

superior conj	599 Dec 13 j 19:17	24°♁21'47	0°-29'-52	greatest brilliancy	602 Jun 12 j 05:27	13°♁53'32	-4.5m
minimum elong	599 Dec 13 j 11:35	23°♁57'33	0°29'31		602 Jul 06 j 01:35	0°♁	
max. Earth dist.	599 Dec 16 j 02:50	27°♁16'26	1.71099 AU	morning max el	602 Jul 17 j 15:49	10°♁31'03	45°48'57
	599 Dec 18 j 06:51	0°♁			602 Aug 05 j 20:25	0°♁	
	600 Jan 11 j 04:19	0°♁			602 Sep 01 j 19:04	0°♁	
evening rise	600 Jan 24 j 07:11	16°♁25'18		asc. node	602 Sep 07 j 22:44	7°♁08'36	
	600 Feb 04 j 04:20	0°♁			602 Sep 27 j 04:30	0°♁	
	600 Feb 28 j 08:35	0°♁			602 Oct 21 j 18:08	0°♁	
asc. node	600 Mar 23 j 03:39	29°♁12'57			602 Nov 14 j 21:28	0°♁	
	600 Mar 23 j 19:05	0°♁			602 Dec 08 j 20:30	0°♁	
	600 Apr 17 j 13:58	0°♁		desc. node	602 Dec 28 j 12:06	24°♁38'37	
	600 May 12 j 20:21	0°♁			603 Jan 01 j 18:39	0°♁	
	600 Jun 07 j 20:36	0°♁		morning set	603 Jan 18 j 14:52	21°♁05'41	
	600 Jul 05 j 07:11	0°♁			603 Jan 25 j 17:44	0°♁	
desc. node	600 Jul 12 j 16:51	7°♁37'20			603 Feb 18 j 18:46	0°♁	
evening max el	600 Jul 21 j 09:05	16°♁11'01	45°54'49				
	600 Aug 05 j 20:11	0°♁		superior conj	603 Feb 28 j 03:51	11°♁39'59	-1°-24'-45
greatest brilliancy	600 Aug 28 j 23:45	14°♁24'28	-4.6m	minimum elong	603 Feb 28 j 06:51	11°♁49'17	1°24'45
retrograde	600 Sep 08 j 11:38	16°♁23'24		max. Earth dist.	603 Mar 04 j 01:48	16°♁31'39	1.72395 AU
evening set	600 Sep 25 j 09:59	10°♁59'55			603 Mar 14 j 22:34	0°♁	
inferior conj	600 Sep 29 j 07:27	8°♁39'49	-7°-25'-30	evening rise	603 Apr 07 j 21:58	29°♁36'04	
minimum elong	600 Sep 29 j 17:17	8°♁24'47	7°23'49		603 Apr 08 j 05:45	0°♁	
min. Earth dist.	600 Sep 30 j 04:04	8°♁08'18	0.27242 AU	asc. node	603 Apr 20 j 15:33	15°♁14'58	
morning rise	600 Oct 04 j 00:11	5°♁51'25			603 May 02 j 16:34	0°♁	
direct	600 Oct 20 j 03:49	0°♁48'34			603 May 27 j 07:12	0°♁	
greatest brilliancy	600 Nov 02 j 19:40	4°♁14'26	-4.7m		603 Jun 21 j 02:26	0°♁	
asc. node	600 Nov 02 j 20:11	4°♁15'02			603 Jul 16 j 04:26	0°♁	
	600 Dec 05 j 15:12	0°♁		desc. node	603 Aug 10 j 04:47	29°♁23'13	
morning max el	600 Dec 09 j 22:28	4°♁19'50	46°56'24		603 Aug 10 j 17:27	0°♁	
	601 Jan 02 j 15:51	0°♁			603 Sep 06 j 02:19	0°♁	
	601 Jan 28 j 14:15	0°♁		evening max el	603 Oct 03 j 16:48	29°♁19'02	47°06'45
desc. node	601 Feb 22 j 09:48	29°♁31'45			603 Oct 04 j 09:16	0°♁	
	601 Feb 22 j 19:14	0°♁		greatest brilliancy	603 Nov 11 j 14:27	29°♁38'31	-4.7m
	601 Mar 19 j 17:02	0°♁			603 Nov 12 j 11:42	0°♁	
	601 Apr 13 j 11:35	0°♁		retrograde	603 Nov 23 j 07:03	2°♁13'06	
	601 May 08 j 04:13	0°♁		asc. node	603 Dec 01 j 08:03	0°♁52'43	
	601 Jun 01 j 18:44	0°♁			603 Dec 03 j 16:23	30°♁	
morning set	601 Jun 11 j 16:44	12°♁08'02		evening set	603 Dec 07 j 17:28	28°♁03'27	
asc. node	601 Jun 15 j 13:08	16°♁51'04		min. Earth dist.	603 Dec 13 j 06:38	24°♁48'59	0.26481 AU
	601 Jun 26 j 06:14	0°♁		inferior conj	603 Dec 13 j 20:48	24°♁27'18	3°11'00
max. Earth dist.	601 Jul 14 j 13:43	22°♁33'46	1.73137 AU	minimum elong	603 Dec 13 j 13:59	24°♁37'44	3°08'56
				morning rise	603 Dec 19 j 10:47	21°♁09'46	
superior conj	601 Jul 17 j 23:55	26°♁47'40	1°06'53	direct	604 Jan 03 j 03:41	16°♁50'12	
minimum elong	601 Jul 17 j 15:25	26°♁21'23	1°06'37	greatest brilliancy	604 Jan 14 j 10:38	19°♁13'06	-4.6m
	601 Jul 20 j 14:09	0°♁			604 Feb 01 j 01:26	0°♁	
	601 Aug 13 j 18:57	0°♁		morning max el	604 Feb 22 j 03:58	18°♁58'05	46°33'41
evening rise	601 Aug 23 j 06:33	11°♁47'00			604 Mar 03 j 23:19	0°♁	
	601 Sep 06 j 22:00	0°♁		desc. node	604 Mar 21 j 21:46	19°♁22'53	
	601 Oct 01 j 00:48	0°♁			604 Mar 31 j 09:31	0°♁	
desc. node	601 Oct 05 j 02:43	5°♁04'24			604 Apr 26 j 12:20	0°♁	
	601 Oct 25 j 04:26	0°♁			604 May 22 j 00:35	0°♁	
	601 Nov 18 j 10:11	0°♁			604 Jun 16 j 03:27	0°♁	
	601 Dec 12 j 20:49	0°♁			604 Jul 10 j 22:12	0°♁	
	602 Jan 06 j 18:45	0°♁		asc. node	604 Jul 13 j 00:54	2°♁34'33	
asc. node	602 Jan 26 j 05:41	22°♁39'04			604 Aug 04 j 09:16	0°♁	
	602 Feb 01 j 17:55	0°♁		morning set	604 Aug 18 j 20:20	17°♁53'59	
evening max el	602 Feb 26 j 12:29	26°♁15'43	46°02'19		604 Aug 28 j 13:48	0°♁	
	602 Mar 02 j 08:43	0°♁			604 Sep 21 j 13:50	0°♁	
greatest brilliancy	602 Apr 02 j 04:01	23°♁32'21	-4.5m	max. Earth dist.	604 Sep 22 j 19:30	1°♁32'59	1.71642 AU
retrograde	602 Apr 16 j 20:11	27°♁20'50					
evening set	602 May 02 j 07:09	22°♁43'51		superior conj	604 Sep 25 j 09:27	4°♁47'09	1°13'25
inferior conj	602 May 08 j 07:16	19°♁05'37	2°12'23	minimum elong	604 Sep 25 j 18:21	5°♁15'03	1°13'11
minimum elong	602 May 08 j 11:57	18°♁58'14	2°11'03		604 Oct 15 j 11:40	0°♁	
min. Earth dist.	602 May 08 j 11:15	18°♁59'20	0.28940 AU	desc. node	604 Nov 01 j 14:35	21°♁30'03	
morning rise	602 May 14 j 16:47	15°♁13'54		evening rise	604 Nov 04 j 11:01	25°♁04'52	
desc. node	602 May 17 j 19:14	13°♁39'13			604 Nov 08 j 09:04	0°♁	
direct	602 May 29 j 21:15	10°♁47'40			604 Dec 02 j 07:10	0°♁	

	604 Dec 26 j 07:14	0°≈			607 Jul 25 j 17:32	0°☾		
	605 Jan 19 j 11:33	0°✠		asc. node	607 Aug 10 j 12:53	18°☾54'42		
	605 Feb 12 j 23:59	0°♃			607 Aug 19 j 16:38	0°♁		
asc. node	605 Feb 22 j 17:45	11°♃44'31			607 Sep 13 j 02:58	0°♃		
	605 Mar 10 j 02:37	0°♃			607 Oct 07 j 04:48	0°♁		
	605 Apr 05 j 06:04	0°♁		morning set	607 Oct 30 j 23:29	29°♁51'42		
	605 May 03 j 13:34	0°☾			607 Oct 31 j 02:08	0°♁		
evening max el	605 May 08 j 03:22	4°☾27'13	45°19'50		607 Nov 23 j 21:56	0°♁		
	605 Jun 10 j 08:57	0°♁		desc. node	607 Nov 30 j 02:18	7°♁47'11		
greatest brilliancy	605 Jun 12 j 05:52	0°♁51'55	-4.5m					
desc. node	605 Jun 14 j 07:07	1°♁42'28		superior conj	607 Dec 11 j 04:58	21°♁46'15	0°-26'-4	
retrograde	605 Jun 25 j 15:46	3°♁59'31		minimum elong	607 Dec 10 j 22:09	21°♁24'48	0°25'46	
	605 Jul 10 j 01:05	30°☾		max. Earth dist.	607 Dec 13 j 07:41	24°♁25'45	1.71075 AU	
evening set	605 Jul 11 j 19:25	29°☾02'10			607 Dec 17 j 18:00	0°☾		
inferior conj	605 Jul 17 j 00:51	25°☾53'36	-6°-44'-2		608 Jan 10 j 15:25	0°≈		
minimum elong	605 Jul 16 j 15:00	26°☾08'52	6°42'13	evening rise	608 Jan 21 j 18:06	13°≈54'35		
min. Earth dist.	605 Jul 17 j 04:13	25°☾48'24	0.28779 AU		608 Feb 03 j 15:27	0°✠		
morning rise	605 Jul 21 j 10:24	23°☾13'13			608 Feb 27 j 19:49	0°♃		
direct	605 Aug 07 j 15:21	17°☾38'56		asc. node	608 Mar 22 j 05:42	28°♃44'11		
greatest brilliancy	605 Aug 22 j 02:13	21°☾19'43	-4.5m		608 Mar 23 j 06:34	0°♃		
	605 Sep 04 j 21:50	0°♁			608 Apr 17 j 01:56	0°♁		
morning max el	605 Sep 26 j 12:47	19°♁15'24	46°25'44		608 May 12 j 09:13	0°☾		
asc. node	605 Oct 05 j 10:29	28°♁23'00			608 Jun 07 j 11:14	0°♁		
	605 Oct 06 j 23:10	0°♃			608 Jul 05 j 01:57	0°♃		
	605 Nov 02 j 17:57	0°♁		desc. node	608 Jul 11 j 19:00	6°♃50'39		
	605 Nov 27 j 22:27	0°♁		evening max el	608 Jul 18 j 21:36	13°♃49'17	45°52'28	
	605 Dec 22 j 11:37	0°♁			608 Aug 06 j 08:01	0°♁		
	606 Jan 15 j 19:04	0°☾		greatest brilliancy	608 Aug 26 j 12:27	12°♁01'57	-4.6m	
desc. node	606 Jan 24 j 23:58	11°☾23'05		retrograde	608 Sep 05 j 23:35	14°♁00'37		
	606 Feb 09 j 01:05	0°≈		evening set	608 Sep 23 j 02:00	8°♁32'20		
	606 Mar 05 j 07:31	0°✠		inferior conj	608 Sep 26 j 20:36	6°♁16'30	-7°-37'-21	
	606 Mar 29 j 15:09	0°♃		minimum elong	608 Sep 27 j 06:03	6°♁02'04	7°35'50	
morning set	606 Apr 02 j 08:23	4°♃34'43		min. Earth dist.	608 Sep 27 j 17:53	5°♁43'59	0.27308 AU	
	606 Apr 23 j 00:14	0°♃		morning rise	608 Oct 01 j 09:39	3°♁33'06		
					608 Oct 08 j 20:11	30°♃		
superior conj	606 May 09 j 12:29	20°♃17'06	0°-20'-16	direct	608 Oct 17 j 17:06	28°♃23'54		
minimum elong	606 May 09 j 16:37	20°♃29'48	0°20'04		608 Oct 26 j 21:36	0°♁		
max. Earth dist.	606 May 09 j 22:15	20°♃47'05	1.73583 AU	greatest brilliancy	608 Oct 31 j 11:49	1°♁52'17	-4.7m	
	606 May 17 j 10:18	0°♁		asc. node	608 Nov 01 j 22:13	2°♁34'50		
asc. node	606 May 18 j 03:19	0°♁52'15			608 Dec 05 j 15:13	0°♁		
	606 Jun 10 j 20:36	0°☾		morning max el	608 Dec 07 j 11:29	1°♁52'21	46°56'23	
evening rise	606 Jun 14 j 17:57	4°☾46'42			609 Jan 02 j 08:43	0°☾		
	606 Jul 05 j 06:45	0°♁			609 Jan 28 j 04:27	0°☾		
	606 Jul 29 j 17:15	0°♃		desc. node	609 Feb 21 j 11:58	28°☾59'42		
	606 Aug 23 j 05:30	0°♁			609 Feb 22 j 08:04	0°≈		
desc. node	606 Sep 06 j 16:51	17°♁38'13			609 Mar 19 j 05:02	0°✠		
	606 Sep 16 j 21:10	0°♁			609 Apr 12 j 23:03	0°♃		
	606 Oct 11 j 18:39	0°♁			609 May 07 j 15:20	0°♃		
	606 Nov 06 j 03:16	0°☾			609 Jun 01 j 05:39	0°♁		
	606 Dec 02 j 14:57	0°≈		morning set	609 Jun 09 j 11:01	10°♁03'47		
evening max el	606 Dec 14 j 22:14	13°≈00'59	47°12'57	asc. node	609 Jun 14 j 15:11	16°♁24'09		
asc. node	606 Dec 28 j 19:55	26°≈26'23			609 Jun 25 j 17:02	0°☾		
	607 Jan 01 j 21:31	0°✠		max. Earth dist.	609 Jul 12 j 09:30	20°☾33'24	1.73181 AU	
greatest brilliancy	607 Jan 21 j 01:01	13°✠08'55	-4.6m					
retrograde	607 Feb 03 j 19:31	16°✠38'18		superior conj	609 Jul 15 j 18:09	24°☾42'21	1°04'54	
evening set	607 Feb 21 j 17:35	10°✠22'14		minimum elong	609 Jul 15 j 09:30	24°☾15'41	1°04'37	
min. Earth dist.	607 Feb 24 j 06:47	8°✠46'25	0.28133 AU		609 Jul 20 j 00:57	0°♁		
inferior conj	607 Feb 24 j 20:26	8°✠24'49	8°38'58		609 Aug 13 j 05:51	0°♃		
minimum elong	607 Feb 24 j 22:17	8°✠21'53	8°38'55	evening rise	609 Aug 20 j 23:01	9°♃35'01		
morning rise	607 Feb 28 j 03:14	6°✠22'04			609 Sep 06 j 09:06	0°♁		
direct	607 Mar 17 j 20:34	0°✠21'55			609 Sep 30 j 12:09	0°♁		
greatest brilliancy	607 Mar 28 j 21:09	2°✠35'36	-4.5m	desc. node	609 Oct 04 j 04:43	4°♁35'09		
desc. node	607 Apr 19 j 09:24	16°✠01'13			609 Oct 24 j 16:07	0°♁		
	607 May 05 j 03:19	0°♃			609 Nov 17 j 22:16	0°☾		
morning max el	607 May 05 j 21:31	0°♃43'33	45°52'57		609 Dec 12 j 09:31	0°≈		
	607 Jun 03 j 06:03	0°♃			610 Jan 06 j 08:32	0°✠		
	607 Jun 30 j 00:57	0°♁		asc. node	610 Jan 25 j 07:55	22°✠01'54		

	610 Feb 01 j 10:03	0°♃		max. Earth dist.	612 Sep 20 j 05:51	29°♎01'08	1.71689 AU
evening max el	610 Feb 24 j 02:57	23°♃59'37	46°04'53		612 Sep 21 j 00:39	0°♌	
	610 Mar 02 j 08:24	0°♄					
greatest brilliancy	610 Mar 30 j 19:17	21°♄21'52	-4.5m	superior conj	612 Sep 22 j 23:39	2°♌27'16	1°15'08
retrograde	610 Apr 14 j 12:58	25°♄12'52		minimum elong	612 Sep 23 j 08:02	2°♌53'29	1°14'56
evening set	610 Apr 30 j 01:30	20°♄32'51			612 Oct 14 j 22:34	0°♍	
inferior conj	610 May 05 j 23:54	16°♄57'16	2°31'16	desc. node	612 Oct 31 j 16:36	21°♍01'48	
minimum elong	610 May 06 j 05:12	16°♄48'54	2°29'46	evening rise	612 Nov 01 j 21:42	22°♍33'10	
min. Earth dist.	610 May 06 j 04:05	16°♄50'40	0.28937 AU		612 Nov 07 j 20:05	0°♎	
morning rise	610 May 12 j 08:55	13°♄06'17			612 Dec 01 j 18:20	0°♏	
desc. node	610 May 16 j 21:12	10°♄54'07			612 Dec 25 j 18:34	0°♐	
direct	610 May 27 j 13:09	8°♄39'07			613 Jan 18 j 23:08	0°♑	
greatest brilliancy	610 Jun 09 j 21:37	11°♄45'09	-4.5m		613 Feb 12 j 12:02	0°♒	
	610 Jul 06 j 05:20	0°♓		asc. node	613 Feb 21 j 19:47	11°♒13'36	
morning max el	610 Jul 15 j 08:18	8°♓22'31	45°48'16		613 Mar 09 j 15:37	0°♔	
	610 Aug 05 j 13:18	0°♑			613 Apr 04 j 21:07	0°♕	
	610 Sep 01 j 08:55	0°♒			613 May 03 j 10:24	0°♖	
asc. node	610 Sep 07 j 00:47	6°♒35'18		evening max el	613 May 05 j 19:56	2°♖19'03	45°20'08
	610 Sep 26 j 17:03	0°♓		greatest brilliancy	613 Jun 09 j 20:09	28°♖41'01	-4.5m
	610 Oct 21 j 06:02	0°♔			613 Jun 13 j 04:20	0°♗	
	610 Nov 14 j 09:01	0°♕		desc. node	613 Jun 13 j 09:15	0°♗04'13	
	610 Dec 08 j 07:49	0°♖		retrograde	613 Jun 23 j 07:18	1°♗49'45	
desc. node	610 Dec 27 j 14:09	24°♖10'00			613 Jul 02 j 23:02	30°♖	
	611 Jan 01 j 05:49	0°♗		evening set	613 Jul 09 j 08:20	26°♖56'39	
morning set	611 Jan 16 j 00:50	18°♗31'56		inferior conj	613 Jul 14 j 16:43	23°♖43'29	-6°-30'-51
	611 Jan 25 j 04:46	0°♘		minimum elong	613 Jul 14 j 06:47	23°♖58'55	6°28'57
	611 Feb 18 j 05:41	0°♙		min. Earth dist.	613 Jul 14 j 19:30	23°♖39'11	0.28801 AU
				morning rise	613 Jul 19 j 05:02	20°♖58'44	
superior conj	611 Feb 25 j 17:08	9°♙18'20	-1°-25'-11	direct	613 Aug 05 j 07:53	15°♖28'41	
minimum elong	611 Feb 25 j 19:15	9°♙24'55	1°25'12	greatest brilliancy	613 Aug 19 j 16:23	19°♖06'28	-4.5m
max. Earth dist.	611 Mar 01 j 13:27	14°♙05'11	1.72336 AU		613 Sep 05 j 09:39	0°♘	
	611 Mar 14 j 09:23	0°♚		morning max el	613 Sep 24 j 03:36	16°♘58'57	46°24'01
evening rise	611 Apr 05 j 13:50	27°♚24'03		asc. node	613 Oct 04 j 12:30	27°♘38'34	
	611 Apr 07 j 16:31	0°♛			613 Oct 06 j 17:35	0°♙	
asc. node	611 Apr 19 j 17:33	14°♛47'54			613 Nov 02 j 08:36	0°♚	
	611 May 02 j 03:26	0°♜			613 Nov 27 j 11:33	0°♛	
	611 May 26 j 18:21	0°♝			613 Dec 21 j 23:53	0°♜	
	611 Jun 20 j 14:07	0°♞			614 Jan 15 j 06:48	0°♝	
desc. node	611 Jul 15 j 16:59	0°♟		desc. node	614 Jan 24 j 02:09	10°♝54'03	
	611 Aug 09 j 06:54	28°♟48'59			614 Feb 08 j 12:26	0°♞	
	611 Aug 10 j 07:27	0°♠			614 Mar 04 j 18:32	0°♟	
	611 Sep 05 j 19:07	0°♡			614 Mar 29 j 01:57	0°♚	
evening max el	611 Oct 01 j 06:53	26°♡56'23	47°04'57	morning set	614 Mar 31 j 00:17	2°♚22'44	
	611 Oct 04 j 09:28	0°♛			614 Apr 22 j 10:53	0°♜	
greatest brilliancy	611 Nov 09 j 03:38	27°♛09'44	-4.7m				
retrograde	611 Nov 20 j 20:07	29°♛43'43		superior conj	614 May 07 j 06:08	18°♛11'19	0°-23'-21
asc. node	611 Nov 30 j 10:06	27°♛49'41		minimum elong	614 May 07 j 10:53	18°♛25'53	0°23'09
evening set	611 Dec 05 j 04:45	25°♛35'40		max. Earth dist.	614 May 07 j 20:28	18°♛55'21	1.73563 AU
min. Earth dist.	611 Dec 10 j 19:50	22°♛18'39	0.26453 AU		614 May 16 j 20:54	0°♝	
inferior conj	611 Dec 11 j 09:02	21°♛58'29	2°47'58	asc. node	614 May 17 j 05:26	0°♝26'12	
minimum elong	611 Dec 11 j 02:56	22°♛07'48	2°46'05		614 Jun 10 j 07:15	0°♞	
morning rise	611 Dec 17 j 01:28	18°♛38'12		evening rise	614 Jun 12 j 13:06	2°♞45'23	
direct	611 Dec 31 j 16:17	14°♛21'45			614 Jul 04 j 17:32	0°♟	
greatest brilliancy	612 Jan 12 j 00:10	16°♛46'22	-4.7m		614 Jul 29 j 04:20	0°♠	
	612 Feb 01 j 15:10	0°♞			614 Aug 22 j 17:03	0°♡	
morning max el	612 Feb 19 j 18:32	16°♞38'00	46°35'08	desc. node	614 Sep 05 j 18:52	17°♡08'03	
	612 Mar 03 j 18:42	0°♟			614 Sep 16 j 09:26	0°♢	
desc. node	612 Mar 20 j 23:43	18°♟43'37			614 Oct 11 j 07:57	0°♜	
	612 Mar 31 j 00:30	0°♙			614 Nov 05 j 18:18	0°♝	
	612 Apr 26 j 01:21	0°♚			614 Dec 02 j 09:46	0°♞	
	612 May 21 j 12:30	0°♛		evening max el	614 Dec 12 j 13:11	10°♞40'26	47°14'20
	612 Jun 15 j 14:44	0°♜		asc. node	614 Dec 27 j 22:08	25°♞24'58	
	612 Jul 10 j 09:08	0°♝			615 Jan 02 j 07:47	0°♟	
asc. node	612 Jul 12 j 03:06	2°♝07'58		greatest brilliancy	615 Jan 18 j 19:06	10°♟53'52	-4.6m
	612 Aug 03 j 20:03	0°♞		retrograde	615 Feb 01 j 10:35	14°♟19'59	
morning set	612 Aug 16 j 12:51	15°♞42'58		evening set	615 Feb 19 j 08:48	8°♟04'40	
	612 Aug 28 j 00:34	0°♟		min. Earth dist.	615 Feb 21 j 21:04	6°♟30'15	0.28076 AU

inferior conj	615 Feb 22 j 11:29	6°♁07'25	8°41'01	minimum elong	617 Jul 13 j 03:47	22°♁10'56	1°02'33
minimum elong	615 Feb 22 j 12:30	6°♁05'47	8°41'01		617 Jul 19 j 11:38	0°♁	
morning rise	615 Feb 25 j 16:27	4°♁07'18			617 Aug 12 j 16:40	0°♁	
	615 Mar 05 j 17:20	30°♁		evening rise	617 Aug 18 j 15:55	7°♁24'46	
direct	615 Mar 15 j 10:47	28°♁05'39			617 Sep 05 j 20:06	0°♁	
	615 Mar 25 j 14:55	0°♁			617 Sep 29 j 23:23	0°♁	
greatest brilliancy	615 Mar 26 j 09:40	0°♁17'21	-4.5m	desc. node	617 Oct 03 j 06:46	4°♁06'30	
desc. node	615 Apr 18 j 11:27	14°♁58'29			617 Oct 24 j 03:40	0°♁	
morning max el	615 May 03 j 11:26	28°♁27'27	45°53'54		617 Nov 17 j 10:15	0°♁	
	615 May 05 j 01:46	0°♁			617 Dec 11 j 22:11	0°♁	
	615 Jun 02 j 21:42	0°♁			618 Jan 05 j 22:24	0°♁	
	615 Jun 29 j 14:10	0°♁		asc. node	618 Jan 24 j 09:53	21°♁23'39	
	615 Jul 25 j 05:33	0°♁			618 Feb 01 j 02:31	0°♁	
asc. node	615 Aug 09 j 14:56	18°♁25'59		evening max el	618 Feb 21 j 18:18	21°♁45'21	46°07'24
	615 Aug 19 j 04:01	0°♁			618 Mar 02 j 09:26	0°♁	
	615 Sep 12 j 14:02	0°♁		greatest brilliancy	618 Mar 28 j 10:52	19°♁11'11	-4.5m
	615 Oct 06 j 15:44	0°♁		retrograde	618 Apr 12 j 06:02	23°♁04'04	
morning set	615 Oct 28 j 11:40	27°♁24'37		evening set	618 Apr 27 j 19:51	18°♁20'57	
	615 Oct 30 j 13:03	0°♁		inferior conj	618 May 03 j 16:23	14°♁48'02	2°49'59
	615 Nov 23 j 08:53	0°♁		minimum elong	618 May 03 j 22:17	14°♁38'46	2°48'22
desc. node	615 Nov 29 j 04:28	7°♁19'31		min. Earth dist.	618 May 03 j 20:28	14°♁41'38	0.28929 AU
				morning rise	618 May 10 j 00:46	10°♁58'14	
superior conj	615 Dec 08 j 14:28	19°♁10'41	0°-22'-12	desc. node	618 May 15 j 23:19	8°♁12'14	
minimum elong	615 Dec 08 j 08:36	18°♁52'14	0°21'56	direct	618 May 25 j 05:26	6°♁29'55	
max. Earth dist.	615 Dec 10 j 09:31	21°♁26'07	1.71063 AU	greatest brilliancy	618 Jun 07 j 13:11	9°♁35'46	-4.5m
	615 Dec 17 j 04:58	0°♁			618 Jul 06 j 07:33	0°♁	
	616 Jan 10 j 02:23	0°♁		morning max el	618 Jul 13 j 01:11	6°♁15'05	45°47'39
evening rise	616 Jan 19 j 04:27	11°♁22'29			618 Aug 05 j 05:50	0°♁	
	616 Feb 03 j 02:27	0°♁			618 Aug 31 j 22:37	0°♁	
	616 Feb 27 j 06:55	0°♁		asc. node	618 Sep 06 j 02:45	6°♁01'59	
asc. node	616 Mar 21 j 07:43	28°♁15'53			618 Sep 26 j 05:32	0°♁	
	616 Mar 22 j 17:53	0°♁			618 Oct 20 j 17:54	0°♁	
	616 Apr 16 j 13:43	0°♁			618 Nov 13 j 20:32	0°♁	
	616 May 11 j 21:55	0°♁			618 Dec 07 j 19:06	0°♁	
	616 Jun 07 j 01:47	0°♁		desc. node	618 Dec 26 j 16:19	23°♁41'45	
desc. node	616 Jul 04 j 20:56	0°♁			618 Dec 31 j 16:57	0°♁	
evening max el	616 Jul 10 j 21:09	6°♁04'07		morning set	619 Jan 13 j 11:07	15°♁59'12	
	616 Jul 16 j 10:20	11°♁29'12	45°50'18		619 Jan 24 j 15:47	0°♁	
	616 Aug 06 j 23:09	0°♁			619 Feb 17 j 16:38	0°♁	
greatest brilliancy	616 Aug 24 j 00:17	9°♁40'14	-4.6m				
retrograde	616 Sep 03 j 12:13	11°♁40'07		superior conj	619 Feb 23 j 06:17	6°♁56'00	-1°-25'-29
evening set	616 Sep 20 j 18:09	6°♁06'54		minimum elong	619 Feb 23 j 07:30	6°♁59'47	1°25'30
inferior conj	616 Sep 24 j 10:04	3°♁55'08	-7°-48'-2	max. Earth dist.	619 Feb 27 j 02:29	11°♁42'39	1.72285 AU
minimum elong	616 Sep 24 j 19:04	3°♁41'25	7°46'44		619 Mar 13 j 20:17	0°♁	
min. Earth dist.	616 Sep 25 j 07:39	3°♁22'12	0.27375 AU	evening rise	619 Apr 03 j 05:26	25°♁10'41	
morning rise	616 Sep 28 j 19:31	1°♁16'59			619 Apr 07 j 03:26	0°♁	
	616 Oct 01 j 03:09	30°♁		asc. node	619 Apr 18 j 19:39	14°♁20'44	
direct	616 Oct 15 j 06:55	26°♁01'13			619 May 01 j 14:27	0°♁	
greatest brilliancy	616 Oct 29 j 04:41	29°♁32'55	-4.7m		619 May 26 j 05:39	0°♁	
	616 Oct 30 j 02:49	0°♁			619 Jun 20 j 01:56	0°♁	
asc. node	616 Nov 01 j 00:18	0°♁59'55			619 Jul 15 j 05:41	0°♁	
morning max el	616 Dec 05 j 01:25	29°♁28'14	46°56'06	desc. node	619 Aug 08 j 08:52	28°♁13'51	
	616 Dec 05 j 13:51	0°♁			619 Aug 09 j 21:41	0°♁	
	617 Jan 02 j 01:03	0°♁			619 Sep 05 j 12:20	0°♁	
	617 Jan 27 j 18:25	0°♁		evening max el	619 Sep 28 j 21:44	24°♁35'31	47°03'00
desc. node	617 Feb 20 j 13:55	28°♁27'13			619 Oct 04 j 10:59	0°♁	
	617 Feb 21 j 20:47	0°♁		greatest brilliancy	619 Nov 06 j 17:17	24°♁41'31	-4.7m
	617 Mar 18 j 16:58	0°♁		retrograde	619 Nov 18 j 09:13	27°♁14'03	
	617 Apr 12 j 10:27	0°♁		asc. node	619 Nov 29 j 12:16	24°♁41'22	
	617 May 07 j 02:22	0°♁		evening set	619 Dec 02 j 16:24	23°♁07'41	
	617 May 31 j 16:25	0°♁		min. Earth dist.	619 Dec 08 j 09:08	19°♁48'11	0.26426 AU
morning set	617 Jun 07 j 05:17	7°♁59'50		inferior conj	619 Dec 08 j 21:19	19°♁29'35	2°24'38
asc. node	617 Jun 13 j 17:20	15°♁57'56		minimum elong	619 Dec 08 j 16:00	19°♁37'43	2°22'57
	617 Jun 25 j 03:42	0°♁		morning rise	619 Dec 14 j 16:00	16°♁06'37	
max. Earth dist.	617 Jul 10 j 07:03	18°♁38'48	1.73222 AU	direct	619 Dec 29 j 05:10	11°♁53'27	
				greatest brilliancy	620 Jan 09 j 13:12	14°♁18'47	-4.7m
superior conj	617 Jul 13 j 12:29	22°♁37'49	1°02'50		620 Feb 02 j 01:26	0°♁	

morning max el	620 Feb 17 j 08:26	14°☾15'58	46°36'30		622 Oct 10 j 21:40	0°♁	
	620 Mar 03 j 13:38	0°♁			622 Nov 05 j 09:51	0°☾	
desc. node	620 Mar 20 j 01:50	18°♁04'52			622 Dec 02 j 05:28	0°♁	
	620 Mar 30 j 15:25	0°♁		evening max el	622 Dec 10 j 03:03	8°♁15'54	47°15'33
	620 Apr 25 j 14:27	0°♁		asc. node	622 Dec 27 j 00:09	24°♁20'24	
	620 May 21 j 00:36	0°♁			623 Jan 02 j 22:11	0°♁	
	620 Jun 15 j 02:14	0°♁		greatest brilliancy	623 Jan 16 j 12:40	8°♁36'32	-4.6m
	620 Jul 09 j 20:18	0°♁		retrograde	623 Jan 30 j 01:17	12°♁00'09	
asc. node	620 Jul 11 j 05:07	1°♁40'07		evening set	623 Feb 16 j 23:27	5°♁46'00	
	620 Aug 03 j 07:03	0°♁		min. Earth dist.	623 Feb 19 j 11:27	4°♁12'06	0.28020 AU
morning set	620 Aug 14 j 05:22	13°♁31'26		inferior conj	623 Feb 20 j 02:23	3°♁48'28	8°42'15
	620 Aug 27 j 11:30	0°♁		minimum elong	623 Feb 20 j 02:34	3°♁48'10	8°42'15
max. Earth dist.	620 Sep 17 j 15:32	26°♁26'48	1.71739 AU	morning rise	623 Feb 23 j 05:53	1°♁50'29	
	620 Sep 20 j 11:38	0°♁			623 Feb 26 j 10:02	30°♁	
				direct	623 Mar 13 j 00:27	25°♁47'34	
superior conj	620 Sep 20 j 14:04	0°♁07'38	1°16'41	greatest brilliancy	623 Mar 23 j 23:09	27°♁58'41	-4.5m
minimum elong	620 Sep 20 j 21:53	0°♁32'05	1°16'32		623 Mar 28 j 12:29	0°♁	
	620 Oct 14 j 09:41	0°♁		desc. node	623 Apr 17 j 13:33	13°♁56'19	
evening rise	620 Oct 30 j 08:35	20°♁01'26		morning max el	623 May 01 j 01:11	26°♁09'42	45°55'03
desc. node	620 Oct 30 j 18:44	20°♁33'18			623 May 04 j 23:46	0°♁	
	620 Nov 07 j 07:21	0°♁			623 Jun 02 j 13:28	0°♁	
	620 Dec 01 j 05:45	0°♁			623 Jun 29 j 03:36	0°♁	
	620 Dec 25 j 06:09	0°♁			623 Jul 24 j 17:52	0°♁	
	621 Jan 18 j 10:57	0°♁		asc. node	623 Aug 08 j 16:56	17°♁56'04	
	621 Feb 12 j 00:20	0°♁			623 Aug 18 j 15:45	0°♁	
asc. node	621 Feb 20 j 21:49	10°♁41'57			623 Sep 12 j 01:28	0°♁	
	621 Mar 09 j 04:55	0°♁			623 Oct 06 j 03:03	0°♁	
	621 Apr 04 j 12:39	0°♁		morning set	623 Oct 25 j 23:48	24°♁56'24	
	621 May 03 j 08:23	0°♁			623 Oct 30 j 00:19	0°♁	
evening max el	621 May 03 j 11:46	0°♁08'05	45°20'21		623 Nov 22 j 20:08	0°♁	
greatest brilliancy	621 Jun 07 j 10:57	26°♁29'37	-4.5m	desc. node	623 Nov 28 j 06:31	6°♁50'31	
desc. node	621 Jun 12 j 11:22	28°♁21'19					
retrograde	621 Jun 20 j 22:26	29°♁39'06		superior conj	623 Dec 05 j 23:53	16°♁33'57	0°-18'-17
evening set	621 Jul 06 j 21:24	24°♁50'01		minimum elong	623 Dec 05 j 19:01	16°♁18'37	0°18'03
inferior conj	621 Jul 12 j 08:39	21°♁32'37	-6°-17'-11	max. Earth dist.	623 Dec 07 j 12:29	18°♁29'07	1.71053 AU
minimum elong	621 Jul 11 j 22:40	21°♁48'09	6°15'11		623 Dec 16 j 16:13	0°♁	
min. Earth dist.	621 Jul 12 j 11:14	21°♁28'35	0.28820 AU		624 Jan 09 j 13:40	0°♁	
morning rise	621 Jul 16 j 23:43	18°♁43'30		evening rise	624 Jan 16 j 14:50	8°♁49'31	
direct	621 Aug 02 j 23:59	13°♁17'36			624 Feb 02 j 13:47	0°♁	
greatest brilliancy	621 Aug 17 j 07:03	16°♁52'55	-4.5m		624 Feb 26 j 18:22	0°♁	
	621 Sep 05 j 18:46	0°♁		asc. node	624 Mar 20 j 09:52	27°♁46'55	
morning max el	621 Sep 21 j 17:26	14°♁39'22	46°22'24		624 Mar 22 j 05:33	0°♁	
asc. node	621 Oct 03 j 14:41	26°♁54'26			624 Apr 16 j 01:52	0°♁	
	621 Oct 06 j 11:49	0°♁			624 May 11 j 11:01	0°♁	
	621 Nov 01 j 23:19	0°♁			624 Jun 06 j 16:50	0°♁	
	621 Nov 27 j 00:48	0°♁			624 Jul 04 j 16:51	0°♁	
	621 Dec 21 j 12:22	0°♁		desc. node	624 Jul 09 j 23:04	5°♁15'17	
desc. node	622 Jan 14 j 18:48	0°♁		evening max el	624 Jul 13 j 23:23	9°♁09'02	45°48'07
	622 Jan 23 j 04:04	10°♁23'22			624 Aug 07 j 20:13	0°♁	
	622 Feb 08 j 00:02	0°♁		greatest brilliancy	624 Aug 21 j 10:52	7°♁16'02	-4.6m
	622 Mar 04 j 05:50	0°♁		retrograde	624 Sep 01 j 01:19	9°♁18'10	
morning set	622 Mar 28 j 16:16	0°♁10'01		evening set	624 Sep 18 j 10:00	3°♁40'01	
	622 Mar 28 j 13:01	0°♁		inferior conj	624 Sep 21 j 23:21	1°♁32'06	-7°-57'-58
	622 Apr 21 j 21:49	0°♁		minimum elong	624 Sep 22 j 07:48	1°♁19'13	7°56'50
				min. Earth dist.	624 Sep 22 j 20:49	0°♁59'22	0.27445 AU
superior conj	622 May 04 j 23:53	16°♁04'55	0°-26'-25		624 Sep 24 j 12:04	30°♁	
minimum elong	622 May 05 j 05:12	16°♁21'16	0°26'11	morning rise	624 Sep 26 j 05:12	28°♁59'20	
max. Earth dist.	622 May 05 j 17:46	16°♁59'52	1.73543 AU	direct	624 Oct 12 j 21:02	23°♁36'56	
	622 May 16 j 07:49	0°♁		greatest brilliancy	624 Oct 26 j 21:17	27°♁11'54	-4.6m
asc. node	622 May 16 j 07:34	29°♁59'16		asc. node	624 Oct 31 j 02:25	29°♁26'59	
	622 Jun 09 j 18:13	0°♁			624 Nov 01 j 00:32	0°♁	
evening rise	622 Jun 10 j 08:13	0°♁42'58		morning max el	624 Dec 02 j 16:06	27°♁04'52	46°55'52
	622 Jul 04 j 04:41	0°♁			624 Dec 05 j 12:04	0°♁	
	622 Jul 28 j 15:48	0°♁			625 Jan 01 j 17:28	0°♁	
	622 Aug 22 j 05:00	0°♁			625 Jan 27 j 08:32	0°♁	
desc. node	622 Sep 04 j 20:53	16°♁36'50		desc. node	625 Feb 19 j 16:02	27°♁54'36	
	622 Sep 15 j 22:06	0°♁			625 Feb 21 j 09:40	0°♁	

	625 Mar 18 j 05:07	0°♁		retrograde	627 Nov 15 j 21:40	24°♁43'39	
	625 Apr 11 j 22:06	0°♂		asc. node	627 Nov 28 j 14:15	21°♁27'36	
	625 May 06 j 13:39	0°♄		evening set	627 Nov 30 j 04:09	20°♁38'52	
	625 May 31 j 03:27	0°♃		min. Earth dist.	627 Dec 05 j 22:34	17°♁16'43	0.26405 AU
morning set	625 Jun 04 j 23:38	5°♃55'24		inferior conj	627 Dec 06 j 09:27	17°♁00'05	2°00'46
asc. node	625 Jun 12 j 19:20	15°♃30'28		minimum elong	627 Dec 06 j 04:57	17°♁06'57	1°59'20
	625 Jun 24 j 14:37	0°♄		morning rise	627 Dec 12 j 06:10	13°♁34'22	
max. Earth dist.	625 Jul 08 j 05:35	16°♄46'36	1.73259 AU	direct	627 Dec 26 j 17:44	9°♁24'28	
				greatest brilliancy	628 Jan 07 j 02:33	11°♁50'41	-4.7m
superior conj	625 Jul 11 j 06:53	20°♄32'46	1°00'41		628 Feb 02 j 09:13	0°♄	
minimum elong	625 Jul 10 j 22:09	20°♄05'50	1°00'23	morning max el	628 Feb 14 j 21:17	11°♄50'37	46°37'50
	625 Jul 18 j 22:33	0°♃			628 Mar 03 j 08:13	0°♄	
	625 Aug 12 j 03:42	0°♂		desc. node	628 Mar 19 j 03:59	17°♄26'17	
evening rise	625 Aug 16 j 08:56	5°♂14'11			628 Mar 30 j 06:12	0°♁	
	625 Sep 05 j 07:21	0°♂			628 Apr 25 j 03:27	0°♂	
	625 Sep 29 j 10:56	0°♁			628 May 20 j 12:37	0°♄	
desc. node	625 Oct 02 j 08:55	3°♁37'12			628 Jun 14 j 13:40	0°♃	
	625 Oct 23 j 15:33	0°♁			628 Jul 09 j 07:24	0°♄	
	625 Nov 16 j 22:36	0°♄		asc. node	628 Jul 10 j 07:08	1°♄12'27	
	625 Dec 11 j 11:13	0°♁			628 Aug 02 j 17:59	0°♃	
asc. node	626 Jan 05 j 12:39	0°♁		morning set	628 Aug 11 j 22:01	11°♃20'32	
	626 Jan 23 j 11:55	20°♁44'33			628 Aug 26 j 22:22	0°♂	
	626 Jan 31 j 19:32	0°♂		max. Earth dist.	628 Sep 15 j 01:36	23°♂54'03	1.71788 AU
evening max el	626 Feb 19 j 10:12	19°♂31'44	46°09'59				
	626 Mar 02 j 12:08	0°♄		superior conj	628 Sep 18 j 04:55	27°♂49'44	1°18'07
greatest brilliancy	626 Mar 26 j 03:25	17°♄01'02	-4.5m	minimum elong	628 Sep 18 j 12:07	28°♂12'18	1°17'59
retrograde	626 Apr 09 j 23:11	20°♄54'13			628 Sep 19 j 22:31	0°♂	
evening set	626 Apr 25 j 14:16	16°♄08'07			628 Oct 13 j 20:40	0°♁	
inferior conj	626 May 01 j 08:45	12°♄37'48	3°08'39	evening rise	628 Oct 27 j 19:51	17°♁31'27	
minimum elong	626 May 01 j 15:13	12°♄27'39	3°06'53	desc. node	628 Oct 29 j 20:47	20°♁04'59	
min. Earth dist.	626 May 01 j 12:26	12°♄32'02	0.28919 AU		628 Nov 06 j 18:29	0°♁	
morning rise	626 May 07 j 16:19	8°♄49'26			628 Nov 30 j 17:03	0°♄	
desc. node	626 May 15 j 01:26	5°♄33'49			628 Dec 24 j 17:38	0°♄	
direct	626 May 22 j 21:59	4°♄19'56			629 Jan 17 j 22:43	0°♁	
greatest brilliancy	626 Jun 05 j 03:47	7°♄24'27	-4.5m		629 Feb 11 j 12:37	0°♂	
	626 Jul 06 j 08:38	0°♃		asc. node	629 Feb 19 j 23:58	10°♂10'47	
morning max el	626 Jul 10 j 18:06	4°♃07'15	45°47'07		629 Mar 08 j 18:15	0°♄	
	626 Aug 04 j 22:14	0°♄			629 Apr 04 j 04:20	0°♃	
	626 Aug 31 j 12:19	0°♃		evening max el	629 May 01 j 02:36	27°♃55'05	45°20'47
asc. node	626 Sep 05 j 04:57	5°♃29'09			629 May 03 j 07:08	0°♄	
	626 Sep 25 j 18:04	0°♂		greatest brilliancy	629 Jun 05 j 01:05	24°♄17'49	-4.5m
	626 Oct 20 j 05:51	0°♂		desc. node	629 Jun 11 j 13:19	26°♄34'57	
	626 Nov 13 j 08:11	0°♁		retrograde	629 Jun 18 j 13:33	27°♄29'10	
	626 Dec 07 j 06:34	0°♁		evening set	629 Jul 04 j 10:33	22°♄43'33	
desc. node	626 Dec 25 j 18:17	23°♁12'17		inferior conj	629 Jul 10 j 00:34	19°♄22'17	-6°-2'-59
	626 Dec 31 j 04:16	0°♄		minimum elong	629 Jul 09 j 14:37	19°♄37'48	6°00'54
morning set	627 Jan 10 j 20:57	13°♄24'23		min. Earth dist.	629 Jul 10 j 03:11	19°♄18'13	0.28840 AU
	627 Jan 24 j 02:59	0°♄		morning rise	629 Jul 14 j 18:23	16°♄28'55	
	627 Feb 17 j 03:43	0°♁		direct	629 Jul 31 j 15:41	11°♄06'52	
				greatest brilliancy	629 Aug 14 j 22:54	14°♄41'24	-4.5m
superior conj	627 Feb 20 j 18:56	4°♁31'34	-1°-25'-38		629 Sep 06 j 01:10	0°♃	
minimum elong	627 Feb 20 j 19:11	4°♁32'21	1°25'38	morning max el	629 Sep 19 j 07:13	12°♃20'16	46°21'00
max. Earth dist.	627 Feb 24 j 17:29	9°♁25'42	1.72230 AU	asc. node	629 Oct 02 j 16:42	26°♃11'02	
	627 Mar 13 j 07:17	0°♂			629 Oct 06 j 05:25	0°♂	
evening rise	627 Mar 31 j 20:42	22°♂56'02			629 Nov 01 j 13:37	0°♂	
	627 Apr 06 j 14:26	0°♄			629 Nov 26 j 13:41	0°♁	
asc. node	627 Apr 17 j 21:46	13°♄53'17			629 Dec 21 j 00:30	0°♁	
	627 May 01 j 01:36	0°♃			630 Jan 14 j 06:27	0°♄	
	627 May 25 j 17:06	0°♄		desc. node	630 Jan 22 j 06:11	9°♄54'14	
	627 Jun 19 j 13:54	0°♃			630 Feb 07 j 11:21	0°♄	
	627 Jul 14 j 18:31	0°♂			630 Mar 03 j 16:53	0°♁	
desc. node	627 Aug 07 j 11:00	27°♂38'56		morning set	630 Mar 26 j 07:48	27°♁56'27	
	627 Aug 09 j 12:04	0°♂			630 Mar 27 j 23:52	0°♂	
	627 Sep 05 j 05:54	0°♁			630 Apr 21 j 08:32	0°♄	
evening max el	627 Sep 26 j 12:13	22°♁13'53	47°00'50				
	627 Oct 04 j 13:54	0°♁		superior conj	630 May 02 j 17:16	13°♄58'10	0°-29'-28
greatest brilliancy	627 Nov 04 j 07:23	22°♁13'37	-4.7m	minimum elong	630 May 02 j 23:09	14°♄16'14	0°29'12

max. Earth dist.	630 May 03 j 13:07	14°♄59'07	1.73519 AU	min. Earth dist.	632 Sep 20 j 09:43	28°♎38'50	0.27515 AU
asc. node	630 May 15 j 09:32	29°♄32'35		morning rise	632 Sep 23 j 15:05	26°♎43'14	
	630 May 15 j 18:28	0°♈		direct	632 Oct 10 j 11:45	21°♎14'34	
evening rise	630 Jun 08 j 03:04	28°♈40'41		greatest brilliancy	632 Oct 24 j 13:07	24°♎51'28	-4.6m
	630 Jun 09 j 04:55	0°♄		asc. node	632 Oct 30 j 04:26	27°♎58'31	
	630 Jul 03 j 15:34	0°♈			632 Nov 02 j 06:52	0°♄	
	630 Jul 28 j 03:01	0°♎		morning max el	632 Nov 30 j 07:19	24°♄44'11	46°55'29
	630 Aug 21 j 16:44	0°♄			632 Dec 05 j 09:02	0°♈	
desc. node	630 Sep 03 j 23:03	16°♄06'42			633 Jan 01 j 09:12	0°♄	
	630 Sep 15 j 10:34	0°♈			633 Jan 26 j 22:07	0°♄	
	630 Oct 10 j 11:12	0°♄		desc. node	633 Feb 18 j 18:10	27°♄23'26	
	630 Nov 05 j 01:15	0°♄			633 Feb 20 j 22:05	0°♄	
	630 Dec 02 j 01:15	0°♄			633 Mar 17 j 16:47	0°♄	
evening max el	630 Dec 07 j 16:33	5°♄51'46	47°16'49		633 Apr 11 j 09:16	0°♄	
asc. node	630 Dec 26 j 02:09	23°♄15'36			633 May 06 j 00:28	0°♄	
	631 Jan 03 j 16:38	0°♄			633 May 30 j 14:05	0°♈	
greatest brilliancy	631 Jan 14 j 05:05	6°♄19'01	-4.6m	morning set	633 Jun 02 j 18:07	3°♈52'36	
retrograde	631 Jan 27 j 16:11	9°♄41'50		asc. node	633 Jun 11 j 21:25	15°♈04'23	
evening set	631 Feb 14 j 13:43	3°♄29'06			633 Jun 24 j 01:09	0°♄	
min. Earth dist.	631 Feb 17 j 01:47	1°♄55'22	0.27966 AU	max. Earth dist.	633 Jul 06 j 03:16	14°♄52'55	1.73295 AU
inferior conj	631 Feb 17 j 17:20	1°♄30'47	8°42'33				
minimum elong	631 Feb 17 j 16:42	1°♄31'47	8°42'32	superior conj	633 Jul 09 j 01:18	18°♄28'54	0°58'27
	631 Feb 20 j 03:13	30°♄		minimum elong	633 Jul 08 j 16:36	18°♄02'03	0°58'08
morning rise	631 Feb 20 j 19:52	29°♄34'27			633 Jul 18 j 09:07	0°♄	
direct	631 Mar 10 j 14:11	23°♄30'36			633 Aug 11 j 14:23	0°♄	
greatest brilliancy	631 Mar 21 j 13:25	25°♄42'06	-4.5m	evening rise	633 Aug 14 j 01:58	3°♎04'49	
	631 Mar 30 j 05:49	0°♄			633 Sep 04 j 18:15	0°♄	
desc. node	631 Apr 16 j 15:37	12°♄56'38			633 Sep 28 j 22:08	0°♈	
morning max el	631 Apr 28 j 15:38	23°♄54'34	45°56'09	desc. node	633 Oct 01 j 10:54	3°♈08'30	
	631 May 04 j 20:36	0°♄			633 Oct 23 j 03:08	0°♄	
	631 Jun 02 j 04:39	0°♄			633 Nov 16 j 10:40	0°♄	
	631 Jun 28 j 16:36	0°♈			633 Dec 11 j 00:00	0°♄	
	631 Jul 24 j 05:47	0°♄			634 Jan 05 j 02:42	0°♄	
asc. node	631 Aug 07 j 19:07	17°♄27'53		asc. node	634 Jan 22 j 14:08	20°♄06'40	
	631 Aug 18 j 03:04	0°♄			634 Jan 31 j 12:28	0°♄	
	631 Sep 11 j 12:31	0°♄		evening max el	634 Feb 17 j 02:34	17°♄20'23	46°12'39
	631 Oct 05 j 14:00	0°♄			634 Mar 02 j 15:51	0°♄	
morning set	631 Oct 23 j 12:09	22°♄29'56		greatest brilliancy	634 Mar 23 j 21:10	14°♄54'03	-4.5m
	631 Oct 29 j 11:14	0°♄		retrograde	634 Apr 07 j 16:22	18°♄46'03	
	631 Nov 22 j 07:02	0°♄		evening set	634 Apr 23 j 09:03	13°♄57'09	
desc. node	631 Nov 27 j 08:32	6°♄22'30		inferior conj	634 Apr 29 j 01:21	10°♄29'28	3°26'54
				minimum elong	634 Apr 29 j 08:20	10°♄18'29	3°25'01
superior conj	631 Dec 03 j 09:31	13°♄58'55	0°-14'-20	min. Earth dist.	634 Apr 29 j 04:33	10°♄24'25	0.28907 AU
minimum elong	631 Dec 03 j 05:39	13°♄46'46	0°14'10	morning rise	634 May 05 j 07:53	6°♄42'32	
behind sun begin	631 Dec 02 j 16:08	13°♄04'12		desc. node	634 May 14 j 03:23	3°♄02'08	
behind sun end	631 Dec 03 j 19:11	14°♄29'21		direct	634 May 20 j 14:53	2°♄12'01	
max. Earth dist.	631 Dec 04 j 17:28	15°♄39'29	1.71042 AU	greatest brilliancy	634 Jun 02 j 17:30	5°♄13'41	-4.5m
	631 Dec 16 j 03:05	0°♄			634 Jul 06 j 08:02	0°♈	
	632 Jan 09 j 00:32	0°♄		morning max el	634 Jul 08 j 10:34	1°♈59'35	45°46'25
evening rise	632 Jan 14 j 01:30	6°♄18'46			634 Aug 04 j 13:59	0°♄	
	632 Feb 02 j 00:41	0°♄			634 Aug 31 j 01:37	0°♄	
	632 Feb 26 j 05:22	0°♄		asc. node	634 Sep 04 j 06:59	4°♄56'49	
asc. node	632 Mar 19 j 11:55	27°♄18'58			634 Sep 25 j 06:16	0°♄	
	632 Mar 21 j 16:49	0°♄			634 Oct 19 j 17:30	0°♄	
	632 Apr 15 j 13:38	0°♈			634 Nov 12 j 19:31	0°♈	
	632 May 10 j 23:47	0°♄			634 Dec 06 j 17:44	0°♄	
	632 Jun 06 j 07:42	0°♄		desc. node	634 Dec 24 j 20:23	22°♄44'03	
	632 Jul 04 j 12:57	0°♄			634 Dec 30 j 15:20	0°♄	
desc. node	632 Jul 09 j 01:14	4°♄27'26		morning set	635 Jan 08 j 06:42	10°♄50'05	
evening max el	632 Jul 11 j 13:27	6°♄52'45	45°46'05		635 Jan 23 j 13:57	0°♄	
	632 Aug 09 j 00:05	0°♄			635 Feb 16 j 14:34	0°♄	
greatest brilliancy	632 Aug 18 j 21:07	4°♄53'17	-4.5m				
retrograde	632 Aug 29 j 14:52	6°♄57'54		superior conj	635 Feb 18 j 07:29	2°♄07'27	-1°-25'-36
evening set	632 Sep 16 j 01:52	1°♄15'13		minimum elong	635 Feb 18 j 06:46	2°♄05'13	1°25'37
	632 Sep 18 j 04:23	30°♄		max. Earth dist.	635 Feb 22 j 09:15	7°♄11'46	1.72171 AU
inferior conj	632 Sep 19 j 12:46	29°♄10'46	-8°-6'-59		635 Mar 12 j 18:03	0°♄	
minimum elong	632 Sep 19 j 20:39	28°♄58'45	8°06'01	evening rise	635 Mar 29 j 11:56	20°♄41'54	

	635 Apr 06 j 01:11	0°♄			637 Nov 26 j 02:41	0°♍		
asc. node	635 Apr 16 j 23:46	13°♄26'18			637 Dec 20 j 12:48	0°♁		
	635 Apr 30 j 12:28	0°♀			638 Jan 13 j 18:17	0°♁		
	635 May 25 j 04:16	0°♁		desc. node	638 Jan 21 j 08:21	9°♁24'37		
	635 Jun 19 j 01:38	0°♁			638 Feb 06 j 22:50	0°♁		
	635 Jul 14 j 07:12	0°♁			638 Mar 03 j 04:05	0°♁		
desc. node	635 Aug 06 j 13:05	27°♁04'13		morning set	638 Mar 23 j 22:57	25°♁41'05		
	635 Aug 09 j 02:26	0°♁			638 Mar 27 j 10:53	0°♁		
	635 Sep 04 j 23:43	0°♁			638 Apr 20 j 19:26	0°♁		
evening max el	635 Sep 24 j 01:53	19°♁50'35	46°58'33					
	635 Oct 04 j 18:20	0°♁		superior conj	638 Apr 30 j 10:34	11°♁50'30	0°-32'-29	
greatest brilliancy	635 Nov 01 j 22:24	19°♁47'10	-4.7m	minimum elong	638 Apr 30 j 16:59	12°♁10'14	0°32'13	
retrograde	635 Nov 13 j 09:33	22°♁13'41		max. Earth dist.	638 May 01 j 07:38	12°♁55'13	1.73495 AU	
evening set	635 Nov 27 j 16:07	18°♁10'07		asc. node	638 May 14 j 11:39	29°♁05'44		
asc. node	635 Nov 27 j 16:18	18°♁09'52			638 May 15 j 05:19	0°♀		
min. Earth dist.	635 Dec 03 j 12:22	14°♁45'15	0.26387 AU	evening rise	638 Jun 05 j 22:03	26°♀38'14		
inferior conj	635 Dec 03 j 21:36	14°♁31'08	1°36'37		638 Jun 08 j 15:49	0°♁		
minimum elong	635 Dec 03 j 17:58	14°♁36'41	1°35'27		638 Jul 03 j 02:37	0°♁		
morning rise	635 Dec 09 j 20:08	11°♁02'44			638 Jul 27 j 14:24	0°♁		
direct	635 Dec 24 j 05:47	6°♁55'51			638 Aug 21 j 04:38	0°♁		
greatest brilliancy	636 Jan 04 j 16:37	9°♁23'41	-4.7m	desc. node	638 Sep 03 j 01:02	15°♁35'39		
	636 Feb 02 j 14:35	0°♁			638 Sep 14 j 23:14	0°♁		
morning max el	636 Feb 12 j 09:18	9°♁23'21	46°39'10		638 Oct 10 j 01:03	0°♁		
	636 Mar 03 j 02:11	0°♁			638 Nov 04 j 17:10	0°♁		
desc. node	636 Mar 18 j 05:56	16°♁47'53			638 Dec 01 j 22:07	0°♁		
	636 Mar 29 j 20:41	0°♁		evening max el	638 Dec 05 j 06:39	3°♁27'59	47°17'57	
	636 Apr 24 j 16:15	0°♁		asc. node	638 Dec 25 j 04:21	22°♁08'03		
	636 May 20 j 00:27	0°♁			639 Jan 04 j 18:47	0°♁		
	636 Jun 14 j 00:55	0°♁		greatest brilliancy	639 Jan 11 j 20:43	3°♁58'39	-4.7m	
	636 Jul 08 j 18:20	0°♁		retrograde	639 Jan 25 j 07:23	7°♁21'29		
asc. node	636 Jul 09 j 09:19	0°♁45'46		evening set	639 Feb 12 j 03:15	1°♁10'40		
	636 Aug 02 j 04:46	0°♁			639 Feb 14 j 00:49	30°♁		
morning set	636 Aug 09 j 14:52	9°♁10'43		min. Earth dist.	639 Feb 14 j 15:30	29°♁36'55	0.27911 AU	
	636 Aug 26 j 09:09	0°♁		inferior conj	639 Feb 15 j 08:00	29°♁10'54	8°41'51	
max. Earth dist.	636 Sep 12 j 13:24	21°♁26'58	1.71845 AU	minimum elong	639 Feb 15 j 06:31	29°♁13'14	8°41'50	
				morning rise	639 Feb 18 j 09:59	27°♁15'42		
superior conj	636 Sep 15 j 19:54	25°♁32'30	1°19'24	direct	639 Mar 08 j 03:52	21°♁11'29		
minimum elong	636 Sep 16 j 02:28	25°♁53'03	1°19'17	greatest brilliancy	639 Mar 19 j 02:53	23°♁23'05	-4.5m	
	636 Sep 19 j 09:23	0°♁			639 Mar 31 j 11:09	0°♁		
	636 Oct 13 j 07:39	0°♁		desc. node	639 Apr 15 j 17:41	11°♁57'10		
evening rise	636 Oct 25 j 07:05	15°♁01'25		morning max el	639 Apr 26 j 06:41	21°♁39'46	45°57'19	
desc. node	636 Oct 28 j 22:48	19°♁36'29			639 May 04 j 17:08	0°♁		
	636 Nov 06 j 05:37	0°♁			639 Jun 01 j 19:58	0°♁		
	636 Nov 30 j 04:21	0°♁			639 Jun 28 j 05:50	0°♁		
	636 Dec 24 j 05:07	0°♁			639 Jul 23 j 17:56	0°♁		
	637 Jan 17 j 10:31	0°♁		asc. node	639 Aug 06 j 21:07	16°♁58'18		
	637 Feb 11 j 01:00	0°♁			639 Aug 17 j 14:39	0°♁		
asc. node	637 Feb 19 j 01:58	9°♁38'59			639 Sep 10 j 23:48	0°♁		
	637 Mar 08 j 07:45	0°♁		greatest brilliancy	639 Sep 12 j 05:20	1°♁31'35	-3.9m	
	637 Apr 03 j 20:19	0°♁			639 Oct 05 j 01:10	0°♁		
evening max el	637 Apr 28 j 17:13	25°♁41'32	45°21'27	morning set	639 Oct 21 j 01:01	20°♁04'26		
	637 May 03 j 06:54	0°♁			639 Oct 28 j 22:24	0°♁		
greatest brilliancy	637 Jun 02 j 14:27	22°♁05'28	-4.5m		639 Nov 21 j 18:13	0°♁		
desc. node	637 Jun 10 j 15:29	24°♁45'19		desc. node	639 Nov 26 j 10:41	5°♁54'01		
retrograde	637 Jun 16 j 05:16	25°♁20'07						
evening set	637 Jul 02 j 00:01	20°♁37'28		superior conj	639 Nov 30 j 19:09	11°♁22'50	0°-10'-21	
inferior conj	637 Jul 07 j 16:41	17°♁12'44	-5°-48'-16	minimum elong	639 Nov 30 j 16:21	11°♁14'02	0°10'15	
minimum elong	637 Jul 07 j 06:48	17°♁28'07	5°46'08	behind sun begin	639 Nov 29 j 19:19	10°♁07'49		
min. Earth dist.	637 Jul 07 j 19:16	17°♁08'44	0.28859 AU	behind sun end	639 Dec 01 j 13:23	12°♁20'16		
morning rise	637 Jul 12 j 13:15	14°♁15'21		max. Earth dist.	639 Dec 02 j 01:25	12°♁58'07	1.71041 AU	
direct	637 Jul 29 j 07:22	8°♁56'51			639 Dec 15 j 14:19	0°♁		
greatest brilliancy	637 Aug 12 j 15:34	12°♁31'40	-4.5m		640 Jan 08 j 11:48	0°♁		
	637 Sep 06 j 05:24	0°♁		evening rise	640 Jan 11 j 11:45	3°♁45'22		
morning max el	637 Sep 16 j 21:48	10°♁03'27	46°19'27		640 Feb 01 j 12:00	0°♁		
asc. node	637 Oct 01 j 18:44	25°♁28'13			640 Feb 25 j 16:48	0°♁		
	637 Oct 05 j 22:39	0°♁		asc. node	640 Mar 18 j 13:55	26°♁49'31		
	637 Nov 01 j 03:53	0°♁			640 Mar 21 j 04:31	0°♁		

	640 Apr 15 j 01:53	0°♁			642 Nov 12 j 07:10	0°♁	
	640 May 10 j 13:07	0°♁			642 Dec 06 j 05:10	0°♁	
	640 Jun 05 j 23:15	0°♁		desc. node	642 Dec 23 j 22:30	22°♁15'08	
	640 Jul 04 j 10:15	0°♁			642 Dec 30 j 02:38	0°♁	
desc. node	640 Jul 08 j 03:21	3°♁37'25		morning set	643 Jan 05 j 16:49	8°♁16'08	
evening max el	640 Jul 09 j 04:24	4°♁37'30	45°44'09		643 Jan 23 j 01:08	0°♁	
	640 Aug 10 j 16:43	0°♁					
greatest brilliancy	640 Aug 16 j 08:06	2°♁30'48	-4.5m	superior conj	643 Feb 15 j 20:10	29°♁42'52	-1°-25'-25
retrograde	640 Aug 27 j 04:25	4°♁37'07		minimum elong	643 Feb 15 j 18:29	29°♁37'38	1°25'26
	640 Sep 11 j 17:01	30°♁			643 Feb 16 j 01:40	0°♁	
evening set	640 Sep 13 j 17:44	28°♁50'35		max. Earth dist.	643 Feb 20 j 01:09	4°♁57'22	1.72116 AU
inferior conj	640 Sep 17 j 02:21	26°♁49'12	-8°-15'-3		643 Mar 12 j 05:06	0°♁	
minimum elong	640 Sep 17 j 09:36	26°♁38'07	8°14'16	evening rise	643 Mar 27 j 02:56	18°♁25'56	
min. Earth dist.	640 Sep 17 j 22:35	26°♁18'18	0.27578 AU		643 Apr 05 j 12:17	0°♁	
morning rise	640 Sep 21 j 01:11	24°♁26'37		asc. node	643 Apr 16 j 01:53	12°♁58'36	
direct	640 Oct 08 j 02:41	18°♁52'18			643 Apr 29 j 23:43	0°♁	
greatest brilliancy	640 Oct 22 j 03:34	22°♁28'59	-4.6m		643 May 24 j 15:51	0°♁	
asc. node	640 Oct 29 j 06:31	26°♁32'41			643 Jun 18 j 13:47	0°♁	
	640 Nov 03 j 05:02	0°♁			643 Jul 13 j 20:20	0°♁	
morning max el	640 Nov 27 j 22:08	22°♁21'56	46°54'54	desc. node	643 Aug 05 j 15:04	26°♁27'52	
	640 Dec 05 j 05:34	0°♁			643 Aug 08 j 17:21	0°♁	
	641 Jan 01 j 01:01	0°♁			643 Sep 04 j 18:21	0°♁	
	641 Jan 26 j 11:58	0°♁		evening max el	643 Sep 21 j 14:36	17°♁24'04	46°56'16
desc. node	641 Feb 17 j 20:06	26°♁50'26			643 Oct 05 j 01:12	0°♁	
	641 Feb 20 j 10:52	0°♁		greatest brilliancy	643 Oct 30 j 13:53	17°♁20'24	-4.7m
	641 Mar 17 j 04:53	0°♁		retrograde	643 Nov 10 j 21:15	19°♁43'14	
	641 Apr 10 j 20:52	0°♁		evening set	643 Nov 25 j 04:20	15°♁40'18	
	641 May 05 j 11:44	0°♁		asc. node	643 Nov 26 j 18:29	14°♁47'51	
	641 May 30 j 01:07	0°♁		min. Earth dist.	643 Dec 01 j 02:32	12°♁12'51	0.26369 AU
morning set	641 May 31 j 12:17	1°♁47'35		inferior conj	643 Dec 01 j 09:48	12°♁01'45	1°12'20
asc. node	641 Jun 10 j 23:32	14°♁37'08		minimum elong	643 Dec 01 j 07:04	12°♁05'56	1°11'26
	641 Jun 23 j 12:06	0°♁		morning rise	643 Dec 07 j 09:57	8°♁30'58	
max. Earth dist.	641 Jul 03 j 23:41	12°♁54'09	1.73329 AU	direct	643 Dec 21 j 17:23	4°♁26'30	
				greatest brilliancy	644 Jan 02 j 07:32	6°♁57'10	-4.7m
superior conj	641 Jul 06 j 19:34	16°♁23'22	0°56'08		644 Feb 02 j 18:15	0°♁	
minimum elong	641 Jul 06 j 10:56	15°♁56'47	0°55'49	morning max el	644 Feb 09 j 21:16	6°♁55'23	46°40'38
	641 Jul 17 j 20:07	0°♁			644 Mar 02 j 19:52	0°♁	
	641 Aug 11 j 01:31	0°♁		desc. node	644 Mar 17 j 08:04	16°♁09'59	
evening rise	641 Aug 11 j 19:05	0°♁54'28			644 Mar 29 j 11:07	0°♁	
	641 Sep 04 j 05:35	0°♁			644 Apr 24 j 05:08	0°♁	
	641 Sep 28 j 09:42	0°♁			644 May 19 j 12:28	0°♁	
desc. node	641 Sep 30 j 12:58	2°♁38'55			644 Jun 13 j 12:25	0°♁	
	641 Oct 22 j 15:02	0°♁			644 Jul 08 j 05:32	0°♁	
	641 Nov 15 j 23:04	0°♁		asc. node	644 Jul 08 j 11:20	0°♁17'43	
	641 Dec 10 j 13:09	0°♁			644 Aug 01 j 15:48	0°♁	
	642 Jan 04 j 17:14	0°♁		morning set	644 Aug 07 j 07:34	6°♁59'41	
asc. node	642 Jan 21 j 16:05	19°♁26'32			644 Aug 25 j 20:08	0°♁	
	642 Jan 31 j 06:13	0°♁		max. Earth dist.	644 Sep 10 j 03:40	19°♁06'57	1.71900 AU
evening max el	642 Feb 14 j 18:31	15°♁06'21	46°15'03				
	642 Mar 02 j 22:17	0°♁		superior conj	644 Sep 13 j 10:49	23°♁14'29	1°20'33
greatest brilliancy	642 Mar 21 j 15:31	12°♁45'43	-4.5m	minimum elong	644 Sep 13 j 16:43	23°♁32'53	1°20'28
retrograde	642 Apr 05 j 08:51	16°♁35'26			644 Sep 18 j 20:26	0°♁	
evening set	642 Apr 21 j 03:42	11°♁43'47			644 Oct 12 j 18:51	0°♁	
inferior conj	642 Apr 26 j 17:44	8°♁18'54	3°44'56	evening rise	644 Oct 22 j 18:28	12°♁31'20	
minimum elong	642 Apr 27 j 01:11	8°♁07'08	3°42'58	desc. node	644 Oct 28 j 00:58	19°♁07'54	
min. Earth dist.	642 Apr 26 j 20:45	8°♁14'08	0.28894 AU		644 Nov 05 j 16:58	0°♁	
morning rise	642 May 02 j 22:59	4°♁33'27			644 Nov 29 j 15:50	0°♁	
desc. node	642 May 13 j 05:32	0°♁32'27			644 Dec 23 j 16:46	0°♁	
direct	642 May 18 j 07:20	0°♁01'55			645 Jan 16 j 22:27	0°♁	
greatest brilliancy	642 May 31 j 06:46	3°♁00'15	-4.5m		645 Feb 10 j 13:29	0°♁	
morning max el	642 Jul 06 j 01:57	29°♁47'45	45°45'50	asc. node	645 Feb 18 j 04:02	9°♁07'10	
	642 Jul 06 j 07:05	0°♁			645 Mar 07 j 21:22	0°♁	
	642 Aug 04 j 05:59	0°♁			645 Apr 03 j 12:36	0°♁	
	642 Aug 30 j 15:14	0°♁		evening max el	645 Apr 26 j 08:13	23°♁28'51	45°22'03
asc. node	642 Sep 03 j 08:58	4°♁23'17			645 May 03 j 07:56	0°♁	
	642 Sep 24 j 18:48	0°♁		greatest brilliancy	645 May 31 j 02:48	19°♁51'30	-4.5m
	642 Oct 19 j 05:29	0°♁		desc. node	645 Jun 09 j 17:34	22°♁51'01	

retrograde	645 Jun 13 j 21:22	23°☿10'38		superior conj	647 Nov 28 j 04:40	8°♁46'58	0°-6'-22
evening set	645 Jun 29 j 13:34	18°♁30'35		minimum elong	647 Nov 28 j 02:57	8°♁41'34	0°06'18
inferior conj	645 Jul 05 j 08:45	15°♁02'35	-5°-32'-59	behind sun begin	647 Nov 27 j 02:09	7°♁23'31	
minimum elong	645 Jul 04 j 23:00	15°♁17'45	5°30'49	behind sun end	647 Nov 29 j 03:44	9°♁59'37	
min. Earth dist.	645 Jul 05 j 11:07	14°♁58'54	0.28880 AU	max. Earth dist.	647 Nov 29 j 10:23	10°♁20'31	1.71036 AU
morning rise	645 Jul 10 j 08:05	12°♁01'22			647 Dec 15 j 01:21	0°♁	
direct	645 Jul 26 j 23:16	6°♁46'09			648 Jan 07 j 22:52	0°♁	
greatest brilliancy	645 Aug 10 j 08:47	10°♁22'15	-4.5m	evening rise	648 Jan 08 j 21:54	1°♁12'10	
	645 Sep 06 j 08:12	0°♁			648 Jan 31 j 23:08	0°♁	
morning max el	645 Sep 14 j 13:22	7°♁48'50	46°17'58		648 Feb 25 j 04:03	0°♁	
asc. node	645 Sep 30 j 20:55	24°♁45'52		asc. node	648 Mar 17 j 16:05	26°♁21'16	
	645 Oct 05 j 15:41	0°♁			648 Mar 20 j 16:01	0°♁	
	645 Oct 31 j 18:06	0°♁			648 Apr 14 j 13:54	0°♁	
	645 Nov 25 j 15:39	0°♁			648 May 10 j 02:12	0°♁	
	645 Dec 20 j 01:05	0°♁			648 Jun 05 j 14:38	0°♁	
	646 Jan 13 j 06:06	0°♁			648 Jul 04 j 07:52	0°♁	
desc. node	646 Jan 20 j 10:16	8°♁54'15		evening max el	648 Jul 06 j 19:19	2°♁23'20	45°42'03
	646 Feb 06 j 10:17	0°♁		desc. node	648 Jul 07 j 05:17	2°♁47'08	
	646 Mar 02 j 15:15	0°♁			648 Aug 13 j 08:49	0°♁	
morning set	646 Mar 21 j 14:20	23°♁26'28		greatest brilliancy	648 Aug 13 j 19:53	0°♁10'26	-4.5m
	646 Mar 26 j 21:50	0°♁		retrograde	648 Aug 24 j 17:31	2°♁17'25	
	646 Apr 20 j 06:15	0°♁			648 Sep 04 j 12:29	30°♁	
				evening set	648 Sep 11 j 09:26	26°♁27'39	
superior conj	646 Apr 28 j 04:07	9°♁43'51	0°-35'-26	inferior conj	648 Sep 14 j 16:03	24°♁28'52	-8°-22'-8
minimum elong	646 Apr 28 j 11:03	10°♁05'10	0°35'09	minimum elong	648 Sep 14 j 22:35	24°♁18'51	8°21'31
max. Earth dist.	646 Apr 29 j 04:00	10°♁57'17	1.73472 AU	min. Earth dist.	648 Sep 15 j 11:48	23°♁58'38	0.27645 AU
asc. node	646 May 13 j 13:48	28°♁39'20		morning rise	648 Sep 18 j 11:30	22°♁10'53	
	646 May 14 j 16:05	0°♁		direct	648 Oct 05 j 17:31	16°♁31'10	
evening rise	646 Jun 03 j 17:16	24°♁36'47		greatest brilliancy	648 Oct 19 j 17:50	20°♁06'53	-4.6m
	646 Jun 08 j 02:38	0°♁		asc. node	648 Oct 28 j 08:38	25°♁10'14	
	646 Jul 02 j 13:40	0°♁			648 Nov 03 j 21:16	0°♁	
	646 Jul 27 j 01:49	0°♁		morning max el	648 Nov 25 j 12:14	19°♁58'21	46°54'16
	646 Aug 20 j 16:36	0°♁			648 Dec 05 j 01:18	0°♁	
desc. node	646 Sep 02 j 03:06	15°♁04'43			648 Dec 31 j 16:23	0°♁	
	646 Sep 14 j 11:58	0°♁		desc. node	649 Jan 26 j 01:27	0°♁	
	646 Oct 09 j 14:59	0°♁			649 Feb 16 j 22:16	26°♁19'06	
	646 Nov 04 j 09:17	0°♁			649 Feb 19 j 23:18	0°♁	
	646 Dec 01 j 19:36	0°♁			649 Mar 16 j 16:38	0°♁	
evening max el	646 Dec 02 j 21:40	1°♁06'50	47°19'02		649 Apr 10 j 08:09	0°♁	
asc. node	646 Dec 24 j 06:20	20°♁58'23			649 May 04 j 22:39	0°♁	
	647 Jan 06 j 07:39	0°♁		morning set	649 May 29 j 06:50	29°♁44'46	
greatest brilliancy	647 Jan 09 j 12:12	1°♁38'16	-4.7m		649 May 29 j 11:49	0°♁	
retrograde	647 Jan 22 j 23:04	5°♁01'10		asc. node	649 Jun 10 j 01:34	14°♁10'44	
	647 Feb 07 j 19:15	30°♁			649 Jun 22 j 22:42	0°♁	
evening set	647 Feb 09 j 16:24	28°♁52'51		max. Earth dist.	649 Jul 01 j 19:31	10°♁54'49	1.73358 AU
min. Earth dist.	647 Feb 12 j 04:55	27°♁18'53	0.27850 AU				
inferior conj	647 Feb 12 j 22:37	26°♁51'04	8°40'23	superior conj	649 Jul 04 j 14:20	14°♁20'39	0°53'47
minimum elong	647 Feb 12 j 20:18	26°♁54'42	8°40'19	minimum elong	649 Jul 04 j 05:50	13°♁54'28	0°53'27
morning rise	647 Feb 16 j 00:25	24°♁56'26			649 Jul 17 j 06:43	0°♁	
direct	647 Mar 05 j 17:56	18°♁52'36		evening rise	649 Aug 09 j 12:43	28°♁47'02	
greatest brilliancy	647 Mar 16 j 15:23	21°♁03'18	-4.6m		649 Aug 10 j 12:16	0°♁	
	647 Apr 01 j 08:14	0°♁			649 Sep 03 j 16:33	0°♁	
desc. node	647 Apr 14 j 19:47	10°♁59'42			649 Sep 27 j 20:59	0°♁	
morning max el	647 Apr 23 j 22:24	19°♁27'10	45°58'37	desc. node	649 Sep 29 j 15:08	2°♁10'34	
	647 May 04 j 12:46	0°♁			649 Oct 22 j 02:44	0°♁	
	647 Jun 01 j 10:48	0°♁			649 Nov 15 j 11:18	0°♁	
	647 Jun 27 j 18:41	0°♁			649 Dec 10 j 02:09	0°♁	
	647 Jul 23 j 05:49	0°♁		asc. node	650 Jan 04 j 07:40	0°♁	
asc. node	647 Aug 05 j 23:10	16°♁29'30			650 Jan 20 j 18:09	18°♁47'07	
	647 Aug 17 j 02:02	0°♁			650 Jan 31 j 00:04	0°♁	
	647 Sep 10 j 10:57	0°♁		evening max el	650 Feb 12 j 09:34	12°♁50'44	46°17'34
greatest brilliancy	647 Sep 19 j 18:15	11°♁34'00	-3.9m		650 Mar 03 j 06:43	0°♁	
	647 Oct 04 j 12:14	0°♁		greatest brilliancy	650 Mar 19 j 09:48	10°♁38'12	-4.5m
morning set	647 Oct 18 j 13:50	17°♁39'15		retrograde	650 Apr 03 j 01:03	14°♁26'00	
	647 Oct 28 j 09:26	0°♁		evening set	650 Apr 18 j 22:30	9°♁31'24	
	647 Nov 21 j 05:15	0°♁		inferior conj	650 Apr 24 j 10:13	6°♁09'36	4°02'41
desc. node	647 Nov 25 j 12:45	5°♁25'48		minimum elong	650 Apr 24 j 18:06	5°♁57'09	4°00'39

min. Earth dist.	650 Apr 24 j 13:20	6°♃04'40	0.28877 AU	evening rise	652 Oct 20 j 06:29	10°♌04'27	
morning rise	650 Apr 30 j 13:58	2°♃25'48		desc. node	652 Oct 27 j 02:59	18°♌40'02	
	650 May 05 j 14:24	30°♃			652 Nov 05 j 03:57	0°♃	
desc. node	650 May 12 j 07:38	28°♃08'41			652 Nov 29 j 03:00	0°♃	
direct	650 May 15 j 23:16	27°♃52'59			652 Dec 23 j 04:11	0°♃	
	650 May 26 j 20:02	0°♃			653 Jan 16 j 10:13	0°♃	
greatest brilliancy	650 May 28 j 20:32	0°♃48'32	-4.5m		653 Feb 10 j 01:53	0°♃	
morning max el	650 Jul 03 j 17:01	27°♃36'21	45°45'32	asc. node	653 Feb 17 j 06:11	8°♃35'51	
	650 Jul 06 j 04:42	0°♃			653 Mar 07 j 11:00	0°♃	
	650 Aug 03 j 21:15	0°♃			653 Apr 03 j 05:03	0°♃	
	650 Aug 30 j 04:17	0°♃		evening max el	653 Apr 23 j 23:58	21°♃18'22	45°22'57
asc. node	650 Sep 02 j 11:11	3°♃51'59			653 May 03 j 10:12	0°♃	
	650 Sep 24 j 06:51	0°♃		greatest brilliancy	653 May 28 j 15:20	17°♃38'19	-4.5m
	650 Oct 18 j 17:01	0°♃		desc. node	653 Jun 08 j 19:31	20°♃52'49	
	650 Nov 11 j 18:27	0°♃		retrograde	653 Jun 11 j 13:44	21°♃01'33	
	650 Dec 05 j 16:20	0°♃		evening set	653 Jun 27 j 03:17	16°♃24'00	
desc. node	650 Dec 23 j 00:30	21°♃46'35		inferior conj	653 Jul 03 j 00:45	12°♃52'48	-5°-17'-21
	650 Dec 29 j 13:42	0°♃		minimum elong	653 Jul 02 j 15:11	13°♃07'40	5°15'08
morning set	651 Jan 03 j 02:23	5°♃41'01		min. Earth dist.	653 Jul 03 j 02:38	12°♃49'53	0.28896 AU
	651 Jan 22 j 12:06	0°♃		morning rise	653 Jul 08 j 02:48	9°♃47'55	
				direct	653 Jul 24 j 15:38	4°♃36'00	
superior conj	651 Feb 13 j 08:18	27°♃17'21	-1°-25'-5	greatest brilliancy	653 Aug 08 j 01:22	8°♃12'46	-4.5m
minimum elong	651 Feb 13 j 05:38	27°♃09'03	1°25'04		653 Sep 06 j 09:17	0°♃	
	651 Feb 15 j 12:30	0°♃		morning max el	653 Sep 12 j 05:44	5°♃37'11	46°16'35
max. Earth dist.	651 Feb 17 j 14:02	2°♃34'16	1.72056 AU	asc. node	653 Sep 29 j 22:56	24°♃04'23	
	651 Mar 11 j 15:53	0°♃			653 Oct 05 j 08:07	0°♃	
evening rise	651 Mar 24 j 17:32	16°♃09'34			653 Oct 31 j 07:53	0°♃	
	651 Apr 04 j 23:05	0°♃			653 Nov 25 j 04:14	0°♃	
asc. node	651 Apr 15 j 03:59	12°♃31'49			653 Dec 19 j 13:01	0°♃	
	651 Apr 29 j 10:41	0°♃			654 Jan 12 j 17:37	0°♃	
	651 May 24 j 03:07	0°♃		desc. node	654 Jan 19 j 12:25	8°♃25'25	
	651 Jun 18 j 01:37	0°♃			654 Feb 05 j 21:30	0°♃	
desc. node	651 Jul 13 j 09:08	0°♃			654 Mar 02 j 02:16	0°♃	
	651 Aug 04 j 17:13	25°♃53'09		morning set	654 Mar 19 j 05:13	21°♃10'33	
	651 Aug 08 j 07:57	0°♃			654 Mar 26 j 08:41	0°♃	
	651 Sep 04 j 12:53	0°♃			654 Apr 19 j 16:59	0°♃	
evening max el	651 Sep 19 j 02:49	14°♃58'06	46°53'57				
	651 Oct 05 j 09:47	0°♃		superior conj	654 Apr 25 j 21:03	7°♃35'26	0°-38'-24
greatest brilliancy	651 Oct 28 j 04:22	14°♃53'58	-4.7m	minimum elong	654 Apr 26 j 04:29	7°♃58'15	0°38'05
retrograde	651 Nov 08 j 08:59	17°♃14'25		max. Earth dist.	654 Apr 27 j 00:39	9°♃00'17	1.73447 AU
evening set	651 Nov 22 j 16:46	13°♃11'12		asc. node	654 May 12 j 15:45	28°♃12'30	
asc. node	651 Nov 25 j 20:28	11°♃24'37			654 May 14 j 02:46	0°♃	
inferior conj	651 Nov 28 j 22:03	9°♃33'32	0°47'52	evening rise	654 Jun 01 j 11:59	22°♃34'03	
minimum elong	651 Nov 28 j 20:13	9°♃36'19	0°47'16		654 Jun 07 j 13:24	0°♃	
min. Earth dist.	651 Nov 28 j 16:43	9°♃41'40	0.26367 AU		654 Jul 02 j 00:38	0°♃	
morning rise	651 Dec 04 j 23:41	6°♃00'45			654 Jul 26 j 13:09	0°♃	
direct	651 Dec 19 j 05:03	1°♃57'52			654 Aug 20 j 04:30	0°♃	
greatest brilliancy	651 Dec 30 j 23:16	4°♃32'26	-4.7m	desc. node	654 Sep 01 j 05:15	14°♃34'13	
	652 Feb 02 j 20:10	0°♃			654 Sep 14 j 00:39	0°♃	
morning max el	652 Feb 07 j 10:14	4°♃30'12	46°41'59		654 Oct 09 j 04:54	0°♃	
	652 Mar 02 j 13:00	0°♃			654 Nov 04 j 01:27	0°♃	
desc. node	652 Mar 16 j 10:12	15°♃32'48		evening max el	654 Nov 30 j 13:37	28°♃48'41	47°20'02
	652 Mar 29 j 01:13	0°♃			654 Dec 01 j 17:38	0°♃	
	652 Apr 23 j 17:43	0°♃		asc. node	654 Dec 23 j 08:24	19°♃47'38	
	652 May 19 j 00:11	0°♃		greatest brilliancy	655 Jan 07 j 03:51	29°♃18'47	-4.7m
	652 Jun 12 j 23:37	0°♃			655 Jan 08 j 16:38	0°♃	
asc. node	652 Jul 07 j 16:24	0°♃		retrograde	655 Jan 20 j 14:42	2°♃41'06	
	652 Jul 07 j 13:22	29°♃50'43			655 Jan 31 j 23:18	30°♃	
	652 Aug 01 j 02:31	0°♃		evening set	655 Feb 07 j 05:12	26°♃36'00	
morning set	652 Aug 05 j 00:34	4°♃50'37		min. Earth dist.	655 Feb 09 j 18:15	25°♃01'18	0.27793 AU
	652 Aug 25 j 06:49	0°♃		inferior conj	655 Feb 10 j 13:12	24°♃31'31	8°38'01
max. Earth dist.	652 Sep 07 j 19:36	16°♃53'15	1.71950 AU	minimum elong	655 Feb 10 j 10:06	24°♃36'24	8°37'52
				morning rise	655 Feb 13 j 15:15	22°♃36'42	
superior conj	652 Sep 11 j 02:16	20°♃59'08	1°21'32	direct	655 Mar 03 j 08:28	16°♃34'09	
minimum elong	652 Sep 11 j 07:28	21°♃15'24	1°21'29	greatest brilliancy	655 Mar 14 j 03:11	18°♃42'54	-4.6m
	652 Sep 18 j 07:09	0°♃			655 Apr 01 j 23:49	0°♃	
	652 Oct 12 j 05:41	0°♃		desc. node	655 Apr 13 j 21:51	10°♃03'22	

morning max el	655 Apr 21 j 13:56	17°♋14'03	45°59'39		657 Oct 21 j 14:41	0°♏	
	655 May 04 j 07:53	0°♍			657 Nov 14 j 23:48	0°♎	
	655 Jun 01 j 01:32	0°♌			657 Dec 09 j 15:29	0°♏	
	655 Jun 27 j 07:33	0°♈			658 Jan 03 j 22:29	0°♋	
	655 Jul 22 j 17:43	0°♉		asc. node	658 Jan 19 j 20:22	18°♋06'58	
asc. node	655 Aug 05 j 01:21	16°♉01'02			658 Jan 30 j 18:34	0°♍	
	655 Aug 16 j 13:25	0°♈		evening max el	658 Feb 09 j 23:52	10°♍32'31	46°20'12
	655 Sep 09 j 22:05	0°♌			658 Mar 03 j 18:27	0°♌	
greatest brilliancy	655 Sep 22 j 23:42	16°♌15'45	-3.9m	greatest brilliancy	658 Mar 17 j 03:07	8°♌28'49	-4.5m
	655 Oct 03 j 23:17	0°♌		retrograde	658 Mar 31 j 17:13	12°♌16'18	
morning set	655 Oct 16 j 02:42	15°♌14'19		evening set	658 Apr 16 j 17:24	7°♌18'18	
	655 Oct 27 j 20:27	0°♌		inferior conj	658 Apr 22 j 02:46	3°♌59'56	4°20'01
	655 Nov 20 j 16:17	0°♏		minimum elong	658 Apr 22 j 11:02	3°♌46'52	4°17'55
desc. node	655 Nov 24 j 14:45	4°♏57'20		min. Earth dist.	658 Apr 22 j 06:07	3°♌54'38	0.28863 AU
				morning rise	658 Apr 28 j 04:52	0°♌18'02	
superior conj	655 Nov 25 j 14:29	6°♏12'03	0°-2'-22		658 Apr 28 j 17:57	30°♍	
minimum elong	655 Nov 25 j 13:50	6°♏10'02	0°02'21	desc. node	658 May 11 j 09:35	25°♍49'14	
behind sun begin	655 Nov 24 j 11:31	4°♏47'10		direct	658 May 13 j 14:52	25°♍43'28	
behind sun end	655 Nov 26 j 16:10	7°♏32'53		greatest brilliancy	658 May 26 j 11:11	28°♍37'21	-4.5m
max. Earth dist.	655 Nov 26 j 17:21	7°♏36'39	1.71029 AU		658 May 29 j 10:21	0°♌	
	655 Dec 14 j 12:23	0°♎		morning max el	658 Jul 01 j 08:09	25°♌24'16	45°45'07
evening rise	656 Jan 06 j 08:15	28°♎39'36			658 Jul 06 j 01:53	0°♈	
	656 Jan 07 j 09:55	0°♏			658 Aug 03 j 12:40	0°♉	
	656 Jan 31 j 10:14	0°♋			658 Aug 29 j 17:37	0°♈	
	656 Feb 24 j 15:17	0°♍		asc. node	658 Sep 01 j 13:11	3°♈19'00	
asc. node	656 Mar 16 j 18:08	25°♍52'34			658 Sep 23 j 19:12	0°♌	
	656 Mar 20 j 03:33	0°♌			658 Oct 18 j 04:52	0°♌	
	656 Apr 14 j 02:03	0°♈			658 Nov 11 j 06:01	0°♌	
	656 May 09 j 15:33	0°♉			658 Dec 05 j 03:45	0°♏	
	656 Jun 05 j 06:29	0°♈		desc. node	658 Dec 22 j 02:37	21°♏17'38	
	656 Jul 04 j 06:39	0°♌			658 Dec 29 j 01:00	0°♎	
evening max el	656 Jul 04 j 09:35	0°♌07'00	45°40'04	morning set	658 Dec 31 j 11:50	3°♎04'38	
desc. node	656 Jul 06 j 07:29	1°♌55'53			659 Jan 21 j 23:19	0°♏	
greatest brilliancy	656 Aug 11 j 08:25	27°♌50'27	-4.5m				
retrograde	656 Aug 22 j 06:09	29°♌57'30		superior conj	659 Feb 10 j 20:23	24°♏50'40	-1°-24'-34
evening set	656 Sep 09 j 00:55	24°♌04'54		minimum elong	659 Feb 10 j 16:43	24°♏39'16	1°24'33
inferior conj	656 Sep 12 j 05:48	22°♌08'27	-8°-28'-24		659 Feb 14 j 23:37	0°♋	
minimum elong	656 Sep 12 j 11:35	21°♌59'34	8°27'55	max. Earth dist.	659 Feb 14 j 23:56	0°♋00'58	1.71997 AU
min. Earth dist.	656 Sep 13 j 01:20	21°♌38'29	0.27708 AU		659 Mar 11 j 02:57	0°♍	
morning rise	656 Sep 15 j 22:01	19°♌54'51		evening rise	659 Mar 22 j 08:06	13°♍52'11	
direct	656 Oct 03 j 07:53	14°♌09'52			659 Apr 04 j 10:10	0°♌	
greatest brilliancy	656 Oct 17 j 08:32	17°♌45'08	-4.6m	asc. node	659 Apr 14 j 05:59	12°♌03'54	
asc. node	656 Oct 27 j 10:40	23°♌49'53			659 Apr 28 j 21:55	0°♈	
	656 Nov 04 j 09:32	0°♌			659 May 23 j 14:41	0°♉	
morning max el	656 Nov 23 j 01:25	17°♌32'02	46°53'36		659 Jun 17 j 13:48	0°♈	
	656 Dec 04 j 20:35	0°♌		desc. node	659 Jul 12 j 22:25	0°♌	
	656 Dec 31 j 07:40	0°♏			659 Aug 03 j 19:17	25°♌16'34	
	657 Jan 25 j 14:56	0°♎			659 Aug 07 j 23:13	0°♌	
desc. node	657 Feb 16 j 00:21	25°♎47'22			659 Sep 04 j 08:31	0°♌	
	657 Feb 19 j 11:46	0°♏		evening max el	659 Sep 16 j 15:17	12°♌31'27	46°51'38
	657 Mar 16 j 04:26	0°♋			659 Oct 05 j 22:12	0°♏	
	657 Apr 09 j 19:30	0°♍		greatest brilliancy	659 Oct 25 j 17:56	12°♏24'52	-4.7m
	657 May 04 j 09:42	0°♌		retrograde	659 Nov 05 j 21:02	14°♏44'03	
morning set	657 May 27 j 01:12	27°♌40'48		evening set	659 Nov 20 j 05:16	10°♏40'00	
	657 May 28 j 22:41	0°♈		asc. node	659 Nov 24 j 22:33	7°♏57'30	
asc. node	657 Jun 09 j 03:39	13°♈43'52		inferior conj	659 Nov 26 j 10:05	7°♏03'33	0°23'08
	657 Jun 22 j 09:31	0°♉		minimum elong	659 Nov 26 j 09:12	7°♏04'54	0°22'50
max. Earth dist.	657 Jun 29 j 13:55	8°♉50'23	1.73391 AU	min. Earth dist.	659 Nov 26 j 06:27	7°♏09'05	0.26364 AU
				morning rise	659 Dec 02 j 13:04	3°♏29'19	
superior conj	657 Jul 02 j 08:50	12°♉16'26	0°51'20		659 Dec 11 j 14:23	30°♌	
minimum elong	657 Jul 02 j 00:30	11°♉50'45	0°50'59	direct	659 Dec 16 j 17:01	29°♌27'29	
	657 Jul 16 j 17:36	0°♈			659 Dec 21 j 22:49	0°♏	
evening rise	657 Aug 07 j 06:05	26°♈38'03		greatest brilliancy	659 Dec 28 j 14:31	2°♏05'52	-4.7m
	657 Aug 09 j 23:16	0°♌			660 Feb 02 j 21:11	0°♎	
	657 Sep 03 j 03:46	0°♌		morning max el	660 Feb 04 j 23:58	2°♎05'56	46°43'19
	657 Sep 27 j 08:31	0°♌			660 Mar 02 j 06:07	0°♏	
desc. node	657 Sep 28 j 17:07	1°♌40'55		desc. node	660 Mar 15 j 12:10	14°♏54'35	

	665 May 03 j 20:44	0°♄		retrograde	667 Nov 03 j 09:31	12°♁14'51	
morning set	665 May 24 j 19:21	25°♄36'16		evening set	667 Nov 17 j 18:02	8°♁09'43	
	665 May 28 j 09:31	0°♂		inferior conj	667 Nov 23 j 22:07	4°♁34'33	0°-1'-40
asc. node	665 Jun 08 j 05:46	13°♂17'20		minimum elong	667 Nov 23 j 22:11	4°♁34'28	0°01'39
	665 Jun 21 j 20:17	0°♁		transit begin	667 Nov 23 j 18:08	4°♁40'37	
max. Earth dist.	665 Jun 27 j 09:39	6°♁50'18	1.73423 AU	transit end	667 Nov 24 j 02:14	4°♁28'18	
				min. Earth dist.	667 Nov 23 j 19:53	4°♁37'57	0.26365 AU
superior conj	665 Jun 30 j 03:21	10°♁12'34	0°48'48	asc. node	667 Nov 24 j 00:42	4°♁30'38	
minimum elong	665 Jun 29 j 19:13	9°♁47'29	0°48'29	morning rise	667 Nov 30 j 02:16	0°♁59'18	
	665 Jul 16 j 04:23	0°♂			667 Dec 02 j 01:18	30°♁	
evening rise	665 Aug 04 j 23:47	24°♂30'28		direct	667 Dec 14 j 05:38	26°♁58'17	
	665 Aug 09 j 10:11	0°♁		greatest brilliancy	667 Dec 26 j 05:06	29°♁39'37	-4.7m
	665 Sep 02 j 14:54	0°♁			667 Dec 26 j 23:50	0°♁	
	665 Sep 26 j 19:57	0°♁		morning max el	668 Feb 02 j 14:18	29°♁44'19	46°44'40
desc. node	665 Sep 27 j 19:11	1°♁11'53			668 Feb 02 j 20:34	0°♁	
	665 Oct 21 j 02:31	0°♁			668 Mar 01 j 22:28	0°♁	
	665 Nov 14 j 12:10	0°♁		desc. node	668 Mar 14 j 14:18	14°♁18'20	
	665 Dec 09 j 04:41	0°♁			668 Mar 28 j 05:12	0°♁	
	666 Jan 03 j 13:18	0°♁			668 Apr 22 j 18:55	0°♁	
asc. node	666 Jan 18 j 22:18	17°♁26'02			668 May 17 j 23:46	0°♁	
	666 Jan 30 j 13:25	0°♁			668 Jun 11 j 22:13	0°♁	
evening max el	666 Feb 07 j 13:57	8°♁13'53	46°22'42	asc. node	668 Jul 05 j 17:32	28°♁56'15	
	666 Mar 04 j 10:12	0°♁			668 Jul 06 j 14:24	0°♁	
greatest brilliancy	666 Mar 14 j 19:34	6°♁18'04	-4.5m		668 Jul 31 j 00:14	0°♁	
retrograde	666 Mar 29 j 09:31	10°♁06'25		morning set	668 Jul 31 j 10:52	0°♁32'49	
evening set	666 Apr 14 j 12:14	5°♁04'35			668 Aug 24 j 04:30	0°♁	
inferior conj	666 Apr 19 j 19:12	1°♁49'58	4°37'03	max. Earth dist.	668 Sep 03 j 01:57	12°♁20'10	1.72058 AU
minimum elong	666 Apr 20 j 03:49	1°♁36'21	4°34'54				
min. Earth dist.	666 Apr 19 j 22:43	1°♁44'25	0.28849 AU	superior conj	668 Sep 06 j 09:10	16°♁27'30	1°23'08
	666 Apr 22 j 17:22	30°♁		minimum elong	668 Sep 06 j 12:52	16°♁39'06	1°23'06
morning rise	666 Apr 25 j 19:32	28°♁10'28			668 Sep 17 j 05:02	0°♁	
desc. node	666 May 10 j 11:45	23°♁34'15			668 Oct 11 j 03:52	0°♁	
direct	666 May 11 j 06:19	23°♁33'33		evening rise	668 Oct 15 j 06:10	5°♁08'04	
greatest brilliancy	666 May 24 j 02:43	26°♁27'14	-4.5m	desc. node	668 Oct 25 j 07:11	17°♁43'08	
	666 May 31 j 01:14	0°♁			668 Nov 04 j 02:28	0°♁	
morning max el	666 Jun 28 j 23:51	23°♁13'58	45°44'55		668 Nov 28 j 01:50	0°♁	
	666 Jul 05 j 22:11	0°♁			668 Dec 22 j 03:27	0°♁	
	666 Aug 03 j 03:38	0°♁			669 Jan 15 j 10:10	0°♁	
	666 Aug 29 j 06:37	0°♁		asc. node	669 Feb 09 j 03:07	0°♁	
asc. node	666 Aug 31 j 15:13	2°♁46'58			669 Feb 15 j 10:16	7°♁31'24	
	666 Sep 23 j 07:16	0°♁			669 Mar 06 j 14:50	0°♁	
	666 Oct 17 j 16:26	0°♁			669 Apr 02 j 15:08	0°♁	
	666 Nov 10 j 17:20	0°♁		evening max el	669 Apr 19 j 09:23	17°♁01'36	45°24'46
	666 Dec 04 j 14:54	0°♁			669 May 03 j 20:02	0°♁	
desc. node	666 Dec 21 j 04:43	20°♁49'31		greatest brilliancy	669 May 23 j 20:16	13°♁16'53	-4.5m
	666 Dec 28 j 12:02	0°♁		retrograde	669 Jun 06 j 22:37	16°♁43'31	
morning set	666 Dec 28 j 21:43	0°♁30'23		desc. node	669 Jun 06 j 23:46	16°♁43'30	
	667 Jan 21 j 10:13	0°♁		evening set	669 Jun 22 j 07:44	12°♁11'18	
				inferior conj	669 Jun 28 j 09:05	8°♁33'52	-4°-44'-43
superior conj	667 Feb 08 j 08:35	22°♁25'10	-1°-23'-53	minimum elong	669 Jun 28 j 00:05	8°♁47'53	4°42'32
minimum elong	667 Feb 08 j 03:58	22°♁10'47	1°23'52	min. Earth dist.	669 Jun 28 j 09:53	8°♁32'37	0.28922 AU
max. Earth dist.	667 Feb 12 j 09:15	27°♁26'41	1.71944 AU	morning rise	669 Jul 03 j 16:18	5°♁21'37	
	667 Feb 14 j 10:27	0°♁		direct	669 Jul 20 j 01:29	0°♁17'01	
	667 Mar 10 j 13:45	0°♁		greatest brilliancy	669 Aug 03 j 07:30	3°♁50'24	-4.5m
evening rise	667 Mar 19 j 22:38	11°♁35'26			669 Sep 06 j 08:09	0°♁	
	667 Apr 03 j 21:02	0°♁		morning max el	669 Sep 07 j 13:25	1°♁11'26	46°13'20
asc. node	667 Apr 13 j 08:07	11°♁37'02		asc. node	669 Sep 28 j 03:09	22°♁42'32	
	667 Apr 28 j 08:56	0°♁			669 Oct 04 j 16:23	0°♁	
	667 May 23 j 02:03	0°♁			669 Oct 30 j 11:28	0°♁	
	667 Jun 17 j 01:46	0°♁			669 Nov 24 j 05:40	0°♁	
	667 Jul 12 j 11:29	0°♁			669 Dec 18 j 13:13	0°♁	
desc. node	667 Aug 02 j 21:17	24°♁40'25			670 Jan 11 j 16:58	0°♁	
	667 Aug 07 j 14:22	0°♁		desc. node	670 Jan 17 j 16:28	7°♁25'55	
	667 Sep 04 j 04:20	0°♁			670 Feb 04 j 20:14	0°♁	
evening max el	667 Sep 14 j 04:36	10°♁08'10	46°49'18		670 Mar 01 j 00:30	0°♁	
	667 Oct 06 j 14:05	0°♁		morning set	670 Mar 14 j 10:39	16°♁36'59	
greatest brilliancy	667 Oct 23 j 06:39	9°♁56'06	-4.7m		670 Mar 25 j 06:32	0°♁	

	670 Apr 18 j 14:35	0°♄		minimum elong	672 Sep 07 j 14:01	17°♎23'54	8°37'39
				min. Earth dist.	672 Sep 08 j 05:10	17°♎00'38	0.27837 AU
superior conj	670 Apr 21 j 06:59	3°♄18'11	0°-44'-8	morning rise	672 Sep 10 j 20:30	15°♎24'40	
minimum elong	670 Apr 21 j 15:15	3°♄43'37	0°43'49	direct	672 Sep 28 j 12:14	9°♎29'26	
max. Earth dist.	670 Apr 22 j 22:01	5°♄18'14	1.73387 AU	greatest brilliancy	672 Oct 12 j 17:16	13°♎08'05	-4.6m
asc. node	670 May 10 j 20:00	27°♄19'31		asc. node	672 Oct 25 j 14:52	21°♎17'51	
	670 May 13 j 00:17	0°♄			672 Nov 05 j 00:47	0°♄	
evening rise	670 May 28 j 01:45	18°♄29'07		morning max el	672 Nov 18 j 03:58	12°♄40'47	46°52'17
	670 Jun 06 j 11:04	0°♄			672 Dec 04 j 09:25	0°♄	
	670 Jun 30 j 22:45	0°♄			672 Dec 30 j 13:28	0°♄	
	670 Jul 25 j 12:02	0°♄			673 Jan 24 j 17:33	0°♄	
	670 Aug 19 j 04:31	0°♄		desc. node	673 Feb 14 j 04:29	24°♄44'08	
desc. node	670 Aug 30 j 09:19	13°♄31'57			673 Feb 18 j 12:31	0°♄	
	670 Sep 13 j 02:23	0°♄			673 Mar 15 j 03:57	0°♄	
	670 Oct 08 j 09:21	0°♄			673 Apr 08 j 18:06	0°♄	
	670 Nov 03 j 11:04	0°♄			673 May 03 j 07:41	0°♄	
evening max el	670 Nov 25 j 20:43	24°♄08'25	47°21'12	morning set	673 May 22 j 13:32	23°♄31'59	
	670 Dec 01 j 17:17	0°♄			673 May 27 j 20:17	0°♄	
asc. node	670 Dec 21 j 12:32	17°♄17'21		asc. node	673 Jun 07 j 07:46	12°♄50'39	
greatest brilliancy	671 Jan 02 j 13:48	24°♄40'05	-4.7m		673 Jun 21 j 06:58	0°♄	
retrograde	671 Jan 15 j 20:26	27°♄56'40		max. Earth dist.	673 Jun 25 j 06:53	4°♄55'06	1.73451 AU
evening set	671 Feb 02 j 05:11	22°♄00'45					
min. Earth dist.	671 Feb 04 j 21:11	20°♄21'28	0.27662 AU	superior conj	673 Jun 27 j 22:01	8°♄09'24	0°46'14
inferior conj	671 Feb 05 j 17:47	19°♄49'04	8°30'29	minimum elong	673 Jun 27 j 14:07	7°♄45'05	0°45'54
minimum elong	671 Feb 05 j 13:05	19°♄56'27	8°30'09		673 Jul 15 j 15:06	0°♄	
morning rise	671 Feb 08 j 21:18	17°♄51'58		evening rise	673 Aug 02 j 17:48	22°♄24'13	
direct	671 Feb 26 j 12:25	11°♄54'23			673 Aug 08 j 21:02	0°♄	
greatest brilliancy	671 Mar 09 j 02:50	13°♄59'17	-4.6m		673 Sep 02 j 02:00	0°♄	
	671 Apr 02 j 20:32	0°♄			673 Sep 26 j 07:24	0°♄	
desc. node	671 Apr 12 j 02:01	8°♄13'30		desc. node	673 Sep 26 j 21:21	0°♄43'09	
morning max el	671 Apr 16 j 18:00	12°♄39'25	46°02'08		673 Oct 20 j 14:26	0°♄	
	671 May 03 j 20:43	0°♄			673 Nov 14 j 00:40	0°♄	
	671 May 31 j 06:24	0°♄			673 Dec 08 j 18:04	0°♄	
	671 Jun 26 j 08:57	0°♄			674 Jan 03 j 04:22	0°♄	
	671 Jul 21 j 17:19	0°♄		asc. node	674 Jan 18 j 00:24	16°♄44'56	
asc. node	671 Aug 03 j 05:23	15°♄03'24			674 Jan 30 j 08:51	0°♄	
	671 Aug 15 j 12:06	0°♄		evening max el	674 Feb 05 j 04:18	5°♄55'44	46°25'25
	671 Sep 08 j 20:19	0°♄			674 Mar 05 j 07:37	0°♄	
greatest brilliancy	671 Sep 27 j 20:27	23°♄41'33	-3.9m	greatest brilliancy	674 Mar 12 j 11:24	4°♄06'19	-4.5m
	671 Oct 02 j 21:20	0°♄		retrograde	674 Mar 27 j 02:12	7°♄56'15	
morning set	671 Oct 11 j 05:16	10°♄27'04		evening set	674 Apr 12 j 07:04	2°♄50'16	
	671 Oct 26 j 18:29	0°♄			674 Apr 16 j 22:30	30°♄	
	671 Nov 19 j 14:21	0°♄		inferior conj	674 Apr 17 j 11:32	29°♄39'25	4°53'41
superior conj	671 Nov 20 j 10:30	1°♄03'26	0°05'38	minimum elong	674 Apr 17 j 20:27	29°♄25'20	4°51'32
minimum elong	671 Nov 20 j 12:00	1°♄08'08	0°05'33	min. Earth dist.	674 Apr 17 j 14:49	29°♄34'14	0.28835 AU
behind sun begin	671 Nov 19 j 10:56	29°♄49'16		morning rise	674 Apr 23 j 09:59	26°♄02'47	
behind sun end	671 Nov 21 j 13:03	2°♄27'00		direct	674 May 08 j 22:01	21°♄23'02	
max. Earth dist.	671 Nov 20 j 23:39	1°♄44'50	1.71034 AU	desc. node	674 May 09 j 13:50	21°♄23'32	
desc. node	671 Nov 22 j 18:58	4°♄01'07		greatest brilliancy	674 May 21 j 18:14	24°♄16'47	-4.5m
	671 Dec 13 j 10:33	0°♄			674 Jun 01 j 04:33	0°♄	
evening rise	672 Jan 01 j 04:05	23°♄31'04		morning max el	674 Jun 26 j 16:24	21°♄05'31	45°44'48
	672 Jan 06 j 08:11	0°♄			674 Jul 05 j 17:57	0°♄	
	672 Jan 30 j 08:38	0°♄			674 Aug 02 j 18:29	0°♄	
	672 Feb 23 j 13:57	0°♄			674 Aug 28 j 19:34	0°♄	
asc. node	672 Mar 14 j 22:19	24°♄54'52		asc. node	674 Aug 30 j 17:24	2°♄15'26	
	672 Mar 19 j 02:49	0°♄			674 Sep 22 j 19:19	0°♄	
	672 Apr 13 j 02:33	0°♄			674 Oct 17 j 04:03	0°♄	
	672 May 08 j 18:32	0°♄			674 Nov 10 j 04:45	0°♄	
	672 Jun 04 j 14:51	0°♄		desc. node	674 Dec 04 j 02:12	0°♄	
evening max el	672 Jun 29 j 11:59	25°♄30'09	45°36'24	morning set	674 Dec 20 j 06:43	20°♄20'33	
	672 Jul 04 j 07:06	0°♄			674 Dec 26 j 07:13	27°♄54'20	
desc. node	672 Jul 04 j 11:32	0°♄			674 Dec 27 j 23:15	0°♄	
greatest brilliancy	672 Aug 06 j 08:54	23°♄11'40	-4.5m		675 Jan 20 j 21:20	0°♄	
retrograde	672 Aug 17 j 07:56	25°♄20'51		superior conj	675 Feb 05 j 20:06	19°♄56'49	-1°-23'-2
evening set	672 Sep 04 j 07:15	19°♄23'17		minimum elong	675 Feb 05 j 14:33	19°♄39'30	1°22'59
inferior conj	672 Sep 07 j 09:50	17°♄30'20	-8°-37'-52	max. Earth dist.	675 Feb 09 j 18:39	24°♄51'54	1.71890 AU

	675 Feb 13 j 21:29	0°♁			677 Jul 27 j 22:37	0°♁	
	675 Mar 10 j 00:44	0°♁		greatest brilliancy	677 Jul 31 j 21:53	1°♁37'42	-4.5m
evening rise	675 Mar 17 j 12:42	9°♁16'42		morning max el	677 Sep 05 j 04:04	28°♁55'11	46°11'49
	675 Apr 03 j 08:05	0°♁			677 Sep 06 j 06:25	0°♁	
asc. node	675 Apr 12 j 10:12	11°♁09'29		asc. node	677 Sep 27 j 05:11	22°♁01'31	
	675 Apr 27 j 20:10	0°♁			677 Oct 04 j 08:20	0°♁	
	675 May 22 j 13:38	0°♁			677 Oct 30 j 01:13	0°♁	
	675 Jun 16 j 14:00	0°♁			677 Nov 23 j 18:23	0°♁	
	675 Jul 12 j 00:52	0°♁			677 Dec 18 j 01:19	0°♁	
desc. node	675 Aug 01 j 23:28	24°♁04'01			678 Jan 11 j 04:42	0°♁	
	675 Aug 07 j 05:54	0°♁		desc. node	678 Jan 16 j 18:40	6°♁56'34	
	675 Sep 04 j 00:57	0°♁			678 Feb 04 j 07:40	0°♁	
evening max el	675 Sep 11 j 18:40	7°♁46'41	46°46'57		678 Feb 28 j 11:45	0°♁	
	675 Oct 07 j 11:29	0°♁		morning set	678 Mar 12 j 01:09	14°♁18'54	
greatest brilliancy	675 Oct 20 j 19:03	7°♁27'00	-4.7m		678 Mar 24 j 17:38	0°♁	
retrograde	675 Oct 31 j 22:09	9°♁45'15			678 Apr 18 j 01:34	0°♁	
evening set	675 Nov 15 j 07:06	5°♁39'01					
inferior conj	675 Nov 21 j 10:09	2°♁05'05	0°-26'-22	superior conj	678 Apr 18 j 23:44	1°♁08'12	0°-46'-56
minimum elong	675 Nov 21 j 11:10	2°♁03'33	0°26'03	minimum elong	678 Apr 19 j 08:21	1°♁34'45	0°46'36
min. Earth dist.	675 Nov 21 j 09:04	2°♁06'45	0.26372 AU	max. Earth dist.	678 Apr 20 j 19:16	3°♁22'09	1.73353 AU
asc. node	675 Nov 23 j 02:40	1°♁03'52		asc. node	678 May 09 j 22:00	26°♁52'00	
	675 Nov 24 j 21:50	30°♁			678 May 12 j 11:15	0°♁	
morning rise	675 Nov 27 j 15:14	28°♁29'00		evening rise	678 May 25 j 20:18	16°♁25'02	
direct	675 Dec 11 j 18:36	24°♁28'48			678 Jun 05 j 22:07	0°♁	
greatest brilliancy	675 Dec 23 j 18:55	27°♁11'43	-4.7m		678 Jun 30 j 10:02	0°♁	
	675 Dec 29 j 08:52	0°♁			678 Jul 24 j 23:44	0°♁	
morning max el	676 Jan 31 j 04:33	27°♁21'26	46°45'44		678 Aug 18 j 16:50	0°♁	
	676 Feb 02 j 19:21	0°♁		desc. node	678 Aug 29 j 11:27	13°♁00'13	
	676 Mar 01 j 14:55	0°♁			678 Sep 12 j 15:36	0°♁	
desc. node	676 Mar 13 j 16:25	13°♁41'17			678 Oct 08 j 00:00	0°♁	
	676 Mar 27 j 19:09	0°♁			678 Nov 03 j 04:32	0°♁	
	676 Apr 22 j 07:33	0°♁		evening max el	678 Nov 23 j 10:58	21°♁44'35	47°21'46
	676 May 17 j 11:38	0°♁			678 Dec 01 j 18:56	0°♁	
	676 Jun 11 j 09:35	0°♁		asc. node	678 Dec 20 j 14:39	15°♁58'46	
asc. node	676 Jul 04 j 19:37	28°♁28'41		greatest brilliancy	678 Dec 31 j 07:17	22°♁21'08	-4.7m
	676 Jul 06 j 01:30	0°♁		retrograde	679 Jan 13 j 10:46	25°♁34'34	
morning set	676 Jul 29 j 04:06	28°♁23'59		evening set	679 Jan 30 j 16:56	19°♁43'53	
	676 Jul 30 j 11:12	0°♁		min. Earth dist.	679 Feb 02 j 11:18	18°♁01'08	0.27597 AU
	676 Aug 23 j 15:28	0°♁		inferior conj	679 Feb 03 j 08:16	17°♁28'08	8°25'28
max. Earth dist.	676 Aug 31 j 14:37	9°♁55'39	1.72107 AU	minimum elong	679 Feb 03 j 02:49	17°♁36'42	8°25'00
				morning rise	679 Feb 06 j 12:59	15°♁29'08	
superior conj	676 Sep 04 j 01:03	14°♁12'54	1°23'42	direct	679 Feb 24 j 01:55	9°♁34'33	
minimum elong	676 Sep 04 j 04:01	14°♁22'08	1°23'42	greatest brilliancy	679 Mar 06 j 16:15	11°♁38'59	-4.6m
	676 Sep 16 j 16:05	0°♁			679 Apr 03 j 02:58	0°♁	
	676 Oct 10 j 15:01	0°♁		desc. node	679 Apr 11 j 04:06	7°♁19'55	
evening rise	676 Oct 12 j 18:31	2°♁41'20		morning max el	679 Apr 14 j 07:11	10°♁19'23	46°03'21
desc. node	676 Oct 24 j 09:12	17°♁14'20			679 May 03 j 14:38	0°♁	
	676 Nov 03 j 13:46	0°♁			679 May 30 j 20:48	0°♁	
	676 Nov 27 j 13:19	0°♁			679 Jun 25 j 21:45	0°♁	
	676 Dec 21 j 15:12	0°♁			679 Jul 21 j 05:17	0°♁	
	677 Jan 14 j 22:20	0°♁		asc. node	679 Aug 02 j 07:36	14°♁34'40	
	677 Feb 08 j 15:59	0°♁			679 Aug 14 j 23:36	0°♁	
asc. node	677 Feb 14 j 12:24	6°♁58'44			679 Sep 08 j 07:37	0°♁	
	677 Mar 06 j 05:09	0°♁		greatest brilliancy	679 Sep 29 j 12:25	26°♁26'36	-3.9m
	677 Apr 02 j 08:57	0°♁			679 Oct 02 j 08:34	0°♁	
evening max el	677 Apr 17 j 01:41	14°♁51'29	45°25'46	morning set	679 Oct 08 j 18:34	8°♁02'57	
	677 May 04 j 04:37	0°♁			679 Oct 26 j 05:42	0°♁	
greatest brilliancy	677 May 21 j 12:06	11°♁07'14	-4.5m				
retrograde	677 Jun 04 j 14:28	14°♁33'53		superior conj	679 Nov 17 j 20:39	28°♁28'56	0°09'35
desc. node	677 Jun 06 j 01:44	14°♁31'23		minimum elong	679 Nov 17 j 23:11	28°♁36'54	0°09'28
evening set	677 Jun 19 j 22:16	10°♁04'12		behind sun begin	679 Nov 17 j 01:26	27°♁28'26	
inferior conj	677 Jun 26 j 01:17	6°♁24'03	-4°-27'-55	behind sun end	679 Nov 18 j 20:56	29°♁45'22	
minimum elong	677 Jun 25 j 16:38	6°♁37'32	4°25'45	max. Earth dist.	679 Nov 18 j 02:12	28°♁46'23	1.71040 AU
min. Earth dist.	677 Jun 26 j 01:57	6°♁23'01	0.28931 AU		679 Nov 19 j 01:35	0°♁	
morning rise	677 Jul 01 j 10:54	3°♁08'00		desc. node	679 Nov 21 j 21:00	3°♁32'07	
	677 Jul 07 j 22:58	30°♁			679 Dec 12 j 21:49	0°♁	
direct	677 Jul 17 j 18:03	28°♁07'11		evening rise	679 Dec 29 j 14:08	20°♁56'44	

	680 Jan 05 j 19:29	0°≈			682 Aug 02 j 09:13	0°☉
	680 Jan 29 j 19:58	0°✠			682 Aug 28 j 08:32	0°♁
	680 Feb 23 j 01:25	0°♁		asc. node	682 Aug 29 j 19:24	1°♁43'12
asc. node	680 Mar 14 j 00:21	24°♁25'22			682 Sep 22 j 07:26	0°♁
	680 Mar 18 j 14:37	0°♁			682 Oct 16 j 15:44	0°♁
	680 Apr 12 j 15:03	0°♁			682 Nov 09 j 16:12	0°♁
	680 May 08 j 08:24	0°☉			682 Dec 03 j 13:32	0°♁
	680 Jun 04 j 07:43	0°♁		desc. node	682 Dec 19 j 08:52	19°♁51'57
evening max el	680 Jun 27 j 01:23	23°♁11'55	45°34'46	morning set	682 Dec 23 j 16:44	25°♁18'13
desc. node	680 Jul 03 j 13:44	29°♁15'35			682 Dec 27 j 10:29	0°☉
	680 Jul 04 j 09:29	0°♁			683 Jan 20 j 08:29	0°≈
greatest brilliancy	680 Aug 03 j 19:45	20°♁50'39	-4.5m			
retrograde	680 Aug 14 j 21:43	23°♁02'46		superior conj	683 Feb 03 j 07:27	17°≈27'39 -1°-22'-1
evening set	680 Sep 01 j 21:58	17°♁03'09		minimum elong	683 Feb 03 j 00:59	17°≈07'26 1°21'56
inferior conj	680 Sep 04 j 23:58	15°♁11'10	-8°-41'-12	max. Earth dist.	683 Feb 07 j 05:45	22°≈22'07 1.71839 AU
minimum elong	680 Sep 05 j 03:19	15°♁06'02	8°41'04		683 Feb 13 j 08:33	0°✠
min. Earth dist.	680 Sep 05 j 18:48	14°♁42'17	0.27904 AU		683 Mar 09 j 11:47	0°♁
morning rise	680 Sep 08 j 08:24	13°♁08'58		evening rise	683 Mar 15 j 02:44	6°♁57'38
direct	680 Sep 26 j 02:51	7°♁09'05			683 Apr 02 j 19:09	0°♁
greatest brilliancy	680 Oct 10 j 10:29	10°♁50'43	-4.6m	asc. node	683 Apr 11 j 12:14	10°♁41'42
asc. node	680 Oct 24 j 16:55	20°♁04'32			683 Apr 27 j 07:22	0°♁
	680 Nov 05 j 05:26	0°♁			683 May 22 j 01:10	0°☉
morning max el	680 Nov 15 j 18:33	10°♁18'06	46°51'30		683 Jun 16 j 02:13	0°♁
	680 Dec 04 j 03:26	0°♁			683 Jul 11 j 14:18	0°♁
	680 Dec 30 j 04:20	0°♁		desc. node	683 Aug 01 j 01:30	23°♁27'02
	681 Jan 24 j 06:54	0°☉			683 Aug 06 j 21:40	0°♁
desc. node	681 Feb 13 j 06:34	24°☉12'18			683 Sep 03 j 22:17	0°♁
	681 Feb 18 j 00:57	0°≈		evening max el	683 Sep 09 j 09:06	5°♁26'07 46°44'24
	681 Mar 14 j 15:45	0°✠			683 Oct 08 j 16:48	0°♁
	681 Apr 08 j 05:28	0°♁		greatest brilliancy	683 Oct 18 j 08:25	4°♁59'06 -4.6m
	681 May 02 j 18:45	0°♁		retrograde	683 Oct 29 j 10:36	7°♁15'29
morning set	681 May 20 j 07:55	21°♁27'47		evening set	683 Nov 12 j 20:26	3°♁08'17
	681 May 27 j 07:12	0°♁			683 Nov 18 j 06:16	30°♁
asc. node	681 Jun 06 j 09:54	12°♁23'49		inferior conj	683 Nov 18 j 22:13	29°♁35'46 0°-51'-2
	681 Jun 20 j 17:50	0°☉		minimum elong	683 Nov 19 j 00:10	29°♁32'48 0°50'26
max. Earth dist.	681 Jun 23 j 05:33	3°☉03'40	1.73481 AU	min. Earth dist.	683 Nov 18 j 22:25	29°♁35'28 0.26380 AU
				asc. node	683 Nov 22 j 04:48	27°♁38'03
superior conj	681 Jun 25 j 16:44	6°☉05'49	0°43'36	morning rise	683 Nov 25 j 03:56	25°♁58'52
minimum elong	681 Jun 25 j 09:07	5°☉42'21	0°43'16	direct	683 Dec 09 j 07:27	21°♁59'34
	681 Jul 15 j 02:01	0°♁		greatest brilliancy	683 Dec 21 j 08:22	24°♁43'19 -4.7m
evening rise	681 Jul 31 j 11:53	20°♁17'35			683 Dec 30 j 21:42	0°♁
	681 Aug 08 j 08:05	0°♁		morning max el	684 Jan 28 j 17:55	24°♁56'21 46°46'43
	681 Sep 01 j 13:18	0°♁			684 Feb 02 j 17:11	0°☉
	681 Sep 25 j 19:03	0°♁			684 Mar 01 j 06:59	0°≈
desc. node	681 Sep 25 j 23:19	0°♁13'12		desc. node	684 Mar 12 j 18:24	13°≈04'22
	681 Oct 20 j 02:32	0°♁			684 Mar 27 j 08:53	0°✠
	681 Nov 13 j 13:23	0°☉			684 Apr 21 j 20:03	0°♁
	681 Dec 08 j 07:43	0°≈			684 May 16 j 23:21	0°♁
	682 Jan 02 j 19:50	0°✠			684 Jun 10 j 20:48	0°♁
asc. node	682 Jan 17 j 02:36	16°✠03'03		asc. node	684 Jul 03 j 21:49	28°♁02'00
	682 Jan 30 j 05:04	0°♁			684 Jul 05 j 12:25	0°☉
evening max el	682 Feb 02 j 19:44	3°♁39'48	46°28'13	morning set	684 Jul 26 j 21:40	26°☉16'44
	682 Mar 06 j 13:29	0°♁			684 Jul 29 j 22:00	0°♁
greatest brilliancy	682 Mar 10 j 03:45	1°♁55'04	-4.6m		684 Aug 23 j 02:17	0°♁
retrograde	682 Mar 24 j 19:28	5°♁45'58		max. Earth dist.	684 Aug 29 j 03:16	7°♁31'42 1.72164 AU
evening set	682 Apr 10 j 02:04	0°♁35'56				
	682 Apr 11 j 02:25	30°♁		superior conj	684 Sep 01 j 17:13	11°♁59'45 1°24'09
inferior conj	682 Apr 15 j 03:56	27°♁28'49	5°09'55	minimum elong	684 Sep 01 j 19:26	12°♁06'38 1°24'09
minimum elong	682 Apr 15 j 13:07	27°♁14'21	5°07'46		684 Sep 16 j 03:00	0°♁
min. Earth dist.	682 Apr 15 j 06:37	27°♁24'36	0.28817 AU		684 Oct 10 j 02:05	0°♁
morning rise	682 Apr 21 j 00:22	23°♁55'24		evening rise	684 Oct 10 j 06:54	0°♁15'04
direct	682 May 06 j 14:13	19°♁12'45		desc. node	684 Oct 23 j 11:16	16°♁45'53
desc. node	682 May 08 j 15:48	19°♁17'42			684 Nov 03 j 01:00	0°♁
greatest brilliancy	682 May 19 j 08:51	22°♁05'33	-4.5m		684 Nov 27 j 00:45	0°☉
	682 Jun 02 j 00:25	0°♁			684 Dec 21 j 02:53	0°≈
morning max el	682 Jun 24 j 09:23	18°♁58'15	45°44'36		685 Jan 14 j 10:26	0°✠
	682 Jul 05 j 13:08	0°♁			685 Feb 08 j 04:49	0°♁

asc. node	685 Feb 13 j 14:25	6°♃25'54		687 Sep 07 j 18:34	0°♎	
	685 Mar 05 j 19:28	0°♄		greatest brilliancy	687 Oct 01 j 01:03	29°♎02'31 -3.9m
	685 Apr 02 j 03:01	0°♂			687 Oct 01 j 19:24	0°♌
evening max el	685 Apr 14 j 17:15	12°♂39'57	45°26'50	morning set	687 Oct 06 j 08:23	5°♌41'39
	685 May 04 j 15:56	0°♄			687 Oct 25 j 16:32	0°♌
greatest brilliancy	685 May 19 j 03:52	8°♄58'04	-4.5m			
retrograde	685 Jun 02 j 06:10	12°♄25'18		superior conj	687 Nov 15 j 07:06	25°♌56'30 0°13'29
desc. node	685 Jun 05 j 03:57	12°♄15'26		minimum elong	687 Nov 15 j 10:38	26°♌07'37 0°13'18
evening set	685 Jun 17 j 13:02	7°♄57'47		behind sun begin	687 Nov 14 j 19:11	25°♌18'58
inferior conj	685 Jun 23 j 17:37	4°♄15'23	-4°-10'-46	behind sun end	687 Nov 16 j 02:05	26°♌56'16
minimum elong	685 Jun 23 j 09:22	4°♄28'17	4°08'39	max. Earth dist.	687 Nov 15 j 09:22	26°♌03'37 1.71054 AU
min. Earth dist.	685 Jun 23 j 18:30	4°♄14'01	0.28936 AU		687 Nov 18 j 12:28	0°♄
morning rise	685 Jun 29 j 05:31	0°♄55'41		desc. node	687 Nov 20 j 23:10	3°♄04'45
	685 Jun 30 j 22:12	30°♂			687 Dec 12 j 08:46	0°♄
direct	685 Jul 15 j 10:08	25°♂58'28		evening rise	687 Dec 27 j 00:09	18°♄23'12
greatest brilliancy	685 Jul 29 j 12:36	29°♂26'35	-4.5m		688 Jan 05 j 06:30	0°♄
	685 Jul 30 j 16:39	0°♄			688 Jan 29 j 07:04	0°♄
morning max el	685 Sep 02 j 18:10	26°♄38'40	46°10'21		688 Feb 22 j 12:41	0°♃
	685 Sep 06 j 03:27	0°♂		asc. node	688 Mar 13 j 02:23	23°♃56'31
asc. node	685 Sep 26 j 07:15	21°♂22'01			688 Mar 18 j 02:13	0°♄
	685 Oct 03 j 23:42	0°♎			688 Apr 12 j 03:22	0°♂
	685 Oct 29 j 14:37	0°♌			688 May 07 j 22:08	0°♄
	685 Nov 23 j 06:49	0°♌			688 Jun 04 j 00:37	0°♂
	685 Dec 17 j 13:13	0°♄		evening max el	688 Jun 24 j 15:39	20°♂56'41 45°33'16
	686 Jan 10 j 16:14	0°♄		desc. node	688 Jul 02 j 15:47	28°♂20'14
desc. node	686 Jan 15 j 20:47	6°♄27'28			688 Jul 04 j 13:06	0°♎
	686 Feb 03 j 18:56	0°♄		greatest brilliancy	688 Aug 01 j 06:02	18°♎30'06 -4.5m
	686 Feb 27 j 22:46	0°♄		retrograde	688 Aug 12 j 11:57	20°♎45'39
morning set	686 Mar 09 j 15:10	11°♄59'58		evening set	688 Aug 30 j 12:21	14°♎44'34
	686 Mar 24 j 04:29	0°♃		inferior conj	688 Sep 02 j 14:04	12°♎53'01 -8°-43'-46
				minimum elong	688 Sep 02 j 16:35	12°♎49'11 8°43'42
superior conj	686 Apr 16 j 16:16	28°♃58'18	0°-49'-41	min. Earth dist.	688 Sep 03 j 08:05	12°♎25'26 0.27964 AU
minimum elong	686 Apr 17 j 01:12	29°♃25'48	0°49'20	morning rise	688 Sep 05 j 20:35	10°♎53'49
	686 Apr 17 j 12:19	0°♄		direct	688 Sep 23 j 17:50	4°♎50'01
max. Earth dist.	686 Apr 18 j 14:48	1°♄21'30	1.73317 AU	greatest brilliancy	688 Oct 08 j 02:41	8°♎33'27 -4.6m
asc. node	686 May 09 j 00:09	26°♄25'42		asc. node	688 Oct 23 j 19:01	18°♎54'38
	686 May 11 j 21:58	0°♂			688 Nov 05 j 07:50	0°♌
evening rise	686 May 23 j 14:46	14°♂21'23		morning max el	688 Nov 13 j 09:55	7°♌58'58 46°50'46
	686 Jun 05 j 08:56	0°♄			688 Dec 03 j 20:34	0°♌
	686 Jun 29 j 21:04	0°♂			688 Dec 29 j 18:35	0°♄
	686 Jul 24 j 11:09	0°♎			689 Jan 23 j 19:47	0°♄
	686 Aug 18 j 04:49	0°♌		desc. node	689 Feb 12 j 08:32	23°♄41'12
desc. node	686 Aug 28 j 13:27	12°♌29'06			689 Feb 17 j 13:01	0°♄
	686 Sep 12 j 04:30	0°♌			689 Mar 14 j 03:16	0°♄
	686 Oct 07 j 14:28	0°♄			689 Apr 07 j 16:35	0°♃
	686 Nov 02 j 22:05	0°♄			689 May 02 j 05:35	0°♄
evening max el	686 Nov 21 j 00:18	19°♄18'53	47°22'00	morning set	689 May 18 j 01:53	19°♄23'03
	686 Dec 01 j 21:51	0°♄			689 May 26 j 17:52	0°♂
asc. node	686 Dec 19 j 16:49	14°♄37'45		asc. node	689 Jun 05 j 12:01	11°♂57'46
greatest brilliancy	686 Dec 28 j 23:59	20°♄00'40	-4.7m		689 Jun 20 j 04:27	0°♄
retrograde	687 Jan 11 j 00:44	23°♄11'44		max. Earth dist.	689 Jun 21 j 04:55	1°♄15'15 1.73506 AU
evening set	687 Jan 28 j 03:57	17°♄26'29				
min. Earth dist.	687 Jan 31 j 01:11	15°♄39'36	0.27535 AU	superior conj	689 Jun 23 j 11:04	4°♄01'50 0°40'52
inferior conj	687 Jan 31 j 22:20	15°♄06'21	8°19'17	minimum elong	689 Jun 23 j 03:46	3°♄39'22 0°40'34
minimum elong	687 Jan 31 j 16:10	15°♄16'03	8°18'41		689 Jul 14 j 12:41	0°♂
morning rise	687 Feb 04 j 04:41	13°♄04'58		evening rise	689 Jul 29 j 05:50	18°♂11'20
direct	687 Feb 21 j 14:42	7°♄13'40			689 Aug 07 j 18:54	0°♎
greatest brilliancy	687 Mar 04 j 06:05	9°♄18'45	-4.6m		689 Sep 01 j 00:22	0°♌
	687 Apr 03 j 07:17	0°♄		desc. node	689 Sep 25 j 01:25	29°♌44'27
desc. node	687 Apr 10 j 06:10	6°♄27'44			689 Sep 25 j 06:27	0°♌
morning max el	687 Apr 11 j 20:26	7°♄59'49	46°04'45		689 Oct 19 j 14:21	0°♄
	687 May 03 j 07:55	0°♃			689 Nov 13 j 01:46	0°♄
	687 May 30 j 10:46	0°♄			689 Dec 07 j 21:03	0°♄
	687 Jun 25 j 10:11	0°♂			690 Jan 02 j 11:06	0°♄
	687 Jul 20 j 16:54	0°♄		asc. node	690 Jan 16 j 04:32	15°♄21'07
asc. node	687 Aug 01 j 09:33	14°♄06'07			690 Jan 30 j 01:34	0°♃
	687 Aug 14 j 10:47	0°♂		evening max el	690 Jan 31 j 11:51	1°♃26'25 46°30'43

greatest brilliancy	690 Mar 07 j 20:48	29°♃45'06	-4.6m		692 Jul 29 j 08:46	0°♈	
	690 Mar 08 j 09:11	0°♄			692 Aug 22 j 13:04	0°♁	
retrograde	690 Mar 22 j 12:30	3°♃35'25		max. Earth dist.	692 Aug 26 j 16:34	5°♁09'56	1.72221 AU
	690 Apr 04 j 21:25	30°♃					
evening set	690 Apr 07 j 20:59	28°♃21'29		superior conj	692 Aug 30 j 09:14	9°♁46'19	1°24'28
inferior conj	690 Apr 12 j 20:08	25°♃18'03	5°25'50	minimum elong	692 Aug 30 j 10:40	9°♁50'46	1°24'27
minimum elong	690 Apr 13 j 05:31	25°♃03'15	5°23'42		692 Sep 15 j 13:53	0°♄	
min. Earth dist.	690 Apr 12 j 22:04	25°♃15'00	0.28800 AU	evening rise	692 Oct 07 j 19:15	27°♄48'54	
morning rise	690 Apr 18 j 14:21	21°♃47'57			692 Oct 09 j 13:08	0°♃	
direct	690 May 04 j 06:33	17°♃02'27		desc. node	692 Oct 22 j 13:25	16°♃17'40	
desc. node	690 May 07 j 18:00	17°♃16'21			692 Nov 02 j 12:13	0°♂	
greatest brilliancy	690 May 16 j 22:23	19°♃53'01	-4.5m		692 Nov 26 j 12:12	0°♁	
	690 Jun 02 j 15:07	0°♄			692 Dec 20 j 14:35	0°♂	
morning max el	690 Jun 22 j 02:04	16°♃50'34	45°44'23		693 Jan 13 j 22:31	0°♂	
	690 Jul 05 j 07:40	0°♃			693 Feb 07 j 17:37	0°♃	
	690 Aug 01 j 23:34	0°♄		asc. node	693 Feb 12 j 16:30	5°♃53'28	
	690 Aug 27 j 21:12	0°♈			693 Mar 05 j 09:48	0°♄	
asc. node	690 Aug 28 j 21:28	1°♈11'56			693 Apr 01 j 21:22	0°♃	
	690 Sep 21 j 19:17	0°♁		evening max el	693 Apr 12 j 08:09	10°♃27'10	45°27'57
	690 Oct 16 j 03:11	0°♄			693 May 05 j 06:56	0°♄	
	690 Nov 09 j 03:26	0°♃		greatest brilliancy	693 May 16 j 18:22	6°♄47'37	-4.5m
	690 Dec 03 j 00:37	0°♂		retrograde	693 May 30 j 21:56	10°♄17'13	
desc. node	690 Dec 18 j 10:57	19°♂24'00		desc. node	693 Jun 04 j 05:57	9°♄55'10	
morning set	690 Dec 21 j 02:42	22°♂44'18		evening set	693 Jun 15 j 04:00	5°♄51'10	
	690 Dec 26 j 21:26	0°♁		inferior conj	693 Jun 21 j 10:02	2°♄06'58	-3°-53'-10
	691 Jan 19 j 19:19	0°♂		minimum elong	693 Jun 21 j 02:13	2°♄19'10	3°51'09
				min. Earth dist.	693 Jun 21 j 11:17	2°♄05'00	0.28948 AU
superior conj	691 Jan 31 j 19:04	15°♂00'09	-1°-20'-50		693 Jun 24 j 20:11	30°♃	
minimum elong	691 Jan 31 j 11:44	14°♂37'13	1°20'44	morning rise	693 Jun 27 j 00:11	28°♃43'48	
max. Earth dist.	691 Feb 04 j 19:37	20°♂01'48	1.71788 AU	direct	693 Jul 13 j 02:03	23°♃49'40	
	691 Feb 12 j 19:20	0°♂		greatest brilliancy	693 Jul 27 j 04:45	27°♃17'07	-4.5m
	691 Mar 08 j 22:34	0°♃			693 Aug 01 j 09:06	0°♄	
evening rise	691 Mar 12 j 16:50	4°♃39'27		morning max el	693 Aug 31 j 08:41	24°♄22'57	46°08'55
	691 Apr 02 j 06:00	0°♄			693 Sep 05 j 23:57	0°♈	
asc. node	691 Apr 10 j 14:23	10°♄14'53		asc. node	693 Sep 25 j 09:24	20°♈42'47	
	691 Apr 26 j 18:25	0°♃			693 Oct 03 j 15:01	0°♁	
	691 May 21 j 12:37	0°♄			693 Oct 29 j 04:01	0°♄	
	691 Jun 15 j 14:22	0°♈			693 Nov 22 j 19:18	0°♃	
	691 Jul 11 j 03:44	0°♁			693 Dec 17 j 01:10	0°♂	
desc. node	691 Jul 31 j 03:31	22°♁49'55		desc. node	694 Jan 10 j 03:49	0°♁	
	691 Aug 06 j 13:36	0°♄			694 Jan 14 j 22:42	5°♁57'33	
	691 Sep 03 j 20:20	0°♃			694 Feb 03 j 06:16	0°♂	
evening max el	691 Sep 06 j 22:54	3°♃04'19	46°41'46	morning set	694 Feb 27 j 09:53	0°♂	
	691 Oct 10 j 10:45	0°♂			694 Mar 07 j 05:14	9°♂40'43	
greatest brilliancy	691 Oct 15 j 22:38	2°♂32'23	-4.6m		694 Mar 23 j 15:24	0°♃	
retrograde	691 Oct 26 j 22:20	4°♂45'47					
evening set	691 Nov 10 j 09:54	0°♂37'26		superior conj	694 Apr 14 j 09:04	26°♃49'04	0°-52'-19
	691 Nov 11 j 13:13	30°♃		minimum elong	694 Apr 14 j 18:16	27°♃17'23	0°51'59
inferior conj	691 Nov 16 j 10:12	27°♃06'43	-1°-15'-45	max. Earth dist.	694 Apr 16 j 09:23	29°♃17'48	1.73277 AU
minimum elong	691 Nov 16 j 13:05	27°♃02'20	1°14'49		694 Apr 16 j 23:06	0°♄	
min. Earth dist.	691 Nov 16 j 12:05	27°♃03'52	0.26389 AU	asc. node	694 May 08 j 02:15	25°♂59'05	
asc. node	691 Nov 21 j 06:57	24°♃14'13			694 May 11 j 08:44	0°♃	
morning rise	691 Nov 22 j 16:15	23°♃29'04		evening rise	694 May 21 j 09:30	12°♃18'32	
direct	691 Dec 06 j 19:47	19°♃30'27			694 Jun 04 j 19:49	0°♄	
greatest brilliancy	691 Dec 18 j 22:14	22°♃15'29	-4.7m		694 Jun 29 j 08:14	0°♈	
	691 Dec 31 j 23:38	0°♂			694 Jul 23 j 22:45	0°♁	
morning max el	692 Jan 26 j 06:22	22°♂29'19	46°47'54		694 Aug 17 j 17:04	0°♄	
	692 Feb 02 j 14:01	0°♁		desc. node	694 Aug 27 j 15:32	11°♄57'26	
	692 Feb 29 j 22:34	0°♂			694 Sep 11 j 17:45	0°♃	
desc. node	692 Mar 11 j 20:33	12°♂28'55			694 Oct 07 j 05:21	0°♂	
	692 Mar 26 j 22:17	0°♂			694 Nov 02 j 16:17	0°♁	
	692 Apr 21 j 08:17	0°♃		evening max el	694 Nov 18 j 13:41	16°♁52'46	47°22'19
	692 May 16 j 10:54	0°♄			694 Dec 02 j 02:47	0°♂	
	692 Jun 10 j 07:56	0°♃		asc. node	694 Dec 18 j 18:46	13°♂13'01	
asc. node	692 Jul 02 j 23:47	27°♃34'44		greatest brilliancy	694 Dec 26 j 15:43	17°♂38'05	-4.7m
	692 Jul 04 j 23:18	0°♄		retrograde	695 Jan 08 j 15:02	20°♂48'08	
morning set	692 Jul 24 j 14:58	24°♄08'47		evening set	695 Jan 25 j 14:38	15°♂08'15	

min. Earth dist.	695 Jan 28 j 14:52	13°♊17'15	0.27472 AU		697 Jul 13 j 23:36	0°♋	
inferior conj	695 Jan 29 j 12:21	12°♊43'35	8°12'10	evening rise	697 Jul 27 j 00:13	16°♋05'47	
minimum elong	695 Jan 29 j 05:29	12°♊54'20	8°11'26		697 Aug 07 j 05:59	0°♌	
morning rise	695 Feb 01 j 20:36	10°♊39'34			697 Aug 31 j 11:43	0°♌	
direct	695 Feb 19 j 03:29	4°♊51'37		desc. node	697 Sep 24 j 03:34	29°♌14'50	
greatest brilliancy	695 Mar 01 j 19:57	6°♊57'45	-4.6m		697 Sep 24 j 18:12	0°♌	
	695 Apr 03 j 10:09	0°♋			697 Oct 19 j 02:36	0°♍	
morning max el	695 Apr 09 j 10:44	5°♋42'03	46°06'21		697 Nov 12 j 14:41	0°♍	
desc. node	695 Apr 09 j 08:17	5°♋36'08			697 Dec 07 j 11:01	0°♍	
	695 May 03 j 01:00	0°♎			698 Jan 02 j 03:08	0°♎	
	695 May 30 j 00:44	0°♎		asc. node	698 Jan 15 j 06:39	14°♎37'41	
	695 Jun 24 j 22:42	0°♏		evening max el	698 Jan 29 j 03:59	29°♎11'26	46°33'21
	695 Jul 20 j 04:39	0°♏			698 Jan 29 j 23:23	0°♏	
asc. node	695 Jul 31 j 11:39	13°♏37'35		greatest brilliancy	698 Mar 05 j 14:55	27°♏35'06	-4.6m
	695 Aug 13 j 22:09	0°♐			698 Mar 11 j 14:57	0°♐	
	695 Sep 07 j 05:46	0°♐		retrograde	698 Mar 20 j 05:12	1°♐23'20	
	695 Oct 01 j 06:33	0°♑			698 Mar 28 j 11:00	30°♑	
greatest brilliancy	695 Oct 02 j 16:58	1°♑47'51	-3.9m	evening set	698 Apr 05 j 15:58	26°♑05'45	
morning set	695 Oct 03 j 22:09	3°♑19'19		inferior conj	698 Apr 10 j 12:20	23°♑06'01	5°41'17
	695 Oct 25 j 03:41	0°♒		minimum elong	698 Apr 10 j 21:51	22°♑50'58	5°39'11
				min. Earth dist.	698 Apr 10 j 13:36	23°♑04'01	0.28776 AU
superior conj	695 Nov 12 j 17:20	23°♒22'20	0°17'23	morning rise	698 Apr 16 j 04:06	19°♑39'16	
minimum elong	695 Nov 12 j 21:50	23°♒36'29	0°17'09	direct	698 May 01 j 22:49	14°♑51'03	
max. Earth dist.	695 Nov 12 j 18:07	23°♒24'47	1.71066 AU	desc. node	698 May 06 j 20:03	15°♑18'14	
	695 Nov 17 j 23:40	0°♓		greatest brilliancy	698 May 14 j 10:57	17°♑38'08	-4.5m
desc. node	695 Nov 20 j 01:11	2°♓35'49			698 Jun 03 j 02:32	0°♓	
	695 Dec 11 j 20:02	0°♓		morning max el	698 Jun 19 j 18:11	14°♓40'37	45°44'19
evening rise	695 Dec 24 j 09:58	15°♓48'06			698 Jul 05 j 02:03	0°♔	
	696 Jan 04 j 17:48	0°♔			698 Aug 01 j 14:01	0°♔	
	696 Jan 28 j 18:27	0°♔			698 Aug 27 j 10:01	0°♔	
	696 Feb 22 j 00:15	0°♕		asc. node	698 Aug 27 j 23:37	0°♔40'23	
asc. node	696 Mar 12 j 04:32	23°♕27'04			698 Sep 21 j 07:19	0°♕	
	696 Mar 17 j 14:10	0°♖			698 Oct 15 j 14:50	0°♕	
	696 Apr 11 j 16:02	0°♖			698 Nov 08 j 14:56	0°♖	
	696 May 07 j 12:14	0°♗			698 Dec 02 j 12:02	0°♖	
	696 Jun 03 j 18:04	0°♗		desc. node	698 Dec 17 j 12:56	18°♖54'33	
evening max el	696 Jun 22 j 06:56	18°♗43'38	45°31'51	morning set	698 Dec 18 j 12:20	20°♖08'06	
desc. node	696 Jul 01 j 17:46	27°♗23'17			698 Dec 26 j 08:46	0°♗	
	696 Jul 04 j 18:44	0°♘			699 Jan 19 j 06:35	0°♗	
greatest brilliancy	696 Jul 29 j 16:21	16°♘09'44	-4.5m				
retrograde	696 Aug 10 j 02:16	18°♘28'31		superior conj	699 Jan 29 j 06:00	12°♘29'07	-1°-19'-28
evening set	696 Aug 28 j 02:31	12°♘26'49		minimum elong	699 Jan 28 j 21:52	12°♘03'40	1°19'20
inferior conj	696 Aug 31 j 04:24	10°♘34'53	-8°-45'-18	max. Earth dist.	699 Feb 02 j 07:55	17°♘35'10	1.71734 AU
minimum elong	696 Aug 31 j 06:04	10°♘32'19	8°45'16		699 Feb 12 j 06:32	0°♙	
min. Earth dist.	696 Aug 31 j 21:19	10°♘08'56	0.28028 AU		699 Mar 08 j 09:44	0°♙	
morning rise	696 Sep 03 j 09:25	8°♘37'53		evening rise	699 Mar 10 j 06:11	2°♙17'40	
direct	696 Sep 21 j 09:30	2°♘31'02			699 Apr 01 j 17:13	0°♙	
greatest brilliancy	696 Oct 05 j 18:12	6°♘14'47	-4.6m	asc. node	699 Apr 09 j 16:25	9°♙46'36	
asc. node	696 Oct 22 j 21:07	17°♘45'43			699 Apr 26 j 05:49	0°♚	
	696 Nov 05 j 09:21	0°♛			699 May 21 j 00:25	0°♚	
morning max el	696 Nov 11 j 01:32	5°♛39'20	46°49'43		699 Jun 15 j 02:54	0°♛	
	696 Dec 03 j 13:52	0°♜			699 Jul 10 j 17:34	0°♜	
	696 Dec 29 j 09:10	0°♜		desc. node	699 Jul 30 j 05:41	22°♜12'23	
	697 Jan 23 j 09:01	0°♝			699 Aug 06 j 06:00	0°♝	
desc. node	697 Feb 11 j 10:43	23°♝09'44			699 Sep 03 j 19:25	0°♞	
	697 Feb 17 j 01:25	0°♞		evening max el	699 Sep 04 j 11:57	0°♞40'31	46°39'11
	697 Mar 13 j 15:05	0°♟			699 Oct 13 j 06:41	0°♟	
	697 Apr 07 j 04:00	0°♞		greatest brilliancy	699 Oct 13 j 13:10	0°♟06'15	-4.6m
	697 May 01 j 16:44	0°♠		retrograde	699 Oct 24 j 09:45	2°♠16'38	
morning set	697 May 15 j 20:03	17°♠18'01			699 Nov 04 j 01:20	30°♠	
	697 May 26 j 04:51	0°♡		evening set	699 Nov 07 j 23:43	28°♠06'34	
asc. node	697 Jun 04 j 14:00	11°♡30'20		inferior conj	699 Nov 13 j 22:27	24°♠38'06	-1°-39'-55
max. Earth dist.	697 Jun 19 j 03:53	29°♡24'44	1.73523 AU	minimum elong	699 Nov 14 j 02:14	24°♠32'20	1°38'43
	697 Jun 19 j 15:21	0°♢		min. Earth dist.	699 Nov 14 j 02:13	24°♠32'21	0.26409 AU
				morning rise	699 Nov 20 j 04:33	20°♠59'54	
superior conj	697 Jun 21 j 05:44	1°♢58'04	0°38'07	asc. node	699 Nov 20 j 08:53	20°♠54'14	
minimum elong	697 Jun 20 j 22:48	1°♢36'45	0°37'49	direct	699 Dec 04 j 07:55	17°♠01'21	

greatest brilliancy	699 Dec 16 j 13:19	19°♍48'52	-4.7m
	700 Jan 01 j 18:58	0°♁	
morning max el	700 Jan 23 j 18:38	20°♁00'38	46°48'49
	700 Feb 02 j 10:34	0°♁	
	700 Feb 29 j 14:21	0°♁	
desc. node	700 Mar 10 j 22:38	11°♁52'20	
	700 Mar 26 j 11:59	0°♁	
	700 Apr 20 j 20:49	0°♁	
	700 May 15 j 22:42	0°♁	
	700 Jun 09 j 19:16	0°♁	
asc. node	700 Jul 02 j 01:51	27°♁07'12	
	700 Jul 04 j 10:22	0°♁	
morning set	700 Jul 22 j 08:21	22°♁00'33	
	700 Jul 28 j 19:44	0°♁	
	700 Aug 22 j 00:02	0°♁	