direct	9600 Mar	10	22:03	4°♒39'24	
evening set	9600 Jun	06	05:29	6°♒33'36	
conjunction	9600 Jun	21	16:16	7°♒08'34	-0°52'00
minimum elong	9600 Jun	21	16:16	7°♒08'34	0°52'21
max. Earth dist.	9600 Jun	22	03:01	7°♒09'36	30.92780 AU
morning rise	9600 Jul	07	04:42	7°♒43'44	
retrograde	9600 Oct	05	04:55	9°♒41'19	
opposition	9600 Dec	24	10:42	8°♒17'06	-0°56'13
min. Earth dist.	9600 Dec	24	00:30	8°♒17'48	28.92436 AU
direct	9601 Mar	13	11:24	6°♒53'41	
evening set	9601 Jun	08	16:38	8°♒47'53	
conjunction	9601 Jun	24	03:31	9°♒22'53	-0°53'06
minimum elong	9601 Jun	24	03:31	9°♒22'53	0°53'27
max. Earth dist.	9601 Jun	24	14:02	9°♒23'53	30.92021 AU
morning rise	9601 Jul	09	16:18	9°♒58'04	
retrograde	9601 Oct	07	19:42	11°♒55'45	
opposition	9601 Dec	26	23:49	10°♒31'31	-0°57'20
min. Earth dist.	9601 Dec	26	12:33	10°♒32'17	28.91641 AU
direct	9602 Mar	15	23:44	9°♒08'06	
evening set	9602 Jun	11	03:51	11°♒02'18	
conjunction	9602 Jun	26	14:58	11°♒37'20	-0°54'06
minimum elong	9602 Jun	26	14:58	11°♒37'20	0°54'27
max. Earth dist.	9602 Jun	27	01:57	11°♒38'22	30.91165 AU
morning rise	9602 Jul	12	03:58	12°♒12'32	
retrograde	9602 Oct	10	07:08	14°♒10'20	
opposition	9602 Dec	29	13:14	12°♒46'02	-0°58'23
min. Earth dist.	9602 Dec	29	02:44	12°♒46'46	28.90736 AU
direct	9603 Mar	18	11:28	11°♒22'38	
evening set	9603 Jun	13	14:59	13°♒16'48	
conjunction	9603 Jun	29	02:21	13°♒51'50	-0°55'02
minimum elong	9603 Jun	29	02:21	13°♒51'50	0°55'24
max. Earth dist.	9603 Jun	29	13:45	13°♒52'55	30.90211 AU
morning rise	9603 Jul	14	15:37	14°♒27'04	
retrograde	9603 Oct	12	19:13	16°♒24'56	
opposition	9604 Jan	01	02:29	15°♒00'34	-0°59'20
min. Earth dist.	9603 Dec	31	14:40	15°♒01'23	28.89727 AU
direct	9604 Mar	20	00:02	13°♒37'07	
evening set	9604 Jun	15	02:15	15°♒31'15	
conjunction	9604 Jun	30	13:46	16°♒06'18	-0°55'53
minimum elong	9604 Jun	30	13:46	16°♒06'18	0°56'14
max. Earth dist.	9604 Jul	01	00:59	16°♒07'22	30.89161 AU
morning rise	9604 Jul	16	03:26	16°♒41'34	
retrograde	9604 Oct	14	07:34	18°♒39'29	
opposition	9605 Jan	02	15:48	17°♒15'02	-1°00'11
min. Earth dist.	9605 Jan	02	04:36	17°♒15'48	28.88662 AU
direct	9605 Mar	22	10:07	15°♒51'32	
evening set	9605 Jun	17	13:19	17°♒45'37	
conjunction	9605 Jul	03	01:14	18°♒20'41	-0°56'39
minimum elong	9605 Jul	03	01:14	18°♒20'41	0°57'00
max. Earth dist.	9605 Jul	03	13:42	18°♒21'52	30.88091 AU
morning rise	9605 Jul	18	15:07	18°♒55'58	
retrograde	9605 Oct	16	19:53	20°♒53'55	
opposition	9606 Jan	05	04:53	19°♒29'22	-1°00'58
min. Earth dist.	9606 Jan	04	16:22	19°♒30'14	28.87594 AU
direct	9606 Mar	24	23:01	18°♒05'49	
evening set	9606 Jun	20	00:37	19°♒59'51	
conjunction	9606 Jul	05	12:36	20°♒34'56	-0°57'20
minimum elong	9606 Jul	05	12:35	20°♒34'56	0°57'39
max. Earth dist.	9606 Jul	06	00:40	20°♒36'05	30.87048 AU
morning rise	9606 Jul	21	02:55	21°♒10'15	
retrograde	9606 Oct	19	09:23	23°♒08'15	
opposition	9607 Jan	07	17:57	21°♒43'37	-1°01'39
min. Earth dist.	9607 Jan	07	05:24	21°♒44'28	28.86604 AU
direct	9607 Mar	27	09:56	20°♒20'01	
evening set	9607 Jun	22	11:45	22°♒14'01	
conjunction	9607 Jul	08	00:09	22°♒49'07	-0°57'55
minimum elong	9607 Jul	08	00:09	22°♒49'07	0°58'16
max. Earth dist.	9607 Jul	08	14:03	22°♒50'26	30.86107 AU
morning rise	9607 Jul	23	14:37	23°♒24'26	
retrograde	9607 Oct	21	21:54	25°♒22'30	
opposition	9608 Jan	10	07:01	23°♒57'47	-1°02'14
min. Earth dist.	9608 Jan	09	17:35	23°♒58'43	28.85726 AU
direct	9608 Mar	28	22:41	22°♒34'09	
evening set	9608 Jun	23	22:57	24°♒28'08	
conjunction	9608 Jul	09	11:29	25°♒03'15	-0°58'26
minimum elong	9608 Jul	09	11:29	25°♒03'15	0°58'45
max. Earth dist.	9608 Jul	10	01:06	25°♒04'33	30.85305 AU
morning rise	9608 Jul	25	02:27	25°♒38'36	
retrograde	9608 Oct	23	12:14	27°♒36'44	
opposition	9609 Jan	11	20:05	26°♒11'57	-1°02'44
min. Earth dist.	9609 Jan	11	05:47	26°♒12'56	28.85001 AU
direct	9609 Mar	31	09:29	24°♒48'18	
evening set	9609 Jun	26	10:13	26°♒42'17	
conjunction	9609 Jul	11	23:10	27°♒17'26	-0°58'51
minimum elong	9609 Jul	11	23:10	27°♒17'26	0°59'11
max. Earth dist.	9609 Jul	12	14:17	27°♒18'52	30.84641 AU
morning rise	9609 Jul	27	14:21	27°♒52'48	
retrograde	9609 Oct	26	01:05	29°♒50'59	
opposition	9610 Jan	14	08:58	28°♒26'11	-1°03'08
min. Earth dist.	9610 Jan	13	18:34	28°♒27'10	28.84408 AU
direct	9610 Apr	02	22:45	27°♒02'33	
evening set	9610 Jun	28	21:37	28°♒56'31	
conjunction	9610 Jul	14	10:49	29°♒31'41	-0°59'11
minimum elong	9610 Jul	14	10:49	29°♒31'41	0°59'30
max. Earth dist.	9610 Jul	15	01:54	29°♒33'07	30.84123 AU
	9610 Jul	26	22:08	0°♌	
morning rise	9610 Jul	30	02:26	0°♌07'06	
retrograde	9610 Oct	28	16:14	2°♌05'20	
opposition	9611 Jan	16	21:54	0°♌40'31	-1°03'27
min. Earth dist.	9611 Jan	16	06:09	0°♌41'37	28.83948 AU
	9611 Feb	11	08:21	30°℞♒	
direct	9611 Apr	05	10:59	29°♒16'54	
	9611 May	26	07:37	0°♌	
evening set	9611 Jul	01	08:57	1°♌10'54	
conjunction	9611 Jul	16	22:26	1°♌46'06	-0°59'25
minimum elong	9611 Jul	16	22:26	1°♌46'06	0°59'45
max. Earth dist.	9611 Jul	17	14:26	1°♌47'37	30.83705 AU
morning rise	9611 Aug	01	14:23	2°♌21'32	
retrograde	9611 Oct	31	04:15	4°♌19'52	
opposition	9612 Jan	19	11:01	2°♌55'03	-1°03'39
min. Earth dist.	9612 Jan	18	19:47	2°♌56'06	28.83577 AU
direct	9612 Apr	06	22:35	1°♌31'28	
evening set	9612 Jul	02	20:31	3°♌25'28	
conjunction	9612 Jul	18	10:23	4°♌00'42	-0°59'34
minimum elong	9612 Jul	18	10:23	4°♌00'42	0°59'53
max. Earth dist.	9612 Jul	19	02:57	4°♌02'16	30.83377 AU
morning rise	9612 Aug	03	02:40	4°♌36'10	

retrograde	9612 Nov 01	17:45	6°♌34'34	
opposition	9613 Jan 20	23:54	5°♌09'46	-1°03'46
min. Earth dist.	9613 Jan 20	07:25	5°♌10'55	28.83264 AU
direct	9613 Apr 09	10:47	3°♌46'14	
evening set	9613 Jul 05	08:16	5°♌40'15	
conjunction	9613 Jul 20	22:22	6°♌15'31	-0°59'38
minimum elong	9613 Jul 20	22:22	6°♌15'31	0°59'56
max. Earth dist.	9613 Jul 21	14:42	6°♌17'04	30.83060 AU
morning rise	9613 Aug 05	15:07	6°♌51'01	
retrograde	9613 Nov 04	07:00	8°♌49'30	
opposition	9614 Jan 23	13:00	7°♌24'42	-1°03'46
min. Earth dist.	9614 Jan 22	21:23	7°♌25'47	28.82943 AU
direct	9614 Apr 11	20:46	6°♌01'12	
evening set	9614 Jul 07	20:03	7°♌55'14	
conjunction	9614 Jul 23	10:36	8°♌30'32	-0°59'36
minimum elong	9614 Jul 23	10:36	8°♌30'32	0°59'53
max. Earth dist.	9614 Jul 24	03:44	8°♌32'09	30.82711 AU
morning rise	9614 Aug 08	03:35	9°♌06'04	
retrograde	9614 Nov 06	19:42	11°♌04'37	
min. Earth dist.	9615 Jan 25	09:24	9°♌40'58	28.82551 AU
opposition	9615 Jan 26	01:55	9°♌39'49	-1°03'41
direct	9615 Apr 14	09:26	8°♌16'19	
evening set	9615 Jul 10	08:06	10°♌10'23	
conjunction	9615 Jul 25	22:50	10°♌45'41	-0°59'28
minimum elong	9615 Jul 25	22:50	10°♌45'41	0°59'46
max. Earth dist.	9615 Jul 26	14:58	10°♌47'13	30.82278 AU
morning rise	9615 Aug 10	16:21	11°♌21'15	
retrograde	9615 Nov 09	09:16	13°♌19'51	
opposition	9616 Jan 28	15:04	11°♌55'02	-1°03'30
min. Earth dist.	9616 Jan 27	23:07	11°♌56'08	28.82081 AU
direct	9616 Apr 15	19:55	10°♌31'31	
evening set	9616 Jul 11	19:53	12°♌25'34	
conjunction	9616 Jul 27	11:12	13°♌00'54	-0°59'16
minimum elong	9616 Jul 27	11:12	13°♌00'54	0°59'32
max. Earth dist.	9616 Jul 28	04:29	13°♌02'32	30.81764 AU
morning rise	9616 Aug 12	04:58	13°♌36'29	
	9616 Sep 25	04:07	15°♌	
retrograde	9616 Nov 10	21:48	15°♌35'07	
	9616 Dec 29	05:13	15°℞♌	
min. Earth dist.	9617 Jan 29	11:50	14°♌11'22	28.81524 AU
opposition	9617 Jan 30	04:02	14°♌10'15	-1°03'14
direct	9617 Apr 18	08:18	12°♌46'42	
evening set	9617 Jul 14	07:58	14°♌40'44	
	9617 Jul 22	21:52	15°♌	
conjunction	9617 Jul 29	23:30	15°♌16'05	-0°58'57
minimum elong	9617 Jul 29	23:31	15°♌16'05	0°59'14
max. Earth dist.	9617 Jul 30	15:50	15°♌17'38	30.81196 AU
morning rise	9617 Aug 14	17:51	15°♌51'42	
retrograde	9617 Nov 13	12:14	17°♌50'20	
opposition	9618 Feb 01	16:47	16°♌25'25	-1°02'51
min. Earth dist.	9618 Feb 01	00:27	16°♌26'33	28.80954 AU
direct	9618 Apr 20	19:04	15°♌01'49	
evening set	9618 Jul 16	19:54	16°♌55'50	
conjunction	9618 Aug 01	11:55	17°♌31'13	-0°58'34
minimum elong	9618 Aug 01	11:55	17°♌31'13	0°58'49
max. Earth dist.	9618 Aug 02	05:22	17°♌32'52	30.80628 AU
morning rise	9618 Aug 17	06:31	18°♌06'51	
retrograde	9618 Nov 16	01:26	20°♌05'29	
opposition	9619 Feb 04	05:36	18°♌40'30	-1°02'23
min. Earth dist.	9619 Feb 03	13:26	18°♌41'38	28.80412 AU
direct	9619 Apr 23	08:51	17°♌16'53	
evening set	9619 Jul 19	07:47	19°♌10'52	
conjunction	9619 Aug 04	00:06	19°♌46'16	-0°58'05
minimum elong	9619 Aug 04	00:06	19°♌46'16	0°58'20
max. Earth dist.	9619 Aug 04	17:16	19°♌47'53	30.80136 AU
morning rise	9619 Aug 19	19:11	20°♌21'55	
retrograde	9619 Nov 18	16:20	22°♌20'33	
opposition	9620 Feb 06	18:20	20°♌55'31	-1°01'50
min. Earth dist.	9620 Feb 06	01:04	20°♌56'43	28.79973 AU
direct	9620 Apr 24	21:27	19°♌31'51	
evening set	9620 Jul 20	19:48	21°♌25'50	
conjunction	9620 Aug 05	12:31	22°♌01'15	-0°57'31
minimum elong	9620 Aug 05	12:31	22°♌01'15	0°57'45
max. Earth dist.	9620 Aug 06	06:25	22°♌02'57	30.79748 AU
morning rise	9620 Aug 21	07:59	22°♌36'56	
retrograde	9620 Nov 20	04:37	24°♌35'34	
opposition	9621 Feb 08	06:59	23°♌10'30	-1°01'10
min. Earth dist.	9621 Feb 07	14:20	23°♌11'40	28.79657 AU
direct	9621 Apr 27	09:18	21°♌46'49	
evening set	9621 Jul 23	07:49	23°♌40'47	
conjunction	9621 Aug 08	01:00	24°♌16'14	-0°56'52
minimum elong	9621 Aug 08	01:00	24°♌16'14	0°57'06
max. Earth dist.	9621 Aug 08	19:20	24°♌17'58	30.79509 AU
morning rise	9621 Aug 23	20:51	24°♌51'56	
retrograde	9621 Nov 22	19:02	26°♌50'34	
opposition	9622 Feb 10	19:30	25°♌25'29	-1°00'25
min. Earth dist.	9622 Feb 10	01:33	25°♌26'44	28.79483 AU
direct	9622 Apr 29	22:30	24°♌01'47	
evening set	9622 Jul 25	19:57	25°♌55'45	
conjunction	9622 Aug 10	13:24	26°♌31'13	-0°56'07
minimum elong	9622 Aug 10	13:24	26°♌31'13	0°56'20
max. Earth dist.	9622 Aug 11	07:39	26°♌32'57	30.79398 AU
morning rise	9622 Aug 26	09:42	27°♌06'57	
retrograde	9622 Nov 25	08:28	29°♌05'35	
opposition	9623 Feb 13	08:09	27°♌40'30	-0°59'35
min. Earth dist.	9623 Feb 12	14:53	27°♌41'42	28.79448 AU
direct	9623 May 02	09:29	26°♌16'49	
evening set	9623 Jul 28	08:01	28°♌10'46	
conjunction	9623 Aug 13	02:02	28°♌46'16	-0°55'17
minimum elong	9623 Aug 13	02:02	28°♌46'16	0°55'30
max. Earth dist.	9623 Aug 13	21:18	28°♌48'05	30.79435 AU
morning rise	9623 Aug 28	22:38	29°♌22'02	
	9623 Sep 15	20:56	0°♍	
retrograde	9623 Nov 27	20:34	1°♍20'40	
	9624 Feb 13	05:34	30°℞♌	
opposition	9624 Feb 15	20:39	29°♌55'36	-0°58'38
min. Earth dist.	9624 Feb 15	02:15	29°♌56'53	28.79535 AU
direct	9624 May 03	22:09	28°♌31'56	
	9624 Jul 17	19:22	0°♍	
evening set	9624 Jul 29	20:19	0°♍25'53	
conjunction	9624 Aug 14	14:35	1°♍01'24	-0°54'22
minimum elong	9624 Aug 14	14:35	1°♍01'25	0°54'33
max. Earth dist.	9624 Aug 15	09:06	1°♍03'10	30.79573 AU
morning rise	9624 Aug 30	11:47	1°♍37'12	
retrograde	9624 Nov 29	09:37	3°♍35'51	
opposition	9625 Feb 17	09:17	2°♍10'48	-0°57'37
min. Earth dist.	9625 Feb 16	15:29	2°♍12'03	28.79712 AU
direct	9625 May 06	08:10	0°♍47'09	
evening set	9625 Aug 01	08:42	2°♍41'08	
conjunction	9625 Aug 17	03:32	3°♍16'41	-0°53'22
minimum elong	9625 Aug 17	03:32	3°♍16'41	0°53'33

max. Earth dist.	9625 Aug 17 23:08	3°♑18'32	30.79767 AU
morning rise	9625 Sep 02 00:56	3°♑52'29	
retrograde	9625 Dec 01 22:04	5°♑51'08	
opposition	9626 Feb 19 21:39	4°♑26'07	-0°56'29
min. Earth dist.	9626 Feb 19 03:44	4°♑27'23	28.79903 AU
direct	9626 May 08 19:48	3°♑02'30	
evening set	9626 Aug 03 21:21	4°♑56'30	
conjunction	9626 Aug 19 16:26	5°♑32'04	-0°52'16
minimum elong	9626 Aug 19 16:26	5°♑32'04	0°52'26
max. Earth dist.	9626 Aug 20 10:48	5°♑33'48	30.79953 AU
morning rise	9626 Sep 04 14:23	6°♑07'54	
retrograde	9626 Dec 04 12:16	8°♑06'34	
opposition	9627 Feb 22 10:14	6°♑41'33	-0°55'17
min. Earth dist.	9627 Feb 21 16:34	6°♑42'48	28.80068 AU
direct	9627 May 11 06:32	5°♑17'56	
evening set	9627 Aug 06 09:53	7°♑11'57	
conjunction	9627 Aug 22 05:29	7°♑47'32	-0°51'06
minimum elong	9627 Aug 22 05:29	7°♑47'32	0°51'16
max. Earth dist.	9627 Aug 23 00:30	7°♑49'20	30.80070 AU
morning rise	9627 Sep 07 03:41	8°♑23'24	
retrograde	9627 Dec 07 00:47	10°♑22'02	
opposition	9628 Feb 24 22:50	8°♑57'02	-0°53'59
min. Earth dist.	9628 Feb 24 05:50	8°♑58'13	28.80134 AU
direct	9628 May 12 19:23	7°♑33'24	
evening set	9628 Aug 07 22:40	9°♑27'25	
conjunction	9628 Aug 23 18:38	10°♑03'01	-0°49'52
minimum elong	9628 Aug 23 18:38	10°♑03'01	0°50'01
max. Earth dist.	9628 Aug 24 12:28	10°♑04'42	30.80097 AU
morning rise	9628 Sep 08 17:21	10°♑38'54	
retrograde	9628 Dec 08 15:28	12°♑37'30	
opposition	9629 Feb 26 11:09	11°♑12'28	-0°52'37
min. Earth dist.	9629 Feb 25 17:51	11°♑13'41	28.80111 AU
direct	9629 May 15 07:27	9°♑48'47	
evening set	9629 Aug 10 11:27	11°♑42'48	
conjunction	9629 Aug 26 07:52	12°♑18'26	-0°48'32
minimum elong	9629 Aug 26 07:52	12°♑18'26	0°48'41
max. Earth dist.	9629 Aug 27 01:44	12°♑20'07	30.80028 AU
morning rise	9629 Sep 11 06:56	12°♑54'19	
retrograde	9629 Dec 11 04:08	14°♑52'52	
opposition	9630 Feb 28 23:35	13°♑27'49	-0°51'10
min. Earth dist.	9630 Feb 28 07:30	13°♑28'57	28.80012 AU
direct	9630 May 17 19:43	12°♑04'06	
evening set	9630 Aug 13 00:04	13°♑58'04	
conjunction	9630 Aug 28 20:55	14°♑33'44	-0°47'09
minimum elong	9630 Aug 28 20:55	14°♑33'44	0°47'16
max. Earth dist.	9630 Aug 29 14:36	14°♑35'23	30.79924 AU
morning rise	9630 Sep 13 20:22	15°♑09'38	
retrograde	9630 Dec 13 18:52	17°♑08'07	
opposition	9631 Mar 03 11:46	15°♑43'02	-0°49'38
min. Earth dist.	9631 Mar 02 18:53	15°♑44'13	28.79904 AU
direct	9631 May 20 09:29	14°♑19'15	
evening set	9631 Aug 15 12:49	16°♑13'13	
conjunction	9631 Aug 31 10:00	16°♑48'54	-0°45'41
minimum elong	9631 Aug 31 10:00	16°♑48'54	0°45'48
max. Earth dist.	9631 Sep 01 03:16	16°♑50'31	30.79829 AU
morning rise	9631 Sep 16 09:54	17°♑24'49	
retrograde	9631 Dec 16 07:54	19°♑23'14	
opposition	9632 Mar 04 24:00	17°♑58'07	-0°48'02
min. Earth dist.	9632 Mar 04 08:14	17°♑59'14	28.79845 AU
direct	9632 May 21 21:09	16°♑34'19	
evening set	9632 Aug 17 01:25	18°♑28'15	
conjunction	9632 Sep 01 23:10	19°♑03'57	-0°44'10
minimum elong	9632 Sep 01 23:10	19°♑03'57	0°44'15
max. Earth dist.	9632 Sep 02 17:02	19°♑05'38	30.79814 AU
morning rise	9632 Sep 17 23:21	19°♑39'54	
retrograde	9632 Dec 17 20:20	21°♑38'15	
opposition	9633 Mar 07 11:59	20°♑13'07	-0°46'22
min. Earth dist.	9633 Mar 06 19:22	20°♑14'18	28.79869 AU
direct	9633 May 24 10:19	18°♑49'17	
evening set	9633 Aug 19 14:17	20°♑43'14	
conjunction	9633 Sep 04 12:15	21°♑18'56	-0°42'34
minimum elong	9633 Sep 04 12:15	21°♑18'56	0°42'38
max. Earth dist.	9633 Sep 05 05:08	21°♑20'32	30.79893 AU
morning rise	9633 Sep 20 12:56	21°♑54'54	
retrograde	9633 Dec 20 09:11	23°♑53'12	
opposition	9634 Mar 09 23:57	22°♑28'04	-0°44'37
min. Earth dist.	9634 Mar 09 08:00	22°♑29'11	28.80018 AU
direct	9634 May 26 20:40	21°♑04'12	
evening set	9634 Aug 22 02:57	22°♑58'09	
conjunction	9634 Sep 07 01:29	23°♑33'54	-0°40'54
minimum elong	9634 Sep 07 01:30	23°♑33'54	0°40'58
max. Earth dist.	9634 Sep 07 19:29	23°♑35'35	30.80109 AU
morning rise	9634 Sep 23 02:21	24°♑09'52	
retrograde	9634 Dec 22 21:15	26°♑08'07	
opposition	9635 Mar 12 11:53	24°♑43'00	-0°42'49
min. Earth dist.	9635 Mar 11 19:32	24°♑44'10	28.80297 AU
direct	9635 May 29 08:19	23°♑19'08	
evening set	9635 Aug 24 15:41	25°♑13'06	
conjunction	9635 Sep 09 14:28	25°♑48'51	-0°39'11
minimum elong	9635 Sep 09 14:28	25°♑48'51	0°39'14
max. Earth dist.	9635 Sep 10 07:27	25°♑50'27	30.80467 AU
morning rise	9635 Sep 25 15:52	26°♑24'52	
retrograde	9635 Dec 25 10:12	28°♑23'03	
opposition	9636 Mar 13 23:52	26°♑57'59	-0°40'56
min. Earth dist.	9636 Mar 13 07:35	26°♑59'08	28.80726 AU
direct	9636 May 30 18:51	25°♑34'07	
evening set	9636 Aug 26 04:30	27°♑28'07	
conjunction	9636 Sep 11 03:50	28°♑03'53	-0°37'24
minimum elong	9636 Sep 11 03:51	28°♑03'53	0°37'27
max. Earth dist.	9636 Sep 11 21:45	28°♑05'34	30.80952 AU
morning rise	9636 Sep 27 05:27	28°♑39'54	
	9636 Nov 08 05:23	0°♎	
retrograde	9636 Dec 26 21:39	0°♎38'03	
	9637 Feb 14 22:56	30°℞♑	
opposition	9637 Mar 16 11:38	29°♑13'02	-0°39'00
min. Earth dist.	9637 Mar 15 19:52	29°♑14'09	28.81258 AU
direct	9637 Jun 02 06:33	27°♑49'12	
evening set	9637 Aug 28 17:31	29°♑43'13	
	9637 Sep 05 06:45	0°♎	
conjunction	9637 Sep 13 17:09	0°♎19'01	-0°35'34
minimum elong	9637 Sep 13 17:10	0°♎19'01	0°35'35
max. Earth dist.	9637 Sep 14 09:58	0°♎20'36	30.81539 AU
morning rise	9637 Sep 29 19:13	0°♎55'03	
retrograde	9637 Dec 29 12:04	2°♎53'10	
opposition	9638 Mar 18 23:26	1°♎28'12	-0°37'00
min. Earth dist.	9638 Mar 18 07:19	1°♎29'20	28.81869 AU
direct	9638 Jun 04 17:15	0°♎04'22	
evening set	9638 Aug 31 06:30	1°♎58'27	
conjunction	9638 Sep 16 06:30	2°♎34'16	-0°33'40
minimum elong	9638 Sep 16 06:30	2°♎34'16	0°33'40
max. Earth dist.	9638 Sep 16 23:30	2°♎35'51	30.82150 AU
morning rise	9638 Oct 02 08:46	3°♎10'18	

retrograde	9639 Jan 01	00:28	5°♎08'23		
opposition	9639 Mar 21	11:20	3°♎43'29	-0°34'56	
min. Earth dist.	9639 Mar 20	20:33	3°♎44'31	28.82475	AU
direct	9639 Jun 07	05:03	2°♎19'39		
evening set	9639 Sep 02	19:40	4°♎13'46		
conjunction	9639 Sep 18	20:04	4°♎49'36	-0°31'43	
minimum elong	9639 Sep 18	20:04	4°♎49'36	0°31'43	
max. Earth dist.	9639 Sep 19	12:21	4°♎51'07	30.82745	AU
morning rise	9639 Oct 04	22:40	5°♎25'39		
retrograde	9640 Jan 03	15:25	7°♎23'40		
opposition	9640 Mar 22	23:03	5°♎58'47	-0°32'49	
min. Earth dist.	9640 Mar 22	07:55	5°♎59'51	28.83032	AU
direct	9640 Jun 08	18:50	4°♎34'57		
evening set	9640 Sep 04	08:58	6°♎29'05		
conjunction	9640 Sep 20	09:41	7°♎04'56	-0°29'43	
minimum elong	9640 Sep 20	09:41	7°♎04'56	0°29'42	
max. Earth dist.	9640 Sep 21	01:03	7°♎06'22	30.83251	AU
morning rise	9640 Oct 06	12:37	7°♎41'00		
retrograde	9641 Jan 05	04:08	9°♎38'56		
opposition	9641 Mar 25	10:55	8°♎14'04	-0°30'40	
min. Earth dist.	9641 Mar 24	21:25	8°♎15'01	28.83494	AU
direct	9641 Jun 11	06:49	6°♎50'12		
evening set	9641 Sep 06	22:11	8°♎44'19		
conjunction	9641 Sep 22	23:21	9°♎20'11	-0°27'41	
minimum elong	9641 Sep 22	23:21	9°♎20'11	0°27'39	
max. Earth dist.	9641 Sep 23	14:32	9°♎21'36	30.83673	AU
morning rise	9641 Oct 09	02:28	9°♎56'15		
retrograde	9642 Jan 07	17:22	11°♎54'04		
opposition	9642 Mar 27	22:27	10°♎29'13	-0°28'28	
min. Earth dist.	9642 Mar 27	08:38	10°♎30'11	28.83869	AU
direct	9642 Jun 13	20:19	9°♎05'18		
evening set	9642 Sep 09	11:29	10°♎59'24		
conjunction	9642 Sep 25	12:50	11°♎35'16	-0°25'37	
minimum elong	9642 Sep 25	12:50	11°♎35'16	0°25'34	
max. Earth dist.	9642 Sep 26	02:33	11°♎36'33	30.84027	AU
morning rise	9642 Oct 11	16:22	12°♎11'21		
retrograde	9643 Jan 10	07:01	14°♎09'02		
opposition	9643 Mar 30	10:05	12°♎44'10	-0°26'14	
min. Earth dist.	9643 Mar 29	21:25	12°♎45'03	28.84216	AU
direct	9643 Jun 16	07:57	11°♎20'12		
evening set	9643 Sep 12	00:27	13°♎14'16		
conjunction	9643 Sep 28	02:20	13°♎50'09	-0°23'30	
minimum elong	9643 Sep 28	02:20	13°♎50'09	0°23'26	
max. Earth dist.	9643 Sep 28	16:40	13°♎51'29	30.84375	AU
morning rise	9643 Oct 14	05:59	14°♎26'14		
retrograde	9644 Jan 12	18:26	16°♎23'47		
opposition	9644 Mar 31	21:30	14°♎58'54	-0°23'57	
min. Earth dist.	9644 Mar 31	08:54	14°♎59'47	28.84566	AU
direct	9644 Jun 17	20:57	13°♎34'52		
evening set	9644 Sep 13	13:46	15°♎28'55		
conjunction	9644 Sep 29	15:48	16°♎04'48	-0°21'22	
minimum elong	9644 Sep 29	15:49	16°♎04'48	0°21'17	
max. Earth dist.	9644 Sep 30	04:39	16°♎06'00	30.84755	AU
morning rise	9644 Oct 15	19:52	16°♎40'53		
retrograde	9645 Jan 14	06:26	18°♎38'19		
opposition	9645 Apr 03	08:45	17°♎13'25	-0°21'39	
min. Earth dist.	9645 Apr 02	20:37	17°♎14'16	28.84986	AU
direct	9645 Jun 20	07:54	15°♎49'19		
evening set	9645 Sep 16	02:52	17°♎43'22		
conjunction	9645 Oct 02	05:22	18°♎19'16	-0°19'11	
minimum elong	9645 Oct 02	05:22	18°♎19'16	0°19'06	
max. Earth dist.	9645 Oct 02	18:57	18°♎20'31	30.85213	AU
morning rise	9645 Oct 18	09:28	18°♎55'20		
retrograde	9646 Jan 16	16:50	20°♎52'38		
opposition	9646 Apr 05	20:03	19°♎27'45	-0°19'18	
min. Earth dist.	9646 Apr 05	08:29	19°♎28'34	28.85496	AU
direct	9646 Jun 22	19:31	18°♎03'37		
evening set	9646 Sep 18	15:55	19°♎57'39		
conjunction	9646 Oct 04	18:35	20°♎33'32	-0°17'00	
minimum elong	9646 Oct 04	18:35	20°♎33'32	0°16'54	
max. Earth dist.	9646 Oct 05	07:01	20°♎34'42	30.85794	AU
morning rise	9646 Oct 20	23:02	21°♎09'37		
retrograde	9647 Jan 19	06:05	23°♎06'49		
opposition	9647 Apr 08	07:16	21°♎41'56	-0°16'56	
min. Earth dist.	9647 Apr 07	19:12	21°♎42'48	28.86148	AU
direct	9647 Jun 25	06:11	20°♎17'46		
evening set	9647 Sep 21	05:03	22°♎11'49		
conjunction	9647 Oct 07	08:04	22°♎47'43	-0°14'46	
minimum elong	9647 Oct 07	08:03	22°♎47'43	0°14'39	
behind sun begin	9647 Oct 07	05:29	22°♎47'29		
behind sun end	9647 Oct 07	10:38	22°♎47'57		
max. Earth dist.	9647 Oct 07	20:51	22°♎48'54	30.86512	AU
morning rise	9647 Oct 23	12:37	23°♎23'48		
retrograde	9648 Jan 21	16:47	25°♎20'53		
opposition	9648 Apr 09	18:26	23°♎56'03	-0°14'33	
min. Earth dist.	9648 Apr 09	07:27	23°♎56'50	28.86943	AU
direct	9648 Jun 26	17:35	22°♎31'52		
evening set	9648 Sep 22	18:14	24°♎25'56		
conjunction	9648 Oct 08	21:32	25°♎01'51	-0°12'32	
minimum elong	9648 Oct 08	21:32	25°♎01'51	0°12'24	
behind sun begin	9648 Oct 08	17:18	25°♎01'28		
behind sun end	9648 Oct 09	01:45	25°♎02'14		
max. Earth dist.	9648 Oct 09	09:45	25°♎02'59	30.87391	AU
morning rise	9648 Oct 25	02:20	25°♎37'56		
retrograde	9649 Jan 23	06:25	27°♎34'55		
opposition	9649 Apr 12	05:30	26°♎10'10	-0°12'08	
min. Earth dist.	9649 Apr 11	17:52	26°♎10'59	28.87881	AU
direct	9649 Jun 29	06:21	24°♎45'59		
evening set	9649 Sep 25	07:29	26°♎40'06		
conjunction	9649 Oct 11	10:58	27°♎16'02	-0°10'16	
minimum elong	9649 Oct 11	10:58	27°♎16'01	0°10'07	
behind sun begin	9649 Oct 11	05:44	27°♎15'33		
behind sun end	9649 Oct 11	16:12	27°♎16'30		
max. Earth dist.	9649 Oct 11	22:45	27°♎17'07	30.88382	AU
morning rise	9649 Oct 27	15:55	27°♎52'06		
retrograde	9650 Jan 25	18:29	29°♎49'01		
opposition	9650 Apr 14	16:39	28°♎24'21	-0°09'41	
min. Earth dist.	9650 Apr 14	06:26	28°♎25'04	28.88924	AU
direct	9650 Jul 01	17:19	27°♎00'11		
evening set	9650 Sep 27	20:43	28°♎54'22		
conjunction	9650 Oct 14	00:32	29°♎30'18	-0°07'59	
minimum elong	9650 Oct 14	00:32	29°♎30'18	0°07'50	
behind sun begin	9650 Oct 13	18:39	29°♎29'46		
behind sun end	9650 Oct 14	06:26	29°♎30'49		
max. Earth dist.	9650 Oct 14	12:17	29°♎31'23	30.89465	AU
	9650 Oct 27	07:49	0°♏		
morning rise	9650 Oct 30	05:34	0°♏06'22		
retrograde	9651 Jan 28	08:08	2°♏03'12		
opposition	9651 Apr 17	03:39	0°♏38'38	-0°07'14	
min. Earth dist.	9651 Apr 16	17:07	0°♏39'22	28.90013	AU
	9651 May 10	20:47	30°℞♎		
direct	9651 Jul 04	06:16	29°♎14'31		

	9651 Aug 26 02:42	0°♑	
evening set	9651 Sep 30 10:08	1°♑08'45	
conjunction	9651 Oct 16 14:02	1°♑44'41	-0°05'42
minimum elong	9651 Oct 16 14:02	1°♑44'41	0°05'32
behind sun begin	9651 Oct 16 07:43	1°♑44'07	
behind sun end	9651 Oct 16 20:22	1°♑45'15	
max. Earth dist.	9651 Oct 17 00:16	1°♑45'37	30.90548 AU
morning rise	9651 Nov 01 19:20	2°♑20'46	
retrograde	9652 Jan 30 22:11	4°♑17'31	
opposition	9652 Apr 18 14:50	2°♑53'01	-0°04'47
min. Earth dist.	9652 Apr 18 05:41	2°♑53'40	28.91081 AU
direct	9652 Jul 05 17:47	1°♑28'55	
evening set	9652 Oct 01 23:36	3°♑23'12	
conjunction	9652 Oct 18 03:54	3°♑59'09	-0°03'24
minimum elong	9652 Oct 18 03:53	3°♑59'09	0°03'14
behind sun begin	9652 Oct 17 21:21	3°♑58'34	
behind sun end	9652 Oct 18 10:25	3°♑59'44	
max. Earth dist.	9652 Oct 18 14:10	4°♑00'06	30.91574 AU
morning rise	9652 Nov 03 09:07	4°♑35'14	
retrograde	9653 Feb 01 09:53	6°♑31'53	
opposition	9653 Apr 21 01:47	5°♑07'28	-0°02'19
min. Earth dist.	9653 Apr 20 17:07	5°♑08'04	28.92052 AU
direct	9653 Jul 08 06:47	3°♑43'22	
evening set	9653 Oct 04 13:13	5°♑37'41	
conjunction	9653 Oct 20 17:31	6°♑13'37	-0°01'04
minimum elong	9653 Oct 20 17:31	6°♑13'37	0°00'52
behind sun begin	9653 Oct 20 10:57	6°♑13'02	
behind sun end	9653 Oct 21 00:05	6°♑14'13	
max. Earth dist.	9653 Oct 21 01:47	6°♑14'22	30.92501 AU
morning rise	9653 Nov 05 23:00	6°♑49'42	
retrograde	9654 Feb 03 22:25	8°♑46'14	
asc. node	9654 Mar 31 23:58	7°♑58'41	
opposition	9654 Apr 23 12:53	7°♑21'52	0°00'09
min. Earth dist.	9654 Apr 23 05:03	7°♑22'25	28.92937 AU
direct	9654 Jul 10 17:49	5°♑57'45	
evening set	9654 Oct 07 02:28	7°♑52'04	
conjunction	9654 Oct 23 07:07	8°♑28'02	0°01'20
minimum elong	9654 Oct 23 07:06	8°♑28'02	0°01'31
behind sun begin	9654 Oct 23 00:31	8°♑27'27	
behind sun end	9654 Oct 23 13:41	8°♑28'37	
max. Earth dist.	9654 Oct 23 15:39	8°♑28'48	30.93338 AU
morning rise	9654 Nov 08 12:30	9°♑04'05	
retrograde	9655 Feb 06 09:03	11°♑00'30	
opposition	9655 Apr 25 23:55	9°♑36'10	0°02'37
min. Earth dist.	9655 Apr 25 17:07	9°♑36'39	28.93732 AU
direct	9655 Jul 13 05:34	8°♑12'01	
evening set	9655 Oct 09 15:56	10°♑06'21	
conjunction	9655 Oct 25 20:37	10°♑42'18	0°03'39
minimum elong	9655 Oct 25 20:38	10°♑42'18	0°03'52
behind sun begin	9655 Oct 25 14:08	10°♑41'43	
behind sun end	9655 Oct 26 03:08	10°♑42'53	
max. Earth dist.	9655 Oct 26 03:24	10°♑42'54	30.94118 AU
morning rise	9655 Nov 11 02:16	11°♑18'21	
retrograde	9656 Feb 08 21:45	13°♑14'37	
opposition	9656 Apr 27 10:38	11°♑50'19	0°05'05
min. Earth dist.	9656 Apr 27 03:55	11°♑50'48	28.94497 AU
direct	9656 Jul 14 16:09	10°♑26'07	
evening set	9656 Oct 11 05:20	12°♑20'27	
conjunction	9656 Oct 27 10:16	12°♑56'23	0°05'56
minimum elong	9656 Oct 27 10:16	12°♑56'23	0°06'09
behind sun begin	9656 Oct 27 04:01	12°♑55'50	
behind sun end	9656 Oct 27 16:30	12°♑56'57	
max. Earth dist.	9656 Oct 27 16:57	12°♑56'59	30.94868 AU
morning rise	9656 Nov 12 15:49	13°♑32'26	
	9656 Dec 30 13:53	15°♑	
retrograde	9657 Feb 10 06:59	15°♑28'33	
	9657 Mar 24 20:19	15°℞♑	
opposition	9657 Apr 29 21:30	14°♑04'17	0°07'31
min. Earth dist.	9657 Apr 29 16:14	14°♑04'40	28.95253 AU
direct	9657 Jul 17 03:50	12°♑40'02	
evening set	9657 Oct 13 18:35	14°♑34'22	
	9657 Oct 25 09:06	15°♑	
conjunction	9657 Oct 29 23:35	15°♑10'18	0°08'12
minimum elong	9657 Oct 29 23:35	15°♑10'18	0°08'27
behind sun begin	9657 Oct 29 17:51	15°♑09'47	
behind sun end	9657 Oct 30 05:20	15°♑10'48	
max. Earth dist.	9657 Oct 30 05:21	15°♑10'48	30.95648 AU
morning rise	9657 Nov 15 05:13	15°♑46'19	
retrograde	9658 Feb 12 19:04	17°♑42'18	
opposition	9658 May 02 08:06	16°♑18'03	0°09'57
min. Earth dist.	9658 May 02 02:22	16°♑18'27	28.96057 AU
	9658 Jun 30 08:17	15°℞♑	
direct	9658 Jul 19 16:11	14°♑53'44	
	9658 Aug 07 22:12	15°♑	
evening set	9658 Oct 16 07:51	16°♑48'05	
conjunction	9658 Nov 01 12:56	17°♑24'01	0°10'28
minimum elong	9658 Nov 01 12:56	17°♑24'01	0°10'42
behind sun begin	9658 Nov 01 07:55	17°♑23'34	
behind sun end	9658 Nov 01 17:57	17°♑24'27	
max. Earth dist.	9658 Nov 01 18:14	17°♑24'29	30.96484 AU
morning rise	9658 Nov 17 18:33	18°♑00'01	
retrograde	9659 Feb 15 05:54	19°♑55'52	
opposition	9659 May 04 18:49	18°♑31'39	0°12'22
min. Earth dist.	9659 May 04 14:30	18°♑31'57	28.96951 AU
direct	9659 Jul 22 02:33	17°♑07'17	
evening set	9659 Oct 18 20:59	19°♑01'39	
conjunction	9659 Nov 04 02:17	19°♑37'33	0°12'42
minimum elong	9659 Nov 04 02:16	19°♑37'33	0°12'58
behind sun begin	9659 Nov 03 22:23	19°♑37'13	
behind sun end	9659 Nov 04 06:10	19°♑37'54	
max. Earth dist.	9659 Nov 04 07:30	19°♑38'02	30.97435 AU
morning rise	9659 Nov 20 07:51	20°♑13'32	
retrograde	9660 Feb 17 18:21	22°♑09'15	
opposition	9660 May 06 05:21	20°♑45'05	0°14'46
min. Earth dist.	9660 May 06 00:32	20°♑45'25	28.97952 AU
direct	9660 Jul 23 16:08	19°♑20'42	
evening set	9660 Oct 20 10:20	21°♑15'05	
conjunction	9660 Nov 05 15:33	21°♑50'59	0°14'56
minimum elong	9660 Nov 05 15:33	21°♑50'59	0°15'11
behind sun begin	9660 Nov 05 13:41	21°♑50'49	
behind sun end	9660 Nov 05 17:26	21°♑51'09	
max. Earth dist.	9660 Nov 05 19:33	21°♑51'20	30.98496 AU
morning rise	9660 Nov 21 21:11	22°♑26'57	
retrograde	9661 Feb 19 07:11	24°♑22'31	
opposition	9661 May 08 15:55	22°♑58'25	0°17'08
min. Earth dist.	9661 May 08 12:05	22°♑58'41	28.99084 AU
direct	9661 Jul 26 03:52	21°♑34'01	
evening set	9661 Oct 22 23:30	23°♑28'26	
conjunction	9661 Nov 08 04:57	24°♑04'21	0°17'08
minimum elong	9661 Nov 08 04:56	24°♑04'21	0°17'25
max. Earth dist.	9661 Nov 08 09:24	24°♑04'45	30.99688 AU
morning rise	9661 Nov 24 10:23	24°♑40'17	
retrograde	9662 Feb 21 18:25	26°♑35'45	

opposition	9662 May 11 02:30	25°♏11'43	0°19'29
min. Earth dist.	9662 May 10 22:45	25°♏11'59	29.00317 AU
direct	9662 Jul 28 16:48	23°♏47'21	
evening set	9662 Oct 25 12:41	25°♏41'48	
conjunction	9662 Nov 10 18:01	26°♏17'42	0°19'19
minimum elong	9662 Nov 10 18:01	26°♏17'42	0°19'35
max. Earth dist.	9662 Nov 10 20:54	26°♏17'57	31.00965 AU
morning rise	9662 Nov 26 23:34	26°♏53'37	
retrograde	9663 Feb 24 07:25	28°♏48'59	
opposition	9663 May 13 13:04	27°♏25'03	0°21'48
min. Earth dist.	9663 May 13 09:58	27°♏25'16	29.01620 AU
direct	9663 Jul 31 03:46	26°♏00'42	
evening set	9663 Oct 28 01:59	27°♏55'12	
conjunction	9663 Nov 13 07:30	28°♏31'05	0°21'28
minimum elong	9663 Nov 13 07:30	28°♏31'05	0°21'46
max. Earth dist.	9663 Nov 13 10:46	28°♏31'23	31.02261 AU
morning rise	9663 Nov 29 12:48	29°♏07'00	
	9663 Dec 25 18:13	0°♐	
retrograde	9664 Feb 26 18:32	1°♐02'15	
	9664 May 02 00:59	30°℞♏	
opposition	9664 May 14 23:34	29°♏38'25	0°24'04
min. Earth dist.	9664 May 14 21:41	29°♏38'33	29.02894 AU
direct	9664 Aug 01 15:51	28°♏14'05	
	9664 Oct 25 15:19	0°♐	
evening set	9664 Oct 29 15:30	0°♐08'37	
conjunction	9664 Nov 14 20:53	0°♐44'30	0°23'35
minimum elong	9664 Nov 14 20:53	0°♐44'30	0°23'52
max. Earth dist.	9664 Nov 14 22:08	0°♐44'37	31.03504 AU
morning rise	9664 Dec 01 02:14	1°♐20'24	
retrograde	9665 Feb 28 06:58	3°♐15'32	
opposition	9665 May 17 10:08	1°♐51'47	0°26'19
min. Earth dist.	9665 May 17 08:26	1°♐51'54	29.04093 AU
direct	9665 Aug 04 02:59	0°♐27'26	
evening set	9665 Nov 01 04:48	2°♐22'01	
conjunction	9665 Nov 17 10:14	2°♐57'54	0°25'39
minimum elong	9665 Nov 17 10:14	2°♐57'54	0°25'59
max. Earth dist.	9665 Nov 17 11:13	2°♐57'59	31.04631 AU
morning rise	9665 Dec 03 15:18	3°♐33'46	
retrograde	9666 Mar 02 16:17	5°♐28'47	
opposition	9666 May 19 20:49	4°♐05'06	0°28'31
min. Earth dist.	9666 May 19 20:50	4°♐05'06	29.05162 AU
direct	9666 Aug 06 14:15	2°♐40'45	
evening set	9666 Nov 03 18:11	4°♐35'21	
conjunction	9666 Nov 19 23:33	5°♐11'12	0°27'42
minimum elong	9666 Nov 19 23:33	5°♐11'12	0°28'00
max. Earth dist.	9666 Nov 19 23:03	5°♐11'09	31.05649 AU
morning rise	9666 Dec 06 04:35	5°♐47'03	
retrograde	9667 Mar 05 04:11	7°♐41'56	
opposition	9667 May 22 07:13	6°♐18'18	0°30'41
min. Earth dist.	9667 May 22 07:10	6°♐18'19	29.06119 AU
direct	9667 Aug 09 02:02	4°♐53'54	
evening set	9667 Nov 06 07:30	6°♐48'32	
conjunction	9667 Nov 22 12:51	7°♐24'22	0°29'41
minimum elong	9667 Nov 22 12:51	7°♐24'22	0°30'02
max. Earth dist.	9667 Nov 22 11:27	7°♐24'15	31.06545 AU
morning rise	9667 Dec 08 17:43	8°♐00'12	
retrograde	9668 Mar 06 14:22	9°♐54'57	
opposition	9668 May 23 17:47	8°♐31'22	0°32'47
min. Earth dist.	9668 May 23 19:35	8°♐31'14	29.06974 AU
direct	9668 Aug 10 12:17	7°♐06'55	
evening set	9668 Nov 07 20:43	9°♐01'34	

conjunction	9668 Nov 24 02:05	9°♐37'23	0°31'38
minimum elong	9668 Nov 24 02:05	9°♐37'23	0°31'58
max. Earth dist.	9668 Nov 24 00:07	9°♐37'12	31.07367 AU
morning rise	9668 Dec 10 06:45	10°♐13'10	
retrograde	9669 Mar 09 01:46	12°♐07'47	
opposition	9669 May 26 04:03	10°♐44'14	0°34'50
min. Earth dist.	9669 May 26 05:45	10°♐44'07	29.07761 AU
direct	9669 Aug 13 01:53	9°♐19'44	
evening set	9669 Nov 10 09:56	11°♐14'24	
conjunction	9669 Nov 26 15:06	11°♐50'12	0°33'32
minimum elong	9669 Nov 26 15:05	11°♐50'12	0°33'53
max. Earth dist.	9669 Nov 26 11:42	11°♐49'53	31.08138 AU
morning rise	9669 Dec 12 19:40	12°♐25'58	
retrograde	9670 Mar 11 13:39	14°♐20'27	
opposition	9670 May 28 14:27	12°♐56'55	0°36'50
min. Earth dist.	9670 May 28 17:19	12°♐56'43	29.08542 AU
direct	9670 Aug 15 13:28	11°♐32'22	
evening set	9670 Nov 12 22:44	13°♐27'03	
conjunction	9670 Nov 29 03:59	14°♐02'50	0°35'23
minimum elong	9670 Nov 29 03:59	14°♐02'50	0°35'43
max. Earth dist.	9670 Nov 29 00:56	14°♐02'33	31.08926 AU
morning rise	9670 Dec 15 08:16	14°♐38'34	
retrograde	9671 Mar 14 00:08	16°♐32'55	
opposition	9671 May 31 00:44	15°♐09'25	0°38'47
min. Earth dist.	9671 May 31 03:49	15°♐09'13	29.09341 AU
direct	9671 Aug 18 02:31	13°♐44'50	
evening set	9671 Nov 15 11:49	15°♐39'32	
conjunction	9671 Dec 01 16:47	16°♐15'18	0°37'10
minimum elong	9671 Dec 01 16:47	16°♐15'18	0°37'32
max. Earth dist.	9671 Dec 01 12:08	16°♐14'52	31.09758 AU
morning rise	9671 Dec 17 21:02	16°♐51'00	
retrograde	9672 Mar 15 12:36	18°♐45'14	
opposition	9672 Jun 01 10:53	17°♐21'46	0°40'40
min. Earth dist.	9672 Jun 01 14:23	17°♐21'32	29.10226 AU
direct	9672 Aug 19 13:54	15°♐57'09	
evening set	9672 Nov 17 00:40	17°♐51'53	
conjunction	9672 Dec 03 05:41	18°♐27'38	0°38'55
minimum elong	9672 Dec 03 05:41	18°♐27'38	0°39'15
max. Earth dist.	9672 Dec 03 01:44	18°♐27'16	31.10683 AU
morning rise	9672 Dec 19 09:31	19°♐03'19	
retrograde	9673 Mar 17 23:18	20°♐57'25	
opposition	9673 Jun 03 21:12	19°♐34'01	0°42'30
min. Earth dist.	9673 Jun 04 01:25	19°♐33'43	29.11205 AU
direct	9673 Aug 22 02:28	18°♐09'24	
evening set	9673 Nov 19 13:27	20°♐04'09	
conjunction	9673 Dec 05 18:11	20°♐39'53	0°40'35
minimum elong	9673 Dec 05 18:11	20°♐39'53	0°40'57
max. Earth dist.	9673 Dec 05 12:51	20°♐39'24	31.11728 AU
morning rise	9673 Dec 21 21:56	21°♐15'32	
retrograde	9674 Mar 20 10:57	23°♐09'33	
opposition	9674 Jun 06 07:25	21°♐46'14	0°44'15
min. Earth dist.	9674 Jun 06 11:12	21°♐45'58	29.12308 AU
direct	9674 Aug 24 13:42	20°♐21'38	
evening set	9674 Nov 22 02:13	22°♐16'26	
conjunction	9674 Dec 08 06:54	22°♐52'09	0°42'12
minimum elong	9674 Dec 08 06:54	22°♐52'09	0°42'34
max. Earth dist.	9674 Dec 08 01:55	22°♐51'41	31.12873 AU
morning rise	9674 Dec 24 10:17	23°♐27'46	
retrograde	9675 Mar 22 19:52	25°♐21'41	
opposition	9675 Jun 08 17:36	23°♐58'29	0°45'57
min. Earth dist.	9675 Jun 08 22:47	23°♐58'07	29.13492 AU

direct	9675 Aug 27	00:17	22°♐33'54	
evening set	9675 Nov 24	15:04	24°♐28'45	
conjunction	9675 Dec 10	19:33	25°♐04'27	0°43'46
minimum elong	9675 Dec 10	19:33	25°♐04'27	0°44'08
max. Earth dist.	9675 Dec 10	13:27	25°♐03'53	31.14083 AU
morning rise	9675 Dec 26	22:48	25°♐40'03	
retrograde	9676 Mar 24	07:45	27°♐33'53	
opposition	9676 Jun 10	03:45	26°♐10'46	0°47'35
min. Earth dist.	9676 Jun 10	08:38	26°♐10'26	29.14694 AU
direct	9676 Aug 28	11:09	24°♐46'12	
evening set	9676 Nov 26	04:00	26°♐41'07	
conjunction	9676 Dec 12	08:16	27°♐16'48	0°45'15
minimum elong	9676 Dec 12	08:16	27°♐16'48	0°45'37
max. Earth dist.	9676 Dec 12	01:33	27°♐16'11	31.15255 AU
morning rise	9676 Dec 28	11:09	27°♐52'23	
retrograde	9677 Mar 26	17:15	29°♐46'08	
opposition	9677 Jun 12	14:05	28°♐23'06	0°49'08
min. Earth dist.	9677 Jun 12	20:42	28°♐22'39	29.15845 AU
direct	9677 Aug 30	20:24	26°♐58'33	
evening set	9677 Nov 28	16:49	28°♐53'30	
conjunction	9677 Dec 14	20:57	29°♐29'10	0°46'41
minimum elong	9677 Dec 14	20:57	29°♐29'10	0°47'03
max. Earth dist.	9677 Dec 14	13:41	29°♐28'29	31.16363 AU
	9677 Dec 28	19:31	0°♑	
morning rise	9677 Dec 30	23:32	0°♑04'43	
retrograde	9678 Mar 29	03:44	1°♑58'22	
opposition	9678 Jun 15	00:20	0°♑35'25	0°50'37
min. Earth dist.	9678 Jun 15	06:53	0°♑34'58	29.16895 AU
	9678 Jul 06	19:26	30°℞♐	
direct	9678 Sep 02	09:36	29°♐10'52	
	9678 Oct 28	09:43	0°♑	
evening set	9678 Dec 01	05:37	1°♑05'50	
conjunction	9678 Dec 17	09:28	1°♑41'28	0°48'02
minimum elong	9678 Dec 17	09:28	1°♑41'28	0°48'23
max. Earth dist.	9678 Dec 17	00:38	1°♑40'39	31.17349 AU
morning rise	9679 Jan 02	11:51	2°♑16'59	
retrograde	9679 Mar 31	14:52	4°♑10'33	
opposition	9679 Jun 17	10:41	2°♑47'38	0°52'02
min. Earth dist.	9679 Jun 17	18:33	2°♑47'06	29.17829 AU
direct	9679 Sep 04	20:18	1°♑23'03	
evening set	9679 Dec 03	18:23	3°♑18'03	
conjunction	9679 Dec 19	22:09	3°♑53'40	0°49'19
minimum elong	9679 Dec 19	22:09	3°♑53'40	0°49'41
max. Earth dist.	9679 Dec 19	13:17	3°♑52'50	31.18219 AU
morning rise	9680 Jan 05	00:07	4°♑29'09	
retrograde	9680 Apr 02	01:04	6°♑22'35	
opposition	9680 Jun 18	20:52	4°♑59'43	0°53'21
min. Earth dist.	9680 Jun 19	05:18	4°♑59'07	29.18634 AU
direct	9680 Sep 06	08:57	3°♑35'05	
evening set	9680 Dec 05	07:12	5°♑30'06	
conjunction	9680 Dec 21	10:35	6°♑05'40	0°50'31
minimum elong	9680 Dec 21	10:35	6°♑05'40	0°50'53
max. Earth dist.	9680 Dec 20	23:50	6°♑04'41	31.18977 AU
morning rise	9681 Jan 06	12:23	6°♑41'07	
retrograde	9681 Apr 04	13:21	8°♑34'27	
opposition	9681 Jun 21	07:08	7°♑11'35	0°54'37
min. Earth dist.	9681 Jun 21	16:08	7°♑10'57	29.19357 AU
direct	9681 Sep 08	20:55	5°♑46'55	
evening set	9681 Dec 07	19:34	7°♑41'55	
conjunction	9681 Dec 23	22:53	8°♑17'28	0°51'39
minimum elong	9681 Dec 23	22:52	8°♑17'28	0°52'02
max. Earth dist.	9681 Dec 23	12:39	8°♑16'31	31.19660 AU
morning rise	9682 Jan 09	00:12	8°♑52'52	
retrograde	9682 Apr 06	23:23	10°♑46'05	
opposition	9682 Jun 23	17:24	9°♑23'14	0°55'47
min. Earth dist.	9682 Jun 24	03:27	9°♑22'31	29.20013 AU
direct	9682 Sep 11	10:14	7°♑58'31	
evening set	9682 Dec 10	08:06	9°♑53'30	
conjunction	9682 Dec 26	11:01	10°♑29'01	0°52'43
minimum elong	9682 Dec 26	11:01	10°♑29'01	0°53'05
max. Earth dist.	9682 Dec 25	23:15	10°♑27'56	31.20310 AU
morning rise	9683 Jan 11	12:13	11°♑04'24	
retrograde	9683 Apr 09	10:33	12°♑57'28	
opposition	9683 Jun 26	03:23	11°♑34'38	0°56'52
min. Earth dist.	9683 Jun 26	13:09	11°♑33'57	29.20666 AU
direct	9683 Sep 13	22:06	10°♑09'52	
evening set	9683 Dec 12	20:27	12°♑04'51	
conjunction	9683 Dec 28	23:15	12°♑40'21	0°53'42
minimum elong	9683 Dec 28	23:15	12°♑40'21	0°54'05
max. Earth dist.	9683 Dec 28	11:47	12°♑39'18	31.20965 AU
morning rise	9684 Jan 13	23:57	13°♑15'41	
retrograde	9684 Apr 10	19:30	15°♑08'39	
opposition	9684 Jun 27	13:38	13°♑45'50	0°57'53
min. Earth dist.	9684 Jun 28	00:39	13°♑45'04	29.21350 AU
direct	9684 Sep 15	09:30	12°♑21'02	
evening set	9684 Dec 14	08:43	14°♑16'01	
conjunction	9684 Dec 30	11:09	14°♑51'29	0°54'37
minimum elong	9684 Dec 30	11:08	14°♑51'29	0°54'58
max. Earth dist.	9684 Dec 29	22:55	14°♑50'21	31.21689 AU
morning rise	9685 Jan 15	11:36	15°♑26'47	
retrograde	9685 Apr 13	06:32	17°♑19'39	
opposition	9685 Jun 29	23:42	15°♑56'52	0°58'49
min. Earth dist.	9685 Jun 30	09:56	15°♑56'09	29.22120 AU
direct	9685 Sep 17	21:01	14°♑32'02	
evening set	9685 Dec 16	20:54	16°♑27'03	
conjunction	9686 Jan 01	23:04	17°♑02'29	0°55'26
minimum elong	9686 Jan 01	23:04	17°♑02'29	0°55'48
max. Earth dist.	9686 Jan 01	10:46	17°♑01'21	31.22509 AU
morning rise	9686 Jan 17	23:06	17°♑37'46	
retrograde	9686 Apr 15	15:28	19°♑30'33	
opposition	9686 Jul 02	09:56	18°♑07'50	0°59'39
min. Earth dist.	9686 Jul 02	21:15	18°♑07'02	29.23010 AU
direct	9686 Sep 20	06:20	16°♑43'01	
evening set	9686 Dec 19	08:55	18°♑38'03	
conjunction	9687 Jan 04	10:53	19°♑13'28	0°56'11
minimum elong	9687 Jan 04	10:53	19°♑13'28	0°56'32
max. Earth dist.	9687 Jan 03	22:42	19°♑12'20	31.23458 AU
morning rise	9687 Jan 20	10:37	19°♑48'43	
retrograde	9687 Apr 18	01:17	21°♑41'26	
opposition	9687 Jul 04	20:03	20°♑18'48	1°00'24
min. Earth dist.	9687 Jul 05	06:51	20°♑18'03	29.23991 AU
direct	9687 Sep 22	18:32	18°♑54'01	
evening set	9687 Dec 21	21:08	20°♑49'06	
conjunction	9688 Jan 06	22:42	21°♑24'30	0°56'51
minimum elong	9688 Jan 06	22:42	21°♑24'30	0°57'12
max. Earth dist.	9688 Jan 06	09:32	21°♑23'17	31.24470 AU
morning rise	9688 Jan 22	22:08	21°♑59'43	
retrograde	9688 Apr 19	12:09	23°♑52'25	
opposition	9688 Jul 06	06:12	22°♑29'52	1°01'04
min. Earth dist.	9688 Jul 06	17:51	22°♑29'04	29.25028 AU
direct	9688 Sep 24	03:57	21°♑05'08	

evening set	9688 Dec	23	09:13	23°♑00'17	
conjunction	9689 Jan	08	10:36	23°♑35'39	0°57'26
minimum elong	9689 Jan	08	10:36	23°♑35'39	0°57'46
max. Earth dist.	9689 Jan	07	21:53	23°♑34'29	31.25503 AU
morning rise	9689 Jan	24	09:33	24°♑10'51	
retrograde	9689 Apr	21	22:18	26°♑03'31	
opposition	9689 Jul	08	16:31	24°♑41'04	1°01'39
min. Earth dist.	9689 Jul	09	04:31	24°♑40'14	29.26035 AU
direct	9689 Sep	26	15:34	23°♑16'22	
evening set	9689 Dec	25	21:15	25°♑11'34	
conjunction	9690 Jan	10	22:09	25°♑46'55	0°57'56
minimum elong	9690 Jan	10	22:09	25°♑46'55	0°58'17
max. Earth dist.	9690 Jan	10	07:52	25°♑45'36	31.26478 AU
morning rise	9690 Jan	26	20:54	26°♑22'05	
retrograde	9690 Apr	24	10:48	28°♑14'44	
opposition	9690 Jul	11	02:51	26°♑52'21	1°02'08
min. Earth dist.	9690 Jul	11	15:13	26°♑51'29	29.26972 AU
direct	9690 Sep	29	02:58	25°♑27'41	
evening set	9690 Dec	28	09:17	27°♑22'56	
conjunction	9691 Jan	13	10:02	27°♑58'16	0°58'20
minimum elong	9691 Jan	13	10:02	27°♑58'16	0°58'40
max. Earth dist.	9691 Jan	12	20:14	27°♑56'59	31.27348 AU
morning rise	9691 Jan	29	08:15	28°♑33'24	
	9691 Mar	18	08:48	0°♒	
retrograde	9691 Apr	26	21:09	0°♒26'00	
	9691 Jun	06	05:33	30°℞♑	
opposition	9691 Jul	13	13:12	29°♑03'40	1°02'32
min. Earth dist.	9691 Jul	14	02:48	29°♑02'44	29.27777 AU
direct	9691 Oct	01	15:53	27°♑39'03	
evening set	9691 Dec	30	21:29	29°♑34'19	
	9692 Jan	11	13:55	0°♒	
conjunction	9692 Jan	15	21:46	0°♒09'37	0°58'40
minimum elong	9692 Jan	15	21:46	0°♒09'37	0°59'01
max. Earth dist.	9692 Jan	15	06:16	0°♒08'11	31.28091 AU
morning rise	9692 Jan	31	19:46	0°♒44'44	
retrograde	9692 Apr	28	08:45	2°♒37'17	
opposition	9692 Jul	14	23:34	1°♒15'00	1°02'50
min. Earth dist.	9692 Jul	15	12:55	1°♒14'05	29.28452 AU
	9692 Sep	08	12:38	30°℞♑	
direct	9692 Oct	03	03:42	29°♑50'22	
	9692 Oct	27	10:57	0°♒	
evening set	9693 Jan	01	09:22	1°♒45'40	
conjunction	9693 Jan	17	09:26	2°♒20'57	0°58'55
minimum elong	9693 Jan	17	09:26	2°♒20'57	0°59'14
max. Earth dist.	9693 Jan	16	18:03	2°♒19'31	31.28687 AU
morning rise	9693 Feb	02	06:54	2°♒56'01	
retrograde	9693 Apr	30	18:08	4°♒48'31	
opposition	9693 Jul	17	10:06	3°♒26'16	1°03'03
min. Earth dist.	9693 Jul	18	00:55	3°♒25'14	29.28988 AU
direct	9693 Oct	05	15:35	2°♒01'38	
evening set	9694 Jan	03	21:17	3°♒56'55	
conjunction	9694 Jan	19	20:57	4°♒32'10	0°59'04
minimum elong	9694 Jan	19	20:58	4°♒32'10	0°59'24
max. Earth dist.	9694 Jan	19	04:35	4°♒30'39	31.29175 AU
morning rise	9694 Feb	04	18:10	5°♒07'13	
retrograde	9694 May	03	05:37	6°♒59'38	
opposition	9694 Jul	19	20:22	5°♒37'25	1°03'10
min. Earth dist.	9694 Jul	20	10:42	5°♒36'25	29.29421 AU
direct	9694 Oct	08	03:46	4°♒12'45	
evening set	9695 Jan	06	09:02	6°♒08'01	
conjunction	9695 Jan	22	08:25	6°♒43'15	0°59'09
minimum elong	9695 Jan	22	08:25	6°♒43'15	0°59'27
max. Earth dist.	9695 Jan	21	15:41	6°♒41'42	31.29560 AU
morning rise	9695 Feb	07	05:15	7°♒18'16	
retrograde	9695 May	05	13:55	9°♒10'37	
opposition	9695 Jul	22	06:50	7°♒48'24	1°03'12
min. Earth dist.	9695 Jul	22	22:31	7°♒47'19	29.29780 AU
direct	9695 Oct	10	13:59	6°♒23'42	
evening set	9696 Jan	08	20:42	8°♒18'57	
conjunction	9696 Jan	24	19:47	8°♒54'09	0°59'09
minimum elong	9696 Jan	24	19:47	8°♒54'09	0°59'27
max. Earth dist.	9696 Jan	24	03:08	8°♒52'36	31.29901 AU
morning rise	9696 Feb	09	16:13	9°♒29'08	
retrograde	9696 May	06	22:28	11°♒21'25	
opposition	9696 Jul	23	17:09	9°♒59'11	1°03'09
min. Earth dist.	9696 Jul	24	08:20	9°♒58'08	29.30106 AU
direct	9696 Oct	12	02:25	8°♒34'28	
evening set	9697 Jan	10	08:20	10°♒29'41	
conjunction	9697 Jan	26	06:58	11°♒04'52	0°59'03
minimum elong	9697 Jan	26	06:58	11°♒04'52	0°59'20
max. Earth dist.	9697 Jan	25	13:31	11°♒03'15	31.30236 AU
morning rise	9697 Feb	11	03:05	11°♒39'49	
retrograde	9697 May	09	08:25	13°♒32'03	
opposition	9697 Jul	26	03:38	12°♒09'48	1°03'01
min. Earth dist.	9697 Jul	26	19:12	12°♒08'44	29.30479 AU
direct	9697 Oct	14	11:25	10°♒45'03	
evening set	9698 Jan	12	19:34	12°♒40'16	
conjunction	9698 Jan	28	18:00	13°♒15'25	0°58'53
minimum elong	9698 Jan	28	18:00	13°♒15'25	0°59'10
max. Earth dist.	9698 Jan	28	01:31	13°♒13'53	31.30640 AU
morning rise	9698 Feb	13	13:39	13°♒50'20	
	9698 Mar	21	19:06	15°♒	
retrograde	9698 May	11	17:31	15°♒42'31	
	9698 Jul	03	13:52	15°℞♒	
opposition	9698 Jul	28	14:07	14°♒20'18	1°02'47
min. Earth dist.	9698 Jul	29	05:35	14°♒19'14	29.30917 AU
direct	9698 Oct	16	23:15	12°♒55'33	
evening set	9699 Jan	15	07:05	14°♒50'46	
	9699 Jan	19	12:46	15°♒	
max. Earth dist.	9699 Jan	30	11:27	15°♒24'15	31.31129 AU
conjunction	9699 Jan	31	05:01	15°♒25'52	0°58'37
minimum elong	9699 Jan	31	05:01	15°♒25'53	0°58'53
morning rise	9699 Feb	16	00:27	16°♒00'47	
retrograde	9699 May	14	05:03	17°♒52'56	
opposition	9699 Jul	31	00:27	16°♒30'44	1°02'27
min. Earth dist.	9699 Jul	31	15:39	16°♒29'41	29.31452 AU
direct	9699 Oct	19	10:06	15°♒06'00	
evening set	9700 Jan	17	18:25	17°♒01'15	
conjunction	9700 Feb	02	16:10	17°♒36'20	0°58'16
minimum elong	9700 Feb	02	16:10	17°♒36'20	0°58'33
max. Earth dist.	9700 Feb	01	23:43	17°♒34'49	31.31693 AU
morning rise	9700 Feb	18	11:04	18°♒11'12	
retrograde	9700 May	16	14:50	20°♒03'21	
opposition	9700 Aug	02	11:04	18°♒41'12	1°02'02
min. Earth dist.	9700 Aug	03	03:00	18°♒40'06	29.32030 AU
direct	9700 Oct	21	22:06	17°♒16'31	
evening set	9701 Jan	20	05:45	19°♒11'47	
max. Earth dist.	9701 Feb	04	09:32	19°♒45'14	31.32284 AU
conjunction	9701 Feb	05	02:58	19°♒46'50	0°57'50
minimum elong	9701 Feb	05	02:58	19°♒46'50	0°58'06
morning rise	9701 Feb	20	21:40	20°♒21'42	

retrograde	9701 May 19 02:34	22°♒13'51	
opposition	9701 Aug 04 21:37	20°♒51'45	1°01'32
min. Earth dist.	9701 Aug 05 12:48	20°♒50'42	29.32610 AU
direct	9701 Oct 24 09:24	19°♒27'06	
evening set	9702 Jan 22 17:01	21°♒22'23	
conjunction	9702 Feb 07 14:01	21°♒57'26	0°57'19
minimum elong	9702 Feb 07 14:01	21°♒57'26	0°57'35
max. Earth dist.	9702 Feb 06 21:03	21°♒55'52	31.32831 AU
morning rise	9702 Feb 23 08:12	22°♒32'15	
retrograde	9702 May 21 12:40	24°♒24'25	
opposition	9702 Aug 07 08:16	23°♒02'22	1°00'56
min. Earth dist.	9702 Aug 08 00:46	23°♒01'13	29.33124 AU
direct	9702 Oct 26 21:13	21°♒37'45	
evening set	9703 Jan 25 04:22	23°♒33'03	
max. Earth dist.	9703 Feb 09 07:14	24°♒06'26	31.33297 AU
conjunction	9703 Feb 10 00:57	24°♒08'05	0°56'44
minimum elong	9703 Feb 10 00:57	24°♒08'05	0°56'58
morning rise	9703 Feb 25 18:54	24°♒42'53	
retrograde	9703 May 24 00:19	26°♒35'03	
opposition	9703 Aug 09 18:57	25°♒13'02	1°00'15
min. Earth dist.	9703 Aug 10 10:50	25°♒11'56	29.33519 AU
direct	9703 Oct 29 09:51	23°♒48'27	
evening set	9704 Jan 27 15:42	25°♒43'46	
conjunction	9704 Feb 12 11:55	26°♒18'46	0°56'03
minimum elong	9704 Feb 12 11:55	26°♒18'46	0°56'16
max. Earth dist.	9704 Feb 11 17:50	26°♒17'06	31.33615 AU
morning rise	9704 Feb 28 05:26	26°♒53'33	
retrograde	9704 May 25 09:24	28°♒45'43	
opposition	9704 Aug 11 05:49	27°♒23'44	0°59'29
min. Earth dist.	9704 Aug 11 22:58	27°♒22'33	29.33772 AU
direct	9704 Oct 30 20:12	25°♒59'10	
evening set	9705 Jan 29 02:56	27°♒54'29	
conjunction	9705 Feb 13 22:50	28°♒29'28	0°55'17
minimum elong	9705 Feb 13 22:50	28°♒29'28	0°55'30
max. Earth dist.	9705 Feb 13 04:51	28°♒27'48	31.33796 AU
morning rise	9705 Mar 01 15:59	29°♒04'14	
	9705 Mar 29 12:55	0°♓	
retrograde	9705 May 27 18:30	0°♓56'23	
	9705 Jul 28 21:39	30°℞♒	
opposition	9705 Aug 13 16:39	29°♒34'25	0°58'38
min. Earth dist.	9705 Aug 14 09:25	29°♒33'16	29.33869 AU
direct	9705 Nov 02 08:30	28°♒09'52	
	9706 Jan 29 04:41	0°♓	
evening set	9706 Jan 31 14:02	0°♓05'10	
conjunction	9706 Feb 16 09:31	0°♓40'08	0°54'27
minimum elong	9706 Feb 16 09:31	0°♓40'08	0°54'40
max. Earth dist.	9706 Feb 15 14:29	0°♓38'22	31.33820 AU
morning rise	9706 Mar 04 02:26	1°♓14'53	
retrograde	9706 May 30 04:45	3°♓07'02	
opposition	9706 Aug 16 03:32	1°♓45'03	0°57'42
min. Earth dist.	9706 Aug 16 20:54	1°♓43'51	29.33831 AU
direct	9706 Nov 04 17:46	0°♓20'30	
evening set	9707 Feb 03 01:03	2°♓15'46	
conjunction	9707 Feb 18 20:21	2°♓50'43	0°53'32
minimum elong	9707 Feb 18 20:21	2°♓50'43	0°53'44
max. Earth dist.	9707 Feb 18 01:59	2°♓49'01	31.33716 AU
morning rise	9707 Mar 06 12:48	3°♓25'27	
retrograde	9707 Jun 01 13:33	5°♓17'36	
opposition	9707 Aug 18 14:18	3°♓55'36	0°56'41
min. Earth dist.	9707 Aug 19 07:56	3°♓54'23	29.33660 AU
direct	9707 Nov 07 05:49	2°♓31'01	
evening set	9708 Feb 05 12:08	4°♓26'17	
max. Earth dist.	9708 Feb 20 11:24	4°♓59'23	31.33511 AU
conjunction	9708 Feb 21 06:55	5°♓01'12	0°52'33
minimum elong	9708 Feb 21 06:55	5°♓01'12	0°52'45
morning rise	9708 Mar 07 23:12	5°♓35'54	
retrograde	9708 Jun 03 00:52	7°♓28'04	
opposition	9708 Aug 20 01:12	6°♓06'01	0°55'36
min. Earth dist.	9708 Aug 20 18:30	6°♓04'50	29.33432 AU
direct	9708 Nov 08 16:41	4°♓41'26	
evening set	9709 Feb 06 22:46	6°♓36'39	
conjunction	9709 Feb 22 17:21	7°♓11'33	0°51'30
minimum elong	9709 Feb 22 17:22	7°♓11'33	0°51'40
max. Earth dist.	9709 Feb 21 23:08	7°♓09'52	31.33266 AU
morning rise	9709 Mar 10 09:08	7°♓46'14	
retrograde	9709 Jun 05 10:09	9°♓38'24	
opposition	9709 Aug 22 12:12	8°♓16'19	0°54'26
min. Earth dist.	9709 Aug 23 06:02	8°♓15'06	29.33191 AU
direct	9709 Nov 11 04:30	6°♓51'43	
evening set	9710 Feb 09 09:34	8°♓46'56	
max. Earth dist.	9710 Feb 24 08:51	9°♓20'03	31.33054 AU
conjunction	9710 Feb 25 03:39	9°♓21'48	0°50'22
minimum elong	9710 Feb 25 03:39	9°♓21'48	0°50'32
morning rise	9710 Mar 12 19:17	9°♓56'28	
retrograde	9710 Jun 07 21:32	11°♓48'39	
opposition	9710 Aug 24 22:57	10°♓26'33	0°53'11
min. Earth dist.	9710 Aug 25 15:33	10°♓25'25	29.33015 AU
direct	9710 Nov 13 15:39	9°♓01'56	
evening set	9711 Feb 11 20:12	10°♓57'09	
conjunction	9711 Feb 27 14:05	11°♓32'00	0°49'10
minimum elong	9711 Feb 27 14:05	11°♓32'00	0°49'19
max. Earth dist.	9711 Feb 26 20:10	11°♓30'20	31.32914 AU
morning rise	9711 Mar 15 05:15	12°♓06'39	
retrograde	9711 Jun 10 07:48	13°♓58'52	
opposition	9711 Aug 27 10:01	12°♓36'45	0°51'52
min. Earth dist.	9711 Aug 28 03:14	12°♓35'34	29.32922 AU
direct	9711 Nov 16 03:59	11°♓12'11	
evening set	9712 Feb 14 06:49	13°♓07'23	
max. Earth dist.	9712 Feb 29 06:28	13°♓40'34	31.32873 AU
conjunction	9712 Mar 01 00:17	13°♓42'14	0°47'54
minimum elong	9712 Mar 01 00:17	13°♓42'14	0°48'02
morning rise	9712 Mar 16 15:13	14°♓16'52	
retrograde	9712 Jun 11 19:36	16°♓09'06	
opposition	9712 Aug 28 20:57	14°♓47'01	0°50'28
min. Earth dist.	9712 Aug 29 12:52	14°♓45'56	29.32909 AU
direct	9712 Nov 17 16:49	13°♓22'30	
evening set	9713 Feb 15 17:24	15°♓17'43	
conjunction	9713 Mar 03 10:32	15°♓52'32	0°46'33
minimum elong	9713 Mar 03 10:32	15°♓52'32	0°46'40
max. Earth dist.	9713 Mar 02 16:56	15°♓50'54	31.32888 AU
morning rise	9713 Mar 19 01:08	16°♓27'10	
retrograde	9713 Jun 14 04:50	18°♓19'28	
opposition	9713 Aug 31 08:05	16°♓57'24	0°49'00
min. Earth dist.	9713 Sep 01 00:39	16°♓56'16	29.32947 AU
direct	9713 Nov 20 02:59	15°♓32'56	
evening set	9714 Feb 18 03:50	17°♓28'09	
conjunction	9714 Mar 05 20:43	18°♓02'59	0°45'09
minimum elong	9714 Mar 05 20:43	18°♓02'59	0°45'15
max. Earth dist.	9714 Mar 05 03:54	18°♓01'25	31.32929 AU
morning rise	9714 Mar 21 11:01	18°♓37'36	
retrograde	9714 Jun 16 14:01	20°♓29'57	

opposition	9714 Sep 02 19:11	19°♓07'55	0°47'27
min. Earth dist.	9714 Sep 03 11:04	19°♓06'50	29.32958 AU
direct	9714 Nov 22 15:22	17°♓43'30	
evening set	9715 Feb 20 14:31	19°♓38'43	
conjunction	9715 Mar 08 06:57	20°♓13'32	0°43'40
minimum elong	9715 Mar 08 06:57	20°♓13'32	0°43'45
max. Earth dist.	9715 Mar 07 13:23	20°♓11'54	31.32913 AU
morning rise	9715 Mar 23 21:02	20°♓48'08	
retrograde	9715 Jun 19 00:44	22°♓40'33	
opposition	9715 Sep 05 06:21	21°♓18'32	0°45'51
min. Earth dist.	9715 Sep 05 22:29	21°♓17'26	29.32911 AU
direct	9715 Nov 25 00:42	19°♓54'09	
evening set	9716 Feb 23 01:05	21°♓49'23	
conjunction	9716 Mar 09 17:19	22°♓24'10	0°42'08
minimum elong	9716 Mar 09 17:19	22°♓24'10	0°42'13
max. Earth dist.	9716 Mar 09 00:46	22°♓22'38	31.32815 AU
morning rise	9716 Mar 25 06:58	22°♓58'46	
retrograde	9716 Jun 20 09:37	24°♓51'15	
opposition	9716 Sep 06 17:47	23°♓29'14	0°44'10
min. Earth dist.	9716 Sep 07 09:59	23°♓28'07	29.32749 AU
direct	9716 Nov 26 12:53	22°♓04'53	
evening set	9717 Feb 24 11:38	24°♓00'05	
max. Earth dist.	9717 Mar 11 09:47	24°♓33'13	31.32596 AU
conjunction	9717 Mar 12 03:22	24°♓34'52	0°40'32
minimum elong	9717 Mar 12 03:22	24°♓34'52	0°40'36
morning rise	9717 Mar 27 16:55	25°♓09'27	
retrograde	9717 Jun 22 20:36	27°♓01'59	
opposition	9717 Sep 09 05:11	25°♓39'57	0°42'26
min. Earth dist.	9717 Sep 09 20:57	25°♓38'52	29.32468 AU
direct	9717 Nov 28 22:58	24°♓15'37	
evening set	9718 Feb 26 22:08	26°♓10'47	
conjunction	9718 Mar 14 13:43	26°♓45'34	0°38'53
minimum elong	9718 Mar 14 13:43	26°♓45'34	0°38'56
max. Earth dist.	9718 Mar 13 21:10	26°♓44'01	31.32239 AU
morning rise	9718 Mar 30 02:50	27°♓20'08	
retrograde	9718 Jun 25 05:55	29°♓12'43	
opposition	9718 Sep 11 16:35	27°♓50'38	0°40'38
min. Earth dist.	9718 Sep 12 09:10	27°♓49'31	29.32039 AU
direct	9718 Dec 01 09:57	26°♓26'19	
evening set	9719 Mar 01 08:44	28°♓21'27	
conjunction	9719 Mar 16 23:54	28°♓56'12	0°37'11
minimum elong	9719 Mar 16 23:54	28°♓56'12	0°37'13
max. Earth dist.	9719 Mar 16 06:32	28°♓54'35	31.31752 AU
morning rise	9719 Apr 01 12:55	29°♓30'47	
	9719 Apr 15 08:34	0°♈	
retrograde	9719 Jun 27 17:36	1°♈23'23	
opposition	9719 Sep 14 04:00	0°♈01'16	0°38'47
	9719 Sep 14 22:30	30°♑♓	
min. Earth dist.	9719 Sep 14 19:33	0°♈00'12	29.31485 AU
direct	9719 Dec 03 21:28	28°♓36'55	
	9720 Feb 16 13:34	0°♈	
evening set	9720 Mar 02 19:03	0°♈32'01	
conjunction	9720 Mar 18 10:00	1°♈06'45	0°35'25
minimum elong	9720 Mar 18 10:00	1°♈06'45	0°35'26
max. Earth dist.	9720 Mar 17 17:18	1°♈05'11	31.31140 AU
morning rise	9720 Apr 02 22:39	1°♈41'18	
retrograde	9720 Jun 29 04:02	3°♈33'58	
opposition	9720 Sep 15 15:37	2°♈11'46	0°36'53
min. Earth dist.	9720 Sep 16 07:57	2°♈10'39	29.30836 AU
direct	9720 Dec 05 09:55	0°♈47'24	
evening set	9721 Mar 05 05:22	2°♈42'27	
conjunction	9721 Mar 20 19:59	3°♈17'10	0°33'37
minimum elong	9721 Mar 20 19:59	3°♈17'10	0°33'37
max. Earth dist.	9721 Mar 20 03:28	3°♈15'38	31.30478 AU
morning rise	9721 Apr 05 08:28	3°♈51'43	
retrograde	9721 Jul 01 15:26	5°♈44'24	
opposition	9721 Sep 18 03:01	4°♈22'08	0°34'55
min. Earth dist.	9721 Sep 18 18:01	4°♈21'07	29.30159 AU
direct	9721 Dec 07 22:58	2°♈57'45	
evening set	9722 Mar 07 15:29	4°♈52'45	
conjunction	9722 Mar 23 05:49	5°♈27'27	0°31'46
minimum elong	9722 Mar 23 05:49	5°♈27'27	0°31'45
max. Earth dist.	9722 Mar 22 13:36	5°♈25'57	31.29807 AU
morning rise	9722 Apr 07 18:06	6°♈02'00	
retrograde	9722 Jul 04 01:08	7°♈54'44	
opposition	9722 Sep 20 14:37	6°♈32'24	0°32'55
min. Earth dist.	9722 Sep 21 05:57	6°♈31'22	29.29522 AU
direct	9722 Dec 10 09:45	5°♈08'02	
evening set	9723 Mar 10 01:37	7°♈02'59	
conjunction	9723 Mar 25 15:43	7°♈37'41	0°29'52
minimum elong	9723 Mar 25 15:43	7°♈37'41	0°29'50
max. Earth dist.	9723 Mar 25 00:45	7°♈36'17	31.29208 AU
morning rise	9723 Apr 10 03:41	8°♈12'13	
retrograde	9723 Jul 06 10:30	10°♈05'01	
opposition	9723 Sep 23 02:09	8°♈42'39	0°30'52
min. Earth dist.	9723 Sep 23 16:15	8°♈41'42	29.28960 AU
direct	9723 Dec 12 22:46	7°♈18'18	
evening set	9724 Mar 11 11:49	9°♈13'14	
max. Earth dist.	9724 Mar 26 10:20	9°♈46'31	31.28705 AU
conjunction	9724 Mar 27 01:31	9°♈47'56	0°27'55
minimum elong	9724 Mar 27 01:31	9°♈47'56	0°27'53
morning rise	9724 Apr 11 13:22	10°♈22'28	
retrograde	9724 Jul 07 21:38	12°♈15'21	
opposition	9724 Sep 24 13:51	10°♈52'59	0°28'46
min. Earth dist.	9724 Sep 25 03:26	10°♈52'03	29.28515 AU
direct	9724 Dec 14 08:34	9°♈28'40	
evening set	9725 Mar 13 21:42	11°♈23'36	
conjunction	9725 Mar 29 11:18	11°♈58'17	0°25'56
minimum elong	9725 Mar 29 11:18	11°♈58'17	0°25'53
max. Earth dist.	9725 Mar 28 21:48	11°♈57'02	31.28301 AU
morning rise	9725 Apr 13 22:49	12°♈32'50	
retrograde	9725 Jul 10 06:38	14°♈25'49	
opposition	9725 Sep 27 01:37	13°♈03'27	0°26'37
min. Earth dist.	9725 Sep 27 14:46	13°♈02'34	29.28133 AU
direct	9725 Dec 16 20:34	11°♈39'13	
evening set	9726 Mar 16 07:54	13°♈34'09	
conjunction	9726 Mar 31 21:04	14°♈08'50	0°23'54
minimum elong	9726 Mar 31 21:04	14°♈08'50	0°23'51
max. Earth dist.	9726 Mar 31 07:04	14°♈07'32	31.27950 AU
morning rise	9726 Apr 16 08:35	14°♈43'23	
retrograde	9726 Jul 12 17:59	16°♈36'29	
opposition	9726 Sep 29 13:13	15°♈14'08	0°24'26
min. Earth dist.	9726 Sep 30 01:30	15°♈13'18	29.27790 AU
direct	9726 Dec 19 06:01	13°♈49'58	
evening set	9727 Mar 18 18:00	15°♈44'55	
conjunction	9727 Apr 03 07:04	16°♈19'36	0°21'51
minimum elong	9727 Apr 03 07:04	16°♈19'36	0°21'46
max. Earth dist.	9727 Apr 02 18:30	16°♈18'26	31.27595 AU
morning rise	9727 Apr 18 18:13	16°♈54'09	
retrograde	9727 Jul 15 03:54	18°♈47'23	
opposition	9727 Oct 02 01:14	17°♈25'02	0°22'12
min. Earth dist.	9727 Oct 02 13:57	17°♈24'10	29.27414 AU

direct	9727 Dec 21 16:12	16°♈00'57	
evening set	9728 Mar 20 04:10	17°♈55'54	
conjunction	9728 Apr 04 16:50	18°♈30'34	0°19'45
minimum elong	9728 Apr 04 16:50	18°♈30'34	0°19'39
max. Earth dist.	9728 Apr 04 03:59	18°♈29'22	31.27197 AU
morning rise	9728 Apr 20 03:56	19°♈05'08	
retrograde	9728 Jul 16 16:14	20°♈58'29	
opposition	9728 Oct 03 13:13	19°♈36'09	0°19'57
min. Earth dist.	9728 Oct 04 00:36	19°♈35'23	29.26975 AU
direct	9728 Dec 23 03:11	18°♈12'07	
evening set	9729 Mar 22 14:22	20°♈07'05	
conjunction	9729 Apr 07 02:51	20°♈41'45	0°17'38
minimum elong	9729 Apr 07 02:51	20°♈41'45	0°17'31
max. Earth dist.	9729 Apr 06 14:39	20°♈40'37	31.26701 AU
morning rise	9729 Apr 22 13:41	21°♈16'19	
retrograde	9729 Jul 19 03:52	23°♈09'48	
opposition	9729 Oct 06 01:20	21°♈47'26	0°17'40
min. Earth dist.	9729 Oct 06 13:30	21°♈46'37	29.26428 AU
direct	9729 Dec 25 15:00	20°♈23'27	
evening set	9730 Mar 25 00:35	22°♈18'25	
conjunction	9730 Apr 09 12:50	22°♈53'05	0°15'29
minimum elong	9730 Apr 09 12:50	22°♈53'05	0°15'21
behind sun begin	9730 Apr 09 10:45	22°♈52'54	
behind sun end	9730 Apr 09 14:55	22°♈53'16	
max. Earth dist.	9730 Apr 09 00:48	22°♈51'58	31.26095 AU
morning rise	9730 Apr 24 23:33	23°♈27'38	
retrograde	9730 Jul 21 16:18	25°♈21'14	
opposition	9730 Oct 08 13:26	23°♈58'51	0°15'21
min. Earth dist.	9730 Oct 09 00:24	23°♈58'06	29.25739 AU
direct	9730 Dec 28 03:47	22°♈34'53	
evening set	9731 Mar 27 10:53	24°♈29'50	
conjunction	9731 Apr 11 22:50	25°♈04'30	0°13'18
minimum elong	9731 Apr 11 22:50	25°♈04'30	0°13'10
behind sun begin	9731 Apr 11 18:58	25°♈04'09	
behind sun end	9731 Apr 12 02:42	25°♈04'51	
max. Earth dist.	9731 Apr 11 10:39	25°♈03'22	31.25328 AU
morning rise	9731 Apr 27 09:25	25°♈39'04	
retrograde	9731 Jul 24 03:00	27°♈32'45	
opposition	9731 Oct 11 01:43	26°♈10'19	0°13'01
min. Earth dist.	9731 Oct 11 13:17	26°♈09'32	29.24908 AU
direct	9731 Dec 30 14:50	24°♈46'23	
evening set	9732 Mar 28 21:04	26°♈41'17	
conjunction	9732 Apr 13 08:55	27°♈15'57	0°11'07
minimum elong	9732 Apr 13 08:55	27°♈15'57	0°10'58
behind sun begin	9732 Apr 13 04:02	27°♈15'30	
behind sun end	9732 Apr 13 13:48	27°♈16'23	
max. Earth dist.	9732 Apr 12 21:46	27°♈14'55	31.24435 AU
morning rise	9732 Apr 28 19:17	27°♈50'31	
retrograde	9732 Jul 25 13:40	29°♈44'16	
opposition	9732 Oct 12 13:59	28°♈21'46	0°10'39
min. Earth dist.	9732 Oct 13 00:39	28°♈21'03	29.23946 AU
direct	9733 Jan 01 04:59	26°♈57'50	
evening set	9733 Mar 31 07:09	28°♈52'40	
conjunction	9733 Apr 15 18:40	29°♈27'20	0°08'55
minimum elong	9733 Apr 15 18:41	29°♈27'20	0°08'46
behind sun begin	9733 Apr 15 13:06	29°♈26'50	
behind sun end	9733 Apr 16 00:15	29°♈27'50	
max. Earth dist.	9733 Apr 15 07:02	29°♈26'15	31.23431 AU
	9733 Apr 30 08:18	0°♉	
morning rise	9733 May 01 05:06	0°♉01'55	
retrograde	9733 Jul 28 01:27	1°♉55'45	
opposition	9733 Oct 15 02:15	0°♉33'09	0°08'17
min. Earth dist.	9733 Oct 15 12:39	0°♉32'27	29.22917 AU
	9733 Nov 04 23:33	30°℞♈	
direct	9734 Jan 03 16:22	29°♈09'11	
	9734 Mar 01 11:08	0°♉	
evening set	9734 Apr 02 17:09	1°♉03'58	
conjunction	9734 Apr 18 04:40	1°♉38'38	0°06'43
minimum elong	9734 Apr 18 04:39	1°♉38'38	0°06'33
behind sun begin	9734 Apr 17 22:37	1°♉38'05	
behind sun end	9734 Apr 18 10:41	1°♉39'10	
max. Earth dist.	9734 Apr 17 18:36	1°♉37'42	31.22383 AU
morning rise	9734 May 03 14:48	2°♉13'13	
retrograde	9734 Jul 30 09:56	4°♉07'06	
opposition	9734 Oct 17 14:25	2°♉44'26	0°05'55
min. Earth dist.	9734 Oct 18 00:21	2°♉43'46	29.21866 AU
direct	9735 Jan 06 05:10	1°♉20'27	
evening set	9735 Apr 05 03:17	3°♉15'11	
conjunction	9735 Apr 20 14:24	3°♉49'50	0°04'30
minimum elong	9735 Apr 20 14:24	3°♉49'50	0°04'19
behind sun begin	9735 Apr 20 08:05	3°♉49'16	
behind sun end	9735 Apr 20 20:43	3°♉50'24	
max. Earth dist.	9735 Apr 20 04:05	3°♉48'53	31.21361 AU
morning rise	9735 May 06 00:36	4°♉24'25	
retrograde	9735 Aug 01 20:43	6°♉18'24	
opposition	9735 Oct 20 02:43	4°♉55'39	0°03'32
min. Earth dist.	9735 Oct 20 11:22	4°♉55'04	29.20884 AU
direct	9736 Jan 08 15:43	3°♉31'40	
evening set	9736 Apr 06 13:08	5°♉26'21	
conjunction	9736 Apr 22 00:13	6°♉01'00	0°02'15
minimum elong	9736 Apr 22 00:12	6°♉01'00	0°02'03
behind sun begin	9736 Apr 21 17:47	6°♉00'25	
behind sun end	9736 Apr 22 06:37	6°♉01'35	
max. Earth dist.	9736 Apr 21 15:40	6°♉00'13	31.20415 AU
morning rise	9736 May 07 10:08	6°♉35'35	
retrograde	9736 Aug 03 06:28	8°♉29'41	
opposition	9736 Oct 21 15:11	7°♉06'52	0°01'08
min. Earth dist.	9736 Oct 21 23:45	7°♉06'17	29.19987 AU
direct	9737 Jan 10 02:30	5°♉42'54	
evening set	9737 Apr 08 23:09	7°♉37'33	
desc. node	9737 Apr 15 18:07	7°♉52'39	
conjunction	9737 Apr 24 09:58	8°♉12'12	-0°00'04
minimum elong	9737 Apr 24 09:57	8°♉12'12	0°00'16
behind sun begin	9737 Apr 24 03:36	8°♉11'37	
behind sun end	9737 Apr 24 16:19	8°♉12'46	
max. Earth dist.	9737 Apr 24 01:39	8°♉11'26	31.19575 AU
morning rise	9737 May 09 19:57	8°♉46'48	
retrograde	9737 Aug 05 18:22	10°♉41'00	
opposition	9737 Oct 24 03:22	9°♉18'09	-0°01'16
min. Earth dist.	9737 Oct 24 10:09	9°♉17'42	29.19187 AU
direct	9738 Jan 12 13:29	7°♉54'13	
evening set	9738 Apr 11 09:07	9°♉48'51	
conjunction	9738 Apr 26 19:49	10°♉23'30	-0°02'22
minimum elong	9738 Apr 26 19:50	10°♉23'30	0°02'35
behind sun begin	9738 Apr 26 13:25	10°♉22'56	
behind sun end	9738 Apr 27 02:15	10°♉24'05	
max. Earth dist.	9738 Apr 26 12:31	10°♉22'50	31.18802 AU
morning rise	9738 May 12 05:43	10°♉58'07	
retrograde	9738 Aug 08 05:49	12°♉52'27	
opposition	9738 Oct 26 15:54	11°♉29'34	-0°03'40
min. Earth dist.	9738 Oct 26 22:59	11°♉29'05	29.18439 AU
direct	9739 Jan 15 00:15	10°♉05'41	
evening set	9739 Apr 13 19:06	12°♉00'18	

conjunction	9739 Apr 29 05:40	12°♉34'58	-0°04'36
minimum elong	9739 Apr 29 05:39	12°♉34'58	0°04'51
behind sun begin	9739 Apr 28 23:23	12°♉34'24	
behind sun end	9739 Apr 29 11:55	12°♉35'31	
max. Earth dist.	9739 Apr 28 23:08	12°♉34'22	31.18073 AU
morning rise	9739 May 14 15:28	13°♉09'35	
	9739 Jul 26 04:53	15°♉	
retrograde	9739 Aug 10 18:07	15°♉04'03	
	9739 Aug 26 11:38	15°℞♉	
opposition	9739 Oct 29 04:21	13°♉41'09	-0°06'03
min. Earth dist.	9739 Oct 29 09:49	13°♉40'47	29.17704 AU
direct	9740 Jan 17 12:04	12°♉17'18	
evening set	9740 Apr 15 05:14	14°♉11'56	
conjunction	9740 Apr 30 15:34	14°♉46'36	-0°06'50
minimum elong	9740 Apr 30 15:34	14°♉46'36	0°07'05
behind sun begin	9740 Apr 30 09:37	14°♉46'04	
behind sun end	9740 Apr 30 21:30	14°♉47'08	
max. Earth dist.	9740 Apr 30 09:14	14°♉46'01	31.17330 AU
	9740 May 06 13:38	15°♉	
morning rise	9740 May 16 01:23	15°♉21'14	
retrograde	9740 Aug 12 06:16	17°♉15'51	
opposition	9740 Oct 30 17:06	15°♉52'55	-0°08'27
min. Earth dist.	9740 Oct 30 22:51	15°♉52'32	29.16953 AU
	9740 Dec 04 19:06	15°℞♉	
direct	9741 Jan 18 22:50	14°♉29'08	
	9741 Mar 03 15:30	15°♉	
evening set	9741 Apr 17 15:14	16°♉23'45	
conjunction	9741 May 03 01:35	16°♉58'25	-0°09'03
minimum elong	9741 May 03 01:34	16°♉58'25	0°09'19
behind sun begin	9741 May 02 20:09	16°♉57'56	
behind sun end	9741 May 03 07:00	16°♉58'55	
max. Earth dist.	9741 May 02 20:36	16°♉57'58	31.16548 AU
morning rise	9741 May 18 11:16	17°♉33'04	
retrograde	9741 Aug 14 18:11	19°♉27'49	
opposition	9741 Nov 02 05:46	18°♉04'52	-0°10'49
min. Earth dist.	9741 Nov 02 10:32	18°♉04'33	29.16121 AU
direct	9742 Jan 21 12:34	16°♉41'08	
evening set	9742 Apr 20 01:35	18°♉35'45	
conjunction	9742 May 05 11:38	19°♉10'25	-0°11'16
minimum elong	9742 May 05 11:38	19°♉10'25	0°11'31
behind sun begin	9742 May 05 06:58	19°♉10'00	
behind sun end	9742 May 05 16:17	19°♉10'51	
max. Earth dist.	9742 May 05 06:02	19°♉09'55	31.15666 AU
morning rise	9742 May 20 21:25	19°♉45'06	
retrograde	9742 Aug 17 07:07	21°♉39'58	
opposition	9742 Nov 04 18:27	20°♉16'59	-0°13'11
min. Earth dist.	9742 Nov 04 23:03	20°♉16'41	29.15190 AU
direct	9743 Jan 23 23:49	18°♉53'17	
evening set	9743 Apr 22 11:49	20°♉47'53	
conjunction	9743 May 07 21:55	21°♉22'34	-0°13'27
minimum elong	9743 May 07 21:55	21°♉22'34	0°13'44
behind sun begin	9743 May 07 18:23	21°♉22'15	
behind sun end	9743 May 08 01:27	21°♉22'54	
max. Earth dist.	9743 May 07 17:41	21°♉22'11	31.14666 AU
morning rise	9743 May 23 07:31	21°♉57'16	
retrograde	9743 Aug 19 17:05	23°♉52'16	
opposition	9743 Nov 07 07:23	22°♉29'14	-0°15'31
min. Earth dist.	9743 Nov 07 11:41	22°♉28'57	29.14117 AU
direct	9744 Jan 26 12:50	21°♉05'33	
evening set	9744 Apr 23 22:06	23°♉00'08	
conjunction	9744 May 09 07:57	23°♉34'49	-0°15'38
minimum elong	9744 May 09 07:56	23°♉34'49	0°15'55
behind sun begin	9744 May 09 06:41	23°♉34'42	
behind sun end	9744 May 09 09:12	23°♉34'56	
max. Earth dist.	9744 May 09 03:07	23°♉34'22	31.13535 AU
morning rise	9744 May 24 17:43	24°♉09'31	
retrograde	9744 Aug 21 04:57	26°♉04'39	
opposition	9744 Nov 08 20:16	24°♉41'33	-0°17'51
min. Earth dist.	9744 Nov 08 23:40	24°♉41'19	29.12925 AU
direct	9745 Jan 28 00:07	23°♉17'51	
evening set	9745 Apr 26 08:18	25°♉12'23	
conjunction	9745 May 11 18:13	25°♉47'06	-0°17'47
minimum elong	9745 May 11 18:13	25°♉47'06	0°18'04
max. Earth dist.	9745 May 11 14:42	25°♉46'47	31.12281 AU
morning rise	9745 May 27 03:53	26°♉21'49	
retrograde	9745 Aug 23 15:16	28°♉17'03	
opposition	9745 Nov 11 09:04	26°♉53'52	-0°20'08
min. Earth dist.	9745 Nov 11 12:49	26°♉53'36	29.11629 AU
direct	9746 Jan 30 11:37	25°♉30'09	
evening set	9746 Apr 28 18:32	27°♉24'39	
conjunction	9746 May 14 04:19	27°♉59'21	-0°19'54
minimum elong	9746 May 14 04:19	27°♉59'21	0°20'13
max. Earth dist.	9746 May 14 00:53	27°♉59'02	31.10970 AU
morning rise	9746 May 29 14:07	28°♉34'05	
	9746 Jul 14 19:07	0°♊	
retrograde	9746 Aug 26 03:07	0°♊29'25	
	9746 Oct 09 01:22	30°℞♉	
opposition	9746 Nov 13 21:50	29°♉06'08	-0°22'24
min. Earth dist.	9746 Nov 13 23:56	29°♉06'00	29.10309 AU
direct	9747 Feb 01 23:17	27°♉42'24	
evening set	9747 May 01 04:37	29°♉36'51	
	9747 May 11 12:07	0°♊	
conjunction	9747 May 16 14:19	0°♊11'34	-0°22'00
minimum elong	9747 May 16 14:19	0°♊11'34	0°22'19
max. Earth dist.	9747 May 16 11:53	0°♊11'20	31.09652 AU
morning rise	9747 Jun 01 00:06	0°♊46'19	
retrograde	9747 Aug 28 14:19	2°♊41'45	
opposition	9747 Nov 16 10:49	1°♊18'23	-0°24'38
min. Earth dist.	9747 Nov 16 13:01	1°♊18'14	29.09031 AU
	9748 Jan 17 06:42	30°℞♉	
direct	9748 Feb 04 10:03	29°♉54'39	
	9748 Feb 22 09:23	0°♊	
evening set	9748 May 02 14:45	1°♊49'03	
conjunction	9748 May 18 00:26	2°♊23'46	-0°24'04
minimum elong	9748 May 18 00:26	2°♊23'46	0°24'24
max. Earth dist.	9748 May 17 23:07	2°♊23'39	31.08425 AU
morning rise	9748 Jun 02 10:14	2°♊58'32	
retrograde	9748 Aug 30 02:34	4°♊54'06	
opposition	9748 Nov 17 23:35	3°♊30'39	-0°26'49
min. Earth dist.	9748 Nov 17 23:49	3°♊30'38	29.07856 AU
direct	9749 Feb 05 21:15	2°♊06'54	
evening set	9749 May 05 00:52	4°♊01'18	
conjunction	9749 May 20 10:27	4°♊36'02	-0°26'06
minimum elong	9749 May 20 10:27	4°♊36'02	0°26'26
max. Earth dist.	9749 May 20 09:32	4°♊35'57	31.07304 AU
morning rise	9749 Jun 04 20:25	5°♊10'49	
retrograde	9749 Sep 01 15:09	7°♊06'30	
opposition	9749 Nov 20 12:30	5°♊43'00	-0°28'59
min. Earth dist.	9749 Nov 20 12:40	5°♊43'00	29.06801 AU
direct	9750 Feb 08 08:12	4°♊19'17	
evening set	9750 May 07 10:59	6°♊13'40	
conjunction	9750 May 22 20:40	6°♊48'24	-0°28'06
minimum elong	9750 May 22 20:40	6°♊48'24	0°28'26

max. Earth dist.	9750 May 22 21:30	6°♊48'29	31.06303 AU
morning rise	9750 Jun 07 06:34	7°♊23'12	
retrograde	9750 Sep 04 04:00	9°♊19'01	
opposition	9750 Nov 23 01:16	7°♊55'29	-0°31'06
min. Earth dist.	9750 Nov 23 00:00	7°♊55'34	29.05842 AU
direct	9751 Feb 10 21:42	6°♊31'47	
evening set	9751 May 09 21:18	8°♊26'11	
conjunction	9751 May 25 06:48	9°♊00'56	-0°30'03
minimum elong	9751 May 25 06:48	9°♊00'56	0°30'24
max. Earth dist.	9751 May 25 07:29	9°♊01'00	31.05393 AU
morning rise	9751 Jun 09 16:56	9°♊35'45	
retrograde	9751 Sep 06 17:34	11°♊31'42	
opposition	9751 Nov 25 14:17	10°♊08'08	-0°33'10
min. Earth dist.	9751 Nov 25 12:23	10°♊08'16	29.04977 AU
direct	9752 Feb 13 08:37	8°♊44'29	
evening set	9752 May 11 07:22	10°♊38'52	
conjunction	9752 May 26 17:02	11°♊13'38	-0°31'58
minimum elong	9752 May 26 17:02	11°♊13'38	0°32'19
max. Earth dist.	9752 May 26 19:35	11°♊13'52	31.04549 AU
morning rise	9752 Jun 11 03:07	11°♊48'29	
retrograde	9752 Sep 08 04:27	13°♊44'34	
opposition	9752 Nov 27 03:19	12°♊20'58	-0°35'12
min. Earth dist.	9752 Nov 27 00:49	12°♊21'09	29.04144 AU
direct	9753 Feb 14 21:27	10°♊57'22	
evening set	9753 May 13 17:50	12°♊51'45	
conjunction	9753 May 29 03:23	13°♊26'32	-0°33'51
minimum elong	9753 May 29 03:23	13°♊26'32	0°34'12
max. Earth dist.	9753 May 29 05:36	13°♊26'44	31.03727 AU
morning rise	9753 Jun 13 13:44	14°♊01'24	
retrograde	9753 Sep 10 17:43	15°♊57'37	
opposition	9753 Nov 29 16:11	14°♊33'59	-0°37'10
min. Earth dist.	9753 Nov 29 12:43	14°♊34'14	29.03320 AU
direct	9754 Feb 17 09:22	13°♊10'25	
evening set	9754 May 16 04:16	15°♊04'48	
conjunction	9754 May 31 13:57	15°♊39'36	-0°35'40
minimum elong	9754 May 31 13:57	15°♊39'36	0°36'02
max. Earth dist.	9754 May 31 17:30	15°♊39'56	31.02873 AU
morning rise	9754 Jun 16 00:17	16°♊14'29	
retrograde	9754 Sep 13 05:15	18°♊10'51	
opposition	9754 Dec 02 05:23	16°♊47'11	-0°39'06
min. Earth dist.	9754 Dec 02 02:14	16°♊47'24	29.02439 AU
direct	9755 Feb 19 21:29	15°♊23'39	
evening set	9755 May 18 14:47	17°♊18'00	
conjunction	9755 Jun 03 00:25	17°♊52'49	-0°37'26
minimum elong	9755 Jun 03 00:25	17°♊52'49	0°37'48
max. Earth dist.	9755 Jun 03 04:00	17°♊53'09	31.01958 AU
morning rise	9755 Jun 18 10:57	18°♊27'44	
retrograde	9755 Sep 15 17:18	20°♊24'12	
opposition	9755 Dec 04 18:35	19°♊00'30	-0°40'57
min. Earth dist.	9755 Dec 04 13:59	19°♊00'49	29.01476 AU
direct	9756 Feb 22 09:19	17°♊36'58	
evening set	9756 May 20 01:27	19°♊31'18	
conjunction	9756 Jun 04 11:08	20°♊06'08	-0°39'09
minimum elong	9756 Jun 04 11:08	20°♊06'08	0°39'31
max. Earth dist.	9756 Jun 04 15:11	20°♊06'30	31.00934 AU
morning rise	9756 Jun 19 21:48	20°♊41'04	
retrograde	9756 Sep 17 04:37	22°♊37'39	
opposition	9756 Dec 06 07:52	21°♊13'53	-0°42'46
min. Earth dist.	9756 Dec 06 03:53	21°♊14'09	29.00405 AU
direct	9757 Feb 23 20:07	19°♊50'20	
evening set	9757 May 22 12:02	21°♊44'38	

conjunction	9757 Jun 06 21:53	22°♊19'28	-0°40'48
minimum elong	9757 Jun 06 21:53	22°♊19'28	0°41'11
max. Earth dist.	9757 Jun 07 02:33	22°♊19'55	30.99816 AU
morning rise	9757 Jun 22 08:42	22°♊54'25	
retrograde	9757 Sep 19 17:06	24°♊51'06	
opposition	9757 Dec 08 21:00	23°♊27'15	-0°44'30
min. Earth dist.	9757 Dec 08 15:32	23°♊27'37	28.99232 AU
direct	9758 Feb 26 07:58	22°♊03'40	
evening set	9758 May 24 22:42	23°♊57'55	
conjunction	9758 Jun 09 08:31	24°♊32'46	-0°42'24
minimum elong	9758 Jun 09 08:31	24°♊32'46	0°42'47
max. Earth dist.	9758 Jun 09 13:07	24°♊33'12	30.98607 AU
morning rise	9758 Jun 24 19:35	25°♊07'45	
retrograde	9758 Sep 22 05:43	27°♊04'31	
opposition	9758 Dec 11 10:12	25°♊40'33	-0°46'11
min. Earth dist.	9758 Dec 11 05:06	25°♊40'54	28.98017 AU
direct	9759 Feb 28 19:13	24°♊16'57	
evening set	9759 May 27 09:13	26°♊11'09	
conjunction	9759 Jun 11 19:16	26°♊46'01	-0°43'56
minimum elong	9759 Jun 11 19:16	26°♊46'01	0°44'19
max. Earth dist.	9759 Jun 12 01:31	26°♊46'36	30.97398 AU
morning rise	9759 Jun 27 06:23	27°♊21'00	
retrograde	9759 Sep 24 18:26	29°♊17'51	
opposition	9759 Dec 13 23:21	27°♊53'48	-0°47'47
min. Earth dist.	9759 Dec 13 16:53	27°♊54'15	28.96827 AU
direct	9760 Mar 02 08:20	26°♊30'10	
evening set	9760 May 28 19:48	28°♊24'20	
conjunction	9760 Jun 13 05:48	28°♊59'12	-0°45'25
minimum elong	9760 Jun 13 05:48	28°♊59'12	0°45'47
max. Earth dist.	9760 Jun 13 11:52	28°♊59'47	30.96246 AU
morning rise	9760 Jun 28 17:17	29°♊34'13	
	9760 Jul 10 15:19	0°♋	
retrograde	9760 Sep 26 08:04	1°♋31'10	
opposition	9760 Dec 15 12:32	0°♋07'02	-0°49'20
min. Earth dist.	9760 Dec 15 05:30	0°♋07'31	28.95737 AU
	9760 Dec 19 19:17	30°℞♊	
direct	9761 Mar 04 19:09	28°♊43'23	
	9761 May 13 13:44	0°♋	
evening set	9761 May 31 06:22	0°♋37'32	
conjunction	9761 Jun 15 16:39	1°♋12'25	-0°46'49
minimum elong	9761 Jun 15 16:39	1°♋12'25	0°47'11
max. Earth dist.	9761 Jun 16 00:35	1°♋13'10	30.95205 AU
morning rise	9761 Jul 01 04:11	1°♋47'27	
retrograde	9761 Sep 28 19:52	3°♋44'30	
opposition	9761 Dec 18 01:30	2°♋20'18	-0°50'48
min. Earth dist.	9761 Dec 17 17:39	2°♋20'51	28.94756 AU
direct	9762 Mar 07 08:11	0°♋56'40	
evening set	9762 Jun 02 17:07	2°♋50'49	
conjunction	9762 Jun 18 03:23	3°♋25'43	-0°48'09
minimum elong	9762 Jun 18 03:23	3°♋25'43	0°48'32
max. Earth dist.	9762 Jun 18 11:11	3°♋26'27	30.94296 AU
morning rise	9762 Jul 03 15:16	4°♋00'47	
retrograde	9762 Oct 01 10:15	5°♋57'56	
opposition	9762 Dec 20 14:37	4°♋33'43	-0°52'11
min. Earth dist.	9762 Dec 20 05:30	4°♋34'20	28.93916 AU
direct	9763 Mar 09 20:14	3°♋10'06	
evening set	9763 Jun 05 03:41	5°♋04'14	
conjunction	9763 Jun 20 14:11	5°♋39'10	-0°49'25
minimum elong	9763 Jun 20 14:11	5°♋39'10	0°49'48
max. Earth dist.	9763 Jun 20 23:40	5°♋40'04	30.93506 AU
morning rise	9763 Jul 06 02:11	6°♋14'16	

retrograde	9763 Oct 03 22:17	8°♓11'33	
opposition	9763 Dec 23 03:53	6°♓47'18	-0°53'30
min. Earth dist.	9763 Dec 22 18:42	6°♓47'56	28.93181 AU
direct	9764 Mar 11 08:27	5°♓23'44	
evening set	9764 Jun 06 14:29	7°♓17'53	
conjunction	9764 Jun 22 01:07	7°♓52'50	-0°50'36
minimum elong	9764 Jun 22 01:07	7°♓52'50	0°51'00
max. Earth dist.	9764 Jun 22 10:57	7°♓53'46	30.92829 AU
morning rise	9764 Jul 07 13:26	8°♓27'58	
retrograde	9764 Oct 05 11:05	10°♓25'22	
opposition	9764 Dec 24 16:55	9°♓01'07	-0°54'44
min. Earth dist.	9764 Dec 24 06:10	9°♓01'51	28.92543 AU
direct	9765 Mar 13 20:03	7°♓37'35	
evening set	9765 Jun 09 01:22	9°♓31'45	
conjunction	9765 Jun 24 12:11	10°♓06'44	-0°51'43
minimum elong	9765 Jun 24 12:11	10°♓06'44	0°52'06
max. Earth dist.	9765 Jun 24 22:42	10°♓07'44	30.92208 AU
morning rise	9765 Jul 10 00:46	10°♓41'54	
retrograde	9765 Oct 07 23:02	12°♓39'26	
opposition	9765 Dec 27 06:13	11°♓15'11	-0°55'53
min. Earth dist.	9765 Dec 26 19:56	11°♓15'53	28.91943 AU
direct	9766 Mar 16 06:39	9°♓51'43	
evening set	9766 Jun 11 12:18	11°♓45'53	
conjunction	9766 Jun 26 23:20	12°♓20'53	-0°52'45
minimum elong	9766 Jun 26 23:20	12°♓20'53	0°53'08
max. Earth dist.	9766 Jun 27 10:39	12°♓21'58	30.91614 AU
morning rise	9766 Jul 12 12:06	12°♓56'04	
retrograde	9766 Oct 10 12:14	14°♓53'44	
opposition	9766 Dec 29 19:22	13°♓29'29	-0°56'57
min. Earth dist.	9766 Dec 29 07:37	13°♓30'18	28.91335 AU
direct	9767 Mar 18 18:02	12°♓06'03	
evening set	9767 Jun 13 23:32	14°♓00'15	
conjunction	9767 Jun 29 10:37	14°♓35'16	-0°53'43
minimum elong	9767 Jun 29 10:37	14°♓35'16	0°54'05
max. Earth dist.	9767 Jun 29 21:43	14°♓36'19	30.90981 AU
morning rise	9767 Jul 14 23:45	15°♓10'29	
retrograde	9767 Oct 13 01:14	17°♓08'17	
opposition	9768 Jan 01 08:47	15°♓44'00	-0°57'56
min. Earth dist.	9767 Dec 31 21:39	15°♓44'46	28.90680 AU
direct	9768 Mar 20 04:52	14°♓20'36	
evening set	9768 Jun 15 10:39	16°♓14'48	
conjunction	9768 Jun 30 22:08	16°♓49'51	-0°54'35
minimum elong	9768 Jun 30 22:08	16°♓49'51	0°54'58
max. Earth dist.	9768 Jul 01 10:24	16°♓51'01	30.90278 AU
morning rise	9768 Jul 16 11:24	17°♓25'05	
retrograde	9768 Oct 14 14:20	19°♓22'59	
opposition	9769 Jan 02 22:02	17°♓58'40	-0°58'49
min. Earth dist.	9769 Jan 02 10:04	17°♓59'30	28.89916 AU
direct	9769 Mar 22 17:11	16°♓35'16	
evening set	9769 Jun 17 22:06	18°♓29'28	
conjunction	9769 Jul 03 09:38	19°♓04'31	-0°55'23
minimum elong	9769 Jul 03 09:38	19°♓04'31	0°55'45
max. Earth dist.	9769 Jul 03 21:00	19°♓05'36	30.89458 AU
morning rise	9769 Jul 18 23:22	19°♓39'47	
retrograde	9769 Oct 17 04:20	21°♓37'45	
opposition	9770 Jan 05 11:14	20°♓13'23	-0°59'38
min. Earth dist.	9770 Jan 04 23:27	20°♓14'12	28.89049 AU
direct	9770 Mar 25 03:34	18°♓49'57	
evening set	9770 Jun 20 09:23	20°♓44'07	
conjunction	9770 Jul 05 21:20	21°♓19'12	-0°56'06
minimum elong	9770 Jul 05 21:20	21°♓19'12	0°56'28
max. Earth dist.	9770 Jul 06 09:58	21°♓20'24	30.88541 AU
morning rise	9770 Jul 21 11:13	21°♓54'29	
retrograde	9770 Oct 19 17:10	23°♓52'30	
opposition	9771 Jan 08 00:31	22°♓28'03	-1°00'21
min. Earth dist.	9771 Jan 07 12:22	22°♓28'54	28.88093 AU
direct	9771 Mar 27 17:20	21°♓04'35	
evening set	9771 Jun 22 20:37	22°♓58'43	
conjunction	9771 Jul 08 08:42	23°♓33'48	-0°56'43
minimum elong	9771 Jul 08 08:42	23°♓33'48	0°57'05
max. Earth dist.	9771 Jul 08 20:49	23°♓34'57	30.87580 AU
morning rise	9771 Jul 23 23:04	24°♓09'07	
retrograde	9771 Oct 22 08:25	26°♓07'11	
opposition	9772 Jan 10 13:44	24°♓42'38	-1°00'58
min. Earth dist.	9772 Jan 10 00:49	24°♓43'31	28.87137 AU
direct	9772 Mar 29 06:06	23°♓19'07	
evening set	9772 Jun 24 07:55	25°♓13'12	
conjunction	9772 Jul 09 20:21	25°♓48'19	-0°57'16
minimum elong	9772 Jul 09 20:21	25°♓48'19	0°57'37
max. Earth dist.	9772 Jul 10 09:49	25°♓49'36	30.86630 AU
morning rise	9772 Jul 25 10:57	26°♓23'39	
retrograde	9772 Oct 23 20:08	28°♓21'45	
opposition	9773 Jan 12 02:48	26°♓57'07	-1°01'30
min. Earth dist.	9773 Jan 11 14:04	26°♓58'00	28.86224 AU
direct	9773 Mar 31 18:35	25°♓33'33	
evening set	9773 Jun 26 19:16	27°♓27'36	
conjunction	9773 Jul 12 07:57	28°♓02'44	-0°57'43
minimum elong	9773 Jul 12 07:57	28°♓02'44	0°58'04
max. Earth dist.	9773 Jul 12 21:35	28°♓04'02	30.85768 AU
morning rise	9773 Jul 27 22:57	28°♓38'06	
	9773 Sep 08 19:52	0°♌	
retrograde	9773 Oct 26 09:54	0°♌36'14	
	9773 Dec 14 12:00	30°℞♓	
opposition	9774 Jan 14 15:48	29°♓11'32	-1°01'56
min. Earth dist.	9774 Jan 14 01:37	29°♓12'31	28.85415 AU
direct	9774 Apr 03 07:20	27°♓47'56	
evening set	9774 Jun 29 06:34	29°♓41'57	
	9774 Jul 07 07:14	0°♌	
conjunction	9774 Jul 14 19:30	0°♌17'07	-0°58'05
minimum elong	9774 Jul 14 19:30	0°♌17'07	0°58'26
max. Earth dist.	9774 Jul 15 09:51	0°♌18'29	30.85006 AU
morning rise	9774 Jul 30 10:48	0°♌52'30	
retrograde	9774 Oct 28 22:25	2°♌50'41	
opposition	9775 Jan 17 04:57	1°♌25'56	-1°02'17
min. Earth dist.	9775 Jan 16 15:05	1°♌26'53	28.84725 AU
direct	9775 Apr 05 19:14	0°♌02'20	
evening set	9775 Jul 01 17:55	1°♌56'19	
conjunction	9775 Jul 17 07:14	2°♌31'30	-0°58'22
minimum elong	9775 Jul 17 07:14	2°♌31'30	0°58'42
max. Earth dist.	9775 Jul 17 22:29	2°♌32'57	30.84390 AU
morning rise	9775 Aug 01 22:50	3°♌06'55	
retrograde	9775 Oct 31 11:30	5°♌05'09	
opposition	9776 Jan 19 17:53	3°♌40'22	-1°02'32
min. Earth dist.	9776 Jan 19 02:22	3°♌41'26	28.84169 AU
direct	9776 Apr 07 07:33	2°♌16'46	
evening set	9776 Jul 03 05:23	4°♌10'45	
conjunction	9776 Jul 18 18:55	4°♌45'57	-0°58'33
minimum elong	9776 Jul 18 18:55	4°♌45'57	0°58'53
max. Earth dist.	9776 Jul 19 10:09	4°♌47'24	30.83891 AU
morning rise	9776 Aug 03 11:01	5°♌21'24	
retrograde	9776 Nov 01 23:40	7°♌19'42	

opposition	9777 Jan 21	06:59	5°♌54'53	-1°02'42	
min. Earth dist.	9777 Jan 20	15:54	5°♌55'56	28.83731 AU	
direct	9777 Apr 09	17:58	4°♌31'18		
evening set	9777 Jul 05	16:53	6°♌25'18		
conjunction	9777 Jul 21	06:53	7°♌00'31	-0°58'39	
minimum elong	9777 Jul 21	06:53	7°♌00'31	0°58'58	
max. Earth dist.	9777 Jul 21	23:31	7°♌02'06	30.83499 AU	
morning rise	9777 Aug 05	23:11	7°♌35'59		
retrograde	9777 Nov 04	12:08	9°♌34'21		
opposition	9778 Jan 23	19:49	8°♌09'33	-1°02'45	
min. Earth dist.	9778 Jan 23	03:42	8°♌10'40	28.83369 AU	
direct	9778 Apr 12	05:45	6°♌45'59		
evening set	9778 Jul 08	04:39	8°♌40'00		
conjunction	9778 Jul 23	18:47	9°♌15'15	-0°58'40	
minimum elong	9778 Jul 23	18:47	9°♌15'15	0°58'59	
max. Earth dist.	9778 Jul 24	10:47	9°♌16'46	30.83172 AU	
morning rise	9778 Aug 08	11:37	9°♌50'45		
retrograde	9778 Nov 07	02:28	11°♌49'12		
opposition	9779 Jan 26	08:56	10°♌24'23	-1°02'43	
min. Earth dist.	9779 Jan 25	16:57	10°♌25'30	28.83067 AU	
direct	9779 Apr 14	15:36	9°♌00'51		
evening set	9779 Jul 10	16:15	10°♌54'53		
conjunction	9779 Jul 26	06:54	11°♌30'10	-0°58'35	
minimum elong	9779 Jul 26	06:54	11°♌30'10	0°58'53	
max. Earth dist.	9779 Jul 27	00:14	11°♌31'48	30.82866 AU	
morning rise	9779 Aug 10	23:57	12°♌05'41		
retrograde	9779 Nov 09	15:32	14°♌04'13		
opposition	9780 Jan 28	21:59	12°♌39'24	-1°02'35	
min. Earth dist.	9780 Jan 28	05:48	12°♌40'32	28.82744 AU	
direct	9780 Apr 16	04:34	11°♌15'54		
evening set	9780 Jul 12	04:19	13°♌09'57		
conjunction	9780 Jul 27	19:10	13°♌45'15	-0°58'25	
minimum elong	9780 Jul 27	19:10	13°♌45'15	0°58'43	
max. Earth dist.	9780 Jul 28	11:31	13°♌46'48	30.82524 AU	
morning rise	9780 Aug 12	12:45	14°♌20'48		
	9780 Aug 31	00:24	15°♌		
retrograde	9780 Nov 11	07:08	16°♌19'23		
	9781 Jan 27	04:29	15°℞♌		
opposition	9781 Jan 30	10:53	14°♌54'34	-1°02'21	
min. Earth dist.	9781 Jan 29	18:29	14°♌55'42	28.82370 AU	
direct	9781 Apr 18	16:18	13°♌31'03		
	9781 Jul 03	01:06	15°♌		
evening set	9781 Jul 14	16:22	15°♌25'08		
conjunction	9781 Jul 30	07:40	16°♌00'28	-0°58'09	
minimum elong	9781 Jul 30	07:40	16°♌00'28	0°58'26	
max. Earth dist.	9781 Jul 31	00:44	16°♌02'05	30.82091 AU	
morning rise	9781 Aug 15	01:30	16°♌36'03		
retrograde	9781 Nov 13	19:38	18°♌34'40		
opposition	9782 Feb 01	23:58	17°♌09'50	-1°02'01	
min. Earth dist.	9782 Feb 01	08:13	17°♌10'55	28.81885 AU	
direct	9782 Apr 21	04:33	15°♌46'18		
evening set	9782 Jul 17	04:21	17°♌40'22		
conjunction	9782 Aug 01	19:58	18°♌15'43	-0°57'48	
minimum elong	9782 Aug 01	19:58	18°♌15'43	0°58'05	
max. Earth dist.	9782 Aug 02	12:33	18°♌17'18	30.81571 AU	
morning rise	9782 Aug 17	14:16	18°♌51'20		
retrograde	9782 Nov 16	10:40	20°♌49'58		
opposition	9783 Feb 04	12:54	19°♌25'05	-1°01'36	
min. Earth dist.	9783 Feb 03	20:21	19°♌26'14	28.81323 AU	
direct	9783 Apr 23	17:50	18°♌01'31		
evening set	9783 Jul 19	16:24	19°♌55'34		
conjunction	9783 Aug 04	08:24	20°♌30'57	-0°57'22	
minimum elong	9783 Aug 04	08:24	20°♌30'57	0°57'38	
max. Earth dist.	9783 Aug 05	01:11	20°♌32'32	30.80978 AU	
morning rise	9783 Aug 20	03:06	21°♌06'35		
retrograde	9783 Nov 19	00:03	23°♌05'13		
min. Earth dist.	9784 Feb 06	10:09	21°♌41'22	28.80725 AU	
opposition	9784 Feb 07	01:47	21°♌40'16	-1°01'05	
direct	9784 Apr 25	06:19	20°♌16'41		
evening set	9784 Jul 21	04:21	22°♌10'41		
conjunction	9784 Aug 05	20:50	22°♌46'05	-0°56'51	
minimum elong	9784 Aug 05	20:50	22°♌46'05	0°57'07	
max. Earth dist.	9784 Aug 06	14:01	22°♌47'43	30.80395 AU	
morning rise	9784 Aug 21	15:55	23°♌21'45		
retrograde	9784 Nov 20	13:12	25°♌20'22		
opposition	9785 Feb 08	14:26	23°♌55'23	-1°00'29	
min. Earth dist.	9785 Feb 07	21:34	23°♌56'33	28.80156 AU	
direct	9785 Apr 27	19:27	22°♌31'44		
evening set	9785 Jul 23	16:30	24°♌25'43		
conjunction	9785 Aug 08	09:12	25°♌01'08	-0°56'15	
minimum elong	9785 Aug 08	09:12	25°♌01'08	0°56'28	
max. Earth dist.	9785 Aug 09	02:04	25°♌02'44	30.79854 AU	
morning rise	9785 Aug 24	04:45	25°♌36'50		
retrograde	9785 Nov 23	00:53	27°♌35'27		
min. Earth dist.	9786 Feb 10	10:54	26°♌11'32	28.79673 AU	
opposition	9786 Feb 11	03:04	26°♌10'24	-0°59'48	
direct	9786 Apr 30	06:18	24°♌46'43		
evening set	9786 Jul 26	04:27	26°♌40'41		
conjunction	9786 Aug 10	21:42	27°♌16'08	-0°55'33	
minimum elong	9786 Aug 10	21:42	27°♌16'08	0°55'48	
max. Earth dist.	9786 Aug 11	15:50	27°♌17'51	30.79434 AU	
morning rise	9786 Aug 26	17:30	27°♌51'51		
retrograde	9786 Nov 25	13:17	29°♌50'27		
opposition	9787 Feb 13	15:36	28°♌25'22	-0°59'01	
min. Earth dist.	9787 Feb 12	22:21	28°♌26'34	28.79316 AU	
direct	9787 May 02	18:13	27°♌01'40		
evening set	9787 Jul 28	16:32	28°♌55'37		
conjunction	9787 Aug 13	10:01	29°♌31'05	-0°54'47	
minimum elong	9787 Aug 13	10:02	29°♌31'05	0°54'59	
max. Earth dist.	9787 Aug 14	03:32	29°♌32'44	30.79152 AU	
	9787 Aug 26	04:52	0°♍		
morning rise	9787 Aug 29	06:25	0°♍06'49		
retrograde	9787 Nov 28	02:31	2°♍05'26		
min. Earth dist.	9788 Feb 15	11:09	0°♍41'31	28.79116 AU	
opposition	9788 Feb 16	04:14	0°♍40'19	-0°58'08	
	9788 Mar 12	06:13	30°℞♌		
direct	9788 May 04	04:16	29°♌16'36		
	9788 Jun 24	06:04	0°♍		
evening set	9788 Jul 30	04:38	1°♍10'33		
conjunction	9788 Aug 14	22:42	1°♍46'03	-0°53'56	
minimum elong	9788 Aug 14	22:42	1°♍46'03	0°54'09	
max. Earth dist.	9788 Aug 15	17:35	1°♍47'50	30.79022 AU	
morning rise	9788 Aug 30	19:20	2°♍21'48		
retrograde	9788 Nov 29	14:07	4°♍20'25		
opposition	9789 Feb 17	16:34	2°♍55'18	-0°57'11	
min. Earth dist.	9789 Feb 16	23:03	2°♍56'31	28.79054 AU	
direct	9789 May 06	16:40	1°♍31'35		
evening set	9789 Aug 01	16:55	3°♍25'32		
conjunction	9789 Aug 17	11:16	4°♍01'03	-0°52'59	
minimum elong	9789 Aug 17	11:16	4°♍01'03	0°53'11	
max. Earth dist.	9789 Aug 18	05:21	4°♍02'46	30.79042 AU	
morning rise	9789 Sep 02	08:27	4°♍36'50		

retrograde	9789 Dec 02 04:39	6°♑35'27	
min. Earth dist.	9790 Feb 19 11:05	5°♑11'36	28.79141 AU
opposition	9790 Feb 20 05:03	5°♑10'20	-0°56'08
direct	9790 May 09 03:11	3°♑46'37	
evening set	9790 Aug 04 05:03	5°♑40'36	
conjunction	9790 Aug 19 23:53	6°♑16'08	-0°51'58
minimum elong	9790 Aug 19 23:53	6°♑16'08	0°52'10
max. Earth dist.	9790 Aug 20 19:07	6°♑17'57	30.79178 AU
morning rise	9790 Sep 04 21:21	6°♑51'57	
retrograde	9790 Dec 04 17:04	8°♑50'34	
opposition	9791 Feb 22 17:36	7°♑25'29	-0°54'59
min. Earth dist.	9791 Feb 22 00:04	7°♑26'43	28.79322 AU
direct	9791 May 11 14:29	6°♑01'47	
evening set	9791 Aug 06 17:30	7°♑55'47	
conjunction	9791 Aug 22 12:41	8°♑31'20	-0°50'52
minimum elong	9791 Aug 22 12:42	8°♑31'20	0°51'02
max. Earth dist.	9791 Aug 23 07:27	8°♑33'07	30.79405 AU
morning rise	9791 Sep 07 10:38	9°♑07'10	
retrograde	9791 Dec 07 08:38	11°♑05'47	
min. Earth dist.	9792 Feb 24 11:46	9°♑42'00	28.79565 AU
opposition	9792 Feb 25 05:55	9°♑40'44	-0°53'46
direct	9792 May 13 03:29	8°♑17'03	
evening set	9792 Aug 08 06:05	10°♑11'04	
conjunction	9792 Aug 24 01:41	10°♑46'39	-0°49'41
minimum elong	9792 Aug 24 01:41	10°♑46'39	0°49'50
max. Earth dist.	9792 Aug 24 20:30	10°♑48'26	30.79639 AU
morning rise	9792 Sep 09 00:01	11°♑22'31	
retrograde	9792 Dec 08 22:04	13°♑21'07	
opposition	9793 Feb 26 18:26	11°♑56'05	-0°52'27
min. Earth dist.	9793 Feb 26 01:31	11°♑57'16	28.79785 AU
direct	9793 May 15 15:46	10°♑32'25	
evening set	9793 Aug 10 18:43	12°♑26'26	
conjunction	9793 Aug 26 14:46	13°♑02'03	-0°48'25
minimum elong	9793 Aug 26 14:47	13°♑02'03	0°48'33
max. Earth dist.	9793 Aug 27 09:22	13°♑03'48	30.79833 AU
morning rise	9793 Sep 11 13:25	13°♑37'55	
retrograde	9793 Dec 11 12:10	15°♑36'30	
opposition	9794 Mar 01 06:45	14°♑11'28	-0°51'04
min. Earth dist.	9794 Feb 28 13:07	14°♑12'42	28.79935 AU
direct	9794 May 18 04:59	12°♑47'47	
evening set	9794 Aug 13 07:32	14°♑41'48	
conjunction	9794 Aug 29 03:53	15°♑17'26	-0°47'05
minimum elong	9794 Aug 29 03:53	15°♑17'26	0°47'13
max. Earth dist.	9794 Aug 29 21:33	15°♑19'06	30.79938 AU
morning rise	9794 Sep 14 03:00	15°♑53'20	
retrograde	9794 Dec 14 01:22	17°♑51'52	
opposition	9795 Mar 03 19:14	16°♑26'49	-0°49'36
min. Earth dist.	9795 Mar 03 02:52	16°♑27'58	28.80004 AU
direct	9795 May 20 16:29	15°♑03'07	
evening set	9795 Aug 15 20:07	16°♑57'06	
conjunction	9795 Aug 31 17:04	17°♑32'46	-0°45'41
minimum elong	9795 Aug 31 17:04	17°♑32'46	0°45'47
max. Earth dist.	9795 Sep 01 11:16	17°♑34'29	30.79979 AU
morning rise	9795 Sep 16 16:29	18°♑08'40	
retrograde	9795 Dec 16 14:40	20°♑07'08	
opposition	9796 Mar 05 07:29	18°♑42'04	-0°48'04
min. Earth dist.	9796 Mar 04 14:40	18°♑43'15	28.80007 AU
direct	9796 May 22 05:39	17°♑18'19	
evening set	9796 Aug 17 09:00	19°♑12'16	
conjunction	9796 Sep 02 06:12	19°♑47'57	-0°44'13
minimum elong	9796 Sep 02 06:12	19°♑47'57	0°44'19
max. Earth dist.	9796 Sep 02 23:07	19°♑49'33	30.79975 AU
morning rise	9796 Sep 18 06:09	20°♑23'53	
retrograde	9796 Dec 18 02:59	22°♑22'17	
opposition	9797 Mar 07 19:35	20°♑57'11	-0°46'27
min. Earth dist.	9797 Mar 07 03:36	20°♑58'18	28.80010 AU
direct	9797 May 24 16:23	19°♑33'22	
evening set	9797 Aug 19 21:40	21°♑27'19	
conjunction	9797 Sep 04 19:25	22°♑03'00	-0°42'40
minimum elong	9797 Sep 04 19:26	22°♑03'00	0°42'45
max. Earth dist.	9797 Sep 05 13:19	22°♑04'41	30.79991 AU
morning rise	9797 Sep 20 19:34	22°♑38'57	
retrograde	9797 Dec 20 14:06	24°♑37'16	
opposition	9798 Mar 10 07:39	23°♑12'09	-0°44'46
min. Earth dist.	9798 Mar 09 15:32	23°♑13'17	28.80050 AU
direct	9798 May 27 04:53	21°♑48'18	
evening set	9798 Aug 22 10:19	23°♑42'13	
conjunction	9798 Sep 07 08:19	24°♑17'56	-0°41'04
minimum elong	9798 Sep 07 08:19	24°♑17'56	0°41'09
max. Earth dist.	9798 Sep 08 01:07	24°♑19'30	30.80081 AU
morning rise	9798 Sep 23 09:00	24°♑53'53	
retrograde	9798 Dec 23 03:41	26°♑52'09	
opposition	9799 Mar 12 19:41	25°♑27'01	-0°43'01
min. Earth dist.	9799 Mar 12 03:24	25°♑28'09	28.80196 AU
direct	9799 May 29 15:18	24°♑03'07	
evening set	9799 Aug 24 23:01	25°♑57'03	
conjunction	9799 Sep 09 21:32	26°♑32'46	-0°39'25
minimum elong	9799 Sep 09 21:33	26°♑32'46	0°39'28
max. Earth dist.	9799 Sep 10 15:16	26°♑34'26	30.80278 AU
morning rise	9799 Sep 25 22:26	27°♑08'45	
retrograde	9799 Dec 25 15:12	29°♑06'57	
opposition	9800 Mar 15 07:32	27°♑41'49	-0°41'13
min. Earth dist.	9800 Mar 14 15:48	27°♑42'55	28.80457 AU
direct	9800 Jun 01 02:33	26°♑17'55	
evening set	9800 Aug 27 11:50	28°♑11'51	
conjunction	9800 Sep 12 10:42	28°♑47'35	-0°37'41
minimum elong	9800 Sep 12 10:42	28°♑47'35	0°37'44
max. Earth dist.	9800 Sep 13 03:45	28°♑49'11	30.80618 AU
morning rise	9800 Sep 28 12:02	29°♑23'34	
	9800 Oct 15 18:05	0°♎	
retrograde	9800 Dec 28 05:41	1°♎21'43	
	9801 Mar 15 19:00	30°℞♑	
opposition	9801 Mar 17 19:20	29°♑56'36	-0°39'20
min. Earth dist.	9801 Mar 17 02:53	29°♑57'46	28.80866 AU
direct	9801 Jun 03 15:10	28°♑32'41	
	9801 Aug 17 13:04	0°♎	
evening set	9801 Aug 30 00:35	0°♎26'39	
conjunction	9801 Sep 14 23:48	1°♎02'25	-0°35'55
minimum elong	9801 Sep 14 23:48	1°♎02'25	0°35'55
max. Earth dist.	9801 Sep 15 17:12	1°♎04'02	30.81089 AU
morning rise	9801 Oct 01 01:25	1°♎38'25	
retrograde	9801 Dec 30 18:04	3°♎36'30	
opposition	9802 Mar 20 07:12	2°♎11'26	-0°37'24
min. Earth dist.	9802 Mar 19 15:44	2°♎12'32	28.81410 AU
direct	9802 Jun 06 02:53	0°♎47'32	
evening set	9802 Sep 01 13:24	2°♎41'32	
conjunction	9802 Sep 17 13:05	3°♎17'19	-0°34'05
minimum elong	9802 Sep 17 13:05	3°♎17'19	0°34'06
max. Earth dist.	9802 Sep 18 06:24	3°♎18'56	30.81712 AU
morning rise	9802 Oct 03 15:01	3°♎53'19	
retrograde	9803 Jan 02 08:27	5°♎51'22	

opposition	9803 Mar 22	18:54	4°♎26'22	-0°35'24
min. Earth dist.	9803 Mar 22	02:32	4°♎27'31	28.82084 AU
direct	9803 Jun 08	15:32	3°♎02'30	
evening set	9803 Sep 04	02:23	4°♎56'31	
conjunction	9803 Sep 20	02:20	5°♎32'19	-0°32'11
minimum elong	9803 Sep 20	02:20	5°♎32'19	0°32'10
max. Earth dist.	9803 Sep 20	19:02	5°♎33'53	30.82430 AU
morning rise	9803 Oct 06	04:41	6°♎08'22	
retrograde	9804 Jan 04	22:20	8°♎06'22	
opposition	9804 Mar 24	06:46	6°♎41'25	-0°33'21
min. Earth dist.	9804 Mar 23	15:39	6°♎42'29	28.82835 AU
direct	9804 Jun 10	03:01	5°♎17'35	
evening set	9804 Sep 05	15:28	7°♎11'39	
conjunction	9804 Sep 21	15:55	7°♎47'29	-0°30'15
minimum elong	9804 Sep 21	15:55	7°♎47'29	0°30'14
max. Earth dist.	9804 Sep 22	08:56	7°♎49'05	30.83197 AU
morning rise	9804 Oct 07	18:25	8°♎23'32	
retrograde	9805 Jan 06	12:26	10°♎21'29	
opposition	9805 Mar 26	18:20	8°♎56'37	-0°31'15
min. Earth dist.	9805 Mar 26	03:00	8°♎57'42	28.83587 AU
direct	9805 Jun 12	16:16	7°♎32'48	
evening set	9805 Sep 08	04:48	9°♎26'55	
conjunction	9805 Sep 24	05:25	10°♎02'45	-0°28'15
minimum elong	9805 Sep 24	05:25	10°♎02'45	0°28'12
max. Earth dist.	9805 Sep 24	20:54	10°♎04'12	30.83929 AU
morning rise	9805 Oct 10	08:21	10°♎38'49	
retrograde	9806 Jan 09	00:52	12°♎36'43	
opposition	9806 Mar 29	06:11	11°♎11'54	-0°29'06
min. Earth dist.	9806 Mar 28	16:00	11°♎12'54	28.84292 AU
direct	9806 Jun 15	03:00	9°♎48'06	
evening set	9806 Sep 10	17:53	11°♎42'13	
conjunction	9806 Sep 26	19:02	12°♎18'05	-0°26'14
minimum elong	9806 Sep 26	19:02	12°♎18'05	0°26'11
max. Earth dist.	9806 Sep 27	10:55	12°♎19'34	30.84584 AU
morning rise	9806 Oct 12	22:05	12°♎54'09	
retrograde	9807 Jan 11	12:35	14°♎51'57	
opposition	9807 Mar 31	17:56	13°♎27'11	-0°26'55
min. Earth dist.	9807 Mar 31	04:10	13°♎28'09	28.84887 AU
direct	9807 Jun 17	15:39	12°♎03'22	
evening set	9807 Sep 13	07:18	13°♎57'29	
conjunction	9807 Sep 29	08:39	14°♎33'21	-0°24'10
minimum elong	9807 Sep 29	08:39	14°♎33'21	0°24'05
max. Earth dist.	9807 Sep 29	22:38	14°♎34'39	30.85137 AU
morning rise	9807 Oct 15	12:09	15°♎09'26	
retrograde	9808 Jan 14	02:09	17°♎07'08	
opposition	9808 Apr 02	05:29	15°♎42'22	-0°24'41
min. Earth dist.	9808 Apr 01	16:15	15°♎43'18	28.85395 AU
direct	9808 Jun 19	02:01	14°♎18'30	
evening set	9808 Sep 14	20:34	16°♎12'36	
conjunction	9808 Sep 30	22:23	16°♎48'29	-0°22'04
minimum elong	9808 Sep 30	22:23	16°♎48'29	0°22'00
max. Earth dist.	9808 Oct 01	12:37	16°♎49'49	30.85602 AU
morning rise	9808 Oct 17	02:00	17°♎24'34	
retrograde	9809 Jan 15	12:27	19°♎22'09	
opposition	9809 Apr 04	17:03	17°♎57'23	-0°22'25
min. Earth dist.	9809 Apr 04	04:52	17°♎58'15	28.85829 AU
direct	9809 Jun 21	13:52	16°♎33'28	
evening set	9809 Sep 17	09:45	18°♎27'33	
conjunction	9809 Oct 03	11:48	19°♎03'26	-0°19'56
minimum elong	9809 Oct 03	11:48	19°♎03'26	0°19'50
max. Earth dist.	9809 Oct 04	00:47	19°♎04'39	30.86033 AU
morning rise	9809 Oct 19	15:45	19°♎39'31	
retrograde	9810 Jan 18	01:07	21°♎36'58	
opposition	9810 Apr 07	04:27	20°♎12'12	-0°20'07
min. Earth dist.	9810 Apr 06	16:02	20°♎13'04	28.86257 AU
direct	9810 Jun 24	02:13	18°♎48'12	
evening set	9810 Sep 19	22:58	20°♎42'17	
conjunction	9810 Oct 06	01:20	21°♎18'10	-0°17'47
minimum elong	9810 Oct 06	01:20	21°♎18'10	0°17'40
max. Earth dist.	9810 Oct 06	14:21	21°♎19'23	30.86467 AU
morning rise	9810 Oct 22	05:27	21°♎54'15	
retrograde	9811 Jan 20	12:14	23°♎51'34	
opposition	9811 Apr 09	15:49	22°♎26'47	-0°17'48
min. Earth dist.	9811 Apr 09	04:46	22°♎27'34	28.86720 AU
direct	9811 Jun 26	13:19	21°♎02'44	
evening set	9811 Sep 22	12:06	22°♎56'48	
conjunction	9811 Oct 08	14:50	23°♎32'41	-0°15'36
minimum elong	9811 Oct 08	14:50	23°♎32'41	0°15'28
behind sun begin	9811 Oct 08	13:22	23°♎32'34	
behind sun end	9811 Oct 08	16:18	23°♎32'49	
max. Earth dist.	9811 Oct 09	03:21	23°♎33'51	30.86972 AU
morning rise	9811 Oct 24	19:11	24°♎08'46	
retrograde	9812 Jan 23	01:36	26°♎05'57	
opposition	9812 Apr 11	03:00	24°♎41'11	-0°15'27
min. Earth dist.	9812 Apr 10	15:15	24°♎42'00	28.87258 AU
direct	9812 Jun 28	02:22	23°♎17'04	
evening set	9812 Sep 24	01:22	25°♎11'08	
conjunction	9812 Oct 10	04:16	25°♎47'01	-0°13'24
minimum elong	9812 Oct 10	04:16	25°♎47'01	0°13'16
behind sun begin	9812 Oct 10	00:33	25°♎46'41	
behind sun end	9812 Oct 10	07:59	25°♎47'21	
max. Earth dist.	9812 Oct 10	16:04	25°♎48'07	30.87552 AU
morning rise	9812 Oct 26	08:50	26°♎23'05	
retrograde	9813 Jan 24	14:10	28°♎20'10	
opposition	9813 Apr 13	14:12	26°♎55'23	-0°13'05
min. Earth dist.	9813 Apr 13	03:40	26°♎56'08	28.87905 AU
direct	9813 Jun 30	14:19	25°♎31'15	
evening set	9813 Sep 26	14:28	27°♎25'19	
conjunction	9813 Oct 12	17:45	28°♎01'13	-0°11'11
minimum elong	9813 Oct 12	17:45	28°♎01'13	0°11'02
behind sun begin	9813 Oct 12	12:52	28°♎00'47	
behind sun end	9813 Oct 12	22:38	28°♎01'39	
max. Earth dist.	9813 Oct 13	05:55	28°♎02'20	30.88268 AU
morning rise	9813 Oct 28	22:23	28°♎37'16	
	9813 Dec 12	02:11	0°♏	
retrograde	9814 Jan 27	03:08	0°♏34'14	
	9814 Mar 15	00:59	30°℞♎	
opposition	9814 Apr 16	01:18	29°♎09'30	-0°10'42
min. Earth dist.	9814 Apr 15	14:11	29°♎10'17	28.88680 AU
direct	9814 Jul 03	03:55	27°♎45'20	
evening set	9814 Sep 29	03:36	29°♎39'25	
	9814 Oct 08	11:03	0°♏	
conjunction	9814 Oct 15	07:00	0°♏15'19	-0°08'58
minimum elong	9814 Oct 15	07:00	0°♏15'19	0°08'48
behind sun begin	9814 Oct 15	01:21	0°♏14'49	
behind sun end	9814 Oct 15	12:38	0°♏15'49	
max. Earth dist.	9814 Oct 15	18:02	0°♏16'20	30.89113 AU
morning rise	9814 Oct 31	11:58	0°♏51'23	
retrograde	9815 Jan 29	15:39	2°♏48'14	
opposition	9815 Apr 18	12:30	1°♏23'33	-0°08'18
min. Earth dist.	9815 Apr 18	02:15	1°♏24'17	28.89594 AU
	9815 Jun 29	15:21	30°℞♎	

direct	9815 Jul 05 14:35	29°♎59'24	
	9815 Jul 11 12:16	0°♏	
evening set	9815 Oct 01 16:46	1°♏53'30	
conjunction	9815 Oct 17 20:35	2°♏29'25	-0°06'43
minimum elong	9815 Oct 17 20:36	2°♏29'25	0°06'32
behind sun begin	9815 Oct 17 14:26	2°♏28'52	
behind sun end	9815 Oct 18 02:45	2°♏29'58	
max. Earth dist.	9815 Oct 18 08:19	2°♏30'30	30.90082 AU
morning rise	9815 Nov 03 01:33	3°♏05'29	
retrograde	9816 Feb 01 03:43	5°♏02'14	
opposition	9816 Apr 19 23:25	3°♏37'38	-0°05'53
min. Earth dist.	9816 Apr 19 13:25	3°♏38'21	28.90597 AU
direct	9816 Jul 07 03:11	2°♏13'30	
evening set	9816 Oct 03 06:11	4°♏07'39	
conjunction	9816 Oct 19 10:03	4°♏43'35	-0°04'28
minimum elong	9816 Oct 19 10:03	4°♏43'35	0°04'17
behind sun begin	9816 Oct 19 03:35	4°♏43'00	
behind sun end	9816 Oct 19 16:31	4°♏44'10	
max. Earth dist.	9816 Oct 19 20:05	4°♏44'30	30.91124 AU
morning rise	9816 Nov 04 15:18	5°♏19'39	
retrograde	9817 Feb 02 17:07	7°♏16'19	
opposition	9817 Apr 22 10:27	5°♏51'48	-0°03'28
min. Earth dist.	9817 Apr 22 00:54	5°♏52'29	28.91656 AU
direct	9817 Jul 09 13:29	4°♏27'41	
evening set	9817 Oct 05 19:25	6°♏21'54	
conjunction	9817 Oct 21 23:35	6°♏57'50	-0°02'11
minimum elong	9817 Oct 21 23:36	6°♏57'50	0°01'58
behind sun begin	9817 Oct 21 17:01	6°♏57'15	
behind sun end	9817 Oct 22 06:10	6°♏58'25	
max. Earth dist.	9817 Oct 22 09:57	6°♏58'47	30.92167 AU
morning rise	9817 Nov 07 04:45	7°♏33'54	
retrograde	9818 Feb 05 03:27	9°♏30'29	
opposition	9818 Apr 24 21:33	8°♏06'03	-0°01'02
min. Earth dist.	9818 Apr 24 13:10	8°♏06'39	28.92676 AU
direct	9818 Jul 12 01:02	6°♏41'57	
asc. node	9818 Oct 01 02:40	8°♏20'38	
evening set	9818 Oct 08 08:56	8°♏36'12	
conjunction	9818 Oct 24 13:12	9°♏12'08	0°00'09
minimum elong	9818 Oct 24 13:12	9°♏12'08	0°00'22
behind sun begin	9818 Oct 24 06:39	9°♏11'33	
behind sun end	9818 Oct 24 19:44	9°♏12'43	
max. Earth dist.	9818 Oct 24 21:51	9°♏12'55	30.93161 AU
morning rise	9818 Nov 09 18:34	9°♏48'12	
retrograde	9819 Feb 07 16:03	11°♏44'41	
opposition	9819 Apr 27 08:27	10°♏20'20	0°01'23
min. Earth dist.	9819 Apr 27 00:12	10°♏20'55	28.93626 AU
direct	9819 Jul 14 12:27	8°♏56'13	
evening set	9819 Oct 10 22:26	10°♏50'31	
conjunction	9819 Oct 27 02:58	11°♏26'27	0°02'29
minimum elong	9819 Oct 27 02:57	11°♏26'27	0°02'43
behind sun begin	9819 Oct 26 20:23	11°♏25'52	
behind sun end	9819 Oct 27 09:31	11°♏27'02	
max. Earth dist.	9819 Oct 27 11:10	11°♏27'11	30.94049 AU
morning rise	9819 Nov 12 08:20	12°♏02'30	
retrograde	9820 Feb 10 02:58	13°♏58'52	
opposition	9820 Apr 28 19:32	12°♏34'35	0°03'48
min. Earth dist.	9820 Apr 28 13:03	12°♏35'02	28.94463 AU
direct	9820 Jul 15 22:56	11°♏10'26	
evening set	9820 Oct 12 11:53	13°♏04'45	
conjunction	9820 Oct 28 16:33	13°♏40'41	0°04'44
minimum elong	9820 Oct 28 16:33	13°♏40'41	0°04'59
behind sun begin	9820 Oct 28 10:10	13°♏40'06	
behind sun end	9820 Oct 28 22:57	13°♏41'15	
max. Earth dist.	9820 Oct 28 23:39	13°♏41'19	30.94846 AU
morning rise	9820 Nov 13 22:00	14°♏16'43	
	9820 Dec 04 20:31	15°♏	
retrograde	9821 Feb 11 15:31	16°♏12'58	
	9821 Apr 24 13:23	15°℞♏	
opposition	9821 May 01 06:18	14°♏48'42	0°06'13
min. Earth dist.	9821 Apr 30 23:35	14°♏49'11	28.95214 AU
direct	9821 Jul 18 11:48	13°♏24'31	
	9821 Oct 06 05:29	15°♏	
evening set	9821 Oct 15 01:19	15°♏18'51	
conjunction	9821 Oct 31 06:05	15°♏54'47	0°06'58
minimum elong	9821 Oct 31 06:04	15°♏54'47	0°07'14
behind sun begin	9821 Oct 31 00:02	15°♏54'14	
behind sun end	9821 Oct 31 12:06	15°♏55'19	
max. Earth dist.	9821 Oct 31 12:06	15°♏55'19	30.95565 AU
morning rise	9821 Nov 16 11:35	16°♏30'48	
retrograde	9822 Feb 14 03:25	18°♏26'55	
opposition	9822 May 03 17:12	17°♏02'41	0°08'37
min. Earth dist.	9822 May 03 12:04	17°♏03'02	28.95923 AU
direct	9822 Jul 20 23:48	15°♏38'26	
evening set	9822 Oct 17 14:29	17°♏32'47	
conjunction	9822 Nov 02 19:30	18°♏08'42	0°09'12
minimum elong	9822 Nov 02 19:30	18°♏08'42	0°09'28
behind sun begin	9822 Nov 02 14:03	18°♏08'13	
behind sun end	9822 Nov 03 00:57	18°♏09'11	
max. Earth dist.	9822 Nov 03 01:25	18°♏09'14	30.96272 AU
morning rise	9822 Nov 19 01:00	18°♏44'42	
retrograde	9823 Feb 16 15:38	20°♏40'41	
opposition	9823 May 06 03:52	19°♏16'28	0°11'00
min. Earth dist.	9823 May 05 22:34	19°♏16'50	28.96622 AU
direct	9823 Jul 23 13:41	17°♏52'10	
evening set	9823 Oct 20 03:54	19°♏46'31	
conjunction	9823 Nov 05 08:53	20°♏22'26	0°11'24
minimum elong	9823 Nov 05 08:52	20°♏22'26	0°11'42
behind sun begin	9823 Nov 05 04:17	20°♏22'01	
behind sun end	9823 Nov 05 13:28	20°♏22'50	
max. Earth dist.	9823 Nov 05 13:19	20°♏22'50	30.96984 AU
morning rise	9823 Nov 21 14:29	20°♏58'25	
retrograde	9824 Feb 19 03:44	22°♏54'15	
opposition	9824 May 07 14:26	21°♏30'03	0°13'21
min. Earth dist.	9824 May 07 10:16	21°♏30'21	28.97369 AU
direct	9824 Jul 25 00:32	20°♏05'42	
evening set	9824 Oct 21 17:03	22°♏00'04	
conjunction	9824 Nov 06 22:17	22°♏35'58	0°13'36
minimum elong	9824 Nov 06 22:17	22°♏35'58	0°13'53
behind sun begin	9824 Nov 06 19:02	22°♏35'41	
behind sun end	9824 Nov 07 01:32	22°♏36'16	
max. Earth dist.	9824 Nov 07 03:17	22°♏36'25	30.97764 AU
morning rise	9824 Nov 23 03:43	23°♏11'56	
retrograde	9825 Feb 20 15:52	25°♏07'37	
opposition	9825 May 10 01:01	23°♏43'27	0°15'42
min. Earth dist.	9825 May 09 21:03	23°♏43'44	28.98189 AU
direct	9825 Jul 27 14:13	22°♏19'04	
evening set	9825 Oct 24 06:09	24°♏13'26	
conjunction	9825 Nov 09 11:17	24°♏49'20	0°15'46
minimum elong	9825 Nov 09 11:17	24°♏49'20	0°16'04
max. Earth dist.	9825 Nov 09 14:45	24°♏49'39	30.98644 AU
morning rise	9825 Nov 25 16:51	25°♏25'17	
retrograde	9826 Feb 23 04:09	27°♏20'50	
opposition	9826 May 12 11:35	25°♏56'42	0°18'00

min. Earth dist.	9826 May 12 07:43	25°♏56'58	28.99140 AU
direct	9826 Jul 30 01:22	24°♏32'17	
evening set	9826 Oct 26 19:13	26°♏26'40	
conjunction	9826 Nov 12 00:34	27°♏02'34	0°17'55
minimum elong	9826 Nov 12 00:34	27°♏02'34	0°18'13
max. Earth dist.	9826 Nov 12 04:40	27°♏02'56	30.99655 AU
morning rise	9826 Nov 28 05:56	27°♏38'30	
retrograde	9827 Feb 25 13:45	29°♏33'54	
opposition	9827 May 14 22:03	28°♏09'51	0°20'18
min. Earth dist.	9827 May 14 19:02	28°♏10'04	29.00218 AU
direct	9827 Aug 01 13:06	26°♏45'26	
evening set	9827 Oct 29 08:27	28°♏39'50	
conjunction	9827 Nov 14 13:45	29°♏15'43	0°20'03
minimum elong	9827 Nov 14 13:45	29°♏15'43	0°20'22
max. Earth dist.	9827 Nov 14 16:29	29°♏15'58	31.00808 AU
morning rise	9827 Nov 30 19:13	29°♏51'38	
	9827 Dec 04 16:20	0°♐	
retrograde	9828 Feb 28 01:49	1°♐46'55	
opposition	9828 May 16 08:29	0°♐22'57	0°22'33
min. Earth dist.	9828 May 16 05:09	0°♐23'11	29.01427 AU
	9828 May 30 02:43	30°℞♏	
direct	9828 Aug 02 23:53	28°♏58'32	
	9828 Oct 04 14:17	0°♐	
evening set	9828 Oct 30 21:34	0°♐52'59	
conjunction	9828 Nov 16 02:56	1°♐28'52	0°22'08
minimum elong	9828 Nov 16 02:56	1°♐28'52	0°22'28
max. Earth dist.	9828 Nov 16 05:49	1°♐29'07	31.02054 AU
morning rise	9828 Dec 02 08:10	2°♐04'46	
retrograde	9829 Mar 01 12:12	3°♐59'57	
opposition	9829 May 18 19:01	2°♐36'04	0°24'46
min. Earth dist.	9829 May 18 17:12	2°♐36'12	29.02706 AU
direct	9829 Aug 05 09:25	1°♐11'40	
evening set	9829 Nov 02 10:46	3°♐06'10	
conjunction	9829 Nov 18 16:07	3°♐42'02	0°24'12
minimum elong	9829 Nov 18 16:07	3°♐42'02	0°24'33
max. Earth dist.	9829 Nov 18 18:05	3°♐42'13	31.03357 AU
morning rise	9829 Dec 04 21:19	4°♐17'55	
retrograde	9830 Mar 03 23:36	6°♐13'00	
opposition	9830 May 21 05:23	4°♐49'13	0°26'58
min. Earth dist.	9830 May 21 03:17	4°♐49'22	29.04002 AU
direct	9830 Aug 07 21:42	3°♐24'50	
evening set	9830 Nov 05 00:00	5°♐19'22	
conjunction	9830 Nov 21 05:19	5°♐55'14	0°26'14
minimum elong	9830 Nov 21 05:19	5°♐55'14	0°26'34
max. Earth dist.	9830 Nov 21 06:14	5°♐55'19	31.04620 AU
morning rise	9830 Dec 07 10:25	6°♐31'06	
retrograde	9831 Mar 06 10:34	8°♐26'05	
opposition	9831 May 23 15:59	7°♐02'22	0°29'06
min. Earth dist.	9831 May 23 15:37	7°♐02'24	29.05234 AU
direct	9831 Aug 10 08:34	5°♐37'59	
evening set	9831 Nov 07 13:18	7°♐32'34	
conjunction	9831 Nov 23 18:41	8°♐08'24	0°28'13
minimum elong	9831 Nov 23 18:41	8°♐08'24	0°28'34
max. Earth dist.	9831 Nov 23 19:03	8°♐08'27	31.05802 AU
morning rise	9831 Dec 09 23:34	8°♐44'15	
retrograde	9832 Mar 07 22:15	10°♐39'06	
opposition	9832 May 25 02:22	9°♐15'28	0°31'12
min. Earth dist.	9832 May 25 02:08	9°♐15'29	29.06354 AU
direct	9832 Aug 11 21:36	7°♐51'04	
evening set	9832 Nov 09 02:40	9°♐45'41	
conjunction	9832 Nov 25 07:51	10°♐21'30	0°30'09
minimum elong	9832 Nov 25 07:51	10°♐21'30	0°30'31
max. Earth dist.	9832 Nov 25 06:26	10°♐21'22	31.06865 AU
morning rise	9832 Dec 11 12:41	10°♐57'19	
retrograde	9833 Mar 10 10:19	12°♐52'03	
opposition	9833 May 27 12:54	11°♐28'28	0°33'15
min. Earth dist.	9833 May 27 13:59	11°♐28'23	29.07374 AU
direct	9833 Aug 14 08:33	10°♐04'02	
evening set	9833 Nov 11 15:37	11°♐58'39	
conjunction	9833 Nov 27 20:55	12°♐34'28	0°32'03
minimum elong	9833 Nov 27 20:55	12°♐34'28	0°32'25
max. Earth dist.	9833 Nov 27 19:41	12°♐34'21	31.07833 AU
morning rise	9833 Dec 14 01:28	13°♐10'14	
retrograde	9834 Mar 12 21:54	15°♐04'51	
opposition	9834 May 29 23:20	13°♐41'18	0°35'15
min. Earth dist.	9834 May 30 01:04	13°♐41'11	29.08291 AU
direct	9834 Aug 16 22:29	12°♐16'50	
evening set	9834 Nov 14 04:52	14°♐11'28	
conjunction	9834 Nov 30 09:57	14°♐47'15	0°33'54
minimum elong	9834 Nov 30 09:56	14°♐47'15	0°34'16
max. Earth dist.	9834 Nov 30 06:43	14°♐46'57	31.08722 AU
morning rise	9834 Dec 16 14:30	15°♐23'00	
retrograde	9835 Mar 15 09:53	17°♐17'28	
opposition	9835 Jun 01 09:33	15°♐53'57	0°37'12
min. Earth dist.	9835 Jun 01 11:48	15°♐53'48	29.09161 AU
direct	9835 Aug 19 10:06	14°♐29'26	
evening set	9835 Nov 16 17:54	16°♐24'06	
conjunction	9835 Dec 02 23:03	16°♐59'52	0°35'41
minimum elong	9835 Dec 02 23:03	16°♐59'52	0°36'04
max. Earth dist.	9835 Dec 02 20:05	16°♐59'36	31.09567 AU
morning rise	9835 Dec 19 03:15	17°♐35'35	
retrograde	9836 Mar 16 19:35	19°♐29'54	
opposition	9836 Jun 02 19:54	18°♐06'26	0°39'05
min. Earth dist.	9836 Jun 02 23:20	18°♐06'12	29.09999 AU
direct	9836 Aug 20 22:22	16°♐41'53	
evening set	9836 Nov 18 06:52	18°♐36'32	
conjunction	9836 Dec 04 11:46	19°♐12'18	0°37'25
minimum elong	9836 Dec 04 11:46	19°♐12'18	0°37'49
max. Earth dist.	9836 Dec 04 07:17	19°♐11'53	31.10417 AU
morning rise	9836 Dec 20 15:54	19°♐47'59	
retrograde	9837 Mar 19 07:16	21°♐42'10	
opposition	9837 Jun 05 06:05	20°♐18'45	0°40'55
min. Earth dist.	9837 Jun 05 09:13	20°♐18'31	29.10869 AU
direct	9837 Aug 23 09:42	18°♐54'09	
evening set	9837 Nov 20 19:43	20°♐48'49	
conjunction	9837 Dec 07 00:34	21°♐24'33	0°39'06
minimum elong	9837 Dec 07 00:34	21°♐24'33	0°39'30
max. Earth dist.	9837 Dec 06 20:18	21°♐24'10	31.11308 AU
morning rise	9837 Dec 23 04:21	22°♐00'14	
retrograde	9838 Mar 21 16:52	23°♐54'17	
opposition	9838 Jun 07 16:20	22°♐30'54	0°42'41
min. Earth dist.	9838 Jun 07 20:52	22°♐30'35	29.11810 AU
direct	9838 Aug 25 19:25	21°♐06'17	
evening set	9838 Nov 23 08:30	23°♐00'59	
conjunction	9838 Dec 09 13:14	23°♐36'42	0°40'44
minimum elong	9838 Dec 09 13:14	23°♐36'42	0°41'07
max. Earth dist.	9838 Dec 09 08:14	23°♐36'14	31.12302 AU
morning rise	9838 Dec 25 16:53	24°♐12'21	
retrograde	9839 Mar 24 03:14	26°♐06'18	
opposition	9839 Jun 10 02:29	24°♐42'59	0°44'23
min. Earth dist.	9839 Jun 10 06:20	24°♐42'43	29.12850 AU

direct	9839 Aug 28 07:40	23°♐18'21	
evening set	9839 Nov 25 21:22	25°♐13'05	
conjunction	9839 Dec 12 01:54	25°♐48'47	0°42'18
minimum elong	9839 Dec 12 01:54	25°♐48'47	0°42'41
max. Earth dist.	9839 Dec 11 20:21	25°♐48'16	31.13390 AU
morning rise	9839 Dec 28 05:16	26°♐24'24	
retrograde	9840 Mar 25 13:15	28°♐18'16	
opposition	9840 Jun 11 12:43	26°♐55'02	0°46'01
min. Earth dist.	9840 Jun 11 17:47	26°♐54'41	29.14002 AU
direct	9840 Aug 29 17:32	25°♐30'25	
evening set	9840 Nov 27 10:05	27°♐25'13	
conjunction	9840 Dec 13 14:32	28°♐00'54	0°43'48
minimum elong	9840 Dec 13 14:32	28°♐00'54	0°44'12
max. Earth dist.	9840 Dec 13 08:59	28°♐00'23	31.14594 AU
morning rise	9840 Dec 29 17:37	28°♐36'29	
	9841 Feb 13 05:09	0°♑	
retrograde	9841 Mar 28 00:19	0°♑30'16	
	9841 May 10 19:06	30°℞♐	
opposition	9841 Jun 13 22:54	29°♐07'08	0°47'35
min. Earth dist.	9841 Jun 14 03:41	29°♐06'48	29.15231 AU
direct	9841 Sep 01 05:18	27°♐42'33	
evening set	9841 Nov 29 22:47	29°♐37'25	
	9841 Dec 10 05:43	0°♑	
conjunction	9841 Dec 16 02:56	0°♑13'04	0°45'14
minimum elong	9841 Dec 16 02:56	0°♑13'04	0°45'38
max. Earth dist.	9841 Dec 15 20:08	0°♑12'27	31.15844 AU
morning rise	9842 Jan 01 05:52	0°♑48'38	
retrograde	9842 Mar 30 12:12	2°♑42'22	
opposition	9842 Jun 16 09:10	1°♑19'20	0°49'05
min. Earth dist.	9842 Jun 16 15:02	1°♑18'55	29.16491 AU
	9842 Aug 16 20:54	30°℞♐	
direct	9842 Sep 03 15:42	29°♐54'47	
	9842 Sep 21 11:45	0°♑	
evening set	9842 Dec 02 11:32	1°♑49'42	
conjunction	9842 Dec 18 15:41	2°♑25'21	0°46'36
minimum elong	9842 Dec 18 15:40	2°♑25'21	0°47'00
max. Earth dist.	9842 Dec 18 09:09	2°♑24'44	31.17078 AU
morning rise	9843 Jan 03 18:11	3°♑00'53	
retrograde	9843 Apr 01 23:52	4°♑54'31	
opposition	9843 Jun 18 19:20	3°♑31'35	0°50'31
min. Earth dist.	9843 Jun 19 01:57	3°♑31'07	29.17682 AU
direct	9843 Sep 06 05:23	2°♑07'04	
evening set	9843 Dec 05 00:31	4°♑02'02	
conjunction	9843 Dec 21 04:16	4°♑37'40	0°47'54
minimum elong	9843 Dec 21 04:16	4°♑37'40	0°48'17
max. Earth dist.	9843 Dec 20 19:43	4°♑36'52	31.18221 AU
morning rise	9844 Jan 06 06:38	5°♑13'10	
retrograde	9844 Apr 03 11:50	7°♑06'44	
opposition	9844 Jun 20 05:40	5°♑43'52	0°51'51
min. Earth dist.	9844 Jun 20 12:45	5°♑43'22	29.18775 AU
direct	9844 Sep 07 16:52	4°♑19'21	
evening set	9844 Dec 06 13:09	6°♑14'22	
conjunction	9844 Dec 22 16:50	6°♑49'57	0°49'08
minimum elong	9844 Dec 22 16:49	6°♑49'57	0°49'31
max. Earth dist.	9844 Dec 22 08:27	6°♑49'11	31.19235 AU
morning rise	9845 Jan 07 18:42	7°♑25'26	
retrograde	9845 Apr 05 22:03	9°♑18'54	
opposition	9845 Jun 22 16:05	7°♑56'06	0°53'08
min. Earth dist.	9845 Jun 23 00:32	7°♑55'30	29.19720 AU
direct	9845 Sep 10 05:19	6°♑31'34	
evening set	9845 Dec 09 01:56	8°♑26'35	

conjunction	9845 Dec 25 05:16	9°♑02'10	0°50'17
minimum elong	9845 Dec 25 05:15	9°♑02'10	0°50'40
max. Earth dist.	9845 Dec 24 19:02	9°♑01'13	31.20120 AU
morning rise	9846 Jan 10 07:00	9°♑37'36	
retrograde	9846 Apr 08 10:19	11°♑30'57	
opposition	9846 Jun 25 02:14	10°♑08'11	0°54'19
min. Earth dist.	9846 Jun 25 10:40	10°♑07'36	29.20541 AU
direct	9846 Sep 12 17:32	8°♑43'38	
evening set	9846 Dec 11 14:33	10°♑38'40	
conjunction	9846 Dec 27 17:46	11°♑14'13	0°51'21
minimum elong	9846 Dec 27 17:46	11°♑14'13	0°51'46
max. Earth dist.	9846 Dec 27 07:22	11°♑13'15	31.20871 AU
morning rise	9847 Jan 12 19:06	11°♑49'37	
retrograde	9847 Apr 10 19:40	13°♑42'51	
opposition	9847 Jun 27 12:37	12°♑20'07	0°55'26
min. Earth dist.	9847 Jun 27 22:47	12°♑19'25	29.21239 AU
direct	9847 Sep 15 04:29	10°♑55'31	
evening set	9847 Dec 14 03:07	12°♑50'32	
conjunction	9847 Dec 30 06:02	13°♑26'03	0°52'22
minimum elong	9847 Dec 30 06:02	13°♑26'03	0°52'45
max. Earth dist.	9847 Dec 29 18:38	13°♑25'00	31.21526 AU
morning rise	9848 Jan 15 07:06	14°♑01'26	
retrograde	9848 Apr 12 05:11	15°♑54'32	
opposition	9848 Jun 28 22:43	14°♑31'49	0°56'28
min. Earth dist.	9848 Jun 29 08:30	14°♑31'08	29.21853 AU
direct	9848 Sep 16 16:57	13°♑07'10	
evening set	9848 Dec 15 15:33	15°♑02'10	
conjunction	9848 Dec 31 18:12	15°♑37'40	0°53'17
minimum elong	9848 Dec 31 18:11	15°♑37'40	0°53'41
max. Earth dist.	9848 Dec 31 06:06	15°♑36'33	31.22110 AU
morning rise	9849 Jan 16 18:55	16°♑13'00	
retrograde	9849 Apr 14 14:27	18°♑06'00	
opposition	9849 Jul 01 09:01	16°♑43'17	0°57'25
min. Earth dist.	9849 Jul 01 20:06	16°♑42'31	29.22438 AU
direct	9849 Sep 19 02:44	15°♑18'34	
evening set	9849 Dec 18 03:40	17°♑13'34	
conjunction	9850 Jan 03 06:08	17°♑49'02	0°54'08
minimum elong	9850 Jan 03 06:08	17°♑49'02	0°54'31
max. Earth dist.	9850 Jan 02 18:06	17°♑47'55	31.22698 AU
morning rise	9850 Jan 19 06:32	18°♑24'20	
retrograde	9850 Apr 17 00:09	20°♑17'13	
opposition	9850 Jul 03 19:09	18°♑54'31	0°58'17
min. Earth dist.	9850 Jul 04 05:56	18°♑53'46	29.23029 AU
direct	9850 Sep 21 14:38	17°♑29'45	
evening set	9850 Dec 20 15:58	19°♑24'44	
conjunction	9851 Jan 05 18:03	20°♑00'10	0°54'55
minimum elong	9851 Jan 05 18:03	20°♑00'10	0°55'17
max. Earth dist.	9851 Jan 05 04:54	19°♑58'57	31.23313 AU
morning rise	9851 Jan 21 18:11	20°♑35'27	
retrograde	9851 Apr 19 10:34	22°♑28'14	
opposition	9851 Jul 06 05:16	21°♑05'32	0°59'04
min. Earth dist.	9851 Jul 06 16:42	21°♑04'45	29.23694 AU
direct	9851 Sep 24 01:12	19°♑40'45	
evening set	9851 Dec 23 04:05	21°♑35'45	
conjunction	9852 Jan 08 06:02	22°♑11'10	0°55'36
minimum elong	9852 Jan 08 06:02	22°♑11'10	0°55'58
max. Earth dist.	9852 Jan 07 17:42	22°♑10'01	31.24020 AU
morning rise	9852 Jan 24 05:39	22°♑46'24	
retrograde	9852 Apr 20 20:43	24°♑39'06	
opposition	9852 Jul 07 15:32	23°♑16'27	0°59'45
min. Earth dist.	9852 Jul 08 03:07	23°♑15'39	29.24446 AU

direct	9852 Sep	25	14:01	21°♑51'40	
evening set	9852 Dec	24	16:07	23°♑46'42	
conjunction	9853 Jan	09	17:36	24°♑22'04	0°56'13
minimum elong	9853 Jan	09	17:36	24°♑22'04	0°56'36
max. Earth dist.	9853 Jan	09	04:01	24°♑20'49	31.24829 AU
morning rise	9853 Jan	25	17:02	24°♑57'17	
retrograde	9853 Apr	23	08:18	26°♑49'57	
opposition	9853 Jul	10	01:43	25°♑27'21	1°00'22
min. Earth dist.	9853 Jul	10	13:03	25°♑26'33	29.25306 AU
direct	9853 Sep	28	00:47	24°♑02'34	
evening set	9853 Dec	27	04:05	25°♑57'39	
conjunction	9854 Jan	12	05:26	26°♑33'01	0°56'45
minimum elong	9854 Jan	12	05:26	26°♑33'01	0°57'07
max. Earth dist.	9854 Jan	11	16:38	26°♑31'50	31.25716 AU
morning rise	9854 Jan	28	04:22	27°♑08'11	
retrograde	9854 Apr	25	18:27	29°♑00'49	
opposition	9854 Jul	12	11:54	27°♑38'18	1°00'53
min. Earth dist.	9854 Jul	13	00:18	27°♑37'26	29.26207 AU
direct	9854 Sep	30	12:45	26°♑13'34	
evening set	9854 Dec	29	16:14	28°♑08'42	
conjunction	9855 Jan	14	17:09	28°♑44'02	0°57'11
minimum elong	9855 Jan	14	17:09	28°♑44'02	0°57'34
max. Earth dist.	9855 Jan	14	02:58	28°♑42'44	31.26625 AU
morning rise	9855 Jan	30	15:53	29°♑19'11	
	9855 Feb	19	11:55	0°♒	
retrograde	9855 Apr	28	06:52	1°♒11'46	
	9855 Jul	08	12:11	30°℞♑	
opposition	9855 Jul	14	22:07	29°♑49'21	1°01'19
min. Earth dist.	9855 Jul	15	10:09	29°♑48'31	29.27097 AU
direct	9855 Oct	03	00:47	28°♑24'39	
	9855 Dec	22	19:35	0°♒	
evening set	9856 Jan	01	04:14	0°♒19'50	
conjunction	9856 Jan	17	04:55	0°♒55'10	0°57'33
minimum elong	9856 Jan	17	04:55	0°♒55'10	0°57'54
max. Earth dist.	9856 Jan	16	14:52	0°♒53'52	31.27469 AU
morning rise	9856 Feb	02	03:07	1°♒30'17	
retrograde	9856 Apr	29	16:30	3°♒22'50	
opposition	9856 Jul	16	08:32	2°♒00'29	1°01'40
min. Earth dist.	9856 Jul	16	22:09	1°♒59'32	29.27904 AU
direct	9856 Oct	04	11:32	0°♒35'50	
evening set	9857 Jan	02	16:16	2°♒31'03	
conjunction	9857 Jan	18	16:34	3°♒06'21	0°57'50
minimum elong	9857 Jan	18	16:34	3°♒06'21	0°58'11
max. Earth dist.	9857 Jan	18	01:41	3°♒04'58	31.28227 AU
morning rise	9857 Feb	03	14:30	3°♒41'27	
retrograde	9857 May	02	02:25	5°♒33'57	
opposition	9857 Jul	18	18:51	4°♒11'40	1°01'55
min. Earth dist.	9857 Jul	19	08:01	4°♒10'45	29.28598 AU
direct	9857 Oct	06	23:36	2°♒47'02	
evening set	9858 Jan	05	04:10	4°♒42'16	
conjunction	9858 Jan	21	04:09	5°♒17'33	0°58'02
minimum elong	9858 Jan	21	04:09	5°♒17'33	0°58'22
max. Earth dist.	9858 Jan	20	12:30	5°♒16'06	31.28849 AU
morning rise	9858 Feb	06	01:43	5°♒52'37	
retrograde	9858 May	04	12:01	7°♒45'06	
opposition	9858 Jul	21	05:21	6°♒22'51	1°02'05
min. Earth dist.	9858 Jul	21	19:53	6°♒21'50	29.29160 AU
direct	9858 Oct	09	09:01	4°♒58'12	
evening set	9859 Jan	07	16:04	6°♒53'28	
conjunction	9859 Jan	23	15:48	7°♒28'43	0°58'09
minimum elong	9859 Jan	23	15:48	7°♒28'43	0°58'29
max. Earth dist.	9859 Jan	22	23:58	7°♒27'15	31.29344 AU
morning rise	9859 Feb	08	12:57	8°♒03'46	
retrograde	9859 May	06	21:30	9°♒56'11	
opposition	9859 Jul	23	15:40	8°♒33'58	1°02'09
min. Earth dist.	9859 Jul	24	06:11	8°♒32'58	29.29581 AU
direct	9859 Oct	11	20:33	7°♒09'19	
evening set	9860 Jan	10	03:59	9°♒04'34	
max. Earth dist.	9860 Jan	25	10:07	9°♒38'12	31.29709 AU
conjunction	9860 Jan	26	03:16	9°♒39'48	0°58'11
minimum elong	9860 Jan	26	03:17	9°♒39'48	0°58'30
morning rise	9860 Feb	11	00:09	10°♒14'49	
retrograde	9860 May	08	07:45	12°♒07'12	
opposition	9860 Jul	25	02:08	10°♒44'59	1°02'09
min. Earth dist.	9860 Jul	25	17:23	10°♒43'55	29.29904 AU
direct	9860 Oct	13	07:06	9°♒20'18	
evening set	9861 Jan	11	15:27	11°♒15'33	
conjunction	9861 Jan	27	14:34	11°♒50'45	0°58'08
minimum elong	9861 Jan	27	14:34	11°♒50'45	0°58'27
max. Earth dist.	9861 Jan	26	22:08	11°♒49'13	31.29988 AU
morning rise	9861 Feb	12	10:57	12°♒25'44	
retrograde	9861 May	10	17:14	14°♒18'03	
opposition	9861 Jul	27	12:35	12°♒55'50	1°02'03
min. Earth dist.	9861 Jul	28	04:16	12°♒54'45	29.30144 AU
direct	9861 Oct	15	19:38	11°♒31'08	
evening set	9862 Jan	14	03:06	13°♒26'22	
max. Earth dist.	9862 Jan	29	07:58	13°♒59'53	31.30216 AU
conjunction	9862 Jan	30	01:43	14°♒01'32	0°58'00
minimum elong	9862 Jan	30	01:44	14°♒01'32	0°58'18
morning rise	9862 Feb	14	21:56	14°♒36'29	
	9862 Feb	26	00:49	15°♒	
retrograde	9862 May	13	04:13	16°♒28'45	
opposition	9862 Jul	29	22:48	15°♒06'30	1°01'52
min. Earth dist.	9862 Jul	30	14:14	15°♒05'27	29.30375 AU
	9862 Aug	02	21:12	15°℞♒	
direct	9862 Oct	18	06:02	13°♒41'46	
	9862 Dec	29	17:37	15°♒	
evening set	9863 Jan	16	14:30	15°♒36'59	
conjunction	9863 Feb	01	12:57	16°♒12'08	0°57'47
minimum elong	9863 Feb	01	12:57	16°♒12'08	0°58'05
max. Earth dist.	9863 Jan	31	20:05	16°♒10'34	31.30449 AU
morning rise	9863 Feb	17	08:37	16°♒47'03	
retrograde	9863 May	15	14:02	18°♒39'16	
opposition	9863 Aug	01	09:18	17°♒17'01	1°01'36
min. Earth dist.	9863 Aug	02	01:30	17°♒15'54	29.30632 AU
direct	9863 Oct	20	18:45	15°♒52'15	
evening set	9864 Jan	19	01:52	17°♒47'28	
conjunction	9864 Feb	03	23:48	18°♒22'35	0°57'29
minimum elong	9864 Feb	03	23:48	18°♒22'35	0°57'46
max. Earth dist.	9864 Feb	03	06:08	18°♒20'56	31.30748 AU
morning rise	9864 Feb	19	19:14	18°♒57'28	
retrograde	9864 May	17	02:03	20°♒49'38	
opposition	9864 Aug	02	19:43	19°♒27'24	1°01'14
min. Earth dist.	9864 Aug	03	10:51	19°♒26'21	29.30980 AU
direct	9864 Oct	22	07:33	18°♒02'38	
evening set	9865 Jan	20	13:05	19°♒57'51	
conjunction	9865 Feb	05	10:46	20°♒32'56	0°57'07
minimum elong	9865 Feb	05	10:46	20°♒32'56	0°57'24
max. Earth dist.	9865 Feb	04	17:50	20°♒31'22	31.31145 AU
morning rise	9865 Feb	21	05:43	21°♒07'48	
retrograde	9865 May	19	11:21	22°♒59'57	

opposition	9865 Aug 05 06:13	21°♒37'44	1°00'47
min. Earth dist.	9865 Aug 05 22:18	21°♒36'37	29.31436 AU
direct	9865 Oct 24 18:32	20°♒13'00	
evening set	9866 Jan 23 00:14	22°♒08'13	
conjunction	9866 Feb 07 21:34	22°♒43'17	0°56'39
minimum elong	9866 Feb 07 21:34	22°♒43'17	0°56'55
max. Earth dist.	9866 Feb 07 04:33	22°♒41'42	31.31654 AU
morning rise	9866 Feb 23 16:17	23°♒18'08	
retrograde	9866 May 21 21:17	25°♒10'15	
opposition	9866 Aug 07 16:39	23°♒48'06	1°00'15
min. Earth dist.	9866 Aug 08 07:45	23°♒47'03	29.31963 AU
direct	9866 Oct 27 06:38	22°♒23'23	
evening set	9867 Jan 25 11:30	24°♒18'38	
conjunction	9867 Feb 10 08:27	24°♒53'41	0°56'07
minimum elong	9867 Feb 10 08:28	24°♒53'41	0°56'22
max. Earth dist.	9867 Feb 09 15:11	24°♒52'05	31.32195 AU
morning rise	9867 Feb 26 02:47	25°♒28'30	
retrograde	9867 May 24 07:22	27°♒20'38	
opposition	9867 Aug 10 03:13	25°♒58'32	0°59'38
min. Earth dist.	9867 Aug 10 19:14	25°♒57'25	29.32514 AU
direct	9867 Oct 29 16:23	24°♒33'52	
evening set	9868 Jan 27 22:41	26°♒29'07	
conjunction	9868 Feb 12 19:22	27°♒04'09	0°55'29
minimum elong	9868 Feb 12 19:22	27°♒04'09	0°55'43
max. Earth dist.	9868 Feb 12 02:30	27°♒02'36	31.32735 AU
morning rise	9868 Feb 28 13:16	27°♒38'58	
retrograde	9868 May 25 16:41	29°♒31'06	
opposition	9868 Aug 11 13:55	28°♒09'02	0°58'55
min. Earth dist.	9868 Aug 12 05:36	28°♒07'58	29.33016 AU
direct	9868 Oct 31 04:04	26°♒44'26	
evening set	9869 Jan 29 09:50	28°♒39'42	
conjunction	9869 Feb 14 06:02	29°♒14'42	0°54'47
minimum elong	9869 Feb 14 06:02	29°♒14'42	0°55'01
max. Earth dist.	9869 Feb 13 12:08	29°♒13'02	31.33197 AU
morning rise	9869 Mar 01 23:42	29°♒49'29	
	9869 Mar 06 21:01	0°♓	
retrograde	9869 May 28 02:51	1°♓41'39	
opposition	9869 Aug 14 00:42	0°♓19'37	0°58'08
min. Earth dist.	9869 Aug 14 16:52	0°♓18'30	29.33437 AU
	9869 Aug 26 00:40	30°℞♒	
direct	9869 Nov 02 13:55	28°♒55'02	
	9870 Jan 07 00:21	0°♓	
evening set	9870 Jan 31 20:59	0°♓50'18	
conjunction	9870 Feb 16 16:59	1°♓25'18	0°54'00
minimum elong	9870 Feb 16 16:59	1°♓25'18	0°54'13
max. Earth dist.	9870 Feb 15 23:51	1°♓23'42	31.33552 AU
morning rise	9870 Mar 04 10:09	2°♓00'04	
retrograde	9870 May 30 12:01	3°♓52'14	
opposition	9870 Aug 16 11:26	2°♓30'13	0°57'15
min. Earth dist.	9870 Aug 17 04:10	2°♓29'04	29.33716 AU
direct	9870 Nov 05 01:27	1°♓05'40	
evening set	9871 Feb 03 08:18	3°♓00'56	
max. Earth dist.	9871 Feb 18 09:13	3°♓34'11	31.33766 AU
conjunction	9871 Feb 19 03:47	3°♓35'54	0°53'09
minimum elong	9871 Feb 19 03:47	3°♓35'54	0°53'22
morning rise	9871 Mar 06 20:46	4°♓10'39	
retrograde	9871 Jun 01 23:32	6°♓02'50	
opposition	9871 Aug 18 22:18	4°♓40'49	0°56'17
min. Earth dist.	9871 Aug 19 14:44	4°♓39'42	29.33862 AU
direct	9871 Nov 07 11:40	3°♓16'17	
evening set	9872 Feb 05 19:17	5°♓11'33	
conjunction	9872 Feb 21 14:33	5°♓46'29	0°52'13
minimum elong	9872 Feb 21 14:34	5°♓46'29	0°52'24
max. Earth dist.	9872 Feb 20 20:43	5°♓44'50	31.33833 AU
morning rise	9872 Mar 08 07:01	6°♓21'13	
retrograde	9872 Jun 03 09:23	8°♓13'24	
opposition	9872 Aug 20 09:18	6°♓51'23	0°55'15
min. Earth dist.	9872 Aug 21 02:45	6°♓50'11	29.33859 AU
direct	9872 Nov 09 00:11	5°♓26'51	
evening set	9873 Feb 07 06:21	7°♓22'06	
max. Earth dist.	9873 Feb 22 06:18	7°♓55'16	31.33778 AU
conjunction	9873 Feb 23 01:10	7°♓57'01	0°51'12
minimum elong	9873 Feb 23 01:10	7°♓57'01	0°51'24
morning rise	9873 Mar 10 17:28	8°♓31'43	
retrograde	9873 Jun 05 21:23	10°♓23'54	
opposition	9873 Aug 22 20:03	9°♓01'52	0°54'08
min. Earth dist.	9873 Aug 23 12:45	9°♓00'44	29.33747 AU
direct	9873 Nov 11 12:51	7°♓37'19	
evening set	9874 Feb 09 17:12	9°♓32'33	
conjunction	9874 Feb 25 11:48	10°♓07'27	0°50'07
minimum elong	9874 Feb 25 11:48	10°♓07'27	0°50'17
max. Earth dist.	9874 Feb 24 17:21	10°♓05'45	31.33615 AU
morning rise	9874 Mar 13 03:41	10°♓42'08	
retrograde	9874 Jun 08 06:55	12°♓34'20	
opposition	9874 Aug 25 07:03	11°♓12'16	0°52'57
min. Earth dist.	9874 Aug 26 00:52	11°♓11'02	29.33553 AU
direct	9874 Nov 14 00:18	9°♓47'42	
evening set	9875 Feb 12 04:01	11°♓42'54	
conjunction	9875 Feb 27 22:13	12°♓17'47	0°48'59
minimum elong	9875 Feb 27 22:14	12°♓17'47	0°49'08
max. Earth dist.	9875 Feb 27 03:50	12°♓16'04	31.33409 AU
morning rise	9875 Mar 15 13:50	12°♓52'27	
retrograde	9875 Jun 10 16:42	14°♓44'38	
opposition	9875 Aug 27 17:54	13°♓22'33	0°51'41
min. Earth dist.	9875 Aug 28 10:38	13°♓21'24	29.33337 AU
direct	9875 Nov 16 13:09	11°♓57'59	
evening set	9876 Feb 14 14:45	13°♓53'10	
conjunction	9876 Mar 01 08:34	14°♓28'01	0°47'46
minimum elong	9876 Mar 01 08:35	14°♓28'01	0°47'53
max. Earth dist.	9876 Feb 29 14:10	14°♓26'19	31.33207 AU
morning rise	9876 Mar 16 23:52	15°♓02'40	
retrograde	9876 Jun 12 02:52	16°♓54'52	
opposition	9876 Aug 29 05:00	15°♓32'46	0°50'21
min. Earth dist.	9876 Aug 29 22:05	15°♓31'36	29.33178 AU
direct	9876 Nov 17 23:30	14°♓08'13	
evening set	9877 Feb 16 01:12	16°♓03'22	
conjunction	9877 Mar 03 18:48	16°♓38'13	0°46'29
minimum elong	9877 Mar 03 18:48	16°♓38'13	0°46'36
max. Earth dist.	9877 Mar 03 01:24	16°♓36'36	31.33088 AU
morning rise	9877 Mar 19 09:44	17°♓12'52	
retrograde	9877 Jun 14 11:48	19°♓05'06	
opposition	9877 Aug 31 16:01	17°♓43'00	0°48'56
min. Earth dist.	9877 Sep 01 08:15	17°♓41'53	29.33089 AU
direct	9877 Nov 20 11:32	16°♓18'28	
evening set	9878 Feb 18 11:53	18°♓13'38	
max. Earth dist.	9878 Mar 05 11:03	18°♓46'47	31.33045 AU
conjunction	9878 Mar 06 05:01	18°♓48'28	0°45'07
minimum elong	9878 Mar 06 05:01	18°♓48'28	0°45'13
morning rise	9878 Mar 21 19:46	19°♓23'06	
retrograde	9878 Jun 16 21:43	21°♓15'23	
opposition	9878 Sep 03 02:57	19°♓53'18	0°47'28
min. Earth dist.	9878 Sep 03 19:03	19°♓52'12	29.33086 AU

direct	9878 Nov 22	21:04	18°♓28'49	
evening set	9879 Feb 20	22:24	20°♓24'00	
conjunction	9879 Mar 08	15:22	20°♓58'49	0°43'42
minimum elong	9879 Mar 08	15:22	20°♓58'49	0°43'49
max. Earth dist.	9879 Mar 07	22:49	20°♓57'17	31.33065 AU
morning rise	9879 Mar 24	05:41	21°♓33'26	
retrograde	9879 Jun 19	06:47	23°♓25'48	
opposition	9879 Sep 05	14:11	22°♓03'45	0°45'55
min. Earth dist.	9879 Sep 06	06:20	22°♓02'38	29.33107 AU
direct	9879 Nov 25	07:43	20°♓39'20	
evening set	9880 Feb 23	08:56	22°♓34'31	
max. Earth dist.	9880 Mar 09	08:04	23°♓07'42	31.33092 AU
conjunction	9880 Mar 10	01:23	23°♓09'19	0°42'13
minimum elong	9880 Mar 10	01:23	23°♓09'19	0°42'18
morning rise	9880 Mar 25	15:34	23°♓43'56	
retrograde	9880 Jun 20	18:27	25°♓36'22	
opposition	9880 Sep 07	01:23	24°♓14'20	0°44'17
min. Earth dist.	9880 Sep 07	16:44	24°♓13'17	29.33120 AU
direct	9880 Nov 26	17:05	22°♓49'59	
evening set	9881 Feb 24	19:24	24°♓45'11	
conjunction	9881 Mar 12	11:41	25°♓19'58	0°40'41
minimum elong	9881 Mar 12	11:41	25°♓19'58	0°40'45
max. Earth dist.	9881 Mar 11	19:25	25°♓18'27	31.33068 AU
morning rise	9881 Mar 28	01:25	25°♓54'35	
retrograde	9881 Jun 23	04:39	27°♓47'05	
opposition	9881 Sep 09	12:42	26°♓25'04	0°42'36
min. Earth dist.	9881 Sep 10	04:53	26°♓23'58	29.33055 AU
direct	9881 Nov 29	05:04	25°♓00'46	
evening set	9882 Feb 27	06:02	26°♓55'58	
conjunction	9882 Mar 14	21:53	27°♓30'45	0°39'04
minimum elong	9882 Mar 14	21:54	27°♓30'45	0°39'07
max. Earth dist.	9882 Mar 14	04:53	27°♓29'10	31.32958 AU
morning rise	9882 Mar 30	11:30	28°♓05'21	
retrograde	9882 Jun 25	17:07	29°♓57'55	
opposition	9882 Sep 12	00:02	28°♓35'54	0°40'52
min. Earth dist.	9882 Sep 12	15:16	28°♓34'52	29.32877 AU
direct	9882 Dec 01	17:13	27°♓11'38	
evening set	9883 Mar 01	16:35	29°♓06'50	
conjunction	9883 Mar 17	08:10	29°♓41'36	0°37'25
minimum elong	9883 Mar 17	08:10	29°♓41'36	0°37'27
max. Earth dist.	9883 Mar 16	15:33	29°♓40'03	31.32702 AU
	9883 Mar 25	13:25	0°♈	
morning rise	9883 Apr 01	21:23	0°♈16'11	
retrograde	9883 Jun 28	03:19	2°♈08'50	
opposition	9883 Sep 14	11:39	0°♈46'48	0°39'04
min. Earth dist.	9883 Sep 15	03:57	0°♈45'41	29.32553 AU
	9883 Oct 14	19:09	30°♓℞	
direct	9883 Dec 04	04:14	29°♓22'33	
	9884 Jan 21	23:14	0°♈	
evening set	9884 Mar 03	03:09	1°♈17'43	
conjunction	9884 Mar 18	18:25	1°♈52'29	0°35'42
minimum elong	9884 Mar 18	18:25	1°♈52'29	0°35'43
max. Earth dist.	9884 Mar 18	01:51	1°♈50'56	31.32311 AU
morning rise	9884 Apr 03	07:25	2°♈27'03	
retrograde	9884 Jun 29	14:14	4°♈19'44	
opposition	9884 Sep 15	23:09	2°♈57'41	0°37'12
min. Earth dist.	9884 Sep 16	14:29	2°♈56'38	29.32078 AU
direct	9884 Dec 05	17:47	1°♈33'26	
evening set	9885 Mar 05	13:36	3°♈28'34	
max. Earth dist.	9885 Mar 20	11:34	4°♈01'44	31.31760 AU
conjunction	9885 Mar 21	04:32	4°♈03'19	0°33'56
minimum elong	9885 Mar 21	04:32	4°♈03'19	0°33'57
morning rise	9885 Apr 05	17:20	4°♈37'53	
retrograde	9885 Jul 02	01:29	6°♈30'37	
opposition	9885 Sep 18	10:48	5°♈08'30	0°35'18
min. Earth dist.	9885 Sep 19	02:46	5°♈07'24	29.31462 AU
direct	9885 Dec 08	05:26	3°♈44'15	
evening set	9886 Mar 07	24:00	5°♈39'20	
conjunction	9886 Mar 23	14:45	6°♈14'04	0°32'08
minimum elong	9886 Mar 23	14:46	6°♈14'04	0°32'07
max. Earth dist.	9886 Mar 22	22:35	6°♈12'34	31.31082 AU
morning rise	9886 Apr 08	03:14	6°♈48'38	
retrograde	9886 Jul 04	10:13	8°♈41'23	
opposition	9886 Sep 20	22:16	7°♈19'12	0°33'20
min. Earth dist.	9886 Sep 21	13:43	7°♈18'09	29.30719 AU
direct	9886 Dec 10	18:32	5°♈54'55	
evening set	9887 Mar 10	10:26	7°♈49'57	
max. Earth dist.	9887 Mar 25	07:56	8°♈23'06	31.30311 AU
conjunction	9887 Mar 26	00:45	8°♈24'40	0°30'17
minimum elong	9887 Mar 26	00:45	8°♈24'40	0°30'16
morning rise	9887 Apr 10	13:09	8°♈59'14	
retrograde	9887 Jul 06	20:09	10°♈52'01	
opposition	9887 Sep 23	09:56	9°♈29'46	0°31'20
min. Earth dist.	9887 Sep 24	01:08	9°♈28'43	29.29936 AU
direct	9887 Dec 13	05:02	8°♈05'27	
evening set	9888 Mar 11	20:27	10°♈00'25	
conjunction	9888 Mar 27	10:39	10°♈35'08	0°28'24
minimum elong	9888 Mar 27	10:39	10°♈35'08	0°28'20
max. Earth dist.	9888 Mar 26	19:30	10°♈33'43	31.29523 AU
morning rise	9888 Apr 11	22:39	11°♈09'41	
retrograde	9888 Jul 08	04:38	13°♈02'31	
opposition	9888 Sep 24	21:40	11°♈40'11	0°29'18
min. Earth dist.	9888 Sep 25	12:38	11°♈39'10	29.29161 AU
direct	9888 Dec 14	16:41	10°♈15'52	
evening set	9889 Mar 14	06:42	12°♈10'47	
conjunction	9889 Mar 29	20:27	12°♈45'29	0°26'28
minimum elong	9889 Mar 29	20:27	12°♈45'29	0°26'25
max. Earth dist.	9889 Mar 29	04:54	12°♈44'02	31.28787 AU
morning rise	9889 Apr 14	08:25	13°♈20'02	
retrograde	9889 Jul 10	15:57	15°♈12'56	
opposition	9889 Sep 27	09:09	13°♈50'33	0°27'13
min. Earth dist.	9889 Sep 27	22:50	13°♈49'37	29.28472 AU
direct	9889 Dec 17	02:42	12°♈26'14	
evening set	9890 Mar 16	16:47	14°♈21'08	
conjunction	9890 Apr 01	06:25	14°♈55'49	0°24'30
minimum elong	9890 Apr 01	06:25	14°♈55'49	0°24'25
max. Earth dist.	9890 Mar 31	16:19	14°♈54'30	31.28138 AU
morning rise	9890 Apr 16	18:01	15°♈30'22	
retrograde	9890 Jul 13	01:41	17°♈23'21	
opposition	9890 Sep 29	20:57	16°♈00'56	0°25'05
min. Earth dist.	9890 Sep 30	10:49	15°♈59'59	29.27867 AU
direct	9890 Dec 19	14:05	14°♈36'39	
evening set	9891 Mar 19	02:54	16°♈31'33	
conjunction	9891 Apr 03	16:08	17°♈06'14	0°22'29
minimum elong	9891 Apr 03	16:08	17°♈06'14	0°22'24
max. Earth dist.	9891 Apr 03	02:06	17°♈04'55	31.27586 AU
morning rise	9891 Apr 19	03:39	17°♈40'46	
retrograde	9891 Jul 15	13:52	19°♈33'52	
opposition	9891 Oct 02	08:40	18°♈11'26	0°22'55
min. Earth dist.	9891 Oct 02	20:55	18°♈10'36	29.27343 AU
direct	9891 Dec 22	01:20	16°♈47'13	

evening set	9892 Mar	20	12:59	18°♈42'07	
conjunction	9892 Apr	05	02:01	19°♈16'47	0°20'27
minimum elong	9892 Apr	05	02:01	19°♈16'47	0°20'20
max. Earth dist.	9892 Apr	04	12:52	19°♈15'34	31.27084 AU
morning rise	9892 Apr	20	13:17	19°♈51'20	
retrograde	9892 Jul	17	00:42	21°♈44'33	
opposition	9892 Oct	03	20:35	20°♈22'07	0°20'43
min. Earth dist.	9892 Oct	04	09:23	20°♈21'15	29.26860 AU
direct	9892 Dec	23	11:35	18°♈57'58	
evening set	9893 Mar	22	23:00	20°♈52'52	
conjunction	9893 Apr	07	11:49	21°♈27'32	0°18'23
minimum elong	9893 Apr	07	11:49	21°♈27'32	0°18'16
max. Earth dist.	9893 Apr	06	23:21	21°♈26'23	31.26607 AU
morning rise	9893 Apr	22	22:57	22°♈02'06	
retrograde	9893 Jul	19	12:17	23°♈55'25	
opposition	9893 Oct	06	08:26	22°♈33'00	0°18'30
min. Earth dist.	9893 Oct	06	19:56	22°♈32'13	29.26358 AU
direct	9893 Dec	26	00:46	21°♈08'54	
evening set	9894 Mar	25	09:14	23°♈03'49	
conjunction	9894 Apr	09	21:43	23°♈38'30	0°16'17
minimum elong	9894 Apr	09	21:43	23°♈38'30	0°16'08
behind sun begin	9894 Apr	09	21:20	23°♈38'28	
behind sun end	9894 Apr	09	22:06	23°♈38'32	
max. Earth dist.	9894 Apr	09	09:06	23°♈37'20	31.26077 AU
morning rise	9894 Apr	25	08:43	24°♈13'04	
retrograde	9894 Jul	22	00:35	26°♈06'31	
opposition	9894 Oct	08	20:26	24°♈44'05	0°16'14
min. Earth dist.	9894 Oct	09	08:17	24°♈43'17	29.25802 AU
direct	9894 Dec	28	12:03	23°♈20'03	
evening set	9895 Mar	27	19:23	25°♈14'58	
conjunction	9895 Apr	12	07:45	25°♈49'39	0°14'10
minimum elong	9895 Apr	12	07:44	25°♈49'39	0°14'01
behind sun begin	9895 Apr	12	04:25	25°♈49'21	
behind sun end	9895 Apr	12	11:03	25°♈49'57	
max. Earth dist.	9895 Apr	11	20:14	25°♈48'35	31.25479 AU
morning rise	9895 Apr	27	18:27	26°♈24'13	
retrograde	9895 Jul	24	10:21	28°♈17'47	
opposition	9895 Oct	11	08:36	26°♈55'21	0°13'57
min. Earth dist.	9895 Oct	11	19:44	26°♈54'36	29.25144 AU
direct	9895 Dec	31	00:54	25°♈31'22	
evening set	9896 Mar	29	05:34	27°♈26'17	
conjunction	9896 Apr	13	17:32	28°♈00'57	0°12'01
minimum elong	9896 Apr	13	17:32	28°♈00'57	0°11'51
behind sun begin	9896 Apr	13	13:01	28°♈00'33	
behind sun end	9896 Apr	13	22:04	28°♈01'21	
max. Earth dist.	9896 Apr	13	05:22	27°♈59'49	31.24767 AU
morning rise	9896 Apr	29	04:16	28°♈35'32	
	9896 Jun	13	19:44	0°♉	
retrograde	9896 Jul	25	21:18	0°♉29'13	
	9896 Sep	07	09:32	30°♓	
opposition	9896 Oct	12	20:51	29°♈06'45	0°11'39
min. Earth dist.	9896 Oct	13	07:45	29°♈06'00	29.24377 AU
direct	9897 Jan	01	11:35	27°♈42'47	
evening set	9897 Mar	31	15:43	29°♈37'41	
	9897 Apr	10	16:14	0°♉	
conjunction	9897 Apr	16	03:40	0°♉12'22	0°09'52
minimum elong	9897 Apr	16	03:39	0°♉12'22	0°09'42
behind sun begin	9897 Apr	15	22:21	0°♉11'53	
behind sun end	9897 Apr	16	08:58	0°♉12'50	
max. Earth dist.	9897 Apr	15	16:49	0°♉11'21	31.23927 AU
morning rise	9897 May	01	14:05	0°♉46'57	
retrograde	9897 Jul	28	06:31	2°♉40'43	
opposition	9897 Oct	15	08:59	1°♉18'13	0°09'19
min. Earth dist.	9897 Oct	15	20:01	1°♉17'28	29.23463 AU
	9897 Dec	15	23:23	30°♓	
direct	9898 Jan	03	23:29	29°♈54'16	
	9898 Jan	22	15:22	0°♉	
evening set	9898 Apr	03	02:01	1°♉49'08	
conjunction	9898 Apr	18	13:36	2°♉23'48	0°07'42
minimum elong	9898 Apr	18	13:36	2°♉23'48	0°07'30
behind sun begin	9898 Apr	18	07:44	2°♉23'17	
behind sun end	9898 Apr	18	19:28	2°♉24'20	
max. Earth dist.	9898 Apr	18	02:02	2°♉22'44	31.22960 AU
morning rise	9898 May	04	00:05	2°♉58'24	
retrograde	9898 Jul	30	18:19	4°♉52'16	
opposition	9898 Oct	17	21:14	3°♉29'42	0°06'59
min. Earth dist.	9898 Oct	18	07:14	3°♉29'01	29.22440 AU
direct	9899 Jan	06	10:17	2°♉05'44	
evening set	9899 Apr	05	12:00	4°♉00'33	
conjunction	9899 Apr	20	23:31	4°♉35'13	0°05'31
minimum elong	9899 Apr	20	23:31	4°♉35'13	0°05'20
behind sun begin	9899 Apr	20	17:18	4°♉34'39	
behind sun end	9899 Apr	21	05:44	4°♉35'47	
max. Earth dist.	9899 Apr	20	13:12	4°♉34'16	31.21888 AU
morning rise	9899 May	06	09:45	5°♉09'49	
retrograde	9899 Aug	02	03:43	7°♉03'47	
opposition	9899 Oct	20	09:39	5°♉41'07	0°04'39
min. Earth dist.	9899 Oct	20	20:00	5°♉40'25	29.21339 AU
direct	9900 Jan	08	21:51	4°♉17'08	
evening set	9900 Apr	07	22:04	6°♉11'53	
conjunction	9900 Apr	23	09:20	6°♉46'33	0°03'20
minimum elong	9900 Apr	23	09:19	6°♉46'33	0°03'06
behind sun begin	9900 Apr	23	02:56	6°♉45'59	
behind sun end	9900 Apr	23	15:43	6°♉47'08	
max. Earth dist.	9900 Apr	22	23:09	6°♉45'37	31.20788 AU
morning rise	9900 May	08	19:33	7°♉21'09	
retrograde	9900 Aug	04	15:31	9°♉15'12	
opposition	9900 Oct	22	21:50	7°♉52'27	0°02'18
min. Earth dist.	9900 Oct	23	06:29	7°♉51'51	29.20248 AU
direct	9901 Jan	11	08:42	6°♉28'26	
evening set	9901 Apr	10	08:01	8°♉23'09	
conjunction	9901 Apr	25	19:07	8°♉57'49	0°01'06
minimum elong	9901 Apr	25	19:07	8°♉57'49	0°00'52
behind sun begin	9901 Apr	25	12:42	8°♉57'14	
behind sun end	9901 Apr	26	01:32	8°♉58'23	
max. Earth dist.	9901 Apr	25	09:54	8°♉56'58	31.19715 AU
morning rise	9901 May	11	05:14	9°♉32'25	
retrograde	9901 Aug	07	02:24	11°♉26'33	
desc. node	9901 Oct	18	01:02	10°♉15'43	
opposition	9901 Oct	25	10:15	10°♉03'43	-0°00'03
min. Earth dist.	9901 Oct	25	19:09	10°♉03'07	29.19221 AU
direct	9902 Jan	13	19:04	8°♉39'43	
evening set	9902 Apr	12	17:59	10°♉34'23	
conjunction	9902 Apr	28	04:57	11°♉09'02	-0°01'11
minimum elong	9902 Apr	28	04:56	11°♉09'02	0°01'26
behind sun begin	9902 Apr	27	22:31	11°♉08'28	
behind sun end	9902 Apr	28	11:21	11°♉09'37	
max. Earth dist.	9902 Apr	27	20:51	11°♉08'18	31.18740 AU
morning rise	9902 May	13	14:55	11°♉43'39	
retrograde	9902 Aug	09	14:20	13°♉37'53	
opposition	9902 Oct	27	22:30	12°♉14'59	-0°02'24
min. Earth dist.	9902 Oct	28	05:35	12°♉14'30	29.18293 AU
direct	9903 Jan	16	08:38	10°♉51'00	

evening set	9903 Apr 15 04:02	12°♉45'39	
conjunction	9903 Apr 30 14:43	13°♉20'19	-0°03'25
minimum elong	9903 Apr 30 14:43	13°♉20'19	0°03'40
behind sun begin	9903 Apr 30 08:21	13°♉19'44	
behind sun end	9903 Apr 30 21:05	13°♉20'53	
max. Earth dist.	9903 Apr 30 06:52	13°♉19'36	31.17870 AU
morning rise	9903 May 16 00:42	13°♉54'56	
	9903 Jun 17 18:15	15°♉	
retrograde	9903 Aug 12 03:22	15°♉49'17	
	9903 Oct 09 05:37	15°℞♉	
opposition	9903 Oct 30 11:01	14°♉26'20	-0°04'45
min. Earth dist.	9903 Oct 30 17:51	14°♉25'52	29.17486 AU
direct	9904 Jan 18 19:43	13°♉02'23	
evening set	9904 Apr 16 13:49	14°♉57'01	
	9904 Apr 17 22:16	15°♉	
conjunction	9904 May 02 00:31	15°♉31'41	-0°05'36
minimum elong	9904 May 02 00:31	15°♉31'41	0°05'53
behind sun begin	9904 May 01 18:23	15°♉31'08	
behind sun end	9904 May 02 06:39	15°♉32'14	
max. Earth dist.	9904 May 01 18:24	15°♉31'08	31.17109 AU
morning rise	9904 May 17 10:21	16°♉06'19	
retrograde	9904 Aug 13 13:30	18°♉00'47	
opposition	9904 Oct 31 23:28	16°♉37'49	-0°07'06
min. Earth dist.	9904 Nov 01 05:08	16°♉37'26	29.16748 AU
direct	9905 Jan 20 08:26	15°♉13'55	
evening set	9905 Apr 18 23:57	17°♉08'32	
conjunction	9905 May 04 10:21	17°♉43'13	-0°07'47
minimum elong	9905 May 04 10:20	17°♉43'13	0°08'03
behind sun begin	9905 May 04 04:36	17°♉42'41	
behind sun end	9905 May 04 16:05	17°♉43'44	
max. Earth dist.	9905 May 04 03:56	17°♉42'38	31.16400 AU
morning rise	9905 May 19 20:17	18°♉17'51	
retrograde	9905 Aug 16 01:39	20°♉12'27	
opposition	9905 Nov 03 11:53	18°♉49'28	-0°09'27
min. Earth dist.	9905 Nov 03 16:58	18°♉49'07	29.16058 AU
direct	9906 Jan 22 19:33	17°♉25'37	
evening set	9906 Apr 21 10:00	19°♉20'14	
conjunction	9906 May 06 20:25	19°♉54'55	-0°09'58
minimum elong	9906 May 06 20:25	19°♉54'55	0°10'16
behind sun begin	9906 May 06 15:17	19°♉54'27	
behind sun end	9906 May 07 01:33	19°♉55'23	
max. Earth dist.	9906 May 06 15:45	19°♉54'30	31.15706 AU
morning rise	9906 May 22 06:09	20°♉29'35	
retrograde	9906 Aug 18 12:03	22°♉24'18	
opposition	9906 Nov 06 00:36	21°♉01'18	-0°11'47
min. Earth dist.	9906 Nov 06 05:28	21°♉00'58	29.15349 AU
direct	9907 Jan 25 08:06	19°♉37'31	
evening set	9907 Apr 23 20:09	21°♉32'07	
conjunction	9907 May 09 06:17	22°♉06'48	-0°12'08
minimum elong	9907 May 09 06:17	22°♉06'48	0°12'25
behind sun begin	9907 May 09 02:01	22°♉06'25	
behind sun end	9907 May 09 10:32	22°♉07'11	
max. Earth dist.	9907 May 09 01:17	22°♉06'21	31.14983 AU
morning rise	9907 May 24 16:08	22°♉41'29	
retrograde	9907 Aug 21 00:28	24°♉36'21	
opposition	9907 Nov 08 13:20	23°♉13'20	-0°14'06
min. Earth dist.	9907 Nov 08 17:00	23°♉13'05	29.14598 AU
direct	9908 Jan 27 19:03	21°♉49'35	
evening set	9908 Apr 25 06:22	23°♉44'11	
conjunction	9908 May 10 16:29	24°♉18'53	-0°14'17
minimum elong	9908 May 10 16:29	24°♉18'53	0°14'36
behind sun begin	9908 May 10 13:37	24°♉18'37	
behind sun end	9908 May 10 19:22	24°♉19'08	
max. Earth dist.	9908 May 10 12:38	24°♉18'32	31.14180 AU
morning rise	9908 May 26 02:12	24°♉53'34	
retrograde	9908 Aug 22 10:32	26°♉48'35	
opposition	9908 Nov 10 02:09	25°♉25'32	-0°16'24
min. Earth dist.	9908 Nov 10 06:17	25°♉25'15	29.13749 AU
direct	9909 Jan 29 06:15	24°♉01'50	
evening set	9909 Apr 27 16:42	25°♉56'24	
conjunction	9909 May 13 02:42	26°♉31'06	-0°16'25
minimum elong	9909 May 13 02:41	26°♉31'06	0°16'44
max. Earth dist.	9909 May 12 22:45	26°♉30'45	31.13277 AU
morning rise	9909 May 28 12:29	27°♉05'49	
retrograde	9909 Aug 24 22:59	29°♉00'57	
opposition	9909 Nov 12 14:56	27°♉37'52	-0°18'40
min. Earth dist.	9909 Nov 12 17:41	27°♉37'41	29.12775 AU
direct	9910 Jan 31 17:16	26°♉14'10	
evening set	9910 Apr 30 03:02	28°♉08'44	
conjunction	9910 May 15 12:55	28°♉43'27	-0°18'32
minimum elong	9910 May 15 12:55	28°♉43'27	0°18'52
max. Earth dist.	9910 May 15 09:22	28°♉43'07	31.12227 AU
morning rise	9910 May 30 22:41	29°♉18'10	
	9910 Jun 19 20:27	0°♊	
retrograde	9910 Aug 27 10:35	1°♊13'26	
	9910 Nov 09 04:29	30°℞♉	
opposition	9910 Nov 15 03:56	29°♉50'17	-0°20'55
min. Earth dist.	9910 Nov 15 07:21	29°♉50'03	29.11666 AU
direct	9911 Feb 03 03:54	28°♉26'36	
	9911 Apr 22 18:56	0°♊	
evening set	9911 May 02 13:21	0°♊21'08	
conjunction	9911 May 17 23:14	0°♊55'50	-0°20'37
minimum elong	9911 May 17 23:14	0°♊55'50	0°20'57
max. Earth dist.	9911 May 17 20:31	0°♊55'35	31.11071 AU
morning rise	9911 Jun 02 09:00	1°♊30'35	
retrograde	9911 Aug 29 23:10	3°♊25'57	
opposition	9911 Nov 17 16:48	2°♊02'43	-0°23'08
min. Earth dist.	9911 Nov 17 18:47	2°♊02'34	29.10456 AU
direct	9912 Feb 05 17:18	0°♊39'01	
evening set	9912 May 03 23:33	2°♊33'30	
conjunction	9912 May 19 09:18	3°♊08'13	-0°22'40
minimum elong	9912 May 19 09:17	3°♊08'13	0°23'02
max. Earth dist.	9912 May 19 06:29	3°♊07'58	31.09829 AU
morning rise	9912 Jun 03 19:14	3°♊42'59	
retrograde	9912 Aug 31 12:31	5°♊38'27	
opposition	9912 Nov 19 05:45	4°♊15'07	-0°25'19
min. Earth dist.	9912 Nov 19 07:48	4°♊14'59	29.09211 AU
direct	9913 Feb 07 04:28	2°♊51'24	
evening set	9913 May 06 09:43	4°♊45'52	
conjunction	9913 May 21 19:33	5°♊20'35	-0°24'41
minimum elong	9913 May 21 19:33	5°♊20'35	0°25'02
max. Earth dist.	9913 May 21 18:23	5°♊20'29	31.08585 AU
morning rise	9913 Jun 06 05:23	5°♊55'21	
retrograde	9913 Sep 02 23:10	7°♊50'56	
opposition	9913 Nov 21 18:30	6°♊27'31	-0°27'27
min. Earth dist.	9913 Nov 21 19:20	6°♊27'28	29.07983 AU
direct	9914 Feb 09 17:28	5°♊03'48	
evening set	9914 May 08 20:03	6°♊58'14	
conjunction	9914 May 24 05:40	7°♊32'58	-0°26'40
minimum elong	9914 May 24 05:39	7°♊32'58	0°27'02
max. Earth dist.	9914 May 24 04:20	7°♊32'50	31.07399 AU
morning rise	9914 Jun 08 15:42	8°♊07'45	

retrograde	9914 Sep 05 12:19	10°♊03'26	
opposition	9914 Nov 24 07:29	8°♊39'57	-0°29'34
min. Earth dist.	9914 Nov 24 07:27	8°♊39'57	29.06855 AU
direct	9915 Feb 12 05:19	7°♊16'14	
evening set	9915 May 11 06:05	9°♊10'39	
conjunction	9915 May 26 15:50	9°♊45'24	-0°28'37
minimum elong	9915 May 26 15:50	9°♊45'24	0°28'58
max. Earth dist.	9915 May 26 16:33	9°♊45'28	31.06315 AU
morning rise	9915 Jun 11 01:47	10°♊20'12	
retrograde	9915 Sep 07 23:33	12°♊16'01	
opposition	9915 Nov 26 20:31	10°♊52'29	-0°31'37
min. Earth dist.	9915 Nov 26 19:51	10°♊52'32	29.05823 AU
direct	9916 Feb 14 18:28	9°♊28'48	
evening set	9916 May 12 16:25	11°♊23'12	
conjunction	9916 May 28 02:01	11°♊57'57	-0°30'31
minimum elong	9916 May 28 02:01	11°♊57'57	0°30'54
max. Earth dist.	9916 May 28 02:44	11°♊58'01	31.05345 AU
morning rise	9916 Jun 12 12:13	12°♊32'47	
retrograde	9916 Sep 09 12:08	14°♊28'44	
opposition	9916 Nov 28 09:18	13°♊05'10	-0°33'38
min. Earth dist.	9916 Nov 28 07:10	13°♊05'19	29.04904 AU
direct	9917 Feb 16 05:32	11°♊41'31	
evening set	9917 May 15 02:40	13°♊35'54	
conjunction	9917 May 30 12:23	14°♊10'41	-0°32'23
minimum elong	9917 May 30 12:23	14°♊10'41	0°32'46
max. Earth dist.	9917 May 30 14:31	14°♊10'53	31.04456 AU
morning rise	9917 Jun 14 22:35	14°♊45'33	
retrograde	9917 Sep 11 22:09	16°♊41'37	
opposition	9917 Nov 30 22:24	15°♊18'02	-0°35'37
min. Earth dist.	9917 Nov 30 20:19	15°♊18'11	29.04046 AU
direct	9918 Feb 18 17:01	13°♊54'26	
evening set	9918 May 17 12:59	15°♊48'49	
conjunction	9918 Jun 01 22:39	16°♊23'37	-0°34'12
minimum elong	9918 Jun 01 22:39	16°♊23'37	0°34'36
max. Earth dist.	9918 Jun 02 01:14	16°♊23'51	31.03627 AU
morning rise	9918 Jun 17 09:00	16°♊58'29	
retrograde	9918 Sep 14 11:03	18°♊54'43	
opposition	9918 Dec 03 11:25	17°♊31'07	-0°37'32
min. Earth dist.	9918 Dec 03 07:37	17°♊31'22	29.03227 AU
direct	9919 Feb 21 03:53	16°♊07'33	
evening set	9919 May 19 23:29	18°♊01'56	
conjunction	9919 Jun 04 09:08	18°♊36'45	-0°35'58
minimum elong	9919 Jun 04 09:08	18°♊36'45	0°36'22
max. Earth dist.	9919 Jun 04 12:22	18°♊37'03	31.02805 AU
morning rise	9919 Jun 19 19:37	19°♊11'39	
retrograde	9919 Sep 16 22:54	21°♊08'02	
opposition	9919 Dec 06 00:40	19°♊44'24	-0°39'23
min. Earth dist.	9919 Dec 05 21:22	19°♊44'37	29.02406 AU
direct	9920 Feb 23 14:15	18°♊20'52	
evening set	9920 May 21 09:55	20°♊15'15	
conjunction	9920 Jun 05 19:43	20°♊50'04	-0°37'41
minimum elong	9920 Jun 05 19:43	20°♊50'04	0°38'06
max. Earth dist.	9920 Jun 05 23:58	20°♊50'28	31.01966 AU
morning rise	9920 Jun 21 06:17	21°♊25'00	
retrograde	9920 Sep 18 11:42	23°♊21'31	
opposition	9920 Dec 07 13:47	21°♊57'51	-0°41'12
min. Earth dist.	9920 Dec 07 09:06	21°♊58'10	29.01527 AU
direct	9921 Feb 25 02:46	20°♊34'21	
evening set	9921 May 23 20:41	22°♊28'44	
conjunction	9921 Jun 08 06:23	23°♊03'34	-0°39'21
minimum elong	9921 Jun 08 06:23	23°♊03'34	0°39'44
max. Earth dist.	9921 Jun 08 10:15	23°♊03'55	31.01037 AU
morning rise	9921 Jun 23 17:11	23°♊38'30	
retrograde	9921 Sep 21 01:19	25°♊35'09	
opposition	9921 Dec 10 03:01	24°♊11'26	-0°42'56
min. Earth dist.	9921 Dec 09 22:42	24°♊11'43	29.00557 AU
direct	9922 Feb 27 12:50	22°♊47'56	
evening set	9922 May 26 07:23	24°♊42'19	
conjunction	9922 Jun 10 17:18	25°♊17'09	-0°40'57
minimum elong	9922 Jun 10 17:18	25°♊17'09	0°41'21
max. Earth dist.	9922 Jun 10 22:25	25°♊17'38	31.00007 AU
morning rise	9922 Jun 26 04:05	25°♊52'07	
retrograde	9922 Sep 23 13:25	27°♊48'52	
opposition	9922 Dec 12 16:19	26°♊25'05	-0°44'37
min. Earth dist.	9922 Dec 12 11:06	26°♊25'26	28.99460 AU
direct	9923 Mar 02 02:12	25°♊01'35	
evening set	9923 May 28 18:07	26°♊55'55	
conjunction	9923 Jun 13 03:58	27°♊30'46	-0°42'29
minimum elong	9923 Jun 13 03:58	27°♊30'46	0°42'53
max. Earth dist.	9923 Jun 13 08:26	27°♊31'12	30.98857 AU
morning rise	9923 Jun 28 15:07	28°♊05'46	
	9923 Sep 13 14:22	0°♋	
retrograde	9923 Sep 26 03:58	0°♋02'36	
	9923 Oct 08 17:41	30°℞♊	
opposition	9923 Dec 15 05:40	28°♊38'43	-0°46'14
min. Earth dist.	9923 Dec 15 00:10	28°♊39'05	28.98264 AU
direct	9924 Mar 03 14:27	27°♊15'11	
evening set	9924 May 30 04:48	29°♊09'28	
conjunction	9924 Jun 14 14:55	29°♊44'20	-0°43'57
minimum elong	9924 Jun 14 14:55	29°♊44'20	0°44'23
max. Earth dist.	9924 Jun 14 20:55	29°♊44'54	30.97614 AU
	9924 Jun 21 11:50	0°♋	
morning rise	9924 Jun 30 02:06	0°♋19'21	
retrograde	9924 Sep 27 15:39	2°♋16'15	
opposition	9924 Dec 16 18:45	0°♋52'16	-0°47'47
min. Earth dist.	9924 Dec 16 13:06	0°♋52'39	28.96994 AU
	9925 Jan 20 02:24	30°℞♊	
direct	9925 Mar 06 04:02	29°♊28'41	
	9925 Apr 18 13:38	0°♋	
evening set	9925 Jun 01 15:34	1°♋22'55	
conjunction	9925 Jun 17 01:41	1°♋57'48	-0°45'22
minimum elong	9925 Jun 17 01:40	1°♋57'48	0°45'46
max. Earth dist.	9925 Jun 17 07:25	1°♋58'21	30.96347 AU
morning rise	9925 Jul 02 13:12	2°♋32'50	
retrograde	9925 Sep 30 04:45	4°♋29'48	
opposition	9925 Dec 19 07:54	3°♋05'43	-0°49'15
min. Earth dist.	9925 Dec 19 01:00	3°♋06'12	28.95745 AU
direct	9926 Mar 08 15:54	1°♋42'06	
evening set	9926 Jun 04 02:09	3°♋36'17	
conjunction	9926 Jun 19 12:26	4°♋11'11	-0°46'43
minimum elong	9926 Jun 19 12:26	4°♋11'11	0°47'08
max. Earth dist.	9926 Jun 19 19:36	4°♋11'52	30.95115 AU
morning rise	9926 Jul 05 00:03	4°♋46'14	
retrograde	9926 Oct 02 15:31	6°♋43'18	
opposition	9926 Dec 21 21:09	5°♋19'07	-0°50'39
min. Earth dist.	9926 Dec 21 14:12	5°♋19'36	28.94564 AU
direct	9927 Mar 11 04:35	3°♋55'28	
evening set	9927 Jun 06 12:51	5°♋49'37	
conjunction	9927 Jun 21 23:14	6°♋24'32	-0°47'59
minimum elong	9927 Jun 21 23:14	6°♋24'32	0°48'24
max. Earth dist.	9927 Jun 22 06:58	6°♋25'16	30.94000 AU

morning rise	9927 Jul	07	11:07	6°♓59'37	
retrograde	9927 Oct	05	04:51	8°♓56'45	
opposition	9927 Dec	24	10:10	7°♓32'31	-0°51'59
min. Earth dist.	9927 Dec	24	01:20	7°♓33'07	28.93514 AU
direct	9928 Mar	12	16:22	6°♓08'51	
evening set	9928 Jun	07	23:34	8°♓03'00	
conjunction	9928 Jun	23	10:05	8°♓37'56	-0°49'11
minimum elong	9928 Jun	23	10:05	8°♓37'56	0°49'37
max. Earth dist.	9928 Jun	23	18:35	8°♓38'44	30.93006 AU
morning rise	9928 Jul	08	22:14	9°♓13'02	
retrograde	9928 Oct	06	16:11	11°♓10'17	
opposition	9928 Dec	25	23:22	9°♓46'00	-0°53'14
min. Earth dist.	9928 Dec	25	14:47	9°♓46'35	28.92591 AU
direct	9929 Mar	15	03:03	8°♓22'21	
evening set	9929 Jun	10	10:17	10°♓16'29	
conjunction	9929 Jun	25	21:03	10°♓51'26	-0°50'19
minimum elong	9929 Jun	25	21:03	10°♓51'26	0°50'43
max. Earth dist.	9929 Jun	26	06:50	10°♓52'22	30.92147 AU
morning rise	9929 Jul	11	09:20	11°♓26'34	
retrograde	9929 Oct	09	04:36	13°♓23'56	
opposition	9929 Dec	28	12:20	11°♓59'37	-0°54'24
min. Earth dist.	9929 Dec	28	02:02	12°♓00'19	28.91785 AU
direct	9930 Mar	17	14:56	10°♓36'00	
evening set	9930 Jun	12	21:11	12°♓30'08	
conjunction	9930 Jun	28	07:59	13°♓05'07	-0°51'23
minimum elong	9930 Jun	28	07:59	13°♓05'07	0°51'48
max. Earth dist.	9930 Jun	28	17:47	13°♓06'02	30.91395 AU
morning rise	9930 Jul	13	20:40	13°♓40'16	
retrograde	9930 Oct	11	18:10	15°♓37'46	
opposition	9930 Dec	31	01:37	14°♓13'26	-0°55'30
min. Earth dist.	9930 Dec	30	15:22	14°♓14'08	28.91089 AU
direct	9931 Mar	20	00:13	12°♓49'51	
evening set	9931 Jun	15	07:56	14°♓44'00	
conjunction	9931 Jun	30	19:06	15°♓19'00	-0°52'22
minimum elong	9931 Jun	30	19:06	15°♓19'00	0°52'45
max. Earth dist.	9931 Jul	01	06:33	15°♓20'05	30.90735 AU
morning rise	9931 Jul	16	07:54	15°♓54'11	
retrograde	9931 Oct	14	07:00	17°♓51'48	
opposition	9932 Jan	02	14:47	16°♓27'28	-0°56'30
min. Earth dist.	9932 Jan	02	03:25	16°♓28'15	28.90447 AU
direct	9932 Mar	21	12:57	15°♓03'56	
evening set	9932 Jun	16	19:05	16°♓58'07	
conjunction	9932 Jul	02	06:17	17°♓33'08	-0°53'16
minimum elong	9932 Jul	02	06:17	17°♓33'08	0°53'40
max. Earth dist.	9932 Jul	02	17:12	17°♓34'10	30.90110 AU
morning rise	9932 Jul	17	19:32	18°♓08'21	
retrograde	9932 Oct	15	22:28	20°♓06'05	
opposition	9933 Jan	04	03:53	18°♓41'44	-0°57'25
min. Earth dist.	9933 Jan	03	16:20	18°♓42'32	28.89832 AU
direct	9933 Mar	24	00:09	17°♓18'14	
evening set	9933 Jun	19	06:14	19°♓12'27	
conjunction	9933 Jul	04	17:47	19°♓47'30	-0°54'05
minimum elong	9933 Jul	04	17:47	19°♓47'30	0°54'28
max. Earth dist.	9933 Jul	05	06:09	19°♓48'40	30.89473 AU
morning rise	9933 Jul	20	07:08	20°♓22'44	
retrograde	9933 Oct	18	11:13	22°♓20'35	
opposition	9934 Jan	06	17:10	20°♓56'14	-0°58'15
min. Earth dist.	9934 Jan	06	05:32	20°♓57'02	28.89169 AU
direct	9934 Mar	26	13:02	19°♓32'45	
evening set	9934 Jun	21	17:29	21°♓26'59	
conjunction	9934 Jul	07	05:08	22°♓02'03	-0°54'49
minimum elong	9934 Jul	07	05:08	22°♓02'03	0°55'14
max. Earth dist.	9934 Jul	07	16:57	22°♓03'10	30.88781 AU
morning rise	9934 Jul	22	18:53	22°♓37'19	
retrograde	9934 Oct	21	01:49	24°♓35'16	
opposition	9935 Jan	09	06:30	23°♓10'53	-0°59'00
min. Earth dist.	9935 Jan	08	18:04	23°♓11'44	28.88438 AU
direct	9935 Mar	29	00:48	21°♓47'25	
evening set	9935 Jun	24	04:51	23°♓41'37	
conjunction	9935 Jul	09	16:49	24°♓16'43	-0°55'29
minimum elong	9935 Jul	09	16:49	24°♓16'43	0°55'52
max. Earth dist.	9935 Jul	10	05:25	24°♓17'55	30.87992 AU
morning rise	9935 Jul	25	06:48	24°♓52'01	
retrograde	9935 Oct	23	14:23	26°♓50'03	
opposition	9936 Jan	11	19:47	25°♓25'36	-0°59'40
min. Earth dist.	9936 Jan	11	07:54	25°♓26'25	28.87605 AU
direct	9936 Mar	30	14:16	24°♓02'07	
evening set	9936 Jun	25	16:12	25°♓56'18	
conjunction	9936 Jul	11	04:27	26°♓31'25	-0°56'03
minimum elong	9936 Jul	11	04:27	26°♓31'25	0°56'27
max. Earth dist.	9936 Jul	11	16:58	26°♓32'36	30.87128 AU
morning rise	9936 Jul	26	18:49	27°♓06'45	
retrograde	9936 Oct	25	04:55	29°♓04'49	
opposition	9937 Jan	13	08:55	27°♓40'18	-1°00'14
min. Earth dist.	9937 Jan	12	19:46	27°♓41'12	28.86705 AU
direct	9937 Apr	02	03:10	26°♓16'47	
evening set	9937 Jun	28	03:34	28°♓10'55	
conjunction	9937 Jul	13	16:00	28°♓46'04	-0°56'33
minimum elong	9937 Jul	13	16:00	28°♓46'04	0°56'55
max. Earth dist.	9937 Jul	14	04:51	28°♓47'17	30.86205 AU
morning rise	9937 Jul	29	06:42	29°♓21'25	
	9937 Aug	16	10:43	0°♌	
retrograde	9937 Oct	27	15:32	1°♌19'32	
	9938 Jan	12	20:37	30°℞♓	
opposition	9938 Jan	15	22:07	29°♓54'56	-1°00'43
min. Earth dist.	9938 Jan	15	09:37	29°♓55'47	28.85792 AU
direct	9938 Apr	04	14:40	28°♓31'23	
	9938 Jun	18	20:09	0°♌	
evening set	9938 Jun	30	14:51	0°♌25'28	
conjunction	9938 Jul	16	03:40	1°♌00'37	-0°56'57
minimum elong	9938 Jul	16	03:40	1°♌00'37	0°57'20
max. Earth dist.	9938 Jul	16	17:35	1°♌01'56	30.85322 AU
morning rise	9938 Jul	31	18:37	1°♌35'59	
retrograde	9938 Oct	30	03:44	3°♌34'09	
opposition	9939 Jan	18	11:08	2°♌09'28	-1°01'06
min. Earth dist.	9939 Jan	17	21:08	2°♌10'26	28.84944 AU
direct	9939 Apr	07	03:06	0°♌45'52	
evening set	9939 Jul	03	02:13	2°♌39'55	
conjunction	9939 Jul	18	15:10	3°♌15'06	-0°57'16
minimum elong	9939 Jul	18	15:10	3°♌15'06	0°57'37
max. Earth dist.	9939 Jul	19	04:58	3°♌16'24	30.84519 AU
morning rise	9939 Aug	03	06:37	3°♌50'30	
retrograde	9939 Nov	01	16:37	5°♌48'42	
min. Earth dist.	9940 Jan	20	10:29	4°♌24'54	28.84210 AU
opposition	9940 Jan	21	00:15	4°♌23'57	-1°01'24
direct	9940 Apr	08	12:45	3°♌00'19	
evening set	9940 Jul	04	13:34	4°♌54'21	
conjunction	9940 Jul	20	03:00	5°♌29'32	-0°57'30
minimum elong	9940 Jul	20	03:00	5°♌29'32	0°57'52
max. Earth dist.	9940 Jul	20	18:19	5°♌30'59	30.83846 AU
morning rise	9940 Aug	04	18:37	6°♌04'57	

retrograde	9940 Nov 03	04:35	8°♑03'12		
opposition	9941 Jan 22	13:02	6°♑38'24	-1°01'36	
min. Earth dist.	9941 Jan 21	22:05	6°♑39'26	28.83601	AU
direct	9941 Apr 11	01:49	5°♑14'46		
evening set	9941 Jul 07	01:07	7°♑08'46		
conjunction	9941 Jul 22	14:41	7°♑43'59	-0°57'39	
minimum elong	9941 Jul 22	14:41	7°♑43'59	0°58'00	
max. Earth dist.	9941 Jul 23	05:32	7°♑45'23	30.83312	AU
morning rise	9941 Aug 07	06:49	8°♑19'26		
retrograde	9941 Nov 05	18:53	10°♑17'43		
min. Earth dist.	9942 Jan 24	10:43	8°♑53'57	28.83146	AU
opposition	9942 Jan 25	02:03	8°♑52'53	-1°01'43	
direct	9942 Apr 13	12:05	7°♑29'15		
evening set	9942 Jul 09	12:25	9°♑23'15		
conjunction	9942 Jul 25	02:27	9°♑58'29	-0°57'43	
minimum elong	9942 Jul 25	02:27	9°♑58'29	0°58'04	
max. Earth dist.	9942 Jul 25	19:03	10°♑00'03	30.82918	AU
morning rise	9942 Aug 09	18:47	10°♑33'57		
retrograde	9942 Nov 08	07:13	12°♑32'18		
opposition	9943 Jan 27	15:04	11°♑07'27	-1°01'44	
min. Earth dist.	9943 Jan 26	23:20	11°♑08'33	28.82811	AU
direct	9943 Apr 16	00:10	9°♑43'50		
evening set	9943 Jul 12	00:07	11°♑37'50		
conjunction	9943 Jul 27	14:22	12°♑13'05	-0°57'41	
minimum elong	9943 Jul 27	14:22	12°♑13'05	0°58'01	
max. Earth dist.	9943 Jul 28	06:36	12°♑14'38	30.82650	AU
morning rise	9943 Aug 12	07:14	12°♑48'35		
retrograde	9943 Nov 10	22:29	14°♑47'00		
min. Earth dist.	9944 Jan 29	11:22	13°♑23'17	28.82593	AU
opposition	9944 Jan 30	03:54	13°♑22'09	-1°01'39	
direct	9944 Apr 17	11:34	11°♑58'32		
evening set	9944 Jul 13	11:47	13°♑52'34		
conjunction	9944 Jul 29	02:27	14°♑27'51	-0°57'34	
minimum elong	9944 Jul 29	02:28	14°♑27'51	0°57'54	
max. Earth dist.	9944 Jul 29	19:42	14°♑29'29	30.82457	AU
	9944 Aug 12	07:11	15°♑		
morning rise	9944 Aug 13	19:37	15°♑03'23		
retrograde	9944 Nov 12	11:58	17°♑01'51		
opposition	9945 Jan 31	16:53	15°♑37'00	-1°01'28	
min. Earth dist.	9945 Jan 31	00:51	15°♑38'06	28.82422	AU
	9945 Feb 23	16:44	15°℞♑		
direct	9945 Apr 20	00:31	14°♑13'26		
	9945 Jun 12	00:09	15°♑		
evening set	9945 Jul 15	23:36	16°♑07'28		
conjunction	9945 Jul 31	14:34	16°♑42'47	-0°57'21	
minimum elong	9945 Jul 31	14:34	16°♑42'47	0°57'39	
max. Earth dist.	9945 Aug 01	07:42	16°♑44'24	30.82303	AU
morning rise	9945 Aug 16	08:06	17°♑18'20		
retrograde	9945 Nov 15	02:57	19°♑16'52		
opposition	9946 Feb 03	05:48	17°♑52'01	-1°01'12	
min. Earth dist.	9946 Feb 02	12:41	17°♑53'13	28.82260	AU
direct	9946 Apr 22	13:08	16°♑28'29		
evening set	9946 Jul 18	11:39	18°♑22'33		
conjunction	9946 Aug 03	02:54	18°♑57'53	-0°57'03	
minimum elong	9946 Aug 03	02:54	18°♑57'53	0°57'22	
max. Earth dist.	9946 Aug 03	20:04	18°♑59'30	30.82113	AU
morning rise	9946 Aug 18	20:50	19°♑33'28		
retrograde	9946 Nov 17	15:27	21°♑32'03		
opposition	9947 Feb 05	18:53	20°♑07'13	-1°00'50	
min. Earth dist.	9947 Feb 05	02:50	20°♑08'20	28.82045	AU
direct	9947 Apr 25	00:37	18°♑43'42		
evening set	9947 Jul 20	23:39	20°♑37'45		
conjunction	9947 Aug 05	15:24	21°♑13'07	-0°56'40	
minimum elong	9947 Aug 05	15:25	21°♑13'07	0°56'57	
max. Earth dist.	9947 Aug 06	08:57	21°♑14'47	30.81858	AU
morning rise	9947 Aug 21	09:41	21°♑48'44		
retrograde	9947 Nov 20	05:16	23°♑47'20		
opposition	9948 Feb 08	07:49	22°♑22'29	-1°00'22	
min. Earth dist.	9948 Feb 07	14:53	22°♑23'40	28.81731	AU
direct	9948 Apr 26	13:33	20°♑58'58		
evening set	9948 Jul 22	11:56	22°♑53'01		
conjunction	9948 Aug 07	03:55	23°♑28'24	-0°56'12	
minimum elong	9948 Aug 07	03:56	23°♑28'24	0°56'28	
max. Earth dist.	9948 Aug 07	20:34	23°♑29'59	30.81490	AU
morning rise	9948 Aug 22	22:42	24°♑04'03		
retrograde	9948 Nov 21	18:17	26°♑02'40		
opposition	9949 Feb 09	20:42	24°♑37'47	-0°59'49	
min. Earth dist.	9949 Feb 09	04:47	24°♑38'54	28.81323	AU
direct	9949 Apr 28	23:50	23°♑14'14		
evening set	9949 Jul 25	00:00	25°♑08'16		
conjunction	9949 Aug 09	16:33	25°♑43'41	-0°55'39	
minimum elong	9949 Aug 09	16:33	25°♑43'41	0°55'54	
max. Earth dist.	9949 Aug 10	10:06	25°♑45'21	30.81054	AU
morning rise	9949 Aug 25	11:34	26°♑19'21		
retrograde	9949 Nov 24	06:06	28°♑17'58		
opposition	9950 Feb 12	09:31	26°♑53'02	-0°59'11	
min. Earth dist.	9950 Feb 11	16:54	26°♑54'12	28.80861	AU
direct	9950 May 01	13:09	25°♑29'27		
evening set	9950 Jul 27	12:06	27°♑23'28		
conjunction	9950 Aug 12	04:52	27°♑58'53	-0°55'00	
minimum elong	9950 Aug 12	04:52	27°♑58'53	0°55'15	
max. Earth dist.	9950 Aug 12	21:30	28°♑00'28	30.80596	AU
morning rise	9950 Aug 28	00:29	28°♑34'35		
	9950 Oct 12	09:01	0°♒		
retrograde	9950 Nov 26	19:35	0°♒33'12		
	9951 Jan 12	13:33	30°℞♑		
opposition	9951 Feb 14	22:21	29°♑08'13	-0°58'27	
min. Earth dist.	9951 Feb 14	05:54	29°♑09'22	28.80421	AU
direct	9951 May 03	23:24	27°♑44'35		
evening set	9951 Jul 30	00:12	29°♑38'34		
	9951 Aug 08	13:19	0°♒		
conjunction	9951 Aug 14	17:31	0°♒14'01	-0°54'17	
minimum elong	9951 Aug 14	17:31	0°♒14'01	0°54'31	
max. Earth dist.	9951 Aug 15	11:29	0°♒15'43	30.80176	AU
morning rise	9951 Aug 30	13:23	0°♒49'44		
retrograde	9951 Nov 29	07:35	2°♒48'21		
opposition	9952 Feb 17	10:53	1°♒23'19	-0°57'38	
min. Earth dist.	9952 Feb 16	18:20	1°♒24'29	28.80038	AU
	9952 May 01	00:50	30°℞♑		
direct	9952 May 05	11:10	29°♑59'39		
	9952 May 09	23:10	0°♒		
evening set	9952 Jul 31	12:26	1°♒53'38		
conjunction	9952 Aug 16	06:01	2°♒29'06	-0°53'29	
minimum elong	9952 Aug 16	06:02	2°♒29'06	0°53'42	
max. Earth dist.	9952 Aug 16	23:20	2°♒30'44	30.79849	AU
morning rise	9952 Sep 01	02:26	3°♒04'50		
retrograde	9952 Nov 30	22:18	5°♒03'26		
opposition	9953 Feb 18	23:27	3°♒38'23	-0°56'44	
min. Earth dist.	9953 Feb 18	06:18	3°♒39'35	28.79770	AU
direct	9953 May 07	22:48	2°♒14'41		
evening set	9953 Aug 03	00:30	4°♒08'40		

conjunction	9953 Aug 18 18:32	4°♑44'09	-0°52'36
minimum elong	9953 Aug 18 18:32	4°♑44'09	0°52'48
max. Earth dist.	9953 Aug 19 12:53	4°♑45'53	30.79632 AU
morning rise	9953 Sep 03 15:13	5°♑19'55	
retrograde	9953 Dec 03 11:22	7°♑18'31	
opposition	9954 Feb 21 12:03	5°♑53'26	-0°55'44
min. Earth dist.	9954 Feb 20 19:15	5°♑54'36	28.79622 AU
direct	9954 May 10 11:50	4°♑29'44	
evening set	9954 Aug 05 12:43	6°♑23'42	
conjunction	9954 Aug 21 07:09	6°♑59'13	-0°51'38
minimum elong	9954 Aug 21 07:09	6°♑59'13	0°51'50
max. Earth dist.	9954 Aug 22 01:21	7°♑00'56	30.79566 AU
morning rise	9954 Sep 06 04:17	7°♑35'00	
retrograde	9954 Dec 06 01:56	9°♑33'36	
min. Earth dist.	9955 Feb 23 06:28	8°♑09'46	28.79622 AU
opposition	9955 Feb 24 00:27	8°♑08'31	-0°54'39
direct	9955 May 13 00:05	6°♑44'48	
evening set	9955 Aug 08 01:00	8°♑38'47	
conjunction	9955 Aug 23 19:49	9°♑14'20	-0°50'35
minimum elong	9955 Aug 23 19:50	9°♑14'20	0°50'45
max. Earth dist.	9955 Aug 24 14:17	9°♑16'05	30.79624 AU
morning rise	9955 Sep 08 17:24	9°♑50'08	
retrograde	9955 Dec 08 15:04	11°♑48'44	
opposition	9956 Feb 26 13:00	10°♑23'40	-0°53'30
min. Earth dist.	9956 Feb 25 19:52	10°♑24'51	28.79740 AU
direct	9956 May 14 11:53	8°♑59'59	
evening set	9956 Aug 09 13:21	10°♑53'58	
conjunction	9956 Aug 25 08:39	11°♑29'32	-0°49'27
minimum elong	9956 Aug 25 08:39	11°♑29'32	0°49'37
max. Earth dist.	9956 Aug 26 03:37	11°♑31'19	30.79801 AU
morning rise	9956 Sep 10 06:32	12°♑05'21	
retrograde	9956 Dec 10 06:01	14°♑03'56	
min. Earth dist.	9957 Feb 27 07:09	12°♑40'10	28.79950 AU
opposition	9957 Feb 28 01:15	12°♑38'54	-0°52'15
direct	9957 May 17 01:14	11°♑15'14	
evening set	9957 Aug 12 01:55	13°♑09'14	
conjunction	9957 Aug 27 21:28	13°♑44'50	-0°48'15
minimum elong	9957 Aug 27 21:28	13°♑44'50	0°48'24
max. Earth dist.	9957 Aug 28 15:49	13°♑46'34	30.80041 AU
morning rise	9957 Sep 12 19:51	14°♑20'41	
retrograde	9957 Dec 12 18:58	16°♑19'16	
opposition	9958 Mar 02 13:46	14°♑54'15	-0°50'55
min. Earth dist.	9958 Mar 01 20:41	14°♑55'27	28.80213 AU
direct	9958 May 19 11:57	13°♑30'37	
evening set	9958 Aug 14 14:22	15°♑24'38	
conjunction	9958 Aug 30 10:29	16°♑00'15	-0°46'58
minimum elong	9958 Aug 30 10:30	16°♑00'15	0°47'06
max. Earth dist.	9958 Aug 31 05:36	16°♑02'03	30.80305 AU
morning rise	9958 Sep 15 09:07	16°♑36'08	
retrograde	9958 Dec 15 07:07	18°♑34'41	
min. Earth dist.	9959 Mar 04 08:39	17°♑10'56	28.80451 AU
opposition	9959 Mar 05 02:07	17°♑09'42	-0°49'31
direct	9959 May 22 00:53	15°♑46'04	
evening set	9959 Aug 17 03:15	17°♑40'06	
conjunction	9959 Sep 01 23:37	18°♑15'44	-0°45'37
minimum elong	9959 Sep 01 23:37	18°♑15'44	0°45'44
max. Earth dist.	9959 Sep 02 17:13	18°♑17'24	30.80513 AU
morning rise	9959 Sep 17 22:48	18°♑51'38	
retrograde	9959 Dec 17 20:36	20°♑50'10	
opposition	9960 Mar 06 14:25	19°♑25'11	-0°48'02
min. Earth dist.	9960 Mar 05 21:43	19°♑26'21	28.80624 AU
direct	9960 May 23 11:01	18°♑01'32	
evening set	9960 Aug 18 16:03	19°♑55'33	
conjunction	9960 Sep 03 13:00	20°♑31'13	-0°44'12
minimum elong	9960 Sep 03 13:00	20°♑31'13	0°44'19
max. Earth dist.	9960 Sep 04 07:13	20°♑32'56	30.80631 AU
morning rise	9960 Sep 19 12:22	21°♑07'08	
retrograde	9960 Dec 19 08:28	23°♑05'36	
min. Earth dist.	9961 Mar 08 10:27	21°♑41'46	28.80686 AU
opposition	9961 Mar 09 02:46	21°♑40'37	-0°46'28
direct	9961 May 25 23:10	20°♑16'55	
evening set	9961 Aug 21 04:49	22°♑10'55	
conjunction	9961 Sep 06 02:01	22°♑46'36	-0°42'43
minimum elong	9961 Sep 06 02:01	22°♑46'36	0°42'48
max. Earth dist.	9961 Sep 06 18:56	22°♑48'11	30.80665 AU
morning rise	9961 Sep 22 01:55	23°♑22'32	
retrograde	9961 Dec 21 21:48	25°♑20'56	
opposition	9962 Mar 11 15:02	23°♑55'55	-0°44'51
min. Earth dist.	9962 Mar 10 22:44	23°♑57'03	28.80689 AU
direct	9962 May 28 10:49	22°♑32'10	
evening set	9962 Aug 23 17:34	24°♑26'08	
conjunction	9962 Sep 08 15:17	25°♑01'49	-0°41'11
minimum elong	9962 Sep 08 15:18	25°♑01'49	0°41'15
max. Earth dist.	9962 Sep 09 08:43	25°♑03'28	30.80645 AU
morning rise	9962 Sep 24 15:28	25°♑37'46	
retrograde	9962 Dec 24 09:33	27°♑36'06	
min. Earth dist.	9963 Mar 13 11:46	26°♑12'07	28.80666 AU
opposition	9963 Mar 14 03:09	26°♑11'02	-0°43'10
direct	9963 May 30 23:08	24°♑47'13	
evening set	9963 Aug 26 06:21	26°♑41'10	
conjunction	9963 Sep 11 04:28	27°♑16'52	-0°39'34
minimum elong	9963 Sep 11 04:28	27°♑16'52	0°39'37
max. Earth dist.	9963 Sep 11 21:10	27°♑18'26	30.80645 AU
morning rise	9963 Sep 27 05:05	27°♑52'49	
retrograde	9963 Dec 26 23:38	29°♑51'04	
opposition	9964 Mar 15 15:05	28°♑25'58	-0°41'25
min. Earth dist.	9964 Mar 14 23:00	28°♑27'06	28.80685 AU
direct	9964 Jun 01 11:20	27°♑02'06	
evening set	9964 Aug 27 19:09	28°♑56'02	
conjunction	9964 Sep 12 17:35	29°♑31'45	-0°37'55
minimum elong	9964 Sep 12 17:36	29°♑31'45	0°37'56
max. Earth dist.	9964 Sep 13 10:18	29°♑33'19	30.80689 AU
	9964 Sep 25 06:53	0°♎	
morning rise	9964 Sep 28 18:32	0°♎07'43	
retrograde	9964 Dec 28 12:12	2°♎05'53	
min. Earth dist.	9965 Mar 17 12:00	0°♎41'49	28.80782 AU
opposition	9965 Mar 18 03:02	0°♎40'45	-0°39'36
	9965 Apr 12 08:02	30°℞♑	
direct	9965 Jun 03 23:34	29°♑16'51	
	9965 Jul 25 00:57	0°♎	
evening set	9965 Aug 30 07:51	1°♎10'45	
conjunction	9965 Sep 15 06:46	1°♎46'30	-0°36'12
minimum elong	9965 Sep 15 06:46	1°♎46'30	0°36'12
max. Earth dist.	9965 Sep 15 23:44	1°♎48'05	30.80854 AU
morning rise	9965 Oct 01 08:00	2°♎22'28	
retrograde	9965 Dec 31 02:37	4°♎20'34	
opposition	9966 Mar 20 14:48	2°♎55'26	-0°37'44
min. Earth dist.	9966 Mar 19 22:48	2°♎56'33	28.81008 AU
direct	9966 Jun 06 13:10	1°♎31'29	
evening set	9966 Sep 01 20:37	3°♎25'24	
conjunction	9966 Sep 17 19:48	4°♎01'10	-0°34'25

minimum elong	9966 Sep 17	19:48	4°♎01'10	0°34'25	
max. Earth dist.	9966 Sep 18	12:13	4°♎02'42	30.81148 AU	
morning rise	9966 Oct 03	21:29	4°♎37'09		
retrograde	9967 Jan 02	15:07	6°♎35'11		
min. Earth dist.	9967 Mar 22	11:38	5°♎11'07	28.81382 AU	
opposition	9967 Mar 23	02:41	5°♎10'04	-0°35'49	
direct	9967 Jun 09	00:13	3°♎46'06		
evening set	9967 Sep 04	09:24	5°♎40'02		
conjunction	9967 Sep 20	09:08	6°♎15'48	-0°32'36	
minimum elong	9967 Sep 20	09:08	6°♎15'48	0°32'35	
max. Earth dist.	9967 Sep 21	02:19	6°♎17'25	30.81600 AU	
morning rise	9967 Oct 06	11:00	6°♎51'49		
retrograde	9968 Jan 05	03:34	8°♎49'46		
opposition	9968 Mar 24	14:14	7°♎24'41	-0°33'50	
min. Earth dist.	9968 Mar 23	22:33	7°♎25'48	28.81898 AU	
direct	9968 Jun 10	13:01	6°♎00'45		
evening set	9968 Sep 05	22:22	7°♎54'42		
conjunction	9968 Sep 21	22:17	8°♎30'30	-0°30'43	
minimum elong	9968 Sep 21	22:18	8°♎30'30	0°30'42	
max. Earth dist.	9968 Sep 22	14:19	8°♎32'00	30.82192 AU	
morning rise	9968 Oct 08	00:38	9°♎06'31		
retrograde	9969 Jan 06	17:12	11°♎04'25		
min. Earth dist.	9969 Mar 26	10:47	9°♎40'28	28.82560 AU	
opposition	9969 Mar 27	02:00	9°♎39'24	-0°31'48	
direct	9969 Jun 12	22:57	8°♎15'29		
evening set	9969 Sep 08	11:05	10°♎09'27		
conjunction	9969 Sep 24	11:31	10°♎45'17	-0°28'48	
minimum elong	9969 Sep 24	11:31	10°♎45'17	0°28'45	
max. Earth dist.	9969 Sep 25	04:33	10°♎46'52	30.82907 AU	
morning rise	9969 Oct 10	14:00	11°♎21'19		
retrograde	9970 Jan 09	04:42	13°♎19'10		
opposition	9970 Mar 29	13:41	11°♎54'14	-0°29'43	
min. Earth dist.	9970 Mar 28	22:41	11°♎55'17	28.83308 AU	
direct	9970 Jun 15	10:38	10°♎30'21		
evening set	9970 Sep 11	00:13	12°♎24'22		
conjunction	9970 Sep 27	00:52	13°♎00'12	-0°26'50	
minimum elong	9970 Sep 27	00:52	13°♎00'12	0°26'46	
max. Earth dist.	9970 Sep 27	16:33	13°♎01'40	30.83690 AU	
morning rise	9970 Oct 13	03:48	13°♎36'15		
retrograde	9971 Jan 11	17:41	15°♎34'04		
min. Earth dist.	9971 Mar 31	10:29	14°♎10'14	28.84102 AU	
opposition	9971 Apr 01	01:15	14°♎09'11	-0°27'35	
direct	9971 Jun 17	21:18	12°♎45'19		
evening set	9971 Sep 13	13:23	14°♎39'24		
conjunction	9971 Sep 29	14:29	15°♎15'15	-0°24'49	
minimum elong	9971 Sep 29	14:29	15°♎15'15	0°24'44	
max. Earth dist.	9971 Sep 30	06:27	15°♎16'44	30.84462 AU	
morning rise	9971 Oct 15	17:33	15°♎51'18		
retrograde	9972 Jan 14	05:12	17°♎49'04		
opposition	9972 Apr 02	12:56	16°♎24'15	-0°25'24	
min. Earth dist.	9972 Apr 01	23:24	16°♎25'12	28.84844 AU	
direct	9972 Jun 19	08:32	15°♎00'24		
evening set	9972 Sep 15	02:37	16°♎54'30		
conjunction	9972 Oct 01	03:59	17°♎30'21	-0°22'46	
minimum elong	9972 Oct 01	03:59	17°♎30'21	0°22'40	
max. Earth dist.	9972 Oct 01	18:36	17°♎31'43	30.85173 AU	
morning rise	9972 Oct 17	07:22	18°♎06'25		
retrograde	9973 Jan 15	19:04	20°♎04'06		
min. Earth dist.	9973 Apr 04	10:42	18°♎40'19	28.85508 AU	
opposition	9973 Apr 05	00:29	18°♎39'20	-0°23'12	
direct	9973 Jun 21	19:52	17°♎15'27		
evening set	9973 Sep 17	15:54	19°♎09'35		
conjunction	9973 Oct 03	17:34	19°♎45'27	-0°20'41	
minimum elong	9973 Oct 03	17:34	19°♎45'27	0°20'35	
max. Earth dist.	9973 Oct 04	07:40	19°♎46'46	30.85787 AU	
morning rise	9973 Oct 19	21:10	20°♎21'31		
retrograde	9974 Jan 18	07:14	22°♎19'06		
opposition	9974 Apr 07	12:06	20°♎54'21	-0°20'57	
min. Earth dist.	9974 Apr 06	23:53	20°♎55'13	28.86085 AU	
direct	9974 Jun 24	08:24	19°♎30'26		
evening set	9974 Sep 20	05:02	21°♎24'33		
conjunction	9974 Oct 06	07:07	22°♎00'26	-0°18'35	
minimum elong	9974 Oct 06	07:07	22°♎00'26	0°18'27	
max. Earth dist.	9974 Oct 06	20:43	22°♎01'41	30.86343 AU	
morning rise	9974 Oct 22	10:58	22°♎36'30		
retrograde	9975 Jan 20	21:01	24°♎33'58		
opposition	9975 Apr 09	23:28	23°♎09'13	-0°18'41	
min. Earth dist.	9975 Apr 09	10:53	23°♎10'06	28.86606 AU	
direct	9975 Jun 26	22:23	21°♎45'15		
evening set	9975 Sep 22	18:24	23°♎39'21		
conjunction	9975 Oct 08	20:40	24°♎15'14	-0°16'27	
minimum elong	9975 Oct 08	20:40	24°♎15'14	0°16'19	
max. Earth dist.	9975 Oct 09	09:11	24°♎16'24	30.86849 AU	
morning rise	9975 Oct 25	00:48	24°♎51'18		
retrograde	9976 Jan 23	09:10	26°♎48'38		
opposition	9976 Apr 11	10:46	25°♎23'53	-0°16'24	
min. Earth dist.	9976 Apr 10	23:39	25°♎24'40	28.87120 AU	
direct	9976 Jun 28	09:45	23°♎59'52		
evening set	9976 Sep 24	07:30	25°♎53'57		
conjunction	9976 Oct 10	10:13	26°♎29'51	-0°14'18	
minimum elong	9976 Oct 10	10:13	26°♎29'51	0°14'08	
behind sun begin	9976 Oct 10	07:09	26°♎29'34		
behind sun end	9976 Oct 10	13:17	26°♎30'07		
max. Earth dist.	9976 Oct 10	23:04	26°♎31'02	30.87380 AU	
morning rise	9976 Oct 26	14:25	27°♎05'55		
retrograde	9977 Jan 24	22:06	29°♎03'06		
opposition	9977 Apr 13	21:57	27°♎38'21	-0°14'04	
min. Earth dist.	9977 Apr 13	10:31	27°♎39'10	28.87667 AU	
direct	9977 Jun 30	23:25	26°♎14'17		
evening set	9977 Sep 26	20:37	28°♎08'21		
conjunction	9977 Oct 12	23:26	28°♎44'15	-0°12'08	
minimum elong	9977 Oct 12	23:26	28°♎44'15	0°11'58	
behind sun begin	9977 Oct 12	18:58	28°♎43'51		
behind sun end	9977 Oct 13	03:53	28°♎44'39		
max. Earth dist.	9977 Oct 13	10:54	28°♎45'19	30.87966 AU	
morning rise	9977 Oct 29	03:59	29°♎20'19		
	9977 Nov 17	04:27	0°♏		
retrograde	9978 Jan 27	11:32	1°♏17'22		
	9978 Apr 12	00:28	30°℞♎		
opposition	9978 Apr 16	09:12	29°♎52'37	-0°11'44	
min. Earth dist.	9978 Apr 15	22:26	29°♎53'23	28.88307 AU	
direct	9978 Jul 03	10:52	28°♎28'30		
	9978 Sep 18	19:48	0°♏		
evening set	9978 Sep 29	09:42	0°♏22'34		
conjunction	9978 Oct 15	12:58	0°♏58'28	-0°09'57	
minimum elong	9978 Oct 15	12:58	0°♏58'28	0°09'46	
behind sun begin	9978 Oct 15	07:37	0°♏57'59		
behind sun end	9978 Oct 15	18:19	0°♏58'57		
max. Earth dist.	9978 Oct 16	01:12	0°♏59'36	30.88654 AU	
morning rise	9978 Oct 31	17:32	1°♏34'32		
retrograde	9979 Jan 29	21:56	3°♏31'27		
opposition	9979 Apr 18	20:11	2°♏06'44	-0°09'23	

min. Earth dist.	9979 Apr	18	09:41	2°♏07'28	28.89049 AU
direct	9979 Jul	05	23:24	0°♏42'35	
evening set	9979 Oct	01	22:58	2°♏36'38	
conjunction	9979 Oct	18	02:20	3°♏12'32	-0°07'45
minimum elong	9979 Oct	18	02:20	3°♏12'32	0°07'33
behind sun begin	9979 Oct	17	20:22	3°♏12'00	
behind sun end	9979 Oct	18	08:17	3°♏13'04	
max. Earth dist.	9979 Oct	18	13:09	3°♏13'32	30.89469 AU
morning rise	9979 Nov	03	07:13	3°♏48'36	
retrograde	9980 Feb	01	10:17	5°♏45'23	
opposition	9980 Apr	20	07:14	4°♏20'43	-0°07'01
min. Earth dist.	9980 Apr	19	20:43	4°♏21'27	28.89935 AU
direct	9980 Jul	07	10:06	2°♏56'32	
evening set	9980 Oct	03	12:01	4°♏50'37	
conjunction	9980 Oct	19	15:41	5°♏26'31	-0°05'33
minimum elong	9980 Oct	19	15:41	5°♏26'31	0°05'19
behind sun begin	9980 Oct	19	09:20	5°♏25'57	
behind sun end	9980 Oct	19	22:03	5°♏27'05	
max. Earth dist.	9980 Oct	20	03:12	5°♏27'35	30.90414 AU
morning rise	9980 Nov	04	20:33	6°♏02'34	
retrograde	9981 Feb	02	20:58	7°♏59'16	
opposition	9981 Apr	22	18:19	6°♏34'39	-0°04'39
min. Earth dist.	9981 Apr	22	08:41	6°♏35'19	28.90944 AU
direct	9981 Jul	09	20:53	5°♏10'29	
evening set	9981 Oct	06	01:13	7°♏04'34	
conjunction	9981 Oct	22	05:04	7°♏40'29	-0°03'19
minimum elong	9981 Oct	22	05:03	7°♏40'29	0°03'06
behind sun begin	9981 Oct	21	22:31	7°♏39'54	
behind sun end	9981 Oct	22	11:36	7°♏41'04	
max. Earth dist.	9981 Oct	22	15:30	7°♏41'26	30.91498 AU
morning rise	9981 Nov	07	10:10	8°♏16'32	
retrograde	9982 Feb	05	09:51	10°♏13'07	
opposition	9982 Apr	25	05:13	8°♏48'35	-0°02'15
min. Earth dist.	9982 Apr	24	19:07	8°♏49'18	28.92076 AU
direct	9982 Jul	12	07:44	7°♏24'26	
evening set	9982 Oct	08	14:28	9°♏18'35	
conjunction	9982 Oct	24	18:32	9°♏54'29	-0°01'03
minimum elong	9982 Oct	24	18:33	9°♏54'29	0°00'48
behind sun begin	9982 Oct	24	11:59	9°♏53'54	
behind sun end	9982 Oct	25	01:07	9°♏55'04	
max. Earth dist.	9982 Oct	25	04:48	9°♏55'26	30.92658 AU
morning rise	9982 Nov	09	23:44	10°♏30'32	
retrograde	9983 Feb	07	21:00	12°♏27'03	
asc. node	9983 Apr	08	02:47	11°♏34'49	
opposition	9983 Apr	27	16:17	11°♏02'36	0°00'08
min. Earth dist.	9983 Apr	27	07:45	11°♏03'13	28.93253 AU
direct	9983 Jul	14	19:11	9°♏38'29	
evening set	9983 Oct	11	03:52	11°♏32'41	
conjunction	9983 Oct	27	08:10	12°♏08'35	0°01'16
minimum elong	9983 Oct	27	08:09	12°♏08'35	0°01'31
behind sun begin	9983 Oct	27	01:35	12°♏08'00	
behind sun end	9983 Oct	27	14:44	12°♏09'11	
max. Earth dist.	9983 Oct	27	17:41	12°♏09'28	30.93836 AU
morning rise	9983 Nov	12	13:24	12°♏44'37	
retrograde	9984 Feb	10	10:10	14°♏41'03	
opposition	9984 Apr	29	03:05	13°♏16'42	0°02'31
min. Earth dist.	9984 Apr	28	18:22	13°♏17'19	28.94404 AU
direct	9984 Jul	16	07:58	11°♏52'35	
evening set	9984 Oct	12	17:24	13°♏46'50	
conjunction	9984 Oct	28	21:43	14°♏22'45	0°03'31
minimum elong	9984 Oct	28	21:44	14°♏22'45	0°03'48
behind sun begin	9984 Oct	28	15:14	14°♏22'11	
behind sun end	9984 Oct	29	04:15	14°♏23'20	
max. Earth dist.	9984 Oct	29	06:00	14°♏23'30	30.94946 AU
morning rise	9984 Nov	14	03:05	14°♏58'47	
	9984 Nov	14	16:28	15°♏	
retrograde	9985 Feb	11	22:30	16°♏55'07	
opposition	9985 May	01	14:12	15°♏30'51	0°04'54
min. Earth dist.	9985 May	01	07:11	15°♏31'20	28.95477 AU
	9985 May	20	06:35	15°℞♏	
direct	9985 Jul	18	18:49	14°♏06'44	
	9985 Sep	14	12:26	15°♏	
evening set	9985 Oct	15	06:40	16°♏01'01	
conjunction	9985 Oct	31	11:19	16°♏36'56	0°05'44
minimum elong	9985 Oct	31	11:19	16°♏36'56	0°06'01
behind sun begin	9985 Oct	31	05:04	16°♏36'23	
behind sun end	9985 Oct	31	17:34	16°♏37'29	
max. Earth dist.	9985 Oct	31	19:23	16°♏37'40	30.95965 AU
morning rise	9985 Nov	16	16:38	17°♏12'57	
retrograde	9986 Feb	14	11:36	19°♏09'10	
opposition	9986 May	04	01:08	17°♏44'57	0°07'16
min. Earth dist.	9986 May	03	18:16	17°♏45'26	28.96428 AU
direct	9986 Jul	21	08:38	16°♏20'50	
evening set	9986 Oct	17	20:14	18°♏15'08	
conjunction	9986 Nov	03	00:54	18°♏51'03	0°07'56
minimum elong	9986 Nov	03	00:53	18°♏51'03	0°08'14
behind sun begin	9986 Nov	02	19:05	18°♏50'32	
behind sun end	9986 Nov	03	06:41	18°♏51'34	
max. Earth dist.	9986 Nov	03	06:57	18°♏51'36	30.96863 AU
morning rise	9986 Nov	19	06:24	19°♏27'04	
retrograde	9987 Feb	17	00:55	21°♏23'09	
opposition	9987 May	06	11:56	19°♏58'59	0°09'38
min. Earth dist.	9987 May	06	06:18	19°♏59'22	28.97285 AU
direct	9987 Jul	23	20:23	18°♏34'49	
evening set	9987 Oct	20	09:36	20°♏29'08	
conjunction	9987 Nov	05	14:33	21°♏05'04	0°10'07
minimum elong	9987 Nov	05	14:33	21°♏05'04	0°10'25
behind sun begin	9987 Nov	05	09:26	21°♏04'36	
behind sun end	9987 Nov	05	19:40	21°♏05'31	
max. Earth dist.	9987 Nov	05	20:46	21°♏05'37	30.97676 AU
morning rise	9987 Nov	21	19:55	21°♏41'03	
retrograde	9988 Feb	19	11:26	23°♏37'00	
opposition	9988 May	07	22:45	22°♏12'52	0°11'58
min. Earth dist.	9988 May	07	17:49	22°♏13'13	28.98057 AU
direct	9988 Jul	25	09:21	20°♏48'40	
evening set	9988 Oct	21	22:53	22°♏43'00	
conjunction	9988 Nov	07	03:47	23°♏18'54	0°12'18
minimum elong	9988 Nov	07	03:46	23°♏18'54	0°12'37
behind sun begin	9988 Nov	06	23:40	23°♏18'32	
behind sun end	9988 Nov	07	07:52	23°♏19'16	
max. Earth dist.	9988 Nov	07	08:11	23°♏19'18	30.98435 AU
morning rise	9988 Nov	23	09:18	23°♏54'53	
retrograde	9989 Feb	20	23:43	25°♏50'41	
opposition	9989 May	10	09:26	24°♏26'35	0°14'17
min. Earth dist.	9989 May	10	04:51	24°♏26'54	28.98813 AU
direct	9989 Jul	27	20:33	23°♏02'20	
evening set	9989 Oct	24	12:05	24°♏56'40	
conjunction	9989 Nov	09	17:12	25°♏32'34	0°14'27
minimum elong	9989 Nov	09	17:12	25°♏32'34	0°14'46
behind sun begin	9989 Nov	09	14:46	25°♏32'21	
behind sun end	9989 Nov	09	19:37	25°♏32'47	
max. Earth dist.	9989 Nov	09	21:59	25°♏33'00	30.99186 AU
morning rise	9989 Nov	25	22:34	26°♏08'32	

retrograde	9990 Feb 23 10:06	28°♑04'12	
opposition	9990 May 12 20:04	26°♑40'07	0°16'35
min. Earth dist.	9990 May 12 16:42	26°♑40'22	28.99577 AU
direct	9990 Jul 30 07:31	25°♑15'50	
evening set	9990 Oct 27 01:19	27°♑10'10	
conjunction	9990 Nov 12 06:27	27°♑46'03	0°16'34
minimum elong	9990 Nov 12 06:26	27°♑46'03	0°16'55
max. Earth dist.	9990 Nov 12 09:53	27°♑46'22	30.99982 AU
morning rise	9990 Nov 28 11:55	28°♑22'01	
	9991 Jan 24 09:29	0°♐	
retrograde	9991 Feb 25 21:35	0°♐17'32	
	9991 Mar 30 18:20	30°℞♑	
opposition	9991 May 15 06:33	28°♑53'29	0°18'50
min. Earth dist.	9991 May 15 02:47	28°♑53'45	29.00406 AU
direct	9991 Aug 01 18:42	27°♑29'08	
evening set	9991 Oct 29 14:30	29°♑23'30	
conjunction	9991 Nov 14 19:40	29°♑59'23	0°18'40
minimum elong	9991 Nov 14 19:40	29°♑59'23	0°19'01
max. Earth dist.	9991 Nov 14 23:00	29°♑59'41	31.00840 AU
	9991 Nov 15 02:28	0°♐	
morning rise	9991 Dec 01 00:59	0°♐35'19	
retrograde	9992 Feb 28 06:53	2°♐30'42	
opposition	9992 May 16 17:05	1°♐06'42	0°21'04
min. Earth dist.	9992 May 16 14:39	1°♐06'52	29.01321 AU
	9992 Jul 01 06:36	30°℞♑	
direct	9992 Aug 03 05:52	29°♑42'20	
	9992 Sep 04 21:46	0°♐	
evening set	9992 Oct 31 03:36	1°♐36'42	
conjunction	9992 Nov 16 08:51	2°♐12'35	0°20'45
minimum elong	9992 Nov 16 08:51	2°♐12'34	0°21'07
max. Earth dist.	9992 Nov 16 11:39	2°♐12'50	31.01822 AU
morning rise	9992 Dec 02 14:07	2°♐48'29	
retrograde	9993 Mar 01 18:47	4°♐43'45	
opposition	9993 May 19 03:31	3°♐19'49	0°23'17
min. Earth dist.	9993 May 19 00:26	3°♐20'02	29.02361 AU
direct	9993 Aug 05 17:35	1°♐55'25	
evening set	9993 Nov 02 16:39	3°♐49'50	
conjunction	9993 Nov 18 21:51	4°♐25'41	0°22'47
minimum elong	9993 Nov 18 21:51	4°♐25'41	0°23'09
max. Earth dist.	9993 Nov 18 23:57	4°♐25'53	31.02918 AU
morning rise	9993 Dec 05 03:06	5°♐01'35	
retrograde	9994 Mar 04 06:01	6°♐56'44	
opposition	9994 May 21 14:04	5°♐32'53	0°25'27
min. Earth dist.	9994 May 21 12:18	5°♐33'00	29.03516 AU
direct	9994 Aug 08 03:48	4°♐08'29	
evening set	9994 Nov 05 05:46	6°♐02'57	
conjunction	9994 Nov 21 11:08	6°♐38'48	0°24'48
minimum elong	9994 Nov 21 11:07	6°♐38'48	0°25'11
max. Earth dist.	9994 Nov 21 13:21	6°♐39'00	31.04121 AU
morning rise	9994 Dec 07 16:11	7°♐14'39	
retrograde	9995 Mar 06 18:17	9°♐09'43	
opposition	9995 May 24 00:21	7°♐45'56	0°27'34
min. Earth dist.	9995 May 23 22:34	7°♐46'04	29.04737 AU
direct	9995 Aug 10 17:25	6°♐21'34	
evening set	9995 Nov 07 19:05	8°♐16'05	
conjunction	9995 Nov 24 00:15	8°♐51'55	0°26'46
minimum elong	9995 Nov 24 00:15	8°♐51'55	0°27'08
max. Earth dist.	9995 Nov 24 00:50	8°♐51'58	31.05353 AU
morning rise	9995 Dec 10 05:19	9°♐27'46	
retrograde	9996 Mar 08 07:06	11°♐22'43	
opposition	9996 May 25 10:51	9°♐59'02	0°29'39
min. Earth dist.	9996 May 25 10:05	9°♐59'05	29.05973 AU
direct	9996 Aug 12 04:59	8°♐34'40	
evening set	9996 Nov 09 08:06	10°♐29'14	
conjunction	9996 Nov 25 13:24	11°♐05'04	0°28'42
minimum elong	9996 Nov 25 13:24	11°♐05'04	0°29'06
max. Earth dist.	9996 Nov 25 14:13	11°♐05'08	31.06558 AU
morning rise	9996 Dec 11 18:09	11°♐40'53	
retrograde	9997 Mar 10 17:54	13°♐35'44	
opposition	9997 May 27 21:22	12°♐12'07	0°31'42
min. Earth dist.	9997 May 27 21:24	12°♐12'07	29.07135 AU
direct	9997 Aug 14 17:34	10°♐47'45	
evening set	9997 Nov 11 21:26	12°♐42'21	
conjunction	9997 Nov 28 02:32	13°♐18'10	0°30'35
minimum elong	9997 Nov 28 02:32	13°♐18'10	0°30'58
max. Earth dist.	9997 Nov 28 01:15	13°♐18'03	31.07675 AU
morning rise	9997 Dec 14 07:19	13°♐53'58	
retrograde	9998 Mar 13 06:58	15°♐48'41	
opposition	9998 May 30 07:44	14°♐25'09	0°33'41
min. Earth dist.	9998 May 30 08:20	14°♐25'06	29.08203 AU
direct	9998 Aug 17 05:21	13°♐00'45	
evening set	9998 Nov 14 10:38	14°♐55'23	
conjunction	9998 Nov 30 15:50	15°♐31'11	0°32'25
minimum elong	9998 Nov 30 15:50	15°♐31'11	0°32'50
max. Earth dist.	9998 Nov 30 14:33	15°♐31'04	31.08673 AU
morning rise	9998 Dec 16 20:18	16°♐06'57	
retrograde	9999 Mar 15 17:15	18°♐01'32	
opposition	9999 Jun 01 18:15	16°♐38'03	0°35'37
min. Earth dist.	9999 Jun 01 20:24	16°♐37'54	29.09140 AU
direct	9999 Aug 19 17:14	15°♐13'37	
evening set	9999 Nov 16 23:50	17°♐08'15	
conjunction	9999 Dec 03 04:50	17°♐44'02	0°34'13
minimum elong	9999 Dec 03 04:50	17°♐44'02	0°34'36
max. Earth dist.	9999 Dec 03 01:49	17°♐43'45	31.09563 AU
morning rise	9999 Dec 19 09:15	18°♐19'47	
retrograde	10000 Mar 17 04:26	20°♐14'13	
opposition	10000 Jun 03 04:32	18°♐50'46	0°37'30
min. Earth dist.	10000 Jun 03 06:35	18°♐50'37	29.09983 AU
direct	10000 Aug 21 05:03	17°♐26'17	
evening set	10000 Nov 18 12:52	19°♐20'55	
conjunction	10000 Dec 04 17:51	19°♐56'41	0°35'57
minimum elong	10000 Dec 04 17:51	19°♐56'41	0°36'22
max. Earth dist.	10000 Dec 04 14:26	19°♐56'22	31.10362 AU
morning rise	10000 Dec 20 21:59	20°♐32'24	
retrograde	10001 Mar 19 13:31	22°♐26'43	
opposition	10001 Jun 05 14:55	21°♐03'17	0°39'20
min. Earth dist.	10001 Jun 05 18:37	21°♐03'01	29.10762 AU
direct	10001 Aug 23 15:48	19°♐38'45	
evening set	10001 Nov 21 01:44	21°♐33'23	
conjunction	10001 Dec 07 06:39	22°♐09'08	0°37'37
minimum elong	10001 Dec 07 06:39	22°♐09'08	0°38'02
max. Earth dist.	10001 Dec 07 02:23	22°♐08'44	31.11129 AU
morning rise	10001 Dec 23 10:40	22°♐44'49	
retrograde	10002 Mar 22 00:37	24°♐38'59	
opposition	10002 Jun 08 01:06	23°♐15'34	0°41'06
min. Earth dist.	10002 Jun 08 04:29	23°♐15'20	29.11512 AU
direct	10002 Aug 26 03:31	21°♐50'59	
evening set	10002 Nov 23 14:43	23°♐45'38	
conjunction	10002 Dec 09 19:27	24°♐21'21	0°39'15
minimum elong	10002 Dec 09 19:27	24°♐21'21	0°39'40
max. Earth dist.	10002 Dec 09 14:16	24°♐20'52	31.11875 AU

morning rise	10002 Dec 25 23:16	24°♐57'01	
retrograde	10003 Mar 24 10:34	26°♐51'03	
opposition	10003 Jun 10 11:16	25°♐27'40	0°42'48
min. Earth dist.	10003 Jun 10 16:05	25°♐27'20	29.12285 AU
direct	10003 Aug 28 13:47	24°♐03'01	
evening set	10003 Nov 26 03:27	25°♐57'41	
conjunction	10003 Dec 12 08:10	26°♐33'23	0°40'49
minimum elong	10003 Dec 12 08:10	26°♐33'23	0°41'13
max. Earth dist.	10003 Dec 12 03:11	26°♐32'55	31.12676 AU
morning rise	10003 Dec 28 11:40	27°♐09'01	
retrograde	10004 Mar 25 21:27	29°♐02'55	
opposition	10004 Jun 11 21:25	27°♐39'35	0°44'26
min. Earth dist.	10004 Jun 12 01:59	27°♐39'15	29.13119 AU
direct	10004 Aug 30 03:04	26°♐14'55	
evening set	10004 Nov 27 16:05	28°♐09'35	
conjunction	10004 Dec 13 20:30	28°♐45'16	0°42'19
minimum elong	10004 Dec 13 20:30	28°♐45'16	0°42'45
max. Earth dist.	10004 Dec 13 14:15	28°♐44'41	31.13558 AU
morning rise	10004 Dec 29 23:52	29°♐20'52	
	10005 Jan 17 22:37	0°♑	
retrograde	10005 Mar 28 09:13	1°♑14'41	
	10005 Jun 09 04:13	30°℞♐	
opposition	10005 Jun 14 07:39	29°♐51'23	0°46'01
min. Earth dist.	10005 Jun 14 12:42	29°♐51'01	29.14071 AU
direct	10005 Sep 01 14:11	28°♐26'42	
	10005 Nov 20 01:44	0°♑	
evening set	10005 Nov 30 04:39	0°♑21'25	
conjunction	10005 Dec 16 09:05	0°♑57'04	0°43'46
minimum elong	10005 Dec 16 09:05	0°♑57'04	0°44'10
max. Earth dist.	10005 Dec 16 03:31	0°♑56'34	31.14567 AU
morning rise	10006 Jan 01 12:04	1°♑32'38	
retrograde	10006 Mar 30 19:29	3°♑26'21	
opposition	10006 Jun 16 17:42	2°♑03'08	0°47'31
min. Earth dist.	10006 Jun 16 23:10	2°♑02'45	29.15133 AU
direct	10006 Sep 04 02:14	0°♑38'28	
evening set	10006 Dec 02 17:25	2°♑33'15	
conjunction	10006 Dec 18 21:31	3°♑08'53	0°45'08
minimum elong	10006 Dec 18 21:31	3°♑08'53	0°45'35
max. Earth dist.	10006 Dec 18 14:24	3°♑08'14	31.15691 AU
morning rise	10007 Jan 04 00:25	3°♑44'26	
retrograde	10007 Apr 02 08:31	5°♑38'04	
opposition	10007 Jun 19 03:50	4°♑14'56	0°48'57
min. Earth dist.	10007 Jun 19 09:17	4°♑14'33	29.16304 AU
direct	10007 Sep 06 13:57	2°♑50'18	
evening set	10007 Dec 05 05:57	4°♑45'09	
conjunction	10007 Dec 21 09:59	5°♑20'46	0°46'27
minimum elong	10007 Dec 21 09:59	5°♑20'46	0°46'52
max. Earth dist.	10007 Dec 21 03:29	5°♑20'10	31.16882 AU
morning rise	10008 Jan 06 12:25	5°♑56'17	
retrograde	10008 Apr 03 18:49	7°♑49'51	
opposition	10008 Jun 20 14:04	6°♑26'50	0°50'19
min. Earth dist.	10008 Jun 20 20:48	6°♑26'22	29.17506 AU
direct	10008 Sep 08 01:32	5°♑02'15	
evening set	10008 Dec 06 18:38	6°♑57'09	
conjunction	10008 Dec 22 22:21	7°♑32'45	0°47'42
minimum elong	10008 Dec 22 22:21	7°♑32'45	0°48'08
max. Earth dist.	10008 Dec 22 14:25	7°♑32'01	31.18084 AU
morning rise	10009 Jan 08 00:39	8°♑08'15	
retrograde	10009 Apr 06 06:06	10°♑01'44	
opposition	10009 Jun 23 00:09	8°♑38'50	0°51'37
min. Earth dist.	10009 Jun 23 06:38	8°♑38'22	29.18688 AU
direct	10009 Sep 10 12:57	7°♑14'16	
evening set	10009 Dec 09 07:15	9°♑09'13	
conjunction	10009 Dec 25 10:51	9°♑44'48	0°48'52
minimum elong	10009 Dec 25 10:51	9°♑44'48	0°49'17
max. Earth dist.	10009 Dec 25 02:35	9°♑44'02	31.19217 AU
morning rise	10010 Jan 10 12:45	10°♑20'16	
retrograde	10010 Apr 08 15:25	12°♑13'41	
opposition	10010 Jun 25 10:30	10°♑50'52	0°52'50
min. Earth dist.	10010 Jun 25 18:42	10°♑50'17	29.19775 AU
direct	10010 Sep 12 23:14	9°♑26'19	
evening set	10010 Dec 11 19:58	11°♑21'18	
conjunction	10010 Dec 27 23:19	11°♑56'52	0°49'58
minimum elong	10010 Dec 27 23:19	11°♑56'52	0°50'24
max. Earth dist.	10010 Dec 27 14:00	11°♑56'00	31.20247 AU
morning rise	10011 Jan 13 00:57	12°♑32'18	
retrograde	10011 Apr 11 02:33	14°♑25'38	
opposition	10011 Jun 27 20:38	13°♑02'53	0°53'58
min. Earth dist.	10011 Jun 28 04:41	13°♑02'19	29.20737 AU
direct	10011 Sep 15 10:12	11°♑38'19	
evening set	10011 Dec 14 08:39	13°♑33'19	
conjunction	10011 Dec 30 11:43	14°♑08'52	0°51'00
minimum elong	10011 Dec 30 11:42	14°♑08'52	0°51'24
max. Earth dist.	10011 Dec 30 01:17	14°♑07'54	31.21142 AU
morning rise	10012 Jan 15 13:02	14°♑44'17	
retrograde	10012 Apr 12 11:51	16°♑37'31	
opposition	10012 Jun 29 07:01	15°♑14'48	0°55'01
min. Earth dist.	10012 Jun 29 16:35	15°♑14'08	29.21584 AU
direct	10012 Sep 16 20:25	13°♑50'13	
evening set	10012 Dec 15 20:59	15°♑45'14	
conjunction	10012 Dec 31 23:55	16°♑20'45	0°51'57
minimum elong	10012 Dec 31 23:55	16°♑20'45	0°52'22
max. Earth dist.	10012 Dec 31 13:25	16°♑19'47	31.21934 AU
morning rise	10013 Jan 17 00:53	16°♑56'08	
retrograde	10013 Apr 14 21:40	18°♑49'16	
opposition	10013 Jul 01 17:14	17°♑26'35	0°56'00
min. Earth dist.	10013 Jul 02 02:58	17°♑25'54	29.22315 AU
direct	10013 Sep 19 09:20	16°♑01'58	
evening set	10013 Dec 18 09:32	17°♑56'59	
conjunction	10014 Jan 03 12:05	18°♑32'28	0°52'50
minimum elong	10014 Jan 03 12:05	18°♑32'28	0°53'14
max. Earth dist.	10014 Jan 02 23:57	18°♑31'21	31.22621 AU
morning rise	10014 Jan 19 12:51	19°♑07'48	
retrograde	10014 Apr 17 08:44	21°♑00'50	
opposition	10014 Jul 04 03:20	19°♑38'10	0°56'54
min. Earth dist.	10014 Jul 04 13:52	19°♑37'26	29.22977 AU
direct	10014 Sep 21 19:56	18°♑13'29	
evening set	10014 Dec 20 21:51	20°♑08'31	
conjunction	10015 Jan 06 00:19	20°♑43'58	0°53'38
minimum elong	10015 Jan 06 00:19	20°♑43'58	0°54'03
max. Earth dist.	10015 Jan 05 12:37	20°♑42'53	31.23253 AU
morning rise	10015 Jan 22 00:36	21°♑19'17	
retrograde	10015 Apr 19 18:30	23°♑12'12	
opposition	10015 Jul 06 13:34	21°♑49'32	0°57'42
min. Earth dist.	10015 Jul 07 00:45	21°♑48'45	29.23589 AU
direct	10015 Sep 24 08:23	20°♑24'49	
evening set	10015 Dec 23 10:04	22°♑19'50	
conjunction	10016 Jan 08 12:04	22°♑55'15	0°54'21
minimum elong	10016 Jan 08 12:04	22°♑55'15	0°54'45
max. Earth dist.	10016 Jan 07 22:53	22°♑54'02	31.23868 AU
morning rise	10016 Jan 24 12:11	23°♑30'31	

retrograde	10016 Apr	21	06:47	25°♑23'20	
opposition	10016 Jul	07	23:42	24°♑00'40	0°58'26
min. Earth dist.	10016 Jul	08	10:43	23°♑59'54	29.24224 AU
direct	10016 Sep	25	20:56	22°♑35'55	
evening set	10016 Dec	24	22:06	24°♑30'55	
conjunction	10017 Jan	09	23:59	25°♑06'19	0°55'00
minimum elong	10017 Jan	09	23:59	25°♑06'19	0°55'24
max. Earth dist.	10017 Jan	09	11:35	25°♑05'11	31.24520 AU
morning rise	10017 Jan	25	23:35	25°♑41'33	
retrograde	10017 Apr	23	16:09	27°♑34'16	
opposition	10017 Jul	10	09:54	26°♑11'38	0°59'05
min. Earth dist.	10017 Jul	10	21:56	26°♑10'47	29.24917 AU
direct	10017 Sep	28	09:04	24°♑46'51	
evening set	10017 Dec	27	10:11	26°♑41'52	
conjunction	10018 Jan	12	11:41	27°♑17'14	0°55'34
minimum elong	10018 Jan	12	11:41	27°♑17'14	0°55'57
max. Earth dist.	10018 Jan	11	22:17	27°♑16'00	31.25264 AU
morning rise	10018 Jan	28	11:06	27°♑52'26	
retrograde	10018 Apr	26	03:17	29°♑45'04	
opposition	10018 Jul	12	20:01	28°♑22'28	0°59'38
min. Earth dist.	10018 Jul	13	07:13	28°♑21'41	29.25707 AU
direct	10018 Sep	30	20:57	26°♑57'41	
evening set	10018 Dec	29	22:10	28°♑52'43	
conjunction	10019 Jan	14	23:26	29°♑28'04	0°56'03
minimum elong	10019 Jan	14	23:26	29°♑28'04	0°56'26
max. Earth dist.	10019 Jan	14	10:17	29°♑26'51	31.26094 AU
	10019 Jan	29	10:34	0°♒	
morning rise	10019 Jan	30	22:23	0°♒03'14	
retrograde	10019 Apr	28	12:41	1°♒55'49	
opposition	10019 Jul	15	06:17	0°♒33'17	1°00'07
min. Earth dist.	10019 Jul	15	18:39	0°♒32'25	29.26586 AU
	10019 Aug	04	18:42	30°℞♑	
direct	10019 Oct	03	07:26	29°♑08'32	
	10019 Nov	29	21:49	0°♒	
evening set	10020 Jan	01	10:08	1°♒03'35	
conjunction	10020 Jan	17	11:05	1°♒38'55	0°56'27
minimum elong	10020 Jan	17	11:05	1°♒38'55	0°56'49
max. Earth dist.	10020 Jan	16	21:35	1°♒37'40	31.27016 AU
morning rise	10020 Feb	02	09:44	2°♒14'04	
retrograde	10020 Apr	29	23:31	4°♒06'35	
opposition	10020 Jul	16	16:29	2°♒44'09	1°00'30
min. Earth dist.	10020 Jul	17	04:12	2°♒43'20	29.27517 AU
direct	10020 Oct	04	18:33	1°♒19'26	
evening set	10021 Jan	02	21:58	3°♒14'32	
conjunction	10021 Jan	18	22:35	3°♒49'51	0°56'46
minimum elong	10021 Jan	18	22:35	3°♒49'51	0°57'09
max. Earth dist.	10021 Jan	18	08:28	3°♒48'33	31.27945 AU
morning rise	10021 Feb	03	20:54	4°♒24'58	
retrograde	10021 May	02	08:56	6°♒17'29	
opposition	10021 Jul	19	02:50	4°♒55'06	1°00'48
min. Earth dist.	10021 Jul	19	15:48	4°♒54'12	29.28438 AU
direct	10021 Oct	07	04:12	3°♒30'27	
evening set	10022 Jan	05	09:54	5°♒25'35	
conjunction	10022 Jan	21	10:18	6°♒00'53	0°57'00
minimum elong	10022 Jan	21	10:18	6°♒00'53	0°57'21
max. Earth dist.	10022 Jan	20	20:21	5°♒59'35	31.28830 AU
morning rise	10022 Feb	06	08:12	6°♒35'58	
retrograde	10022 May	04	18:34	8°♒28'27	
opposition	10022 Jul	21	13:06	7°♒06'09	1°01'00
min. Earth dist.	10022 Jul	22	02:13	7°♒05'15	29.29266 AU
direct	10022 Oct	09	16:04	5°♒41'32	
evening set	10023 Jan	07	21:59	7°♒36'43	
conjunction	10023 Jan	23	21:55	8°♒11'59	0°57'09
minimum elong	10023 Jan	23	21:55	8°♒11'59	0°57'31
max. Earth dist.	10023 Jan	23	06:24	8°♒10'33	31.29597 AU
morning rise	10023 Feb	08	19:32	8°♒47'03	
retrograde	10023 May	07	05:53	10°♒39'31	
opposition	10023 Jul	23	23:35	9°♒17'16	1°01'07
min. Earth dist.	10023 Jul	24	13:19	9°♒16'19	29.29979 AU
direct	10023 Oct	12	01:50	7°♒52'40	
evening set	10024 Jan	10	09:43	9°♒47'53	
conjunction	10024 Jan	26	09:27	10°♒23'07	0°57'13
minimum elong	10024 Jan	26	09:27	10°♒23'07	0°57'34
max. Earth dist.	10024 Jan	25	18:24	10°♒21'44	31.30230 AU
morning rise	10024 Feb	11	06:33	10°♒58'10	
retrograde	10024 May	08	15:40	12°♒50'36	
opposition	10024 Jul	25	10:08	11°♒28'24	1°01'09
min. Earth dist.	10024 Jul	26	00:39	11°♒27'24	29.30532 AU
direct	10024 Oct	13	13:55	10°♒03'49	
evening set	10025 Jan	11	21:40	11°♒59'03	
conjunction	10025 Jan	27	20:55	12°♒34'15	0°57'13
minimum elong	10025 Jan	27	20:55	12°♒34'15	0°57'34
max. Earth dist.	10025 Jan	27	04:08	12°♒32'42	31.30717 AU
morning rise	10025 Feb	12	17:50	13°♒09'16	
	10025 May	01	06:47	15°♒	
retrograde	10025 May	11	04:12	15°♒01'40	
	10025 May	21	01:10	15°℞♒	
opposition	10025 Jul	27	20:28	13°♒39'29	1°01'05
min. Earth dist.	10025 Jul	28	11:00	13°♒38'29	29.30952 AU
direct	10025 Oct	16	02:17	12°♒14'53	
evening set	10026 Jan	14	09:23	14°♒10'08	
conjunction	10026 Jan	30	08:29	14°♒45'20	0°57'07
minimum elong	10026 Jan	30	08:29	14°♒45'20	0°57'27
max. Earth dist.	10026 Jan	29	16:07	14°♒43'49	31.31060 AU
	10026 Feb	05	22:48	15°♒	
morning rise	10026 Feb	15	04:53	15°♒20'19	
retrograde	10026 May	13	13:46	17°♒12'40	
opposition	10026 Jul	30	07:02	15°♒50'30	1°00'57
min. Earth dist.	10026 Jul	30	22:56	15°♒49'24	29.31229 AU
	10026 Aug	31	22:51	15°℞♒	
direct	10026 Oct	18	14:35	14°♒25'53	
	10026 Dec	04	01:59	15°♒	
evening set	10027 Jan	16	21:06	16°♒21'08	
conjunction	10027 Feb	01	19:44	16°♒56'18	0°56'57
minimum elong	10027 Feb	01	19:44	16°♒56'18	0°57'16
max. Earth dist.	10027 Feb	01	02:15	16°♒54'40	31.31290 AU
morning rise	10027 Feb	17	15:55	17°♒31'15	
retrograde	10027 May	16	00:45	19°♒23'32	
opposition	10027 Aug	01	17:24	18°♒01'23	1°00'43
min. Earth dist.	10027 Aug	02	08:41	18°♒00'19	29.31414 AU
direct	10027 Oct	21	03:00	16°♒36'44	
evening set	10028 Jan	19	08:36	18°♒31'58	
conjunction	10028 Feb	04	06:59	19°♒07'07	0°56'41
minimum elong	10028 Feb	04	06:59	19°♒07'07	0°57'00
max. Earth dist.	10028 Feb	03	13:37	19°♒05'30	31.31440 AU
morning rise	10028 Feb	20	02:41	19°♒42'02	
retrograde	10028 May	17	10:19	21°♒34'17	
opposition	10028 Aug	03	03:57	20°♒12'06	1°00'24
min. Earth dist.	10028 Aug	03	20:23	20°♒10'58	29.31558 AU
direct	10028 Oct	22	14:23	18°♒47'26	
evening set	10029 Jan	20	19:53	20°♒42'38	

conjunction	10029 Feb 05 17:56	21°♒17'46	0°56'21
minimum elong	10029 Feb 05 17:56	21°♒17'46	0°56'39
max. Earth dist.	10029 Feb 05 00:27	21°♒16'08	31.31589 AU
morning rise	10029 Feb 21 13:22	21°♒52'39	
retrograde	10029 May 19 20:33	23°♒44'51	
opposition	10029 Aug 05 14:22	22°♒22'40	1°00'00
min. Earth dist.	10029 Aug 06 05:58	22°♒21'35	29.31710 AU
direct	10029 Oct 25 02:34	20°♒57'58	
evening set	10030 Jan 23 07:16	22°♒53'10	
max. Earth dist.	10030 Feb 07 11:05	23°♒26'36	31.31764 AU
conjunction	10030 Feb 08 04:55	23°♒28'16	0°55'57
minimum elong	10030 Feb 08 04:55	23°♒28'16	0°56'13
morning rise	10030 Feb 23 23:59	24°♒03'08	
retrograde	10030 May 22 04:55	25°♒55'17	
opposition	10030 Aug 08 00:50	24°♒33'07	0°59'31
min. Earth dist.	10030 Aug 08 17:06	24°♒31'59	29.31936 AU
direct	10030 Oct 27 12:36	23°♒08'24	
evening set	10031 Jan 25 18:31	25°♒03'36	
conjunction	10031 Feb 10 15:54	25°♒38'40	0°55'27
minimum elong	10031 Feb 10 15:54	25°♒38'40	0°55'44
max. Earth dist.	10031 Feb 09 22:55	25°♒37'06	31.32037 AU
morning rise	10031 Feb 26 10:32	26°♒13'31	
retrograde	10031 May 24 13:27	28°♒05'39	
opposition	10031 Aug 10 11:24	26°♒43'30	0°58'57
min. Earth dist.	10031 Aug 11 03:10	26°♒42'25	29.32244 AU
direct	10031 Oct 29 24:00	25°♒18'49	
evening set	10032 Jan 28 05:39	27°♒14'00	
max. Earth dist.	10032 Feb 12 08:46	27°♒47'25	31.32393 AU
conjunction	10032 Feb 13 02:33	27°♒49'03	0°54'53
minimum elong	10032 Feb 13 02:33	27°♒49'04	0°55'08
morning rise	10032 Feb 28 20:57	28°♒23'53	
	10032 Apr 25 05:09	0°♓	
retrograde	10032 May 26 00:22	0°♓16'02	
	10032 Jun 26 10:40	30°℞♒	
opposition	10032 Aug 11 21:59	28°♒53'54	0°58'18
min. Earth dist.	10032 Aug 12 13:39	28°♒52'50	29.32640 AU
direct	10032 Oct 31 08:50	27°♒29'15	
evening set	10033 Jan 29 16:43	29°♒24'28	
conjunction	10033 Feb 14 13:27	29°♒59'30	0°54'14
minimum elong	10033 Feb 14 13:28	29°♒59'30	0°54'29
max. Earth dist.	10033 Feb 13 20:44	29°♒57'57	31.32805 AU
	10033 Feb 14 18:56	0°♓	
morning rise	10033 Mar 02 07:22	0°♓34'18	
retrograde	10033 May 28 09:34	2°♓26'28	
opposition	10033 Aug 14 08:31	1°♓04'23	0°57'34
min. Earth dist.	10033 Aug 15 00:40	1°♓03'16	29.33047 AU
	10033 Sep 27 16:19	30°℞♒	
direct	10033 Nov 02 20:32	29°♒39'46	
	10033 Dec 08 11:15	0°♓	
evening set	10034 Feb 01 04:00	1°♓35'00	
max. Earth dist.	10034 Feb 16 06:16	2°♓08'20	31.33205 AU
conjunction	10034 Feb 17 00:13	2°♓10'00	0°53'30
minimum elong	10034 Feb 17 00:13	2°♓10'00	0°53'44
morning rise	10034 Mar 04 17:58	2°♓44'48	
retrograde	10034 May 30 21:46	4°♓36'58	
opposition	10034 Aug 16 19:10	3°♓14'55	0°56'44
min. Earth dist.	10034 Aug 17 10:54	3°♓13'50	29.33422 AU
direct	10034 Nov 05 07:55	1°♓50'20	
evening set	10035 Feb 03 15:04	3°♓45'35	
conjunction	10035 Feb 19 11:04	4°♓20'35	0°52'42
minimum elong	10035 Feb 19 11:04	4°♓20'35	0°52'55
max. Earth dist.	10035 Feb 18 17:54	4°♓18'59	31.33530 AU
morning rise	10035 Mar 07 04:16	4°♓55'21	
retrograde	10035 Jun 02 07:19	6°♓47'32	
opposition	10035 Aug 19 06:03	5°♓25'30	0°55'50
min. Earth dist.	10035 Aug 19 22:57	5°♓24'21	29.33697 AU
direct	10035 Nov 07 19:14	4°♓00'57	
evening set	10036 Feb 06 02:14	5°♓56'13	
conjunction	10036 Feb 21 21:46	6°♓31'11	0°51'49
minimum elong	10036 Feb 21 21:46	6°♓31'11	0°52'01
max. Earth dist.	10036 Feb 21 03:43	6°♓29'30	31.33755 AU
morning rise	10036 Mar 08 14:46	7°♓05'56	
retrograde	10036 Jun 03 18:58	8°♓58'07	
opposition	10036 Aug 20 16:48	7°♓36'06	0°54'51
min. Earth dist.	10036 Aug 21 08:55	7°♓35'00	29.33858 AU
direct	10036 Nov 09 07:36	6°♓11'34	
evening set	10037 Feb 07 13:13	8°♓06'50	
conjunction	10037 Feb 23 08:30	8°♓41'47	0°50'51
minimum elong	10037 Feb 23 08:30	8°♓41'47	0°51'03
max. Earth dist.	10037 Feb 22 14:28	8°♓40'06	31.33841 AU
morning rise	10037 Mar 11 01:06	9°♓16'30	
retrograde	10037 Jun 06 05:23	11°♓08'43	
opposition	10037 Aug 23 03:48	9°♓46'41	0°53'48
min. Earth dist.	10037 Aug 23 21:09	9°♓45'30	29.33877 AU
direct	10037 Nov 11 19:24	8°♓22'10	
evening set	10038 Feb 10 00:16	10°♓17'24	
conjunction	10038 Feb 25 19:12	10°♓52'20	0°49'50
minimum elong	10038 Feb 25 19:12	10°♓52'20	0°50'00
max. Earth dist.	10038 Feb 25 00:54	10°♓50'38	31.33792 AU
morning rise	10038 Mar 13 11:29	11°♓27'02	
retrograde	10038 Jun 08 15:38	13°♓19'14	
opposition	10038 Aug 25 14:35	11°♓57'12	0°52'40
min. Earth dist.	10038 Aug 26 07:19	11°♓56'03	29.33748 AU
direct	10038 Nov 14 08:19	10°♓32'40	
evening set	10039 Feb 12 11:16	12°♓27'53	
max. Earth dist.	10039 Feb 27 10:54	13°♓01'02	31.33603 AU
conjunction	10039 Feb 28 05:48	13°♓02'48	0°48'44
minimum elong	10039 Feb 28 05:48	13°♓02'48	0°48'54
morning rise	10039 Mar 15 21:48	13°♓37'29	
retrograde	10039 Jun 11 00:48	15°♓29'41	
opposition	10039 Aug 28 01:39	14°♓07'38	0°51'27
min. Earth dist.	10039 Aug 28 19:09	14°♓06'26	29.33514 AU
direct	10039 Nov 16 18:41	12°♓43'05	
evening set	10040 Feb 14 21:54	14°♓38'16	
conjunction	10040 Mar 01 16:13	15°♓13'09	0°47'34
minimum elong	10040 Mar 01 16:14	15°♓13'09	0°47'43
max. Earth dist.	10040 Feb 29 22:10	15°♓11'28	31.33327 AU
morning rise	10040 Mar 17 07:50	15°♓47'49	
retrograde	10040 Jun 12 09:09	17°♓40'01	
opposition	10040 Aug 29 12:36	16°♓17'56	0°50'11
min. Earth dist.	10040 Aug 30 05:48	16°♓16'45	29.33195 AU
direct	10040 Nov 18 06:46	14°♓53'22	
evening set	10041 Feb 16 08:42	16°♓48'30	
max. Earth dist.	10041 Mar 03 07:38	17°♓21'37	31.32997 AU
conjunction	10041 Mar 04 02:33	17°♓23'22	0°46'21
minimum elong	10041 Mar 04 02:33	17°♓23'22	0°46'29
morning rise	10041 Mar 19 18:00	17°♓58'02	
retrograde	10041 Jun 14 19:44	19°♓50'14	
opposition	10041 Aug 31 23:25	18°♓28'06	0°48'50
min. Earth dist.	10041 Sep 01 16:24	18°♓26'56	29.32874 AU
direct	10041 Nov 20 16:06	17°♓03'31	
evening set	10042 Feb 18 19:17	18°♓58'38	

conjunction	10042 Mar 06 12:57	19°♓33'29	0°45'03
minimum elong	10042 Mar 06 12:58	19°♓33'29	0°45'10
max. Earth dist.	10042 Mar 05 19:23	19°♓31'51	31.32687 AU
morning rise	10042 Mar 22 03:56	20°♓08'08	
retrograde	10042 Jun 17 04:27	22°♓00'22	
opposition	10042 Sep 03 10:31	20°♓38'12	0°47'25
min. Earth dist.	10042 Sep 04 03:33	20°♓37'02	29.32590 AU
direct	10042 Nov 23 04:00	19°♓13'37	
evening set	10043 Feb 21 05:52	21°♓08'43	
conjunction	10043 Mar 08 23:01	21°♓43'33	0°43'42
minimum elong	10043 Mar 08 23:01	21°♓43'33	0°43'48
max. Earth dist.	10043 Mar 08 04:50	21°♓41'51	31.32453 AU
morning rise	10043 Mar 24 13:49	22°♓18'11	
retrograde	10043 Jun 19 16:13	24°♓10'27	
opposition	10043 Sep 05 21:32	22°♓48'16	0°45'56
min. Earth dist.	10043 Sep 06 13:24	22°♓47'11	29.32410 AU
direct	10043 Nov 25 14:49	21°♓23'43	
evening set	10044 Feb 23 16:17	23°♓18'50	
conjunction	10044 Mar 10 09:16	23°♓53'39	0°42'17
minimum elong	10044 Mar 10 09:16	23°♓53'39	0°42'22
max. Earth dist.	10044 Mar 09 16:26	23°♓52'05	31.32322 AU
morning rise	10044 Mar 25 23:38	24°♓28'16	
retrograde	10044 Jun 21 01:52	26°♓20'36	
opposition	10044 Sep 07 08:38	24°♓58'26	0°44'23
min. Earth dist.	10044 Sep 08 01:04	24°♓57'19	29.32326 AU
direct	10044 Nov 27 01:12	23°♓33'56	
evening set	10045 Feb 25 02:45	25°♓29'03	
conjunction	10045 Mar 12 19:20	26°♓03'52	0°40'48
minimum elong	10045 Mar 12 19:20	26°♓03'52	0°40'52
max. Earth dist.	10045 Mar 12 02:20	26°♓02'17	31.32284 AU
morning rise	10045 Mar 28 09:34	26°♓38'28	
retrograde	10045 Jun 23 13:41	28°♓30'53	
opposition	10045 Sep 09 19:41	27°♓08'45	0°42'46
min. Earth dist.	10045 Sep 10 10:47	27°♓07'43	29.32301 AU
direct	10045 Nov 29 13:21	25°♓44'18	
evening set	10046 Feb 27 13:13	27°♓39'27	
conjunction	10046 Mar 15 05:30	28°♓14'15	0°39'16
minimum elong	10046 Mar 15 05:30	28°♓14'15	0°39'18
max. Earth dist.	10046 Mar 14 12:59	28°♓12'43	31.32263 AU
morning rise	10046 Mar 30 19:22	28°♓48'51	
	10046 May 06 17:39	0°♈	
retrograde	10046 Jun 26 01:00	0°♈41'20	
	10046 Aug 17 06:20	30°♓	
opposition	10046 Sep 12 06:58	29°♓19'13	0°41'06
min. Earth dist.	10046 Sep 12 22:51	29°♓18'08	29.32280 AU
direct	10046 Dec 02 01:01	27°♓54'51	
evening set	10047 Mar 01 23:43	29°♓50'01	
	10047 Mar 06 12:58	0°♈	
conjunction	10047 Mar 17 15:41	0°♈24'48	0°37'40
minimum elong	10047 Mar 17 15:41	0°♈24'48	0°37'42
max. Earth dist.	10047 Mar 16 23:33	0°♈23'18	31.32232 AU
morning rise	10047 Apr 02 05:17	0°♈59'24	
retrograde	10047 Jun 28 11:55	2°♈51'58	
opposition	10047 Sep 14 18:19	1°♈29'53	0°39'21
min. Earth dist.	10047 Sep 15 09:12	1°♈28'52	29.32211 AU
direct	10047 Dec 04 13:54	0°♈05'34	
evening set	10048 Mar 03 10:08	2°♈00'44	
max. Earth dist.	10048 Mar 18 09:12	2°♈33'58	31.32120 AU
conjunction	10048 Mar 19 01:43	2°♈35'31	0°36'01
minimum elong	10048 Mar 19 01:43	2°♈35'31	0°36'01
morning rise	10048 Apr 03 15:07	3°♈10'06	
retrograde	10048 Jun 29 21:43	5°♈02'45	
opposition	10048 Sep 16 05:48	3°♈40'40	0°37'34
min. Earth dist.	10048 Sep 16 21:16	3°♈39'37	29.32056 AU
direct	10048 Dec 06 00:07	2°♈16'25	
evening set	10049 Mar 05 20:37	4°♈11'34	
conjunction	10049 Mar 21 12:01	4°♈46'20	0°34'18
minimum elong	10049 Mar 21 12:01	4°♈46'20	0°34'18
max. Earth dist.	10049 Mar 20 20:23	4°♈44'53	31.31904 AU
morning rise	10049 Apr 06 01:03	5°♈20'56	
retrograde	10049 Jul 02 06:36	7°♈13'37	
opposition	10049 Sep 18 17:11	5°♈51'33	0°35'42
min. Earth dist.	10049 Sep 19 08:27	5°♈50'31	29.31763 AU
direct	10049 Dec 08 12:35	4°♈27'19	
evening set	10050 Mar 08 07:17	6°♈22'28	
conjunction	10050 Mar 23 22:13	6°♈57'14	0°32'33
minimum elong	10050 Mar 23 22:13	6°♈57'14	0°32'32
max. Earth dist.	10050 Mar 23 05:33	6°♈55'40	31.31545 AU
morning rise	10050 Apr 08 11:07	7°♈31'49	
retrograde	10050 Jul 04 18:01	9°♈24'34	
opposition	10050 Sep 21 04:47	8°♈02'28	0°33'48
min. Earth dist.	10050 Sep 21 19:51	8°♈01'27	29.31339 AU
direct	10050 Dec 10 22:30	6°♈38'15	
evening set	10051 Mar 10 17:35	8°♈33'22	
conjunction	10051 Mar 26 08:23	9°♈08'07	0°30'45
minimum elong	10051 Mar 26 08:23	9°♈08'07	0°30'43
max. Earth dist.	10051 Mar 25 16:50	9°♈06'40	31.31044 AU
morning rise	10051 Apr 10 20:53	9°♈42'42	
retrograde	10051 Jul 07 02:23	11°♈35'31	
opposition	10051 Sep 23 16:31	10°♈13'22	0°31'51
min. Earth dist.	10051 Sep 24 07:56	10°♈12'19	29.30763 AU
direct	10051 Dec 13 10:44	8°♈49'09	
evening set	10052 Mar 12 04:04	10°♈44'13	
conjunction	10052 Mar 27 18:27	11°♈18'57	0°28'54
minimum elong	10052 Mar 27 18:27	11°♈18'57	0°28'51
max. Earth dist.	10052 Mar 27 02:02	11°♈17'25	31.30418 AU
morning rise	10052 Apr 12 06:54	11°♈53'31	
retrograde	10052 Jul 08 13:39	13°♈46'22	
opposition	10052 Sep 25 03:59	12°♈24'10	0°29'52
min. Earth dist.	10052 Sep 25 18:32	12°♈23'10	29.30085 AU
direct	10052 Dec 14 21:10	10°♈59'56	
evening set	10053 Mar 14 14:17	12°♈54'56	
conjunction	10053 Mar 30 04:32	13°♈29'40	0°27'01
minimum elong	10053 Mar 30 04:32	13°♈29'40	0°26'57
max. Earth dist.	10053 Mar 29 13:12	13°♈28'14	31.29695 AU
morning rise	10053 Apr 14 16:39	14°♈04'13	
retrograde	10053 Jul 10 23:06	15°♈57'08	
opposition	10053 Sep 27 15:43	14°♈34'51	0°27'50
min. Earth dist.	10053 Sep 28 06:57	14°♈33'48	29.29336 AU
direct	10053 Dec 17 07:42	13°♈10'35	
evening set	10054 Mar 17 00:30	15°♈05'33	
conjunction	10054 Apr 01 14:23	15°♈40'14	0°25'06
minimum elong	10054 Apr 01 14:23	15°♈40'14	0°25'00
max. Earth dist.	10054 Mar 31 23:07	15°♈38'49	31.28947 AU
morning rise	10054 Apr 17 02:23	16°♈14'48	
retrograde	10054 Jul 13 10:41	18°♈07'45	
opposition	10054 Sep 30 03:21	16°♈45'24	0°25'46
min. Earth dist.	10054 Sep 30 17:00	16°♈44'28	29.28595 AU
direct	10054 Dec 19 20:30	15°♈21'07	
evening set	10055 Mar 19 10:40	17°♈16'02	
max. Earth dist.	10055 Apr 03 09:43	17°♈49'22	31.28229 AU

conjunction	10055 Apr 04 00:17	17°♈50'44	0°23'09
minimum elong	10055 Apr 04 00:17	17°♈50'44	0°23'03
morning rise	10055 Apr 19 12:01	18°♈25'17	
retrograde	10055 Jul 15 22:02	20°♈18'18	
opposition	10055 Oct 02 15:13	18°♈55'53	0°23'39
min. Earth dist.	10055 Oct 03 05:07	18°♈54'56	29.27927 AU
direct	10055 Dec 22 08:00	17°♈31'37	
evening set	10056 Mar 20 20:38	19°♈26'30	
conjunction	10056 Apr 05 10:03	20°♈01'11	0°21'09
minimum elong	10056 Apr 05 10:03	20°♈01'11	0°21'02
max. Earth dist.	10056 Apr 04 20:27	19°♈59'55	31.27610 AU
morning rise	10056 Apr 20 21:35	20°♈35'44	
retrograde	10056 Jul 17 08:45	22°♈28'50	
opposition	10056 Oct 04 02:58	21°♈06'23	0°21'30
min. Earth dist.	10056 Oct 04 15:21	21°♈05'32	29.27340 AU
direct	10056 Dec 23 20:56	19°♈42'09	
evening set	10057 Mar 23 06:49	21°♈37'01	
conjunction	10057 Apr 07 19:53	22°♈11'42	0°19'08
minimum elong	10057 Apr 07 19:53	22°♈11'42	0°19'00
max. Earth dist.	10057 Apr 07 06:16	22°♈10'26	31.27065 AU
morning rise	10057 Apr 23 07:19	22°♈46'15	
retrograde	10057 Jul 19 19:29	24°♈39'27	
opposition	10057 Oct 06 14:44	23°♈16'59	0°19'19
min. Earth dist.	10057 Oct 07 03:09	23°♈16'09	29.26833 AU
direct	10057 Dec 26 07:22	21°♈52'49	
evening set	10058 Mar 25 16:54	23°♈47'41	
conjunction	10058 Apr 10 05:51	24°♈22'22	0°17'05
minimum elong	10058 Apr 10 05:50	24°♈22'22	0°16'56
max. Earth dist.	10058 Apr 09 17:47	24°♈21'15	31.26581 AU
morning rise	10058 Apr 25 16:58	24°♈56'55	
retrograde	10058 Jul 22 05:11	26°♈50'13	
opposition	10058 Oct 09 02:43	25°♈27'46	0°17'07
min. Earth dist.	10058 Oct 09 14:25	25°♈26'58	29.26348 AU
direct	10058 Dec 28 20:09	24°♈03'40	
evening set	10059 Mar 28 03:01	25°♈58'32	
conjunction	10059 Apr 12 15:32	26°♈33'12	0°15'00
minimum elong	10059 Apr 12 15:33	26°♈33'12	0°14'51
behind sun begin	10059 Apr 12 12:55	26°♈32'58	
behind sun end	10059 Apr 12 18:10	26°♈33'27	
max. Earth dist.	10059 Apr 12 03:00	26°♈32'02	31.26101 AU
morning rise	10059 Apr 28 02:40	27°♈07'46	
retrograde	10059 Jul 24 17:12	29°♈01'12	
opposition	10059 Oct 11 14:46	27°♈38'45	0°14'53
min. Earth dist.	10059 Oct 12 01:50	27°♈38'00	29.25860 AU
direct	10059 Dec 31 06:14	26°♈14'42	
evening set	10060 Mar 29 13:07	28°♈09'35	
conjunction	10060 Apr 14 01:35	28°♈44'16	0°12'54
minimum elong	10060 Apr 14 01:35	28°♈44'16	0°12'44
behind sun begin	10060 Apr 13 21:28	28°♈43'53	
behind sun end	10060 Apr 14 05:41	28°♈44'38	
max. Earth dist.	10060 Apr 13 14:28	28°♈43'14	31.25581 AU
morning rise	10060 Apr 29 12:23	29°♈18'50	
	10060 May 19 05:57	0°♉	
retrograde	10060 Jul 26 02:15	1°♉12'23	
	10060 Oct 06 22:27	30°♓℞	
opposition	10060 Oct 13 02:49	29°♈49'56	0°12'37
min. Earth dist.	10060 Oct 13 14:05	29°♈49'10	29.25299 AU
direct	10061 Jan 01 17:57	28°♈25'57	
	10061 Mar 22 06:27	0°♉	
evening set	10061 Mar 31 23:26	0°♉20'50	
conjunction	10061 Apr 16 11:32	0°♉55'31	0°10'47
minimum elong	10061 Apr 16 11:32	0°♉55'31	0°10'36
behind sun begin	10061 Apr 16 06:30	0°♉55'04	
behind sun end	10061 Apr 16 16:33	0°♉55'58	
max. Earth dist.	10061 Apr 15 23:45	0°♉54'25	31.24981 AU
morning rise	10061 May 01 22:20	1°♉30'06	
retrograde	10061 Jul 28 14:15	3°♉23'46	
opposition	10061 Oct 15 14:58	2°♉01'19	0°10'20
min. Earth dist.	10061 Oct 16 01:12	2°♉00'37	29.24642 AU
direct	10062 Jan 04 04:05	0°♉37'22	
evening set	10062 Apr 03 09:38	2°♉32'15	
conjunction	10062 Apr 18 21:35	3°♉06'56	0°08'40
minimum elong	10062 Apr 18 21:35	3°♉06'56	0°08'27
behind sun begin	10062 Apr 18 15:56	3°♉06'26	
behind sun end	10062 Apr 19 03:14	3°♉07'27	
max. Earth dist.	10062 Apr 18 10:48	3°♉05'56	31.24249 AU
morning rise	10062 May 04 08:06	3°♉41'32	
retrograde	10062 Jul 31 00:33	5°♉35'20	
opposition	10062 Oct 18 03:23	4°♉12'51	0°08'03
min. Earth dist.	10062 Oct 18 14:21	4°♉12'06	29.23844 AU
direct	10063 Jan 06 14:11	2°♉48'57	
evening set	10063 Apr 05 19:57	4°♉43'49	
conjunction	10063 Apr 21 07:39	5°♉18'29	0°06'31
minimum elong	10063 Apr 21 07:38	5°♉18'29	0°06'18
behind sun begin	10063 Apr 21 01:33	5°♉17'57	
behind sun end	10063 Apr 21 13:43	5°♉19'02	
max. Earth dist.	10063 Apr 20 20:46	5°♉17'29	31.23389 AU
morning rise	10063 May 06 18:06	5°♉53'05	
retrograde	10063 Aug 02 12:58	7°♉47'01	
opposition	10063 Oct 20 15:40	6°♉24'29	0°05'44
min. Earth dist.	10063 Oct 21 01:17	6°♉23'50	29.22907 AU
direct	10064 Jan 09 02:55	5°♉00'35	
evening set	10064 Apr 07 06:08	6°♉55'26	
conjunction	10064 Apr 22 17:39	7°♉30'07	0°04'22
minimum elong	10064 Apr 22 17:39	7°♉30'07	0°04'08
behind sun begin	10064 Apr 22 11:19	7°♉29'32	
behind sun end	10064 Apr 22 23:59	7°♉30'41	
max. Earth dist.	10064 Apr 22 06:59	7°♉29'07	31.22376 AU
morning rise	10064 May 08 04:01	8°♉04'43	
retrograde	10064 Aug 04 01:17	9°♉58'44	
opposition	10064 Oct 22 04:07	8°♉36'08	0°03'26
min. Earth dist.	10064 Oct 22 14:24	8°♉35'26	29.21833 AU
direct	10065 Jan 10 14:26	7°♉12'14	
evening set	10065 Apr 09 16:19	9°♉07'03	
conjunction	10065 Apr 25 03:43	9°♉41'43	0°02'11
minimum elong	10065 Apr 25 03:42	9°♉41'43	0°01'57
behind sun begin	10065 Apr 24 21:17	9°♉41'09	
behind sun end	10065 Apr 25 10:07	9°♉42'18	
max. Earth dist.	10065 Apr 24 17:48	9°♉40'48	31.21253 AU
morning rise	10065 May 10 13:56	10°♉16'20	
retrograde	10065 Aug 06 12:17	12°♉10'26	
opposition	10065 Oct 24 16:21	10°♉47'45	0°01'07
min. Earth dist.	10065 Oct 25 01:23	10°♉47'08	29.20658 AU
direct	10066 Jan 13 03:34	9°♉23'50	
evening set	10066 Apr 12 02:30	11°♉18'36	
desc. node	10066 Apr 22 00:45	11°♉40'45	
conjunction	10066 Apr 27 13:36	11°♉53'16	-0°00'03
minimum elong	10066 Apr 27 13:36	11°♉53'16	0°00'19
behind sun begin	10066 Apr 27 07:13	11°♉52'42	
behind sun end	10066 Apr 27 19:59	11°♉53'50	
max. Earth dist.	10066 Apr 27 03:34	11°♉52'21	31.20060 AU
morning rise	10066 May 12 23:50	12°♉27'53	
retrograde	10066 Aug 08 23:44	14°♉22'04	

opposition	10066 Oct 27 04:51	12°♉59'18	-0°01'12
min. Earth dist.	10066 Oct 27 13:49	12°♉58'41	29.19474 AU
direct	10067 Jan 15 14:59	11°♉35'21	
evening set	10067 Apr 14 12:23	13°♉30'04	
conjunction	10067 Apr 29 23:26	14°♉04'45	-0°02'16
minimum elong	10067 Apr 29 23:26	14°♉04'45	0°02'32
behind sun begin	10067 Apr 29 17:02	14°♉04'10	
behind sun end	10067 Apr 30 05:51	14°♉05'19	
max. Earth dist.	10067 Apr 29 15:14	14°♉04'00	31.18889 AU
morning rise	10067 May 15 09:27	14°♉39'22	
	10067 May 24 22:49	15°♉	
retrograde	10067 Aug 11 10:09	16°♉33'38	
opposition	10067 Oct 29 17:16	15°♉10'47	-0°03'31
min. Earth dist.	10067 Oct 30 01:13	15°♉10'14	29.18330 AU
	10067 Nov 05 08:12	15°℞♉	
direct	10068 Jan 18 05:02	13°♉46'50	
	10068 Mar 27 01:33	15°♉	
evening set	10068 Apr 15 22:30	15°♉41'30	
conjunction	10068 May 01 09:14	16°♉16'11	-0°04'26
minimum elong	10068 May 01 09:14	16°♉16'11	0°04'43
behind sun begin	10068 May 01 02:57	16°♉15'37	
behind sun end	10068 May 01 15:30	16°♉16'45	
max. Earth dist.	10068 May 01 00:48	16°♉15'24	31.17794 AU
morning rise	10068 May 16 19:20	16°♉50'49	
retrograde	10068 Aug 12 22:09	18°♉45'11	
opposition	10068 Oct 31 05:32	17°♉22'15	-0°05'49
min. Earth dist.	10068 Oct 31 12:27	17°♉21'47	29.17294 AU
direct	10069 Jan 19 15:51	15°♉58'19	
evening set	10069 Apr 18 08:28	17°♉52'58	
conjunction	10069 May 03 19:13	18°♉27'39	-0°06'34
minimum elong	10069 May 03 19:14	18°♉27'39	0°06'52
behind sun begin	10069 May 03 13:15	18°♉27'07	
behind sun end	10069 May 04 01:13	18°♉28'11	
max. Earth dist.	10069 May 03 12:36	18°♉27'03	31.16803 AU
morning rise	10069 May 19 05:07	19°♉02'18	
retrograde	10069 Aug 15 06:54	20°♉56'46	
opposition	10069 Nov 02 18:03	19°♉33'48	-0°08'08
min. Earth dist.	10069 Nov 03 00:36	19°♉33'22	29.16347 AU
direct	10070 Jan 22 04:05	18°♉09'54	
evening set	10070 Apr 20 18:29	20°♉04'31	
conjunction	10070 May 06 04:57	20°♉39'12	-0°08'43
minimum elong	10070 May 06 04:57	20°♉39'12	0°09'02
behind sun begin	10070 May 05 23:27	20°♉38'42	
behind sun end	10070 May 06 10:27	20°♉39'42	
max. Earth dist.	10070 May 05 22:19	20°♉38'36	31.15911 AU
morning rise	10070 May 21 14:56	21°♉13'52	
retrograde	10070 Aug 17 18:39	23°♉08'28	
opposition	10070 Nov 05 06:33	21°♉45'28	-0°10'25
min. Earth dist.	10070 Nov 05 11:29	21°♉45'08	29.15492 AU
direct	10071 Jan 24 14:34	20°♉21'35	
evening set	10071 Apr 23 04:29	22°♉16'12	
conjunction	10071 May 08 14:55	22°♉50'54	-0°10'51
minimum elong	10071 May 08 14:55	22°♉50'54	0°11'10
behind sun begin	10071 May 08 10:07	22°♉50'28	
behind sun end	10071 May 08 19:44	22°♉51'20	
max. Earth dist.	10071 May 08 09:42	22°♉50'25	31.15077 AU
morning rise	10071 May 24 00:46	23°♉25'34	
retrograde	10071 Aug 20 05:15	25°♉20'19	
opposition	10071 Nov 07 19:13	23°♉57'17	-0°12'42
min. Earth dist.	10071 Nov 08 00:28	23°♉56'55	29.14681 AU
direct	10072 Jan 27 00:49	22°♉33'27	
evening set	10072 Apr 24 14:33	24°♉28'03	

conjunction	10072 May 10 00:51	25°♉02'44	-0°12'58
minimum elong	10072 May 10 00:51	25°♉02'44	0°13'19
behind sun begin	10072 May 09 21:04	25°♉02'24	
behind sun end	10072 May 10 04:38	25°♉03'05	
max. Earth dist.	10072 May 09 20:07	25°♉02'18	31.14281 AU
morning rise	10072 May 25 10:45	25°♉37'26	
retrograde	10072 Aug 21 17:29	27°♉32'18	
opposition	10072 Nov 09 07:48	26°♉09'15	-0°14'58
min. Earth dist.	10072 Nov 09 11:24	26°♉09'00	29.13872 AU
direct	10073 Jan 28 12:46	24°♉45'27	
evening set	10073 Apr 27 00:46	26°♉40'03	
conjunction	10073 May 12 10:54	27°♉14'45	-0°15'04
minimum elong	10073 May 12 10:54	27°♉14'45	0°15'25
behind sun begin	10073 May 12 08:52	27°♉14'34	
behind sun end	10073 May 12 12:57	27°♉14'56	
max. Earth dist.	10073 May 12 06:33	27°♉14'21	31.13447 AU
morning rise	10073 May 27 20:46	27°♉49'28	
retrograde	10073 Aug 24 05:50	29°♉44'29	
opposition	10073 Nov 11 20:36	28°♉21'23	-0°17'13
min. Earth dist.	10073 Nov 12 00:40	28°♉21'06	29.13020 AU
direct	10074 Jan 30 23:01	26°♉57'38	
evening set	10074 Apr 29 11:00	28°♉52'13	
conjunction	10074 May 14 21:07	29°♉26'56	-0°17'09
minimum elong	10074 May 14 21:07	29°♉26'56	0°17'31
max. Earth dist.	10074 May 14 17:45	29°♉26'37	31.12564 AU
	10074 May 29 13:06	0°♊	
morning rise	10074 May 30 06:54	0°♊01'39	
retrograde	10074 Aug 26 17:50	1°♊56'48	
opposition	10074 Nov 14 09:27	0°♊33'40	-0°19'26
min. Earth dist.	10074 Nov 14 12:11	0°♊33'29	29.12087 AU
	10074 Dec 05 14:25	30°℞♉	
direct	10075 Feb 02 11:33	29°♉09'56	
	10075 Mar 30 11:51	0°♊	
evening set	10075 May 01 21:18	1°♊04'31	
conjunction	10075 May 17 07:12	1°♊39'14	-0°19'13
minimum elong	10075 May 17 07:12	1°♊39'14	0°19'35
max. Earth dist.	10075 May 17 03:29	1°♊38'53	31.11577 AU
morning rise	10075 Jun 01 17:07	2°♊13'58	
retrograde	10075 Aug 29 06:53	4°♊09'15	
opposition	10075 Nov 16 22:26	2°♊46'03	-0°21'38
min. Earth dist.	10075 Nov 17 01:21	2°♊45'51	29.11052 AU
direct	10076 Feb 04 23:00	1°♊22'21	
evening set	10076 May 03 07:37	3°♊16'54	
conjunction	10076 May 18 17:37	3°♊51'37	-0°21'15
minimum elong	10076 May 18 17:37	3°♊51'37	0°21'37
max. Earth dist.	10076 May 18 15:16	3°♊51'24	31.10478 AU
morning rise	10076 Jun 03 03:24	4°♊26'22	
retrograde	10076 Aug 30 18:32	6°♊21'45	
opposition	10076 Nov 18 11:13	4°♊58'30	-0°23'47
min. Earth dist.	10076 Nov 18 13:33	4°♊58'20	29.09884 AU
direct	10077 Feb 06 12:59	3°♊34'47	
evening set	10077 May 05 18:05	5°♊29'19	
conjunction	10077 May 21 03:52	6°♊04'03	-0°23'15
minimum elong	10077 May 21 03:51	6°♊04'03	0°23'38
max. Earth dist.	10077 May 21 00:52	6°♊03'46	31.09264 AU
morning rise	10077 Jun 05 13:52	6°♊38'49	
retrograde	10077 Sep 02 07:20	8°♊34'18	
opposition	10077 Nov 21 00:09	7°♊10'57	-0°25'55
min. Earth dist.	10077 Nov 21 01:51	7°♊10'50	29.08632 AU
direct	10078 Feb 09 00:22	5°♊47'13	
evening set	10078 May 08 04:12	7°♊41'42	

conjunction	10078 May 23 14:05	8°♊16'27	-0°25'13
minimum elong	10078 May 23 14:05	8°♊16'27	0°25'37
max. Earth dist.	10078 May 23 12:42	8°♊16'19	31.07978 AU
morning rise	10078 Jun 07 23:58	8°♊51'14	
retrograde	10078 Sep 04 17:01	10°♊46'48	
opposition	10078 Nov 23 13:11	9°♊23'23	-0°28'00
min. Earth dist.	10078 Nov 23 14:38	9°♊23'17	29.07335 AU
direct	10079 Feb 11 13:30	7°♊59'38	
evening set	10079 May 10 14:31	9°♊54'04	
conjunction	10079 May 26 00:14	10°♊28'49	-0°27'09
minimum elong	10079 May 26 00:14	10°♊28'49	0°27'33
max. Earth dist.	10079 May 25 22:51	10°♊28'41	31.06701 AU
morning rise	10079 Jun 10 10:20	11°♊03'36	
retrograde	10079 Sep 07 05:20	12°♊59'17	
opposition	10079 Nov 26 01:58	11°♊35'47	-0°30'03
min. Earth dist.	10079 Nov 26 01:51	11°♊35'47	29.06092 AU
direct	10080 Feb 14 00:47	10°♊12'01	
evening set	10080 May 12 00:42	12°♊06'24	
conjunction	10080 May 27 10:29	12°♊41'10	-0°29'03
minimum elong	10080 May 27 10:28	12°♊41'10	0°29'27
max. Earth dist.	10080 May 27 10:31	12°♊41'10	31.05488 AU
morning rise	10080 Jun 11 20:34	13°♊16'00	
retrograde	10080 Sep 08 15:57	15°♊11'47	
opposition	10080 Nov 27 14:57	13°♊48'12	-0°32'03
min. Earth dist.	10080 Nov 27 14:54	13°♊48'13	29.04936 AU
direct	10081 Feb 15 11:47	12°♊24'27	
evening set	10081 May 14 10:56	14°♊18'50	
conjunction	10081 May 29 20:40	14°♊53'35	-0°30'54
minimum elong	10081 May 29 20:40	14°♊53'35	0°31'18
max. Earth dist.	10081 May 29 21:31	14°♊53'40	31.04397 AU
morning rise	10081 Jun 14 06:51	15°♊28'26	
retrograde	10081 Sep 11 03:56	17°♊24'21	
opposition	10081 Nov 30 03:47	16°♊00'44	-0°34'01
min. Earth dist.	10081 Nov 30 01:43	16°♊00'52	29.03905 AU
direct	10082 Feb 17 23:33	14°♊36'59	
evening set	10082 May 16 21:15	16°♊31'22	
conjunction	10082 Jun 01 06:56	17°♊06'09	-0°32'42
minimum elong	10082 Jun 01 06:56	17°♊06'09	0°33'08
max. Earth dist.	10082 Jun 01 08:27	17°♊06'17	31.03423 AU
morning rise	10082 Jun 16 17:14	17°♊41'01	
retrograde	10082 Sep 13 16:22	19°♊37'05	
opposition	10082 Dec 02 16:52	18°♊13'25	-0°35'55
min. Earth dist.	10082 Dec 02 14:50	18°♊13'33	29.02999 AU
direct	10083 Feb 20 09:01	16°♊49'43	
evening set	10083 May 19 07:24	18°♊44'05	
conjunction	10083 Jun 03 17:13	19°♊18'53	-0°34'28
minimum elong	10083 Jun 03 17:13	19°♊18'53	0°34'54
max. Earth dist.	10083 Jun 03 20:12	19°♊19'10	31.02573 AU
morning rise	10083 Jun 19 03:35	19°♊53'46	
retrograde	10083 Sep 16 04:45	21°♊49'59	
opposition	10083 Dec 05 05:48	20°♊26'18	-0°37'47
min. Earth dist.	10083 Dec 05 02:05	20°♊26'33	29.02183 AU
direct	10084 Feb 22 20:49	19°♊02'39	
evening set	10084 May 20 17:54	20°♊57'02	
conjunction	10084 Jun 05 03:37	21°♊31'51	-0°36'11
minimum elong	10084 Jun 05 03:37	21°♊31'51	0°36'37
max. Earth dist.	10084 Jun 05 06:31	21°♊32'07	31.01788 AU
morning rise	10084 Jun 20 14:13	22°♊06'45	
retrograde	10084 Sep 17 18:42	24°♊03'07	
opposition	10084 Dec 06 18:46	22°♊39'25	-0°39'36
min. Earth dist.	10084 Dec 06 15:00	22°♊39'40	29.01430 AU
direct	10085 Feb 24 07:50	21°♊15'48	
evening set	10085 May 23 04:19	23°♊10'13	
conjunction	10085 Jun 07 14:13	23°♊45'02	-0°37'51
minimum elong	10085 Jun 07 14:13	23°♊45'02	0°38'17
max. Earth dist.	10085 Jun 07 18:52	23°♊45'29	31.01044 AU
morning rise	10085 Jun 23 00:47	24°♊19'58	
retrograde	10085 Sep 20 07:53	26°♊16'28	
opposition	10085 Dec 09 07:54	24°♊52'45	-0°41'21
min. Earth dist.	10085 Dec 09 03:18	24°♊53'04	29.00680 AU
direct	10086 Feb 26 21:15	23°♊29'12	
evening set	10086 May 25 14:54	25°♊23'37	
conjunction	10086 Jun 10 00:40	25°♊58'27	-0°39'27
minimum elong	10086 Jun 10 00:39	25°♊58'27	0°39'53
max. Earth dist.	10086 Jun 10 04:53	25°♊58'51	31.00288 AU
morning rise	10086 Jun 25 11:32	26°♊33'24	
retrograde	10086 Sep 22 21:31	28°♊30'03	
opposition	10086 Dec 11 21:10	27°♊06'18	-0°43'02
min. Earth dist.	10086 Dec 11 15:57	27°♊06'40	28.99910 AU
direct	10087 Mar 01 08:02	25°♊42'47	
evening set	10087 May 28 01:33	27°♊37'12	
conjunction	10087 Jun 12 11:32	28°♊12'04	-0°41'00
minimum elong	10087 Jun 12 11:31	28°♊12'04	0°41'26
max. Earth dist.	10087 Jun 12 17:07	28°♊12'35	30.99472 AU
morning rise	10087 Jun 27 22:24	28°♊47'02	
	10087 Aug 04 02:22	0°♋	
retrograde	10087 Sep 25 09:09	0°♋43'48	
	10087 Nov 19 00:06	30°℞♊	
opposition	10087 Dec 14 10:22	29°♊20'02	-0°44'39
min. Earth dist.	10087 Dec 14 05:11	29°♊20'23	28.99050 AU
direct	10088 Mar 02 21:36	27°♊56'32	
evening set	10088 May 29 12:24	29°♊50'56	
	10088 Jun 02 13:49	0°♋	
conjunction	10088 Jun 13 22:22	0°♋25'49	-0°42'29
minimum elong	10088 Jun 13 22:22	0°♋25'49	0°42'56
max. Earth dist.	10088 Jun 14 03:29	0°♋26'18	30.98565 AU
morning rise	10088 Jun 29 09:33	1°♋00'49	
retrograde	10088 Sep 26 23:20	2°♋57'40	
opposition	10088 Dec 15 23:37	1°♋33'51	-0°46'13
min. Earth dist.	10088 Dec 15 17:21	1°♋34'16	28.98085 AU
direct	10089 Mar 05 10:06	0°♋10'21	
evening set	10089 May 31 23:11	2°♋04'43	
conjunction	10089 Jun 16 09:17	2°♋39'37	-0°43'55
minimum elong	10089 Jun 16 09:17	2°♋39'37	0°44'21
max. Earth dist.	10089 Jun 16 15:14	2°♋40'10	30.97529 AU
morning rise	10089 Jul 01 20:33	3°♋14'38	
retrograde	10089 Sep 29 10:16	5°♋11'36	
opposition	10089 Dec 18 13:01	3°♋47'41	-0°47'42
min. Earth dist.	10089 Dec 18 07:20	3°♋48'04	28.96997 AU
direct	10090 Mar 07 22:17	2°♋24'10	
evening set	10090 Jun 03 10:00	4°♋18'29	
conjunction	10090 Jun 18 20:14	4°♋53'23	-0°45'16
minimum elong	10090 Jun 18 20:14	4°♋53'23	0°45'43
max. Earth dist.	10090 Jun 19 02:33	4°♋53'59	30.96413 AU
morning rise	10090 Jul 04 07:44	5°♋28'26	
retrograde	10090 Oct 01 22:05	7°♋25'28	
opposition	10090 Dec 21 02:14	6°♋01'28	-0°49'07
min. Earth dist.	10090 Dec 20 19:01	6°♋01'57	28.95850 AU
direct	10091 Mar 10 10:39	4°♋37'54	
evening set	10091 Jun 05 20:44	6°♋32'09	
conjunction	10091 Jun 21 07:03	7°♋07'05	-0°46'34

minimum elong	10091 Jun	21	07:03	7°♓07'05	0°47'00
max. Earth dist.	10091 Jun	21	13:43	7°♓07'42	30.95248 AU
morning rise	10091 Jul	06	18:50	7°♓42'08	
retrograde	10091 Oct	04	09:54	9°♓39'15	
opposition	10091 Dec	23	15:32	8°♓15'09	-0°50'28
min. Earth dist.	10091 Dec	23	08:43	8°♓15'37	28.94701 AU
direct	10092 Mar	11	21:02	6°♓51'33	
evening set	10092 Jun	07	07:29	8°♓45'45	
conjunction	10092 Jun	22	18:02	9°♓20'41	-0°47'47
minimum elong	10092 Jun	22	18:02	9°♓20'41	0°48'13
max. Earth dist.	10092 Jun	23	01:59	9°♓21'26	30.94123 AU
morning rise	10092 Jul	08	05:55	9°♓55'46	
retrograde	10092 Oct	05	22:03	11°♓52'56	
opposition	10092 Dec	25	04:32	10°♓28'45	-0°51'44
min. Earth dist.	10092 Dec	24	20:04	10°♓29'20	28.93610 AU
direct	10093 Mar	14	09:32	9°♓05'07	
evening set	10093 Jun	09	18:23	10°♓59'18	
conjunction	10093 Jun	25	04:54	11°♓34'15	-0°48'56
minimum elong	10093 Jun	25	04:54	11°♓34'15	0°49'22
max. Earth dist.	10093 Jun	25	12:48	11°♓35'00	30.93081 AU
morning rise	10093 Jul	10	17:09	12°♓09'21	
retrograde	10093 Oct	08	11:31	14°♓06'37	
opposition	10093 Dec	27	17:49	12°♓42'21	-0°52'56
min. Earth dist.	10093 Dec	27	09:10	12°♓42'57	28.92637 AU
direct	10094 Mar	16	20:18	11°♓18'43	
evening set	10094 Jun	12	05:01	13°♓12'52	
conjunction	10094 Jun	27	15:52	13°♓47'50	-0°50'01
minimum elong	10094 Jun	27	15:52	13°♓47'50	0°50'27
max. Earth dist.	10094 Jun	28	01:43	13°♓48'46	30.92165 AU
morning rise	10094 Jul	13	04:12	14°♓22'57	
retrograde	10094 Oct	11	00:14	16°♓20'20	
opposition	10094 Dec	30	07:00	14°♓56'01	-0°54'03
min. Earth dist.	10094 Dec	29	21:13	14°♓56'41	28.91778 AU
direct	10095 Mar	19	09:02	13°♓32'23	
evening set	10095 Jun	14	15:59	15°♓26'32	
conjunction	10095 Jun	30	02:52	16°♓01'31	-0°51'01
minimum elong	10095 Jun	30	02:52	16°♓01'31	0°51'27
max. Earth dist.	10095 Jun	30	12:26	16°♓02'25	30.91370 AU
morning rise	10095 Jul	15	15:38	16°♓36'40	
retrograde	10095 Oct	13	14:23	18°♓34'08	
opposition	10096 Jan	01	20:03	17°♓09'48	-0°55'05
min. Earth dist.	10096 Jan	01	09:33	17°♓10'31	28.91047 AU
direct	10096 Mar	20	19:28	15°♓46'11	
evening set	10096 Jun	16	02:53	17°♓40'21	
conjunction	10096 Jul	01	14:06	18°♓15'21	-0°51'57
minimum elong	10096 Jul	01	14:06	18°♓15'21	0°52'23
max. Earth dist.	10096 Jul	02	01:18	18°♓16'25	30.90678 AU
morning rise	10096 Jul	17	02:59	18°♓50'32	
retrograde	10096 Oct	15	03:09	20°♓48'07	
opposition	10097 Jan	03	09:16	19°♓23'45	-0°56'02
min. Earth dist.	10097 Jan	02	22:28	19°♓24'30	28.90393 AU
direct	10097 Mar	23	08:49	18°♓00'11	
evening set	10097 Jun	18	13:53	19°♓54'22	
conjunction	10097 Jul	04	01:11	20°♓29'23	-0°52'47
minimum elong	10097 Jul	04	01:11	20°♓29'23	0°53'14
max. Earth dist.	10097 Jul	04	12:16	20°♓30'26	30.90065 AU
morning rise	10097 Jul	19	14:25	21°♓04'36	
retrograde	10097 Oct	17	18:20	23°♓02'18	
opposition	10098 Jan	05	22:29	21°♓37'56	-0°56'54
min. Earth dist.	10098 Jan	05	10:24	21°♓38'46	28.89804 AU
direct	10098 Mar	25	21:01	20°♓14'24	
evening set	10098 Jun	21	01:02	22°♓08'36	
conjunction	10098 Jul	06	12:35	22°♓43'39	-0°53'34
minimum elong	10098 Jul	06	12:35	22°♓43'39	0°53'59
max. Earth dist.	10098 Jul	07	00:42	22°♓44'48	30.89479 AU
morning rise	10098 Jul	22	02:02	23°♓18'54	
retrograde	10098 Oct	20	06:17	25°♓16'43	
opposition	10099 Jan	08	11:48	23°♓52'21	-0°57'40
min. Earth dist.	10099 Jan	08	00:16	23°♓53'08	28.89224 AU
direct	10099 Mar	28	08:51	22°♓28'52	
evening set	10099 Jun	23	12:16	24°♓23'05	
conjunction	10099 Jul	09	00:04	24°♓58'09	-0°54'15
minimum elong	10099 Jul	09	00:04	24°♓58'09	0°54'40
max. Earth dist.	10099 Jul	09	12:29	24°♓59'20	30.88892 AU
morning rise	10099 Jul	24	13:50	25°♓33'26	
retrograde	10099 Oct	22	19:26	27°♓31'21	
opposition	10100 Jan	11	00:59	26°♓06'59	-0°58'22
min. Earth dist.	10100 Jan	10	12:12	26°♓07'51	28.88605 AU
direct	10100 Mar	30	21:08	24°♓43'32	
evening set	10100 Jun	25	23:43	26°♓37'45	
conjunction	10100 Jul	11	11:40	27°♓12'51	-0°54'51
minimum elong	10100 Jul	11	11:40	27°♓12'51	0°55'15
max. Earth dist.	10100 Jul	11	23:59	27°♓14'01	30.88221 AU
morning rise	10100 Jul	27	01:46	27°♓48'09	
retrograde	10100 Oct	25	08:12	29°♓46'11	
opposition	10101 Jan	13	14:16	28°♓21'47	-0°58'58
min. Earth dist.	10101 Jan	13	02:21	28°♓22'36	28.87894 AU
direct	10101 Apr	02	07:30	26°♓58'21	
evening set	10101 Jun	28	11:11	28°♓52'34	
conjunction	10101 Jul	13	23:30	29°♓27'41	-0°55'22
minimum elong	10101 Jul	13	23:30	29°♓27'41	0°55'46
max. Earth dist.	10101 Jul	14	12:31	29°♓28'55	30.87462 AU
	10101 Jul	28	05:20	0°♌	
morning rise	10101 Jul	29	13:48	0°♌03'01	
retrograde	10101 Oct	27	20:47	2°♌01'07	