

opposition	7600 Feb 12 03:03	23°05'07" -11°52'43"	evening set	7606 Aug 05 02:44	29°05'59"
min. Earth dist.	7600 Feb 12 06:46	23°05'45" 47.41625 AU		7606 Aug 10 23:47	0°00'
direct	7600 May 03 20:37	22°05'22"			
evening set	7600 Jul 31 01:41	24°08'28"	conjunction	7606 Aug 16 21:18	0°08'06" -10°04'10"
			minimum elong	7606 Aug 16 21:30	0°08'07" 10°04'13"
conjunction	7600 Aug 10 12:06	24°02'23" -11°18'19"	max. Earth dist.	7606 Aug 16 10:19	0°07'28" 48.71631 AU
minimum elong	7600 Aug 10 12:18	24°02'23" 11°18'22"	morning rise	7606 Aug 28 17:39	0°24'20"
max. Earth dist.	7600 Aug 10 08:23	24°02'26" 49.33123 AU	retrograde	7606 Nov 27 08:58	1°38'04"
morning rise	7600 Aug 20 23:50	24°03'55"	opposition	7607 Feb 18 12:32	0°38'13" -10°22'59"
retrograde	7600 Nov 20 21:40	25°05'14"	min. Earth dist.	7607 Feb 18 22:40	0°37'45" 46.69067 AU
opposition	7601 Feb 12 07:47	24°05'25" -11°40'35"		7607 Mar 26 23:01	30°00'
min. Earth dist.	7601 Feb 12 12:24	24°05'21" 47.32494 AU	direct	7607 May 11 03:03	29°03'53"
direct	7601 May 05 01:13	23°05'35"		7607 Jun 24 17:53	0°00'
evening set	7601 Aug 01 01:38	25°05'27"	evening set	7607 Aug 06 03:24	0°04'49"
conjunction	7601 Aug 11 17:35	25°01'59" -11°06'31"	conjunction	7607 Aug 18 03:06	1°06'15" -9°50'59"
minimum elong	7601 Aug 11 17:46	25°01'59" 11°06'35"	minimum elong	7607 Aug 18 03:17	1°06'15" 9°51'02"
max. Earth dist.	7601 Aug 11 11:30	25°01'38" 49.23884 AU	max. Earth dist.	7607 Aug 17 15:37	1°05'35" 48.60264 AU
morning rise	7601 Aug 22 11:07	25°03'45"	morning rise	7607 Aug 30 04:26	1°22'47"
retrograde	7601 Nov 22 05:57	26°04'15"	retrograde	7607 Nov 28 14:55	2°36'23"
opposition	7602 Feb 13 12:24	25°04'46" -11°28'14"	opposition	7608 Feb 19 17:37	1°36'29" -10°09'11"
min. Earth dist.	7602 Feb 13 18:06	25°04'30" 47.22866 AU	min. Earth dist.	7608 Feb 20 05:08	1°35'56" 46.57422 AU
direct	7602 May 06 02:47	24°05'05"	direct	7608 May 11 07:07	0°37'04"
evening set	7602 Aug 02 01:32	26°02'32"	evening set	7608 Aug 06 04:18	1°04'55"
conjunction	7602 Aug 12 23:09	26°01'23" -10°54'30"	conjunction	7608 Aug 18 08:55	2°04'39" -9°37'34"
minimum elong	7602 Aug 12 23:21	26°01'24" 10°54'33"	minimum elong	7608 Aug 18 09:07	2°04'40" 9°37'38"
max. Earth dist.	7602 Aug 12 16:14	26°01'00" 49.14158 AU	max. Earth dist.	7608 Aug 17 20:48	2°03'57" 48.48625 AU
morning rise	7602 Aug 23 22:15	26°03'20"	morning rise	7608 Aug 30 15:10	2°21'30"
retrograde	7602 Nov 23 09:48	27°04'46"	retrograde	7608 Nov 28 19:07	3°35'00"
opposition	7603 Feb 14 17:14	26°04'13" -11°15'40"	opposition	7609 Feb 19 22:39	2°35'02" -9°55'09"
min. Earth dist.	7603 Feb 15 00:41	26°04'52" 47.12782 AU	min. Earth dist.	7609 Feb 20 10:07	2°34'29" 46.45475 AU
direct	7603 May 07 08:06	25°04'13"	direct	7609 May 12 12:39	1°35'33"
evening set	7603 Aug 03 01:31	26°05'42"	evening set	7609 Aug 07 05:38	2°04'19"
conjunction	7603 Aug 14 04:32	27°01'45" -10°42'15"	conjunction	7609 Aug 19 14:58	3°03'22" -9°23'56"
minimum elong	7603 Aug 14 04:42	27°01'45" 10°42'19"	minimum elong	7609 Aug 19 15:09	3°03'23" 9°23'58"
max. Earth dist.	7603 Aug 13 20:54	27°01'42" 49.04026 AU	max. Earth dist.	7609 Aug 19 00:58	3°02'33" 48.36637 AU
morning rise	7603 Aug 25 09:01	27°03'08"	morning rise	7609 Sep 01 02:09	3°20'31"
retrograde	7603 Nov 24 12:18	28°04'23"	retrograde	7609 Nov 30 00:36	4°33'56"
opposition	7604 Feb 15 21:59	27°04'44" -11°02'52"	opposition	7610 Feb 21 03:49	3°33'55" -9°40'52"
min. Earth dist.	7604 Feb 16 05:26	27°04'23" 47.02320 AU	min. Earth dist.	7610 Feb 21 17:21	3°33'16" 46.33160 AU
direct	7604 May 07 15:14	26°04'53"	direct	7610 May 13 19:12	2°34'21"
evening set	7604 Aug 03 01:46	27°05'59"	evening set	7610 Aug 08 07:06	3°04'50"
conjunction	7604 Aug 14 10:03	28°01'28" -10°29'48"	conjunction	7610 Aug 20 21:16	4°02'24" -9°10'03"
minimum elong	7604 Aug 14 10:14	28°01'29" 10°29'51"	minimum elong	7610 Aug 20 21:27	4°02'25" 9°10'06"
max. Earth dist.	7604 Aug 14 00:37	28°01'56" 48.93527 AU	max. Earth dist.	7610 Aug 20 07:03	4°01'35" 48.24247 AU
morning rise	7604 Aug 25 20:02	28°02'03"	morning rise	7610 Sep 02 12:59	4°19'52"
retrograde	7604 Nov 24 18:29	29°04'07"	retrograde	7610 Dec 01 07:05	5°33'12"
opposition	7605 Feb 16 02:48	28°04'24" -10°49'49"	opposition	7611 Feb 22 09:07	4°33'06" -9°26'20"
min. Earth dist.	7605 Feb 16 12:00	28°04'15" 46.91528 AU	min. Earth dist.	7611 Feb 22 23:21	4°32'25" 46.20400 AU
direct	7605 May 08 20:40	27°04'13"	direct	7611 May 15 01:13	3°33'27"
evening set	7605 Aug 04 02:07	28°05'42"	evening set	7611 Aug 09 08:50	4°04'40"
			max. Earth dist.	7611 Aug 21 10:53	5°00'47" 48.11389 AU
conjunction	7605 Aug 15 15:46	29°01'12" -10°17'06"	conjunction	7611 Aug 22 03:25	5°01'44" -8°55'57"
minimum elong	7605 Aug 15 15:56	29°01'12" 10°17'09"	minimum elong	7611 Aug 22 03:36	5°01'45" 8°56'00"
max. Earth dist.	7605 Aug 15 06:27	29°00'40" 48.82721 AU	morning rise	7611 Sep 03 23:51	5°19'30"
morning rise	7605 Aug 27 06:51	29°02'06"	retrograde	7611 Dec 02 17:20	6°32'45"
	7605 Sep 23 00:53	0°00'	opposition	7612 Feb 23 14:37	5°32'34" -9°11'36"
retrograde	7605 Nov 26 00:14	0°04'00"	min. Earth dist.	7612 Feb 24 06:01	5°31'50" 46.07156 AU
	7606 Jan 30 12:49	30°00'	direct	7612 May 15 02:48	4°32'48"
opposition	7606 Feb 17 07:38	29°04'01" -10°36'31"	evening set	7612 Aug 09 10:48	5°04'23"
min. Earth dist.	7606 Feb 17 17:05	29°03'46" 46.80431 AU			
direct	7606 May 10 01:44	28°04'05"			

conjunction	7612 Aug 22 09:59	6°01'20	-8°41'38	direct	7619 May 22 18:49	11°03'38	
minimum elong	7612 Aug 22 10:09	6°01'20	8°41'42	evening set	7619 Aug 16 06:19	12°04'41	
max. Earth dist.	7612 Aug 21 16:26	6°00'19	47.98016 AU	max. Earth dist.	7619 Aug 29 08:19	13°02'35	46.93259 AU
morning rise	7612 Sep 04 10:52	6°19'23					
retrograde	7612 Dec 03 00:15	7°32'33		conjunction	7619 Aug 30 09:38	13°04'05	-6°54'58
opposition	7613 Feb 23 20:08	6°32'15	-8°56'37	minimum elong	7619 Aug 30 09:47	13°04'06	6°55'01
min. Earth dist.	7613 Feb 24 13:25	6°31'25	45.93394 AU	morning rise	7619 Sep 13 14:49	13°24'06	
direct	7613 May 16 07:27	5°32'21		retrograde	7619 Dec 10 21:34	14°37'04	
evening set	7613 Aug 10 13:03	6°42'53		opposition	7620 Mar 02 13:20	13°35'50	-7°04'54
				min. Earth dist.	7620 Mar 03 12:55	13°34'41	44.86602 AU
				direct	7620 May 23 01:50	12°34'54	
				evening set	7620 Aug 16 10:04	13°45'32	
conjunction	7613 Aug 23 16:36	7°01'07	-8°27'07				
minimum elong	7613 Aug 23 16:46	7°01'08	8°27'09				
max. Earth dist.	7613 Aug 22 21:53	7°00'02	47.84157 AU				
morning rise	7613 Sep 05 21:49	7°19'28		conjunction	7620 Aug 30 17:07	14°05'42	-6°38'45
retrograde	7613 Dec 04 04:30	8°32'32		minimum elong	7620 Aug 30 17:15	14°05'42	6°38'47
opposition	7614 Feb 25 01:40	7°32'07	-8°41'25	max. Earth dist.	7620 Aug 29 15:56	14°04'12	46.77159 AU
min. Earth dist.	7614 Feb 25 19:16	7°31'16	45.79160 AU	morning rise	7620 Sep 14 01:43	14°25'59	
direct	7614 May 17 14:44	6°32'04		retrograde	7620 Dec 11 03:46	15°39'01	
evening set	7614 Aug 11 15:24	7°42'34		opposition	7621 Mar 03 19:36	14°37'41	-6°47'53
				min. Earth dist.	7621 Mar 04 19:23	14°36'31	44.70237 AU
				direct	7621 May 24 09:23	13°36'38	
				evening set	7621 Aug 17 14:20	14°47'22	
				max. Earth dist.	7621 Aug 30 21:24	15°06'11	46.60761 AU
conjunction	7614 Aug 24 23:06	8°01'05	-8°12'21				
minimum elong	7614 Aug 24 23:15	8°01'05	8°12'24				
max. Earth dist.	7614 Aug 24 02:19	7°59'52	47.69830 AU				
morning rise	7614 Sep 07 08:42	8°19'42					
retrograde	7614 Dec 05 09:31	9°32'43		conjunction	7621 Sep 01 00:40	15°07'48	-6°22'17
opposition	7615 Feb 26 07:23	8°32'09	-8°25'58	minimum elong	7621 Sep 01 00:49	15°07'49	6°22'19
min. Earth dist.	7615 Feb 27 02:58	8°31'12	45.64501 AU	morning rise	7621 Sep 15 12:53	15°28'22	
direct	7615 May 18 21:54	7°31'57		retrograde	7621 Dec 12 14:56	16°41'29	
evening set	7615 Aug 12 17:52	8°42'25		opposition	7622 Mar 05 02:10	15°40'04	-6°30'37
max. Earth dist.	7615 Aug 25 09:06	8°59'59	47.55115 AU	min. Earth dist.	7622 Mar 06 03:13	15°38'50	44.53551 AU
				direct	7622 May 25 12:16	14°38'52	
				evening set	7622 Aug 18 18:43	15°49'45	
				max. Earth dist.	7622 Sep 01 04:35	16°08'47	46.43981 AU
conjunction	7615 Aug 26 05:52	9°01'12	-7°57'22				
minimum elong	7615 Aug 26 06:02	9°01'13	7°57'24				
morning rise	7615 Sep 08 19:27	9°20'07					
retrograde	7615 Dec 06 14:58	10°33'04		conjunction	7622 Sep 02 08:28	16°10'27	-6°05'34
opposition	7616 Feb 27 13:05	9°32'22	-8°10'16	minimum elong	7622 Sep 02 08:36	16°10'27	6°05'35
min. Earth dist.	7616 Feb 28 08:55	9°31'25	45.49477 AU	morning rise	7622 Sep 16 23:50	16°31'16	
direct	7616 May 19 05:00	8°32'00		retrograde	7622 Dec 14 00:17	17°44'31	
evening set	7616 Aug 12 20:40	9°42'27		opposition	7623 Mar 06 08:57	16°42'58	-6°13'06
				min. Earth dist.	7623 Mar 07 11:32	16°41'40	44.36446 AU
				direct	7623 May 26 17:09	15°41'39	
				evening set	7623 Aug 19 23:35	16°52'40	
				max. Earth dist.	7623 Sep 02 11:17	17°11'53	46.26771 AU
conjunction	7616 Aug 26 12:33	10°01'31	-7°42'08				
minimum elong	7616 Aug 26 12:42	10°01'32	7°42'10				
max. Earth dist.	7616 Aug 25 13:56	10°00'12	47.40065 AU				
morning rise	7616 Sep 09 06:21	10°20'43					
retrograde	7616 Dec 07 00:15	11°33'38		conjunction	7623 Sep 03 16:30	17°13'38	-5°48'37
opposition	7617 Feb 27 18:57	10°32'47	-7°54'19	minimum elong	7623 Sep 03 16:38	17°13'38	5°48'39
min. Earth dist.	7617 Feb 28 15:48	10°31'47	45.34151 AU	morning rise	7623 Sep 18 11:06	17°34'43	
direct	7617 May 20 08:34	9°32'16		retrograde	7623 Dec 15 08:22	18°48'04	
evening set	7617 Aug 13 23:40	10°42'43		opposition	7624 Mar 06 15:48	17°46'24	-5°55'20
				min. Earth dist.	7624 Mar 07 18:54	17°45'03	44.18889 AU
				direct	7624 May 27 00:15	16°44'54	
				evening set	7624 Aug 20 04:47	17°56'05	
				max. Earth dist.	7624 Sep 02 17:19	18°15'25	46.09069 AU
conjunction	7617 Aug 27 19:35	11°02'04	-7°26'40				
minimum elong	7617 Aug 27 19:44	11°02'05	7°26'42				
max. Earth dist.	7617 Aug 26 20:26	11°00'43	47.24711 AU				
morning rise	7617 Sep 10 17:11	11°21'32					
retrograde	7617 Dec 08 08:06	12°34'26		conjunction	7624 Sep 04 00:45	18°17'19	-5°31'26
opposition	7618 Mar 01 00:52	11°33'28	-7°38'07	minimum elong	7624 Sep 04 00:53	18°17'19	5°31'27
min. Earth dist.	7618 Mar 01 22:58	11°32'23	45.18540 AU	morning rise	7624 Sep 18 22:29	18°38'40	
direct	7618 May 21 13:20	10°32'48		retrograde	7624 Dec 15 15:23	19°52'07	
evening set	7618 Aug 15 02:56	11°43'17		opposition	7625 Mar 07 23:01	18°50'18	-5°37'19
max. Earth dist.	7618 Aug 28 02:48	12°01'30	47.09110 AU	min. Earth dist.	7625 Mar 09 04:20	18°48'51	44.00837 AU
				direct	7625 May 28 08:50	17°48'38	
				evening set	7625 Aug 21 10:16	18°59'58	
				max. Earth dist.	7625 Sep 04 01:28	19°19'32	45.90884 AU
conjunction	7618 Aug 29 02:37	12°02'54	-7°10'57				
minimum elong	7618 Aug 29 02:46	12°02'55	7°10'58				
morning rise	7618 Sep 12 04:01	12°22'39					
retrograde	7618 Dec 09 15:17	13°35'33		conjunction	7625 Sep 05 09:19	19°21'27	-5°14'01
opposition	7619 Mar 02 06:56	12°34'27	-7°21'38	minimum elong	7625 Sep 05 09:26	19°21'28	5°14'02
min. Earth dist.	7619 Mar 03 04:48	12°33'23	45.02693 AU	morning rise	7625 Sep 20 09:49	19°43'03	

retrograde	7625 Dec 16 21:42	20° <u>17</u> 56'38	conjunction	7632 Sep 13 01:18	27° <u>17</u> 02'41 -3°05'10
opposition	7626 Mar 09 06:09	19° <u>17</u> 54'39 -5°19'02	minimum elong	7632 Sep 13 01:23	27° <u>17</u> 02'41 3°05'11
min. Earth dist.	7626 Mar 10 11:52	19° <u>17</u> 53'10 43.82314 AU	morning rise	7632 Sep 28 18:14	27° <u>17</u> 25'56
direct	7626 May 29 17:59	18° <u>17</u> 52'48	retrograde	7632 Dec 24 16:33	28° <u>17</u> 40'54
evening set	7626 Aug 22 16:09	20° <u>17</u> 04'17	opposition	7633 Mar 16 14:00	27° <u>17</u> 37'32 -3°03'41
max. Earth dist.	7626 Sep 05 07:43	20° <u>17</u> 23'57 45.72253 AU	min. Earth dist.	7633 Mar 18 02:11	27° <u>17</u> 35'41 42.43776 AU
conjunction	7626 Sep 06 17:51	20° <u>17</u> 26'01 -4°56'21	direct	7633 Jun 05 21:04	26° <u>17</u> 34'09
minimum elong	7626 Sep 06 17:58	20° <u>17</u> 26'01 4°56'22	evening set	7633 Aug 29 17:59	27° <u>17</u> 47'22
morning rise	7626 Sep 21 21:18	20° <u>17</u> 47'52	max. Earth dist.	7633 Sep 12 18:59	28° <u>17</u> 08'12 44.33331 AU
retrograde	7626 Dec 18 07:54	22° <u>17</u> 01'35	conjunction	7633 Sep 14 11:24	28° <u>17</u> 10'43 -2°45'45
opposition	7627 Mar 10 13:36	20° <u>17</u> 59'25 -5°00'31	minimum elong	7633 Sep 14 11:28	28° <u>17</u> 10'43 2°45'45
min. Earth dist.	7627 Mar 11 20:50	20° <u>17</u> 57'52 43.63386 AU	morning rise	7633 Sep 30 06:09	28° <u>17</u> 34'11
direct	7627 May 30 23:33	19° <u>17</u> 57'21	retrograde	7633 Dec 26 05:30	29° <u>17</u> 49'27
evening set	7627 Aug 23 22:01	21° <u>17</u> 09'01	opposition	7634 Mar 17 22:43	28° <u>17</u> 45'54 -2°43'16
max. Earth dist.	7627 Sep 06 15:53	21° <u>17</u> 28'53 45.53223 AU	min. Earth dist.	7634 Mar 19 11:26	28° <u>17</u> 44'02 42.23001 AU
conjunction	7627 Sep 08 02:32	21° <u>17</u> 30'59 -4°38'27	direct	7634 Jun 07 03:21	27° <u>17</u> 42'17
minimum elong	7627 Sep 08 02:38	21° <u>17</u> 31'00 4°38'28	evening set	7634 Aug 31 02:51	28° <u>17</u> 55'53
morning rise	7627 Sep 23 08:30	21° <u>17</u> 53'04	max. Earth dist.	7634 Sep 14 03:50	29° <u>17</u> 16'49 44.12441 AU
retrograde	7627 Dec 19 18:13	23° <u>17</u> 06'58	conjunction	7634 Sep 15 21:51	29° <u>17</u> 19'27 -2°26'05
opposition	7628 Mar 10 21:14	22° <u>17</u> 04'35 -4°41'43	minimum elong	7634 Sep 15 21:55	29° <u>17</u> 19'27 2°26'05
min. Earth dist.	7628 Mar 12 05:37	22° <u>17</u> 02'58 43.44088 AU	morning rise	7634 Oct 01 18:06	29° <u>17</u> 43'07
direct	7628 May 31 05:24	21° <u>17</u> 02'18	retrograde	7634 Oct 13 13:55	0° <u>17</u> 00'00
evening set	7628 Aug 24 04:29	22° <u>17</u> 14'10	retrograde	7634 Dec 27 17:26	0° <u>17</u> 58'43
max. Earth dist.	7628 Sep 06 23:45	22° <u>17</u> 34'12 45.33867 AU	opposition	7635 Mar 15 05:59	30° <u>17</u> 00'00
conjunction	7628 Sep 08 11:29	22° <u>17</u> 36'23 -4°20'18	min. Earth dist.	7635 Mar 19 07:57	29° <u>17</u> 54'58 -2°22'34
minimum elong	7628 Sep 08 11:35	22° <u>17</u> 36'23 4°20'19	direct	7635 Mar 20 22:38	29° <u>17</u> 52'59 42.01880 AU
morning rise	7628 Sep 23 20:01	22° <u>17</u> 58'42	evening set	7635 Jun 08 12:02	28° <u>17</u> 51'08
retrograde	7628 Dec 20 06:04	24° <u>17</u> 12'45	max. Earth dist.	7635 Aug 29 00:07	0° <u>17</u> 00'00
opposition	7629 Mar 12 04:49	23° <u>17</u> 10'11 -4°22'39	evening set	7635 Sep 01 12:01	0° <u>17</u> 05'06
min. Earth dist.	7629 Mar 13 13:23	23° <u>17</u> 08'33 43.24496 AU	max. Earth dist.	7635 Sep 15 14:08	0° <u>17</u> 26'13 43.91182 AU
direct	7629 Jun 01 10:54	22° <u>17</u> 07'39	conjunction	7635 Sep 17 08:32	0° <u>17</u> 28'53 -2°06'10
evening set	7629 Aug 25 11:18	23° <u>17</u> 19'45	minimum elong	7635 Sep 17 08:35	0° <u>17</u> 28'53 2°06'10
max. Earth dist.	7629 Sep 08 07:23	23° <u>17</u> 39'55 45.14213 AU	morning rise	7635 Oct 03 06:06	0° <u>17</u> 52'46
conjunction	7629 Sep 09 20:38	23° <u>17</u> 42'12 -4°01'54	retrograde	7635 Dec 29 03:16	2° <u>17</u> 08'42
minimum elong	7629 Sep 09 20:44	23° <u>17</u> 42'13 4°01'55	opposition	7636 Mar 19 17:21	1° <u>17</u> 04'44 -2°01'37
morning rise	7629 Sep 25 07:33	24° <u>17</u> 04'46	min. Earth dist.	7636 Mar 21 08:14	1° <u>17</u> 02'44 41.80359 AU
retrograde	7629 Dec 21 14:15	25° <u>17</u> 19'00	direct	7636 Jun 08 23:05	0° <u>17</u> 00'39
opposition	7630 Mar 13 12:51	24° <u>17</u> 16'13 -4°03'19	evening set	7636 Sep 01 21:58	1° <u>17</u> 15'01
min. Earth dist.	7630 Mar 14 23:12	24° <u>17</u> 14'29 43.04641 AU	max. Earth dist.	7636 Sep 15 22:42	1° <u>17</u> 36'09 43.69493 AU
direct	7630 Jun 02 19:18	23° <u>17</u> 13'29	conjunction	7636 Sep 17 19:36	1° <u>17</u> 39'00 -1°46'01
evening set	7630 Aug 26 18:14	24° <u>17</u> 25'49	minimum elong	7636 Sep 17 19:39	1° <u>17</u> 39'00 1°46'02
max. Earth dist.	7630 Sep 09 16:47	24° <u>17</u> 46'12 44.94323 AU	morning rise	7636 Oct 03 18:30	2° <u>17</u> 03'05
conjunction	7630 Sep 11 05:55	24° <u>17</u> 48'29 -3°43'15	retrograde	7636 Dec 29 14:12	3° <u>17</u> 19'23
minimum elong	7630 Sep 11 06:01	24° <u>17</u> 48'30 3°43'16	opposition	7637 Mar 21 03:01	2° <u>17</u> 15'11 -1°40'23
morning rise	7630 Sep 26 18:54	25° <u>17</u> 11'17	min. Earth dist.	7637 Mar 22 19:57	2° <u>17</u> 13'04 41.58417 AU
retrograde	7630 Dec 22 20:15	26° <u>17</u> 25'44	direct	7637 Jun 10 08:00	1° <u>17</u> 10'50
opposition	7631 Mar 14 20:57	25° <u>17</u> 22'45 -3°43'43	evening set	7637 Sep 03 08:12	2° <u>17</u> 25'37
min. Earth dist.	7631 Mar 16 07:05	25° <u>17</u> 21'01 42.84562 AU	max. Earth dist.	7637 Sep 17 09:39	2° <u>17</u> 46'54 43.47376 AU
direct	7631 Jun 04 06:21	24° <u>17</u> 19'47	conjunction	7637 Sep 19 07:05	2° <u>17</u> 49'47 -1°25'37
evening set	7631 Aug 28 01:46	25° <u>17</u> 32'23	minimum elong	7637 Sep 19 07:07	2° <u>17</u> 49'48 1°25'37
max. Earth dist.	7631 Sep 11 00:19	25° <u>17</u> 52'52 44.74219 AU	morning rise	7637 Oct 05 06:49	3° <u>17</u> 14'04
conjunction	7631 Sep 12 15:23	25° <u>17</u> 55'18 -3°24'20	retrograde	7637 Dec 31 00:29	4° <u>17</u> 30'44
minimum elong	7631 Sep 12 15:28	25° <u>17</u> 55'18 3°24'21	opposition	7638 Mar 22 12:59	3° <u>17</u> 26'18 -1°18'54
morning rise	7631 Sep 28 06:34	26° <u>17</u> 18'19	min. Earth dist.	7638 Mar 24 06:45	3° <u>17</u> 24'07 41.36061 AU
retrograde	7631 Dec 24 06:25	27° <u>17</u> 33'00	direct	7638 Jun 11 17:57	2° <u>17</u> 21'40
opposition	7632 Mar 15 05:20	26° <u>17</u> 29'50 -3°23'50	evening set	7638 Sep 04 18:51	3° <u>17</u> 36'53
min. Earth dist.	7632 Mar 16 16:43	26° <u>17</u> 28'02 42.64287 AU	max. Earth dist.	7638 Sep 18 19:20	3° <u>17</u> 58'13 43.24877 AU
direct	7632 Jun 04 13:31	25° <u>17</u> 26'39	conjunction	7638 Sep 20 18:29	4° <u>17</u> 01'14 -1°04'59
evening set	7632 Aug 28 09:34	26° <u>17</u> 39'33	minimum elong	7638 Sep 20 18:31	4° <u>17</u> 01'14 1°04'59
max. Earth dist.	7632 Sep 11 10:10	27° <u>17</u> 00'15 44.53898 AU	morning rise	7638 Oct 06 19:11	4° <u>17</u> 25'42
			retrograde	7639 Jan 01 14:43	5° <u>17</u> 42'46

opposition	7639 Mar 23 23:08	4° <u>♁</u> 38'04	-0°57'09	max. Earth dist.	7645 Sep 27 07:37	12° <u>♁</u> 38'54	41.60996 AU
min. Earth dist.	7639 Mar 25 17:37	4° <u>♁</u> 35'51	41.13361 AU				
direct	7639 Jun 13 01:10	3° <u>♁</u> 33'08		conjunction	7645 Sep 29 12:20	12° <u>♁</u> 42'25	1°26'12
evening set	7639 Sep 06 06:02	4° <u>♁</u> 48'49		minimum elong	7645 Sep 29 12:17	12° <u>♁</u> 42'25	1°26'14
max. Earth dist.	7639 Sep 20 06:04	5° <u>♁</u> 10'14	43.02035 AU	morning rise	7645 Oct 15 12:47	13° <u>♁</u> 07'57	
				retrograde	7646 Jan 10 14:00	14° <u>♁</u> 28'43	
conjunction	7639 Sep 22 06:24	5° <u>♁</u> 13'21	-0°44'06	opposition	7646 Apr 01 06:41	13° <u>♁</u> 22'09	1°42'23
minimum elong	7639 Sep 22 06:25	5° <u>♁</u> 13'21	0°44'05	min. Earth dist.	7646 Apr 03 05:59	13° <u>♁</u> 19'35	39.48935 AU
morning rise	7639 Oct 08 07:38	5° <u>♁</u> 37'59		direct	7646 Jun 21 03:29	12° <u>♁</u> 15'07	
retrograde	7640 Jan 03 03:32	6° <u>♁</u> 55'29		evening set	7646 Sep 15 03:26	13° <u>♁</u> 35'02	
opposition	7640 Mar 24 09:35	5° <u>♁</u> 50'31	-0°35'08	max. Earth dist.	7646 Sep 28 20:06	13° <u>♁</u> 56'57	41.36977 AU
min. Earth dist.	7640 Mar 26 05:45	5° <u>♁</u> 48'11	40.90362 AU				
direct	7640 Jun 13 10:14	4° <u>♁</u> 45'17		conjunction	7646 Oct 01 02:32	14° <u>♁</u> 00'37	1°48'42
evening set	7640 Sep 06 17:38	6° <u>♁</u> 01'26		minimum elong	7646 Oct 01 02:29	14° <u>♁</u> 00'36	1°48'44
max. Earth dist.	7640 Sep 20 17:55	6° <u>♁</u> 23'00	42.78934 AU	morning rise	7646 Oct 17 02:03	14° <u>♁</u> 26'15	
				retrograde	7647 Jan 12 04:31	15° <u>♁</u> 47'42	
conjunction	7640 Sep 22 18:35	6° <u>♁</u> 26'09	-0°22'59	opposition	7647 Apr 02 19:37	14° <u>♁</u> 40'52	2°06'11
minimum elong	7640 Sep 22 18:35	6° <u>♁</u> 26'09	0°22'58	min. Earth dist.	7647 Apr 04 20:51	14° <u>♁</u> 38'11	39.24849 AU
morning rise	7640 Oct 08 20:15	6° <u>♁</u> 50'58		direct	7647 Jun 22 16:12	13° <u>♁</u> 33'33	
retrograde	7641 Jan 03 15:09	8° <u>♁</u> 08'54		evening set	7647 Sep 16 19:22	14° <u>♁</u> 54'12	
opposition	7641 Mar 25 20:13	7° <u>♁</u> 03'39	-0°12'52	max. Earth dist.	7647 Sep 30 10:57	15° <u>♁</u> 16'11	41.12718 AU
min. Earth dist.	7641 Mar 27 16:17	7° <u>♁</u> 01'20	40.67131 AU				
direct	7641 Jun 14 23:05	5° <u>♁</u> 58'07		conjunction	7647 Oct 02 17:28	15° <u>♁</u> 19'53	2°11'25
evening set	7641 Sep 08 05:56	7° <u>♁</u> 14'48		minimum elong	7647 Oct 02 17:24	15° <u>♁</u> 19'53	2°11'27
max. Earth dist.	7641 Sep 22 04:22	7° <u>♁</u> 36'23	42.55607 AU	morning rise	7647 Oct 18 15:38	15° <u>♁</u> 45'38	
				retrograde	7648 Jan 13 17:35	17° <u>♁</u> 07'46	
conjunction	7641 Sep 24 07:00	7° <u>♁</u> 39'42	-0°01'39	opposition	7648 Apr 03 08:46	16° <u>♁</u> 00'40	2°30'12
minimum elong	7641 Sep 24 07:00	7° <u>♁</u> 39'42	0°01'37	min. Earth dist.	7648 Apr 05 10:15	15° <u>♁</u> 57'57	39.00498 AU
behind sun begin	7641 Sep 24 00:29	7° <u>♁</u> 39'18		direct	7648 Jun 23 07:38	14° <u>♁</u> 53'01	
behind sun end	7641 Sep 24 13:30	7° <u>♁</u> 40'05		evening set	7648 Sep 17 12:12	16° <u>♁</u> 14'27	
morning rise	7641 Oct 10 08:56	8° <u>♁</u> 04'40		max. Earth dist.	7648 Sep 30 23:53	16° <u>♁</u> 36'21	40.88166 AU
asc. node	7641 Oct 21 11:23	8° <u>♁</u> 21'09					
retrograde	7642 Jan 05 03:01	9° <u>♁</u> 23'05		conjunction	7648 Oct 03 08:45	16° <u>♁</u> 40'15	2°34'20
opposition	7642 Mar 27 07:14	8° <u>♁</u> 17'34	0°09'41	minimum elong	7648 Oct 03 08:41	16° <u>♁</u> 40'14	2°34'23
min. Earth dist.	7642 Mar 29 04:52	8° <u>♁</u> 15'08	40.43724 AU	morning rise	7648 Oct 19 05:36	17° <u>♁</u> 06'04	
direct	7642 Jun 16 10:27	7° <u>♁</u> 11'43		retrograde	7649 Jan 14 09:24	18° <u>♁</u> 28'56	
evening set	7642 Sep 09 18:33	8° <u>♁</u> 28'58		opposition	7649 Apr 04 22:29	17° <u>♁</u> 21'32	2°54'27
max. Earth dist.	7642 Sep 23 17:34	8° <u>♁</u> 50'43	42.32124 AU	min. Earth dist.	7649 Apr 07 01:27	17° <u>♁</u> 18'43	38.75857 AU
				direct	7649 Jun 24 19:38	16° <u>♁</u> 13'31	
conjunction	7642 Sep 25 19:50	8° <u>♁</u> 54'01	0°20'02	evening set	7649 Sep 19 05:35	17° <u>♁</u> 35'46	
minimum elong	7642 Sep 25 19:50	8° <u>♁</u> 54'01	0°20'03	max. Earth dist.	7649 Oct 02 15:10	17° <u>♁</u> 57'40	40.63301 AU
morning rise	7642 Oct 11 21:36	9° <u>♁</u> 19'08					
retrograde	7643 Jan 06 14:18	10° <u>♁</u> 38'05		conjunction	7649 Oct 05 00:35	18° <u>♁</u> 01'38	2°57'28
opposition	7643 Mar 28 18:35	9° <u>♁</u> 32'18	0°32'29	minimum elong	7649 Oct 05 00:30	18° <u>♁</u> 01'37	2°57'29
min. Earth dist.	7643 Mar 30 16:11	9° <u>♁</u> 29'51	40.20186 AU	morning rise	7649 Oct 20 19:28	18° <u>♁</u> 27'32	
direct	7643 Jun 17 22:12	8° <u>♁</u> 26'09		retrograde	7650 Jan 16 00:08	19° <u>♁</u> 51'10	
evening set	7643 Sep 11 07:46	9° <u>♁</u> 44'00		opposition	7650 Apr 06 12:36	18° <u>♁</u> 43'25	3°18'55
max. Earth dist.	7643 Sep 25 05:04	10° <u>♁</u> 05'46	42.08532 AU	min. Earth dist.	7650 Apr 08 16:36	18° <u>♁</u> 40'32	38.50919 AU
				direct	7650 Jun 26 08:47	17° <u>♁</u> 35'03	
conjunction	7643 Sep 27 08:46	10° <u>♁</u> 09'11	0°41'52	evening set	7650 Sep 20 23:45	18° <u>♁</u> 58'07	
minimum elong	7643 Sep 27 08:45	10° <u>♁</u> 09'11	0°41'53	max. Earth dist.	7650 Oct 04 06:05	19° <u>♁</u> 19'58	40.38174 AU
morning rise	7643 Oct 13 10:29	10° <u>♁</u> 34'28					
retrograde	7644 Jan 08 05:12	11° <u>♁</u> 53'58		conjunction	7650 Oct 06 16:42	19° <u>♁</u> 24'02	3°20'46
opposition	7644 Mar 29 06:18	10° <u>♁</u> 47'55	0°55'32	minimum elong	7650 Oct 06 16:36	19° <u>♁</u> 24'02	3°20'49
min. Earth dist.	7644 Mar 31 04:34	10° <u>♁</u> 45'26	39.96557 AU	morning rise	7650 Oct 22 09:39	19° <u>♁</u> 49'59	
direct	7644 Jun 18 06:58	9° <u>♁</u> 41'29		retrograde	7651 Jan 17 18:34	21° <u>♁</u> 14'24	
evening set	7644 Sep 11 21:40	10° <u>♁</u> 59'58		opposition	7651 Apr 08 03:02	20° <u>♁</u> 06'19	3°43'36
max. Earth dist.	7644 Sep 25 18:07	11° <u>♁</u> 21'49	41.84822 AU	min. Earth dist.	7651 Apr 10 07:25	20° <u>♁</u> 03'24	38.25756 AU
				direct	7651 Jun 27 21:16	18° <u>♁</u> 57'33	
conjunction	7644 Sep 27 22:23	11° <u>♁</u> 25'18	1°03'55	evening set	7651 Sep 22 18:29	20° <u>♁</u> 21'30	
minimum elong	7644 Sep 27 22:22	11° <u>♁</u> 25'18	1°03'56	max. Earth dist.	7651 Oct 05 21:06	20° <u>♁</u> 43'16	40.12815 AU
morning rise	7644 Oct 13 23:31	11° <u>♁</u> 50'42					
retrograde	7645 Jan 08 20:44	13° <u>♁</u> 10'49		conjunction	7651 Oct 08 09:13	20° <u>♁</u> 47'28	3°44'16
opposition	7645 Mar 30 18:19	12° <u>♁</u> 04'31	1°18'51	minimum elong	7651 Oct 08 09:06	20° <u>♁</u> 47'27	3°44'18
min. Earth dist.	7645 Apr 01 17:44	12° <u>♁</u> 01'57	39.72814 AU	morning rise	7651 Oct 23 23:48	21° <u>♁</u> 13'27	
direct	7645 Jun 19 16:38	10° <u>♁</u> 57'47		retrograde	7652 Jan 19 13:26	22° <u>♁</u> 38'41	
evening set	7645 Sep 13 12:15	12° <u>♁</u> 16'57		opposition	7652 Apr 08 18:04	21° <u>♁</u> 30'14	4°08'29

min. Earth dist.	7652 Apr 11 00:08	21° <u>♁</u> 27'12	38.00402 AU	conjunction	7658 Oct 18 19:05	1° <u>♂</u> 04'01	6°32'31
direct	7652 Jun 28 10:56	20° <u>♁</u> 21'03		minimum elong	7658 Oct 18 18:53	1° <u>♂</u> 04'00	6°32'35
evening set	7652 Sep 23 14:06	21° <u>♁</u> 45'56		morning rise	7658 Nov 02 07:49	1° <u>♂</u> 29'39	
max. Earth dist.	7652 Oct 06 14:15	22° <u>♁</u> 07'41	39.87296 AU	retrograde	7659 Jan 30 05:17	3° <u>♂</u> 02'08	
				opposition	7659 Apr 19 16:03	1° <u>♂</u> 51'14	7°06'57
conjunction	7652 Oct 09 02:20	22° <u>♁</u> 11'55	4°07'56	min. Earth dist.	7659 Apr 22 01:43	1° <u>♂</u> 47'52	36.22098 AU
minimum elong	7652 Oct 09 02:13	22° <u>♁</u> 11'54	4°07'59	direct	7659 Jul 09 03:19	0° <u>♂</u> 39'17	
morning rise	7652 Oct 24 14:13	22° <u>♁</u> 37'55		evening set	7659 Oct 06 07:36	2° <u>♂</u> 12'17	
retrograde	7653 Jan 20 06:42	24° <u>♁</u> 04'00		max. Earth dist.	7659 Oct 17 23:47	2° <u>♂</u> 33'00	38.07955 AU
opposition	7653 Apr 10 09:14	22° <u>♁</u> 55'11	4°33'34				
min. Earth dist.	7653 Apr 12 15:00	22° <u>♁</u> 52'09	37.74925 AU	conjunction	7659 Oct 20 16:02	2° <u>♂</u> 37'48	6°56'53
direct	7653 Jun 30 03:29	21° <u>♁</u> 45'36		minimum elong	7659 Oct 20 15:49	2° <u>♂</u> 37'47	6°56'57
evening set	7653 Sep 25 10:35	23° <u>♁</u> 11'28		morning rise	7659 Nov 03 23:28	3° <u>♂</u> 03'18	
max. Earth dist.	7653 Oct 08 05:56	23° <u>♁</u> 33'03	39.61669 AU	retrograde	7660 Feb 01 02:00	4° <u>♂</u> 37'03	
				opposition	7660 Apr 20 11:11	3° <u>♂</u> 25'48	7°32'51
conjunction	7653 Oct 10 19:47	23° <u>♁</u> 37'26	4°31'45	min. Earth dist.	7660 Apr 22 20:42	3° <u>♂</u> 22'25	35.96595 AU
minimum elong	7653 Oct 10 19:38	23° <u>♁</u> 37'26	4°31'47	direct	7660 Jul 09 23:10	2° <u>♂</u> 13'28	
morning rise	7653 Oct 26 04:46	24° <u>♁</u> 03'26		evening set	7660 Oct 07 10:54	3° <u>♂</u> 47'52	
retrograde	7654 Jan 22 00:16	25° <u>♁</u> 30'26		max. Earth dist.	7660 Oct 18 19:23	4° <u>♂</u> 08'13	37.82213 AU
opposition	7654 Apr 12 01:08	24° <u>♁</u> 21'15	4°58'49				
min. Earth dist.	7654 Apr 14 08:15	24° <u>♁</u> 18'07	37.49394 AU	conjunction	7660 Oct 21 13:39	4° <u>♂</u> 13'13	7°21'18
direct	7654 Jul 01 18:45	23° <u>♁</u> 11'15		minimum elong	7660 Oct 21 13:24	4° <u>♂</u> 13'12	7°21'22
evening set	7654 Sep 27 07:33	24° <u>♁</u> 38'08		morning rise	7660 Nov 04 15:38	4° <u>♂</u> 38'32	
max. Earth dist.	7654 Oct 10 00:19	24° <u>♁</u> 59'42	39.36000 AU	retrograde	7661 Feb 02 00:16	6° <u>♂</u> 13'36	
				opposition	7661 Apr 22 06:53	5° <u>♂</u> 02'00	7°58'47
conjunction	7654 Oct 12 13:40	25° <u>♁</u> 04'06	4°55'42	min. Earth dist.	7661 Apr 24 17:47	4° <u>♂</u> 58'30	35.70991 AU
minimum elong	7654 Oct 12 13:31	25° <u>♁</u> 04'05	4°55'45	direct	7661 Jul 11 17:32	3° <u>♂</u> 49'14	
morning rise	7654 Oct 27 19:10	25° <u>♁</u> 30'04		evening set	7661 Oct 09 15:06	5° <u>♂</u> 25'05	
retrograde	7655 Jan 23 16:18	26° <u>♁</u> 58'02		max. Earth dist.	7661 Oct 20 17:42	5° <u>♂</u> 45'11	37.56348 AU
opposition	7655 Apr 13 17:29	25° <u>♁</u> 48'29	5°24'12				
min. Earth dist.	7655 Apr 16 00:35	25° <u>♁</u> 45'20	37.23855 AU	conjunction	7661 Oct 23 12:01	5° <u>♂</u> 50'14	7°45'43
direct	7655 Jul 03 11:29	24° <u>♁</u> 38'05		minimum elong	7661 Oct 23 11:47	5° <u>♂</u> 50'13	7°45'46
evening set	7655 Sep 29 05:41	26° <u>♁</u> 06'02		morning rise	7661 Nov 06 07:47	6° <u>♂</u> 15'19	
max. Earth dist.	7655 Oct 11 17:31	26° <u>♁</u> 27'27	39.10352 AU	retrograde	7662 Feb 03 21:30	7° <u>♂</u> 51'46	
				opposition	7662 Apr 24 03:23	6° <u>♂</u> 39'47	8°24'45
conjunction	7655 Oct 14 08:04	26° <u>♁</u> 31'58	5°19'46	min. Earth dist.	7662 Apr 26 14:54	6° <u>♂</u> 36'13	35.45279 AU
minimum elong	7655 Oct 14 07:54	26° <u>♁</u> 31'57	5°19'48	direct	7662 Jul 13 12:30	5° <u>♂</u> 26'34	
morning rise	7655 Oct 29 10:03	26° <u>♁</u> 57'54		evening set	7662 Oct 11 20:21	7° <u>♂</u> 03'56	
retrograde	7656 Jan 25 12:17	28° <u>♁</u> 26'54		max. Earth dist.	7662 Oct 22 15:11	7° <u>♂</u> 23'38	37.30402 AU
opposition	7656 Apr 14 10:11	27° <u>♁</u> 17'00	5°49'44				
min. Earth dist.	7656 Apr 16 17:35	27° <u>♁</u> 13'48	36.98370 AU	conjunction	7662 Oct 25 10:41	7° <u>♂</u> 28'49	8°10'07
direct	7656 Jul 04 01:21	26° <u>♁</u> 06'11		minimum elong	7662 Oct 25 10:25	7° <u>♂</u> 28'48	8°10'12
evening set	7656 Sep 30 04:40	27° <u>♁</u> 35'18		morning rise	7662 Nov 08 00:05	7° <u>♂</u> 53'39	
max. Earth dist.	7656 Oct 12 12:18	27° <u>♁</u> 56'35	38.84737 AU	retrograde	7663 Feb 05 21:30	9° <u>♂</u> 31'32	
				opposition	7663 Apr 26 00:22	8° <u>♂</u> 19'08	8°50'42
conjunction	7656 Oct 15 03:14	28° <u>♁</u> 01'10	5°43'56	min. Earth dist.	7663 Apr 28 12:10	8° <u>♂</u> 15'32	35.19521 AU
minimum elong	7656 Oct 15 03:03	28° <u>♁</u> 01'09	5°44'00	direct	7663 Jul 15 06:58	7° <u>♂</u> 05'28	
morning rise	7656 Oct 30 01:05	28° <u>♁</u> 27'02		evening set	7663 Oct 14 02:43	8° <u>♂</u> 44'24	
retrograde	7657 Jan 26 07:47	29° <u>♁</u> 57'08		max. Earth dist.	7663 Oct 24 13:54	9° <u>♂</u> 03'42	37.04404 AU
opposition	7657 Apr 16 03:39	28° <u>♁</u> 46'53	6°15'23				
min. Earth dist.	7657 Apr 18 11:58	28° <u>♁</u> 43'37	36.72926 AU	conjunction	7663 Oct 27 10:16	9° <u>♂</u> 08'59	8°34'29
direct	7657 Jul 05 16:45	27° <u>♁</u> 35'42		minimum elong	7663 Oct 27 10:00	9° <u>♂</u> 08'58	8°34'33
evening set	7657 Oct 02 04:39	29° <u>♁</u> 06'02		morning rise	7663 Nov 09 16:37	9° <u>♂</u> 33'32	
max. Earth dist.	7657 Oct 14 07:51	29° <u>♁</u> 27'12	38.59167 AU	retrograde	7664 Feb 07 21:23	11° <u>♂</u> 12'53	
				opposition	7664 Apr 26 21:59	10° <u>♂</u> 00'04	9°16'36
conjunction	7657 Oct 16 22:50	29° <u>♁</u> 31'49	6°08'12	min. Earth dist.	7664 Apr 29 11:03	9° <u>♂</u> 56'22	34.93753 AU
minimum elong	7657 Oct 16 22:38	29° <u>♁</u> 31'48	6°08'15	direct	7664 Jul 16 03:16	8° <u>♂</u> 45'54	
morning rise	7657 Oct 31 16:18	29° <u>♁</u> 57'35		evening set	7664 Oct 15 10:23	10° <u>♂</u> 26'29	
	7657 Nov 02 02:07	0° <u>♂</u>		max. Earth dist.	7664 Oct 25 14:13	10° <u>♂</u> 45'24	36.78436 AU
retrograde	7658 Jan 28 06:20	1° <u>♂</u> 28'50					
opposition	7658 Apr 17 21:28	0° <u>♂</u> 18'16	6°41'08	conjunction	7664 Oct 28 10:28	10° <u>♂</u> 50'44	8°58'47
min. Earth dist.	7658 Apr 20 05:27	0° <u>♂</u> 15'01	36.47520 AU	minimum elong	7664 Oct 28 10:11	10° <u>♂</u> 50'43	8°58'52
	7658 May 01 02:45	30° <u>♂</u> <u>♁</u>		morning rise	7664 Nov 10 09:21	11° <u>♂</u> 14'56	
direct	7658 Jul 07 10:06	29° <u>♁</u> 06'42		retrograde	7665 Feb 08 23:56	12° <u>♂</u> 55'49	
	7658 Sep 10 16:52	0° <u>♂</u>		opposition	7665 Apr 28 20:11	11° <u>♂</u> 42'34	9°42'26
evening set	7658 Oct 04 05:39	0° <u>♂</u> 38'21		min. Earth dist.	7665 May 01 08:42	11° <u>♂</u> 38'53	34.68054 AU
max. Earth dist.	7658 Oct 16 02:34	0° <u>♂</u> 59'14	38.33588 AU	direct	7665 Jul 18 01:35	10° <u>♂</u> 27'55	

evening set	7665 Oct 17 19:05	12° ℳ 10'13		minimum elong	7671 Nov 11 06:38	23° ℳ 30'54	11°42'56
max. Earth dist.	7665 Oct 27 13:40	12° ℳ 28'36	36.52549 AU	morning rise	7671 Nov 21 09:45	23° ℳ 51'12	
				retrograde	7672 Feb 23 01:21	25° ℳ 45'07	
conjunction	7665 Oct 30 11:10	12° ℳ 34'04	9°22'57	opposition	7672 May 11 04:07	24° ℳ 28'59	12°36'50
minimum elong	7665 Oct 30 10:53	12° ℳ 34'03	9°23'01	min. Earth dist.	7672 May 13 16:44	24° ℳ 25'06	32.95029 AU
morning rise	7665 Nov 12 02:08	12° ℳ 57'52		direct	7672 Jul 30 01:23	23° ℳ 11'01	
retrograde	7666 Feb 11 01:48	14° ℳ 40'23		evening set	7672 Nov 02 21:28	25° ℳ 07'45	
opposition	7666 Apr 30 19:11	13° ℳ 26'41	10°08'08	max. Earth dist.	7672 Nov 09 15:43	25° ℳ 21'24	34.78582 AU
min. Earth dist.	7666 May 03 08:54	13° ℳ 22'54	34.42497 AU				
direct	7666 Jul 19 23:14	12° ℳ 11'32		conjunction	7672 Nov 12 13:11	25° ℳ 27'15	12°04'53
evening set	7666 Oct 20 04:59	13° ℳ 55'37		minimum elong	7672 Nov 12 12:49	25° ℳ 27'14	12°04'59
max. Earth dist.	7666 Oct 29 16:06	14° ℳ 13'35	36.26838 AU	morning rise	7672 Nov 22 03:39	25° ℳ 46'41	
				retrograde	7673 Feb 24 09:11	27° ℳ 42'49	
conjunction	7666 Nov 01 12:40	14° ℳ 19'02	9°46'57	opposition	7673 May 13 08:34	26° ℳ 26'17	13°00'15
minimum elong	7666 Nov 01 12:21	14° ℳ 19'01	9°47'02	min. Earth dist.	7673 May 15 22:18	26° ℳ 22'19	32.71426 AU
morning rise	7666 Nov 13 18:58	14° ℳ 42'24		direct	7673 Aug 01 04:19	25° ℳ 07'52	
	7666 Nov 23 06:49	15° ℳ		evening set	7673 Nov 05 17:42	27° ℳ 07'02	
retrograde	7667 Feb 13 03:53	16° ℳ 26'34		max. Earth dist.	7673 Nov 11 23:46	27° ℳ 19'47	34.54807 AU
opposition	7667 May 02 18:45	15° ℳ 12'27	10°33'40				
min. Earth dist.	7667 May 05 07:43	15° ℳ 08'41	34.17157 AU	conjunction	7673 Nov 14 20:09	27° ℳ 25'37	12°26'27
	7667 May 11 05:00	15° ℳ		minimum elong	7673 Nov 14 19:48	27° ℳ 25'35	12°26'32
direct	7667 Jul 22 00:20	13° ℳ 56'49		morning rise	7673 Nov 23 21:17	27° ℳ 44'07	
	7667 Sep 28 21:49	15° ℳ		retrograde	7674 Feb 26 17:58	29° ℳ 42'33	
evening set	7667 Oct 22 16:11	15° ℳ 42'45		opposition	7674 May 15 13:44	28° ℳ 25'36	13°23'09
max. Earth dist.	7667 Oct 31 17:04	16° ℳ 00'05	36.01375 AU	min. Earth dist.	7674 May 18 02:39	28° ℳ 21'39	32.48063 AU
				direct	7674 Aug 03 10:47	27° ℳ 06'42	
conjunction	7667 Nov 03 14:42	16° ℳ 05'42	10°10'44	evening set	7674 Nov 08 15:37	29° ℳ 08'25	
minimum elong	7667 Nov 03 14:23	16° ℳ 05'40	10°10'49	max. Earth dist.	7674 Nov 14 06:21	29° ℳ 20'00	34.31292 AU
morning rise	7667 Nov 15 12:05	16° ℳ 28'33					
retrograde	7668 Feb 15 07:56	18° ℳ 14'30		conjunction	7674 Nov 17 03:53	29° ℳ 25'59	12°47'28
opposition	7668 May 03 19:07	16° ℳ 59'56	10°58'57	minimum elong	7674 Nov 17 03:30	29° ℳ 25'57	12°47'34
min. Earth dist.	7668 May 06 08:24	16° ℳ 56'08	33.92105 AU	morning rise	7674 Nov 25 15:01	29° ℳ 43'27	
direct	7668 Jul 22 23:35	15° ℳ 43'49			7674 Dec 03 18:15	0° ℳ	
evening set	7668 Oct 24 04:41	17° ℳ 31'44		retrograde	7675 Mar 01 03:12	1° ℳ 44'17	
max. Earth dist.	7668 Nov 01 20:58	17° ℳ 48'32	35.76203 AU	opposition	7675 May 17 19:39	0° ℳ 26'55	13°45'27
				min. Earth dist.	7675 May 20 09:08	0° ℳ 22'55	32.24992 AU
conjunction	7668 Nov 04 17:43	17° ℳ 54'07	10°34'16		7675 Jun 04 08:47	30° ℳ	
minimum elong	7668 Nov 04 17:23	17° ℳ 54'05	10°34'21	direct	7675 Aug 05 15:18	29° ℳ 07'32	
morning rise	7668 Nov 16 05:17	18° ℳ 16'25			7675 Oct 04 18:12	0° ℳ	
retrograde	7669 Feb 16 09:47	20° ℳ 04'13		evening set	7675 Nov 11 15:27	1° ℳ 11'55	
opposition	7669 May 05 20:14	18° ℳ 49'15	11°23'58	max. Earth dist.	7675 Nov 16 16:10	1° ℳ 22'23	34.08083 AU
min. Earth dist.	7669 May 08 09:24	18° ℳ 45'25	33.67365 AU				
direct	7669 Jul 24 23:39	17° ℳ 32'40		conjunction	7675 Nov 19 12:34	1° ℳ 28'20	13°07'53
evening set	7669 Oct 26 18:43	19° ℳ 22'38		minimum elong	7675 Nov 19 12:13	1° ℳ 28'18	13°07'59
max. Earth dist.	7669 Nov 04 00:20	19° ℳ 38'44	35.51369 AU	morning rise	7675 Nov 27 08:27	1° ℳ 44'39	
				retrograde	7676 Mar 02 11:27	3° ℳ 48'00	
conjunction	7669 Nov 06 21:18	19° ℳ 44'24	10°57'29	opposition	7676 May 19 02:30	2° ℳ 30'13	14°07'06
minimum elong	7669 Nov 06 20:59	19° ℳ 44'22	10°57'35	min. Earth dist.	7676 May 21 15:33	2° ℳ 26'13	32.02241 AU
morning rise	7669 Nov 17 22:41	20° ℳ 06'06		direct	7676 Aug 06 22:10	1° ℳ 10'21	
retrograde	7670 Feb 18 13:57	21° ℳ 55'50		evening set	7676 Nov 13 17:17	3° ℳ 17'31	
opposition	7670 May 07 22:03	20° ℳ 40'29	11°48'39	max. Earth dist.	7676 Nov 18 01:02	3° ℳ 26'36	33.85243 AU
min. Earth dist.	7670 May 10 10:42	20° ℳ 36'39	33.42969 AU				
direct	7670 Jul 26 23:14	19° ℳ 23'26		conjunction	7676 Nov 20 21:53	3° ℳ 32'40	13°27'37
evening set	7670 Oct 29 09:50	21° ℳ 15'33		minimum elong	7676 Nov 20 21:31	3° ℳ 32'38	13°27'43
max. Earth dist.	7670 Nov 06 04:42	21° ℳ 30'56	35.26839 AU	morning rise	7676 Nov 28 01:27	3° ℳ 47'42	
				retrograde	7677 Mar 04 22:18	5° ℳ 53'41	
conjunction	7670 Nov 09 01:39	21° ℳ 36'39	11°20'22	opposition	7677 May 21 09:58	4° ℳ 35'29	14°28'01
minimum elong	7670 Nov 09 01:18	21° ℳ 36'38	11°20'27	min. Earth dist.	7677 May 23 22:31	4° ℳ 31'29	31.79902 AU
morning rise	7670 Nov 19 16:05	21° ℳ 57'40		direct	7677 Aug 09 04:05	3° ℳ 15'08	
retrograde	7671 Feb 20 18:18	23° ℳ 49'28		evening set	7677 Nov 16 21:18	5° ℳ 25'14	
opposition	7671 May 10 00:49	22° ℳ 33'43	12°12'57	max. Earth dist.	7677 Nov 20 12:18	5° ℳ 32'56	33.62839 AU
min. Earth dist.	7671 May 12 14:17	22° ℳ 29'49	33.18866 AU				
direct	7671 Jul 28 23:00	21° ℳ 16'13		conjunction	7677 Nov 23 08:05	5° ℳ 38'57	13°46'37
evening set	7671 Nov 01 02:54	23° ℳ 10'36		minimum elong	7677 Nov 23 07:45	5° ℳ 38'55	13°46'43
max. Earth dist.	7671 Nov 08 10:30	23° ℳ 25'12	35.02595 AU	morning rise	7677 Nov 29 17:49	5° ℳ 52'34	
				retrograde	7678 Mar 07 07:35	8° ℳ 01'20	
conjunction	7671 Nov 11 06:58	23° ℳ 30'56	11°42'50	opposition	7678 May 23 18:29	6° ℳ 42'43	14°48'06

min. Earth dist.	7678 May 26 07:02	6°♏38'41	31.58037 AU	conjunction	7685 Dec 11 20:46	23°♏41'38	15°41'53
direct	7678 Aug 11 10:02	5°♏21'53		minimum elong	7685 Dec 11 20:34	23°♏41'37	15°41'59
evening set	7678 Nov 20 03:51	7°♏35'07		retrograde	7686 Mar 26 05:06	26°♏14'21	
max. Earth dist.	7678 Nov 22 23:49	7°♏41'11	33.40979 AU	opposition	7686 Jun 10 19:56	24°♏53'05	16°48'31
				min. Earth dist.	7686 Jun 12 23:41	24°♏49'30	30.07381 AU
conjunction	7678 Nov 25 18:45	7°♏47'11	14°04'46	direct	7686 Aug 29 05:59	23°♏29'14	
minimum elong	7678 Nov 25 18:24	7°♏47'09	14°04'53	max. Earth dist.	7686 Dec 12 05:11	26°♏00'27	31.91339 AU
morning rise	7678 Dec 01 08:44	7°♏59'10					
retrograde	7679 Mar 09 18:46	10°♏10'55		conjunction	7686 Dec 14 13:48	26°♏05'52	15°50'39
opposition	7679 May 26 03:39	8°♏51'54	15°07'16	minimum elong	7686 Dec 14 13:35	26°♏05'51	15°50'46
min. Earth dist.	7679 May 28 14:38	8°♏47'57	31.36748 AU	retrograde	7687 Mar 28 20:55	28°♏39'40	
direct	7679 Aug 13 18:55	7°♏30'35		opposition	7687 Jun 13 11:55	27°♏18'08	16°57'26
evening set	7679 Nov 23 13:59	9°♏47'15		min. Earth dist.	7687 Jun 15 15:09	27°♏14'34	29.91701 AU
max. Earth dist.	7679 Nov 25 12:08	9°♏51'24	33.19720 AU	direct	7687 Aug 31 20:42	25°♏53'58	
				max. Earth dist.	7687 Dec 14 23:57	28°♏26'24	31.75897 AU
conjunction	7679 Nov 28 06:27	9°♏57'24	14°22'01				
minimum elong	7679 Nov 28 06:08	9°♏57'22	14°22'07	conjunction	7687 Dec 17 07:27	28°♏31'46	15°57'58
morning rise	7679 Dec 02 22:06	10°♏07'29		minimum elong	7687 Dec 17 07:18	28°♏31'45	15°58'04
retrograde	7680 Mar 11 06:02	12°♏22'29			7688 Jan 26 18:34	0°♏	
opposition	7680 May 27 13:43	11°♏03'04	15°25'25	retrograde	7688 Mar 30 15:11	1°♏06'34	
min. Earth dist.	7680 May 30 00:45	10°♏59'06	31.16102 AU		7688 Jun 06 00:43	30°♏	
direct	7680 Aug 15 02:47	9°♏41'19		opposition	7688 Jun 15 04:21	29°♏44'46	17°04'44
evening set	7680 Nov 26 05:32	12°♏01'50		min. Earth dist.	7688 Jun 17 05:30	29°♏41'21	29.76757 AU
max. Earth dist.	7680 Nov 27 02:27	12°♏03'44	32.99168 AU	direct	7688 Sep 02 13:22	28°♏20'17	
					7688 Nov 22 23:55	0°♏	
conjunction	7680 Nov 29 18:55	12°♏09'37	14°38'15	max. Earth dist.	7688 Dec 16 20:00	0°♏53'57	31.61224 AU
minimum elong	7680 Nov 29 18:35	12°♏09'35	14°38'22				
morning rise	7680 Dec 03 07:33	12°♏17'20		conjunction	7688 Dec 19 01:49	0°♏59'10	16°03'45
retrograde	7681 Mar 13 19:35	14°♏36'02		minimum elong	7688 Dec 19 01:40	0°♏59'10	16°03'53
opposition	7681 May 30 00:38	13°♏16'16	15°42'28	retrograde	7689 Apr 02 08:49	3°♏34'55	
min. Earth dist.	7681 Jun 01 09:31	13°♏12'25	30.96170 AU	opposition	7689 Jun 17 21:45	2°♏12'52	17°10'22
direct	7681 Aug 17 13:25	11°♏54'06		min. Earth dist.	7689 Jun 19 22:25	2°♏09'27	29.62593 AU
evening set	7681 Nov 30 08:59	14°♏19'34		direct	7689 Sep 05 04:40	0°♏48'04	
max. Earth dist.	7681 Nov 29 16:00	14°♏18'00	32.79357 AU	max. Earth dist.	7689 Dec 19 16:44	3°♏22'54	31.47404 AU
conjunction	7681 Dec 02 08:00	14°♏23'53	14°53'25	conjunction	7689 Dec 21 20:25	3°♏27'57	16°07'56
minimum elong	7681 Dec 02 07:42	14°♏23'51	14°53'32	minimum elong	7689 Dec 21 20:19	3°♏27'56	16°08'03
morning rise	7681 Dec 04 06:25	14°♏28'09		retrograde	7690 Apr 05 03:20	6°♏04'33	
retrograde	7682 Mar 16 10:09	16°♏51'39		opposition	7690 Jun 20 15:35	4°♏42'14	17°14'16
opposition	7682 Jun 01 12:29	15°♏31'32	15°58'19	min. Earth dist.	7690 Jun 22 13:29	4°♏39'01	29.49278 AU
min. Earth dist.	7682 Jun 03 21:06	15°♏27'41	30.76988 AU	direct	7690 Sep 07 22:48	3°♏17'10	
direct	7682 Aug 19 23:22	14°♏09'00		max. Earth dist.	7690 Dec 22 13:30	5°♏53'02	31.34487 AU
max. Earth dist.	7682 Dec 02 08:32	16°♏34'33	32.60315 AU				
				conjunction	7690 Dec 24 15:37	5°♏57'57	16°10'28
conjunction	7682 Dec 04 22:03	16°♏40'15	15°07'25	minimum elong	7690 Dec 24 15:32	5°♏57'57	16°10'36
minimum elong	7682 Dec 04 21:45	16°♏40'13	15°07'32	retrograde	7691 Apr 07 21:04	8°♏35'21	
retrograde	7683 Mar 19 01:46	19°♏09'18		opposition	7691 Jun 23 09:58	7°♏12'47	17°16'20
opposition	7683 Jun 04 01:00	17°♏48'54	16°12'55	min. Earth dist.	7691 Jun 25 07:02	7°♏09'37	29.36890 AU
min. Earth dist.	7683 Jun 06 07:56	17°♏45'09	30.58540 AU	direct	7691 Sep 10 16:21	5°♏47'27	
direct	7683 Aug 22 13:12	16°♏26'02		max. Earth dist.	7691 Dec 25 12:15	8°♏24'26	31.22572 AU
max. Earth dist.	7683 Dec 04 23:29	18°♏52'58	32.42013 AU				
				conjunction	7691 Dec 27 11:15	8°♏29'04	16°11'16
conjunction	7683 Dec 07 12:50	18°♏58'42	15°20'12	minimum elong	7691 Dec 27 11:14	8°♏29'04	16°11'23
minimum elong	7683 Dec 07 12:34	18°♏58'41	15°20'19	retrograde	7692 Apr 09 16:20	11°♏07'09	
retrograde	7684 Mar 20 18:02	21°♏29'03		opposition	7692 Jun 25 04:55	9°♏44'23	17°16'31
opposition	7684 Jun 05 14:28	20°♏08'20	16°26'12	min. Earth dist.	7692 Jun 26 23:05	9°♏41'24	29.25498 AU
min. Earth dist.	7684 Jun 07 20:46	20°♏04'37	30.40809 AU	direct	7692 Sep 12 12:25	8°♏18'49	
direct	7684 Aug 24 01:17	18°♏45'08		max. Earth dist.	7692 Dec 27 09:45	10°♏56'41	31.11720 AU
max. Earth dist.	7684 Dec 06 17:26	21°♏13'38	32.24416 AU				
				conjunction	7692 Dec 29 07:07	11°♏01'10	16°10'17
conjunction	7684 Dec 09 04:31	21°♏19'12	15°31'42	minimum elong	7692 Dec 29 07:06	11°♏01'10	16°10'24
minimum elong	7684 Dec 09 04:15	21°♏19'10	15°31'49	retrograde	7693 Apr 12 12:08	13°♏39'54	
retrograde	7685 Mar 23 10:16	23°♏50'45		opposition	7693 Jun 28 00:26	12°♏16'58	17°14'44
opposition	7685 Jun 08 04:49	22°♏29'47	16°38'05	min. Earth dist.	7693 Jun 29 16:54	12°♏14'06	29.15190 AU
min. Earth dist.	7685 Jun 10 10:02	22°♏26'07	30.23747 AU	direct	7693 Sep 15 06:29	10°♏51'14	
direct	7685 Aug 26 15:35	21°♏06'15		max. Earth dist.	7693 Dec 30 09:51	13°♏30'07	31.02015 AU
max. Earth dist.	7685 Dec 09 10:06	23°♏36'03	32.07525 AU				

conjunction	7694 Jan 01 03:26	13°33'14"	16°07'28"	evening set	7702 Jan 19 16:53	4°11'47"	
minimum elong	7694 Jan 01 03:29	13°33'15"	16°07'35"	max. Earth dist.	7702 Jan 22 05:39	4°17'53"	30.63998 AU
retrograde	7694 Apr 15 08:04	16°31'31"					
opposition	7694 Jun 30 20:21	14°50'28"	17°10'58"	conjunction	7702 Jan 23 02:47	4°20'00"	14°38'52"
min. Earth dist.	7694 Jul 02 10:01	14°47'48"	29.05999 AU	minimum elong	7702 Jan 23 03:05	4°20'02"	14°38'58"
direct	7694 Sep 18 03:49	13°32'38"		morning rise	7702 Jan 26 13:11	4°28'16"	
max. Earth dist.	7695 Jan 02 07:49	16°30'13"	30.93472 AU	retrograde	7702 May 07 05:04	7°00'17"	
				opposition	7702 Jul 22 21:01	5°37'14"	15°29'42"
conjunction	7695 Jan 03 23:50	16°30'12"	16°02'47"	min. Earth dist.	7702 Jul 23 16:23	5°35'52"	28.70687 AU
minimum elong	7695 Jan 03 23:54	16°30'13"	16°02'55"	direct	7702 Oct 10 07:33	4°11'31"	
retrograde	7695 Apr 18 05:33	18°34'58"		evening set	7703 Jan 21 07:01	6°44'20"	
opposition	7695 Jul 03 16:36	17°32'51"	17°05'12"				
min. Earth dist.	7695 Jul 05 03:55	17°32'21"	28.97940 AU	conjunction	7703 Jan 25 23:15	6°55'36"	14°19'54"
direct	7695 Sep 21 00:08	15°35'56"		minimum elong	7703 Jan 25 23:35	6°55'38"	14°20'00"
max. Earth dist.	7696 Jan 05 08:29	18°39'23"	30.86069 AU	max. Earth dist.	7703 Jan 25 05:16	6°53'47"	30.64000 AU
				morning rise	7703 Jan 30 15:54	7°06'53"	
conjunction	7696 Jan 06 20:44	18°34'00"	15°56'15"	retrograde	7703 May 10 00:24	9°35'30"	
minimum elong	7696 Jan 06 20:51	18°34'01"	15°56'21"	opposition	7703 Jul 25 18:09	8°12'30"	15°08'35"
retrograde	7696 Apr 20 01:32	21°32'09"		min. Earth dist.	7703 Jul 26 10:10	8°11'22"	28.70918 AU
opposition	7696 Jul 05 13:14	20°30'00"	16°57'24"	direct	7703 Oct 13 06:31	6°46'52"	
min. Earth dist.	7696 Jul 06 22:31	19°35'38"	28.90962 AU	evening set	7704 Jan 23 02:04	9°16'44"	
direct	7696 Sep 22 21:05	18°34'04"					
max. Earth dist.	7697 Jan 07 07:01	21°31'50"	30.79775 AU	conjunction	7704 Jan 28 19:20	9°30'27"	13°59'18"
				minimum elong	7704 Jan 28 19:40	9°30'29"	13°59'23"
conjunction	7697 Jan 08 17:39	21°31'30"	15°47'51"	max. Earth dist.	7704 Jan 28 03:49	9°28'54"	30.65104 AU
minimum elong	7697 Jan 08 17:47	21°31'31"	15°47'59"	morning rise	7704 Feb 03 12:57	9°44'13"	
retrograde	7697 Apr 23 00:26	23°35'57"		retrograde	7704 May 11 18:49	12°09'55"	
opposition	7697 Jul 08 10:12	22°33'47"	16°47'37"	opposition	7704 Jul 27 15:06	10°46'58"	14°45'43"
min. Earth dist.	7697 Jul 09 16:40	22°33'38"	28.85052 AU	min. Earth dist.	7704 Jul 28 04:49	10°46'00"	28.72286 AU
direct	7697 Sep 25 18:38	21°30'52"		direct	7704 Oct 15 02:34	9°21'27"	
max. Earth dist.	7698 Jan 10 07:41	23°35'26"	30.74545 AU	evening set	7705 Jan 23 23:57	11°48'35"	
conjunction	7698 Jan 11 14:42	23°35'33"	15°37'38"	conjunction	7705 Jan 30 15:05	12°04'27"	13°37'07"
minimum elong	7698 Jan 11 14:53	23°35'34"	15°37'43"	minimum elong	7705 Jan 30 15:27	12°04'29"	13°37'13"
retrograde	7698 Apr 25 20:16	26°35'12"		max. Earth dist.	7705 Jan 30 03:30	12°03'17"	30.67394 AU
opposition	7698 Jul 11 07:32	25°31'02"	16°35'51"	morning rise	7705 Feb 06 06:25	12°20'20"	
min. Earth dist.	7698 Jul 12 12:29	25°30'58"	28.80160 AU	retrograde	7705 May 14 11:59	14°43'22"	
direct	7698 Sep 28 16:08	23°34'08"		opposition	7705 Jul 30 11:52	13°20'31"	14°21'11"
max. Earth dist.	7699 Jan 13 06:38	26°32'00"	30.70365 AU	min. Earth dist.	7705 Jul 30 22:15	13°19'47"	28.74834 AU
				direct	7705 Oct 18 01:58	11°55'09"	
conjunction	7699 Jan 14 11:49	26°33'56"	15°25'35"	evening set	7706 Jan 25 23:12	14°19'41"	
minimum elong	7699 Jan 14 12:02	26°33'58"	15°25'42"				
retrograde	7699 Apr 28 18:00	29°31'39"		conjunction	7706 Feb 02 10:10	14°37'28"	13°13'25"
opposition	7699 Jul 14 04:42	27°34'30"	16°22'09"	minimum elong	7706 Feb 02 10:31	14°37'30"	13°13'30"
min. Earth dist.	7699 Jul 15 06:28	27°34'41"	28.76280 AU	max. Earth dist.	7706 Feb 02 00:52	14°36'32"	30.70905 AU
direct	7699 Oct 01 14:32	26°32'38"		morning rise	7706 Feb 09 21:20	14°55'16"	
max. Earth dist.	7700 Jan 16 06:54	29°30'45"	30.67205 AU		7706 Feb 11 21:19	15°	
				retrograde	7706 May 17 06:24	17°15'47"	
conjunction	7700 Jan 17 09:04	29°30'28"	15°11'45"	opposition	7706 Aug 02 08:15	15°53'03"	13°55'02"
minimum elong	7700 Jan 17 09:19	29°30'29"	15°11'51"	min. Earth dist.	7706 Aug 02 15:26	15°52'33"	28.78621 AU
	7700 Feb 08 12:55	0°			7706 Sep 05 11:42	15°R	
retrograde	7700 May 01 14:01	1°48'08"		direct	7706 Oct 20 22:33	14°27'52"	
opposition	7700 Jul 17 02:16	0°25'01"	16°06'32"		7706 Dec 04 00:16	15°	
min. Earth dist.	7700 Jul 18 02:40	0°23'17"	28.73395 AU	evening set	7707 Jan 27 23:50	16°49'57"	
	7700 Aug 01 01:01	30°R					
direct	7700 Oct 04 11:42	28°35'12"		conjunction	7707 Feb 05 05:05	17°09'27"	12°48'16"
	7700 Dec 04 14:00	0°		minimum elong	7707 Feb 05 05:28	17°09'30"	12°48'21"
evening set	7701 Jan 18 19:31	1°40'25"		max. Earth dist.	7707 Feb 05 00:00	17°08'57"	30.75663 AU
max. Earth dist.	7701 Jan 19 06:10	1°41'30"	30.65083 AU	morning rise	7707 Feb 13 10:17	17°28'59"	
				retrograde	7707 May 19 23:06	19°47'06"	
conjunction	7701 Jan 20 05:59	1°43'53"	14°56'10"	opposition	7707 Aug 05 04:10	18°24'33"	13°27'22"
minimum elong	7701 Jan 20 06:16	1°43'55"	14°56'17"	min. Earth dist.	7707 Aug 05 08:47	18°24'14"	28.83619 AU
morning rise	7701 Jan 21 17:01	1°47'25"		direct	7707 Oct 23 19:38	16°59'36"	
retrograde	7701 May 04 11:10	4°24'25"		evening set	7708 Jan 30 01:19	19°19'17"	
opposition	7701 Jul 19 23:41	3°01'20"	15°49'02"				
min. Earth dist.	7701 Jul 20 20:37	2°59'51"	28.71520 AU	conjunction	7708 Feb 07 23:21	19°40'23"	12°21'46"
direct	7701 Oct 07 10:13	1°35'34"		minimum elong	7708 Feb 07 23:44	19°40'25"	12°21'50"

max. Earth dist.	7708 Feb 07 20:20	19° 30 40'05	30.81635 AU	min. Earth dist.	7714 Aug 21 21:12	5° 30 30'50	29.48398 AU
morning rise	7708 Feb 16 21:26	20° 30 01'29		direct	7714 Nov 10 14:50	4° 30 07'07	
retrograde	7708 May 21 17:45	22° 30 17'18		evening set	7715 Feb 12 00:19	6° 30 11'47	
opposition	7708 Aug 06 23:47	20° 30 54'57	12°58'16				
min. Earth dist.	7708 Aug 07 00:48	20° 30 54'53	28.89812 AU	conjunction	7715 Feb 24 15:29	6° 30 40'29	8°46'58
direct	7708 Oct 25 16:36	19° 30 30'16		minimum elong	7715 Feb 24 15:50	6° 30 40'31	8°47'01
evening set	7709 Jan 31 03:17	21° 30 47'38		max. Earth dist.	7715 Feb 25 07:17	6° 30 41'59	31.52320 AU
				morning rise	7715 Mar 09 06:02	7° 30 09'07	
conjunction	7709 Feb 09 17:08	22° 30 10'11	11°54'00	retrograde	7715 Jun 08 01:40	9° 30 10'47	
minimum elong	7709 Feb 09 17:33	22° 30 10'13	11°54'05	min. Earth dist.	7715 Aug 24 10:47	7° 30 51'19	29.61321 AU
max. Earth dist.	7709 Feb 09 18:19	22° 30 10'18	30.88764 AU	opposition	7715 Aug 25 03:13	7° 30 50'12	9°04'46
morning rise	7709 Feb 19 06:43	22° 30 32'43		direct	7715 Nov 13 06:12	6° 30 27'47	
retrograde	7709 May 24 09:56	24° 30 46'20		evening set	7716 Feb 14 04:27	8° 30 30'31	
opposition	7709 Aug 09 19:07	23° 30 24'12	12°27'53				
min. Earth dist.	7709 Aug 09 18:09	23° 30 24'16	28.97121 AU	conjunction	7716 Feb 27 04:53	8° 30 59'52	8°13'19
direct	7709 Oct 28 13:51	21° 30 59'50		minimum elong	7716 Feb 27 05:12	8° 30 59'54	8°13'22
evening set	7710 Feb 02 06:01	24° 30 14'56		max. Earth dist.	7716 Feb 27 23:46	9° 30 01'40	31.65997 AU
				morning rise	7716 Mar 11 04:25	9° 30 29'10	
conjunction	7710 Feb 12 10:20	24° 30 38'47	11°25'06	retrograde	7716 Jun 09 12:08	11° 30 29'04	
minimum elong	7710 Feb 12 10:42	24° 30 38'49	11°25'10	opposition	7716 Aug 26 18:24	10° 30 08'45	8°28'26
max. Earth dist.	7710 Feb 12 13:24	24° 30 39'05	30.96988 AU	min. Earth dist.	7716 Aug 25 23:36	10° 30 10'00	29.75113 AU
morning rise	7710 Feb 22 14:29	25° 30 02'37		direct	7716 Nov 14 23:50	8° 30 46'39	
retrograde	7710 May 27 03:26	27° 30 14'05		evening set	7717 Feb 15 08:28	10° 30 47'30	
opposition	7710 Aug 12 13:42	25° 30 52'12	11°56'19				
min. Earth dist.	7710 Aug 12 09:02	25° 30 52'31	29.05493 AU	conjunction	7717 Feb 28 17:09	11° 30 17'26	7°39'11
direct	7710 Oct 31 10:04	24° 30 28'08		minimum elong	7717 Feb 28 17:28	11° 30 17'28	7°39'14
evening set	7711 Feb 04 09:03	26° 30 41'03		max. Earth dist.	7717 Mar 01 13:48	11° 30 19'23	31.80546 AU
				morning rise	7717 Mar 14 01:11	11° 30 47'19	
conjunction	7711 Feb 15 03:06	27° 30 06'06	10°55'09	retrograde	7717 Jun 11 23:35	13° 30 45'30	
minimum elong	7711 Feb 15 03:30	27° 30 06'08	10°55'13	min. Earth dist.	7717 Aug 28 10:58	12° 30 26'54	29.89835 AU
max. Earth dist.	7711 Feb 15 09:39	27° 30 06'44	31.06225 AU	opposition	7717 Aug 29 08:52	12° 30 25'27	7°51'40
morning rise	7711 Feb 25 20:44	27° 30 31'07		direct	7717 Nov 17 14:30	11° 30 03'42	
retrograde	7711 May 29 18:48	29° 30 40'30		evening set	7718 Feb 17 12:29	13° 30 02'45	
opposition	7711 Aug 15 08:03	28° 30 18'52	11°23'42				
min. Earth dist.	7711 Aug 15 01:53	28° 30 19'18	29.14852 AU	conjunction	7718 Mar 03 04:57	13° 30 33'11	7°04'41
direct	7711 Nov 03 05:41	26° 30 55'08		minimum elong	7718 Mar 03 05:14	13° 30 33'13	7°04'43
evening set	7712 Feb 06 12:36	29° 30 05'54		max. Earth dist.	7718 Mar 04 05:17	13° 30 35'27	31.96017 AU
				morning rise	7718 Mar 16 20:25	14° 30 03'32	
conjunction	7712 Feb 17 19:09	29° 30 32'01	10°24'15	retrograde	7718 Jun 14 08:53	16° 30 00'06	
minimum elong	7712 Feb 17 19:32	29° 30 32'03	10°24'19	opposition	7718 Aug 31 22:33	14° 30 40'20	7°14'32
max. Earth dist.	7712 Feb 18 03:39	29° 30 32'51	31.16425 AU	min. Earth dist.	7718 Aug 30 22:46	14° 30 41'54	30.05494 AU
morning rise	7712 Feb 29 01:18	29° 30 58'06		direct	7718 Nov 20 05:21	13° 30 18'57	
	7712 Feb 29 21:13	0° 30		evening set	7719 Feb 19 16:40	15° 30 16'18	
retrograde	7712 May 31 11:14	2° 30 05'28					
opposition	7712 Aug 17 01:43	0° 30 44'06	10°50'07	conjunction	7719 Mar 05 15:51	15° 30 47'08	6°29'51
min. Earth dist.	7712 Aug 16 16:05	0° 30 44'46	29.25145 AU	minimum elong	7719 Mar 05 16:08	15° 30 47'09	6°29'53
	7712 Sep 14 11:52	30° 30		max. Earth dist.	7719 Mar 06 17:45	15° 30 49'32	32.12417 AU
direct	7712 Nov 05 02:07	29° 30 20'42		morning rise	7719 Mar 19 14:20	16° 30 17'53	
	7712 Dec 24 11:37	0° 30		retrograde	7719 Jun 16 20:09	18° 30 12'54	
evening set	7713 Feb 07 16:20	1° 30 29'23		min. Earth dist.	7719 Sep 02 08:04	16° 30 55'15	30.22099 AU
				opposition	7719 Sep 03 11:30	16° 30 53'27	6°37'09
conjunction	7713 Feb 19 10:40	1° 30 56'28	9°52'32	direct	7719 Nov 22 18:41	15° 30 32'28	
minimum elong	7713 Feb 19 11:03	1° 30 56'30	9°52'35	evening set	7720 Feb 21 20:37	17° 30 28'11	
max. Earth dist.	7713 Feb 19 21:58	1° 30 57'33	31.27523 AU				
morning rise	7713 Mar 03 04:29	2° 30 23'30		conjunction	7720 Mar 07 02:06	17° 30 59'21	5°54'49
retrograde	7713 Jun 03 00:28	4° 30 28'55		minimum elong	7720 Mar 07 02:20	17° 30 59'22	5°54'51
opposition	7713 Aug 19 19:00	3° 30 07'48	10°15'42	max. Earth dist.	7720 Mar 08 07:31	18° 30 02'03	32.29719 AU
min. Earth dist.	7713 Aug 19 07:44	3° 30 08'34	29.36343 AU	morning rise	7720 Mar 21 06:34	18° 30 30'26	
direct	7713 Nov 07 19:42	1° 30 44'44		retrograde	7720 Jun 18 05:40	20° 30 23'59	
evening set	7714 Feb 09 20:13	3° 30 51'22		opposition	7720 Sep 04 23:58	19° 30 04'52	5°59'35
				min. Earth dist.	7720 Sep 03 19:00	19° 30 06'45	30.39601 AU
conjunction	7714 Feb 22 01:25	4° 30 19'19	9°20'04	direct	7720 Nov 24 09:31	17° 30 44'19	
minimum elong	7714 Feb 22 01:46	4° 30 19'21	9°20'07	evening set	7721 Feb 23 00:43	19° 30 38'28	
max. Earth dist.	7714 Feb 22 15:12	4° 30 20'38	31.39504 AU				
morning rise	7714 Mar 06 05:56	4° 30 47'12		conjunction	7721 Mar 09 11:35	20° 30 09'53	5°19'39
retrograde	7714 Jun 05 13:09	6° 30 50'42		minimum elong	7721 Mar 09 11:48	20° 30 09'55	5°19'40
opposition	7714 Aug 22 11:27	5° 30 29'52	9°40'33	max. Earth dist.	7721 Mar 10 18:34	20° 30 12'43	32.47877 AU

morning rise	7721 Mar 23 21:35	20° H 41'14		direct	7727 Dec 10 13:56	2° Y 20'26	
retrograde	7721 Jun 20 16:17	22° H 33'23		evening set	7728 Mar 08 03:55	4° Y 05'22	
min. Earth dist.	7721 Sep 06 03:16	21° H 16'43	30.57938 AU				
opposition	7721 Sep 07 11:33	21° H 14'37	5°21'56	conjunction	7728 Mar 23 11:15	4° Y 36'52	1°15'56
direct	7721 Nov 26 23:18	19° H 54'30		minimum elong	7728 Mar 23 11:18	4° Y 36'53	1°15'55
evening set	7722 Feb 25 04:39	21° H 47'10		max. Earth dist.	7728 Mar 25 06:13	4° Y 40'36	33.91983 AU
				morning rise	7728 Apr 07 17:55	5° Y 08'20	
conjunction	7722 Mar 11 20:21	22° H 18'47	4°44'25	retrograde	7728 Jul 04 06:46	6° Y 52'20	
minimum elong	7722 Mar 11 20:33	22° H 18'48	4°44'26	min. Earth dist.	7728 Sep 20 05:41	5° Y 38'41	32.02982 AU
max. Earth dist.	7722 Mar 13 06:04	22° H 21'50	32.66794 AU	opposition	7728 Sep 22 02:20	5° Y 35'54	1°02'46
morning rise	7722 Mar 26 11:09	22° H 50'19		direct	7728 Dec 11 21:25	4° Y 18'37	
retrograde	7722 Jun 22 23:33	24° H 41'08		evening set	7729 Mar 10 07:15	6° Y 02'26	
opposition	7722 Sep 09 22:37	23° H 22'44	4°44'18				
min. Earth dist.	7722 Sep 08 13:00	23° H 24'54	30.77025 AU	conjunction	7729 Mar 25 15:20	6° Y 33'45	0°42'10
direct	7722 Nov 29 10:56	22° H 03'03		minimum elong	7729 Mar 25 15:21	6° Y 33'45	0°42'09
evening set	7723 Feb 27 08:42	23° H 54'17		max. Earth dist.	7729 Mar 27 12:46	6° Y 37'39	34.14334 AU
				morning rise	7729 Apr 09 22:37	7° Y 05'01	
conjunction	7723 Mar 14 04:33	24° H 26'02	4°09'14	retrograde	7729 Jul 06 10:09	8° Y 48'04	
minimum elong	7723 Mar 14 04:43	24° H 26'03	4°09'14	min. Earth dist.	7729 Sep 22 11:18	7° Y 34'44	32.25529 AU
max. Earth dist.	7723 Mar 15 16:07	24° H 29'14	32.86396 AU	opposition	7729 Sep 24 08:35	7° Y 31'56	0°27'05
morning rise	7723 Mar 28 23:25	24° H 57'42		direct	7729 Dec 14 05:23	6° Y 15'00	
retrograde	7723 Jun 25 06:21	26° H 47'13		evening set	7730 Mar 12 10:21	7° Y 57'47	
min. Earth dist.	7723 Sep 10 20:45	25° H 31'30	30.96761 AU				
opposition	7723 Sep 12 08:48	25° H 29'11	4°06'45	conjunction	7730 Mar 27 18:35	8° Y 28'52	0°08'51
direct	7723 Dec 02 00:19	24° H 09'56		minimum elong	7730 Mar 27 18:36	8° Y 28'52	0°08'50
evening set	7724 Feb 29 12:49	25° H 59'49		behind sun begin	7730 Mar 27 13:05	8° Y 28'25	
				behind sun end	7730 Mar 28 00:08	8° Y 29'19	
conjunction	7724 Mar 15 12:02	26° H 31'37	3°34'08	max. Earth dist.	7730 Mar 29 17:03	8° Y 32'49	34.37135 AU
minimum elong	7724 Mar 15 12:10	26° H 31'38	3°34'08	morning rise	7730 Apr 12 02:09	8° Y 59'54	
max. Earth dist.	7724 Mar 17 01:13	26° H 34'56	33.06583 AU	desc. node	7730 Jul 03 12:06	10° Y 41'40	
morning rise	7724 Mar 30 10:29	27° H 03'21		retrograde	7730 Jul 08 13:43	10° Y 42'03	
retrograde	7724 Jun 26 13:21	28° H 51'41		min. Earth dist.	7730 Sep 24 14:16	9° Y 29'10	32.48544 AU
min. Earth dist.	7724 Sep 12 04:43	27° H 36'24	31.17090 AU	opposition	7730 Sep 26 14:00	9° Y 26'13	-0°08'07
opposition	7724 Sep 13 18:35	27° H 33'59	3°29'23	direct	7730 Dec 16 13:11	8° Y 09'40	
direct	7724 Dec 03 10:20	26° H 15'10		evening set	7731 Mar 14 13:23	9° Y 51'29	
evening set	7725 Mar 02 16:37	28° H 03'43					
				conjunction	7731 Mar 29 21:14	10° Y 22'18	-0°24'08
conjunction	7725 Mar 17 18:51	28° H 35'32	2°59'12	minimum elong	7731 Mar 29 21:13	10° Y 22'18	0°24'09
minimum elong	7725 Mar 17 18:58	28° H 35'33	2°59'12	max. Earth dist.	7731 Mar 31 21:30	10° Y 26'22	34.60389 AU
max. Earth dist.	7725 Mar 19 10:18	28° H 39'02	33.27300 AU	morning rise	7731 Apr 14 04:32	10° Y 53'04	
morning rise	7725 Apr 01 20:03	29° H 07'17		retrograde	7731 Jul 10 15:04	12° Y 34'23	
	7725 Apr 29 10:59	0° Y		min. Earth dist.	7731 Sep 26 17:46	11° Y 21'53	32.72058 AU
retrograde	7725 Jun 28 17:17	0° Y 54'27		opposition	7731 Sep 28 18:51	11° Y 18'53	-0°42'49
	7725 Aug 31 20:36	30° H		direct	7731 Dec 18 18:38	10° Y 02'43	
min. Earth dist.	7725 Sep 14 12:25	29° H 39'35	31.37915 AU	evening set	7732 Mar 15 16:09	11° Y 43'37	
opposition	7725 Sep 16 03:37	29° H 37'06	2°52'14				
direct	7725 Dec 05 21:42	28° H 18'41		conjunction	7732 Mar 30 23:20	12° Y 14'08	-0°56'34
	7726 Mar 01 22:21	0° Y		minimum elong	7732 Mar 30 23:18	12° Y 14'08	0°56'36
evening set	7726 Mar 04 20:37	0° Y 05'59		max. Earth dist.	7732 Apr 02 01:31	12° Y 18'21	34.84126 AU
				morning rise	7732 Apr 15 05:48	12° Y 44'37	
conjunction	7726 Mar 20 00:59	0° Y 37'44	2°24'29	retrograde	7732 Jul 11 14:28	14° Y 25'10	
minimum elong	7726 Mar 20 01:05	0° Y 37'45	2°24'29	min. Earth dist.	7732 Sep 27 20:17	13° Y 13'06	32.96036 AU
max. Earth dist.	7726 Mar 21 17:01	0° Y 41'16	33.48461 AU	opposition	7732 Sep 29 23:04	13° Y 10'00	-1°16'57
morning rise	7726 Apr 04 04:41	1° Y 09'26		direct	7732 Dec 20 01:38	11° Y 54'15	
retrograde	7726 Jun 30 22:28	2° Y 55'30		evening set	7733 Mar 17 18:45	13° Y 34'18	
min. Earth dist.	7726 Sep 16 18:23	1° Y 41'05	31.59198 AU				
opposition	7726 Sep 18 11:46	1° Y 38'29	2°15'23	conjunction	7733 Apr 02 00:35	14° Y 04'30	-1°28'31
direct	7726 Dec 08 05:32	0° Y 20'27		minimum elong	7733 Apr 02 00:32	14° Y 04'30	1°28'32
evening set	7727 Mar 07 00:20	2° Y 06'32		max. Earth dist.	7733 Apr 04 03:38	14° Y 08'45	35.08286 AU
				morning rise	7733 Apr 17 06:04	14° Y 34'40	
conjunction	7727 Mar 22 06:37	2° Y 38'12	1°50'03	retrograde	7733 Jul 13 15:36	16° Y 14'31	
minimum elong	7727 Mar 22 06:42	2° Y 38'13	1°50'02	min. Earth dist.	7733 Sep 29 21:53	15° Y 02'54	33.20445 AU
max. Earth dist.	7727 Mar 24 01:06	2° Y 41'55	33.70030 AU	opposition	7733 Oct 02 02:40	14° Y 59'42	-1°50'31
morning rise	7727 Apr 06 11:55	3° Y 09'48		direct	7733 Dec 22 04:46	13° Y 44'22	
retrograde	7727 Jul 03 01:46	4° Y 54'48		evening set	7734 Mar 19 21:08	15° Y 23'38	
min. Earth dist.	7727 Sep 19 01:29	3° Y 40'43	31.80883 AU				
opposition	7727 Sep 20 19:27	3° Y 38'05	1°38'53	conjunction	7734 Apr 04 01:32	15° Y 53'29	-1°59'55

minimum elong	7734 Apr 04 01:27	15° Υ 53'28	1°59'57	evening set	7741 Apr 01 09:52	27° Υ 32'52	
max. Earth dist.	7734 Apr 06 06:47	15° Υ 57'53	35.32819 AU				
morning rise	7734 Apr 19 05:16	16° Υ 23'18		conjunction	7741 Apr 15 16:35	27° Υ 59'34	-5°23'31
retrograde	7734 Jul 15 14:31	18° Υ 02'30		minimum elong	7741 Apr 15 16:25	27° Υ 59'33	5°23'34
min. Earth dist.	7734 Oct 02 00:22	16° Υ 51'14	33.45192 AU	max. Earth dist.	7741 Apr 18 03:28	28° Υ 04'11	37.08923 AU
opposition	7734 Oct 04 05:31	16° Υ 48'02	-2°23'29	morning rise	7741 Apr 29 23:02	28° Υ 26'16	
direct	7734 Dec 24 08:57	15° Υ 33'08			7741 Jul 15 10:51	0° \mathcal{B}	
evening set	7735 Mar 21 23:33	17° Υ 11'40		retrograde	7741 Jul 27 01:49	0° \mathcal{B} 01'55	
					7741 Aug 07 23:49	30° $\mathcal{R}\Upsilon$	
conjunction	7735 Apr 06 01:46	17° Υ 41'07	-2°30'47	min. Earth dist.	7741 Oct 14 00:01	28° Υ 53'03	35.22445 AU
minimum elong	7735 Apr 06 01:40	17° Υ 41'07	2°30'49	opposition	7741 Oct 16 10:56	28° Υ 49'38	-5°56'02
max. Earth dist.	7735 Apr 08 07:08	17° Υ 45'30	35.57640 AU	direct	7742 Jan 05 20:50	27° Υ 37'17	
morning rise	7735 Apr 21 03:41	18° Υ 10'34		evening set	7742 Apr 03 10:54	29° Υ 11'40	
retrograde	7735 Jul 17 16:03	19° Υ 49'10					
min. Earth dist.	7735 Oct 04 00:34	18° Υ 38'22	33.70214 AU	conjunction	7742 Apr 17 13:07	29° Υ 37'51	-5°50'09
opposition	7735 Oct 06 07:55	18° Υ 35'04	-2°55'49	minimum elong	7742 Apr 17 12:56	29° Υ 37'50	5°50'12
direct	7735 Dec 26 10:16	17° Υ 20'34		max. Earth dist.	7742 Apr 19 23:41	29° Υ 42'25	37.34272 AU
evening set	7736 Mar 23 01:36	18° Υ 58'25			7742 Apr 29 10:39	0° \mathcal{B}	
				morning rise	7742 May 01 15:21	0° \mathcal{B} 04'02	
conjunction	7736 Apr 07 01:29	19° Υ 27'28	-3°01'04	retrograde	7742 Jul 28 22:50	1° \mathcal{B} 39'17	
minimum elong	7736 Apr 07 01:23	19° Υ 27'28	3°01'07	min. Earth dist.	7742 Oct 15 20:31	0° \mathcal{B} 30'46	35.48012 AU
max. Earth dist.	7736 Apr 09 08:56	19° Υ 31'59	35.82672 AU	opposition	7742 Oct 18 09:14	0° \mathcal{B} 27'16	-6°23'41
morning rise	7736 Apr 22 00:55	19° Υ 56'30			7742 Nov 07 14:13	30° $\mathcal{R}\Upsilon$	
retrograde	7736 Jul 18 16:38	21° Υ 34'33		direct	7743 Jan 07 18:27	29° Υ 15'12	
min. Earth dist.	7736 Oct 05 02:34	20° Υ 24'05	33.95429 AU		7743 Mar 06 21:34	0° \mathcal{B}	
opposition	7736 Oct 07 09:56	20° Υ 20'48	-3°27'31	evening set	7743 Apr 05 11:37	0° \mathcal{B} 49'08	
direct	7736 Dec 27 11:31	19° Υ 06'43					
evening set	7737 Mar 25 03:40	20° Υ 43'55		conjunction	7743 Apr 19 09:14	1° \mathcal{B} 14'46	-6°16'08
				minimum elong	7743 Apr 19 09:02	1° \mathcal{B} 14'46	6°16'11
conjunction	7737 Apr 09 00:44	21° Υ 12'32	-3°30'46	max. Earth dist.	7743 Apr 21 21:36	1° \mathcal{B} 19'27	37.59731 AU
minimum elong	7737 Apr 09 00:37	21° Υ 12'32	3°30'48	morning rise	7743 May 03 06:47	1° \mathcal{B} 40'25	
max. Earth dist.	7737 Apr 11 08:20	21° Υ 17'02	36.07854 AU	retrograde	7743 Jul 30 19:09	3° \mathcal{B} 15'20	
morning rise	7737 Apr 23 21:29	21° Υ 41'09		min. Earth dist.	7743 Oct 17 18:38	2° \mathcal{B} 07'02	35.73721 AU
retrograde	7737 Jul 20 16:23	23° Υ 18'40		opposition	7743 Oct 20 07:20	2° \mathcal{B} 03'34	-6°50'38
min. Earth dist.	7737 Oct 07 02:07	22° Υ 08'37	34.20763 AU	direct	7744 Jan 09 15:32	0° \mathcal{B} 51'49	
opposition	7737 Oct 09 11:07	22° Υ 05'15	-3°58'34	evening set	7744 Apr 06 12:01	2° \mathcal{B} 25'19	
direct	7737 Dec 29 13:09	20° Υ 51'33					
evening set	7738 Mar 27 05:35	22° Υ 28'09		conjunction	7744 Apr 20 04:42	2° \mathcal{B} 50'25	-6°41'28
				minimum elong	7744 Apr 20 04:31	2° \mathcal{B} 50'24	6°41'32
conjunction	7738 Apr 10 23:29	22° Υ 56'19	-3°59'52	max. Earth dist.	7744 Apr 22 17:29	2° \mathcal{B} 55'05	37.85340 AU
minimum elong	7738 Apr 10 23:22	22° Υ 56'19	3°59'56	morning rise	7744 May 03 21:20	3° \mathcal{B} 15'31	
max. Earth dist.	7738 Apr 13 07:58	23° Υ 00'51	36.33099 AU	retrograde	7744 Jul 31 14:38	4° \mathcal{B} 50'06	
morning rise	7738 Apr 25 17:13	23° Υ 24'29		min. Earth dist.	7744 Oct 18 14:21	3° \mathcal{B} 42'10	35.99572 AU
retrograde	7738 Jul 22 14:39	25° Υ 01'30		opposition	7744 Oct 21 04:46	3° \mathcal{B} 38'37	-7°16'52
min. Earth dist.	7738 Oct 09 02:46	23° Υ 51'45	34.46159 AU	direct	7745 Jan 10 14:05	2° \mathcal{B} 27'11	
opposition	7738 Oct 11 11:58	23° Υ 48'24	-4°28'56	evening set	7745 Apr 08 12:20	4° \mathcal{B} 00'19	
direct	7738 Dec 31 15:38	22° Υ 35'04					
evening set	7739 Mar 29 07:15	24° Υ 11'05		conjunction	7745 Apr 21 23:47	4° \mathcal{B} 24'52	-7°06'09
				minimum elong	7745 Apr 21 23:35	4° \mathcal{B} 24'51	7°06'12
conjunction	7739 Apr 12 21:48	24° Υ 38'47	-4°28'22	max. Earth dist.	7745 Apr 24 13:26	4° \mathcal{B} 29'34	38.11074 AU
minimum elong	7739 Apr 12 21:39	24° Υ 38'46	4°28'25	morning rise	7745 May 05 11:24	4° \mathcal{B} 49'25	
max. Earth dist.	7739 Apr 15 07:02	24° Υ 43'20	36.58371 AU	retrograde	7745 Aug 02 10:25	6° \mathcal{B} 23'42	
morning rise	7739 Apr 27 11:58	25° Υ 06'28		min. Earth dist.	7745 Oct 20 10:49	5° \mathcal{B} 16'04	36.25557 AU
retrograde	7739 Jul 24 10:27	26° Υ 43'00		opposition	7745 Oct 23 01:44	5° \mathcal{B} 12'30	-7°42'24
min. Earth dist.	7739 Oct 11 02:18	25° Υ 33'35	34.71555 AU	direct	7746 Jan 12 11:12	4° \mathcal{B} 01'25	
opposition	7739 Oct 13 12:07	25° Υ 30'12	-4°58'39	evening set	7746 Apr 10 12:21	5° \mathcal{B} 34'12	
direct	7740 Jan 02 19:24	24° Υ 17'12					
evening set	7740 Mar 30 08:50	25° Υ 52'40		conjunction	7746 Apr 23 18:32	5° \mathcal{B} 58'11	-7°30'11
				minimum elong	7746 Apr 23 18:20	5° \mathcal{B} 58'10	7°30'16
conjunction	7740 Apr 13 19:27	26° Υ 19'52	-4°56'15	max. Earth dist.	7746 Apr 26 09:17	6° \mathcal{B} 02'57	38.36915 AU
minimum elong	7740 Apr 13 19:18	26° Υ 19'52	4°56'19	morning rise	7746 May 07 00:38	6° \mathcal{B} 22'10	
max. Earth dist.	7740 Apr 16 04:40	26° Υ 24'24	36.83635 AU	retrograde	7746 Aug 04 03:11	7° \mathcal{B} 56'13	
morning rise	7740 Apr 28 06:04	26° Υ 47'05		min. Earth dist.	7746 Oct 22 06:54	6° \mathcal{B} 48'53	36.51605 AU
retrograde	7740 Jul 25 07:58	28° Υ 23'10		opposition	7746 Oct 24 22:11	6° \mathcal{B} 45'18	-8°07'14
min. Earth dist.	7740 Oct 12 00:47	27° Υ 14'04	34.96981 AU	direct	7747 Jan 14 10:07	5° \mathcal{B} 34'33	
opposition	7740 Oct 14 11:50	27° Υ 10'37	-5°27'41	evening set	7747 Apr 12 12:18	7° \mathcal{B} 07'03	
direct	7741 Jan 03 19:29	25° Υ 57'57					

conjunction	7747 Apr 25 12:39	7°830'27 -7°53'34	max. Earth dist.	7753 May 06 11:04	16°828'25 40.15604 AU
minimum elong	7747 Apr 25 12:27	7°830'26 7°53'38	morning rise	7753 May 15 04:53	16°843'33
max. Earth dist.	7747 Apr 28 03:12	7°835'10 38.62786 AU	retrograde	7753 Aug 14 00:41	18°816'35
morning rise	7747 May 08 13:17	7°853'52	min. Earth dist.	7753 Nov 01 17:38	17°811'05 38.31213 AU
retrograde	7747 Aug 05 21:11	9°827'42	opposition	7753 Nov 04 10:00	17°807'34 -10°42'08
min. Earth dist.	7747 Oct 24 01:42	8°820'43 36.77677 AU	direct	7754 Jan 25 01:28	15°858'58
opposition	7747 Oct 26 18:16	8°817'05 -8°31'22	evening set	7754 Apr 24 07:17	17°830'01
direct	7748 Jan 16 06:11	7°806'41			
evening set	7748 Apr 13 12:00	8°838'54	conjunction	7754 May 05 10:13	17°849'11 -10°19'49
			minimum elong	7754 May 05 09:59	17°849'10 10°19'55
conjunction	7748 Apr 26 06:39	9°801'43 -8°16'18	max. Earth dist.	7754 May 08 01:47	17°853'47 40.40404 AU
minimum elong	7748 Apr 26 06:26	9°801'42 8°16'24	morning rise	7754 May 16 13:27	18°808'23
max. Earth dist.	7748 Apr 28 22:43	9°806'31 38.88642 AU	retrograde	7754 Aug 15 15:40	19°841'20
morning rise	7748 May 09 01:17	9°824'33	min. Earth dist.	7754 Nov 03 09:36	18°836'07 38.56165 AU
retrograde	7748 Aug 06 13:33	10°858'13	opposition	7754 Nov 06 03:07	18°832'33 -11°01'39
min. Earth dist.	7748 Oct 24 22:02	9°851'28 37.03700 AU	direct	7755 Jan 26 19:19	17°824'12
opposition	7748 Oct 27 14:00	9°847'54 -8°54'48	evening set	7755 Apr 26 05:39	18°855'07
direct	7749 Jan 17 03:16	8°837'50			
evening set	7749 Apr 15 11:37	10°809'48	conjunction	7755 May 07 01:24	19°813'40 -10°38'18
			minimum elong	7755 May 07 01:12	19°813'39 10°38'24
conjunction	7749 Apr 28 00:03	10°832'01 -8°38'25	max. Earth dist.	7755 May 09 18:22	19°818'20 40.65091 AU
minimum elong	7749 Apr 27 23:51	10°832'00 8°38'29	morning rise	7755 May 17 21:18	19°832'14
max. Earth dist.	7749 Apr 30 15:24	10°836'45 39.14417 AU	retrograde	7755 Aug 17 07:13	21°805'08
morning rise	7749 May 10 12:42	10°854'16	min. Earth dist.	7755 Nov 05 03:06	20°800'05 38.81028 AU
retrograde	7749 Aug 08 08:32	12°827'47	opposition	7755 Nov 07 19:59	19°856'34 -11°20'33
min. Earth dist.	7749 Oct 26 16:00	11°821'22 37.29609 AU	direct	7756 Jan 28 12:17	18°848'30
opposition	7749 Oct 29 09:10	11°817'45 -9°17'34	evening set	7756 Apr 27 04:03	20°819'19
direct	7750 Jan 18 21:10	10°808'00			
evening set	7750 Apr 17 11:07	11°839'45	conjunction	7756 May 07 16:16	20°837'14 -10°56'10
			minimum elong	7756 May 07 16:03	20°837'13 10°56'16
conjunction	7750 Apr 29 17:18	12°801'23 -8°59'54	max. Earth dist.	7756 May 10 08:52	20°841'50 40.89723 AU
minimum elong	7750 Apr 29 17:05	12°801'22 9°00'00	morning rise	7756 May 18 04:38	20°855'10
max. Earth dist.	7750 May 02 09:23	12°806'08 39.40031 AU	retrograde	7756 Aug 17 23:36	22°828'02
morning rise	7750 May 11 23:42	12°823'03	min. Earth dist.	7756 Nov 05 18:08	21°823'17 39.05834 AU
retrograde	7750 Aug 10 02:24	13°856'25	opposition	7756 Nov 08 12:18	21°819'43 -11°38'48
min. Earth dist.	7750 Oct 28 11:41	12°850'13 37.55341 AU	direct	7757 Jan 29 02:55	20°811'55
opposition	7750 Oct 31 03:59	12°846'40 -9°39'41	evening set	7757 Apr 29 02:08	21°842'40
direct	7751 Jan 20 15:12	11°837'14			
evening set	7751 Apr 19 10:31	13°808'47	conjunction	7757 May 09 06:43	21°859'57 -11°13'27
			minimum elong	7757 May 09 06:31	21°859'56 11°13'33
conjunction	7751 May 01 10:14	13°829'49 -9°20'47	max. Earth dist.	7757 May 11 23:49	22°804'33 41.14291 AU
minimum elong	7751 May 01 10:01	13°829'48 9°20'52	morning rise	7757 May 19 11:35	22°817'15
max. Earth dist.	7751 May 04 02:07	13°834'31 39.65451 AU	retrograde	7757 Aug 19 14:51	23°850'07
morning rise	7751 May 13 10:00	13°850'52	min. Earth dist.	7757 Nov 07 10:30	22°845'35 39.30579 AU
	7751 Jun 29 09:20	15°8	opposition	7757 Nov 10 04:23	22°842'03 -11°56'24
retrograde	7751 Aug 11 18:47	15°824'06	direct	7758 Jan 30 18:19	21°834'32
	7751 Sep 25 13:45	15°88	evening set	7758 May 01 00:11	23°805'14
min. Earth dist.	7751 Oct 30 05:34	14°818'12 37.80844 AU			
opposition	7751 Nov 01 22:24	14°814'37 -10°01'08	conjunction	7758 May 10 21:01	23°821'53 -11°30'07
direct	7752 Jan 22 10:56	13°805'29	minimum elong	7758 May 10 20:48	23°821'52 11°30'13
evening set	7752 Apr 20 09:36	14°836'51	max. Earth dist.	7758 May 13 14:42	23°826'31 41.38789 AU
			morning rise	7758 May 20 17:54	23°838'32
conjunction	7752 May 02 02:31	14°857'16 -9°41'04	retrograde	7758 Aug 21 03:21	25°811'25
minimum elong	7752 May 02 02:18	14°857'15 9°41'09	min. Earth dist.	7758 Nov 09 01:51	24°807'09 39.55214 AU
	7752 May 03 15:51	15°8	opposition	7758 Nov 11 19:53	24°803'37 -12°13'24
max. Earth dist.	7752 May 04 18:06	15°801'55 39.90631 AU	direct	7759 Feb 01 11:18	22°856'23
morning rise	7752 May 13 19:46	15°817'43	evening set	7759 May 02 22:11	24°827'05
retrograde	7752 Aug 12 11:11	16°850'50			
min. Earth dist.	7752 Oct 30 23:35	15°845'09 38.06131 AU	conjunction	7759 May 12 10:52	24°843'05 -11°46'14
opposition	7752 Nov 02 16:32	15°841'36 -10°21'57	minimum elong	7759 May 12 10:40	24°843'04 11°46'20
	7752 Dec 06 13:28	15°88	max. Earth dist.	7759 May 15 03:55	24°847'38 41.63163 AU
direct	7753 Jan 23 05:28	14°832'44	morning rise	7759 May 21 23:50	24°859'05
	7753 Mar 10 07:08	15°8	retrograde	7759 Aug 22 17:35	26°832'01
evening set	7753 Apr 22 08:30	16°803'56	min. Earth dist.	7759 Nov 10 16:36	25°828'01 39.79719 AU
			opposition	7759 Nov 13 11:18	25°824'28 -12°29'46
conjunction	7753 May 03 18:40	16°823'44 -10°00'45	direct	7760 Feb 03 02:42	24°817'31
minimum elong	7753 May 03 18:28	16°823'43 10°00'49	evening set	7760 May 03 19:52	25°848'14

conjunction	7760 May 13 00:29	26° 8 03'34 -12°01'46	max. Earth dist.	7766 May 23 20:00	3° II 55'48 43.26090 AU
minimum elong	7760 May 13 00:17	26° 8 03'33 12°01'52	morning rise	7766 May 28 03:34	4° II 02'47
max. Earth dist.	7760 May 15 18:35	26° 8 08'11 41.87373 AU	retrograde	7766 Aug 31 09:13	5° II 36'29
morning rise	7760 May 22 05:11	26° 8 18'55	min. Earth dist.	7766 Nov 19 21:56	4° II 33'45 41.42836 AU
retrograde	7760 Aug 23 04:58	27° 8 51'56	opposition	7766 Nov 22 14:08	4° II 30'25 -14°08'55
min. Earth dist.	7760 Nov 11 08:48	26° 8 48'07 40.04016 AU	direct	7767 Feb 12 09:12	3° II 25'05
opposition	7760 Nov 14 02:26	26° 8 44'38 -12°45'34	evening set	7767 May 16 04:38	4° II 56'21
direct	7761 Feb 03 20:03	25° 8 37'58			
evening set	7761 May 05 17:49	27° 8 08'42	conjunction	7767 May 22 16:57	5° II 06'50 -13°36'01
			minimum elong	7767 May 22 16:46	5° II 06'49 13°36'08
conjunction	7761 May 14 13:54	27° 8 23'22 -12°16'45	max. Earth dist.	7767 May 25 08:28	5° II 11'06 43.48047 AU
minimum elong	7761 May 14 13:43	27° 8 23'21 12°16'52	morning rise	7767 May 29 05:17	5° II 17'20
max. Earth dist.	7761 May 17 06:54	27° 8 27'53 42.11354 AU	retrograde	7767 Sep 01 20:56	6° II 51'14
morning rise	7761 May 23 10:11	27° 8 38'04	min. Earth dist.	7767 Nov 21 12:09	5° II 48'36 41.64859 AU
retrograde	7761 Aug 24 19:14	29° 8 11'10	opposition	7767 Nov 24 03:09	5° II 45'20 -14°20'59
min. Earth dist.	7761 Nov 12 22:42	28° 8 07'37 40.28051 AU	direct	7768 Feb 13 23:21	4° II 40'13
opposition	7761 Nov 15 16:59	28° 8 04'06 -13°00'47	evening set	7768 May 17 02:37	6° II 11'39
direct	7762 Feb 05 10:42	26° 8 57'42			
evening set	7762 May 07 15:36	28° 8 28'30	conjunction	7768 May 23 04:22	6° II 21'23 -13°47'30
			minimum elong	7768 May 23 04:13	6° II 21'23 13°47'36
conjunction	7762 May 16 03:08	28° 8 42'30 -12°31'13	max. Earth dist.	7768 May 25 19:28	6° II 25'37 43.69803 AU
minimum elong	7762 May 16 02:56	28° 8 42'29 12°31'19	morning rise	7768 May 29 06:05	6° II 31'08
max. Earth dist.	7762 May 18 20:22	28° 8 47'00 42.35031 AU	retrograde	7768 Sep 02 09:41	8° II 05'15
morning rise	7762 May 24 14:50	28° 8 56'32	min. Earth dist.	7768 Nov 22 00:01	7° II 02'50 41.86676 AU
	7762 Jul 07 11:18	0° II	opposition	7768 Nov 24 15:42	6° II 59'33 -14°32'31
retrograde	7762 Aug 26 11:01	0° II 29'43	direct	7769 Feb 14 10:44	5° II 54'38
	7762 Oct 17 03:43	30° 8	evening set	7769 May 19 00:47	7° II 26'19
min. Earth dist.	7762 Nov 14 14:30	29° 8 26'19 40.51757 AU			
opposition	7762 Nov 17 07:32	29° 8 22'54 -13°15'28	conjunction	7769 May 24 15:34	7° II 35'17 -13°58'28
direct	7763 Feb 06 23:29	28° 8 16'45	minimum elong	7769 May 24 15:25	7° II 35'16 13°58'35
evening set	7763 May 09 13:26	29° 8 47'36	max. Earth dist.	7769 May 27 06:25	7° II 39'28 43.91359 AU
			morning rise	7769 May 30 06:22	7° II 44'15
conjunction	7763 May 17 16:04	0° II 00'55 -12°45'10	retrograde	7769 Sep 03 22:49	9° II 18'39
minimum elong	7763 May 17 15:53	0° II 00'54 12°45'17	min. Earth dist.	7769 Nov 23 12:43	8° II 16'23 42.08310 AU
	7763 May 17 02:41	0° II	opposition	7769 Nov 26 03:57	8° II 13'09 -14°43'32
max. Earth dist.	7763 May 20 08:48	0° II 05'22 42.58361 AU	direct	7770 Feb 15 20:31	7° II 08'27
morning rise	7763 May 25 18:46	0° II 14'16	evening set	7770 May 20 23:29	8° II 40'26
retrograde	7763 Aug 27 23:28	1° II 47'34			
min. Earth dist.	7763 Nov 16 04:39	0° II 44'22 40.75074 AU	conjunction	7770 May 26 02:41	8° II 48'35 -14°08'57
opposition	7763 Nov 18 21:40	0° II 40'58 -13°29'36	minimum elong	7770 May 26 02:33	8° II 48'35 14°09'04
	7763 Dec 23 23:07	30° 8	max. Earth dist.	7770 May 28 18:04	8° II 52'47 44.12735 AU
direct	7764 Feb 08 13:41	29° 8 35'02	morning rise	7770 May 31 05:48	8° II 56'44
	7764 Mar 24 17:40	0° II	retrograde	7770 Sep 05 07:34	10° II 31'29
evening set	7764 May 10 11:15	1° II 05'57	min. Earth dist.	7770 Nov 25 01:10	9° II 29'24 42.29726 AU
			opposition	7770 Nov 27 16:00	9° II 26'11 -14°54'03
conjunction	7764 May 18 04:43	1° II 18'36 -12°58'37	direct	7771 Feb 17 10:26	8° II 21'43
minimum elong	7764 May 18 04:32	1° II 18'35 12°58'43	evening set	7771 May 22 22:30	9° II 54'03
max. Earth dist.	7764 May 20 20:21	1° II 22'56 42.81297 AU			
morning rise	7764 May 25 22:22	1° II 31'15	conjunction	7771 May 27 13:16	10° II 01'22 -14°18'58
retrograde	7764 Aug 28 12:18	3° II 04'40	minimum elong	7771 May 27 13:07	10° II 01'21 14°19'05
min. Earth dist.	7764 Nov 16 19:00	2° II 01'37 40.98012 AU	max. Earth dist.	7771 May 30 03:26	10° II 05'28 44.33889 AU
opposition	7764 Nov 19 11:35	1° II 58'15 -13°43'14	morning rise	7771 Jun 01 03:57	10° II 08'40
direct	7765 Feb 09 03:19	0° II 52'32	retrograde	7771 Sep 06 17:19	11° II 43'48
evening set	7765 May 12 09:00	2° II 23'32	min. Earth dist.	7771 Nov 26 12:35	10° II 41'57 42.50913 AU
			opposition	7771 Nov 29 03:52	10° II 38'44 -15°04'05
conjunction	7765 May 19 17:11	2° II 35'29 -13°11'35	direct	7772 Feb 18 23:07	9° II 34'30
minimum elong	7765 May 19 17:00	2° II 35'28 13°11'42	evening set	7772 May 23 22:33	11° II 07'16
max. Earth dist.	7765 May 22 09:22	2° II 39'50 43.03863 AU			
morning rise	7765 May 27 01:21	2° II 47'25	conjunction	7772 May 27 23:54	11° II 13'40 -14°28'31
retrograde	7765 Aug 29 21:40	4° II 20'58	minimum elong	7772 May 27 23:47	11° II 13'39 14°28'38
min. Earth dist.	7765 Nov 18 09:36	3° II 18'02 41.20574 AU	max. Earth dist.	7772 May 30 14:51	11° II 17'48 44.54792 AU
opposition	7765 Nov 21 01:05	3° II 14'44 -13°56'20	morning rise	7772 Jun 01 01:10	11° II 20'03
direct	7766 Feb 10 19:41	2° II 09'13	retrograde	7772 Sep 07 03:38	12° II 55'40
evening set	7766 May 14 06:51	3° II 40'20	min. Earth dist.	7772 Nov 27 01:40	11° II 53'57 42.71816 AU
			opposition	7772 Nov 29 15:30	11° II 50'49 -15°13'38
conjunction	7766 May 21 05:10	3° II 51'33 -13°24'03	direct	7773 Feb 19 12:18	10° II 46'49
minimum elong	7766 May 21 05:00	3° II 51'33 13°24'09	evening set	7773 May 26 00:02	12° II 20'08

conjunction	7773 May 29 10:18	12°II25'31	-14°37'37	direct	7781 Mar 01 00:51	20°II06'35	
minimum elong	7773 May 29 10:10	12°II25'30	14°37'44				
morning rise	7773 Jun 01 20:25	12°II30'53		conjunction	7781 Jun 07 14:29	21°II41'41	-15°35'50
max. Earth dist.	7773 Jun 01 00:09	12°II29'34	44.75395 AU	minimum elong	7781 Jun 07 14:26	21°II41'41	15°35'57
retrograde	7773 Sep 08 15:22	14°II07'06		max. Earth dist.	7781 Jun 09 23:22	21°II45'16	46.25771 AU
min. Earth dist.	7773 Nov 28 12:31	13°II05'37	42.92375 AU	retrograde	7781 Sep 17 20:23	23°II19'50	
opposition	7773 Dec 01 02:46	13°II02'27	-15°22'43	min. Earth dist.	7781 Dec 08 04:07	22°II19'16	44.42241 AU
direct	7774 Feb 20 23:05	11°II58'41		opposition	7781 Dec 10 13:18	22°II16'26	-16°20'24
evening set	7774 May 28 04:01	13°II32'44		direct	7782 Mar 02 08:20	21°II13'58	
conjunction	7774 May 30 20:30	13°II36'56	-14°46'17	conjunction	7782 Jun 08 23:08	22°II48'41	-15°41'18
minimum elong	7774 May 30 20:24	13°II36'55	14°46'25	minimum elong	7782 Jun 08 23:04	22°II48'41	15°41'26
morning rise	7774 Jun 02 12:53	13°II41'07		max. Earth dist.	7782 Jun 11 08:46	22°II52'18	46.43164 AU
max. Earth dist.	7774 Jun 02 09:46	13°II40'55	44.95616 AU	retrograde	7782 Sep 19 02:31	24°II26'27	
retrograde	7774 Sep 10 04:03	15°II18'05		min. Earth dist.	7782 Dec 09 14:30	23°II25'58	44.59598 AU
min. Earth dist.	7774 Nov 30 01:08	14°II16'43	43.12535 AU	opposition	7782 Dec 11 22:35	23°II23'12	-16°25'44
opposition	7774 Dec 02 13:56	14°II13'39	-15°31'22	direct	7783 Mar 03 19:18	22°II20'54	
direct	7775 Feb 22 08:08	13°II10'05		conjunction	7783 Jun 10 07:31	23°II55'13	-15°46'23
evening set	7775 May 30 14:10	14°II45'16		minimum elong	7783 Jun 10 07:29	23°II55'13	15°46'30
conjunction	7775 Jun 01 06:43	14°II47'54	-14°54'33	max. Earth dist.	7783 Jun 12 15:55	23°II58'46	46.60322 AU
minimum elong	7775 Jun 01 06:35	14°II47'53	14°54'40	retrograde	7783 Sep 20 10:21	25°II32'38	
morning rise	7775 Jun 02 23:04	14°II50'30		min. Earth dist.	7783 Dec 10 22:58	24°II32'21	44.76706 AU
max. Earth dist.	7775 Jun 03 19:42	14°II51'51	45.15425 AU	opposition	7783 Dec 13 07:42	24°II29'33	-16°30'40
retrograde	7775 Sep 11 13:52	16°II28'37		direct	7784 Mar 04 04:48	23°II27'25	
min. Earth dist.	7775 Dec 01 12:45	15°II27'23	43.32238 AU	conjunction	7784 Jun 10 15:44	25°II01'22	-15°51'05
opposition	7775 Dec 04 00:54	15°II24'22	-15°39'36	minimum elong	7784 Jun 10 15:40	25°II01'22	15°51'13
direct	7776 Feb 23 18:00	14°II20'59		max. Earth dist.	7784 Jun 13 00:07	25°II04'54	46.77202 AU
conjunction	7776 Jun 01 16:29	15°II58'21	-15°02'25	retrograde	7784 Sep 20 19:47	26°II38'27	
minimum elong	7776 Jun 01 16:23	15°II58'20	15°02'33	min. Earth dist.	7784 Dec 11 09:37	25°II38'14	44.93513 AU
max. Earth dist.	7776 Jun 04 03:50	16°II02'10	45.34770 AU	opposition	7784 Dec 13 16:46	25°II35'32	-16°35'13
retrograde	7776 Sep 12 00:11	17°II38'38		direct	7785 Mar 05 14:54	24°II33'35	
min. Earth dist.	7776 Dec 01 23:51	16°II37'32	43.51480 AU	conjunction	7785 Jun 12 00:01	26°II07'10	-15°55'25
opposition	7776 Dec 04 11:40	16°II34'32	-15°47'26	minimum elong	7785 Jun 11 23:59	26°II07'10	15°55'32
direct	7777 Feb 24 04:13	15°II31'20		max. Earth dist.	7785 Jun 14 07:57	26°II10'40	46.93770 AU
conjunction	7777 Jun 03 02:17	17°II08'13	-15°09'54	retrograde	7785 Sep 22 05:31	27°II43'55	
minimum elong	7777 Jun 03 02:11	17°II08'13	15°10'01	min. Earth dist.	7785 Dec 12 18:25	26°II43'52	45.09959 AU
max. Earth dist.	7777 Jun 05 13:49	17°II12'03	45.53659 AU	opposition	7785 Dec 15 01:21	26°II41'10	-16°39'24
retrograde	7777 Sep 13 05:52	18°II48'04		direct	7786 Mar 06 22:19	25°II39'23	
min. Earth dist.	7777 Dec 03 11:51	17°II47'02	43.70271 AU	conjunction	7786 Jun 13 08:03	27°II12'39	-15°59'24
opposition	7777 Dec 05 22:01	17°II44'07	-15°54'51	minimum elong	7786 Jun 13 08:00	27°II12'39	15°59'31
direct	7778 Feb 25 18:26	16°II41'04		max. Earth dist.	7786 Jun 15 14:31	27°II16'02	47.09947 AU
conjunction	7778 Jun 04 11:42	18°II17'29	-15°16'59	retrograde	7786 Sep 23 15:47	28°II49'04	
minimum elong	7778 Jun 04 11:37	18°II17'29	15°17'07	min. Earth dist.	7786 Dec 14 04:04	27°II49'08	45.25999 AU
max. Earth dist.	7778 Jun 06 21:50	18°II21'13	45.72143 AU	opposition	7786 Dec 16 10:05	27°II46'30	-16°43'13
retrograde	7778 Sep 14 15:05	19°II56'54		direct	7787 Mar 08 04:26	26°II44'53	
min. Earth dist.	7778 Dec 04 21:37	18°II56'00	43.88684 AU	conjunction	7787 Jun 14 16:01	28°II17'49	-16°03'03
opposition	7778 Dec 07 08:08	18°II53'05	-16°01'52	minimum elong	7787 Jun 14 16:01	28°II17'49	16°03'11
direct	7779 Feb 27 06:07	17°II50'10		max. Earth dist.	7787 Jun 16 22:36	28°II21'12	47.25685 AU
conjunction	7779 Jun 05 20:44	19°II26'08	-15°23'40	retrograde	7787 Sep 24 21:11	29°II53'55	
minimum elong	7779 Jun 05 20:39	19°II26'08	15°23'47	min. Earth dist.	7787 Dec 15 14:05	28°II54'03	45.41553 AU
max. Earth dist.	7779 Jun 08 06:49	19°II29'50	45.90277 AU	opposition	7787 Dec 17 18:40	28°II51'29	-16°46'42
retrograde	7779 Sep 16 02:41	21°II05'07		direct	7788 Mar 08 14:41	27°II50'02	
min. Earth dist.	7779 Dec 06 08:55	20°II04'17	44.06790 AU	conjunction	7788 Jun 14 23:55	29°II22'38	-16°06'23
opposition	7779 Dec 08 18:13	20°II01'26	-16°08'28	minimum elong	7788 Jun 14 23:53	29°II22'38	16°06'30
direct	7780 Feb 28 15:37	18°II58'40		max. Earth dist.	7788 Jun 17 04:27	29°II25'53	47.40939 AU
conjunction	7780 Jun 06 05:48	20°II34'11	-15°29'57	retrograde	7788 Jul 10 22:43	0°II00'00	
minimum elong	7780 Jun 06 05:44	20°II34'11	15°30'05	min. Earth dist.	7788 Sep 25 03:48	0°II05'24	
max. Earth dist.	7780 Jun 08 15:53	20°II37'52	46.08147 AU	opposition	7788 Dec 14 19:15	30°II00'00	
retrograde	7780 Sep 16 11:06	22°II12'45		direct	7788 Dec 15 22:31	29°II58'40	45.56613 AU
min. Earth dist.	7780 Dec 06 18:27	21°II12'03	44.24631 AU	opposition	7788 Dec 18 02:56	29°II56'07	-16°49'52
opposition	7780 Dec 09 03:48	21°II09'12	-16°14'38	direct	7789 Mar 10 00:12	28°II54'48	

	7789 May 28 16:17	0°☾	conjunction	7797 Jun 24 15:41	8°☾49'19 -16°21'55
			minimum elong	7797 Jun 24 15:42	8°☾49'19 16°22'03
conjunction	7789 Jun 16 07:40	0°☾27'05 -16°09'24	max. Earth dist.	7797 Jun 26 15:13	8°☾52'10 48.61026 AU
minimum elong	7789 Jun 16 07:40	0°☾27'05 16°09'32	retrograde	7797 Oct 04 23:08	10°☾22'30
max. Earth dist.	7789 Jun 18 11:51	0°☾30'17 47.55692 AU	min. Earth dist.	7797 Dec 26 00:58	9°☾23'31 46.75393 AU
retrograde	7789 Sep 26 12:16	2°☾02'32	opposition	7797 Dec 27 22:20	9°☾21'22 -17°03'28
min. Earth dist.	7789 Dec 17 08:46	1°☾02'49 45.71182 AU	direct	7798 Mar 19 18:10	8°☾21'12
opposition	7789 Dec 19 11:11	1°☾00'22 -16°52'43			
	7790 Mar 02 19:51	30°☿II	conjunction	7798 Jun 25 22:08	9°☾50'53 -16°22'04
direct	7790 Mar 11 09:52	29°II59'11	minimum elong	7798 Jun 25 22:11	9°☾50'54 16°22'12
	7790 Mar 19 18:14	0°☾	max. Earth dist.	7798 Jun 27 19:46	9°☾53'37 48.72700 AU
			retrograde	7798 Oct 06 04:04	11°☾23'50
conjunction	7790 Jun 17 15:10	1°☾31'06 -16°12'06	min. Earth dist.	7798 Dec 27 08:10	10°☾24'57 46.86843 AU
minimum elong	7790 Jun 17 15:09	1°☾31'06 16°12'13	opposition	7798 Dec 29 05:09	10°☾22'49 -17°03'23
max. Earth dist.	7790 Jun 19 18:32	1°☾34'15 47.69994 AU	direct	7799 Mar 21 00:20	9°☾22'46
retrograde	7790 Sep 27 20:00	3°☾06'14			
min. Earth dist.	7790 Dec 18 16:33	2°☾06'38 45.85313 AU	conjunction	7799 Jun 27 04:43	10°☾52'14 -16°21'57
opposition	7790 Dec 20 19:02	2°☾04'11 -16°55'15	minimum elong	7799 Jun 27 04:45	10°☾52'14 16°22'05
direct	7791 Mar 12 17:43	1°☾03'07	max. Earth dist.	7799 Jun 29 01:59	10°☾54'56 48.83898 AU
			retrograde	7799 Oct 07 09:04	12°☾24'56
conjunction	7791 Jun 18 22:25	2°☾34'43 -16°14'29	min. Earth dist.	7799 Dec 28 17:10	11°☾26'04 46.97787 AU
minimum elong	7791 Jun 18 22:25	2°☾34'43 16°14'38	opposition	7799 Dec 30 12:01	11°☾24'01 -17°03'01
max. Earth dist.	7791 Jun 21 00:30	2°☾37'46 47.83896 AU	direct	7800 Mar 22 09:03	10°☾24'06
retrograde	7791 Sep 29 05:34	4°☾09'31			
min. Earth dist.	7791 Dec 20 01:25	3°☾09'59 45.99094 AU	conjunction	7800 Jun 28 11:13	11°☾53'18 -16°21'34
opposition	7791 Dec 22 02:55	3°☾07'35 -16°57'26	minimum elong	7800 Jun 28 11:17	11°☾53'18 16°21'42
direct	7792 Mar 12 22:47	2°☾06'38	max. Earth dist.	7800 Jun 30 07:08	11°☾55'55 48.94585 AU
			retrograde	7800 Oct 08 15:23	13°☾25'46
conjunction	7792 Jun 19 05:37	3°☾37'56 -16°16'33	min. Earth dist.	7800 Dec 29 23:57	12°☾26'59 47.08185 AU
minimum elong	7792 Jun 19 05:38	3°☾37'56 16°16'39	opposition	7800 Dec 31 18:37	12°☾24'57 -17°02'24
max. Earth dist.	7792 Jun 21 08:12	3°☾41'00 47.97476 AU	direct	7801 Mar 23 17:12	11°☾25'06
retrograde	7792 Sep 29 10:55	5°☾12'25			
min. Earth dist.	7792 Dec 20 09:55	4°☾12'57 46.12551 AU	conjunction	7801 Jun 29 17:34	12°☾54'03 -16°20'56
opposition	7792 Dec 22 10:32	4°☾10'36 -16°59'16	minimum elong	7801 Jun 29 17:37	12°☾54'04 16°21'03
direct	7793 Mar 14 06:18	3°☾09'47	max. Earth dist.	7801 Jul 01 11:42	12°☾56'33 49.04722 AU
			retrograde	7801 Oct 10 00:08	14°☾26'16
conjunction	7793 Jun 20 12:38	4°☾40'46 -16°18'16	min. Earth dist.	7801 Dec 31 08:13	13°☾27'28 47.18058 AU
minimum elong	7793 Jun 20 12:39	4°☾40'46 16°18'24	opposition	7802 Jan 02 01:06	13°☾25'32 -17°01'31
max. Earth dist.	7793 Jun 22 13:41	4°☾43'45 48.10763 AU	direct	7802 Mar 24 22:52	12°☾25'45
retrograde	7793 Sep 30 16:56	6°☾14'58			
min. Earth dist.	7793 Dec 21 16:57	5°☾15'38 46.25730 AU	conjunction	7802 Jun 30 23:52	13°☾54'27 -16°20'03
opposition	7793 Dec 23 17:48	5°☾13'17 -17°00'46	minimum elong	7802 Jun 30 23:57	13°☾54'28 16°20'11
direct	7794 Mar 15 13:18	4°☾12'35	max. Earth dist.	7802 Jul 02 18:00	13°☾56'57 49.14364 AU
			retrograde	7802 Oct 11 06:16	15°☾26'24
conjunction	7794 Jun 21 19:34	5°☾43'18 -16°19'40	min. Earth dist.	7803 Jan 01 15:34	14°☾27'37 47.27446 AU
minimum elong	7794 Jun 21 19:36	5°☾43'18 16°19'47	opposition	7803 Jan 03 07:28	14°☾25'44 -17°00'23
max. Earth dist.	7794 Jun 23 20:41	5°☾46'16 48.23771 AU	direct	7803 Mar 26 04:12	13°☾26'01
retrograde	7794 Oct 01 22:33	7°☾17'14			
min. Earth dist.	7794 Dec 23 01:53	6°☾17'57 46.38625 AU	conjunction	7803 Jul 02 05:44	14°☾54'28 -16°18'54
opposition	7794 Dec 25 01:13	6°☾15'40 -17°01'56	minimum elong	7803 Jul 02 05:48	14°☾54'29 16°19'01
direct	7795 Mar 16 23:57	5°☾15'06	max. Earth dist.	7803 Jul 03 22:00	14°☾56'51 49.23567 AU
			retrograde	7803 Oct 12 12:34	16°☾26'10
conjunction	7795 Jun 23 02:17	6°☾45'32 -16°20'43	min. Earth dist.	7804 Jan 02 22:02	15°☾27'26 47.36438 AU
minimum elong	7795 Jun 23 02:18	6°☾45'32 16°20'51	opposition	7804 Jan 04 13:44	15°☾25'34 -16°58'58
max. Earth dist.	7795 Jun 25 02:51	6°☾48'28 48.36511 AU	direct	7804 Mar 26 09:04	14°☾25'55
retrograde	7795 Oct 03 07:01	8°☾19'13			
min. Earth dist.	7795 Dec 24 08:48	7°☾20'05 46.51225 AU	conjunction	7804 Jul 02 11:44	15°☾54'08 -16°17'29
opposition	7795 Dec 26 08:23	7°☾17'48 -17°02'46	minimum elong	7804 Jul 02 11:49	15°☾54'09 16°17'37
direct	7796 Mar 17 07:27	6°☾17'22	max. Earth dist.	7804 Jul 04 03:59	15°☾56'30 49.32392 AU
			retrograde	7804 Oct 12 15:34	17°☾25'37
conjunction	7796 Jun 23 08:55	7°☾47'32 -16°21'28	min. Earth dist.	7805 Jan 03 05:49	16°☾26'52 47.45073 AU
minimum elong	7796 Jun 23 08:58	7°☾47'33 16°21'36	opposition	7805 Jan 04 19:47	16°☾25'04 -16°57'16
max. Earth dist.	7796 Jun 25 08:22	7°☾50'23 48.48939 AU	direct	7805 Mar 27 17:50	15°☾25'29
retrograde	7796 Oct 03 17:25	9°☾20'58			
min. Earth dist.	7796 Dec 24 17:01	8°☾21'54 46.63506 AU	conjunction	7805 Jul 03 17:38	16°☾53'29 -16°15'47
opposition	7796 Dec 26 15:25	8°☾19'41 -17°03'16	minimum elong	7805 Jul 03 17:43	16°☾53'30 16°15'54
direct	7797 Mar 18 11:11	7°☾19'24	max. Earth dist.	7805 Jul 05 09:02	16°☾55'48 49.40901 AU

retrograde	7805 Oct 13 20:55	18°☾24'45	direct	7814 Apr 05 15:40	24°☾14'12
min. Earth dist.	7806 Jan 04 11:25	17°☾26'06 47.53392 AU			
opposition	7806 Jan 06 01:41	17°☾24'17 -16°55'16	conjunction	7814 Jul 12 19:20	25°☾40'48 -15°48'35
direct	7806 Mar 29 01:18	16°☾24'47	minimum elong	7814 Jul 12 19:27	25°☾40'48 15°48'41
			max. Earth dist.	7814 Jul 14 02:17	25°☾42'35 50.01278 AU
conjunction	7806 Jul 04 23:13	17°☾52'36 -16°13'48	retrograde	7814 Oct 23 01:23	27°☾10'37
minimum elong	7806 Jul 04 23:18	17°☾52'36 16°13'55	min. Earth dist.	7815 Jan 13 23:07	26°☾12'15 48.11414 AU
max. Earth dist.	7806 Jul 06 13:32	17°☾54'50 49.49098 AU	opposition	7815 Jan 15 03:44	26°☾10'55 -16°25'19
retrograde	7806 Oct 15 05:54	19°☾23'40	direct	7815 Apr 06 23:05	25°☾12'08
min. Earth dist.	7807 Jan 05 18:40	18°☾25'02 47.61417 AU			
opposition	7807 Jan 07 07:39	18°☾23'17 -16°52'59	conjunction	7815 Jul 14 00:34	26°☾38'35 -15°44'22
direct	7807 Mar 30 05:32	17°☾23'53	minimum elong	7815 Jul 14 00:42	26°☾38'35 15°44'30
			max. Earth dist.	7815 Jul 15 06:29	26°☾40'18 50.05705 AU
conjunction	7807 Jul 06 04:57	18°☾51'30 -16°11'32	retrograde	7815 Oct 24 04:05	28°☾08'15
minimum elong	7807 Jul 06 05:03	18°☾51'31 16°11'39	min. Earth dist.	7816 Jan 15 04:07	27°☾09'55 48.15571 AU
max. Earth dist.	7807 Jul 07 19:30	18°☾53'45 49.57015 AU	opposition	7816 Jan 16 08:46	27°☾08'35 -16°20'47
retrograde	7807 Oct 16 11:28	20°☾22'24	direct	7816 Apr 07 07:10	26°☾09'49
min. Earth dist.	7808 Jan 07 00:54	19°☾23'51 47.69135 AU			
opposition	7808 Jan 08 13:24	19°☾22'07 -16°50'25	conjunction	7816 Jul 14 05:38	27°☾36'07 -15°39'56
direct	7808 Mar 30 10:49	18°☾22'49	minimum elong	7816 Jul 14 05:45	27°☾36'07 15°40'02
			max. Earth dist.	7816 Jul 15 10:13	27°☾37'45 50.09748 AU
conjunction	7808 Jul 06 10:26	19°☾50'17 -16°08'59	retrograde	7816 Oct 24 11:48	29°☾05'38
minimum elong	7808 Jul 06 10:32	19°☾50'17 16°09'07	min. Earth dist.	7817 Jan 15 10:47	28°☾07'16 48.19377 AU
max. Earth dist.	7808 Jul 07 23:17	19°☾52'25 49.64626 AU	opposition	7817 Jan 16 13:53	28°☾06'00 -16°16'00
retrograde	7808 Oct 16 16:46	21°☾21'00	direct	7817 Apr 08 12:41	27°☾07'16
min. Earth dist.	7809 Jan 07 07:00	20°☾22'32 47.76536 AU			
opposition	7809 Jan 08 19:06	20°☾20'50 -16°47'34	conjunction	7817 Jul 15 10:48	28°☾33'25 -15°35'14
direct	7809 Mar 31 14:28	19°☾21'38	minimum elong	7817 Jul 15 10:56	28°☾33'26 15°35'21
			max. Earth dist.	7817 Jul 16 15:32	28°☾35'04 50.13467 AU
conjunction	7809 Jul 07 16:03	20°☾48'57 -16°06'11		7817 Oct 09 07:00	0°♂
minimum elong	7809 Jul 07 16:10	20°☾48'58 16°06'17	retrograde	7817 Oct 25 17:09	0°♂02'48
max. Earth dist.	7809 Jul 09 04:51	20°☾51'06 49.71886 AU		7817 Nov 11 04:18	30°♂☾
retrograde	7809 Oct 17 20:16	22°☾19'32	opposition	7818 Jan 17 18:42	29°☾03'12 -16°10'57
min. Earth dist.	7810 Jan 08 14:24	21°☾21'04 47.83555 AU	min. Earth dist.	7818 Jan 16 16:00	29°☾04'27 48.22860 AU
opposition	7810 Jan 10 00:40	21°☾19'28 -16°44'27	direct	7818 Apr 09 17:24	28°☾04'30
direct	7810 Apr 01 21:43	20°☾20'22			
			conjunction	7818 Jul 16 15:43	29°☾30'32 -15°30'17
conjunction	7810 Jul 08 21:36	21°☾47'33 -16°03'07	minimum elong	7818 Jul 16 15:52	29°☾30'33 15°30'23
minimum elong	7810 Jul 08 21:42	21°☾47'33 16°03'14	max. Earth dist.	7818 Jul 17 18:47	29°☾32'05 50.16893 AU
max. Earth dist.	7810 Jul 10 09:10	21°☾49'37 49.78759 AU		7818 Aug 07 11:57	0°♂
retrograde	7810 Oct 19 01:33	23°☾18'00	retrograde	7818 Oct 26 23:23	0°♂59'47
min. Earth dist.	7811 Jan 09 19:55	22°☾19'39 47.90148 AU	opposition	7819 Jan 18 23:39	0°♂00'14 -16°05'39
opposition	7811 Jan 11 06:10	22°☾18'02 -16°41'05	min. Earth dist.	7819 Jan 17 21:19	0°♂01'27 48.26067 AU
direct	7811 Apr 03 04:22	21°☾19'02		7819 Jan 19 04:31	30°♂☾
			direct	7819 Apr 10 19:21	29°☾01'34
conjunction	7811 Jul 10 02:58	22°☾46'04 -15°59'49		7819 Jun 27 11:37	0°♂
minimum elong	7811 Jul 10 03:05	22°☾46'05 15°59'56			
max. Earth dist.	7811 Jul 11 13:00	22°☾48'03 49.85162 AU	conjunction	7819 Jul 17 20:37	0°♂27'30 -15°25'05
retrograde	7811 Oct 20 09:43	24°☾16'23	minimum elong	7819 Jul 17 20:45	0°♂27'30 15°25'12
min. Earth dist.	7812 Jan 11 03:32	23°☾18'02 47.96251 AU	max. Earth dist.	7819 Jul 18 23:45	0°♂29'03 50.20032 AU
opposition	7812 Jan 12 11:49	23°☾16'31 -16°37'29	retrograde	7819 Oct 28 02:07	1°♂56'38
direct	7812 Apr 03 09:42	22°☾17'36	min. Earth dist.	7820 Jan 19 03:45	0°♂58'16 48.28974 AU
			opposition	7820 Jan 20 04:37	0°♂57'07 -16°00'05
conjunction	7812 Jul 10 08:39	23°☾44'30 -15°56'17		7820 Mar 30 09:30	30°♂☾
minimum elong	7812 Jul 10 08:45	23°☾44'30 15°56'24	direct	7820 Apr 11 00:53	29°☾58'31
max. Earth dist.	7812 Jul 11 18:20	23°☾46'27 49.91058 AU		7820 Apr 22 17:20	0°♂
retrograde	7812 Oct 20 16:40	25°☾14'39			
min. Earth dist.	7813 Jan 11 09:51	24°☾16'19 48.01812 AU	conjunction	7820 Jul 18 01:36	1°♂24'21 -15°19'38
opposition	7813 Jan 12 17:06	24°☾14'52 -16°33'39	minimum elong	7820 Jul 18 01:46	1°♂24'21 15°19'45
direct	7813 Apr 04 13:15	23°☾16'00	max. Earth dist.	7820 Jul 19 03:47	1°♂25'51 50.22887 AU
			retrograde	7820 Oct 28 05:24	2°♂53'23
conjunction	7813 Jul 11 14:03	24°☾42'46 -15°52'33	min. Earth dist.	7821 Jan 19 08:11	1°♂55'06 48.31574 AU
minimum elong	7813 Jul 11 14:11	24°☾42'46 15°52'40	opposition	7821 Jan 20 09:15	1°♂53'56 -15°54'16
max. Earth dist.	7813 Jul 12 21:23	24°☾44'34 49.96422 AU	direct	7821 Apr 12 06:20	0°♂55'23
retrograde	7813 Oct 21 23:44	26°☾12'45			
opposition	7814 Jan 13 22:26	25°☾13'01 -16°29'36	conjunction	7821 Jul 19 06:31	2°♂21'08 -15°13'56
min. Earth dist.	7814 Jan 12 15:58	25°☾14'26 48.06856 AU	minimum elong	7821 Jul 19 06:39	2°♂21'09 15°14'03

max. Earth dist.	7821 Jul 20 07:21	2°Ω22'33	50.25402 AU	retrograde	7828 Nov 05 02:22	10°Ω26'08	
retrograde	7821 Oct 29 11:56	3°Ω50'06		opposition	7829 Jan 27 22:34	9°Ω26'58	-14°59'40
opposition	7822 Jan 21 14:07	2°Ω50'43	-15°48'12	min. Earth dist.	7829 Jan 27 06:45	9°Ω27'42	48.35983 AU
min. Earth dist.	7822 Jan 20 14:55	2°Ω51'48	48.33816 AU	direct	7829 Apr 19 17:05	8°Ω28'38	
direct	7822 Apr 13 11:53	1°Ω52'13		evening set	7829 Jul 22 07:03	9°Ω47'40	
conjunction	7822 Jul 20 11:26	3°Ω17'54	-15°08'01	conjunction	7829 Jul 26 21:54	9°Ω53'57	-14°20'37
minimum elong	7822 Jul 20 11:36	3°Ω17'55	15°08'07	minimum elong	7829 Jul 26 22:05	9°Ω53'58	14°20'43
max. Earth dist.	7822 Jul 21 12:16	3°Ω19'19	50.27536 AU	max. Earth dist.	7829 Jul 27 14:18	9°Ω54'53	50.28811 AU
retrograde	7822 Oct 30 18:10	4°Ω46'48		morning rise	7829 Jul 31 13:23	10°Ω00'15	
opposition	7823 Jan 22 18:52	3°Ω47'29	-15°41'54	retrograde	7829 Nov 06 04:37	11°Ω22'24	
min. Earth dist.	7823 Jan 21 20:19	3°Ω48'32	48.35629 AU	opposition	7830 Jan 29 03:05	10°Ω23'15	-14°51'50
direct	7823 Apr 14 16:11	2°Ω49'03		min. Earth dist.	7830 Jan 28 12:41	10°Ω23'55	48.34567 AU
conjunction	7823 Jul 21 16:23	4°Ω14'41	-15°01'52	direct	7830 Apr 20 22:04	9°Ω24'55	
minimum elong	7823 Jul 21 16:31	4°Ω14'41	15°01'58	evening set	7830 Jul 23 01:40	10°Ω43'22	
max. Earth dist.	7823 Jul 22 14:55	4°Ω15'58	50.29217 AU	conjunction	7830 Jul 28 02:32	10°Ω50'13	-14°12'58
retrograde	7823 Nov 01 01:40	5°Ω43'30		minimum elong	7830 Jul 28 02:43	10°Ω50'14	14°13'05
opposition	7824 Jan 23 23:36	4°Ω44'15	-15°35'23	max. Earth dist.	7830 Jul 28 18:02	10°Ω51'06	50.27361 AU
min. Earth dist.	7824 Jan 23 02:03	4°Ω45'14	48.36966 AU	morning rise	7830 Aug 02 04:03	10°Ω57'06	
direct	7824 Apr 14 17:29	3°Ω45'51		retrograde	7830 Nov 07 06:59	12°Ω18'38	
evening set	7824 Jul 20 08:14	5°Ω09'19		opposition	7831 Jan 30 07:30	11°Ω19'30	-14°43'46
conjunction	7824 Jul 21 21:29	5°Ω11'26	-14°55'30	min. Earth dist.	7831 Jan 29 16:51	11°Ω20'11	48.32845 AU
minimum elong	7824 Jul 21 21:39	5°Ω11'26	14°55'37	direct	7831 Apr 22 03:29	10°Ω21'10	
morning rise	7824 Jul 23 11:09	5°Ω13'34		evening set	7831 Jul 23 20:52	11°Ω39'06	
max. Earth dist.	7824 Jul 22 19:25	5°Ω12'41	50.30378 AU	conjunction	7831 Jul 29 07:16	11°Ω46'28	-14°05'05
retrograde	7824 Nov 01 05:09	6°Ω40'11		minimum elong	7831 Jul 29 07:27	11°Ω46'29	14°05'11
min. Earth dist.	7825 Jan 23 08:55	5°Ω41'52	48.37751 AU	max. Earth dist.	7831 Jul 29 21:29	11°Ω47'17	50.25601 AU
opposition	7825 Jan 24 04:25	5°Ω40'58	-15°28'40	morning rise	7831 Aug 03 18:26	11°Ω53'53	
direct	7825 Apr 15 22:50	4°Ω42'36		retrograde	7831 Nov 08 12:52	13°Ω14'53	
evening set	7825 Jul 20 15:39	6°Ω04'46		opposition	7832 Jan 31 11:59	12°Ω15'46	-14°35'27
conjunction	7825 Jul 23 02:31	6°Ω08'07	-14°48'57	min. Earth dist.	7832 Jan 30 23:02	12°Ω16'22	48.30823 AU
minimum elong	7825 Jul 23 02:40	6°Ω08'08	14°49'03	direct	7832 Apr 22 09:05	11°Ω17'27	
max. Earth dist.	7825 Jul 23 22:55	6°Ω09'17	50.31001 AU	evening set	7832 Jul 23 16:40	12°Ω34'52	
morning rise	7825 Jul 25 13:47	6°Ω11'30		conjunction	7832 Jul 29 12:09	12°Ω42'45	-13°56'58
retrograde	7825 Nov 02 07:35	7°Ω36'49		minimum elong	7832 Jul 29 12:19	12°Ω42'45	13°57'04
opposition	7826 Jan 25 08:57	6°Ω37'37	-15°21'45	max. Earth dist.	7832 Jul 30 02:25	12°Ω43'33	50.23544 AU
min. Earth dist.	7826 Jan 24 13:45	6°Ω38'30	48.37996 AU	morning rise	7832 Aug 04 08:19	12°Ω50'41	
direct	7826 Apr 17 05:45	5°Ω39'16		retrograde	7832 Nov 08 19:03	14°Ω11'10	
evening set	7826 Jul 21 04:38	7°Ω00'29		opposition	7833 Jan 31 16:23	13°Ω12'04	-14°26'54
conjunction	7826 Jul 24 07:23	7°Ω04'44	-14°42'12	min. Earth dist.	7833 Jan 31 03:46	13°Ω12'40	48.28471 AU
minimum elong	7826 Jul 24 07:34	7°Ω04'44	14°42'18	direct	7833 Apr 23 13:38	12°Ω13'47	
max. Earth dist.	7826 Jul 25 02:01	7°Ω05'47	50.31094 AU	evening set	7833 Jul 24 12:50	13°Ω30'43	
morning rise	7826 Jul 27 10:38	7°Ω09'00		conjunction	7833 Jul 30 16:51	13°Ω39'05	-13°48'36
retrograde	7826 Nov 03 14:09	8°Ω33'21		minimum elong	7833 Jul 30 17:03	13°Ω39'06	13°48'42
opposition	7827 Jan 26 13:41	7°Ω34'10	-15°14'36	max. Earth dist.	7833 Jul 31 05:09	13°Ω39'47	50.21147 AU
min. Earth dist.	7827 Jan 25 20:27	7°Ω34'58	48.37746 AU	morning rise	7833 Aug 05 21:45	13°Ω47'30	
direct	7827 Apr 18 11:08	6°Ω35'50			7833 Oct 13 23:18	15°Ω	
evening set	7827 Jul 21 20:04	7°Ω56'14		retrograde	7833 Nov 10 03:26	15°Ω07'30	
conjunction	7827 Jul 25 12:14	8°Ω01'14	-14°35'14		7833 Dec 07 06:58	15°Ω	
minimum elong	7827 Jul 25 12:24	8°Ω01'14	14°35'19	opposition	7834 Feb 01 20:45	14°Ω08'27	-14°18'06
max. Earth dist.	7827 Jul 26 06:47	8°Ω02'17	50.30727 AU	min. Earth dist.	7834 Feb 01 08:58	14°Ω08'59	48.25766 AU
morning rise	7827 Jul 29 04:53	8°Ω06'16		direct	7834 Apr 24 13:33	13°Ω10'10	
retrograde	7827 Nov 04 19:53	9°Ω29'48		evening set	7834 Jul 25 09:19	14°Ω26'40	
opposition	7828 Jan 27 18:12	8°Ω30'37	-15°07'15	conjunction	7834 Jul 31 21:45	14°Ω35'30	-13°40'02
min. Earth dist.	7828 Jan 27 01:31	8°Ω31'24	48.37050 AU	minimum elong	7834 Jul 31 21:56	14°Ω35'31	13°40'08
direct	7828 Apr 18 15:20	7°Ω32'16		max. Earth dist.	7834 Aug 01 09:43	14°Ω36'11	50.18358 AU
evening set	7828 Jul 21 13:05	8°Ω51'58		morning rise	7834 Aug 07 11:01	14°Ω44'23	
conjunction	7828 Jul 25 17:01	8°Ω57'38	-14°28'02		7834 Aug 19 04:22	15°Ω	
minimum elong	7828 Jul 25 17:12	8°Ω57'38	14°28'09	retrograde	7834 Nov 11 08:28	16°Ω03'56	
max. Earth dist.	7828 Jul 26 09:38	8°Ω58'34	50.29950 AU	opposition	7835 Feb 03 01:16	15°Ω04'54	-14°09'06
morning rise	7828 Jul 29 21:33	9°Ω03'19		min. Earth dist.	7835 Feb 02 15:19	15°Ω05'21	48.22635 AU
					7835 Feb 07 10:57	15°Ω	

direct	7835 Apr 25 16:58	14° Ω 06'38	morning rise	7841 Aug 16 00:59	21° Ω 22'18
	7835 Jul 08 23:16	15° Ω	retrograde	7841 Nov 17 14:41	22° Ω 39'02
evening set	7835 Jul 26 06:17	15° Ω 22'42	opposition	7842 Feb 09 08:21	21° Ω 39'47 -13°00'12
			min. Earth dist.	7842 Feb 09 06:18	21° Ω 39'53 47.86813 AU
conjunction	7835 Aug 02 02:37	15° Ω 32'00 -13°31'15	direct	7842 May 02 04:10	20° Ω 41'14
minimum elong	7835 Aug 02 02:49	15° Ω 32'00 13°31'20	evening set	7842 Jul 30 15:27	21° Ω 54'44
max. Earth dist.	7835 Aug 02 13:17	15° Ω 32'36 50.15126 AU			
morning rise	7835 Aug 08 23:50	15° Ω 41'19	conjunction	7842 Aug 08 13:23	22° Ω 06'48 -12°24'05
retrograde	7835 Nov 12 10:04	17° Ω 00'26	minimum elong	7842 Aug 08 13:35	22° Ω 06'48 12°24'09
opposition	7836 Feb 04 05:42	16° Ω 01'25 -13°59'53	max. Earth dist.	7842 Aug 08 16:20	22° Ω 06'58 49.78666 AU
min. Earth dist.	7836 Feb 03 20:04	16° Ω 01'51 48.19017 AU	morning rise	7842 Aug 17 12:27	22° Ω 18'57
direct	7836 Apr 25 23:26	15° Ω 03'08	retrograde	7842 Nov 18 19:28	23° Ω 35'21
evening set	7836 Jul 26 03:34	16° Ω 18'49	opposition	7843 Feb 10 12:43	22° Ω 36'04 -12°49'27
			min. Earth dist.	7843 Feb 10 10:43	22° Ω 36'10 47.80127 AU
conjunction	7836 Aug 02 07:39	16° Ω 28'32 -13°22'16	direct	7843 May 03 09:31	21° Ω 37'28
minimum elong	7836 Aug 02 07:49	16° Ω 28'32 13°22'21	evening set	7843 Jul 31 13:57	22° Ω 50'40
max. Earth dist.	7836 Aug 02 16:13	16° Ω 29'01 50.11362 AU			
morning rise	7836 Aug 09 12:44	16° Ω 38'18	conjunction	7843 Aug 09 18:12	23° Ω 03'06 -12°13'36
retrograde	7836 Nov 12 14:41	17° Ω 56'59	minimum elong	7843 Aug 09 18:23	23° Ω 03'07 12°13'41
opposition	7837 Feb 04 10:11	16° Ω 57'57 -13°50'27	max. Earth dist.	7843 Aug 09 19:20	23° Ω 03'10 49.71983 AU
min. Earth dist.	7837 Feb 04 02:48	16° Ω 58'18 48.14855 AU	morning rise	7843 Aug 18 23:48	23° Ω 15'38
direct	7837 Apr 27 05:52	15° Ω 59'39	retrograde	7843 Nov 20 03:39	24° Ω 31'44
evening set	7837 Jul 27 01:12	17° Ω 14'56	opposition	7844 Feb 11 17:11	23° Ω 32'26 -12°38'28
			min. Earth dist.	7844 Feb 11 15:58	23° Ω 32'29 47.73168 AU
conjunction	7837 Aug 03 12:47	17° Ω 25'04 -13°13'05	direct	7844 May 03 10:29	22° Ω 33'48
minimum elong	7837 Aug 03 12:59	17° Ω 25'05 13°13'11	evening set	7844 Jul 31 12:42	23° Ω 46'44
max. Earth dist.	7837 Aug 03 20:56	17° Ω 25'32 50.07054 AU			
morning rise	7837 Aug 11 01:16	17° Ω 35'16	conjunction	7844 Aug 09 23:21	23° Ω 59'32 -12°02'53
retrograde	7837 Nov 13 20:21	18° Ω 53'32	minimum elong	7844 Aug 09 23:33	23° Ω 59'33 12°02'57
opposition	7838 Feb 05 14:39	17° Ω 54'28 -13°40'50	max. Earth dist.	7844 Aug 10 00:20	23° Ω 59'36 49.65011 AU
min. Earth dist.	7838 Feb 05 08:01	17° Ω 54'47 48.10136 AU	morning rise	7844 Aug 19 11:16	24° Ω 12'25
direct	7838 Apr 28 11:03	16° Ω 56'08	retrograde	7844 Nov 20 09:16	25° Ω 28'14
evening set	7838 Jul 27 22:51	18° Ω 11'01	opposition	7845 Feb 11 21:36	24° Ω 28'56 -12°27'14
			min. Earth dist.	7845 Feb 11 21:46	24° Ω 28'55 47.65909 AU
conjunction	7838 Aug 04 17:33	18° Ω 21'33 -13°03'43	direct	7845 May 04 13:35	23° Ω 30'16
minimum elong	7838 Aug 04 17:44	18° Ω 21'33 13°03'48	evening set	7845 Aug 01 11:42	24° Ω 42'59
max. Earth dist.	7838 Aug 04 23:26	18° Ω 21'53 50.02214 AU			
morning rise	7838 Aug 12 13:22	18° Ω 32'09	conjunction	7845 Aug 11 04:26	24° Ω 56'08 -11°51'56
retrograde	7838 Nov 15 03:35	19° Ω 50'00	minimum elong	7845 Aug 11 04:37	24° Ω 56'09 11°52'01
opposition	7839 Feb 06 19:10	18° Ω 50'54 -13°31'01	max. Earth dist.	7845 Aug 11 04:26	24° Ω 56'08 49.57748 AU
min. Earth dist.	7839 Feb 06 13:41	18° Ω 51'10 48.04920 AU	morning rise	7845 Aug 20 22:28	25° Ω 09'22
direct	7839 Apr 29 13:19	17° Ω 52'31	retrograde	7845 Nov 21 12:16	26° Ω 24'57
evening set	7839 Jul 28 20:43	19° Ω 07'01	opposition	7846 Feb 13 02:03	25° Ω 25'38 -12°15'46
			min. Earth dist.	7846 Feb 13 02:12	25° Ω 25'37 47.58334 AU
conjunction	7839 Aug 05 22:34	19° Ω 17'57 -12°54'08	direct	7846 May 05 18:43	24° Ω 26'57
minimum elong	7839 Aug 05 22:46	19° Ω 17'58 12°54'14	evening set	7846 Aug 02 10:41	25° Ω 39'27
max. Earth dist.	7839 Aug 06 03:56	19° Ω 18'15 49.96892 AU			
morning rise	7839 Aug 14 01:29	19° Ω 28'57	conjunction	7846 Aug 12 09:25	25° Ω 52'57 -11°40'46
retrograde	7839 Nov 16 07:18	20° Ω 46'24	minimum elong	7846 Aug 12 09:38	25° Ω 52'57 11°40'50
opposition	7840 Feb 07 23:35	19° Ω 47'15 -13°20'58	max. Earth dist.	7846 Aug 12 07:51	25° Ω 52'51 49.50126 AU
min. Earth dist.	7840 Feb 07 19:44	19° Ω 47'26 47.99250 AU	morning rise	7846 Aug 22 09:40	26° Ω 06'32
direct	7840 Apr 29 17:31	18° Ω 48'48	retrograde	7846 Nov 22 16:57	27° Ω 21'54
evening set	7840 Jul 28 18:53	20° Ω 02'57	opposition	7847 Feb 14 06:45	26° Ω 22'34 -12°04'04
			min. Earth dist.	7847 Feb 14 08:51	26° Ω 22'28 47.50379 AU
conjunction	7840 Aug 06 03:32	20° Ω 14'16 -12°44'20	direct	7847 May 07 01:03	25° Ω 23'52
minimum elong	7840 Aug 06 03:43	20° Ω 14'17 12°44'25	evening set	7847 Aug 03 10:06	26° Ω 36'09
max. Earth dist.	7840 Aug 06 07:49	20° Ω 14'31 49.91166 AU			
morning rise	7840 Aug 14 13:17	20° Ω 25'39	conjunction	7847 Aug 13 14:50	26° Ω 50'00 -11°29'22
retrograde	7840 Nov 16 09:59	21° Ω 42'44	minimum elong	7847 Aug 13 15:01	26° Ω 50'01 11°29'27
opposition	7841 Feb 08 03:54	20° Ω 43'32 -13°10'42	max. Earth dist.	7847 Aug 13 13:04	26° Ω 49'54 49.42095 AU
min. Earth dist.	7841 Feb 08 00:03	20° Ω 43'43 47.93200 AU	morning rise	7847 Aug 23 20:52	27° Ω 03'57
direct	7841 Apr 30 22:35	19° Ω 45'01	retrograde	7847 Nov 23 23:26	28° Ω 19'05
evening set	7841 Jul 29 17:04	20° Ω 58'50	opposition	7848 Feb 15 11:16	27° Ω 19'44 -11°52'09
			min. Earth dist.	7848 Feb 15 14:03	27° Ω 19'36 47.41966 AU
conjunction	7841 Aug 07 08:23	21° Ω 10'32 -12°34'20	direct	7848 May 07 05:52	26° Ω 21'00
minimum elong	7841 Aug 07 08:35	21° Ω 10'33 12°34'25	evening set	7848 Aug 03 09:51	27° Ω 33'06
max. Earth dist.	7841 Aug 07 11:13	21° Ω 10'42 49.85068 AU			

conjunction	7848 Aug 13 20:14	27° Ω 47'17	-11°17'46	max. Earth dist.	7854 Aug 19 19:06	3° Υ 32'55	48.72636 AU
minimum elong	7848 Aug 13 20:26	27° Ω 47'18	11°17'51	morning rise	7854 Sep 01 01:47	3° Υ 49'44	
max. Earth dist.	7848 Aug 13 16:02	27° Ω 47'03	49.33577 AU	retrograde	7854 Nov 30 17:44	5° Υ 03'27	
morning rise	7848 Aug 24 08:12	28° Ω 01'35		opposition	7855 Feb 21 21:00	4° Υ 03'36	-10°22'33
retrograde	7848 Nov 24 08:09	29° Ω 16'29		min. Earth dist.	7855 Feb 22 07:40	4° Υ 03'06	46.70062 AU
opposition	7849 Feb 15 16:00	28° Ω 17'07	-11°40'01	direct	7855 May 14 11:11	3° Υ 04'16	
min. Earth dist.	7849 Feb 15 20:11	28° Ω 16'55	47.33050 AU	evening set	7855 Aug 09 11:36	4° Υ 15'09	
direct	7849 May 08 07:32	27° Ω 18'20					
evening set	7849 Aug 04 09:35	28° Ω 30'13		conjunction	7855 Aug 21 11:14	4° Υ 31'35	-9°50'36
				minimum elong	7855 Aug 21 11:26	4° Υ 31'36	9°50'39
conjunction	7849 Aug 15 01:44	28° Ω 44'45	-11°05'58	max. Earth dist.	7855 Aug 20 23:57	4° Υ 30'56	48.61269 AU
minimum elong	7849 Aug 15 01:55	28° Ω 44'46	11°06'02	morning rise	7855 Sep 02 12:32	4° Υ 48'07	
max. Earth dist.	7849 Aug 14 20:40	28° Ω 44'28	49.24526 AU	retrograde	7855 Dec 01 22:40	6° Υ 01'41	
morning rise	7849 Aug 25 19:20	28° Ω 59'22		opposition	7856 Feb 23 01:52	5° Υ 01'45	-10°08'47
	7849 Oct 19 10:01	0° Υ		min. Earth dist.	7856 Feb 23 12:25	5° Υ 01'15	46.58419 AU
retrograde	7849 Nov 25 13:11	0° Υ 14'04		direct	7856 May 14 15:21	4° Υ 02'19	
	7850 Jan 01 21:09	30° κ Ω		evening set	7856 Aug 09 12:33	5° Υ 13'06	
opposition	7850 Feb 16 20:47	29° Ω 14'38	-11°27'40				
min. Earth dist.	7850 Feb 17 02:39	29° Ω 14'22	47.23595 AU	conjunction	7856 Aug 21 17:05	5° Υ 29'50	-9°37'13
direct	7850 May 09 11:32	28° Ω 15'47		minimum elong	7856 Aug 21 17:15	5° Υ 29'51	9°37'17
evening set	7850 Aug 05 09:37	29° Ω 27'29		max. Earth dist.	7856 Aug 21 04:18	5° Υ 29'06	48.49622 AU
				morning rise	7856 Sep 02 23:25	5° Υ 46'41	
conjunction	7850 Aug 16 07:14	29° Ω 42'20	-10°53'58	retrograde	7856 Dec 02 02:29	7° Υ 00'07	
minimum elong	7850 Aug 16 07:26	29° Ω 42'21	10°54'02	opposition	7857 Feb 23 07:05	6° Υ 00'07	-9°54'47
max. Earth dist.	7850 Aug 16 00:53	29° Ω 41'59	49.14977 AU	min. Earth dist.	7857 Feb 23 19:22	5° Υ 59'32	46.46495 AU
morning rise	7850 Aug 27 06:21	29° Ω 57'17		direct	7857 May 15 22:32	5° Υ 00'36	
	7850 Aug 29 06:38	0° Υ		evening set	7857 Aug 10 13:38	6° Υ 11'17	
retrograde	7850 Nov 26 16:38	1° Υ 11'45					
opposition	7851 Feb 18 01:30	0° Υ 12'15	-11°15'07	conjunction	7857 Aug 22 23:03	6° Υ 28'19	-9°23'35
min. Earth dist.	7851 Feb 18 07:41	0° Υ 11'58	47.13659 AU	minimum elong	7857 Aug 22 23:14	6° Υ 28'20	9°23'39
	7851 Feb 28 23:54	30° κ Ω		max. Earth dist.	7857 Aug 22 10:25	6° Υ 27'36	48.37690 AU
direct	7851 May 10 16:58	29° Ω 13'19		morning rise	7857 Sep 04 10:00	6° Υ 45'28	
	7851 Jul 18 05:13	0° Υ		retrograde	7857 Dec 03 07:15	7° Υ 58'49	
evening set	7851 Aug 06 09:38	0° Υ 24'50		opposition	7858 Feb 24 12:12	6° Υ 58'45	-9°40'31
				min. Earth dist.	7858 Feb 25 00:40	6° Υ 58'09	46.34259 AU
conjunction	7851 Aug 17 12:40	0° Υ 40'01	-10°41'44	direct	7858 May 17 05:24	5° Υ 59'09	
minimum elong	7851 Aug 17 12:52	0° Υ 40'01	10°41'48	evening set	7858 Aug 11 15:07	7° Υ 09'46	
max. Earth dist.	7851 Aug 17 04:31	0° Υ 39'33	49.04952 AU				
morning rise	7851 Aug 28 17:23	0° Υ 55'17		conjunction	7858 Aug 24 05:03	7° Υ 27'06	-9°09'44
retrograde	7851 Nov 27 20:56	2° Υ 09'33		minimum elong	7858 Aug 24 05:13	7° Υ 27'07	9°09'47
opposition	7852 Feb 19 06:23	1° Υ 09'58	-11°02'20	max. Earth dist.	7858 Aug 23 14:19	7° Υ 26'15	48.25429 AU
min. Earth dist.	7852 Feb 19 14:39	1° Υ 09'34	47.03284 AU	morning rise	7858 Sep 05 20:51	7° Υ 44'33	
direct	7852 May 10 23:19	0° Υ 10'56		retrograde	7858 Dec 04 16:20	8° Υ 57'49	
evening set	7852 Aug 06 09:55	1° Υ 22'16		opposition	7859 Feb 25 17:31	7° Υ 57'41	-9°26'01
				min. Earth dist.	7859 Feb 26 07:17	7° Υ 57'02	46.21674 AU
conjunction	7852 Aug 17 18:22	1° Υ 37'45	-10°29'18	direct	7859 May 18 07:59	6° Υ 58'01	
minimum elong	7852 Aug 17 18:34	1° Υ 37'46	10°29'22	evening set	7859 Aug 12 16:42	8° Υ 08'35	
max. Earth dist.	7852 Aug 17 10:04	1° Υ 37'17	48.94521 AU				
morning rise	7852 Aug 29 04:16	1° Υ 53'21		conjunction	7859 Aug 25 11:21	8° Υ 26'13	-8°55'39
retrograde	7852 Nov 28 01:19	3° Υ 07'25		minimum elong	7859 Aug 25 11:32	8° Υ 26'13	8°55'42
opposition	7853 Feb 19 11:02	2° Υ 07'45	-10°49'19	max. Earth dist.	7859 Aug 24 20:04	8° Υ 25'20	48.12760 AU
min. Earth dist.	7853 Feb 19 19:33	2° Υ 07'21	46.92523 AU	morning rise	7859 Sep 07 07:41	8° Υ 43'58	
direct	7853 May 12 06:01	1° Υ 08'36		retrograde	7859 Dec 05 23:38	9° Υ 57'09	
evening set	7853 Aug 07 10:26	2° Υ 19'46		opposition	7860 Feb 26 22:59	8° Υ 56'57	-9°11'17
				min. Earth dist.	7860 Feb 27 14:18	8° Υ 56'13	46.08636 AU
conjunction	7853 Aug 18 23:55	2° Υ 35'35	-10°16'38	direct	7860 May 18 12:25	7° Υ 57'11	
minimum elong	7853 Aug 19 00:06	2° Υ 35'35	10°16'41	evening set	7860 Aug 12 18:49	9° Υ 07'43	
max. Earth dist.	7853 Aug 18 13:41	2° Υ 35'00	48.83736 AU				
morning rise	7853 Aug 30 15:10	2° Υ 51'30		conjunction	7860 Aug 25 17:52	9° Υ 25'39	-8°41'21
retrograde	7853 Nov 29 10:19	4° Υ 05'23		minimum elong	7860 Aug 25 18:02	9° Υ 25'39	8°41'23
opposition	7854 Feb 20 15:57	3° Υ 05'37	-10°36'03	max. Earth dist.	7860 Aug 25 01:04	9° Υ 24'40	47.99621 AU
min. Earth dist.	7854 Feb 21 01:26	3° Υ 05'10	46.81443 AU	morning rise	7860 Sep 07 18:39	9° Υ 43'42	
direct	7854 May 13 08:10	2° Υ 06'23		retrograde	7860 Dec 06 06:03	10° Υ 56'49	
evening set	7854 Aug 08 10:46	3° Υ 17'23		opposition	7861 Feb 27 04:21	9° Υ 56'31	-8°56'19
				min. Earth dist.	7861 Feb 27 20:16	9° Υ 55'46	45.95101 AU
conjunction	7854 Aug 20 05:29	3° Υ 33'31	-10°03'44	direct	7861 May 19 17:22	8° Υ 56'39	
minimum elong	7854 Aug 20 05:40	3° Υ 33'31	10°03'48	evening set	7861 Aug 13 21:06	10° Υ 07'10	

max. Earth dist.	7861 Aug 26 05:34	10° \mathring{M} 24'17	47.85950 AU	min. Earth dist.	7868 Mar 06 21:01	17° \mathring{M} 00'00	44.88022 AU
				direct	7868 May 26 12:27	16° \mathring{M} 00'16	
conjunction	7861 Aug 27 00:28	10° \mathring{M} 25'23	-8°26'50	evening set	7868 Aug 19 18:34	17° \mathring{M} 10'54	
minimum elong	7861 Aug 27 00:39	10° \mathring{M} 25'24	8°26'53	max. Earth dist.	7868 Sep 01 22:39	17° \mathring{M} 29'29	46.78489 AU
morning rise	7861 Sep 09 05:42	10° \mathring{M} 43'43					
retrograde	7861 Dec 07 11:41	11° \mathring{M} 56'47		conjunction	7868 Sep 03 01:15	17° \mathring{M} 31'03	-6°38'45
opposition	7862 Feb 28 10:08	10° \mathring{M} 56'23	-8°41'07	minimum elong	7868 Sep 03 01:24	17° \mathring{M} 31'04	6°38'47
min. Earth dist.	7862 Mar 01 04:19	10° \mathring{M} 55'31	45.81039 AU	morning rise	7868 Sep 17 09:50	17° \mathring{M} 51'20	
direct	7862 May 20 23:50	9° \mathring{M} 56'24		retrograde	7868 Dec 14 13:26	19° \mathring{M} 04'24	
evening set	7862 Aug 14 23:21	11° \mathring{M} 06'52		opposition	7869 Mar 07 04:14	18° \mathring{M} 03'06	-6°47'55
max. Earth dist.	7862 Aug 27 11:46	11° \mathring{M} 24'15	47.71772 AU	min. Earth dist.	7869 Mar 08 04:35	18° \mathring{M} 01'54	44.71486 AU
				direct	7869 May 27 16:31	17° \mathring{M} 02'05	
				evening set	7869 Aug 20 22:35	18° \mathring{M} 12'48	
conjunction	7862 Aug 28 07:05	11° \mathring{M} 25'23	-8°12'05	max. Earth dist.	7869 Sep 03 06:07	18° \mathring{M} 31'39	46.61931 AU
minimum elong	7862 Aug 28 07:15	11° \mathring{M} 25'23	8°12'08				
morning rise	7862 Sep 10 16:25	11° \mathring{M} 44'00					
retrograde	7862 Dec 08 16:41	12° \mathring{M} 57'01		conjunction	7869 Sep 04 08:51	18° \mathring{M} 33'14	-6°22'20
opposition	7863 Mar 01 15:52	11° \mathring{M} 56'31	-8°25'42	minimum elong	7869 Sep 04 09:00	18° \mathring{M} 33'14	6°22'22
min. Earth dist.	7863 Mar 02 10:24	11° \mathring{M} 55'37	45.66475 AU	morning rise	7869 Sep 18 20:45	18° \mathring{M} 53'47	
direct	7863 May 22 07:23	10° \mathring{M} 56'23		retrograde	7869 Dec 15 22:14	20° \mathring{M} 06'55	
evening set	7863 Aug 16 02:06	12° \mathring{M} 06'50		opposition	7870 Mar 08 10:51	19° \mathring{M} 05'31	-6°30'42
				min. Earth dist.	7870 Mar 09 12:06	19° \mathring{M} 04'16	44.54670 AU
				direct	7870 May 28 21:51	18° \mathring{M} 04'21	
conjunction	7863 Aug 29 13:49	12° \mathring{M} 25'37	-7°57'08	evening set	7870 Aug 22 02:53	19° \mathring{M} 15'12	
minimum elong	7863 Aug 29 13:59	12° \mathring{M} 25'38	7°57'11				
max. Earth dist.	7863 Aug 28 16:13	12° \mathring{M} 24'21	47.57115 AU				
morning rise	7863 Sep 12 03:28	12° \mathring{M} 44'32		conjunction	7870 Sep 05 16:25	19° \mathring{M} 35'53	-6°05'40
retrograde	7863 Dec 10 01:49	13° \mathring{M} 57'31		minimum elong	7870 Sep 05 16:33	19° \mathring{M} 35'54	6°05'42
opposition	7864 Mar 01 21:36	12° \mathring{M} 56'53	-8°10'02	max. Earth dist.	7870 Sep 04 12:36	19° \mathring{M} 34'14	46.45088 AU
min. Earth dist.	7864 Mar 02 17:42	12° \mathring{M} 55'54	45.51472 AU	morning rise	7870 Sep 20 07:42	19° \mathring{M} 56'42	
direct	7864 May 22 11:12	11° \mathring{M} 56'36		retrograde	7870 Dec 17 08:17	21° \mathring{M} 09'56	
evening set	7864 Aug 16 04:54	13° \mathring{M} 07'03		opposition	7871 Mar 09 17:33	20° \mathring{M} 08'24	-6°13'14
				min. Earth dist.	7871 Mar 10 19:13	20° \mathring{M} 07'08	44.37542 AU
conjunction	7864 Aug 29 20:47	13° \mathring{M} 26'07	-7°41'56	direct	7871 May 30 02:15	19° \mathring{M} 07'06	
minimum elong	7864 Aug 29 20:57	13° \mathring{M} 26'08	7°41'58	evening set	7871 Aug 23 07:44	20° \mathring{M} 18'05	
max. Earth dist.	7864 Aug 28 22:42	13° \mathring{M} 24'49	47.42028 AU	max. Earth dist.	7871 Sep 05 18:53	20° \mathring{M} 37'17	46.27872 AU
morning rise	7864 Sep 12 14:21	13° \mathring{M} 45'18					
retrograde	7864 Dec 10 10:20	14° \mathring{M} 58'16		conjunction	7871 Sep 07 00:26	20° \mathring{M} 39'03	-5°48'46
opposition	7865 Mar 03 03:33	13° \mathring{M} 57'30	-7°54'08	minimum elong	7871 Sep 07 00:33	20° \mathring{M} 39'03	5°48'47
min. Earth dist.	7865 Mar 04 00:55	13° \mathring{M} 56'28	45.36067 AU	morning rise	7871 Sep 21 18:55	21° \mathring{M} 00'07	
direct	7865 May 23 15:20	12° \mathring{M} 57'04		retrograde	7871 Dec 18 16:44	22° \mathring{M} 13'27	
evening set	7865 Aug 17 07:56	14° \mathring{M} 07'32		opposition	7872 Mar 10 00:27	21° \mathring{M} 11'47	-5°55'30
max. Earth dist.	7865 Aug 30 04:23	14° \mathring{M} 25'31	47.26583 AU	min. Earth dist.	7872 Mar 11 04:18	21° \mathring{M} 10'25	44.20016 AU
				direct	7872 May 30 09:00	20° \mathring{M} 10'20	
conjunction	7865 Aug 31 03:38	14° \mathring{M} 26'53	-7°26'31	evening set	7872 Aug 23 12:53	21° \mathring{M} 21'28	
minimum elong	7865 Aug 31 03:47	14° \mathring{M} 26'53	7°26'33	max. Earth dist.	7872 Sep 06 02:42	21° \mathring{M} 40'53	46.10232 AU
morning rise	7865 Sep 14 01:07	14° \mathring{M} 46'20					
retrograde	7865 Dec 11 18:22	15° \mathring{M} 59'17		conjunction	7872 Sep 07 08:46	21° \mathring{M} 42'41	-5°31'37
opposition	7866 Mar 04 09:28	14° \mathring{M} 58'23	-7°37'58	minimum elong	7872 Sep 07 08:54	21° \mathring{M} 42'42	5°31'38
min. Earth dist.	7866 Mar 05 06:56	14° \mathring{M} 57'21	45.20334 AU	morning rise	7872 Sep 22 06:10	22° \mathring{M} 04'01	
direct	7866 May 24 19:30	13° \mathring{M} 57'48		retrograde	7872 Dec 18 22:32	23° \mathring{M} 17'28	
evening set	7866 Aug 18 11:13	15° \mathring{M} 08'19		opposition	7873 Mar 11 07:30	22° \mathring{M} 15'39	-5°37'31
max. Earth dist.	7866 Aug 31 09:59	15° \mathring{M} 26'28	47.10816 AU	min. Earth dist.	7873 Mar 12 11:38	22° \mathring{M} 14'16	44.02030 AU
				direct	7873 May 31 18:17	21° \mathring{M} 14'01	
conjunction	7866 Sep 01 10:40	15° \mathring{M} 27'56	-7°10'50	evening set	7873 Aug 24 18:23	22° \mathring{M} 25'19	
minimum elong	7866 Sep 01 10:49	15° \mathring{M} 27'56	7°10'52	max. Earth dist.	7873 Sep 07 08:30	22° \mathring{M} 44'48	45.92109 AU
morning rise	7866 Sep 15 12:00	15° \mathring{M} 47'40					
retrograde	7866 Dec 12 23:06	17° \mathring{M} 00'38		conjunction	7873 Sep 08 17:01	22° \mathring{M} 46'46	-5°14'14
opposition	7867 Mar 05 15:40	15° \mathring{M} 59'35	-7°21'33	minimum elong	7873 Sep 08 17:08	22° \mathring{M} 46'47	5°14'15
min. Earth dist.	7867 Mar 06 14:51	15° \mathring{M} 58'27	45.04310 AU	morning rise	7873 Sep 23 17:28	23° \mathring{M} 08'22	
direct	7867 May 26 03:41	14° \mathring{M} 58'51		retrograde	7873 Dec 20 06:52	24° \mathring{M} 21'57	
evening set	7867 Aug 19 14:38	16° \mathring{M} 09'25		opposition	7874 Mar 12 14:51	23° \mathring{M} 19'57	-5°19'17
				min. Earth dist.	7874 Mar 13 20:49	23° \mathring{M} 18'28	43.83571 AU
conjunction	7867 Sep 02 17:55	16° \mathring{M} 29'18	-6°54'55	direct	7874 Jun 02 01:18	22° \mathring{M} 18'07	
minimum elong	7867 Sep 02 18:04	16° \mathring{M} 29'19	6°54'57	evening set	7874 Aug 26 00:03	23° \mathring{M} 29'34	
max. Earth dist.	7867 Sep 01 17:20	16° \mathring{M} 27'51	46.94783 AU	max. Earth dist.	7874 Sep 08 16:36	23° \mathring{M} 49'16	45.73511 AU
morning rise	7867 Sep 16 22:48	16° \mathring{M} 49'19					
retrograde	7867 Dec 14 03:48	18° \mathring{M} 02'19		conjunction	7874 Sep 10 01:40	23° \mathring{M} 51'16	-4°56'37
opposition	7868 Mar 05 21:53	17° \mathring{M} 01'08	-7°04'52	minimum elong	7874 Sep 10 01:47	23° \mathring{M} 51'17	4°56'38

morning rise	7874 Sep 25 04:45	24° <u>13</u> '06			7881 May 27 06:10	30° <u>8</u> ' <u>11</u>
retrograde	7874 Dec 21 16:05	25° <u>10</u> '26'49		direct	7881 Jun 09 04:33	29° <u>10</u> '58'01
opposition	7875 Mar 13 22:16	24° <u>10</u> '24'38	-5°00'48		7881 Jun 22 04:10	0° <u>0</u> ' <u>0</u>
min. Earth dist.	7875 Mar 15 05:23	24° <u>10</u> '23'05	43.64649 AU	evening set	7881 Sep 02 01:41	1° <u>0</u> '11'10
direct	7875 Jun 03 07:52	23° <u>10</u> '22'35		max. Earth dist.	7881 Sep 16 02:26	1° <u>0</u> '31'58 44.34050 AU
evening set	7875 Aug 27 06:08	24° <u>10</u> '34'12				
max. Earth dist.	7875 Sep 09 23:39	24° <u>10</u> '54'02	45.54487 AU	conjunction	7881 Sep 17 18:51	1° <u>0</u> '34'29 -2°46'21
				minimum elong	7881 Sep 17 18:56	1° <u>0</u> '34'29 2°46'20
conjunction	7875 Sep 11 10:22	24° <u>10</u> '56'09	-4°38'45	morning rise	7881 Oct 03 13:21	1° <u>0</u> '57'55
minimum elong	7875 Sep 11 10:28	24° <u>10</u> '56'09	4°38'45	retrograde	7881 Dec 29 13:48	3° <u>0</u> '13'09
morning rise	7875 Sep 26 16:13	25° <u>10</u> '18'13		opposition	7882 Mar 21 07:16	2° <u>0</u> '09'32 -2°43'54
retrograde	7875 Dec 23 03:33	26° <u>10</u> '32'04		min. Earth dist.	7882 Mar 22 20:26	2° <u>0</u> '07'38 42.23741 AU
opposition	7876 Mar 14 05:47	25° <u>10</u> '29'41	-4°42'03	direct	7882 Jun 10 11:58	1° <u>0</u> '05'54
min. Earth dist.	7876 Mar 15 13:29	25° <u>10</u> '28'06	43.45328 AU	evening set	7882 Sep 03 10:19	2° <u>0</u> '19'25
direct	7876 Jun 03 12:37	24° <u>10</u> '27'23		max. Earth dist.	7882 Sep 17 12:33	2° <u>0</u> '40'25 44.13229 AU
evening set	7876 Aug 27 12:36	25° <u>10</u> '39'12				
max. Earth dist.	7876 Sep 10 07:09	25° <u>10</u> '59'11	45.35062 AU	conjunction	7882 Sep 19 05:11	2° <u>0</u> '42'58 -2°26'43
				minimum elong	7882 Sep 19 05:14	2° <u>0</u> '42'58 2°26'43
conjunction	7876 Sep 11 19:20	26° <u>10</u> '01'23	-4°20'39	morning rise	7882 Oct 05 01:12	3° <u>0</u> '06'37
minimum elong	7876 Sep 11 19:27	26° <u>10</u> '01'24	4°20'40	retrograde	7882 Dec 30 23:51	4° <u>0</u> '22'11
morning rise	7876 Sep 27 03:39	26° <u>10</u> '23'42		opposition	7883 Mar 22 16:12	3° <u>0</u> '18'24 -2°23'15
retrograde	7876 Dec 23 11:56	27° <u>10</u> '37'42		min. Earth dist.	7883 Mar 24 05:17	3° <u>0</u> '16'30 42.02732 AU
opposition	7877 Mar 15 13:30	26° <u>10</u> '35'06	-4°23'02	direct	7883 Jun 11 21:45	2° <u>0</u> '14'33
min. Earth dist.	7877 Mar 16 23:04	26° <u>10</u> '33'25	43.25651 AU	evening set	7883 Sep 04 19:37	3° <u>0</u> '28'28
direct	7877 Jun 04 20:48	25° <u>10</u> '32'35		max. Earth dist.	7883 Sep 18 21:03	3° <u>0</u> '49'32 43.92122 AU
evening set	7877 Aug 28 19:16	26° <u>10</u> '44'36				
max. Earth dist.	7877 Sep 11 16:09	27° <u>10</u> '04'47	45.15324 AU	conjunction	7883 Sep 20 15:47	3° <u>0</u> '52'14 -2°06'51
				minimum elong	7883 Sep 20 15:50	3° <u>0</u> '52'14 2°06'50
conjunction	7877 Sep 13 04:28	27° <u>10</u> '07'01	-4°02'18	morning rise	7883 Oct 06 13:19	4° <u>0</u> '16'06
minimum elong	7877 Sep 13 04:34	27° <u>10</u> '07'02	4°02'17	retrograde	7884 Jan 01 09:58	5° <u>0</u> '32'02
morning rise	7877 Sep 28 15:03	27° <u>10</u> '29'33		opposition	7884 Mar 23 01:37	4° <u>0</u> '28'04 -2°02'20
retrograde	7877 Dec 24 18:49	28° <u>10</u> '43'45		min. Earth dist.	7884 Mar 24 16:40	4° <u>0</u> '26'03 41.81413 AU
opposition	7878 Mar 16 21:22	27° <u>10</u> '40'56	-4°03'45	direct	7884 Jun 12 07:02	3° <u>0</u> '24'00
min. Earth dist.	7878 Mar 18 06:48	27° <u>10</u> '39'14	43.05690 AU	evening set	7884 Sep 05 05:20	4° <u>0</u> '38'20
direct	7878 Jun 06 07:01	26° <u>10</u> '38'10		max. Earth dist.	7884 Sep 19 07:52	4° <u>0</u> '59'34 43.70657 AU
evening set	7878 Aug 30 02:15	27° <u>10</u> '50'25				
max. Earth dist.	7878 Sep 12 23:16	28° <u>10</u> '10'43	44.95317 AU	conjunction	7884 Sep 21 02:54	5° <u>0</u> '02'18 -1°46'44
				minimum elong	7884 Sep 21 02:57	5° <u>0</u> '02'18 1°46'43
conjunction	7878 Sep 14 13:34	28° <u>10</u> '13'05	-3°43'41	morning rise	7884 Oct 07 01:26	5° <u>0</u> '26'22
minimum elong	7878 Sep 14 13:39	28° <u>10</u> '13'05	3°43'42	retrograde	7885 Jan 01 19:46	6° <u>0</u> '42'41
morning rise	7878 Sep 30 02:30	28° <u>10</u> '35'51		opposition	7885 Mar 24 11:12	5° <u>0</u> '38'31 -1°41'09
retrograde	7878 Dec 26 04:09	29° <u>10</u> '50'15		min. Earth dist.	7885 Mar 26 03:00	5° <u>0</u> '36'27 41.59708 AU
opposition	7879 Mar 18 05:33	28° <u>10</u> '47'13	-3°44'12	direct	7885 Jun 13 16:53	4° <u>0</u> '34'14
min. Earth dist.	7879 Mar 19 16:28	28° <u>10</u> '45'27	42.85497 AU	evening set	7885 Sep 06 15:39	5° <u>0</u> '49'00
direct	7879 Jun 07 14:44	27° <u>10</u> '44'14		max. Earth dist.	7885 Sep 20 17:00	6° <u>0</u> '10'17 43.48799 AU
evening set	7879 Aug 31 09:38	28° <u>10</u> '56'44				
max. Earth dist.	7879 Sep 14 09:01	29° <u>10</u> '17'15	44.75085 AU	conjunction	7885 Sep 22 14:09	6° <u>0</u> '13'10 -1°26'22
				minimum elong	7885 Sep 22 14:11	6° <u>0</u> '13'10 1°26'21
conjunction	7879 Sep 15 23:12	29° <u>10</u> '19'37	-3°24'50	morning rise	7885 Oct 08 13:51	6° <u>0</u> '37'25
minimum elong	7879 Sep 15 23:17	29° <u>10</u> '19'38	3°24'50	retrograde	7886 Jan 03 09:39	7° <u>0</u> '54'09
morning rise	7879 Oct 01 14:02	29° <u>10</u> '42'37		opposition	7886 Mar 25 21:09	6° <u>0</u> '49'45 -1°19'43
	7879 Oct 13 23:11	0° <u>0</u> ' <u>0</u>		min. Earth dist.	7886 Mar 27 13:59	6° <u>0</u> '47'38 41.37612 AU
retrograde	7879 Dec 27 13:01	0° <u>0</u> '57'16		direct	7886 Jun 14 23:08	5° <u>0</u> '45'12
	7880 Mar 13 16:07	30° <u>0</u> ' <u>8</u> ' <u>11</u>		evening set	7886 Sep 08 02:13	7° <u>0</u> '00'25
opposition	7880 Mar 18 13:48	29° <u>10</u> '54'02	-3°24'23	max. Earth dist.	7886 Sep 22 03:22	7° <u>0</u> '21'48 43.26523 AU
min. Earth dist.	7880 Mar 20 01:06	29° <u>10</u> '52'14	42.65094 AU			
direct	7880 Jun 07 23:06	28° <u>10</u> '50'49		conjunction	7886 Sep 24 01:42	7° <u>0</u> '24'46 -1°05'46
	7880 Aug 29 05:03	0° <u>0</u> ' <u>0</u>		minimum elong	7886 Sep 24 01:44	7° <u>0</u> '24'46 1°05'45
evening set	7880 Aug 31 17:33	0° <u>0</u> '03'38		morning rise	7886 Oct 10 02:08	7° <u>0</u> '49'13
max. Earth dist.	7880 Sep 14 17:28	0° <u>0</u> '24'17	44.54668 AU	retrograde	7887 Jan 04 22:35	9° <u>0</u> '06'21
				opposition	7887 Mar 27 07:29	8° <u>0</u> '01'43 -0°58'00
conjunction	7880 Sep 16 08:56	0° <u>0</u> '26'44	-3°05'43	min. Earth dist.	7887 Mar 29 02:00	7° <u>0</u> '59'29 41.15110 AU
minimum elong	7880 Sep 16 09:01	0° <u>0</u> '26'44	3°05'44	direct	7887 Jun 16 07:58	6° <u>0</u> '56'53
morning rise	7880 Oct 02 01:47	0° <u>0</u> '49'57		evening set	7887 Sep 09 13:25	8° <u>0</u> '12'34
retrograde	7880 Dec 28 01:44	2° <u>0</u> '04'52		max. Earth dist.	7887 Sep 23 14:34	8° <u>0</u> '34'04 43.03873 AU
opposition	7881 Mar 19 22:21	1° <u>0</u> '01'27	-3°04'16			
min. Earth dist.	7881 Mar 21 10:03	0° <u>0</u> '59'37	42.44519 AU	conjunction	7887 Sep 25 13:40	8° <u>0</u> '37'06 -0°44'56

minimum elong	7887 Sep 25 13:41	8° <u>♁</u> 37'06	0°44'55	min. Earth dist.	7894 Apr 06 15:06	16° <u>♁</u> 43'36	39.50736 AU
morning rise	7887 Oct 11 14:46	9° <u>♁</u> 01'43		direct	7894 Jun 24 12:27	15° <u>♁</u> 39'11	
retrograde	7888 Jan 06 11:44	10° <u>♁</u> 19'16		evening set	7894 Sep 18 10:30	16° <u>♁</u> 58'57	
opposition	7888 Mar 27 17:46	9° <u>♁</u> 14'22	-0°36'02	max. Earth dist.	7894 Oct 02 04:43	17° <u>♁</u> 20'57	41.38791 AU
min. Earth dist.	7888 Mar 29 12:32	9° <u>♁</u> 12'07	40.92261 AU				
direct	7888 Jun 16 19:27	8° <u>♁</u> 09'15		conjunction	7894 Oct 04 09:40	17° <u>♁</u> 24'31	1°47'33
evening set	7888 Sep 10 01:12	9° <u>♁</u> 25'25		minimum elong	7894 Oct 04 09:37	17° <u>♁</u> 24'31	1°47'36
max. Earth dist.	7888 Sep 24 00:35	9° <u>♁</u> 46'56	42.80879 AU	morning rise	7894 Oct 20 09:02	17° <u>♁</u> 50'08	
				retrograde	7895 Jan 15 09:44	19° <u>♁</u> 11'30	
conjunction	7888 Sep 26 01:50	9° <u>♁</u> 50'08	-0°23'51	opposition	7895 Apr 06 03:54	18° <u>♁</u> 04'39	2°04'57
minimum elong	7888 Sep 26 01:51	9° <u>♁</u> 50'08	0°23'50	min. Earth dist.	7895 Apr 08 03:48	18° <u>♁</u> 02'02	39.26678 AU
morning rise	7888 Oct 12 03:26	10° <u>♁</u> 14'55		direct	7895 Jun 26 03:09	16° <u>♁</u> 57'19	
retrograde	7889 Jan 07 00:15	11° <u>♁</u> 32'55		evening set	7895 Sep 20 02:33	18° <u>♁</u> 17'51	
opposition	7889 Mar 29 04:36	10° <u>♁</u> 27'44	-0°13'48	max. Earth dist.	7895 Oct 03 17:21	18° <u>♁</u> 39'47	41.14596 AU
min. Earth dist.	7889 Mar 31 01:18	10° <u>♁</u> 25'23	40.69115 AU				
direct	7889 Jun 18 06:49	9° <u>♁</u> 22'18		conjunction	7895 Oct 06 00:26	18° <u>♁</u> 43'32	2°10'13
evening set	7889 Sep 11 13:10	10° <u>♁</u> 38'59		minimum elong	7895 Oct 06 00:22	18° <u>♁</u> 43'31	2°10'15
max. Earth dist.	7889 Sep 25 13:08	11° <u>♁</u> 00'39	42.57610 AU	morning rise	7895 Oct 21 22:45	19° <u>♁</u> 09'15	
				retrograde	7896 Jan 17 01:31	20° <u>♁</u> 31'20	
conjunction	7889 Sep 27 14:13	11° <u>♁</u> 03'52	-0°02'35	opposition	7896 Apr 06 17:03	19° <u>♁</u> 24'11	2°28'55
minimum elong	7889 Sep 27 14:14	11° <u>♁</u> 03'52	0°02'34	min. Earth dist.	7896 Apr 08 18:34	19° <u>♁</u> 21'29	39.02424 AU
behind sun begin	7889 Sep 27 07:44	11° <u>♁</u> 03'28		direct	7896 Jun 26 14:56	18° <u>♁</u> 16'33	
behind sun end	7889 Sep 27 20:43	11° <u>♁</u> 04'15		evening set	7896 Sep 20 19:11	19° <u>♁</u> 37'52	
morning rise	7889 Oct 13 15:53	11° <u>♁</u> 28'49		max. Earth dist.	7896 Oct 04 08:22	19° <u>♁</u> 59'51	40.90147 AU
asc. node	7889 Nov 09 13:40	12° <u>♁</u> 06'42					
retrograde	7890 Jan 08 10:10	12° <u>♁</u> 47'17		conjunction	7896 Oct 06 15:50	20° <u>♁</u> 03'38	2°33'05
opposition	7890 Mar 30 15:38	11° <u>♁</u> 41'49	0°08'42	minimum elong	7896 Oct 06 15:45	20° <u>♁</u> 03'38	2°33'09
min. Earth dist.	7890 Apr 01 12:18	11° <u>♁</u> 39'27	40.45726 AU	morning rise	7896 Oct 22 12:29	20° <u>♁</u> 29'27	
direct	7890 Jun 19 19:25	10° <u>♁</u> 36'04		retrograde	7897 Jan 17 15:31	21° <u>♁</u> 52'16	
evening set	7890 Sep 13 01:55	11° <u>♁</u> 53'17		opposition	7897 Apr 08 06:47	20° <u>♁</u> 44'51	2°53'06
max. Earth dist.	7890 Sep 27 00:05	12° <u>♁</u> 14'59	42.34129 AU	min. Earth dist.	7897 Apr 10 09:11	20° <u>♁</u> 42'04	38.77892 AU
				direct	7897 Jun 28 04:07	19° <u>♁</u> 36'53	
conjunction	7890 Sep 29 02:54	12° <u>♁</u> 18'19	0°19'04	evening set	7897 Sep 22 12:32	20° <u>♁</u> 59'01	
minimum elong	7890 Sep 29 02:53	12° <u>♁</u> 18'19	0°19'06	max. Earth dist.	7897 Oct 05 22:29	21° <u>♁</u> 20'56	40.65410 AU
morning rise	7890 Oct 15 04:44	12° <u>♁</u> 43'26					
retrograde	7891 Jan 09 23:01	14° <u>♁</u> 02'24		conjunction	7897 Oct 08 07:23	21° <u>♁</u> 24'51	2°56'10
opposition	7891 Apr 01 02:55	12° <u>♁</u> 56'39	0°31'27	minimum elong	7897 Oct 08 07:18	21° <u>♁</u> 24'51	2°56'12
min. Earth dist.	7891 Apr 03 00:36	12° <u>♁</u> 54'13	40.22167 AU	morning rise	7897 Oct 24 02:25	21° <u>♁</u> 50'45	
direct	7891 Jun 21 05:00	11° <u>♁</u> 50'35		retrograde	7898 Jan 19 09:27	23° <u>♁</u> 14'20	
evening set	7891 Sep 14 15:08	13° <u>♁</u> 08'22		opposition	7898 Apr 09 20:54	22° <u>♁</u> 06'36	3°17'31
max. Earth dist.	7891 Sep 28 12:54	13° <u>♁</u> 30'10	42.10473 AU	min. Earth dist.	7898 Apr 11 23:55	22° <u>♁</u> 03'47	38.53072 AU
				direct	7898 Jun 29 15:38	20° <u>♁</u> 58'17	
conjunction	7891 Sep 30 16:06	13° <u>♁</u> 33'33	0°40'51	evening set	7898 Sep 24 06:40	22° <u>♁</u> 21'17	
minimum elong	7891 Sep 30 16:05	13° <u>♁</u> 33'33	0°40'52	max. Earth dist.	7898 Oct 07 13:08	22° <u>♁</u> 43'07	40.40356 AU
morning rise	7891 Oct 16 17:35	13° <u>♁</u> 58'48					
retrograde	7892 Jan 11 12:57	15° <u>♁</u> 18'19		conjunction	7898 Oct 09 23:38	22° <u>♁</u> 47'11	3°19'25
opposition	7892 Apr 01 14:40	14° <u>♁</u> 12'16	0°54'27	minimum elong	7898 Oct 09 23:32	22° <u>♁</u> 47'10	3°19'28
min. Earth dist.	7892 Apr 03 13:17	14° <u>♁</u> 09'46	39.98459 AU	morning rise	7898 Oct 25 16:34	23° <u>♁</u> 13'07	
direct	7892 Jun 21 14:28	13° <u>♁</u> 05'53		retrograde	7899 Jan 21 03:33	24° <u>♁</u> 37'31	
evening set	7892 Sep 15 05:00	14° <u>♁</u> 24'17		opposition	7899 Apr 11 11:27	23° <u>♁</u> 29'27	3°42'09
max. Earth dist.	7892 Sep 29 01:42	14° <u>♁</u> 46'09	41.86696 AU	min. Earth dist.	7899 Apr 13 16:22	23° <u>♁</u> 26'30	38.27956 AU
				direct	7899 Jul 01 04:09	22° <u>♁</u> 20'45	
conjunction	7892 Oct 01 05:32	14° <u>♁</u> 49'36	1°02'52	evening set	7899 Sep 26 01:32	23° <u>♁</u> 44'39	
minimum elong	7892 Oct 01 05:31	14° <u>♁</u> 49'36	1°02'54	max. Earth dist.	7899 Oct 09 05:25	24° <u>♁</u> 06'28	40.15029 AU
morning rise	7892 Oct 17 06:37	15° <u>♁</u> 14'59					
retrograde	7893 Jan 12 04:51	16° <u>♁</u> 35'05		conjunction	7899 Oct 11 16:21	24° <u>♁</u> 10'35	3°42'52
opposition	7893 Apr 03 02:36	15° <u>♁</u> 28'46	1°17'42	minimum elong	7899 Oct 11 16:14	24° <u>♁</u> 10'35	3°42'55
min. Earth dist.	7893 Apr 05 01:01	15° <u>♁</u> 26'15	39.74650 AU	morning rise	7899 Oct 27 06:57	24° <u>♁</u> 36'34	
direct	7893 Jun 23 00:02	14° <u>♁</u> 22'03		retrograde	7900 Jan 22 20:46	26° <u>♁</u> 01'48	
evening set	7893 Sep 16 19:32	15° <u>♁</u> 41'07		opposition	7900 Apr 13 02:21	24° <u>♁</u> 53'23	4°06'59
max. Earth dist.	7893 Sep 30 14:09	16° <u>♁</u> 03'00	41.62802 AU	min. Earth dist.	7900 Apr 15 07:12	24° <u>♁</u> 50'26	38.02590 AU
				direct	7900 Jul 02 20:08	23° <u>♁</u> 44'18	
conjunction	7893 Oct 02 19:24	16° <u>♁</u> 06'34	1°25'06	evening set	7900 Sep 27 21:14	25° <u>♁</u> 09'08	
minimum elong	7893 Oct 02 19:22	16° <u>♁</u> 06'34	1°25'08	max. Earth dist.	7900 Oct 10 20:21	25° <u>♁</u> 30'48	39.89457 AU
morning rise	7893 Oct 18 19:47	16° <u>♁</u> 32'04					
retrograde	7894 Jan 13 19:51	17° <u>♁</u> 52'47		conjunction	7900 Oct 13 09:21	25° <u>♁</u> 35'06	4°06'29
opposition	7894 Apr 04 15:08	16° <u>♁</u> 46'11	1°41'12	minimum elong	7900 Oct 13 09:13	25° <u>♁</u> 35'05	4°06'33

morning rise	7900 Oct 28 21:23	26° <u>♄</u> 01'06	opposition	7907 Apr 24 00:14	5° <u>♄</u> 14'40	7°05'12
retrograde	7901 Jan 24 14:12	27° <u>♄</u> 27'12	min. Earth dist.	7907 Apr 26 08:45	5° <u>♄</u> 11'22	36.23033 AU
opposition	7901 Apr 14 17:45	26° <u>♄</u> 18'26 4°32'01	direct	7907 Jul 13 12:34	4° <u>♄</u> 02'44	
min. Earth dist.	7901 Apr 17 00:19	26° <u>♄</u> 15'21 37.77033 AU	evening set	7907 Oct 10 14:06	5° <u>♄</u> 35'37	
direct	7901 Jul 04 11:32	25° <u>♄</u> 08'57	max. Earth dist.	7907 Oct 22 05:40	5° <u>♄</u> 56'18	38.08888 AU
evening set	7901 Sep 29 17:32	26° <u>♄</u> 34'45				
max. Earth dist.	7901 Oct 12 14:12	26° <u>♄</u> 56'25 39.63716 AU	conjunction	7907 Oct 24 22:41	6° <u>♄</u> 01'09	6°55'12
			minimum elong	7907 Oct 24 22:28	6° <u>♄</u> 01'08	6°55'18
conjunction	7901 Oct 15 02:56	27° <u>♄</u> 00'44 4°30'15	morning rise	7907 Nov 08 06:38	6° <u>♄</u> 26'40	
minimum elong	7901 Oct 15 02:48	27° <u>♄</u> 00'43 4°30'19	retrograde	7908 Feb 05 09:35	8° <u>♄</u> 00'21	
morning rise	7901 Oct 30 11:52	27° <u>♄</u> 26'43	opposition	7908 Apr 24 19:18	6° <u>♄</u> 49'05	7°31'03
retrograde	7902 Jan 26 05:56	28° <u>♄</u> 53'44	min. Earth dist.	7908 Apr 27 05:03	6° <u>♄</u> 45'41	35.97513 AU
opposition	7902 Apr 16 09:34	27° <u>♄</u> 44'37 4°57'13	direct	7908 Jul 14 06:57	5° <u>♄</u> 36'45	
min. Earth dist.	7902 Apr 18 16:14	27° <u>♄</u> 41'30 37.51347 AU	evening set	7908 Oct 11 16:59	7° <u>♄</u> 11'02	
direct	7902 Jul 06 04:08	26° <u>♄</u> 34'43	max. Earth dist.	7908 Oct 23 03:25	7° <u>♄</u> 31'30	37.83156 AU
evening set	7902 Oct 01 14:41	28° <u>♄</u> 01'32				
max. Earth dist.	7902 Oct 14 06:31	28° <u>♄</u> 23'03 39.37880 AU	conjunction	7908 Oct 25 20:13	7° <u>♄</u> 36'24	7°19'34
			minimum elong	7908 Oct 25 19:58	7° <u>♄</u> 36'23	7°19'39
conjunction	7902 Oct 16 20:45	28° <u>♄</u> 27'30 4°54'10	morning rise	7908 Nov 08 22:22	8° <u>♄</u> 01'43	
minimum elong	7902 Oct 16 20:36	28° <u>♄</u> 27'30 4°54'14	retrograde	7909 Feb 06 06:19	9° <u>♄</u> 36'44	
morning rise	7902 Nov 01 02:35	28° <u>♄</u> 53'29	opposition	7909 Apr 26 15:01	8° <u>♄</u> 25'06	7°56'56
	7902 Dec 18 07:51	0° <u>♄</u>	min. Earth dist.	7909 Apr 29 01:13	8° <u>♄</u> 21'39	35.71946 AU
retrograde	7903 Jan 28 01:01	0° <u>♄</u> 21'28	direct	7909 Jul 16 02:03	7° <u>♄</u> 12'22	
	7903 Mar 10 07:18	30° <u>♄</u>	evening set	7909 Oct 13 21:09	8° <u>♄</u> 48'05	
opposition	7903 Apr 18 01:51	29° <u>♄</u> 11'59 5°22'35	max. Earth dist.	7909 Oct 25 00:11	9° <u>♄</u> 08'12	37.57370 AU
min. Earth dist.	7903 Apr 20 09:12	29° <u>♄</u> 08'49 37.25611 AU				
direct	7903 Jul 07 18:07	28° <u>♄</u> 01'40	conjunction	7909 Oct 27 18:17	9° <u>♄</u> 13'14	7°43'57
evening set	7903 Oct 03 12:43	29° <u>♄</u> 29'34	minimum elong	7909 Oct 27 18:02	9° <u>♄</u> 13'13	7°44'02
max. Earth dist.	7903 Oct 16 00:45	29° <u>♄</u> 50'59 39.11990 AU	morning rise	7909 Nov 10 14:35	9° <u>♄</u> 38'21	
			retrograde	7910 Feb 08 04:57	11° <u>♄</u> 14'44	
conjunction	7903 Oct 18 15:21	29° <u>♄</u> 55'30 5°18'13	opposition	7910 Apr 28 11:16	10° <u>♄</u> 02'43	8°22'51
minimum elong	7903 Oct 18 15:12	29° <u>♄</u> 55'29 5°18'16	min. Earth dist.	7910 Apr 30 21:57	9° <u>♄</u> 59'13	35.46331 AU
	7903 Oct 21 05:47	0° <u>♄</u>	direct	7910 Jul 17 19:58	8° <u>♄</u> 49'32	
morning rise	7903 Nov 02 17:24	0° <u>♄</u> 21'26	evening set	7910 Oct 16 02:14	10° <u>♄</u> 26'45	
retrograde	7904 Jan 29 19:15	1° <u>♄</u> 50'26	max. Earth dist.	7910 Oct 26 22:07	10° <u>♄</u> 46'31	37.31501 AU
opposition	7904 Apr 18 18:39	0° <u>♄</u> 40'35 5°48'05				
min. Earth dist.	7904 Apr 21 02:48	0° <u>♄</u> 37'21 36.99866 AU	conjunction	7910 Oct 29 17:07	10° <u>♄</u> 51'39	8°08'18
	7904 May 20 02:14	30° <u>♄</u>	minimum elong	7910 Oct 29 16:51	10° <u>♄</u> 51'38	8°08'23
direct	7904 Jul 08 09:04	29° <u>♄</u> 29'51	morning rise	7910 Nov 12 06:55	11° <u>♄</u> 16'31	
	7904 Aug 25 21:15	0° <u>♄</u>	retrograde	7911 Feb 10 03:45	12° <u>♄</u> 54'19	
evening set	7904 Oct 04 11:41	0° <u>♄</u> 58'54	opposition	7911 Apr 30 08:21	11° <u>♄</u> 41'54	8°48'45
max. Earth dist.	7904 Oct 16 19:34	1° <u>♄</u> 20'12 38.86131 AU	min. Earth dist.	7911 May 02 20:20	11° <u>♄</u> 38'18	35.20643 AU
			direct	7911 Jul 19 14:45	10° <u>♄</u> 28'15	
conjunction	7904 Oct 19 10:20	1° <u>♄</u> 24'46 5°42'21	evening set	7911 Oct 18 08:40	12° <u>♄</u> 07'02	
minimum elong	7904 Oct 19 10:09	1° <u>♄</u> 24'45 5°42'25	max. Earth dist.	7911 Oct 28 21:24	12° <u>♄</u> 26'26	37.05583 AU
morning rise	7904 Nov 03 08:27	1° <u>♄</u> 50'38				
retrograde	7905 Jan 30 17:13	3° <u>♄</u> 20'43	conjunction	7911 Oct 31 16:38	12° <u>♄</u> 31'39	8°32'38
opposition	7905 Apr 20 11:56	2° <u>♄</u> 10'30 6°13'42	minimum elong	7911 Oct 31 16:22	12° <u>♄</u> 31'37	8°32'43
min. Earth dist.	7905 Apr 22 19:36	2° <u>♄</u> 07'17 36.74183 AU	morning rise	7911 Nov 13 23:30	12° <u>♄</u> 56'12	
direct	7905 Jul 10 00:44	0° <u>♄</u> 59'22	retrograde	7912 Feb 12 04:59	14° <u>♄</u> 35'29	
evening set	7905 Oct 06 11:22	2° <u>♄</u> 29'37	opposition	7912 May 01 05:48	13° <u>♄</u> 22'39	9°14'37
max. Earth dist.	7905 Oct 18 13:50	2° <u>♄</u> 50'43 38.60323 AU	min. Earth dist.	7912 May 03 17:26	13° <u>♄</u> 19'02	34.94935 AU
			direct	7912 Jul 20 11:20	12° <u>♄</u> 08'30	
conjunction	7905 Oct 21 05:44	2° <u>♄</u> 55'24 6°06'35	evening set	7912 Oct 19 16:10	13° <u>♄</u> 48'55	
minimum elong	7905 Oct 21 05:32	2° <u>♄</u> 55'23 6°06'39	max. Earth dist.	7912 Oct 29 20:02	14° <u>♄</u> 07'50	36.79648 AU
morning rise	7905 Nov 04 23:29	3° <u>♄</u> 21'11				
retrograde	7906 Feb 01 14:44	4° <u>♄</u> 52'25	conjunction	7912 Nov 01 16:46	14° <u>♄</u> 13'12	8°56'52
opposition	7906 Apr 22 05:57	3° <u>♄</u> 41'50 6°39'25	minimum elong	7912 Nov 01 16:28	14° <u>♄</u> 13'10	8°56'57
min. Earth dist.	7906 Apr 24 14:56	3° <u>♄</u> 38'31 36.48575 AU	morning rise	7912 Nov 14 16:17	14° <u>♄</u> 37'25	
direct	7906 Jul 11 16:51	2° <u>♄</u> 30'18		7912 Nov 27 04:59	15° <u>♄</u>	
evening set	7906 Oct 08 12:07	4° <u>♄</u> 01'50	retrograde	7913 Feb 13 06:29	16° <u>♄</u> 18'13	
max. Earth dist.	7906 Oct 20 10:36	4° <u>♄</u> 22'49 38.34590 AU	opposition	7913 May 03 04:08	15° <u>♄</u> 04'57	9°40'24
			min. Earth dist.	7913 May 05 17:13	15° <u>♄</u> 01'14	34.69260 AU
conjunction	7906 Oct 23 01:55	4° <u>♄</u> 27'30 6°30'52		7913 May 06 13:23	15° <u>♄</u>	
minimum elong	7906 Oct 23 01:43	4° <u>♄</u> 27'29 6°30'56	direct	7913 Jul 22 08:23	13° <u>♄</u> 50'19	
morning rise	7906 Nov 06 14:51	4° <u>♄</u> 53'10		7913 Oct 03 21:13	15° <u>♄</u>	
retrograde	7907 Feb 03 11:20	6° <u>♄</u> 25'35	evening set	7913 Oct 22 00:37	15° <u>♄</u> 32'25	

max. Earth dist.	7913 Oct 31 21:26	15° \mathbb{M} .50'57	36.53775 AU	min. Earth dist.	7920 May 18 00:29	27° \mathbb{M} .45'20	32.95959 AU
				direct	7920 Aug 03 08:20	26° \mathbb{M} .31'17	
conjunction	7913 Nov 03 17:25	15° \mathbb{M} .56'19	9°21'00	evening set	7920 Nov 07 02:01	28° \mathbb{M} .27'47	
minimum elong	7913 Nov 03 17:08	15° \mathbb{M} .56'17	9°21'07	max. Earth dist.	7920 Nov 13 23:21	28° \mathbb{M} .41'41	34.79611 AU
morning rise	7913 Nov 16 08:54	16° \mathbb{M} .20'09					
retrograde	7914 Feb 15 08:19	18° \mathbb{M} .02'32		conjunction	7920 Nov 16 18:55	28° \mathbb{M} .47'23	12°02'49
opposition	7914 May 05 03:01	16° \mathbb{M} .48'49	10°06'04	minimum elong	7920 Nov 16 18:33	28° \mathbb{M} .47'21	12°02'56
min. Earth dist.	7914 May 07 15:36	16° \mathbb{M} .45'06	34.43682 AU	morning rise	7920 Nov 26 10:28	29° \mathbb{M} .06'54	
direct	7914 Jul 24 09:08	15° \mathbb{M} .33'41			7920 Dec 24 10:49	0° \mathbb{A}	
evening set	7914 Oct 24 10:33	17° \mathbb{M} .17'34		retrograde	7921 Feb 28 16:56	1° \mathbb{A} 02'53	
max. Earth dist.	7914 Nov 02 21:25	17° \mathbb{M} .35'31	36.28029 AU		7921 May 08 18:32	30° \mathbb{R} \mathbb{M} .	
				opposition	7921 May 17 15:47	29° \mathbb{M} .46'21	12°58'02
conjunction	7914 Nov 05 18:47	17° \mathbb{M} .41'02	9°44'59	min. Earth dist.	7921 May 20 03:50	29° \mathbb{M} .42'30	32.72503 AU
minimum elong	7914 Nov 05 18:29	17° \mathbb{M} .41'01	9°45'04	direct	7921 Aug 05 13:29	28° \mathbb{M} .27'59	
morning rise	7914 Nov 18 01:58	18° \mathbb{M} .04'26			7921 Oct 27 08:06	0° \mathbb{A}	
retrograde	7915 Feb 17 11:26	19° \mathbb{M} .48'29		evening set	7921 Nov 09 21:49	0° \mathbb{A} 26'56	
opposition	7915 May 07 02:28	18° \mathbb{M} .34'20	10°31'34	max. Earth dist.	7921 Nov 16 04:57	0° \mathbb{A} 39'47	34.56006 AU
min. Earth dist.	7915 May 09 15:44	18° \mathbb{M} .30'33	34.18287 AU				
direct	7915 Jul 26 07:37	17° \mathbb{M} .18'41		conjunction	7921 Nov 19 01:35	0° \mathbb{A} 45'38	12°24'20
evening set	7915 Oct 26 21:37	19° \mathbb{M} .04'26		minimum elong	7921 Nov 19 01:14	0° \mathbb{A} 45'36	12°24'28
max. Earth dist.	7915 Nov 05 00:24	19° \mathbb{M} .21'53	36.02478 AU	morning rise	7921 Nov 28 04:13	1° \mathbb{A} 04'14	
				retrograde	7922 Mar 03 01:24	3° \mathbb{A} 02'33	
conjunction	7915 Nov 07 21:02	19° \mathbb{M} .27'24	10°08'46	opposition	7922 May 19 20:54	1° \mathbb{A} 45'38	13°20'53
minimum elong	7915 Nov 07 20:43	19° \mathbb{M} .27'23	10°08'52	min. Earth dist.	7922 May 22 09:39	1° \mathbb{A} 41'43	32.49328 AU
morning rise	7915 Nov 19 19:03	19° \mathbb{M} .50'19		direct	7922 Aug 07 16:39	0° \mathbb{A} 26'49	
retrograde	7916 Feb 19 12:07	21° \mathbb{M} .36'07		evening set	7922 Nov 12 19:36	2° \mathbb{A} 28'20	
opposition	7916 May 08 02:49	20° \mathbb{M} .21'32	10°56'51	max. Earth dist.	7922 Nov 18 13:47	2° \mathbb{A} 40'12	34.32668 AU
min. Earth dist.	7916 May 10 15:58	20° \mathbb{M} .17'43	33.93128 AU				
direct	7916 Jul 27 07:29	19° \mathbb{M} .05'24		conjunction	7922 Nov 21 09:27	2° \mathbb{A} 46'01	12°45'19
evening set	7916 Oct 28 10:03	20° \mathbb{M} .53'05		minimum elong	7922 Nov 21 09:06	2° \mathbb{A} 45'59	12°45'25
max. Earth dist.	7916 Nov 06 02:47	21° \mathbb{M} .09'54	35.77209 AU	morning rise	7922 Nov 29 22:00	3° \mathbb{A} 03'37	
				retrograde	7923 Mar 05 09:19	5° \mathbb{A} 04'19	
conjunction	7916 Nov 08 23:42	21° \mathbb{M} .15'30	10°32'17	opposition	7923 May 22 02:48	3° \mathbb{A} 47'02	13°43'09
minimum elong	7916 Nov 08 23:22	21° \mathbb{M} .15'29	10°32'23	min. Earth dist.	7923 May 24 15:18	3° \mathbb{A} 43'05	32.26415 AU
morning rise	7916 Nov 20 12:11	21° \mathbb{M} .37'52		direct	7923 Aug 09 22:37	2° \mathbb{A} 27'46	
retrograde	7917 Feb 20 15:33	23° \mathbb{M} .25'31		evening set	7923 Nov 15 19:17	4° \mathbb{A} 31'56	
opposition	7917 May 10 03:48	22° \mathbb{M} .10'30	11°21'51	max. Earth dist.	7923 Nov 20 21:35	4° \mathbb{A} 42'33	34.09621 AU
min. Earth dist.	7917 May 12 16:24	22° \mathbb{M} .06'42	33.68295 AU				
direct	7917 Jul 29 06:20	20° \mathbb{M} .53'53		conjunction	7923 Nov 23 18:00	4° \mathbb{A} 48'30	13°05'42
evening set	7917 Oct 30 23:42	22° \mathbb{M} .43'37		minimum elong	7923 Nov 23 17:39	4° \mathbb{A} 48'28	13°05'49
max. Earth dist.	7917 Nov 08 06:33	22° \mathbb{M} .59'48	35.52269 AU	morning rise	7923 Dec 01 15:41	5° \mathbb{A} 04'58	
				retrograde	7924 Mar 06 20:06	7° \mathbb{A} 08'11	
conjunction	7917 Nov 11 03:18	23° \mathbb{M} .05'27	10°55'30	opposition	7924 May 23 09:33	5° \mathbb{A} 50'30	14°04'45
minimum elong	7917 Nov 11 02:58	23° \mathbb{M} .05'25	10°55'37	min. Earth dist.	7924 May 25 21:47	5° \mathbb{A} 46'33	32.03815 AU
morning rise	7917 Nov 22 05:33	23° \mathbb{M} .27'11		direct	7924 Aug 11 03:32	4° \mathbb{A} 30'45	
retrograde	7918 Feb 22 18:59	25° \mathbb{M} .16'47		evening set	7924 Nov 17 20:43	6° \mathbb{A} 37'43	
opposition	7918 May 12 05:39	24° \mathbb{M} .01'22	11°46'32	max. Earth dist.	7924 Nov 22 07:40	6° \mathbb{A} 47'04	33.86891 AU
min. Earth dist.	7918 May 14 18:47	23° \mathbb{M} .57'30	33.43819 AU				
direct	7918 Jul 31 04:59	22° \mathbb{M} .44'18		conjunction	7924 Nov 25 03:21	6° \mathbb{A} 53'01	13°25'24
evening set	7918 Nov 02 14:57	24° \mathbb{M} .36'11		minimum elong	7924 Nov 25 03:00	6° \mathbb{A} 52'59	13°25'32
max. Earth dist.	7918 Nov 10 11:31	24° \mathbb{M} .51'41	35.27713 AU	morning rise	7924 Dec 02 08:50	7° \mathbb{A} 08'13	
				retrograde	7925 Mar 09 04:06	9° \mathbb{A} 14'05	
conjunction	7918 Nov 13 07:37	24° \mathbb{M} .57'20	11°18'21	opposition	7925 May 25 17:16	7° \mathbb{A} 55'59	14°25'38
minimum elong	7918 Nov 13 07:17	24° \mathbb{M} .57'18	11°18'28	min. Earth dist.	7925 May 28 05:45	7° \mathbb{A} 51'59	31.81556 AU
morning rise	7918 Nov 23 23:01	25° \mathbb{M} .18'25		direct	7925 Aug 13 08:55	6° \mathbb{A} 35'46	
retrograde	7919 Feb 25 01:16	27° \mathbb{M} .10'02		evening set	7925 Nov 21 00:34	8° \mathbb{A} 45'38	
opposition	7919 May 14 08:09	25° \mathbb{M} .54'15	12°10'49	max. Earth dist.	7925 Nov 24 18:12	8° \mathbb{A} 53'33	33.64562 AU
min. Earth dist.	7919 May 16 20:09	25° \mathbb{M} .50'26	33.19719 AU				
direct	7919 Aug 02 06:28	24° \mathbb{M} .36'44		conjunction	7925 Nov 27 13:28	8° \mathbb{A} 59'32	13°44'23
evening set	7919 Nov 05 07:38	26° \mathbb{M} .30'52		minimum elong	7925 Nov 27 13:07	8° \mathbb{A} 59'30	13°44'32
max. Earth dist.	7919 Nov 12 16:02	26° \mathbb{M} .45'32	35.03498 AU	morning rise	7925 Dec 04 01:23	9° \mathbb{A} 13'20	
				retrograde	7926 Mar 11 14:23	11° \mathbb{A} 21'57	
conjunction	7919 Nov 15 12:49	26° \mathbb{M} .51'17	11°40'49	opposition	7926 May 28 01:31	10° \mathbb{A} 03'26	14°45'43
minimum elong	7919 Nov 15 12:29	26° \mathbb{M} .51'15	11°40'56	min. Earth dist.	7926 May 30 12:54	9° \mathbb{A} 59'29	31.59727 AU
morning rise	7919 Nov 25 16:47	27° \mathbb{M} .11'38		direct	7926 Aug 15 16:51	8° \mathbb{A} 42'44	
retrograde	7920 Feb 27 08:35	29° \mathbb{M} .05'23		evening set	7926 Nov 24 06:52	10° \mathbb{A} 55'42	
opposition	7920 May 15 11:32	27° \mathbb{M} .49'13	12°34'40	max. Earth dist.	7926 Nov 27 05:21	11° \mathbb{A} 02'00	33.42681 AU

conjunction	7926 Nov 30 00:27	11° \mathring{A} 08'00	14°02'33	min. Earth dist.	7934 Jun 17 06:57	28° \mathring{A} 09'15	30.08140 AU
minimum elong	7926 Nov 30 00:06	11° \mathring{A} 07'58	14°02'41	direct	7934 Sep 02 11:29	26° \mathring{A} 49'00	
morning rise	7926 Dec 05 17:04	11° \mathring{A} 20'13		max. Earth dist.	7934 Dec 16 10:40	29° \mathring{A} 20'04	31.92129 AU
retrograde	7927 Mar 14 00:56	13° \mathring{A} 31'46					
opposition	7927 May 30 10:51	12° \mathring{A} 12'50	15°04'54	conjunction	7934 Dec 18 19:19	29° \mathring{A} 25'29	15°48'53
min. Earth dist.	7927 Jun 01 22:38	12° \mathring{A} 08'50	31.38383 AU	minimum elong	7934 Dec 18 19:06	29° \mathring{A} 25'28	15°49'01
direct	7927 Aug 17 23:30	10° \mathring{A} 51'39			7935 Jan 02 23:02	0° \mathring{B}	
evening set	7927 Nov 27 16:40	13° \mathring{A} 07'58		retrograde	7935 Apr 02 03:22	1° \mathring{B} 59'13	
max. Earth dist.	7927 Nov 29 18:36	13° \mathring{A} 12'28	33.21345 AU	opposition	7935 Jun 17 18:36	0° \mathring{B} 37'41	16°55'33
				min. Earth dist.	7935 Jun 19 20:46	0° \mathring{B} 34'11	29.92444 AU
conjunction	7927 Dec 02 12:09	13° \mathring{A} 18'23	14°19'50		7935 Jul 11 04:45	30° \mathring{R} \mathring{A}	
minimum elong	7927 Dec 02 11:49	13° \mathring{A} 18'21	14°19'58	direct	7935 Sep 05 03:03	29° \mathring{A} 13'31	
morning rise	7927 Dec 07 06:48	13° \mathring{A} 28'45			7935 Oct 29 01:31	0° \mathring{B}	
retrograde	7928 Mar 15 13:20	15° \mathring{A} 43'28		max. Earth dist.	7935 Dec 19 05:49	1° \mathring{B} 45'53	31.76646 AU
opposition	7928 May 31 20:49	14° \mathring{A} 24'08	15°23'06				
min. Earth dist.	7928 Jun 03 06:49	14° \mathring{A} 20'14	31.17612 AU	conjunction	7935 Dec 21 13:03	1° \mathring{B} 51'12	15°56'15
direct	7928 Aug 19 09:32	13° \mathring{A} 02'29		minimum elong	7935 Dec 21 12:54	1° \mathring{B} 51'11	15°56'23
evening set	7928 Nov 30 07:06	15° \mathring{A} 22'33		retrograde	7936 Apr 03 20:36	4° \mathring{B} 25'59	
max. Earth dist.	7928 Dec 01 07:09	15° \mathring{A} 24'44	33.00630 AU	opposition	7936 Jun 19 11:16	3° \mathring{B} 04'11	17°02'55
				min. Earth dist.	7936 Jun 21 13:12	3° \mathring{B} 00'42	29.77462 AU
conjunction	7928 Dec 04 00:33	15° \mathring{A} 30'41	14°36'07	direct	7936 Sep 06 17:11	1° \mathring{B} 39'44	
minimum elong	7928 Dec 04 00:13	15° \mathring{A} 30'39	14°36'15	max. Earth dist.	7936 Dec 21 01:57	4° \mathring{B} 13'21	31.61938 AU
morning rise	7928 Dec 07 17:16	15° \mathring{A} 38'46					
retrograde	7929 Mar 18 02:54	17° \mathring{A} 57'06		conjunction	7936 Dec 23 07:19	4° \mathring{B} 18'32	16°02'05
opposition	7929 Jun 03 07:49	16° \mathring{A} 37'21	15°40'12	minimum elong	7936 Dec 23 07:10	4° \mathring{B} 18'31	16°02'14
min. Earth dist.	7929 Jun 05 17:37	16° \mathring{A} 33'27	30.97508 AU	retrograde	7937 Apr 06 14:49	6° \mathring{B} 54'16	
direct	7929 Aug 21 19:19	15° \mathring{A} 15'16		opposition	7937 Jun 22 04:28	5° \mathring{B} 32'14	17°08'38
evening set	7929 Dec 04 07:50	17° \mathring{A} 39'57		min. Earth dist.	7937 Jun 24 03:54	5° \mathring{B} 28'55	29.63239 AU
max. Earth dist.	7929 Dec 03 22:44	17° \mathring{A} 39'07	32.80631 AU	direct	7937 Sep 09 10:41	4° \mathring{B} 07'30	
				max. Earth dist.	7937 Dec 23 21:46	6° \mathring{B} 42'14	31.48026 AU
conjunction	7929 Dec 06 13:41	17° \mathring{A} 44'54	14°51'21				
minimum elong	7929 Dec 06 13:23	17° \mathring{A} 44'53	14°51'29	conjunction	7937 Dec 26 02:02	6° \mathring{B} 47'19	16°06'21
morning rise	7929 Dec 08 18:55	17° \mathring{A} 49'48		minimum elong	7937 Dec 26 01:56	6° \mathring{B} 47'19	16°06'30
retrograde	7930 Mar 20 17:00	20° \mathring{A} 12'36		retrograde	7938 Apr 09 08:45	9° \mathring{B} 23'58	
opposition	7930 Jun 05 19:35	18° \mathring{A} 52'30	15°56'09	opposition	7938 Jun 24 22:24	8° \mathring{B} 01'41	17°12'37
min. Earth dist.	7930 Jun 08 03:37	18° \mathring{A} 48'41	30.78124 AU	min. Earth dist.	7938 Jun 26 21:16	7° \mathring{B} 58'24	29.49820 AU
direct	7930 Aug 24 08:19	17° \mathring{A} 30'00		direct	7938 Sep 12 03:31	6° \mathring{B} 36'40	
max. Earth dist.	7930 Dec 06 12:56	19° \mathring{A} 55'16	32.61398 AU	max. Earth dist.	7938 Dec 26 19:50	9° \mathring{B} 12'35	31.34981 AU
conjunction	7930 Dec 09 03:39	20° \mathring{A} 01'05	15°05'25	conjunction	7938 Dec 28 21:21	9° \mathring{B} 17'26	16°08'59
minimum elong	7930 Dec 09 03:22	20° \mathring{A} 01'03	15°05'32	minimum elong	7938 Dec 28 21:16	9° \mathring{B} 17'26	16°09'06
retrograde	7931 Mar 23 08:26	22° \mathring{A} 30'03		retrograde	7939 Apr 12 03:37	11° \mathring{B} 54'52	
opposition	7931 Jun 08 08:03	21° \mathring{A} 09'37	16°10'49	opposition	7939 Jun 27 16:42	10° \mathring{B} 32'22	17°14'48
min. Earth dist.	7931 Jun 10 15:17	21° \mathring{A} 05'51	30.59513 AU	min. Earth dist.	7939 Jun 29 13:06	10° \mathring{B} 29'15	29.37256 AU
direct	7931 Aug 26 19:15	19° \mathring{A} 46'44		direct	7939 Sep 14 23:02	9° \mathring{B} 07'06	
max. Earth dist.	7931 Dec 09 06:15	22° \mathring{A} 13'37	32.42946 AU	max. Earth dist.	7939 Dec 29 16:40	11° \mathring{B} 43'58	31.22858 AU
conjunction	7931 Dec 11 18:34	22° \mathring{A} 19'14	15°18'16	conjunction	7939 Dec 31 16:58	11° \mathring{B} 48'43	16°09'54
minimum elong	7931 Dec 11 18:18	22° \mathring{A} 19'13	15°18'25	minimum elong	7939 Dec 31 16:56	11° \mathring{B} 48'43	16°10'02
retrograde	7932 Mar 25 00:00	24° \mathring{A} 49'28		retrograde	7940 Apr 13 23:20	14° \mathring{B} 26'53	
opposition	7932 Jun 09 21:32	23° \mathring{A} 28'44	16°24'10	opposition	7940 Jun 29 11:43	13° \mathring{B} 04'09	17°15'07
min. Earth dist.	7932 Jun 12 03:37	23° \mathring{A} 25'01	30.41654 AU	min. Earth dist.	7940 Jul 01 06:46	13° \mathring{B} 01'07	29.25642 AU
direct	7932 Aug 28 08:44	22° \mathring{A} 05'31		direct	7940 Sep 16 16:38	11° \mathring{B} 38'39	
max. Earth dist.	7932 Dec 10 22:11	24° \mathring{A} 33'46	32.25270 AU	max. Earth dist.	7940 Dec 31 16:09	14° \mathring{B} 16'36	31.11751 AU
conjunction	7932 Dec 13 09:54	24° \mathring{A} 39'24	15°29'50	conjunction	7941 Jan 02 12:51	14° \mathring{B} 21'01	16°09'03
minimum elong	7932 Dec 13 09:38	24° \mathring{A} 39'22	15°29'58	minimum elong	7941 Jan 02 12:50	14° \mathring{B} 21'01	16°09'11
retrograde	7933 Mar 27 17:50	27° \mathring{A} 10'51		retrograde	7941 Apr 16 18:57	16° \mathring{B} 59'48	
opposition	7933 Jun 12 11:45	25° \mathring{A} 49'50	16°36'07	opposition	7941 Jul 02 07:11	15° \mathring{B} 36'54	17°13'31
min. Earth dist.	7933 Jun 14 16:17	25° \mathring{A} 46'13	30.24545 AU	min. Earth dist.	7941 Jul 03 23:45	15° \mathring{B} 34'02	29.15043 AU
direct	7933 Aug 30 22:01	24° \mathring{A} 26'18		direct	7941 Sep 19 14:06	14° \mathring{B} 11'12	
max. Earth dist.	7933 Dec 13 16:34	26° \mathring{A} 56'02	32.08330 AU	max. Earth dist.	7942 Jan 03 13:50	16° \mathring{B} 49'56	31.01739 AU
conjunction	7933 Dec 16 02:17	27° \mathring{A} 01'31	15°40'03	conjunction	7942 Jan 05 09:02	16° \mathring{B} 54'13	16°06'24
minimum elong	7933 Dec 16 02:05	27° \mathring{A} 01'29	15°40'12	minimum elong	7942 Jan 05 09:04	16° \mathring{B} 54'13	16°06'32
retrograde	7934 Mar 30 09:13	29° \mathring{A} 34'08		retrograde	7942 Apr 19 15:40	19° \mathring{B} 33'34	
opposition	7934 Jun 15 02:48	28° \mathring{A} 12'51	16°46'35	opposition	7942 Jul 05 02:53	18° \mathring{B} 10'29	17°09'56

min. Earth dist.	7942 Jul 06 17:02	18°30'48"	29.05555 AU	minimum elong	7950 Jan 26 08:35	7°39'17"	14°38'46"
direct	7942 Sep 22 10:04	16°34'39"		morning rise	7950 Jan 29 19:03	7°47'34"	
max. Earth dist.	7943 Jan 06 14:15	19°32'18"	30.92889 AU	retrograde	7950 May 10 11:14	10°19'34"	
				opposition	7950 Jul 26 02:59	8°56'28"	15°29'32"
conjunction	7943 Jan 08 05:42	19°32'14"	16°01'53"	min. Earth dist.	7950 Jul 26 21:29	8°55'09"	28.69610 AU
minimum elong	7943 Jan 08 05:46	19°32'14"	16°02'01"	direct	7950 Oct 13 13:30	7°30'42"	
retrograde	7943 Apr 22 11:31	22°30'02"		evening set	7951 Jan 24 12:23	10°03'31"	
opposition	7943 Jul 07 23:13	20°34'52"	17°04'20"	max. Earth dist.	7951 Jan 28 10:23	10°12'56"	30.62929 AU
min. Earth dist.	7943 Jul 09 11:11	20°34'19"	28.97204 AU				
direct	7943 Sep 25 06:37	19°31'56"		conjunction	7951 Jan 29 04:54	10°14'48"	14°19'46"
max. Earth dist.	7944 Jan 09 12:46	21°35'14"	30.85234 AU	minimum elong	7951 Jan 29 05:13	10°14'50"	14°19'53"
				morning rise	7951 Feb 02 21:50	10°26'07"	
conjunction	7944 Jan 11 02:18	22°30'59"	15°55'30"	retrograde	7951 May 13 06:11	12°54'46"	
minimum elong	7944 Jan 11 02:25	22°30'00"	15°55'38"	opposition	7951 Jul 29 00:13	11°31'42"	15°08'30"
retrograde	7944 Apr 24 10:08	24°34'10"		min. Earth dist.	7951 Jul 29 16:40	11°30'33"	28.69852 AU
opposition	7944 Jul 09 19:44	23°31'56"	16°56'42"	direct	7951 Oct 16 10:07	10°06'02"	
min. Earth dist.	7944 Jul 11 04:35	23°31'37"	28.90020 AU	evening set	7952 Jan 26 07:47	12°35'55"	
direct	7944 Sep 27 04:00	21°35'57"		max. Earth dist.	7952 Jan 31 10:22	12°48'10"	30.64021 AU
conjunction	7945 Jan 12 23:17	24°38'23"	15°47'14"	conjunction	7952 Feb 01 01:07	12°49'39"	13°59'14"
minimum elong	7945 Jan 12 23:25	24°38'23"	15°47'22"	minimum elong	7952 Feb 01 01:28	12°49'41"	13°59'20"
max. Earth dist.	7945 Jan 11 13:24	24°34'59"	30.78758 AU	morning rise	7952 Feb 06 18:45	13°03'25"	
retrograde	7945 Apr 27 05:32	27°31'51"			7952 Apr 04 08:01	15°	
opposition	7945 Jul 12 16:38	25°35'36"	16°47'02"	retrograde	7952 May 14 23:55	15°29'10"	
min. Earth dist.	7945 Jul 13 23:53	25°35'23"	28.83969 AU		7952 Jun 26 04:50	15°	
direct	7945 Sep 30 00:40	24°32'37"		opposition	7952 Jul 30 21:13	14°06'11"	14°45'44"
				min. Earth dist.	7952 Jul 31 10:45	14°05'14"	28.71162 AU
conjunction	7946 Jan 15 20:12	27°31'17"	15°37'07"	direct	7952 Oct 18 09:44	12°40'37"	
minimum elong	7946 Jan 15 20:24	27°31'18"	15°37'14"		7953 Jan 23 23:05	15°	
max. Earth dist.	7946 Jan 14 12:32	27°31'06"	30.73438 AU	evening set	7953 Jan 27 05:41	15°07'47"	
retrograde	7946 Apr 30 03:25	29°35'57"					
opposition	7946 Jul 15 13:37	28°31'42"	16°35'23"	conjunction	7953 Feb 02 20:52	15°23'40"	13°37'09"
min. Earth dist.	7946 Jul 16 17:33	28°32'43"	28.79015 AU	minimum elong	7953 Feb 02 21:13	15°23'42"	13°37'16"
direct	7946 Oct 02 22:40	27°30'54"		max. Earth dist.	7953 Feb 02 08:04	15°22'23"	30.66227 AU
				morning rise	7953 Feb 09 12:20	15°39'34"	
conjunction	7947 Jan 18 17:23	29°35'32"	15°25'10"	retrograde	7953 May 17 19:00	18°02'39"	
minimum elong	7947 Jan 18 17:35	29°35'33"	15°25'17"	opposition	7953 Aug 02 17:48	16°39'44"	14°21'18"
max. Earth dist.	7947 Jan 17 12:42	29°34'39"	30.69206 AU	min. Earth dist.	7953 Aug 03 04:22	16°38'59"	28.73616 AU
	7947 Jan 22 15:45	0°		direct	7953 Oct 21 06:53	15°14'18"	
retrograde	7947 May 02 23:48	2°31'16"		evening set	7954 Jan 29 05:15	17°38'54"	
opposition	7947 Jul 18 10:56	1°08'02"	16°21'46"				
min. Earth dist.	7947 Jul 19 13:30	1°06'09"	28.75115 AU	conjunction	7954 Feb 05 16:15	17°56'41"	13°13'33"
	7947 Sep 02 15:02	30°		minimum elong	7954 Feb 05 16:38	17°56'43"	13°13'38"
direct	7947 Oct 05 19:12	29°34'20"		max. Earth dist.	7954 Feb 05 07:38	17°55'49"	30.69608 AU
	7947 Nov 07 05:49	0°		morning rise	7954 Feb 13 03:20	18°14'29"	
				retrograde	7954 May 20 12:03	20°35'03"	
conjunction	7948 Jan 21 14:28	2°26'55"	15°11'24"	opposition	7954 Aug 05 14:13	19°12'16"	13°55'15"
minimum elong	7948 Jan 21 14:44	2°26'56"	15°11'31"	min. Earth dist.	7954 Aug 05 22:15	19°11'42"	28.77239 AU
max. Earth dist.	7948 Jan 20 12:21	2°24'17"	30.66060 AU	direct	7954 Oct 24 04:36	17°47'00"	
retrograde	7948 May 04 20:39	5°07'37"		evening set	7955 Jan 31 05:54	20°09'08"	
opposition	7948 Jul 20 08:19	3°44'26"	16°06'13"				
min. Earth dist.	7948 Jul 21 07:26	3°42'47"	28.72253 AU	conjunction	7955 Feb 08 11:00	20°28'39"	12°48'31"
direct	7948 Oct 07 17:35	2°18'32"		minimum elong	7955 Feb 08 11:23	20°28'41"	12°48'36"
evening set	7949 Jan 21 23:35	4°59'38"		max. Earth dist.	7955 Feb 08 04:30	20°28'00"	30.74199 AU
max. Earth dist.	7949 Jan 22 11:43	5°00'51"	30.63961 AU	morning rise	7955 Feb 16 16:15	20°48'11"	
				retrograde	7955 May 23 07:15	23°06'21"	
conjunction	7949 Jan 23 11:22	5°03'13"	14°55'54"	opposition	7955 Aug 08 10:11	21°43'43"	13°27'42"
minimum elong	7949 Jan 23 11:38	5°03'15"	14°56'01"	min. Earth dist.	7955 Aug 08 14:27	21°43'25"	28.82090 AU
morning rise	7949 Jan 24 23:40	5°06'52"		direct	7955 Oct 27 02:23	20°18'41"	
retrograde	7949 May 07 15:24	7°43'48"		evening set	7956 Feb 02 07:24	22°38'26"	
opposition	7949 Jul 23 05:49	6°20'38"	15°48'48"				
min. Earth dist.	7949 Jul 24 03:25	6°19'06"	28.70421 AU	conjunction	7956 Feb 11 05:28	22°59'32"	12°22'06"
direct	7949 Oct 10 14:47	4°54'48"		minimum elong	7956 Feb 11 05:51	22°59'34"	12°22'11"
evening set	7950 Jan 22 21:59	7°30'59"		max. Earth dist.	7956 Feb 11 03:16	22°59'19"	30.80028 AU
max. Earth dist.	7950 Jan 25 11:43	7°37'12"	30.62922 AU	morning rise	7956 Feb 20 03:22	23°20'38"	
				retrograde	7956 May 24 23:47	25°36'31"	
conjunction	7950 Jan 26 08:16	7°39'15"	14°38'40"	opposition	7956 Aug 10 05:56	24°14'05"	12°58'42"

min. Earth dist.	7956 Aug 10 07:58	24° \approx 13'56	28.88161 AU	conjunction	7963 Feb 27 22:05	10° \mathbb{H} 01'16	8°47'34
direct	7956 Oct 28 23:38	22° \approx 49'20		minimum elong	7963 Feb 27 22:26	10° \mathbb{H} 01'18	8°47'38
evening set	7957 Feb 03 09:28	25° \approx 06'46		max. Earth dist.	7963 Feb 28 14:41	10° \mathbb{H} 02'51	31.51054 AU
				morning rise	7963 Mar 12 12:29	10° \mathbb{H} 29'56	
conjunction	7957 Feb 12 23:06	25° \approx 29'18	11°54'25	retrograde	7963 Jun 11 08:02	12° \mathbb{H} 31'46	
minimum elong	7957 Feb 12 23:30	25° \approx 29'21	11°54'30	opposition	7963 Aug 28 09:33	11° \mathbb{H} 11'15	9°05'26
max. Earth dist.	7957 Feb 12 23:11	25° \approx 29'19	30.87077 AU	min. Earth dist.	7963 Aug 27 17:13	11° \mathbb{H} 12'21	29.60088 AU
morning rise	7957 Feb 22 12:41	25° \approx 51'50		direct	7963 Nov 16 12:26	9° \mathbb{H} 48'54	
retrograde	7957 May 27 17:59	28° \approx 05'32		evening set	7964 Feb 17 11:15	11° \mathbb{H} 51'49	
opposition	7957 Aug 13 01:03	26° \approx 43'20	12°28'24				
min. Earth dist.	7957 Aug 12 23:06	26° \approx 43'28	28.95419 AU	conjunction	7964 Mar 01 11:32	12° \mathbb{H} 21'12	8°13'56
direct	7957 Oct 31 20:23	25° \approx 18'53		minimum elong	7964 Mar 01 11:51	12° \mathbb{H} 21'14	8°13'59
evening set	7958 Feb 05 12:07	27° \approx 34'06		max. Earth dist.	7964 Mar 02 05:28	12° \mathbb{H} 22'54	31.64779 AU
				morning rise	7964 Mar 14 11:13	12° \mathbb{H} 50'31	
conjunction	7958 Feb 15 16:29	27° \approx 57'57	11°25'34	retrograde	7964 Jun 12 20:23	14° \mathbb{H} 50'36	
minimum elong	7958 Feb 15 16:53	27° \approx 58'00	11°25'38	min. Earth dist.	7964 Aug 29 05:40	13° \mathbb{H} 31'37	29.73911 AU
max. Earth dist.	7958 Feb 15 20:15	27° \approx 58'20	30.95269 AU	opposition	7964 Aug 30 00:50	13° \mathbb{H} 30'20	8°29'08
morning rise	7958 Feb 25 20:33	28° \approx 21'48		direct	7964 Nov 18 03:48	12° \mathbb{H} 08'18	
	7958 Apr 16 05:48	0° \mathbb{H}		evening set	7965 Feb 18 15:22	14° \mathbb{H} 09'20	
retrograde	7958 May 30 10:10	0° \mathbb{H} 33'21					
	7958 Jul 15 08:45	30° \mathbb{R}		conjunction	7965 Mar 04 00:16	14° \mathbb{H} 39'18	7°39'51
opposition	7958 Aug 15 19:45	29° \approx 11'25	11°56'53	minimum elong	7965 Mar 04 00:34	14° \mathbb{H} 39'20	7°39'53
min. Earth dist.	7958 Aug 15 16:04	29° \approx 11'41	29.03791 AU	max. Earth dist.	7965 Mar 04 21:37	14° \mathbb{H} 41'19	31.79311 AU
direct	7958 Nov 03 16:04	27° \approx 47'19		morning rise	7965 Mar 17 08:10	15° \mathbb{H} 09'12	
evening set	7959 Feb 07 15:22	0° \mathbb{H} 00'21		retrograde	7965 Jun 15 06:19	17° \mathbb{H} 07'33	
	7959 Feb 07 11:40	0° \mathbb{H}		opposition	7965 Sep 01 15:27	15° \mathbb{H} 47'33	7°52'24
				min. Earth dist.	7965 Aug 31 18:46	15° \mathbb{H} 48'55	29.88550 AU
conjunction	7959 Feb 18 09:14	0° \mathbb{H} 25'24	10°55'40	direct	7965 Nov 20 19:37	14° \mathbb{H} 25'50	
minimum elong	7959 Feb 18 09:38	0° \mathbb{H} 25'27	10°55'44	evening set	7966 Feb 20 19:46	16° \mathbb{H} 25'04	
max. Earth dist.	7959 Feb 18 15:19	0° \mathbb{H} 26'00	31.04548 AU				
morning rise	7959 Mar 01 02:47	0° \mathbb{H} 50'25		conjunction	7966 Mar 06 12:07	16° \mathbb{H} 55'31	7°05'22
retrograde	7959 Jun 02 03:29	2° \mathbb{H} 59'56		minimum elong	7966 Mar 06 12:24	16° \mathbb{H} 55'32	7°05'23
opposition	7959 Aug 18 14:00	1° \mathbb{H} 38'17	11°24'17	max. Earth dist.	7966 Mar 07 10:51	16° \mathbb{H} 57'38	31.94658 AU
min. Earth dist.	7959 Aug 18 06:44	1° \mathbb{H} 38'46	29.13207 AU	morning rise	7966 Mar 20 03:45	17° \mathbb{H} 25'53	
direct	7959 Nov 06 12:41	0° \mathbb{H} 14'31		retrograde	7966 Jun 17 18:05	19° \mathbb{H} 22'35	
evening set	7960 Feb 09 18:44	2° \mathbb{H} 25'26		min. Earth dist.	7966 Sep 03 04:59	18° \mathbb{H} 04'26	30.04049 AU
				opposition	7966 Sep 04 05:08	18° \mathbb{H} 02'51	7°15'19
conjunction	7960 Feb 21 01:19	2° \mathbb{H} 51'34	10°24'48	direct	7966 Nov 23 10:55	16° \mathbb{H} 41'28	
minimum elong	7960 Feb 21 01:42	2° \mathbb{H} 51'36	10°24'52	evening set	7967 Feb 22 23:58	18° \mathbb{H} 38'58	
max. Earth dist.	7960 Feb 21 10:18	2° \mathbb{H} 52'26	31.14819 AU				
morning rise	7960 Mar 03 07:28	3° \mathbb{H} 17'39		conjunction	7967 Mar 08 23:20	19° \mathbb{H} 09'49	6°30'36
retrograde	7960 Jun 03 17:16	5° \mathbb{H} 25'10		minimum elong	7967 Mar 08 23:36	19° \mathbb{H} 09'50	6°30'38
opposition	7960 Aug 20 07:53	4° \mathbb{H} 03'48	10°50'44	max. Earth dist.	7967 Mar 10 01:37	19° \mathbb{H} 12'15	32.10858 AU
min. Earth dist.	7960 Aug 19 22:50	4° \mathbb{H} 04'25	29.23606 AU	morning rise	7967 Mar 22 21:42	19° \mathbb{H} 40'35	
direct	7960 Nov 08 06:33	2° \mathbb{H} 40'24		retrograde	7967 Jun 20 03:59	21° \mathbb{H} 35'43	
evening set	7961 Feb 10 22:36	4° \mathbb{H} 49'15		opposition	7967 Sep 06 18:26	20° \mathbb{H} 16'14	6°37'58
				min. Earth dist.	7967 Sep 05 16:43	20° \mathbb{H} 17'56	30.20437 AU
conjunction	7961 Feb 22 16:54	5° \mathbb{H} 16'20	9°53'06	direct	7967 Nov 26 02:33	18° \mathbb{H} 55'14	
minimum elong	7961 Feb 22 17:17	5° \mathbb{H} 16'23	9°53'10	evening set	7968 Feb 25 04:09	20° \mathbb{H} 51'03	
max. Earth dist.	7961 Feb 23 04:35	5° \mathbb{H} 17'28	31.26040 AU				
morning rise	7961 Mar 06 10:37	5° \mathbb{H} 43'23		conjunction	7968 Mar 10 09:34	21° \mathbb{H} 22'14	5°55'36
retrograde	7961 Jun 06 07:06	7° \mathbb{H} 48'57		minimum elong	7968 Mar 10 09:49	21° \mathbb{H} 22'16	5°55'37
opposition	7961 Aug 23 00:55	6° \mathbb{H} 27'53	10°16'20	max. Earth dist.	7968 Mar 11 13:34	21° \mathbb{H} 24'49	32.27942 AU
min. Earth dist.	7961 Aug 22 12:59	6° \mathbb{H} 28'41	29.34915 AU	morning rise	7968 Mar 24 14:09	21° \mathbb{H} 53'20	
direct	7961 Nov 11 01:52	5° \mathbb{H} 04'50		retrograde	7968 Jun 21 14:27	23° \mathbb{H} 46'57	
evening set	7962 Feb 13 02:41	7° \mathbb{H} 11'39		min. Earth dist.	7968 Sep 07 01:32	22° \mathbb{H} 29'42	30.37717 AU
				opposition	7968 Sep 08 06:49	22° \mathbb{H} 27'47	6°00'27
conjunction	7962 Feb 25 07:49	7° \mathbb{H} 39'37	9°20'39	direct	7968 Nov 27 17:09	21° \mathbb{H} 07'10	
minimum elong	7962 Feb 25 08:10	7° \mathbb{H} 39'39	9°20'42	evening set	7969 Feb 26 08:17	23° \mathbb{H} 01'25	
max. Earth dist.	7962 Feb 25 21:25	7° \mathbb{H} 40'55	31.38129 AU				
morning rise	7962 Mar 09 12:26	8° \mathbb{H} 07'31		conjunction	7969 Mar 12 19:15	23° \mathbb{H} 32'51	5°20'28
retrograde	7962 Jun 08 20:59	10° \mathbb{H} 11'12		minimum elong	7969 Mar 12 19:28	23° \mathbb{H} 32'53	5°20'30
opposition	7962 Aug 25 17:34	8° \mathbb{H} 50'24	9°41'12	max. Earth dist.	7969 Mar 14 02:07	23° \mathbb{H} 35'41	32.45877 AU
min. Earth dist.	7962 Aug 25 03:24	8° \mathbb{H} 51'21	29.47094 AU	morning rise	7969 Mar 27 05:17	24° \mathbb{H} 04'13	
direct	7962 Nov 13 17:42	7° \mathbb{H} 27'42		retrograde	7969 Jun 23 22:29	25° \mathbb{H} 56'25	
evening set	7963 Feb 15 06:52	9° \mathbb{H} 32'33		min. Earth dist.	7969 Sep 09 11:38	24° \mathbb{H} 39'35	30.55861 AU
				opposition	7969 Sep 10 18:27	24° \mathbb{H} 37'35	5°22'51

direct	7969 Nov 30 05:46	23° H 17'22		conjunction	7976 Mar 26 19:29	8° Y 00'15	1°16'49
evening set	7970 Feb 28 12:26	25° H 10'07		minimum elong	7976 Mar 26 19:32	8° Y 00'15	1°16'48
				max. Earth dist.	7976 Mar 28 15:05	8° Y 04'01	33.89528 AU
conjunction	7970 Mar 15 04:14	25° H 41'44	4°45'16	morning rise	7976 Apr 11 02:10	8° Y 31'44	
minimum elong	7970 Mar 15 04:25	25° H 41'46	4°45'17	retrograde	7976 Jul 07 16:09	10° Y 15'52	
max. Earth dist.	7970 Mar 16 13:12	25° H 44'44	32.64628 AU	min. Earth dist.	7976 Sep 23 14:28	9° Y 02'08	32.00510 AU
morning rise	7970 Mar 29 19:01	26° H 13'18		opposition	7976 Sep 25 09:45	8° Y 59'27	1°03'44
retrograde	7970 Jun 26 06:28	28° H 04'08		direct	7976 Dec 15 04:31	7° Y 42'09	
min. Earth dist.	7970 Sep 11 19:52	26° H 47'49	30.74782 AU	evening set	7977 Mar 13 15:28	9° Y 26'09	
opposition	7970 Sep 13 05:26	26° H 45'39	4°45'14				
direct	7970 Dec 02 19:52	25° H 25'52		conjunction	7977 Mar 28 23:42	9° Y 57'31	0°43'04
evening set	7971 Mar 02 16:30	27° H 17'10		minimum elong	7977 Mar 28 23:44	9° Y 57'31	0°43'04
				max. Earth dist.	7977 Mar 30 19:58	10° Y 01'19	34.11821 AU
conjunction	7971 Mar 17 12:20	27° H 48'56	4°10'06	morning rise	7977 Apr 13 07:09	10° Y 28'49	
minimum elong	7971 Mar 17 12:30	27° H 48'57	4°10'07	retrograde	7977 Jul 09 20:34	12° Y 12'00	
max. Earth dist.	7971 Mar 18 23:15	27° H 52'05	32.84088 AU	min. Earth dist.	7977 Sep 25 18:22	10° Y 58'42	32.22941 AU
morning rise	7971 Apr 01 07:21	28° H 20'37		opposition	7977 Sep 27 15:48	10° Y 55'53	0°28'03
	7971 Jun 03 06:32	0° Y		direct	7977 Dec 17 12:56	9° Y 38'57	
retrograde	7971 Jun 28 14:00	0° Y 10'11		evening set	7978 Mar 15 18:49	11° Y 21'55	
	7971 Jul 24 08:01	30° R H					
min. Earth dist.	7971 Sep 14 04:16	28° H 54'21	30.94422 AU	conjunction	7978 Mar 31 03:11	11° Y 53'03	0°09'45
opposition	7971 Sep 15 15:51	28° H 52'03	4°07'42	minimum elong	7978 Mar 31 03:11	11° Y 53'03	0°09'43
direct	7971 Dec 05 06:23	27° H 32'43		behind sun begin	7978 Mar 30 21:54	11° Y 52'38	
evening set	7972 Mar 03 20:28	29° H 22'39		behind sun end	7978 Mar 31 08:28	11° Y 53'29	
				max. Earth dist.	7978 Apr 02 01:06	11° Y 56'58	34.34464 AU
conjunction	7972 Mar 18 19:57	29° H 54'29	3°35'01	morning rise	7978 Apr 15 10:54	12° Y 24'08	
minimum elong	7972 Mar 18 20:06	29° H 54'29	3°35'00	retrograde	7978 Jul 11 22:14	14° Y 06'25	
max. Earth dist.	7972 Mar 20 09:24	29° H 57'49	33.04204 AU	desc. node	7978 Jul 16 19:18	14° Y 06'03	
	7972 Mar 21 09:47	0° Y		min. Earth dist.	7978 Sep 27 22:58	12° Y 53'28	32.45782 AU
morning rise	7972 Apr 02 18:21	0° Y 26'14		opposition	7978 Sep 29 21:28	12° Y 50'36	-0°07'10
retrograde	7972 Jun 29 18:45	2° Y 14'35		direct	7978 Dec 19 19:41	11° Y 34'02	
min. Earth dist.	7972 Sep 15 12:21	0° Y 59'12	31.14680 AU	evening set	7979 Mar 17 21:44	13° Y 16'01	
opposition	7972 Sep 17 01:33	0° Y 56'50	3°30'20				
	7972 Oct 28 11:08	30° R H		conjunction	7979 Apr 02 05:54	13° Y 46'53	-0°23'15
direct	7972 Dec 06 18:12	29° H 37'55		minimum elong	7979 Apr 02 05:53	13° Y 46'53	0°23'16
	7973 Jan 13 18:25	0° Y		max. Earth dist.	7979 Apr 04 05:40	13° Y 50'55	34.57519 AU
evening set	7973 Mar 06 00:30	1° Y 26'33		morning rise	7979 Apr 17 13:14	14° Y 17'42	
				retrograde	7979 Jul 13 22:09	15° Y 59'08	
conjunction	7973 Mar 21 02:43	1° Y 58'23	3°00'05	min. Earth dist.	7979 Sep 30 02:08	14° Y 46'35	32.69057 AU
minimum elong	7973 Mar 21 02:51	1° Y 58'24	3°00'05	opposition	7979 Oct 02 02:23	14° Y 43'37	-0°41'52
max. Earth dist.	7973 Mar 22 17:00	2° Y 01'47	33.24873 AU	direct	7979 Dec 22 04:11	13° Y 27'25	
morning rise	7973 Apr 05 04:13	2° Y 30'09		evening set	7980 Mar 19 00:42	15° Y 08'29	
retrograde	7973 Jul 02 01:12	4° Y 17'22					
min. Earth dist.	7973 Sep 17 19:01	3° Y 02'28	31.35489 AU	conjunction	7980 Apr 03 07:55	15° Y 39'03	-0°55'41
opposition	7973 Sep 19 10:33	2° Y 59'58	2°53'12	minimum elong	7980 Apr 03 07:53	15° Y 39'03	0°55'44
direct	7973 Dec 09 02:30	1° Y 41'28		max. Earth dist.	7980 Apr 05 08:44	15° Y 43'09	34.81007 AU
evening set	7974 Mar 08 04:23	3° Y 28'52		morning rise	7980 Apr 18 14:42	16° Y 09'35	
				retrograde	7980 Jul 14 23:44	17° Y 50'14	
conjunction	7974 Mar 23 09:03	4° Y 00'39	2°25'23	min. Earth dist.	7980 Oct 01 04:11	16° Y 38'06	32.92815 AU
minimum elong	7974 Mar 23 09:09	4° Y 00'40	2°25'21	opposition	7980 Oct 03 06:35	16° Y 35'02	-1°16'01
max. Earth dist.	7974 Mar 25 01:54	4° Y 04'15	33.46024 AU	direct	7980 Dec 23 08:31	15° Y 19'13	
morning rise	7974 Apr 07 12:41	4° Y 32'23		evening set	7981 Mar 21 03:15	16° Y 59'24	
retrograde	7974 Jul 04 05:19	6° Y 18'31					
min. Earth dist.	7974 Sep 20 02:45	5° Y 03'59	31.56757 AU	conjunction	7981 Apr 05 09:28	17° Y 29'39	-1°27'38
opposition	7974 Sep 21 18:55	5° Y 01'27	2°16'21	minimum elong	7981 Apr 05 09:24	17° Y 29'39	1°27'40
direct	7974 Dec 11 11:26	3° Y 43'23		max. Earth dist.	7981 Apr 07 12:40	17° Y 33'55	35.04954 AU
evening set	7975 Mar 10 08:21	5° Y 29'36		morning rise	7981 Apr 20 14:56	17° Y 59'51	
				retrograde	7981 Jul 16 22:28	19° Y 39'47	
conjunction	7975 Mar 25 14:37	6° Y 01'17	1°50'56	min. Earth dist.	7981 Oct 03 07:00	18° Y 28'01	33.17013 AU
minimum elong	7975 Mar 25 14:41	6° Y 01'18	1°50'56	opposition	7981 Oct 05 10:12	18° Y 24'55	-1°49'36
max. Earth dist.	7975 Mar 27 07:53	6° Y 04'53	33.67593 AU	direct	7981 Dec 25 13:55	17° Y 09'30	
morning rise	7975 Apr 09 20:09	6° Y 32'55		evening set	7982 Mar 23 05:48	18° Y 48'53	
retrograde	7975 Jul 06 11:34	8° Y 18'02					
min. Earth dist.	7975 Sep 22 07:49	7° Y 03'59	31.78446 AU	conjunction	7982 Apr 07 10:14	19° Y 18'45	-1°59'03
opposition	7975 Sep 24 02:38	7° Y 01'18	1°39'51	minimum elong	7982 Apr 07 10:09	19° Y 18'45	1°59'07
direct	7975 Dec 13 19:48	5° Y 43'37		max. Earth dist.	7982 Apr 09 13:49	19° Y 23'02	35.29310 AU
evening set	7976 Mar 11 11:55	7° Y 28'42		morning rise	7982 Apr 22 14:16	19° Y 48'37	

retrograde	7982 Jul 18 23:48	21°♈27'53		direct	7989 Jan 07 04:15	29°♈23'01
min. Earth dist.	7982 Oct 05 07:26	20°♈16'34 33.41624 AU			7989 Feb 28 07:46	0°♈
opposition	7982 Oct 07 13:05	20°♈13'21 -2°22'35		evening set	7989 Apr 04 18:41	0°♈58'00
direct	7982 Dec 27 15:44	18°♈58'19				
evening set	7983 Mar 25 08:06	20°♈36'58		conjunction	7989 Apr 19 01:30	1°♈24'45 -5°22'40
				minimum elong	7989 Apr 19 01:20	1°♈24'44 5°22'44
conjunction	7983 Apr 09 10:36	21°♈06'28 -2°29'55		max. Earth dist.	7989 Apr 21 11:11	1°♈29'17 37.05965 AU
minimum elong	7983 Apr 09 10:31	21°♈06'27 2°29'58		morning rise	7989 May 03 08:16	1°♈51'29
max. Earth dist.	7983 Apr 11 16:34	21°♈10'54 35.54028 AU		retrograde	7989 Jul 30 11:23	3°♈27'10
morning rise	7983 Apr 24 12:33	21°♈35'56		min. Earth dist.	7989 Oct 17 06:36	2°♈18'18 35.19534 AU
retrograde	7983 Jul 21 00:07	23°♈14'36		opposition	7989 Oct 19 18:22	2°♈14'51 -5°55'09
min. Earth dist.	7983 Oct 07 09:37	22°♈03'37 33.66581 AU		direct	7990 Jan 09 02:57	1°♈02'24
opposition	7983 Oct 09 15:37	22°♈00'24 -2°54'56		evening set	7990 Apr 06 19:40	2°♈36'53
direct	7983 Dec 29 17:07	20°♈45'47				
evening set	7984 Mar 26 10:09	22°♈23'43		conjunction	7990 Apr 20 22:12	3°♈03'06 -5°49'18
				minimum elong	7990 Apr 20 22:01	3°♈03'05 5°49'23
conjunction	7984 Apr 10 10:13	22°♈52'48 -3°00'13		max. Earth dist.	7990 Apr 23 09:28	3°♈07'44 37.31398 AU
minimum elong	7984 Apr 10 10:07	22°♈52'48 3°00'17		morning rise	7990 May 05 00:33	3°♈29'19
max. Earth dist.	7984 Apr 12 16:40	22°♈57'15 35.79045 AU		retrograde	7990 Aug 01 07:26	5°♈04'37
morning rise	7984 Apr 25 09:54	23°♈21'53		min. Earth dist.	7990 Oct 19 05:39	3°♈55'58 35.45150 AU
retrograde	7984 Jul 22 00:24	24°♈59'57		opposition	7990 Oct 21 17:01	3°♈52'33 -6°22'49
min. Earth dist.	7984 Oct 08 09:21	23°♈49'26 33.91804 AU		direct	7991 Jan 11 01:43	2°♈40'25
opposition	7984 Oct 10 17:23	23°♈46'06 -3°26'38		evening set	7991 Apr 08 20:29	4°♈14'26
direct	7984 Dec 30 19:40	22°♈31'53				
evening set	7985 Mar 28 12:14	24°♈09'10		conjunction	7991 Apr 22 18:21	4°♈40'07 -6°15'17
				minimum elong	7991 Apr 22 18:10	4°♈40'06 6°15'22
conjunction	7985 Apr 12 09:30	24°♈37'50 -3°29'56		max. Earth dist.	7991 Apr 25 05:45	4°♈44'43 37.56883 AU
minimum elong	7985 Apr 12 09:22	24°♈37'49 3°29'58		morning rise	7991 May 06 16:06	5°♈05'48
max. Earth dist.	7985 Apr 14 17:15	24°♈42'20 36.04265 AU		retrograde	7991 Aug 03 03:53	6°♈40'44
morning rise	7985 Apr 27 06:28	25°♈06'28		min. Earth dist.	7991 Oct 21 01:57	5°♈32'26 35.70844 AU
retrograde	7985 Jul 24 00:07	26°♈44'00		opposition	7991 Oct 23 15:02	5°♈28'55 -6°49'46
min. Earth dist.	7985 Oct 10 10:13	25°♈33'49 34.17225 AU		direct	7992 Jan 13 00:31	4°♈17'06
opposition	7985 Oct 12 18:35	25°♈30'29 -3°57'41		evening set	7992 Apr 09 20:59	5°♈50'42
direct	7986 Jan 01 22:02	24°♈16'40				
evening set	7986 Mar 30 14:05	25°♈53'20		conjunction	7992 Apr 23 13:53	6°♈15'50 -6°40'38
				minimum elong	7992 Apr 23 13:41	6°♈15'49 6°40'44
conjunction	7986 Apr 14 08:19	26°♈21'33 -3°59'02		max. Earth dist.	7992 Apr 26 02:24	6°♈20'29 37.82452 AU
minimum elong	7986 Apr 14 08:10	26°♈21'32 3°59'06		morning rise	7992 May 07 06:51	6°♈40'58
max. Earth dist.	7986 Apr 16 16:56	26°♈26'05 36.29635 AU		retrograde	7992 Aug 04 00:21	8°♈15'35
morning rise	7986 Apr 29 02:06	26°♈49'44		min. Earth dist.	7992 Oct 21 23:05	7°♈07'33 35.96664 AU
retrograde	7986 Jul 25 21:40	28°♈26'46		opposition	7992 Oct 24 12:39	7°♈04'03 -7°16'01
min. Earth dist.	7986 Oct 12 10:07	27°♈16'56 34.42753 AU		direct	7993 Jan 13 22:03	5°♈52'33
opposition	7986 Oct 14 19:19	27°♈13'34 -4°28'04		evening set	7993 Apr 11 21:18	7°♈25'46
direct	7987 Jan 04 01:36	26°♈00'07				
evening set	7987 Apr 01 15:48	27°♈36'12		conjunction	7993 Apr 25 09:09	7°♈50'21 -7°05'20
				minimum elong	7993 Apr 25 08:58	7°♈50'20 7°05'25
conjunction	7987 Apr 16 06:25	28°♈03'56 -4°27'32		max. Earth dist.	7993 Apr 27 22:41	7°♈55'03 38.08150 AU
minimum elong	7987 Apr 16 06:16	28°♈03'56 4°27'35		morning rise	7993 May 08 20:51	8°♈14'56
max. Earth dist.	7987 Apr 18 15:13	28°♈08'28 36.55066 AU		retrograde	7993 Aug 05 17:34	9°♈49'15
morning rise	7987 Apr 30 20:56	28°♈31'40		min. Earth dist.	7993 Oct 23 19:15	8°♈41'33 36.22595 AU
	7987 Jul 03 15:41	0°♈		opposition	7993 Oct 26 09:30	8°♈38'01 -7°41'34
retrograde	7987 Jul 27 19:30	0°♈08'14		direct	7994 Jan 15 21:14	7°♈26'51
	7987 Aug 21 07:58	30°♈♈		evening set	7994 Apr 13 21:33	8°♈59'45
min. Earth dist.	7987 Oct 14 09:16	28°♈58'45 34.68347 AU				
opposition	7987 Oct 16 19:39	28°♈55'20 -4°57'46		conjunction	7994 Apr 27 03:49	9°♈23'45 -7°29'22
direct	7988 Jan 06 02:02	27°♈42'15		minimum elong	7994 Apr 27 03:37	9°♈23'44 7°29'27
evening set	7988 Apr 02 17:17	29°♈17'46		max. Earth dist.	7994 Apr 29 17:23	9°♈28'26 38.33953 AU
				morning rise	7994 May 10 10:18	9°♈47'47
conjunction	7988 Apr 17 04:18	29°♈45'01 -4°55'25		retrograde	7994 Aug 07 11:35	11°♈21'52
minimum elong	7988 Apr 17 04:09	29°♈45'00 4°55'29		min. Earth dist.	7994 Oct 25 14:30	10°♈14'31 36.48643 AU
max. Earth dist.	7988 Apr 19 14:35	29°♈49'38 36.80522 AU		opposition	7994 Oct 28 06:07	10°♈10'55 -8°06'24
	7988 Apr 25 01:55	0°♈		direct	7995 Jan 17 18:12	9°♈00'07
morning rise	7988 May 01 14:57	0°♈12'16		evening set	7995 Apr 15 21:18	10°♈32'42
retrograde	7988 Jul 28 13:58	1°♈48'22				
min. Earth dist.	7988 Oct 15 09:06	0°♈39'10 34.93941 AU		conjunction	7995 Apr 28 22:06	10°♈56'09 -7°52'46
opposition	7988 Oct 17 19:17	0°♈35'46 -5°26'48		minimum elong	7995 Apr 28 21:54	10°♈56'08 7°52'51
	7988 Nov 13 13:02	30°♈♈		max. Earth dist.	7995 May 01 13:27	11°♈00'56 38.59840 AU

morning rise	7995 May 11 22:50	11° 8 19'36	direct	8002 Jan 28 09:36	19° 8 26'41
retrograde	7995 Aug 09 04:08	12° 8 53'29	evening set	8002 Apr 27 16:47	20° 8 57'52
min. Earth dist.	7995 Oct 27 10:57	11° 8 46'25 36.74740 AU			
opposition	7995 Oct 30 02:20	11° 8 42'51 -8°30'32	conjunction	8002 May 08 20:12	21° 8 17'05 -10°18'56
direct	7996 Jan 19 15:57	10° 8 32'24	minimum elong	8002 May 08 19:58	21° 8 17'04 10°19'02
evening set	7996 Apr 16 21:10	12° 8 04'43	max. Earth dist.	8002 May 11 12:22	21° 8 21'44 40.38249 AU
			morning rise	8002 May 19 23:42	21° 8 36'20
conjunction	7996 Apr 29 15:59	12° 8 27'35 -8°15'30	retrograde	8002 Aug 19 00:59	23° 8 09'21
minimum elong	7996 Apr 29 15:46	12° 8 27'34 8°15'36	min. Earth dist.	8002 Nov 06 19:41	22° 8 04'06 38.53978 AU
max. Earth dist.	7996 May 02 06:50	12° 8 32'18 38.85752 AU	opposition	8002 Nov 09 11:41	22° 8 00'37 -11°00'45
morning rise	7996 May 12 10:58	12° 8 50'27	direct	8003 Jan 30 04:25	20° 8 52'18
retrograde	7996 Aug 09 23:17	14° 8 24'10	evening set	8003 Apr 29 15:21	22° 8 23'20
min. Earth dist.	7996 Oct 28 04:59	13° 8 17'29 37.00841 AU			
opposition	7996 Oct 30 21:51	13° 8 13'51 -8°53'58	conjunction	8003 May 10 11:24	22° 8 41'55 -10°37'25
direct	7997 Jan 20 10:17	12° 8 03'45	minimum elong	8003 May 10 11:11	22° 8 41'54 10°37'32
evening set	7997 Apr 18 20:45	13° 8 35'50	max. Earth dist.	8003 May 13 02:58	22° 8 46'29 40.62879 AU
			morning rise	8003 May 21 07:38	23° 8 00'32
conjunction	7997 May 01 09:34	13° 8 58'06 -8°37'36	retrograde	8003 Aug 20 16:56	24° 8 33'28
minimum elong	7997 May 01 09:22	13° 8 58'05 8°37'43	min. Earth dist.	8003 Nov 08 11:21	23° 8 28'29 38.78731 AU
max. Earth dist.	7997 May 04 01:34	14° 8 02'52 39.11620 AU	opposition	8003 Nov 11 04:30	23° 8 24'57 -11°19'39
morning rise	7997 May 13 22:30	14° 8 20'24	direct	8004 Jan 31 20:53	22° 8 16'52
	7997 Jun 06 21:50	15° 8	evening set	8004 Apr 30 13:44	23° 8 47'46
retrograde	7997 Aug 11 17:48	15° 8 53'58			
	7997 Oct 20 14:08	15° 8	conjunction	8004 May 11 02:21	24° 8 05'43 -10°55'19
min. Earth dist.	7997 Oct 30 01:05	14° 8 47'31 37.26871 AU	minimum elong	8004 May 11 02:08	24° 8 05'42 10°55'25
opposition	7997 Nov 01 17:14	14° 8 43'57 -9°16'44	max. Earth dist.	8004 May 13 18:28	24° 8 10'18 40.87353 AU
direct	7998 Jan 22 04:47	13° 8 34'12	morning rise	8004 May 21 15:14	24° 8 23'42
	7998 Apr 17 08:10	15° 8	retrograde	8004 Aug 21 09:09	25° 8 56'35
evening set	7998 Apr 20 20:14	15° 8 06'04	min. Earth dist.	8004 Nov 09 04:16	24° 8 51'46 39.03369 AU
			opposition	8004 Nov 11 20:55	24° 8 48'16 -11°37'55
conjunction	7998 May 03 02:45	15° 8 27'45 -8°59'05	direct	8005 Feb 01 12:14	23° 8 40'26
minimum elong	7998 May 03 02:31	15° 8 27'44 8°59'11	evening set	8005 May 02 12:01	25° 8 11'14
max. Earth dist.	7998 May 05 18:35	15° 8 32'28 39.37385 AU			
morning rise	7998 May 15 09:18	15° 8 49'27	conjunction	8005 May 12 17:04	25° 8 28'33 -11°12'36
retrograde	7998 Aug 13 12:05	17° 8 22'53	minimum elong	8005 May 12 16:51	25° 8 28'33 11°12'44
min. Earth dist.	7998 Oct 31 19:09	16° 8 16'45 37.52754 AU	max. Earth dist.	8005 May 15 09:35	25° 8 33'08 41.11738 AU
opposition	7998 Nov 03 12:04	16° 8 13'10 -9°38'49	morning rise	8005 May 22 22:09	25° 8 45'54
direct	7999 Jan 23 23:31	15° 8 03'44	retrograde	8005 Aug 22 23:16	27° 8 18'45
evening set	7999 Apr 22 19:40	16° 8 35'25	min. Earth dist.	8005 Nov 10 19:54	26° 8 14'09 39.27905 AU
			opposition	8005 Nov 13 12:56	26° 8 10'39 -11°55'34
conjunction	7999 May 04 19:35	16° 8 56'30 -9°19'57	direct	8006 Feb 03 04:33	25° 8 03'03
minimum elong	7999 May 04 19:23	16° 8 56'29 9°20'03	evening set	8006 May 04 10:05	26° 8 33'49
max. Earth dist.	7999 May 07 11:23	17° 8 01'11 39.62966 AU			
morning rise	7999 May 16 19:49	17° 8 17'36	conjunction	8006 May 14 07:10	26° 8 50'29 -11°29'19
retrograde	7999 Aug 15 06:14	18° 8 50'55	minimum elong	8006 May 14 06:57	26° 8 50'28 11°29'26
min. Earth dist.	7999 Nov 02 13:48	17° 8 45'03 37.78449 AU	max. Earth dist.	8006 May 16 23:19	26° 8 55'01 41.36027 AU
opposition	7999 Nov 05 06:40	17° 8 41'29 -10°00'15	morning rise	8006 May 24 04:32	27° 8 07'10
direct	8000 Jan 25 17:22	16° 8 32'22	retrograde	8006 Aug 24 13:54	28° 8 40'02
evening set	8000 Apr 23 18:49	18° 8 03'53	min. Earth dist.	8006 Nov 12 10:56	27° 8 35'41 39.52360 AU
			opposition	8006 Nov 15 04:44	27° 8 32'10 -12°12'35
conjunction	8000 May 05 12:12	18° 8 24'21 -9°40'12	direct	8007 Feb 04 20:04	26° 8 24'50
minimum elong	8000 May 05 11:59	18° 8 24'20 9°40'18	evening set	8007 May 06 07:59	27° 8 55'34
max. Earth dist.	8000 May 08 04:31	18° 8 29'03 39.88327 AU			
morning rise	8000 May 17 05:36	18° 8 44'50	conjunction	8007 May 15 21:13	28° 8 11'35 -11°45'27
retrograde	8000 Aug 15 19:49	20° 8 18'02	minimum elong	8007 May 15 21:00	28° 8 11'34 11°45'35
min. Earth dist.	8000 Nov 03 08:25	19° 8 12'23 38.03879 AU	max. Earth dist.	8007 May 18 14:34	28° 8 16'10 41.60229 AU
opposition	8000 Nov 06 00:45	19° 8 08'51 -10°21'03	morning rise	8007 May 25 10:30	28° 8 27'37
direct	8001 Jan 26 14:18	18° 8 00'02		8007 Aug 19 13:55	0° II
evening set	8001 Apr 25 17:59	19° 8 31'23	retrograde	8007 Aug 26 00:44	0° II 00'31
				8007 Sep 01 13:59	30° R 8
conjunction	8001 May 07 04:20	19° 8 51'13 -9°59'52	min. Earth dist.	8007 Nov 14 03:03	28° 8 56'22 39.76698 AU
minimum elong	8001 May 07 04:07	19° 8 51'12 9°59'58	opposition	8007 Nov 16 20:08	28° 8 52'54 -12°28'59
max. Earth dist.	8001 May 09 19:29	19° 8 55'49 40.13415 AU	direct	8008 Feb 06 14:20	27° 8 45'50
morning rise	8001 May 18 14:59	20° 8 11'05	evening set	8008 May 07 05:52	29° 8 16'33
retrograde	8001 Aug 17 10:21	21° 8 44'12			
min. Earth dist.	8001 Nov 05 01:18	20° 8 38'48 38.29048 AU	conjunction	8008 May 16 10:48	29° 8 31'55 -12°01'00
opposition	8001 Nov 07 18:18	20° 8 35'15 -10°41'13	minimum elong	8008 May 16 10:36	29° 8 31'54 12°01'07

max. Earth dist.	8008 May 19 03:11	29° 8 36'25	41.84303 AU	opposition	8014 Nov 25 23:18	7° II 58'45	-14°08'05
morning rise	8008 May 25 15:55	29° 8 47'18		direct	8015 Feb 15 19:51	6° II 53'25	
	8008 Jun 02 09:41	0° II		evening set	8015 May 19 14:26	8° II 24'46	
retrograde	8008 Aug 26 14:45	1° II 20'16					
min. Earth dist.	8008 Nov 14 17:03	0° II 16'23	40.00883 AU	conjunction	8015 May 26 03:22	8° II 35'19	-13°35'12
opposition	8008 Nov 17 11:08	0° II 12'53	-12°44'47	minimum elong	8015 May 26 03:11	8° II 35'18	13°35'20
	8008 Nov 27 15:16	30° R 8		max. Earth dist.	8015 May 28 17:48	8° II 39'31	43.44991 AU
direct	8009 Feb 07 05:33	29° 8 06'05		morning rise	8015 Jun 01 16:18	8° II 45'53	
	8009 Apr 15 16:10	0° II		retrograde	8015 Sep 05 08:33	10° II 19'48	
evening set	8009 May 09 03:35	0° II 36'50		min. Earth dist.	8015 Nov 24 20:50	9° II 17'12	41.61733 AU
				opposition	8015 Nov 27 12:06	9° II 13'56	-14°20'09
conjunction	8009 May 18 00:13	0° II 51'33	-12°16'00	direct	8016 Feb 17 07:37	8° II 08'47	
minimum elong	8009 May 18 00:00	0° II 51'32	12°16'08	evening set	8016 May 20 12:18	9° II 40'20	
max. Earth dist.	8009 May 20 17:21	0° II 56'04	42.08188 AU				
morning rise	8009 May 26 20:59	1° II 06'16		conjunction	8016 May 26 14:48	9° II 50'07	-13°46'41
retrograde	8009 Aug 28 05:33	2° II 39'19		minimum elong	8016 May 26 14:39	9° II 50'07	13°46'50
min. Earth dist.	8009 Nov 16 08:56	1° II 35'37	40.24858 AU	max. Earth dist.	8016 May 29 05:11	9° II 54'18	43.66629 AU
opposition	8009 Nov 19 01:53	1° II 32'11	-13°00'01	morning rise	8016 Jun 01 17:22	9° II 59'56	
direct	8010 Feb 08 19:37	0° II 25'40		retrograde	8016 Sep 05 21:35	11° II 34'05	
evening set	8010 May 11 01:25	1° II 56'28		min. Earth dist.	8016 Nov 25 10:14	10° II 31'37	41.83436 AU
				opposition	8016 Nov 28 00:47	10° II 28'24	-14°31'43
conjunction	8010 May 19 13:24	2° II 10'30	-12°30'27	direct	8017 Feb 17 18:18	9° II 23'27	
minimum elong	8010 May 19 13:13	2° II 10'30	12°30'35	evening set	8017 May 22 10:32	10° II 55'12	
max. Earth dist.	8010 May 22 06:09	2° II 14'59	42.31850 AU				
morning rise	8010 May 28 01:26	2° II 24'34		conjunction	8017 May 28 02:08	11° II 04'14	-13°57'40
retrograde	8010 Aug 29 18:58	3° II 57'43		minimum elong	8017 May 28 01:59	11° II 04'13	13°57'48
min. Earth dist.	8010 Nov 17 22:57	2° II 54'16	40.48562 AU	max. Earth dist.	8017 May 30 16:56	11° II 08'25	43.88064 AU
opposition	8010 Nov 20 16:19	2° II 50'50	-13°14'41	morning rise	8017 Jun 02 17:39	11° II 13'15	
direct	8011 Feb 10 09:32	1° II 44'35		retrograde	8017 Sep 07 06:52	12° II 47'40	
evening set	8011 May 12 23:03	3° II 15'27		min. Earth dist.	8017 Nov 26 22:27	11° II 45'23	42.04932 AU
				opposition	8017 Nov 29 12:57	11° II 42'10	-14°42'45
conjunction	8011 May 21 02:10	3° II 28'49	-12°44'24	direct	8018 Feb 19 07:46	10° II 37'26	
minimum elong	8011 May 21 01:59	3° II 28'49	12°44'31	evening set	8018 May 24 09:03	12° II 09'28	
max. Earth dist.	8011 May 23 18:16	3° II 33'13	42.55206 AU				
morning rise	8011 May 29 05:29	3° II 42'12		conjunction	8018 May 29 13:02	12° II 17'41	-14°08'11
retrograde	8011 Aug 31 09:07	5° II 15'29		minimum elong	8018 May 29 12:54	12° II 17'41	14°08'19
min. Earth dist.	8011 Nov 19 13:48	4° II 12'13	40.71949 AU	max. Earth dist.	8018 Jun 01 02:50	12° II 21'47	44.09319 AU
opposition	8011 Nov 22 06:36	4° II 08'50	-13°28'49	morning rise	8018 Jun 03 17:02	12° II 25'54	
direct	8012 Feb 11 22:30	3° II 02'50		retrograde	8018 Sep 08 16:46	14° II 00'38	
evening set	8012 May 13 20:54	4° II 33'48		min. Earth dist.	8018 Nov 28 10:03	12° II 58'33	42.26262 AU
				opposition	8018 Dec 01 01:02	12° II 55'19	-14°53'17
conjunction	8012 May 21 15:01	4° II 46'30	-12°57'50	direct	8019 Feb 20 20:03	11° II 50'48	
minimum elong	8012 May 21 14:51	4° II 46'29	12°57'57	evening set	8019 May 26 07:57	13° II 23'10	
max. Earth dist.	8012 May 24 07:25	4° II 50'54	42.78219 AU				
morning rise	8012 May 29 09:09	4° II 59'11		conjunction	8019 May 30 23:46	13° II 30'33	-14°18'12
retrograde	8012 Aug 31 19:41	6° II 32'36		minimum elong	8019 May 30 23:38	13° II 30'32	14°18'19
min. Earth dist.	8012 Nov 20 04:36	5° II 29'30	40.94947 AU	max. Earth dist.	8019 Jun 02 14:32	13° II 34'42	44.30403 AU
opposition	8012 Nov 22 20:21	5° II 26'10	-13°42'25	morning rise	8019 Jun 04 15:30	13° II 37'55	
direct	8013 Feb 12 14:22	4° II 20'25		retrograde	8019 Sep 10 01:44	15° II 13'02	
evening set	8013 May 15 18:48	5° II 51'30		min. Earth dist.	8019 Nov 29 23:02	14° II 11'05	42.47397 AU
				opposition	8019 Dec 02 12:55	14° II 07'55	-15°03'18
conjunction	8013 May 23 03:27	6° II 03'30	-13°10'46	direct	8020 Feb 22 09:47	13° II 03'36	
minimum elong	8013 May 23 03:15	6° II 03'29	13°10'54	evening set	8020 May 27 07:54	14° II 36'23	
max. Earth dist.	8013 May 25 18:16	6° II 07'46	43.00841 AU				
morning rise	8013 May 30 12:13	6° II 15'29		conjunction	8020 May 31 10:20	14° II 42'51	-14°27'44
retrograde	8013 Sep 02 07:38	7° II 49'03		minimum elong	8020 May 31 10:12	14° II 42'51	14°27'53
min. Earth dist.	8013 Nov 21 17:46	6° II 46'10	41.17556 AU	max. Earth dist.	8020 Jun 03 00:10	14° II 46'56	44.51293 AU
opposition	8013 Nov 24 09:55	6° II 42'50	-13°55'30	morning rise	8020 Jun 04 12:41	14° II 49'20	
direct	8014 Feb 14 04:21	5° II 37'17		retrograde	8020 Sep 10 12:39	16° II 24'53	
evening set	8014 May 17 16:29	7° II 08'30		min. Earth dist.	8020 Nov 30 09:39	15° II 23'10	42.68313 AU
				opposition	8020 Dec 03 00:16	15° II 19'59	-15°12'50
conjunction	8014 May 24 15:32	7° II 19'46	-13°23'14	direct	8021 Feb 22 21:59	14° II 15'53	
minimum elong	8014 May 24 15:22	7° II 19'46	13°23'22	evening set	8021 May 29 08:59	15° II 49'12	
max. Earth dist.	8014 May 27 06:54	7° II 24'04	43.23078 AU				
morning rise	8014 May 31 14:38	7° II 31'04		conjunction	8021 Jun 01 20:40	15° II 54'40	-14°36'49
retrograde	8014 Sep 03 18:56	9° II 04'48		minimum elong	8021 Jun 01 20:33	15° II 54'39	14°36'57
min. Earth dist.	8014 Nov 23 08:36	8° II 02'01	41.39795 AU	max. Earth dist.	8021 Jun 04 10:29	15° II 58'43	44.71937 AU

morning rise	8021 Jun 05 08:16	16°II00'08		minimum elong	8029 Jun 11 01:08	25°II10'36	15°34'53
retrograde	8021 Sep 12 01:51	17°II36'15		max. Earth dist.	8029 Jun 13 10:43	25°II14'15	46.23514 AU
min. Earth dist.	8021 Dec 01 22:15	16°II34'40	42.88967 AU	retrograde	8029 Sep 21 04:41	26°II48'47	
opposition	8021 Dec 04 11:43	16°II31'33	-15°21'54	min. Earth dist.	8029 Dec 11 14:32	25°II48'09	44.39936 AU
direct	8022 Feb 24 08:01	15°II27'41		opposition	8029 Dec 13 22:35	25°II45'22	-16°19'17
evening set	8022 May 31 12:30	17°II01'40		direct	8030 Mar 05 19:21	24°II42'52	
conjunction	8022 Jun 03 06:49	17°II05'59	-14°45'28	conjunction	8030 Jun 12 09:39	26°II17'39	-15°40'13
minimum elong	8022 Jun 03 06:42	17°II05'59	14°45'37	minimum elong	8030 Jun 12 09:35	26°II17'39	15°40'21
morning rise	8022 Jun 06 00:58	17°II10'18		max. Earth dist.	8030 Jun 14 17:54	26°II21'12	46.40863 AU
max. Earth dist.	8022 Jun 05 20:32	17°II10'00	44.92303 AU	retrograde	8030 Sep 22 12:05	27°II55'27	
retrograde	8022 Sep 13 13:12	18°II47'08		min. Earth dist.	8030 Dec 12 23:17	26°II55'00	44.57253 AU
min. Earth dist.	8022 Dec 03 09:39	17°II45'44	43.09288 AU	opposition	8030 Dec 15 07:58	26°II52'12	-16°24'37
opposition	8022 Dec 05 22:51	17°II42'39	-15°30'31	direct	8031 Mar 07 05:29	25°II49'52	
direct	8023 Feb 25 17:18	16°II38'59		conjunction	8031 Jun 13 18:09	27°II24'16	-15°45'18
evening set	8023 Jun 02 21:11	18°II14'01		minimum elong	8031 Jun 13 18:07	27°II24'15	15°45'27
conjunction	8023 Jun 04 16:48	18°II16'50	-14°53'41	max. Earth dist.	8031 Jun 16 02:45	27°II27'49	46.57962 AU
minimum elong	8023 Jun 04 16:42	18°II16'50	14°53'49	retrograde	8031 Sep 23 20:54	29°II01'43	
morning rise	8023 Jun 06 12:17	18°II19'39		min. Earth dist.	8031 Dec 14 09:54	28°II01'21	44.74313 AU
max. Earth dist.	8023 Jun 07 05:12	18°II20'45	45.12311 AU	opposition	8031 Dec 16 17:10	27°II58'37	-16°29'33
retrograde	8023 Sep 15 00:01	19°II57'33		direct	8032 Mar 07 16:23	26°II56'28	
min. Earth dist.	8023 Dec 04 21:02	18°II56'18	43.29239 AU	conjunction	8032 Jun 14 02:32	28°II30'30	-15°49'59
opposition	8023 Dec 07 09:47	18°II53'15	-15°38'41	minimum elong	8032 Jun 14 02:28	28°II30'30	15°50'08
direct	8024 Feb 27 03:19	17°II49'48		max. Earth dist.	8032 Jun 16 10:28	28°II34'00	46.74814 AU
conjunction	8024 Jun 05 02:48	19°II27'12	-15°01'30	retrograde	8032 Aug 29 03:33	0°☿	
minimum elong	8024 Jun 05 02:41	19°II27'12	15°01'39	8032 Sep 24 07:20	0°☿07'37		
max. Earth dist.	8024 Jun 07 15:28	19°II31'07	45.31913 AU	8032 Oct 20 17:56	30°♂II		
retrograde	8024 Sep 15 06:31	21°II07'29		min. Earth dist.	8032 Dec 14 18:31	29°II07'27	44.91089 AU
min. Earth dist.	8024 Dec 05 09:20	20°II06'20	43.48735 AU	opposition	8032 Dec 17 02:03	29°II04'43	-16°34'06
opposition	8024 Dec 07 20:32	20°II03'21	-15°46'28	direct	8033 Mar 09 00:10	28°II02'44	
direct	8025 Feb 27 16:45	19°II00'05		conjunction	8033 Jun 15 10:34	29°II36'26	-15°54'19
conjunction	8025 Jun 06 12:30	20°II37'02	-15°08'55	minimum elong	8033 Jun 15 10:32	29°II36'26	15°54'28
minimum elong	8025 Jun 06 12:25	20°II37'02	15°09'03	max. Earth dist.	8033 Jun 17 17:35	29°II39'52	46.91361 AU
max. Earth dist.	8025 Jun 08 23:19	20°II40'50	45.51057 AU	8033 Jul 01 08:36	0°☿		
retrograde	8025 Sep 16 15:24	22°II16'53		retrograde	8033 Sep 25 17:32	1°☿13'13	
min. Earth dist.	8025 Dec 06 19:35	21°II15'54	43.67760 AU	min. Earth dist.	8033 Dec 16 04:19	0°☿13'10	45.07554 AU
opposition	8025 Dec 09 06:57	21°II12'55	-15°53'50	opposition	8033 Dec 18 10:54	0°☿10'30	-16°38'15
direct	8026 Mar 01 04:20	20°II09'49		8033 Dec 27 09:51	30°♂II		
conjunction	8026 Jun 07 22:01	21°II46'19	-15°15'57	direct	8034 Mar 10 06:33	29°II08'43	
minimum elong	8026 Jun 07 21:55	21°II46'18	15°16'06	8034 May 18 12:06	0°☿		
max. Earth dist.	8026 Jun 10 08:37	21°II50'04	45.69736 AU	conjunction	8034 Jun 16 18:44	0°☿42'05	-15°58'17
retrograde	8026 Sep 18 01:45	23°II25'44		minimum elong	8034 Jun 16 18:42	0°☿42'05	15°58'25
min. Earth dist.	8026 Dec 08 07:45	22°II24'47	43.86339 AU	max. Earth dist.	8034 Jun 19 02:03	0°☿45'31	47.07584 AU
opposition	8026 Dec 10 17:21	22°II21'54	-16°00'48	retrograde	8034 Sep 26 23:54	2°☿18'32	
direct	8027 Mar 02 15:30	21°II18'57		min. Earth dist.	8034 Dec 17 13:58	1°☿18'37	45.23646 AU
conjunction	8027 Jun 09 07:16	22°II54'59	-15°22'36	opposition	8034 Dec 19 19:34	1°☿16'00	-16°42'03
minimum elong	8027 Jun 09 07:12	22°II54'59	15°22'45	direct	8035 Mar 11 15:20	0°☿14'24	
max. Earth dist.	8027 Jun 11 17:23	22°II58'41	45.88005 AU	conjunction	8035 Jun 18 02:35	1°☿47'27	-16°01'54
retrograde	8027 Sep 19 11:12	24°II33'59		minimum elong	8035 Jun 18 02:33	1°☿47'27	16°02'03
min. Earth dist.	8027 Dec 09 17:42	23°II33'10	44.04516 AU	max. Earth dist.	8035 Jun 20 08:03	1°☿50'45	47.23413 AU
opposition	8027 Dec 12 03:19	23°II30'17	-16°07'22	retrograde	8035 Sep 28 06:47	3°☿23'36	
direct	8028 Mar 03 01:15	22°II27'29		min. Earth dist.	8035 Dec 18 22:42	2°☿23'49	45.39317 AU
conjunction	8028 Jun 09 16:15	24°II03'04	-15°28'52	opposition	8035 Dec 21 04:05	2°☿21'13	-16°45'31
minimum elong	8028 Jun 09 16:10	24°II03'04	15°29'01	direct	8036 Mar 11 23:59	1°☿19'47	
max. Earth dist.	8028 Jun 12 01:10	24°II06'41	46.05905 AU	conjunction	8036 Jun 18 10:34	2°☿52'31	-16°05'11
retrograde	8028 Sep 19 21:39	25°II41'38		minimum elong	8036 Jun 18 10:33	2°☿52'31	16°05'19
min. Earth dist.	8028 Dec 10 03:59	24°II40'55	44.22372 AU	max. Earth dist.	8036 Jun 20 15:49	2°☿55'48	47.38778 AU
opposition	8028 Dec 12 13:00	24°II38'05	-16°13'32	retrograde	8036 Sep 28 13:44	4°☿28'22	
direct	8029 Mar 04 08:38	23°II35'26		min. Earth dist.	8036 Dec 19 09:09	3°☿28'38	45.54491 AU
conjunction	8029 Jun 11 01:11	25°II10'37	-15°34'44	opposition	8036 Dec 21 12:25	3°☿26'08	-16°48'38
				direct	8037 Mar 13 10:11	2°☿24'51	

conjunction	8037 Jun 19 18:25	3°☾57'15 -16°08'10	retrograde	8045 Oct 08 07:34	13°☾52'55	
minimum elong	8037 Jun 19 18:24	3°☾57'15 16°08'20	min. Earth dist.	8045 Dec 29 10:32	12°☾53'52	46.72315 AU
max. Earth dist.	8037 Jun 21 22:22	4°☾00'27 47.53646 AU	opposition	8045 Dec 31 08:11	12°☾51'41	-17°02'19
retrograde	8037 Sep 29 21:59	5°☾32'47	direct	8046 Mar 23 04:35	11°☾51'24	
min. Earth dist.	8037 Dec 20 17:27	4°☾33'11 45.69142 AU				
opposition	8037 Dec 22 20:37	4°☾30'42 -16°51'27	conjunction	8046 Jun 29 08:59	13°☾21'05	-16°20'56
direct	8038 Mar 14 19:39	3°☾29'32	minimum elong	8046 Jun 29 09:03	13°☾21'05	16°21'05
			max. Earth dist.	8046 Jul 01 07:14	13°☾23'51	48.69627 AU
conjunction	8038 Jun 21 01:52	5°☾01'36 -16°10'51	retrograde	8046 Oct 09 12:33	14°☾53'58	
minimum elong	8038 Jun 21 01:52	5°☾01'36 16°11'00	min. Earth dist.	8046 Dec 30 19:15	13°☾54'57	46.83762 AU
max. Earth dist.	8038 Jun 23 04:25	5°☾04'42 47.67990 AU	opposition	8047 Jan 01 15:08	13°☾52'51	-17°02'13
retrograde	8038 Oct 01 09:01	6°☾36'48	direct	8047 Mar 24 12:29	12°☾52'42	
min. Earth dist.	8038 Dec 22 03:06	5°☾37'14 45.83291 AU				
opposition	8038 Dec 24 04:50	5°☾34'50 -16°53'58	conjunction	8047 Jun 30 15:29	14°☾22'09	-16°20'48
direct	8039 Mar 16 01:31	4°☾33'47	minimum elong	8047 Jun 30 15:32	14°☾22'09	16°20'56
			max. Earth dist.	8047 Jul 02 12:27	14°☾24'50	48.80881 AU
conjunction	8039 Jun 22 09:25	6°☾05'30 -16°13'14	retrograde	8047 Oct 10 18:25	15°☾54'49	
minimum elong	8039 Jun 22 09:24	6°☾05'30 16°13'24	min. Earth dist.	8048 Jan 01 01:46	14°☾55'55	46.94792 AU
max. Earth dist.	8039 Jun 24 11:56	6°☾08'35 47.81865 AU	opposition	8048 Jan 02 21:41	14°☾53'50	-17°01'50
retrograde	8039 Oct 02 16:19	7°☾40'22	direct	8048 Mar 24 20:37	13°☾53'48	
min. Earth dist.	8039 Dec 23 11:53	6°☾40'50 45.96981 AU				
opposition	8039 Dec 25 12:35	6°☾38'29 -16°56'09	conjunction	8048 Jun 30 21:53	15°☾23'02	-16°20'23
direct	8040 Mar 16 08:23	5°☾37'32	minimum elong	8048 Jun 30 21:56	15°☾23'02	16°20'32
			max. Earth dist.	8048 Jul 02 17:29	15°☾25'37	48.91674 AU
conjunction	8040 Jun 22 16:36	7°☾08'55 -16°15'18	retrograde	8048 Oct 11 03:29	16°☾55'28	
minimum elong	8040 Jun 22 16:37	7°☾08'55 16°15'27	min. Earth dist.	8049 Jan 01 10:24	15°☾56'37	47.05339 AU
max. Earth dist.	8040 Jun 24 17:25	7°☾11'53 47.95323 AU	opposition	8049 Jan 03 04:23	15°☾54'37	-17°01'10
retrograde	8040 Oct 02 22:30	8°☾43'27	direct	8049 Mar 26 02:50	14°☾54'43	
min. Earth dist.	8040 Dec 23 19:37	7°☾44'00 46.10294 AU				
opposition	8040 Dec 25 20:14	7°☾41'40 -16°58'00	conjunction	8049 Jul 02 04:17	16°☾23'42	-16°19'43
direct	8041 Mar 17 15:45	6°☾40'48	minimum elong	8049 Jul 02 04:21	16°☾23'43	16°19'51
			max. Earth dist.	8049 Jul 03 23:30	16°☾26'16	49.01970 AU
conjunction	8041 Jun 23 23:38	8°☾11'52 -16°17'03	retrograde	8049 Oct 12 10:47	17°☾55'56	
minimum elong	8041 Jun 23 23:38	8°☾11'52 16°17'11	min. Earth dist.	8050 Jan 02 17:43	16°☾57'08	47.15352 AU
max. Earth dist.	8041 Jun 26 00:40	8°☾14'51 48.08424 AU	opposition	8050 Jan 04 10:53	16°☾55'11	-17°00'15
retrograde	8041 Oct 04 02:03	9°☾46'05	direct	8050 Mar 27 07:49	15°☾55'22	
min. Earth dist.	8041 Dec 25 04:39	8°☾46'39 46.23272 AU				
opposition	8041 Dec 27 03:46	8°☾44'23 -16°59'32	conjunction	8050 Jul 03 10:27	17°☾24'08	-16°18'48
direct	8042 Mar 19 02:34	7°☾43'38	minimum elong	8050 Jul 03 10:31	17°☾24'09	16°18'57
			max. Earth dist.	8050 Jul 05 03:32	17°☾26'34	49.11748 AU
conjunction	8042 Jun 25 06:34	9°☾14'23 -16°18'28	retrograde	8050 Oct 13 17:59	18°☾56'08	
minimum elong	8042 Jun 25 06:37	9°☾14'23 16°18'37	min. Earth dist.	8051 Jan 04 00:55	17°☾57'22	47.24868 AU
max. Earth dist.	8042 Jun 27 06:45	9°☾17'18 48.21239 AU	opposition	8051 Jan 05 17:17	17°☾55'28	-16°59'05
retrograde	8042 Oct 05 08:48	10°☾48'18	direct	8051 Mar 28 12:33	16°☾55'45	
min. Earth dist.	8042 Dec 26 11:30	9°☾49'00 46.35965 AU				
opposition	8042 Dec 28 11:03	9°☾46'42 -17°00'44	conjunction	8051 Jul 04 16:35	18°☾24'17	-16°17'37
direct	8043 Mar 20 11:11	8°☾46'03	minimum elong	8051 Jul 04 16:40	18°☾24'18	16°17'45
			max. Earth dist.	8051 Jul 06 09:33	18°☾26'42	49.21038 AU
conjunction	8043 Jun 26 13:16	10°☾16'31 -16°19'33	retrograde	8051 Oct 14 20:21	19°☾56'03	
minimum elong	8043 Jun 26 13:17	10°☾16'31 16°19'42	min. Earth dist.	8052 Jan 05 08:57	18°☾57'17	47.33909 AU
max. Earth dist.	8043 Jun 28 12:40	10°☾19'22 48.33770 AU	opposition	8052 Jan 06 23:35	18°☾55'27	-16°57'38
retrograde	8043 Oct 06 17:50	11°☾50'09	direct	8052 Mar 28 21:15	17°☾55'49	
min. Earth dist.	8043 Dec 27 20:01	10°☾50'53 46.48383 AU				
opposition	8043 Dec 29 18:20	10°☾48'40 -17°01'35	conjunction	8052 Jul 04 22:34	19°☾24'08	-16°16'11
direct	8044 Mar 20 17:36	9°☾48'08	minimum elong	8052 Jul 04 22:38	19°☾24'08	16°16'19
			max. Earth dist.	8052 Jul 06 14:11	19°☾26'28	49.29903 AU
conjunction	8044 Jun 26 20:04	11°☾18'18 -16°20'20	retrograde	8052 Oct 15 00:54	20°☾55'40	
minimum elong	8044 Jun 26 20:07	11°☾18'18 16°20'29	min. Earth dist.	8053 Jan 05 14:46	19°☾56'59	47.42553 AU
max. Earth dist.	8044 Jun 28 19:43	11°☾21'10 48.46031 AU	opposition	8053 Jan 07 05:29	19°☾55'09	-16°55'55
retrograde	8044 Oct 07 00:35	12°☾51'40	direct	8053 Mar 30 05:07	18°☾55'35	
min. Earth dist.	8044 Dec 28 03:22	11°☾52'30 46.60501 AU				
opposition	8044 Dec 30 01:13	11°☾50'18 -17°02'07	conjunction	8053 Jul 06 04:22	20°☾23'41	-16°14'28
direct	8045 Mar 21 23:54	10°☾49'54	minimum elong	8053 Jul 06 04:28	20°☾23'41	16°14'36
			max. Earth dist.	8053 Jul 07 19:09	20°☾25'58	49.38396 AU
conjunction	8045 Jun 28 02:34	12°☾19'49 -16°20'47	retrograde	8053 Oct 16 08:55	21°☾55'01	
minimum elong	8045 Jun 28 02:36	12°☾19'49 16°20'55	min. Earth dist.	8054 Jan 06 22:24	20°☾56'20	47.50862 AU
max. Earth dist.	8045 Jun 30 00:30	12°☾22'34 48.57996 AU	opposition	8054 Jan 08 11:36	20°☾54'34	-16°53'55

direct	8054 Mar 31 11:33	19°☾55'05	minimum elong	8062 Jul 15 06:06	29°☾11'21	15°47'08
			max. Earth dist.	8062 Jul 16 12:52	29°☾13'08	49.99853 AU
conjunction	8054 Jul 07 10:04	21°☾22'58 -16°12'29		8062 Aug 21 09:33	0°♌	
minimum elong	8054 Jul 07 10:08	21°☾22'59 16°12'37	retrograde	8062 Oct 25 10:13	0°♌41'11	
max. Earth dist.	8054 Jul 09 00:58	21°☾25'15 49.46585 AU		8062 Dec 31 18:03	30°♋☾	
retrograde	8054 Oct 17 15:10	22°☾54'06	min. Earth dist.	8063 Jan 16 07:56	29°☾42'52	48.10039 AU
min. Earth dist.	8055 Jan 08 04:26	21°☾55'30 47.58863 AU	opposition	8063 Jan 17 13:44	29°☾41'29	-16°23'40
opposition	8055 Jan 09 17:28	21°☾53'45 -16°51'38	direct	8063 Apr 09 10:59	28°☾42'41	
direct	8055 Apr 01 16:56	20°☾54'20		8063 Jul 09 19:56	0°♌	
conjunction	8055 Jul 08 15:40	22°☾22'02 -16°10'12	conjunction	8063 Jul 16 11:17	0°♌09'09	-15°42'46
minimum elong	8055 Jul 08 15:47	22°☾22'03 16°10'21	minimum elong	8063 Jul 16 11:24	0°♌09'10	15°42'55
max. Earth dist.	8055 Jul 10 04:55	22°☾24'13 49.54484 AU	max. Earth dist.	8063 Jul 17 16:51	0°♌10'52	50.04406 AU
retrograde	8055 Oct 18 22:26	23°☾52'58	retrograde	8063 Oct 26 15:59	1°♌38'50	
min. Earth dist.	8056 Jan 09 10:36	22°☾54'25 47.66588 AU	opposition	8064 Jan 18 18:55	0°♌39'10	-16°19'07
opposition	8056 Jan 10 23:10	22°☾52'42 -16°49'04	min. Earth dist.	8064 Jan 17 15:15	0°♌40'27	48.14285 AU
direct	8056 Apr 01 18:53	21°☾53'22		8064 Feb 25 23:19	30°♋☾	
			direct	8064 Apr 09 17:35	29°☾40'24	
conjunction	8056 Jul 08 21:20	23°☾20'55 -16°07'39		8064 May 22 12:41	0°♌	
minimum elong	8056 Jul 08 21:25	23°☾20'55 16°07'48				
max. Earth dist.	8056 Jul 10 10:50	23°☾23'06 49.62100 AU	conjunction	8064 Jul 16 16:36	1°♌06'43	-15°38'19
retrograde	8056 Oct 19 02:28	24°☾51'39	minimum elong	8064 Jul 16 16:45	1°♌06'43	15°38'26
min. Earth dist.	8057 Jan 09 17:46	23°☾53'08 47.74010 AU	max. Earth dist.	8064 Jul 17 21:50	1°♌08'24	50.08501 AU
opposition	8057 Jan 11 04:54	23°☾51'29 -16°46'12	retrograde	8064 Oct 26 21:00	2°♌36'14	
direct	8057 Apr 03 00:36	22°☾52'15	opposition	8065 Jan 18 23:56	1°♌36'36	-16°14'19
			min. Earth dist.	8065 Jan 17 20:36	1°♌37'53	48.18087 AU
conjunction	8057 Jul 10 02:43	24°☾19'37 -16°04'50	direct	8065 Apr 10 23:30	0°♌37'51	
minimum elong	8057 Jul 10 02:50	24°☾19'38 16°04'59				
max. Earth dist.	8057 Jul 11 15:07	24°☾21'44 49.69424 AU	conjunction	8065 Jul 17 21:30	2°♌04'02	-15°33'37
retrograde	8057 Oct 20 05:51	25°☾50'13	minimum elong	8065 Jul 17 21:37	2°♌04'02	15°33'44
min. Earth dist.	8058 Jan 10 23:02	24°☾51'48 47.81118 AU	max. Earth dist.	8065 Jul 19 00:52	2°♌05'36	50.12186 AU
opposition	8058 Jan 12 10:29	24°☾50'08 -16°43'04	retrograde	8065 Oct 28 04:20	3°♌33'24	
direct	8058 Apr 04 07:40	23°☾51'00	min. Earth dist.	8066 Jan 19 02:29	2°♌35'03	48.21520 AU
			opposition	8066 Jan 20 04:59	2°♌33'49	-16°09'17
conjunction	8058 Jul 11 08:09	25°☾18'12 -16°01'45	direct	8066 Apr 12 01:42	1°♌35'06	
minimum elong	8058 Jul 11 08:15	25°☾18'13 16°01'53				
max. Earth dist.	8058 Jul 12 19:32	25°☾20'16 49.76408 AU	conjunction	8066 Jul 19 02:38	3°♌01'09	-15°28'40
retrograde	8058 Oct 21 12:34	26°☾48'39	minimum elong	8066 Jul 19 02:47	3°♌01'10	15°28'48
min. Earth dist.	8059 Jan 12 06:27	25°☾50'15 47.87869 AU	max. Earth dist.	8066 Jul 20 06:12	3°♌02'44	50.15522 AU
opposition	8059 Jan 13 16:08	25°☾48'40 -16°39'39	retrograde	8066 Oct 29 08:15	4°♌30'24	
direct	8059 Apr 05 15:00	24°☾49'38	min. Earth dist.	8067 Jan 20 08:48	3°♌32'01	48.24613 AU
			opposition	8067 Jan 21 09:57	3°♌30'51	-16°03'59
conjunction	8059 Jul 12 13:41	26°☾16'41 -15°58'24	direct	8067 Apr 13 06:25	2°♌32'10	
minimum elong	8059 Jul 12 13:48	26°☾16'42 15°58'33				
max. Earth dist.	8059 Jul 14 00:55	26°☾18'44 49.83013 AU	conjunction	8067 Jul 20 07:36	3°♌58'07	-15°23'29
retrograde	8059 Oct 22 20:11	27°☾46'59	minimum elong	8067 Jul 20 07:44	3°♌58'08	15°23'36
opposition	8060 Jan 14 21:34	26°☾47'06 -16°36'00	max. Earth dist.	8067 Jul 21 09:53	3°♌59'38	50.18552 AU
min. Earth dist.	8060 Jan 13 12:34	26°☾48'39 47.94185 AU	retrograde	8067 Oct 30 11:29	5°♌27'15	
direct	8060 Apr 05 19:47	25°☾48'09	opposition	8068 Jan 22 14:46	4°♌27'45	-15°58'26
			min. Earth dist.	8068 Jan 21 13:21	4°♌28'56	48.27399 AU
conjunction	8060 Jul 12 19:07	27°☾15'04 -15°54'49	direct	8068 Apr 13 11:27	3°♌29'07	
minimum elong	8060 Jul 12 19:14	27°☾15'04 15°54'57				
max. Earth dist.	8060 Jul 14 04:08	27°☾16'59 49.89150 AU	conjunction	8068 Jul 20 12:32	4°♌54'59	-15°18'03
retrograde	8060 Oct 23 04:17	28°☾45'13	minimum elong	8068 Jul 20 12:42	4°♌55'00	15°18'10
min. Earth dist.	8061 Jan 13 19:02	27°☾46'54 48.00015 AU	max. Earth dist.	8068 Jul 21 13:51	4°♌56'26	50.21262 AU
opposition	8061 Jan 15 02:56	27°☾45'25 -16°32'07	retrograde	8068 Oct 30 16:35	6°♌24'03	
direct	8061 Apr 06 22:25	26°☾46'31	opposition	8069 Jan 22 19:37	5°♌24'36	-15°52'38
			min. Earth dist.	8069 Jan 21 19:55	5°♌25'42	48.29872 AU
conjunction	8061 Jul 14 00:40	28°☾13'18 -15°51'01	direct	8069 Apr 14 18:22	4°♌26'02	
minimum elong	8061 Jul 14 00:47	28°☾13'19 15°51'10				
max. Earth dist.	8061 Jul 15 09:16	28°☾15'11 49.94767 AU	conjunction	8069 Jul 21 17:32	5°♌51'49	-15°12'22
retrograde	8061 Oct 24 07:18	29°☾43'18	minimum elong	8069 Jul 21 17:41	5°♌51'49	15°12'29
min. Earth dist.	8062 Jan 15 02:22	28°☾44'57 48.05295 AU	max. Earth dist.	8069 Jul 22 18:52	5°♌53'16	50.23674 AU
opposition	8062 Jan 16 08:26	28°☾43'33 -16°28'00	retrograde	8069 Oct 31 23:16	7°♌20'48	
direct	8062 Apr 08 04:23	27°☾44'43	min. Earth dist.	8070 Jan 23 00:52	6°♌22'31	48.32018 AU
			opposition	8070 Jan 24 00:24	6°♌21'25	-15°46'35
conjunction	8062 Jul 15 05:57	29°☾11'21 -15°47'00	direct	8070 Apr 15 22:54	5°♌22'55	

conjunction	8070 Jul 22 22:16	6°Ω48'39 -15°06'26	conjunction	8077 Jul 29 08:50	13°Ω25'52 -14°19'01
minimum elong	8070 Jul 22 22:26	6°Ω48'39 15°06'34	minimum elong	8077 Jul 29 09:01	13°Ω25'52 14°19'07
max. Earth dist.	8070 Jul 23 21:45	6°Ω49'59 50.25744 AU	max. Earth dist.	8077 Jul 30 00:31	13°Ω26'45 50.27033 AU
retrograde	8070 Nov 02 07:55	8°Ω17'34	morning rise	8077 Aug 03 02:22	13°Ω32'17
min. Earth dist.	8071 Jan 24 06:43	7°Ω19'18 48.33808 AU	retrograde	8077 Nov 08 15:28	14°Ω54'20
opposition	8071 Jan 25 05:14	7°Ω18'16 -15°40'17	opposition	8078 Jan 31 13:35	13°Ω55'10 -14°50'11
direct	8071 Apr 16 23:53	6°Ω19'49	min. Earth dist.	8078 Jan 30 22:35	13°Ω55'52 48.32690 AU
			direct	8078 Apr 23 07:30	12°Ω56'48
conjunction	8071 Jul 24 03:20	7°Ω45'30 -15°00'17	evening set	8078 Jul 25 10:38	14°Ω15'10
minimum elong	8071 Jul 24 03:30	7°Ω45'31 15°00'24			
max. Earth dist.	8071 Jul 25 02:38	7°Ω46'50 50.27421 AU	conjunction	8078 Jul 30 13:28	14°Ω22'08 -14°11'23
retrograde	8071 Nov 03 11:31	9°Ω14'22	minimum elong	8078 Jul 30 13:38	14°Ω22'08 14°11'29
opposition	8072 Jan 26 09:53	8°Ω15'08 -15°33'45	max. Earth dist.	8078 Jul 31 04:06	14°Ω22'57 50.25430 AU
min. Earth dist.	8072 Jan 25 13:01	8°Ω16'06 48.35163 AU	morning rise	8078 Aug 04 16:59	14°Ω29'07
direct	8072 Apr 17 04:27	7°Ω16'45		8078 Aug 28 08:10	15°Ω
evening set	8072 Jul 22 12:58	8°Ω39'56	retrograde	8078 Nov 09 18:20	15°Ω50'33
				8079 Jan 24 23:38	15°RΩ
conjunction	8072 Jul 24 08:21	8°Ω42'24 -14°53'55	opposition	8079 Feb 01 18:09	14°Ω51'23 -14°42'08
minimum elong	8072 Jul 24 08:31	8°Ω42'25 14°54'03	min. Earth dist.	8079 Feb 01 04:56	14°Ω51'59 48.30819 AU
max. Earth dist.	8072 Jul 25 06:01	8°Ω43'38 50.28645 AU	direct	8079 Apr 24 15:02	13°Ω53'00
morning rise	8072 Jul 26 04:07	8°Ω44'54		8079 Jul 18 04:58	15°Ω
retrograde	8072 Nov 03 13:52	10°Ω11'12	evening set	8079 Jul 26 06:12	15°Ω10'49
opposition	8073 Jan 26 14:34	9°Ω12'01 -15°27'01			
min. Earth dist.	8073 Jan 25 18:07	9°Ω12'58 48.36030 AU	conjunction	8079 Jul 31 18:20	15°Ω18'16 -14°03'31
direct	8073 Apr 18 10:08	8°Ω13'41	minimum elong	8079 Jul 31 18:31	15°Ω18'17 14°03'38
evening set	8073 Jul 22 22:15	9°Ω35'42	max. Earth dist.	8079 Aug 01 09:01	15°Ω19'06 50.23525 AU
			morning rise	8079 Aug 06 07:08	15°Ω25'48
conjunction	8073 Jul 25 13:13	9°Ω39'18 -14°47'21	retrograde	8079 Nov 10 22:46	16°Ω46'39
minimum elong	8073 Jul 25 13:24	9°Ω39'18 14°47'27	opposition	8080 Feb 02 22:22	15°Ω47'29 -14°33'51
max. Earth dist.	8073 Jul 26 09:22	9°Ω40'26 50.29339 AU	min. Earth dist.	8080 Feb 02 09:13	15°Ω48'06 48.28645 AU
morning rise	8073 Jul 28 04:38	9°Ω42'54		8080 Mar 23 13:11	15°RΩ
retrograde	8073 Nov 04 18:48	11°Ω08'03	direct	8080 Apr 24 21:18	14°Ω49'05
opposition	8074 Jan 27 19:26	10°Ω08'54 -15°20'04		8080 May 26 16:22	15°Ω
min. Earth dist.	8074 Jan 27 01:09	10°Ω09'45 48.36353 AU	evening set	8080 Jul 26 02:01	16°Ω06'23
direct	8074 Apr 19 16:38	9°Ω10'35			
evening set	8074 Jul 23 12:18	10°Ω31'42	conjunction	8080 Jul 31 22:59	16°Ω14'21 -13°55'25
			minimum elong	8080 Jul 31 23:10	16°Ω14'22 13°55'31
conjunction	8074 Jul 26 18:18	10°Ω36'08 -14°40'34	max. Earth dist.	8080 Aug 01 11:46	16°Ω15'05 50.21331 AU
minimum elong	8074 Jul 26 18:28	10°Ω36'08 14°40'42	morning rise	8080 Aug 06 20:45	16°Ω22'22
max. Earth dist.	8074 Jul 27 13:48	10°Ω37'14 50.29499 AU	retrograde	8080 Nov 11 07:05	17°Ω42'42
morning rise	8074 Jul 30 00:45	10°Ω40'36	opposition	8081 Feb 03 02:48	16°Ω43'32 -14°25'19
retrograde	8074 Nov 05 23:47	12°Ω04'50	min. Earth dist.	8081 Feb 02 14:30	16°Ω44'07 48.26193 AU
min. Earth dist.	8075 Jan 28 06:18	11°Ω06'31 48.36129 AU	direct	8081 Apr 25 22:43	15°Ω45'09
opposition	8075 Jan 29 00:01	11°Ω05'42 -15°12'55	evening set	8081 Jul 26 22:07	17°Ω01'58
direct	8075 Apr 20 22:32	10°Ω07'23			
evening set	8075 Jul 24 04:17	11°Ω27'42	conjunction	8081 Aug 02 03:40	17°Ω10'24 -13°47'04
			minimum elong	8081 Aug 02 03:51	17°Ω10'25 13°47'12
conjunction	8075 Jul 27 23:10	11°Ω32'52 -14°33'36	max. Earth dist.	8081 Aug 02 16:37	17°Ω11'08 50.18848 AU
minimum elong	8075 Jul 27 23:20	11°Ω32'52 14°33'42	morning rise	8081 Aug 08 10:01	17°Ω18'54
max. Earth dist.	8075 Jul 28 16:24	11°Ω33'50 50.29130 AU	retrograde	8081 Nov 12 11:55	18°Ω38'45
morning rise	8075 Jul 31 18:36	11°Ω38'03	opposition	8082 Feb 04 07:17	17°Ω39'36 -14°16'32
retrograde	8075 Nov 07 07:54	13°Ω01'29	min. Earth dist.	8082 Feb 03 20:07	17°Ω40'07 48.23433 AU
opposition	8076 Jan 30 04:40	12°Ω02'21 -15°05'34	direct	8082 Apr 27 02:39	16°Ω41'13
min. Earth dist.	8076 Jan 29 12:16	12°Ω03'06 48.35407 AU	evening set	8082 Jul 27 18:45	17°Ω57'34
direct	8076 Apr 21 00:33	11°Ω04'01			
evening set	8076 Jul 23 21:37	12°Ω23'38	conjunction	8082 Aug 03 08:25	18°Ω06'29 -13°38'30
			minimum elong	8082 Aug 03 08:36	18°Ω06'30 13°38'36
conjunction	8076 Jul 28 04:04	12°Ω29'27 -14°26'25	max. Earth dist.	8082 Aug 03 20:10	18°Ω07'09 50.16067 AU
minimum elong	8076 Jul 28 04:14	12°Ω29'27 14°26'31	morning rise	8082 Aug 09 22:56	18°Ω15'26
max. Earth dist.	8076 Jul 28 21:07	12°Ω30'25 50.28279 AU	retrograde	8082 Nov 13 15:01	19°Ω34'50
morning rise	8076 Aug 01 11:03	12°Ω35'17	opposition	8083 Feb 05 11:34	18°Ω35'42 -14°07'31
retrograde	8076 Nov 07 12:21	13°Ω57'59	min. Earth dist.	8083 Feb 05 00:30	18°Ω36'13 48.20354 AU
opposition	8077 Jan 30 09:09	12°Ω58'50 -14°57'59	direct	8083 Apr 28 06:28	17°Ω37'20
min. Earth dist.	8077 Jan 29 18:16	12°Ω59'32 48.34232 AU	evening set	8083 Jul 28 15:36	18°Ω53'17
direct	8077 Apr 22 03:51	12°Ω00'30			
evening set	8077 Jul 24 15:56	13°Ω19'28	conjunction	8083 Aug 04 13:14	19°Ω02'38 -13°29'42
			minimum elong	8083 Aug 04 13:26	19°Ω02'39 13°29'49

max. Earth dist.	8083 Aug 04 23:40	19°Ω03'14	50.12919 AU	conjunction	8090 Aug 10 23:55	25°Ω37'33	-12°22'22
morning rise	8083 Aug 11 11:51	19°Ω12'02		minimum elong	8090 Aug 11 00:07	25°Ω37'34	12°22'27
retrograde	8083 Nov 14 19:12	20°Ω31'01		max. Earth dist.	8090 Aug 11 01:48	25°Ω37'40	49.77586 AU
opposition	8084 Feb 06 16:04	19°Ω31'54	-13°58'16	morning rise	8090 Aug 20 00:02	25°Ω49'46	
min. Earth dist.	8084 Feb 06 07:05	19°Ω32'19	48.16877 AU	retrograde	8090 Nov 21 09:29	27°Ω06'11	
direct	8084 Apr 28 12:06	18°Ω33'33		opposition	8091 Feb 12 23:10	26°Ω06'57	-12°47'41
evening set	8084 Jul 28 12:55	19°Ω49'07		min. Earth dist.	8091 Feb 12 21:26	26°Ω07'02	47.79031 AU
				direct	8091 May 05 17:14	25°Ω08'24	
				evening set	8091 Aug 02 23:43	26°Ω21'36	
conjunction	8084 Aug 04 18:12	19°Ω58'53	-13°20'41				
minimum elong	8084 Aug 04 18:24	19°Ω58'54	13°20'46				
max. Earth dist.	8084 Aug 05 04:14	19°Ω59'28	50.09347 AU	conjunction	8091 Aug 12 05:00	26°Ω34'06	-12°11'53
morning rise	8084 Aug 12 00:23	20°Ω08'44		minimum elong	8091 Aug 12 05:11	26°Ω34'07	12°11'58
retrograde	8084 Nov 14 23:52	21°Ω27'18		max. Earth dist.	8091 Aug 12 06:52	26°Ω34'13	49.70896 AU
opposition	8085 Feb 06 20:24	20°Ω28'12	-13°48'49	morning rise	8091 Aug 21 11:29	26°Ω46'41	
min. Earth dist.	8085 Feb 06 11:50	20°Ω28'36	48.12930 AU	retrograde	8091 Nov 22 15:42	28°Ω02'47	
direct	8085 Apr 29 17:43	19°Ω29'51		opposition	8092 Feb 14 03:40	27°Ω03'32	-12°36'42
evening set	8085 Jul 29 10:29	20°Ω45'03		min. Earth dist.	8092 Feb 14 03:00	27°Ω03'34	47.72051 AU
				direct	8092 May 05 20:32	26°Ω04'56	
				evening set	8092 Aug 02 22:34	27°Ω17'52	
conjunction	8085 Aug 05 23:07	20°Ω55'15	-13°11'29				
minimum elong	8085 Aug 05 23:18	20°Ω55'15	13°11'35				
max. Earth dist.	8085 Aug 06 06:47	20°Ω55'41	50.05280 AU	conjunction	8092 Aug 12 09:57	27°Ω30'44	-12°01'10
morning rise	8085 Aug 13 12:50	21°Ω05'31		minimum elong	8092 Aug 12 10:09	27°Ω30'44	12°01'16
retrograde	8085 Nov 16 07:51	22°Ω23'41		max. Earth dist.	8092 Aug 12 10:41	27°Ω30'46	49.63916 AU
opposition	8086 Feb 08 00:57	21°Ω24'36	-13°39'09	morning rise	8092 Aug 21 22:40	27°Ω43'40	
min. Earth dist.	8086 Feb 07 17:58	21°Ω24'56	48.08474 AU	retrograde	8092 Nov 22 18:55	28°Ω59'29	
direct	8086 Apr 30 19:55	20°Ω26'14		opposition	8093 Feb 14 08:04	28°Ω00'12	-12°25'28
evening set	8086 Jul 30 08:11	21°Ω41'04		min. Earth dist.	8093 Feb 14 07:23	28°Ω00'14	47.64788 AU
				direct	8093 May 07 00:16	27°Ω01'34	
				evening set	8093 Aug 03 21:27	28°Ω14'16	
conjunction	8086 Aug 07 04:08	21°Ω51'40	-13°02'04				
minimum elong	8086 Aug 07 04:20	21°Ω51'41	13°02'09				
max. Earth dist.	8086 Aug 07 11:18	21°Ω52'05	50.00681 AU	conjunction	8093 Aug 13 14:59	28°Ω27'28	-11°50'14
morning rise	8086 Aug 15 01:05	22°Ω02'21		minimum elong	8093 Aug 13 15:10	28°Ω27'29	11°50'18
retrograde	8086 Nov 17 13:04	23°Ω20'09		max. Earth dist.	8093 Aug 13 14:30	28°Ω27'27	49.56641 AU
opposition	8087 Feb 09 05:31	22°Ω21'02	-13°29'17	morning rise	8093 Aug 23 09:57	28°Ω40'45	
min. Earth dist.	8087 Feb 09 00:06	22°Ω21'18	48.03472 AU	retrograde	8093 Nov 23 22:00	29°Ω56'19	
direct	8087 May 01 23:15	21°Ω22'39		opposition	8094 Feb 15 12:43	28°Ω57'01	-12°13'59
evening set	8087 Jul 31 06:19	22°Ω37'08		min. Earth dist.	8094 Feb 15 13:43	28°Ω56'58	47.57230 AU
				direct	8094 May 08 06:32	27°Ω58'21	
				evening set	8094 Aug 04 20:30	29°Ω10'49	
conjunction	8087 Aug 08 09:10	22°Ω48'08	-12°52'27				
minimum elong	8087 Aug 08 09:21	22°Ω48'09	12°52'33				
max. Earth dist.	8087 Aug 08 14:34	22°Ω48'27	49.95566 AU	conjunction	8094 Aug 14 20:07	29°Ω24'22	-11°39'03
morning rise	8087 Aug 16 13:07	22°Ω59'12		minimum elong	8094 Aug 14 20:19	29°Ω24'23	11°39'08
retrograde	8087 Nov 18 17:08	24°Ω16'37		max. Earth dist.	8094 Aug 14 19:39	29°Ω24'21	49.49070 AU
opposition	8088 Feb 10 09:48	23°Ω17'30	-13°19'13	morning rise	8094 Aug 24 21:00	29°Ω38'00	
min. Earth dist.	8088 Feb 10 04:48	23°Ω17'44	47.97974 AU		8094 Sep 10 16:59	0°൬	
direct	8088 May 02 02:38	22°Ω19'04		retrograde	8094 Nov 25 02:18	0°൬53'20	
evening set	8088 Jul 31 04:27	23°Ω33'13			8095 Feb 11 09:03	30°℞Ω	
				opposition	8095 Feb 16 17:16	29°Ω54'00	-12°02'17
				min. Earth dist.	8095 Feb 16 18:23	29°Ω53'57	47.49338 AU
conjunction	8088 Aug 08 14:09	23°Ω44'36	-12°42'38	direct	8095 May 09 13:03	28°Ω55'19	
minimum elong	8088 Aug 08 14:21	23°Ω44'37	12°42'44		8095 Jul 31 04:07	0°൬	
max. Earth dist.	8088 Aug 08 18:08	23°Ω44'50	49.89964 AU	evening set	8095 Aug 05 19:59	0°൬07'34	
morning rise	8088 Aug 17 01:03	23°Ω56'03					
retrograde	8088 Nov 18 20:30	25°Ω13'07					
opposition	8089 Feb 10 14:21	24°Ω13'58	-13°08'56	conjunction	8095 Aug 16 01:20	0°൬21'28	-11°27'39
min. Earth dist.	8089 Feb 10 11:24	24°Ω14'06	47.92027 AU	minimum elong	8095 Aug 16 01:31	0°൬21'28	11°27'43
direct	8089 May 03 09:19	23°Ω15'30		max. Earth dist.	8095 Aug 15 22:46	0°൬21'19	49.41138 AU
evening set	8089 Aug 01 02:38	24°Ω29'19		morning rise	8095 Aug 26 08:15	0°൬35'27	
				retrograde	8095 Nov 26 10:21	1°൬50'33	
conjunction	8089 Aug 09 19:01	24°Ω41'04	-12°32'37	opposition	8096 Feb 17 21:49	0°൬51'12	-11°50'21
minimum elong	8089 Aug 09 19:12	24°Ω41'04	12°32'42	min. Earth dist.	8096 Feb 18 00:29	0°൬51'05	47.41065 AU
max. Earth dist.	8089 Aug 09 22:53	24°Ω41'17	49.83955 AU		8096 Apr 13 01:34	30°℞Ω	
morning rise	8089 Aug 18 12:29	24°Ω52'54		direct	8096 May 09 15:49	29°Ω52'28	
retrograde	8089 Nov 20 00:35	26°Ω09'38			8096 Jun 04 22:38	0°൬	
opposition	8090 Feb 11 18:46	25°Ω10'26	-12°58'26	evening set	8096 Aug 05 19:34	1°൬04'31	
min. Earth dist.	8090 Feb 11 15:56	25°Ω10'34	47.85692 AU				
direct	8090 May 04 16:01	24°Ω11'56		conjunction	8096 Aug 16 06:48	1°൬18'45	-11°16'01
evening set	8090 Aug 02 01:09	25°Ω25'26		minimum elong	8096 Aug 16 06:59	1°൬18'46	11°16'06

max. Earth dist.	8096 Aug 16 03:48	1° \mathring{M} 18'35	49.32774 AU
morning rise	8096 Aug 26 19:25	1° \mathring{M} 33'05	
retrograde	8096 Nov 26 17:26	2° \mathring{M} 47'58	
opposition	8097 Feb 18 02:34	1° \mathring{M} 48'35	-11°38'11
min. Earth dist.	8097 Feb 18 06:42	1° \mathring{M} 48'24	47.32319 AU
direct	8097 May 10 18:43	0° \mathring{M} 49'49	
evening set	8097 Aug 06 19:23	2° \mathring{M} 01'40	
conjunction	8097 Aug 17 12:07	2° \mathring{M} 16'14	-11°04'12
minimum elong	8097 Aug 17 12:19	2° \mathring{M} 16'15	11°04'16
max. Earth dist.	8097 Aug 17 07:26	2° \mathring{M} 15'58	49.23923 AU
morning rise	8097 Aug 28 06:22	2° \mathring{M} 30'54	
retrograde	8097 Nov 28 00:01	3° \mathring{M} 45'33	
opposition	8098 Feb 19 07:21	2° \mathring{M} 46'08	-11°25'49
min. Earth dist.	8098 Feb 19 11:59	2° \mathring{M} 45'55	47.23058 AU
direct	8098 May 11 21:21	1° \mathring{M} 47'17	
evening set	8098 Aug 07 19:27	2° \mathring{M} 58'58	
conjunction	8098 Aug 18 17:44	3° \mathring{M} 13'51	-10°52'10
minimum elong	8098 Aug 18 17:55	3° \mathring{M} 13'52	10°52'15
max. Earth dist.	8098 Aug 18 11:15	3° \mathring{M} 13'29	49.14524 AU
morning rise	8098 Aug 29 17:37	3° \mathring{M} 28'51	
retrograde	8098 Nov 29 03:54	4° \mathring{M} 43'17	
opposition	8099 Feb 20 12:13	3° \mathring{M} 43'48	-11°13'14
min. Earth dist.	8099 Feb 20 19:15	3° \mathring{M} 43'28	47.13250 AU
direct	8099 May 13 03:14	2° \mathring{M} 44'52	
evening set	8099 Aug 08 19:42	3° \mathring{M} 56'21	
conjunction	8099 Aug 19 23:27	4° \mathring{M} 11'33	-10°39'56
minimum elong	8099 Aug 19 23:39	4° \mathring{M} 11'34	10°40'00
max. Earth dist.	8099 Aug 19 16:22	4° \mathring{M} 11'09	49.04599 AU
morning rise	8099 Aug 31 04:38	4° \mathring{M} 26'52	
retrograde	8099 Nov 30 06:45	5° \mathring{M} 41'06	
opposition	8100 Feb 21 17:02	4° \mathring{M} 41'31	-11°00'27
min. Earth dist.	8100 Feb 22 00:26	4° \mathring{M} 41'10	47.02919 AU
direct	8100 May 14 11:10	3° \mathring{M} 42'30	
evening set	8100 Aug 09 20:05	4° \mathring{M} 53'47	
conjunction	8100 Aug 21 04:57	5° \mathring{M} 09'19	-10°27'30
minimum elong	8100 Aug 21 05:08	5° \mathring{M} 09'19	10°27'34
max. Earth dist.	8100 Aug 20 19:31	5° \mathring{M} 08'46	48.94172 AU
morning rise	8100 Sep 01 15:35	5° \mathring{M} 24'57	
retrograde	8100 Dec 01 14:31	6° \mathring{M} 38'59	
opposition	8101 Feb 22 21:55	5° \mathring{M} 39'18	-10°47'26
min. Earth dist.	8101 Feb 23 06:51	5° \mathring{M} 38'53	46.92132 AU
direct	8101 May 15 14:55	4° \mathring{M} 40'10	
evening set	8101 Aug 10 20:29	5° \mathring{M} 51'17	
conjunction	8101 Aug 22 10:41	6° \mathring{M} 07'08	-10°14'50
minimum elong	8101 Aug 22 10:53	6° \mathring{M} 07'09	10°14'54
max. Earth dist.	8101 Aug 22 01:04	6° \mathring{M} 06'35	48.83312 AU
morning rise	8101 Sep 03 02:24	6° \mathring{M} 23'05	
retrograde	8101 Dec 02 21:15	7° \mathring{M} 36'56	