

direct	3600 Feb 16 08:39	3°II15'18		max. Earth dist.	3607 Jun 01 15:06	11°II17'34	50.33229 AU
				morning rise	3607 Jun 04 03:57	11°II21'00	
conjunction	3600 May 24 10:39	4°II40'53 -15°29'03		retrograde	3607 Sep 11 12:13	12°II45'14	
minimum elong	3600 May 24 10:49	4°II40'53 15°29'02		opposition	3607 Dec 04 05:36	11°II45'54 -15°13'31	
max. Earth dist.	3600 May 25 11:18	4°II42'17 50.35013 AU		min. Earth dist.	3607 Dec 03 14:50	11°II46'36 48.39162 AU	
retrograde	3600 Sep 04 02:09	6°II09'59		direct	3608 Feb 23 17:32	10°II47'33	
opposition	3600 Nov 26 23:02	5°II10'30 -16°03'43		evening set	3608 May 28 07:23	12°II07'39	
min. Earth dist.	3600 Nov 26 00:13	5°II11'34 48.43183 AU					
direct	3601 Feb 16 11:51	4°II12'07		conjunction	3608 Jun 01 03:02	12°II12'49 -14°33'49	
				minimum elong	3608 Jun 01 03:14	12°II12'50 14°33'49	
conjunction	3601 May 25 15:53	5°II37'40 -15°22'55		max. Earth dist.	3608 Jun 01 17:58	12°II13'40 50.31518 AU	
minimum elong	3601 May 25 16:02	5°II37'40 15°22'56		morning rise	3608 Jun 04 23:16	12°II18'01	
max. Earth dist.	3601 May 26 14:41	5°II38'57 50.36163 AU		retrograde	3608 Sep 11 16:52	13°II41'24	
retrograde	3601 Sep 05 09:55	7°II06'42		opposition	3608 Dec 04 09:55	12°II42'05 -15°05'22	
min. Earth dist.	3601 Nov 27 07:08	6°II08'13 48.43975 AU		min. Earth dist.	3608 Dec 03 19:50	12°II42'44 48.37195 AU	
opposition	3601 Nov 28 03:38	6°II07'16 -15°57'13		direct	3609 Feb 23 21:27	11°II43'44	
direct	3602 Feb 17 13:20	5°II08'55		evening set	3609 May 28 23:29	13°II03'06	
conjunction	3602 May 26 21:13	6°II34'25 -15°16'34		conjunction	3609 Jun 02 08:04	13°II09'00 -14°25'51	
minimum elong	3602 May 26 21:24	6°II34'25 15°16'34		minimum elong	3609 Jun 02 08:14	13°II09'01 14°25'51	
max. Earth dist.	3602 May 27 19:25	6°II35'40 50.36790 AU		max. Earth dist.	3609 Jun 02 22:48	13°II09'50 50.29521 AU	
retrograde	3602 Sep 06 12:37	8°II03'22		morning rise	3609 Jun 06 17:12	13°II14'56	
opposition	3602 Nov 29 08:06	7°II03'58 -15°50'31		retrograde	3609 Sep 12 18:42	14°II37'34	
min. Earth dist.	3602 Nov 28 12:21	7°II04'53 48.44223 AU		opposition	3609 Dec 05 14:08	13°II38'16 -14°56'58	
direct	3603 Feb 18 19:25	6°II05'38		min. Earth dist.	3609 Dec 05 01:30	13°II38'52 48.34924 AU	
				direct	3610 Feb 25 05:06	12°II39'56	
conjunction	3603 May 28 02:16	7°II31'04 -15°10'01		evening set	3610 May 29 16:57	13°II58'40	
minimum elong	3603 May 28 02:25	7°II31'05 15°10'01					
max. Earth dist.	3603 May 28 22:02	7°II32'12 50.36894 AU		conjunction	3610 Jun 03 13:05	14°II05'13 -14°17'38	
retrograde	3603 Sep 07 15:28	8°II59'57		minimum elong	3610 Jun 03 13:16	14°II05'13 14°17'39	
opposition	3603 Nov 30 12:29	8°II00'34 -15°43'35		max. Earth dist.	3610 Jun 04 02:44	14°II05'59 50.27225 AU	
min. Earth dist.	3603 Nov 29 17:55	8°II01'25 48.43982 AU		morning rise	3610 Jun 08 09:51	14°II11'49	
direct	3604 Feb 20 01:13	7°II02'13		retrograde	3610 Sep 14 00:54	15°II33'47	
				opposition	3610 Dec 06 18:18	14°II34'31 -14°48'20	
conjunction	3604 May 28 07:22	8°II27'37 -15°03'15		min. Earth dist.	3610 Dec 06 05:48	14°II35'06 48.32322 AU	
minimum elong	3604 May 28 07:33	8°II27'38 15°03'14		direct	3611 Feb 26 09:33	13°II36'11	
max. Earth dist.	3604 May 29 02:47	8°II28'43 50.36531 AU		evening set	3611 May 30 11:04	14°II54'21	
retrograde	3604 Sep 07 19:08	9°II56'26					
opposition	3604 Nov 30 16:54	8°II57'03 -15°36'26		conjunction	3611 Jun 04 18:00	15°II01'30 -14°09'12	
min. Earth dist.	3604 Nov 30 00:03	8°II57'50 48.43299 AU		minimum elong	3611 Jun 04 18:11	15°II01'30 14°09'12	
direct	3605 Feb 20 08:11	7°II58'43		max. Earth dist.	3611 Jun 05 06:03	15°II02'10 50.24554 AU	
evening set	3605 May 28 01:27	9°II22'05		morning rise	3611 Jun 10 01:41	15°II08'42	
				retrograde	3611 Sep 15 09:34	16°II30'04	
conjunction	3605 May 29 12:18	9°II24'03 -14°56'15		opposition	3611 Dec 07 22:35	15°II30'50 -14°39'27	
minimum elong	3605 May 29 12:28	9°II24'03 14°56'15		min. Earth dist.	3611 Dec 07 12:11	15°II31'19 48.29323 AU	
morning rise	3605 May 30 23:30	9°II26'02		direct	3612 Feb 27 10:37	14°II32'31	
max. Earth dist.	3605 May 30 06:28	9°II25'05 50.35774 AU		evening set	3612 May 30 06:08	15°II50'08	
retrograde	3605 Sep 09 01:14	10°II52'47					
opposition	3605 Dec 01 21:09	9°II53'25 -15°29'02		conjunction	3612 Jun 04 23:10	15°II57'51 -14°00'32	
min. Earth dist.	3605 Dec 01 04:18	9°II54'13 48.42243 AU		minimum elong	3612 Jun 04 23:22	15°II57'52 14°00'33	
direct	3606 Feb 21 12:20	8°II55'04		max. Earth dist.	3612 Jun 05 10:49	15°II58'30 50.21461 AU	
evening set	3606 May 28 05:42	10°II17'01		morning rise	3612 Jun 10 16:55	16°II05'37	
				retrograde	3612 Sep 15 13:38	17°II26'25	
conjunction	3606 May 30 17:17	10°II20'22 -14°49'01		opposition	3612 Dec 08 02:47	16°II27'13 -14°30'22	
minimum elong	3606 May 30 17:29	10°II20'23 14°49'00		min. Earth dist.	3612 Dec 07 17:04	16°II27'40 48.25855 AU	
max. Earth dist.	3606 May 31 09:59	10°II21'19 50.34653 AU		direct	3613 Feb 27 15:02	15°II28'53	
morning rise	3606 Jun 02 05:22	10°II23'46		evening set	3613 May 31 01:43	16°II46'00	
retrograde	3606 Sep 10 08:25	11°II49'03					
min. Earth dist.	3606 Dec 02 10:20	10°II50'24 48.40855 AU		conjunction	3613 Jun 06 04:14	16°II54'16 -13°51'40	
opposition	3606 Dec 03 01:23	10°II49'42 -15°21'24		minimum elong	3613 Jun 06 04:25	16°II54'16 13°51'40	
direct	3607 Feb 22 14:15	9°II51'21		max. Earth dist.	3613 Jun 06 13:24	16°II54'47 50.17872 AU	
evening set	3607 May 28 17:11	11°II12'16		morning rise	3613 Jun 12 07:35	17°II02'33	
				retrograde	3613 Sep 16 17:39	18°II22'49	
conjunction	3607 May 31 22:20	11°II16'37 -14°41'32		opposition	3613 Dec 09 07:07	17°II23'37 -14°21'03	
minimum elong	3607 May 31 22:30	11°II16'38 14°41'32		min. Earth dist.	3613 Dec 08 22:50	17°II24'00 48.21868 AU	

direct	3614 Feb 28 19:24	16°II25'17	retrograde	3620 Sep 23 01:58	24°II57'30
evening set	3614 May 31 21:54	17°II41'55	opposition	3620 Dec 15 12:45	23°II58'08 -13°09'44
			min. Earth dist.	3620 Dec 15 11:41	23°II58'11 47.81127 AU
conjunction	3614 Jun 07 09:34	17°II50'41 -13°42'36	direct	3621 Mar 07 05:09	22°II59'29
minimum elong	3614 Jun 07 09:45	17°II50'42 13°42'36	evening set	3621 Jun 05 03:19	24°II13'27
max. Earth dist.	3614 Jun 07 17:54	17°II51'09 50.13735 AU			
morning rise	3614 Jun 13 22:02	17°II59'30	conjunction	3621 Jun 13 21:39	24°II25'18 -12°33'00
retrograde	3614 Sep 17 20:19	19°II19'15	minimum elong	3621 Jun 13 21:51	24°II25'19 12°33'01
opposition	3614 Dec 10 11:21	18°II20'02 -14°11'33	max. Earth dist.	3621 Jun 13 21:26	24°II25'18 49.72623 AU
min. Earth dist.	3614 Dec 10 05:04	18°II20'19 48.17326 AU	morning rise	3621 Jun 22 17:14	24°II37'14
direct	3615 Mar 02 02:30	17°II21'39	retrograde	3621 Sep 24 11:00	25°II54'06
evening set	3615 Jun 01 18:34	18°II37'50	opposition	3621 Dec 16 17:11	24°II54'44 -12°58'35
			min. Earth dist.	3621 Dec 16 17:57	24°II54'42 47.73946 AU
conjunction	3615 Jun 08 14:46	18°II47'05 -13°33'20	direct	3622 Mar 08 06:16	23°II56'04
minimum elong	3615 Jun 08 14:58	18°II47'06 13°33'19	evening set	3622 Jun 06 01:42	25°II09'45
max. Earth dist.	3615 Jun 08 21:27	18°II47'28 50.09079 AU			
morning rise	3615 Jun 15 11:52	18°II56'23	conjunction	3622 Jun 15 03:05	25°II22'00 -12°22'08
retrograde	3615 Sep 19 01:37	20°II15'39	minimum elong	3622 Jun 15 03:16	25°II22'01 12°22'07
opposition	3615 Dec 11 15:34	19°II16'24 -14°01'49	max. Earth dist.	3622 Jun 15 02:44	25°II21'59 49.65427 AU
min. Earth dist.	3615 Dec 11 09:34	19°II16'41 48.12278 AU	morning rise	3622 Jun 24 05:31	25°II34'20
direct	3616 Mar 02 07:12	18°II17'59	retrograde	3622 Sep 25 16:15	26°II50'53
evening set	3616 Jun 01 15:12	19°II33'44	opposition	3622 Dec 17 21:22	25°II51'32 -12°47'11
			min. Earth dist.	3622 Dec 17 22:30	25°II51'29 47.66425 AU
conjunction	3616 Jun 08 19:45	19°II43'26 -13°23'51	direct	3623 Mar 09 09:43	24°II52'50
minimum elong	3616 Jun 08 19:56	19°II43'27 13°23'51	evening set	3623 Jun 07 00:22	26°II06'16
max. Earth dist.	3616 Jun 09 00:40	19°II43'43 50.03926 AU			
morning rise	3616 Jun 16 01:18	19°II53'13	conjunction	3623 Jun 16 08:24	26°II18'55 -12°11'01
retrograde	3616 Sep 19 08:25	21°II12'01	minimum elong	3623 Jun 16 08:35	26°II18'55 12°11'02
opposition	3616 Dec 11 19:56	20°II12'44 -13°51'53	max. Earth dist.	3623 Jun 16 05:55	26°II18'46 49.57871 AU
min. Earth dist.	3616 Dec 11 16:04	20°II12'55 48.06770 AU	morning rise	3623 Jun 25 17:46	26°II31'38
direct	3617 Mar 03 10:12	19°II14'16	retrograde	3623 Sep 26 21:11	27°II47'54
evening set	3617 Jun 02 12:25	20°II29'36	opposition	3623 Dec 19 01:48	26°II48'32 -12°35'33
			min. Earth dist.	3623 Dec 19 04:17	26°II48'25 47.58523 AU
conjunction	3617 Jun 10 01:02	20°II39'46 -13°14'08	direct	3624 Mar 09 13:43	25°II49'49
minimum elong	3617 Jun 10 01:14	20°II39'46 13°14'09	evening set	3624 Jun 06 23:02	27°II03'00
max. Earth dist.	3617 Jun 10 05:48	20°II40'02 49.98349 AU			
morning rise	3617 Jun 17 14:33	20°II49'59	conjunction	3624 Jun 16 13:49	27°II16'03 -11°59'41
retrograde	3617 Sep 20 13:05	22°II08'20	minimum elong	3624 Jun 16 14:01	27°II16'03 11°59'40
opposition	3617 Dec 13 00:02	21°II09'02 -13°41'43	max. Earth dist.	3624 Jun 16 10:45	27°II15'52 49.49883 AU
min. Earth dist.	3617 Dec 12 20:39	21°II09'12 48.00855 AU	morning rise	3624 Jun 26 05:48	27°II29'09
direct	3618 Mar 04 13:48	20°II10'30	retrograde	3624 Sep 26 23:33	28°II45'09
evening set	3618 Jun 03 09:53	21°II25'27	opposition	3624 Dec 19 06:22	27°II45'46 -12°23'41
			min. Earth dist.	3624 Dec 19 10:36	27°II45'34 47.50149 AU
conjunction	3618 Jun 11 06:10	21°II36'04 -13°04'13	direct	3625 Mar 10 21:25	26°II47'00
minimum elong	3618 Jun 11 06:20	21°II36'05 13°04'13	evening set	3625 Jun 07 22:19	27°II59'58
max. Earth dist.	3618 Jun 11 08:43	21°II36'13 49.92394 AU			
morning rise	3618 Jun 19 03:32	21°II46'43	conjunction	3625 Jun 17 19:29	28°II13'22 -11°48'08
retrograde	3618 Sep 21 18:15	23°II04'40	minimum elong	3625 Jun 17 19:40	28°II13'23 11°48'08
opposition	3618 Dec 14 04:17	22°II05'20 -13°31'18	max. Earth dist.	3625 Jun 17 14:43	28°II13'06 49.41410 AU
min. Earth dist.	3618 Dec 14 01:54	22°II05'27 47.94594 AU	morning rise	3625 Jun 27 17:55	28°II26'52
direct	3619 Mar 05 17:29	21°II06'46	retrograde	3625 Sep 28 05:04	29°II42'35
evening set	3619 Jun 04 07:24	22°II21'22	opposition	3625 Dec 20 10:46	28°II43'11 -12°11'36
			min. Earth dist.	3625 Dec 20 15:33	28°II42'57 47.41261 AU
conjunction	3619 Jun 12 11:19	22°II32'23 -12°54'03	direct	3626 Mar 12 02:41	27°II44'21
minimum elong	3619 Jun 12 11:31	22°II32'24 12°54'03	evening set	3626 Jun 08 21:44	28°II57'05
max. Earth dist.	3619 Jun 12 13:38	22°II32'31 49.86097 AU			
morning rise	3619 Jun 20 16:17	22°II43'29	conjunction	3626 Jun 19 01:12	29°II10'51 -11°36'22
retrograde	3619 Sep 22 20:27	24°II01'02	minimum elong	3626 Jun 19 01:24	29°II10'52 11°36'22
opposition	3619 Dec 15 08:33	23°II01'41 -13°20'38	max. Earth dist.	3626 Jun 18 18:19	29°II10'28 49.32391 AU
min. Earth dist.	3619 Dec 15 07:30	23°II01'44 47.88003 AU	morning rise	3626 Jun 29 06:05	29°II24'43
direct	3620 Mar 06 00:21	22°II03'04		3626 Jul 27 03:47	0°☿
evening set	3620 Jun 04 05:19	23°II17'21	retrograde	3626 Sep 29 12:35	0°☿40'11
				3626 Dec 04 06:27	30°♄II
conjunction	3620 Jun 12 16:29	23°II28'47 -12°43'39	opposition	3626 Dec 21 15:28	29°II40'43 -11°59'19
minimum elong	3620 Jun 12 16:40	23°II28'48 12°43'39	min. Earth dist.	3626 Dec 21 22:36	29°II40'23 47.31828 AU
max. Earth dist.	3620 Jun 12 17:46	23°II28'51 49.79511 AU	direct	3627 Mar 13 06:03	28°II41'49
morning rise	3620 Jun 21 04:44	23°II40'18	evening set	3627 Jun 09 21:12	29°II54'18

	3627 Jun 14 02:12	0°♄	morning rise	3633 Jul 07 15:06	6°♄11'29
			retrograde	3633 Oct 06 04:58	7°♄25'20
conjunction	3627 Jun 20 06:54	0°♄08'26 -11°24'24	opposition	3633 Dec 28 00:10	6°♄25'19 -10°26'38
minimum elong	3627 Jun 20 07:05	0°♄08'27 11°24'25	min. Earth dist.	3633 Dec 28 13:52	6°♄24'40 46.54379 AU
max. Earth dist.	3627 Jun 19 23:29	0°♄08'01 49.22844 AU	direct	3634 Mar 19 13:22	5°♄25'41
morning rise	3627 Jun 30 17:48	0°♄22'40	evening set	3634 Jun 14 22:53	6°♄36'58
retrograde	3627 Sep 30 19:06	1°♄37'51	max. Earth dist.	3634 Jun 26 08:43	6°♄52'36 48.45237 AU
opposition	3627 Dec 22 19:59	0°♄38'19 -11°46'48			
min. Earth dist.	3627 Dec 23 03:45	0°♄37'57 47.21875 AU	conjunction	3634 Jun 27 00:01	6°♄53'29 -9°54'11
	3628 Jan 28 13:45	30°♄II	minimum elong	3634 Jun 27 00:12	6°♄53'30 9°54'12
direct	3628 Mar 13 09:25	29°♄II39'19	morning rise	3634 Jul 09 02:32	7°♄10'06
	3628 Apr 26 16:44	0°♄	retrograde	3634 Oct 07 08:27	8°♄23'49
evening set	3628 Jun 09 20:59	0°♄51'35	opposition	3634 Dec 29 05:12	7°♄23'44 -10°12'23
			min. Earth dist.	3634 Dec 29 20:10	7°♄23'01 46.42104 AU
conjunction	3628 Jun 20 12:32	1°♄06'05 -11°12'13	direct	3635 Mar 20 20:35	6°♄24'01
minimum elong	3628 Jun 20 12:44	1°♄06'06 11°12'14	evening set	3635 Jun 15 23:57	7°♄35'13
max. Earth dist.	3628 Jun 20 02:42	1°♄05'32 49.12811 AU			
morning rise	3628 Jul 01 05:36	1°♄20'40	conjunction	3635 Jun 28 06:08	7°♄52'03 -9°40'19
retrograde	3628 Oct 01 01:39	2°♄35'35	minimum elong	3635 Jun 28 06:19	7°♄52'04 9°40'19
opposition	3628 Dec 23 00:35	1°♄35'58 -11°34'04	max. Earth dist.	3635 Jun 27 13:38	7°♄51'06 48.32955 AU
min. Earth dist.	3628 Dec 23 09:40	1°♄35'32 47.11477 AU	morning rise	3635 Jul 10 13:47	8°♄08'59
direct	3629 Mar 14 12:40	0°♄36'51	retrograde	3635 Oct 08 13:57	9°♄22'36
evening set	3629 Jun 10 20:44	1°♄48'55	opposition	3635 Dec 30 10:11	8°♄22'28 -9°57'52
			min. Earth dist.	3635 Dec 31 01:23	8°♄21'44 46.29494 AU
conjunction	3629 Jun 21 18:20	2°♄03'46 -10°59'49	direct	3636 Mar 21 02:17	7°♄22'40
minimum elong	3629 Jun 21 18:31	2°♄03'46 10°59'49	evening set	3636 Jun 16 01:19	8°♄33'48
max. Earth dist.	3629 Jun 21 07:59	2°♄03'10 49.02345 AU			
morning rise	3629 Jul 02 17:16	2°♄18'41	conjunction	3636 Jun 28 12:31	8°♄50'58 -9°26'13
retrograde	3629 Oct 02 04:16	3°♄33'21	minimum elong	3636 Jun 28 12:42	8°♄50'58 9°26'14
opposition	3629 Dec 24 05:14	2°♄33'39 -11°21'05	max. Earth dist.	3636 Jun 27 18:16	8°♄49'55 48.20285 AU
min. Earth dist.	3629 Dec 24 15:50	2°♄33'09 47.00667 AU	morning rise	3636 Jul 11 01:18	9°♄08'13
direct	3630 Mar 15 19:35	1°♄34'26	retrograde	3636 Oct 08 21:45	10°♄21'44
evening set	3630 Jun 11 20:54	2°♄46'18	opposition	3636 Dec 30 15:24	9°♄21'33 -9°43'06
			min. Earth dist.	3636 Dec 31 08:55	9°♄20'43 46.16472 AU
conjunction	3630 Jun 23 00:09	3°♄01'28 -10°47'11	direct	3637 Mar 22 06:21	8°♄21'40
minimum elong	3630 Jun 23 00:21	3°♄01'29 10°47'11	evening set	3637 Jun 17 02:58	9°♄32'44
max. Earth dist.	3630 Jun 22 12:37	3°♄00'49 48.91511 AU			
morning rise	3630 Jul 04 04:48	3°♄16'45	conjunction	3637 Jun 29 19:11	9°♄50'13 -9°11'53
retrograde	3630 Oct 03 07:47	4°♄31'11	minimum elong	3637 Jun 29 19:22	9°♄50'14 9°11'52
opposition	3630 Dec 25 09:43	3°♄31'23 -11°07'51	max. Earth dist.	3637 Jun 29 00:22	9°♄49'08 48.07174 AU
min. Earth dist.	3630 Dec 25 20:29	3°♄30'53 46.89519 AU	morning rise	3637 Jul 12 12:44	10°♄07'48
direct	3631 Mar 17 02:34	2°♄32'03	retrograde	3637 Oct 10 05:24	11°♄21'13
evening set	3631 Jun 12 21:07	3°♄43'44	opposition	3637 Dec 31 20:40	10°♄20'58 -9°28'07
			min. Earth dist.	3638 Jan 01 14:45	10°♄20'06 46.02964 AU
conjunction	3631 Jun 24 05:58	3°♄59'15 -10°34'18	direct	3638 Mar 23 10:40	9°♄20'58
minimum elong	3631 Jun 24 06:09	3°♄59'16 10°34'18	evening set	3638 Jun 18 05:02	10°♄32'01
max. Earth dist.	3631 Jun 23 16:49	3°♄58'30 48.80348 AU	max. Earth dist.	3638 Jun 30 04:21	10°♄48'34 47.93557 AU
morning rise	3631 Jul 05 16:22	4°♄14'52			
retrograde	3631 Oct 04 15:28	5°♄29'05	conjunction	3638 Jul 01 01:52	10°♄49'48 -8°57'19
opposition	3631 Dec 26 14:33	4°♄29'13 -10°54'22	minimum elong	3638 Jul 01 02:02	10°♄49'49 8°57'19
min. Earth dist.	3631 Dec 27 03:04	4°♄28'37 46.78074 AU	morning rise	3638 Jul 14 00:20	11°♄07'42
direct	3632 Mar 17 06:18	3°♄29'46	retrograde	3638 Oct 11 14:01	12°♄21'01
evening set	3632 Jun 12 21:20	4°♄41'17	opposition	3639 Jan 02 02:01	11°♄20'41 -9°12'53
			min. Earth dist.	3639 Jan 02 21:47	11°♄19'44 45.88955 AU
conjunction	3632 Jun 24 11:49	4°♄57'08 -10°21'11	direct	3639 Mar 24 14:02	10°♄20'34
minimum elong	3632 Jun 24 12:00	4°♄57'09 10°21'11	evening set	3639 Jun 19 07:06	11°♄31'34
max. Earth dist.	3632 Jun 23 22:47	4°♄56'24 48.68914 AU	max. Earth dist.	3639 Jul 01 10:32	11°♄48'23 47.79435 AU
morning rise	3632 Jul 06 03:35	5°♄13'05			
retrograde	3632 Oct 04 21:56	6°♄27'07	conjunction	3639 Jul 02 08:45	11°♄49'41 -8°42'32
opposition	3632 Dec 26 19:21	5°♄27'10 -10°40'38	minimum elong	3639 Jul 02 08:56	11°♄49'41 8°42'31
min. Earth dist.	3632 Dec 27 07:52	5°♄26'35 46.66354 AU	morning rise	3639 Jul 15 11:46	12°♄07'53
direct	3633 Mar 18 09:51	4°♄27'37	retrograde	3639 Oct 12 19:06	13°♄21'07
evening set	3633 Jun 13 22:04	5°♄39'01	opposition	3640 Jan 03 07:35	12°♄20'41 -8°57'24
			min. Earth dist.	3640 Jan 04 04:50	12°♄19'39 45.74451 AU
conjunction	3633 Jun 25 17:47	5°♄55'12 -10°07'48	direct	3640 Mar 24 20:55	11°♄20'25
minimum elong	3633 Jun 25 17:58	5°♄55'12 10°07'48	evening set	3640 Jun 19 09:22	12°♄31'24
max. Earth dist.	3633 Jun 25 02:49	5°♄54'20 48.57215 AU			

conjunction	3640 Jul 02 15:29	12°☾49'48 -8°27'30	direct	3647 Apr 01 15:47	18°☾27'07
minimum elong	3640 Jul 02 15:39	12°☾49'49 8°27'31	evening set	3647 Jun 26 08:27	19°☾38'20
max. Earth dist.	3640 Jul 01 15:45	12°☾48'25 47.64857 AU			
morning rise	3640 Jul 15 23:05	13°☾08'19	conjunction	3647 Jul 10 18:59	19°☾58'46 -6°35'23
retrograde	3640 Oct 12 23:31	14°☾21'29	minimum elong	3647 Jul 10 19:08	19°☾58'46 6°35'24
opposition	3641 Jan 03 13:07	13°☾20'55 -8°41'41	max. Earth dist.	3647 Jul 09 12:18	19°☾56'56 46.53520 AU
min. Earth dist.	3641 Jan 04 10:53	13°☾19'52 45.59514 AU	morning rise	3647 Jul 25 06:41	20°☾19'18
direct	3641 Mar 26 04:37	12°☾20'31	retrograde	3647 Oct 21 03:08	21°☾32'28
evening set	3641 Jun 20 11:58	13°☾31'28	opposition	3648 Jan 11 07:11	20°☾31'03 -6°44'12
			min. Earth dist.	3648 Jan 12 11:29	20°☾29'39 44.46249 AU
conjunction	3641 Jul 03 22:30	13°☾50'10 -8°12'15	direct	3648 Apr 01 21:32	19°☾29'35
minimum elong	3641 Jul 03 22:40	13°☾50'11 8°12'15	evening set	3648 Jun 26 12:58	20°☾40'55
max. Earth dist.	3641 Jul 02 20:58	13°☾48'41 47.49848 AU	max. Earth dist.	3648 Jul 09 17:52	20°☾59'40 46.36453 AU
morning rise	3641 Jul 17 10:34	14°☾08'59			
retrograde	3641 Oct 14 06:59	15°☾22'06	conjunction	3648 Jul 11 02:53	21°☾01'39 -6°18'21
opposition	3642 Jan 04 18:46	14°☾21'25 -8°25'42	minimum elong	3648 Jul 11 03:01	21°☾01'39 6°18'20
min. Earth dist.	3642 Jan 05 18:33	14°☾20'15 45.44187 AU	morning rise	3648 Jul 25 18:16	21°☾22'27
direct	3642 Mar 27 10:08	13°☾20'51	retrograde	3648 Oct 21 15:02	22°☾35'41
evening set	3642 Jun 21 14:45	14°☾31'48	opposition	3649 Jan 11 13:53	21°☾34'10 -6°26'20
max. Earth dist.	3642 Jul 04 03:58	14°☾49'18 47.34485 AU	min. Earth dist.	3649 Jan 12 19:58	21°☾32'41 44.28866 AU
			direct	3649 Apr 03 00:30	20°☾32'32
conjunction	3642 Jul 05 05:41	14°☾50'48 -7°56'45	evening set	3649 Jun 27 17:53	21°☾44'01
minimum elong	3642 Jul 05 05:50	14°☾50'48 7°56'45	max. Earth dist.	3649 Jul 11 01:45	22°☾03'00 46.18955 AU
morning rise	3642 Jul 18 21:54	15°☾09'54			
retrograde	3642 Oct 15 15:29	16°☾22'58	conjunction	3649 Jul 12 11:22	22°☾05'00 -6°01'03
opposition	3643 Jan 06 00:28	15°☾22'10 -8°09'28	minimum elong	3649 Jul 12 11:30	22°☾05'01 6°01'04
min. Earth dist.	3643 Jan 07 00:22	15°☾21'00 45.28524 AU	morning rise	3649 Jul 27 05:57	22°☾26'06
direct	3643 Mar 28 13:48	14°☾21'27	retrograde	3649 Oct 22 23:36	23°☾39'24
evening set	3643 Jun 22 17:44	15°☾32'24	opposition	3650 Jan 12 20:41	22°☾37'45 -6°08'12
max. Earth dist.	3643 Jul 05 08:57	15°☾50'04 47.18806 AU	min. Earth dist.	3650 Jan 14 04:11	22°☾36'11 44.11018 AU
			direct	3650 Apr 04 07:26	21°☾35'57
conjunction	3643 Jul 06 12:39	15°☾51'42 -7°40'59	evening set	3650 Jun 28 23:18	22°☾47'34
minimum elong	3643 Jul 06 12:49	15°☾51'42 7°41'00	max. Earth dist.	3650 Jul 12 08:20	23°☾06'41 46.00987 AU
morning rise	3643 Jul 20 09:10	16°☾11'05			
retrograde	3643 Oct 17 00:25	17°☾24'08	conjunction	3650 Jul 13 19:56	23°☾08'50 -5°43'31
opposition	3644 Jan 07 06:23	16°☾23'12 -7°52'58	minimum elong	3650 Jul 13 20:04	23°☾08'50 5°43'30
min. Earth dist.	3644 Jan 08 07:34	16°☾21'58 45.12584 AU	morning rise	3650 Jul 28 17:50	23°☾30'11
direct	3644 Mar 28 17:45	15°☾22'20	retrograde	3650 Oct 24 06:51	24°☾43'35
evening set	3644 Jun 22 20:53	16°☾33'19	opposition	3651 Jan 14 03:43	23°☾41'46 -5°49'48
			min. Earth dist.	3651 Jan 15 12:02	23°☾40'09 43.92692 AU
conjunction	3644 Jul 06 20:00	16°☾52'54 -7°24'59	direct	3651 Apr 05 15:35	22°☾39'46
minimum elong	3644 Jul 06 20:09	16°☾52'54 7°24'59	evening set	3651 Jun 30 04:46	23°☾51'32
max. Earth dist.	3644 Jul 05 16:06	16°☾51'15 47.02859 AU	max. Earth dist.	3651 Jul 13 15:04	24°☾10'48 45.82518 AU
morning rise	3644 Jul 20 20:25	17°☾12'35			
retrograde	3644 Oct 17 05:35	18°☾25'37	conjunction	3651 Jul 15 04:32	24°☾13'04 -5°25'44
opposition	3645 Jan 07 12:22	17°☾24'33 -7°36'11	minimum elong	3651 Jul 15 04:39	24°☾13'04 5°25'45
min. Earth dist.	3645 Jan 08 14:27	17°☾23'16 44.96386 AU	morning rise	3651 Jul 30 05:29	24°☾34'41
direct	3645 Mar 30 01:42	16°☾23'31	retrograde	3651 Oct 25 13:23	25°☾48'11
evening set	3645 Jun 24 00:27	17°☾34'34	opposition	3652 Jan 15 11:02	24°☾46'11 -5°31'09
max. Earth dist.	3645 Jul 06 22:20	17°☾52'43 46.86679 AU	min. Earth dist.	3652 Jan 16 21:29	24°☾44'28 43.73884 AU
			direct	3652 Apr 06 00:30	23°☾43'59
conjunction	3645 Jul 08 03:26	17°☾54'27 -7°08'42	evening set	3652 Jun 30 10:37	24°☾55'54
minimum elong	3645 Jul 08 03:36	17°☾54'27 7°08'43	max. Earth dist.	3652 Jul 13 23:27	25°☾15'23 45.63599 AU
morning rise	3645 Jul 22 07:50	18°☾14'25			
retrograde	3645 Oct 18 11:38	19°☾27'27	conjunction	3652 Jul 15 13:28	25°☾17'41 -5°07'42
opposition	3646 Jan 08 18:28	18°☾26'16 -7°19'08	minimum elong	3652 Jul 15 13:35	25°☾17'42 5°07'42
min. Earth dist.	3646 Jan 09 20:42	18°☾24'59 44.79954 AU	morning rise	3652 Jul 30 17:17	25°☾39'34
direct	3646 Mar 31 09:16	17°☾25'06	retrograde	3652 Oct 25 21:53	26°☾53'11
evening set	3646 Jun 25 04:20	18°☾36'13	opposition	3653 Jan 15 18:14	25°☾51'00 -5°12'14
max. Earth dist.	3646 Jul 08 04:37	18°☾54'34 46.70236 AU	min. Earth dist.	3653 Jan 17 04:59	25°☾49'16 43.54645 AU
			direct	3653 Apr 07 07:34	24°☾48'34
conjunction	3646 Jul 09 11:06	18°☾56'23 -6°52'11	evening set	3653 Jul 01 16:56	26°☾00'40
minimum elong	3646 Jul 09 11:15	18°☾56'23 6°52'10	max. Earth dist.	3653 Jul 15 06:03	26°☾20'15 45.44263 AU
morning rise	3646 Jul 23 19:16	19°☾16'38			
retrograde	3646 Oct 19 18:44	20°☾29'43	conjunction	3653 Jul 16 22:29	26°☾22'43 -4°49'25
opposition	3647 Jan 10 00:47	19°☾28'26 -7°01'48	minimum elong	3653 Jul 16 22:36	26°☾22'43 4°49'25
min. Earth dist.	3647 Jan 11 04:56	19°☾27'03 44.63255 AU	morning rise	3653 Aug 01 05:15	26°☾44'50

retrograde	3653 Oct 27 08:47	27°☾58'36		min. Earth dist.	3660 Jan 25 20:32	3°♂36'12	42.11895 AU
opposition	3654 Jan 17 01:47	26°☾56'13	-4°53'02	direct	3660 Apr 14 11:16	2°♂34'20	
min. Earth dist.	3654 Jan 18 14:24	26°☾54'23	43.35028 AU	evening set	3660 Jul 08 22:35	3°♂48'28	
direct	3654 Apr 08 12:45	25°☾53'33		max. Earth dist.	3660 Jul 22 20:15	4°♂09'12	44.01174 AU
evening set	3654 Jul 02 23:24	27°☾05'51					
max. Earth dist.	3654 Jul 16 15:03	27°☾25'39	45.24562 AU	conjunction	3660 Jul 24 19:32	4°♂12'11	-2°34'06
				minimum elong	3660 Jul 24 19:36	4°♂12'11	2°34'07
conjunction	3654 Jul 18 07:47	27°☾28'09	-4°30'53	morning rise	3660 Aug 09 17:12	4°♂35'57	
minimum elong	3654 Jul 18 07:54	27°☾28'09	4°30'52	retrograde	3660 Nov 04 09:21	5°♂51'25	
morning rise	3654 Aug 02 16:59	27°☾50'31		opposition	3661 Jan 24 12:02	4°♂47'44	-2°30'46
retrograde	3654 Oct 28 17:50	29°☾04'25		min. Earth dist.	3661 Jan 26 06:32	4°♂45'33	41.90519 AU
opposition	3655 Jan 18 09:25	28°☾01'51	-4°33'34	direct	3661 Apr 15 19:17	3°♂43'30	
min. Earth dist.	3655 Jan 19 22:48	27°☾59'58	43.15078 AU	evening set	3661 Jul 10 08:07	4°♂58'03	
direct	3655 Apr 09 21:04	26°☾58'57		max. Earth dist.	3661 Jul 24 06:00	5°♂18'54	43.79657 AU
evening set	3655 Jul 04 06:20	28°☾11'29					
max. Earth dist.	3655 Jul 17 22:51	28°☾31'26	45.04572 AU	conjunction	3661 Jul 26 06:39	5°♂21'59	-2°13'43
				minimum elong	3661 Jul 26 06:43	5°♂21'59	2°13'42
conjunction	3655 Jul 19 17:06	28°☾34'01	-4°12'04	morning rise	3661 Aug 11 05:39	5°♂45'58	
minimum elong	3655 Jul 19 17:12	28°☾34'02	4°12'05	retrograde	3661 Nov 05 18:19	7°♂01'46	
morning rise	3655 Aug 04 04:54	28°☾56'38		opposition	3662 Jan 25 21:29	5°♂57'54	-2°09'19
	3655 Sep 29 07:19	0°♂		min. Earth dist.	3662 Jan 27 17:51	5°♂55'36	41.68757 AU
retrograde	3655 Oct 30 03:30	0°♂10'43		direct	3662 Apr 17 07:18	4°♂53'26	
	3655 Nov 30 01:28	30°♂☾		evening set	3662 Jul 11 18:08	6°♂08'22	
opposition	3656 Jan 19 17:14	29°☾07'57	-4°13'49	max. Earth dist.	3662 Jul 25 16:25	6°♂29'22	43.57747 AU
min. Earth dist.	3656 Jan 21 07:04	29°☾06'02	42.94876 AU				
direct	3656 Apr 10 05:28	28°☾04'49		conjunction	3662 Jul 27 17:59	6°♂32'32	-1°53'05
evening set	3656 Jul 04 13:26	29°☾17'36		minimum elong	3662 Jul 27 18:02	6°♂32'32	1°53'05
max. Earth dist.	3656 Jul 18 07:22	29°☾37'43	44.84325 AU	morning rise	3662 Aug 12 18:12	6°♂56'44	
				retrograde	3662 Nov 07 03:58	8°♂12'53	
conjunction	3656 Jul 20 02:39	29°☾40'23	-3°53'01	opposition	3663 Jan 27 07:01	7°♂08'48	-1°47'35
minimum elong	3656 Jul 20 02:45	29°☾40'24	3°53'01	min. Earth dist.	3663 Jan 29 03:42	7°♂06'28	41.46592 AU
	3656 Aug 02 10:52	0°♂		direct	3663 Apr 18 18:06	6°♂04'03	
morning rise	3656 Aug 04 16:43	0°♂03'15		evening set	3663 Jul 13 04:42	7°♂19'26	
retrograde	3656 Oct 30 11:31	1°♂17'33		max. Earth dist.	3663 Jul 27 01:36	7°♂40'28	43.35419 AU
opposition	3657 Jan 20 01:27	0°♂14'35	-3°53'47				
min. Earth dist.	3657 Jan 21 16:54	0°♂12'34	42.74441 AU	conjunction	3663 Jul 29 05:35	7°♂43'47	-1°32'11
	3657 Feb 01 02:20	30°♂☾		minimum elong	3663 Jul 29 05:37	7°♂43'47	1°32'11
direct	3657 Apr 11 14:32	29°☾11'13		morning rise	3663 Aug 14 06:54	8°♂08'11	
	3657 Jun 18 06:04	0°♂		retrograde	3663 Nov 08 16:09	9°♂24'43	
evening set	3657 Jul 05 21:05	0°♂24'18		opposition	3664 Jan 28 17:00	8°♂20'23	-1°25'35
max. Earth dist.	3657 Jul 19 17:00	0°♂44'37	44.63873 AU	min. Earth dist.	3664 Jan 30 15:51	8°♂17'56	41.24035 AU
				direct	3664 Apr 19 01:52	7°♂15'21	
conjunction	3657 Jul 21 12:34	0°♂47'19	-3°33'41	evening set	3664 Jul 13 15:30	8°♂31'10	
minimum elong	3657 Jul 21 12:39	0°♂47'19	3°33'41	max. Earth dist.	3664 Jul 27 13:13	8°♂52'22	43.12709 AU
morning rise	3657 Aug 06 04:45	1°♂10'25					
retrograde	3657 Oct 31 20:18	2°♂24'57		conjunction	3664 Jul 29 17:30	8°♂55'43	-1°11'02
opposition	3658 Jan 21 09:37	1°♂21'49	-3°33'27	minimum elong	3664 Jul 29 17:32	8°♂55'43	1°11'03
min. Earth dist.	3658 Jan 23 00:54	1°♂19'48	42.53809 AU	morning rise	3664 Aug 14 19:34	9°♂20'18	
direct	3658 Apr 12 23:01	0°♂18'14		retrograde	3664 Nov 09 04:25	10°♂37'14	
evening set	3658 Jul 07 05:15	1°♂31'37		opposition	3665 Jan 29 03:10	9°♂32'38	-1°03'18
max. Earth dist.	3658 Jul 21 01:04	1°♂52'02	44.43213 AU	min. Earth dist.	3665 Jan 31 02:32	9°♂30'09	41.01110 AU
				direct	3665 Apr 20 11:35	8°♂27'18	
conjunction	3658 Jul 22 22:38	1°♂54'52	-3°14'05	evening set	3665 Jul 15 03:07	9°♂43'35	
minimum elong	3658 Jul 22 22:43	1°♂54'53	3°14'06	max. Earth dist.	3665 Jul 28 23:14	10°♂04'48	42.89656 AU
morning rise	3658 Aug 07 16:54	2°♂18'12					
retrograde	3658 Nov 02 09:21	3°♂33'02		conjunction	3665 Jul 31 05:41	10°♂08'19	-0°49'39
opposition	3659 Jan 22 18:16	2°♂29'42	-3°12'51	minimum elong	3665 Jul 31 05:42	10°♂08'19	0°49'38
min. Earth dist.	3659 Jan 24 11:09	2°♂27'37	42.32977 AU	morning rise	3665 Aug 16 08:33	10°♂33'05	
direct	3659 Apr 14 03:54	1°♂25'55		retrograde	3665 Nov 10 19:46	11°♂50'24	
evening set	3659 Jul 08 13:31	2°♂39'40		opposition	3666 Jan 30 13:29	10°♂45'32	-0°40'44
max. Earth dist.	3659 Jul 22 11:30	3°♂00'19	44.22330 AU	min. Earth dist.	3666 Feb 01 14:01	10°♂42'59	40.77888 AU
				direct	3666 Apr 21 20:00	9°♂39'52	
conjunction	3659 Jul 24 08:55	3°♂03'09	-2°54'13	evening set	3666 Jul 16 15:04	10°♂56'40	
minimum elong	3659 Jul 24 09:00	3°♂03'09	2°54'13	max. Earth dist.	3666 Jul 30 11:08	11°♂18'00	42.66308 AU
morning rise	3659 Aug 09 04:49	3°♂26'42					
retrograde	3659 Nov 03 20:59	4°♂41'50		conjunction	3666 Aug 01 18:15	11°♂21'34	-0°28'00
opposition	3660 Jan 24 03:05	3°♂38'20	-2°51'57	minimum elong	3666 Aug 01 18:16	11°♂21'34	0°28'00

morning rise	3666 Aug 17 21:23	11° Ω 46'30	minimum elong	3672 Aug 09 03:52	18° Ω 57'34	1°47'04
retrograde	3666 Nov 12 08:14	13° Ω 04'16	morning rise	3672 Aug 25 04:43	19° Ω 23'20	
opposition	3667 Feb 01 00:18	11° Ω 59'06 -0°17'54	retrograde	3672 Nov 19 20:01	20° Ω 44'31	
min. Earth dist.	3667 Feb 03 02:09	11° Ω 56'28 40.54411 AU	opposition	3673 Feb 07 23:40	19° Ω 37'44	2°04'44
direct	3667 Apr 23 07:08	10° Ω 53'07	min. Earth dist.	3673 Feb 10 05:10	19° Ω 34'48	39.10797 AU
evening set	3667 Jul 18 03:24	12° Ω 10'25	direct	3673 Apr 30 04:42	18° Ω 29'49	
max. Earth dist.	3667 Jul 31 23:02	12° Ω 31'51 42.42749 AU	evening set	3673 Jul 25 19:09	19° Ω 51'10	
			max. Earth dist.	3673 Aug 08 05:26	20° Ω 12'51	40.98560 AU
conjunction	3667 Aug 03 06:49	12° Ω 35'30 -0°06'08				
minimum elong	3667 Aug 03 06:49	12° Ω 35'30 0°06'08	conjunction	3673 Aug 10 19:09	20° Ω 17'03	2°10'23
behind sun begin	3667 Aug 03 00:38	12° Ω 35'07	minimum elong	3673 Aug 10 19:06	20° Ω 17'03	2°10'23
behind sun end	3667 Aug 03 13:00	12° Ω 35'52	morning rise	3673 Aug 26 18:34	20° Ω 42'55	
morning rise	3667 Aug 19 10:13	13° Ω 00'36	retrograde	3673 Nov 21 10:15	22° Ω 04'49	
asc. node	3667 Nov 12 05:58	14° Ω 18'47	opposition	3674 Feb 09 13:00	20° Ω 57'45	2°29'23
retrograde	3667 Nov 13 19:07	14° Ω 18'49	min. Earth dist.	3674 Feb 11 20:32	20° Ω 54'42	38.86297 AU
opposition	3668 Feb 02 11:16	13° Ω 13'23 0°05'13	direct	3674 May 01 17:49	19° Ω 49'31	
min. Earth dist.	3668 Feb 04 13:03	13° Ω 10'43 40.30761 AU	evening set	3674 Jul 27 12:17	21° Ω 11'41	
direct	3668 Apr 23 20:08	12° Ω 07'03	max. Earth dist.	3674 Aug 09 20:42	21° Ω 33'24	40.73870 AU
evening set	3668 Jul 18 16:27	13° Ω 24'55				
max. Earth dist.	3668 Aug 01 10:26	13° Ω 46'22 42.19016 AU	conjunction	3674 Aug 12 10:50	21° Ω 37'39	2°33'55
			minimum elong	3674 Aug 12 10:46	21° Ω 37'39	2°33'55
conjunction	3668 Aug 03 19:52	13° Ω 50'09 0°16'06	morning rise	3674 Aug 28 08:36	22° Ω 03'37	
minimum elong	3668 Aug 03 19:52	13° Ω 50'09 0°16'05	retrograde	3674 Nov 23 00:27	23° Ω 26'15	
morning rise	3668 Aug 19 23:16	14° Ω 15'24	opposition	3675 Feb 11 02:45	22° Ω 18'54	2°54'17
	3668 Sep 21 03:53	15° Ω	min. Earth dist.	3675 Feb 13 10:23	22° Ω 15'49	38.61523 AU
retrograde	3668 Nov 14 06:49	15° Ω 34'08	direct	3675 May 03 07:46	21° Ω 10'20	
	3669 Jan 08 07:32	15° Ω	evening set	3675 Jul 29 06:04	22° Ω 33'20	
opposition	3669 Feb 02 22:37	14° Ω 28'24 0°28'35	max. Earth dist.	3675 Aug 11 10:12	22° Ω 54'56	40.48885 AU
min. Earth dist.	3669 Feb 05 02:02	14° Ω 25'38 40.06978 AU				
direct	3669 Apr 25 07:15	13° Ω 21'45	conjunction	3675 Aug 14 02:41	22° Ω 59'23	2°57'39
evening set	3669 Jul 20 06:01	14° Ω 40'12	minimum elong	3675 Aug 14 02:36	22° Ω 59'23	2°57'38
	3669 Aug 01 20:57	15° Ω	morning rise	3675 Aug 29 22:40	23° Ω 25'25	
max. Earth dist.	3669 Aug 03 00:16	15° Ω 01'49 41.95172 AU	retrograde	3675 Nov 24 17:54	24° Ω 48'51	
			opposition	3676 Feb 12 17:01	23° Ω 41'11	3°19'25
conjunction	3669 Aug 05 09:25	15° Ω 05'36 0°38'29	min. Earth dist.	3676 Feb 15 02:26	23° Ω 37'59	38.36477 AU
minimum elong	3669 Aug 05 09:23	15° Ω 05'35 0°38'29	direct	3676 May 03 18:26	22° Ω 32'15	
morning rise	3669 Aug 21 12:26	15° Ω 30'59	evening set	3676 Jul 30 00:35	23° Ω 56'08	
retrograde	3669 Nov 15 19:36	16° Ω 50'16	max. Earth dist.	3676 Aug 12 02:39	24° Ω 17'45	40.23625 AU
opposition	3670 Feb 04 10:19	15° Ω 44'15 0°52'14				
min. Earth dist.	3670 Feb 06 13:29	15° Ω 41'30 39.83096 AU	conjunction	3676 Aug 14 19:18	24° Ω 22'14	3°21'36
	3670 Mar 13 17:32	15° Ω	minimum elong	3676 Aug 14 19:12	24° Ω 22'14	3°21'35
direct	3670 Apr 26 18:00	14° Ω 37'17	morning rise	3676 Aug 30 12:55	24° Ω 48'19	
	3670 Jun 09 05:57	15° Ω	retrograde	3676 Nov 25 10:13	26° Ω 12'34	
evening set	3670 Jul 21 20:19	15° Ω 56'23	opposition	3677 Feb 13 07:32	25° Ω 04'34	3°44'47
max. Earth dist.	3670 Aug 04 12:10	16° Ω 17'59 41.71229 AU	min. Earth dist.	3677 Feb 15 17:36	25° Ω 01'19	38.11174 AU
			direct	3677 May 05 07:52	23° Ω 55'15	
conjunction	3670 Aug 06 23:05	16° Ω 21'54 1°01'06	evening set	3677 Jul 31 20:05	25° Ω 20'04	
minimum elong	3670 Aug 06 23:03	16° Ω 21'54 1°01'06	max. Earth dist.	3677 Aug 13 17:49	25° Ω 41'33	39.98135 AU
morning rise	3670 Aug 23 01:42	16° Ω 47'27				
retrograde	3670 Nov 17 11:39	18° Ω 07'19	conjunction	3677 Aug 16 12:13	25° Ω 46'12	3°45'44
opposition	3671 Feb 05 22:23	17° Ω 01'02 1°16'09	minimum elong	3677 Aug 16 12:06	25° Ω 46'12	3°45'43
min. Earth dist.	3671 Feb 08 02:41	16° Ω 58'12 39.59133 AU	morning rise	3677 Sep 01 03:30	26° Ω 12'18	
direct	3671 Apr 28 03:19	15° Ω 53'45	retrograde	3677 Nov 27 05:55	27° Ω 37'24	
evening set	3671 Jul 23 11:07	17° Ω 13'33	opposition	3678 Feb 14 22:32	26° Ω 29'04	4°10'21
max. Earth dist.	3671 Aug 06 02:19	17° Ω 35'15 41.47178 AU	min. Earth dist.	3678 Feb 17 09:25	26° Ω 25'45	37.85685 AU
			direct	3678 May 06 22:18	25° Ω 19'21	
conjunction	3671 Aug 08 13:22	17° Ω 39'12 1°23'58	evening set	3678 Aug 02 16:08	26° Ω 45'09	
minimum elong	3671 Aug 08 13:19	17° Ω 39'12 1°23'58	max. Earth dist.	3678 Aug 15 10:20	27° Ω 06'33	39.72452 AU
morning rise	3671 Aug 24 15:03	18° Ω 04'52				
retrograde	3671 Nov 19 03:00	19° Ω 25'22	conjunction	3678 Aug 18 05:36	27° Ω 11'18	4°10'02
opposition	3672 Feb 07 10:52	18° Ω 18'50 1°40'19	minimum elong	3678 Aug 18 05:28	27° Ω 11'17	4°10'03
min. Earth dist.	3672 Feb 09 16:00	18° Ω 15'56 39.35049 AU	morning rise	3678 Sep 02 17:54	27° Ω 37'24	
direct	3672 Apr 28 15:42	17° Ω 11'15	retrograde	3678 Nov 28 23:48	29° Ω 03'24	
evening set	3672 Jul 24 02:41	18° Ω 31'48	opposition	3679 Feb 16 14:05	27° Ω 54'42	4°36'07
max. Earth dist.	3672 Aug 06 15:45	18° Ω 53'30 41.22988 AU	min. Earth dist.	3679 Feb 19 02:20	27° Ω 51'17	37.60049 AU
			direct	3679 May 08 15:19	26° Ω 44'35	
conjunction	3672 Aug 09 03:55	18° Ω 57'34 1°47'04	evening set	3679 Aug 04 13:04	28° Ω 11'24	

max. Earth dist.	3679 Aug 17 03:50	28°032'44	39.46668 AU	conjunction	3685 Aug 28 21:53	7°042'36	7°03'45
				minimum elong	3685 Aug 28 21:40	7°042'35	7°03'45
conjunction	3679 Aug 19 23:24	28°037'32	4°34'31	morning rise	3685 Sep 12 04:00	8°008'06	
minimum elong	3679 Aug 19 23:15	28°037'32	4°34'30	retrograde	3685 Dec 09 21:16	9°041'53	
morning rise	3679 Sep 04 08:34	29°003'38		opposition	3686 Feb 26 17:12	8°030'42	7°40'29
	3679 Oct 12 17:46	0°00		min. Earth dist.	3686 Mar 01 09:24	8°026'54	35.80743 AU
retrograde	3679 Nov 30 18:07	0°030'33		direct	3686 May 18 12:35	7°017'43	
	3680 Jan 19 09:11	30°00		evening set	3686 Aug 16 17:57	8°053'20	
opposition	3680 Feb 18 05:54	29°021'30	5°02'04	max. Earth dist.	3686 Aug 27 19:54	9°013'17	37.66236 AU
min. Earth dist.	3680 Feb 20 17:49	29°018'05	37.34355 AU				
direct	3680 May 09 08:27	28°010'58		conjunction	3686 Aug 30 19:45	9°018'43	7°28'51
evening set	3680 Aug 05 10:50	29°038'51		minimum elong	3686 Aug 30 19:31	9°018'42	7°28'52
	3680 Aug 17 20:33	0°00		morning rise	3686 Sep 13 19:51	9°044'01	
max. Earth dist.	3680 Aug 17 20:37	0°000'00	39.20826 AU	retrograde	3686 Dec 11 18:39	11°019'08	
				opposition	3687 Feb 28 13:11	10°007'35	8°07'10
conjunction	3680 Aug 20 17:41	0°004'58	4°59'08	min. Earth dist.	3687 Mar 03 05:06	10°003'46	35.55091 AU
minimum elong	3680 Aug 20 17:32	0°004'57	4°59'09	direct	3687 May 20 09:13	8°054'09	
morning rise	3680 Sep 04 23:22	0°031'02		evening set	3687 Aug 18 22:59	10°031'16	
retrograde	3680 Dec 01 10:53	1°058'57		max. Earth dist.	3687 Aug 29 16:34	10°050'46	37.40332 AU
opposition	3681 Feb 18 22:28	0°049'32	5°28'11				
min. Earth dist.	3681 Feb 21 11:53	0°046'00	37.08648 AU	conjunction	3687 Sep 01 18:19	10°056'25	7°53'58
	3681 Mar 30 16:48	30°00		minimum elong	3687 Sep 01 18:04	10°056'24	7°53'58
direct	3681 May 10 23:24	29°038'35		morning rise	3687 Sep 15 12:04	11°021'28	
	3681 Jun 20 16:22	0°00		retrograde	3687 Dec 13 16:46	12°057'58	
evening set	3681 Aug 07 09:31	1°007'35		opposition	3688 Mar 01 09:51	11°046'02	8°33'52
max. Earth dist.	3681 Aug 19 16:06	1°028'41	38.94992 AU	min. Earth dist.	3688 Mar 04 03:22	11°042'06	35.29367 AU
				direct	3688 May 21 03:39	10°032'08	
conjunction	3681 Aug 22 12:39	1°033'39	5°23'53	evening set	3688 Aug 20 05:03	12°010'49	
minimum elong	3681 Aug 22 12:29	1°033'38	5°23'52	max. Earth dist.	3688 Aug 30 16:12	12°030'00	37.14354 AU
morning rise	3681 Sep 06 14:17	1°059'39					
retrograde	3681 Dec 03 04:20	3°028'37		conjunction	3688 Sep 02 17:40	12°035'41	8°19'05
opposition	3682 Feb 20 15:24	2°018'51	5°54'26	minimum elong	3688 Sep 02 17:23	12°035'39	8°19'05
min. Earth dist.	3682 Feb 23 04:28	2°015'19	36.82978 AU	morning rise	3688 Sep 16 04:21	13°000'25	
direct	3682 May 12 15:24	1°007'29		retrograde	3688 Dec 14 14:55	14°038'24	
evening set	3682 Aug 09 09:15	2°037'40		opposition	3689 Mar 03 07:11	13°026'02	9°00'34
max. Earth dist.	3682 Aug 21 09:52	2°058'32	38.69209 AU	min. Earth dist.	3689 Mar 06 00:51	13°022'04	35.03583 AU
				direct	3689 May 22 23:51	12°011'40	
conjunction	3682 Aug 24 08:00	3°003'40	5°48'44	evening set	3689 Aug 22 12:30	13°051'59	
minimum elong	3682 Aug 24 07:48	3°003'39	5°48'44	max. Earth dist.	3689 Sep 01 14:24	14°010'39	36.88337 AU
morning rise	3682 Sep 08 05:30	3°029'35					
retrograde	3682 Dec 05 01:52	4°059'40		conjunction	3689 Sep 04 17:30	14°016'30	8°44'08
opposition	3683 Feb 22 08:59	3°049'32	6°20'48	minimum elong	3689 Sep 04 17:14	14°016'29	8°44'08
min. Earth dist.	3683 Feb 24 22:48	3°045'57	36.57388 AU	morning rise	3689 Sep 17 20:54	14°040'55	
direct	3683 May 14 04:56	2°037'46		retrograde	3689 Dec 16 16:24	16°020'25	
evening set	3683 Aug 11 09:36	4°009'13		opposition	3690 Mar 05 05:03	15°007'37	9°27'14
max. Earth dist.	3683 Aug 23 06:05	4°029'58	38.43479 AU	min. Earth dist.	3690 Mar 07 23:27	15°003'35	34.77809 AU
				direct	3690 May 24 19:10	13°052'45	
conjunction	3683 Aug 26 03:55	4°035'06	6°13'40	evening set	3690 Aug 24 20:54	15°034'46	
minimum elong	3683 Aug 26 03:43	4°035'05	6°13'40	max. Earth dist.	3690 Sep 03 15:02	15°053'01	36.62337 AU
morning rise	3683 Sep 09 20:35	5°000'55					
retrograde	3683 Dec 06 22:25	6°032'11		conjunction	3690 Sep 06 18:08	15°058'54	9°09'07
opposition	3684 Feb 24 03:11	5°021'42	6°47'17	minimum elong	3690 Sep 06 17:49	15°058'53	9°09'07
min. Earth dist.	3684 Feb 26 17:33	5°018'03	36.31842 AU	morning rise	3690 Sep 19 13:24	16°022'56	
direct	3684 May 14 21:54	4°009'32		retrograde	3690 Dec 18 17:16	18°004'02	
evening set	3684 Aug 12 11:21	5°042'19		opposition	3691 Mar 07 03:47	16°050'48	9°53'48
max. Earth dist.	3684 Aug 24 01:51	6°002'49	38.17783 AU	min. Earth dist.	3691 Mar 09 22:49	16°046'41	34.52097 AU
				direct	3691 May 26 17:50	15°035'26	
conjunction	3684 Aug 27 00:30	6°008'04	6°38'41	evening set	3691 Aug 27 06:31	17°019'13	
minimum elong	3684 Aug 27 00:17	6°008'03	6°38'41	max. Earth dist.	3691 Sep 05 15:42	17°036'57	36.36445 AU
morning rise	3684 Sep 10 12:14	6°033'45					
retrograde	3684 Dec 07 22:16	8°006'13		conjunction	3691 Sep 08 19:04	17°042'55	9°33'58
opposition	3685 Feb 24 21:43	6°055'25	7°13'51	minimum elong	3691 Sep 08 18:46	17°042'54	9°33'58
min. Earth dist.	3685 Feb 27 12:16	6°051'44	36.06318 AU	morning rise	3691 Sep 21 05:55	18°006'31	
direct	3685 May 16 17:14	5°042'50		retrograde	3691 Dec 20 21:03	19°049'17	
evening set	3685 Aug 14 14:08	7°017'01		opposition	3692 Mar 08 02:59	18°035'36	10°20'14
max. Earth dist.	3685 Aug 25 22:07	7°037'14	37.92044 AU	min. Earth dist.	3692 Mar 10 21:32	18°031'30	34.26539 AU
				direct	3692 May 27 17:45	17°019'44	

evening set	3692 Aug 28 17:24	19° $\mathring{\text{M}}$ 05'23		minimum elong	3698 Sep 21 23:15	0° $\mathring{\text{A}}$ 42'34	12°20'24
max. Earth dist.	3692 Sep 06 17:02	19° $\mathring{\text{M}}$ 22'32	36.10714 AU	morning rise	3698 Oct 01 04:09	1° $\mathring{\text{A}}$ 01'19	
				retrograde	3699 Jan 03 06:25	2° $\mathring{\text{A}}$ 58'25	
conjunction	3692 Sep 09 20:57	19° $\mathring{\text{M}}$ 28'37	9°58'40	opposition	3699 Mar 21 19:28	1° $\mathring{\text{A}}$ 41'55	13°17'08
minimum elong	3692 Sep 09 20:37	19° $\mathring{\text{M}}$ 28'35	9°58'40	min. Earth dist.	3699 Mar 24 13:35	1° $\mathring{\text{A}}$ 37'39	32.56107 AU
morning rise	3692 Sep 21 22:39	19° $\mathring{\text{M}}$ 51'43		direct	3699 Jun 10 00:32	0° $\mathring{\text{A}}$ 22'50	
retrograde	3692 Dec 21 23:16	21° $\mathring{\text{M}}$ 36'13		evening set	3699 Sep 15 15:20	2° $\mathring{\text{A}}$ 24'26	
opposition	3693 Mar 10 02:59	20° $\mathring{\text{M}}$ 22'06	10°46'30	max. Earth dist.	3699 Sep 21 04:12	2° $\mathring{\text{A}}$ 35'48	34.39350 AU
min. Earth dist.	3693 Mar 12 22:38	20° $\mathring{\text{M}}$ 17'54	34.01198 AU				
direct	3693 May 29 16:59	19° $\mathring{\text{M}}$ 05'44		conjunction	3699 Sep 24 06:54	2° $\mathring{\text{A}}$ 42'13	12°42'31
evening set	3693 Aug 31 05:47	20° $\mathring{\text{M}}$ 53'21		minimum elong	3699 Sep 24 06:33	2° $\mathring{\text{A}}$ 42'11	12°42'30
max. Earth dist.	3693 Sep 08 20:28	21° $\mathring{\text{M}}$ 09'57	35.85243 AU	morning rise	3699 Oct 02 20:58	2° $\mathring{\text{A}}$ 59'54	
				retrograde	3700 Jan 05 14:51	4° $\mathring{\text{A}}$ 59'27	
conjunction	3693 Sep 11 23:31	21° $\mathring{\text{M}}$ 16'02	10°23'08	opposition	3700 Mar 24 01:18	3° $\mathring{\text{A}}$ 42'32	13°40'36
minimum elong	3693 Sep 11 23:11	21° $\mathring{\text{M}}$ 16'00	10°23'07	min. Earth dist.	3700 Mar 26 20:16	3° $\mathring{\text{A}}$ 38'11	32.32995 AU
morning rise	3693 Sep 23 15:24	21° $\mathring{\text{M}}$ 38'35		direct	3700 Jun 12 05:27	2° $\mathring{\text{A}}$ 23'00	
retrograde	3693 Dec 24 01:45	23° $\mathring{\text{M}}$ 24'56		evening set	3700 Sep 18 15:20	4° $\mathring{\text{A}}$ 27'19	
opposition	3694 Mar 12 03:43	22° $\mathring{\text{M}}$ 10'23	11°12'31	max. Earth dist.	3700 Sep 23 13:04	4° $\mathring{\text{A}}$ 37'30	34.16088 AU
min. Earth dist.	3694 Mar 14 22:15	22° $\mathring{\text{M}}$ 06'13	33.76155 AU				
direct	3694 May 31 18:06	20° $\mathring{\text{M}}$ 53'33		conjunction	3700 Sep 26 15:06	4° $\mathring{\text{A}}$ 43'55	13°04'03
evening set	3694 Sep 02 19:19	22° $\mathring{\text{M}}$ 43'13		minimum elong	3700 Sep 26 14:42	4° $\mathring{\text{A}}$ 43'53	13°04'03
max. Earth dist.	3694 Sep 10 22:39	22° $\mathring{\text{M}}$ 59'04	35.60086 AU	morning rise	3700 Oct 04 13:27	5° $\mathring{\text{A}}$ 00'25	
				retrograde	3701 Jan 08 01:35	7° $\mathring{\text{A}}$ 02'32	
conjunction	3694 Sep 14 02:35	23° $\mathring{\text{M}}$ 05'17	10°47'19	opposition	3701 Mar 26 07:43	5° $\mathring{\text{A}}$ 45'13	14°03'28
minimum elong	3694 Sep 14 02:14	23° $\mathring{\text{M}}$ 05'15	10°47'19	min. Earth dist.	3701 Mar 29 01:39	5° $\mathring{\text{A}}$ 40'54	32.10187 AU
morning rise	3694 Sep 25 08:12	23° $\mathring{\text{M}}$ 27'13		direct	3701 Jun 14 13:24	4° $\mathring{\text{A}}$ 25'12	
retrograde	3694 Dec 26 05:29	25° $\mathring{\text{M}}$ 15'31		evening set	3701 Sep 21 17:22	6° $\mathring{\text{A}}$ 32'22	
opposition	3695 Mar 14 05:18	24° $\mathring{\text{M}}$ 00'34	11°38'14	max. Earth dist.	3701 Sep 25 21:28	6° $\mathring{\text{A}}$ 41'07	33.93140 AU
min. Earth dist.	3695 Mar 17 00:25	23° $\mathring{\text{M}}$ 56'20	33.51466 AU				
direct	3695 Jun 02 16:43	22° $\mathring{\text{M}}$ 43'16		conjunction	3701 Sep 29 00:06	6° $\mathring{\text{A}}$ 47'39	13°24'58
evening set	3695 Sep 05 10:25	24° $\mathring{\text{M}}$ 35'06		minimum elong	3701 Sep 28 23:44	6° $\mathring{\text{A}}$ 47'37	13°24'57
max. Earth dist.	3695 Sep 13 04:10	24° $\mathring{\text{M}}$ 50'20	35.35291 AU	morning rise	3701 Oct 06 05:34	7° $\mathring{\text{A}}$ 02'50	
				retrograde	3702 Jan 10 11:18	9° $\mathring{\text{A}}$ 07'40	
conjunction	3695 Sep 16 06:40	24° $\mathring{\text{M}}$ 56'29	11°11'12	opposition	3702 Mar 28 15:14	7° $\mathring{\text{A}}$ 49'54	14°25'38
minimum elong	3695 Sep 16 06:20	24° $\mathring{\text{M}}$ 56'27	11°11'11	min. Earth dist.	3702 Mar 31 09:53	7° $\mathring{\text{A}}$ 45'31	31.87730 AU
morning rise	3695 Sep 27 01:03	25° $\mathring{\text{M}}$ 17'44		direct	3702 Jun 16 19:17	6° $\mathring{\text{A}}$ 29'25	
retrograde	3695 Dec 28 09:08	27° $\mathring{\text{M}}$ 08'05		evening set	3702 Sep 24 21:48	8° $\mathring{\text{A}}$ 39'35	
opposition	3696 Mar 15 07:32	25° $\mathring{\text{M}}$ 52'44	12°03'36	max. Earth dist.	3702 Sep 28 08:40	8° $\mathring{\text{A}}$ 46'54	33.70580 AU
min. Earth dist.	3696 Mar 18 01:56	25° $\mathring{\text{M}}$ 48'31	33.27138 AU				
direct	3696 Jun 03 17:14	24° $\mathring{\text{M}}$ 35'00		conjunction	3702 Oct 01 09:44	8° $\mathring{\text{A}}$ 53'22	13°45'10
evening set	3696 Sep 07 03:08	26° $\mathring{\text{M}}$ 29'06		minimum elong	3702 Oct 01 09:21	8° $\mathring{\text{A}}$ 53'20	13°45'10
max. Earth dist.	3696 Sep 14 08:09	26° $\mathring{\text{M}}$ 43'27	35.10857 AU	morning rise	3702 Oct 07 20:24	9° $\mathring{\text{A}}$ 07'02	
				retrograde	3703 Jan 12 20:13	11° $\mathring{\text{A}}$ 14'45	
conjunction	3696 Sep 17 11:26	26° $\mathring{\text{M}}$ 49'43	11°34'41	opposition	3703 Mar 30 23:30	9° $\mathring{\text{A}}$ 56'33	14°47'02
minimum elong	3696 Sep 17 11:04	26° $\mathring{\text{M}}$ 49'41	11°34'42	min. Earth dist.	3703 Apr 02 16:54	9° $\mathring{\text{A}}$ 52'13	31.65680 AU
morning rise	3696 Sep 27 18:10	27° $\mathring{\text{M}}$ 10'13		direct	3703 Jun 19 03:53	8° $\mathring{\text{A}}$ 35'35	
retrograde	3696 Dec 29 15:28	29° $\mathring{\text{M}}$ 02'43		evening set	3703 Sep 28 05:13	10° $\mathring{\text{A}}$ 48'59	
opposition	3697 Mar 17 10:37	27° $\mathring{\text{M}}$ 47'00	12°28'34	max. Earth dist.	3703 Sep 30 18:40	10° $\mathring{\text{A}}$ 54'28	33.48473 AU
min. Earth dist.	3697 Mar 20 05:10	27° $\mathring{\text{M}}$ 42'45	33.03165 AU				
direct	3697 Jun 05 17:42	26° $\mathring{\text{M}}$ 28'49		conjunction	3703 Oct 03 20:09	11° $\mathring{\text{A}}$ 01'02	14°04'35
evening set	3697 Sep 09 21:27	28° $\mathring{\text{M}}$ 25'19		minimum elong	3703 Oct 03 19:47	11° $\mathring{\text{A}}$ 01'00	14°04'35
max. Earth dist.	3697 Sep 16 14:45	28° $\mathring{\text{M}}$ 38'49	34.86732 AU	morning rise	3703 Oct 09 10:04	11° $\mathring{\text{A}}$ 12'59	
				retrograde	3704 Jan 15 07:18	13° $\mathring{\text{A}}$ 23'46	
conjunction	3697 Sep 19 17:11	28° $\mathring{\text{M}}$ 45'05	11°57'47	opposition	3704 Apr 01 08:27	12° $\mathring{\text{A}}$ 05'09	15°07'33
minimum elong	3697 Sep 19 16:50	28° $\mathring{\text{M}}$ 45'04	11°57'47	min. Earth dist.	3704 Apr 04 01:44	12° $\mathring{\text{A}}$ 00'47	31.44131 AU
morning rise	3697 Sep 29 11:10	29° $\mathring{\text{M}}$ 04'45		direct	3704 Jun 20 10:23	10° $\mathring{\text{A}}$ 43'41	
	3697 Oct 28 20:47	0° $\mathring{\text{A}}$		evening set	3704 Sep 30 16:50	13° $\mathring{\text{A}}$ 00'39	
retrograde	3697 Dec 31 21:32	0° $\mathring{\text{A}}$ 59'30		max. Earth dist.	3704 Oct 02 07:59	13° $\mathring{\text{A}}$ 04'10	33.26901 AU
	3698 Mar 08 17:40	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$					
opposition	3698 Mar 19 14:40	29° $\mathring{\text{M}}$ 43'23	12°53'06	conjunction	3704 Oct 05 07:29	13° $\mathring{\text{A}}$ 10'37	14°23'08
min. Earth dist.	3698 Mar 22 09:30	29° $\mathring{\text{M}}$ 39'06	32.79488 AU	minimum elong	3704 Oct 05 07:07	13° $\mathring{\text{A}}$ 10'35	14°23'09
direct	3698 Jun 07 20:45	28° $\mathring{\text{M}}$ 24'46		morning rise	3704 Oct 09 21:09	13° $\mathring{\text{A}}$ 20'30	
	3698 Aug 31 18:17	0° $\mathring{\text{A}}$		retrograde	3705 Jan 16 17:45	15° $\mathring{\text{A}}$ 34'42	
evening set	3698 Sep 12 17:36	0° $\mathring{\text{A}}$ 23'46		opposition	3705 Apr 03 18:29	14° $\mathring{\text{A}}$ 15'39	15°27'08
max. Earth dist.	3698 Sep 18 20:55	0° $\mathring{\text{A}}$ 36'14	34.62908 AU	min. Earth dist.	3705 Apr 06 10:51	14° $\mathring{\text{A}}$ 11'19	31.23143 AU
				direct	3705 Jun 22 18:55	12° $\mathring{\text{A}}$ 53'43	
conjunction	3698 Sep 21 23:37	0° $\mathring{\text{A}}$ 42'35	12°20'24	evening set	3705 Oct 04 10:57	15° $\mathring{\text{A}}$ 14'48	

max. Earth dist.	3705 Oct 04 20:15	15° <u>♂</u> 15'38	33.05956 AU	opposition	3713 Apr 22 09:06	2° <u>♂</u> 50'57	17°18'33
				min. Earth dist.	3713 Apr 24 15:23	2° <u>♂</u> 47'11	29.81639 AU
conjunction	3705 Oct 07 19:20	15° <u>♂</u> 22'07	14°40'44	direct	3713 Jul 11 02:37	1° <u>♂</u> 26'19	
minimum elong	3705 Oct 07 19:00	15° <u>♂</u> 22'05	14°40'44	max. Earth dist.	3713 Oct 24 12:39	3° <u>♂</u> 59'54	31.65755 AU
morning rise	3705 Oct 11 02:58	15° <u>♂</u> 29'22					
retrograde	3706 Jan 19 06:22	17° <u>♂</u> 47'32		conjunction	3713 Oct 26 22:11	4° <u>♂</u> 05'29	16°17'35
opposition	3706 Apr 06 05:15	16° <u>♂</u> 28'04	15°45'39	minimum elong	3713 Oct 26 22:01	4° <u>♂</u> 05'28	16°17'35
min. Earth dist.	3706 Apr 08 20:16	16° <u>♂</u> 23'49	31.02825 AU	retrograde	3714 Feb 07 16:27	6° <u>♂</u> 40'41	
direct	3706 Jun 25 04:23	15° <u>♂</u> 05'41		opposition	3714 Apr 25 02:41	5° <u>♂</u> 18'50	17°25'44
max. Earth dist.	3706 Oct 07 10:58	17° <u>♂</u> 29'12	32.85718 AU	min. Earth dist.	3714 Apr 27 07:17	5° <u>♂</u> 15'09	29.67271 AU
evening set	3706 Oct 09 01:35	17° <u>♂</u> 32'44		direct	3714 Jul 13 19:39	3° <u>♂</u> 53'56	
				max. Earth dist.	3714 Oct 27 07:48	6° <u>♂</u> 28'36	31.51684 AU
conjunction	3706 Oct 10 08:07	17° <u>♂</u> 35'33	14°57'17				
minimum elong	3706 Oct 10 07:46	17° <u>♂</u> 35'31	14°57'17	conjunction	3714 Oct 29 16:30	6° <u>♂</u> 34'09	16°23'13
morning rise	3706 Oct 11 13:57	17° <u>♂</u> 38'17		minimum elong	3714 Oct 29 16:20	6° <u>♂</u> 34'08	16°23'14
retrograde	3707 Jan 21 18:30	20° <u>♂</u> 02'18		retrograde	3715 Feb 10 11:15	9° <u>♂</u> 10'18	
opposition	3707 Apr 08 17:02	18° <u>♂</u> 42'27	16°03'00	opposition	3715 Apr 27 20:46	7° <u>♂</u> 48'12	17°31'11
min. Earth dist.	3707 Apr 11 07:22	18° <u>♂</u> 38'13	30.83238 AU	min. Earth dist.	3715 Apr 29 23:34	7° <u>♂</u> 44'39	29.53712 AU
direct	3707 Jun 27 15:02	17° <u>♂</u> 19'40		direct	3715 Jul 16 12:46	6° <u>♂</u> 23'02	
max. Earth dist.	3707 Oct 10 01:38	19° <u>♂</u> 44'41	32.66270 AU	max. Earth dist.	3715 Oct 30 05:47	8° <u>♂</u> 58'57	31.38459 AU
conjunction	3707 Oct 12 21:28	19° <u>♂</u> 50'58	15°12'41	conjunction	3715 Nov 01 11:24	9° <u>♂</u> 04'13	16°27'12
minimum elong	3707 Oct 12 21:09	19° <u>♂</u> 50'56	15°12'41	minimum elong	3715 Nov 01 11:18	9° <u>♂</u> 04'12	16°27'12
retrograde	3708 Jan 24 09:55	22° <u>♂</u> 19'02		retrograde	3716 Feb 13 04:56	11° <u>♂</u> 41'14	
opposition	3708 Apr 10 05:31	20° <u>♂</u> 58'50	16°19'07	opposition	3716 Apr 29 15:37	10° <u>♂</u> 18'54	17°34'49
min. Earth dist.	3708 Apr 12 17:37	20° <u>♂</u> 54'44	30.64431 AU	min. Earth dist.	3716 May 01 17:04	10° <u>♂</u> 15'25	29.40987 AU
direct	3708 Jun 29 03:02	19° <u>♂</u> 35'41		direct	3716 Jul 18 06:39	8° <u>♂</u> 53'29	
max. Earth dist.	3708 Oct 11 17:22	22° <u>♂</u> 02'13	32.47606 AU	max. Earth dist.	3716 Nov 01 02:28	11° <u>♂</u> 30'22	31.26148 AU
conjunction	3708 Oct 14 11:48	22° <u>♂</u> 08'25	15°26'54	conjunction	3716 Nov 03 06:36	11° <u>♂</u> 35'31	16°29'28
minimum elong	3708 Oct 14 11:29	22° <u>♂</u> 08'23	15°26'54	minimum elong	3716 Nov 03 06:30	11° <u>♂</u> 35'31	16°29'29
retrograde	3709 Jan 26 00:52	24° <u>♂</u> 37'48		retrograde	3717 Feb 15 01:06	14° <u>♂</u> 13'19	
opposition	3709 Apr 12 18:55	23° <u>♂</u> 17'17	16°33'55	opposition	3717 May 02 10:50	12° <u>♂</u> 50'45	17°36'35
min. Earth dist.	3709 Apr 15 06:46	23° <u>♂</u> 13'11	30.46397 AU	min. Earth dist.	3717 May 04 09:28	12° <u>♂</u> 47'28	29.29189 AU
direct	3709 Jul 01 14:51	21° <u>♂</u> 53'48		direct	3717 Jul 21 00:57	11° <u>♂</u> 25'07	
max. Earth dist.	3709 Oct 14 10:34	24° <u>♂</u> 21'53	32.29739 AU	max. Earth dist.	3717 Nov 04 01:15	14° <u>♂</u> 03'03	31.14822 AU
conjunction	3709 Oct 17 02:50	24° <u>♂</u> 27'56	15°39'50	conjunction	3717 Nov 06 02:16	14° <u>♂</u> 07'55	16°29'58
minimum elong	3709 Oct 17 02:34	24° <u>♂</u> 27'54	15°39'49	minimum elong	3717 Nov 06 02:13	14° <u>♂</u> 07'55	16°29'57
retrograde	3710 Jan 28 18:18	26° <u>♂</u> 58'35			3717 Nov 28 07:55	15° <u>♂</u>	
opposition	3710 Apr 15 09:12	25° <u>♂</u> 37'47	16°47'20	retrograde	3718 Feb 17 18:53	16° <u>♂</u> 46'24	
min. Earth dist.	3710 Apr 17 18:47	25° <u>♂</u> 33'50	30.29120 AU	opposition	3718 May 05 06:51	15° <u>♂</u> 23'38	17°36'24
direct	3710 Jul 04 06:05	24° <u>♂</u> 14'00		min. Earth dist.	3718 May 07 03:59	15° <u>♂</u> 20'27	29.18392 AU
max. Earth dist.	3710 Oct 17 03:06	26° <u>♂</u> 43'28	32.12623 AU		3718 May 19 10:03	15° <u>♂</u>	
conjunction	3710 Oct 19 18:29	26° <u>♂</u> 49'29	15°51'25	direct	3718 Jul 23 20:49	13° <u>♂</u> 57'49	
minimum elong	3710 Oct 19 18:13	26° <u>♂</u> 49'28	15°51'26		3718 Sep 24 04:12	15° <u>♂</u>	
retrograde	3711 Jan 31 11:03	29° <u>♂</u> 21'23		max. Earth dist.	3718 Nov 06 23:31	16° <u>♂</u> 36'37	31.04585 AU
opposition	3711 Apr 18 00:25	28° <u>♂</u> 00'18	16°59'17	conjunction	3718 Nov 08 21:57	16° <u>♂</u> 41'15	16°28'37
min. Earth dist.	3711 Apr 20 09:41	27° <u>♂</u> 56'21	30.12577 AU	minimum elong	3718 Nov 08 21:56	16° <u>♂</u> 41'15	16°28'37
direct	3711 Jul 06 19:30	26° <u>♂</u> 36'13		retrograde	3719 Feb 20 15:34	19° <u>♂</u> 20'21	
max. Earth dist.	3711 Oct 19 22:12	29° <u>♂</u> 07'11	31.96257 AU	opposition	3719 May 08 03:08	17° <u>♂</u> 57'24	17°34'12
conjunction	3711 Oct 22 11:04	29° <u>♂</u> 13'01	16°01'37	min. Earth dist.	3719 May 09 20:42	17° <u>♂</u> 54'28	29.08680 AU
minimum elong	3711 Oct 22 10:51	29° <u>♂</u> 12'59	16°01'37	direct	3719 Jul 26 18:01	16° <u>♂</u> 31'26	
	3711 Nov 12 05:07	0° <u>♂</u>		max. Earth dist.	3719 Nov 09 22:42	19° <u>♂</u> 11'06	30.95483 AU
retrograde	3712 Feb 03 04:18	1° <u>♂</u> 46'04		conjunction	3719 Nov 11 18:10	19° <u>♂</u> 15'27	16°25'23
opposition	3712 Apr 19 16:17	0° <u>♂</u> 24'44	17°09'43	minimum elong	3719 Nov 11 18:12	19° <u>♂</u> 15'27	16°25'22
min. Earth dist.	3712 Apr 21 23:31	0° <u>♂</u> 20'54	29.96742 AU	retrograde	3720 Feb 23 11:02	21° <u>♂</u> 55'04	
	3712 May 04 18:15	30° <u>♂</u>		opposition	3720 May 09 23:51	20° <u>♂</u> 31'59	17°29'58
direct	3712 Jul 08 11:46	29° <u>♂</u> 00'22		min. Earth dist.	3720 May 11 15:48	20° <u>♂</u> 29'10	29.00100 AU
	3712 Sep 08 04:48	0° <u>♂</u>		direct	3720 Jul 28 13:11	19° <u>♂</u> 05'55	
max. Earth dist.	3712 Oct 21 15:52	1° <u>♂</u> 32'34	31.80626 AU	max. Earth dist.	3720 Nov 11 22:26	21° <u>♂</u> 46'22	30.87574 AU
conjunction	3712 Oct 24 04:19	1° <u>♂</u> 38'23	16°10'22	conjunction	3720 Nov 13 14:36	21° <u>♂</u> 50'24	16°20'14
minimum elong	3712 Oct 24 04:06	1° <u>♂</u> 38'22	16°10'22	minimum elong	3720 Nov 13 14:41	21° <u>♂</u> 50'24	16°20'15
retrograde	3713 Feb 04 23:23	4° <u>♂</u> 12'34		retrograde	3721 Feb 25 08:24	24° <u>♂</u> 30'28	

opposition	3721 May 12 20:57	23° \mathbb{M} 07'18	17°23'39	minimum elong	3728 Dec 04 11:16	12° \mathbb{Z} 40'19	14°32'06
min. Earth dist.	3721 May 14 09:16	23° \mathbb{M} 04'44	28.92665 AU	max. Earth dist.	3728 Dec 03 18:36	12° \mathbb{Z} 38'38	30.64134 AU
direct	3721 Jul 31 12:08	21° \mathbb{M} 41'12		morning rise	3728 Dec 08 08:37	12° \mathbb{Z} 49'43	
max. Earth dist.	3721 Nov 14 21:28	24° \mathbb{M} 22'15	30.80829 AU	retrograde	3729 Mar 18 03:08	15° \mathbb{Z} 20'08	
				opposition	3729 Jun 03 04:13	13° \mathbb{Z} 57'04	15°21'11
conjunction	3721 Nov 16 11:04	24° \mathbb{M} 26'02	16°13'11	min. Earth dist.	3729 Jun 03 19:45	13° \mathbb{Z} 55'59	28.71624 AU
minimum elong	3721 Nov 16 11:11	24° \mathbb{M} 26'03	16°13'11	direct	3729 Aug 21 22:56	12° \mathbb{Z} 31'29	
retrograde	3722 Feb 28 05:24	27° \mathbb{M} 06'27		evening set	3729 Dec 02 03:25	15° \mathbb{Z} 02'34	
opposition	3722 May 15 18:30	25° \mathbb{M} 43'14	17°15'16				
min. Earth dist.	3722 May 17 04:50	25° \mathbb{M} 40'48	28.86366 AU	conjunction	3729 Dec 07 06:20	15° \mathbb{Z} 14'55	14°10'44
direct	3722 Aug 03 09:17	24° \mathbb{M} 17'07		minimum elong	3729 Dec 07 06:40	15° \mathbb{Z} 14'57	14°10'44
max. Earth dist.	3722 Nov 17 21:55	26° \mathbb{M} 58'48	30.75239 AU	max. Earth dist.	3729 Dec 06 16:32	15° \mathbb{Z} 13'32	30.66026 AU
				morning rise	3729 Dec 12 09:40	15° \mathbb{Z} 27'18	
conjunction	3722 Nov 19 07:48	27° \mathbb{M} 02'13	16°04'13	retrograde	3730 Mar 20 22:25	17° \mathbb{Z} 54'17	
minimum elong	3722 Nov 19 07:58	27° \mathbb{M} 02'14	16°04'14	opposition	3730 Jun 06 01:41	16° \mathbb{Z} 31'17	14°57'30
retrograde	3723 Mar 03 02:13	29° \mathbb{M} 42'52		min. Earth dist.	3730 Jun 06 13:05	16° \mathbb{Z} 30'29	28.73741 AU
opposition	3723 May 18 16:08	28° \mathbb{M} 19'38	17°04'50	direct	3730 Aug 24 21:38	15° \mathbb{Z} 05'51	
min. Earth dist.	3723 May 19 23:17	28° \mathbb{M} 17'26	28.81154 AU	evening set	3730 Dec 03 21:45	17° \mathbb{Z} 33'49	
direct	3723 Aug 06 07:54	26° \mathbb{M} 53'33					
max. Earth dist.	3723 Nov 20 20:35	29° \mathbb{M} 35'33	30.70748 AU	conjunction	3730 Dec 10 01:29	17° \mathbb{Z} 48'36	13°47'48
				minimum elong	3730 Dec 10 01:51	17° \mathbb{Z} 48'38	13°47'48
conjunction	3723 Nov 22 04:31	29° \mathbb{M} 38'46	15°53'22	max. Earth dist.	3730 Dec 09 15:36	17° \mathbb{Z} 47'37	30.69067 AU
minimum elong	3723 Nov 22 04:41	29° \mathbb{M} 38'47	15°53'22	morning rise	3730 Dec 16 05:31	18° \mathbb{Z} 03'25	
	3723 Nov 30 23:12	0° \mathbb{Z}		retrograde	3731 Mar 23 15:43	20° \mathbb{Z} 27'24	
retrograde	3724 Mar 05 00:28	2° \mathbb{Z} 19'34		opposition	3731 Jun 08 22:49	19° \mathbb{Z} 04'30	14°32'08
opposition	3724 May 20 14:04	0° \mathbb{Z} 56'20	16°52'23	min. Earth dist.	3731 Jun 09 08:04	19° \mathbb{Z} 03'51	28.77032 AU
min. Earth dist.	3724 May 21 18:54	0° \mathbb{Z} 54'18	28.77006 AU	direct	3731 Aug 27 17:39	17° \mathbb{Z} 39'14	
	3724 Jun 25 19:38	30° \mathbb{R} \mathbb{M}		evening set	3731 Dec 05 18:42	20° \mathbb{Z} 04'21	
direct	3724 Aug 08 05:38	29° \mathbb{M} 30'17					
	3724 Sep 19 07:08	0° \mathbb{Z}		conjunction	3731 Dec 12 20:06	20° \mathbb{Z} 21'14	13°23'21
max. Earth dist.	3724 Nov 22 21:23	2° \mathbb{Z} 12'42	30.67328 AU	minimum elong	3731 Dec 12 20:27	20° \mathbb{Z} 21'17	13°23'21
				max. Earth dist.	3731 Dec 12 13:24	20° \mathbb{Z} 20'34	30.73329 AU
conjunction	3724 Nov 24 01:21	2° \mathbb{Z} 15'31	15°40'40	morning rise	3731 Dec 19 21:42	20° \mathbb{Z} 38'10	
minimum elong	3724 Nov 24 01:34	2° \mathbb{Z} 15'33	15°40'40	retrograde	3732 Mar 25 09:38	22° \mathbb{Z} 59'24	
retrograde	3725 Mar 07 20:34	4° \mathbb{Z} 56'21		opposition	3732 Jun 10 19:33	21° \mathbb{Z} 36'39	14°05'10
opposition	3725 May 23 12:12	3° \mathbb{Z} 33'07	16°37'57	min. Earth dist.	3732 Jun 11 00:27	21° \mathbb{Z} 36'19	28.81531 AU
min. Earth dist.	3725 May 24 14:27	3° \mathbb{Z} 31'16	28.73874 AU	direct	3732 Aug 29 16:46	20° \mathbb{Z} 11'37	
direct	3725 Aug 11 05:17	2° \mathbb{Z} 07'09		evening set	3732 Dec 06 17:07	22° \mathbb{Z} 34'01	
conjunction	3725 Nov 26 22:00	4° \mathbb{Z} 52'15	15°26'09	conjunction	3732 Dec 14 14:10	22° \mathbb{Z} 52'47	12°57'27
minimum elong	3725 Nov 26 22:14	4° \mathbb{Z} 52'17	15°26'08	minimum elong	3732 Dec 14 14:34	22° \mathbb{Z} 52'50	12°57'27
max. Earth dist.	3725 Nov 25 19:52	4° \mathbb{Z} 49'37	30.64958 AU	max. Earth dist.	3732 Dec 14 10:54	22° \mathbb{Z} 52'28	30.78810 AU
retrograde	3726 Mar 10 17:42	7° \mathbb{Z} 33'00		morning rise	3732 Dec 22 11:24	23° \mathbb{Z} 11'35	
opposition	3726 May 26 10:21	6° \mathbb{Z} 09'47	16°21'33	retrograde	3733 Mar 28 02:57	25° \mathbb{Z} 30'16	
min. Earth dist.	3726 May 27 09:34	6° \mathbb{Z} 08'09	28.71776 AU	opposition	3733 Jun 13 16:02	24° \mathbb{Z} 07'41	13°36'41
direct	3726 Aug 14 03:18	4° \mathbb{Z} 43'54		min. Earth dist.	3733 Jun 13 18:17	24° \mathbb{Z} 07'32	28.87256 AU
				direct	3733 Sep 01 12:50	22° \mathbb{Z} 42'56	
conjunction	3726 Nov 29 18:32	7° \mathbb{Z} 28'46	15°09'51	evening set	3733 Dec 08 16:50	25° \mathbb{Z} 02'46	
minimum elong	3726 Nov 29 18:49	7° \mathbb{Z} 28'48	15°09'51				
max. Earth dist.	3726 Nov 28 20:26	7° \mathbb{Z} 26'32	30.63633 AU	conjunction	3733 Dec 17 07:47	25° \mathbb{Z} 23'13	12°30'12
retrograde	3727 Mar 13 12:56	10° \mathbb{Z} 09'19		minimum elong	3733 Dec 17 08:10	25° \mathbb{Z} 23'15	12°30'12
opposition	3727 May 29 08:32	8° \mathbb{Z} 46'08	16°03'16	max. Earth dist.	3733 Dec 17 08:12	25° \mathbb{Z} 23'15	30.85526 AU
min. Earth dist.	3727 May 30 05:35	8° \mathbb{Z} 44'39	28.70683 AU	morning rise	3733 Dec 25 22:43	25° \mathbb{Z} 43'41	
direct	3727 Aug 17 02:19	7° \mathbb{Z} 20'20		retrograde	3734 Mar 30 20:00	27° \mathbb{Z} 59'56	
evening set	3727 Nov 30 12:07	9° \mathbb{Z} 59'43		opposition	3734 Jun 16 11:57	26° \mathbb{Z} 37'35	13°06'48
				min. Earth dist.	3734 Jun 16 10:24	26° \mathbb{Z} 37'42	28.94171 AU
conjunction	3727 Dec 02 14:49	10° \mathbb{Z} 04'50	14°51'49	direct	3734 Sep 04 10:11	25° \mathbb{Z} 13'08	
minimum elong	3727 Dec 02 15:06	10° \mathbb{Z} 04'52	14°51'48	evening set	3734 Dec 10 17:11	27° \mathbb{Z} 30'29	
max. Earth dist.	3727 Dec 01 18:33	10° \mathbb{Z} 02'48	30.63354 AU				
morning rise	3727 Dec 04 18:05	10° \mathbb{Z} 10'01		conjunction	3734 Dec 20 00:41	27° \mathbb{Z} 52'28	12°01'42
retrograde	3728 Mar 15 09:51	12° \mathbb{Z} 45'06		minimum elong	3734 Dec 20 01:05	27° \mathbb{Z} 52'30	12°01'42
opposition	3728 May 31 06:18	11° \mathbb{Z} 21'58	15°43'08	max. Earth dist.	3734 Dec 20 03:49	27° \mathbb{Z} 52'46	30.93404 AU
min. Earth dist.	3728 May 31 23:47	11° \mathbb{Z} 20'44	28.70625 AU	morning rise	3734 Dec 29 08:14	28° \mathbb{Z} 14'28	
direct	3728 Aug 19 00:39	9° \mathbb{Z} 56'15			3735 Feb 20 23:43	0° \mathbb{Z}	
evening set	3728 Nov 30 13:45	12° \mathbb{Z} 30'54		retrograde	3735 Apr 02 13:41	0° \mathbb{Z} 28'24	
					3735 May 14 19:07	30° \mathbb{R} \mathbb{Z}	
conjunction	3728 Dec 04 10:56	12° \mathbb{Z} 40'17	14°32'06	opposition	3735 Jun 19 07:26	29° \mathbb{Z} 06'17	12°35'37

min. Earth dist.	3735 Jun 19 03:01	29° 7 06'36	29.02230 AU	max. Earth dist.	3742 Jan 06 05:38	14° 3 39'06	31.75890 AU
direct	3735 Sep 07 05:38	27° 7 42'10		morning rise	3742 Jan 18 03:06	15° 3 05'56	
evening set	3735 Dec 12 18:24	29° 7 57'07		retrograde	3742 Apr 18 14:28	17° 3 05'43	
	3735 Dec 13 23:59	0° 3		min. Earth dist.	3742 Jul 05 08:33	15° 3 46'59	29.85374 AU
				opposition	3742 Jul 06 07:42	15° 3 45'27	8°31'10
conjunction	3735 Dec 22 17:14	0° 3 20'29	11°32'04	direct	3742 Sep 24 15:24	14° 3 23'46	
minimum elong	3735 Dec 22 17:37	0° 3 20'31	11°32'04	evening set	3742 Dec 25 12:45	16° 3 23'47	
max. Earth dist.	3735 Dec 23 00:17	0° 3 21'11	31.02386 AU				
morning rise	3736 Jan 01 15:49	0° 3 43'51		conjunction	3743 Jan 07 18:15	16° 3 53'25	7°41'37
retrograde	3736 Apr 04 06:04	2° 3 55'33		minimum elong	3743 Jan 07 18:33	16° 3 53'26	7°41'37
opposition	3736 Jun 21 02:20	1° 3 33'42	12°03'16	max. Earth dist.	3743 Jan 08 19:43	16° 3 55'48	31.91108 AU
min. Earth dist.	3736 Jun 20 19:06	1° 3 34'12	29.11341 AU	morning rise	3743 Jan 20 23:15	17° 3 23'00	
direct	3736 Sep 09 03:28	0° 3 09'56		retrograde	3743 Apr 21 00:35	19° 3 21'01	
evening set	3736 Dec 13 20:13	2° 3 22'34		opposition	3743 Jul 08 22:03	18° 3 01'02	7°53'48
				min. Earth dist.	3743 Jul 07 19:29	18° 3 02'47	30.00714 AU
conjunction	3736 Dec 24 09:04	2° 3 47'10	11°01'24	direct	3743 Sep 27 07:44	16° 3 39'41	
minimum elong	3736 Dec 24 09:28	2° 3 47'13	11°01'24	evening set	3743 Dec 27 15:51	18° 3 37'50	
max. Earth dist.	3736 Dec 24 18:10	2° 3 48'04	31.12392 AU				
morning rise	3737 Jan 03 21:51	3° 3 11'46		conjunction	3744 Jan 10 05:03	19° 3 07'57	7°06'34
retrograde	3737 Apr 06 22:18	5° 3 21'20		minimum elong	3744 Jan 10 05:20	19° 3 07'59	7°06'34
opposition	3737 Jun 23 20:50	3° 3 59'45	11°29'52	max. Earth dist.	3744 Jan 11 09:03	19° 3 10'34	32.07179 AU
min. Earth dist.	3737 Jun 23 10:14	4° 3 00'28	29.21468 AU	morning rise	3744 Jan 23 17:54	19° 3 38'02	
direct	3737 Sep 11 21:56	2° 3 36'20		retrograde	3744 Apr 22 10:30	21° 3 34'24	
evening set	3737 Dec 15 22:17	4° 3 46'43		min. Earth dist.	3744 Jul 09 06:46	20° 3 16'34	30.16967 AU
				opposition	3744 Jul 10 11:45	20° 3 14'40	7°16'07
conjunction	3737 Dec 27 00:21	5° 3 12'26	10°29'49	direct	3744 Sep 28 21:17	18° 3 53'42	
minimum elong	3737 Dec 27 00:43	5° 3 12'28	10°29'49	evening set	3744 Dec 28 18:58	20° 3 50'05	
max. Earth dist.	3737 Dec 27 13:20	5° 3 13'41	31.23365 AU				
morning rise	3738 Jan 07 02:00	5° 3 38'08		conjunction	3745 Jan 11 15:16	21° 3 20'37	6°31'14
retrograde	3738 Apr 09 12:33	7° 3 45'36		minimum elong	3745 Jan 11 15:32	21° 3 20'38	6°31'14
opposition	3738 Jun 26 14:49	6° 3 24'18	10°55'33	max. Earth dist.	3745 Jan 12 22:31	21° 3 23'30	32.24158 AU
min. Earth dist.	3738 Jun 26 02:09	6° 3 25'09	29.32526 AU	morning rise	3745 Jan 25 10:59	21° 3 51'06	
direct	3738 Sep 14 18:06	5° 3 01'15		retrograde	3745 Apr 24 19:37	23° 3 45'52	
evening set	3738 Dec 18 00:56	7° 3 09'26		min. Earth dist.	3745 Jul 11 16:59	22° 3 28'32	30.34123 AU
				opposition	3745 Jul 13 00:46	22° 3 26'27	6°38'11
conjunction	3738 Dec 29 14:56	7° 3 36'09	9°57'25	direct	3745 Oct 01 11:36	21° 3 05'52	
minimum elong	3738 Dec 29 15:19	7° 3 36'11	9°57'25	evening set	3745 Dec 30 22:03	23° 3 00'34	
max. Earth dist.	3738 Dec 30 05:30	7° 3 37'33	31.35241 AU				
morning rise	3739 Jan 10 04:45	8° 3 02'50		conjunction	3746 Jan 14 00:30	23° 3 31'26	5°55'42
retrograde	3739 Apr 12 04:19	10° 3 08'17		minimum elong	3746 Jan 14 00:44	23° 3 31'27	5°55'43
opposition	3739 Jun 29 07:52	8° 3 47'15	10°20'25	max. Earth dist.	3746 Jan 15 09:41	23° 3 34'29	32.42009 AU
min. Earth dist.	3739 Jun 28 15:41	8° 3 48'20	29.44478 AU	morning rise	3746 Jan 28 02:41	24° 3 02'15	
direct	3739 Sep 17 12:55	7° 3 24'32		retrograde	3746 Apr 27 05:43	25° 3 55'33	
evening set	3739 Dec 20 03:43	9° 3 30'37		min. Earth dist.	3746 Jul 14 02:05	24° 3 38'43	30.52172 AU
				opposition	3746 Jul 15 13:01	24° 3 36'27	6°00'07
conjunction	3740 Jan 01 05:02	9° 3 58'12	9°24'18	direct	3746 Oct 03 23:14	23° 3 16'17	
minimum elong	3740 Jan 01 05:23	9° 3 58'14	9°24'19	evening set	3747 Jan 02 01:06	25° 3 09'23	
max. Earth dist.	3740 Jan 01 23:04	9° 3 59'56	31.47969 AU				
morning rise	3740 Jan 13 05:51	10° 3 25'46		conjunction	3747 Jan 16 09:18	25° 3 40'31	5°20'04
retrograde	3740 Apr 13 15:57	12° 3 29'16		minimum elong	3747 Jan 16 09:31	25° 3 40'32	5°20'04
min. Earth dist.	3740 Jun 30 06:53	11° 3 09'41	29.57273 AU	max. Earth dist.	3747 Jan 17 21:58	25° 3 43'51	32.60697 AU
opposition	3740 Jul 01 00:35	11° 3 08'30	9°44'34	morning rise	3747 Jan 30 16:54	26° 3 11'36	
direct	3740 Sep 19 06:47	9° 3 46'08		retrograde	3747 Apr 29 13:51	28° 3 03'28	
evening set	3740 Dec 21 06:44	11° 3 50'08		min. Earth dist.	3747 Jul 16 11:45	26° 3 47'06	30.71028 AU
				opposition	3747 Jul 18 00:25	26° 3 44'44	5°22'00
conjunction	3741 Jan 02 18:09	12° 3 18'30	8°50'34	direct	3747 Oct 06 13:06	25° 3 25'01	
minimum elong	3741 Jan 02 18:30	12° 3 18'32	8°50'34	evening set	3748 Jan 04 04:20	27° 3 16'36	
max. Earth dist.	3741 Jan 03 14:00	12° 3 20'23	31.61523 AU				
morning rise	3741 Jan 15 05:14	12° 3 46'50		conjunction	3748 Jan 18 17:14	27° 3 47'55	4°44'24
retrograde	3741 Apr 16 03:47	14° 3 48'26		minimum elong	3748 Jan 18 17:26	27° 3 47'56	4°44'25
opposition	3741 Jul 03 16:27	13° 3 27'56	9°08'07	max. Earth dist.	3748 Jan 20 07:07	27° 3 51'21	32.80137 AU
min. Earth dist.	3741 Jul 02 19:05	13° 3 29'21	29.70898 AU	morning rise	3748 Feb 02 05:54	28° 3 19'12	
direct	3741 Sep 22 00:23	12° 3 05'54					
evening set	3741 Dec 23 09:43	14° 3 07'53		retrograde	3748 Apr 06 03:49	0° 0	
					3748 Apr 30 23:34	0° 0 09'43	
conjunction	3742 Jan 05 06:38	14° 3 36'55	8°16'19		3748 May 26 04:00	30° 0	
minimum elong	3742 Jan 05 06:57	14° 3 36'57	8°16'20	min. Earth dist.	3748 Jul 17 19:16	28° 3 53'55	30.90628 AU
				opposition	3748 Jul 19 11:12	28° 3 51'21	4°43'55

direct	3748 Oct 08 00:53	27°33'20.5		minimum elong	3755 Feb 01 06:40	11°53'49	0°39'35
evening set	3749 Jan 05 07:19	29°32'21.4		max. Earth dist.	3755 Feb 03 08:33	11°58'05	34.30833 AU
				morning rise	3755 Feb 16 12:28	12°24'51	
conjunction	3749 Jan 20 00:32	29°35'34.1	4°08'47	retrograde	3755 May 15 08:46	14°07'43	
minimum elong	3749 Jan 20 00:42	29°35'34.2	4°08'47	min. Earth dist.	3755 Aug 01 15:21	12°54'55	32.42199 AU
max. Earth dist.	3749 Jan 21 17:36	29°35'7.22	33.00245 AU	opposition	3755 Aug 03 19:28	12°51'43	0°24'05
	3749 Jan 22 22:59	0°		direct	3755 Oct 23 12:09	11°35'20	
morning rise	3749 Feb 03 17:18	0°25'06		evening set	3756 Jan 19 03:17	13°17'04	
retrograde	3749 May 03 05:25	2°14'21					
min. Earth dist.	3749 Jul 20 04:30	0°58'58	31.10879 AU	conjunction	3756 Feb 03 09:19	13°47'52	0°05'59
opposition	3749 Jul 21 21:29	0°56'22	4°05'56	minimum elong	3756 Feb 03 09:19	13°47'52	0°05'59
	3749 Aug 31 22:55	30°8'3		behind sun begin	3756 Feb 03 03:14	13°47'23	
direct	3749 Oct 10 12:08	29°33'7.33		behind sun end	3756 Feb 03 15:24	13°48'21	
	3749 Nov 17 17:17	0°		max. Earth dist.	3756 Feb 05 13:56	13°52'20	34.53928 AU
evening set	3750 Jan 07 10:29	1°26'19		morning rise	3756 Feb 18 15:15	14°18'41	
					3756 Mar 11 19:20	15°	
conjunction	3750 Jan 22 07:11	1°57'50	3°33'17	desc. node	3756 Apr 08 08:41	15°39'17	
minimum elong	3750 Jan 22 07:19	1°57'51	3°33'18	retrograde	3756 May 16 10:39	16°00'39	
max. Earth dist.	3750 Jan 24 01:24	2°01'35	33.20946 AU		3756 Jul 25 16:48	15°8'	
morning rise	3750 Feb 06 03:38	2°29'19		min. Earth dist.	3756 Aug 02 19:53	14°48'10	32.65498 AU
retrograde	3750 May 05 11:18	4°17'22		opposition	3756 Aug 05 00:46	14°44'57	-0°11'25
min. Earth dist.	3750 Jul 22 10:53	3°02'31	31.31700 AU	direct	3756 Oct 24 20:02	13°28'56	
opposition	3750 Jul 24 06:48	2°59'45	3°28'09		3757 Jan 15 06:13	15°	
direct	3750 Oct 12 23:03	1°41'22		evening set	3757 Jan 20 05:28	15°09'41	
evening set	3751 Jan 09 13:33	3°28'50					
				conjunction	3757 Feb 04 11:07	15°40'13	-0°27'19
conjunction	3751 Jan 24 13:13	4°00'22	2°57'58	minimum elong	3757 Feb 04 11:06	15°40'13	0°27'19
minimum elong	3751 Jan 24 13:20	4°00'23	2°57'58	max. Earth dist.	3757 Feb 06 16:26	15°44'42	34.77451 AU
max. Earth dist.	3751 Jan 26 09:43	4°04'18	33.42142 AU	morning rise	3757 Feb 19 16:56	16°10'46	
morning rise	3751 Feb 08 12:39	4°31'52		retrograde	3757 May 18 13:43	17°51'54	
retrograde	3751 May 07 16:13	6°18'47		min. Earth dist.	3757 Aug 04 21:35	16°39'53	32.89255 AU
min. Earth dist.	3751 Jul 24 18:43	5°04'20	31.53013 AU	opposition	3757 Aug 07 05:18	16°36'30	-0°46'24
opposition	3751 Jul 26 15:38	5°01'31	2°50'37	direct	3757 Oct 27 02:08	15°20'52	
direct	3751 Oct 15 07:43	3°43'35		evening set	3758 Jan 22 07:33	17°00'42	
evening set	3752 Jan 11 16:34	5°29'47					
				conjunction	3758 Feb 06 12:29	17°30'57	-1°00'02
conjunction	3752 Jan 26 18:37	6°01'16	2°22'54	minimum elong	3758 Feb 06 12:27	17°30'57	1°00'02
minimum elong	3752 Jan 26 18:42	6°01'16	2°22'54	max. Earth dist.	3758 Feb 08 20:13	17°35'36	35.01405 AU
max. Earth dist.	3752 Jan 28 16:33	6°05'18	33.63774 AU	morning rise	3758 Feb 21 17:36	18°01'12	
morning rise	3752 Feb 10 20:22	6°32'43		retrograde	3758 May 20 13:31	19°41'34	
retrograde	3752 May 08 20:17	8°18'33		min. Earth dist.	3758 Aug 07 00:43	18°29'54	33.13463 AU
min. Earth dist.	3752 Jul 26 00:35	7°04'35	31.74735 AU	opposition	3758 Aug 09 09:09	18°26'30	-1°20'50
opposition	3752 Jul 27 23:38	7°01'38	2°13'24	direct	3758 Oct 29 06:51	17°11'15	
direct	3752 Oct 16 17:15	5°44'07		evening set	3759 Jan 24 09:24	18°50'14	
evening set	3753 Jan 12 19:37	7°29'08					
				conjunction	3759 Feb 08 13:14	19°20'09	-1°32'15
conjunction	3753 Jan 27 23:19	8°00'30	1°48'06	minimum elong	3759 Feb 08 13:11	19°20'09	1°32'15
minimum elong	3753 Jan 27 23:24	8°00'30	1°48'07	max. Earth dist.	3759 Feb 10 22:08	19°24'52	35.25783 AU
max. Earth dist.	3753 Jan 29 22:25	8°04'36	33.85771 AU	morning rise	3759 Feb 23 17:13	19°50'05	
morning rise	3753 Feb 12 03:02	8°31'52		retrograde	3759 May 22 11:58	21°29'44	
retrograde	3753 May 11 01:13	10°16'40		min. Earth dist.	3759 Aug 09 01:37	20°18'32	33.38067 AU
min. Earth dist.	3753 Jul 28 06:31	9°03'05	31.96852 AU	opposition	3759 Aug 11 12:18	20°15'00	-1°54'41
opposition	3753 Jul 30 07:06	9°00'04	1°36'32	direct	3759 Oct 31 12:02	19°00'09	
direct	3753 Oct 18 23:44	7°42'57		evening set	3760 Jan 26 11:11	20°38'20	
evening set	3754 Jan 14 22:13	9°26'48					
				conjunction	3760 Feb 10 13:17	21°07'54	-2°03'56
conjunction	3754 Jan 30 03:22	9°58'02	1°13'39	minimum elong	3760 Feb 10 13:12	21°07'53	2°03'56
minimum elong	3754 Jan 30 03:24	9°58'02	1°13'40	max. Earth dist.	3760 Feb 12 23:33	21°12'42	35.50503 AU
max. Earth dist.	3754 Feb 01 04:39	10°02'17	34.08130 AU	morning rise	3760 Feb 25 15:47	21°37'29	
morning rise	3754 Feb 14 08:15	10°29'15		retrograde	3760 May 23 11:46	23°16'29	
retrograde	3754 May 13 04:41	12°13'04		min. Earth dist.	3760 Aug 10 03:07	22°05'39	33.63022 AU
min. Earth dist.	3754 Jul 30 12:00	10°59'50	32.19325 AU	opposition	3760 Aug 12 15:01	22°02'04	-2°27'55
opposition	3754 Aug 01 13:45	10°56'46	1°00'05	direct	3760 Nov 01 13:58	20°47'38	
direct	3754 Oct 21 07:03	9°40'01		evening set	3761 Jan 27 12:44	22°25'04	
evening set	3755 Jan 17 00:57	11°22'47					
				conjunction	3761 Feb 11 12:59	22°54'15	-2°35'03
conjunction	3755 Feb 01 06:38	11°53'49	0°39'35	minimum elong	3761 Feb 11 12:53	22°54'14	2°35'03

max. Earth dist.	3761 Feb 14 01:00	22° \approx 59'09	35.75528 AU	retrograde	3767 Jun 04 21:24	5° \times 06'25	
morning rise	3761 Feb 26 13:23	23° \approx 23'27		min. Earth dist.	3767 Aug 22 23:59	3° \times 57'55	35.41530 AU
retrograde	3761 May 25 10:24	25° \approx 01'51		opposition	3767 Aug 25 17:39	3° \times 54'08	-6°02'12
min. Earth dist.	3761 Aug 12 04:15	23° \approx 51'24	33.88242 AU	direct	3767 Nov 14 20:12	2° \times 42'12	
opposition	3761 Aug 14 17:05	23° \approx 47'47	-3°00'31	evening set	3768 Feb 09 20:05	4° \times 15'35	
direct	3761 Nov 03 16:50	22° \approx 33'44					
evening set	3762 Jan 29 14:16	24° \approx 10'29		conjunction	3768 Feb 23 20:16	4° \times 41'28	-5°56'08
				minimum elong	3768 Feb 23 20:06	4° \times 41'27	5°56'09
conjunction	3762 Feb 13 11:57	24° \approx 39'14	-3°05'36	max. Earth dist.	3768 Feb 26 13:46	4° \times 46'33	37.53326 AU
minimum elong	3762 Feb 13 11:51	24° \approx 39'14	3°05'36	morning rise	3768 Mar 08 20:55	5° \times 07'24	
max. Earth dist.	3762 Feb 16 00:15	24° \approx 44'08	36.00763 AU	retrograde	3768 Jun 05 16:04	6° \times 42'32	
morning rise	3762 Feb 28 10:12	25° \approx 08'03		min. Earth dist.	3768 Aug 23 21:36	5° \times 34'19	35.67175 AU
retrograde	3762 May 27 11:30	26° \approx 45'53		opposition	3768 Aug 26 15:46	5° \times 30'31	-6°30'06
min. Earth dist.	3762 Aug 14 04:04	25° \approx 35'50	34.13666 AU	direct	3768 Nov 15 19:46	4° \times 18'54	
opposition	3762 Aug 16 18:36	25° \approx 32'09	-3°32'28	evening set	3769 Feb 10 20:26	5° \times 51'50	
direct	3762 Nov 05 16:54	24° \approx 18'29					
evening set	3763 Jan 31 15:38	25° \approx 54'36		conjunction	3769 Feb 24 15:45	6° \times 17'11	-6°22'21
				minimum elong	3769 Feb 24 15:34	6° \times 17'10	6°22'21
conjunction	3763 Feb 15 10:41	26° \approx 22'56	-3°35'33	max. Earth dist.	3769 Feb 27 09:09	6° \times 22'14	37.78852 AU
minimum elong	3763 Feb 15 10:34	26° \approx 22'55	3°35'32	morning rise	3769 Mar 10 11:53	6° \times 42'35	
max. Earth dist.	3763 Feb 18 00:55	26° \approx 27'56	36.26137 AU	retrograde	3769 Jun 07 13:57	8° \times 17'24	
morning rise	3763 Mar 02 06:03	26° \approx 51'18		min. Earth dist.	3769 Aug 25 17:33	7° \times 09'31	35.92948 AU
retrograde	3763 May 29 10:26	28° \approx 28'37		opposition	3769 Aug 28 13:22	7° \times 05'39	-6°57'17
min. Earth dist.	3763 Aug 16 05:02	27° \approx 18'52	34.39196 AU	direct	3769 Nov 17 15:10	5° \times 54'20	
opposition	3763 Aug 18 19:27	27° \approx 15'12	-4°03'45	evening set	3770 Feb 12 20:22	7° \times 26'53	
direct	3763 Nov 07 18:18	26° \approx 01'55					
evening set	3764 Feb 02 17:01	27° \approx 37'25		conjunction	3770 Feb 26 10:52	7° \times 51'42	-6°47'56
				minimum elong	3770 Feb 26 10:41	7° \times 51'41	6°47'56
conjunction	3764 Feb 17 08:49	28° \approx 05'18	-4°04'54	max. Earth dist.	3770 Mar 01 06:15	7° \times 56'51	38.04501 AU
minimum elong	3764 Feb 17 08:42	28° \approx 05'17	4°04'54	morning rise	3770 Mar 12 01:57	8° \times 16'33	
max. Earth dist.	3764 Feb 19 22:47	28° \approx 10'15	36.51580 AU	retrograde	3770 Jun 09 09:42	9° \times 51'04	
morning rise	3764 Mar 03 01:11	28° \approx 33'13		min. Earth dist.	3770 Aug 27 14:47	8° \times 43'26	36.18842 AU
	3764 May 03 13:22	0° \times		opposition	3770 Aug 30 10:28	8° \times 39'36	-7°23'46
retrograde	3764 May 30 09:59	0° \times 10'02		direct	3770 Nov 19 11:49	7° \times 28'37	
	3764 Jun 26 15:54	30° \times		evening set	3771 Feb 14 20:18	9° \times 00'50	
min. Earth dist.	3764 Aug 17 03:36	29° \approx 00'41	34.64780 AU				
opposition	3764 Aug 19 19:50	28° \approx 56'56	-4°34'23	conjunction	3771 Feb 28 05:29	9° \times 25'04	-7°12'51
direct	3764 Nov 08 18:23	27° \approx 44'01		minimum elong	3771 Feb 28 05:17	9° \times 25'03	7°12'50
evening set	3765 Feb 03 18:03	29° \approx 18'57		max. Earth dist.	3771 Mar 03 00:45	9° \times 30'11	38.30271 AU
				morning rise	3771 Mar 13 15:22	9° \times 49'22	
conjunction	3765 Feb 18 06:26	29° \approx 46'21	-4°33'38	retrograde	3771 Jun 11 04:13	11° \times 23'38	
minimum elong	3765 Feb 18 06:17	29° \approx 46'21	4°33'37	min. Earth dist.	3771 Aug 29 09:16	10° \times 16'23	36.44850 AU
max. Earth dist.	3765 Feb 20 21:46	29° \approx 51'22	36.77028 AU	opposition	3771 Sep 01 06:51	10° \times 12'27	-7°49'32
	3765 Feb 25 10:52	0° \times		direct	3771 Nov 21 08:35	9° \times 01'49	
morning rise	3765 Mar 04 19:21	0° \times 13'48		evening set	3772 Feb 16 20:00	10° \times 33'43	
retrograde	3765 Jun 01 05:51	1° \times 50'10					
min. Earth dist.	3765 Aug 19 03:55	0° \times 41'04	34.90369 AU	conjunction	3772 Feb 29 23:42	10° \times 57'24	-7°37'07
opposition	3765 Aug 21 19:50	0° \times 37'21	-5°04'20	minimum elong	3772 Feb 29 23:30	10° \times 57'23	7°37'07
	3765 Sep 18 21:33	30° \times		max. Earth dist.	3772 Mar 03 20:17	11° \times 02'34	38.56131 AU
direct	3765 Nov 10 20:11	29° \approx 24'47		morning rise	3772 Mar 14 04:10	11° \times 21'08	
	3765 Dec 31 11:56	0° \times		retrograde	3772 Jun 11 21:01	12° \times 55'11	
evening set	3766 Feb 05 19:01	0° \times 59'10		min. Earth dist.	3772 Aug 30 05:38	11° \times 48'12	36.70946 AU
				opposition	3772 Sep 02 03:07	11° \times 44'18	-8°14'36
conjunction	3766 Feb 20 03:40	1° \times 26'05	-5°01'46	direct	3772 Nov 22 06:34	10° \times 34'00	
minimum elong	3766 Feb 20 03:31	1° \times 26'04	5°01'46	evening set	3773 Feb 17 19:24	12° \times 05'38	
max. Earth dist.	3766 Feb 22 19:14	1° \times 31'05	37.02466 AU				
morning rise	3766 Mar 06 12:48	1° \times 53'02		conjunction	3773 Mar 02 17:27	12° \times 28'44	-8°00'44
retrograde	3766 Jun 03 00:56	3° \times 28'57		minimum elong	3773 Mar 02 17:15	12° \times 28'43	8°00'43
min. Earth dist.	3766 Aug 21 01:49	2° \times 20'11	35.15938 AU	max. Earth dist.	3773 Mar 05 14:38	12° \times 33'56	38.82053 AU
opposition	3766 Aug 23 18:54	2° \times 16'25	-5°33'37	morning rise	3773 Mar 15 16:05	12° \times 51'54	
direct	3766 Nov 12 21:45	1° \times 04'10		retrograde	3773 Jun 13 12:51	14° \times 25'46	
evening set	3767 Feb 07 19:47	2° \times 38'02		min. Earth dist.	3773 Sep 01 00:22	13° \times 19'07	36.97061 AU
				opposition	3773 Sep 03 22:46	13° \times 15'11	-8°38'58
conjunction	3767 Feb 22 00:14	3° \times 04'27	-5°29'16	direct	3773 Nov 24 04:18	12° \times 05'14	
minimum elong	3767 Feb 22 00:04	3° \times 04'26	5°29'15	evening set	3774 Feb 19 18:54	13° \times 36'37	
max. Earth dist.	3767 Feb 24 16:18	3° \times 09'27	37.27878 AU				
morning rise	3767 Mar 08 05:26	3° \times 30'54		conjunction	3774 Mar 04 10:51	13° \times 59'08	-8°23'43

minimum elong	3774 Mar 04 10:39	13° ✕ 59'07	8°23'43	evening set	3781 Mar 03 11:22	23° ✕ 47'15	
max. Earth dist.	3774 Mar 07 08:07	14° ✕ 04'18	39.07954 AU				
morning rise	3774 Mar 17 03:42	14° ✕ 21'42		conjunction	3781 Mar 14 03:13	24° ✕ 05'25	-10°47'21
retrograde	3774 Jun 15 07:16	15° ✕ 55'26		minimum elong	3781 Mar 14 03:00	24° ✕ 05'24	10°47'21
min. Earth dist.	3774 Sep 02 19:06	14° ✕ 49'05	37.23150 AU	max. Earth dist.	3781 Mar 17 01:06	24° ✕ 10'24	40.84586 AU
opposition	3774 Sep 05 17:57	14° ✕ 45'08	-9°02'38	morning rise	3781 Mar 24 19:48	24° ✕ 23'38	
direct	3774 Nov 25 22:38	13° ✕ 35'32		retrograde	3781 Jun 24 22:54	25° ✕ 56'42	
evening set	3775 Feb 21 18:11	15° ✕ 06'42		min. Earth dist.	3781 Sep 12 22:01	24° ✕ 51'57	39.00630 AU
				opposition	3781 Sep 15 21:33	24° ✕ 48'05	-11°30'04
conjunction	3775 Mar 06 04:05	15° ✕ 28'37	-8°46'03	direct	3781 Dec 06 04:15	23° ✕ 40'23	
minimum elong	3775 Mar 06 03:52	15° ✕ 28'36	8°46'03	evening set	3782 Mar 05 09:39	25° ✕ 10'32	
max. Earth dist.	3775 Mar 09 02:30	15° ✕ 33'50	39.33785 AU				
morning rise	3775 Mar 18 14:33	15° ✕ 50'36		conjunction	3782 Mar 15 17:55	25° ✕ 28'03	-11°05'28
retrograde	3775 Jun 17 00:21	17° ✕ 24'11		minimum elong	3782 Mar 15 17:42	25° ✕ 28'03	11°05'28
min. Earth dist.	3775 Sep 04 14:21	16° ✕ 18'06	37.49118 AU	max. Earth dist.	3782 Mar 18 17:08	25° ✕ 33'07	41.09132 AU
opposition	3775 Sep 07 12:49	16° ✕ 14'11	-9°25'39	morning rise	3782 Mar 26 02:40	25° ✕ 45'38	
direct	3775 Nov 27 17:46	15° ✕ 04'54		retrograde	3782 Jun 26 14:01	27° ✕ 18'41	
evening set	3776 Feb 23 17:24	16° ✕ 35'52		min. Earth dist.	3782 Sep 14 14:35	26° ✕ 14'06	39.25347 AU
				opposition	3782 Sep 17 13:27	26° ✕ 10'17	-11°48'34
conjunction	3776 Mar 06 20:43	16° ✕ 57'12	-9°07'46	direct	3782 Dec 07 19:53	25° ✕ 02'51	
minimum elong	3776 Mar 06 20:30	16° ✕ 57'11	9°07'47	evening set	3783 Mar 07 07:58	26° ✕ 32'57	
max. Earth dist.	3776 Mar 09 18:13	17° ✕ 02'19	39.59464 AU				
morning rise	3776 Mar 19 00:49	17° ✕ 18'34		conjunction	3783 Mar 17 08:09	26° ✕ 49'49	-11°22'59
retrograde	3776 Jun 17 20:12	18° ✕ 52'03		minimum elong	3783 Mar 17 07:58	26° ✕ 49'48	11°22'59
min. Earth dist.	3776 Sep 05 07:51	17° ✕ 46'15	37.74918 AU	max. Earth dist.	3783 Mar 20 06:40	26° ✕ 54'47	41.33604 AU
opposition	3776 Sep 08 07:19	17° ✕ 42'19	-9°47'59	morning rise	3783 Mar 27 08:55	27° ✕ 06'44	
direct	3776 Nov 28 09:32	16° ✕ 33'20		retrograde	3783 Jun 28 06:19	28° ✕ 39'48	
evening set	3777 Feb 24 16:30	18° ✕ 04'08		min. Earth dist.	3783 Sep 16 04:54	27° ✕ 35'30	39.49985 AU
				opposition	3783 Sep 19 05:02	27° ✕ 31'38	-12°06'26
conjunction	3777 Mar 08 13:16	18° ✕ 24'51	-9°28'53	direct	3783 Dec 09 09:26	26° ✕ 24'28	
minimum elong	3777 Mar 08 13:03	18° ✕ 24'50	9°28'53	evening set	3784 Mar 08 05:55	27° ✕ 54'34	
max. Earth dist.	3777 Mar 11 11:43	18° ✕ 30'00	39.84938 AU				
morning rise	3777 Mar 20 10:42	18° ✕ 45'37		conjunction	3784 Mar 17 21:59	28° ✕ 10'46	-11°39'55
retrograde	3777 Jun 19 13:09	20° ✕ 18'59		minimum elong	3784 Mar 17 21:46	28° ✕ 10'45	11°39'55
min. Earth dist.	3777 Sep 07 03:07	19° ✕ 13'21	38.00491 AU	max. Earth dist.	3784 Mar 20 21:18	28° ✕ 15'46	41.57982 AU
opposition	3777 Sep 10 01:27	19° ✕ 09'30	-10°09'41	morning rise	3784 Mar 27 14:37	28° ✕ 27'01	
direct	3777 Nov 30 03:07	18° ✕ 00'49			3784 Jun 25 08:04	0° °	
evening set	3778 Feb 26 15:31	19° ✕ 31'26		retrograde	3784 Jun 28 19:28	0° ° 00'09	
					3784 Jul 02 06:14	30° ° ✕	
conjunction	3778 Mar 10 05:24	19° ✕ 51'32	-9°49'24	min. Earth dist.	3784 Sep 16 21:06	28° ✕ 56'02	39.74526 AU
minimum elong	3778 Mar 10 05:11	19° ✕ 51'31	9°49'24	opposition	3784 Sep 19 20:30	28° ✕ 52'14	-12°23'40
max. Earth dist.	3778 Mar 13 03:11	19° ✕ 56'36	40.10176 AU	direct	3784 Dec 10 01:15	27° ✕ 45'20	
morning rise	3778 Mar 21 19:53	20° ✕ 11'40		evening set	3785 Mar 10 04:02	29° ✕ 15'27	
retrograde	3778 Jun 21 03:42	21° ✕ 44'55					
min. Earth dist.	3778 Sep 08 19:52	20° ✕ 39'34	38.25809 AU	conjunction	3785 Mar 19 11:44	29° ✕ 31'00	-11°56'17
opposition	3778 Sep 11 19:03	20° ✕ 35'41	-10°30'44	minimum elong	3785 Mar 19 11:32	29° ✕ 30'59	11°56'17
direct	3778 Dec 01 22:46	19° ✕ 27'15		max. Earth dist.	3785 Mar 22 11:14	29° ✕ 35'59	41.82258 AU
evening set	3779 Feb 28 14:20	20° ✕ 57'44		morning rise	3785 Mar 28 19:48	29° ✕ 46'34	
					3785 Apr 06 00:51	0° °	
conjunction	3779 Mar 11 21:04	21° ✕ 17'12	-10°09'19	retrograde	3785 Jun 30 06:54	1° ° 19'47	
minimum elong	3779 Mar 11 20:52	21° ✕ 17'11	10°09'18	min. Earth dist.	3785 Sep 18 11:28	0° ° 15'57	39.98923 AU
max. Earth dist.	3779 Mar 14 18:56	21° ✕ 22'14	40.35156 AU	opposition	3785 Sep 21 11:22	0° ° 12'07	-12°40'19
morning rise	3779 Mar 23 04:34	21° ✕ 36'42			3785 Oct 01 00:18	30° ° ✕	
retrograde	3779 Jun 22 17:53	23° ✕ 09'52		direct	3785 Dec 11 18:17	29° ✕ 05'30	
min. Earth dist.	3779 Sep 10 13:36	22° ✕ 04'41	38.50903 AU		3786 Feb 17 08:49	0° °	
opposition	3779 Sep 13 12:16	22° ✕ 00'50	-10°51'09	evening set	3786 Mar 12 02:03	0° ° 35'41	
direct	3779 Dec 03 17:30	20° ✕ 52'39					
evening set	3780 Mar 01 12:56	22° ✕ 23'00		conjunction	3786 Mar 21 01:03	0° ° 50'33	-12°12'04
				minimum elong	3786 Mar 21 00:51	0° ° 50'32	12°12'04
conjunction	3780 Mar 12 12:27	22° ✕ 41'49	-10°28'38	max. Earth dist.	3786 Mar 24 00:01	0° ° 55'28	42.06362 AU
minimum elong	3780 Mar 12 12:14	22° ✕ 41'48	10°28'38	morning rise	3786 Mar 30 00:35	1° ° 05'27	
max. Earth dist.	3780 Mar 15 10:51	22° ✕ 46'52	40.59946 AU	retrograde	3786 Jul 01 21:00	2° ° 38'47	
morning rise	3780 Mar 23 12:28	23° ✕ 00'41		min. Earth dist.	3786 Sep 20 02:14	1° ° 35'11	40.23135 AU
retrograde	3780 Jun 23 06:57	24° ✕ 33'47		opposition	3786 Sep 23 02:06	1° ° 31'22	-12°56'22
min. Earth dist.	3780 Sep 11 06:20	23° ✕ 28'48	38.75820 AU	direct	3786 Dec 13 08:53	0° ° 25'02	
opposition	3780 Sep 14 05:05	23° ✕ 24'58	-11°10'55	evening set	3787 Mar 14 00:05	1° ° 55'19	
direct	3780 Dec 04 12:37	22° ✕ 17'01					

conjunction	3787 Mar 22 14:19	2°♈09'29	-12°27'18	direct	3793 Dec 22 08:34	9°♈23'18
minimum elong	3787 Mar 22 14:07	2°♈09'28	12°27'19	evening set	3794 Mar 25 13:47	10°♈54'51
max. Earth dist.	3787 Mar 25 14:00	2°♈14'26	42.30245 AU			
morning rise	3787 Mar 31 04:50	2°♈23'42		conjunction	3794 Mar 31 03:36	11°♈03'44 -13°59'48
retrograde	3787 Jul 03 09:39	3°♈57'10		minimum elong	3794 Mar 31 03:28	11°♈03'43 13°59'48
min. Earth dist.	3787 Sep 21 17:31	2°♈53'45	40.47075 AU	max. Earth dist.	3794 Apr 03 00:31	11°♈08'19 43.87848 AU
opposition	3787 Sep 24 16:24	2°♈50'01	-13°11'50	morning rise	3794 Apr 05 17:31	11°♈12'38
direct	3787 Dec 15 00:10	1°♈43'58		retrograde	3794 Jul 12 00:14	12°♈47'40
evening set	3788 Mar 14 22:17	3°♈14'20		min. Earth dist.	3794 Sep 30 17:04	11°♈45'23 42.04846 AU
				opposition	3794 Oct 03 12:46	11°♈41'53 -14°45'23
				direct	3794 Dec 23 20:45	10°♈37'20
				evening set	3795 Mar 27 13:33	12°♈09'13
conjunction	3788 Mar 23 03:13	3°♈27'49	-12°42'01			
minimum elong	3788 Mar 23 03:02	3°♈27'48	12°42'01			
max. Earth dist.	3788 Mar 26 01:32	3°♈32'38	42.53840 AU			
morning rise	3788 Mar 31 08:33	3°♈41'20		conjunction	3795 Apr 01 14:40	12°♈17'14 -14°11'02
retrograde	3788 Jul 04 01:23	5°♈14'58		minimum elong	3795 Apr 01 14:30	12°♈17'13 14°11'02
min. Earth dist.	3788 Sep 22 07:07	4°♈11'48	40.70704 AU	max. Earth dist.	3795 Apr 04 10:45	12°♈21'44 44.09211 AU
opposition	3788 Sep 25 06:31	4°♈08'03	-13°26'46	morning rise	3795 Apr 06 15:47	12°♈25'15
direct	3788 Dec 15 11:43	3°♈02'16		retrograde	3795 Jul 13 12:14	14°♈00'39
evening set	3789 Mar 16 20:23	4°♈32'46		min. Earth dist.	3795 Oct 02 04:09	12°♈58'35 42.26273 AU
				opposition	3795 Oct 05 00:39	12°♈55'04 -14°56'40
				direct	3795 Dec 25 06:51	11°♈50'43
				evening set	3796 Mar 28 14:02	13°♈23'01
conjunction	3789 Mar 24 15:58	4°♈45'33	-12°56'13			
minimum elong	3789 Mar 24 15:47	4°♈45'32	12°56'13			
max. Earth dist.	3789 Mar 27 14:44	4°♈50'22	42.77083 AU			
morning rise	3789 Apr 01 11:51	4°♈58'21		conjunction	3796 Apr 02 01:29	13°♈30'06 -14°21'47
retrograde	3789 Jul 05 15:45	6°♈32'09		minimum elong	3796 Apr 02 01:22	13°♈30'05 14°21'47
min. Earth dist.	3789 Sep 23 22:39	5°♈29'07	40.93951 AU	max. Earth dist.	3796 Apr 04 21:38	13°♈34'35 44.30375 AU
opposition	3789 Sep 26 20:27	5°♈25'28	-13°41'10	morning rise	3796 Apr 06 12:58	13°♈37'10
direct	3789 Dec 17 00:16	4°♈19'55		retrograde	3796 Jul 13 23:16	15°♈13'02
evening set	3790 Mar 18 18:53	5°♈50'35		min. Earth dist.	3796 Oct 02 16:53	14°♈11'05 42.47508 AU
				opposition	3796 Oct 05 12:31	14°♈07'38 -15°07'27
				direct	3796 Dec 25 17:35	13°♈03'29
				evening set	3797 Mar 30 15:54	14°♈36'20
conjunction	3790 Mar 26 04:35	6°♈02'38	-13°09'55			
minimum elong	3790 Mar 26 04:24	6°♈02'37	13°09'54			
max. Earth dist.	3790 Mar 29 02:15	6°♈07'22	42.99939 AU			
morning rise	3790 Apr 02 14:30	6°♈14'41		conjunction	3797 Apr 03 12:10	14°♈42'23 -14°32'03
retrograde	3790 Jul 07 03:19	7°♈48'41		minimum elong	3797 Apr 03 12:01	14°♈42'22 14°32'03
min. Earth dist.	3790 Sep 25 11:44	6°♈45'52	41.16785 AU	max. Earth dist.	3797 Apr 06 08:31	14°♈46'52 44.51346 AU
opposition	3790 Sep 28 09:45	6°♈42'13	-13°55'02	morning rise	3797 Apr 07 08:19	14°♈48'25
direct	3790 Dec 18 13:44	5°♈36'53		retrograde	3797 Jul 15 07:17	16°♈24'51
evening set	3791 Mar 20 17:17	7°♈07'43		min. Earth dist.	3797 Oct 04 04:26	15°♈23'05 42.68506 AU
				opposition	3797 Oct 06 23:58	15°♈19'38 -15°17'44
				direct	3797 Dec 27 07:30	14°♈15'42
				evening set	3798 Apr 01 19:59	15°♈49'15
conjunction	3791 Mar 27 16:46	7°♈19'01	-13°23'07			
minimum elong	3791 Mar 27 16:35	7°♈19'00	13°23'08			
max. Earth dist.	3791 Mar 30 13:43	7°♈23'40	43.22386 AU			
morning rise	3791 Apr 03 16:32	7°♈30'19		conjunction	3798 Apr 04 22:35	15°♈54'07 -14°41'51
retrograde	3791 Jul 08 13:43	9°♈04'32		minimum elong	3798 Apr 04 22:28	15°♈54'07 14°41'51
min. Earth dist.	3791 Sep 27 02:03	8°♈01'49	41.39241 AU	morning rise	3798 Apr 08 01:06	15°♈58'59
opposition	3791 Sep 29 23:04	7°♈58'14	-14°08'24	max. Earth dist.	3798 Apr 07 17:43	15°♈58'30 44.72067 AU
direct	3791 Dec 20 05:00	6°♈53'07		retrograde	3798 Jul 16 17:35	17°♈36'09
evening set	3792 Mar 21 15:46	8°♈24'08		min. Earth dist.	3798 Oct 05 15:46	16°♈34'33 42.89246 AU
				opposition	3798 Oct 08 11:06	16°♈31'08 -15°27'33
				direct	3798 Dec 28 19:27	15°♈27'25
				evening set	3799 Apr 04 04:44	17°♈01'58
conjunction	3792 Mar 28 04:38	8°♈34'40	-13°35'50			
minimum elong	3792 Mar 28 04:28	8°♈34'39	13°35'50			
max. Earth dist.	3792 Mar 31 02:00	8°♈39'20	43.44485 AU			
morning rise	3792 Apr 03 17:36	8°♈45'12		conjunction	3799 Apr 06 08:57	17°♈05'21 -14°51'12
retrograde	3792 Jul 08 22:59	10°♈19'38		minimum elong	3799 Apr 06 08:49	17°♈05'21 14°51'12
min. Earth dist.	3792 Sep 27 15:26	9°♈17'04	41.61356 AU	morning rise	3799 Apr 08 12:58	17°♈08'44
opposition	3792 Sep 30 11:58	9°♈13'31	-14°21'15	max. Earth dist.	3799 Apr 09 04:43	17°♈09'46 44.92502 AU
direct	3792 Dec 20 21:00	8°♈08'35		retrograde	3799 Jul 18 04:34	18°♈46'57
evening set	3793 Mar 23 14:37	9°♈39'50		min. Earth dist.	3799 Oct 07 04:15	17°♈45'29 43.09657 AU
				opposition	3799 Oct 09 22:11	17°♈42'08 -15°36'53
				direct	3799 Dec 30 07:01	16°♈38'38
conjunction	3793 Mar 29 16:11	9°♈49'33	-13°48'04			
minimum elong	3793 Mar 29 16:01	9°♈49'33	13°48'05			
max. Earth dist.	3793 Apr 01 12:20	9°♈54'07	43.66285 AU	conjunction	3800 Apr 07 18:56	18°♈16'07 -15°00'07
morning rise	3793 Apr 04 17:56	9°♈59'18		minimum elong	3800 Apr 07 18:50	18°♈16'06 15°00'07
retrograde	3793 Jul 10 12:12	11°♈34'00		max. Earth dist.	3800 Apr 10 13:18	18°♈20'25 45.12595 AU
min. Earth dist.	3793 Sep 29 03:33	10°♈31'37	41.83217 AU	retrograde	3800 Jul 19 16:57	19°♈57'17
opposition	3793 Oct 02 00:28	10°♈28'03	-14°33'34	min. Earth dist.	3800 Oct 08 14:45	18°♈56'00 43.29691 AU

opposition	3800 Oct 11 09:00	18° Υ 52'39 -15°45'47	conjunction	3809 Apr 18 05:41	28° Υ 29'34 -16°02'19
direct	3800 Dec 31 15:47	17° Υ 49'20	minimum elong	3809 Apr 18 05:39	28° Υ 29'34 16°02'18
			max. Earth dist.	3809 Apr 20 19:38	28° Υ 33'26 46.75951 AU
conjunction	3801 Apr 09 04:59	19° Υ 26'23 -15°08'37		3809 Jul 04 16:26	0° \mathcal{B}
minimum elong	3801 Apr 09 04:52	19° Υ 26'23 15°08'37	retrograde	3809 Jul 29 22:33	0° \mathcal{B} 07'09
max. Earth dist.	3801 Apr 11 22:54	19° Υ 30'38 45.32272 AU		3809 Aug 24 16:30	30° $\mathcal{R}\Upsilon$
retrograde	3801 Jul 21 02:58	21° Υ 07'08	min. Earth dist.	3809 Oct 19 12:22	29° Υ 06'51 44.92540 AU
min. Earth dist.	3801 Oct 10 03:14	20° Υ 05'55 43.49291 AU	opposition	3809 Oct 22 00:03	29° Υ 03'54 -16°47'15
opposition	3801 Oct 12 19:38	20° Υ 02'41 -15°54'16	direct	3810 Jan 11 11:08	28° Υ 02'03
direct	3802 Jan 02 01:52	18° Υ 59'33			
			conjunction	3810 Apr 19 13:56	29° Υ 35'29 -16°07'14
conjunction	3802 Apr 10 14:57	20° Υ 36'09 -15°16'43	minimum elong	3810 Apr 19 13:53	29° Υ 35'28 16°07'15
minimum elong	3802 Apr 10 14:51	20° Υ 36'09 15°16'44	max. Earth dist.	3810 Apr 22 02:19	29° Υ 39'14 46.92668 AU
max. Earth dist.	3802 Apr 13 08:13	20° Υ 40'21 45.51509 AU		3810 May 06 04:35	0° \mathcal{B}
retrograde	3802 Jul 22 10:20	22° Υ 16'28	retrograde	3810 Jul 31 09:09	1° \mathcal{B} 12'44
min. Earth dist.	3802 Oct 11 13:56	21° Υ 15'23 43.68412 AU	min. Earth dist.	3810 Oct 20 20:48	0° \mathcal{B} 12'37 45.09191 AU
opposition	3802 Oct 14 05:57	21° Υ 12'10 -16°02'20	opposition	3810 Oct 23 08:43	0° \mathcal{B} 09'40 -16°52'02
direct	3803 Jan 03 13:41	20° Υ 09'12		3810 Oct 31 13:43	30° $\mathcal{R}\Upsilon$
			direct	3811 Jan 12 18:36	29° Υ 08'00
conjunction	3803 Apr 12 00:25	21° Υ 45'23 -15°24'26		3811 Mar 23 07:28	0° \mathcal{B}
minimum elong	3803 Apr 12 00:19	21° Υ 45'22 15°24'26			
max. Earth dist.	3803 Apr 14 16:06	21° Υ 49'27 45.70274 AU	conjunction	3811 Apr 20 22:02	0° \mathcal{B} 41'05 -16°11'47
retrograde	3803 Jul 23 19:39	23° Υ 25'15	minimum elong	3811 Apr 20 22:01	0° \mathcal{B} 41'05 16°11'48
min. Earth dist.	3803 Oct 13 00:50	22° Υ 24'17 43.87090 AU	max. Earth dist.	3811 Apr 23 10:31	0° \mathcal{B} 44'50 47.09070 AU
opposition	3803 Oct 15 16:08	22° Υ 21'06 -16°10'00	retrograde	3811 Aug 01 18:52	2° \mathcal{B} 18'01
direct	3804 Jan 05 00:32	21° Υ 18'18	min. Earth dist.	3811 Oct 22 07:12	1° \mathcal{B} 17'59 45.25496 AU
			opposition	3811 Oct 24 17:19	1° \mathcal{B} 15'08 -16°56'26
conjunction	3804 Apr 12 09:54	22° Υ 54'01 -15°31'45	direct	3812 Jan 14 01:51	0° \mathcal{B} 13'39
minimum elong	3804 Apr 12 09:49	22° Υ 54'01 15°31'46			
max. Earth dist.	3804 Apr 15 01:54	22° Υ 58'06 45.88625 AU	conjunction	3812 Apr 21 06:10	1° \mathcal{B} 46'25 -16°15'59
retrograde	3804 Jul 24 03:44	24° Υ 33'29	minimum elong	3812 Apr 21 06:07	1° \mathcal{B} 46'25 16°15'59
min. Earth dist.	3804 Oct 13 12:03	23° Υ 32'35 44.05366 AU	max. Earth dist.	3812 Apr 23 17:44	1° \mathcal{B} 50'05 47.25119 AU
opposition	3804 Oct 16 02:02	23° Υ 29'28 -16°17'15	retrograde	3812 Aug 02 03:26	3° \mathcal{B} 23'01
direct	3805 Jan 05 12:29	22° Υ 26'49	min. Earth dist.	3812 Oct 22 15:36	2° \mathcal{B} 23'09 45.41402 AU
			opposition	3812 Oct 25 01:37	2° \mathcal{B} 20'18 -17°00'28
conjunction	3805 Apr 13 18:58	24° Υ 02'06 -15°38'40	direct	3813 Jan 14 08:19	1° \mathcal{B} 18'59
minimum elong	3805 Apr 13 18:53	24° Υ 02'06 15°38'40			
max. Earth dist.	3805 Apr 16 09:28	24° Υ 06'04 46.06622 AU	conjunction	3813 Apr 22 14:06	2° \mathcal{B} 51'26 -16°19'50
retrograde	3805 Jul 25 14:56	25° Υ 41'09	minimum elong	3813 Apr 22 14:06	2° \mathcal{B} 51'26 16°19'51
min. Earth dist.	3805 Oct 14 21:18	24° Υ 40'23 44.23318 AU	max. Earth dist.	3813 Apr 25 00:17	2° \mathcal{B} 55'01 47.40728 AU
opposition	3805 Oct 17 11:38	24° Υ 37'17 -16°24'06	retrograde	3813 Aug 03 11:13	4° \mathcal{B} 27'44
direct	3806 Jan 06 20:27	23° Υ 34'46	min. Earth dist.	3813 Oct 24 01:26	3° \mathcal{B} 27'55 45.56847 AU
			opposition	3813 Oct 26 09:57	3° \mathcal{B} 25'10 -17°04'10
conjunction	3806 Apr 15 03:57	25° Υ 09'39 -15°45'11	direct	3814 Jan 15 15:54	2° \mathcal{B} 23'59
minimum elong	3806 Apr 15 03:53	25° Υ 09'38 15°45'11			
max. Earth dist.	3806 Apr 17 18:38	25° Υ 13'36 46.24312 AU	conjunction	3814 Apr 23 22:10	3° \mathcal{B} 56'07 -16°23'23
retrograde	3806 Jul 27 01:45	26° Υ 48'18	minimum elong	3814 Apr 23 22:09	3° \mathcal{B} 56'07 16°23'22
min. Earth dist.	3806 Oct 16 08:10	25° Υ 47'36 44.40990 AU	max. Earth dist.	3814 Apr 26 08:01	3° \mathcal{B} 59'40 47.55855 AU
opposition	3806 Oct 18 21:00	25° Υ 44'34 -16°30'31	retrograde	3814 Aug 04 15:56	5° \mathcal{B} 32'05
direct	3807 Jan 08 03:46	24° Υ 42'13	min. Earth dist.	3814 Oct 25 10:37	4° \mathcal{B} 32'21 45.71771 AU
			opposition	3814 Oct 27 17:54	4° \mathcal{B} 29'39 -17°07'33
conjunction	3807 Apr 16 12:46	26° Υ 16'42 -15°51'18	direct	3815 Jan 17 03:06	3° \mathcal{B} 28'36
minimum elong	3807 Apr 16 12:42	26° Υ 16'42 15°51'17			
max. Earth dist.	3807 Apr 19 03:01	26° Υ 20'37 46.41761 AU	conjunction	3815 Apr 25 05:53	5° \mathcal{B} 00'24 -16°26'36
retrograde	3807 Jul 28 08:40	27° Υ 54'58	minimum elong	3815 Apr 25 05:53	5° \mathcal{B} 00'24 16°26'36
min. Earth dist.	3807 Oct 17 16:53	26° Υ 54'26 44.58413 AU	max. Earth dist.	3815 Apr 27 13:38	5° \mathcal{B} 03'49 47.70479 AU
opposition	3807 Oct 20 06:10	26° Υ 51'24 -16°36'30	retrograde	3815 Aug 05 23:54	6° \mathcal{B} 36'02
direct	3808 Jan 09 13:13	25° Υ 49'12	min. Earth dist.	3815 Oct 26 19:00	5° \mathcal{B} 36'23 45.86206 AU
			opposition	3815 Oct 29 01:50	5° \mathcal{B} 33'43 -17°10'37
conjunction	3808 Apr 16 21:08	27° Υ 23'19 -15°57'00	direct	3816 Jan 18 12:10	4° \mathcal{B} 32'47
minimum elong	3808 Apr 16 21:04	27° Υ 23'19 15°57'00			
max. Earth dist.	3808 Apr 19 10:28	27° Υ 27'10 46.58970 AU	conjunction	3816 Apr 25 13:22	6° \mathcal{B} 04'14 -16°29'31
retrograde	3808 Jul 28 15:46	29° Υ 01'14	minimum elong	3816 Apr 25 13:22	6° \mathcal{B} 04'14 16°29'30
min. Earth dist.	3808 Oct 18 02:46	28° Υ 00'49 44.75608 AU	max. Earth dist.	3816 Apr 27 21:02	6° \mathcal{B} 07'38 47.84624 AU
opposition	3808 Oct 20 15:19	27° Υ 57'50 -16°42'05	retrograde	3816 Aug 06 09:17	7° \mathcal{B} 39'33
direct	3809 Jan 09 23:37	26° Υ 55'48	min. Earth dist.	3816 Oct 27 04:42	6° \mathcal{B} 39'54 46.00182 AU
			opposition	3816 Oct 29 09:41	6° \mathcal{B} 37'19 -17°13'21

direct	3817 Jan 18 19:55	5°836'29			3825 Apr 19 12:20	15°8	
conjunction	3817 Apr 26 20:50	7°807'36 -16°32'06		conjunction	3825 May 05 03:38	15°822'02 -16°41'08	
minimum elong	3817 Apr 26 20:50	7°807'36 16°32'07		minimum elong	3825 May 05 03:41	15°822'02 16°41'07	
max. Earth dist.	3817 Apr 29 03:25	7°810'55 47.98358 AU		max. Earth dist.	3825 May 07 03:30	15°824'52 48.96674 AU	
retrograde	3817 Aug 07 17:11	8°842'35		retrograde	3825 Aug 15 20:40	16°854'55	
min. Earth dist.	3817 Oct 28 11:55	7°843'01 46.13767 AU		min. Earth dist.	3825 Nov 06 01:52	15°856'00 47.10819 AU	
opposition	3817 Oct 30 17:00	7°840'27 -17°15'45		opposition	3825 Nov 08 00:07	15°853'48 -17°22'57	
direct	3818 Jan 20 01:44	6°839'42			3826 Jan 05 04:51	15°88	
				direct	3826 Jan 28 10:40	14°854'02	
conjunction	3818 Apr 28 04:02	8°810'31 -16°34'22			3826 Feb 20 09:12	15°8	
minimum elong	3818 Apr 28 04:03	8°810'31 16°34'21					
max. Earth dist.	3818 Apr 30 09:29	8°813'45 48.11725 AU		conjunction	3826 May 06 10:19	16°822'53 -16°40'55	
retrograde	3818 Aug 08 23:40	9°845'10		minimum elong	3826 May 06 10:23	16°822'53 16°40'56	
min. Earth dist.	3818 Oct 29 20:41	8°845'38 46.27020 AU		max. Earth dist.	3826 May 08 09:48	16°825'42 49.07184 AU	
opposition	3818 Nov 01 00:25	8°843'08 -17°17'48		retrograde	3826 Aug 17 04:14	17°855'33	
direct	3819 Jan 21 08:55	7°842'30		min. Earth dist.	3826 Nov 07 10:25	16°856'39 47.21053 AU	
				opposition	3826 Nov 09 06:36	16°854'32 -17°22'30	
conjunction	3819 Apr 29 11:08	9°813'00 -16°36'17		direct	3827 Jan 29 18:12	15°854'53	
minimum elong	3819 Apr 29 11:09	9°813'00 16°36'18					
max. Earth dist.	3819 May 01 16:55	9°816'15 48.24788 AU		conjunction	3827 May 07 16:40	17°823'30 -16°40'27	
retrograde	3819 Aug 10 03:09	10°847'21		minimum elong	3827 May 07 16:43	17°823'30 16°40'27	
min. Earth dist.	3819 Oct 31 04:24	9°847'54 46.39964 AU		max. Earth dist.	3827 May 09 14:25	17°826'12 49.17163 AU	
opposition	3819 Nov 02 07:36	9°845'25 -17°19'31		retrograde	3827 Aug 18 12:52	18°855'56	
direct	3820 Jan 22 18:37	8°844'53		min. Earth dist.	3827 Nov 08 16:49	17°857'07 47.30753 AU	
				opposition	3827 Nov 10 12:52	17°855'01 -17°21'48	
conjunction	3820 Apr 29 18:02	10°815'07 -16°37'53		direct	3828 Jan 30 22:30	16°855'27	
minimum elong	3820 Apr 29 18:04	10°815'07 16°37'53					
max. Earth dist.	3820 May 01 22:09	10°818'15 48.37571 AU		conjunction	3828 May 07 22:57	18°823'50 -16°39'44	
retrograde	3820 Aug 10 10:33	11°849'10		minimum elong	3828 May 07 23:02	18°823'51 16°39'45	
min. Earth dist.	3820 Oct 31 11:29	10°849'50 46.52640 AU		max. Earth dist.	3828 May 09 19:20	18°826'27 49.26622 AU	
opposition	3820 Nov 02 14:39	10°847'22 -17°20'53		retrograde	3828 Aug 18 19:10	19°856'02	
direct	3821 Jan 23 01:43	9°846'57		min. Earth dist.	3828 Nov 09 01:03	18°857'11 47.39968 AU	
				opposition	3828 Nov 10 19:05	18°855'12 -17°20'50	
conjunction	3821 May 01 00:57	11°816'55 -16°39'09		direct	3829 Jan 31 03:32	17°855'42	
minimum elong	3821 May 01 00:58	11°816'55 16°39'10					
max. Earth dist.	3821 May 03 05:15	11°820'03 48.50075 AU		conjunction	3829 May 09 05:13	19°823'52 -16°38'45	
retrograde	3821 Aug 11 18:09	12°850'43		minimum elong	3829 May 09 05:18	19°823'52 16°38'45	
min. Earth dist.	3821 Nov 01 20:08	11°851'26 46.65016 AU		max. Earth dist.	3829 May 11 01:25	19°826'27 49.35635 AU	
opposition	3821 Nov 03 21:39	11°849'02 -17°21'55		retrograde	3829 Aug 19 21:40	20°855'49	
direct	3822 Jan 24 09:29	10°848'46		min. Earth dist.	3829 Nov 10 07:34	19°857'00 47.48747 AU	
				opposition	3829 Nov 12 01:01	19°855'02 -17°19'35	
conjunction	3822 May 02 07:46	12°818'28 -16°40'06		direct	3830 Feb 01 11:12	18°855'36	
minimum elong	3822 May 02 07:49	12°818'28 16°40'06					
max. Earth dist.	3822 May 04 11:02	12°821'31 48.62287 AU		conjunction	3830 May 10 11:12	20°823'33 -16°37'29	
retrograde	3822 Aug 13 02:25	13°852'01		minimum elong	3830 May 10 11:17	20°823'34 16°37'30	
min. Earth dist.	3822 Nov 03 02:36	12°852'52 46.77073 AU		max. Earth dist.	3830 May 12 05:26	20°826'02 49.44247 AU	
opposition	3822 Nov 05 04:17	12°850'29 -17°22'38		retrograde	3830 Aug 21 02:34	21°855'16	
direct	3823 Jan 25 14:02	11°850'20		min. Earth dist.	3830 Nov 11 13:57	20°856'30 47.57167 AU	
				opposition	3830 Nov 13 06:47	20°854'34 -17°18'03	
conjunction	3823 May 03 14:24	13°819'49 -16°40'44		direct	3831 Feb 02 18:06	19°855'11	
minimum elong	3823 May 03 14:25	13°819'49 16°40'44					
max. Earth dist.	3823 May 05 16:35	13°822'48 48.74156 AU		conjunction	3831 May 11 17:11	21°822'56 -16°35'57	
retrograde	3823 Aug 14 10:19	14°853'08		minimum elong	3831 May 11 17:17	21°822'56 16°35'56	
min. Earth dist.	3823 Nov 04 11:03	13°854'03 46.88772 AU		max. Earth dist.	3831 May 13 11:32	21°825'25 49.52523 AU	
opposition	3823 Nov 06 11:06	13°851'45 -17°23'02		retrograde	3831 Aug 22 07:38	22°854'27	
direct	3824 Jan 26 18:20	12°851'44		min. Earth dist.	3831 Nov 12 21:11	21°855'41 47.65262 AU	
				opposition	3831 Nov 14 12:35	21°853'49 -17°16'13	
conjunction	3824 May 03 21:02	14°821'00 -16°41'04		direct	3832 Feb 04 02:11	20°854'30	
minimum elong	3824 May 03 21:05	14°821'00 16°41'04					
max. Earth dist.	3824 May 05 23:06	14°823'59 48.85646 AU		conjunction	3832 May 11 22:56	22°822'03 -16°34'07	
	3824 Jun 01 01:37	15°8		minimum elong	3832 May 11 23:01	22°822'03 16°34'08	
retrograde	3824 Aug 14 14:35	15°854'06		max. Earth dist.	3832 May 13 16:13	22°824'27 49.60512 AU	
	3824 Oct 31 12:06	15°88		retrograde	3832 Aug 22 15:21	23°853'21	
min. Earth dist.	3824 Nov 04 18:29	14°855'07 47.00036 AU		min. Earth dist.	3832 Nov 13 02:34	22°854'41 47.73068 AU	
opposition	3824 Nov 06 17:42	14°852'51 -17°23'08		opposition	3832 Nov 14 18:11	22°852'48 -17°14'06	
direct	3825 Jan 27 02:58	13°852'59		direct	3833 Feb 04 06:48	21°853'34	

conjunction	3833 May 13 04:42	23° 8 20'55 -16°32'00		3841 Mar 27 10:37	0° II
minimum elong	3833 May 13 04:48	23° 8 20'55 16°32'00			
max. Earth dist.	3833 May 14 21:00	23° 8 23'16 49.68205 AU	conjunction	3841 May 21 01:27	1° II 06'04 -16°05'48
retrograde	3833 Aug 23 23:57	24° 8 52'02	minimum elong	3841 May 21 01:35	1° II 06'05 16°05'49
min. Earth dist.	3833 Nov 14 09:40	23° 8 53'22 47.80586 AU	max. Earth dist.	3841 May 22 09:30	1° II 07'54 50.15784 AU
opposition	3833 Nov 15 23:42	23° 8 51'34 -17°11'41	retrograde	3841 Aug 31 14:22	2° II 35'53
direct	3834 Feb 05 08:57	22° 8 52'24	opposition	3841 Nov 23 17:19	1° II 36'00 -16°43'01
			min. Earth dist.	3841 Nov 22 12:18	1° II 37'21 48.25933 AU
conjunction	3834 May 14 10:30	24° 8 19'36 -16°29'36	direct	3842 Feb 13 07:40	0° II 37'19
minimum elong	3834 May 14 10:36	24° 8 19'36 16°29'37			
max. Earth dist.	3834 May 16 02:45	24° 8 21'56 49.75617 AU	conjunction	3842 May 22 06:45	2° II 03'22 -16°01'27
retrograde	3834 Aug 25 03:50	25° 8 50'31	minimum elong	3842 May 22 06:53	2° II 03'23 16°01'27
min. Earth dist.	3834 Nov 15 15:26	24° 8 51'55 47.87788 AU	max. Earth dist.	3842 May 23 13:25	2° II 05'08 50.19677 AU
opposition	3834 Nov 17 05:06	24° 8 50'09 -17°08'59	retrograde	3842 Sep 01 20:42	3° II 33'03
direct	3835 Feb 06 14:47	23° 8 51'04	opposition	3842 Nov 24 22:05	2° II 33'12 -16°38'21
			min. Earth dist.	3842 Nov 23 17:02	2° II 34'34 48.29570 AU
conjunction	3835 May 15 15:55	25° 8 18'06 -16°26'56	direct	3843 Feb 14 12:22	1° II 34'33
minimum elong	3835 May 15 16:03	25° 8 18'06 16°26'56			
max. Earth dist.	3835 May 17 06:25	25° 8 20'20 49.82704 AU	conjunction	3843 May 23 11:47	3° II 00'30 -15°56'52
retrograde	3835 Aug 26 07:45	26° 8 48'52	minimum elong	3843 May 23 11:56	3° II 00'30 15°56'52
min. Earth dist.	3835 Nov 16 21:40	25° 8 50'19 47.94655 AU	max. Earth dist.	3843 May 24 17:23	3° II 02'11 50.23215 AU
opposition	3835 Nov 18 10:32	25° 8 48'35 -17°06'01	retrograde	3843 Sep 03 04:31	4° II 30'03
direct	3836 Feb 07 21:10	24° 8 49'35	min. Earth dist.	3843 Nov 24 23:37	3° II 31'32 48.32880 AU
			opposition	3843 Nov 26 02:59	3° II 30'15 -16°33'24
conjunction	3836 May 15 21:39	26° 8 16'29 -16°24'00	direct	3844 Feb 15 14:37	2° II 31'39
minimum elong	3836 May 15 21:45	26° 8 16'29 16°24'01			
max. Earth dist.	3836 May 17 12:03	26° 8 18'42 49.89421 AU	conjunction	3844 May 23 17:03	3° II 57'29 -15°52'01
retrograde	3836 Aug 26 12:04	27° 8 47'06	minimum elong	3844 May 23 17:12	3° II 57'30 15°52'00
min. Earth dist.	3836 Nov 17 04:47	26° 8 48'33 48.01110 AU	max. Earth dist.	3844 May 24 22:37	3° II 59'10 50.26458 AU
opposition	3836 Nov 18 15:51	26° 8 46'54 -17°02'46	retrograde	3844 Sep 03 08:39	5° II 26'55
direct	3837 Feb 08 05:16	25° 8 47'59	min. Earth dist.	3844 Nov 25 04:22	4° II 28'27 48.35890 AU
			opposition	3844 Nov 26 07:35	4° II 27'11 -16°28'12
conjunction	3837 May 17 03:20	27° 8 14'44 -16°20'49	direct	3845 Feb 15 18:27	3° II 28'37
minimum elong	3837 May 17 03:28	27° 8 14'45 16°20'49			
max. Earth dist.	3837 May 18 16:02	27° 8 16'51 49.95711 AU	conjunction	3845 May 24 22:07	4° II 54'23 -15°46'54
retrograde	3837 Aug 27 19:45	28° 8 45'12	minimum elong	3845 May 24 22:16	4° II 54'23 15°46'55
min. Earth dist.	3837 Nov 18 10:15	27° 8 46'44 48.07095 AU	max. Earth dist.	3845 May 26 01:51	4° II 55'58 50.29412 AU
opposition	3837 Nov 19 21:03	27° 8 45'05 -16°59'17	retrograde	3845 Sep 04 12:43	6° II 23'42
direct	3838 Feb 09 09:45	26° 8 46'15	min. Earth dist.	3845 Nov 26 09:58	5° II 25'16 48.38616 AU
			opposition	3845 Nov 27 12:17	5° II 24'02 -16°22'44
conjunction	3838 May 18 08:57	28° 8 12'52 -16°17'24	direct	3846 Feb 16 23:37	4° II 25'31
minimum elong	3838 May 18 09:03	28° 8 12'52 16°17'24			
max. Earth dist.	3838 May 19 20:05	28° 8 14'53 50.01487 AU	conjunction	3846 May 26 03:15	5° II 51'13 -15°41'32
retrograde	3838 Aug 29 02:39	29° 8 43'10	minimum elong	3846 May 26 03:25	5° II 51'14 15°41'32
min. Earth dist.	3838 Nov 19 17:46	28° 8 44'39 48.12555 AU	max. Earth dist.	3846 May 27 07:03	5° II 52'48 50.32068 AU
opposition	3838 Nov 21 02:18	28° 8 43'08 -16°55'34	retrograde	3846 Sep 05 15:16	7° II 20'28
direct	3839 Feb 10 13:21	27° 8 44'21	opposition	3846 Nov 28 16:53	6° II 20'52 -16°17'00
			min. Earth dist.	3846 Nov 27 15:52	6° II 22'02 48.41024 AU
conjunction	3839 May 19 14:37	29° 8 10'49 -16°13'46	direct	3847 Feb 18 07:39	5° II 22'25
minimum elong	3839 May 19 14:45	29° 8 10'49 16°13'46			
max. Earth dist.	3839 May 21 01:12	29° 8 12'48 50.06748 AU	conjunction	3847 May 27 08:18	6° II 48'03 -15°35'55
	3839 Jun 26 06:48	0° II	minimum elong	3847 May 27 08:26	6° II 48'04 15°35'56
retrograde	3839 Aug 30 06:23	0° II 40'57	max. Earth dist.	3847 May 28 10:42	6° II 49'33 50.34419 AU
	3839 Nov 05 02:28	30° R 8	retrograde	3847 Sep 06 22:36	8° II 17'14
min. Earth dist.	3839 Nov 20 23:33	29° 8 42'28 48.17483 AU	opposition	3847 Nov 29 21:24	7° II 17'43 -16°11'01
opposition	3839 Nov 22 07:24	29° 8 40'58 -16°51'38	min. Earth dist.	3847 Nov 28 20:27	7° II 18'52 48.43101 AU
direct	3840 Feb 11 18:47	28° 8 42'13	direct	3848 Feb 19 11:38	6° II 19'19
	3840 May 13 14:52	0° II			
conjunction	3840 May 19 19:57	0° II 08'33 -16°09'54	conjunction	3848 May 27 13:18	7° II 44'55 -15°30'04
minimum elong	3840 May 19 20:03	0° II 08'34 16°09'54	minimum elong	3848 May 27 13:28	7° II 44'55 15°30'04
max. Earth dist.	3840 May 21 04:11	0° II 10'24 50.11498 AU	max. Earth dist.	3848 May 28 14:32	7° II 46'21 50.36393 AU
retrograde	3840 Aug 30 10:47	1° II 38'31	retrograde	3848 Sep 07 06:16	9° II 14'02
min. Earth dist.	3840 Nov 21 05:44	0° II 40'02 48.21930 AU	min. Earth dist.	3848 Nov 29 03:17	8° II 15'39 48.44771 AU
opposition	3840 Nov 22 12:29	0° II 38'35 -16°47'27	opposition	3848 Nov 30 02:04	8° II 14'35 -16°04'47
	3840 Dec 29 20:36	30° R 8	direct	3849 Feb 19 13:54	7° II 16'15
direct	3841 Feb 12 00:24	29° 8 39'53	conjunction	3849 May 28 18:36	8° II 41'48 -15°23'59

minimum elong	3849 May 28 18:45	8°II41'48	15°23'59	opposition	3856 Dec 07 13:10	15°II46'40	-15°07'05
max. Earth dist.	3849 May 29 19:16	8°II43'12	50.37933 AU	min. Earth dist.	3856 Dec 06 23:31	15°II47'18	48.40577 AU
retrograde	3849 Sep 08 10:42	10°II10'50		direct	3857 Feb 27 04:24	14°II48'19	
min. Earth dist.	3849 Nov 30 08:20	9°II12'29	48.45958 AU	evening set	3857 Jun 01 05:12	16°II07'46	
opposition	3849 Dec 01 06:24	9°II11'28	-15°58'21				
direct	3850 Feb 20 17:43	8°II13'10		conjunction	3857 Jun 05 10:58	16°II13'30	-14°27'35
				minimum elong	3857 Jun 05 11:10	16°II13'31	14°27'35
conjunction	3850 May 29 23:44	9°II38'41	-15°17'41	max. Earth dist.	3857 Jun 06 01:31	16°II14'19	50.32889 AU
minimum elong	3850 May 29 23:55	9°II38'41	15°17'41	morning rise	3857 Jun 09 17:21	16°II19'17	
max. Earth dist.	3850 May 30 21:52	9°II39'56	50.38963 AU	retrograde	3857 Sep 15 21:47	17°II41'58	
retrograde	3850 Sep 09 14:42	11°II07'38		opposition	3857 Dec 08 17:14	16°II42'41	-14°58'49
opposition	3850 Dec 02 11:00	10°II08'18	-15°51'41	min. Earth dist.	3857 Dec 08 03:35	16°II43'19	48.38320 AU
min. Earth dist.	3850 Dec 01 14:20	10°II09'16	48.46620 AU	direct	3858 Feb 28 09:12	15°II44'20	
direct	3851 Feb 21 21:59	9°II10'02		evening set	3858 Jun 01 22:18	17°II03'07	
conjunction	3851 May 31 04:52	10°II35'30	-15°11'11	conjunction	3858 Jun 06 15:54	17°II09'31	-14°19'30
minimum elong	3851 May 31 05:01	10°II35'30	15°11'11	minimum elong	3858 Jun 06 16:04	17°II09'31	14°19'30
max. Earth dist.	3851 Jun 01 02:29	10°II36'43	50.39448 AU	max. Earth dist.	3858 Jun 07 05:17	17°II10'16	50.30595 AU
retrograde	3851 Sep 10 17:13	12°II04'23		morning rise	3858 Jun 11 10:08	17°II15'57	
opposition	3851 Dec 03 15:35	11°II05'04	-15°44'49	retrograde	3858 Sep 17 05:13	18°II37'59	
min. Earth dist.	3851 Dec 02 20:45	11°II05'57	48.46724 AU	opposition	3858 Dec 09 21:35	17°II38'43	-14°50'18
direct	3852 Feb 23 05:03	10°II06'48		min. Earth dist.	3858 Dec 09 09:50	17°II39'15	48.35750 AU
				direct	3859 Mar 01 11:49	16°II40'23	
conjunction	3852 May 31 10:00	11°II32'12	-15°04'29	evening set	3859 Jun 02 16:21	17°II58'34	
minimum elong	3852 May 31 10:11	11°II32'12	15°04'30				
max. Earth dist.	3852 Jun 01 05:51	11°II33'19	50.39407 AU	conjunction	3859 Jun 07 20:47	18°II05'34	-14°11'10
retrograde	3852 Sep 10 22:14	13°II01'00		minimum elong	3859 Jun 07 20:59	18°II05'35	14°11'10
opposition	3852 Dec 03 19:53	12°II01'42	-15°37'44	max. Earth dist.	3859 Jun 08 10:03	18°II06'19	50.27991 AU
min. Earth dist.	3852 Dec 03 01:29	12°II02'33	48.46318 AU	morning rise	3859 Jun 13 01:53	18°II12'37	
direct	3853 Feb 23 10:52	11°II03'25		retrograde	3859 Sep 18 09:52	19°II34'02	
evening set	3853 May 31 11:02	12°II27'09		opposition	3859 Dec 11 01:49	18°II34'48	-14°41'32
				min. Earth dist.	3859 Dec 10 14:15	18°II35'20	48.32835 AU
conjunction	3853 Jun 01 15:06	12°II28'45	-14°57'33	direct	3860 Mar 01 15:26	17°II36'29	
minimum elong	3853 Jun 01 15:15	12°II28'45	14°57'33	evening set	3860 Jun 02 11:11	18°II54'08	
morning rise	3853 Jun 02 19:31	12°II30'21					
max. Earth dist.	3853 Jun 02 09:19	12°II29'46	50.38867 AU	conjunction	3860 Jun 08 01:45	19°II01'43	-14°02'36
retrograde	3853 Sep 12 05:46	13°II57'28		minimum elong	3860 Jun 08 01:55	19°II01'44	14°02'37
min. Earth dist.	3853 Dec 04 08:01	12°II58'55	48.45446 AU	max. Earth dist.	3860 Jun 08 12:49	19°II02'21	50.25019 AU
opposition	3853 Dec 05 00:21	12°II58'09	-15°30'26	morning rise	3860 Jun 13 17:06	19°II09'21	
direct	3854 Feb 24 14:11	11°II59'52		retrograde	3860 Sep 18 14:52	20°II30'12	
evening set	3854 May 31 12:34	13°II22'00		opposition	3860 Dec 11 06:01	19°II31'00	-14°32'32
				min. Earth dist.	3860 Dec 10 19:53	19°II31'28	48.29532 AU
conjunction	3854 Jun 02 20:09	13°II25'08	-14°50'25	direct	3861 Mar 02 18:33	18°II32'41	
minimum elong	3854 Jun 02 20:19	13°II25'08	14°50'26	evening set	3861 Jun 03 06:43	19°II49'52	
max. Earth dist.	3854 Jun 03 14:06	13°II26'09	50.37897 AU				
morning rise	3854 Jun 05 04:09	13°II28'18		conjunction	3861 Jun 09 06:59	19°II58'00	-13°53'50
retrograde	3854 Sep 13 10:53	14°II53'46		minimum elong	3861 Jun 09 07:11	19°II58'00	13°53'50
opposition	3854 Dec 06 04:33	13°II54'27	-15°22'54	max. Earth dist.	3861 Jun 09 17:39	19°II58'36	50.21610 AU
min. Earth dist.	3854 Dec 05 12:35	13°II55'12	48.44161 AU	morning rise	3861 Jun 15 08:00	20°II06'09	
direct	3855 Feb 25 16:55	12°II56'08		retrograde	3861 Sep 19 17:48	21°II26'30	
evening set	3855 May 31 23:08	14°II17'11		opposition	3861 Dec 12 10:19	20°II27'19	-14°23'19
				min. Earth dist.	3861 Dec 12 01:57	20°II27'43	48.25746 AU
conjunction	3855 Jun 04 01:01	14°II21'22	-14°43'03	direct	3862 Mar 04 01:02	19°II29'01	
minimum elong	3855 Jun 04 01:12	14°II21'22	14°43'02	evening set	3862 Jun 04 02:46	20°II45'44	
max. Earth dist.	3855 Jun 04 16:59	14°II22'16	50.36550 AU				
morning rise	3855 Jun 07 03:24	14°II25'33		conjunction	3862 Jun 10 12:04	20°II54'22	-13°44'51
retrograde	3855 Sep 14 15:38	15°II49'55		minimum elong	3862 Jun 10 12:14	20°II54'23	13°44'50
opposition	3855 Dec 07 08:51	14°II50'37	-15°15'07	max. Earth dist.	3862 Jun 10 20:51	20°II54'52	50.17705 AU
min. Earth dist.	3855 Dec 06 17:57	14°II51'18	48.42535 AU	morning rise	3862 Jun 16 22:10	21°II03'03	
direct	3856 Feb 26 20:47	13°II52'17		retrograde	3862 Sep 20 22:55	22°II22'54	
evening set	3856 May 31 13:10	15°II12'27		opposition	3862 Dec 13 14:32	21°II23'44	-14°13'54
				min. Earth dist.	3862 Dec 13 06:40	21°II24'06	48.21441 AU
conjunction	3856 Jun 04 05:59	15°II17'28	-14°35'26	direct	3863 Mar 05 06:01	20°II25'26	
minimum elong	3856 Jun 04 06:09	15°II17'29	14°35'27	evening set	3863 Jun 04 23:11	21°II41'42	
max. Earth dist.	3856 Jun 04 21:52	15°II18'22	50.34871 AU				
morning rise	3856 Jun 07 23:19	15°II22'30		conjunction	3863 Jun 11 17:13	21°II50'49	-13°35'39
retrograde	3856 Sep 14 16:43	16°II45'59		minimum elong	3863 Jun 11 17:25	21°II50'50	13°35'40

max. Earth dist.	3863 Jun 12 00:10	21°II51'13	50.13256 AU	conjunction	3870 Jun 18 05:10	28°II26'05	-12°25'15
morning rise	3863 Jun 18 12:12	22°II00'00		minimum elong	3870 Jun 18 05:22	28°II26'06	12°25'14
retrograde	3863 Sep 22 06:17	23°II19'23		max. Earth dist.	3870 Jun 18 04:13	28°II26'02	49.70067 AU
opposition	3863 Dec 14 18:56	22°II20'13	-14°04'16	morning rise	3870 Jun 27 05:36	28°II38'18	
min. Earth dist.	3863 Dec 14 13:21	22°II20'28	48.16594 AU	retrograde	3870 Sep 28 17:46	29°II54'52	
direct	3864 Mar 05 09:18	21°II21'53		opposition	3870 Dec 21 00:29	28°II55'30	-12°50'27
evening set	3864 Jun 04 20:00	22°II37'43		min. Earth dist.	3870 Dec 21 01:19	28°II55'27	47.71166 AU
				direct	3871 Mar 12 13:13	27°II56'48	
conjunction	3864 Jun 11 22:25	22°II47'19	-13°26'16	evening set	3871 Jun 10 04:23	29°II10'13	
minimum elong	3864 Jun 11 22:36	22°II47'19	13°26'15				
max. Earth dist.	3864 Jun 12 04:48	22°II47'40	50.08288 AU	conjunction	3871 Jun 19 10:29	29°II22'44	-12°14'14
morning rise	3864 Jun 19 01:41	22°II56'58		minimum elong	3871 Jun 19 10:40	29°II22'45	12°14'15
retrograde	3864 Sep 22 12:32	24°II15'52		max. Earth dist.	3871 Jun 19 09:28	29°II22'41	49.62634 AU
opposition	3864 Dec 14 23:09	23°II16'41	-13°54'25	morning rise	3871 Jun 28 17:43	29°II35'20	
min. Earth dist.	3864 Dec 14 18:08	23°II16'55	48.11226 AU		3871 Jul 17 17:20	0°☾	
direct	3865 Mar 06 11:29	22°II18'18		retrograde	3871 Sep 29 20:25	0°☾51'35	
evening set	3865 Jun 05 17:10	23°II33'44			3871 Dec 15 06:29	30°☿II	
				opposition	3871 Dec 22 04:49	29°II52'12	-12°38'56
conjunction	3865 Jun 13 03:32	23°II43'47	-13°16'40	min. Earth dist.	3871 Dec 22 06:57	29°II52'06	47.63429 AU
minimum elong	3865 Jun 13 03:44	23°II43'48	13°16'40	direct	3872 Mar 12 19:31	28°II53'28	
max. Earth dist.	3865 Jun 13 07:31	23°II44'01	50.02822 AU		3872 Jun 05 03:56	0°☾	
morning rise	3865 Jun 20 14:59	23°II53'53		evening set	3872 Jun 10 03:08	0°☾06'38	
retrograde	3865 Sep 23 18:20	25°II12'21					
opposition	3865 Dec 16 03:18	24°II13'09	-13°44'22	conjunction	3872 Jun 19 15:47	0°☾19'32	-12°03'00
min. Earth dist.	3865 Dec 15 23:48	24°II13'19	48.05405 AU	minimum elong	3872 Jun 19 15:59	0°☾19'33	12°03'00
direct	3866 Mar 07 14:31	23°II14'42		max. Earth dist.	3872 Jun 19 13:20	0°☾19'24	49.54882 AU
evening set	3866 Jun 06 14:29	24°II29'45		morning rise	3872 Jun 29 05:42	0°☾32'31	
				retrograde	3872 Sep 30 00:47	1°☾48'29	
conjunction	3866 Jun 14 08:45	24°II40'14	-13°06'51	opposition	3872 Dec 22 09:09	0°☾49'05	-12°27'09
minimum elong	3866 Jun 14 08:56	24°II40'15	13°06'50	min. Earth dist.	3872 Dec 22 11:35	0°☾48'58	47.55337 AU
max. Earth dist.	3866 Jun 14 12:23	24°II40'27	49.96924 AU		3873 Feb 11 18:46	30°☿II	
morning rise	3866 Jun 22 03:58	24°II50'47		direct	3873 Mar 14 00:41	29°II50'19	
retrograde	3866 Sep 24 18:47	26°II08'49			3873 Apr 12 23:23	0°☾	
opposition	3866 Dec 17 07:33	25°II09'35	-13°34'04	evening set	3873 Jun 11 02:07	1°☾03'14	
min. Earth dist.	3866 Dec 17 05:18	25°II09'41	47.99176 AU				
direct	3867 Mar 08 22:21	24°II11'05		conjunction	3873 Jun 20 21:17	1°☾16'31	-11°51'32
evening set	3867 Jun 07 11:58	25°II25'46		minimum elong	3873 Jun 20 21:28	1°☾16'31	11°51'32
				max. Earth dist.	3873 Jun 20 17:09	1°☾16'17	49.46716 AU
conjunction	3867 Jun 15 13:41	25°II36'40	-12°56'48	morning rise	3873 Jun 30 17:49	1°☾29'53	
minimum elong	3867 Jun 15 13:52	25°II36'41	12°56'49	retrograde	3873 Oct 01 07:17	2°☾45'35	
max. Earth dist.	3867 Jun 15 16:03	25°II36'48	49.90668 AU	opposition	3873 Dec 23 13:34	1°☾46'09	-12°15'10
morning rise	3867 Jun 23 16:27	25°II47'38		min. Earth dist.	3873 Dec 23 18:18	1°☾45'56	47.46804 AU
retrograde	3867 Sep 25 22:43	27°II05'17		direct	3874 Mar 15 05:23	0°☾47'20	
opposition	3867 Dec 18 11:43	26°II06'00	-13°23'32	evening set	3874 Jun 12 01:25	2°☾00'01	
min. Earth dist.	3867 Dec 18 09:38	26°II06'06	47.92613 AU				
direct	3868 Mar 09 04:33	25°II07'27		conjunction	3874 Jun 22 02:58	2°☾13'40	-11°39'51
evening set	3868 Jun 07 09:45	26°II21'47		minimum elong	3874 Jun 22 03:10	2°☾13'41	11°39'52
				max. Earth dist.	3874 Jun 21 22:17	2°☾13'24	49.38090 AU
conjunction	3868 Jun 15 18:51	26°II33'06	-12°46'31	morning rise	3874 Jul 02 05:42	2°☾27'24	
minimum elong	3868 Jun 15 19:02	26°II33'06	12°46'31	retrograde	3874 Oct 02 14:26	3°☾42'50	
max. Earth dist.	3868 Jun 15 19:57	26°II33'10	49.84080 AU	opposition	3874 Dec 24 18:04	2°☾43'23	-12°02'57
morning rise	3868 Jun 24 05:06	26°II44'30		min. Earth dist.	3874 Dec 24 23:20	2°☾43'08	47.37771 AU
retrograde	3868 Sep 26 06:26	28°II01'45		direct	3875 Mar 16 08:23	1°☾44'30	
opposition	3868 Dec 18 15:57	27°II02'26	-13°12'46	evening set	3875 Jun 13 00:48	2°☾56'57	
min. Earth dist.	3868 Dec 18 15:42	27°II02'27	47.85746 AU				
direct	3869 Mar 10 07:43	26°II03'50		conjunction	3875 Jun 23 08:25	3°☾10'58	-11°27'58
evening set	3869 Jun 08 07:50	27°II17'50		minimum elong	3875 Jun 23 08:36	3°☾10'59	11°27'58
				max. Earth dist.	3875 Jun 23 01:08	3°☾10'33	49.28947 AU
conjunction	3869 Jun 17 00:07	27°II29'33	-12°36'00	morning rise	3875 Jul 03 17:31	3°☾25'04	
minimum elong	3869 Jun 17 00:19	27°II29'34	12°36'01	retrograde	3875 Oct 03 22:02	4°☾40'14	
max. Earth dist.	3869 Jun 17 01:04	27°II29'37	49.77214 AU	opposition	3875 Dec 25 22:45	3°☾40'44	-11°50'30
morning rise	3869 Jun 25 17:27	27°II41'22		min. Earth dist.	3875 Dec 26 05:42	3°☾40'24	47.28222 AU
retrograde	3869 Sep 27 11:38	28°II58'16		direct	3876 Mar 16 10:43	2°☾41'46	
opposition	3869 Dec 19 20:09	27°II58'55	-13°01'44	evening set	3876 Jun 13 00:27	3°☾54'00	
min. Earth dist.	3869 Dec 19 19:54	27°II58'56	47.78592 AU				
direct	3870 Mar 11 11:03	27°II00'16		conjunction	3876 Jun 23 14:16	4°☾08'23	-11°15'52
evening set	3870 Jun 09 06:02	28°II13'57		minimum elong	3876 Jun 23 14:28	4°☾08'23	11°15'53

max. Earth dist.	3876 Jun 23 06:19	4°☾07'56	49.19281 AU	conjunction	3883 Jul 01 07:22	10°☾53'46	-9°44'43
morning rise	3876 Jul 04 05:22	4°☾22'50		minimum elong	3883 Jul 01 07:34	10°☾53'47	9°44'43
retrograde	3876 Oct 04 00:45	5°☾37'45		max. Earth dist.	3883 Jun 30 15:13	10°☾52'51	48.40728 AU
opposition	3876 Dec 26 03:18	4°☾38'10	-11°37'51	morning rise	3883 Jul 13 13:22	11°☾10'36	
min. Earth dist.	3876 Dec 26 11:48	4°☾37'46	47.18154 AU	retrograde	3883 Oct 11 15:53	12°☾24'14	
direct	3877 Mar 17 17:36	3°☾39'07		opposition	3884 Jan 02 12:53	11°☾24'12	-10°02'27
evening set	3877 Jun 14 00:26	4°☾51'09		min. Earth dist.	3884 Jan 03 04:17	11°☾23'27	46.37416 AU
				direct	3884 Mar 24 04:49	10°☾24'30	
conjunction	3877 Jun 24 20:03	5°☾05'52	-11°03'33	evening set	3884 Jun 19 04:12	11°☾35'37	
minimum elong	3877 Jun 24 20:14	5°☾05'53	11°03'33				
max. Earth dist.	3877 Jun 24 10:25	5°☾05'19	49.09135 AU	conjunction	3884 Jul 01 13:47	11°☾52'40	-9°30'43
morning rise	3877 Jul 05 17:04	5°☾20'40		minimum elong	3884 Jul 01 13:57	11°☾52'40	9°30'43
retrograde	3877 Oct 05 04:36	6°☾35'21		max. Earth dist.	3884 Jun 30 21:22	11°☾51'43	48.28279 AU
opposition	3877 Dec 27 07:53	5°☾35'42	-11°24'58	morning rise	3884 Jul 14 00:42	12°☾09'49	
min. Earth dist.	3877 Dec 27 16:54	5°☾35'16	47.07633 AU	retrograde	3884 Oct 12 00:09	13°☾23'20	
direct	3878 Mar 19 00:07	4°☾36'32		opposition	3885 Jan 02 17:49	12°☾23'15	-9°47'49
evening set	3878 Jun 15 00:18	5°☾48'23		min. Earth dist.	3885 Jan 03 09:36	12°☾22'30	46.24632 AU
				direct	3885 Mar 25 08:09	11°☾23'29	
conjunction	3878 Jun 26 01:42	6°☾03'27	-10°51'00	evening set	3885 Jun 20 05:53	12°☾34'33	
minimum elong	3878 Jun 26 01:53	6°☾03'27	10°51'01				
max. Earth dist.	3878 Jun 25 14:30	6°☾02'48	48.98542 AU	conjunction	3885 Jul 02 20:14	12°☾51'55	-9°16'29
morning rise	3878 Jul 07 04:35	6°☾18'36		minimum elong	3885 Jul 02 20:25	12°☾51'56	9°16'29
retrograde	3878 Oct 06 11:29	7°☾33'03		max. Earth dist.	3885 Jul 02 01:22	12°☾50'50	48.15438 AU
opposition	3878 Dec 28 12:38	6°☾33'20	-11°11'51	morning rise	3885 Jul 15 12:16	13°☾09'23	
min. Earth dist.	3878 Dec 28 23:40	6°☾32'48	46.96704 AU	retrograde	3885 Oct 13 10:17	14°☾22'49	
direct	3879 Mar 20 04:30	5°☾34'04		opposition	3886 Jan 03 23:07	13°☾22'41	-9°32'55
evening set	3879 Jun 16 00:27	6°☾45'44		min. Earth dist.	3886 Jan 04 16:39	13°☾21'50	46.11432 AU
				direct	3886 Mar 26 09:30	12°☾22'49	
conjunction	3879 Jun 27 07:33	7°☾01'08	-10°38'14	evening set	3886 Jun 21 07:34	13°☾33'51	
minimum elong	3879 Jun 27 07:44	7°☾01'09	10°38'14	max. Earth dist.	3886 Jul 03 07:24	13°☾50'24	48.02129 AU
max. Earth dist.	3879 Jun 26 20:07	7°☾00'29	48.87585 AU				
morning rise	3879 Jul 08 15:58	7°☾16'38		conjunction	3886 Jul 04 02:52	13°☾51'32	-9°02'01
retrograde	3879 Oct 07 17:29	8°☾30'52		minimum elong	3886 Jul 04 03:02	13°☾51'32	9°02'01
opposition	3879 Dec 29 17:13	7°☾31'04	-10°58'29	morning rise	3886 Jul 16 23:31	14°☾09'18	
min. Earth dist.	3879 Dec 30 04:18	7°☾30'33	46.85428 AU	retrograde	3886 Oct 14 15:27	15°☾22'39	
direct	3880 Mar 20 08:18	6°☾31'43		opposition	3887 Jan 05 04:32	14°☾22'26	-9°17'47
evening set	3880 Jun 16 00:49	7°☾43'13		min. Earth dist.	3887 Jan 05 23:28	14°☾21'32	45.97728 AU
				direct	3887 Mar 27 15:59	13°☾22'28	
conjunction	3880 Jun 27 13:20	7°☾58'58	-10°25'13	evening set	3887 Jun 22 09:44	14°☾33'28	
minimum elong	3880 Jun 27 13:31	7°☾58'58	10°25'14				
max. Earth dist.	3880 Jun 26 23:52	7°☾58'12	48.76299 AU	conjunction	3887 Jul 05 09:37	14°☾51'27	-8°47'20
morning rise	3880 Jul 09 03:27	8°☾14'48		minimum elong	3887 Jul 05 09:48	14°☾51'27	8°47'21
retrograde	3880 Oct 08 00:58	9°☾28'51		max. Earth dist.	3887 Jul 04 12:15	14°☾50'12	47.88320 AU
opposition	3880 Dec 29 22:03	8°☾28'59	-10°44'52	morning rise	3887 Jul 18 11:02	15°☾09'32	
min. Earth dist.	3880 Dec 30 10:29	8°☾28'23	46.73851 AU	retrograde	3887 Oct 15 19:24	16°☾22'48	
direct	3881 Mar 21 11:09	7°☾29'32		opposition	3888 Jan 06 09:57	15°☾22'29	-9°02'25
evening set	3881 Jun 17 01:19	8°☾40'55		min. Earth dist.	3888 Jan 07 05:42	15°☾21'32	45.83515 AU
				direct	3888 Mar 27 23:56	14°☾22'23	
conjunction	3881 Jun 28 19:22	8°☾56'59	-10°11'58	evening set	3888 Jun 22 12:02	15°☾33'20	
minimum elong	3881 Jun 28 19:34	8°☾57'00	10°11'57				
max. Earth dist.	3881 Jun 28 05:48	8°☾56'12	48.64713 AU	conjunction	3888 Jul 05 16:32	15°☾51'37	-8°32'25
morning rise	3881 Jul 10 14:47	9°☾13'09		minimum elong	3888 Jul 05 16:42	15°☾51'38	8°32'25
retrograde	3881 Oct 09 04:20	10°☾27'01		max. Earth dist.	3888 Jul 04 17:13	15°☾50'16	47.73978 AU
opposition	3881 Dec 31 02:49	9°☾27'06	-10°30'59	morning rise	3888 Jul 18 22:34	16°☾10'01	
min. Earth dist.	3881 Dec 31 16:16	9°☾26'27	46.61980 AU	retrograde	3888 Oct 16 01:21	17°☾23'12	
direct	3882 Mar 22 17:55	8°☾27'33		opposition	3889 Jan 06 15:38	16°☾22'46	-8°46'49
evening set	3882 Jun 18 02:07	9°☾38'50		min. Earth dist.	3889 Jan 07 13:39	16°☾21'42	45.68782 AU
max. Earth dist.	3882 Jun 29 10:25	9°☾54'23	48.52864 AU	direct	3889 Mar 29 06:53	15°☾22'31	
				evening set	3889 Jun 23 14:34	16°☾33'25	
conjunction	3882 Jun 30 01:21	9°☾55'14	-9°58'28				
minimum elong	3882 Jun 30 01:32	9°☾55'15	9°58'28	conjunction	3889 Jul 06 23:35	16°☾52'01	-8°17'17
morning rise	3882 Jul 12 02:05	10°☾11'43		minimum elong	3889 Jul 06 23:45	16°☾52'01	8°17'17
retrograde	3882 Oct 10 09:17	11°☾25'28		max. Earth dist.	3889 Jul 05 23:37	16°☾50'37	47.59147 AU
opposition	3883 Jan 01 07:43	10°☾25'29	-10°16'51	morning rise	3889 Jul 20 09:56	17°☾10'42	
min. Earth dist.	3883 Jan 01 21:15	10°☾24'50	46.49848 AU	retrograde	3889 Oct 17 08:24	18°☾23'49	
direct	3883 Mar 23 23:24	9°☾25'52		opposition	3890 Jan 07 21:08	17°☾23'15	-8°30'58
evening set	3883 Jun 19 02:56	10°☾37'03		min. Earth dist.	3890 Jan 08 19:28	17°☾22'10	45.53578 AU

direct	3890 Mar 30 12:07	16°☾22'50		retrograde	3896 Oct 24 14:30	25°☾35'15	
evening set	3890 Jun 24 17:23	17°☾33'43		opposition	3897 Jan 14 15:54	24°☾33'44	-6°32'38
max. Earth dist.	3890 Jul 07 04:18	17°☾51'04	47.43871 AU	min. Earth dist.	3897 Jan 15 21:14	24°☾32'18	44.38153 AU
				direct	3897 Apr 06 03:28	23°☾32'10	
conjunction	3890 Jul 08 06:34	17°☾52'36	-8°01'54	evening set	3897 Jun 30 19:30	24°☾43'29	
minimum elong	3890 Jul 08 06:43	17°☾52'36	8°01'54	max. Earth dist.	3897 Jul 14 02:18	25°☾02'22	46.28288 AU
morning rise	3890 Jul 21 21:23	18°☾11'35					
retrograde	3890 Oct 18 17:43	19°☾24'38		conjunction	3897 Jul 15 11:31	25°☾04'21	-6°07'12
opposition	3891 Jan 09 02:55	18°☾23'55	-8°14'52	minimum elong	3897 Jul 15 11:39	25°☾04'22	6°07'12
min. Earth dist.	3891 Jan 10 02:57	18°☾22'45	45.37976 AU	morning rise	3897 Jul 30 04:54	25°☾25'19	
direct	3891 Mar 31 15:35	17°☾23'20		retrograde	3897 Oct 25 22:06	26°☾38'30	
evening set	3891 Jun 25 20:07	18°☾34'12		opposition	3898 Jan 15 22:31	25°☾36'53	-6°14'39
max. Earth dist.	3891 Jul 08 11:11	18°☾51'49	47.28212 AU	min. Earth dist.	3898 Jan 17 04:43	25°☾35'24	44.20482 AU
				direct	3898 Apr 07 10:46	24°☾35'10	
conjunction	3891 Jul 09 13:40	18°☾53'22	-7°46'17	evening set	3898 Jul 02 00:34	25°☾46'38	
minimum elong	3891 Jul 09 13:50	18°☾53'23	7°46'17	max. Earth dist.	3898 Jul 15 09:07	26°☾05'41	46.10511 AU
morning rise	3891 Jul 23 08:33	19°☾12'39					
retrograde	3891 Oct 20 00:04	20°☾25'38		conjunction	3898 Jul 16 19:54	26°☾07'47	-5°49'48
opposition	3892 Jan 10 08:48	19°☾24'47	-7°58'31	minimum elong	3898 Jul 16 20:02	26°☾07'47	5°49'47
min. Earth dist.	3892 Jan 11 09:48	19°☾23'34	45.22013 AU	morning rise	3898 Jul 31 16:30	26°☾29'01	
direct	3892 Mar 31 22:09	18°☾24'01		retrograde	3898 Oct 27 04:50	27°☾42'20	
evening set	3892 Jun 25 23:25	19°☾34'54		opposition	3899 Jan 17 05:31	26°☾40'34	-5°56'24
				min. Earth dist.	3899 Jan 18 13:48	26°☾38'58	44.02376 AU
conjunction	3892 Jul 09 20:56	19°☾54'22	-7°30'25	direct	3899 Apr 08 19:09	25°☾38'41	
minimum elong	3892 Jul 09 21:06	19°☾54'22	7°30'24	evening set	3899 Jul 03 05:50	26°☾50'19	
max. Earth dist.	3892 Jul 08 16:55	19°☾52'43	47.12233 AU	max. Earth dist.	3899 Jul 16 16:50	27°☾09'35	45.92291 AU
morning rise	3892 Jul 23 19:58	20°☾13'55					
retrograde	3892 Oct 20 06:49	21°☾26'53		conjunction	3899 Jul 18 04:25	27°☾11'44	-5°32'08
opposition	3893 Jan 10 14:36	20°☾25'53	-7°41'53	minimum elong	3899 Jul 18 04:33	27°☾11'44	5°32'08
min. Earth dist.	3893 Jan 11 15:58	20°☾24'38	45.05759 AU	morning rise	3899 Aug 02 04:06	27°☾33'14	
direct	3893 Apr 02 04:32	19°☾24'56		retrograde	3899 Oct 28 13:07	28°☾46'40	
evening set	3893 Jun 27 02:53	20°☾35'51		opposition	3900 Jan 18 12:35	27°☾44'46	-5°37'53
max. Earth dist.	3893 Jul 09 23:10	20°☾53'52	46.95960 AU	min. Earth dist.	3900 Jan 19 21:10	27°☾43'09	43.83805 AU
				direct	3900 Apr 10 02:06	26°☾42'42	
conjunction	3893 Jul 11 04:24	20°☾55'36	-7°14'17	evening set	3900 Jul 04 11:45	27°☾54'30	
minimum elong	3893 Jul 11 04:33	20°☾55'36	7°14'18	max. Earth dist.	3900 Jul 17 23:05	28°☾13'52	45.73591 AU
morning rise	3893 Jul 25 07:21	21°☾15'27					
retrograde	3893 Oct 21 12:14	22°☾28'24		conjunction	3900 Jul 19 13:14	28°☾16'10	-5°14'14
opposition	3894 Jan 11 20:48	21°☾27'15	-7°24'59	minimum elong	3900 Jul 19 13:21	28°☾16'11	5°14'15
min. Earth dist.	3894 Jan 12 23:54	21°☾25'56	44.89237 AU	morning rise	3900 Aug 03 16:01	28°☾37'56	
direct	3894 Apr 03 12:04	20°☾26'09		retrograde	3900 Oct 29 23:57	29°☾51'30	
evening set	3894 Jun 28 06:26	21°☾37'07		opposition	3901 Jan 19 19:49	28°☾49'26	-5°19'06
max. Earth dist.	3894 Jul 11 06:31	21°☾55'24	46.79445 AU	min. Earth dist.	3901 Jan 21 06:34	28°☾47'42	43.64777 AU
				direct	3901 Apr 11 06:56	27°☾47'09	
conjunction	3894 Jul 12 11:50	21°☾57'08	-6°57'54	evening set	3901 Jul 05 17:47	28°☾59'09	
minimum elong	3894 Jul 12 11:59	21°☾57'09	6°57'54	max. Earth dist.	3901 Jul 19 07:44	29°☾18'44	45.54444 AU
morning rise	3894 Jul 26 18:29	22°☾17'16					
retrograde	3894 Oct 22 19:25	23°☾30'15		conjunction	3901 Jul 20 22:19	29°☾21'04	-4°56'05
opposition	3895 Jan 13 03:00	22°☾28'59	-7°07'49	minimum elong	3901 Jul 20 22:26	29°☾21'05	4°56'05
min. Earth dist.	3895 Jan 14 05:55	22°☾27'39	44.72474 AU	morning rise	3901 Aug 05 03:46	29°☾43'05	
direct	3895 Apr 04 18:22	21°☾27'42			3901 Aug 17 09:33	0°♂	
evening set	3895 Jun 29 10:30	22°☾38'45		retrograde	3901 Oct 31 09:46	0°♂56'47	
					3902 Jan 16 14:23	30°♂☾	
conjunction	3895 Jul 13 19:27	22°☾59'04	-6°41'15	opposition	3902 Jan 21 03:16	29°☾54'33	-5°00'03
minimum elong	3895 Jul 13 19:35	22°☾59'05	6°41'16	min. Earth dist.	3902 Jan 22 14:52	29°☾52'46	43.45321 AU
max. Earth dist.	3895 Jul 12 12:03	22°☾57'12	46.62685 AU	direct	3902 Apr 12 13:57	28°☾52'03	
morning rise	3895 Jul 28 05:56	23°☾19'29			3902 Jul 04 00:08	0°♂	
retrograde	3895 Oct 24 06:31	24°☾32'30		evening set	3902 Jul 07 00:06	0°♂04'15	
opposition	3896 Jan 14 09:22	23°☾31'07	-6°50'22	max. Earth dist.	3902 Jul 20 14:45	0°♂23'57	45.34905 AU
min. Earth dist.	3896 Jan 15 13:50	23°☾29'43	44.55468 AU				
direct	3896 Apr 04 21:03	22°☾29'42		conjunction	3902 Jul 22 07:13	0°♂26'25	-4°37'41
evening set	3896 Jun 29 14:43	23°☾40'52		minimum elong	3902 Jul 22 07:20	0°♂26'26	4°37'42
max. Earth dist.	3896 Jul 12 19:59	23°☾59'35	46.45652 AU	morning rise	3902 Aug 06 15:30	0°♂48'41	
				retrograde	3902 Nov 01 20:22	2°♂02'32	
conjunction	3896 Jul 14 03:27	24°☾01'27	-6°24'21	opposition	3903 Jan 22 10:50	1°♂00'06	-4°40'44
minimum elong	3896 Jul 14 03:36	24°☾01'28	6°24'21	min. Earth dist.	3903 Jan 23 23:11	0°♂58'16	43.25513 AU
morning rise	3896 Jul 28 17:20	24°☾22'08			3903 Mar 29 20:27	30°♂☾	

direct	3903 Apr 13 21:17	29° $\mathring{\text{O}}$ 57'22	morning rise	3909 Aug 15 03:31	8° $\mathring{\text{O}}$ 42'05
	3903 Apr 28 23:32	0° $\mathring{\text{O}}$	retrograde	3909 Nov 09 16:08	9° $\mathring{\text{O}}$ 57'40
evening set	3903 Jul 08 06:47	1° $\mathring{\text{O}}$ 09'47	opposition	3910 Jan 29 21:46	8° $\mathring{\text{O}}$ 53'52 -2°17'34
max. Earth dist.	3903 Jul 21 23:02	1° $\mathring{\text{O}}$ 29'40 45.15017 AU	min. Earth dist.	3910 Jan 31 16:00	8° $\mathring{\text{O}}$ 51'41 41.80149 AU
			direct	3910 Apr 21 08:51	7° $\mathring{\text{O}}$ 49'30
conjunction	3903 Jul 23 16:33	1° $\mathring{\text{O}}$ 32'13 -4°19'02	evening set	3910 Jul 15 16:57	9° $\mathring{\text{O}}$ 04'10
minimum elong	3903 Jul 23 16:39	1° $\mathring{\text{O}}$ 32'13 4°19'01	max. Earth dist.	3910 Jul 29 15:04	9° $\mathring{\text{O}}$ 25'06 43.69297 AU
morning rise	3903 Aug 08 03:17	1° $\mathring{\text{O}}$ 54'43			
retrograde	3903 Nov 03 02:58	3° $\mathring{\text{O}}$ 08'44	conjunction	3910 Jul 31 16:05	9° $\mathring{\text{O}}$ 28'13 -2°01'03
opposition	3904 Jan 23 18:35	2° $\mathring{\text{O}}$ 06'06 -4°21'08	minimum elong	3910 Jul 31 16:08	9° $\mathring{\text{O}}$ 28'13 2°01'03
min. Earth dist.	3904 Jan 25 08:39	2° $\mathring{\text{O}}$ 04'11 43.05393 AU	morning rise	3910 Aug 16 15:50	9° $\mathring{\text{O}}$ 52'19
direct	3904 Apr 14 06:43	1° $\mathring{\text{O}}$ 03'08	retrograde	3910 Nov 11 03:06	11° $\mathring{\text{O}}$ 08'15
evening set	3904 Jul 08 13:50	2° $\mathring{\text{O}}$ 15'47	opposition	3911 Jan 31 07:23	10° $\mathring{\text{O}}$ 04'15 -1°56'00
max. Earth dist.	3904 Jul 22 08:06	2° $\mathring{\text{O}}$ 35'52 44.94857 AU	min. Earth dist.	3911 Feb 02 03:47	10° $\mathring{\text{O}}$ 01'56 41.58347 AU
			direct	3911 Apr 22 17:03	8° $\mathring{\text{O}}$ 59'38
conjunction	3904 Jul 24 02:05	2° $\mathring{\text{O}}$ 38'27 -4°00'06	evening set	3911 Jul 17 03:09	10° $\mathring{\text{O}}$ 14'43
minimum elong	3904 Jul 24 02:11	2° $\mathring{\text{O}}$ 38'28 4°00'07	max. Earth dist.	3911 Jul 31 02:15	10° $\mathring{\text{O}}$ 35'49 43.47340 AU
morning rise	3904 Aug 08 15:11	3° $\mathring{\text{O}}$ 01'13			
retrograde	3904 Nov 03 10:06	4° $\mathring{\text{O}}$ 15'25	conjunction	3911 Aug 02 03:39	10° $\mathring{\text{O}}$ 38'58 -1°40'17
opposition	3905 Jan 24 02:28	3° $\mathring{\text{O}}$ 12'35 -4°01'15	minimum elong	3911 Aug 02 03:41	10° $\mathring{\text{O}}$ 38'58 1°40'18
min. Earth dist.	3905 Jan 25 16:28	3° $\mathring{\text{O}}$ 10'39 42.85024 AU	morning rise	3911 Aug 18 04:24	11° $\mathring{\text{O}}$ 03'16
direct	3905 Apr 15 16:19	2° $\mathring{\text{O}}$ 09'23	retrograde	3911 Nov 12 14:43	12° $\mathring{\text{O}}$ 19'35
evening set	3905 Jul 09 21:20	3° $\mathring{\text{O}}$ 22'17	opposition	3912 Feb 01 17:04	11° $\mathring{\text{O}}$ 15'21 -1°34'08
max. Earth dist.	3905 Jul 23 15:44	3° $\mathring{\text{O}}$ 42'29 44.74452 AU	min. Earth dist.	3912 Feb 03 14:04	11° $\mathring{\text{O}}$ 13'00 41.36142 AU
			direct	3912 Apr 23 02:03	10° $\mathring{\text{O}}$ 10'28
conjunction	3905 Jul 25 11:42	3° $\mathring{\text{O}}$ 45'12 -3°40'55	evening set	3912 Jul 17 14:03	11° $\mathring{\text{O}}$ 26'00
minimum elong	3905 Jul 25 11:47	3° $\mathring{\text{O}}$ 45'12 3°40'55	max. Earth dist.	3912 Jul 31 11:30	11° $\mathring{\text{O}}$ 47'07 43.24975 AU
morning rise	3905 Aug 10 03:04	4° $\mathring{\text{O}}$ 08'11			
retrograde	3905 Nov 04 21:40	5° $\mathring{\text{O}}$ 22'37	conjunction	3912 Aug 02 15:24	11° $\mathring{\text{O}}$ 50'26 -1°19'17
opposition	3906 Jan 25 10:40	4° $\mathring{\text{O}}$ 19'35 -3°41'05	minimum elong	3912 Aug 02 15:26	11° $\mathring{\text{O}}$ 50'26 1°19'18
min. Earth dist.	3906 Jan 27 02:15	4° $\mathring{\text{O}}$ 17'34 42.64449 AU	morning rise	3912 Aug 18 17:15	12° $\mathring{\text{O}}$ 14'55
direct	3906 Apr 16 21:32	3° $\mathring{\text{O}}$ 16'08	retrograde	3912 Nov 13 05:35	13° $\mathring{\text{O}}$ 31'38
evening set	3906 Jul 11 05:03	4° $\mathring{\text{O}}$ 29'20	opposition	3913 Feb 02 03:10	12° $\mathring{\text{O}}$ 27'09 -1°12'01
max. Earth dist.	3906 Jul 25 01:57	4° $\mathring{\text{O}}$ 49'46 44.53856 AU	min. Earth dist.	3913 Feb 04 01:36	12° $\mathring{\text{O}}$ 24'43 41.13545 AU
			direct	3913 Apr 24 09:29	11° $\mathring{\text{O}}$ 21'59
conjunction	3906 Jul 26 21:41	4° $\mathring{\text{O}}$ 52'29 -3°21'28	evening set	3913 Jul 19 01:15	12° $\mathring{\text{O}}$ 37'59
minimum elong	3906 Jul 26 21:46	4° $\mathring{\text{O}}$ 52'29 3°21'29	max. Earth dist.	3913 Aug 01 22:46	12° $\mathring{\text{O}}$ 59'13 43.02204 AU
morning rise	3906 Aug 11 14:56	5° $\mathring{\text{O}}$ 15'42			
retrograde	3906 Nov 06 08:01	6° $\mathring{\text{O}}$ 30'23	conjunction	3913 Aug 04 03:31	13° $\mathring{\text{O}}$ 02'37 -0°58'02
opposition	3907 Jan 26 19:05	5° $\mathring{\text{O}}$ 27'09 -3°20'38	minimum elong	3913 Aug 04 03:32	13° $\mathring{\text{O}}$ 02'37 0°58'02
min. Earth dist.	3907 Jan 28 10:49	5° $\mathring{\text{O}}$ 25'07 42.43690 AU	morning rise	3913 Aug 20 05:54	13° $\mathring{\text{O}}$ 27'17
direct	3907 Apr 18 04:35	4° $\mathring{\text{O}}$ 23'28	retrograde	3913 Nov 14 17:15	14° $\mathring{\text{O}}$ 44'24
evening set	3907 Jul 12 13:16	5° $\mathring{\text{O}}$ 37'00	opposition	3914 Feb 03 13:32	13° $\mathring{\text{O}}$ 39'39 -0°49'36
max. Earth dist.	3907 Jul 26 10:21	5° $\mathring{\text{O}}$ 57'32 44.33088 AU	min. Earth dist.	3914 Feb 05 13:25	13° $\mathring{\text{O}}$ 37'08 40.90566 AU
			direct	3914 Apr 25 20:09	12° $\mathring{\text{O}}$ 34'11
conjunction	3907 Jul 28 07:42	6° $\mathring{\text{O}}$ 00'22 -3°01'46	evening set	3914 Jul 20 13:00	13° $\mathring{\text{O}}$ 50'40
minimum elong	3907 Jul 28 07:46	6° $\mathring{\text{O}}$ 00'22 3°01'45	max. Earth dist.	3914 Aug 03 09:56	14° $\mathring{\text{O}}$ 11'59 42.79094 AU
morning rise	3907 Aug 13 03:00	6° $\mathring{\text{O}}$ 23'48			
retrograde	3907 Nov 07 20:36	7° $\mathring{\text{O}}$ 38'46	conjunction	3914 Aug 05 15:48	14° $\mathring{\text{O}}$ 15'28 -0°36'32
opposition	3908 Jan 28 03:44	6° $\mathring{\text{O}}$ 35'20 -2°59'54	minimum elong	3914 Aug 05 15:49	14° $\mathring{\text{O}}$ 15'28 0°36'31
min. Earth dist.	3908 Jan 29 20:17	6° $\mathring{\text{O}}$ 33'16 42.22759 AU	morning rise	3914 Aug 21 18:48	14° $\mathring{\text{O}}$ 40'19
direct	3908 Apr 18 11:50	5° $\mathring{\text{O}}$ 31'26		3914 Sep 04 05:27	15° $\mathring{\text{O}}$
evening set	3908 Jul 12 22:00	6° $\mathring{\text{O}}$ 45'19	retrograde	3914 Nov 16 04:38	15° $\mathring{\text{O}}$ 57'51
max. Earth dist.	3908 Jul 26 20:08	7° $\mathring{\text{O}}$ 06'02 44.12104 AU		3915 Jan 30 08:59	15° $\mathring{\text{R}}$ $\mathring{\text{O}}$
			opposition	3915 Feb 05 00:03	14° $\mathring{\text{O}}$ 52'51 -0°26'55
conjunction	3908 Jul 28 18:17	7° $\mathring{\text{O}}$ 08'55 -2°41'47	min. Earth dist.	3915 Feb 07 00:15	14° $\mathring{\text{O}}$ 50'18 40.67284 AU
minimum elong	3908 Jul 28 18:21	7° $\mathring{\text{O}}$ 08'55 2°41'47	direct	3915 Apr 27 08:33	13° $\mathring{\text{O}}$ 47'04
morning rise	3908 Aug 13 15:10	7° $\mathring{\text{O}}$ 32'35		3915 Jul 19 08:35	15° $\mathring{\text{O}}$
retrograde	3908 Nov 08 06:15	8° $\mathring{\text{O}}$ 47'51	evening set	3915 Jul 22 01:13	15° $\mathring{\text{O}}$ 04'04
opposition	3909 Jan 28 12:38	7° $\mathring{\text{O}}$ 44'14 -2°38'53	max. Earth dist.	3915 Aug 04 20:40	15° $\mathring{\text{O}}$ 25'25 42.55678 AU
min. Earth dist.	3909 Jan 30 06:42	7° $\mathring{\text{O}}$ 42'04 42.01594 AU			
direct	3909 Apr 19 22:32	6° $\mathring{\text{O}}$ 40'06	conjunction	3915 Aug 07 04:24	15° $\mathring{\text{O}}$ 29'03 -0°14'47
evening set	3909 Jul 14 07:16	7° $\mathring{\text{O}}$ 54'22	minimum elong	3915 Aug 07 04:24	15° $\mathring{\text{O}}$ 29'03 0°14'47
max. Earth dist.	3909 Jul 28 06:13	8° $\mathring{\text{O}}$ 15'14 43.90871 AU	behind sun begin	3915 Aug 07 02:05	15° $\mathring{\text{O}}$ 28'55
			behind sun end	3915 Aug 07 06:44	15° $\mathring{\text{O}}$ 29'12
conjunction	3909 Jul 30 05:07	8° $\mathring{\text{O}}$ 18'12 -2°21'32	morning rise	3915 Aug 23 07:42	15° $\mathring{\text{O}}$ 54'04
minimum elong	3909 Jul 30 05:11	8° $\mathring{\text{O}}$ 18'12 2°21'32	retrograde	3915 Nov 17 16:10	17° $\mathring{\text{O}}$ 12'04

opposition	3916 Feb 06 11:03	16°Ω06'47	-0°03'58	max. Earth dist.	3922 Aug 13 16:43	24°Ω24'31	40.87003 AU
min. Earth dist.	3916 Feb 08 13:10	16°Ω04'07	40.43736 AU				
asc. node	3916 Apr 09 10:10	15°Ω04'46		conjunction	3922 Aug 16 06:58	24°Ω28'46	2°24'15
direct	3916 Apr 27 19:23	15°Ω00'40		minimum elong	3922 Aug 16 06:53	24°Ω28'46	2°24'15
evening set	3916 Jul 22 14:01	16°Ω18'13		morning rise	3922 Sep 01 05:29	24°Ω54'41	
max. Earth dist.	3916 Aug 05 09:46	16°Ω39'43	42.32025 AU	retrograde	3922 Nov 26 21:59	26°Ω17'02	
				opposition	3923 Feb 15 01:17	25°Ω09'52	2°44'02
conjunction	3916 Aug 07 17:28	16°Ω43'22	0°07'18	min. Earth dist.	3923 Feb 17 08:54	25°Ω06'48	38.74700 AU
minimum elong	3916 Aug 07 17:28	16°Ω43'22	0°07'19	direct	3923 May 07 02:57	24°Ω01'33	
behind sun begin	3916 Aug 07 11:30	16°Ω43'00		evening set	3923 Aug 02 01:24	25°Ω24'09	
behind sun end	3916 Aug 07 23:25	16°Ω43'44		max. Earth dist.	3923 Aug 15 08:24	25°Ω45'52	40.62155 AU
morning rise	3916 Aug 23 20:44	17°Ω08'33					
retrograde	3916 Nov 18 04:14	18°Ω27'03		conjunction	3923 Aug 17 22:53	25°Ω50'09	2°47'51
opposition	3917 Feb 06 22:08	17°Ω21'29	0°19'15	minimum elong	3923 Aug 17 22:48	25°Ω50'09	2°47'51
min. Earth dist.	3917 Feb 09 00:10	17°Ω18'48	40.19983 AU	morning rise	3923 Sep 02 19:30	26°Ω16'09	
direct	3917 Apr 29 06:03	16°Ω15'03		retrograde	3923 Nov 28 13:51	27°Ω39'16	
evening set	3917 Jul 24 03:31	17°Ω33'12		opposition	3924 Feb 16 15:19	26°Ω31'48	3°09'01
max. Earth dist.	3917 Aug 06 21:06	17°Ω54'42	42.08186 AU	min. Earth dist.	3924 Feb 18 23:35	26°Ω28'41	38.49769 AU
				direct	3924 May 07 16:05	25°Ω23'08	
conjunction	3917 Aug 09 06:42	17°Ω58'30	0°29'31	evening set	3924 Aug 02 19:51	26°Ω46'36	
minimum elong	3917 Aug 09 06:41	17°Ω58'30	0°29'30	max. Earth dist.	3924 Aug 15 22:43	27°Ω08'12	40.37012 AU
morning rise	3917 Aug 25 09:56	18°Ω23'49					
retrograde	3917 Nov 19 19:47	19°Ω42'52		conjunction	3924 Aug 18 15:12	27°Ω12'40	3°11'39
opposition	3918 Feb 08 09:46	18°Ω37'02	0°42'45	minimum elong	3924 Aug 18 15:06	27°Ω12'39	3°11'40
min. Earth dist.	3918 Feb 10 13:03	18°Ω34'16	39.96090 AU	morning rise	3924 Sep 03 09:54	27°Ω38'42	
direct	3918 Apr 30 14:54	17°Ω30'16		retrograde	3924 Nov 29 09:22	29°Ω02'37	
evening set	3918 Jul 25 17:15	18°Ω49'03		opposition	3925 Feb 17 05:40	27°Ω54'50	3°34'14
max. Earth dist.	3918 Aug 08 10:40	19°Ω10'41	41.84208 AU	min. Earth dist.	3925 Feb 19 14:59	27°Ω51'38	38.24564 AU
				direct	3925 May 09 05:20	26°Ω45'46	
conjunction	3918 Aug 10 20:16	19°Ω14'30	0°52'00	evening set	3925 Aug 04 14:53	28°Ω10'09	
minimum elong	3918 Aug 10 20:15	19°Ω14'29	0°52'00	max. Earth dist.	3925 Aug 17 14:30	28°Ω31'41	40.11578 AU
morning rise	3918 Aug 26 22:55	19°Ω39'57					
retrograde	3918 Nov 21 10:40	20°Ω59'35		conjunction	3925 Aug 20 08:04	28°Ω36'16	3°35'40
opposition	3919 Feb 09 21:47	19°Ω53'28	1°06'30	minimum elong	3925 Aug 20 07:58	28°Ω36'15	3°35'39
min. Earth dist.	3919 Feb 12 01:39	19°Ω50'40	39.72078 AU	morning rise	3925 Sep 05 00:16	29°Ω02'20	
direct	3919 May 02 02:40	18°Ω46'24			3925 Oct 15 15:34	0°Ω	
evening set	3919 Jul 27 07:54	20°Ω05'52		retrograde	3925 Dec 01 03:22	0°Ω27'05	
max. Earth dist.	3919 Aug 09 23:33	20°Ω27'31	41.60133 AU		3926 Jan 17 02:19	30°Ω	
				opposition	3926 Feb 18 20:39	29°Ω18'56	3°59'39
conjunction	3919 Aug 12 10:15	20°Ω31'27	1°14'43	min. Earth dist.	3926 Feb 21 07:32	29°Ω15'38	37.99099 AU
minimum elong	3919 Aug 12 10:13	20°Ω31'27	1°14'42	direct	3926 May 10 21:08	28°Ω09'29	
morning rise	3919 Aug 28 12:23	20°Ω57'02		evening set	3926 Aug 06 10:32	29°Ω34'48	
retrograde	3919 Nov 23 03:20	22°Ω17'16		max. Earth dist.	3926 Aug 19 06:52	29°Ω56'16	39.85920 AU
opposition	3920 Feb 11 09:56	21°Ω10'54	1°30'30		3926 Aug 21 11:55	0°Ω	
min. Earth dist.	3920 Feb 13 13:58	21°Ω08'05	39.47979 AU				
direct	3920 May 02 14:33	20°Ω03'32		conjunction	3926 Aug 22 01:06	0°Ω00'56	3°59'51
evening set	3920 Jul 27 23:13	21°Ω23'44		minimum elong	3926 Aug 22 00:58	0°Ω00'55	3°59'51
max. Earth dist.	3920 Aug 10 12:55	21°Ω45'24	41.35933 AU	morning rise	3926 Sep 06 14:40	0°Ω27'01	
				retrograde	3926 Dec 02 20:40	1°Ω52'37	
conjunction	3920 Aug 13 00:47	21°Ω49'26	1°37'40	opposition	3927 Feb 20 11:53	0°Ω44'07	4°25'18
minimum elong	3920 Aug 13 00:44	21°Ω49'26	1°37'41	min. Earth dist.	3927 Feb 22 22:43	0°Ω40'47	37.73443 AU
morning rise	3920 Aug 29 01:55	22°Ω15'09			3927 Mar 27 16:19	30°Ω	
retrograde	3920 Nov 23 16:11	23°Ω36'03		direct	3927 May 12 13:46	29°Ω34'14	
opposition	3921 Feb 11 22:43	22°Ω29'25	1°54'46		3927 Jun 26 18:12	0°Ω	
min. Earth dist.	3921 Feb 14 04:26	22°Ω26'29	39.23747 AU	evening set	3927 Aug 08 07:10	1°Ω00'32	
direct	3921 May 04 03:40	21°Ω21'45		max. Earth dist.	3927 Aug 20 22:45	1°Ω21'50	39.60072 AU
evening set	3921 Jul 29 15:10	22°Ω42'43					
max. Earth dist.	3921 Aug 12 03:41	23°Ω04'27	41.11579 AU	conjunction	3927 Aug 23 18:45	1°Ω26'40	4°24'13
				minimum elong	3927 Aug 23 18:37	1°Ω26'39	4°24'13
conjunction	3921 Aug 14 15:39	23°Ω08'32	2°00'51	morning rise	3927 Sep 08 05:20	1°Ω52'45	
minimum elong	3921 Aug 14 15:35	23°Ω08'32	2°00'51	retrograde	3927 Dec 04 12:28	3°Ω19'15	
morning rise	3921 Aug 30 15:33	23°Ω34'21		opposition	3928 Feb 22 03:36	2°Ω10'22	4°51'07
retrograde	3921 Nov 25 05:25	24°Ω55'57		min. Earth dist.	3928 Feb 24 16:13	2°Ω06'55	37.47651 AU
opposition	3922 Feb 13 11:43	23°Ω49'04	2°19'17	direct	3928 May 13 04:51	1°Ω00'04	
min. Earth dist.	3922 Feb 15 17:28	23°Ω46'07	38.99339 AU	evening set	3928 Aug 09 04:33	2°Ω27'23	
direct	3922 May 05 17:19	22°Ω41'05		max. Earth dist.	3928 Aug 21 17:16	2°Ω48'39	39.34113 AU
evening set	3922 Jul 31 08:00	24°Ω02'51					

conjunction	3928 Aug 24 12:58	2° \mathring{M} 53'30	4°48'44	evening set	3935 Aug 22 12:44	13° \mathring{M} 13'01	
minimum elong	3928 Aug 24 12:49	2° \mathring{M} 53'29	4°48'44	max. Earth dist.	3935 Sep 02 11:25	13° \mathring{M} 32'48	37.53036 AU
morning rise	3928 Sep 08 20:04	3° \mathring{M} 19'33					
retrograde	3928 Dec 05 04:47	4° \mathring{M} 47'00		conjunction	3935 Sep 05 11:03	13° \mathring{M} 38'15	7°43'03
opposition	3929 Feb 22 19:48	3° \mathring{M} 37'44	5°17'07	minimum elong	3935 Sep 05 10:48	13° \mathring{M} 38'14	7°43'03
min. Earth dist.	3929 Feb 25 08:16	3° \mathring{M} 34'16	37.21786 AU	morning rise	3935 Sep 19 07:34	14° \mathring{M} 03'24	
direct	3929 May 14 20:46	2° \mathring{M} 27'00		retrograde	3935 Dec 17 07:59	15° \mathring{M} 39'15	
evening set	3929 Aug 11 02:48	3° \mathring{M} 55'23		opposition	3936 Mar 05 04:52	14° \mathring{M} 27'27	8°22'13
max. Earth dist.	3929 Aug 23 10:00	4° \mathring{M} 16'27	39.08107 AU	min. Earth dist.	3936 Mar 07 21:00	14° \mathring{M} 23'37	35.42026 AU
				direct	3936 May 24 21:37	13° \mathring{M} 13'47	
conjunction	3929 Aug 26 07:22	4° \mathring{M} 21'27	5°13'23	evening set	3936 Aug 23 18:27	14° \mathring{M} 51'40	
minimum elong	3929 Aug 26 07:12	4° \mathring{M} 21'27	5°13'23	max. Earth dist.	3936 Sep 03 08:32	15° \mathring{M} 11'01	37.27178 AU
morning rise	3929 Sep 10 10:52	4° \mathring{M} 47'28					
retrograde	3929 Dec 07 00:48	6° \mathring{M} 15'55		conjunction	3936 Sep 06 09:56	15° \mathring{M} 16'39	8°08'06
opposition	3930 Feb 24 12:31	5° \mathring{M} 06'17	5°43'17	minimum elong	3936 Sep 06 09:40	15° \mathring{M} 16'37	8°08'05
min. Earth dist.	3930 Feb 27 01:52	5° \mathring{M} 02'45	36.95930 AU	morning rise	3936 Sep 19 23:55	15° \mathring{M} 41'31	
direct	3930 May 16 10:15	3° \mathring{M} 55'06		retrograde	3936 Dec 18 08:58	17° \mathring{M} 18'50	
evening set	3930 Aug 13 01:50	5° \mathring{M} 24'38		opposition	3937 Mar 07 01:50	16° \mathring{M} 06'39	8°48'51
max. Earth dist.	3930 Aug 25 05:23	5° \mathring{M} 45'37	38.82118 AU	min. Earth dist.	3937 Mar 09 18:48	16° \mathring{M} 02'44	35.16364 AU
				direct	3937 May 26 15:46	14° \mathring{M} 52'32	
conjunction	3930 Aug 28 02:32	5° \mathring{M} 50'38	5°38'10	evening set	3937 Aug 26 01:00	16° \mathring{M} 32'02	
minimum elong	3930 Aug 28 02:21	5° \mathring{M} 50'37	5°38'09	max. Earth dist.	3937 Sep 05 07:51	16° \mathring{M} 51'00	37.01260 AU
morning rise	3930 Sep 12 01:44	6° \mathring{M} 16'34					
retrograde	3930 Dec 08 20:11	7° \mathring{M} 46'06		conjunction	3937 Sep 08 09:29	16° \mathring{M} 56'42	8°33'07
opposition	3931 Feb 26 05:47	6° \mathring{M} 36'04	6°09'34	minimum elong	3937 Sep 08 09:13	16° \mathring{M} 56'40	8°33'07
min. Earth dist.	3931 Feb 28 19:30	6° \mathring{M} 32'29	36.70127 AU	morning rise	3937 Sep 21 16:06	17° \mathring{M} 21'15	
direct	3931 May 18 02:59	5° \mathring{M} 24'28		retrograde	3937 Dec 20 09:29	19° \mathring{M} 00'05	
evening set	3931 Aug 15 01:56	6° \mathring{M} 55'13		opposition	3938 Mar 08 23:33	17° \mathring{M} 47'30	9°15'28
max. Earth dist.	3931 Aug 27 00:19	7° \mathring{M} 16'00	38.56211 AU	min. Earth dist.	3938 Mar 11 17:25	17° \mathring{M} 43'30	34.90667 AU
				direct	3938 May 28 13:44	16° \mathring{M} 32'55	
conjunction	3931 Aug 29 22:06	7° \mathring{M} 21'07	6°03'01	evening set	3938 Aug 28 08:58	18° \mathring{M} 14'06	
minimum elong	3931 Aug 29 21:55	7° \mathring{M} 21'06	6°03'02	max. Earth dist.	3938 Sep 07 07:23	18° \mathring{M} 32'36	36.75346 AU
morning rise	3931 Sep 13 16:58	7° \mathring{M} 46'57					
retrograde	3931 Dec 10 18:45	9° \mathring{M} 17'36		conjunction	3938 Sep 10 09:37	18° \mathring{M} 38'24	8°58'04
opposition	3932 Feb 27 23:33	8° \mathring{M} 07'13	6°35'57	minimum elong	3938 Sep 10 09:20	18° \mathring{M} 38'23	8°58'04
min. Earth dist.	3932 Mar 01 13:05	8° \mathring{M} 03'38	36.44422 AU	morning rise	3938 Sep 23 08:37	19° \mathring{M} 02'37	
direct	3932 May 18 20:52	6° \mathring{M} 55'11		retrograde	3938 Dec 22 12:38	20° \mathring{M} 43'00	
evening set	3932 Aug 16 03:03	8° \mathring{M} 27'14		opposition	3939 Mar 10 21:40	19° \mathring{M} 30'00	9°42'00
max. Earth dist.	3932 Aug 27 19:52	8° \mathring{M} 47'49	38.30370 AU	min. Earth dist.	3939 Mar 13 15:17	19° \mathring{M} 26'00	34.65011 AU
				direct	3939 May 30 12:38	18° \mathring{M} 14'56	
conjunction	3932 Aug 30 18:27	8° \mathring{M} 53'02	6°27'58	evening set	3939 Aug 30 18:01	19° \mathring{M} 57'53	
minimum elong	3932 Aug 30 18:14	8° \mathring{M} 53'01	6°27'58	max. Earth dist.	3939 Sep 09 07:21	20° \mathring{M} 15'51	36.49468 AU
morning rise	3932 Sep 14 08:20	9° \mathring{M} 18'44					
retrograde	3932 Dec 11 16:11	10° \mathring{M} 50'36		conjunction	3939 Sep 12 10:32	20° \mathring{M} 21'47	9°22'56
opposition	3933 Feb 28 17:59	9° \mathring{M} 39'51	7°02'26	minimum elong	3939 Sep 12 10:14	20° \mathring{M} 21'46	9°22'56
min. Earth dist.	3933 Mar 03 08:53	9° \mathring{M} 36'10	36.18794 AU	morning rise	3939 Sep 25 01:17	20° \mathring{M} 45'35	
direct	3933 May 20 14:49	8° \mathring{M} 27'25		retrograde	3939 Dec 24 13:30	22° \mathring{M} 27'37	
evening set	3933 Aug 18 05:13	10° \mathring{M} 00'50		opposition	3940 Mar 11 20:43	21° \mathring{M} 14'10	10°08'27
max. Earth dist.	3933 Aug 29 17:01	10° \mathring{M} 21'13	38.04601 AU	min. Earth dist.	3940 Mar 14 15:44	21° \mathring{M} 10'03	34.39436 AU
				direct	3940 May 31 10:58	19° \mathring{M} 58'37	
conjunction	3933 Sep 01 15:21	10° \mathring{M} 26'28	6°52'58	evening set	3940 Sep 01 04:26	21° \mathring{M} 43'23	
minimum elong	3933 Sep 01 15:08	10° \mathring{M} 26'27	6°52'58	max. Earth dist.	3940 Sep 10 09:29	22° \mathring{M} 00'53	36.23708 AU
morning rise	3933 Sep 15 23:53	10° \mathring{M} 52'02					
retrograde	3933 Dec 13 12:38	12° \mathring{M} 25'09		conjunction	3940 Sep 13 12:06	22° \mathring{M} 06'50	9°47'38
opposition	3934 Mar 02 12:56	11° \mathring{M} 14'04	7°28'59	minimum elong	3940 Sep 13 11:47	22° \mathring{M} 06'48	9°47'38
min. Earth dist.	3934 Mar 05 03:21	11° \mathring{M} 10'23	35.93222 AU	morning rise	3940 Sep 25 17:55	22° \mathring{M} 30'10	
direct	3934 May 22 10:03	10° \mathring{M} 01'15		retrograde	3940 Dec 25 14:37	24° \mathring{M} 13'54	
evening set	3934 Aug 20 08:22	11° \mathring{M} 36'05		opposition	3941 Mar 13 20:15	23° \mathring{M} 00'01	10°34'43
max. Earth dist.	3934 Aug 31 12:43	11° \mathring{M} 56'06	37.78838 AU	min. Earth dist.	3941 Mar 16 14:31	22° \mathring{M} 55'55	34.14021 AU
				direct	3941 Jun 02 11:25	21° \mathring{M} 43'59	
conjunction	3934 Sep 03 12:42	12° \mathring{M} 01'32	7°18'00	evening set	3941 Sep 03 16:04	23° \mathring{M} 30'39	
minimum elong	3934 Sep 03 12:28	12° \mathring{M} 01'31	7°18'00	max. Earth dist.	3941 Sep 12 10:25	23° \mathring{M} 47'28	35.98136 AU
morning rise	3934 Sep 17 15:35	12° \mathring{M} 26'54					
retrograde	3934 Dec 15 10:18	14° \mathring{M} 01'22		conjunction	3941 Sep 15 14:14	23° \mathring{M} 53'35	10°12'09
opposition	3935 Mar 04 08:38	12° \mathring{M} 49'56	7°55'35	minimum elong	3941 Sep 15 13:55	23° \mathring{M} 53'33	10°12'09
min. Earth dist.	3935 Mar 07 00:34	12° \mathring{M} 46'08	35.67649 AU	morning rise	3941 Sep 27 10:45	24° \mathring{M} 16'23	
direct	3935 May 24 03:04	11° \mathring{M} 36'42		retrograde	3941 Dec 27 17:10	26° \mathring{M} 01'55	

opposition	3942 Mar 15 20:41	24° 7 47'36	11°00'47	max. Earth dist.	3948 Sep 26 00:37	7° 0 07'55	34.28377 AU
min. Earth dist.	3942 Mar 18 15:44	24° 7 43'25	33.88856 AU				
direct	3942 Jun 04 09:01	23° 7 31'04		conjunction	3948 Sep 29 02:57	7° 0 14'20	12°53'58
evening set	3942 Sep 06 04:51	25° 7 19'44		minimum elong	3948 Sep 29 02:34	7° 0 14'18	12°53'58
max. Earth dist.	3942 Sep 14 14:32	25° 7 36'01	35.72836 AU	morning rise	3948 Oct 07 08:58	7° 0 31'24	
				retrograde	3949 Jan 10 13:31	9° 0 32'16	
conjunction	3942 Sep 17 17:03	25° 7 42'05	10°36'25	opposition	3949 Mar 28 21:46	8° 0 15'07	13°52'42
minimum elong	3942 Sep 17 16:43	25° 7 42'03	10°36'24	min. Earth dist.	3949 Mar 31 16:05	8° 0 10'48	32.22327 AU
morning rise	3942 Sep 29 03:21	26° 7 04'18		direct	3949 Jun 17 02:15	6° 0 55'23	
retrograde	3942 Dec 29 19:05	27° 7 51'43		evening set	3949 Sep 23 20:33	9° 0 01'04	
opposition	3943 Mar 17 21:51	26° 7 36'59	11°26'36	max. Earth dist.	3949 Sep 28 10:32	9° 0 10'37	34.05404 AU
min. Earth dist.	3943 Mar 20 16:12	26° 7 32'48	33.63994 AU				
direct	3943 Jun 06 09:00	25° 7 19'57		conjunction	3949 Oct 01 11:37	9° 0 16'59	13°15'05
evening set	3943 Sep 08 19:19	27° 7 10'43		minimum elong	3949 Oct 01 11:15	9° 0 16'57	13°15'06
max. Earth dist.	3943 Sep 16 17:24	27° 7 26'13	35.47874 AU	morning rise	3949 Oct 09 01:16	9° 0 32'48	
				retrograde	3950 Jan 12 21:32	11° 0 36'18	
conjunction	3943 Sep 19 20:37	27° 7 32'24	11°00'23	opposition	3950 Mar 31 04:50	10° 0 18'46	14°15'06
minimum elong	3943 Sep 19 20:17	27° 7 32'22	11°00'23	min. Earth dist.	3950 Apr 02 22:18	10° 0 14'27	31.99812 AU
morning rise	3943 Sep 30 20:21	27° 7 53'58		direct	3950 Jun 19 09:08	8° 0 58'33	
retrograde	3943 Dec 31 23:47	29° 7 43'22		evening set	3950 Sep 26 23:38	11° 0 07'09	
opposition	3944 Mar 18 23:37	28° 7 28'13	11°52'04	max. Earth dist.	3950 Sep 30 18:59	11° 0 15'10	33.82762 AU
min. Earth dist.	3944 Mar 21 17:54	28° 7 24'01	33.39508 AU				
direct	3944 Jun 07 08:25	27° 7 10'43		conjunction	3950 Oct 03 20:52	11° 0 21'41	13°35'33
evening set	3944 Sep 10 11:11	29° 7 03'41		minimum elong	3950 Oct 03 20:29	11° 0 21'39	13°35'32
max. Earth dist.	3944 Sep 17 22:48	29° 7 18'29	35.23280 AU	morning rise	3950 Oct 10 16:55	11° 0 36'06	
				retrograde	3951 Jan 15 07:50	13° 0 42'23	
conjunction	3944 Sep 21 01:09	29° 7 24'39	11°24'00	opposition	3951 Apr 02 12:42	12° 0 24'25	14°36'46
minimum elong	3944 Sep 21 00:48	29° 7 24'37	11°23'59	min. Earth dist.	3951 Apr 05 06:12	12° 0 20'05	31.77653 AU
morning rise	3944 Oct 01 13:19	29° 7 45'30		direct	3951 Jun 21 14:20	11° 0 03'44	
	3944 Oct 08 23:46	0° 0		evening set	3951 Sep 30 05:41	13° 0 15'28	
retrograde	3945 Jan 02 04:32	1° 0 36'59		max. Earth dist.	3951 Oct 03 06:42	13° 0 21'56	33.60493 AU
opposition	3945 Mar 21 02:28	0° 0 21'25	12°17'10				
min. Earth dist.	3945 Mar 23 20:53	0° 0 17'12	33.15396 AU	conjunction	3951 Oct 06 07:12	13° 0 28'23	13°55'16
	3945 Apr 04 07:25	30° 0 8'7		minimum elong	3951 Oct 06 06:50	13° 0 28'21	13°55'16
direct	3945 Jun 09 09:47	29° 0 03'28		morning rise	3951 Oct 12 07:33	13° 0 41'12	
	3945 Aug 12 07:52	0° 0		retrograde	3952 Jan 17 17:10	15° 0 50'27	
evening set	3945 Sep 13 04:35	0° 0 58'45		opposition	3952 Apr 03 21:24	14° 0 32'04	14°57'38
max. Earth dist.	3945 Sep 20 03:57	1° 0 12'42	34.99073 AU	min. Earth dist.	3952 Apr 06 14:39	14° 0 27'44	31.55889 AU
				direct	3952 Jun 22 21:24	13° 0 10'55	
conjunction	3945 Sep 23 06:09	1° 0 18'55	11°47'12	evening set	3952 Oct 02 15:03	15° 0 26'01	
minimum elong	3945 Sep 23 05:48	1° 0 18'53	11°47'13	max. Earth dist.	3952 Oct 04 17:41	15° 0 30'33	33.38679 AU
morning rise	3945 Oct 03 06:10	1° 0 38'58					
retrograde	3946 Jan 04 12:08	3° 0 32'39		conjunction	3952 Oct 07 18:06	15° 0 37'03	14°14'09
opposition	3946 Mar 23 05:55	2° 0 16'41	12°41'49	minimum elong	3952 Oct 07 17:44	15° 0 37'01	14°14'09
min. Earth dist.	3946 Mar 25 23:26	2° 0 12'30	32.91663 AU	morning rise	3952 Oct 12 20:12	15° 0 48'00	
direct	3946 Jun 11 12:16	0° 0 58'18		retrograde	3953 Jan 19 05:18	18° 0 00'30	
evening set	3946 Sep 15 23:37	2° 0 56'00		opposition	3953 Apr 06 06:57	16° 0 41'41	15°17'36
max. Earth dist.	3946 Sep 22 09:57	3° 0 09'00	34.75203 AU	min. Earth dist.	3953 Apr 08 23:09	16° 0 37'24	31.34620 AU
				direct	3953 Jun 25 06:15	15° 0 20'04	
conjunction	3946 Sep 25 12:14	3° 0 15'17	12°09'58	evening set	3953 Oct 06 05:15	17° 0 38'58	
minimum elong	3946 Sep 25 11:51	3° 0 15'15	12°09'58	max. Earth dist.	3953 Oct 07 06:36	17° 0 41'15	33.17386 AU
morning rise	3946 Oct 04 23:12	3° 0 34'27					
retrograde	3947 Jan 06 19:39	5° 0 30'24		conjunction	3953 Oct 10 05:43	17° 0 47'42	14°32'09
opposition	3947 Mar 25 10:18	4° 0 14'04	13°06'00	minimum elong	3953 Oct 10 05:22	17° 0 47'40	14°32'10
min. Earth dist.	3947 Mar 28 04:43	4° 0 09'47	32.68258 AU	morning rise	3953 Oct 14 05:17	17° 0 56'21	
direct	3947 Jun 13 15:47	2° 0 55'14		retrograde	3954 Jan 21 16:45	20° 0 12'30	
evening set	3947 Sep 18 20:43	4° 0 55'28		opposition	3954 Apr 08 17:29	18° 0 53'16	15°36'34
max. Earth dist.	3947 Sep 24 17:44	5° 0 07'29	34.51653 AU	min. Earth dist.	3954 Apr 11 09:35	18° 0 48'57	31.13910 AU
				direct	3954 Jun 27 16:02	17° 0 31'11	
conjunction	3947 Sep 27 19:11	5° 0 13'45	12°32'14	evening set	3954 Oct 10 05:31	19° 0 54'45	
minimum elong	3947 Sep 27 18:49	5° 0 13'43	12°32'15	max. Earth dist.	3954 Oct 09 20:11	19° 0 53'54	32.96726 AU
morning rise	3947 Oct 06 16:09	5° 0 31'56					
retrograde	3948 Jan 09 05:09	7° 0 30'17		conjunction	3954 Oct 12 18:05	20° 0 00'17	14°49'09
opposition	3948 Mar 26 15:33	6° 0 13'33	13°29'39	minimum elong	3954 Oct 12 17:44	20° 0 00'15	14°49'09
min. Earth dist.	3948 Mar 29 09:01	6° 0 09'18	32.45148 AU	morning rise	3954 Oct 15 05:53	20° 0 05'45	
direct	3948 Jun 14 22:07	4° 0 54'16		retrograde	3955 Jan 24 06:49	22° 0 26'25	
evening set	3948 Sep 20 19:32	6° 0 57'10		opposition	3955 Apr 11 04:34	21° 0 06'48	15°54'26

min. Earth dist.	3955 Apr 13 18:38	21° <u>♄</u> 02'36	30.93862 AU	min. Earth dist.	3963 May 02 09:10	10° <u>♄</u> 02'25	29.60839 AU
direct	3955 Jun 30 03:31	19° <u>♄</u> 44'17		direct	3963 Jul 18 19:22	8° <u>♄</u> 41'03	
max. Earth dist.	3955 Oct 12 10:22	22° <u>♄</u> 08'30	32.76763 AU	max. Earth dist.	3963 Nov 01 11:21	11° <u>♄</u> 16'19	31.45417 AU
conjunction	3955 Oct 15 07:20	22° <u>♄</u> 14'51	15°05'05	conjunction	3963 Nov 03 18:34	11° <u>♄</u> 21'44	16°24'41
minimum elong	3955 Oct 15 07:00	22° <u>♄</u> 14'49	15°05'05	minimum elong	3963 Nov 03 18:27	11° <u>♄</u> 21'43	16°24'42
retrograde	3956 Jan 26 20:58	24° <u>♄</u> 42'19		retrograde	3964 Feb 15 13:04	13° <u>♄</u> 58'20	
opposition	3956 Apr 12 16:49	23° <u>♄</u> 22'20	16°11'07	opposition	3964 May 01 23:30	12° <u>♄</u> 36'07	17°32'24
min. Earth dist.	3956 Apr 15 06:40	23° <u>♄</u> 18'07	30.74543 AU	min. Earth dist.	3964 May 04 00:58	12° <u>♄</u> 32'39	29.47663 AU
direct	3956 Jul 01 14:12	21° <u>♄</u> 59'25		direct	3964 Jul 20 13:28	11° <u>♄</u> 10'51	
max. Earth dist.	3956 Oct 14 02:38	24° <u>♄</u> 25'14	32.57586 AU	max. Earth dist.	3964 Nov 03 08:43	13° <u>♄</u> 47'12	31.32599 AU
conjunction	3956 Oct 16 21:13	24° <u>♄</u> 31'26	15°19'50	conjunction	3964 Nov 05 13:40	13° <u>♄</u> 52'25	16°27'44
minimum elong	3956 Oct 16 20:54	24° <u>♄</u> 31'24	15°19'50	minimum elong	3964 Nov 05 13:33	13° <u>♄</u> 52'25	16°27'44
retrograde	3957 Jan 28 13:11	27° <u>♄</u> 00'12			3964 Dec 05 00:52	15° <u>♄</u>	
opposition	3957 Apr 15 05:47	25° <u>♄</u> 39'53	16°26'31	retrograde	3965 Feb 17 06:56	16° <u>♄</u> 29'50	
min. Earth dist.	3957 Apr 17 17:18	25° <u>♄</u> 35'49	30.56001 AU	opposition	3965 May 04 18:40	15° <u>♄</u> 07'22	17°35'01
direct	3957 Jul 04 04:13	24° <u>♄</u> 16'37		min. Earth dist.	3965 May 06 19:10	15° <u>♄</u> 03'58	29.35346 AU
max. Earth dist.	3957 Oct 16 18:00	26° <u>♄</u> 43'53	32.39213 AU		3965 May 09 03:36	15° <u>♄</u>	
				direct	3965 Jul 23 08:31	13° <u>♄</u> 41'52	
					3965 Oct 02 01:12	15° <u>♄</u>	
conjunction	3957 Oct 19 11:53	26° <u>♄</u> 50'03	15°33'21	max. Earth dist.	3965 Nov 06 06:41	16° <u>♄</u> 19'13	31.20723 AU
minimum elong	3957 Oct 19 11:36	26° <u>♄</u> 50'01	15°33'21				
retrograde	3958 Jan 31 04:35	29° <u>♄</u> 20'07		conjunction	3965 Nov 08 09:05	16° <u>♄</u> 24'13	16°29'03
opposition	3958 Apr 17 19:37	27° <u>♄</u> 59'29	16°40'33	minimum elong	3965 Nov 08 09:02	16° <u>♄</u> 24'13	16°29'03
min. Earth dist.	3958 Apr 20 06:37	27° <u>♄</u> 55'27	30.38263 AU	retrograde	3966 Feb 20 02:58	19° <u>♄</u> 02'21	
direct	3958 Jul 06 15:52	26° <u>♄</u> 35'55		opposition	3966 May 07 14:05	17° <u>♄</u> 39'38	17°35'44
max. Earth dist.	3958 Oct 19 12:08	29° <u>♄</u> 04'45	32.21653 AU	min. Earth dist.	3966 May 09 11:29	17° <u>♄</u> 36'27	29.23970 AU
conjunction	3958 Oct 22 03:18	29° <u>♄</u> 10'43	15°45'32	direct	3966 Jul 26 05:33	16° <u>♄</u> 13'54	
minimum elong	3958 Oct 22 03:01	29° <u>♄</u> 10'42	15°45'32	max. Earth dist.	3966 Nov 09 04:38	18° <u>♄</u> 52'10	31.09846 AU
retrograde	3958 Nov 13 04:52	0° <u>♄</u>		conjunction	3966 Nov 11 04:49	18° <u>♄</u> 56'57	16°28'33
opposition	3959 Feb 02 20:23	1° <u>♄</u> 42'02		minimum elong	3966 Nov 11 04:47	18° <u>♄</u> 56'57	16°28'33
min. Earth dist.	3959 Apr 20 10:18	0° <u>♄</u> 21'08	16°53'09	retrograde	3967 Feb 22 22:28	21° <u>♄</u> 35'43	
				opposition	3967 May 10 10:12	20° <u>♄</u> 12'48	17°34'29
direct	3959 May 03 08:12	30° <u>♄</u>		min. Earth dist.	3967 May 12 06:12	20° <u>♄</u> 09'41	29.13612 AU
				direct	3967 Jul 29 00:32	18° <u>♄</u> 46'52	
max. Earth dist.	3959 Oct 22 04:43	1° <u>♄</u> 27'25	32.04865 AU	max. Earth dist.	3967 Nov 12 04:13	21° <u>♄</u> 26'03	31.00064 AU
conjunction	3959 Oct 24 19:26	1° <u>♄</u> 33'24	15°56'21	conjunction	3967 Nov 14 00:51	21° <u>♄</u> 30'30	16°26'13
minimum elong	3959 Oct 24 19:12	1° <u>♄</u> 33'23	15°56'21	minimum elong	3967 Nov 14 00:53	21° <u>♄</u> 30'30	16°26'13
retrograde	3960 Feb 05 14:26	4° <u>♄</u> 05'55		retrograde	3968 Feb 25 19:06	24° <u>♄</u> 09'48	
opposition	3960 Apr 22 01:45	2° <u>♄</u> 44'45	17°04'16	opposition	3968 May 12 06:37	22° <u>♄</u> 46'42	17°31'14
min. Earth dist.	3960 Apr 24 09:49	2° <u>♄</u> 40'52	30.05066 AU	min. Earth dist.	3968 May 13 23:14	22° <u>♄</u> 43'50	29.04341 AU
direct	3960 Jul 10 19:33	1° <u>♄</u> 20'34		direct	3968 Jul 30 22:57	21° <u>♄</u> 20'38	
max. Earth dist.	3960 Oct 24 00:25	3° <u>♄</u> 52'13	31.88837 AU	max. Earth dist.	3968 Nov 14 02:34	24° <u>♄</u> 00'31	30.91440 AU
conjunction	3960 Oct 26 12:25	3° <u>♄</u> 57'59	16°05'44	conjunction	3968 Nov 15 21:04	24° <u>♄</u> 04'46	16°21'59
minimum elong	3960 Oct 26 12:11	3° <u>♄</u> 57'58	16°05'44	minimum elong	3968 Nov 15 21:06	24° <u>♄</u> 04'47	16°21'59
retrograde	3961 Feb 07 06:27	6° <u>♄</u> 31'38		retrograde	3969 Feb 27 16:04	26° <u>♄</u> 44'32	
opposition	3961 Apr 24 18:13	5° <u>♄</u> 10'12	17°13'48	opposition	3969 May 15 03:34	25° <u>♄</u> 21'19	17°25'54
min. Earth dist.	3961 Apr 27 00:58	5° <u>♄</u> 06'24	29.89570 AU	min. Earth dist.	3969 May 16 17:53	25° <u>♄</u> 18'36	28.96239 AU
direct	3961 Jul 13 10:33	3° <u>♄</u> 45'45		direct	3969 Aug 02 19:24	23° <u>♄</u> 55'10	
max. Earth dist.	3961 Oct 26 18:34	6° <u>♄</u> 18'37	31.73576 AU	max. Earth dist.	3969 Nov 17 03:04	26° <u>♄</u> 35'51	30.84033 AU
conjunction	3961 Oct 29 05:42	6° <u>♄</u> 24'20	16°13'38	conjunction	3969 Nov 18 17:25	26° <u>♄</u> 39'42	16°15'49
minimum elong	3961 Oct 29 05:31	6° <u>♄</u> 24'19	16°13'38	minimum elong	3969 Nov 18 17:32	26° <u>♄</u> 39'43	16°15'49
retrograde	3962 Feb 10 00:24	8° <u>♄</u> 59'04		retrograde	3970 Mar 02 12:03	29° <u>♄</u> 19'50	
opposition	3962 Apr 27 11:19	7° <u>♄</u> 37'22	17°21'43	opposition	3970 May 18 00:46	27° <u>♄</u> 56'33	17°18'29
min. Earth dist.	3962 Apr 29 16:13	7° <u>♄</u> 33'41	29.74826 AU	min. Earth dist.	3970 May 19 11:59	27° <u>♄</u> 54'04	28.89302 AU
direct	3962 Jul 16 02:56	6° <u>♄</u> 12'38		direct	3970 Aug 05 17:28	26° <u>♄</u> 30'23	
max. Earth dist.	3962 Oct 29 15:18	8° <u>♄</u> 46'48	31.59086 AU	max. Earth dist.	3970 Nov 20 01:33	29° <u>♄</u> 11'33	30.77826 AU
conjunction	3962 Oct 31 23:56	8° <u>♄</u> 52'19	16°19'58	conjunction	3970 Nov 21 13:57	29° <u>♄</u> 15'13	16°07'45
minimum elong	3962 Oct 31 23:46	8° <u>♄</u> 52'18	16°19'58	minimum elong	3970 Nov 21 14:04	29° <u>♄</u> 15'14	16°07'45
retrograde	3963 Feb 12 17:31	11° <u>♄</u> 28'01			3970 Dec 10 08:16	0° <u>♄</u>	
opposition	3963 Apr 30 05:05	10° <u>♄</u> 06'04	17°27'56	retrograde	3971 Mar 05 10:08	1° <u>♄</u> 55'39	

opposition	3971 May 20 22:05	0°♏32'20	17°09'00	evening set	3978 Dec 06 14:30	19°♏48'24	
min. Earth dist.	3971 May 22 06:35	0°♏30'02	28.83534 AU				
	3971 Jun 09 10:27	30°♏		conjunction	3978 Dec 12 08:19	20°♏02'12	13°57'36
direct	3971 Aug 08 14:14	29°♏06'10		minimum elong	3978 Dec 12 08:40	20°♏02'14	13°57'36
	3971 Oct 04 21:36	0°♏		max. Earth dist.	3978 Dec 11 20:45	20°♏01'02	30.68069 AU
max. Earth dist.	3971 Nov 23 02:35	1°♏47'59	30.72793 AU	morning rise	3978 Dec 18 02:28	20°♏16'04	
				retrograde	3979 Mar 25 23:02	22°♏41'17	
conjunction	3971 Nov 24 10:45	1°♏51'14	15°57'46	opposition	3979 Jun 11 04:18	21°♏18'25	14°43'00
minimum elong	3971 Nov 24 10:56	1°♏51'15	15°57'46	min. Earth dist.	3979 Jun 11 14:16	21°♏17'43	28.75900 AU
retrograde	3972 Mar 07 06:06	4°♏31'51		direct	3979 Aug 29 23:23	19°♏53'07	
opposition	3972 May 22 19:55	3°♏08'33	16°57'28	evening set	3979 Dec 08 10:32	22°♏19'29	
min. Earth dist.	3972 May 24 02:03	3°♏06'25	28.78878 AU				
direct	3972 Aug 10 12:12	1°♏42'27		conjunction	3979 Dec 15 03:12	22°♏35'31	13°33'51
max. Earth dist.	3972 Nov 25 01:07	4°♏24'32	30.68893 AU	minimum elong	3979 Dec 15 03:34	22°♏35'33	13°33'50
				max. Earth dist.	3979 Dec 14 18:32	22°♏34'39	30.71757 AU
conjunction	3972 Nov 26 07:17	4°♏27'35	15°45'54	morning rise	3979 Dec 21 20:10	22°♏51'36	
minimum elong	3972 Nov 26 07:28	4°♏27'36	15°45'54	retrograde	3980 Mar 27 17:40	25°♏13'59	
retrograde	3973 Mar 10 03:26	7°♏08'19		opposition	3980 Jun 13 01:21	23°♏51'13	14°16'47
opposition	3973 May 25 17:48	5°♏45'02	16°43'55	min. Earth dist.	3980 Jun 13 08:33	23°♏50'43	28.79828 AU
min. Earth dist.	3973 May 26 20:38	5°♏43'08	28.75318 AU	direct	3980 Aug 31 20:46	22°♏26'07	
direct	3973 Aug 13 10:00	4°♏19'00		evening set	3980 Dec 09 08:28	24°♏49'42	
max. Earth dist.	3973 Nov 28 01:52	7°♏01'28	30.66089 AU				
				conjunction	3980 Dec 16 21:30	25°♏07'42	13°08'37
conjunction	3973 Nov 29 04:04	7°♏04'06	15°32'11	minimum elong	3980 Dec 16 21:52	25°♏07'44	13°08'38
minimum elong	3973 Nov 29 04:19	7°♏04'08	15°32'12	max. Earth dist.	3980 Dec 16 16:56	25°♏07'14	30.76651 AU
retrograde	3974 Mar 12 22:37	9°♏44'50		morning rise	3980 Dec 24 10:38	25°♏25'44	
opposition	3974 May 28 15:47	8°♏21'36	16°28'24	retrograde	3981 Mar 30 10:51	27°♏45'29	
min. Earth dist.	3974 May 29 16:44	8°♏19'50	28.72807 AU	opposition	3981 Jun 15 21:57	26°♏22'52	13°49'00
direct	3974 Aug 16 07:39	6°♏55'39		min. Earth dist.	3981 Jun 16 01:34	26°♏22'37	28.84951 AU
max. Earth dist.	3974 Dec 01 00:25	9°♏38'10	30.64365 AU	direct	3981 Sep 03 19:11	24°♏57'59	
				evening set	3981 Dec 11 07:43	27°♏18'56	
conjunction	3974 Dec 02 00:38	9°♏40'36	15°16'41				
minimum elong	3974 Dec 02 00:53	9°♏40'38	15°16'41	conjunction	3981 Dec 19 15:18	27°♏38'41	12°42'01
retrograde	3975 Mar 15 20:20	12°♏21'13		minimum elong	3981 Dec 19 15:41	27°♏38'44	12°42'01
opposition	3975 May 31 13:44	10°♏58'03	16°10'57	max. Earth dist.	3981 Dec 19 13:18	27°♏38'29	30.82764 AU
min. Earth dist.	3975 Jun 01 11:00	10°♏56'33	28.71336 AU	morning rise	3981 Dec 27 23:02	27°♏58'29	
direct	3975 Aug 19 05:27	9°♏32'12			3982 Mar 03 06:37	0°♏	
				retrograde	3982 Apr 02 05:33	0°♏15'44	
conjunction	3975 Dec 04 21:05	12°♏16'53	14°59'25		3982 May 02 23:30	30°♏	
minimum elong	3975 Dec 04 21:23	12°♏16'55	14°59'25	opposition	3982 Jun 18 17:56	28°♏53'18	13°19'47
evening set	3975 Dec 04 07:42	12°♏15'32		min. Earth dist.	3982 Jun 18 18:10	28°♏53'17	28.91300 AU
max. Earth dist.	3975 Dec 04 00:24	12°♏14'47	30.63683 AU	direct	3982 Sep 06 15:41	27°♏28'42	
morning rise	3975 Dec 05 11:06	12°♏18'18		evening set	3982 Dec 13 07:59	29°♏47'06	
retrograde	3976 Mar 17 14:09	14°♏57'16			3982 Dec 18 19:01	0°♏	
opposition	3976 Jun 02 11:47	13°♏34'10	15°51'38				
min. Earth dist.	3976 Jun 03 07:21	13°♏32'47	28.70888 AU	conjunction	3982 Dec 22 08:43	0°♏08'28	12°14'06
direct	3976 Aug 21 03:29	12°♏08'26		minimum elong	3982 Dec 22 09:07	0°♏08'30	12°14'07
evening set	3976 Dec 03 11:02	14°♏44'49		max. Earth dist.	3982 Dec 22 11:04	0°♏08'42	30.90092 AU
				morning rise	3982 Dec 31 09:20	0°♏29'50	
conjunction	3976 Dec 06 17:13	14°♏52'43	14°40'27	retrograde	3983 Apr 04 22:16	2°♏44'42	
minimum elong	3976 Dec 06 17:31	14°♏52'45	14°40'27	opposition	3983 Jun 21 13:38	1°♏22'29	12°49'12
max. Earth dist.	3976 Dec 05 23:06	14°♏50'53	30.64069 AU	min. Earth dist.	3983 Jun 21 11:05	1°♏22'40	28.98821 AU
morning rise	3976 Dec 09 23:55	15°♏00'39			3983 Aug 30 02:32	30°♏	
retrograde	3977 Mar 20 10:07	17°♏32'46		direct	3983 Sep 09 14:00	29°♏58'12	
opposition	3977 Jun 05 09:33	16°♏09'43	15°30'30		3983 Sep 19 22:06	0°♏	
min. Earth dist.	3977 Jun 06 01:17	16°♏08'37	28.71484 AU	evening set	3983 Dec 15 08:56	2°♏14'11	
direct	3977 Aug 24 02:47	14°♏44'08					
evening set	3977 Dec 04 21:27	17°♏16'41		conjunction	3983 Dec 25 01:20	2°♏36'58	11°45'00
				minimum elong	3983 Dec 25 01:43	2°♏37'00	11°44'59
conjunction	3977 Dec 09 12:57	17°♏27'53	14°19'49	max. Earth dist.	3983 Dec 25 05:54	2°♏37'25	30.98574 AU
minimum elong	3977 Dec 09 13:17	17°♏27'55	14°19'49	morning rise	3984 Jan 03 17:45	2°♏59'45	
max. Earth dist.	3977 Dec 08 22:04	17°♏26'23	30.65515 AU	retrograde	3984 Apr 06 15:20	5°♏12'22	
morning rise	3977 Dec 14 04:52	17°♏39'08		opposition	3984 Jun 23 08:48	3°♏50'24	12°17'23
retrograde	3978 Mar 23 04:28	20°♏07'31		min. Earth dist.	3984 Jun 23 02:22	3°♏50'50	29.07476 AU
opposition	3978 Jun 08 07:10	18°♏44'32	15°07'36	direct	3984 Sep 11 09:32	2°♏26'26	
min. Earth dist.	3978 Jun 08 20:57	18°♏43'35	28.73143 AU	evening set	3984 Dec 16 10:27	4°♏40'04	
direct	3978 Aug 26 23:17	17°♏19'05					

conjunction	3984 Dec 26 17:35	5°30'04"09	11°14'48"	direct	3991 Sep 29 13:26	19°30'01"32	
minimum elong	3984 Dec 26 17:58	5°30'04"11	11°14'49"	evening set	3991 Dec 30 06:19	21°30'00"35	
max. Earth dist.	3984 Dec 27 02:19	5°30'05"00	31.08146 AU				
morning rise	3985 Jan 06 00:25	5°30'28"14		conjunction	3992 Jan 12 16:27	21°30'30"30	7°22'01"
retrograde	3985 Apr 09 06:11	7°30'38"39		minimum elong	3992 Jan 12 16:45	21°30'30"32	7°22'01"
opposition	3985 Jun 26 03:32	6°30'16"57	11°44'29"	max. Earth dist.	3992 Jan 13 19:16	21°30'33"01	32.00316 AU
min. Earth dist.	3985 Jun 25 19:03	6°30'17"31	29.17186 AU	morning rise	3992 Jan 26 01:57	22°30'00"23	
direct	3985 Sep 14 05:42	4°30'53"21		retrograde	3992 Apr 24 22:39	23°30'57"30	
evening set	3985 Dec 18 12:30	7°30'04"41		opposition	3992 Jul 12 20:48	22°30'37"43	7°32'45"
				min. Earth dist.	3992 Jul 11 17:50	22°30'39"29	30.09940 AU
conjunction	3985 Dec 29 09:01	7°30'29"56	10°43'38"	direct	3992 Oct 01 05:39	21°30'16"37	
minimum elong	3985 Dec 29 09:24	7°30'29"58	10°43'38"	evening set	3992 Dec 31 09:35	23°30'13"52	
max. Earth dist.	3985 Dec 29 19:40	7°30'30"58	31.18740 AU				
morning rise	3986 Jan 09 05:24	7°30'55"10		conjunction	3993 Jan 14 02:55	23°30'44"14	6°46'51"
retrograde	3986 Apr 11 22:46	10°30'03"28		minimum elong	3993 Jan 14 03:11	23°30'44"16	6°46'52"
opposition	3986 Jun 28 21:34	8°30'42"03	11°10'34"	max. Earth dist.	3993 Jan 15 07:30	23°30'46"53	32.16731 AU
min. Earth dist.	3986 Jun 28 09:16	8°30'42"53	29.27883 AU	morning rise	3993 Jan 27 19:55	24°30'14"34	
direct	3986 Sep 17 01:02	7°30'18"48		retrograde	3993 Apr 27 09:38	26°30'10"04	
evening set	3986 Dec 20 14:54	9°30'27"56		min. Earth dist.	3993 Jul 14 03:46	24°30'52"32	30.26528 AU
				opposition	3993 Jul 15 10:03	24°30'50"34	6°54'58"
conjunction	3987 Jan 01 00:04	9°30'54"14	10°11'37"	direct	3993 Oct 03 18:46	23°30'29"50	
minimum elong	3987 Jan 01 00:26	9°30'54"17	10°11'37"	evening set	3994 Jan 02 12:39	25°30'25"22	
max. Earth dist.	3987 Jan 01 14:13	9°30'55"36	31.30264 AU				
morning rise	3987 Jan 12 08:50	10°30'20"31		conjunction	3994 Jan 16 12:45	25°30'56"06	6°11'27"
retrograde	3987 Apr 14 11:21	12°30'26"47		minimum elong	3994 Jan 16 13:00	25°30'56"08	6°11'26"
opposition	3987 Jul 01 15:08	11°30'05"38	10°35'48"	max. Earth dist.	3994 Jan 17 21:01	25°30'59"05	32.34006 AU
min. Earth dist.	3987 Jul 01 01:17	11°30'06"34	29.39493 AU	morning rise	3994 Jan 30 12:12	26°30'26"48	
direct	3987 Sep 19 18:56	9°30'42"46		retrograde	3994 Apr 29 18:36	28°30'20"46	
evening set	3987 Dec 22 17:50	11°30'49"45		opposition	3994 Jul 17 22:41	27°30'01"35	6°17'00"
				min. Earth dist.	3994 Jul 16 14:30	27°30'03"40	30.43979 AU
conjunction	3988 Jan 03 14:24	12°30'16"58	9°38'49"	direct	3994 Oct 06 10:22	25°30'41"15	
minimum elong	3988 Jan 03 14:46	12°30'17"01	9°38'49"	evening set	3995 Jan 04 15:55	27°30'35"09	
max. Earth dist.	3988 Jan 04 06:37	12°30'18"32	31.42675 AU				
morning rise	3988 Jan 15 10:39	12°30'44"10		conjunction	3995 Jan 18 21:43	28°30'06"11	5°35'53"
retrograde	3988 Apr 16 00:39	14°30'48"28		minimum elong	3995 Jan 18 21:56	28°30'06"13	5°35'54"
opposition	3988 Jul 03 08:04	13°30'27"37	10°00'17"	max. Earth dist.	3995 Jan 20 07:28	28°30'09"16	32.52124 AU
min. Earth dist.	3988 Jul 02 14:36	13°30'28"47	29.51965 AU	morning rise	3995 Feb 02 03:10	28°30'37"11	
direct	3988 Sep 21 13:26	12°30'05"06			3995 Mar 19 19:22	0°30'00"00	
evening set	3988 Dec 23 20:42	14°30'10"00		retrograde	3995 May 02 05:03	0°30'29"41	
					3995 Jun 16 05:30	30°30'00"00	
conjunction	3989 Jan 05 03:58	14°30'38"03	9°05'22"	min. Earth dist.	3995 Jul 18 22:36	29°30'13"09	30.62284 AU
minimum elong	3989 Jan 05 04:19	14°30'38"05	9°05'23"	opposition	3995 Jul 20 10:24	29°30'10"50	5°38'57"
max. Earth dist.	3989 Jan 05 23:01	14°30'39"52	31.55902 AU	direct	3995 Oct 08 23:36	27°30'50"56	
morning rise	3989 Jan 17 10:51	15°30'06"04		evening set	3996 Jan 06 19:03	29°30'43"17	
retrograde	3989 Apr 18 12:56	17°30'08"28			3996 Jan 14 13:43	0°30'00"00	
min. Earth dist.	3989 Jul 05 05:12	15°30'49"10	29.65261 AU				
opposition	3989 Jul 06 00:27	15°30'47"53	9°24'07"	conjunction	3996 Jan 21 06:07	0°30'14"32	5°00'16"
direct	3989 Sep 24 04:51	14°30'25"43		minimum elong	3996 Jan 21 06:19	0°30'14"34	5°00'16"
evening set	3989 Dec 25 23:56	16°30'28"37		max. Earth dist.	3996 Jan 22 19:13	0°30'17"54	32.71045 AU
				morning rise	3996 Feb 04 16:40	0°30'45"46	
conjunction	3990 Jan 07 16:59	16°30'57"23	8°31'22"	retrograde	3996 May 03 11:14	2°30'36"53	
minimum elong	3990 Jan 07 17:19	16°30'57"25	8°31'22"	min. Earth dist.	3996 Jul 20 08:28	1°30'20"47	30.81388 AU
max. Earth dist.	3990 Jan 08 14:30	16°30'59"25	31.69929 AU	opposition	3996 Jul 21 21:42	1°30'18"24	5°00'52"
morning rise	3990 Jan 20 09:30	17°30'26"06			3996 Oct 02 03:01	30°30'00"00	
retrograde	3990 Apr 21 00:28	19°30'26"40		direct	3996 Oct 10 11:42	29°30'58"56	
opposition	3990 Jul 08 15:48	18°30'06"22	8°47'25"		3996 Oct 18 16:16	0°30'00"00	
min. Earth dist.	3990 Jul 07 17:36	18°30'07"51	29.79341 AU	evening set	3997 Jan 07 22:07	1°30'49"48	
direct	3990 Sep 26 22:28	16°30'44"33					
evening set	3990 Dec 28 03:12	18°30'45"29		conjunction	3997 Jan 22 13:39	2°30'21"13	4°24'39"
				minimum elong	3997 Jan 22 13:49	2°30'21"14	4°24'40"
conjunction	3991 Jan 10 05:07	19°30'14"53	7°56'53"	max. Earth dist.	3997 Jan 24 04:25	2°30'24"43	32.90712 AU
minimum elong	3991 Jan 10 05:26	19°30'14"55	7°56'54"	morning rise	3997 Feb 06 04:47	2°30'52"36	
max. Earth dist.	3991 Jan 11 04:37	19°30'17"06	31.84722 AU	retrograde	3997 May 05 17:44	4°30'42"25	
morning rise	3991 Jan 23 06:40	19°30'44"14		min. Earth dist.	3997 Jul 22 15:39	3°30'26"53	31.01210 AU
retrograde	3991 Apr 23 12:30	21°30'43"02		opposition	3997 Jul 24 08:04	3°30'24"18	4°22'52"
min. Earth dist.	3991 Jul 10 06:08	20°30'24"37	29.94232 AU	direct	3997 Oct 12 23:43	2°30'05"16	
opposition	3991 Jul 11 06:40	20°30'23"00	8°10'16"	evening set	3998 Jan 10 01:17	3°30'54"44	

conjunction	3998 Jan 24 20:38	4°26'14	3°49'07	retrograde	4004 May 19 03:00	18°34'21	
minimum elong	3998 Jan 24 20:47	4°26'15	3°49'07	min. Earth dist.	4004 Aug 05 09:07	17°21'42	32.53987 AU
max. Earth dist.	3998 Jan 26 13:52	4°29'55	33.11022 AU	opposition	4004 Aug 07 13:38	17°18'29	0°04'30
morning rise	3998 Feb 08 15:41	4°57'43		desc. node	4004 Sep 23 05:50	16°18'38	
retrograde	3998 May 07 23:43	6°46'19		direct	4004 Oct 27 10:06	16°02'13	
min. Earth dist.	3998 Jul 24 23:56	5°31'12	31.21675 AU	evening set	4005 Jan 22 20:53	17°43'26	
opposition	3998 Jul 26 17:44	5°28'33	3°45'01				
direct	3998 Oct 15 08:41	4°09'58		conjunction	4005 Feb 07 02:53	18°14'07	-0°12'26
evening set	3999 Jan 12 04:23	5°58'04		minimum elong	4005 Feb 07 02:52	18°14'07	0°12'26
				behind sun begin	4005 Feb 06 22:37	18°13'46	
conjunction	3999 Jan 27 03:01	6°29'37	3°13'44	behind sun end	4005 Feb 07 07:07	18°14'27	
minimum elong	3999 Jan 27 03:09	6°29'38	3°13'45	max. Earth dist.	4005 Feb 09 07:32	18°18'33	34.65779 AU
max. Earth dist.	3999 Jan 28 22:11	6°33'27	33.31913 AU	morning rise	4005 Feb 22 08:54	18°44'47	
morning rise	3999 Feb 11 01:14	7°01'08		retrograde	4005 May 21 03:06	20°26'15	
retrograde	3999 May 10 04:43	8°48'33		min. Earth dist.	4005 Aug 07 13:16	19°13'55	32.77414 AU
min. Earth dist.	3999 Jul 27 06:46	7°33'56	31.42684 AU	opposition	4005 Aug 09 18:34	19°10'40	-0°30'42
opposition	3999 Jul 29 02:47	7°31'09	3°07'23	direct	4005 Oct 29 16:08	17°54'46	
direct	3999 Oct 17 19:24	6°13'00		evening set	4006 Jan 24 23:03	19°35'01	
evening set	4000 Jan 14 07:27	7°59'49					
				conjunction	4006 Feb 09 04:33	20°05'25	-0°45'21
conjunction	4000 Jan 29 08:33	8°31'20	2°38'34	minimum elong	4006 Feb 09 04:31	20°05'24	0°45'21
minimum elong	4000 Jan 29 08:39	8°31'21	2°38'34	max. Earth dist.	4006 Feb 11 10:34	20°09'56	34.89410 AU
max. Earth dist.	4000 Jan 31 05:00	8°35'15	33.53282 AU	morning rise	4006 Feb 24 10:03	20°35'48	
morning rise	4000 Feb 13 09:31	9°02'50		retrograde	4006 May 23 02:23	22°16'27	
retrograde	4000 May 11 10:54	10°49'09		min. Earth dist.	4006 Aug 09 14:53	21°04'33	33.01277 AU
min. Earth dist.	4000 Jul 28 13:23	9°34'57	31.64184 AU	opposition	4006 Aug 11 22:29	21°01'10	-1°05'23
opposition	4000 Jul 30 11:16	9°32'05	2°30'03	direct	4006 Oct 31 22:17	19°45'38	
direct	4000 Oct 19 02:35	8°14'21		evening set	4007 Jan 27 01:09	21°25'01	
evening set	4001 Jan 15 10:25	9°59'57					
				conjunction	4007 Feb 11 05:32	21°55'05	-1°17'47
conjunction	4001 Jan 30 13:42	10°31'23	2°03'40	minimum elong	4007 Feb 11 05:29	21°55'05	1°17'46
minimum elong	4001 Jan 30 13:46	10°31'24	2°03'41	max. Earth dist.	4007 Feb 13 13:01	21°59'42	35.13463 AU
max. Earth dist.	4001 Feb 01 12:30	10°35'29	33.75083 AU	morning rise	4007 Feb 26 10:11	22°25'10	
morning rise	4001 Feb 14 16:35	11°02'48		retrograde	4007 May 25 03:17	24°05'05	
retrograde	4001 May 13 15:07	12°48'04		min. Earth dist.	4007 Aug 11 16:50	22°53'34	33.25598 AU
min. Earth dist.	4001 Jul 30 19:56	11°34'15	31.86087 AU	opposition	4007 Aug 14 02:04	22°50'07	-1°39'28
opposition	4001 Aug 01 18:53	11°31'19	1°53'02	direct	4007 Nov 03 00:43	21°34'59	
direct	4001 Oct 21 10:57	10°13'58		evening set	4008 Jan 29 02:47	23°13'31	
evening set	4002 Jan 17 13:24	11°58'25					
				conjunction	4008 Feb 13 05:54	23°43'15	-1°49'42
conjunction	4002 Feb 01 18:00	12°29'43	1°29'05	minimum elong	4008 Feb 13 05:50	23°43'15	1°49'42
minimum elong	4002 Feb 01 18:04	12°29'44	1°29'04	max. Earth dist.	4008 Feb 15 15:32	23°48'01	35.37944 AU
max. Earth dist.	4002 Feb 03 17:17	12°33'49	33.97242 AU	morning rise	4008 Feb 28 09:02	24°13'00	
morning rise	4002 Feb 16 22:37	13°01'01		retrograde	4008 May 26 02:33	25°52'14	
retrograde	4002 May 15 20:28	14°45'16		min. Earth dist.	4008 Aug 12 18:29	24°41'07	33.50321 AU
min. Earth dist.	4002 Aug 02 00:27	13°31'52	32.08362 AU	opposition	4008 Aug 15 04:58	24°37'37	-2°12'58
opposition	4002 Aug 04 01:49	13°28'49	1°16'25	direct	4008 Nov 04 04:42	23°22'52	
direct	4002 Oct 23 17:46	12°11'51		evening set	4009 Jan 30 04:33	25°00'40	
evening set	4003 Jan 19 16:03	13°55'10					
				conjunction	4009 Feb 14 05:40	25°30'01	-2°21'03
conjunction	4003 Feb 03 21:44	14°26'18	0°54'51	minimum elong	4009 Feb 14 05:36	25°30'00	2°21'02
minimum elong	4003 Feb 03 21:46	14°26'18	0°54'51	max. Earth dist.	4009 Feb 16 15:51	25°34'47	35.62786 AU
max. Earth dist.	4003 Feb 05 23:30	14°30'34	34.19733 AU	morning rise	4009 Mar 01 07:14	25°59'24	
morning rise	4003 Feb 19 03:11	14°57'26		retrograde	4009 May 28 04:31	27°38'01	
	4003 Feb 20 09:59	15°		min. Earth dist.	4009 Aug 14 18:33	26°27'20	33.75409 AU
retrograde	4003 May 17 23:16	16°40'42		opposition	4009 Aug 17 07:07	26°23'44	-2°45'50
min. Earth dist.	4003 Aug 04 06:15	15°27'37	32.30982 AU	direct	4009 Nov 06 05:21	25°09'24	
opposition	4003 Aug 06 08:08	15°24'33	0°40'13	evening set	4010 Feb 01 05:59	26°46'30	
	4003 Aug 23 05:21	15°					
direct	4003 Oct 26 02:51	14°07'56		conjunction	4010 Feb 16 05:03	27°15'27	-2°51'51
	4003 Dec 25 09:23	15°		minimum elong	4010 Feb 16 04:57	27°15'27	2°51'51
evening set	4004 Jan 21 18:39	15°50'10		max. Earth dist.	4010 Feb 18 17:34	27°20'23	35.87933 AU
				morning rise	4010 Mar 03 04:18	27°44'26	
conjunction	4004 Feb 06 00:40	16°21'06	0°21'01	retrograde	4010 May 30 04:19	29°22'30	
minimum elong	4004 Feb 06 00:41	16°21'06	0°21'01	min. Earth dist.	4010 Aug 16 20:02	28°12'10	34.00767 AU
max. Earth dist.	4004 Feb 08 02:59	16°25'23	34.42571 AU	opposition	4010 Aug 19 08:51	28°08'33	-3°18'04
morning rise	4004 Feb 21 06:43	16°52'01		direct	4010 Nov 08 07:30	26°54'39	

evening set	4011 Feb 03 07:24	28° \approx 31'06	max. Earth dist.	4017 Mar 02 04:15	9° \mathbf{H} 03'42	37.66684 AU
			morning rise	4017 Mar 13 08:42	9° \mathbf{H} 24'17	
conjunction	4011 Feb 18 03:43	28° \approx 59'38 -3°22'03	retrograde	4017 Jun 10 08:57	10° \mathbf{H} 59'17	
minimum elong	4011 Feb 18 03:36	28° \approx 59'37 3°22'02	min. Earth dist.	4017 Aug 28 11:34	9° \mathbf{H} 51'14	35.80677 AU
max. Earth dist.	4011 Feb 20 16:23	29° \approx 04'32 36.13302 AU	opposition	4017 Aug 31 05:32	9° \mathbf{H} 47'28	-6°44'54
morning rise	4011 Mar 05 00:29	29° \approx 28'12	direct	4017 Nov 20 06:15	8° \mathbf{H} 36'03	
	4011 Mar 22 15:21	0° \mathbf{H}	evening set	4018 Feb 15 13:02	10° \mathbf{H} 08'53	
retrograde	4011 Jun 01 04:15	1° \mathbf{H} 05'44				
	4011 Aug 15 20:28	30° \mathbf{R} \approx	conjunction	4018 Mar 01 05:49	10° \mathbf{H} 33'56	-6°36'16
min. Earth dist.	4011 Aug 18 18:59	29° \approx 55'51 34.26328 AU	minimum elong	4018 Mar 01 05:37	10° \mathbf{H} 33'56	6°36'16
opposition	4011 Aug 21 09:58	29° \approx 52'09 -3°49'39	max. Earth dist.	4018 Mar 03 23:28	10° \mathbf{H} 38'59	37.92299 AU
direct	4011 Nov 10 08:26	28° \approx 38'38	morning rise	4018 Mar 14 23:14	10° \mathbf{H} 59'03	
	4012 Jan 28 12:17	0° \mathbf{H}	retrograde	4018 Jun 12 04:05	12° \mathbf{H} 33'44	
evening set	4012 Feb 05 08:42	0° \mathbf{H} 14'29	min. Earth dist.	4018 Aug 30 06:55	11° \mathbf{H} 26'02	36.06514 AU
			opposition	4018 Sep 02 02:49	11° \mathbf{H} 22'11	-7°11'41
conjunction	4012 Feb 20 02:05	0° \mathbf{H} 42'35 -3°51'39	direct	4018 Nov 22 04:37	10° \mathbf{H} 11'04	
minimum elong	4012 Feb 20 01:57	0° \mathbf{H} 42'34 3°51'39	evening set	4019 Feb 17 12:57	11° \mathbf{H} 43'31	
max. Earth dist.	4012 Feb 22 16:23	0° \mathbf{H} 47'34 36.38816 AU				
morning rise	4012 Mar 05 19:54	1° \mathbf{H} 10'43	conjunction	4019 Mar 03 00:35	12° \mathbf{H} 08'01	-7°01'28
retrograde	4012 Jun 02 00:57	2° \mathbf{H} 47'46	minimum elong	4019 Mar 03 00:24	12° \mathbf{H} 08'00	7°01'28
min. Earth dist.	4012 Aug 19 19:48	1° \mathbf{H} 38'12 34.52023 AU	max. Earth dist.	4019 Mar 05 19:42	12° \mathbf{H} 13'08	38.17996 AU
opposition	4012 Aug 22 10:42	1° \mathbf{H} 34'31 -4°20'33	morning rise	4019 Mar 16 12:56	12° \mathbf{H} 32'35	
direct	4012 Nov 11 10:55	0° \mathbf{H} 21'24	retrograde	4019 Jun 13 21:46	14° \mathbf{H} 06'58	
evening set	4013 Feb 06 09:49	1° \mathbf{H} 56'41	min. Earth dist.	4019 Sep 01 03:49	12° \mathbf{H} 59'32	36.32462 AU
			opposition	4019 Sep 03 23:49	12° \mathbf{H} 55'41	-7°37'46
conjunction	4013 Feb 20 23:56	2° \mathbf{H} 24'19 -4°20'39	direct	4019 Nov 24 03:16	11° \mathbf{H} 44'53	
minimum elong	4013 Feb 20 23:48	2° \mathbf{H} 24'18 4°20'38	evening set	4020 Feb 19 12:45	13° \mathbf{H} 17'00	
max. Earth dist.	4013 Feb 23 14:39	2° \mathbf{H} 29'19 36.64416 AU				
morning rise	4013 Mar 07 14:26	2° \mathbf{H} 52'00	conjunction	4020 Mar 03 19:06	13° \mathbf{H} 40'56	-7°26'01
retrograde	4013 Jun 03 21:02	4° \mathbf{H} 28'34	minimum elong	4020 Mar 03 18:54	13° \mathbf{H} 40'55	7°26'01
min. Earth dist.	4013 Aug 21 18:34	3° \mathbf{H} 19'24 34.77761 AU	max. Earth dist.	4020 Mar 06 14:52	13° \mathbf{H} 46'04	38.43809 AU
opposition	4013 Aug 24 10:43	3° \mathbf{H} 15'40 -4°50'47	morning rise	4020 Mar 17 01:58	14° \mathbf{H} 04'56	
direct	4013 Nov 13 13:09	2° \mathbf{H} 02'56	retrograde	4020 Jun 14 14:10	15° \mathbf{H} 39'04	
evening set	4014 Feb 08 10:59	3° \mathbf{H} 37'39	min. Earth dist.	4020 Sep 01 22:58	14° \mathbf{H} 31'58	36.58503 AU
			opposition	4020 Sep 04 20:06	14° \mathbf{H} 28'04	-8°03'08
conjunction	4014 Feb 22 21:20	4° \mathbf{H} 04'49 -4°49'01	direct	4020 Nov 25 01:43	13° \mathbf{H} 17'36	
minimum elong	4014 Feb 22 21:11	4° \mathbf{H} 04'48 4°49'02	evening set	4021 Feb 20 12:25	14° \mathbf{H} 49'23	
max. Earth dist.	4014 Feb 25 12:27	4° \mathbf{H} 09'49 36.90010 AU				
morning rise	4014 Mar 09 08:20	4° \mathbf{H} 32'01	conjunction	4021 Mar 05 13:01	15° \mathbf{H} 12'46	-7°49'55
retrograde	4014 Jun 05 18:34	6° \mathbf{H} 08'11	minimum elong	4021 Mar 05 12:50	15° \mathbf{H} 12'45	7°49'55
min. Earth dist.	4014 Aug 23 17:33	4° \mathbf{H} 59'19 35.03502 AU	max. Earth dist.	4021 Mar 08 09:05	15° \mathbf{H} 17'53	38.69689 AU
opposition	4014 Aug 26 10:13	4° \mathbf{H} 55'34 -5°20'20	morning rise	4021 Mar 18 14:29	15° \mathbf{H} 36'11	
direct	4014 Nov 15 12:11	3° \mathbf{H} 43'11	retrograde	4021 Jun 16 08:33	17° \mathbf{H} 10'07	
evening set	4015 Feb 10 11:49	5° \mathbf{H} 17'24	min. Earth dist.	4021 Sep 03 18:11	16° \mathbf{H} 03'19	36.84611 AU
			opposition	4021 Sep 06 16:05	15° \mathbf{H} 59'23	-8°27'48
conjunction	4015 Feb 24 18:22	5° \mathbf{H} 44'03 -5°16'47	direct	4021 Nov 26 21:05	14° \mathbf{H} 49'15	
minimum elong	4015 Feb 24 18:12	5° \mathbf{H} 44'03 5°16'46	evening set	4022 Feb 22 11:51	16° \mathbf{H} 20'46	
max. Earth dist.	4015 Feb 27 10:40	5° \mathbf{H} 49'06 37.15587 AU				
morning rise	4015 Mar 11 01:16	6° \mathbf{H} 10'46	conjunction	4022 Mar 07 06:45	16° \mathbf{H} 43'34	-8°13'10
retrograde	4015 Jun 07 14:15	7° \mathbf{H} 46'31	minimum elong	4022 Mar 07 06:32	16° \mathbf{H} 43'33	8°13'10
min. Earth dist.	4015 Aug 25 16:20	6° \mathbf{H} 37'56 35.29210 AU	max. Earth dist.	4022 Mar 10 04:15	16° \mathbf{H} 48'45	38.95602 AU
opposition	4015 Aug 28 09:16	6° \mathbf{H} 34'11 -5°49'13	morning rise	4022 Mar 20 02:10	17° \mathbf{H} 06'24	
direct	4015 Nov 17 12:24	5° \mathbf{H} 22'09	retrograde	4022 Jun 18 01:39	18° \mathbf{H} 40'09	
evening set	4016 Feb 12 12:26	6° \mathbf{H} 55'51	min. Earth dist.	4022 Sep 05 13:39	17° \mathbf{H} 33'37	37.10711 AU
			opposition	4022 Sep 08 11:27	17° \mathbf{H} 29'43	-8°51'46
conjunction	4016 Feb 26 14:33	7° \mathbf{H} 22'00 -5°43'55	direct	4022 Nov 28 17:03	16° \mathbf{H} 19'55	
minimum elong	4016 Feb 26 14:23	7° \mathbf{H} 21'59 5°43'55	evening set	4023 Feb 24 11:19	17° \mathbf{H} 51'12	
max. Earth dist.	4016 Feb 29 06:32	7° \mathbf{H} 26'59 37.41131 AU				
morning rise	4016 Mar 11 17:25	7° \mathbf{H} 48'11	conjunction	4023 Mar 08 23:58	18° \mathbf{H} 13'23	-8°35'47
retrograde	4016 Jun 08 13:01	9° \mathbf{H} 23'33	minimum elong	4023 Mar 08 23:46	18° \mathbf{H} 13'23	8°35'47
min. Earth dist.	4016 Aug 26 13:24	8° \mathbf{H} 15'18 35.54925 AU	max. Earth dist.	4023 Mar 11 20:52	18° \mathbf{H} 18'31	39.21484 AU
opposition	4016 Aug 29 07:44	8° \mathbf{H} 11'29 -6°17'24	morning rise	4023 Mar 21 13:24	18° \mathbf{H} 35'39	
direct	4016 Nov 18 08:39	6° \mathbf{H} 59'45	retrograde	4023 Jun 19 21:36	20° \mathbf{H} 09'15	
evening set	4017 Feb 13 12:47	8° \mathbf{H} 33'00	min. Earth dist.	4023 Sep 07 07:27	19° \mathbf{H} 03'03	37.36765 AU
			opposition	4023 Sep 10 06:33	18° \mathbf{H} 59'06	-9°15'04
conjunction	4017 Feb 27 10:29	8° \mathbf{H} 58'37 -6°10'25	direct	4023 Nov 30 09:39	17° \mathbf{H} 49'37	
minimum elong	4017 Feb 27 10:19	8° \mathbf{H} 58'36 6°10'24	evening set	4024 Feb 26 10:27	19° \mathbf{H} 20'42	

conjunction	4024 Mar 09 16:53	19° ✕ 42'18 -8°57'46	min. Earth dist.	4030 Sep 17 09:42	29° ✕ 02'31 39.13374 AU
minimum elong	4024 Mar 09 16:40	19° ✕ 42'17 8°57'46	opposition	4030 Sep 20 08:45	28° ✕ 58'41 -11°39'56
max. Earth dist.	4024 Mar 12 15:01	19° ✕ 47'28 39.47270 AU	direct	4030 Dec 10 12:43	27° ✕ 51'08
morning rise	4024 Mar 21 23:57	20° ✕ 03'57	evening set	4031 Mar 10 01:48	29° ✕ 21'20
retrograde	4024 Jun 20 14:47	21° ✕ 37'26			
min. Earth dist.	4024 Sep 08 03:12	20° ✕ 31'26 37.62691 AU	conjunction	4031 Mar 20 05:47	29° ✕ 38'32 -11°14'49
opposition	4024 Sep 11 01:19	20° ✕ 27'34 -9°37'41	minimum elong	4031 Mar 20 05:35	29° ✕ 38'31 11°14'50
direct	4024 Dec 01 04:16	19° ✕ 18'24	max. Earth dist.	4031 Mar 23 03:59	29° ✕ 43'29 41.21654 AU
evening set	4025 Feb 27 09:43	20° ✕ 49'18	morning rise	4031 Mar 30 10:22	29° ✕ 55'45
				4031 Apr 01 23:20	0° ∇
conjunction	4025 Mar 11 09:34	21° ✕ 10'17 -9°19'08	retrograde	4031 Jul 01 02:40	1° ∇ 28'51
minimum elong	4025 Mar 11 09:22	21° ✕ 10'16 9°19'08	min. Earth dist.	4031 Sep 19 02:25	0° ∇ 24'23 39.37870 AU
max. Earth dist.	4025 Mar 14 07:09	21° ✕ 15'23 39.72897 AU	opposition	4031 Sep 22 00:45	0° ∇ 20'37 -11°58'06
morning rise	4025 Mar 23 10:03	21° ✕ 31'20		4031 Oct 08 06:11	30° ℞ ✕
retrograde	4025 Jun 22 06:50	23° ✕ 04'42	direct	4031 Dec 12 05:44	29° ✕ 13'20
min. Earth dist.	4025 Sep 09 20:25	21° ✕ 59'00 37.88418 AU		4032 Feb 12 01:32	0° ∇
opposition	4025 Sep 12 19:22	21° ✕ 55'06 -9°59'38	evening set	4032 Mar 10 23:56	0° ∇ 43'30
direct	4025 Dec 02 23:37	20° ✕ 46'15			
evening set	4026 Mar 01 08:50	22° ✕ 16'59	conjunction	4032 Mar 20 19:53	1° ∇ 00'02 -11°32'02
			minimum elong	4032 Mar 20 19:41	1° ∇ 00'01 11°32'01
conjunction	4026 Mar 13 01:53	22° ✕ 37'22 -9°39'54	max. Earth dist.	4032 Mar 23 18:16	1° ∇ 04'59 41.45899 AU
minimum elong	4026 Mar 13 01:40	22° ✕ 37'21 9°39'53	morning rise	4032 Mar 30 16:13	1° ∇ 16'35
max. Earth dist.	4026 Mar 15 23:32	22° ✕ 42'26 39.98284 AU	retrograde	4032 Jul 01 14:12	2° ∇ 49'43
morning rise	4026 Mar 24 19:42	22° ✕ 57'48	min. Earth dist.	4032 Sep 19 17:05	1° ∇ 45'32 39.62268 AU
retrograde	4026 Jun 23 22:31	24° ✕ 31'04	opposition	4032 Sep 22 16:12	1° ∇ 41'43 -12°15'38
min. Earth dist.	4026 Sep 11 15:00	23° ✕ 25'35 38.13899 AU	direct	4032 Dec 12 23:30	0° ∇ 34'42
opposition	4026 Sep 14 13:23	23° ✕ 21'44 -10°20'58	evening set	4033 Mar 12 22:04	2° ∇ 04'54
direct	4026 Dec 04 18:22	22° ✕ 13'10			
evening set	4027 Mar 03 07:41	23° ✕ 43'46	conjunction	4033 Mar 22 09:39	2° ∇ 20'45 -11°48'39
			minimum elong	4033 Mar 22 09:27	2° ∇ 20'44 11°48'39
conjunction	4027 Mar 14 17:51	24° ✕ 03'31 -10°00'03	max. Earth dist.	4033 Mar 25 07:49	2° ∇ 25'40 41.70039 AU
minimum elong	4027 Mar 14 17:38	24° ✕ 03'30 10°00'04	morning rise	4033 Mar 31 21:49	2° ∇ 36'39
max. Earth dist.	4027 Mar 17 15:45	24° ✕ 08'35 40.23411 AU	retrograde	4033 Jul 03 04:07	4° ∇ 09'51
morning rise	4027 Mar 26 04:30	24° ✕ 23'19	min. Earth dist.	4033 Sep 21 08:02	3° ∇ 05'53 39.86570 AU
retrograde	4027 Jun 25 12:32	25° ✕ 56'31	opposition	4033 Sep 24 07:16	3° ∇ 02'05 -12°32'34
min. Earth dist.	4027 Sep 13 08:38	24° ✕ 51'16 38.39091 AU	direct	4033 Dec 14 14:55	1° ∇ 55'20
opposition	4027 Sep 16 06:53	24° ✕ 47'25 -10°41'39	evening set	4034 Mar 14 20:05	3° ∇ 25'34
direct	4027 Dec 06 13:56	23° ✕ 39'08			
evening set	4028 Mar 04 06:33	25° ✕ 09'35	conjunction	4034 Mar 23 23:16	3° ∇ 40'45 -12°04'42
			minimum elong	4034 Mar 23 23:04	3° ∇ 40'44 12°04'42
conjunction	4028 Mar 15 09:22	25° ✕ 28'42 -10°19'38	max. Earth dist.	4034 Mar 26 22:22	3° ∇ 45'42 41.94069 AU
minimum elong	4028 Mar 15 09:09	25° ✕ 28'41 10°19'37	morning rise	4034 Apr 02 02:46	3° ∇ 55'58
max. Earth dist.	4028 Mar 18 06:22	25° ✕ 33'40 40.48262 AU	retrograde	4034 Jul 04 16:42	5° ∇ 29'16
morning rise	4028 Mar 26 12:57	25° ✕ 47'52	min. Earth dist.	4034 Sep 22 23:21	4° ∇ 25'31 40.10720 AU
retrograde	4028 Jun 26 05:11	27° ✕ 21'01	opposition	4034 Sep 25 22:05	4° ∇ 21'45 -12°48'53
min. Earth dist.	4028 Sep 14 01:18	26° ✕ 15'59 38.64043 AU	direct	4034 Dec 16 07:00	3° ∇ 15'17
opposition	4028 Sep 16 23:58	26° ✕ 12'08 -11°01'42	evening set	4035 Mar 16 18:02	4° ∇ 45'34
direct	4028 Dec 07 06:10	25° ✕ 04'06			
evening set	4029 Mar 06 05:02	26° ✕ 34'26	conjunction	4035 Mar 25 12:19	5° ∇ 00'04 -12°20'11
			minimum elong	4035 Mar 25 12:07	5° ∇ 00'03 12°20'12
conjunction	4029 Mar 17 00:37	26° ✕ 52'55 -10°38'37	max. Earth dist.	4035 Mar 28 10:26	5° ∇ 04'55 42.17937 AU
minimum elong	4029 Mar 17 00:24	26° ✕ 52'54 10°38'38	morning rise	4035 Apr 03 07:04	5° ∇ 14'37
max. Earth dist.	4029 Mar 19 22:46	26° ✕ 57'56 40.72885 AU	retrograde	4035 Jul 06 08:53	6° ∇ 48'02
morning rise	4029 Mar 27 20:41	27° ✕ 11'27	min. Earth dist.	4035 Sep 24 13:07	5° ∇ 44'33 40.34694 AU
retrograde	4029 Jun 27 20:58	28° ✕ 44'33	opposition	4035 Sep 27 12:38	5° ∇ 40'46 -13°04'37
min. Earth dist.	4029 Sep 15 18:50	27° ✕ 39'40 38.88781 AU	direct	4035 Dec 17 19:04	4° ∇ 34'33
opposition	4029 Sep 18 16:38	27° ✕ 35'53 -11°21'08	evening set	4036 Mar 17 16:01	6° ∇ 04'56
direct	4029 Dec 08 22:26	26° ✕ 28'06			
evening set	4030 Mar 08 03:33	27° ✕ 58'20	conjunction	4036 Mar 26 01:23	6° ∇ 18'45 -12°35'08
			minimum elong	4036 Mar 26 01:13	6° ∇ 18'44 12°35'08
conjunction	4030 Mar 18 15:20	28° ✕ 16'11 -10°57'01	max. Earth dist.	4036 Mar 29 00:23	6° ∇ 23'38 42.41591 AU
minimum elong	4030 Mar 18 15:08	28° ✕ 16'10 10°57'01	morning rise	4036 Apr 03 11:07	6° ∇ 32'36
max. Earth dist.	4030 Mar 21 12:40	28° ✕ 21'06 40.97331 AU	retrograde	4036 Jul 07 00:17	8° ∇ 06'09
morning rise	4030 Mar 29 03:43	28° ✕ 34'03	min. Earth dist.	4036 Sep 25 04:42	7° ∇ 02'49 40.58422 AU
	4030 Jun 05 14:34	0° ∇	opposition	4036 Sep 28 02:53	6° ∇ 59'07 -13°19'47
retrograde	4030 Jun 29 13:31	0° ∇ 07'08	direct	4036 Dec 18 07:18	5° ∇ 53'11
	4030 Jul 23 15:43	30° ℞ ✕	evening set	4037 Mar 19 14:12	7° ∇ 23'40

conjunction	4037 Mar 27 14:13	7° Υ 36'47	-12°49'33	direct	4043 Dec 28 04:20	14° Υ 43'16	
minimum elong	4037 Mar 27 14:02	7° Υ 36'46	12°49'33	evening set	4044 Mar 31 06:16	16° Υ 15'20	
max. Earth dist.	4037 Mar 30 12:21	7° Υ 41'35	42.64979 AU				
morning rise	4037 Apr 04 14:30	7° Υ 49'55		conjunction	4044 Apr 05 00:34	16° Υ 22'52	-14°16'34
retrograde	4037 Jul 08 12:27	9° Υ 23'38		minimum elong	4044 Apr 05 00:26	16° Υ 22'52	14°16'34
min. Earth dist.	4037 Sep 26 18:04	8° Υ 20'32	40.81836 AU	max. Earth dist.	4044 Apr 07 20:48	16° Υ 27'23	44.19181 AU
opposition	4037 Sep 29 16:43	8° Υ 16'50	-13°34'24	morning rise	4044 Apr 09 18:51	16° Υ 30'25	
direct	4037 Dec 19 21:03	7° Υ 11'08		retrograde	4044 Jul 16 18:13	18° Υ 05'59	
evening set	4038 Mar 21 12:22	8° Υ 41'45		min. Earth dist.	4044 Oct 05 14:05	17° Υ 03'54	42.36259 AU
				opposition	4044 Oct 08 09:43	17° Υ 00'25	-15°02'13
conjunction	4038 Mar 29 02:44	8° Υ 54'09	-13°03'27	direct	4044 Dec 28 18:36	15° Υ 56'06	
minimum elong	4038 Mar 29 02:34	8° Υ 54'09	13°03'27	evening set	4045 Apr 02 07:17	17° Υ 28'38	
max. Earth dist.	4038 Apr 01 00:18	8° Υ 58'53	42.88015 AU				
morning rise	4038 Apr 05 17:28	9° Υ 06'34		conjunction	4045 Apr 06 11:14	17° Υ 35'13	-14°27'02
retrograde	4038 Jul 09 23:26	10° Υ 40'28		minimum elong	4045 Apr 06 11:06	17° Υ 35'12	14°27'02
min. Earth dist.	4038 Sep 28 08:49	9° Υ 37'30	41.04889 AU	max. Earth dist.	4045 Apr 09 06:26	17° Υ 39'38	44.40223 AU
opposition	4038 Oct 01 06:25	9° Υ 33'52	-13°48'29	morning rise	4045 Apr 10 15:11	17° Υ 41'47	
direct	4038 Dec 21 12:21	8° Υ 28'24		retrograde	4045 Jul 18 04:56	19° Υ 17'51	
evening set	4039 Mar 23 10:46	9° Υ 59'11		min. Earth dist.	4045 Oct 07 01:41	18° Υ 15'57	42.57372 AU
				opposition	4045 Oct 09 21:21	18° Υ 12'30	-15°12'42
conjunction	4039 Mar 30 15:13	10° Υ 10'50	-13°16'52	direct	4045 Dec 30 06:45	17° Υ 08'24	
minimum elong	4039 Mar 30 15:02	10° Υ 10'49	13°16'52	evening set	4046 Apr 04 09:59	18° Υ 41'32	
max. Earth dist.	4039 Apr 02 12:50	10° Υ 15'33	43.10686 AU				
morning rise	4039 Apr 06 19:47	10° Υ 22'30		conjunction	4046 Apr 07 21:46	18° Υ 47'01	-14°37'02
retrograde	4039 Jul 11 08:53	11° Υ 56'35		minimum elong	4046 Apr 07 21:38	18° Υ 47'01	14°37'02
min. Earth dist.	4039 Sep 29 22:48	10° Υ 53'47	41.27543 AU	morning rise	4046 Apr 11 09:27	18° Υ 52'30	
opposition	4039 Oct 02 19:46	10° Υ 50'11	-14°02'03	max. Earth dist.	4046 Apr 10 17:53	18° Υ 51'29	44.61072 AU
direct	4039 Dec 23 04:44	9° Υ 44'55		retrograde	4046 Jul 19 15:46	20° Υ 29'13	
evening set	4040 Mar 24 09:12	11° Υ 15'52		min. Earth dist.	4046 Oct 08 14:06	19° Υ 27'28	42.78258 AU
				opposition	4046 Oct 11 08:42	19° Υ 24'04	-15°22'42
conjunction	4040 Mar 31 03:08	11° Υ 26'46	-13°29'47	direct	4046 Dec 31 18:42	18° Υ 20'12	
minimum elong	4040 Mar 31 02:59	11° Υ 26'45	13°29'47	evening set	4047 Apr 06 15:45	19° Υ 54'10	
max. Earth dist.	4040 Apr 02 23:22	11° Υ 31'22	43.32967 AU				
morning rise	4040 Apr 06 21:19	11° Υ 37'41		conjunction	4047 Apr 09 08:03	19° Υ 58'21	-14°46'33
retrograde	4040 Jul 11 21:50	13° Υ 11'58		minimum elong	4047 Apr 09 07:56	19° Υ 58'21	14°46'33
min. Earth dist.	4040 Sep 30 11:45	12° Υ 09'20	41.49830 AU	morning rise	4047 Apr 12 00:14	20° Υ 02'32	
opposition	4040 Oct 03 08:49	12° Υ 05'44	-14°15'07	max. Earth dist.	4047 Apr 12 02:59	20° Υ 02'43	44.81700 AU
direct	4040 Dec 23 17:25	11° Υ 00'40		retrograde	4047 Jul 21 04:22	21° Υ 40'08	
evening set	4041 Mar 26 07:52	12° Υ 31'49		min. Earth dist.	4047 Oct 10 00:31	20° Υ 38'37	42.98900 AU
				opposition	4047 Oct 12 19:49	20° Υ 35'12	-15°32'13
conjunction	4041 Apr 01 15:01	12° Υ 41'55	-13°42'13	direct	4048 Jan 02 03:36	19° Υ 31'33	
minimum elong	4041 Apr 01 14:50	12° Υ 41'54	13°42'12	evening set	4048 Apr 08 05:21	21° Υ 06'53	
max. Earth dist.	4041 Apr 04 11:47	12° Υ 46'32	43.54897 AU				
morning rise	4041 Apr 07 22:15	12° Υ 52'03		conjunction	4048 Apr 09 18:10	21° Υ 09'16	-14°55'38
retrograde	4041 Jul 13 09:47	14° Υ 26'35		minimum elong	4048 Apr 09 18:02	21° Υ 09'16	14°55'39
min. Earth dist.	4041 Oct 02 01:46	13° Υ 24'01	41.71783 AU	morning rise	4048 Apr 11 06:47	21° Υ 11'39	
opposition	4041 Oct 04 21:25	13° Υ 20'30	-14°27'40	max. Earth dist.	4048 Apr 12 13:12	21° Υ 13'37	45.02047 AU
direct	4041 Dec 25 06:36	12° Υ 15'37		retrograde	4048 Jul 21 15:14	22° Υ 50'38	
evening set	4042 Mar 28 06:55	13° Υ 47'00		min. Earth dist.	4048 Oct 10 13:09	21° Υ 49'14	43.19232 AU
				opposition	4048 Oct 13 06:50	21° Υ 45'55	-15°41'17
conjunction	4042 Apr 03 02:28	13° Υ 56'18	-13°54'09	direct	4049 Jan 02 13:25	20° Υ 42'30	
minimum elong	4042 Apr 03 02:20	13° Υ 56'17	13°54'10				
max. Earth dist.	4042 Apr 05 22:14	14° Υ 00'49	43.76543 AU	conjunction	4049 Apr 11 04:18	22° Υ 19'48	-15°04'17
morning rise	4042 Apr 08 22:07	14° Υ 05'36		minimum elong	4049 Apr 11 04:13	22° Υ 19'47	15°04'16
retrograde	4042 Jul 14 22:40	15° Υ 40'24		max. Earth dist.	4049 Apr 13 22:45	22° Υ 24'05	45.22063 AU
min. Earth dist.	4042 Oct 03 13:23	14° Υ 38'02	41.93477 AU	retrograde	4049 Jul 22 23:27	24° Υ 00'45	
opposition	4042 Oct 06 09:45	14° Υ 34'30	-14°39'42	min. Earth dist.	4049 Oct 11 23:51	22° Υ 59'32	43.39181 AU
direct	4042 Dec 26 17:09	13° Υ 29'47		opposition	4049 Oct 14 17:20	22° Υ 56'14	-15°49'54
evening set	4043 Mar 30 06:05	15° Υ 01'28		direct	4050 Jan 04 00:31	21° Υ 53'01	
conjunction	4043 Apr 04 13:31	15° Υ 09'55	-14°05'36	conjunction	4050 Apr 12 14:09	23° Υ 29'55	-15°12'31
minimum elong	4043 Apr 04 13:21	15° Υ 09'55	14°05'36	minimum elong	4050 Apr 12 14:02	23° Υ 29'54	15°12'31
max. Earth dist.	4043 Apr 07 09:31	15° Υ 14'26	43.97951 AU	max. Earth dist.	4050 Apr 15 07:14	23° Υ 34'06	45.41665 AU
morning rise	4043 Apr 09 21:00	15° Υ 18'22		retrograde	4050 Jul 24 09:31	25° Υ 10'28	
retrograde	4043 Jul 16 10:10	16° Υ 53'32		min. Earth dist.	4050 Oct 13 11:23	24° Υ 09'23	43.58703 AU
min. Earth dist.	4043 Oct 05 02:33	15° Υ 51'15	42.14965 AU	opposition	4050 Oct 16 03:56	24° Υ 06'08	-15°58'06
opposition	4043 Oct 07 22:01	15° Υ 47'47	-14°51'13	direct	4051 Jan 05 11:26	23° Υ 03'08	

conjunction	4051 Apr 13 23:53	24°♊39'36 -15°20'21	direct	4059 Jan 14 18:30	2°♏05'15
minimum elong	4051 Apr 13 23:49	24°♊39'35 15°20'21			
max. Earth dist.	4051 Apr 16 17:06	24°♊43'47 45.60821 AU	conjunction	4059 Apr 22 22:27	3°♏38'30 -16°09'02
retrograde	4051 Jul 25 17:27	26°♊19'45	minimum elong	4059 Apr 22 22:25	3°♏38'29 16°09'02
min. Earth dist.	4051 Oct 14 23:04	25°♊18'47 43.77742 AU	max. Earth dist.	4059 Apr 25 10:33	3°♏42'13 47.00631 AU
opposition	4051 Oct 17 14:19	25°♊15'36 -16°05'54	retrograde	4059 Aug 03 18:31	5°♏15'32
direct	4052 Jan 07 00:30	24°♊12'46	min. Earth dist.	4059 Oct 24 05:30	4°♏15'27 45.17052 AU
			opposition	4059 Oct 26 16:32	4°♏12'33 -16°53'43
conjunction	4052 Apr 14 09:26	25°♊48'48 -15°27'48	direct	4060 Jan 16 00:41	3°♏10'56
minimum elong	4052 Apr 14 09:20	25°♊48'48 15°27'49			
max. Earth dist.	4052 Apr 17 00:41	25°♊52'50 45.79509 AU	conjunction	4060 Apr 23 06:33	4°♏43'51 -16°13'23
retrograde	4052 Jul 26 05:26	27°♊28'32	minimum elong	4060 Apr 23 06:31	4°♏43'51 16°13'22
min. Earth dist.	4052 Oct 15 09:07	26°♊27'42 43.96322 AU	max. Earth dist.	4060 Apr 25 17:43	4°♏47'30 47.16781 AU
opposition	4052 Oct 18 00:17	26°♊24'33 -16°13'18	retrograde	4060 Aug 04 03:11	6°♏20'34
direct	4053 Jan 07 09:10	25°♊21'52	min. Earth dist.	4060 Oct 24 15:22	5°♏20'33 45.33102 AU
			opposition	4060 Oct 27 00:59	5°♏17'44 -16°57'55
conjunction	4053 Apr 15 18:48	26°♊57'28 -15°34'52	direct	4061 Jan 16 07:48	4°♏16'17
minimum elong	4053 Apr 15 18:44	26°♊57'28 15°34'53			
max. Earth dist.	4053 Apr 18 10:03	27°♊01'29 45.97748 AU	conjunction	4061 Apr 24 14:42	5°♏48'52 -16°17'22
retrograde	4053 Jul 27 17:08	28°♊36'48	minimum elong	4061 Apr 24 14:40	5°♏48'52 16°17'23
min. Earth dist.	4053 Oct 16 20:50	27°♊35'59 44.14475 AU	max. Earth dist.	4061 Apr 27 01:50	5°♏52'31 47.32562 AU
opposition	4053 Oct 19 10:11	27°♊32'56 -16°20'18	retrograde	4061 Aug 05 08:01	7°♏25'16
direct	4054 Jan 08 17:14	26°♊30'25	min. Earth dist.	4061 Oct 26 00:35	6°♏25'22 45.48728 AU
			opposition	4061 Oct 28 09:16	6°♏22'35 -17°01'45
conjunction	4054 Apr 17 03:50	28°♊05'35 -15°41'33	direct	4062 Jan 17 18:55	5°♏21'18
minimum elong	4054 Apr 17 03:45	28°♊05'34 15°41'33			
max. Earth dist.	4054 Apr 19 18:20	28°♊09'32 46.15606 AU	conjunction	4062 Apr 25 22:30	6°♏53'34 -16°21'02
retrograde	4054 Jul 29 00:21	29°♊44'29	minimum elong	4062 Apr 25 22:29	6°♏53'34 16°21'02
min. Earth dist.	4054 Oct 18 06:02	28°♊43'49 44.32266 AU	max. Earth dist.	4062 Apr 28 07:34	6°♏57'05 47.47895 AU
opposition	4054 Oct 20 19:40	28°♊40'45 -16°26'54	retrograde	4062 Aug 06 16:10	8°♏29'39
direct	4055 Jan 10 02:57	27°♊38'22	min. Earth dist.	4062 Oct 27 09:18	7°♏29'52 45.63887 AU
			opposition	4062 Oct 29 17:29	7°♏27'08 -17°05'16
conjunction	4055 Apr 18 12:38	29°♊13'08 -15°47'50	direct	4063 Jan 19 03:50	6°♏25'59
minimum elong	4055 Apr 18 12:35	29°♊13'07 15°47'51			
max. Earth dist.	4055 Apr 21 02:11	29°♊17'00 46.33137 AU	conjunction	4063 Apr 27 06:25	7°♏57'56 -16°24'23
	4055 May 20 20:00	0°♏	minimum elong	4063 Apr 27 06:24	7°♏57'56 16°24'24
retrograde	4055 Jul 30 07:31	0°♏51'37	max. Earth dist.	4063 Apr 29 15:20	8°♏01'25 47.62736 AU
	4055 Oct 12 02:51	30°♏♊	retrograde	4063 Aug 08 01:13	9°♏33'43
min. Earth dist.	4055 Oct 19 16:22	29°♊51'03 44.49770 AU	min. Earth dist.	4063 Oct 28 19:30	8°♏33'57 45.78529 AU
opposition	4055 Oct 22 05:06	29°♊48'02 -16°33'04	opposition	4063 Oct 31 01:35	8°♏31'19 -17°08'27
direct	4056 Jan 11 13:07	28°♊45'47	direct	4064 Jan 20 12:20	7°♏30'18
	4056 Apr 05 09:55	0°♏			
conjunction	4056 Apr 18 21:25	0°♏20'09 -15°53'43	conjunction	4064 Apr 27 14:09	9°♏01'55 -16°27'26
minimum elong	4056 Apr 18 21:21	0°♏20'09 15°53'43	minimum elong	4064 Apr 27 14:09	9°♏01'55 16°27'26
max. Earth dist.	4056 Apr 21 11:27	0°♏24'03 46.50402 AU	max. Earth dist.	4064 Apr 29 21:30	9°♏05'18 47.77074 AU
retrograde	4056 Jul 30 13:19	1°♏58'16	retrograde	4064 Aug 08 09:37	10°♏37'22
min. Earth dist.	4056 Oct 20 02:13	0°♏57'47 44.66992 AU	min. Earth dist.	4064 Oct 29 03:19	9°♏37'44 45.92657 AU
opposition	4056 Oct 22 14:14	0°♏54'48 -16°38'50	opposition	4064 Oct 31 09:24	9°♏35'06 -17°11'19
	4056 Dec 17 19:17	30°♏♊	direct	4065 Jan 20 18:42	8°♏34'12
direct	4057 Jan 12 01:22	29°♊52'43			
	4057 Feb 05 19:44	0°♏	conjunction	4065 Apr 28 21:39	10°♏05'30 -16°30'09
conjunction	4057 Apr 20 05:55	1°♏26'41 -15°59'13	minimum elong	4065 Apr 28 21:38	10°♏05'30 16°30'10
minimum elong	4057 Apr 20 05:52	1°♏26'41 15°59'13	max. Earth dist.	4065 May 01 03:42	10°♏08'47 47.90907 AU
max. Earth dist.	4057 Apr 22 18:29	1°♏30'29 46.67407 AU	retrograde	4065 Aug 09 16:56	11°♏40'38
retrograde	4057 Jul 31 22:47	3°♏04'26	min. Earth dist.	4065 Oct 30 12:45	10°♏40'59 46.06319 AU
min. Earth dist.	4057 Oct 21 10:47	2°♏04'06 44.83962 AU	opposition	4065 Nov 01 17:01	10°♏38'27 -17°13'52
opposition	4057 Oct 23 23:03	2°♏01'07 -16°44'12	direct	4066 Jan 22 01:41	9°♏37'40
direct	4058 Jan 13 09:57	0°♏59'11			
conjunction	4058 Apr 21 14:19	2°♏32'47 -16°04'19	conjunction	4066 Apr 30 05:04	11°♏08'40 -16°32'34
minimum elong	4058 Apr 21 14:16	2°♏32'47 16°04'18	minimum elong	4066 Apr 30 05:05	11°♏08'40 16°32'35
max. Earth dist.	4058 Apr 24 03:11	2°♏36'34 46.84153 AU	max. Earth dist.	4066 May 02 11:06	11°♏11'56 48.04321 AU
retrograde	4058 Aug 02 08:39	4°♏10'11	retrograde	4066 Aug 10 20:52	12°♏43'28
min. Earth dist.	4058 Oct 22 21:08	3°♏09'55 45.00658 AU	min. Earth dist.	4066 Oct 31 20:46	11°♏43'54 46.19574 AU
opposition	4058 Oct 25 07:56	3°♏07'01 -16°49'09	opposition	4066 Nov 03 00:28	11°♏41'24 -17°16'06
			direct	4067 Jan 23 11:18	10°♏40'42
			conjunction	4067 May 01 12:02	12°♏11'24 -16°34'40

minimum elong	4067 May 01 12:02	12°8'11"24	16°34'40	conjunction	4075 May 09 17:30	20°8'23"09	-16°39'52
max. Earth dist.	4067 May 03 16:25	12°8'14"34	48.17370 AU	minimum elong	4075 May 09 17:34	20°8'23"10	16°39'51
retrograde	4067 Aug 12 04:02	13°8'45"54		max. Earth dist.	4075 May 11 15:50	20°8'25"53	49.10716 AU
min. Earth dist.	4067 Nov 02 04:25	12°8'46"26	46.32504 AU	retrograde	4075 Aug 20 12:55	21°8'55"43	
opposition	4067 Nov 04 07:49	12°8'43"57	-17°17'59	min. Earth dist.	4075 Nov 10 17:31	20°8'56"49	47.24486 AU
direct	4068 Jan 24 18:58	11°8'43"21		opposition	4075 Nov 12 13:23	20°8'54"44	-17°21'17
				direct	4076 Feb 01 23:12	19°8'55"06	
conjunction	4068 May 01 19:10	13°8'13"46	-16°36'26				
minimum elong	4068 May 01 19:12	13°8'13"46	16°36'26	conjunction	4076 May 10 00:02	21°8'23"37	-16°39'14
max. Earth dist.	4068 May 03 23:51	13°8'16"56	48.30108 AU	minimum elong	4076 May 10 00:05	21°8'23"37	16°39'14
retrograde	4068 Aug 12 11:06	14°8'48"00		max. Earth dist.	4076 May 11 21:46	21°8'26"18	49.20536 AU
min. Earth dist.	4068 Nov 02 12:57	13°8'48"33	46.45129 AU	retrograde	4076 Aug 20 17:19	22°8'55"54	
opposition	4068 Nov 04 14:53	13°8'46"08	-17°19'32	min. Earth dist.	4076 Nov 11 00:22	21°8'57"04	47.34025 AU
direct	4069 Jan 25 03:55	12°8'45"40		opposition	4076 Nov 12 19:25	21°8'55"01	-17°20'24
				direct	4077 Feb 02 05:08	20°8'55"26	
conjunction	4069 May 03 02:06	14°8'15"48	-16°37'52				
minimum elong	4069 May 03 02:06	14°8'15"48	16°37'51	conjunction	4077 May 11 06:15	22°8'23"44	-16°38'20
max. Earth dist.	4069 May 05 05:37	14°8'18"54	48.42578 AU	minimum elong	4077 May 11 06:20	22°8'23"44	16°38'20
	4069 Jun 04 00:11	15°8'		max. Earth dist.	4077 May 13 01:49	22°8'26"18	49.29848 AU
retrograde	4069 Aug 13 20:30	15°8'49"45		retrograde	4077 Aug 21 22:55	23°8'55"47	
	4069 Oct 26 11:44	15°8'		min. Earth dist.	4077 Nov 12 07:27	22°8'56"57	47.43090 AU
min. Earth dist.	4069 Nov 03 19:29	14°8'50"27	46.57483 AU	opposition	4077 Nov 14 01:33	22°8'54"57	-17°19'14
opposition	4069 Nov 05 21:47	14°8'48"02	-17°20'44	direct	4078 Feb 03 11:35	21°8'55"27	
direct	4070 Jan 26 08:25	13°8'47"41					
	4070 Apr 22 01:47	15°8'		conjunction	4078 May 12 12:17	23°8'23"30	-16°37'10
				minimum elong	4078 May 12 12:21	23°8'23"30	16°37'10
conjunction	4070 May 04 08:42	15°8'17"33	-16°38'58	max. Earth dist.	4078 May 14 07:50	23°8'26"03	49.38707 AU
minimum elong	4070 May 04 08:44	15°8'17"33	16°38'59	retrograde	4078 Aug 23 02:17	24°8'55"19	
max. Earth dist.	4070 May 06 11:39	15°8'20"36	48.54770 AU	min. Earth dist.	4078 Nov 13 15:00	23°8'56"28	47.51723 AU
retrograde	4070 Aug 15 05:13	16°8'51"15		opposition	4078 Nov 15 07:32	23°8'54"33	-17°17'49
min. Earth dist.	4070 Nov 05 03:55	15°8'52"00	46.69564 AU	direct	4079 Feb 04 20:58	22°8'55"06	
opposition	4070 Nov 07 04:46	15°8'49"40	-17°21'36				
	4070 Dec 27 14:41	15°8'		conjunction	4079 May 13 18:17	24°8'22"55	-16°35'43
direct	4071 Jan 27 12:07	14°8'49"26		minimum elong	4079 May 13 18:23	24°8'22"55	16°35'44
	4071 Feb 27 05:20	15°8'		max. Earth dist.	4079 May 15 12:26	24°8'25"23	49.47187 AU
				retrograde	4079 Aug 24 09:29	25°8'54"30	
conjunction	4071 May 05 15:28	16°8'19"04	-16°39'44	min. Earth dist.	4079 Nov 14 20:38	24°8'55"43	47.60003 AU
minimum elong	4071 May 05 15:30	16°8'19"04	16°39'44	opposition	4079 Nov 16 13:15	24°8'53"48	-17°16'06
max. Earth dist.	4071 May 07 18:25	16°8'22"07	48.66698 AU	direct	4080 Feb 06 02:43	23°8'54"24	
retrograde	4071 Aug 16 08:51	17°8'52"32					
min. Earth dist.	4071 Nov 06 10:49	16°8'53"23	46.81345 AU	conjunction	4080 May 14 00:09	25°8'22"01	-16°34'00
opposition	4071 Nov 08 11:25	16°8'51"04	-17°22'08	minimum elong	4080 May 14 00:14	25°8'22"01	16°34'01
direct	4072 Jan 28 20:51	15°8'50"58		max. Earth dist.	4080 May 15 17:32	25°8'24"26	49.55326 AU
				retrograde	4080 Aug 24 18:02	26°8'53"23	
conjunction	4072 May 05 21:59	17°8'20"23	-16°40'12	min. Earth dist.	4080 Nov 15 04:08	25°8'54"36	47.67961 AU
minimum elong	4072 May 05 22:01	17°8'20"23	16°40'13	opposition	4080 Nov 16 19:03	25°8'52"45	-17°14'05
max. Earth dist.	4072 May 07 23:10	17°8'23"19	48.78314 AU	direct	4081 Feb 06 06:13	24°8'53"26	
retrograde	4072 Aug 16 13:54	18°8'53"36					
min. Earth dist.	4072 Nov 06 18:11	17°8'54"34	46.92796 AU	conjunction	4081 May 15 06:02	26°8'20"51	-16°32'00
opposition	4072 Nov 08 18:03	17°8'52"16	-17°22'21	minimum elong	4081 May 15 06:08	26°8'20"51	16°32'01
direct	4073 Jan 29 04:51	16°8'52"18		max. Earth dist.	4081 May 16 23:15	26°8'23"15	49.63169 AU
				retrograde	4081 Aug 25 21:59	27°8'52"00	
conjunction	4073 May 07 04:37	18°8'21"30	-16°40'22	min. Earth dist.	4081 Nov 16 09:38	26°8'53"18	47.75616 AU
minimum elong	4073 May 07 04:40	18°8'21"30	16°40'22	opposition	4081 Nov 18 00:29	26°8'51"28	-17°11'47
max. Earth dist.	4073 May 09 05:54	18°8'24"26	48.89561 AU	direct	4082 Feb 07 12:04	25°8'52"13	
retrograde	4073 Aug 17 20:16	19°8'54"30					
min. Earth dist.	4073 Nov 08 02:25	18°8'55"30	47.03834 AU	conjunction	4082 May 16 11:39	27°8'19"28	-16°29'43
opposition	4073 Nov 10 00:29	18°8'53"18	-17°22'16	minimum elong	4082 May 16 11:44	27°8'19"28	16°29'43
direct	4074 Jan 30 13:27	17°8'53"28		max. Earth dist.	4082 May 18 03:09	27°8'21"45	49.70726 AU
				retrograde	4082 Aug 27 02:31	28°8'50"26	
conjunction	4074 May 08 11:08	19°8'22"26	-16°40'15	min. Earth dist.	4082 Nov 17 15:59	27°8'51"47	47.82994 AU
minimum elong	4074 May 08 11:11	19°8'22"26	16°40'16	opposition	4082 Nov 19 06:05	27°8'49"59	-17°09'12
max. Earth dist.	4074 May 10 10:44	19°8'25"15	49.00386 AU	direct	4083 Feb 08 17:45	26°8'50"49	
retrograde	4074 Aug 19 04:48	20°8'55"13					
min. Earth dist.	4074 Nov 09 08:56	19°8'56"20	47.14417 AU	conjunction	4083 May 17 17:17	28°8'17"55	-16°27'09
opposition	4074 Nov 11 06:53	19°8'54"08	-17°21'55	minimum elong	4083 May 17 17:24	28°8'17"55	16°27'10
direct	4075 Jan 31 18:46	18°8'54"25		max. Earth dist.	4083 May 19 09:09	28°8'20"14	49.77993 AU

retrograde	4083 Aug 28 06:43	29° 8 48'44		minimum elong	4091 May 25 13:37	6° II 02'19	15°57'45
min. Earth dist.	4083 Nov 18 22:52	28° 8 50'07	47.90054 AU	max. Earth dist.	4091 May 26 19:52	6° II 04'03	50.20577 AU
opposition	4083 Nov 20 11:36	28° 8 48'23	-17°06'19	retrograde	4091 Sep 05 06:25	7° II 31'59	
direct	4084 Feb 10 01:43	27° 8 49'19		min. Earth dist.	4091 Nov 27 00:24	6° II 33'33	48.30267 AU
				opposition	4091 Nov 28 04:32	6° II 32'14	-16°34'24
conjunction	4084 May 17 22:56	29° 8 16'16	-16°24'19	direct	4092 Feb 17 15:42	5° II 33'38	
minimum elong	4084 May 17 23:02	29° 8 16'17	16°24'19				
max. Earth dist.	4084 May 19 13:13	29° 8 18'30	49.84944 AU	conjunction	4092 May 25 18:42	6° II 59'36	-15°53'01
	4084 Jun 19 18:42	0° II		minimum elong	4092 May 25 18:52	6° II 59'37	15°53'01
retrograde	4084 Aug 28 14:05	0° II 46'57		max. Earth dist.	4092 May 26 23:12	7° II 01'14	50.23838 AU
	4084 Nov 08 20:05	30° R 8		retrograde	4092 Sep 05 10:15	8° II 29'08	
min. Earth dist.	4084 Nov 19 04:04	29° 8 48'26	47.96770 AU	min. Earth dist.	4092 Nov 27 06:17	7° II 30'40	48.33285 AU
opposition	4084 Nov 20 16:47	29° 8 46'42	-17°03'10	opposition	4092 Nov 28 09:14	7° II 29'25	-16°29'20
direct	4085 Feb 10 06:19	28° 8 47'44		direct	4093 Feb 17 20:25	6° II 30'51	
	4085 May 08 15:10	0° II					
conjunction	4085 May 19 04:33	0° II 14'35	-16°21'13	conjunction	4093 May 26 23:58	7° II 56'43	-15°48'02
minimum elong	4085 May 19 04:39	0° II 14'35	16°21'14	minimum elong	4093 May 27 00:06	7° II 56'43	15°48'02
max. Earth dist.	4085 May 20 17:49	0° II 16'44	49.91510 AU	max. Earth dist.	4093 May 28 04:35	7° II 58'21	50.26770 AU
retrograde	4085 Aug 29 21:40	1° II 45'07		retrograde	4093 Sep 06 11:35	9° II 26'07	
min. Earth dist.	4085 Nov 20 11:37	0° II 46'37	48.03073 AU	opposition	4093 Nov 29 13:58	8° II 26'26	-16°24'00
opposition	4085 Nov 21 22:11	0° II 44'59	-16°59'46	min. Earth dist.	4093 Nov 28 12:10	8° II 27'38	48.35976 AU
	4086 Jan 06 04:03	30° R 8		direct	4094 Feb 19 04:34	7° II 27'54	
direct	4086 Feb 11 09:50	29° 8 46'07		conjunction	4094 May 28 04:55	8° II 53'39	-15°42'48
	4086 Mar 19 03:23	0° II		minimum elong	4094 May 28 05:04	8° II 53'40	15°42'48
				max. Earth dist.	4094 May 29 08:06	8° II 55'12	50.29404 AU
conjunction	4086 May 20 10:06	1° II 12'50	-16°17'52	retrograde	4094 Sep 07 16:57	10° II 22'57	
minimum elong	4086 May 20 10:14	1° II 12'51	16°17'52	opposition	4094 Nov 30 18:38	9° II 23'18	-16°18'24
max. Earth dist.	4086 May 21 22:52	1° II 14'58	49.97641 AU	min. Earth dist.	4094 Nov 29 16:43	9° II 24'31	48.38371 AU
retrograde	4086 Aug 31 02:48	2° II 43'15		direct	4095 Feb 20 09:48	8° II 24'49	
min. Earth dist.	4086 Nov 21 17:24	1° II 44'49	48.08892 AU				
opposition	4086 Nov 23 03:25	1° II 43'13	-16°56'07	conjunction	4095 May 29 10:00	9° II 50'29	-15°37'18
direct	4087 Feb 12 13:46	0° II 44'26		minimum elong	4095 May 29 10:09	9° II 50'29	15°37'19
				max. Earth dist.	4095 May 30 12:21	9° II 51'59	50.31731 AU
conjunction	4087 May 21 15:41	2° II 11'03	-16°14'17	retrograde	4095 Sep 08 23:55	11° II 19'41	
minimum elong	4087 May 21 15:47	2° II 11'03	16°14'18	opposition	4095 Dec 01 23:18	10° II 20'06	-16°12'32
max. Earth dist.	4087 May 23 02:03	2° II 13'01	50.03262 AU	min. Earth dist.	4095 Nov 30 23:15	10° II 21'13	48.40454 AU
retrograde	4087 Sep 01 08:13	3° II 41'18		direct	4096 Feb 21 13:59	9° II 21'38	
min. Earth dist.	4087 Nov 23 00:06	2° II 42'53	48.14189 AU				
opposition	4087 Nov 24 08:38	2° II 41'22	-16°52'14	conjunction	4096 May 29 15:11	10° II 47'14	-15°31'34
direct	4088 Feb 13 18:29	1° II 42'39		minimum elong	4096 May 29 15:20	10° II 47'14	15°31'35
				max. Earth dist.	4096 May 30 17:15	10° II 48'42	50.33748 AU
conjunction	4088 May 21 21:24	3° II 09'08	-16°10'30	retrograde	4096 Sep 09 05:54	12° II 16'20	
minimum elong	4088 May 21 21:32	3° II 09'09	16°10'30	min. Earth dist.	4096 Dec 01 04:01	11° II 17'55	48.42187 AU
max. Earth dist.	4088 May 23 07:17	3° II 11'05	50.08341 AU	opposition	4096 Dec 02 03:48	11° II 16'49	-16°06'26
retrograde	4088 Sep 01 10:53	4° II 39'16		direct	4097 Feb 21 16:51	10° II 18'24	
min. Earth dist.	4088 Nov 23 07:00	3° II 40'50	48.18922 AU				
opposition	4088 Nov 24 13:47	3° II 39'23	-16°48'08	conjunction	4097 May 30 20:09	11° II 43'56	-15°25'35
direct	4089 Feb 14 02:44	2° II 40'43		minimum elong	4097 May 30 20:19	11° II 43'57	15°25'35
				max. Earth dist.	4097 May 31 20:06	11° II 45'18	50.35387 AU
conjunction	4089 May 23 02:51	4° II 07'04	-16°06'28	retrograde	4097 Sep 10 11:35	13° II 12'58	
minimum elong	4089 May 23 02:58	4° II 07'04	16°06'29	min. Earth dist.	4097 Dec 02 09:54	12° II 14'32	48.43527 AU
max. Earth dist.	4089 May 24 10:47	4° II 08'54	50.12887 AU	opposition	4097 Dec 03 08:20	12° II 13'30	-16°00'05
retrograde	4089 Sep 02 16:56	5° II 37'03		direct	4098 Feb 22 19:27	11° II 15'07	
opposition	4089 Nov 25 18:42	4° II 37'13	-16°43'48				
min. Earth dist.	4089 Nov 24 12:21	4° II 38'38	48.23143 AU	conjunction	4098 Jun 01 01:21	12° II 40'37	-15°19'23
direct	4090 Feb 15 08:54	3° II 38'35		minimum elong	4098 Jun 01 01:30	12° II 40'38	15°19'24
				max. Earth dist.	4098 Jun 02 01:04	12° II 41'58	50.36599 AU
conjunction	4090 May 24 08:12	5° II 04'48	-16°02'14	retrograde	4098 Sep 11 14:12	14° II 09'35	
minimum elong	4090 May 24 08:21	5° II 04'48	16°02'14	opposition	4098 Dec 04 12:54	13° II 10'09	-15°53'31
max. Earth dist.	4090 May 25 15:02	5° II 06'33	50.16939 AU	min. Earth dist.	4098 Dec 03 16:04	13° II 11'08	48.44395 AU
retrograde	4090 Sep 04 01:44	6° II 34'37		direct	4099 Feb 24 02:04	12° II 11'49	
opposition	4090 Nov 26 23:44	5° II 34'50	-16°39'13				
min. Earth dist.	4090 Nov 25 19:24	5° II 36'09	48.26907 AU	conjunction	4099 Jun 02 06:26	13° II 37'16	-15°12'58
direct	4091 Feb 16 11:53	4° II 36'14		minimum elong	4099 Jun 02 06:37	13° II 37'16	15°12'57
				max. Earth dist.	4099 Jun 03 04:13	13° II 38'30	50.37324 AU
conjunction	4091 May 25 13:30	6° II 02'18	-15°57'45	retrograde	4099 Sep 12 18:42	15° II 06'09	

opposition	4099 Dec 05 17:24	14°II06'46 -15°46'43
min. Earth dist.	4099 Dec 04 21:08	14°II07'43 48.44748 AU
direct	4100 Feb 25 08:05	13°II08'27
conjunction	4100 Jun 03 11:39	14°II33'51 -15°06'20
minimum elong	4100 Jun 03 11:48	14°II33'51 15°06'21
max. Earth dist.	4100 Jun 04 07:50	14°II34'59 50.37503 AU
retrograde	4100 Sep 14 01:54	16°II02'40
opposition	4100 Dec 06 21:53	15°II03'19 -15°39'43
min. Earth dist.	4100 Dec 06 03:57	15°II04'09 48.44555 AU
direct	4101 Feb 26 12:05	14°II05'00
conjunction	4101 Jun 04 16:50	15°II30'20 -14°59'30
minimum elong	4101 Jun 04 17:00	15°II30'21 14°59'30
evening set	4101 Jun 04 04:18	15°II29'38
morning rise	4101 Jun 05 05:44	15°II31'04
max. Earth dist.	4101 Jun 05 12:16	15°II31'26 50.37164 AU
retrograde	4101 Sep 15 07:22	16°II59'05
min. Earth dist.	4101 Dec 07 08:41	16°II00'34 48.43847 AU
opposition	4101 Dec 08 02:14	15°II59'44 -15°32'31