 21:57	23° <u>0</u> 48'40	20.79508 AU
				morning rise	13196 Oct 18 18:50	24° <u>0</u> 43'26	
conjunction	13190 Sep 08 18:34	29° <u>0</u> 32'16	0°24'58	retrograde	13197 Jan 20 16:21	27° <u>0</u> 52'36	
minimum elong	13190 Sep 08 18:33	29° <u>0</u> 32'16	0°24'52	opposition	13197 Apr 07 20:27	25° <u>0</u> 52'59	0°53'54
max. Earth dist.	13190 Sep 09 03:28	29° <u>0</u> 33'32	20.96389 AU	min. Earth dist.	13197 Apr 07 15:04	25° <u>0</u> 53'32	18.77546 AU
	13190 Sep 16 19:41	0° <u>0</u>		direct	13197 Jun 22 06:56	23° <u>0</u> 55'09	
morning rise	13190 Sep 24 18:40	0° <u>0</u> 27'06		evening set	13197 Sep 20 23:20	26° <u>0</u> 58'21	
retrograde	13190 Dec 27 03:33	3° <u>0</u> 33'29					
opposition	13191 Mar 14 14:30	1° <u>0</u> 34'36	0°29'53	conjunction	13197 Oct 07 00:56	27° <u>0</u> 53'52	0°50'08
min. Earth dist.	13191 Mar 14 06:31	1° <u>0</u> 35'24	18.95442 AU	minimum elong	13197 Oct 07 00:56	27° <u>0</u> 53'52	0°50'32
	13191 Apr 29 00:36	30° <u>0</u> 38'00		max. Earth dist.	13197 Oct 07 06:43	27° <u>0</u> 54'42	20.75448 AU
direct	13191 May 29 14:43	29° <u>0</u> 37'11		morning rise	13197 Oct 23 04:55	28° <u>0</u> 49'45	
	13191 Jun 28 14:03	0° <u>0</u>			13197 Nov 13 23:45	0° <u>0</u>	
evening set	13191 Aug 28 02:31	2° <u>0</u> 38'16		retrograde	13198 Jan 25 06:03	1° <u>0</u> 59'30	
				opposition	13198 Apr 12 06:23	29° <u>0</u> 59'43	0°57'07
conjunction	13191 Sep 13 01:02	3° <u>0</u> 32'54	0°29'04	min. Earth dist.	13198 Apr 12 00:54	0° <u>0</u> 00'17	18.73272 AU
minimum elong	13191 Sep 13 01:01	3° <u>0</u> 32'53	0°29'01		13198 Apr 12 03:38	30° <u>0</u> 38'00	
max. Earth dist.	13191 Sep 13 10:03	3° <u>0</u> 34'11	20.94393 AU	direct	13198 Jun 26 16:24	28° <u>0</u> 01'42	
morning rise	13191 Sep 29 01:35	4° <u>0</u> 27'50			13198 Sep 05 03:48	0° <u>0</u>	
retrograde	13191 Dec 31 13:41	7° <u>0</u> 34'34		evening set	13198 Sep 25 08:59	1° <u>0</u> 05'27	
opposition	13192 Mar 17 22:57	5° <u>0</u> 35'33	0°34'21				
min. Earth dist.	13192 Mar 17 14:08	5° <u>0</u> 36'27	18.93281 AU	conjunction	13198 Oct 11 11:08	2° <u>0</u> 01'10	0°52'55
direct	13192 Jun 01 21:58	3° <u>0</u> 38'05		minimum elong	13198 Oct 11 11:08	2° <u>0</u> 01'10	0°53'21
evening set	13192 Aug 31 08:44	6° <u>0</u> 39'22		max. Earth dist.	13198 Oct 11 15:46	2° <u>0</u> 01'50	20.70951 AU
				morning rise	13198 Oct 27 15:43	2° <u>0</u> 05'15	
conjunction	13192 Sep 16 07:37	7° <u>0</u> 34'06	0°33'01	retrograde	13199 Jan 29 16:51	6° <u>0</u> 07'34	
minimum elong	13192 Sep 16 07:37	7° <u>0</u> 34'06	0°33'03	opposition	13199 Apr 16 16:40	4° <u>0</u> 07'35	1°00'04
max. Earth dist.	13192 Sep 16 16:03	7° <u>0</u> 35'19	20.92067 AU	min. Earth dist.	13199 Apr 16 13:03	4° <u>0</u> 07'58	18.68570 AU

direct	13199 Jun 30 23:33	2° \mathbb{M} 09'22		evening set	13205 Oct 24 21:09	0° \mathbb{Z} 28'20	
evening set	13199 Sep 29 19:07	5° \mathbb{M} .13'41					
conjunction	13199 Oct 15 21:55	6° \mathbb{M} .09'36	0°55'26	conjunction	13205 Nov 10 03:50	1° \mathbb{Z} 25'43	1°04'09
minimum elong	13199 Oct 15 21:55	6° \mathbb{M} .09'36	0°55'57	minimum elong	13205 Nov 10 03:50	1° \mathbb{Z} 25'43	1°04'59
max. Earth dist.	13199 Oct 16 01:36	6° \mathbb{M} .10'08	20.66060 AU	max. Earth dist.	13205 Nov 10 03:04	1° \mathbb{Z} 25'36	20.31759 AU
morning rise	13199 Nov 01 03:07	7° \mathbb{M} .05'54		morning rise	13205 Nov 26 12:45	2° \mathbb{Z} 23'27	
retrograde	13200 Feb 03 06:49	10° \mathbb{M} .16'47		retrograde	13206 Feb 28 19:58	5° \mathbb{Z} 38'13	
opposition	13200 Apr 20 03:16	8° \mathbb{M} .16'34	1°02'43	opposition	13206 May 16 02:36	3° \mathbb{Z} 36'34	1°11'26
min. Earth dist.	13200 Apr 19 23:35	8° \mathbb{M} .16'57	18.63490 AU	min. Earth dist.	13206 May 16 02:46	3° \mathbb{Z} 36'33	18.28792 AU
direct	13200 Jul 04 10:07	6° \mathbb{M} .18'05		direct	13206 Jul 30 02:01	1° \mathbb{Z} 36'19	
evening set	13200 Oct 03 05:44	9° \mathbb{M} .23'00		evening set	13206 Oct 29 12:07	4° \mathbb{Z} 45'54	
conjunction	13200 Oct 19 09:09	10° \mathbb{M} .19'08	0°57'40	conjunction	13206 Nov 14 19:31	5° \mathbb{Z} 43'34	1°04'24
minimum elong	13200 Oct 19 09:09	10° \mathbb{M} .19'08	0°58'14	minimum elong	13206 Nov 14 19:31	5° \mathbb{Z} 43'34	1°05'18
max. Earth dist.	13200 Oct 19 12:03	10° \mathbb{M} .19'34	20.60806 AU	max. Earth dist.	13206 Nov 14 18:41	5° \mathbb{Z} 43'26	20.25775 AU
morning rise	13200 Nov 04 14:57	11° \mathbb{M} .15'39		morning rise	13206 Dec 01 04:52	6° \mathbb{Z} 41'33	
retrograde	13201 Feb 06 18:44	14° \mathbb{M} .27'08		retrograde	13207 Mar 05 11:52	9° \mathbb{Z} 57'01	
opposition	13201 Apr 24 14:20	12° \mathbb{M} .26'40	1°05'04	opposition	13207 May 20 16:07	7° \mathbb{Z} 55'13	1°11'33
min. Earth dist.	13201 Apr 24 12:17	12° \mathbb{M} .26'53	18.58090 AU	min. Earth dist.	13207 May 20 17:16	7° \mathbb{Z} 55'06	18.22820 AU
direct	13201 Jul 08 18:37	10° \mathbb{M} .27'54		direct	13207 Aug 03 14:26	5° \mathbb{Z} 54'44	
evening set	13201 Oct 07 17:04	13° \mathbb{M} .33'27		evening set	13207 Nov 03 03:58	9° \mathbb{Z} 05'15	
conjunction	13201 Oct 23 21:09	14° \mathbb{M} .29'49	0°59'37	conjunction	13207 Nov 19 11:57	10° \mathbb{Z} 03'12	1°04'18
minimum elong	13201 Oct 23 21:08	14° \mathbb{M} .29'49	1°00'14	minimum elong	13207 Nov 19 11:57	10° \mathbb{Z} 03'12	1°05'14
max. Earth dist.	13201 Oct 23 23:09	14° \mathbb{M} .30'07	20.55287 AU	max. Earth dist.	13207 Nov 19 09:48	10° \mathbb{Z} 02'52	20.19836 AU
morning rise	13201 Nov 01 11:28	15° \mathbb{M} .		morning rise	13207 Dec 05 21:59	11° \mathbb{Z} 01'27	
retrograde	13201 Nov 09 03:37	15° \mathbb{M} .26'34		retrograde	13208 Mar 09 05:20	14° \mathbb{Z} 17'38	
opposition	13202 Feb 11 09:02	18° \mathbb{M} .38'39		opposition	13208 May 24 06:14	12° \mathbb{Z} 15'42	1°11'16
min. Earth dist.	13202 Apr 29 01:24	16° \mathbb{M} .37'55	1°07'04	min. Earth dist.	13208 May 24 07:32	12° \mathbb{Z} 15'34	18.16901 AU
direct	13202 Apr 28 23:18	16° \mathbb{M} .38'08	18.52459 AU	direct	13208 Aug 07 03:57	10° \mathbb{Z} 14'58	
evening set	13202 Jun 14 07:36	15° \mathbb{R} \mathbb{M} .		evening set	13208 Nov 06 20:33	13° \mathbb{Z} 26'28	
conjunction	13202 Jul 13 05:40	14° \mathbb{M} .38'50		conjunction	13208 Nov 23 05:18	14° \mathbb{Z} 24'42	1°03'50
minimum elong	13202 Aug 10 17:45	15° \mathbb{M} .		minimum elong	13208 Nov 23 05:18	14° \mathbb{Z} 24'42	1°04'47
max. Earth dist.	13202 Oct 12 05:04	17° \mathbb{M} .45'06		max. Earth dist.	13208 Nov 23 03:18	14° \mathbb{Z} 24'24	20.13927 AU
morning rise	13202 Oct 28 09:49	18° \mathbb{M} .41'43	1°01'15	morning rise	13208 Dec 09 15:45	15° \mathbb{Z} 23'14	
retrograde	13202 Oct 28 09:48	18° \mathbb{M} .41'43	1°01'56	retrograde	13209 Mar 13 22:36	18° \mathbb{Z} 40'08	
opposition	13202 Oct 28 11:17	18° \mathbb{M} .41'56	20.49550 AU	opposition	13209 May 28 20:59	16° \mathbb{Z} 38'06	1°10'34
min. Earth dist.	13202 Nov 13 16:50	19° \mathbb{M} .38'42		min. Earth dist.	13209 May 28 23:17	16° \mathbb{Z} 37'52	18.11003 AU
direct	13202 Nov 15 22:04	22° \mathbb{M} .51'25		direct	13209 Aug 11 17:43	14° \mathbb{Z} 37'09	
evening set	13202 May 03 13:06	20° \mathbb{M} .50'25	1°08'43	evening set	13209 Nov 11 14:20	17° \mathbb{Z} 49'39	
conjunction	13202 May 03 12:23	20° \mathbb{M} .50'30	18.46649 AU	conjunction	13209 Nov 27 23:36	18° \mathbb{Z} 48'10	1°03'00
minimum elong	13202 Jul 17 15:24	18° \mathbb{M} .51'03		minimum elong	13209 Nov 27 23:36	18° \mathbb{Z} 48'10	1°03'59
max. Earth dist.	13202 Oct 16 17:38	21° \mathbb{M} .58'04		max. Earth dist.	13209 Nov 27 19:50	18° \mathbb{Z} 47'36	20.08047 AU
morning rise	13203 Nov 01 22:59	22° \mathbb{M} .54'55	1°02'33	morning rise	13209 Dec 14 10:43	19° \mathbb{Z} 46'58	
retrograde	13203 Nov 01 22:58	22° \mathbb{M} .54'55	1°03'17	retrograde	13210 Mar 18 17:24	23° \mathbb{Z} 04'35	
opposition	13203 Nov 01 23:32	22° \mathbb{M} .55'00	20.43685 AU	opposition	13210 Jun 02 12:12	21° \mathbb{Z} 02'26	1°09'27
min. Earth dist.	13203 Nov 18 06:39	23° \mathbb{M} .52'08		min. Earth dist.	13210 Jun 02 15:12	21° \mathbb{Z} 02'07	18.05127 AU
direct	13203 Nov 20 13:14	27° \mathbb{M} .05'32		direct	13210 Aug 16 08:52	19° \mathbb{Z} 01'13	
evening set	13203 May 07 01:07	25° \mathbb{M} .04'17	1°10'01	evening set	13210 Nov 16 08:58	22° \mathbb{Z} 14'46	
conjunction	13203 May 07 00:12	25° \mathbb{M} .04'23	18.40739 AU	conjunction	13210 Dec 02 18:58	23° \mathbb{Z} 13'34	1°01'47
minimum elong	13203 Jul 21 02:48	23° \mathbb{M} .04'37		minimum elong	13210 Dec 02 18:58	23° \mathbb{Z} 13'34	1°02'46
max. Earth dist.	13203 Oct 20 07:00	26° \mathbb{M} .12'26		max. Earth dist.	13210 Dec 02 15:12	23° \mathbb{Z} 13'00	20.02157 AU
morning rise	13204 Nov 05 13:03	27° \mathbb{M} .09'33	1°03'31	morning rise	13210 Dec 19 06:23	24° \mathbb{Z} 12'37	
retrograde	13204 Nov 05 13:02	27° \mathbb{M} .09'33	1°04'19	retrograde	13211 Mar 23 12:00	27° \mathbb{Z} 30'55	
opposition	13204 Nov 05 13:24	27° \mathbb{M} .09'36	20.37732 AU	opposition	13211 Jun 07 04:12	25° \mathbb{Z} 28'40	1°07'55
min. Earth dist.	13204 Nov 21 21:14	28° \mathbb{M} .07'01		min. Earth dist.	13211 Jun 07 08:06	25° \mathbb{Z} 28'15	17.99230 AU
direct	13204 Dec 28 05:17	0° \mathbb{Z}		direct	13211 Aug 21 00:19	23° \mathbb{Z} 27'10	
evening set	13205 Feb 24 03:41	1° \mathbb{Z} 21'05		evening set	13211 Nov 21 04:24	26° \mathbb{Z} 41'43	
conjunction	13205 Apr 25 03:42	30° \mathbb{R} \mathbb{M} .		conjunction	13211 Dec 07 14:51	27° \mathbb{Z} 40'47	1°00'12
minimum elong	13205 May 11 13:38	29° \mathbb{M} .19'38	1°10'55	minimum elong	13211 Dec 07 14:51	27° \mathbb{Z} 40'47	1°01'13
max. Earth dist.	13205 May 11 13:52	29° \mathbb{M} .19'36	18.34768 AU	max. Earth dist.	13211 Dec 07 09:02	27° \mathbb{Z} 39'55	19.96264 AU
morning rise	13205 Jul 25 13:53	27° \mathbb{M} .19'40		morning rise	13211 Dec 24 02:53	28° \mathbb{Z} 40'06	
retrograde	13205 Oct 16 13:27	0° \mathbb{Z}		retrograde	13212 Jan 17 01:57	0° \mathbb{Z}	

retrograde	13212 Mar 27 07:50	1°♄59'04		conjunction	13219 Jan 09 07:21	29°♄33'53	0°39'08
	13212 Jun 09 13:34	30°♄♂		minimum elong	13219 Jan 09 07:21	29°♄33'53	0°40'04
opposition	13212 Jun 10 20:51	29°♄56'40	1°05'58	max. Earth dist.	13219 Jan 08 21:59	29°♄32'26	19.58873 AU
min. Earth dist.	13212 Jun 11 01:40	29°♄56'09	17.93340 AU		13219 Jan 16 08:59	0°♄	
direct	13212 Aug 24 16:48	27°♄54'51		morning rise	13219 Jan 25 21:09	0°♄34'42	
	13212 Nov 04 03:24	0°♄		retrograde	13219 Apr 29 15:50	3°♄57'01	
evening set	13212 Nov 25 00:41	1°♄10'24		opposition	13219 Jul 13 07:24	1°♄53'36	0°41'21
				min. Earth dist.	13219 Jul 13 15:11	1°♄52'45	17.56821 AU
conjunction	13212 Dec 11 11:54	2°♄09'45	0°58'14		13219 Sep 06 10:48	30°♄♄	
minimum elong	13212 Dec 11 11:54	2°♄09'45	0°59'15	direct	13219 Sep 26 06:13	29°♄49'31	
max. Earth dist.	13212 Dec 11 06:10	2°♄08'53	19.90380 AU		13219 Oct 15 22:16	0°♄	
morning rise	13212 Dec 28 00:11	3°♄09'18		evening set	13219 Dec 28 18:27	3°♄11'23	
retrograde	13213 Apr 01 04:16	6°♄28'52					
opposition	13213 Jun 15 13:55	4°♄26'19	1°03'37	conjunction	13220 Jan 14 08:24	4°♄12'20	0°34'53
min. Earth dist.	13213 Jun 15 19:22	4°♄25'44	17.87474 AU	minimum elong	13220 Jan 14 08:24	4°♄12'20	0°35'47
direct	13213 Aug 29 10:00	2°♄24'10		max. Earth dist.	13220 Jan 13 22:13	4°♄10'46	19.54868 AU
evening set	13213 Nov 29 21:54	5°♄40'41		morning rise	13220 Jan 30 22:19	5°♄13'18	
				retrograde	13220 May 03 13:17	8°♄35'58	
conjunction	13213 Dec 16 09:31	6°♄40'18	0°55'55	opposition	13220 Jul 17 04:12	6°♄32'30	0°36'29
minimum elong	13213 Dec 16 09:31	6°♄40'18	0°56'56	min. Earth dist.	13220 Jul 17 12:58	6°♄31'33	17.53065 AU
max. Earth dist.	13213 Dec 16 01:41	6°♄39'06	19.84563 AU	direct	13220 Sep 30 02:50	4°♄28'11	
morning rise	13214 Jan 01 22:22	7°♄40'06		evening set	13221 Jan 01 19:59	7°♄50'52	
retrograde	13214 Apr 06 00:49	11°♄00'13					
opposition	13214 Jun 20 07:37	8°♄57'30	1°00'50	conjunction	13221 Jan 18 10:13	8°♄51'59	0°30'23
min. Earth dist.	13214 Jun 20 14:09	8°♄56'48	17.81715 AU	minimum elong	13221 Jan 18 10:13	8°♄51'59	0°31'14
direct	13214 Sep 03 03:05	6°♄54'59		max. Earth dist.	13221 Jan 18 00:23	8°♄50'28	19.51365 AU
evening set	13214 Dec 04 19:36	10°♄12'28		morning rise	13221 Feb 04 00:06	9°♄53'05	
				retrograde	13221 May 08 13:54	13°♄16'02	
conjunction	13214 Dec 21 07:53	11°♄12'20	0°53'13	opposition	13221 Jul 22 01:10	11°♄12'36	0°31'20
minimum elong	13214 Dec 21 07:53	11°♄12'20	0°54'15	min. Earth dist.	13221 Jul 22 09:05	11°♄11'44	17.49801 AU
max. Earth dist.	13214 Dec 21 00:28	11°♄11'12	19.78874 AU	direct	13221 Oct 05 02:17	9°♄08'07	
morning rise	13215 Jan 06 20:53	12°♄12'22		evening set	13222 Jan 06 22:11	12°♄31'33	
retrograde	13215 Apr 10 23:05	15°♄33'00					
opposition	13215 Jun 25 01:46	13°♄30'07	0°57'40	conjunction	13222 Jan 23 12:28	13°♄32'50	0°25'40
min. Earth dist.	13215 Jun 25 08:26	13°♄29'24	17.76113 AU	minimum elong	13222 Jan 23 12:28	13°♄32'50	0°26'29
direct	13215 Sep 07 22:10	11°♄27'16		max. Earth dist.	13222 Jan 23 02:14	13°♄31'15	19.48347 AU
evening set	13215 Dec 09 18:12	14°♄45'40		morning rise	13222 Feb 09 02:13	14°♄34'02	
					13222 Feb 16 08:09	15°♄	
conjunction	13215 Dec 26 06:46	15°♄45'47	0°50'11	retrograde	13222 May 13 12:16	17°♄57'15	
minimum elong	13215 Dec 26 06:47	15°♄45'47	0°51'11	opposition	13222 Jul 26 22:55	15°♄53'51	0°25'59
max. Earth dist.	13215 Dec 25 21:36	15°♄44'23	19.73393 AU	min. Earth dist.	13222 Jul 27 07:58	15°♄52'52	17.47026 AU
morning rise	13216 Jan 11 20:12	16°♄46'03			13222 Aug 17 06:04	15°♄♄	
retrograde	13216 Apr 14 19:47	20°♄07'10		direct	13222 Oct 09 23:58	13°♄49'15	
opposition	13216 Jun 28 20:28	18°♄04'06	0°54'07		13222 Dec 01 06:01	15°♄	
min. Earth dist.	13216 Jun 29 04:14	18°♄03'16	17.70771 AU	evening set	13223 Jan 12 00:40	17°♄13'24	
direct	13216 Sep 11 15:59	16°♄00'54					
evening set	13216 Dec 13 17:14	19°♄20'13		conjunction	13223 Jan 28 14:57	18°♄14'47	0°20'46
				minimum elong	13223 Jan 28 14:58	18°♄14'47	0°21'31
conjunction	13216 Dec 30 06:25	20°♄20'34	0°46'49	max. Earth dist.	13223 Jan 28 04:40	18°♄13'12	19.45810 AU
minimum elong	13216 Dec 30 06:26	20°♄20'34	0°47'49	morning rise	13223 Feb 14 04:34	19°♄16'05	
max. Earth dist.	13216 Dec 29 21:51	20°♄19'15	19.68196 AU	retrograde	13223 May 18 13:32	22°♄39'31	
morning rise	13217 Jan 15 19:58	21°♄21'01		opposition	13223 Jul 31 20:58	20°♄36'12	0°20'25
retrograde	13217 Apr 19 19:15	24°♄42'35		min. Earth dist.	13223 Aug 01 05:11	20°♄35'18	17.44707 AU
opposition	13217 Jul 03 15:36	22°♄39'23	0°50'12	direct	13223 Oct 15 00:34	18°♄31'30	
min. Earth dist.	13217 Jul 03 23:05	22°♄38'34	17.65726 AU	evening set	13224 Jan 17 03:44	21°♄56'17	
direct	13217 Sep 16 12:44	20°♄35'51					
evening set	13217 Dec 18 17:11	23°♄56'02		conjunction	13224 Feb 02 17:59	22°♄57'46	0°15'43
				minimum elong	13224 Feb 02 17:59	22°♄57'46	0°16'25
conjunction	13218 Jan 04 06:34	24°♄56'37	0°43'08	max. Earth dist.	13224 Feb 02 07:41	22°♄56'11	19.43697 AU
minimum elong	13218 Jan 04 06:35	24°♄56'37	0°44'05	morning rise	13224 Feb 19 07:15	23°♄59'08	
max. Earth dist.	13218 Jan 03 20:35	24°♄55'05	19.63328 AU	retrograde	13224 May 22 12:38	27°♄22'42	
morning rise	13218 Jan 20 20:23	25°♄57'16		opposition	13224 Aug 04 19:30	25°♄19'28	0°14'43
retrograde	13218 Apr 24 16:01	29°♄19'13		min. Earth dist.	13224 Aug 05 04:56	25°♄18'26	17.42807 AU
opposition	13218 Jul 08 11:15	27°♄15'53	0°45'56	direct	13224 Oct 18 23:40	23°♄14'40	
min. Earth dist.	13218 Jul 08 19:49	27°♄14'58	17.61060 AU	evening set	13225 Jan 21 07:10	26°♄40'01	
direct	13218 Sep 21 08:06	25°♄12'02					
evening set	13218 Dec 23 17:32	28°♄33'06		conjunction	13225 Feb 06 21:14	27°♄41'34	0°10'33

minimum elong	13225 Feb 06 21:15	27°  41'34	0°11'12	max. Earth dist.	13230 Mar 03 03:25	21°  23'38	19.39686 AU
behind sun begin	13225 Feb 06 16:18	27°  40'49		morning rise	13230 Mar 19 23:53	22°  26'25	
behind sun end	13225 Feb 07 02:11	27°  42'19		retrograde	13230 Jun 20 14:43	25°  49'23	
max. Earth dist.	13225 Feb 06 10:10	27°  39'51	19.42002 AU	opposition	13230 Sep 02 15:23	23°  46'30	-0°20'27
morning rise	13225 Feb 23 10:19	28°  42'58		min. Earth dist.	13230 Sep 03 00:20	23°  45'32	17.40094 AU
	13225 Mar 17 16:14	0°  00'		direct	13230 Nov 17 06:06	21°  41'15	
retrograde	13225 May 27 14:05	2°  06'37		evening set	13231 Feb 20 04:15	25°  08'00	
opposition	13225 Aug 09 18:20	0°  03'27	0°08'53				
min. Earth dist.	13225 Aug 10 03:04	0°  02'30	17.41304 AU	conjunction	13231 Mar 08 15:54	26°  09'23	-0°20'56
	13225 Aug 11 01:58	30°  00'		minimum elong	13231 Mar 08 15:54	26°  09'23	0°20'47
direct	13225 Oct 24 01:21	27°  58'33		max. Earth dist.	13231 Mar 08 05:08	26°  07'42	19.40627 AU
	13226 Jan 01 21:29	0°  00'		morning rise	13231 Mar 25 01:41	27°  10'28	
evening set	13226 Jan 26 10:46	1°  24'23			13231 May 21 18:14	0°  00'	
				retrograde	13231 Jun 25 14:24	0°  33'08	
conjunction	13226 Feb 12 00:41	2°  25'58	0°05'19		13231 Jul 31 00:14	30°  00'	
minimum elong	13226 Feb 12 00:41	2°  25'58	0°05'52	opposition	13231 Sep 07 14:55	28°  30'18	-0°26'03
behind sun begin	13226 Feb 11 18:15	2°  24'59		min. Earth dist.	13231 Sep 07 23:20	28°  29'23	17.41310 AU
behind sun end	13226 Feb 12 07:07	2°  26'57		direct	13231 Nov 22 08:34	26°  25'02	
max. Earth dist.	13226 Feb 11 14:03	2°  24'19	19.40685 AU	evening set	13232 Feb 25 06:56	29°  51'41	
morning rise	13226 Feb 28 13:11	3°  27'23			13232 Feb 27 13:17	0°  00'	
retrograde	13226 Jun 01 13:29	6°  51'02					
opposition	13226 Aug 14 17:31	4°  47'56	0°03'00	conjunction	13232 Mar 12 18:09	0°  52'57	-0°25'52
min. Earth dist.	13226 Aug 15 03:12	4°  46'52	17.40186 AU	minimum elong	13232 Mar 12 18:08	0°  52'57	0°25'47
direct	13226 Oct 29 01:16	2°  42'57		max. Earth dist.	13232 Mar 12 09:06	0°  51'33	19.42111 AU
evening set	13227 Jan 31 14:30	6°  09'09		morning rise	13232 Mar 29 03:04	1°  53'54	
desc. node	13227 Feb 13 20:56	6°  58'23		retrograde	13232 Jun 29 12:27	5°  16'10	
				opposition	13232 Sep 11 14:16	3°  13'26	-0°31'28
conjunction	13227 Feb 17 04:02	7°  10'45	-0°00'02	min. Earth dist.	13232 Sep 11 21:59	3°  12'36	17.43069 AU
minimum elong	13227 Feb 17 04:01	7°  10'45	0°00'28	direct	13232 Nov 26 10:15	1°  08'13	
behind sun begin	13227 Feb 16 21:18	7°  09'43		evening set	13233 Mar 01 09:27	4°  34'42	
behind sun end	13227 Feb 17 10:44	7°  11'46					
max. Earth dist.	13227 Feb 16 16:23	7°  08'56	19.39780 AU	conjunction	13233 Mar 17 19:49	5°  35'48	-0°30'37
morning rise	13227 Mar 05 16:13	8°  12'09		minimum elong	13233 Mar 17 19:49	5°  35'48	0°30'37
retrograde	13227 Jun 06 15:03	11°  35'45		max. Earth dist.	13233 Mar 17 10:30	5°  34'21	19.44155 AU
opposition	13227 Aug 19 16:49	9°  32'41	-0°02'56	morning rise	13233 Apr 03 04:05	6°  36'35	
min. Earth dist.	13227 Aug 20 01:49	9°  31'42	17.39491 AU	retrograde	13233 Jul 04 10:34	9°  58'27	
direct	13227 Nov 03 03:17	7°  27'37		opposition	13233 Sep 16 13:40	7°  55'51	-0°36'39
evening set	13228 Feb 05 18:03	10°  54'06		min. Earth dist.	13233 Sep 16 20:58	7°  55'03	17.45410 AU
				direct	13233 Dec 01 12:17	5°  50'42	
conjunction	13228 Feb 22 07:24	11°  55'41	-0°05'25	evening set	13234 Mar 06 11:15	9°  16'56	
minimum elong	13228 Feb 22 07:23	11°  55'41	0°05'01				
behind sun begin	13228 Feb 22 00:50	11°  54'41		conjunction	13234 Mar 22 21:00	10°  17'52	-0°35'09
behind sun end	13228 Feb 22 13:56	11°  56'41		minimum elong	13234 Mar 22 21:00	10°  17'52	0°35'14
max. Earth dist.	13228 Feb 21 20:46	11°  54'02	19.39292 AU	max. Earth dist.	13234 Mar 22 13:23	10°  16'41	19.46776 AU
morning rise	13228 Mar 09 18:55	12°  57'03		morning rise	13234 Apr 08 04:21	11°  18'28	
retrograde	13228 Jun 10 14:42	16°  20'30		retrograde	13234 Jul 09 08:33	14°  39'54	
opposition	13228 Aug 23 16:21	14°  17'31	-0°08'51	opposition	13234 Sep 21 12:52	12°  37'28	-0°41'34
min. Earth dist.	13228 Aug 24 01:53	14°  16'28	17.39219 AU	min. Earth dist.	13234 Sep 21 18:56	12°  36'49	17.48299 AU
direct	13228 Nov 07 03:23	12°  12'22		direct	13234 Dec 06 14:25	10°  32'29	
evening set	13229 Feb 09 21:48	15°  39'02		evening set	13235 Mar 11 12:44	13°  58'24	
conjunction	13229 Feb 26 10:32	16°  40'34	-0°10'40	conjunction	13235 Mar 27 21:38	14°  59'08	-0°39'26
minimum elong	13229 Feb 26 10:32	16°  40'34	0°10'20	minimum elong	13235 Mar 27 21:37	14°  59'08	0°39'35
behind sun begin	13229 Feb 26 05:15	16°  39'46		max. Earth dist.	13235 Mar 27 14:11	14°  57'59	19.49933 AU
behind sun end	13229 Feb 26 15:49	16°  41'23		morning rise	13235 Apr 13 04:14	15°  59'33	
max. Earth dist.	13229 Feb 25 22:55	16°  38'46	19.39252 AU	retrograde	13235 Jul 14 05:40	19°  20'30	
morning rise	13229 Mar 14 21:39	17°  41'53		opposition	13235 Sep 26 11:53	17°  18'17	-0°46'11
retrograde	13229 Jun 15 15:40	21°  05'08		min. Earth dist.	13235 Sep 26 17:55	17°  17'38	17.51716 AU
opposition	13229 Aug 28 15:45	19°  02'11	-0°14'42	direct	13235 Dec 11 15:03	15°  13'28	
min. Earth dist.	13229 Aug 29 00:47	19°  01'12	17.39415 AU	evening set	13236 Mar 15 13:35	18°  39'00	
direct	13229 Nov 12 05:32	16°  56'57					
evening set	13230 Feb 15 01:11	20°  23'44		conjunction	13236 Mar 31 21:49	19°  39'32	-0°43'26
				minimum elong	13236 Mar 31 21:48	19°  39'32	0°43'41
conjunction	13230 Mar 03 13:35	21°  25'12	-0°15'51	max. Earth dist.	13236 Mar 31 15:35	19°  38'34	19.53580 AU
minimum elong	13230 Mar 03 13:35	21°  25'12	0°15'36	morning rise	13236 Apr 17 03:34	20°  39'44	
behind sun begin	13230 Mar 03 12:14	21°  25'00		retrograde	13236 Jul 18 03:58	24°  00'10	
behind sun end	13230 Mar 03 14:55	21°  25'25		opposition	13236 Sep 30 10:41	21°  58'11	-0°50'29

min. Earth dist.	13236 Sep 30 15:25	21° Υ 57'40	17.55559 AU	direct	13243 Jan 13 13:32	17° \mathcal{S} 28'12	
direct	13236 Dec 15 16:53	19° Υ 53'35		evening set	13243 Apr 18 01:18	20° \mathcal{S} 49'00	
evening set	13237 Mar 20 14:04	23° Υ 18'39					
				conjunction	13243 May 04 03:48	21° \mathcal{S} 47'46	-1°02'08
conjunction	13237 Apr 05 21:23	24° Υ 18'58	-0°47'09	minimum elong	13243 May 04 03:47	21° \mathcal{S} 47'46	1°02'52
minimum elong	13237 Apr 05 21:23	24° Υ 18'58	0°47'28	max. Earth dist.	13243 May 04 02:11	21° \mathcal{S} 47'31	19.87006 AU
max. Earth dist.	13237 Apr 05 15:33	24° Υ 18'03	19.57608 AU	morning rise	13243 May 20 03:54	22° \mathcal{S} 46'12	
morning rise	13237 Apr 22 02:17	25° Υ 18'56		retrograde	13243 Aug 19 19:41	26° \mathcal{S} 02'07	
retrograde	13237 Jul 23 00:09	28° Υ 38'49		opposition	13243 Nov 02 17:30	24° \mathcal{S} 01'30	-1°09'51
opposition	13237 Oct 05 09:22	26° Υ 37'04	-0°54'27	min. Earth dist.	13243 Nov 02 19:17	24° \mathcal{S} 01'18	17.89747 AU
min. Earth dist.	13237 Oct 05 14:27	26° Υ 36'32	17.59772 AU	direct	13244 Jan 18 10:46	21° \mathcal{S} 58'26	
direct	13237 Dec 20 16:14	24° Υ 32'41		evening set	13244 Apr 21 20:14	25° \mathcal{S} 18'20	
evening set	13238 Mar 25 13:51	27° Υ 57'13					
				conjunction	13244 May 07 21:52	26° \mathcal{S} 16'49	-1°03'18
conjunction	13238 Apr 10 20:22	28° Υ 57'17	-0°50'32	minimum elong	13244 May 07 21:51	26° \mathcal{S} 16'49	1°04'05
minimum elong	13238 Apr 10 20:21	28° Υ 57'17	0°50'56	max. Earth dist.	13244 May 07 20:08	26° \mathcal{S} 16'33	19.92483 AU
max. Earth dist.	13238 Apr 10 15:12	28° Υ 56'30	19.61980 AU	morning rise	13244 May 23 21:27	27° \mathcal{S} 14'59	
morning rise	13238 Apr 27 00:26	29° Υ 57'02			13244 Jul 20 20:29	0° Π	
	13238 Apr 27 20:06	0° \mathcal{S}		retrograde	13244 Aug 23 13:06	0° Π 30'11	
retrograde	13238 Jul 27 22:08	3° \mathcal{S} 16'19			13244 Sep 26 23:22	30° \mathcal{R} \mathcal{S}	
opposition	13238 Oct 10 07:42	1° \mathcal{S} 14'48	-0°58'02	opposition	13244 Nov 06 13:02	28° \mathcal{S} 29'41	-1°10'55
min. Earth dist.	13238 Oct 10 11:19	1° \mathcal{S} 14'24	17.64281 AU	min. Earth dist.	13244 Nov 06 13:06	28° \mathcal{S} 29'41	17.95299 AU
	13238 Nov 10 16:30	30° \mathcal{R} Υ		direct	13245 Jan 22 08:24	26° \mathcal{S} 26'51	
direct	13238 Dec 25 17:24	29° Υ 10'39		evening set	13245 Apr 26 14:03	29° \mathcal{S} 45'49	
	13239 Feb 07 12:57	0° \mathcal{S}			13245 Apr 30 12:59	0° Π	
evening set	13239 Mar 30 12:51	2° \mathcal{S} 34'33					
				conjunction	13245 May 12 15:04	0° Π 44'00	-1°04'05
conjunction	13239 Apr 15 18:33	3° \mathcal{S} 34'23	-0°53'35	minimum elong	13245 May 12 15:03	0° Π 44'00	1°04'55
minimum elong	13239 Apr 15 18:32	3° \mathcal{S} 34'22	0°54'04	max. Earth dist.	13245 May 12 15:20	0° Π 44'03	19.98110 AU
max. Earth dist.	13239 Apr 15 14:08	3° \mathcal{S} 33'42	19.66610 AU	morning rise	13245 May 28 13:49	1° Π 41'55	
morning rise	13239 May 01 21:45	4° \mathcal{S} 33'52		retrograde	13245 Aug 28 04:29	4° Π 56'23	
retrograde	13239 Aug 01 17:18	7° \mathcal{S} 52'32		opposition	13245 Nov 11 08:10	2° Π 56'02	-1°11'34
opposition	13239 Oct 15 05:51	5° \mathcal{S} 51'14	-1°01'13	min. Earth dist.	13245 Nov 11 08:06	2° Π 56'03	18.01018 AU
min. Earth dist.	13239 Oct 15 09:58	5° \mathcal{S} 50'47	17.69035 AU	direct	13246 Jan 27 05:08	0° Π 53'27	
direct	13239 Dec 30 16:04	3° \mathcal{S} 47'18		evening set	13246 May 01 07:07	4° Π 11'27	
evening set	13240 Apr 03 11:17	7° \mathcal{S} 10'31					
				conjunction	13246 May 17 07:16	5° Π 09'22	-1°04'29
conjunction	13240 Apr 19 16:07	8° \mathcal{S} 10'05	-0°56'17	minimum elong	13246 May 17 07:15	5° Π 09'22	1°05'22
minimum elong	13240 Apr 19 16:07	8° \mathcal{S} 10'05	0°56'49	max. Earth dist.	13246 May 17 07:33	5° Π 09'25	20.03927 AU
max. Earth dist.	13240 Apr 19 11:53	8° \mathcal{S} 09'26	19.71468 AU	morning rise	13246 Jun 02 05:35	6° Π 07'00	
morning rise	13240 May 05 18:36	9° \mathcal{S} 09'19		retrograde	13246 Sep 01 20:12	9° Π 20'47	
retrograde	13240 Aug 05 13:50	12° \mathcal{S} 27'20		opposition	13246 Nov 16 02:32	7° Π 20'35	-1°11'46
opposition	13240 Oct 19 03:20	10° \mathcal{S} 26'13	-1°04'01	min. Earth dist.	13246 Nov 16 00:39	7° Π 20'47	18.06933 AU
min. Earth dist.	13240 Oct 19 05:57	10° \mathcal{S} 25'57	17.73981 AU	direct	13247 Feb 01 01:02	5° Π 18'16	
direct	13241 Jan 03 16:22	8° \mathcal{S} 22'31		evening set	13247 May 05 23:05	8° Π 35'20	
evening set	13241 Apr 08 08:54	11° \mathcal{S} 45'00					
				conjunction	13247 May 21 22:45	9° Π 32'58	-1°04'29
conjunction	13241 Apr 24 12:58	12° \mathcal{S} 44'18	-0°58'37	minimum elong	13247 May 21 22:45	9° Π 32'58	1°05'24
minimum elong	13241 Apr 24 12:57	12° \mathcal{S} 44'18	0°59'14	max. Earth dist.	13247 May 22 01:10	9° Π 33'20	20.09924 AU
max. Earth dist.	13241 Apr 24 09:48	12° \mathcal{S} 43'49	19.76493 AU	morning rise	13247 Jun 06 20:23	10° Π 30'21	
morning rise	13241 May 10 14:32	13° \mathcal{S} 43'16		retrograde	13247 Sep 06 10:29	13° Π 43'26	
	13241 Jun 02 01:52	15° \mathcal{S}		opposition	13247 Nov 20 20:27	11° Π 43'27	-1°11'33
retrograde	13241 Aug 10 07:57	17° \mathcal{S} 00'36		min. Earth dist.	13247 Nov 20 18:14	11° Π 43'41	18.13000 AU
	13241 Oct 23 21:37	15° \mathcal{R} \mathcal{S}		direct	13248 Feb 05 20:21	9° Π 41'27	
opposition	13241 Oct 24 00:41	14° \mathcal{S} 59'41	-1°06'23	evening set	13248 May 09 14:26	12° Π 57'34	
min. Earth dist.	13241 Oct 24 03:46	14° \mathcal{S} 59'21	17.79091 AU				
direct	13242 Jan 08 14:21	12° \mathcal{S} 56'12		conjunction	13248 May 25 13:19	13° Π 54'56	-1°04'07
	13242 Mar 21 07:42	15° \mathcal{S}		minimum elong	13248 May 25 13:19	13° Π 54'56	1°05'04
evening set	13242 Apr 13 05:32	16° \mathcal{S} 17'52		max. Earth dist.	13248 May 25 15:35	13° Π 55'17	20.16061 AU
				morning rise	13248 Jun 10 10:36	14° Π 52'04	
conjunction	13242 Apr 29 08:42	17° \mathcal{S} 16'53	-1°00'34	retrograde	13248 Sep 10 01:05	18° Π 04'29	
minimum elong	13242 Apr 29 08:42	17° \mathcal{S} 16'53	1°01'13	opposition	13248 Nov 24 13:39	16° Π 04'43	-1°10'54
max. Earth dist.	13242 Apr 29 05:34	17° \mathcal{S} 16'24	19.81682 AU	min. Earth dist.	13248 Nov 24 09:57	16° Π 05'06	18.19187 AU
morning rise	13242 May 15 09:39	18° \mathcal{S} 15'36		direct	13249 Feb 09 14:34	14° Π 03'03	
retrograde	13242 Aug 15 02:59	21° \mathcal{S} 32'14		evening set	13249 May 14 04:49	17° Π 18'13	
opposition	13242 Oct 28 21:23	19° \mathcal{S} 31'28	-1°08'20				
min. Earth dist.	13242 Oct 28 22:49	19° \mathcal{S} 31'19	17.84349 AU	conjunction	13249 May 30 03:17	18° Π 15'20	-1°03'23

minimum elong	13249 May 30 03:17	18° Π 15'20	1°04'21	opposition	13255 Dec 26 00:08	15° \mathfrak{D} 51'42	-0°56'10
max. Earth dist.	13249 May 30 07:36	18° Π 15'59	20.22279 AU	min. Earth dist.	13255 Dec 25 17:01	15° \mathfrak{D} 52'25	18.59950 AU
morning rise	13249 Jun 14 23:57	19° Π 12'13		direct	13256 Mar 12 01:45	13° \mathfrak{D} 52'07	
retrograde	13249 Sep 14 14:05	22° Π 23'59		evening set	13256 Jun 12 13:33	17° \mathfrak{D} 00'46	
opposition	13249 Nov 29 06:31	20° Π 24'28	-1°09'52				
min. Earth dist.	13249 Nov 29 02:27	20° Π 24'53	18.25413 AU	conjunction	13256 Jun 28 09:07	17° \mathfrak{D} 56'17	-0°49'08
direct	13250 Feb 14 08:08	18° Π 23'08		minimum elong	13256 Jun 28 09:07	17° \mathfrak{D} 56'17	0°50'08
evening set	13250 May 18 18:26	21° Π 37'21		max. Earth dist.	13256 Jun 28 15:59	17° \mathfrak{D} 57'17	20.62382 AU
				morning rise	13256 Jul 14 04:15	18° \mathfrak{D} 51'44	
conjunction	13250 Jun 03 16:12	22° Π 34'12	-1°02'17	retrograde	13256 Oct 14 01:18	21° \mathfrak{D} 59'29	
minimum elong	13250 Jun 03 16:12	22° Π 34'12	1°03'17	opposition	13256 Dec 29 13:13	20° \mathfrak{D} 01'00	-0°52'48
max. Earth dist.	13250 Jun 03 20:17	22° Π 34'49	20.28508 AU	min. Earth dist.	13256 Dec 29 06:00	20° \mathfrak{D} 01'44	18.64770 AU
morning rise	13250 Jun 19 12:39	23° Π 30'51		direct	13257 Mar 16 13:23	18° \mathfrak{D} 01'35	
retrograde	13250 Sep 19 04:02	26° Π 42'01		evening set	13257 Jun 16 22:15	21° \mathfrak{D} 09'22	
opposition	13250 Dec 03 22:46	24° Π 42'42	-1°08'27				
min. Earth dist.	13250 Dec 03 17:39	24° Π 43'13	18.31624 AU	conjunction	13257 Jul 02 17:47	22° \mathfrak{D} 04'42	-0°46'00
direct	13251 Feb 19 00:29	22° Π 41'43		minimum elong	13257 Jul 02 17:47	22° \mathfrak{D} 04'42	0°46'59
evening set	13251 May 23 07:17	25° Π 54'59		max. Earth dist.	13257 Jul 03 02:04	22° \mathfrak{D} 05'55	20.67057 AU
				morning rise	13257 Jul 18 12:46	22° \mathfrak{D} 59'59	
conjunction	13251 Jun 08 04:45	26° Π 51'36	-1°00'52	retrograde	13257 Oct 18 11:06	26° \mathfrak{D} 07'15	
minimum elong	13251 Jun 08 04:45	26° Π 51'36	1°01'52	opposition	13258 Jan 03 01:42	24° \mathfrak{D} 08'47	-0°49'10
max. Earth dist.	13251 Jun 08 10:35	26° Π 52'28	20.34674 AU	min. Earth dist.	13258 Jan 02 17:42	24° \mathfrak{D} 09'36	18.69298 AU
morning rise	13251 Jun 24 00:41	27° Π 48'01		direct	13258 Mar 21 02:48	22° \mathfrak{D} 09'33	
	13251 Aug 06 15:41	0° \mathfrak{D}		evening set	13258 Jun 21 06:19	25° \mathfrak{D} 16'29	
retrograde	13251 Sep 23 15:59	0° \mathfrak{D} 58'33					
	13251 Nov 12 18:30	30° \mathfrak{R} Π		conjunction	13258 Jul 07 01:33	26° \mathfrak{D} 11'38	-0°42'37
opposition	13251 Dec 08 14:23	28° Π 59'28	-1°06'40	minimum elong	13258 Jul 07 01:33	26° \mathfrak{D} 11'38	0°43'35
min. Earth dist.	13251 Dec 08 09:00	29° Π 00'01	18.37724 AU	max. Earth dist.	13258 Jul 07 09:29	26° \mathfrak{D} 12'48	20.71459 AU
direct	13252 Feb 23 16:30	26° Π 58'48		morning rise	13258 Jul 22 20:43	27° \mathfrak{D} 06'47	
	13252 May 23 14:30	0° \mathfrak{D}			13258 Sep 29 16:06	0° \mathfrak{D}	
evening set	13252 May 26 19:39	0° \mathfrak{D} 11'09		retrograde	13258 Oct 22 20:38	0° \mathfrak{D} 13'37	
					13258 Nov 15 10:06	30° \mathfrak{R} \mathfrak{D}	
conjunction	13252 Jun 11 16:28	1° \mathfrak{D} 07'30	-0°59'06	opposition	13259 Jan 07 13:41	28° \mathfrak{D} 15'10	-0°45'19
minimum elong	13252 Jun 11 16:28	1° \mathfrak{D} 07'30	1°00'07	min. Earth dist.	13259 Jan 07 05:34	28° \mathfrak{D} 15'59	18.73589 AU
max. Earth dist.	13252 Jun 11 21:47	1° \mathfrak{D} 08'18	20.40704 AU	direct	13259 Mar 25 13:15	26° \mathfrak{D} 16'06	
morning rise	13252 Jun 27 12:17	2° \mathfrak{D} 03'43		evening set	13259 Jun 25 13:47	29° \mathfrak{D} 22'15	
retrograde	13252 Sep 27 04:51	5° \mathfrak{D} 13'40			13259 Jul 06 11:04	0° \mathfrak{D}	
opposition	13252 Dec 12 05:39	3° \mathfrak{D} 14'45	-1°04'32				
min. Earth dist.	13252 Dec 11 23:38	3° \mathfrak{D} 15'22	18.43671 AU	conjunction	13259 Jul 11 09:03	0° \mathfrak{D} 17'15	-0°39'03
direct	13253 Feb 27 07:01	1° \mathfrak{D} 14'24		minimum elong	13259 Jul 11 09:04	0° \mathfrak{D} 17'15	0°39'58
evening set	13253 May 31 07:01	4° \mathfrak{D} 25'48		max. Earth dist.	13259 Jul 11 18:25	0° \mathfrak{D} 18'37	20.75633 AU
				morning rise	13259 Jul 27 04:07	1° \mathfrak{D} 12'15	
conjunction	13253 Jun 16 03:35	5° \mathfrak{D} 21'56	-0°57'02	retrograde	13259 Oct 27 05:31	4° \mathfrak{D} 18'41	
minimum elong	13253 Jun 16 03:36	5° \mathfrak{D} 21'56	0°58'04	opposition	13260 Jan 12 01:00	2° \mathfrak{D} 20'16	-0°41'14
max. Earth dist.	13253 Jun 16 10:28	5° \mathfrak{D} 22'58	20.46539 AU	min. Earth dist.	13260 Jan 11 15:50	2° \mathfrak{D} 21'12	18.77644 AU
morning rise	13253 Jul 01 22:59	6° \mathfrak{D} 17'56		direct	13260 Mar 29 00:57	0° \mathfrak{D} 21'25	
retrograde	13253 Oct 01 16:26	9° \mathfrak{D} 27'19		evening set	13260 Jun 28 20:56	3° \mathfrak{D} 26'50	
opposition	13253 Dec 16 20:25	7° \mathfrak{D} 28'34	-1°02'03				
min. Earth dist.	13253 Dec 16 14:00	7° \mathfrak{D} 29'13	18.49380 AU	conjunction	13260 Jul 14 15:58	4° \mathfrak{D} 21'41	-0°35'18
direct	13254 Mar 03 22:22	5° \mathfrak{D} 28'30		minimum elong	13260 Jul 14 15:58	4° \mathfrak{D} 21'41	0°36'12
evening set	13254 Jun 04 17:57	8° \mathfrak{D} 38'59		max. Earth dist.	13260 Jul 15 01:01	4° \mathfrak{D} 23'00	20.79584 AU
				morning rise	13260 Jul 30 11:15	5° \mathfrak{D} 16'35	
conjunction	13254 Jun 20 14:01	9° \mathfrak{D} 34'53	-0°54'41	retrograde	13260 Oct 30 14:40	8° \mathfrak{D} 22'42	
minimum elong	13254 Jun 20 14:01	9° \mathfrak{D} 34'53	0°55'41	opposition	13261 Jan 15 12:07	6° \mathfrak{D} 24'20	-0°36'59
max. Earth dist.	13254 Jun 20 20:15	9° \mathfrak{D} 35'49	20.52121 AU	min. Earth dist.	13261 Jan 15 02:53	6° \mathfrak{D} 25'15	18.81494 AU
morning rise	13254 Jul 06 09:23	10° \mathfrak{D} 30'42		direct	13261 Apr 02 10:03	4° \mathfrak{D} 25'40	
retrograde	13254 Oct 06 04:03	13° \mathfrak{D} 39'31		evening set	13261 Jul 03 03:20	7° \mathfrak{D} 30'25	
opposition	13254 Dec 21 10:32	11° \mathfrak{D} 40'53	-0°59'16				
min. Earth dist.	13254 Dec 21 03:52	11° \mathfrak{D} 41'34	18.54828 AU	conjunction	13261 Jul 18 22:29	8° \mathfrak{D} 25'10	-0°31'23
direct	13255 Mar 08 11:02	9° \mathfrak{D} 41'04		minimum elong	13261 Jul 18 22:30	8° \mathfrak{D} 25'10	0°32'14
evening set	13255 Jun 09 04:01	12° \mathfrak{D} 50'38		max. Earth dist.	13261 Jul 19 08:57	8° \mathfrak{D} 26'41	20.83320 AU
				morning rise	13261 Aug 03 17:48	9° \mathfrak{D} 19'57	
conjunction	13255 Jun 24 24:00	13° \mathfrak{D} 46'21	-0°52'02	retrograde	13261 Nov 03 23:28	12° \mathfrak{D} 25'48	
minimum elong	13255 Jun 25 00:00	13° \mathfrak{D} 46'21	0°53'04	opposition	13262 Jan 19 22:45	10° \mathfrak{D} 27'30	-0°32'33
max. Earth dist.	13255 Jun 25 07:31	13° \mathfrak{D} 47'27	20.57414 AU	min. Earth dist.	13262 Jan 19 12:24	10° \mathfrak{D} 28'33	18.85096 AU
morning rise	13255 Jul 10 19:05	14° \mathfrak{D} 41'58		direct	13262 Apr 06 20:15	8° \mathfrak{D} 29'05	
retrograde	13255 Oct 10 14:54	17° \mathfrak{D} 50'14		evening set	13262 Jul 07 09:40	11° \mathfrak{D} 33'14	

conjunction	13262 Jul 23 04:43	12°Ω27'51 -0°27'19	opposition	13268 Feb 14 08:45	4°♄36'06 -0°03'42
minimum elong	13262 Jul 23 04:43	12°Ω27'52 0°28'09	min. Earth dist.	13268 Feb 13 22:10	4°♄37'09 18.99333 AU
max. Earth dist.	13262 Jul 23 14:45	12°Ω29'19 20.86792 AU	direct	13268 Apr 30 21:56	2°♄38'46
morning rise	13262 Aug 08 00:20	13°Ω22'34	evening set	13268 Jul 30 19:21	5°♄40'27
	13262 Sep 08 08:58	15°Ω			
retrograde	13262 Nov 08 08:04	16°Ω28'12	conjunction	13268 Aug 15 15:14	6°♄34'46 -0°01'07
	13263 Jan 11 18:24	15°♄Ω	minimum elong	13268 Aug 15 15:14	6°♄34'47 0°01'36
opposition	13263 Jan 24 08:58	14°Ω29'59 -0°27'58	behind sun begin	13268 Aug 15 08:39	6°♄33'51
min. Earth dist.	13263 Jan 23 22:57	14°Ω30'59 18.88432 AU	behind sun end	13268 Aug 15 21:49	6°♄35'42
direct	13263 Apr 11 04:20	12°Ω31'47	max. Earth dist.	13268 Aug 16 01:17	6°♄36'12 20.99752 AU
	13263 Jun 30 23:32	15°Ω	morning rise	13268 Aug 31 12:34	7°♄29'17
evening set	13263 Jul 11 15:34	15°Ω35'23	asc. node	13268 Nov 15 18:49	10°♄27'47
			retrograde	13268 Dec 02 10:32	10°♄34'38
conjunction	13263 Jul 27 10:49	16°Ω29'56 -0°23'08	opposition	13269 Feb 17 17:55	8°♄36'32 0°01'17
minimum elong	13263 Jul 27 10:50	16°Ω29'56 0°23'55	min. Earth dist.	13269 Feb 17 08:31	8°♄37'29 19.00057 AU
max. Earth dist.	13263 Jul 27 21:57	16°Ω31'32 20.89974 AU	direct	13269 May 05 04:04	6°♄39'16
morning rise	13263 Aug 12 06:32	17°Ω24'34	evening set	13269 Aug 04 00:32	9°♄40'41
retrograde	13263 Nov 12 17:19	20°Ω30'03			
opposition	13264 Jan 28 18:55	18°Ω31'54 -0°23'17	conjunction	13269 Aug 19 20:50	10°♄35'00 0°03'31
min. Earth dist.	13264 Jan 28 07:58	18°Ω33'00 18.91437 AU	minimum elong	13269 Aug 19 20:51	10°♄35'00 0°03'04
direct	13264 Apr 14 13:33	16°Ω33'56	behind sun begin	13269 Aug 19 14:18	10°♄34'05
evening set	13264 Jul 14 21:20	19°Ω37'03	behind sun end	13269 Aug 20 03:24	10°♄35'55
			max. Earth dist.	13269 Aug 20 07:16	10°♄36'29 21.00217 AU
conjunction	13264 Jul 30 16:30	20°Ω31'30 -0°18'51	morning rise	13269 Sep 04 18:30	11°♄29'32
minimum elong	13264 Jul 30 16:31	20°Ω31'31 0°19'35	retrograde	13269 Dec 06 19:11	14°♄34'56
max. Earth dist.	13264 Jul 31 03:08	20°Ω33'02 20.92803 AU	opposition	13270 Feb 22 02:43	12°♄36'44 0°06'16
morning rise	13264 Aug 15 12:34	21°Ω26'06	min. Earth dist.	13270 Feb 21 16:41	12°♄37'44 19.00256 AU
retrograde	13264 Nov 16 01:10	24°Ω31'29	direct	13270 May 09 13:07	10°♄39'28
opposition	13265 Feb 01 04:48	22°Ω33'23 -0°18'29	evening set	13270 Aug 08 05:56	13°♄40'41
min. Earth dist.	13265 Jan 31 18:29	22°Ω34'25 18.94086 AU			
direct	13265 Apr 18 21:13	20°Ω35'38	conjunction	13270 Aug 24 02:27	14°♄35'00 0°07'59
evening set	13265 Jul 19 02:52	23°Ω38'19	minimum elong	13270 Aug 24 02:26	14°♄35'00 0°07'37
			behind sun begin	13270 Aug 23 20:27	14°♄34'10
conjunction	13265 Aug 03 22:19	24°Ω32'43 -0°14'30	behind sun end	13270 Aug 24 08:25	14°♄35'50
minimum elong	13265 Aug 03 22:19	24°Ω32'43 0°15'11	max. Earth dist.	13270 Aug 24 11:51	14°♄36'21 21.00172 AU
behind sun begin	13265 Aug 03 19:59	24°Ω32'24	morning rise	13270 Sep 09 00:37	15°♄29'34
behind sun end	13265 Aug 04 00:38	24°Ω33'03	retrograde	13270 Dec 11 02:14	18°♄35'04
max. Earth dist.	13265 Aug 04 09:48	24°Ω34'22 20.95252 AU	opposition	13271 Feb 26 11:18	16°♄36'43 0°11'13
morning rise	13265 Aug 19 18:32	25°Ω27'16	min. Earth dist.	13271 Feb 26 02:31	16°♄37'36 18.99990 AU
retrograde	13265 Nov 20 10:57	28°Ω32'35	direct	13271 May 13 18:54	14°♄39'25
opposition	13266 Feb 05 14:15	26°Ω34'33 -0°13'36	evening set	13271 Aug 12 11:11	17°♄40'29
min. Earth dist.	13266 Feb 05 03:13	26°Ω35'39 18.96316 AU			
direct	13266 Apr 23 06:01	24°Ω36'58	conjunction	13271 Aug 28 08:08	18°♄34'50 0°12'25
evening set	13266 Jul 23 08:25	27°Ω39'16	minimum elong	13271 Aug 28 08:07	18°♄34'50 0°12'07
			behind sun begin	13271 Aug 28 03:38	18°♄34'12
conjunction	13266 Aug 08 03:54	28°Ω33'38 -0°10'04	behind sun end	13271 Aug 28 12:37	18°♄35'28
minimum elong	13266 Aug 08 03:54	28°Ω33'38 0°10'41	max. Earth dist.	13271 Aug 28 18:02	18°♄36'14 20.99695 AU
behind sun begin	13266 Aug 07 22:48	28°Ω32'55	morning rise	13271 Sep 13 06:39	19°♄29'26
behind sun end	13266 Aug 08 09:00	28°Ω34'21	retrograde	13271 Dec 15 10:31	22°♄35'04
max. Earth dist.	13266 Aug 08 14:33	28°Ω35'10 20.97254 AU	opposition	13272 Mar 01 19:47	20°♄36'34 0°16'07
morning rise	13266 Aug 24 00:34	29°Ω28'10	min. Earth dist.	13272 Mar 01 10:09	20°♄37'32 18.99309 AU
	13266 Sep 02 15:15	0°♄	direct	13272 May 17 03:09	18°♄39'15
retrograde	13266 Nov 24 18:08	2°♄33'28	evening set	13272 Aug 15 16:31	21°♄40'12
opposition	13267 Feb 09 23:41	0°♄35'26 -0°08'40			
min. Earth dist.	13267 Feb 09 13:40	0°♄36'26 18.98085 AU	conjunction	13272 Aug 31 13:39	22°♄34'35 0°16'48
	13267 Feb 24 23:18	30°♄Ω	minimum elong	13272 Aug 31 13:39	22°♄34'35 0°16'34
direct	13267 Apr 27 12:49	28°Ω38'00	max. Earth dist.	13272 Aug 31 22:51	22°♄35'54 20.98824 AU
	13267 Jun 24 22:32	0°♄	morning rise	13272 Sep 16 12:44	23°♄29'15
evening set	13267 Jul 27 13:50	1°♄39'59	retrograde	13272 Dec 18 17:58	26°♄35'05
			opposition	13273 Mar 06 04:21	24°♄36'26 0°20'57
conjunction	13267 Aug 12 09:38	2°♄34'19 -0°05'37	min. Earth dist.	13273 Mar 05 19:46	24°♄37'18 18.98272 AU
minimum elong	13267 Aug 12 09:38	2°♄34'19 0°06'11	direct	13273 May 21 08:38	22°♄39'04
behind sun begin	13267 Aug 12 03:23	2°♄33'26	evening set	13273 Aug 19 21:56	25°♄39'59
behind sun end	13267 Aug 12 15:52	2°♄35'11			
max. Earth dist.	13267 Aug 12 20:44	2°♄35'54 20.98769 AU	conjunction	13273 Sep 04 19:35	26°♄34'27 0°21'06
morning rise	13267 Aug 28 06:29	3°♄28'49	minimum elong	13273 Sep 04 19:34	26°♄34'27 0°20'57
retrograde	13267 Nov 29 03:31	6°♄34'08	max. Earth dist.	13273 Sep 05 05:18	26°♄35'50 20.97621 AU

morning rise	13273 Sep 20 19:02	27° 17 29'11	direct	13280 Jun 18 08:14	20° 5 51'45		
	13273 Nov 15 00:02	0° 5	evening set	13280 Sep 16 21:55	23° 5 54'27		
retrograde	13273 Dec 23 02:38	0° 5 35'15					
	13274 Jan 31 02:42	30° 8	conjunction	13280 Oct 02 22:48	24° 5 49'46	0°47'28	
opposition	13274 Mar 10 12:35	28° 17 36'28	0°25'40	minimum elong	13280 Oct 02 22:48	24° 5 49'46	0°47'49
min. Earth dist.	13274 Mar 10 03:08	28° 17 37'25	18.96903 AU	max. Earth dist.	13280 Oct 03 05:01	24° 5 50'40	20.79773 AU
direct	13274 May 25 16:15	26° 17 39'03		morning rise	13280 Oct 19 02:08	25° 5 45'27	
evening set	13274 Aug 24 03:42	29° 17 40'02		retrograde	13281 Jan 20 23:25	28° 5 54'35	
	13274 Aug 30 00:55	0° 5		opposition	13281 Apr 08 03:32	26° 5 55'00	0°54'16
				min. Earth dist.	13281 Apr 07 22:25	26° 5 55'31	18.77785 AU
conjunction	13274 Sep 09 01:39	0° 5 34'33	0°25'19	direct	13281 Jun 22 15:12	24° 5 57'09	
minimum elong	13274 Sep 09 01:39	0° 5 34'33	0°25'13	evening set	13281 Sep 21 06:52	28° 5 00'21	
max. Earth dist.	13274 Sep 09 10:35	0° 5 35'50	20.96085 AU				
morning rise	13274 Sep 25 01:43	1° 5 29'23		conjunction	13281 Oct 07 08:25	28° 5 55'51	0°50'29
retrograde	13274 Dec 27 10:36	4° 5 35'45		minimum elong	13281 Oct 07 08:25	28° 5 55'51	0°50'52
opposition	13275 Mar 14 21:06	2° 5 36'50	0°30'16	max. Earth dist.	13281 Oct 07 13:59	28° 5 56'40	20.75649 AU
min. Earth dist.	13275 Mar 14 12:50	2° 5 37'40	18.95214 AU	morning rise	13281 Oct 23 12:18	29° 5 51'43	
direct	13275 May 29 21:19	0° 5 39'23			13281 Oct 25 23:01	0° 11	
evening set	13275 Aug 28 09:32	3° 5 40'29		retrograde	13282 Jan 25 12:12	3° 11 01'24	
				opposition	13282 Apr 12 13:21	1° 11 01'38	0°57'30
conjunction	13275 Sep 13 08:01	4° 5 35'06	0°29'24	min. Earth dist.	13282 Apr 12 08:09	1° 11 02'10	18.73433 AU
minimum elong	13275 Sep 13 08:01	4° 5 35'06	0°29'24		13282 May 08 23:52	30° 8	
max. Earth dist.	13275 Sep 13 17:22	4° 5 36'26	20.94238 AU	direct	13282 Jun 27 00:03	29° 5 03'37	
morning rise	13275 Sep 29 08:29	5° 5 30'02			13282 Aug 13 08:51	0° 11	
retrograde	13275 Dec 31 20:16	8° 5 36'44		evening set	13282 Sep 25 16:26	2° 11 07'21	
opposition	13276 Mar 18 05:33	6° 5 37'43	0°34'44				
min. Earth dist.	13276 Mar 17 20:28	6° 5 38'38	18.93202 AU	conjunction	13282 Oct 11 18:31	3° 11 03'03	0°53'15
direct	13276 Jun 02 05:02	4° 5 40'14		minimum elong	13282 Oct 11 18:30	3° 11 03'02	0°53'43
evening set	13276 Aug 31 15:55	7° 5 41'31		max. Earth dist.	13282 Oct 11 22:44	3° 11 03'39	20.71074 AU
				morning rise	13282 Oct 27 23:02	3° 11 59'07	
conjunction	13276 Sep 16 14:44	8° 5 36'15	0°33'22	retrograde	13283 Jan 29 23:13	7° 11 09'22	
minimum elong	13276 Sep 16 14:44	8° 5 36'15	0°33'24	opposition	13283 Apr 16 23:44	5° 11 09'23	1°00'26
max. Earth dist.	13276 Sep 16 23:17	8° 5 37'28	20.92064 AU	min. Earth dist.	13283 Apr 16 20:22	5° 11 09'44	18.68659 AU
morning rise	13276 Oct 02 15:50	9° 5 31'18		direct	13283 Jul 01 07:46	3° 11 11'08	
retrograde	13277 Jan 04 04:54	12° 5 38'25		evening set	13283 Sep 30 02:19	6° 11 15'26	
opposition	13277 Mar 22 14:22	10° 5 39'17	0°39'02				
min. Earth dist.	13277 Mar 22 06:36	10° 5 40'04	18.90872 AU	conjunction	13283 Oct 16 05:03	7° 11 11'20	0°55'45
direct	13277 Jun 06 10:13	8° 5 41'45		minimum elong	13283 Oct 16 05:03	7° 11 11'20	0°56'17
evening set	13277 Sep 04 22:31	11° 5 43'18		max. Earth dist.	13283 Oct 16 08:43	7° 11 11'52	20.66125 AU
				morning rise	13283 Nov 01 10:09	8° 11 07'37	
conjunction	13277 Sep 20 21:58	12° 5 38'09	0°37'10	retrograde	13284 Feb 03 13:06	11° 11 18'28	
minimum elong	13277 Sep 20 21:57	12° 5 38'09	0°37'17	opposition	13284 Apr 20 10:16	9° 11 18'14	1°03'05
max. Earth dist.	13277 Sep 21 06:43	12° 5 39'25	20.89570 AU	min. Earth dist.	13284 Apr 20 06:37	9° 11 18'37	18.63541 AU
morning rise	13277 Oct 06 23:33	13° 5 33'20		direct	13284 Jul 04 17:37	7° 11 19'44	
retrograde	13278 Jan 08 15:52	16° 5 40'54		evening set	13284 Oct 03 12:57	10° 11 24'38	
opposition	13278 Mar 26 23:10	14° 5 41'40	0°43'10				
min. Earth dist.	13278 Mar 26 14:51	14° 5 42'30	18.88195 AU	conjunction	13284 Oct 19 16:16	11° 11 20'46	0°57'59
direct	13278 Jun 10 18:07	12° 5 44'06		minimum elong	13284 Oct 19 16:16	11° 11 20'46	0°58'35
evening set	13278 Sep 09 05:51	15° 5 45'58		max. Earth dist.	13284 Oct 19 18:59	11° 11 21'09	20.60855 AU
				morning rise	13284 Nov 04 22:00	12° 11 17'16	
conjunction	13278 Sep 25 05:40	16° 5 40'58	0°40'48		13285 Jan 04 00:52	15° 11	
minimum elong	13278 Sep 25 05:40	16° 5 40'58	0°40'59	retrograde	13285 Feb 07 00:42	15° 11 28'43	
max. Earth dist.	13278 Sep 25 13:22	16° 5 42'05	20.86703 AU		13285 Mar 13 15:06	15° 8	
morning rise	13278 Oct 11 07:52	17° 5 36'19		opposition	13285 Apr 24 21:10	13° 11 28'15	1°05'24
retrograde	13279 Jan 13 01:07	20° 5 44'21		min. Earth dist.	13285 Apr 24 19:10	13° 11 28'28	18.58152 AU
opposition	13279 Mar 31 08:16	18° 5 45'02	0°47'05	direct	13285 Jul 09 01:49	11° 11 29'29	
min. Earth dist.	13279 Mar 31 01:39	18° 5 45'42	18.85144 AU	evening set	13285 Oct 08 00:08	14° 11 35'02	
direct	13279 Jun 15 00:02	16° 5 47'24			13285 Oct 15 05:19	15° 11	
evening set	13279 Sep 13 13:36	19° 5 49'40					
				conjunction	13285 Oct 24 04:09	15° 11 31'24	0°59'54
conjunction	13279 Sep 29 14:02	20° 5 44'49	0°44'14	minimum elong	13285 Oct 24 04:08	15° 11 31'24	1°00'34
minimum elong	13279 Sep 29 14:01	20° 5 44'49	0°44'30	max. Earth dist.	13285 Oct 24 06:17	15° 11 31'43	20.55364 AU
max. Earth dist.	13279 Sep 29 21:30	20° 5 45'54	20.83457 AU	morning rise	13285 Nov 09 10:30	16° 11 28'08	
morning rise	13279 Oct 15 16:43	21° 5 40'19		retrograde	13286 Feb 11 16:08	19° 11 40'13	
retrograde	13280 Jan 17 13:09	24° 5 48'54		opposition	13286 Apr 29 08:18	17° 11 39'30	1°07'24
opposition	13280 Apr 03 17:39	22° 5 49'27	0°50'48	min. Earth dist.	13286 Apr 29 05:58	17° 11 39'45	18.52564 AU
min. Earth dist.	13280 Apr 03 10:42	22° 5 50'10	18.81687 AU	direct	13286 Jul 13 12:39	15° 11 40'27	

evening set	13286 Oct 12 12:03	18° \mathbb{M} 46'44		max. Earth dist.	13292 Nov 23 10:18	15° \mathbb{A} 27'27	20.14434 AU
				morning rise	13292 Dec 09 22:45	16° \mathbb{A} 26'16	
conjunction	13286 Oct 28 16:39	19° \mathbb{M} 43'20	1°01'31	retrograde	13293 Mar 14 05:47	19° \mathbb{A} 43'13	
minimum elong	13286 Oct 28 16:39	19° \mathbb{M} 43'20	1°02'14	opposition	13293 May 29 04:07	17° \mathbb{A} 41'16	1°10'45
max. Earth dist.	13286 Oct 28 18:08	19° \mathbb{M} 43'33	20.49685 AU	min. Earth dist.	13293 May 29 06:47	17° \mathbb{A} 40'59	18.11477 AU
morning rise	13286 Nov 13 23:34	20° \mathbb{M} 40'18		direct	13293 Aug 12 00:38	15° \mathbb{A} 40'23	
retrograde	13287 Feb 16 04:30	23° \mathbb{M} 53'02		evening set	13293 Nov 11 21:39	18° \mathbb{A} 52'54	
opposition	13287 May 03 19:56	21° \mathbb{M} 52'05	1°09'02				
min. Earth dist.	13287 May 03 19:02	21° \mathbb{M} 52'11	18.46825 AU	conjunction	13293 Nov 28 06:50	19° \mathbb{A} 51'24	1°03'09
direct	13287 Jul 17 21:29	19° \mathbb{M} 52'46		minimum elong	13293 Nov 28 06:50	19° \mathbb{A} 51'24	1°04'08
evening set	13287 Oct 17 00:37	22° \mathbb{M} 59'48		max. Earth dist.	13293 Nov 28 02:56	19° \mathbb{A} 50'49	20.08469 AU
				morning rise	13293 Dec 14 17:51	20° \mathbb{A} 50'11	
conjunction	13287 Nov 02 05:53	23° \mathbb{M} 56'39	1°02'49	retrograde	13294 Mar 19 00:52	24° \mathbb{A} 07'49	
minimum elong	13287 Nov 02 05:53	23° \mathbb{M} 56'39	1°03'35	opposition	13294 Jun 02 19:34	22° \mathbb{A} 05'43	1°09'36
max. Earth dist.	13287 Nov 02 06:43	23° \mathbb{M} 56'47	20.43905 AU	min. Earth dist.	13294 Jun 02 22:46	22° \mathbb{A} 05'23	18.05485 AU
morning rise	13287 Nov 18 13:26	24° \mathbb{M} 53'52		direct	13294 Aug 16 16:09	20° \mathbb{A} 04'32	
retrograde	13288 Feb 20 20:58	28° \mathbb{M} 07'17		evening set	13294 Nov 16 16:15	23° \mathbb{A} 18'03	
opposition	13288 May 07 07:56	26° \mathbb{M} 06'07	1°10'18				
min. Earth dist.	13288 May 07 06:40	26° \mathbb{M} 06'15	18.41007 AU	conjunction	13294 Dec 03 02:09	24° \mathbb{A} 16'49	1°01'55
direct	13288 Jul 21 09:39	24° \mathbb{M} 06'30		minimum elong	13294 Dec 03 02:09	24° \mathbb{A} 16'49	1°02'56
evening set	13288 Oct 20 13:53	27° \mathbb{M} 14'21		max. Earth dist.	13294 Dec 02 22:01	24° \mathbb{A} 16'12	20.02438 AU
				morning rise	13294 Dec 19 13:28	25° \mathbb{A} 15'51	
conjunction	13288 Nov 05 19:50	28° \mathbb{M} 11'29	1°03'46	retrograde	13295 Mar 23 19:21	28° \mathbb{A} 34'08	
minimum elong	13288 Nov 05 19:50	28° \mathbb{M} 11'28	1°04'34	opposition	13295 Jun 07 11:41	26° \mathbb{A} 31'53	1°08'03
max. Earth dist.	13288 Nov 05 20:16	28° \mathbb{M} 11'32	20.38047 AU	min. Earth dist.	13295 Jun 07 15:57	26° \mathbb{A} 31'26	17.99434 AU
morning rise	13288 Nov 22 03:57	29° \mathbb{M} 08'57		direct	13295 Aug 21 07:43	24° \mathbb{A} 30'23	
	13288 Dec 07 10:18	0° \mathbb{A}		evening set	13295 Nov 21 11:48	27° \mathbb{A} 44'52	
retrograde	13289 Feb 24 10:35	2° \mathbb{A} 23'03					
opposition	13289 May 11 20:34	0° \mathbb{A} 21'41	1°11'11	conjunction	13295 Dec 07 22:11	28° \mathbb{A} 43'55	1°00'18
min. Earth dist.	13289 May 11 20:36	0° \mathbb{A} 21'40	18.35130 AU	minimum elong	13295 Dec 07 22:11	28° \mathbb{A} 43'55	1°01'19
	13289 May 20 13:06	30° \mathbb{R} \mathbb{M}		max. Earth dist.	13295 Dec 07 16:04	28° \mathbb{A} 43'00	19.96393 AU
direct	13289 Jul 25 19:30	28° \mathbb{M} 21'48		morning rise	13295 Dec 24 10:08	29° \mathbb{A} 43'13	
	13289 Sep 26 23:10	0° \mathbb{A}			13295 Dec 29 05:05	0° \mathbb{B}	
evening set	13289 Oct 25 04:06	1° \mathbb{A} 30'31		retrograde	13296 Mar 27 15:13	3° \mathbb{B} 02'08	
				opposition	13296 Jun 11 04:15	0° \mathbb{B} 59'41	1°06'04
conjunction	13289 Nov 10 10:43	2° \mathbb{A} 27'54	1°04'22	min. Earth dist.	13296 Jun 11 09:14	0° \mathbb{B} 59'10	17.93397 AU
minimum elong	13289 Nov 10 10:42	2° \mathbb{A} 27'54	1°05'14		13296 Jul 05 12:45	30° \mathbb{R} \mathbb{A}	
max. Earth dist.	13289 Nov 10 10:14	2° \mathbb{A} 27'50	20.32165 AU	direct	13296 Aug 25 00:26	28° \mathbb{A} 57'50	
morning rise	13289 Nov 26 19:29	3° \mathbb{A} 25'38			13296 Oct 13 00:45	0° \mathbb{B}	
retrograde	13290 Mar 01 03:51	6° \mathbb{A} 40'25		evening set	13296 Nov 25 07:58	2° \mathbb{B} 13'17	
opposition	13290 May 16 09:26	4° \mathbb{A} 38'53	1°11'41				
min. Earth dist.	13290 May 16 09:20	4° \mathbb{A} 38'53	18.29238 AU	conjunction	13296 Dec 11 19:08	3° \mathbb{B} 12'37	0°58'19
direct	13290 Jul 30 09:03	2° \mathbb{A} 38'45		minimum elong	13296 Dec 11 19:08	3° \mathbb{B} 12'37	0°59'21
evening set	13290 Oct 29 19:07	5° \mathbb{A} 48'22		max. Earth dist.	13296 Dec 11 13:06	3° \mathbb{B} 11'42	19.90374 AU
				morning rise	13296 Dec 28 07:22	4° \mathbb{B} 12'10	
conjunction	13290 Nov 15 02:25	6° \mathbb{A} 46'02	1°04'37	retrograde	13297 Apr 01 11:05	7° \mathbb{B} 31'39	
minimum elong	13290 Nov 15 02:25	6° \mathbb{A} 46'02	1°05'30	opposition	13297 Jun 15 21:24	5° \mathbb{B} 29'02	1°03'41
max. Earth dist.	13290 Nov 15 01:42	6° \mathbb{A} 45'56	20.26261 AU	min. Earth dist.	13297 Jun 16 03:07	5° \mathbb{B} 28'25	17.87411 AU
morning rise	13290 Dec 01 11:41	7° \mathbb{A} 44'01		direct	13297 Aug 29 17:35	3° \mathbb{B} 26'49	
retrograde	13291 Mar 05 18:45	10° \mathbb{A} 59'32		evening set	13297 Nov 30 05:07	6° \mathbb{B} 43'15	
opposition	13291 May 20 23:07	8° \mathbb{A} 57'51	1°11'47				
min. Earth dist.	13291 May 21 00:17	8° \mathbb{A} 57'43	18.23332 AU	conjunction	13297 Dec 16 16:39	7° \mathbb{B} 42'50	0°55'57
direct	13291 Aug 03 20:34	6° \mathbb{A} 57'28		minimum elong	13297 Dec 16 16:39	7° \mathbb{B} 42'50	0°56'59
evening set	13291 Nov 03 10:54	10° \mathbb{A} 08'02		max. Earth dist.	13297 Dec 16 08:41	7° \mathbb{B} 41'38	19.84455 AU
				morning rise	13298 Jan 02 05:26	8° \mathbb{B} 42'38	
conjunction	13291 Nov 19 18:49	11° \mathbb{A} 05'58	1°04'30	retrograde	13298 Apr 06 07:42	12° \mathbb{B} 02'41	
minimum elong	13291 Nov 19 18:49	11° \mathbb{A} 05'58	1°05'25	opposition	13298 Jun 20 14:57	9° \mathbb{B} 59'52	1°00'52
max. Earth dist.	13291 Nov 19 16:57	11° \mathbb{A} 05'41	20.20363 AU	min. Earth dist.	13298 Jun 20 21:28	9° \mathbb{B} 59'11	17.81573 AU
morning rise	13291 Dec 06 04:45	12° \mathbb{A} 04'13		direct	13298 Sep 03 11:26	7° \mathbb{B} 57'17	
retrograde	13292 Mar 09 13:02	15° \mathbb{A} 20'27		evening set	13298 Dec 05 02:45	11° \mathbb{B} 14'41	
opposition	13292 May 24 13:20	13° \mathbb{A} 18'38	1°11'28				
min. Earth dist.	13292 May 24 14:38	13° \mathbb{A} 18'30	18.17425 AU	conjunction	13298 Dec 21 14:58	12° \mathbb{B} 14'32	0°53'14
direct	13292 Aug 07 11:04	11° \mathbb{A} 18'00		minimum elong	13298 Dec 21 14:59	12° \mathbb{B} 14'32	0°54'15
evening set	13292 Nov 07 03:46	14° \mathbb{A} 29'32		max. Earth dist.	13298 Dec 21 07:31	12° \mathbb{B} 13'24	19.78711 AU
				morning rise	13299 Jan 07 03:55	13° \mathbb{B} 14'33	
conjunction	13292 Nov 23 12:24	15° \mathbb{A} 27'46	1°04'00	retrograde	13299 Apr 11 04:51	16° \mathbb{B} 35'08	
minimum elong	13292 Nov 23 12:23	15° \mathbb{A} 27'46	1°04'58	opposition	13299 Jun 25 09:06	14° \mathbb{B} 32'10	0°57'40

min. Earth dist.	13299 Jun 25 15:48	14°31'27"	17.75940 AU	conjunction	13306 Jan 24 19:12	14°35'14"	0°25'28"
direct	13299 Sep 08 05:48	12°32'15"		minimum elong	13306 Jan 24 19:12	14°35'14"	0°26'16"
evening set	13299 Dec 10 01:07	15°34'34"		max. Earth dist.	13306 Jan 24 09:01	14°33'40"	19.48482 AU
					13306 Jan 31 11:00	15°	
conjunction	13299 Dec 26 13:39	16°34'40"	0°50'10"	morning rise	13306 Feb 10 08:56	15°36'28"	
minimum elong	13299 Dec 26 13:39	16°34'40"	0°51'11"	retrograde	13306 May 14 20:20	18°59'48"	
max. Earth dist.	13299 Dec 26 04:33	16°34'17"	19.73218 AU	opposition	13306 Jul 28 06:22	16°56'30"	0°25'45"
morning rise	13300 Jan 12 03:04	17°34'55"		min. Earth dist.	13306 Jul 28 15:22	16°55'31"	17.47144 AU
retrograde	13300 Apr 16 02:33	21°30'00"			13306 Sep 24 01:23	15°	
opposition	13300 Jun 30 03:48	19°30'52"	0°54'05"	direct	13306 Oct 11 06:22	14°52'00"	
min. Earth dist.	13300 Jun 30 11:18	19°30'03"	17.70600 AU		13306 Oct 28 11:11	15°	
direct	13300 Sep 13 00:33	17°30'23"		evening set	13307 Jan 13 07:41	18°16'13"	
evening set	13300 Dec 15 00:09	20°32'15"					
				conjunction	13307 Jan 29 21:55	19°17'37"	0°20'33"
conjunction	13300 Dec 31 13:17	21°32'12"	0°46'46"	minimum elong	13307 Jan 29 21:56	19°17'37"	0°21'18"
minimum elong	13300 Dec 31 13:18	21°32'12"	0°47'45"	max. Earth dist.	13307 Jan 29 11:42	19°16'02"	19.45893 AU
max. Earth dist.	13300 Dec 31 04:54	21°32'05"	19.68038 AU	morning rise	13307 Feb 15 11:29	20°18'55"	
morning rise	13301 Jan 17 02:47	22°32'39"		retrograde	13307 May 19 21:10	23°42'28"	
retrograde	13301 Apr 21 00:57	25°34'12"		opposition	13307 Aug 02 04:26	21°39'12"	0°20'09"
opposition	13301 Jul 04 22:49	23°34'05"	0°50'08"	min. Earth dist.	13307 Aug 02 12:44	21°38'18"	17.44748 AU
min. Earth dist.	13301 Jul 05 06:06	23°34'10"	17.65593 AU	direct	13307 Oct 16 07:38	19°34'35"	
direct	13301 Sep 17 20:11	21°37'23"		evening set	13308 Jan 18 10:43	22°59'24"	
evening set	13301 Dec 20 00:02	24°35'34"					
				conjunction	13308 Feb 04 00:56	24°00'54"	0°15'28"
conjunction	13302 Jan 05 13:22	25°35'07"	0°43'03"	minimum elong	13308 Feb 04 00:56	24°00'54"	0°16'09"
minimum elong	13302 Jan 05 13:22	25°35'07"	0°44'01"	max. Earth dist.	13308 Feb 03 14:21	23°59'16"	19.43682 AU
max. Earth dist.	13302 Jan 05 03:32	25°35'37"	19.63228 AU	morning rise	13308 Feb 20 14:13	25°02'16"	
morning rise	13302 Jan 22 03:09	26°35'46"		retrograde	13308 May 23 20:04	28°25'56"	
	13302 Mar 29 03:10	0°		opposition	13308 Aug 06 03:06	26°22'43"	0°14'25"
retrograde	13302 Apr 25 23:23	0°20'45"		min. Earth dist.	13308 Aug 06 12:40	26°21'40"	17.42728 AU
	13302 May 24 01:34	30°		direct	13308 Oct 20 06:40	24°17'57"	
opposition	13302 Jul 09 18:35	28°31'24"	0°45'50"	evening set	13309 Jan 22 14:12	27°43'19"	
min. Earth dist.	13302 Jul 10 02:42	28°31'31"	17.60999 AU				
direct	13302 Sep 22 15:29	26°31'34"		conjunction	13309 Feb 08 04:15	28°44'52"	0°10'17"
evening set	13302 Dec 25 00:11	29°33'37"		minimum elong	13309 Feb 08 04:15	28°44'52"	0°10'54"
	13302 Dec 31 23:37	0°		behind sun begin	13309 Feb 07 23:11	28°44'06"	
				behind sun end	13309 Feb 08 09:19	28°45'38"	
conjunction	13303 Jan 10 13:58	0°35'24"	0°39'02"	max. Earth dist.	13309 Feb 07 17:04	28°43'09"	19.41857 AU
minimum elong	13303 Jan 10 13:58	0°35'24"	0°39'58"	morning rise	13309 Feb 24 17:17	29°46'17"	
max. Earth dist.	13303 Jan 10 04:59	0°34'01"	19.58852 AU		13309 Feb 28 12:04	0°	
morning rise	13303 Jan 27 03:44	1°36'13"		retrograde	13309 May 28 21:21	3°10'00"	
retrograde	13303 Apr 30 22:58	4°58'36"		opposition	13309 Aug 11 01:48	1°06'48"	0°08'34"
opposition	13303 Jul 14 14:46	2°55'12"	0°41'13"	min. Earth dist.	13309 Aug 11 10:39	1°05'50"	17.41092 AU
min. Earth dist.	13303 Jul 14 22:12	2°54'24"	17.56843 AU		13309 Sep 07 00:29	30°	
direct	13303 Sep 27 12:58	0°51'10"		direct	13309 Oct 25 08:51	29°01'54"	
evening set	13303 Dec 30 01:15	4°13'04"			13309 Dec 11 10:33	0°	
				evening set	13310 Jan 27 17:47	2°27'43"	
conjunction	13304 Jan 15 15:09	5°14'01"	0°34'45"	conjunction	13310 Feb 13 07:42	3°29'18"	0°05'02"
minimum elong	13304 Jan 15 15:09	5°14'01"	0°35'38"	minimum elong	13310 Feb 13 07:42	3°29'18"	0°05'35"
max. Earth dist.	13304 Jan 15 05:10	5°12'29"	19.54934 AU	behind sun begin	13310 Feb 13 01:13	3°28'19"	
morning rise	13304 Feb 01 05:04	6°15'01"		behind sun end	13310 Feb 13 14:10	3°30'17"	
retrograde	13304 May 04 21:25	9°37'45"		max. Earth dist.	13310 Feb 12 20:48	3°27'37"	19.40414 AU
opposition	13304 Jul 18 11:30	7°34'22"	0°36'18"	morning rise	13310 Mar 01 20:13	4°30'43"	
min. Earth dist.	13304 Jul 18 19:56	7°33'27"	17.53166 AU	retrograde	13310 Jun 02 20:52	7°54'24"	
direct	13304 Oct 01 09:08	5°30'08"		opposition	13310 Aug 16 01:02	5°51'14"	0°02'39"
evening set	13305 Jan 03 02:47	8°52'52"		min. Earth dist.	13310 Aug 16 10:53	5°50'10"	17.39858 AU
				direct	13310 Oct 30 08:45	3°46'13"	
conjunction	13305 Jan 19 17:00	9°54'00"	0°30'13"	desc. node	13311 Jan 23 12:40	6°38'47"	
minimum elong	13305 Jan 19 17:00	9°54'00"	0°31'05"	evening set	13311 Feb 01 21:20	7°12'22"	
max. Earth dist.	13305 Jan 19 07:31	9°52'32"	19.51494 AU				
morning rise	13305 Feb 05 06:51	10°55'07"		conjunction	13311 Feb 18 10:52	8°13'57"	-0°00'21"
retrograde	13305 May 09 21:46	14°18'11"		minimum elong	13311 Feb 18 10:52	8°13'57"	0°00'07"
opposition	13305 Jul 23 08:37	12°14'49"	0°31'08"	behind sun begin	13311 Feb 18 04:19	8°12'58"	
min. Earth dist.	13305 Jul 23 16:22	12°13'59"	17.49940 AU	behind sun end	13311 Feb 18 17:26	8°14'57"	
direct	13305 Oct 06 08:33	10°10'28"		max. Earth dist.	13311 Feb 17 23:18	8°12'10"	19.39404 AU
evening set	13306 Jan 08 05:01	13°33'58"		morning rise	13311 Mar 06 23:06	9°15'22"	


























































































































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opposition	13311 Aug 21 00:16	10°♄35'49 -0°03'18		opposition	13317 Sep 17 20:40	8°♅56'55 -0°37'02	
min. Earth dist.	13311 Aug 21 09:18	10°♄34'50 17.39068 AU		min. Earth dist.	13317 Sep 18 03:28	8°♅56'11 17.45308 AU	
direct	13311 Nov 04 10:40	8°♄30'39		direct	13317 Dec 02 18:36	6°♅51'46	
evening set	13312 Feb 07 00:56	11°♄57'04		evening set	13318 Mar 07 17:48	10°♅17'59	
conjunction	13312 Feb 23 14:16	12°♄58'39 -0°05'45		conjunction	13318 Mar 24 03:38	11°♅18'55 -0°35'30	
minimum elong	13312 Feb 23 14:16	12°♄58'39 0°05'20		minimum elong	13318 Mar 24 03:37	11°♅18'55 0°35'36	
behind sun begin	13312 Feb 23 07:45	12°♄57'40		max. Earth dist.	13318 Mar 23 20:33	11°♅17'49 19.46742 AU	
behind sun end	13312 Feb 23 20:46	12°♄59'39		morning rise	13318 Apr 09 11:01	12°♅19'32	
max. Earth dist.	13312 Feb 23 03:39	12°♄57'01 19.38837 AU		retrograde	13318 Jul 10 16:13	15°♅40'58	
morning rise	13312 Mar 11 01:50	14°♄00'01		opposition	13318 Sep 22 19:53	13°♅38'33 -0°41'57	
retrograde	13312 Jun 11 21:37	17°♄23'27		min. Earth dist.	13318 Sep 23 01:45	13°♅37'55 17.48321 AU	
opposition	13312 Aug 24 23:37	15°♄20'20 -0°09'13		direct	13318 Dec 07 20:41	11°♅33'36	
min. Earth dist.	13312 Aug 25 09:18	15°♄19'16 17.38739 AU		evening set	13319 Mar 12 19:16	14°♅59'30	
direct	13312 Nov 08 11:16	13°♄15'04		conjunction	13319 Mar 29 04:14	16°♅00'16 -0°39'46	
evening set	13313 Feb 11 04:34	16°♄41'39		minimum elong	13319 Mar 29 04:13	16°♅00'15 0°39'58	
conjunction	13313 Feb 27 17:20	17°♄43'11 -0°11'00		max. Earth dist.	13319 Mar 28 21:04	15°♅59'09 19.50004 AU	
minimum elong	13313 Feb 27 17:20	17°♄43'11 0°10'41		morning rise	13319 Apr 14 10:57	17°♅00'41	
behind sun begin	13313 Feb 27 12:11	17°♄42'24		retrograde	13319 Jul 15 13:13	20°♅21'41	
behind sun end	13313 Feb 27 22:29	17°♄43'58		opposition	13319 Sep 27 19:00	18°♅19'29 -0°46'34	
max. Earth dist.	13313 Feb 27 05:56	17°♄41'25 19.38762 AU		min. Earth dist.	13319 Sep 28 00:45	18°♅18'52 17.51817 AU	
morning rise	13313 Mar 16 04:30	18°♄44'30		direct	13319 Dec 12 21:13	16°♅14'44	
retrograde	13313 Jun 16 21:46	22°♄07'42		evening set	13320 Mar 16 20:17	19°♅40'17	
opposition	13313 Aug 29 23:02	20°♄04'36 -0°15'05		conjunction	13320 Apr 02 04:34	20°♅40'50 -0°43'47	
min. Earth dist.	13313 Aug 30 07:53	20°♄03'38 17.38922 AU		minimum elong	13320 Apr 02 04:33	20°♅40'50 0°44'02	
direct	13313 Nov 13 13:00	17°♄59'15		max. Earth dist.	13320 Apr 01 22:39	20°♅39'55 19.53703 AU	
evening set	13314 Feb 16 07:44	21°♄25'55		morning rise	13320 Apr 18 10:22	21°♅41'03	
conjunction	13314 Mar 04 20:07	22°♄27'23 -0°16'12		retrograde	13320 Jul 19 11:24	25°♅01'31	
minimum elong	13314 Mar 04 20:07	22°♄27'23 0°15'58		opposition	13320 Oct 01 17:46	22°♅59'35 -0°50'52	
max. Earth dist.	13314 Mar 04 10:19	22°♄25'52 19.39201 AU		min. Earth dist.	13320 Oct 01 22:27	22°♅59'05 17.55698 AU	
morning rise	13314 Mar 21 06:28	23°♄28'35		direct	13320 Dec 16 23:27	20°♅55'04	
retrograde	13314 Jun 21 21:14	26°♄51'31		evening set	13321 Mar 21 20:52	24°♅20'09	
opposition	13314 Sep 03 22:35	24°♄48'29 -0°20'50		conjunction	13321 Apr 07 04:14	25°♅20'29 -0°47'29	
min. Earth dist.	13314 Sep 04 07:24	24°♄47'31 17.39636 AU		minimum elong	13321 Apr 07 04:13	25°♅20'29 0°47'50	
direct	13314 Nov 18 14:26	22°♄43'06		max. Earth dist.	13321 Apr 06 22:24	25°♅19'35 19.57755 AU	
evening set	13315 Feb 21 10:50	26°♄09'45		morning rise	13321 Apr 23 09:13	26°♅20'28	
conjunction	13315 Mar 09 22:30	27°♄11'07 -0°21'17		retrograde	13321 Jul 24 07:28	29°♅40'25	
minimum elong	13315 Mar 09 22:29	27°♄11'07 0°21'07		opposition	13321 Oct 06 16:35	27°♅38'42 -0°54'49	
max. Earth dist.	13315 Mar 09 12:08	27°♄09'30 19.40205 AU		min. Earth dist.	13321 Oct 06 21:28	27°♅38'11 17.59923 AU	
morning rise	13315 Mar 26 08:19	28°♄12'13		direct	13321 Dec 21 23:15	25°♅34'24	
	13315 Apr 27 12:45	0°♅		evening set	13322 Mar 26 20:33	28°♅58'57	
retrograde	13315 Jun 26 20:05	1°♅34'49		conjunction	13322 Apr 12 03:08	29°♅59'02 -0°50'52	
	13315 Aug 29 00:38	30°♄		minimum elong	13322 Apr 12 03:08	29°♅59'02 0°51'17	
opposition	13315 Sep 08 21:56	29°♄31'51 -0°26'27		max. Earth dist.	13322 Apr 11 22:12	29°♅58'16 19.62124 AU	
min. Earth dist.	13315 Sep 09 05:55	29°♄30'59 17.40942 AU			13322 Apr 12 09:25	0°♄	
direct	13315 Nov 23 15:44	27°♄26'29		morning rise	13322 Apr 28 07:16	0°♄58'47	
	13316 Feb 11 13:48	0°♅		retrograde	13322 Jul 29 05:05	4°♄18'08	
evening set	13316 Feb 26 13:27	0°♅53'04		opposition	13322 Oct 11 14:57	2°♄16'39 -0°58'24	
conjunction	13316 Mar 14 00:42	1°♅54'18 -0°26'13		min. Earth dist.	13322 Oct 11 18:29	2°♄16'16 17.64419 AU	
minimum elong	13316 Mar 14 00:41	1°♅54'18 0°26'10		direct	13322 Dec 27 00:44	0°♄12'34	
max. Earth dist.	13316 Mar 13 16:10	1°♅52'59 19.41800 AU		evening set	13323 Mar 31 19:43	3°♄36'29	
morning rise	13316 Mar 30 09:39	2°♅55'15		conjunction	13323 Apr 17 01:27	4°♄36'19 -0°53'55	
retrograde	13316 Jun 30 19:27	6°♅17'30		minimum elong	13323 Apr 17 01:27	4°♄36'19 0°54'24	
opposition	13316 Sep 12 21:22	4°♅14'41 -0°31'51		max. Earth dist.	13323 Apr 16 20:57	4°♄35'37 19.66738 AU	
min. Earth dist.	13316 Sep 13 04:46	4°♅13'53 17.42827 AU		morning rise	13323 May 03 04:45	5°♄35'49	
direct	13316 Nov 27 17:35	2°♅09'24		retrograde	13323 Aug 03 00:04	8°♄54'32	
evening set	13317 Mar 02 15:56	5°♅35'49		opposition	13323 Oct 16 12:57	6°♄53'15 -1°01'35	
conjunction	13317 Mar 19 02:19	6°♅36'55 -0°30'58		min. Earth dist.	13323 Oct 16 16:57	6°♄52'50 17.69156 AU	
minimum elong	13317 Mar 19 02:19	6°♅36'55 0°30'59		direct	13323 Dec 31 23:02	4°♄49'22	
max. Earth dist.	13317 Mar 18 17:27	6°♅35'32 19.43984 AU		evening set	13324 Apr 04 18:09	8°♄12'37	
morning rise	13317 Apr 04 10:37	7°♅37'42					

conjunction	13324 Apr 20 23:03	9°♄12'11	-0°56'36	minimum elong	13330 May 18 13:43	6°♄10'46	1°05'34
minimum elong	13324 Apr 20 23:03	9°♄12'11	0°57'10	max. Earth dist.	13330 May 18 14:23	6°♄10'52	20.04494 AU
max. Earth dist.	13324 Apr 20 18:55	9°♄11'33	19.71580 AU	morning rise	13330 Jun 03 12:07	7°♄08'24	
morning rise	13324 May 07 01:35	10°♄11'26		retrograde	13330 Sep 03 03:10	10°♄22'05	
retrograde	13324 Aug 06 21:10	13°♄29'28		opposition	13330 Nov 17 09:03	8°♄21'55	-1°11'59
opposition	13324 Oct 20 10:30	11°♄28'23	-1°04'22	min. Earth dist.	13330 Nov 17 06:48	8°♄22'09	18.07571 AU
min. Earth dist.	13324 Oct 20 13:01	11°♄28'07	17.74086 AU	direct	13331 Feb 02 07:57	6°♄19'38	
direct	13325 Jan 04 23:44	9°♄24'42		evening set	13331 May 07 05:32	9°♄36'37	
evening set	13325 Apr 09 15:39	12°♄47'10					
conjunction	13325 Apr 25 19:45	13°♄46'29	-0°58'55	conjunction	13331 May 23 05:16	10°♄34'15	-1°04'40
minimum elong	13325 Apr 25 19:45	13°♄46'29	0°59'32	minimum elong	13331 May 23 05:16	10°♄34'15	1°05'36
max. Earth dist.	13325 Apr 25 16:32	13°♄45'59	19.76596 AU	max. Earth dist.	13331 May 23 07:54	10°♄34'38	20.10633 AU
morning rise	13325 May 11 21:25	14°♄45'28		morning rise	13331 Jun 08 02:58	11°♄31'36	
	13325 May 15 22:50	15°♄		retrograde	13331 Sep 07 16:35	14°♄44'36	
retrograde	13325 Aug 11 14:30	18°♄02'48		opposition	13331 Nov 22 02:48	12°♄44'40	-1°11'44
opposition	13325 Oct 25 07:44	16°♄01'52	-1°06'43	min. Earth dist.	13331 Nov 22 00:34	12°♄44'54	18.13765 AU
min. Earth dist.	13325 Oct 25 10:41	16°♄01'34	17.79198 AU	direct	13332 Feb 07 02:02	10°♄42'43	
	13325 Nov 19 20:52	15°♄		evening set	13332 May 10 20:57	13°♄58'45	
direct	13326 Jan 09 20:52	13°♄58'24		conjunction	13332 May 26 19:54	14°♄56'06	-1°04'17
	13326 Feb 28 07:44	15°♄		minimum elong	13332 May 26 19:54	14°♄56'06	1°05'14
evening set	13326 Apr 14 12:19	17°♄20'01		max. Earth dist.	13332 May 26 22:22	14°♄56'29	20.16876 AU
conjunction	13326 Apr 30 15:34	18°♄19'03	-1°00'51	morning rise	13332 Jun 11 17:15	15°♄53'13	
minimum elong	13326 Apr 30 15:33	18°♄19'03	1°01'33	retrograde	13332 Sep 11 07:55	19°♄05'33	
max. Earth dist.	13326 Apr 30 12:34	18°♄18'36	19.81802 AU	opposition	13332 Nov 25 20:05	17°♄05'51	-1°11'05
morning rise	13326 May 16 16:34	19°♄17'46		min. Earth dist.	13332 Nov 25 16:18	17°♄06'14	18.20031 AU
retrograde	13326 Aug 16 10:27	22°♄34'22		direct	13333 Feb 10 20:48	15°♄04'14	
opposition	13326 Oct 30 04:12	20°♄33'35	-1°08'39	evening set	13333 May 15 11:16	18°♄19'19	
min. Earth dist.	13326 Oct 30 05:30	20°♄33'27	17.84489 AU	conjunction	13333 May 31 09:47	19°♄16'25	-1°03'32
direct	13327 Jan 14 20:34	18°♄30'18		minimum elong	13333 May 31 09:47	19°♄16'25	1°04'31
evening set	13327 Apr 19 07:56	21°♄51'02		max. Earth dist.	13333 May 31 14:13	19°♄17'05	20.23142 AU
conjunction	13327 May 05 10:30	22°♄49'48	-1°02'24	morning rise	13333 Jun 16 06:31	20°♄13'17	
minimum elong	13327 May 05 10:30	22°♄49'48	1°03'09	retrograde	13333 Sep 15 21:01	23°♄24'58	
max. Earth dist.	13327 May 05 08:56	22°♄49'33	19.87177 AU	opposition	13333 Nov 30 12:59	21°♄25'30	-1°10'01
morning rise	13327 May 21 10:43	23°♄48'14		min. Earth dist.	13333 Nov 30 09:08	21°♄25'54	18.26282 AU
retrograde	13327 Aug 21 02:08	27°♄04'06		direct	13334 Feb 15 13:58	19°♄24'14	
opposition	13327 Nov 04 00:20	25°♄03'26	-1°10'08	evening set	13334 May 20 01:06	22°♄38'23	
min. Earth dist.	13327 Nov 04 01:54	25°♄03'17	17.89959 AU	conjunction	13334 Jun 04 22:55	23°♄35'13	-1°02'25
direct	13328 Jan 19 16:50	23°♄00'21		minimum elong	13334 Jun 04 22:55	23°♄35'13	1°03'25
evening set	13328 Apr 23 02:46	26°♄20'11		max. Earth dist.	13334 Jun 05 02:56	23°♄35'49	20.29369 AU
conjunction	13328 May 09 04:28	27°♄18'39	-1°03'33	morning rise	13334 Jun 20 19:26	24°♄31'51	
minimum elong	13328 May 09 04:27	27°♄18'38	1°04'22	retrograde	13334 Sep 20 10:50	27°♄42'54	
max. Earth dist.	13328 May 09 03:04	27°♄18'26	19.92746 AU	opposition	13334 Dec 05 05:06	25°♄43'39	-1°08'35
morning rise	13328 May 25 04:05	28°♄16'48		min. Earth dist.	13334 Dec 05 00:08	25°♄44'10	18.32468 AU
	13328 Jun 25 16:52	0°♄		direct	13335 Feb 20 06:45	23°♄42'43	
retrograde	13328 Aug 24 20:11	1°♄31'55		evening set	13335 May 24 14:02	26°♄55'56	
	13328 Oct 27 08:20	30°♄		conjunction	13335 Jun 09 11:33	27°♄52'31	-1°00'58
opposition	13328 Nov 07 19:41	29°♄31'24	-1°11'11	minimum elong	13335 Jun 09 11:33	27°♄52'31	1°02'00
min. Earth dist.	13328 Nov 07 19:23	29°♄31'26	17.95627 AU	max. Earth dist.	13335 Jun 09 17:12	27°♄53'22	20.35485 AU
direct	13329 Jan 23 15:43	27°♄28'33		morning rise	13335 Jun 25 07:32	28°♄48'55	
	13329 Apr 14 03:41	0°♄			13335 Jul 16 17:07	0°♄	
evening set	13329 Apr 27 20:36	0°♄47'26		retrograde	13335 Sep 24 23:19	1°♄59'22	
conjunction	13329 May 13 21:39	1°♄45'37	-1°04'19	opposition	13335 Dec 09 20:53	0°♄00'20	-1°06'47
minimum elong	13329 May 13 21:39	1°♄45'37	1°05'10	min. Earth dist.	13335 Dec 09 15:54	0°♄00'50	18.38497 AU
max. Earth dist.	13329 May 13 22:10	1°♄45'41	19.98513 AU	direct	13335 Dec 10 00:04	30°♄	
morning rise	13329 May 29 20:29	2°♄43'30			13336 Feb 24 22:55	27°♄59'43	
retrograde	13329 Aug 29 10:33	5°♄57'53		evening set	13336 May 06 07:45	0°♄	
opposition	13329 Nov 12 14:46	3°♄57'32	-1°11'48		13336 May 28 02:24	1°♄11'59	
min. Earth dist.	13329 Nov 12 14:22	3°♄57'35	18.01504 AU	conjunction	13336 Jun 12 23:16	2°♄08'20	-0°59'12
direct	13330 Jan 28 10:53	1°♄54'57		minimum elong	13336 Jun 12 23:17	2°♄08'20	1°00'14
evening set	13330 May 02 13:29	5°♄12'53		max. Earth dist.	13336 Jun 13 04:16	2°♄09'05	20.41422 AU
conjunction	13330 May 18 13:43	6°♄10'46	-1°04'41	morning rise	13336 Jun 28 19:07	3°♄04'32	
				retrograde	13336 Sep 28 11:52	6°♄14'24	

opposition	13336 Dec 13 12:07	4°☿15'31	-1°04'37	conjunction	13343 Jul 12 15:39	1°♄17'38	-0°38'59
min. Earth dist.	13336 Dec 13 06:19	4°☿16'07	18.44331 AU	minimum elong	13343 Jul 12 15:39	1°♄17'38	0°39'55
direct	13337 Feb 28 14:13	2°☿15'12		max. Earth dist.	13343 Jul 13 01:03	1°♄19'00	20.75893 AU
evening set	13337 Jun 01 13:53	5°☿26'34		morning rise	13343 Jul 28 10:44	2°♄12'38	
				retrograde	13343 Oct 28 12:05	5°♄19'04	
conjunction	13337 Jun 17 10:32	6°☿22'41	-0°57'07	opposition	13344 Jan 13 07:06	3°♄20'44	-0°41'09
minimum elong	13337 Jun 17 10:32	6°☿22'41	0°58'08	min. Earth dist.	13344 Jan 12 22:00	3°♄21'39	18.77938 AU
max. Earth dist.	13337 Jun 17 17:01	6°☿23'39	20.47132 AU	direct	13344 Mar 30 06:35	1°♄21'55	
morning rise	13337 Jul 03 05:58	7°☿18'40		evening set	13344 Jun 30 03:22	4°♄27'24	
retrograde	13337 Oct 02 23:16	10°☿27'58					
opposition	13337 Dec 18 02:51	8°☿29'14	-1°02'07	conjunction	13344 Jul 15 22:26	5°♄22'16	-0°35'12
min. Earth dist.	13337 Dec 17 20:54	8°☿29'51	18.49906 AU	minimum elong	13344 Jul 15 22:27	5°♄22'16	0°36'05
direct	13338 Mar 05 04:59	6°☿29'12		max. Earth dist.	13344 Jul 16 07:28	5°♄23'34	20.79910 AU
evening set	13338 Jun 06 00:43	9°☿39'37		morning rise	13344 Jul 31 17:45	6°♄17'09	
				retrograde	13344 Oct 31 20:54	9°♄23'17	
conjunction	13338 Jun 21 20:53	10°☿35'32	-0°54'44	opposition	13345 Jan 16 18:13	7°♄25'01	-0°36'51
minimum elong	13338 Jun 21 20:53	10°☿35'32	0°55'46	min. Earth dist.	13345 Jan 16 08:55	7°♄25'57	18.81845 AU
max. Earth dist.	13338 Jun 22 02:36	10°☿36'23	20.52575 AU	direct	13345 Apr 03 15:16	5°♄26'26	
morning rise	13338 Jul 07 16:20	11°☿31'19		evening set	13345 Jul 04 09:54	8°♄31'15	
retrograde	13338 Oct 07 10:47	14°☿40'05					
opposition	13338 Dec 22 16:59	12°☿41'27	-0°59'18	conjunction	13345 Jul 20 05:07	9°♄25'59	-0°31'15
min. Earth dist.	13338 Dec 22 10:33	12°☿42'06	18.55207 AU	minimum elong	13345 Jul 20 05:08	9°♄25'59	0°32'08
direct	13339 Mar 09 18:53	10°☿41'38		max. Earth dist.	13345 Jul 20 15:38	9°♄27'31	20.83692 AU
evening set	13339 Jun 10 10:46	13°☿51'10		morning rise	13345 Aug 05 00:26	10°♄20'47	
				retrograde	13345 Nov 05 06:14	13°♄26'38	
conjunction	13339 Jun 26 06:49	14°☿46'52	-0°52'04	opposition	13346 Jan 21 04:46	11°♄28'27	-0°32'24
minimum elong	13339 Jun 26 06:49	14°☿46'52	0°53'04	min. Earth dist.	13346 Jan 20 18:41	11°♄29'28	18.85482 AU
max. Earth dist.	13339 Jun 26 13:55	14°☿47'55	20.57727 AU	direct	13346 Apr 08 02:07	9°♄30'06	
morning rise	13339 Jul 12 01:57	15°☿42'29		evening set	13346 Jul 08 16:14	12°♄34'18	
retrograde	13339 Oct 11 20:58	18°☿50'41					
opposition	13339 Dec 27 06:25	16°☿52'09	-0°56'11	conjunction	13346 Jul 24 11:20	13°♄28'56	-0°27'10
min. Earth dist.	13339 Dec 26 23:43	16°☿52'50	18.60207 AU	minimum elong	13346 Jul 24 11:20	13°♄28'56	0°27'59
direct	13340 Mar 13 08:10	14°☿52'32		max. Earth dist.	13346 Jul 24 21:14	13°♄30'22	20.87183 AU
evening set	13340 Jun 13 20:14	18°☿01'10		morning rise	13346 Aug 09 06:59	14°♄23'39	
					13346 Aug 20 05:33	15°♄	
conjunction	13340 Jun 29 15:52	18°☿56'41	-0°49'08	retrograde	13346 Nov 09 14:53	17°♄29'18	
minimum elong	13340 Jun 29 15:52	18°☿56'41	0°50'09	opposition	13347 Jan 25 15:08	15°♄31'10	-0°27'48
max. Earth dist.	13340 Jun 29 22:23	18°☿57'38	20.62601 AU	min. Earth dist.	13347 Jan 25 05:16	15°♄32'09	18.88817 AU
morning rise	13340 Jul 15 11:06	19°☿52'07			13347 Feb 07 17:22	15°♄	
retrograde	13340 Oct 15 07:23	22°☿59'49		direct	13347 Apr 12 09:51	13°♄33'02	
opposition	13340 Dec 30 19:28	21°☿01'19	-0°52'47		13347 Jun 11 17:33	15°♄	
min. Earth dist.	13340 Dec 30 12:18	21°☿02'03	18.64961 AU	evening set	13347 Jul 12 22:11	16°♄36'41	
direct	13341 Mar 17 20:30	19°☿01'54					
evening set	13341 Jun 18 04:42	22°☿09'40		conjunction	13347 Jul 28 17:28	17°♄31'14	-0°22'58
				minimum elong	13347 Jul 28 17:28	17°♄31'14	0°23'45
conjunction	13341 Jul 04 00:18	23°☿05'00	-0°45'58	max. Earth dist.	13347 Jul 29 04:32	17°♄32'50	20.90341 AU
minimum elong	13341 Jul 04 00:18	23°☿05'00	0°46'57	morning rise	13347 Aug 13 13:09	18°♄25'52	
max. Earth dist.	13341 Jul 04 08:31	23°☿06'12	20.67237 AU	retrograde	13347 Nov 13 23:30	21°♄31'20	
morning rise	13341 Jul 19 19:20	24°☿00'16		opposition	13348 Jan 30 01:05	19°♄33'16	-0°23'05
retrograde	13341 Oct 19 17:05	27°☿07'30		min. Earth dist.	13348 Jan 29 14:33	19°♄34'20	18.91779 AU
opposition	13342 Jan 04 07:54	25°☿09'03	-0°49'08	direct	13348 Apr 15 20:11	17°♄35'21	
min. Earth dist.	13342 Jan 04 00:01	25°☿09'51	18.69482 AU	evening set	13348 Jul 16 04:07	20°♄38'30	
direct	13342 Mar 22 08:48	23°☿09'50					
evening set	13342 Jun 22 12:51	26°☿16'46		conjunction	13348 Jul 31 23:18	21°♄32'58	-0°18'40
				minimum elong	13348 Jul 31 23:19	21°♄32'58	0°19'24
conjunction	13342 Jul 08 08:08	27°☿11'55	-0°42'34	max. Earth dist.	13348 Aug 01 09:33	21°♄34'27	20.93110 AU
minimum elong	13342 Jul 08 08:08	27°☿11'55	0°43'32	morning rise	13348 Aug 16 19:23	22°♄27'33	
max. Earth dist.	13342 Jul 08 15:57	27°☿13'04	20.71660 AU	retrograde	13348 Nov 17 08:17	25°♄32'55	
morning rise	13342 Jul 24 03:20	28°☿07'04		opposition	13349 Feb 02 11:00	23°♄34'52	-0°18'16
	13342 Aug 30 01:03	0°♄		min. Earth dist.	13349 Feb 02 01:00	23°♄35'52	18.94348 AU
retrograde	13342 Oct 24 02:28	1°♄13'52		direct	13349 Apr 20 03:18	21°♄37'07	
	13342 Dec 20 23:03	30°♄		evening set	13349 Jul 20 09:38	24°♄39'49	
opposition	13343 Jan 08 19:41	29°☿15'28	-0°45'15				
min. Earth dist.	13343 Jan 08 11:26	29°☿16'18	18.73817 AU	conjunction	13349 Aug 05 05:07	25°♄34'14	-0°14'17
direct	13343 Mar 26 19:00	27°☿16'26		minimum elong	13349 Aug 05 05:07	25°♄34'14	0°14'57
	13343 Jun 20 03:29	0°♄		behind sun begin	13349 Aug 05 02:32	25°♄33'52	
evening set	13343 Jun 26 20:19	0°♄22'37		behind sun end	13349 Aug 05 07:42	25°♄34'36	

max. Earth dist.	13349 Aug 05 16:13	25° Ω 35'49	20.95453 AU	opposition	13355 Feb 27 17:14	17° η 36'28	0°11'33
morning rise	13349 Aug 21 01:19	26° Ω 28'46		min. Earth dist.	13355 Feb 27 08:32	17° η 37'21	18.99483 AU
retrograde	13349 Nov 21 16:23	29° Ω 34'03		direct	13355 May 15 01:15	15° η 39'03	
opposition	13350 Feb 06 20:31	27° Ω 36'02	-0°13'22	evening set	13355 Aug 13 17:36	18° η 40'04	
min. Earth dist.	13350 Feb 06 10:01	27° Ω 37'05	18.96447 AU				
direct	13350 Apr 24 12:49	25° Ω 38'26		conjunction	13355 Aug 29 14:31	19° η 34'25	0°12'43
evening set	13350 Jul 24 15:21	28° Ω 40'44		minimum elong	13355 Aug 29 14:31	19° η 34'25	0°12'26
				behind sun begin	13355 Aug 29 10:11	19° η 33'48	
conjunction	13350 Aug 09 10:49	29° Ω 35'05	-0°09'51	behind sun end	13355 Aug 29 18:51	19° η 35'01	
minimum elong	13350 Aug 09 10:49	29° Ω 35'05	0°10'28	max. Earth dist.	13355 Aug 30 00:30	19° η 35'50	20.99190 AU
behind sun begin	13350 Aug 09 05:38	29° Ω 34'21		morning rise	13355 Sep 14 12:59	20° η 29'00	
behind sun end	13350 Aug 09 16:00	29° Ω 35'49		retrograde	13355 Dec 16 16:56	23° η 34'34	
max. Earth dist.	13350 Aug 09 20:44	29° Ω 36'30	20.97303 AU	opposition	13356 Mar 03 01:38	21° η 35'59	0°16'28
	13350 Aug 16 15:38	0° η		min. Earth dist.	13356 Mar 02 16:07	21° η 36'56	18.98823 AU
morning rise	13350 Aug 25 07:27	0° η 29'36		direct	13356 May 18 09:07	19° η 38'33	
retrograde	13350 Nov 26 00:47	3° η 34'50		evening set	13356 Aug 16 22:58	22° η 39'30	
opposition	13351 Feb 11 05:50	1° η 36'47	-0°08'24				
min. Earth dist.	13351 Feb 10 20:15	1° η 37'45	18.98047 AU	conjunction	13356 Sep 01 20:05	23° η 33'54	0°17'07
	13351 Mar 30 13:06	30° κ δ		minimum elong	13356 Sep 01 20:05	23° η 33'54	0°16'53
direct	13351 Apr 28 19:37	29° Ω 39'17		max. Earth dist.	13356 Sep 02 05:13	23° η 35'12	20.98364 AU
	13351 May 27 13:12	0° η		morning rise	13356 Sep 17 19:07	24° η 28'34	
evening set	13351 Jul 28 20:48	2° η 41'14		retrograde	13356 Dec 19 24:00	27° η 34'22	
				opposition	13357 Mar 07 10:08	25° η 35'39	0°21'17
conjunction	13351 Aug 13 16:37	3° η 35'34	-0°05'23	min. Earth dist.	13357 Mar 07 01:32	25° η 36'31	18.97847 AU
minimum elong	13351 Aug 13 16:37	3° η 35'34	0°05'55	direct	13357 May 22 14:28	23° η 38'13	
behind sun begin	13351 Aug 13 10:20	3° η 34'41		evening set	13357 Aug 21 04:16	26° η 39'11	
behind sun end	13351 Aug 13 22:54	3° η 36'27					
max. Earth dist.	13351 Aug 14 03:05	3° η 37'04	20.98641 AU	conjunction	13357 Sep 06 01:56	27° η 33'38	0°21'25
morning rise	13351 Aug 29 13:27	4° η 30'04		minimum elong	13357 Sep 06 01:55	27° η 33'38	0°21'16
retrograde	13351 Nov 30 08:48	7° η 35'16		max. Earth dist.	13357 Sep 06 11:48	27° η 35'03	20.97228 AU
opposition	13352 Feb 15 14:58	5° η 37'10	-0°03'25	morning rise	13357 Sep 22 01:21	28° η 28'23	
min. Earth dist.	13352 Feb 15 04:54	5° η 38'11	18.99112 AU		13357 Oct 21 13:40	0° Ω	
direct	13352 May 02 04:18	3° η 39'45		retrograde	13357 Dec 24 09:25	1° Ω 34'27	
evening set	13352 Aug 01 02:07	6° η 41'22			13358 Mar 01 14:55	30° κ η	
				opposition	13358 Mar 11 18:27	29° η 35'39	0°26'01
conjunction	13352 Aug 16 21:59	7° η 35'40	-0°00'50	min. Earth dist.	13358 Mar 11 09:03	29° η 36'36	18.96543 AU
minimum elong	13352 Aug 16 22:00	7° η 35'40	0°01'20	direct	13358 May 26 22:17	27° η 38'13	
behind sun begin	13352 Aug 16 15:26	7° η 34'45			13358 Aug 13 10:47	0° Ω	
behind sun end	13352 Aug 17 04:35	7° η 36'36		evening set	13358 Aug 25 10:03	0° Ω 39'15	
max. Earth dist.	13352 Aug 17 07:23	7° η 37'00	20.99450 AU				
morning rise	13352 Sep 01 19:21	8° η 30'11		conjunction	13358 Sep 10 07:57	1° Ω 33'48	0°25'38
asc. node	13352 Oct 25 03:19	10° η 57'26		minimum elong	13358 Sep 10 07:57	1° Ω 33'48	0°25'34
retrograde	13352 Dec 03 16:28	11° η 35'25		max. Earth dist.	13358 Sep 10 16:50	1° Ω 35'04	20.95759 AU
opposition	13353 Feb 19 00:02	9° η 37'12	0°01'36	morning rise	13358 Sep 26 07:58	2° Ω 28'38	
min. Earth dist.	13353 Feb 18 14:58	9° η 38'07	18.99678 AU	retrograde	13358 Dec 28 17:00	5° Ω 35'02	
direct	13353 May 06 11:05	7° η 39'48		opposition	13359 Mar 16 02:55	3° Ω 36'08	0°30'37
evening set	13353 Aug 05 07:17	10° η 41'09		min. Earth dist.	13359 Mar 15 18:38	3° Ω 36'59	18.94920 AU
				direct	13359 May 31 03:25	1° Ω 38'43	
conjunction	13353 Aug 21 03:38	11° η 35'28	0°03'48	evening set	13359 Aug 29 15:57	4° Ω 39'54	
minimum elong	13353 Aug 21 03:37	11° η 35'28	0°03'22				
behind sun begin	13353 Aug 20 21:05	11° η 34'33		conjunction	13359 Sep 14 14:26	5° Ω 34'32	0°29'44
behind sun end	13353 Aug 21 10:09	11° η 36'22		minimum elong	13359 Sep 14 14:25	5° Ω 34'32	0°29'43
max. Earth dist.	13353 Aug 21 13:41	11° η 36'54	20.99781 AU	max. Earth dist.	13359 Sep 14 23:51	5° Ω 35'54	20.93976 AU
morning rise	13353 Sep 06 01:15	12° η 29'58		morning rise	13359 Sep 30 14:50	6° Ω 29'29	
retrograde	13353 Dec 08 00:53	15° η 35'16		retrograde	13360 Jan 02 02:55	9° Ω 36'15	
opposition	13354 Feb 23 08:36	13° η 36'56	0°06'35	opposition	13360 Mar 19 11:29	7° Ω 37'17	0°35'05
min. Earth dist.	13354 Feb 22 22:57	13° η 37'54	18.99779 AU	min. Earth dist.	13360 Mar 19 02:27	7° Ω 38'12	18.92963 AU
direct	13354 May 10 19:04	11° η 39'31		direct	13360 Jun 03 11:06	5° Ω 39'51	
evening set	13354 Aug 09 12:32	14° η 40'40		evening set	13360 Sep 01 22:17	8° Ω 41'15	
conjunction	13354 Aug 25 09:02	15° η 34'59	0°08'17	conjunction	13360 Sep 17 21:04	9° Ω 36'00	0°33'41
minimum elong	13354 Aug 25 09:01	15° η 34'59	0°07'55	minimum elong	13360 Sep 17 21:04	9° Ω 36'00	0°33'45
behind sun begin	13354 Aug 25 03:06	15° η 34'10		max. Earth dist.	13360 Sep 18 05:28	9° Ω 37'13	20.91846 AU
behind sun end	13354 Aug 25 14:56	15° η 35'49		morning rise	13360 Oct 03 22:08	10° Ω 31'05	
max. Earth dist.	13354 Aug 25 18:09	15° η 36'17	20.99672 AU	retrograde	13361 Jan 05 11:38	13° Ω 38'17	
morning rise	13354 Sep 10 07:12	16° η 29'33		opposition	13361 Mar 23 20:23	11° Ω 39'13	0°39'24
retrograde	13354 Dec 12 07:57	19° η 34'56		min. Earth dist.	13361 Mar 23 12:42	11° Ω 40'00	18.90661 AU

direct	13361 Jun 07 16:34	9° <u>♊</u> 41'46		morning rise	13367 Nov 02 16:35	9° <u>♊</u> 08'50	
evening set	13361 Sep 06 05:04	12° <u>♊</u> 43'27		retrograde	13368 Feb 04 18:45	12° <u>♊</u> 19'39	
				opposition	13368 Apr 21 16:29	10° <u>♊</u> 19'21	1°03'25
conjunction	13361 Sep 22 04:28	13° <u>♊</u> 38'20	0°37'29	min. Earth dist.	13368 Apr 21 12:45	10° <u>♊</u> 19'44	18.62984 AU
minimum elong	13361 Sep 22 04:27	13° <u>♊</u> 38'19	0°37'37	direct	13368 Jul 06 00:32	8° <u>♊</u> 20'45	
max. Earth dist.	13361 Sep 22 13:07	13° <u>♊</u> 39'34	20.89358 AU	evening set	13368 Oct 04 19:27	11° <u>♊</u> 25'38	
morning rise	13361 Oct 08 05:58	14° <u>♊</u> 33'32					
retrograde	13362 Jan 09 22:12	17° <u>♊</u> 41'11		conjunction	13368 Oct 20 22:40	12° <u>♊</u> 21'45	0°58'17
opposition	13362 Mar 28 05:09	15° <u>♊</u> 42'03	0°43'31	minimum elong	13368 Oct 20 22:40	12° <u>♊</u> 21'45	0°58'54
min. Earth dist.	13362 Mar 27 21:04	15° <u>♊</u> 42'52	18.87973 AU	max. Earth dist.	13368 Oct 21 01:31	12° <u>♊</u> 22'10	20.60341 AU
direct	13362 Jun 12 00:27	13° <u>♊</u> 44'33		morning rise	13368 Nov 06 04:20	13° <u>♊</u> 18'15	
evening set	13362 Sep 10 12:30	16° <u>♊</u> 46'34			13368 Dec 08 18:17	15° <u>♊</u>	
				retrograde	13369 Feb 08 06:48	16° <u>♊</u> 29'40	
conjunction	13362 Sep 26 12:16	17° <u>♊</u> 41'35	0°41'07		13369 Apr 13 12:25	15° <u>♊</u>	
minimum elong	13362 Sep 26 12:15	17° <u>♊</u> 41'35	0°41'20	opposition	13369 Apr 26 03:26	14° <u>♊</u> 29'07	1°05'44
max. Earth dist.	13362 Sep 26 19:33	17° <u>♊</u> 42'38	20.86459 AU	min. Earth dist.	13369 Apr 26 01:17	14° <u>♊</u> 29'20	18.57692 AU
morning rise	13362 Oct 12 14:24	18° <u>♊</u> 36'57		direct	13369 Jul 10 08:54	12° <u>♊</u> 30'14	
retrograde	13363 Jan 14 07:53	21° <u>♊</u> 45'06			13369 Sep 28 14:20	15° <u>♊</u>	
opposition	13363 Apr 01 14:29	19° <u>♊</u> 45'50	0°47'27	evening set	13369 Oct 09 06:37	15° <u>♊</u> 35'47	
min. Earth dist.	13363 Apr 01 08:05	19° <u>♊</u> 46'29	18.84866 AU				
direct	13363 Jun 16 06:11	17° <u>♊</u> 48'17		conjunction	13369 Oct 25 10:33	16° <u>♊</u> 32'08	1°00'12
evening set	13363 Sep 14 20:14	20° <u>♊</u> 50'40		minimum elong	13369 Oct 25 10:32	16° <u>♊</u> 32'08	1°00'52
				max. Earth dist.	13369 Oct 25 13:06	16° <u>♊</u> 32'30	20.54964 AU
conjunction	13363 Sep 30 20:36	21° <u>♊</u> 45'50	0°44'34	morning rise	13369 Nov 10 16:46	17° <u>♊</u> 28'51	
minimum elong	13363 Sep 30 20:36	21° <u>♊</u> 45'50	0°44'51	retrograde	13370 Feb 12 21:00	20° <u>♊</u> 40'53	
max. Earth dist.	13363 Oct 01 03:49	21° <u>♊</u> 46'53	20.83129 AU	opposition	13370 Apr 30 14:25	18° <u>♊</u> 40'06	1°07'42
morning rise	13363 Oct 16 23:12	22° <u>♊</u> 41'21		min. Earth dist.	13370 Apr 30 11:51	18° <u>♊</u> 40'22	18.52236 AU
retrograde	13364 Jan 18 19:33	25° <u>♊</u> 50'02		direct	13370 Jul 14 19:30	16° <u>♊</u> 40'58	
opposition	13364 Apr 04 23:59	23° <u>♊</u> 50'38	0°51'10	evening set	13370 Oct 13 18:32	19° <u>♊</u> 47'13	
min. Earth dist.	13364 Apr 04 17:17	23° <u>♊</u> 51'18	18.81305 AU				
direct	13364 Jun 19 15:05	21° <u>♊</u> 52'56		conjunction	13370 Oct 29 23:02	20° <u>♊</u> 43'49	1°01'48
evening set	13364 Sep 18 04:44	24° <u>♊</u> 55'45		minimum elong	13370 Oct 29 23:02	20° <u>♊</u> 43'48	1°02'32
				max. Earth dist.	13370 Oct 30 00:43	20° <u>♊</u> 44'03	20.49433 AU
conjunction	13364 Oct 04 05:32	25° <u>♊</u> 51'05	0°47'48	morning rise	13370 Nov 15 05:52	21° <u>♊</u> 40'46	
minimum elong	13364 Oct 04 05:32	25° <u>♊</u> 51'05	0°48'08	retrograde	13371 Feb 17 10:20	24° <u>♊</u> 53'27	
max. Earth dist.	13364 Oct 04 11:14	25° <u>♊</u> 51'54	20.79334 AU	opposition	13371 May 05 02:10	22° <u>♊</u> 52'27	1°09'19
morning rise	13364 Oct 20 08:48	26° <u>♊</u> 46'46		min. Earth dist.	13371 May 05 01:02	22° <u>♊</u> 52'34	18.46656 AU
retrograde	13365 Jan 22 05:47	29° <u>♊</u> 55'58		direct	13371 Jul 19 04:51	20° <u>♊</u> 53'04	
opposition	13365 Apr 09 09:49	27° <u>♊</u> 56'22	0°54'38	evening set	13371 Oct 18 06:57	24° <u>♊</u> 00'05	
min. Earth dist.	13365 Apr 09 04:58	27° <u>♊</u> 56'52	18.77292 AU				
direct	13365 Jun 23 21:20	25° <u>♊</u> 58'30		conjunction	13371 Nov 03 12:09	24° <u>♊</u> 56'56	1°03'04
evening set	13365 Sep 22 13:34	29° <u>♊</u> 01'46		minimum elong	13371 Nov 03 12:08	24° <u>♊</u> 56'56	1°03'50
				max. Earth dist.	13371 Nov 03 13:28	24° <u>♊</u> 57'07	20.43814 AU
conjunction	13365 Oct 08 15:06	29° <u>♊</u> 57'17	0°50'48	morning rise	13371 Nov 19 19:36	25° <u>♊</u> 54'08	
minimum elong	13365 Oct 08 15:05	29° <u>♊</u> 57'17	0°51'14	retrograde	13372 Feb 22 01:59	29° <u>♊</u> 07'30	
max. Earth dist.	13365 Oct 08 20:29	29° <u>♊</u> 58'04	20.75108 AU	opposition	13372 May 08 14:15	27° <u>♊</u> 06'19	1°10'34
	13365 Oct 09 09:50	0° <u>♊</u>		min. Earth dist.	13372 May 08 12:38	27° <u>♊</u> 06'29	18.40995 AU
morning rise	13365 Oct 24 18:54	0° <u>♊</u> 53'09		direct	13372 Jul 22 16:11	25° <u>♊</u> 06'41	
retrograde	13366 Jan 26 18:32	4° <u>♊</u> 02'52		evening set	13372 Oct 21 20:22	28° <u>♊</u> 14'32	
opposition	13366 Apr 13 19:44	2° <u>♊</u> 03'03	0°57'51				
min. Earth dist.	13366 Apr 13 14:40	2° <u>♊</u> 03'34	18.72852 AU	conjunction	13372 Nov 07 02:12	29° <u>♊</u> 11'38	1°04'00
direct	13366 Jun 28 07:05	0° <u>♊</u> 04'58		minimum elong	13372 Nov 07 02:12	29° <u>♊</u> 11'38	1°04'50
evening set	13366 Sep 26 23:02	3° <u>♊</u> 08'44		max. Earth dist.	13372 Nov 07 02:50	29° <u>♊</u> 11'43	20.38110 AU
					13372 Nov 20 19:26	0° <u>♊</u>	
conjunction	13366 Oct 13 01:01	4° <u>♊</u> 04'26	0°53'34	morning rise	13372 Nov 23 10:15	0° <u>♊</u> 09'05	
minimum elong	13366 Oct 13 01:01	4° <u>♊</u> 04'26	0°54'03	retrograde	13373 Feb 25 16:33	3° <u>♊</u> 23'10	
max. Earth dist.	13366 Oct 13 05:04	4° <u>♊</u> 05'01	20.70475 AU	opposition	13373 May 13 02:50	1° <u>♊</u> 21'49	1°11'26
morning rise	13366 Oct 29 05:28	5° <u>♊</u> 00'30		min. Earth dist.	13373 May 13 02:42	1° <u>♊</u> 21'50	18.35265 AU
retrograde	13367 Jan 31 05:16	8° <u>♊</u> 10'45			13373 Jun 18 00:41	30° <u>♊</u>	
opposition	13367 Apr 18 06:01	6° <u>♊</u> 10'42	1°00'47	direct	13373 Jul 27 02:38	29° <u>♊</u> 21'58	
min. Earth dist.	13367 Apr 18 02:42	6° <u>♊</u> 11'02	18.68056 AU		13373 Sep 03 10:43	0° <u>♊</u>	
direct	13367 Jul 02 14:22	4° <u>♊</u> 12'22		evening set	13373 Oct 26 10:34	2° <u>♊</u> 30'41	
evening set	13367 Oct 01 08:55	7° <u>♊</u> 16'39					
				conjunction	13373 Nov 11 17:07	3° <u>♊</u> 28'04	1°04'35
conjunction	13367 Oct 17 11:36	8° <u>♊</u> 12'34	0°56'04	minimum elong	13373 Nov 11 17:06	3° <u>♊</u> 28'04	1°05'27
minimum elong	13367 Oct 17 11:35	8° <u>♊</u> 12'33	0°56'38	max. Earth dist.	13373 Nov 11 17:00	3° <u>♊</u> 28'03	20.32363 AU
max. Earth dist.	13367 Oct 17 15:29	8° <u>♊</u> 13'07	20.65536 AU	morning rise	13373 Nov 28 01:48	4° <u>♊</u> 25'46	

retrograde	13374 Mar 02 09:51	7°  40'35		evening set	13380 Nov 26 14:46	3°  15'03	
opposition	13374 May 17 15:55	5°  39'06	1°11'55				
min. Earth dist.	13374 May 17 15:33	5°  39'08	18.29485 AU	conjunction	13380 Dec 13 01:50	4°  14'23	0°58'24
direct	13374 Jul 31 15:00	3°  39'01		minimum elong	13380 Dec 13 01:51	4°  14'23	0°59'26
evening set	13374 Oct 31 01:36	6°  48'40		max. Earth dist.	13380 Dec 12 19:46	4°  13'28	19.90256 AU
				morning rise	13380 Dec 29 14:01	5°  13'56	
conjunction	13374 Nov 16 08:47	7°  46'19	1°04'49	retrograde	13381 Apr 02 17:38	8°  33'29	
minimum elong	13374 Nov 16 08:47	7°  46'19	1°05'44	opposition	13381 Jun 17 04:18	6°  30'53	1°03'46
max. Earth dist.	13374 Nov 16 08:07	7°  46'13	20.26544 AU	min. Earth dist.	13381 Jun 17 10:08	6°  30'15	17.87277 AU
morning rise	13374 Dec 02 17:58	8°  44'18		direct	13381 Aug 31 00:27	4°  28'41	
retrograde	13375 Mar 07 01:46	11°  59'51		evening set	13381 Dec 01 11:48	7°  34'50	
opposition	13375 May 22 05:45	9°  58'15	1°12'00				
min. Earth dist.	13375 May 22 06:53	9°  58'08	18.23636 AU	conjunction	13381 Dec 17 23:17	8°  44'44	0°56'01
direct	13375 Aug 05 02:50	7°  57'58		minimum elong	13381 Dec 17 23:17	8°  44'44	0°57'03
evening set	13375 Nov 04 17:39	11°  08'35		max. Earth dist.	13381 Dec 17 15:32	8°  43'34	19.84320 AU
				morning rise	13382 Jan 03 12:01	9°  44'32	
conjunction	13375 Nov 21 01:27	12°  06'30	1°04'41	retrograde	13382 Apr 07 14:23	13°  04'38	
minimum elong	13375 Nov 21 01:27	12°  06'30	1°05'38	opposition	13382 Jun 21 21:56	11°  01'50	1°00'56
max. Earth dist.	13375 Nov 20 23:38	12°  06'14	20.20670 AU	min. Earth dist.	13382 Jun 22 04:14	11°  01'10	17.81442 AU
morning rise	13375 Dec 07 11:16	13°  04'45		direct	13382 Sep 04 18:28	8°  59'17	
retrograde	13376 Mar 10 20:20	16°  21'03		evening set	13382 Dec 06 09:15	12°  16'41	
opposition	13376 May 25 20:01	14°  19'19	1°11'40				
min. Earth dist.	13376 May 25 21:17	14°  19'11	18.17720 AU	conjunction	13382 Dec 22 21:24	13°  16'32	0°53'16
direct	13376 Aug 08 17:00	12°  18'47		minimum elong	13382 Dec 22 21:24	13°  16'32	0°54'19
evening set	13376 Nov 08 10:36	15°  30'23		max. Earth dist.	13382 Dec 22 14:15	13°  15'27	19.78592 AU
				morning rise	13383 Jan 08 10:17	14°  16'33	
conjunction	13376 Nov 24 19:08	16°  28'36	1°04'11	retrograde	13383 Apr 12 11:37	17°  37'11	
minimum elong	13376 Nov 24 19:08	16°  28'36	1°05'09	opposition	13383 Jun 26 16:08	15°  34'13	0°57'42
max. Earth dist.	13376 Nov 24 16:41	16°  28'14	20.14693 AU	min. Earth dist.	13383 Jun 26 22:45	15°  33'30	17.75844 AU
morning rise	13376 Dec 11 05:25	17°  27'07		direct	13383 Sep 09 12:51	13°  31'19	
retrograde	13377 Mar 15 13:23	20°  44'08		evening set	13383 Dec 11 07:42	16°  34'39	
opposition	13377 May 30 11:03	18°  42'16	1°10'56				
min. Earth dist.	13377 May 30 13:54	18°  41'58	18.11692 AU	conjunction	13383 Dec 27 20:09	17°  49'44	0°50'11
direct	13377 Aug 13 06:22	16°  41'28		minimum elong	13383 Dec 27 20:10	17°  49'44	0°51'11
evening set	13377 Nov 13 04:32	19°  54'02		max. Earth dist.	13383 Dec 27 11:26	17°  48'24	19.73153 AU
				morning rise	13384 Jan 13 09:31	18°  49'59	
conjunction	13377 Nov 29 13:38	20°  52'32	1°03'18	retrograde	13384 Apr 16 09:04	22°  11'07	
minimum elong	13377 Nov 29 13:38	20°  52'32	1°04'19	opposition	13384 Jun 30 10:43	20°  07'59	0°54'05
max. Earth dist.	13377 Nov 29 09:30	20°  51'55	20.08625 AU	min. Earth dist.	13384 Jun 30 17:54	20°  07'12	17.70576 AU
morning rise	13377 Dec 16 00:31	21°  51'19		direct	13384 Sep 13 07:16	18°  04'44	
retrograde	13378 Mar 20 08:46	25°  09'01		evening set	13384 Dec 15 06:42	21°  23'59	
opposition	13378 Jun 04 02:29	23°  06'59	1°09'46				
min. Earth dist.	13378 Jun 04 05:43	23°  06'39	18.05582 AU	conjunction	13384 Dec 31 19:46	22°  24'19	0°46'45
direct	13378 Aug 17 22:48	21°  05'52		minimum elong	13384 Dec 31 19:46	22°  24'19	0°47'45
evening set	13378 Nov 17 23:11	24°  19'26		max. Earth dist.	13384 Dec 31 11:49	22°  23'06	19.68057 AU
				morning rise	13385 Jan 17 09:12	23°  24'46	
conjunction	13378 Dec 04 09:00	25°  18'13	1°02'03	retrograde	13385 Apr 21 08:04	26°  34'21	
minimum elong	13378 Dec 04 09:00	25°  18'13	1°03'03	opposition	13385 Jul 05 05:54	24°  34'07	0°50'05
max. Earth dist.	13378 Dec 04 04:30	25°  17'32	20.02480 AU	min. Earth dist.	13385 Jul 05 12:58	24°  34'21	17.65664 AU
morning rise	13378 Dec 20 20:15	26°  17'15		direct	13385 Sep 18 03:03	22°  39'35	
retrograde	13379 Mar 25 02:23	29°  35'36		evening set	13385 Dec 20 06:32	25°  39'44	
opposition	13379 Jun 08 18:40	27°  33'24	1°08'11				
min. Earth dist.	13379 Jun 08 23:09	27°  32'55	17.99423 AU	conjunction	13386 Jan 05 19:46	27°  00'17	0°43'00
direct	13379 Aug 22 13:55	25°  31'56		minimum elong	13386 Jan 05 19:46	27°  00'17	0°43'57
evening set	13379 Nov 22 18:33	28°  46'28		max. Earth dist.	13386 Jan 05 10:24	26°  58'51	19.63351 AU
				morning rise	13386 Jan 22 09:30	28°  00'55	
conjunction	13379 Dec 09 04:54	29°  45'31	1°00'25		13386 Feb 28 05:17	0° 	
minimum elong	13379 Dec 09 04:54	29°  45'31	1°01'27	retrograde	13386 Apr 26 05:54	1°  22'56	
max. Earth dist.	13379 Dec 08 22:45	29°  44'35	19.96340 AU		13386 Jun 24 05:47	30° 	
	13379 Dec 13 04:51	0° 		opposition	13386 Jul 10 01:40	29°  19'37	0°45'46
morning rise	13379 Dec 25 16:48	0°  34'49		min. Earth dist.	13386 Jul 10 09:22	29°  18'47	17.61176 AU
retrograde	13380 Mar 28 22:32	4°  03'48		direct	13386 Sep 22 22:41	27°  15'49	
opposition	13380 Jun 12 11:17	2°  01'23	1°06'11		13386 Dec 14 20:15	0° 	
min. Earth dist.	13380 Jun 12 16:12	2°  00'51	17.93304 AU	evening set	13386 Dec 25 06:50	0°  36'51	
	13380 Aug 22 05:20	30° 					
direct	13380 Aug 26 07:36	29°  59'33		conjunction	13387 Jan 10 20:34	1°  37'37	0°38'57
	13380 Aug 30 08:54	0° 		minimum elong	13387 Jan 10 20:34	1°  37'37	0°39'53

max. Earth dist.	13387 Jan 10 12:04	1° \approx 36'19	19.59083 AU	morning rise	13393 Feb 25 00:17	0° \mathbb{H} 48'20	
morning rise	13387 Jan 27 10:17	2° \approx 38'26		retrograde	13393 May 29 04:34	4° \mathbb{H} 12'01	
retrograde	13387 May 01 05:49	6° \approx 00'50		opposition	13393 Aug 11 09:17	2° \mathbb{H} 08'45	0°08'17
opposition	13387 Jul 14 21:52	3° \approx 57'29	0°41'07	min. Earth dist.	13393 Aug 11 18:10	2° \mathbb{H} 07'47	17.41009 AU
min. Earth dist.	13387 Jul 15 05:08	3° \approx 56'42	17.57120 AU	direct	13393 Oct 25 15:51	0° \mathbb{H} 03'49	
direct	13387 Sep 27 19:46	1° \approx 53'31		evening set	13394 Jan 28 00:36	3° \mathbb{H} 29'33	
evening set	13387 Dec 30 07:56	5° \approx 15'23					
conjunction	13388 Jan 15 21:47	6° \approx 16'20	0°34'38	conjunction	13394 Feb 13 14:28	4° \mathbb{H} 31'08	0°04'46
minimum elong	13388 Jan 15 21:47	6° \approx 16'20	0°35'32	minimum elong	13394 Feb 13 14:28	4° \mathbb{H} 31'08	0°05'18
max. Earth dist.	13388 Jan 15 12:03	6° \approx 14'50	19.55250 AU	behind sun begin	13394 Feb 13 07:57	4° \mathbb{H} 30'08	
morning rise	13388 Feb 01 11:42	7° \approx 17'19		behind sun end	13394 Feb 13 20:59	4° \mathbb{H} 32'07	
retrograde	13388 May 05 04:20	10° \approx 40'05		max. Earth dist.	13394 Feb 13 03:25	4° \mathbb{H} 29'25	19.40283 AU
opposition	13388 Jul 18 18:44	8° \approx 36'44	0°36'10	morning rise	13394 Mar 02 03:02	5° \mathbb{H} 32'33	
min. Earth dist.	13388 Jul 19 03:00	8° \approx 35'50	17.53499 AU	retrograde	13394 Jun 03 03:27	8° \mathbb{H} 56'13	
direct	13388 Oct 01 16:47	6° \approx 32'34		opposition	13394 Aug 16 08:26	6° \mathbb{H} 52'59	0°02'21
evening set	13389 Jan 03 09:38	9° \approx 55'17		min. Earth dist.	13394 Aug 16 18:19	6° \mathbb{H} 51'54	17.39686 AU
				direct	13394 Oct 30 16:12	4° \mathbb{H} 47'54	
conjunction	13389 Jan 19 23:47	10° \approx 56'24	0°30'05	desc. node	13395 Jan 03 10:10	6° \mathbb{H} 33'31	
minimum elong	13389 Jan 19 23:48	10° \approx 56'24	0°30'55	evening set	13395 Feb 02 04:09	8° \mathbb{H} 13'59	
max. Earth dist.	13389 Jan 19 14:33	10° \approx 54'58	19.51830 AU	conjunction	13395 Feb 18 17:42	9° \mathbb{H} 15'35	-0°00'39
morning rise	13389 Feb 05 13:34	11° \approx 57'30		minimum elong	13395 Feb 18 17:42	9° \mathbb{H} 15'35	0°00'10
	13389 Apr 12 14:27	15° \approx		behind sun begin	13395 Feb 18 11:02	9° \mathbb{H} 14'34	
retrograde	13389 May 10 04:52	15° \approx 20'35		behind sun end	13395 Feb 19 00:22	9° \mathbb{H} 16'36	
	13389 Jun 07 00:38	15° \mathbb{R} \approx		max. Earth dist.	13395 Feb 18 06:11	9° \mathbb{H} 13'48	19.39199 AU
opposition	13389 Jul 23 15:52	13° \approx 17'16	0°30'58	morning rise	13395 Mar 07 05:57	10° \mathbb{H} 16'59	
min. Earth dist.	13389 Jul 23 23:42	13° \approx 16'24	17.50265 AU	retrograde	13395 Jun 08 04:34	13° \mathbb{H} 40'35	
direct	13389 Oct 06 15:39	11° \approx 12'57		opposition	13395 Aug 21 07:27	11° \mathbb{H} 37'21	-0°03'37
evening set	13390 Jan 08 12:02	14° \approx 36'25		min. Earth dist.	13395 Aug 21 16:22	11° \mathbb{H} 36'22	17.38840 AU
	13390 Jan 14 22:38	15° \approx		direct	13395 Nov 04 18:29	9° \mathbb{H} 32'08	
conjunction	13390 Jan 25 02:09	15° \approx 37'40	0°25'19	evening set	13396 Feb 07 07:38	12° \mathbb{H} 58'30	
minimum elong	13390 Jan 25 02:09	15° \approx 37'40	0°26'07	conjunction	13396 Feb 23 20:57	14° \mathbb{H} 00'05	-0°06'03
max. Earth dist.	13390 Jan 24 15:48	15° \approx 36'04	19.48781 AU	minimum elong	13396 Feb 23 20:57	14° \mathbb{H} 00'05	0°05'40
morning rise	13390 Feb 10 15:53	16° \approx 38'54		behind sun begin	13396 Feb 23 14:30	13° \mathbb{H} 59'06	
retrograde	13390 May 15 03:43	20° \approx 02'14		behind sun end	13396 Feb 24 03:25	14° \mathbb{H} 01'04	
opposition	13390 Jul 28 13:47	17° \approx 58'56	0°25'33	max. Earth dist.	13396 Feb 23 10:17	13° \mathbb{H} 58'26	19.38593 AU
min. Earth dist.	13390 Jul 28 22:50	17° \approx 57'57	17.47406 AU	morning rise	13396 Mar 11 08:35	15° \mathbb{H} 01'27	
direct	13390 Oct 11 13:53	15° \approx 54'27		retrograde	13396 Jun 12 03:29	18° \mathbb{H} 24'53	
evening set	13391 Jan 13 14:35	19° \approx 18'36		opposition	13396 Aug 25 06:49	16° \mathbb{H} 21'41	-0°09'34
conjunction	13391 Jan 30 04:50	20° \approx 19'59	0°20'21	min. Earth dist.	13396 Aug 25 16:24	16° \mathbb{H} 20'39	17.38491 AU
minimum elong	13391 Jan 30 04:50	20° \approx 19'59	0°21'05	direct	13396 Nov 08 18:37	14° \mathbb{H} 16'23	
max. Earth dist.	13391 Jan 29 18:35	20° \approx 18'24	19.46103 AU	evening set	13397 Feb 11 11:05	17° \mathbb{H} 42'55	
morning rise	13391 Feb 15 18:23	21° \approx 21'17		conjunction	13397 Feb 27 23:50	18° \mathbb{H} 44'27	-0°11'19
retrograde	13391 May 20 04:45	24° \approx 44'49		minimum elong	13397 Feb 27 23:50	18° \mathbb{H} 44'27	0°11'01
opposition	13391 Aug 02 11:58	22° \approx 41'32	0°19'56	behind sun begin	13397 Feb 27 18:50	18° \mathbb{H} 43'41	
min. Earth dist.	13391 Aug 02 20:22	22° \approx 40'37	17.44899 AU	behind sun end	13397 Feb 28 04:51	18° \mathbb{H} 45'13	
direct	13391 Oct 16 14:29	20° \approx 36'55		max. Earth dist.	13397 Feb 27 12:39	18° \mathbb{H} 42'43	19.38516 AU
evening set	13392 Jan 18 17:46	24° \approx 01'40		morning rise	13397 Mar 16 11:01	19° \mathbb{H} 45'46	
conjunction	13392 Feb 04 07:57	25° \approx 03'08	0°15'15	retrograde	13397 Jun 17 04:36	23° \mathbb{H} 08'59	
minimum elong	13392 Feb 04 07:57	25° \approx 03'08	0°15'56	opposition	13397 Aug 30 06:04	21° \mathbb{H} 05'50	-0°15'27
max. Earth dist.	13392 Feb 03 21:02	25° \approx 01'27	19.43772 AU	min. Earth dist.	13397 Aug 30 14:33	21° \mathbb{H} 04'55	17.38693 AU
morning rise	13392 Feb 20 21:15	26° \approx 04'30		direct	13397 Nov 13 20:42	19° \mathbb{H} 00'27	
retrograde	13392 May 24 03:37	29° \approx 28'09		evening set	13398 Feb 16 14:12	22° \mathbb{H} 27'06	
opposition	13392 Aug 06 10:31	27° \approx 24'53	0°14'10	conjunction	13398 Mar 05 02:37	23° \mathbb{H} 28'34	-0°16'32
min. Earth dist.	13392 Aug 06 20:13	27° \approx 23'49	17.42758 AU	minimum elong	13398 Mar 05 02:36	23° \mathbb{H} 28'34	0°16'18
direct	13392 Oct 20 14:04	25° \approx 20'05		max. Earth dist.	13398 Mar 04 17:00	23° \mathbb{H} 27'04	19.38999 AU
evening set	13393 Jan 22 21:10	28° \approx 45'23		morning rise	13398 Mar 21 12:59	24° \mathbb{H} 29'47	
conjunction	13393 Feb 08 11:15	29° \approx 46'55	0°10'03	retrograde	13398 Jun 22 03:27	27° \mathbb{H} 52'44	
minimum elong	13393 Feb 08 11:15	29° \approx 46'55	0°10'40	opposition	13398 Sep 04 05:33	25° \mathbb{H} 49'40	-0°21'13
behind sun begin	13393 Feb 08 06:05	29° \approx 46'08		min. Earth dist.	13398 Sep 04 14:05	25° \mathbb{H} 48'44	17.39475 AU
behind sun end	13393 Feb 08 16:24	29° \approx 47'42		direct	13398 Nov 18 20:37	23° \mathbb{H} 44'17	
max. Earth dist.	13393 Feb 08 00:02	29° \approx 45'11	19.41829 AU	evening set	13399 Feb 21 17:06	27° \mathbb{H} 10'55	
	13393 Feb 11 23:09	0° \mathbb{H}		conjunction	13399 Mar 10 04:49	28° \mathbb{H} 12'18	-0°21'37

minimum elong	13399 Mar 10 04:49	28° H 12'18	0°21'30	retrograde	13405 Jul 25 14:32	0° B 42'33	
max. Earth dist.	13399 Mar 09 18:46	28° H 10'44	19.40088 AU		13405 Sep 04 09:58	30° R Y	
morning rise	13399 Mar 26 14:43	29° H 13'24		opposition	13405 Oct 07 23:32	28° Y 40'48	-0°55'12
	13399 Apr 08 16:28	0° Y		min. Earth dist.	13405 Oct 08 04:33	28° Y 40'15	17.59746 AU
retrograde	13399 Jun 27 03:54	2° Y 36'04		direct	13405 Dec 23 06:05	26° Y 36'26	
opposition	13399 Sep 09 04:54	0° Y 33'06	-0°26'49		13406 Mar 27 20:53	0° B	
min. Earth dist.	13399 Sep 09 12:23	0° Y 32'18	17.40870 AU	evening set	13406 Mar 28 03:10	0° B 00'57	
	13399 Sep 22 01:11	30° R H					
direct	13399 Nov 23 22:31	28° H 27'46		conjunction	13406 Apr 13 09:49	1° B 01'02	-0°51'13
	13400 Jan 23 08:19	0° Y		minimum elong	13406 Apr 13 09:48	1° B 01'02	0°51'39
evening set	13400 Feb 26 19:44	1° Y 54'21		max. Earth dist.	13406 Apr 13 04:46	1° B 00'15	19.61883 AU
				morning rise	13406 Apr 29 13:59	2° B 00'47	
conjunction	13400 Mar 15 07:01	2° Y 55'37	-0°26'34	retrograde	13406 Jul 30 11:48	5° B 20'07	
minimum elong	13400 Mar 15 07:01	2° Y 55'37	0°26'30	opposition	13406 Oct 12 21:47	3° B 18'33	-0°58'47
max. Earth dist.	13400 Mar 14 22:47	2° Y 54'20	19.41777 AU	min. Earth dist.	13406 Oct 13 01:39	3° B 18'08	17.64117 AU
morning rise	13400 Mar 31 16:01	3° Y 56'35		direct	13406 Dec 28 07:24	1° B 14'23	
retrograde	13400 Jul 02 02:05	7° Y 18'53		evening set	13407 Apr 02 02:19	4° B 38'15	
opposition	13400 Sep 14 04:14	5° Y 16'06	-0°32'14				
min. Earth dist.	13400 Sep 14 11:25	5° Y 15'19	17.42847 AU	conjunction	13407 Apr 18 08:07	5° B 38'06	-0°54'15
direct	13400 Nov 28 23:10	3° Y 10'52		minimum elong	13407 Apr 18 08:06	5° B 38'05	0°54'46
evening set	13401 Mar 03 22:14	6° Y 37'20		max. Earth dist.	13407 Apr 18 03:15	5° B 37'20	19.66374 AU
				morning rise	13407 May 04 11:30	6° B 37'36	
conjunction	13401 Mar 20 08:40	7° Y 38'26	-0°31'19	retrograde	13407 Aug 04 06:53	9° B 56'17	
minimum elong	13401 Mar 20 08:39	7° Y 38'26	0°31'21	opposition	13407 Oct 17 19:50	7° B 54'53	-1°01'57
max. Earth dist.	13401 Mar 19 24:00	7° Y 37'05	19.44044 AU	min. Earth dist.	13407 Oct 18 00:01	7° B 54'27	17.68734 AU
morning rise	13401 Apr 05 17:03	8° Y 39'15		direct	13408 Jan 02 06:26	5° B 50'54	
retrograde	13401 Jul 07 01:10	12° Y 01'12		evening set	13408 Apr 06 00:41	9° B 14'04	
opposition	13401 Sep 19 03:35	9° Y 58'35	-0°37'25				
min. Earth dist.	13401 Sep 19 10:03	9° Y 57'53	17.45389 AU	conjunction	13408 Apr 22 05:41	10° B 13'39	-0°56'56
direct	13401 Dec 04 00:56	7° Y 53'31		minimum elong	13408 Apr 22 05:40	10° B 13'38	0°57'31
evening set	13402 Mar 08 24:00	11° Y 19'45		max. Earth dist.	13408 Apr 22 01:31	10° B 13'00	19.71106 AU
				morning rise	13408 May 08 08:15	11° B 12'53	
conjunction	13402 Mar 25 09:53	12° Y 20'42	-0°35'50	retrograde	13408 Aug 08 03:00	14° B 30'53	
minimum elong	13402 Mar 25 09:52	12° Y 20'42	0°35'57	opposition	13408 Oct 21 17:15	12° B 29'40	-1°04'43
max. Earth dist.	13402 Mar 25 03:01	12° Y 19'38	19.46834 AU	min. Earth dist.	13408 Oct 21 19:58	12° B 29'22	17.73569 AU
morning rise	13402 Apr 10 17:20	13° Y 21'20		direct	13409 Jan 06 06:47	10° B 25'51	
retrograde	13402 Jul 11 23:04	16° Y 42'51		evening set	13409 Apr 10 22:13	13° B 48'15	
opposition	13402 Sep 24 02:51	14° Y 40'28	-0°42'20				
min. Earth dist.	13402 Sep 24 08:45	14° Y 39'50	17.48406 AU	conjunction	13409 Apr 27 02:23	14° B 47'34	-0°59'14
direct	13402 Dec 09 02:43	12° Y 35'34		minimum elong	13409 Apr 27 02:22	14° B 47'34	0°59'54
evening set	13403 Mar 14 01:42	16° Y 01'30		max. Earth dist.	13409 Apr 26 23:01	14° B 47'03	19.76052 AU
					13409 Apr 30 11:07	15° B	
conjunction	13403 Mar 30 10:40	17° Y 02'16	-0°40'07	morning rise	13409 May 13 04:09	15° B 46'33	
minimum elong	13403 Mar 30 10:40	17° Y 02'16	0°40'19	retrograde	13409 Aug 12 20:52	19° B 03'50	
max. Earth dist.	13403 Mar 30 03:25	17° Y 01'08	19.50069 AU	opposition	13409 Oct 26 14:25	17° B 02'45	-1°07'04
morning rise	13403 Apr 15 17:27	18° Y 02'42		min. Earth dist.	13409 Oct 26 17:23	17° B 02'26	17.78640 AU
retrograde	13403 Jul 16 20:30	21° Y 23'45			13410 Jan 05 11:12	15° R B	
opposition	13403 Sep 29 01:51	19° Y 21'35	-0°46'58	direct	13410 Jan 11 04:43	14° B 59'08	
min. Earth dist.	13403 Sep 29 07:36	19° Y 20'58	17.51852 AU		13410 Jan 16 21:53	15° B	
direct	13403 Dec 14 03:58	17° Y 16'51		evening set	13410 Apr 15 18:39	18° B 20'42	
evening set	13404 Mar 18 02:47	20° Y 42'24					
				conjunction	13410 May 01 22:01	19° B 19'44	-1°01'09
conjunction	13404 Apr 03 11:07	21° Y 42'58	-0°44'08	minimum elong	13410 May 01 22:00	19° B 19'44	1°01'52
minimum elong	13404 Apr 03 11:06	21° Y 42'58	0°44'25	max. Earth dist.	13410 May 01 19:18	19° B 19'19	19.81244 AU
max. Earth dist.	13404 Apr 03 05:11	21° Y 42'02	19.53694 AU	morning rise	13410 May 17 23:07	20° B 18'27	
morning rise	13404 Apr 19 16:57	22° Y 43'11		retrograde	13410 Aug 17 15:38	23° B 35'00	
retrograde	13404 Jul 20 18:16	26° Y 03'42		opposition	13410 Oct 31 10:51	21° B 34'05	-1°08'59
opposition	13404 Oct 03 00:47	24° Y 01'45	-0°51'15	min. Earth dist.	13410 Oct 31 12:02	21° B 33'58	17.83946 AU
min. Earth dist.	13404 Oct 03 05:43	24° Y 01'13	17.55640 AU	direct	13411 Jan 16 03:40	19° B 30'41	
direct	13404 Dec 18 05:56	21° Y 57'13		evening set	13411 Apr 20 14:19	22° B 51'22	
evening set	13405 Mar 23 03:21	25° Y 22'17					
				conjunction	13411 May 06 16:57	23° B 50'07	-1°02'41
conjunction	13405 Apr 08 10:44	26° Y 22'36	-0°47'50	minimum elong	13411 May 06 16:56	23° B 50'07	1°03'28
minimum elong	13405 Apr 08 10:43	26° Y 22'36	0°48'11	max. Earth dist.	13411 May 06 15:36	23° B 49'55	19.86668 AU
max. Earth dist.	13405 Apr 08 04:39	26° Y 21'40	19.57638 AU	morning rise	13411 May 22 17:14	24° B 48'34	
morning rise	13405 Apr 24 15:47	27° Y 22'36		retrograde	13411 Aug 22 08:10	28° B 04'24	
	13405 Jun 15 22:52	0° B		opposition	13411 Nov 05 06:48	26° B 03'38	-1°10'27

min. Earth dist.	13411 Nov 05 08:07	26° 8 03'30	17.89506 AU	conjunction	13418 Jun 06 05:45	24° II 36'54	-1°02'34
direct	13412 Jan 21 00:15	24° 8 00'28		minimum elong	13418 Jun 06 05:46	24° II 36'54	1°03'35
evening set	13412 Apr 24 09:09	27° 8 20'16		max. Earth dist.	13418 Jun 06 09:39	24° II 37'29	20.29653 AU
				morning rise	13418 Jun 22 02:21	25° II 33'33	
conjunction	13412 May 10 10:55	28° 8 18'44	-1°03'49	retrograde	13418 Sep 21 19:01	28° II 44'40	
minimum elong	13412 May 10 10:55	28° 8 18'44	1°04'38	opposition	13418 Dec 06 11:49	26° II 45'30	-1°08'44
max. Earth dist.	13412 May 10 10:03	28° 8 18'36	19.92362 AU	min. Earth dist.	13418 Dec 06 06:52	26° II 46'01	18.32739 AU
morning rise	13412 May 26 10:37	29° 8 16'55		direct	13419 Feb 21 13:19	24° II 44'39	
	13412 Jun 07 19:10	0° II		evening set	13419 May 25 20:54	27° II 57'56	
retrograde	13412 Aug 26 01:59	2° II 32'02					
opposition	13412 Nov 09 02:13	0° II 31'28	-1°11'28	conjunction	13419 Jun 10 18:28	28° II 54'32	-1°01'06
min. Earth dist.	13412 Nov 09 01:28	0° II 31'33	17.95325 AU	minimum elong	13419 Jun 10 18:28	28° II 54'32	1°02'08
	13412 Nov 21 17:43	30° 8		max. Earth dist.	13419 Jun 10 23:51	28° II 55'21	20.35731 AU
direct	13413 Jan 24 21:34	28° 8 28'34		morning rise	13419 Jun 26 14:31	29° II 50'57	
	13413 Mar 26 23:30	0° II			13419 Jun 29 04:49	0° II	
evening set	13413 Apr 29 02:53	1° II 47'28		retrograde	13419 Sep 26 06:09	3° II 01'27	
				opposition	13419 Dec 11 03:35	1° II 02'28	-1°06'54
conjunction	13413 May 15 04:01	2° II 45'40	-1°04'34	min. Earth dist.	13419 Dec 10 22:55	1° II 02'57	18.38714 AU
minimum elong	13413 May 15 04:00	2° II 45'40	1°05'25		13420 Jan 06 21:08	30° 8 II	
max. Earth dist.	13413 May 15 04:55	2° II 45'48	19.98298 AU	direct	13420 Feb 26 05:26	29° II 01'55	
morning rise	13413 May 31 02:55	3° II 43'34			13420 Apr 14 15:42	0° II	
retrograde	13413 Aug 30 17:18	6° II 57'59		evening set	13420 May 29 09:22	2° II 14'15	
opposition	13413 Nov 13 21:15	4° II 57'39	-1°12'04				
min. Earth dist.	13413 Nov 13 20:28	4° II 57'44	18.01376 AU	conjunction	13420 Jun 14 06:19	3° II 10'36	-0°59'18
direct	13414 Jan 29 17:11	2° II 55'05		minimum elong	13420 Jun 14 06:19	3° II 10'36	1°00'20
evening set	13414 May 03 19:55	6° II 13'03		max. Earth dist.	13420 Jun 14 11:00	3° II 11'18	20.41602 AU
				morning rise	13420 Jun 30 02:14	4° II 06'48	
conjunction	13414 May 19 20:15	7° II 10'58	-1°04'54	retrograde	13420 Sep 29 19:25	7° II 16'41	
minimum elong	13414 May 19 20:14	7° II 10'58	1°05'49	opposition	13420 Dec 14 18:52	5° II 17'51	-1°04'43
max. Earth dist.	13414 May 19 21:21	7° II 11'08	20.04453 AU	min. Earth dist.	13420 Dec 14 13:14	5° II 18'26	18.44468 AU
morning rise	13414 Jun 04 18:43	8° II 08'37		direct	13421 Mar 01 20:54	3° II 17'33	
retrograde	13414 Sep 04 10:03	11° II 22'21		evening set	13421 Jun 02 20:45	6° II 28'55	
opposition	13414 Nov 18 15:24	9° II 22'15	-1°12'13				
min. Earth dist.	13414 Nov 18 12:47	9° II 22'32	18.07607 AU	conjunction	13421 Jun 18 17:30	7° II 25'03	-0°57'12
direct	13415 Feb 03 12:57	7° II 20'01		minimum elong	13421 Jun 18 17:30	7° II 25'03	0°58'14
evening set	13415 May 08 12:03	10° II 37'06		max. Earth dist.	13421 Jun 18 23:41	7° II 25'58	20.47223 AU
				morning rise	13421 Jul 04 13:00	8° II 21'02	
conjunction	13415 May 24 11:52	11° II 34'44	-1°04'53	retrograde	13421 Oct 04 05:56	11° II 30'19	
minimum elong	13415 May 24 11:52	11° II 34'44	1°05'49	opposition	13421 Dec 19 09:35	9° II 31'36	-1°02'12
max. Earth dist.	13415 May 24 14:42	11° II 35'10	20.10739 AU	min. Earth dist.	13421 Dec 19 04:03	9° II 32'10	18.49950 AU
morning rise	13415 Jun 09 09:40	12° II 32'08		direct	13422 Mar 06 11:57	7° II 31'32	
retrograde	13415 Sep 09 00:13	15° II 45'11		evening set	13422 Jun 07 07:40	10° II 41'57	
opposition	13415 Nov 23 09:20	13° II 45'21	-1°11'57				
min. Earth dist.	13415 Nov 23 06:54	13° II 45'36	18.13929 AU	conjunction	13422 Jun 23 03:55	11° II 37'52	-0°54'48
direct	13416 Feb 08 07:38	11° II 43'29		minimum elong	13422 Jun 23 03:55	11° II 37'52	0°55'49
evening set	13416 May 12 03:28	14° II 59'37		max. Earth dist.	13422 Jun 23 09:22	11° II 38'40	20.52582 AU
				morning rise	13422 Jul 08 23:26	12° II 33'40	
conjunction	13416 May 28 02:30	15° II 56'59	-1°04'28	retrograde	13422 Oct 08 17:33	15° II 42'21	
minimum elong	13416 May 28 02:30	15° II 56'59	1°05'27	opposition	13422 Dec 23 23:29	13° II 43'42	-0°59'21
max. Earth dist.	13416 May 28 05:10	15° II 57'23	20.17085 AU	min. Earth dist.	13422 Dec 23 17:14	13° II 44'20	18.55182 AU
morning rise	13416 Jun 12 23:55	16° II 54'07		direct	13423 Mar 11 01:22	11° II 43'49	
retrograde	13416 Sep 12 15:46	20° II 06'31		evening set	13423 Jun 11 17:39	14° II 53'19	
opposition	13416 Nov 27 02:37	18° II 06'55	-1°11'17				
min. Earth dist.	13416 Nov 26 22:38	18° II 07'20	18.20275 AU	conjunction	13423 Jun 27 13:47	15° II 49'01	-0°52'06
direct	13417 Feb 12 02:34	16° II 05'25		minimum elong	13423 Jun 27 13:48	15° II 49'01	0°53'08
evening set	13417 May 16 18:00	19° II 20'36		max. Earth dist.	13423 Jun 27 20:51	15° II 50'04	20.57687 AU
				morning rise	13423 Jul 13 09:00	16° II 44'37	
conjunction	13417 Jun 01 16:36	20° II 17'43	-1°03'42	retrograde	13423 Oct 13 03:24	19° II 52'45	
minimum elong	13417 Jun 01 16:35	20° II 17'43	1°04'41	opposition	13423 Dec 28 13:00	17° II 54'09	-0°56'13
max. Earth dist.	13417 Jun 01 20:58	20° II 18'22	20.23410 AU	min. Earth dist.	13423 Dec 28 06:32	17° II 54'48	18.60165 AU
morning rise	13417 Jun 17 13:24	21° II 14'36		direct	13424 Mar 14 15:26	15° II 54'28	
retrograde	13417 Sep 17 04:25	24° II 26'21		evening set	13424 Jun 15 02:59	19° II 03'03	
opposition	13417 Dec 01 19:33	22° II 26'59	-1°10'12				
min. Earth dist.	13417 Dec 01 15:47	22° II 27'23	18.26566 AU	conjunction	13424 Jun 30 22:40	19° II 58'33	-0°49'09
direct	13418 Feb 16 19:54	20° II 25'49		minimum elong	13424 Jun 30 22:40	19° II 58'33	0°50'10
evening set	13418 May 21 07:50	23° II 40'03		max. Earth dist.	13424 Jul 01 05:17	19° II 59'31	20.62572 AU
				morning rise	13424 Jul 16 17:56	20° II 53'59	

retrograde	13424 Oct 16 14:03	24° $\mathring{\text{U}}$ 01'36			13431 Mar 12 01:52	15° $\mathring{\text{R}}$ $\mathring{\text{U}}$
opposition	13425 Jan 01 01:58	22° $\mathring{\text{U}}$ 03'02 -0°52'48	direct		13431 Apr 13 16:44	14° $\mathring{\text{U}}$ 34'30
min. Earth dist.	13424 Dec 31 18:39	22° $\mathring{\text{U}}$ 03'47 18.64962 AU			13431 May 15 15:57	15° $\mathring{\text{U}}$
direct	13425 Mar 19 03:22	20° $\mathring{\text{U}}$ 03'33	evening set		13431 Jul 14 05:29	17° $\mathring{\text{U}}$ 38'13
evening set	13425 Jun 19 11:34	23° $\mathring{\text{U}}$ 11'16				
			conjunction		13431 Jul 30 00:47	18° $\mathring{\text{U}}$ 32'46 -0°22'50
conjunction	13425 Jul 05 07:12	24° $\mathring{\text{U}}$ 06'35 -0°45'58	minimum elong		13431 Jul 30 00:47	18° $\mathring{\text{U}}$ 32'46 0°23'35
minimum elong	13425 Jul 05 07:12	24° $\mathring{\text{U}}$ 06'35 0°46'57	max. Earth dist.		13431 Jul 30 11:34	18° $\mathring{\text{U}}$ 34'19 20.90718 AU
max. Earth dist.	13425 Jul 05 15:36	24° $\mathring{\text{U}}$ 07'49 20.67276 AU	morning rise		13431 Aug 14 20:28	19° $\mathring{\text{U}}$ 27'24
morning rise	13425 Jul 21 02:16	25° $\mathring{\text{U}}$ 01'51	retrograde		13431 Nov 15 06:30	22° $\mathring{\text{U}}$ 32'53
retrograde	13425 Oct 20 23:14	28° $\mathring{\text{U}}$ 09'00	opposition		13432 Jan 31 07:48	20° $\mathring{\text{U}}$ 34'55 -0°22'54
opposition	13426 Jan 05 14:17	26° $\mathring{\text{U}}$ 10'30 -0°49'07	min. Earth dist.		13432 Jan 30 21:39	20° $\mathring{\text{U}}$ 35'56 18.92126 AU
min. Earth dist.	13426 Jan 05 06:25	26° $\mathring{\text{U}}$ 11'18 18.69576 AU	direct		13432 Apr 17 02:00	18° $\mathring{\text{U}}$ 37'03
direct	13426 Mar 23 15:46	24° $\mathring{\text{U}}$ 11'14	evening set		13432 Jul 17 11:26	21° $\mathring{\text{U}}$ 40'16
evening set	13426 Jun 23 19:41	27° $\mathring{\text{U}}$ 18'08				
			conjunction		13432 Aug 02 06:38	22° $\mathring{\text{U}}$ 34'44 -0°18'30
conjunction	13426 Jul 09 15:01	28° $\mathring{\text{U}}$ 13'17 -0°42'33	minimum elong		13432 Aug 02 06:38	22° $\mathring{\text{U}}$ 34'44 0°19'13
minimum elong	13426 Jul 09 15:01	28° $\mathring{\text{U}}$ 13'17 0°43'31	max. Earth dist.		13432 Aug 02 16:27	22° $\mathring{\text{U}}$ 36'09 20.93414 AU
max. Earth dist.	13426 Jul 09 22:56	28° $\mathring{\text{U}}$ 14'27 20.71807 AU	morning rise		13432 Aug 18 02:43	23° $\mathring{\text{U}}$ 29'19
morning rise	13426 Jul 25 10:16	29° $\mathring{\text{U}}$ 08'25	retrograde		13432 Nov 18 14:55	26° $\mathring{\text{U}}$ 34'42
	13426 Aug 10 00:10	0° $\mathring{\text{U}}$	opposition		13433 Feb 03 17:48	24° $\mathring{\text{U}}$ 36'45 -0°18'04
retrograde	13426 Oct 25 09:19	2° $\mathring{\text{U}}$ 15'09	min. Earth dist.		13433 Feb 03 08:07	24° $\mathring{\text{U}}$ 37'44 18.94597 AU
opposition	13427 Jan 10 02:09	0° $\mathring{\text{U}}$ 16'44 -0°45'12	direct		13433 Apr 21 09:39	22° $\mathring{\text{U}}$ 39'04
min. Earth dist.	13427 Jan 09 17:39	0° $\mathring{\text{U}}$ 17'35 18.74017 AU	evening set		13433 Jul 21 17:09	25° $\mathring{\text{U}}$ 41'50
	13427 Jan 17 00:29	30° $\mathring{\text{R}}$ $\mathring{\text{U}}$				
direct	13427 Mar 28 02:25	28° $\mathring{\text{U}}$ 17'40	conjunction		13433 Aug 06 12:39	26° $\mathring{\text{U}}$ 36'15 -0°14'06
	13427 Jun 01 19:40	0° $\mathring{\text{U}}$	minimum elong		13433 Aug 06 12:39	26° $\mathring{\text{U}}$ 36'15 0°14'45
evening set	13427 Jun 28 03:09	1° $\mathring{\text{U}}$ 23'51	behind sun begin		13433 Aug 06 09:53	26° $\mathring{\text{U}}$ 35'52
			behind sun end		13433 Aug 06 15:26	26° $\mathring{\text{U}}$ 36'39
conjunction	13427 Jul 13 22:31	2° $\mathring{\text{U}}$ 18'51 -0°38'55	max. Earth dist.		13433 Aug 06 23:19	26° $\mathring{\text{U}}$ 37'47 20.95637 AU
minimum elong	13427 Jul 13 22:31	2° $\mathring{\text{U}}$ 18'51 0°39'51	morning rise		13433 Aug 22 08:51	27° $\mathring{\text{U}}$ 30'48
max. Earth dist.	13427 Jul 14 08:04	2° $\mathring{\text{U}}$ 20'14 20.76143 AU			13433 Oct 15 13:17	0° $\mathring{\text{U}}$
morning rise	13427 Jul 29 17:37	3° $\mathring{\text{U}}$ 13'51	retrograde		13433 Nov 23 00:07	0° $\mathring{\text{U}}$ 36'05
retrograde	13427 Oct 29 18:06	6° $\mathring{\text{U}}$ 20'13			13434 Jan 01 10:12	30° $\mathring{\text{R}}$ $\mathring{\text{U}}$
opposition	13428 Jan 14 13:34	4° $\mathring{\text{U}}$ 21'54 -0°41'04	opposition		13434 Feb 08 03:16	28° $\mathring{\text{U}}$ 38'09 -0°13'08
min. Earth dist.	13428 Jan 14 04:28	4° $\mathring{\text{U}}$ 22'49 18.78234 AU	min. Earth dist.		13434 Feb 07 17:22	28° $\mathring{\text{U}}$ 39'08 18.96559 AU
direct	13428 Mar 31 13:11	2° $\mathring{\text{U}}$ 23'06	direct		13434 Apr 25 18:52	26° $\mathring{\text{U}}$ 40'35
evening set	13428 Jul 01 10:20	5° $\mathring{\text{U}}$ 28'35	evening set		13434 Jul 25 22:53	29° $\mathring{\text{U}}$ 42'57
					13434 Jul 30 23:03	0° $\mathring{\text{U}}$
conjunction	13428 Jul 17 05:28	6° $\mathring{\text{U}}$ 23'26 -0°35'07				
minimum elong	13428 Jul 17 05:28	6° $\mathring{\text{U}}$ 23'26 0°36'02	conjunction		13434 Aug 10 18:23	0° $\mathring{\text{U}}$ 37'19 -0°09'38
max. Earth dist.	13428 Jul 17 14:26	6° $\mathring{\text{U}}$ 24'45 20.80249 AU	minimum elong		13434 Aug 10 18:24	0° $\mathring{\text{U}}$ 37'19 0°10'14
morning rise	13428 Aug 02 00:49	7° $\mathring{\text{U}}$ 18'19	behind sun begin		13434 Aug 10 13:08	0° $\mathring{\text{U}}$ 36'35
retrograde	13428 Nov 02 03:41	10° $\mathring{\text{U}}$ 24'25	behind sun end		13434 Aug 10 23:39	0° $\mathring{\text{U}}$ 38'04
opposition	13429 Jan 18 00:42	8° $\mathring{\text{U}}$ 26'11 -0°36'45	max. Earth dist.		13434 Aug 11 03:46	0° $\mathring{\text{U}}$ 38'39 20.97342 AU
min. Earth dist.	13429 Jan 17 15:14	8° $\mathring{\text{U}}$ 27'08 18.82216 AU	morning rise		13434 Aug 26 15:03	1° $\mathring{\text{U}}$ 31'51
direct	13429 Apr 04 22:41	6° $\mathring{\text{U}}$ 27'38	retrograde		13434 Nov 27 07:48	4° $\mathring{\text{U}}$ 37'05
evening set	13429 Jul 05 16:51	9° $\mathring{\text{U}}$ 32'27	opposition		13435 Feb 12 12:44	2° $\mathring{\text{U}}$ 39'05 -0°08'09
			min. Earth dist.		13435 Feb 12 03:35	2° $\mathring{\text{U}}$ 40'00 18.98009 AU
conjunction	13429 Jul 21 12:08	10° $\mathring{\text{U}}$ 27'12 -0°31'09	direct		13435 Apr 30 01:49	0° $\mathring{\text{U}}$ 41'36
minimum elong	13429 Jul 21 12:08	10° $\mathring{\text{U}}$ 27'12 0°32'00	evening set		13435 Jul 30 04:11	3° $\mathring{\text{U}}$ 43'36
max. Earth dist.	13429 Jul 21 22:36	10° $\mathring{\text{U}}$ 28'43 20.84086 AU				
morning rise	13429 Aug 06 07:29	11° $\mathring{\text{U}}$ 21'59	conjunction		13435 Aug 15 00:02	4° $\mathring{\text{U}}$ 37'56 -0°05'08
retrograde	13429 Nov 06 12:30	14° $\mathring{\text{U}}$ 27'50	minimum elong		13435 Aug 15 00:02	4° $\mathring{\text{U}}$ 37'56 0°05'41
opposition	13430 Jan 22 11:23	12° $\mathring{\text{U}}$ 29'42 -0°32'17	behind sun begin		13435 Aug 14 17:44	4° $\mathring{\text{U}}$ 37'03
min. Earth dist.	13430 Jan 22 01:26	12° $\mathring{\text{U}}$ 30'42 18.85885 AU	behind sun end		13435 Aug 15 06:21	4° $\mathring{\text{U}}$ 38'49
direct	13430 Apr 09 08:17	10° $\mathring{\text{U}}$ 31'24	max. Earth dist.		13435 Aug 15 10:13	4° $\mathring{\text{U}}$ 39'23 20.98534 AU
evening set	13430 Jul 09 23:24	13° $\mathring{\text{U}}$ 35'39	morning rise		13435 Aug 30 20:52	5° $\mathring{\text{U}}$ 32'26
			retrograde		13435 Dec 01 16:20	8° $\mathring{\text{U}}$ 37'39
conjunction	13430 Jul 25 18:30	14° $\mathring{\text{U}}$ 30'17 -0°27'03	opposition		13436 Feb 16 21:50	6° $\mathring{\text{U}}$ 39'34 -0°03'08
minimum elong	13430 Jul 25 18:30	14° $\mathring{\text{U}}$ 30'17 0°27'52	min. Earth dist.		13436 Feb 16 12:18	6° $\mathring{\text{U}}$ 40'31 18.98945 AU
max. Earth dist.	13430 Jul 26 04:07	14° $\mathring{\text{U}}$ 31'40 20.87589 AU	direct		13436 May 03 11:16	4° $\mathring{\text{U}}$ 42'07
	13430 Aug 03 07:30	15° $\mathring{\text{U}}$	evening set		13436 Aug 02 09:32	7° $\mathring{\text{U}}$ 43'47
morning rise	13430 Aug 10 14:10	15° $\mathring{\text{U}}$ 24'59				
retrograde	13430 Nov 10 21:24	18° $\mathring{\text{U}}$ 30'37	conjunction		13436 Aug 18 05:28	8° $\mathring{\text{U}}$ 38'06 -0°00'34
opposition	13431 Jan 26 21:40	16° $\mathring{\text{U}}$ 32'35 -0°27'39	minimum elong		13436 Aug 18 05:27	8° $\mathring{\text{U}}$ 38'06 0°01'03
min. Earth dist.	13431 Jan 26 11:54	16° $\mathring{\text{U}}$ 33'33 18.89212 AU	behind sun begin		13436 Aug 17 22:53	8° $\mathring{\text{U}}$ 37'11

behind sun end	13436 Aug 18 12:01	8° <u>♏</u> 39'01		evening set	13442 Aug 26 17:13	1° <u>♏</u> 41'38	
max. Earth dist.	13436 Aug 18 14:31	8° <u>♏</u> 39'23	20.99244 AU				
morning rise	13436 Sep 03 02:48	9° <u>♏</u> 32'37		conjunction	13442 Sep 11 15:05	2° <u>♏</u> 36'10	0°25'58
asc. node	13436 Oct 03 13:39	11° <u>♏</u> 06'51		minimum elong	13442 Sep 11 15:05	2° <u>♏</u> 36'10	0°25'53
retrograde	13436 Dec 04 23:55	12° <u>♏</u> 37'51		max. Earth dist.	13442 Sep 11 23:52	2° <u>♏</u> 37'26	20.95819 AU
opposition	13437 Feb 20 06:46	10° <u>♏</u> 39'37	0°01'54	morning rise	13442 Sep 27 15:04	3° <u>♏</u> 31'00	
min. Earth dist.	13437 Feb 19 21:57	10° <u>♏</u> 40'30	18.99446 AU	retrograde	13442 Dec 30 00:05	6° <u>♏</u> 37'22	
direct	13437 May 07 17:27	8° <u>♏</u> 42'11		opposition	13443 Mar 17 09:36	4° <u>♏</u> 38'29	0°30'59
evening set	13437 Aug 06 14:32	11° <u>♏</u> 43'34		min. Earth dist.	13443 Mar 17 01:14	4° <u>♏</u> 39'20	18.95001 AU
				direct	13443 Jun 01 10:16	2° <u>♏</u> 41'03	
conjunction	13437 Aug 22 10:54	12° <u>♏</u> 37'53	0°04'05	evening set	13443 Aug 30 23:02	5° <u>♏</u> 42'14	
minimum elong	13437 Aug 22 10:53	12° <u>♏</u> 37'53	0°03'39				
behind sun begin	13437 Aug 22 04:22	12° <u>♏</u> 36'58		conjunction	13443 Sep 15 21:28	6° <u>♏</u> 36'52	0°30'04
behind sun end	13437 Aug 22 17:25	12° <u>♏</u> 38'48		minimum elong	13443 Sep 15 21:28	6° <u>♏</u> 36'52	0°30'05
max. Earth dist.	13437 Aug 22 20:55	12° <u>♏</u> 39'19	20.99537 AU	max. Earth dist.	13443 Sep 16 06:58	6° <u>♏</u> 38'14	20.94071 AU
morning rise	13437 Sep 07 08:30	13° <u>♏</u> 32'25		morning rise	13443 Oct 01 21:49	7° <u>♏</u> 31'48	
retrograde	13437 Dec 09 07:37	16° <u>♏</u> 37'41		retrograde	13444 Jan 03 09:46	10° <u>♏</u> 38'33	
opposition	13438 Feb 24 15:22	14° <u>♏</u> 39'20	0°06'54	opposition	13444 Mar 20 18:13	8° <u>♏</u> 39'35	0°35'28
min. Earth dist.	13438 Feb 24 05:54	14° <u>♏</u> 40'17	18.99540 AU	min. Earth dist.	13444 Mar 20 09:20	8° <u>♏</u> 40'28	18.93062 AU
direct	13438 May 12 02:25	12° <u>♏</u> 41'54		direct	13444 Jun 04 17:49	6° <u>♏</u> 42'08	
evening set	13438 Aug 10 19:45	15° <u>♏</u> 43'05		evening set	13444 Sep 03 05:33	9° <u>♏</u> 43'32	
conjunction	13438 Aug 26 16:11	16° <u>♏</u> 37'24	0°08'34	conjunction	13444 Sep 19 04:16	10° <u>♏</u> 38'16	0°34'02
minimum elong	13438 Aug 26 16:11	16° <u>♏</u> 37'24	0°08'14	minimum elong	13444 Sep 19 04:16	10° <u>♏</u> 38'16	0°34'06
behind sun begin	13438 Aug 26 10:21	16° <u>♏</u> 36'35		max. Earth dist.	13444 Sep 19 12:29	10° <u>♏</u> 39'27	20.91940 AU
behind sun end	13438 Aug 26 22:02	16° <u>♏</u> 38'13		morning rise	13444 Oct 05 05:16	11° <u>♏</u> 33'20	
max. Earth dist.	13438 Aug 27 01:13	16° <u>♏</u> 38'41	20.99447 AU	retrograde	13445 Jan 06 18:38	14° <u>♏</u> 40'30	
morning rise	13438 Sep 11 14:20	17° <u>♏</u> 31'58		opposition	13445 Mar 25 03:03	12° <u>♏</u> 41'26	0°39'47
retrograde	13438 Dec 13 15:33	20° <u>♏</u> 37'21		min. Earth dist.	13445 Mar 24 19:36	12° <u>♏</u> 42'11	18.90739 AU
opposition	13439 Feb 28 23:52	18° <u>♏</u> 38'52	0°11'53	direct	13445 Jun 08 23:22	10° <u>♏</u> 43'58	
min. Earth dist.	13439 Feb 28 15:04	18° <u>♏</u> 39'45	18.99287 AU	evening set	13445 Sep 07 12:21	13° <u>♏</u> 45'38	
direct	13439 May 16 08:04	16° <u>♏</u> 41'25					
evening set	13439 Aug 15 00:49	19° <u>♏</u> 42'28		conjunction	13445 Sep 23 11:43	14° <u>♏</u> 40'30	0°37'50
				minimum elong	13445 Sep 23 11:42	14° <u>♏</u> 40'30	0°38'00
conjunction	13439 Aug 30 21:43	20° <u>♏</u> 36'50	0°13'02	max. Earth dist.	13445 Sep 23 20:12	14° <u>♏</u> 41'43	20.89401 AU
minimum elong	13439 Aug 30 21:43	20° <u>♏</u> 36'50	0°12'45	morning rise	13445 Oct 09 13:07	15° <u>♏</u> 35'41	
behind sun begin	13439 Aug 30 17:33	20° <u>♏</u> 36'15		retrograde	13446 Jan 11 05:30	18° <u>♏</u> 43'18	
behind sun end	13439 Aug 31 01:54	20° <u>♏</u> 37'25		opposition	13446 Mar 29 11:58	16° <u>♏</u> 44'08	0°43'55
max. Earth dist.	13439 Aug 31 07:43	20° <u>♏</u> 38'15	20.99029 AU	min. Earth dist.	13446 Mar 29 04:18	16° <u>♏</u> 44'55	18.87972 AU
morning rise	13439 Sep 15 20:08	21° <u>♏</u> 31'25		direct	13446 Jun 13 07:26	14° <u>♏</u> 46'37	
retrograde	13439 Dec 17 23:06	24° <u>♏</u> 36'58		evening set	13446 Sep 11 19:48	17° <u>♏</u> 48'37	
opposition	13440 Mar 04 08:17	22° <u>♏</u> 38'23	0°16'48				
min. Earth dist.	13440 Mar 03 22:41	22° <u>♏</u> 39'21	18.98702 AU	conjunction	13446 Sep 27 19:27	18° <u>♏</u> 43'37	0°41'28
direct	13440 May 19 16:02	20° <u>♏</u> 40'56		minimum elong	13446 Sep 27 19:27	18° <u>♏</u> 43'37	0°41'42
evening set	13440 Aug 18 06:02	23° <u>♏</u> 41'55		max. Earth dist.	13446 Sep 28 02:19	18° <u>♏</u> 44'36	20.86397 AU
				morning rise	13446 Oct 13 21:30	19° <u>♏</u> 38'57	
conjunction	13440 Sep 03 03:08	24° <u>♏</u> 36'19	0°17'25	retrograde	13447 Jan 15 14:47	22° <u>♏</u> 47'04	
minimum elong	13440 Sep 03 03:08	24° <u>♏</u> 36'18	0°17'13	opposition	13447 Apr 02 21:18	20° <u>♏</u> 47'46	0°47'51
max. Earth dist.	13440 Sep 03 12:11	24° <u>♏</u> 37'36	20.98284 AU	min. Earth dist.	13447 Apr 02 15:18	20° <u>♏</u> 48'22	18.84741 AU
morning rise	13440 Sep 19 02:10	25° <u>♏</u> 30'58		direct	13447 Jun 17 13:44	18° <u>♏</u> 50'08	
retrograde	13440 Dec 21 07:22	28° <u>♏</u> 36'45		evening set	13447 Sep 16 03:37	21° <u>♏</u> 52'30	
opposition	13441 Mar 08 16:47	26° <u>♏</u> 38'03	0°21'38				
min. Earth dist.	13441 Mar 08 07:59	26° <u>♏</u> 38'56	18.97804 AU	conjunction	13447 Oct 02 03:57	22° <u>♏</u> 47'39	0°44'55
direct	13441 May 23 21:33	24° <u>♏</u> 40'36		minimum elong	13447 Oct 02 03:56	22° <u>♏</u> 47'39	0°45'13
evening set	13441 Aug 22 11:25	27° <u>♏</u> 41'35		max. Earth dist.	13447 Oct 02 10:46	22° <u>♏</u> 48'38	20.82932 AU
				morning rise	13447 Oct 18 06:26	23° <u>♏</u> 43'09	
conjunction	13441 Sep 07 09:03	28° <u>♏</u> 36'03	0°21'45	retrograde	13448 Jan 20 02:24	26° <u>♏</u> 51'45	
minimum elong	13441 Sep 07 09:03	28° <u>♏</u> 36'03	0°21'37	opposition	13448 Apr 06 06:45	24° <u>♏</u> 52'17	0°51'33
max. Earth dist.	13441 Sep 07 18:56	28° <u>♏</u> 37'27	20.97222 AU	min. Earth dist.	13448 Apr 06 00:30	24° <u>♏</u> 52'55	18.81038 AU
morning rise	13441 Sep 23 08:25	29° <u>♏</u> 30'46		direct	13448 Jun 20 22:25	22° <u>♏</u> 54'31	
	13441 Oct 02 04:30	0° <u>♏</u>		evening set	13448 Sep 19 11:56	25° <u>♏</u> 57'17	
retrograde	13441 Dec 25 15:40	2° <u>♏</u> 36'49					
opposition	13442 Mar 13 00:59	0° <u>♏</u> 38'01	0°26'23	conjunction	13448 Oct 05 12:42	26° <u>♏</u> 52'36	0°48'09
min. Earth dist.	13442 Mar 12 15:34	0° <u>♏</u> 38'58	18.96570 AU	minimum elong	13448 Oct 05 12:41	26° <u>♏</u> 52'36	0°48'32
	13442 Mar 29 01:39	30° <u>♏</u>		max. Earth dist.	13448 Oct 05 17:52	26° <u>♏</u> 53'21	20.79005 AU
direct	13442 May 28 04:50	28° <u>♏</u> 40'35		morning rise	13448 Oct 21 15:55	27° <u>♏</u> 48'17	
	13442 Jul 24 08:45	0° <u>♏</u>			13448 Dec 05 17:11	0° <u>♏</u>	

retrograde	13449 Jan 23 12:16	0° <u>ℓ</u> 57'25		min. Earth dist.	13455 May 06 07:14	23° <u>ℓ</u> 53'32	18.46572 AU
	13449 Mar 14 21:21	30° <u>ℓ</u> 5		direct	13455 Jul 20 10:40	21° <u>ℓ</u> 54'02	
opposition	13449 Apr 10 16:32	28° <u>♊</u> 57'43	0°55'02	evening set	13455 Oct 19 13:35	25° <u>ℓ</u> 01'08	
min. Earth dist.	13449 Apr 10 12:00	28° <u>♊</u> 58'11	18.76904 AU				
direct	13449 Jun 25 05:29	26° <u>♊</u> 59'45		conjunction	13455 Nov 04 18:43	25° <u>ℓ</u> 57'59	1°03'20
	13449 Sep 22 23:35	0° <u>ℓ</u>		minimum elong	13455 Nov 04 18:43	25° <u>ℓ</u> 57'59	1°04'08
evening set	13449 Sep 23 20:41	0° <u>ℓ</u> 02'59		max. Earth dist.	13455 Nov 04 20:28	25° <u>ℓ</u> 58'14	20.43795 AU
				morning rise	13455 Nov 21 02:03	26° <u>ℓ</u> 55'11	
conjunction	13449 Oct 09 22:10	0° <u>ℓ</u> 58'29	0°51'09		13456 Feb 04 21:14	0° <u>♊</u>	
minimum elong	13449 Oct 09 22:09	0° <u>ℓ</u> 58'29	0°51'35	retrograde	13456 Feb 23 09:08	0° <u>♊</u> 08'38	
max. Earth dist.	13449 Oct 10 03:19	0° <u>ℓ</u> 59'14	20.74680 AU		13456 Mar 12 21:24	30° <u>ℓ</u> ℓ	
morning rise	13449 Oct 26 01:51	1° <u>ℓ</u> 54'21		opposition	13456 May 09 20:43	28° <u>ℓ</u> 07'31	1°10'52
retrograde	13450 Jan 28 00:25	5° <u>ℓ</u> 04'00		min. Earth dist.	13456 May 09 18:48	28° <u>ℓ</u> 07'43	18.41042 AU
opposition	13450 Apr 15 02:15	3° <u>ℓ</u> 04'06	0°58'14	direct	13456 Jul 23 22:38	26° <u>ℓ</u> 07'58	
min. Earth dist.	13450 Apr 14 21:24	3° <u>ℓ</u> 04'36	18.72397 AU	evening set	13456 Oct 23 03:00	29° <u>ℓ</u> 15'53	
direct	13450 Jun 29 14:41	1° <u>ℓ</u> 05'55			13456 Nov 04 16:44	0° <u>♊</u>	
evening set	13450 Sep 28 06:04	4° <u>ℓ</u> 09'39					
				conjunction	13456 Nov 08 08:45	0° <u>♊</u> 13'00	1°04'15
conjunction	13450 Oct 14 07:58	5° <u>ℓ</u> 05'21	0°53'54	minimum elong	13456 Nov 08 08:44	0° <u>♊</u> 13'00	1°05'06
minimum elong	13450 Oct 14 07:58	5° <u>ℓ</u> 05'21	0°54'25	max. Earth dist.	13456 Nov 08 09:34	0° <u>♊</u> 13'07	20.38219 AU
max. Earth dist.	13450 Oct 14 11:46	5° <u>ℓ</u> 05'54	20.70014 AU	morning rise	13456 Nov 24 16:44	1° <u>♊</u> 10'27	
morning rise	13450 Oct 30 12:21	6° <u>ℓ</u> 01'25		retrograde	13457 Feb 26 23:26	4° <u>♊</u> 24'37	
retrograde	13451 Feb 01 11:09	9° <u>ℓ</u> 11'38		opposition	13457 May 14 09:29	2° <u>♊</u> 23'22	1°11'43
opposition	13451 Apr 19 12:33	7° <u>ℓ</u> 11'29	1°01'10	min. Earth dist.	13457 May 14 09:10	2° <u>♊</u> 23'23	18.35426 AU
min. Earth dist.	13451 Apr 19 09:14	7° <u>ℓ</u> 11'50	18.67601 AU	direct	13457 Jul 28 08:18	0° <u>♊</u> 23'35	
direct	13451 Jul 03 22:02	5° <u>ℓ</u> 13'04		evening set	13457 Oct 27 17:15	3° <u>♊</u> 32'24	
evening set	13451 Oct 02 15:42	8° <u>ℓ</u> 17'22					
				conjunction	13457 Nov 12 23:42	4° <u>♊</u> 29'46	1°04'50
conjunction	13451 Oct 18 18:20	9° <u>ℓ</u> 13'16	0°56'24	minimum elong	13457 Nov 12 23:41	4° <u>♊</u> 29'46	1°05'44
minimum elong	13451 Oct 18 18:19	9° <u>ℓ</u> 13'16	0°56'57	max. Earth dist.	13457 Nov 12 23:58	4° <u>♊</u> 29'48	20.32566 AU
max. Earth dist.	13451 Oct 18 22:19	9° <u>ℓ</u> 13'51	20.65098 AU	morning rise	13457 Nov 29 08:15	5° <u>♊</u> 27'29	
morning rise	13451 Nov 03 23:14	10° <u>ℓ</u> 09'32		retrograde	13458 Mar 03 17:01	8° <u>♊</u> 42'21	
retrograde	13452 Feb 06 00:37	13° <u>ℓ</u> 20'21		opposition	13458 May 18 22:34	6° <u>♊</u> 40'58	1°12'10
opposition	13452 Apr 22 22:59	11° <u>ℓ</u> 20'00	1°03'47	min. Earth dist.	13458 May 18 22:05	6° <u>♊</u> 41'01	18.29721 AU
min. Earth dist.	13452 Apr 22 19:08	11° <u>ℓ</u> 20'24	18.62574 AU	direct	13458 Aug 01 21:41	4° <u>♊</u> 40'59	
direct	13452 Jul 07 08:03	9° <u>ℓ</u> 21'21		evening set	13458 Nov 01 08:29	7° <u>♊</u> 50'42	
evening set	13452 Oct 06 02:15	12° <u>ℓ</u> 26'16					
				conjunction	13458 Nov 17 15:32	8° <u>♊</u> 48'21	1°05'03
conjunction	13452 Oct 22 05:22	13° <u>ℓ</u> 22'23	0°58'36	minimum elong	13458 Nov 17 15:31	8° <u>♊</u> 48'21	1°05'58
minimum elong	13452 Oct 22 05:22	13° <u>ℓ</u> 22'23	0°59'14	max. Earth dist.	13458 Nov 17 14:51	8° <u>♊</u> 48'15	20.26800 AU
max. Earth dist.	13452 Oct 22 08:12	13° <u>ℓ</u> 22'48	20.59969 AU	morning rise	13458 Dec 04 00:37	9° <u>♊</u> 46'19	
morning rise	13452 Nov 07 10:58	14° <u>ℓ</u> 18'52		retrograde	13459 Mar 08 08:43	13° <u>♊</u> 01'55	
	13452 Nov 19 18:55	15° <u>ℓ</u>		opposition	13459 May 23 12:31	11° <u>♊</u> 00'24	1°12'14
retrograde	13453 Feb 09 12:18	17° <u>ℓ</u> 30'18		min. Earth dist.	13459 May 23 13:47	11° <u>♊</u> 00'16	18.23899 AU
opposition	13453 Apr 27 09:47	15° <u>ℓ</u> 29'44	1°06'04	direct	13459 Aug 06 09:14	9° <u>♊</u> 00'10	
min. Earth dist.	13453 Apr 27 07:27	15° <u>ℓ</u> 29'58	18.57370 AU	evening set	13459 Nov 06 00:28	12° <u>♊</u> 10'48	
	13453 May 09 12:49	15° <u>ℓ</u> ℓ					
direct	13453 Jul 11 15:30	13° <u>ℓ</u> 30'50		conjunction	13459 Nov 22 08:13	13° <u>♊</u> 08'43	1°04'54
	13453 Sep 09 20:25	15° <u>ℓ</u>		minimum elong	13459 Nov 22 08:13	13° <u>♊</u> 08'43	1°05'51
evening set	13453 Oct 10 13:18	16° <u>ℓ</u> 36'26		max. Earth dist.	13459 Nov 22 06:30	13° <u>♊</u> 08'28	20.20919 AU
				morning rise	13459 Dec 08 17:55	14° <u>♊</u> 06'58	
conjunction	13453 Oct 26 17:10	17° <u>ℓ</u> 32'47	1°00'30	retrograde	13460 Mar 12 03:13	17° <u>♊</u> 23'16	
minimum elong	13453 Oct 26 17:10	17° <u>ℓ</u> 32'47	1°01'11	opposition	13460 May 27 02:55	15° <u>♊</u> 21'35	1°11'53
max. Earth dist.	13453 Oct 26 20:01	17° <u>ℓ</u> 33'12	20.54693 AU	min. Earth dist.	13460 May 27 04:16	15° <u>♊</u> 21'26	18.17945 AU
morning rise	13453 Nov 11 23:18	18° <u>ℓ</u> 29'30		direct	13460 Aug 10 00:03	13° <u>♊</u> 21'04	
retrograde	13454 Feb 14 03:38	21° <u>ℓ</u> 41'35		evening set	13460 Nov 09 17:31	16° <u>♊</u> 32'39	
opposition	13454 May 01 20:54	19° <u>ℓ</u> 40'49	1°08'02				
min. Earth dist.	13454 May 01 18:01	19° <u>ℓ</u> 41'07	18.52025 AU	conjunction	13460 Nov 26 01:56	17° <u>♊</u> 30'51	1°04'22
direct	13454 Jul 16 02:24	17° <u>ℓ</u> 41'42		minimum elong	13460 Nov 26 01:56	17° <u>♊</u> 30'51	1°05'22
evening set	13454 Oct 15 01:05	20° <u>ℓ</u> 48'01		max. Earth dist.	13460 Nov 25 23:13	17° <u>♊</u> 30'27	20.14885 AU
				morning rise	13460 Dec 12 12:08	18° <u>♊</u> 29'21	
conjunction	13454 Oct 31 05:28	21° <u>ℓ</u> 44'37	1°02'05	retrograde	13461 Mar 16 19:55	21° <u>♊</u> 46'19	
minimum elong	13454 Oct 31 05:27	21° <u>ℓ</u> 44'37	1°02'49	opposition	13461 May 31 17:52	19° <u>♊</u> 44'27	1°11'08
max. Earth dist.	13454 Oct 31 07:21	21° <u>ℓ</u> 44'53	20.49283 AU	min. Earth dist.	13461 May 31 20:58	19° <u>♊</u> 44'07	18.11850 AU
morning rise	13454 Nov 16 12:14	22° <u>ℓ</u> 41'34		direct	13461 Aug 14 13:50	17° <u>♊</u> 43'38	
retrograde	13455 Feb 18 16:19	25° <u>ℓ</u> 54'20		evening set	13461 Nov 14 11:20	20° <u>♊</u> 56'08	
opposition	13455 May 06 08:41	23° <u>ℓ</u> 53'23	1°09'38				

conjunction	13461 Nov 30 20:22	21° $\mathring{\text{A}}$ 54'37	1°03'29	retrograde	13468 Apr 17 15:09	23° $\mathring{\text{B}}$ 11'00	
minimum elong	13461 Nov 30 20:22	21° $\mathring{\text{A}}$ 54'37	1°04'29	opposition	13468 Jul 01 17:20	21° $\mathring{\text{B}}$ 07'52	0°54'06
max. Earth dist.	13461 Nov 30 16:15	21° $\mathring{\text{A}}$ 54'00	20.08752 AU	min. Earth dist.	13468 Jul 02 00:02	21° $\mathring{\text{B}}$ 07'09	17.70869 AU
morning rise	13461 Dec 17 07:10	22° $\mathring{\text{A}}$ 53'23		direct	13468 Sep 14 14:24	19° $\mathring{\text{B}}$ 04'40	
retrograde	13462 Mar 21 14:52	26° $\mathring{\text{A}}$ 11'00		evening set	13468 Dec 16 12:56	22° $\mathring{\text{B}}$ 23'53	
opposition	13462 Jun 05 09:22	24° $\mathring{\text{A}}$ 08'56	1°09'57				
min. Earth dist.	13462 Jun 05 12:36	24° $\mathring{\text{A}}$ 08'35	18.05677 AU	conjunction	13469 Jan 02 01:55	23° $\mathring{\text{B}}$ 24'12	0°46'46
direct	13462 Aug 19 05:43	22° $\mathring{\text{A}}$ 07'45		minimum elong	13469 Jan 02 01:55	23° $\mathring{\text{B}}$ 24'12	0°47'44
evening set	13462 Nov 19 05:44	25° $\mathring{\text{A}}$ 21'12		max. Earth dist.	13469 Jan 01 18:12	23° $\mathring{\text{B}}$ 23'02	19.68394 AU
				morning rise	13469 Jan 18 15:16	24° $\mathring{\text{B}}$ 24'38	
conjunction	13462 Dec 05 15:27	26° $\mathring{\text{A}}$ 19'58	1°02'12	retrograde	13469 Apr 22 13:33	27° $\mathring{\text{B}}$ 46'14	
minimum elong	13462 Dec 05 15:27	26° $\mathring{\text{A}}$ 19'58	1°03'14	opposition	13469 Jul 06 12:29	25° $\mathring{\text{B}}$ 43'03	0°50'06
max. Earth dist.	13462 Dec 05 10:53	26° $\mathring{\text{A}}$ 19'17	20.02555 AU	min. Earth dist.	13469 Jul 06 19:18	25° $\mathring{\text{B}}$ 42'19	17.66047 AU
morning rise	13462 Dec 22 02:39	27° $\mathring{\text{A}}$ 18'59		direct	13469 Sep 19 09:44	23° $\mathring{\text{B}}$ 39'37	
	13463 Feb 16 06:32	0° $\mathring{\text{B}}$		evening set	13469 Dec 21 12:48	26° $\mathring{\text{B}}$ 59'46	
retrograde	13463 Mar 26 08:55	0° $\mathring{\text{B}}$ 37'14					
	13463 May 04 03:02	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		conjunction	13470 Jan 07 01:59	28° $\mathring{\text{B}}$ 00'19	0°42'59
opposition	13463 Jun 10 01:29	28° $\mathring{\text{A}}$ 34'57	1°08'21	minimum elong	13470 Jan 07 01:59	28° $\mathring{\text{B}}$ 00'19	0°43'57
min. Earth dist.	13463 Jun 10 06:04	28° $\mathring{\text{A}}$ 34'28	17.99482 AU	max. Earth dist.	13470 Jan 06 16:49	27° $\mathring{\text{B}}$ 58'55	19.63780 AU
direct	13463 Aug 23 21:18	26° $\mathring{\text{A}}$ 33'26		morning rise	13470 Jan 23 15:41	29° $\mathring{\text{B}}$ 00'57	
evening set	13463 Nov 24 01:05	29° $\mathring{\text{A}}$ 47'50			13470 Feb 09 16:28	0° $\mathring{\text{B}}$	
	13463 Nov 27 11:27	0° $\mathring{\text{B}}$		retrograde	13470 Apr 27 12:35	2° $\mathring{\text{B}}$ 23'02	
				opposition	13470 Jul 11 08:21	0° $\mathring{\text{B}}$ 19'49	0°45'44
conjunction	13463 Dec 10 11:21	0° $\mathring{\text{B}}$ 46'51	1°00'33	min. Earth dist.	13470 Jul 11 15:40	0° $\mathring{\text{B}}$ 19'01	17.61635 AU
minimum elong	13463 Dec 10 11:21	0° $\mathring{\text{B}}$ 46'51	1°01'34		13470 Jul 18 23:59	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
max. Earth dist.	13463 Dec 10 05:21	0° $\mathring{\text{B}}$ 45'57	19.96393 AU	direct	13470 Sep 24 05:07	28° $\mathring{\text{B}}$ 16'09	
morning rise	13463 Dec 26 23:10	1° $\mathring{\text{B}}$ 46'08			13470 Nov 27 09:35	0° $\mathring{\text{B}}$	
retrograde	13464 Mar 30 04:33	5° $\mathring{\text{B}}$ 05'00		evening set	13470 Dec 26 13:03	1° $\mathring{\text{B}}$ 37'14	
opposition	13464 Jun 13 17:52	3° $\mathring{\text{B}}$ 02'30	1°06'19				
min. Earth dist.	13464 Jun 13 22:39	3° $\mathring{\text{B}}$ 01'59	17.93359 AU	conjunction	13471 Jan 12 02:44	2° $\mathring{\text{B}}$ 38'00	0°38'55
direct	13464 Aug 27 14:17	1° $\mathring{\text{B}}$ 00'36		minimum elong	13471 Jan 12 02:44	2° $\mathring{\text{B}}$ 38'00	0°39'51
evening set	13464 Nov 27 21:12	4° $\mathring{\text{B}}$ 15'58		max. Earth dist.	13471 Jan 11 18:29	2° $\mathring{\text{B}}$ 36'43	19.59565 AU
				morning rise	13471 Jan 28 16:26	3° $\mathring{\text{B}}$ 38'48	
conjunction	13464 Dec 14 08:10	5° $\mathring{\text{B}}$ 15'17	0°58'31	retrograde	13471 May 02 12:48	7° $\mathring{\text{B}}$ 01'19	
minimum elong	13464 Dec 14 08:10	5° $\mathring{\text{B}}$ 15'17	0°59'34	opposition	13471 Jul 16 04:43	4° $\mathring{\text{B}}$ 58'07	0°41'04
max. Earth dist.	13464 Dec 14 02:07	5° $\mathring{\text{B}}$ 14'22	19.90319 AU	min. Earth dist.	13471 Jul 16 11:56	4° $\mathring{\text{B}}$ 57'20	17.57602 AU
morning rise	13464 Dec 30 20:16	6° $\mathring{\text{B}}$ 14'48		direct	13471 Sep 29 02:15	2° $\mathring{\text{B}}$ 54'17	
retrograde	13465 Apr 03 23:55	9° $\mathring{\text{B}}$ 34'15		evening set	13471 Dec 31 14:23	6° $\mathring{\text{B}}$ 16'14	
opposition	13465 Jun 18 10:58	7° $\mathring{\text{B}}$ 31'34	1°03'52				
min. Earth dist.	13465 Jun 18 16:43	7° $\mathring{\text{B}}$ 30'57	17.87358 AU	conjunction	13472 Jan 17 04:10	7° $\mathring{\text{B}}$ 17'11	0°34'35
direct	13465 Sep 01 07:09	5° $\mathring{\text{B}}$ 29'18		minimum elong	13472 Jan 17 04:10	7° $\mathring{\text{B}}$ 17'11	0°35'28
evening set	13465 Dec 02 18:03	8° $\mathring{\text{B}}$ 45'38		max. Earth dist.	13472 Jan 16 18:24	7° $\mathring{\text{B}}$ 15'40	19.55720 AU
				morning rise	13472 Feb 02 18:03	8° $\mathring{\text{B}}$ 18'10	
conjunction	13465 Dec 19 05:25	9° $\mathring{\text{B}}$ 45'13	0°56'06	retrograde	13472 May 06 11:54	11° $\mathring{\text{B}}$ 41'03	
minimum elong	13465 Dec 19 05:25	9° $\mathring{\text{B}}$ 45'13	0°57'09	opposition	13472 Jul 20 01:34	9° $\mathring{\text{B}}$ 37'51	0°36'06
max. Earth dist.	13465 Dec 18 21:55	9° $\mathring{\text{B}}$ 44'04	19.84419 AU	min. Earth dist.	13472 Jul 20 09:50	9° $\mathring{\text{B}}$ 36'57	17.53939 AU
morning rise	13466 Jan 04 18:03	10° $\mathring{\text{B}}$ 44'58		direct	13472 Oct 02 22:23	7° $\mathring{\text{B}}$ 33'50	
retrograde	13466 Apr 08 20:34	14° $\mathring{\text{B}}$ 05'00		evening set	13473 Jan 04 16:13	10° $\mathring{\text{B}}$ 56'37	
opposition	13466 Jun 23 04:30	12° $\mathring{\text{B}}$ 02'08	1°01'01				
min. Earth dist.	13466 Jun 23 10:25	12° $\mathring{\text{B}}$ 01'30	17.81572 AU	conjunction	13473 Jan 21 06:19	11° $\mathring{\text{B}}$ 57'45	0°30'00
direct	13466 Sep 06 01:19	9° $\mathring{\text{B}}$ 59'32		minimum elong	13473 Jan 21 06:20	11° $\mathring{\text{B}}$ 57'45	0°30'51
evening set	13466 Dec 07 15:34	13° $\mathring{\text{B}}$ 16'50		max. Earth dist.	13473 Jan 20 21:03	11° $\mathring{\text{B}}$ 56'19	19.52223 AU
				morning rise	13473 Feb 06 20:04	12° $\mathring{\text{B}}$ 58'52	
conjunction	13466 Dec 24 03:36	14° $\mathring{\text{B}}$ 16'40	0°53'20		13473 Mar 16 02:06	15° $\mathring{\text{B}}$	
minimum elong	13466 Dec 24 03:36	14° $\mathring{\text{B}}$ 16'40	0°54'22	retrograde	13473 May 11 12:56	16° $\mathring{\text{B}}$ 22'04	
max. Earth dist.	13466 Dec 23 20:36	14° $\mathring{\text{B}}$ 15'36	19.78755 AU		13473 Jul 08 21:07	15° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
morning rise	13467 Jan 09 16:24	15° $\mathring{\text{B}}$ 16'40		opposition	13473 Jul 24 22:59	14° $\mathring{\text{B}}$ 18'52	0°30'52
retrograde	13467 Apr 13 17:14	18° $\mathring{\text{B}}$ 37'15		min. Earth dist.	13473 Jul 25 07:00	14° $\mathring{\text{B}}$ 18'00	17.50601 AU
opposition	13467 Jun 27 22:38	16° $\mathring{\text{B}}$ 34'14	0°57'45	direct	13473 Oct 07 21:54	12° $\mathring{\text{B}}$ 14'41	
min. Earth dist.	13467 Jun 28 05:03	16° $\mathring{\text{B}}$ 33'33	17.76050 AU		13473 Dec 30 00:16	15° $\mathring{\text{B}}$	
direct	13467 Sep 10 19:24	14° $\mathring{\text{B}}$ 31'19		evening set	13474 Jan 09 18:34	15° $\mathring{\text{B}}$ 38'13	
evening set	13467 Dec 12 13:54	17° $\mathring{\text{B}}$ 49'35					
				conjunction	13474 Jan 26 08:38	16° $\mathring{\text{B}}$ 39'29	0°25'12
conjunction	13467 Dec 29 02:17	18° $\mathring{\text{B}}$ 49'40	0°50'13	minimum elong	13474 Jan 26 08:38	16° $\mathring{\text{B}}$ 39'29	0°25'59
minimum elong	13467 Dec 29 02:17	18° $\mathring{\text{B}}$ 49'40	0°51'14	max. Earth dist.	13474 Jan 25 22:02	16° $\mathring{\text{B}}$ 37'51	19.49048 AU
max. Earth dist.	13467 Dec 28 17:49	18° $\mathring{\text{B}}$ 48'22	19.73401 AU	morning rise	13474 Feb 11 22:21	17° $\mathring{\text{B}}$ 40'43	
morning rise	13468 Jan 14 15:36	19° $\mathring{\text{B}}$ 49'53		retrograde	13474 May 16 11:28	21° $\mathring{\text{B}}$ 04'10	

opposition	13474 Jul 29 20:59	19° 00 '57	0°25'25	conjunction	13480 Feb 25 03:26	15° 02 '21	-0°06'18
min. Earth dist.	13474 Jul 30 06:10	18° 59 '57	17.47600 AU	minimum elong	13480 Feb 25 03:25	15° 02 '21	0°05'56
direct	13474 Oct 12 19:49	16° 56 '35		behind sun begin	13480 Feb 24 21:00	15° 01 '23	
evening set	13475 Jan 14 21:18	20° 20 '47		behind sun end	13480 Feb 25 09:51	15° 03 '20	
				max. Earth dist.	13480 Feb 24 16:58	15° 00 '44	19.38322 AU
conjunction	13475 Jan 31 11:32	21° 22 '10	0°20'13	morning rise	13480 Mar 12 15:05	16° 03 '43	
minimum elong	13475 Jan 31 11:32	21° 22 '10	0°20'58	retrograde	13480 Jun 13 10:19	19° 27 '09	
max. Earth dist.	13475 Jan 31 01:12	21° 20 '34	19.46222 AU	opposition	13480 Aug 26 13:53	17° 23 '52	-0°09'52
morning rise	13475 Feb 17 01:03	22° 23 '29		min. Earth dist.	13480 Aug 26 23:20	17° 22 '50	17.38239 AU
retrograde	13475 May 21 12:20	25° 47 '06		direct	13480 Nov 10 01:44	15° 18 '30	
opposition	13475 Aug 03 19:06	23° 43 '52	0°19'46	evening set	13481 Feb 12 17:32	18° 44 '58	
min. Earth dist.	13475 Aug 04 03:45	23° 42 '55	17.44944 AU				
direct	13475 Oct 17 21:19	21° 39 '18		conjunction	13481 Mar 01 06:19	19° 46 '29	-0°11'36
evening set	13476 Jan 20 00:29	25° 04 '05		minimum elong	13481 Mar 01 06:18	19° 46 '29	0°11'18
				behind sun begin	13481 Mar 01 01:25	19° 45 '45	
conjunction	13476 Feb 05 14:38	26° 05 '34	0°15'06	behind sun end	13481 Mar 01 11:12	19° 47 '14	
minimum elong	13476 Feb 05 14:38	26° 05 '34	0°15'46	max. Earth dist.	13481 Feb 28 19:37	19° 44 '50	19.38295 AU
behind sun begin	13476 Feb 05 13:57	26° 05 '28		morning rise	13481 Mar 17 17:31	20° 47 '48	
behind sun end	13476 Feb 05 15:19	26° 05 '40		retrograde	13481 Jun 18 10:52	24° 11 '01	
max. Earth dist.	13476 Feb 05 03:26	26° 03 '50	19.43749 AU	opposition	13481 Aug 31 13:13	22° 07 '47	-0°15'46
morning rise	13476 Feb 22 03:58	27° 06 '57		min. Earth dist.	13481 Aug 31 21:18	22° 06 '54	17.38514 AU
	13476 Apr 21 20:48	0° 00 '		direct	13481 Nov 15 03:49	20° 02 '21	
retrograde	13476 May 25 10:42	0° 30 '40		evening set	13482 Feb 17 20:32	23° 28 '55	
	13476 Jun 28 14:42	30° 00 '					
opposition	13476 Aug 07 17:46	28° 27 '24	0°13'58	conjunction	13482 Mar 06 08:57	24° 30 '23	-0°16'49
min. Earth dist.	13476 Aug 08 03:36	28° 26 '20	17.42671 AU	minimum elong	13482 Mar 06 08:57	24° 30 '23	0°16'37
direct	13476 Oct 21 20:33	26° 22 '38		max. Earth dist.	13482 Mar 05 23:47	24° 28 '57	19.38869 AU
evening set	13477 Jan 24 03:48	29° 47 '56		morning rise	13482 Mar 22 19:23	25° 31 '35	
	13477 Jan 27 10:51	0° 00 '		retrograde	13482 Jun 23 10:00	28° 54 '33	
conjunction	13477 Feb 09 17:51	0° 49 '29	0°09'51	opposition	13482 Sep 05 12:45	26° 51 '25	-0°21'32
minimum elong	13477 Feb 09 17:52	0° 49 '29	0°10'27	min. Earth dist.	13482 Sep 05 20:59	26° 50 '32	17.39398 AU
behind sun begin	13477 Feb 09 12:37	0° 48 '41		direct	13482 Nov 20 04:12	24° 46 '01	
behind sun end	13477 Feb 09 23:06	0° 50 '17		evening set	13483 Feb 22 23:37	28° 12 '36	
max. Earth dist.	13477 Feb 09 06:43	0° 47 '45	19.41685 AU	conjunction	13483 Mar 11 11:21	29° 13 '58	-0°21'55
morning rise	13477 Feb 26 06:53	1° 50 '54		minimum elong	13483 Mar 11 11:21	29° 13 '58	0°21'47
retrograde	13477 May 30 11:42	5° 14 '38		max. Earth dist.	13483 Mar 11 01:47	29° 12 '29	19.40067 AU
opposition	13477 Aug 12 16:28	3° 11 '21	0°08'04		13483 Mar 23 19:01	0° 00 '	
min. Earth dist.	13477 Aug 13 01:25	3° 10 '23	17.40816 AU	morning rise	13483 Mar 27 21:17	0° 15 '05	
direct	13477 Oct 26 23:16	1° 06 '25		retrograde	13483 Jun 28 09:56	3° 37 '45	
evening set	13478 Jan 29 07:15	4° 32 '07		opposition	13483 Sep 10 12:00	1° 34 '46	-0°27'10
				min. Earth dist.	13483 Sep 10 19:04	1° 34 '00	17.40897 AU
conjunction	13478 Feb 14 21:06	5° 33 '42	0°04'33		13483 Oct 21 18:19	30° 00 '	
minimum elong	13478 Feb 14 21:07	5° 33 '42	0°05'06	direct	13483 Nov 25 05:48	29° 29 '26	
behind sun begin	13478 Feb 14 14:34	5° 32 '43			13483 Dec 29 05:10	0° 00 '	
behind sun end	13478 Feb 15 03:40	5° 34 '42		evening set	13484 Feb 28 02:21	2° 55 '59	
max. Earth dist.	13478 Feb 14 09:57	5° 31 '59	19.40057 AU				
morning rise	13478 Mar 03 09:43	6° 35 '08		conjunction	13484 Mar 15 13:40	3° 57 '15	-0°26'52
retrograde	13478 Jun 04 10:18	9° 58 '50		minimum elong	13484 Mar 15 13:39	3° 57 '15	0°26'50
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min. Earth dist.	13478 Aug 18 01:28	7° 54 '27	17.39435 AU	morning rise	13484 Mar 31 22:42	4° 58 '13	
direct	13478 Oct 31 23:01	5° 50 '25		retrograde	13484 Jul 02 09:09	8° 20 '33	
desc. node	13478 Dec 19 12:24	6° 51 '55		opposition	13484 Sep 14 11:29	6° 17 '47	-0°32'35
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conjunction	13479 Feb 20 00:14	10° 18 '03	-0°00'54	evening set	13485 Mar 04 04:52	7° 39 '01	
minimum elong	13479 Feb 20 00:13	10° 18 '03	0°00'27				
behind sun begin	13479 Feb 19 17:30	10° 17 '01		conjunction	13485 Mar 20 15:18	8° 40 '08	-0°31'38
behind sun end	13479 Feb 20 06:56	10° 19 '04		minimum elong	13485 Mar 20 15:18	8° 40 '08	0°31'40
max. Earth dist.	13479 Feb 19 12:59	10° 16 '18	19.38932 AU	max. Earth dist.	13485 Mar 20 06:54	8° 38 '49	19.44160 AU
morning rise	13479 Mar 08 12:30	11° 19 '28		morning rise	13485 Apr 05 23:44	9° 40 '57	
retrograde	13479 Jun 09 11:17	14° 43 '03		retrograde	13485 Jul 07 08:10	13° 02 '56	
opposition	13479 Aug 22 14:38	12° 39 '45	-0°03'54	opposition	13485 Sep 19 10:50	11° 00 '21	-0°37'47
min. Earth dist.	13479 Aug 22 23:25	12° 38 '47	17.38563 AU	min. Earth dist.	13485 Sep 19 17:07	10° 59 '40	17.45507 AU
direct	13479 Nov 06 01:33	10° 34 '29		direct	13485 Dec 04 07:58	8° 55 '18	
evening set	13480 Feb 08 14:07	14° 00 '46		evening set	13486 Mar 09 06:53	12° 21 '32	






























































































































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minimum elong	13486 Mar 25 16:47	13° Υ 22'29	0°36'18	retrograde		13492 Aug 08 09:50	15° \mathcal{B} 33'01
max. Earth dist.	13486 Mar 25 10:03	13° Υ 21'26	19.46938 AU			13492 Sep 13 05:56	15° \mathcal{R} \mathcal{B}
morning rise	13486 Apr 11 00:16	14° Υ 23'07		opposition		13492 Oct 22 00:18	13° \mathcal{B} 31'44 -1°05'04
retrograde	13486 Jul 12 06:45	17° Υ 44'41		min. Earth dist.		13492 Oct 22 03:02	13° \mathcal{B} 31'27 17.73147 AU
opposition	13486 Sep 24 10:05	15° Υ 42'19	-0°42'42	direct		13493 Jan 06 14:21	11° \mathcal{B} 27'52
min. Earth dist.	13486 Sep 24 16:08	15° Υ 41'40	17.48492 AU	evening set		13493 Apr 11 04:48	14° \mathcal{B} 50'15
direct	13486 Dec 09 09:06	13° Υ 37'27				13493 Apr 13 21:26	15° \mathcal{B}
evening set	13487 Mar 14 08:38	17° Υ 03'23					
conjunction	13487 Mar 30 17:39	18° Υ 04'09	-0°40'27	conjunction		13493 Apr 27 09:02	15° \mathcal{B} 49'34 -0°59'32
minimum elong	13487 Mar 30 17:38	18° Υ 04'09	0°40'41	minimum elong		13493 Apr 27 09:01	15° \mathcal{B} 49'34 1°00'12
max. Earth dist.	13487 Mar 30 10:14	18° Υ 03'00	19.50119 AU	max. Earth dist.		13493 Apr 27 05:39	15° \mathcal{B} 49'03 19.75630 AU
morning rise	13487 Apr 16 00:29	19° Υ 04'36		morning rise		13493 May 13 10:54	16° \mathcal{B} 48'35
retrograde	13487 Jul 17 04:32	22° Υ 25'41		retrograde		13493 Aug 13 03:06	20° \mathcal{B} 05'52
opposition	13487 Sep 29 09:14	20° Υ 23'31	-0°47'20	opposition		13493 Oct 26 21:19	18° \mathcal{B} 04'44 -1°07'24
min. Earth dist.	13487 Sep 29 14:57	20° Υ 22'54	17.51863 AU	min. Earth dist.		13493 Oct 27 00:07	18° \mathcal{B} 04'26 17.78232 AU
direct	13487 Dec 14 10:36	18° Υ 18'49		direct		13494 Jan 11 11:17	16° \mathcal{B} 01'03
evening set	13488 Mar 18 09:46	21° Υ 44'23		evening set		13494 Apr 16 01:14	19° \mathcal{B} 22'36
conjunction	13488 Apr 03 18:07	22° Υ 44'56	-0°44'28	conjunction		13494 May 02 04:41	20° \mathcal{B} 21'38 -1°01'26
minimum elong	13488 Apr 03 18:07	22° Υ 44'56	0°44'46	minimum elong		13494 May 02 04:40	20° \mathcal{B} 21'38 1°02'10
max. Earth dist.	13488 Apr 03 12:06	22° Υ 44'00	19.53652 AU	max. Earth dist.		13494 May 02 02:17	20° \mathcal{B} 21'16 19.80864 AU
morning rise	13488 Apr 19 23:59	23° Υ 45'10		morning rise		13494 May 18 05:50	21° \mathcal{B} 20'22
retrograde	13488 Jul 21 01:57	27° Υ 05'43		retrograde		13494 Aug 17 22:41	24° \mathcal{B} 36'56
opposition	13488 Oct 03 08:07	25° Υ 03'46	-0°51'38	opposition		13494 Oct 31 17:32	22° \mathcal{B} 35'57 -1°09'17
min. Earth dist.	13488 Oct 03 13:14	25° Υ 03'13	17.55549 AU	min. Earth dist.		13494 Oct 31 18:31	22° \mathcal{B} 35'50 17.83612 AU
direct	13488 Dec 18 12:32	22° Υ 59'15		direct		13495 Jan 16 10:40	20° \mathcal{B} 32'28
evening set	13489 Mar 23 10:24	26° Υ 24'19		evening set		13495 Apr 20 20:51	23° \mathcal{B} 53'10
conjunction	13489 Apr 08 17:49	27° Υ 24'40	-0°48'10	conjunction		13495 May 06 23:31	24° \mathcal{B} 51'56 -1°02'57
minimum elong	13489 Apr 08 17:49	27° Υ 24'40	0°48'33	minimum elong		13495 May 06 23:31	24° \mathcal{B} 51'56 1°03'43
max. Earth dist.	13489 Apr 08 11:23	27° Υ 23'40	19.57493 AU	max. Earth dist.		13495 May 06 22:18	24° \mathcal{B} 51'45 19.86389 AU
morning rise	13489 Apr 24 22:57	28° Υ 24'40		morning rise		13495 May 22 23:54	25° \mathcal{B} 50'24
retrograde	13489 May 23 04:28	0° \mathcal{B}		retrograde		13495 Aug 22 14:35	29° \mathcal{B} 06'13
opposition	13489 Jul 25 22:13	1° \mathcal{B} 44'40		opposition		13495 Nov 05 13:31	27° \mathcal{B} 05'26 -1°10'44
min. Earth dist.	13489 Oct 01 14:29	30° \mathcal{R} Υ		min. Earth dist.		13495 Nov 05 14:29	27° \mathcal{B} 05'19 17.89292 AU
direct	13489 Oct 08 06:50	29° Υ 42'53	-0°55'35	direct		13496 Jan 21 06:13	25° \mathcal{B} 02'13
evening set	13489 Oct 08 11:51	29° Υ 42'21	17.59550 AU	evening set		13496 Apr 24 15:32	28° \mathcal{B} 22'01
conjunction	13489 Dec 23 13:12	27° Υ 38'31		conjunction		13496 May 10 17:24	29° \mathcal{B} 20'30 -1°04'04
minimum elong	13490 Mar 10 07:42	0° \mathcal{B}		minimum elong		13496 May 10 17:23	29° \mathcal{B} 20'30 1°04'54
max. Earth dist.	13490 Mar 28 10:04	1° \mathcal{B} 03'02		max. Earth dist.		13496 May 10 16:54	29° \mathcal{B} 20'26 19.92214 AU
morning rise	13490 Apr 13 16:49	2° \mathcal{B} 03'09	-0°51'33	morning rise		13496 May 21 12:43	0° \mathcal{I}
retrograde	13490 Apr 13 16:48	2° \mathcal{B} 03'08	0°52'00	retrograde		13496 May 26 17:08	0° \mathcal{I} 18'41
opposition	13490 Apr 13 11:38	2° \mathcal{B} 02'20	19.61632 AU	opposition		13496 Aug 26 08:53	3° \mathcal{I} 33'48
min. Earth dist.	13490 Apr 29 21:03	3° \mathcal{B} 02'54		min. Earth dist.		13496 Nov 09 08:51	1° \mathcal{I} 33'14 -1°11'44
direct	13490 Jul 30 18:52	6° \mathcal{B} 22'17		direct		13496 Nov 09 07:47	1° \mathcal{I} 33'20 17.95241 AU
evening set	13490 Oct 13 05:06	4° \mathcal{B} 20'41	-0°59'09	evening set		13496 Dec 21 11:09	30° \mathcal{R} \mathcal{B}
conjunction	13490 Oct 13 09:05	4° \mathcal{B} 20'16	17.63814 AU	conjunction		13497 Jan 25 04:29	29° \mathcal{B} 30'20
minimum elong	13490 Dec 28 14:44	2° \mathcal{B} 16'30		minimum elong		13497 Feb 28 05:37	0° \mathcal{I}
max. Earth dist.	13491 Apr 02 09:16	5° \mathcal{B} 40'22		max. Earth dist.		13497 Apr 29 09:23	2° \mathcal{I} 49'13
morning rise	13491 Apr 18 15:06	6° \mathcal{B} 40'13	-0°54'34	morning rise		13497 May 15 10:34	3° \mathcal{I} 47'26 -1°04'47
retrograde	13491 Apr 18 15:06	6° \mathcal{B} 40'13	0°55'06	retrograde		13497 May 15 10:34	3° \mathcal{I} 47'26 1°05'40
opposition	13491 Apr 18 09:55	6° \mathcal{B} 39'25	19.66028 AU	opposition		13497 May 15 11:37	3° \mathcal{I} 47'35 19.98279 AU
min. Earth dist.	13491 May 04 18:35	7° \mathcal{B} 39'45		min. Earth dist.		13497 May 31 09:35	4° \mathcal{I} 45'21
direct	13491 Aug 04 13:40	10° \mathcal{B} 58'27		direct		13497 Aug 30 23:55	7° \mathcal{I} 59'45
evening set	13491 Oct 18 02:55	8° \mathcal{B} 57'01	-1°02'19	evening set		13497 Nov 14 03:47	5° \mathcal{I} 59'25 -1°12'18
conjunction	13491 Oct 18 07:05	8° \mathcal{B} 56'34	17.68351 AU	conjunction		13497 Nov 14 02:52	5° \mathcal{I} 59'31 18.01411 AU
minimum elong	13492 Jan 02 13:44	6° \mathcal{B} 52'59		minimum elong		13498 Jan 29 22:58	3° \mathcal{I} 56'51
max. Earth dist.	13492 Apr 06 07:32	10° \mathcal{B} 16'10		max. Earth dist.		13498 May 04 02:22	7° \mathcal{I} 14'50
morning rise	13492 Apr 22 12:37	11° \mathcal{B} 15'45	-0°57'14	morning rise		13498 May 20 02:49	8° \mathcal{I} 12'45 -1°05'07
retrograde	13492 Apr 22 12:37	11° \mathcal{B} 15'45	0°57'51	retrograde		13498 May 20 02:49	8° \mathcal{I} 12'45 1°06'02
opposition	13492 Apr 22 08:29	11° \mathcal{B} 15'07	19.70699 AU	opposition		13498 May 20 04:11	8° \mathcal{I} 12'58 20.04534 AU
min. Earth dist.	13492 May 08 15:17	12° \mathcal{B} 15'01		min. Earth dist.		13498 Jun 05 01:22	9° \mathcal{I} 10'25
direct				direct		13498 Sep 04 16:46	12° \mathcal{I} 24'08

opposition	13498 Nov 18 22:04	10°II24'03	-1°12'26	minimum elong	13505 Jun 20 00:23	8°☾25'48	0°58'18
min. Earth dist.	13498 Nov 18 19:21	10°II24'19	18.07716 AU	max. Earth dist.	13505 Jun 20 06:26	8°☾26'41	20.47196 AU
direct	13499 Feb 03 20:02	8°II21'49		morning rise	13505 Jul 05 19:57	9°☾21'46	
evening set	13499 May 08 18:37	11°II38'52		retrograde	13505 Oct 05 12:47	12°☾30'57	
				opposition	13505 Dec 20 15:55	10°☾32'11	-1°02'16
conjunction	13499 May 24 18:29	12°II36'31	-1°05'03	min. Earth dist.	13505 Dec 20 10:31	10°☾32'44	18.49927 AU
minimum elong	13499 May 24 18:29	12°II36'31	1°06'02	direct	13506 Mar 07 18:45	8°☾32'02	
max. Earth dist.	13499 May 24 21:22	12°II36'57	20.10871 AU	evening set	13506 Jun 08 14:20	11°☾42'24	
morning rise	13499 Jun 09 16:21	13°II33'54					
retrograde	13499 Sep 09 06:44	16°II46'56		conjunction	13506 Jun 24 10:40	12°☾38'18	-0°54'50
opposition	13499 Nov 23 15:58	14°II47'06	-1°12'09	minimum elong	13506 Jun 24 10:41	12°☾38'18	0°55'53
min. Earth dist.	13499 Nov 23 13:37	14°II47'21	18.14075 AU	max. Earth dist.	13506 Jun 24 16:08	12°☾39'06	20.52576 AU
direct	13500 Feb 08 13:52	12°II45'14		morning rise	13506 Jul 10 06:15	13°☾34'05	
evening set	13500 May 13 10:10	16°II01'21		retrograde	13506 Oct 10 00:19	16°☾42'41	
				opposition	13506 Dec 25 05:49	14°☾43'59	-0°59'24
conjunction	13500 May 29 09:17	16°II58'43	-1°04'38	min. Earth dist.	13506 Dec 24 23:21	14°☾44'38	18.55208 AU
minimum elong	13500 May 29 09:17	16°II58'43	1°05'37	direct	13507 Mar 12 08:56	12°☾44'03	
max. Earth dist.	13500 May 29 12:04	16°II59'08	20.17238 AU	evening set	13507 Jun 13 00:12	15°☾53'30	
morning rise	13500 Jun 14 06:45	17°II55'51					
retrograde	13500 Sep 13 22:17	21°II08'12		conjunction	13507 Jun 28 20:22	16°☾49'12	-0°52'08
opposition	13500 Nov 28 09:20	19°II08'36	-1°11'27	minimum elong	13507 Jun 28 20:22	16°☾49'12	0°53'09
min. Earth dist.	13500 Nov 28 05:22	19°II09'01	18.20426 AU	max. Earth dist.	13507 Jun 29 03:34	16°☾50'15	20.57758 AU
direct	13501 Feb 13 09:09	17°II07'05		morning rise	13507 Jul 14 15:36	17°☾44'47	
evening set	13501 May 18 00:40	20°II22'13		retrograde	13507 Oct 14 09:37	20°☾52'50	
				opposition	13507 Dec 29 19:12	18°☾54'13	-0°56'14
conjunction	13501 Jun 02 23:20	21°II19'20	-1°03'51	min. Earth dist.	13507 Dec 29 12:35	18°☾54'54	18.60302 AU
minimum elong	13501 Jun 02 23:20	21°II19'20	1°04'51	direct	13508 Mar 15 22:02	16°☾54'31	
max. Earth dist.	13501 Jun 03 03:39	21°II19'59	20.23550 AU	evening set	13508 Jun 16 09:32	20°☾03'05	
morning rise	13501 Jun 18 20:13	22°II16'13					
retrograde	13501 Sep 18 11:24	25°II27'55		conjunction	13508 Jul 02 05:15	20°☾58'34	-0°49'09
opposition	13501 Dec 03 02:17	23°II28'32	-1°10'21	minimum elong	13508 Jul 02 05:16	20°☾58'34	0°50'11
min. Earth dist.	13501 Dec 02 22:43	23°II28'54	18.26690 AU	max. Earth dist.	13508 Jul 02 12:03	20°☾59'34	20.62783 AU
direct	13502 Feb 18 02:17	21°II27'20		morning rise	13508 Jul 18 00:34	21°☾54'00	
evening set	13502 May 22 14:40	24°II41'31		retrograde	13508 Oct 17 20:30	25°☾01'34	
				opposition	13509 Jan 02 08:01	23°☾03'02	-0°52'47
conjunction	13502 Jun 07 12:39	25°II38'22	-1°02'42	min. Earth dist.	13509 Jan 02 00:19	23°☾03'48	18.65256 AU
minimum elong	13502 Jun 07 12:39	25°II38'22	1°03'43	direct	13509 Mar 20 10:09	21°☾03'33	
max. Earth dist.	13502 Jun 07 16:28	25°II38'56	20.29754 AU	evening set	13509 Jun 20 17:58	24°☾11'17	
morning rise	13502 Jun 23 09:17	26°II35'01					
retrograde	13502 Sep 23 01:21	29°II46'04		conjunction	13509 Jul 06 13:41	25°☾06'36	-0°45'57
opposition	13502 Dec 07 18:23	27°II46'52	-1°08'52	minimum elong	13509 Jul 06 13:41	25°☾06'36	0°46'56
min. Earth dist.	13502 Dec 07 13:33	27°II47'22	18.32815 AU	max. Earth dist.	13509 Jul 06 22:16	25°☾07'52	20.67651 AU
direct	13503 Feb 22 19:45	25°II45'58		morning rise	13509 Jul 22 08:47	26°☾01'52	
evening set	13503 May 27 03:47	28°II59'12		retrograde	13509 Oct 22 05:23	29°☾08'59	
				opposition	13510 Jan 06 20:20	27°☾10'34	-0°49'05
conjunction	13503 Jun 12 01:25	29°II55'48	-1°01'13	min. Earth dist.	13510 Jan 06 12:20	27°☾11'22	18.70029 AU
minimum elong	13503 Jun 12 01:25	29°II55'48	1°02'15	direct	13510 Mar 24 21:50	25°☾11'21	
max. Earth dist.	13503 Jun 12 06:36	29°II56'35	20.35781 AU	evening set	13510 Jun 25 02:06	28°☾18'18	
	13503 Jun 13 05:29	0°☾					
morning rise	13503 Jun 27 21:32	0°☾52'13		conjunction	13510 Jul 10 21:29	29°☾13'26	-0°42'31
retrograde	13503 Sep 27 13:32	4°☾02'37		minimum elong	13510 Jul 10 21:29	29°☾13'26	0°43'28
opposition	13503 Dec 12 10:15	2°☾03'37	-1°07'01	max. Earth dist.	13510 Jul 11 05:31	29°☾14'37	20.72334 AU
min. Earth dist.	13503 Dec 12 05:47	2°☾04'04	18.38738 AU		13510 Jul 24 05:00	0°♂	
direct	13504 Feb 27 11:59	0°☾03'00		morning rise	13510 Jul 26 16:45	0°♂08'34	
evening set	13504 May 30 16:07	3°☾15'16		retrograde	13510 Oct 26 15:26	3°♂15'18	
				opposition	13511 Jan 11 08:01	1°♂16'59	-0°45'09
conjunction	13504 Jun 15 13:09	4°☾11'37	-0°59'24	min. Earth dist.	13511 Jan 10 23:17	1°♂17'52	18.74607 AU
minimum elong	13504 Jun 15 13:09	4°☾11'37	1°00'27		13511 Feb 14 21:56	30°♂	
max. Earth dist.	13504 Jun 15 17:43	4°☾12'18	20.41602 AU	direct	13511 Mar 29 07:51	29°☾18'01	
morning rise	13504 Jul 01 09:07	5°☾07'49			13511 May 09 12:10	0°♂	
retrograde	13504 Oct 01 02:05	8°☾17'37		evening set	13511 Jun 29 09:35	2°♂24'15	
opposition	13504 Dec 16 01:25	6°☾18'43	-1°04'49				
min. Earth dist.	13504 Dec 15 19:46	6°☾19'18	18.44448 AU	conjunction	13511 Jul 15 05:01	3°♂19'15	-0°38'52
direct	13505 Mar 03 03:58	4°☾18'21		minimum elong	13511 Jul 15 05:01	3°♂19'15	0°39'48
evening set	13505 Jun 04 03:34	7°☾29'40		max. Earth dist.	13511 Jul 15 14:41	3°♂20'39	20.76792 AU
				morning rise	13511 Jul 31 00:09	4°♂14'14	
conjunction	13505 Jun 20 00:23	8°☾25'47	-0°57'16	retrograde	13511 Oct 31 00:22	7°♂20'37	

opposition	13512 Jan 15 19:33	5°Ω22'26	-0°41'00	opposition	13518 Feb 09 09:31	29°Ω39'26	-0°12'57
min. Earth dist.	13512 Jan 15 10:32	5°Ω23'20	18.78927 AU	min. Earth dist.	13518 Feb 09 00:07	29°Ω40'23	18.96877 AU
direct	13512 Apr 01 19:02	3°Ω23'45		direct	13518 Apr 27 01:31	27°Ω41'50	
evening set	13512 Jul 02 16:42	6°Ω29'16		evening set	13518 Jul 13 18:17	0°♊	
					13518 Jul 27 05:36	0°♊44'08	
conjunction	13512 Jul 18 11:52	7°Ω24'08	-0°35'03	conjunction	13518 Aug 12 01:08	1°♊38'29	-0°09'27
minimum elong	13512 Jul 18 11:52	7°Ω24'08	0°35'56	minimum elong	13518 Aug 12 01:07	1°♊38'29	0°10'03
max. Earth dist.	13512 Jul 18 20:54	7°Ω25'26	20.80978 AU	behind sun begin	13518 Aug 11 19:48	1°♊37'44	
morning rise	13512 Aug 03 07:16	8°Ω19'01		behind sun end	13518 Aug 12 06:27	1°♊39'14	
retrograde	13512 Nov 03 10:10	11°Ω25'07		max. Earth dist.	13518 Aug 12 09:55	1°♊39'44	20.97590 AU
opposition	13513 Jan 19 06:40	9°Ω27'01	-0°36'40	morning rise	13518 Aug 27 21:47	2°♊32'59	
min. Earth dist.	13513 Jan 18 21:14	9°Ω27'58	18.82963 AU	retrograde	13518 Nov 28 13:55	5°♊38'06	
direct	13513 Apr 06 03:38	7°Ω28'34		opposition	13519 Feb 13 18:49	3°♊40'04	-0°07'57
evening set	13513 Jul 06 23:24	10°Ω33'27		min. Earth dist.	13519 Feb 13 09:54	3°♊40'57	18.98195 AU
				direct	13519 May 01 09:07	1°♊42'30	
conjunction	13513 Jul 22 18:43	11°Ω28'12	-0°31'04	evening set	13519 Jul 31 10:52	4°♊44'25	
minimum elong	13513 Jul 22 18:43	11°Ω28'12	0°31'56				
max. Earth dist.	13513 Jul 23 05:08	11°Ω29'43	20.84841 AU	conjunction	13519 Aug 16 06:45	5°♊38'44	-0°04'57
morning rise	13513 Aug 07 14:05	12°Ω22'59		minimum elong	13519 Aug 16 06:45	5°♊38'44	0°05'28
	13513 Oct 04 18:05	15°Ω		behind sun begin	13519 Aug 16 00:24	5°♊37'51	
retrograde	13513 Nov 07 18:44	15°Ω28'49		behind sun end	13519 Aug 16 13:05	5°♊39'38	
	13513 Dec 12 17:02	15°♋Ω		max. Earth dist.	13519 Aug 16 16:35	5°♊40'08	20.98677 AU
opposition	13514 Jan 23 17:18	13°Ω30'49	-0°32'10	morning rise	13519 Sep 01 03:34	6°♊33'13	
min. Earth dist.	13514 Jan 23 07:46	13°Ω31'46	18.86637 AU	retrograde	13519 Dec 02 21:28	9°♊38'18	
direct	13514 Apr 10 14:15	11°Ω32'37		opposition	13520 Feb 18 03:54	7°♊40'09	-0°02'55
evening set	13514 Jul 11 06:01	14°Ω36'54		min. Earth dist.	13520 Feb 17 18:38	7°♊41'04	18.99059 AU
	13514 Jul 17 23:34	15°Ω		direct	13520 May 04 17:24	5°♊42'37	
conjunction	13514 Jul 27 01:10	15°Ω31'32	-0°26'57	evening set	13520 Aug 03 16:02	8°♊44'11	
minimum elong	13514 Jul 27 01:10	15°Ω31'32	0°27'45				
max. Earth dist.	13514 Jul 27 10:34	15°Ω32'54	20.88325 AU	conjunction	13520 Aug 19 11:57	9°♊38'29	-0°00'21
morning rise	13514 Aug 11 20:51	16°Ω26'14		minimum elong	13520 Aug 19 11:57	9°♊38'29	0°00'50
retrograde	13514 Nov 12 04:25	19°Ω31'52		behind sun begin	13520 Aug 19 05:23	9°♊37'34	
opposition	13515 Jan 28 03:47	17°Ω33'55	-0°27'32	behind sun end	13520 Aug 19 18:31	9°♊39'24	
min. Earth dist.	13515 Jan 27 18:15	17°Ω34'53	18.89919 AU	max. Earth dist.	13520 Aug 19 20:48	9°♊39'44	20.99344 AU
direct	13515 Apr 14 22:29	15°Ω35'55		morning rise	13520 Sep 04 09:19	10°♊32'58	
evening set	13515 Jul 15 12:08	18°Ω39'39		asc. node	13520 Sep 16 20:20	11°♊13'52	
				retrograde	13520 Dec 06 05:13	13°♊38'04	
conjunction	13515 Jul 31 07:27	19°Ω34'12	-0°22'42	opposition	13521 Feb 21 12:47	11°♊39'48	0°02'08
minimum elong	13515 Jul 31 07:27	19°Ω34'12	0°23'28	min. Earth dist.	13521 Feb 21 03:55	11°♊40'41	18.99545 AU
max. Earth dist.	13515 Jul 31 17:58	19°Ω35'43	20.91379 AU	direct	13521 May 09 00:16	9°♊42'16	
morning rise	13515 Aug 16 03:08	20°Ω28'49		evening set	13521 Aug 07 21:04	12°♊43'36	
retrograde	13515 Nov 16 12:34	23°Ω34'16					
opposition	13516 Feb 01 14:00	21°Ω36'23	-0°22'46	conjunction	13521 Aug 23 17:25	13°♊37'54	0°04'18
min. Earth dist.	13516 Feb 01 04:22	21°Ω37'21	18.92734 AU	minimum elong	13521 Aug 23 17:25	13°♊37'54	0°03'55
direct	13516 Apr 18 08:25	19°Ω38'34		behind sun begin	13521 Aug 23 10:55	13°♊36'59	
evening set	13516 Jul 18 18:16	22°Ω41'47		behind sun end	13521 Aug 23 23:55	13°♊38'48	
				max. Earth dist.	13521 Aug 24 03:23	13°♊39'19	20.99645 AU
conjunction	13516 Aug 03 13:29	23°Ω36'14	-0°18'22	morning rise	13521 Sep 08 14:59	14°♊32'24	
minimum elong	13516 Aug 03 13:29	23°Ω36'14	0°19'04	retrograde	13521 Dec 10 13:20	17°♊37'34	
max. Earth dist.	13516 Aug 03 22:46	23°Ω37'34	20.93958 AU	opposition	13522 Feb 25 21:13	15°♊39'11	0°07'09
morning rise	13516 Aug 19 09:34	24°Ω30'48		min. Earth dist.	13522 Feb 25 11:53	15°♊40'07	18.99668 AU
retrograde	13516 Nov 19 21:54	27°Ω36'08		direct	13522 May 13 07:53	13°♊41'41	
opposition	13517 Feb 04 23:56	25°Ω38'13	-0°17'54	evening set	13522 Aug 12 02:17	16°♊42'50	
min. Earth dist.	13517 Feb 04 14:36	25°Ω39'09	18.95071 AU				
direct	13517 Apr 22 16:25	23°Ω40'31		conjunction	13522 Aug 27 22:42	17°♊37'09	0°08'48
evening set	13517 Jul 22 23:56	26°Ω43'16		minimum elong	13522 Aug 27 22:43	17°♊37'09	0°08'28
				behind sun begin	13522 Aug 27 16:56	17°♊36'20	
conjunction	13517 Aug 07 19:29	27°Ω37'40	-0°13'56	behind sun end	13522 Aug 28 04:30	17°♊37'57	
minimum elong	13517 Aug 07 19:29	27°Ω37'40	0°14'35	max. Earth dist.	13522 Aug 28 07:40	17°♊38'25	20.99603 AU
behind sun begin	13517 Aug 07 16:34	27°Ω37'15		morning rise	13522 Sep 12 20:49	18°♊31'41	
behind sun end	13517 Aug 07 22:25	27°Ω38'05		retrograde	13522 Dec 14 20:50	21°♊37'00	
max. Earth dist.	13517 Aug 08 05:36	27°Ω39'07	20.96033 AU	opposition	13523 Mar 02 05:48	19°♊38'31	0°12'09
morning rise	13517 Aug 23 15:41	28°Ω32'12		min. Earth dist.	13523 Mar 01 20:56	19°♊39'24	18.99472 AU
	13517 Sep 20 16:23	0°♊		direct	13523 May 17 13:52	17°♊41'03	
retrograde	13517 Nov 24 05:32	1°♊37'23		evening set	13523 Aug 16 07:13	20°♊42'05	
	13518 Jan 31 18:58	30°♋Ω					

conjunction	13523 Sep 01 04:08	21° <u>♏</u> 36'25	0°13'16	max. Earth dist.	13529 Sep 25 02:28	15° <u>♏</u> 42'45	20.89410 AU
minimum elong	13523 Sep 01 04:07	21° <u>♏</u> 36'25	0°13'01	morning rise	13529 Oct 10 19:52	16° <u>♏</u> 36'49	
behind sun begin	13523 Sep 01 00:06	21° <u>♏</u> 35'52		retrograde	13530 Jan 12 11:58	19° <u>♏</u> 44'29	
behind sun end	13523 Sep 01 08:09	21° <u>♏</u> 36'59		opposition	13530 Mar 30 18:13	17° <u>♏</u> 45'23	0°44'15
max. Earth dist.	13523 Sep 01 14:14	21° <u>♏</u> 37'52	20.99241 AU	min. Earth dist.	13530 Mar 30 11:03	17° <u>♏</u> 46'07	18.87892 AU
morning rise	13523 Sep 17 02:29	22° <u>♏</u> 31'01		direct	13530 Jun 14 14:03	15° <u>♏</u> 47'54	
retrograde	13523 Dec 19 05:46	25° <u>♏</u> 36'31		evening set	13530 Sep 13 02:47	18° <u>♏</u> 49'59	
opposition	13524 Mar 05 14:15	23° <u>♏</u> 37'57	0°17'05				
min. Earth dist.	13524 Mar 05 04:49	23° <u>♏</u> 38'54	18.98940 AU	conjunction	13530 Sep 29 02:24	19° <u>♏</u> 45'00	0°41'47
direct	13524 May 20 21:30	21° <u>♏</u> 40'32		minimum elong	13530 Sep 29 02:23	19° <u>♏</u> 45'00	0°42'02
evening set	13524 Aug 19 12:36	24° <u>♏</u> 41'32		max. Earth dist.	13530 Sep 29 08:30	19° <u>♏</u> 45'52	20.86228 AU
				morning rise	13530 Oct 15 04:23	20° <u>♏</u> 40'21	
conjunction	13524 Sep 04 09:40	25° <u>♏</u> 35'55	0°17'41	retrograde	13531 Jan 16 21:51	23° <u>♏</u> 48'29	
minimum elong	13524 Sep 04 09:40	25° <u>♏</u> 35'55	0°17'29	opposition	13531 Apr 04 03:39	21° <u>♏</u> 49'12	0°48'11
max. Earth dist.	13524 Sep 04 18:41	25° <u>♏</u> 37'12	20.98546 AU	min. Earth dist.	13531 Apr 03 21:59	21° <u>♏</u> 49'46	18.84477 AU
morning rise	13524 Sep 20 08:39	26° <u>♏</u> 30'34		direct	13531 Jun 18 20:29	19° <u>♏</u> 51'33	
retrograde	13524 Dec 22 13:34	29° <u>♏</u> 36'20		evening set	13531 Sep 17 10:23	22° <u>♏</u> 53'58	
opposition	13525 Mar 09 22:39	27° <u>♏</u> 37'42	0°21'56				
min. Earth dist.	13525 Mar 09 13:56	27° <u>♏</u> 38'34	18.98086 AU	conjunction	13531 Oct 03 10:41	23° <u>♏</u> 49'08	0°45'13
direct	13525 May 25 02:43	25° <u>♏</u> 40'18		minimum elong	13531 Oct 03 10:41	23° <u>♏</u> 49'08	0°45'33
evening set	13525 Aug 23 17:58	28° <u>♏</u> 41'20		max. Earth dist.	13531 Oct 03 17:04	23° <u>♏</u> 50'04	20.82585 AU
				morning rise	13531 Oct 19 13:07	24° <u>♏</u> 44'39	
conjunction	13525 Sep 08 15:35	29° <u>♏</u> 35'47	0°22'00	retrograde	13532 Jan 21 08:24	27° <u>♏</u> 53'15	
minimum elong	13525 Sep 08 15:35	29° <u>♏</u> 35'47	0°21'53	opposition	13532 Apr 07 13:06	25° <u>♏</u> 53'45	0°51'54
max. Earth dist.	13525 Sep 09 01:28	29° <u>♏</u> 37'12	20.97515 AU	min. Earth dist.	13532 Apr 07 07:14	25° <u>♏</u> 54'21	18.80611 AU
	13525 Sep 15 15:57	0° <u>♏</u>		direct	13532 Jun 22 05:26	23° <u>♏</u> 55'56	
morning rise	13525 Sep 24 14:53	0° <u>♏</u> 30'32		evening set	13532 Sep 20 18:42	26° <u>♏</u> 58'44	
retrograde	13525 Dec 26 22:43	3° <u>♏</u> 36'35					
opposition	13526 Mar 14 07:02	1° <u>♏</u> 37'53	0°26'40	conjunction	13532 Oct 06 19:24	27° <u>♏</u> 54'03	0°48'27
min. Earth dist.	13526 Mar 13 21:53	1° <u>♏</u> 38'48	18.96866 AU	minimum elong	13532 Oct 06 19:24	27° <u>♏</u> 54'03	0°48'50
	13526 May 01 04:31	30° <u>♏</u>		max. Earth dist.	13532 Oct 07 00:11	27° <u>♏</u> 54'45	20.78521 AU
direct	13526 May 29 10:39	29° <u>♏</u> 40'31		morning rise	13532 Oct 22 22:34	28° <u>♏</u> 49'44	
	13526 Jun 26 02:37	0° <u>♏</u>			13532 Nov 13 18:31	0° <u>♏</u>	
evening set	13526 Aug 27 23:46	2° <u>♏</u> 41'39		retrograde	13533 Jan 24 18:30	1° <u>♏</u> 58'50	
				opposition	13533 Apr 11 22:41	29° <u>♏</u> 59'06	0°55'22
conjunction	13526 Sep 12 21:35	3° <u>♏</u> 36'11	0°26'14		13533 Apr 11 13:47	30° <u>♏</u>	
minimum elong	13526 Sep 12 21:35	3° <u>♏</u> 36'11	0°26'12	min. Earth dist.	13533 Apr 11 18:24	29° <u>♏</u> 59'32	18.76374 AU
max. Earth dist.	13526 Sep 13 06:11	3° <u>♏</u> 37'25	20.96111 AU	direct	13533 Jun 26 12:02	28° <u>♏</u> 01'02	
morning rise	13526 Sep 28 21:31	4° <u>♏</u> 31'01			13533 Sep 05 06:44	0° <u>♏</u>	
retrograde	13526 Dec 31 07:25	7° <u>♏</u> 37'26		evening set	13533 Sep 25 03:19	1° <u>♏</u> 04'17	
opposition	13527 Mar 18 15:40	5° <u>♏</u> 38'39	0°31'18				
min. Earth dist.	13527 Mar 18 07:29	5° <u>♏</u> 39'29	18.95278 AU	conjunction	13533 Oct 11 04:44	1° <u>♏</u> 59'47	0°51'27
direct	13527 Jun 02 15:55	3° <u>♏</u> 41'19		minimum elong	13533 Oct 11 04:44	1° <u>♏</u> 59'47	0°51'55
evening set	13527 Sep 01 05:47	6° <u>♏</u> 42'36		max. Earth dist.	13533 Oct 11 09:52	2° <u>♏</u> 00'32	20.74120 AU
				morning rise	13533 Oct 27 08:21	2° <u>♏</u> 55'39	
conjunction	13527 Sep 17 04:10	7° <u>♏</u> 37'14	0°30'21	retrograde	13534 Jan 29 06:14	6° <u>♏</u> 05'16	
minimum elong	13527 Sep 17 04:10	7° <u>♏</u> 37'14	0°30'22	opposition	13534 Apr 16 08:28	4° <u>♏</u> 05'17	0°58'34
max. Earth dist.	13527 Sep 17 13:25	7° <u>♏</u> 38'34	20.94321 AU	min. Earth dist.	13534 Apr 16 03:47	4° <u>♏</u> 05'45	18.71824 AU
morning rise	13527 Oct 03 04:26	8° <u>♏</u> 32'11		direct	13534 Jun 30 21:27	2° <u>♏</u> 07'00	
retrograde	13528 Jan 04 16:43	11° <u>♏</u> 38'59		evening set	13534 Sep 29 12:29	5° <u>♏</u> 10'44	
opposition	13528 Mar 22 00:19	9° <u>♏</u> 40'07	0°35'47				
min. Earth dist.	13528 Mar 21 15:52	9° <u>♏</u> 40'59	18.93276 AU	conjunction	13534 Oct 15 14:18	6° <u>♏</u> 06'26	0°54'12
direct	13528 Jun 05 23:57	7° <u>♏</u> 42'47		minimum elong	13534 Oct 15 14:17	6° <u>♏</u> 06'26	0°54'43
evening set	13528 Sep 04 12:20	10° <u>♏</u> 44'17		max. Earth dist.	13534 Oct 15 18:05	6° <u>♏</u> 06'59	20.69436 AU
				morning rise	13534 Oct 31 18:37	7° <u>♏</u> 02'29	
conjunction	13528 Sep 20 11:00	11° <u>♏</u> 39'02	0°34'19	retrograde	13535 Feb 02 17:06	10° <u>♏</u> 12'41	
minimum elong	13528 Sep 20 11:00	11° <u>♏</u> 39'02	0°34'26	opposition	13535 Apr 20 18:43	8° <u>♏</u> 12'27	1°01'29
max. Earth dist.	13528 Sep 20 18:40	11° <u>♏</u> 40'08	20.92100 AU	min. Earth dist.	13535 Apr 20 15:25	8° <u>♏</u> 12'47	18.67033 AU
morning rise	13528 Oct 06 11:57	12° <u>♏</u> 34'06		direct	13535 Jul 05 04:45	6° <u>♏</u> 13'56	
retrograde	13529 Jan 08 02:21	15° <u>♏</u> 41'20		evening set	13535 Oct 03 22:09	9° <u>♏</u> 18'13	
opposition	13529 Mar 26 09:18	13° <u>♏</u> 42'22	0°40'06				
min. Earth dist.	13529 Mar 26 02:12	13° <u>♏</u> 43'05	18.90831 AU	conjunction	13535 Oct 20 00:43	10° <u>♏</u> 14'07	0°56'41
direct	13529 Jun 10 05:47	11° <u>♏</u> 44'58		minimum elong	13535 Oct 20 00:42	10° <u>♏</u> 14'07	0°57'16
evening set	13529 Sep 08 19:16	14° <u>♏</u> 46'44		max. Earth dist.	13535 Oct 20 04:53	10° <u>♏</u> 14'43	20.64544 AU
				morning rise	13535 Nov 05 05:30	11° <u>♏</u> 10'23	
conjunction	13529 Sep 24 18:34	15° <u>♏</u> 41'37	0°38'08	retrograde	13536 Feb 07 06:11	14° <u>♏</u> 21'10	
minimum elong	13529 Sep 24 18:33	15° <u>♏</u> 41'37	0°38'19	opposition	13536 Apr 24 05:02	12° <u>♏</u> 20'42	1°04'05

min. Earth dist.	13536 Apr 24 01:12	12° M 21'06	18.62048 AU	direct	13542 Aug 03 04:25	5° 7 41'20	
direct	13536 Jul 08 14:22	10° M 21'58		evening set	13542 Nov 02 15:01	8° 7 51'07	
evening set	13536 Oct 07 08:36	13° M 26'52					
				conjunction	13542 Nov 18 21:57	9° 7 48'46	1°05'14
conjunction	13536 Oct 23 11:39	14° M 22'59	0°58'52	minimum elong	13542 Nov 18 21:57	9° 7 48'46	1°06'11
minimum elong	13536 Oct 23 11:38	14° M 22'59	0°59'31	max. Earth dist.	13542 Nov 18 20:54	9° 7 48'36	20.26407 AU
max. Earth dist.	13536 Oct 23 14:30	14° M 23'24	20.59470 AU	morning rise	13542 Dec 05 06:58	10° 7 46'45	
	13536 Nov 03 01:40	15° M		retrograde	13543 Mar 09 14:55	14° 7 02'25	
morning rise	13536 Nov 08 17:10	15° M 19'28		opposition	13543 May 24 19:08	12° 7 00'53	1°12'27
retrograde	13537 Feb 10 18:23	18° M 30'53		min. Earth dist.	13543 May 24 20:37	12° 7 00'44	18.23450 AU
opposition	13537 Apr 28 15:57	16° M 30'13	1°06'22	direct	13543 Aug 07 15:51	10° 7 00'39	
min. Earth dist.	13537 Apr 28 13:31	16° M 30'28	18.56905 AU	evening set	13543 Nov 07 07:10	13° 7 11'21	
	13537 Jun 08 23:12	15° R M					
direct	13537 Jul 12 22:37	14° M 31'14		conjunction	13543 Nov 23 14:50	14° 7 09'17	1°05'04
	13537 Aug 15 07:08	15° M		minimum elong	13543 Nov 23 14:50	14° 7 09'17	1°06'02
evening set	13537 Oct 11 19:35	17° M 36'50		max. Earth dist.	13543 Nov 23 12:54	14° 7 08'59	20.20407 AU
				morning rise	13543 Dec 10 00:26	15° 7 07'31	
conjunction	13537 Oct 27 23:22	18° M 33'11	1°00'45	retrograde	13544 Mar 13 10:07	18° 7 23'54	
minimum elong	13537 Oct 27 23:22	18° M 33'11	1°01'28	opposition	13544 May 28 09:28	16° 7 22'11	1°12'05
max. Earth dist.	13537 Oct 28 02:27	18° M 33'38	20.54259 AU	min. Earth dist.	13544 May 28 10:56	16° 7 22'02	18.17373 AU
morning rise	13537 Nov 13 05:22	19° M 29'53		direct	13544 Aug 11 06:39	14° 7 21'38	
retrograde	13538 Feb 15 08:42	22° M 41'57		evening set	13544 Nov 11 00:11	17° 7 33'17	
opposition	13538 May 03 03:03	20° M 41'07	1°08'19				
min. Earth dist.	13538 May 03 00:03	20° M 41'25	18.51627 AU	conjunction	13544 Nov 27 08:30	18° 7 31'30	1°04'32
direct	13538 Jul 17 08:53	18° M 41'56		minimum elong	13544 Nov 27 08:30	18° 7 31'30	1°05'32
evening set	13538 Oct 16 07:27	21° M 48'16		max. Earth dist.	13544 Nov 27 05:25	18° 7 31'02	20.14262 AU
				morning rise	13544 Dec 13 18:38	19° 7 30'01	
conjunction	13538 Nov 01 11:45	22° M 44'51	1°02'19	retrograde	13545 Mar 18 02:36	22° 7 47'03	
minimum elong	13538 Nov 01 11:45	22° M 44'51	1°03'05	opposition	13545 Jun 02 00:33	20° 7 45'09	1°11'18
max. Earth dist.	13538 Nov 01 13:36	22° M 45'07	20.48923 AU	min. Earth dist.	13545 Jun 02 03:46	20° 7 44'49	18.11183 AU
morning rise	13538 Nov 17 18:27	23° M 41'48		direct	13545 Aug 15 19:31	18° 7 44'17	
retrograde	13539 Feb 19 22:19	26° M 54'33		evening set	13545 Nov 15 17:51	21° 7 56'52	
opposition	13539 May 07 14:54	24° M 53'33	1°09'54				
min. Earth dist.	13539 May 07 13:21	24° M 53'43	18.46245 AU	conjunction	13545 Dec 02 02:48	22° 7 55'21	1°03'37
direct	13539 Jul 21 17:59	22° M 54'11		minimum elong	13545 Dec 02 02:48	22° 7 55'21	1°04'39
evening set	13539 Oct 20 19:53	26° M 01'18		max. Earth dist.	13545 Dec 01 22:45	22° 7 54'45	20.08055 AU
				morning rise	13545 Dec 18 13:30	23° 7 54'07	
conjunction	13539 Nov 06 00:58	26° M 58'08	1°03'34	retrograde	13546 Mar 22 22:21	27° 7 11'50	
minimum elong	13539 Nov 06 00:58	26° M 58'08	1°04'22	opposition	13546 Jun 06 16:00	25° 7 09'43	1°10'06
max. Earth dist.	13539 Nov 06 02:53	26° M 58'25	20.43494 AU	min. Earth dist.	13546 Jun 06 19:07	25° 7 09'23	18.04965 AU
morning rise	13539 Nov 22 08:13	27° M 55'20		direct	13546 Aug 20 12:27	23° 7 08'30	
	13540 Jan 02 09:25	0° 7		evening set	13546 Nov 20 12:21	26° 7 22'01	
retrograde	13540 Feb 24 14:25	1° 7 08'49					
	13540 Apr 19 10:45	30° R M		conjunction	13546 Dec 06 21:58	27° 7 20'48	1°02'19
opposition	13540 May 11 03:04	29° M 07'41	1°11'07	minimum elong	13546 Dec 06 21:58	27° 7 20'48	1°03'21
min. Earth dist.	13540 May 11 01:05	29° M 07'53	18.40754 AU	max. Earth dist.	13546 Dec 06 17:23	27° 7 20'07	20.01846 AU
direct	13540 Jul 25 05:26	27° M 08'07		morning rise	13546 Dec 23 09:06	28° 7 19'50	
	13540 Oct 19 16:49	0° 7			13547 Jan 23 06:14	0° 7	
evening set	13540 Oct 24 09:28	0° 7 16'04		retrograde	13547 Mar 27 15:20	1° 7 38'10	
					13547 Jun 01 19:24	30° R 7	
conjunction	13540 Nov 09 15:06	1° 7 13'11	1°04'28	opposition	13547 Jun 11 08:04	29° 7 35'51	1°08'28
minimum elong	13540 Nov 09 15:06	1° 7 13'11	1°05'20	min. Earth dist.	13547 Jun 11 12:36	29° 7 35'22	17.98791 AU
max. Earth dist.	13540 Nov 09 15:44	1° 7 13'16	20.37938 AU	direct	13547 Aug 25 02:50	27° 7 34'17	
morning rise	13540 Nov 25 23:00	2° 7 10'38			13547 Nov 11 02:00	0° 7	
retrograde	13541 Feb 28 05:09	5° 7 24'50		evening set	13547 Nov 25 07:34	0° 7 48'45	
opposition	13541 May 15 15:48	3° 7 23'35	1°11'57				
min. Earth dist.	13541 May 15 15:37	3° 7 23'36	18.35139 AU	conjunction	13547 Dec 11 17:48	1° 7 47'48	1°00'38
direct	13541 Jul 29 15:28	1° 7 23'49		minimum elong	13547 Dec 11 17:48	1° 7 47'48	1°01'42
evening set	13541 Oct 28 23:50	4° 7 32'41		max. Earth dist.	13547 Dec 11 12:10	1° 7 46'57	19.95732 AU
				morning rise	13547 Dec 28 05:32	2° 7 47'05	
conjunction	13541 Nov 14 06:11	5° 7 30'03	1°05'02	retrograde	13548 Mar 31 11:52	6° 7 06'03	
minimum elong	13541 Nov 14 06:11	5° 7 30'03	1°05'55	opposition	13548 Jun 15 00:32	4° 7 03'30	1°06'25
max. Earth dist.	13541 Nov 14 06:24	5° 7 30'05	20.32257 AU	min. Earth dist.	13548 Jun 15 04:59	4° 7 03'02	17.92740 AU
morning rise	13541 Nov 30 14:37	6° 7 27'46		direct	13548 Aug 28 21:07	2° 7 01'35	
retrograde	13542 Mar 04 23:09	9° 7 42'43		evening set	13548 Nov 29 03:39	5° 7 17'01	
opposition	13542 May 20 05:04	7° 7 41'20	1°12'24				
min. Earth dist.	13542 May 20 04:42	7° 7 41'22	18.29378 AU	conjunction	13548 Dec 15 14:30	6° 7 16'21	0°58'35

minimum elong	13548 Dec 15 14:30	6°  16'21	0°59'37	opposition	13555 Jul 17 11:39	6°  00'06	0°40'58
max. Earth dist.	13548 Dec 15 08:48	6°  15'29	19.89752 AU	min. Earth dist.	13555 Jul 17 18:57	5°  59'19	17.57978 AU
morning rise	13549 Jan 01 02:32	7°  15'52		direct	13555 Sep 30 08:44	3°  56'20	
retrograde	13549 Apr 05 06:00	10°  35'25		evening set	13556 Jan 01 21:02	7°  18'15	
opposition	13549 Jun 19 17:33	8°  32'42	1°03'56				
min. Earth dist.	13549 Jun 19 23:05	8°  32'06	17.86860 AU	conjunction	13556 Jan 18 10:45	8°  19'11	0°34'30
direct	13549 Sep 02 13:24	6°  30'26		minimum elong	13556 Jan 18 10:45	8°  19'11	0°35'23
evening set	13549 Dec 04 00:28	9°  46'50		max. Earth dist.	13556 Jan 18 00:59	8°  17'41	19.56085 AU
				morning rise	13556 Feb 04 00:37	9°  20'09	
conjunction	13549 Dec 20 11:47	10°  46'24	0°56'09	retrograde	13556 May 07 18:51	12°  43'03	
minimum elong	13549 Dec 20 11:47	10°  46'24	0°57'12	opposition	13556 Jul 21 08:44	10°  39'52	0°35'59
max. Earth dist.	13549 Dec 20 04:54	10°  45'22	19.83999 AU	min. Earth dist.	13556 Jul 21 16:55	10°  38'58	17.54282 AU
morning rise	13550 Jan 06 00:21	11°  46'11		direct	13556 Oct 04 06:28	8°  35'52	
retrograde	13550 Apr 10 03:10	15°  06'17		evening set	13557 Jan 05 22:50	11°  58'35	
opposition	13550 Jun 24 11:09	13°  03'24	1°01'03				
min. Earth dist.	13550 Jun 24 16:32	13°  02'50	17.81239 AU	conjunction	13557 Jan 22 12:53	12°  59'42	0°29'54
direct	13550 Sep 07 08:05	11°  00'49		minimum elong	13557 Jan 22 12:53	12°  59'42	0°30'43
evening set	13550 Dec 08 21:50	14°  18'09		max. Earth dist.	13557 Jan 22 03:36	12°  58'16	19.52525 AU
				morning rise	13557 Feb 08 02:33	14°  00'48	
conjunction	13550 Dec 25 09:48	15°  18'00	0°53'21		13557 Feb 25 01:23	15° 	
minimum elong	13550 Dec 25 09:48	15°  18'00	0°54'23	retrograde	13557 May 12 19:00	17°  23'59	
max. Earth dist.	13550 Dec 25 03:23	15°  17'01	19.78513 AU	opposition	13557 Jul 26 06:09	15°  20'46	0°30'44
morning rise	13551 Jan 10 22:35	16°  18'00		min. Earth dist.	13557 Jul 26 14:15	15°  19'54	17.50862 AU
retrograde	13551 Apr 14 23:32	19°  38'39			13557 Aug 03 06:05	15°  R 	
opposition	13551 Jun 29 05:23	17°  35'39	0°57'46	direct	13557 Oct 09 04:54	13°  16'36	
min. Earth dist.	13551 Jun 29 11:25	17°  35'00	17.75905 AU		13557 Dec 12 04:57	15° 	
direct	13551 Sep 12 01:51	15°  32'46		evening set	13558 Jan 11 01:16	16°  40'02	
evening set	13551 Dec 13 20:14	18°  51'03					
				conjunction	13558 Jan 27 15:17	17°  41'17	0°25'04
conjunction	13551 Dec 30 08:34	19°  51'08	0°50'13	minimum elong	13558 Jan 27 15:17	17°  41'17	0°25'52
minimum elong	13551 Dec 30 08:34	19°  51'08	0°51'13	max. Earth dist.	13558 Jan 27 04:26	17°  39'36	19.49264 AU
max. Earth dist.	13551 Dec 30 00:46	19°  49'56	19.73354 AU	morning rise	13558 Feb 13 05:00	18°  42'30	
morning rise	13552 Jan 15 21:49	20°  51'21		retrograde	13558 May 17 18:30	22°  05'55	
retrograde	13552 Apr 18 21:47	24°  12'32		opposition	13558 Jul 31 04:06	20°  02'40	0°25'15
opposition	13552 Jul 03 00:00	22°  09'26	0°54'05	min. Earth dist.	13558 Jul 31 13:14	20°  01'40	17.47771 AU
min. Earth dist.	13552 Jul 03 06:08	22°  08'46	17.70917 AU	direct	13558 Oct 14 03:42	17°  58'16	
direct	13552 Sep 15 21:01	20°  06'16		evening set	13559 Jan 16 03:52	21°  22'22	
evening set	13552 Dec 17 19:17	23°  25'31					
				conjunction	13559 Feb 01 18:06	22°  23'45	0°20'04
conjunction	13553 Jan 03 08:12	24°  25'50	0°46'44	minimum elong	13559 Feb 01 18:06	22°  23'45	0°20'47
minimum elong	13553 Jan 03 08:13	24°  25'50	0°47'44	max. Earth dist.	13559 Feb 01 07:44	22°  22'08	19.46348 AU
max. Earth dist.	13553 Jan 03 01:04	24°  24'45	19.68535 AU	morning rise	13559 Feb 18 07:37	23°  25'03	
morning rise	13553 Jan 19 21:32	25°  26'16		retrograde	13559 May 22 19:02	26°  48'38	
retrograde	13553 Apr 23 20:13	28°  47'55		opposition	13559 Aug 05 02:17	24°  45'21	0°19'35
opposition	13553 Jul 07 19:21	26°  44'47	0°50'03	min. Earth dist.	13559 Aug 05 10:56	24°  44'25	17.45028 AU
min. Earth dist.	13553 Jul 08 01:53	26°  44'05	17.66267 AU	direct	13559 Oct 19 03:57	22°  40'45	
direct	13553 Sep 20 16:00	24°  41'25		evening set	13560 Jan 21 07:03	26°  40'52	
evening set	13553 Dec 22 19:05	28°  01'34					
				conjunction	13560 Feb 06 21:08	27°  46'54	0°14'55
conjunction	13554 Jan 08 08:12	29°  02'06	0°42'56	minimum elong	13560 Feb 06 21:09	27°  46'55	0°15'35
minimum elong	13554 Jan 08 08:13	29°  02'06	0°43'54	behind sun begin	13560 Feb 06 19:52	27°  46'43	
max. Earth dist.	13554 Jan 07 23:35	29°  00'47	19.64068 AU	behind sun end	13560 Feb 06 22:25	27°  47'06	
morning rise	13554 Jan 24 21:53	0°  02'44		max. Earth dist.	13560 Feb 06 09:45	27°  45'09	19.43800 AU
	13554 Jan 24 03:39	0° 		morning rise	13560 Feb 23 10:29	28°  48'17	
retrograde	13554 Apr 28 19:28	3°  24'52			13560 Mar 28 02:35	0° 	
opposition	13554 Jul 12 15:17	1°  21'42	0°45'40	retrograde	13560 May 26 18:02	1°  31'58	
min. Earth dist.	13554 Jul 12 22:17	1°  20'57	17.61971 AU		13560 Jul 27 21:51	30°  R 	
	13554 Aug 16 00:13	30°  R 		opposition	13560 Aug 09 00:47	29°  48'39	0°13'46
direct	13554 Sep 25 12:12	29°  18'07		min. Earth dist.	13560 Aug 09 10:32	29°  47'35	17.42693 AU
	13554 Nov 04 05:50	0° 		direct	13560 Oct 23 03:42	27°  43'51	
evening set	13554 Dec 27 19:36	2°  39'11			13561 Jan 11 13:51	0° 	
				evening set	13561 Jan 25 10:18	0°  49'04	
conjunction	13555 Jan 13 09:13	3°  39'56	0°38'51				
minimum elong	13555 Jan 13 09:14	3°  39'56	0°39'47	conjunction	13561 Feb 11 00:22	1°  50'36	0°09'40
max. Earth dist.	13555 Jan 13 01:16	3°  38'42	19.59928 AU	minimum elong	13561 Feb 11 00:22	1°  50'36	0°10'16
morning rise	13555 Jan 29 22:52	4°  40'44		behind sun begin	13561 Feb 10 19:03	1°  51'48	
retrograde	13555 May 03 19:13	8°  43'16		behind sun end	13561 Feb 11 05:41	1°  51'25	

max. Earth dist.	13561 Feb 10 13:23	1° $\mathbf{\text{X}}$ 48'54	19.41691 AU	conjunction	13567 Mar 12 17:55	0° $\mathbf{\text{Y}}$ 15'40	-0°22'11
morning rise	13561 Feb 27 13:23	2° $\mathbf{\text{X}}$ 52'00		minimum elong	13567 Mar 12 17:55	0° $\mathbf{\text{Y}}$ 15'40	0°22'05
retrograde	13561 May 31 18:31	6° $\mathbf{\text{X}}$ 15'44		max. Earth dist.	13567 Mar 12 08:37	0° $\mathbf{\text{Y}}$ 14'13	19.40435 AU
opposition	13561 Aug 13 23:32	4° $\mathbf{\text{X}}$ 12'24	0°07'50	morning rise	13567 Mar 29 03:54	1° $\mathbf{\text{Y}}$ 16'47	
min. Earth dist.	13561 Aug 14 08:19	4° $\mathbf{\text{X}}$ 11'26	17.40810 AU	retrograde	13567 Jun 29 17:51	4° $\mathbf{\text{Y}}$ 39'34	
direct	13561 Oct 28 05:17	2° $\mathbf{\text{X}}$ 07'26		opposition	13567 Sep 11 19:07	2° $\mathbf{\text{Y}}$ 36'43	-0°27'28
evening set	13562 Jan 30 13:35	5° $\mathbf{\text{X}}$ 33'04		min. Earth dist.	13567 Sep 12 01:57	2° $\mathbf{\text{Y}}$ 35'58	17.41284 AU
				direct	13567 Nov 26 12:14	0° $\mathbf{\text{Y}}$ 31'32	
conjunction	13562 Feb 16 03:26	6° $\mathbf{\text{X}}$ 34'38	0°04'21	evening set	13568 Feb 29 08:59	3° $\mathbf{\text{Y}}$ 58'09	
minimum elong	13562 Feb 16 03:25	6° $\mathbf{\text{X}}$ 34'38	0°04'51				
behind sun begin	13562 Feb 15 20:51	6° $\mathbf{\text{X}}$ 33'38		conjunction	13568 Mar 16 20:17	4° $\mathbf{\text{Y}}$ 59'26	-0°27'09
behind sun end	13562 Feb 16 10:00	6° $\mathbf{\text{X}}$ 35'38		minimum elong	13568 Mar 16 20:16	4° $\mathbf{\text{Y}}$ 59'26	0°27'07
max. Earth dist.	13562 Feb 15 16:20	6° $\mathbf{\text{X}}$ 32'56	19.40050 AU	max. Earth dist.	13568 Mar 16 12:30	4° $\mathbf{\text{Y}}$ 58'13	19.42241 AU
morning rise	13562 Mar 04 16:04	7° $\mathbf{\text{X}}$ 36'04		morning rise	13568 Apr 02 05:21	6° $\mathbf{\text{Y}}$ 00'25	
retrograde	13562 Jun 05 17:18	10° $\mathbf{\text{X}}$ 59'46		retrograde	13568 Jul 03 16:37	9° $\mathbf{\text{Y}}$ 22'52	
opposition	13562 Aug 18 22:36	8° $\mathbf{\text{X}}$ 56'25	0°01'51	opposition	13568 Sep 15 18:38	7° $\mathbf{\text{Y}}$ 20'12	-0°32'54
min. Earth dist.	13562 Aug 19 08:17	8° $\mathbf{\text{X}}$ 55'22	17.39434 AU	min. Earth dist.	13568 Sep 16 01:47	7° $\mathbf{\text{Y}}$ 19'26	17.43332 AU
direct	13562 Nov 02 05:51	6° $\mathbf{\text{X}}$ 51'18		direct	13568 Nov 30 12:38	5° $\mathbf{\text{Y}}$ 15'09	
desc. node	13562 Dec 05 15:05	7° $\mathbf{\text{X}}$ 21'04		evening set	13569 Mar 05 11:40	8° $\mathbf{\text{Y}}$ 41'38	
evening set	13563 Feb 04 17:02	10° $\mathbf{\text{X}}$ 17'18					
conjunction	13563 Feb 21 06:38	11° $\mathbf{\text{X}}$ 18'53	-0°01'08	conjunction	13569 Mar 21 22:08	9° $\mathbf{\text{Y}}$ 42'46	-0°31'55
minimum elong	13563 Feb 21 06:38	11° $\mathbf{\text{X}}$ 18'53	0°00'41	minimum elong	13569 Mar 21 22:07	9° $\mathbf{\text{Y}}$ 42'45	0°32'00
behind sun begin	13563 Feb 20 23:54	11° $\mathbf{\text{X}}$ 17'52		max. Earth dist.	13569 Mar 21 13:42	9° $\mathbf{\text{Y}}$ 41'27	19.44524 AU
behind sun end	13563 Feb 21 13:21	11° $\mathbf{\text{X}}$ 19'54		morning rise	13569 Apr 07 06:37	10° $\mathbf{\text{Y}}$ 43'36	
max. Earth dist.	13563 Feb 20 19:45	11° $\mathbf{\text{X}}$ 17'12	19.38947 AU	retrograde	13569 Jul 08 16:21	14° $\mathbf{\text{Y}}$ 05'40	
morning rise	13563 Mar 09 18:55	12° $\mathbf{\text{X}}$ 20'17		opposition	13569 Sep 20 18:04	12° $\mathbf{\text{Y}}$ 03'11	-0°38'06
retrograde	13563 Jun 10 17:54	15° $\mathbf{\text{X}}$ 43'54		min. Earth dist.	13569 Sep 21 00:22	12° $\mathbf{\text{Y}}$ 02'30	17.45838 AU
opposition	13563 Aug 23 21:33	13° $\mathbf{\text{X}}$ 40'35	-0°04'09	direct	13569 Dec 05 14:20	9° $\mathbf{\text{Y}}$ 58'14	
min. Earth dist.	13563 Aug 24 06:01	13° $\mathbf{\text{X}}$ 39'39	17.38606 AU	evening set	13570 Mar 10 13:41	13° $\mathbf{\text{Y}}$ 24'30	
direct	13563 Nov 07 08:13	11° $\mathbf{\text{X}}$ 35'20					
evening set	13564 Feb 09 20:32	15° $\mathbf{\text{X}}$ 01'37		conjunction	13570 Mar 26 23:38	14° $\mathbf{\text{Y}}$ 25'28	-0°36'28
conjunction	13564 Feb 26 09:49	16° $\mathbf{\text{X}}$ 03'11	-0°06'32	minimum elong	13570 Mar 26 23:38	14° $\mathbf{\text{Y}}$ 25'28	0°36'37
minimum elong	13564 Feb 26 09:49	16° $\mathbf{\text{X}}$ 03'11	0°06'11	max. Earth dist.	13570 Mar 26 16:46	14° $\mathbf{\text{Y}}$ 24'24	19.47222 AU
behind sun begin	13564 Feb 26 03:26	16° $\mathbf{\text{X}}$ 02'13		morning rise	13570 Apr 12 07:11	15° $\mathbf{\text{Y}}$ 26'07	
behind sun end	13564 Feb 26 16:12	16° $\mathbf{\text{X}}$ 04'10		retrograde	13570 Jul 13 14:20	18° $\mathbf{\text{Y}}$ 47'45	
max. Earth dist.	13564 Feb 25 23:33	16° $\mathbf{\text{X}}$ 01'36	19.38401 AU	opposition	13570 Sep 25 17:29	16° $\mathbf{\text{Y}}$ 45'26	-0°43'03
morning rise	13564 Mar 13 21:30	17° $\mathbf{\text{X}}$ 04'34		min. Earth dist.	13570 Sep 25 23:48	16° $\mathbf{\text{Y}}$ 44'45	17.48721 AU
retrograde	13564 Jun 14 16:37	20° $\mathbf{\text{X}}$ 28'02		direct	13570 Dec 10 16:01	14° $\mathbf{\text{Y}}$ 40'38	
opposition	13564 Aug 27 20:56	18° $\mathbf{\text{X}}$ 24'46	-0°10'08	evening set	13571 Mar 15 15:36	18° $\mathbf{\text{Y}}$ 06'34	
min. Earth dist.	13564 Aug 28 06:00	18° $\mathbf{\text{X}}$ 23'47	17.38366 AU	conjunction	13571 Apr 01 00:38	19° $\mathbf{\text{Y}}$ 07'20	-0°40'46
direct	13564 Nov 11 08:30	16° $\mathbf{\text{X}}$ 19'28		minimum elong	13571 Apr 01 00:37	19° $\mathbf{\text{Y}}$ 07'20	0°41'00
evening set	13565 Feb 13 23:50	19° $\mathbf{\text{X}}$ 45'56		max. Earth dist.	13571 Mar 31 16:57	19° $\mathbf{\text{Y}}$ 06'08	19.50285 AU
conjunction	13565 Mar 02 12:37	20° $\mathbf{\text{X}}$ 47'28	-0°11'50	morning rise	13571 Apr 17 07:31	20° $\mathbf{\text{Y}}$ 07'47	
minimum elong	13565 Mar 02 12:37	20° $\mathbf{\text{X}}$ 47'27	0°11'34	retrograde	13571 Jul 18 11:59	23° $\mathbf{\text{Y}}$ 28'55	
behind sun begin	13565 Mar 02 07:51	20° $\mathbf{\text{X}}$ 46'44		opposition	13571 Sep 30 16:32	21° $\mathbf{\text{Y}}$ 26'46	-0°47'41
behind sun end	13565 Mar 02 17:23	20° $\mathbf{\text{X}}$ 48'11		min. Earth dist.	13571 Sep 30 22:23	21° $\mathbf{\text{Y}}$ 26'08	17.51963 AU
max. Earth dist.	13565 Mar 02 02:22	20° $\mathbf{\text{X}}$ 45'52	19.38471 AU	direct	13571 Dec 15 17:37	19° $\mathbf{\text{Y}}$ 22'04	
morning rise	13565 Mar 18 23:50	21° $\mathbf{\text{X}}$ 48'46		evening set	13572 Mar 19 16:45	22° $\mathbf{\text{Y}}$ 47'36	
retrograde	13565 Jun 19 17:47	25° $\mathbf{\text{X}}$ 12'04		conjunction	13572 Apr 05 01:11	23° $\mathbf{\text{Y}}$ 48'10	-0°44'46
opposition	13565 Sep 01 20:15	23° $\mathbf{\text{X}}$ 08'53	-0°16'03	minimum elong	13572 Apr 05 01:10	23° $\mathbf{\text{Y}}$ 48'10	0°45'06
min. Earth dist.	13565 Sep 02 03:51	23° $\mathbf{\text{X}}$ 08'04	17.38743 AU	max. Earth dist.	13572 Apr 04 18:59	23° $\mathbf{\text{Y}}$ 47'13	19.53685 AU
direct	13565 Nov 16 10:42	21° $\mathbf{\text{X}}$ 03'35		morning rise	13572 Apr 21 07:05	24° $\mathbf{\text{Y}}$ 48'24	
evening set	13566 Feb 19 03:02	24° $\mathbf{\text{X}}$ 30'10		retrograde	13572 Jul 22 09:20	28° $\mathbf{\text{Y}}$ 08'58	
conjunction	13566 Mar 07 15:26	25° $\mathbf{\text{X}}$ 31'38	-0°17'04	opposition	13572 Oct 04 15:31	26° $\mathbf{\text{Y}}$ 06'59	-0°51'59
minimum elong	13566 Mar 07 15:26	25° $\mathbf{\text{X}}$ 31'38	0°16'52	min. Earth dist.	13572 Oct 04 20:57	26° $\mathbf{\text{Y}}$ 06'24	17.55515 AU
max. Earth dist.	13566 Mar 07 06:30	25° $\mathbf{\text{X}}$ 30'15	19.39152 AU	direct	13572 Dec 19 19:43	24° $\mathbf{\text{Y}}$ 02'26	
morning rise	13566 Mar 24 01:54	26° $\mathbf{\text{X}}$ 32'52		evening set	13573 Mar 24 17:15	27° $\mathbf{\text{Y}}$ 27'27	
retrograde	13566 Jun 24 16:49	29° $\mathbf{\text{X}}$ 55'56		conjunction	13573 Apr 10 00:43	28° $\mathbf{\text{Y}}$ 27'47	-0°48'29
opposition	13566 Sep 06 19:43	27° $\mathbf{\text{X}}$ 52'54	-0°21'50	minimum elong	13573 Apr 10 00:43	28° $\mathbf{\text{Y}}$ 27'47	0°48'52
min. Earth dist.	13566 Sep 07 03:42	27° $\mathbf{\text{X}}$ 52'02	17.39728 AU	max. Earth dist.	13573 Apr 09 18:05	28° $\mathbf{\text{Y}}$ 26'45	19.57394 AU
direct	13566 Nov 21 10:33	25° $\mathbf{\text{X}}$ 47'38		morning rise	13573 Apr 26 05:56	29° $\mathbf{\text{Y}}$ 27'48	
evening set	13567 Feb 24 06:08	29° $\mathbf{\text{X}}$ 14'17			13573 May 05 06:02	0° $\mathbf{\text{B}}$	
	13567 Mar 08 13:45	0° $\mathbf{\text{Y}}$		retrograde	13573 Jul 27 05:25	2° $\mathbf{\text{B}}$ 47'46	
				opposition	13573 Oct 09 14:11	0° $\mathbf{\text{B}}$ 45'55	-0°55'56

min. Earth dist.	13573 Oct 09 19:19	0°845'22	17.59387 AU	min. Earth dist.	13579 Nov 06 21:05	28°806'26	17.89164 AU
	13573 Oct 27 21:14	30°84'00		direct	13580 Jan 22 13:53	26°803'17	
direct	13573 Dec 24 20:26	28°841'30		evening set	13580 Apr 25 22:16	29°823'06	
	13574 Feb 18 15:35	0°8			13580 May 06 02:50	0°8	
evening set	13574 Mar 29 16:59	2°805'56					
				conjunction	13580 May 12 00:14	0°821'36	-1°04'17
conjunction	13574 Apr 14 23:48	3°806'02	-0°51'51	minimum elong	13580 May 12 00:14	0°821'35	1°05'08
minimum elong	13574 Apr 14 23:48	3°806'02	0°52'20	max. Earth dist.	13580 May 12 00:03	0°821'34	19.92127 AU
max. Earth dist.	13574 Apr 14 18:37	3°805'14	19.61413 AU	morning rise	13580 May 28 00:03	1°819'47	
morning rise	13574 May 01 04:07	4°805'48		retrograde	13580 Aug 27 15:20	4°834'56	
retrograde	13574 Aug 01 01:55	7°825'07		opposition	13580 Nov 10 15:46	2°834'22	-1°11'59
opposition	13574 Oct 14 12:14	5°823'25	-0°59'30	min. Earth dist.	13580 Nov 10 14:32	2°834'30	17.95182 AU
min. Earth dist.	13574 Oct 14 16:33	5°822'57	17.63547 AU	direct	13581 Jan 26 11:08	0°831'29	
direct	13574 Dec 29 21:52	3°819'08		evening set	13581 Apr 30 16:04	3°850'25	
evening set	13575 Apr 03 16:06	6°842'55					
				conjunction	13581 May 16 17:20	4°848'39	-1°05'00
conjunction	13575 Apr 19 22:00	7°842'45	-0°54'53	minimum elong	13581 May 16 17:19	4°848'39	1°05'53
minimum elong	13575 Apr 19 22:00	7°842'45	0°55'26	max. Earth dist.	13581 May 16 18:24	4°848'48	19.98239 AU
max. Earth dist.	13575 Apr 19 16:43	7°841'56	19.65724 AU	morning rise	13581 Jun 01 16:28	5°846'35	
morning rise	13575 May 06 01:36	8°842'17		retrograde	13581 Sep 01 06:45	9°801'03	
retrograde	13575 Aug 05 20:41	12°800'55		opposition	13581 Nov 15 10:45	7°800'45	-1°12'32
opposition	13575 Oct 19 10:04	9°859'21	-1°02'39	min. Earth dist.	13581 Nov 15 09:46	7°800'51	18.01375 AU
min. Earth dist.	13575 Oct 19 14:16	9°858'54	17.68020 AU	direct	13582 Jan 31 05:50	4°858'14	
direct	13576 Jan 03 21:09	7°855'12		evening set	13582 May 05 09:14	8°816'16	
evening set	13576 Apr 07 14:11	11°818'16					
				conjunction	13582 May 21 09:46	9°814'13	-1°05'18
conjunction	13576 Apr 23 19:21	12°817'51	-0°57'32	minimum elong	13582 May 21 09:45	9°814'12	1°06'15
minimum elong	13576 Apr 23 19:20	12°817'51	0°58'10	max. Earth dist.	13582 May 21 11:10	9°814'25	20.04492 AU
max. Earth dist.	13576 Apr 23 15:29	12°817'15	19.70351 AU	morning rise	13582 Jun 06 08:22	10°811'53	
morning rise	13576 May 09 22:03	13°817'06		retrograde	13582 Sep 06 00:17	13°825'40	
	13576 Jun 09 22:32	15°8		opposition	13582 Nov 20 04:55	11°825'38	-1°12'39
retrograde	13576 Aug 09 16:14	16°835'02		min. Earth dist.	13582 Nov 20 02:18	11°825'54	18.07657 AU
	13576 Oct 12 21:20	15°88		direct	13583 Feb 05 02:01	9°823'27	
opposition	13576 Oct 23 07:22	14°833'37	-1°05'24	evening set	13583 May 10 01:37	12°840'35	
min. Earth dist.	13576 Oct 23 10:06	14°833'20	17.72800 AU				
direct	13577 Jan 07 21:30	12°829'38		conjunction	13583 May 26 01:31	13°838'15	-1°05'14
	13577 Mar 28 14:13	15°8		minimum elong	13583 May 26 01:31	13°838'15	1°06'12
evening set	13577 Apr 12 11:31	15°851'55		max. Earth dist.	13583 May 26 04:08	13°838'39	20.10786 AU
				morning rise	13583 Jun 10 23:28	14°835'40	
conjunction	13577 Apr 28 15:47	16°851'14	-0°59'49	retrograde	13583 Sep 10 14:12	17°848'46	
minimum elong	13577 Apr 28 15:46	16°851'14	1°00'31	opposition	13583 Nov 24 22:57	15°849'00	-1°12'20
max. Earth dist.	13577 Apr 28 12:31	16°850'44	19.75297 AU	min. Earth dist.	13583 Nov 24 20:47	15°849'13	18.13958 AU
morning rise	13577 May 14 17:45	17°850'14		direct	13584 Feb 09 19:56	13°847'10	
retrograde	13577 Aug 14 09:46	21°807'28		evening set	13584 May 13 17:07	17°803'21	
opposition	13577 Oct 28 04:14	19°806'12	-1°07'42				
min. Earth dist.	13577 Oct 28 06:47	19°805'56	17.77933 AU	conjunction	13584 May 29 16:18	18°800'45	-1°04'48
direct	13578 Jan 12 19:12	17°802'25		minimum elong	13584 May 29 16:18	18°800'45	1°05'48
evening set	13578 Apr 17 07:52	20°823'54		max. Earth dist.	13584 May 29 18:53	18°801'08	20.17075 AU
				morning rise	13584 Jun 14 13:49	18°857'54	
conjunction	13578 May 03 11:24	21°822'57	-1°01'42	retrograde	13584 Sep 14 06:29	22°810'21	
minimum elong	13578 May 03 11:24	21°822'57	1°02'27	opposition	13584 Nov 28 16:18	20°810'47	-1°11'37
max. Earth dist.	13578 May 03 09:22	21°822'38	19.80600 AU	min. Earth dist.	13584 Nov 28 12:33	20°811'10	18.20214 AU
morning rise	13578 May 19 12:37	22°821'41		direct	13585 Feb 13 15:34	18°809'17	
retrograde	13578 Aug 19 04:30	25°838'12		evening set	13585 May 18 07:49	21°824'31	
opposition	13578 Nov 02 00:32	23°837'08	-1°09'34				
min. Earth dist.	13578 Nov 02 01:14	23°837'04	17.83392 AU	conjunction	13585 Jun 03 06:32	22°821'39	-1°03'59
direct	13579 Jan 17 17:53	21°833'37		minimum elong	13585 Jun 03 06:32	22°821'39	1°05'00
evening set	13579 Apr 22 03:31	24°854'16		max. Earth dist.	13585 Jun 03 10:22	22°822'13	20.23280 AU
				morning rise	13585 Jun 19 03:28	23°818'33	
conjunction	13579 May 08 06:14	25°853'02	-1°03'12	retrograde	13585 Sep 18 18:47	26°830'19	
minimum elong	13579 May 08 06:14	25°853'02	1°04'00	opposition	13585 Dec 03 09:08	24°830'58	-1°10'30
max. Earth dist.	13579 May 08 05:10	25°852'53	19.86215 AU	min. Earth dist.	13585 Dec 03 05:56	24°831'17	18.26364 AU
morning rise	13579 May 24 06:41	26°851'30		direct	13586 Feb 18 08:17	22°829'45	
	13579 Aug 07 11:04	0°8		evening set	13586 May 22 21:50	25°844'02	
retrograde	13579 Aug 23 21:06	0°807'20					
	13579 Sep 09 12:49	30°88		conjunction	13586 Jun 07 19:55	26°840'54	-1°02'49
opposition	13579 Nov 06 20:25	28°806'30	-1°11'00	minimum elong	13586 Jun 07 19:55	26°840'54	1°03'52

max. Earth dist.	13586 Jun 07 23:20	26° Π 41'25	20.29364 AU	min. Earth dist.	13593 Jan 02 06:28	24° Θ 05'41	18.64970 AU
morning rise	13586 Jun 23 16:36	27° Π 37'34		direct	13593 Mar 20 17:00	22° Θ 05'20	
	13586 Aug 10 18:34	0° Θ		evening set	13593 Jun 21 00:49	25° Θ 13'05	
retrograde	13586 Sep 23 09:34	0° Θ 48'40					
	13586 Nov 07 10:55	30° κ Π		conjunction	13593 Jul 06 20:36	26° Θ 08'24	-0°45'54
opposition	13586 Dec 08 01:20	28° Π 49'28	-1°09'00	minimum elong	13593 Jul 06 20:36	26° Θ 08'24	0°46'54
min. Earth dist.	13586 Dec 07 20:46	28° Π 49'56	18.32361 AU	max. Earth dist.	13593 Jul 07 05:27	26° Θ 09'42	20.67446 AU
direct	13587 Feb 23 02:55	26° Π 48'32		morning rise	13593 Jul 22 15:46	27° Θ 03'40	
	13587 May 26 22:17	0° Θ			13593 Oct 01 23:57	0° Ω	
evening set	13587 May 27 10:54	0° Θ 01'50		retrograde	13593 Oct 22 12:13	0° Ω 10'45	
					13593 Nov 12 09:35	30° κ Θ	
conjunction	13587 Jun 12 08:35	0° Θ 58'28	-1°01'19	opposition	13594 Jan 07 02:46	28° Θ 12'19	-0°49'02
minimum elong	13587 Jun 12 08:35	0° Θ 58'28	1°02'22	min. Earth dist.	13594 Jan 06 18:39	28° Θ 13'08	18.69899 AU
max. Earth dist.	13587 Jun 12 13:20	0° Θ 59'10	20.35266 AU	direct	13594 Mar 25 04:26	26° Θ 13'04	
morning rise	13587 Jun 28 04:46	1° Θ 54'53		evening set	13594 Jun 25 09:02	29° Θ 20'01	
retrograde	13587 Sep 27 20:14	5° Θ 05'20			13594 Jul 06 20:52	0° Ω	
opposition	13587 Dec 12 17:07	3° Θ 06'16	-1°07'07				
min. Earth dist.	13587 Dec 12 13:02	3° Θ 06'42	18.38171 AU	conjunction	13594 Jul 11 04:30	0° Ω 15'11	-0°42'27
direct	13588 Feb 27 18:42	1° Θ 05'36		minimum elong	13594 Jul 11 04:30	0° Ω 15'11	0°43'25
evening set	13588 May 30 23:15	4° Θ 17'54		max. Earth dist.	13594 Jul 11 12:45	0° Ω 16'23	20.72279 AU
				morning rise	13594 Jul 26 23:49	1° Ω 10'18	
conjunction	13588 Jun 15 20:23	5° Θ 14'17	-0°59'29	retrograde	13594 Oct 26 22:38	4° Ω 17'00	
minimum elong	13588 Jun 15 20:23	5° Θ 14'17	1°00'31	opposition	13595 Jan 11 14:39	2° Ω 18'41	-0°45'04
max. Earth dist.	13588 Jun 16 00:44	5° Θ 14'55	20.40996 AU	min. Earth dist.	13595 Jan 11 05:37	2° Ω 19'36	18.74615 AU
morning rise	13588 Jul 01 16:26	6° Θ 10'29		direct	13595 Mar 29 15:28	0° Ω 19'43	
retrograde	13588 Oct 01 09:26	9° Θ 20'17		evening set	13595 Jun 29 16:32	3° Ω 25'57	
opposition	13588 Dec 16 08:08	7° Θ 21'19	-1°04'53				
min. Earth dist.	13588 Dec 16 02:41	7° Θ 21'52	18.43813 AU	conjunction	13595 Jul 15 12:01	4° Ω 20'57	-0°38'48
direct	13589 Mar 03 11:10	5° Θ 20'51		minimum elong	13595 Jul 15 12:01	4° Ω 20'57	0°39'43
evening set	13589 Jun 04 10:29	8° Θ 32'10		max. Earth dist.	13595 Jul 15 21:50	4° Ω 22'23	20.76857 AU
				morning rise	13595 Jul 31 07:11	5° Ω 15'57	
conjunction	13589 Jun 20 07:24	9° Θ 28'19	-0°57'19	retrograde	13595 Oct 31 07:20	8° Ω 22'18	
minimum elong	13589 Jun 20 07:24	9° Θ 28'19	0°58'23	opposition	13596 Jan 16 02:15	6° Ω 24'08	-0°40'54
max. Earth dist.	13589 Jun 20 13:22	9° Θ 29'12	20.46549 AU	min. Earth dist.	13596 Jan 15 17:13	6° Ω 25'02	18.79042 AU
morning rise	13589 Jul 06 03:05	10° Θ 24'19		direct	13596 Apr 02 01:43	4° Ω 25'27	
retrograde	13589 Oct 05 19:11	13° Θ 33'28		evening set	13596 Jul 02 23:52	7° Ω 30'59	
opposition	13589 Dec 20 22:37	11° Θ 34'35	-1°02'19				
min. Earth dist.	13589 Dec 20 17:24	11° Θ 35'07	18.49286 AU	conjunction	13596 Jul 18 19:06	8° Ω 25'51	-0°34'57
direct	13590 Mar 08 01:37	9° Θ 34'20		minimum elong	13596 Jul 18 19:06	8° Ω 25'51	0°35'51
evening set	13590 Jun 08 21:11	12° Θ 44'42		max. Earth dist.	13596 Jul 19 04:08	8° Ω 27'10	20.81134 AU
				morning rise	13596 Aug 03 14:31	9° Ω 20'44	
conjunction	13590 Jun 24 17:36	13° Θ 40'37	-0°54'52	retrograde	13596 Nov 03 17:17	12° Ω 26'48	
minimum elong	13590 Jun 24 17:36	13° Θ 40'37	0°55'54	opposition	13597 Jan 19 13:21	10° Ω 28'44	-0°36'33
max. Earth dist.	13590 Jun 24 23:15	13° Θ 41'27	20.51959 AU	min. Earth dist.	13597 Jan 19 03:48	10° Ω 29'41	18.83151 AU
morning rise	13590 Jul 10 13:14	14° Θ 36'25		direct	13597 Apr 06 11:41	8° Ω 30'18	
retrograde	13590 Oct 10 06:46	17° Θ 44'58		evening set	13597 Jul 07 06:39	11° Ω 35'12	
opposition	13590 Dec 25 12:21	15° Θ 46'11	-0°59'25				
min. Earth dist.	13590 Dec 25 05:43	15° Θ 46'51	18.54635 AU	conjunction	13597 Jul 23 02:00	12° Ω 29'57	-0°30'57
direct	13591 Mar 12 15:46	13° Θ 46'08		minimum elong	13597 Jul 23 02:01	12° Ω 29'57	0°31'48
evening set	13591 Jun 13 07:03	16° Θ 55'35		max. Earth dist.	13597 Jul 23 12:18	12° Ω 31'27	20.85047 AU
				morning rise	13597 Aug 07 21:24	13° Ω 24'44	
conjunction	13591 Jun 29 03:17	17° Θ 51'17	-0°52'08		13597 Sep 07 09:31	15° Ω	
minimum elong	13591 Jun 29 03:18	17° Θ 51'17	0°53'10	retrograde	13597 Nov 08 01:45	16° Ω 30'33	
max. Earth dist.	13591 Jun 29 10:44	17° Θ 52'23	20.57245 AU		13598 Jan 12 12:20	15° κ Ω	
morning rise	13591 Jul 14 22:35	18° Θ 46'53		opposition	13598 Jan 24 00:10	14° Ω 32'35	-0°32'02
retrograde	13591 Oct 14 16:18	21° Θ 54'54		min. Earth dist.	13598 Jan 23 14:49	14° Ω 33'31	18.86852 AU
opposition	13591 Dec 30 01:46	19° Θ 56'13	-0°56'14	direct	13598 Apr 10 21:04	12° Ω 34'24	
min. Earth dist.	13591 Dec 29 19:00	19° Θ 56'54	18.59862 AU		13598 Jun 29 20:54	15° Ω	
direct	13592 Mar 16 04:42	17° Θ 56'26		evening set	13598 Jul 11 13:20	15° Ω 38'43	
evening set	13592 Jun 16 16:14	21° Θ 04'59					
				conjunction	13598 Jul 27 08:30	16° Ω 33'21	-0°26'49
conjunction	13592 Jul 02 12:04	22° Θ 00'29	-0°49'09	minimum elong	13598 Jul 27 08:30	16° Ω 33'21	0°27'37
minimum elong	13592 Jul 02 12:04	22° Θ 00'29	0°50'09	max. Earth dist.	13598 Jul 27 17:41	16° Ω 34'40	20.88534 AU
max. Earth dist.	13592 Jul 02 19:12	22° Θ 01'32	20.62420 AU	morning rise	13598 Aug 12 04:10	17° Ω 28'02	
morning rise	13592 Jul 18 07:26	22° Θ 55'55		retrograde	13598 Nov 12 11:01	20° Ω 33'39	
retrograde	13592 Oct 18 03:07	26° Θ 03'27		opposition	13599 Jan 28 10:38	18° Ω 35'45	-0°27'22
opposition	13593 Jan 02 14:34	24° Θ 04'52	-0°52'45	min. Earth dist.	13599 Jan 28 01:10	18° Ω 36'42	18.90114 AU

direct	13599 Apr 15 05:59	16° Ω 37'46	
evening set	13599 Jul 15 19:36	19° Ω 41'32	
conjunction	13599 Jul 31 14:57	20° Ω 36'05	-0°22'33
minimum elong	13599 Jul 31 14:57	20° Ω 36'05	0°23'18
max. Earth dist.	13599 Aug 01 01:08	20° Ω 37'33	20.91550 AU
morning rise	13599 Aug 16 10:38	21° Ω 30'42	
retrograde	13599 Nov 16 19:26	24° Ω 36'08	
opposition	13600 Feb 01 20:54	22° Ω 38'16	-0°22'35
min. Earth dist.	13600 Feb 01 11:37	22° Ω 39'12	18.92875 AU
direct	13600 Apr 18 15:17	20° Ω 40'27	
evening set	13600 Jul 19 01:37	23° Ω 43'41	
conjunction	13600 Aug 03 20:54	24° Ω 38'09	-0°18'12
minimum elong	13600 Aug 03 20:54	24° Ω 38'09	0°18'53
max. Earth dist.	13600 Aug 04 05:50	24° Ω 39'26	20.94062 AU
morning rise	13600 Aug 19 17:00	25° Ω 32'43	
retrograde	13600 Nov 20 04:10	28° Ω 38'01	
opposition	13601 Feb 05 06:49	26° Ω 40'08	-0°17'42
min. Earth dist.	13601 Feb 04 21:40	26° Ω 41'02	18.95134 AU
direct	13601 Apr 22 22:57	24° Ω 42'25	
evening set	13601 Jul 23 07:19	27° Ω 45'11	
conjunction	13601 Aug 08 02:54	28° Ω 39'35	-0°13'45
minimum elong	13601 Aug 08 02:54	28° Ω 39'35	0°14'23
behind sun begin	13601 Aug 07 23:48	28° Ω 39'09	
behind sun end	13601 Aug 08 06:00	28° Ω 40'01	
max. Earth dist.	13601 Aug 08 12:46	28° Ω 41'00	20.96065 AU
morning rise	13601 Aug 23 23:06	29° Ω 34'06	
	13601 Aug 31 17:45	0° Υ	
retrograde	13601 Nov 24 12:03	2° Υ 39'16	