

opposition	600 Jan 05 j 03:33	17°☾07'39	0°-19'00	direct	606 Apr 07 j 09:49	29°☾00'45	
min. Earth dist.	600 Jan 05 j 11:26	17°☾07'05	29.01444 AU		606 Jun 08 j 10:59	0°♈	
direct	600 Mar 24 j 08:14	15°☾42'29		max. Earth dist.	606 Jul 22 j 11:50	1°♈31'11	31.07609 AU
conjunction	600 Jul 08 j 19:43	18°☾14'14	0°-15'-41	conjunction	606 Jul 23 j 03:57	1°♈32'40	0°09'47
minimum elong	600 Jul 08 j 19:43	18°☾14'14	0°15'42	minimum elong	606 Jul 23 j 03:56	1°♈32'40	0°09'47
behind sun begin	600 Jul 08 j 19:06	18°☾14'11		behind sun begin	606 Jul 22 j 22:35	1°♈32'11	
behind sun end	600 Jul 08 j 20:21	18°☾14'18		behind sun end	606 Jul 23 j 09:17	1°♈33'08	
max. Earth dist.	600 Jul 08 j 10:31	18°☾13'24	31.02017 AU	retrograde	606 Nov 03 j 21:10	4°♈01'29	
retrograde	600 Oct 21 j 04:26	20°☾43'59		opposition	607 Jan 20 j 03:43	2°♈38'40	0°12'37
opposition	601 Jan 06 j 13:47	19°☾20'45	0°-14'-30	min. Earth dist.	607 Jan 20 j 17:55	2°♈37'40	29.07982 AU
min. Earth dist.	601 Jan 06 j 22:53	19°☾20'07	29.02602 AU	direct	607 Apr 09 j 20:28	1°♈13'23	
direct	601 Mar 26 j 21:38	17°☾55'37					
conjunction	601 Jul 11 j 09:10	20°☾27'25	0°-11'-28	conjunction	607 Jul 25 j 16:50	3°♈45'17	0°13'58
minimum elong	601 Jul 11 j 09:10	20°☾27'25	0°11'29	minimum elong	607 Jul 25 j 16:50	3°♈45'17	0°13'58
behind sun begin	601 Jul 11 j 04:29	20°☾27'01		behind sun begin	607 Jul 25 j 13:39	3°♈45'00	
behind sun end	601 Jul 11 j 13:51	20°☾27'50		behind sun end	607 Jul 25 j 20:01	3°♈45'34	
max. Earth dist.	601 Jul 10 j 21:54	20°☾26'24	31.03170 AU	max. Earth dist.	607 Jul 25 j 00:57	3°♈43'49	31.08328 AU
retrograde	601 Oct 23 j 17:13	22°☾57'02		retrograde	607 Nov 06 j 06:54	6°♈13'56	
opposition	602 Jan 09 j 00:03	21°☾33'54	0°-9'-59	opposition	608 Jan 22 j 13:59	4°♈51'09	0°17'06
min. Earth dist.	602 Jan 09 j 09:20	21°☾33'15	29.03728 AU	min. Earth dist.	608 Jan 23 j 04:31	4°♈50'07	29.08708 AU
direct	602 Mar 29 j 10:06	20°☾08'46		direct	608 Apr 11 j 09:03	3°♈25'49	
conjunction	602 Jul 13 j 22:48	22°☾40'38	0°-7'-15	conjunction	608 Jul 27 j 05:33	5°♈57'42	0°18'08
minimum elong	602 Jul 13 j 22:48	22°☾40'38	0°07'15	minimum elong	608 Jul 27 j 05:33	5°♈57'42	0°18'08
behind sun begin	602 Jul 13 j 16:46	22°☾40'06		max. Earth dist.	608 Jul 26 j 12:12	5°♈56'05	31.09082 AU
behind sun end	602 Jul 14 j 04:50	22°☾41'10		retrograde	608 Nov 07 j 18:18	8°♈26'12	
max. Earth dist.	602 Jul 13 j 11:18	22°☾39'35	31.04244 AU	opposition	609 Jan 24 j 00:07	7°♈03'26	0°21'33
retrograde	602 Oct 26 j 03:20	25°☾10'06		min. Earth dist.	609 Jan 24 j 14:58	7°♈02'24	29.09513 AU
opposition	603 Jan 11 j 10:27	23°☾47'04	0°-5'-27	direct	609 Apr 13 j 20:00	5°♈38'04	
min. Earth dist.	603 Jan 11 j 21:37	23°☾46'16	29.04756 AU				
direct	603 Mar 31 j 21:58	22°☾21'55		conjunction	609 Jul 29 j 18:21	8°♈09'57	0°22'17
conjunction	603 Jul 16 j 12:14	24°☾53'49	0°-3'-1	minimum elong	609 Jul 29 j 18:21	8°♈09'57	0°22'17
minimum elong	603 Jul 16 j 12:14	24°☾53'49	0°03'02	max. Earth dist.	609 Jul 29 j 01:43	8°♈08'25	31.09927 AU
behind sun begin	603 Jul 16 j 05:40	24°☾53'14		retrograde	609 Nov 10 j 04:52	10°♈38'19	
behind sun end	603 Jul 16 j 18:48	24°☾54'23		opposition	610 Jan 26 j 10:27	9°♈15'36	0°25'57
max. Earth dist.	603 Jul 15 j 23:05	24°☾52'36	31.05227 AU	min. Earth dist.	610 Jan 27 j 02:04	9°♈14'30	29.10412 AU
retrograde	603 Oct 28 j 15:19	27°☾23'07		direct	610 Apr 16 j 09:56	7°♈50'13	
opposition	604 Jan 13 j 20:48	26°☾00'09	0°00'-55	conjunction	610 Aug 01 j 06:52	10°♈22'06	0°26'23
min. Earth dist.	604 Jan 14 j 07:54	25°☾59'22	29.05683 AU	minimum elong	610 Aug 01 j 06:51	10°♈22'06	0°26'24
asc. node	604 Mar 29 j 03:35	24°☾35'17		max. Earth dist.	610 Jul 31 j 12:48	10°♈20'26	31.10891 AU
direct	604 Apr 02 j 10:30	24°☾34'59		retrograde	610 Nov 12 j 16:40	12°♈50'20	
max. Earth dist.	604 Jul 17 j 11:37	27°☾05'38	31.06096 AU	opposition	611 Jan 28 j 20:40	11°♈27'40	0°30'20
conjunction	604 Jul 18 j 01:31	27°☾06'54	0°01'20	min. Earth dist.	611 Jan 29 j 11:45	11°♈26'37	29.11443 AU
minimum elong	604 Jul 18 j 01:30	27°☾06'54	0°01'20	direct	611 Apr 18 j 22:19	10°♈02'18	
behind sun begin	604 Jul 17 j 18:54	27°☾06'19		conjunction	611 Aug 03 j 19:28	12°♈34'12	0°30'28
behind sun end	604 Jul 18 j 08:05	27°☾07'29		minimum elong	611 Aug 03 j 19:28	12°♈34'12	0°30'27
retrograde	604 Oct 30 j 01:29	29°☾36'04		max. Earth dist.	611 Aug 03 j 01:58	12°♈32'35	31.11976 AU
opposition	605 Jan 15 j 07:14	28°☾13'09	0°03'36	retrograde	611 Nov 03 j 12:51	15°♈	
min. Earth dist.	605 Jan 15 j 20:10	28°☾12'14	29.06512 AU	retrograde	611 Nov 15 j 02:48	15°♈02'19	
direct	605 Apr 04 j 20:34	26°☾47'57		retrograde	611 Nov 26 j 16:52	15°♈♈	
conjunction	605 Jul 20 j 14:47	29°☾19'52	0°05'35	opposition	612 Jan 31 j 07:05	13°♈39'45	0°34'39
minimum elong	605 Jul 20 j 14:47	29°☾19'52	0°05'35	min. Earth dist.	612 Jan 31 j 23:26	13°♈38'36	29.12583 AU
behind sun begin	605 Jul 20 j 08:28	29°☾19'18		direct	612 Apr 20 j 10:02	12°♈14'25	
behind sun end	605 Jul 20 j 21:07	29°☾20'25		conjunction	612 Aug 05 j 07:45	14°♈46'19	0°34'29
max. Earth dist.	605 Jul 20 j 00:06	29°☾18'31	31.06887 AU	minimum elong	612 Aug 05 j 07:45	14°♈46'19	0°34'29
retrograde	605 Aug 07 j 20:00	0°♈		max. Earth dist.	612 Aug 04 j 13:17	14°♈44'36	31.13160 AU
retrograde	605 Nov 01 j 11:09	1°♈48'51		retrograde	612 Aug 11 j 11:16	15°♈	
opposition	606 Jan 17 j 17:22	0°♈26'00	0°08'07	retrograde	612 Nov 16 j 15:00	17°♈14'19	
min. Earth dist.	606 Jan 18 j 06:19	0°♈25'05	29.07260 AU	opposition	613 Feb 01 j 17:21	15°♈51'51	0°38'56
	606 Feb 02 j 09:11	30°♈☾		min. Earth dist.	613 Feb 02 j 09:14	15°♈50'44	29.13782 AU
					613 Mar 06 j 23:20	15°♈♈	

direct	613 Apr 22 j 22:54	14°♈26'33		retrograde	620 Dec 03 j 23:37	4°♐49'02	
	613 Jun 07 j 21:16	15°♈		opposition	621 Feb 19 j 05:56	3°♐26'52	1°10'31
				min. Earth dist.	621 Feb 20 j 03:09	3°♐25'24	29.20664 AU
conjunction	613 Aug 07 j 20:16	16°♈58'29	0°38'28	direct	621 May 10 j 21:42	2°♐01'33	
minimum elong	613 Aug 07 j 20:16	16°♈58'29	0°38'27				
max. Earth dist.	613 Aug 07 j 01:32	16°♈56'45	31.14352 AU	conjunction	621 Aug 25 j 20:40	4°♐33'12	1°07'42
retrograde	613 Nov 19 j 01:16	19°♈26'24		minimum elong	621 Aug 25 j 20:40	4°♐33'12	1°07'42
opposition	614 Feb 04 j 03:46	18°♈04'00	0°43'09	max. Earth dist.	621 Aug 24 j 21:33	4°♐31'04	31.20927 AU
min. Earth dist.	614 Feb 04 j 21:14	18°♈02'47	29.14971 AU	retrograde	621 Dec 06 j 11:09	7°♐00'13	
direct	614 Apr 25 j 09:26	16°♈38'45		opposition	622 Feb 21 j 16:27	5°♐38'04	1°14'03
				min. Earth dist.	622 Feb 22 j 12:47	5°♐36'39	29.21336 AU
conjunction	614 Aug 10 j 08:41	19°♈10'41	0°42'23	direct	622 May 13 j 11:12	4°♐12'45	
minimum elong	614 Aug 10 j 08:41	19°♈10'41	0°42'23	max. Earth dist.	622 Aug 27 j 09:24	6°♐42'15	31.21631 AU
max. Earth dist.	614 Aug 09 j 13:26	19°♈08'54	31.15509 AU				
retrograde	614 Nov 21 j 10:45	21°♈38'29		conjunction	622 Aug 28 j 08:14	6°♐44'22	1°10'58
opposition	615 Feb 06 j 14:16	20°♈16'11	0°47'18	minimum elong	622 Aug 28 j 08:13	6°♐44'22	1°10'58
min. Earth dist.	615 Feb 07 j 07:35	20°♈14'58	29.16083 AU	retrograde	622 Dec 08 j 21:05	9°♐11'18	
direct	615 Apr 27 j 22:24	18°♈50'56		opposition	623 Feb 24 j 03:17	7°♐49'11	1°17'28
				min. Earth dist.	623 Feb 25 j 00:29	7°♐47'43	29.22102 AU
conjunction	615 Aug 12 j 20:53	21°♈22'52	0°46'14	direct	623 May 15 j 22:18	6°♐23'54	
minimum elong	615 Aug 12 j 20:52	21°♈22'52	0°46'14				
max. Earth dist.	615 Aug 12 j 00:25	21°♈20'58	31.16562 AU	conjunction	623 Aug 30 j 19:30	8°♐55'29	1°14'07
retrograde	615 Nov 23 j 20:43	23°♈50'34		minimum elong	623 Aug 30 j 19:29	8°♐55'29	1°14'06
opposition	616 Feb 09 j 00:55	22°♈28'19	0°51'23	max. Earth dist.	623 Aug 29 j 20:56	8°♐53'23	31.22447 AU
min. Earth dist.	616 Feb 09 j 19:20	22°♈27'02	29.17095 AU	retrograde	623 Dec 11 j 06:15	11°♐22'21	
direct	616 Apr 29 j 08:28	21°♈03'05		opposition	624 Feb 26 j 13:59	10°♐00'18	1°20'47
				min. Earth dist.	624 Feb 27 j 10:23	9°♐58'54	29.22956 AU
conjunction	616 Aug 14 j 09:13	23°♈34'59	0°50'01	direct	624 May 17 j 11:06	8°♐35'04	
minimum elong	616 Aug 14 j 09:12	23°♈34'59	0°50'01	max. Earth dist.	624 Aug 31 j 07:42	11°♐04'30	31.23334 AU
max. Earth dist.	616 Aug 13 j 12:50	23°♈33'05	31.17508 AU				
retrograde	616 Nov 25 j 06:08	26°♈02'34		conjunction	624 Sep 01 j 06:49	11°♐06'39	1°17'09
opposition	617 Feb 10 j 11:24	24°♈40'21	0°55'24	minimum elong	624 Sep 01 j 06:49	11°♐06'39	1°17'10
min. Earth dist.	617 Feb 11 j 06:24	24°♈39'02	29.17974 AU	retrograde	624 Dec 12 j 16:13	13°♐33'29	
direct	617 May 01 j 20:34	23°♈15'07		opposition	625 Feb 28 j 00:38	12°♐11'30	1°23'58
				min. Earth dist.	625 Feb 28 j 21:37	12°♐10'03	29.23879 AU
conjunction	617 Aug 16 j 21:22	25°♈46'59	0°53'44	direct	625 May 19 j 20:41	10°♐46'19	
minimum elong	617 Aug 16 j 21:22	25°♈46'59	0°53'44				
max. Earth dist.	617 Aug 15 j 23:17	25°♈44'56	31.18325 AU	conjunction	625 Sep 03 j 18:13	13°♐17'54	1°20'05
retrograde	617 Nov 27 j 17:00	28°♈14'27		minimum elong	625 Sep 03 j 18:12	13°♐17'54	1°20'05
opposition	618 Feb 12 j 22:00	26°♈52'16	0°59'19	max. Earth dist.	625 Sep 02 j 19:47	13°♐15'49	31.24260 AU
min. Earth dist.	618 Feb 13 j 17:26	26°♈50'55	29.18746 AU	retrograde	625 Dec 15 j 01:36	15°♐44'43	
direct	618 May 04 j 07:50	25°♈27'00		opposition	626 Mar 02 j 11:33	14°♐22'49	1°27'02
max. Earth dist.	618 Aug 18 j 12:00	27°♈56'49	31.19035 AU	min. Earth dist.	626 Mar 03 j 08:42	14°♐21'21	29.24789 AU
				direct	626 May 22 j 08:12	12°♐57'42	
conjunction	618 Aug 19 j 09:31	27°♈58'49	0°57'22	max. Earth dist.	626 Sep 05 j 05:46	15°♐27'04	31.25142 AU
minimum elong	618 Aug 19 j 09:30	27°♈58'49	0°57'22				
	618 Oct 21 j 18:32	0°♐		conjunction	626 Sep 06 j 05:20	15°♐29'16	1°22'54
retrograde	618 Nov 30 j 02:31	0°♐26'10		minimum elong	626 Sep 06 j 05:20	15°♐29'16	1°22'55
	619 Jan 09 j 10:00	30°♐♈		retrograde	626 Dec 17 j 12:25	17°♐56'04	
opposition	619 Feb 15 j 08:42	29°♈03'59	1°03'09	opposition	627 Mar 04 j 22:31	16°♐34'13	1°29'59
min. Earth dist.	619 Feb 16 j 05:09	29°♈02'34	29.19412 AU	min. Earth dist.	627 Mar 05 j 19:40	16°♐32'46	29.25647 AU
direct	619 May 06 j 21:10	27°♈38'43		direct	627 May 24 j 18:50	15°♐09'10	
	619 Aug 17 j 04:36	0°♐					
conjunction	619 Aug 21 j 21:21	0°♐10'28	1°00'54	conjunction	627 Sep 08 j 16:38	17°♐40'43	1°25'35
minimum elong	619 Aug 21 j 21:20	0°♐10'28	1°00'54	minimum elong	627 Sep 08 j 16:38	17°♐40'43	1°25'35
max. Earth dist.	619 Aug 20 j 22:21	0°♐08'20	31.19676 AU	max. Earth dist.	627 Sep 07 j 17:56	17°♐38'36	31.25940 AU
retrograde	619 Dec 02 j 13:56	2°♐37'42		retrograde	627 Dec 19 j 21:59	20°♐07'29	
opposition	620 Feb 17 j 19:14	1°♐15'31	1°06'53	opposition	628 Mar 06 j 09:36	18°♐45'41	1°32'47
min. Earth dist.	620 Feb 18 j 15:12	1°♐14'08	29.20042 AU	min. Earth dist.	628 Mar 07 j 07:39	18°♐44'10	29.26391 AU
	620 Apr 13 j 13:03	30°♐♈		direct	628 May 26 j 06:59	17°♐20'41	
direct	620 May 08 j 09:18	29°♈50'13		max. Earth dist.	628 Sep 09 j 03:35	19°♐49'56	31.26617 AU
	620 Jun 02 j 00:56	0°♐					
max. Earth dist.	620 Aug 22 j 10:42	2°♐19'51	31.20287 AU	conjunction	628 Sep 10 j 03:41	19°♐52'11	1°28'09
				minimum elong	628 Sep 10 j 03:40	19°♐52'11	1°28'10
conjunction	620 Aug 23 j 09:05	2°♐21'56	1°04'21	retrograde	628 Dec 21 j 09:30	22°♐18'56	
minimum elong	620 Aug 23 j 09:05	2°♐21'56	1°04'22	opposition	629 Mar 08 j 20:37	20°♐57'09	1°35'28
				min. Earth dist.	629 Mar 09 j 18:08	20°♐55'40	29.27000 AU

direct	629 May 28 j 18:10	19° $\mathring{\text{M}}$ 32'10		direct	637 Jun 15 j 19:45	6° $\mathring{\text{U}}$ 59'06	
				max. Earth dist.	637 Sep 29 j 04:15	9° $\mathring{\text{U}}$ 27'48	31.29516 AU
conjunction	629 Sep 12 j 14:51	22° $\mathring{\text{M}}$ 03'38	1°30'36	conjunction	637 Sep 30 j 02:52	9° $\mathring{\text{U}}$ 29'55	1°45'08
minimum elong	629 Sep 12 j 14:51	22° $\mathring{\text{M}}$ 03'38	1°30'35	minimum elong	637 Sep 30 j 02:52	9° $\mathring{\text{U}}$ 29'55	1°45'08
max. Earth dist.	629 Sep 11 j 15:14	22° $\mathring{\text{M}}$ 01'26	31.27139 AU	retrograde	638 Jan 10 j 03:01	11° $\mathring{\text{U}}$ 56'24	
retrograde	629 Dec 23 j 19:32	24° $\mathring{\text{M}}$ 30'21		opposition	638 Mar 29 j 01:49	10° $\mathring{\text{U}}$ 34'31	1°52'56
opposition	630 Mar 11 j 07:48	23° $\mathring{\text{M}}$ 08'34	1°38'00	min. Earth dist.	638 Mar 29 j 22:07	10° $\mathring{\text{U}}$ 33'07	29.29873 AU
min. Earth dist.	630 Mar 12 j 06:38	23° $\mathring{\text{M}}$ 07'00	29.27456 AU	direct	638 Jun 18 j 06:09	9° $\mathring{\text{U}}$ 09'40	
direct	630 May 31 j 06:47	21° $\mathring{\text{M}}$ 43'36					
max. Earth dist.	630 Sep 14 j 01:24	24° $\mathring{\text{M}}$ 12'43	31.27531 AU	conjunction	638 Oct 02 j 13:07	11° $\mathring{\text{U}}$ 40'27	1°46'18
				minimum elong	638 Oct 02 j 13:07	11° $\mathring{\text{U}}$ 40'27	1°46'18
conjunction	630 Sep 15 j 01:48	24° $\mathring{\text{M}}$ 15'00	1°32'54	max. Earth dist.	638 Oct 01 j 15:35	11° $\mathring{\text{U}}$ 38'26	31.29979 AU
minimum elong	630 Sep 15 j 01:47	24° $\mathring{\text{M}}$ 15'00	1°32'55	retrograde	639 Jan 12 j 13:14	14° $\mathring{\text{U}}$ 06'59	
retrograde	630 Dec 26 j 07:30	26° $\mathring{\text{M}}$ 41'39		opposition	639 Mar 31 j 13:28	12° $\mathring{\text{U}}$ 45'07	1°54'05
opposition	631 Mar 13 j 18:59	25° $\mathring{\text{M}}$ 19'51	1°40'24	min. Earth dist.	639 Apr 01 j 10:34	12° $\mathring{\text{U}}$ 43'41	29.30328 AU
min. Earth dist.	631 Mar 14 j 17:01	25° $\mathring{\text{M}}$ 18'20	29.27782 AU	direct	639 Jun 20 j 17:54	11° $\mathring{\text{U}}$ 20'21	
direct	631 Jun 02 j 20:53	23° $\mathring{\text{M}}$ 54'53					
				conjunction	639 Oct 04 j 23:06	13° $\mathring{\text{U}}$ 51'05	1°47'18
conjunction	631 Sep 17 j 12:33	26° $\mathring{\text{M}}$ 26'12	1°35'05	minimum elong	639 Oct 04 j 23:06	13° $\mathring{\text{U}}$ 51'05	1°47'17
minimum elong	631 Sep 17 j 12:32	26° $\mathring{\text{M}}$ 26'12	1°35'04	max. Earth dist.	639 Oct 04 j 01:23	13° $\mathring{\text{U}}$ 49'03	31.30409 AU
max. Earth dist.	631 Sep 16 j 12:18	26° $\mathring{\text{M}}$ 23'56	31.27794 AU	retrograde	640 Jan 15 j 01:13	16° $\mathring{\text{U}}$ 17'39	
retrograde	631 Dec 28 j 17:24	28° $\mathring{\text{M}}$ 52'48		opposition	640 Apr 02 j 01:00	14° $\mathring{\text{U}}$ 55'49	1°55'05
opposition	632 Mar 15 j 06:14	27° $\mathring{\text{M}}$ 30'58	1°42'39	min. Earth dist.	640 Apr 02 j 21:00	14° $\mathring{\text{U}}$ 54'27	29.30713 AU
min. Earth dist.	632 Mar 16 j 05:18	27° $\mathring{\text{M}}$ 29'23	29.28012 AU	direct	640 Jun 22 j 06:54	13° $\mathring{\text{U}}$ 31'07	
direct	632 Jun 04 j 08:49	26° $\mathring{\text{M}}$ 05'59		max. Earth dist.	640 Oct 05 j 11:47	15° $\mathring{\text{U}}$ 59'48	31.30734 AU
conjunction	632 Sep 18 j 23:14	28° $\mathring{\text{M}}$ 37'12	1°37'07	conjunction	640 Oct 06 j 09:16	16° $\mathring{\text{U}}$ 01'49	1°48'09
minimum elong	632 Sep 18 j 23:14	28° $\mathring{\text{M}}$ 37'12	1°37'07	minimum elong	640 Oct 06 j 09:16	16° $\mathring{\text{U}}$ 01'49	1°48'09
max. Earth dist.	632 Sep 17 j 23:16	28° $\mathring{\text{M}}$ 34'58	31.27991 AU	retrograde	641 Jan 16 j 11:49	18° $\mathring{\text{U}}$ 28'26	
	632 Oct 28 j 02:53	0° $\mathring{\text{U}}$		opposition	641 Apr 04 j 12:39	17° $\mathring{\text{U}}$ 06'36	1°55'55
retrograde	632 Dec 30 j 02:19	1° $\mathring{\text{U}}$ 03'44		min. Earth dist.	641 Apr 05 j 09:30	17° $\mathring{\text{U}}$ 05'11	29.30990 AU
	633 Mar 06 j 15:04	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		direct	641 Jun 24 j 18:10	15° $\mathring{\text{U}}$ 41'57	
opposition	633 Mar 17 j 17:15	29° $\mathring{\text{M}}$ 41'53	1°44'45				
min. Earth dist.	633 Mar 18 j 15:35	29° $\mathring{\text{M}}$ 40'21	29.28182 AU	conjunction	641 Oct 08 j 19:26	18° $\mathring{\text{U}}$ 12'36	1°48'51
direct	633 Jun 06 j 22:18	28° $\mathring{\text{M}}$ 16'53		minimum elong	641 Oct 08 j 19:26	18° $\mathring{\text{U}}$ 12'36	1°48'50
	633 Aug 30 j 14:26	0° $\mathring{\text{U}}$		max. Earth dist.	641 Oct 07 j 22:24	18° $\mathring{\text{U}}$ 10'38	31.30948 AU
max. Earth dist.	633 Sep 20 j 09:26	0° $\mathring{\text{U}}$ 45'44	31.28155 AU	retrograde	642 Jan 18 j 21:37	20° $\mathring{\text{U}}$ 39'15	
				opposition	642 Apr 07 j 00:26	19° $\mathring{\text{U}}$ 17'25	1°56'34
conjunction	633 Sep 21 j 09:48	0° $\mathring{\text{U}}$ 48'00	1°39'00	min. Earth dist.	642 Apr 07 j 20:27	19° $\mathring{\text{U}}$ 16'04	29.31126 AU
minimum elong	633 Sep 21 j 09:48	0° $\mathring{\text{U}}$ 48'00	1°39'00	direct	642 Jun 27 j 07:39	17° $\mathring{\text{U}}$ 52'50	
retrograde	634 Jan 01 j 12:20	3° $\mathring{\text{U}}$ 14'29		max. Earth dist.	642 Oct 10 j 07:48	20° $\mathring{\text{U}}$ 21'23	31.31013 AU
opposition	634 Mar 20 j 04:32	1° $\mathring{\text{U}}$ 52'35	1°46'42				
min. Earth dist.	634 Mar 21 j 03:00	1° $\mathring{\text{U}}$ 51'03	29.28374 AU	conjunction	642 Oct 11 j 05:21	20° $\mathring{\text{U}}$ 23'24	1°49'24
direct	634 Jun 09 j 09:28	0° $\mathring{\text{U}}$ 27'34		minimum elong	642 Oct 11 j 05:21	20° $\mathring{\text{U}}$ 23'24	1°49'24
				retrograde	643 Jan 21 j 08:27	22° $\mathring{\text{U}}$ 50'05	
conjunction	634 Sep 23 j 20:11	2° $\mathring{\text{U}}$ 58'36	1°40'46	opposition	643 Apr 09 j 12:19	21° $\mathring{\text{U}}$ 28'15	1°57'04
minimum elong	634 Sep 23 j 20:10	2° $\mathring{\text{U}}$ 58'36	1°40'46	min. Earth dist.	643 Apr 10 j 08:30	21° $\mathring{\text{U}}$ 26'52	29.31136 AU
max. Earth dist.	634 Sep 22 j 21:06	2° $\mathring{\text{U}}$ 56'26	31.28367 AU	direct	643 Jun 29 j 19:09	20° $\mathring{\text{U}}$ 03'41	
retrograde	635 Jan 03 j 20:50	5° $\mathring{\text{U}}$ 25'02					
opposition	635 Mar 22 j 15:53	4° $\mathring{\text{U}}$ 03'07	1°48'30	conjunction	643 Oct 13 j 15:24	22° $\mathring{\text{U}}$ 34'11	1°49'47
min. Earth dist.	635 Mar 23 j 13:54	4° $\mathring{\text{U}}$ 01'37	29.28620 AU	minimum elong	643 Oct 13 j 15:24	22° $\mathring{\text{U}}$ 34'11	1°49'46
direct	635 Jun 11 j 22:07	2° $\mathring{\text{U}}$ 38'07		max. Earth dist.	643 Oct 12 j 18:58	22° $\mathring{\text{U}}$ 32'16	31.30958 AU
max. Earth dist.	635 Sep 25 j 06:50	5° $\mathring{\text{U}}$ 06'51	31.28663 AU	retrograde	644 Jan 23 j 17:21	25° $\mathring{\text{U}}$ 00'53	
				opposition	644 Apr 11 j 00:03	23° $\mathring{\text{U}}$ 39'01	1°57'24
conjunction	635 Sep 26 j 06:26	5° $\mathring{\text{U}}$ 09'03	1°42'22	min. Earth dist.	644 Apr 11 j 20:04	23° $\mathring{\text{U}}$ 37'39	29.31015 AU
minimum elong	635 Sep 26 j 06:26	5° $\mathring{\text{U}}$ 09'03	1°42'22	direct	644 Jul 01 j 08:07	22° $\mathring{\text{U}}$ 14'28	
retrograde	636 Jan 06 j 06:51	7° $\mathring{\text{U}}$ 35'29		max. Earth dist.	644 Oct 14 j 04:02	24° $\mathring{\text{U}}$ 42'53	31.30797 AU
opposition	636 Mar 24 j 03:05	6° $\mathring{\text{U}}$ 13'34	1°50'08				
min. Earth dist.	636 Mar 25 j 00:21	6° $\mathring{\text{U}}$ 12'06	29.28977 AU	conjunction	644 Oct 15 j 01:10	24° $\mathring{\text{U}}$ 44'52	1°50'01
direct	636 Jun 13 j 08:27	4° $\mathring{\text{U}}$ 48'36		minimum elong	644 Oct 15 j 01:10	24° $\mathring{\text{U}}$ 44'52	1°50'02
				retrograde	645 Jan 25 j 03:19	27° $\mathring{\text{U}}$ 11'36	
conjunction	636 Sep 27 j 16:46	7° $\mathring{\text{U}}$ 19'28	1°43'50	opposition	645 Apr 13 j 11:50	25° $\mathring{\text{U}}$ 49'40	1°57'34
minimum elong	636 Sep 27 j 16:46	7° $\mathring{\text{U}}$ 19'28	1°43'50	min. Earth dist.	645 Apr 14 j 07:11	25° $\mathring{\text{U}}$ 48'22	29.30822 AU
max. Earth dist.	636 Sep 26 j 18:43	7° $\mathring{\text{U}}$ 17'25	31.29059 AU	direct	645 Jul 03 j 18:57	24° $\mathring{\text{U}}$ 25'08	
retrograde	637 Jan 07 j 15:38	9° $\mathring{\text{U}}$ 45'55					
opposition	637 Mar 26 j 14:29	8° $\mathring{\text{U}}$ 24'00	1°51'37	conjunction	645 Oct 17 j 10:55	26° $\mathring{\text{U}}$ 55'26	1°50'05
min. Earth dist.	637 Mar 27 j 12:00	8° $\mathring{\text{U}}$ 22'32	29.29403 AU				

minimum elong	645 Oct 17 j 10:55	26°♁55'26	1°50'05	minimum elong	653 Nov 03 j 14:26	14°♁19'31	1°45'04
max. Earth dist.	645 Oct 16 j 15:25	26°♁53'36	31.30577 AU	max. Earth dist.	653 Nov 02 j 23:30	14°♁18'07	31.30431 AU
retrograde	646 Jan 27 j 11:40	29°♁22'11			653 Nov 21 j 17:25	15°♁	
opposition	646 Apr 15 j 23:48	28°♁00'13	1°57'35	retrograde	654 Feb 14 j 02:18	16°♁46'54	
min. Earth dist.	646 Apr 16 j 19:15	27°♁58'53	29.30596 AU	opposition	654 May 04 j 00:43	15°♁24'48	1°51'34
direct	646 Jul 06 j 06:22	26°♁35'41		min. Earth dist.	654 May 04 j 14:17	15°♁23'53	29.30460 AU
					654 May 19 j 12:58	15°♁	
conjunction	646 Oct 19 j 20:25	29°♁05'52	1°50'01	direct	654 Jul 24 j 03:33	14°♁00'45	
minimum elong	646 Oct 19 j 20:25	29°♁05'52	1°50'01		654 Sep 24 j 00:18	15°♁	
max. Earth dist.	646 Oct 19 j 00:43	29°♁04'01	31.30375 AU	max. Earth dist.	654 Nov 05 j 10:34	16°♁29'06	31.30226 AU
	646 Nov 13 j 10:01	0°♁					
retrograde	647 Jan 29 j 22:44	1°♁32'40		conjunction	654 Nov 06 j 00:01	16°♁30'22	1°43'45
opposition	647 Apr 18 j 11:38	0°♁10'38	1°57'25	minimum elong	654 Nov 06 j 00:02	16°♁30'22	1°43'46
min. Earth dist.	647 Apr 19 j 05:22	0°♁09'26	29.30427 AU	retrograde	655 Feb 16 j 11:22	18°♁57'51	
	647 Apr 25 j 00:32	30°♁		opposition	655 May 06 j 13:17	17°♁35'42	1°50'04
direct	647 Jul 08 j 16:35	28°♁46'07		min. Earth dist.	655 May 07 j 03:06	17°♁34'46	29.30179 AU
	647 Sep 16 j 17:20	0°♁		direct	655 Jul 26 j 15:28	16°♁11'42	
max. Earth dist.	647 Oct 21 j 11:39	1°♁14'30	31.30239 AU				
				conjunction	655 Nov 08 j 09:23	18°♁41'13	1°42'17
conjunction	647 Oct 22 j 05:53	1°♁16'13	1°49'47	minimum elong	655 Nov 08 j 09:23	18°♁41'13	1°42'16
minimum elong	647 Oct 22 j 05:53	1°♁16'13	1°49'46	max. Earth dist.	655 Nov 07 j 19:30	18°♁39'54	31.29881 AU
retrograde	648 Feb 01 j 08:39	3°♁43'05		retrograde	656 Feb 18 j 22:53	21°♁08'47	
opposition	648 Apr 19 j 23:40	2°♁21'00	1°57'05	opposition	656 May 08 j 01:42	19°♁46'34	1°48'25
min. Earth dist.	648 Apr 20 j 17:36	2°♁19'47	29.30341 AU	min. Earth dist.	656 May 08 j 14:06	19°♁45'44	29.29751 AU
direct	648 Jul 10 j 04:15	0°♁56'32		direct	656 Jul 28 j 02:31	18°♁22'35	
conjunction	648 Oct 23 j 15:20	3°♁26'33	1°49'23	conjunction	656 Nov 09 j 18:51	20°♁52'00	1°40'40
minimum elong	648 Oct 23 j 15:20	3°♁26'33	1°49'23	minimum elong	656 Nov 09 j 18:51	20°♁52'00	1°40'40
max. Earth dist.	648 Oct 22 j 21:34	3°♁24'52	31.30211 AU	max. Earth dist.	656 Nov 09 j 05:55	20°♁50'47	31.29380 AU
retrograde	649 Feb 02 j 20:28	5°♁53'28		retrograde	657 Feb 20 j 08:44	23°♁19'39	
opposition	649 Apr 22 j 11:28	4°♁31'23	1°56'35	opposition	657 May 10 j 14:14	21°♁57'23	1°46'38
min. Earth dist.	649 Apr 23 j 03:38	4°♁30'17	29.30348 AU	min. Earth dist.	657 May 11 j 03:11	21°♁56'30	29.29190 AU
direct	649 Jul 12 j 16:15	3°♁06'58		direct	657 Jul 30 j 13:57	20°♁33'24	
max. Earth dist.	649 Oct 25 j 07:50	5°♁35'20	31.30260 AU				
				conjunction	657 Nov 12 j 04:10	23°♁02'43	1°38'55
conjunction	649 Oct 26 j 00:48	5°♁36'55	1°48'50	minimum elong	657 Nov 12 j 04:11	23°♁02'43	1°38'54
minimum elong	649 Oct 26 j 00:48	5°♁36'55	1°48'50	max. Earth dist.	657 Nov 11 j 15:45	23°♁01'33	31.28788 AU
retrograde	650 Feb 05 j 07:27	8°♁03'56		retrograde	658 Feb 22 j 20:19	25°♁30'26	
opposition	650 Apr 24 j 23:39	6°♁41'51	1°55'54	opposition	658 May 13 j 02:46	24°♁08'05	1°44'41
min. Earth dist.	650 Apr 25 j 15:58	6°♁40'45	29.30433 AU	min. Earth dist.	658 May 13 j 13:59	24°♁07'19	29.28557 AU
direct	650 Jul 15 j 02:33	5°♁17'31		direct	658 Aug 02 j 01:48	22°♁44'07	
conjunction	650 Oct 28 j 10:08	7°♁47'24	1°48'08	conjunction	658 Nov 14 j 13:18	25°♁13'19	1°37'01
minimum elong	650 Oct 28 j 10:08	7°♁47'24	1°48'08	minimum elong	658 Nov 14 j 13:18	25°♁13'19	1°37'01
max. Earth dist.	650 Oct 27 j 18:27	7°♁45'56	31.30369 AU	max. Earth dist.	658 Nov 14 j 01:35	25°♁12'13	31.28143 AU
retrograde	651 Feb 07 j 17:58	10°♁14'31		retrograde	659 Feb 25 j 07:27	27°♁41'08	
opposition	651 Apr 27 j 11:48	8°♁52'25	1°55'04	opposition	659 May 15 j 15:25	26°♁18'41	1°42'35
min. Earth dist.	651 Apr 28 j 02:46	8°♁51'25	29.30532 AU	min. Earth dist.	659 May 16 j 02:40	26°♁17'56	29.27923 AU
direct	651 Jul 17 j 16:04	7°♁28'11		direct	659 Aug 04 j 12:08	24°♁54'44	
conjunction	651 Oct 30 j 19:32	9°♁58'00	1°47'16	conjunction	659 Nov 16 j 22:32	27°♁23'51	1°34'59
minimum elong	651 Oct 30 j 19:32	9°♁58'00	1°47'16	minimum elong	659 Nov 16 j 22:33	27°♁23'51	1°34'58
max. Earth dist.	651 Oct 30 j 03:42	9°♁56'31	31.30461 AU	max. Earth dist.	659 Nov 16 j 12:22	27°♁22'53	31.27534 AU
retrograde	652 Feb 10 j 06:05	12°♁25'12		retrograde	660 Feb 27 j 18:10	29°♁51'45	
opposition	652 Apr 28 j 23:55	11°♁03'07	1°54'04	opposition	660 May 17 j 03:46	28°♁29'15	1°40'20
min. Earth dist.	652 Apr 29 j 14:42	11°♁02'07	29.30610 AU	min. Earth dist.	660 May 17 j 13:22	28°♁28'36	29.27335 AU
direct	652 Jul 19 j 03:34	9°♁38'57		direct	660 Aug 06 j 01:33	27°♁05'19	
conjunction	652 Nov 01 j 05:06	12°♁08'43	1°46'15	conjunction	660 Nov 18 j 07:41	29°♁34'22	1°32'49
minimum elong	652 Nov 01 j 05:06	12°♁08'43	1°46'15	minimum elong	660 Nov 18 j 07:41	29°♁34'22	1°32'50
max. Earth dist.	652 Oct 31 j 14:42	12°♁07'22	31.30501 AU	max. Earth dist.	660 Nov 17 j 21:36	29°♁33'25	31.26990 AU
retrograde	653 Feb 11 j 15:32	14°♁36'01			660 Nov 29 j 16:19	0°♁	
opposition	653 May 01 j 12:17	13°♁13'55	1°52'54	retrograde	661 Mar 01 j 06:49	2°♁02'23	
min. Earth dist.	653 May 02 j 02:41	13°♁12'57	29.30591 AU	opposition	661 May 19 j 16:23	0°♁39'50	1°37'57
direct	653 Jul 21 j 16:32	11°♁49'49		min. Earth dist.	661 May 20 j 01:13	0°♁39'15	29.26838 AU
					661 Jun 14 j 06:47	30°♁	
conjunction	653 Nov 03 j 14:26	14°♁19'31	1°45'04	direct	661 Aug 08 j 12:52	29°♁15'58	

	661 Sep 30 j 05:00	0°♆		minimum elong	669 Dec 07 j 18:58	19°♆14'47	1°07'37
				max. Earth dist.	669 Dec 07 j 15:44	19°♆14'29	31.21803 AU
conjunction	661 Nov 20 j 16:48	1°♆44'58	1°30'31	retrograde	670 Mar 21 j 13:12	21°♆44'06	
minimum elong	661 Nov 20 j 16:48	1°♆44'58	1°30'30	opposition	670 Jun 09 j 12:13	20°♆21'08	1°10'28
max. Earth dist.	661 Nov 20 j 08:47	1°♆44'12	31.26536 AU	min. Earth dist.	670 Jun 09 j 14:19	20°♆21'00	29.21322 AU
retrograde	662 Mar 03 j 16:39	4°♆13'07		direct	670 Aug 28 j 19:25	18°♆57'41	
opposition	662 May 22 j 05:04	2°♆50'33	1°35'25				
min. Earth dist.	662 May 22 j 12:53	2°♆50'01	29.26407 AU	conjunction	670 Dec 10 j 04:21	21°♆26'07	1°04'17
direct	662 Aug 11 j 01:29	1°♆26'45		minimum elong	670 Dec 10 j 04:22	21°♆26'07	1°04'18
				max. Earth dist.	670 Dec 10 j 03:02	21°♆25'59	31.20751 AU
conjunction	662 Nov 23 j 01:52	3°♆55'42	1°28'04	retrograde	671 Mar 23 j 23:07	23°♆55'31	
minimum elong	662 Nov 23 j 01:53	3°♆55'42	1°28'05	opposition	671 Jun 12 j 01:06	22°♆32'27	1°06'51
max. Earth dist.	662 Nov 22 j 17:50	3°♆54'56	31.26148 AU	min. Earth dist.	671 Jun 12 j 02:20	22°♆32'22	29.20253 AU
retrograde	663 Mar 06 j 04:04	6°♆24'00		direct	671 Aug 31 j 08:07	21°♆08'58	
opposition	663 May 24 j 17:41	5°♆01'25	1°32'44				
min. Earth dist.	663 May 25 j 00:13	5°♆00'58	29.26039 AU	conjunction	671 Dec 12 j 13:31	23°♆37'18	1°00'51
direct	663 Aug 13 j 12:20	3°♆37'42		minimum elong	671 Dec 12 j 13:32	23°♆37'18	1°00'50
				max. Earth dist.	671 Dec 12 j 12:12	23°♆37'10	31.19701 AU
conjunction	663 Nov 25 j 11:05	6°♆06'36	1°25'30	retrograde	672 Mar 25 j 11:20	26°♆06'48	
minimum elong	663 Nov 25 j 11:05	6°♆06'36	1°25'30	opposition	672 Jun 13 j 14:00	24°♆43'38	1°03'08
max. Earth dist.	663 Nov 25 j 04:55	6°♆06'01	31.25782 AU	min. Earth dist.	672 Jun 13 j 13:50	24°♆43'39	29.19228 AU
retrograde	664 Mar 07 j 13:48	8°♆35'04		direct	672 Sep 01 j 19:57	23°♆20'09	
opposition	664 May 26 j 06:28	7°♆12'28	1°29'56				
min. Earth dist.	664 May 26 j 12:54	7°♆12'02	29.25658 AU	conjunction	672 Dec 13 j 22:48	25°♆48'24	0°57'19
direct	664 Aug 15 j 00:13	5°♆48'50		minimum elong	672 Dec 13 j 22:48	25°♆48'24	0°57'19
				max. Earth dist.	672 Dec 13 j 23:29	25°♆48'28	31.18705 AU
conjunction	664 Nov 26 j 20:12	8°♆17'42	1°22'49	retrograde	673 Mar 27 j 21:36	28°♆18'02	
minimum elong	664 Nov 26 j 20:12	8°♆17'42	1°22'49	opposition	673 Jun 16 j 03:00	26°♆54'46	0°59'19
max. Earth dist.	664 Nov 26 j 14:05	8°♆17'07	31.25393 AU	min. Earth dist.	673 Jun 16 j 02:21	26°♆54'49	29.18276 AU
retrograde	665 Mar 10 j 01:53	10°♆46'19		direct	673 Sep 04 j 08:39	25°♆31'18	
opposition	665 May 28 j 19:12	9°♆23'43	1°26'59				
min. Earth dist.	665 May 28 j 23:56	9°♆23'23	29.25232 AU	conjunction	673 Dec 16 j 08:02	27°♆59'29	0°53'43
direct	665 Aug 17 j 11:08	8°♆00'09		minimum elong	673 Dec 16 j 08:02	27°♆59'29	0°53'42
				max. Earth dist.	673 Dec 16 j 09:13	27°♆59'36	31.17820 AU
conjunction	665 Nov 29 j 05:33	10°♆28'58	1°20'00		674 Feb 15 j 22:52	0°♆	
minimum elong	665 Nov 29 j 05:33	10°♆28'58	1°19'59	retrograde	674 Mar 30 j 09:42	0°♆29'16	
max. Earth dist.	665 Nov 29 j 00:30	10°♆28'29	31.24925 AU		674 May 13 j 10:01	30°R♆	
retrograde	666 Mar 12 j 12:11	12°♆57'45		opposition	674 Jun 18 j 15:55	29°♆05'56	0°55'25
opposition	666 May 31 j 08:16	11°♆35'07	1°23'55	min. Earth dist.	674 Jun 18 j 13:07	29°♆06'07	29.17439 AU
min. Earth dist.	666 May 31 j 13:21	11°♆34'46	29.24717 AU	direct	674 Sep 06 j 19:52	27°♆42'30	
direct	666 Aug 19 j 21:52	10°♆11'37			674 Dec 14 j 01:08	0°♆	
conjunction	666 Dec 01 j 14:49	12°♆40'22	1°17'04	conjunction	674 Dec 18 j 17:17	0°♆10'38	0°50'02
minimum elong	666 Dec 01 j 14:49	12°♆40'22	1°17'04	minimum elong	674 Dec 18 j 17:18	0°♆10'38	0°50'02
max. Earth dist.	666 Dec 01 j 10:25	12°♆39'57	31.24361 AU	max. Earth dist.	674 Dec 18 j 19:50	0°♆10'52	31.17027 AU
retrograde	667 Mar 15 j 00:07	15°♆09'19		retrograde	675 Apr 01 j 19:52	2°♆40'34	
opposition	667 Jun 02 j 21:12	13°♆46'37	1°20'43	opposition	675 Jun 21 j 04:59	1°♆17'12	0°51'26
min. Earth dist.	667 Jun 03 j 00:41	13°♆46'23	29.24074 AU	min. Earth dist.	675 Jun 21 j 02:07	1°♆17'23	29.16688 AU
direct	667 Aug 22 j 08:47	12°♆23'10			675 Aug 20 j 16:30	30°R♆	
				direct	675 Sep 09 j 06:34	29°♆53'49	
conjunction	667 Dec 04 j 00:15	14°♆51'51	1°14'01		675 Sep 28 j 12:01	0°♆	
minimum elong	667 Dec 04 j 00:15	14°♆51'51	1°14'00				
max. Earth dist.	667 Dec 03 j 20:01	14°♆51'27	31.23644 AU	conjunction	675 Dec 21 j 02:42	2°♆21'54	0°46'16
retrograde	668 Mar 16 j 11:59	17°♆20'56		minimum elong	675 Dec 21 j 02:42	2°♆21'54	0°46'15
opposition	668 Jun 04 j 10:08	15°♆58'11	1°17'24	max. Earth dist.	675 Dec 21 j 06:22	2°♆22'15	31.16320 AU
min. Earth dist.	668 Jun 04 j 14:01	15°♆57'55	29.23286 AU	retrograde	676 Apr 03 j 07:38	4°♆52'01	
direct	668 Aug 23 j 18:36	14°♆34'44		opposition	676 Jun 22 j 17:44	3°♆28'36	0°47'23
				min. Earth dist.	676 Jun 22 j 12:56	3°♆28'56	29.15994 AU
conjunction	668 Dec 05 j 09:45	17°♆03'21	1°10'52	direct	676 Sep 10 j 17:16	2°♆05'17	
minimum elong	668 Dec 05 j 09:46	17°♆03'21	1°10'53				
max. Earth dist.	668 Dec 05 j 06:46	17°♆03'04	31.22790 AU	conjunction	676 Dec 22 j 12:06	4°♆33'22	0°42'26
retrograde	669 Mar 18 j 23:43	19°♆32'33		minimum elong	676 Dec 22 j 12:06	4°♆33'22	0°42'26
opposition	669 Jun 06 j 23:07	18°♆09'42	1°13'59	max. Earth dist.	676 Dec 22 j 16:16	4°♆33'45	31.15641 AU
min. Earth dist.	669 Jun 07 j 01:40	18°♆09'32	29.22349 AU	retrograde	677 Apr 05 j 20:07	7°♆03'40	
direct	669 Aug 26 j 08:15	16°♆46'16		opposition	677 Jun 25 j 06:54	5°♆40'13	0°43'14
				min. Earth dist.	677 Jun 25 j 02:10	5°♆40'33	29.15325 AU
conjunction	669 Dec 07 j 18:57	19°♆14'47	1°07'37	direct	677 Sep 13 j 02:39	4°♆16'58	

conjunction	677 Dec 24 j 21:37	6°☾45'01	0°38'32	conjunction	686 Jan 11 j 03:59	24°☾22'17	0°05'48
minimum elong	677 Dec 24 j 21:37	6°☾45'01	0°38'31	minimum elong	686 Jan 11 j 03:59	24°☾22'17	0°05'47
max. Earth dist.	677 Dec 25 j 03:28	6°☾45'34	31.14969 AU	behind sun begin	686 Jan 10 j 21:50	24°☾21'44	
retrograde	678 Apr 08 j 08:29	9°☾15'31		behind sun end	686 Jan 11 j 10:07	24°☾22'51	
opposition	678 Jun 27 j 20:00	7°☾52'03	0°39'02	max. Earth dist.	686 Jan 11 j 15:04	24°☾23'19	31.06983 AU
min. Earth dist.	678 Jun 27 j 13:47	7°☾52'28	29.14623 AU	retrograde	686 Apr 26 j 10:19	26°☾53'59	
direct	678 Sep 15 j 15:01	6°☾28'50		opposition	686 Jul 16 j 05:00	25°☾29'54	0°03'51
				min. Earth dist.	686 Jul 15 j 17:21	25°☾30'42	29.06530 AU
conjunction	678 Dec 27 j 07:12	8°☾56'54	0°34'34	direct	686 Oct 03 j 10:11	24°☾06'46	
minimum elong	678 Dec 27 j 07:12	8°☾56'54	0°34'35				
max. Earth dist.	678 Dec 27 j 12:44	8°☾57'25	31.14240 AU	conjunction	687 Jan 13 j 14:04	26°☾34'32	0°01'34
retrograde	679 Apr 10 j 22:52	11°☾27'34		minimum elong	687 Jan 13 j 14:04	26°☾34'32	0°01'35
opposition	679 Jun 30 j 09:04	10°☾04'04	0°34'46	behind sun begin	687 Jan 13 j 07:40	26°☾33'58	
min. Earth dist.	679 Jun 30 j 02:35	10°☾04'30	29.13862 AU	behind sun end	687 Jan 13 j 20:28	26°☾35'07	
direct	679 Sep 18 j 00:56	8°☾40'54		max. Earth dist.	687 Jan 14 j 03:01	26°☾35'45	31.06084 AU
				retrograde	687 Apr 28 j 22:05	29°☾06'23	
conjunction	679 Dec 29 j 17:04	11°☾08'58	0°30'33	desc. node	687 May 26 j 04:25	28°☾54'48	
minimum elong	679 Dec 29 j 17:04	11°☾08'58	0°30'33	opposition	687 Jul 18 j 17:49	27°☾42'15	0°00'-38
max. Earth dist.	679 Dec 30 j 00:12	11°☾09'38	31.13421 AU	min. Earth dist.	687 Jul 18 j 04:30	27°☾43'10	29.05680 AU
retrograde	680 Apr 12 j 10:08	13°☾39'49		direct	687 Oct 05 j 21:54	26°☾19'09	
opposition	680 Jul 01 j 22:15	12°☾16'16	0°30'27				
min. Earth dist.	680 Jul 01 j 15:09	12°☾16'44	29.12976 AU	conjunction	688 Jan 16 j 00:03	28°☾46'55	0°-2'-45
direct	680 Sep 19 j 13:01	10°☾53'08		minimum elong	688 Jan 16 j 00:03	28°☾46'55	0°02'46
				behind sun begin	688 Jan 15 j 17:40	28°☾46'20	
conjunction	680 Dec 31 j 02:45	13°☾21'10	0°26'30	behind sun end	688 Jan 16 j 06:27	28°☾47'29	
minimum elong	680 Dec 31 j 02:45	13°☾21'10	0°26'30	max. Earth dist.	688 Jan 16 j 12:52	28°☾48'07	31.05287 AU
max. Earth dist.	680 Dec 31 j 09:30	13°☾21'48	31.12481 AU		688 Feb 18 j 11:13	0°≈	
retrograde	681 Apr 15 j 00:00	15°☾52'10		retrograde	688 Apr 30 j 12:06	1°≈18'55	
opposition	681 Jul 04 j 11:28	14°☾28'33	0°26'05		688 Jul 17 j 01:38	30°R☾	
min. Earth dist.	681 Jul 04 j 03:26	14°☾29'05	29.11974 AU	opposition	688 Jul 20 j 06:54	29°☾54'45	0°-5'-9
direct	681 Sep 22 j 00:57	13°☾05'26		min. Earth dist.	688 Jul 19 j 17:03	29°☾55'41	29.04934 AU
				direct	688 Oct 07 j 06:48	28°☾31'40	
conjunction	682 Jan 02 j 12:41	15°☾33'26	0°22'24		688 Dec 21 j 14:26	0°≈	
minimum elong	682 Jan 02 j 12:41	15°☾33'26	0°22'24				
max. Earth dist.	682 Jan 02 j 20:52	15°☾34'12	31.11418 AU	conjunction	689 Jan 17 j 10:10	0°≈59'26	0°-6'-57
retrograde	682 Apr 17 j 11:49	18°☾04'35		minimum elong	689 Jan 17 j 10:10	0°≈59'26	0°06'57
opposition	682 Jul 07 j 00:43	16°☾40'52	0°21'42	behind sun begin	689 Jan 17 j 04:12	0°≈58'54	
min. Earth dist.	682 Jul 06 j 16:43	16°☾41'24	29.10862 AU	behind sun end	689 Jan 17 j 16:08	0°≈59'58	
direct	682 Sep 24 j 13:52	15°☾17'45		max. Earth dist.	689 Jan 18 j 00:58	1°≈00'49	31.04569 AU
				retrograde	689 May 02 j 23:58	3°≈31'37	
conjunction	683 Jan 04 j 22:28	17°☾45'41	0°18'17	opposition	689 Jul 22 j 20:00	2°≈07'24	0°-9'-39
minimum elong	683 Jan 04 j 22:28	17°☾45'41	0°18'17	min. Earth dist.	689 Jul 22 j 05:15	2°≈08'24	29.04237 AU
max. Earth dist.	683 Jan 05 j 06:51	17°☾46'29	31.10284 AU	direct	689 Oct 09 j 18:34	0°≈44'22	
retrograde	683 Apr 20 j 00:21	20°☾16'58					
opposition	683 Jul 09 j 13:47	18°☾53'10	0°17'16	conjunction	690 Jan 19 j 20:23	3°≈12'08	0°-11'-8
min. Earth dist.	683 Jul 09 j 04:07	18°☾53'49	29.09703 AU	minimum elong	690 Jan 19 j 20:24	3°≈12'08	0°11'10
direct	683 Sep 27 j 01:39	17°☾30'02		behind sun begin	690 Jan 19 j 15:35	3°≈11'42	
				behind sun end	690 Jan 20 j 01:12	3°≈12'35	
conjunction	684 Jan 07 j 08:19	19°☾57'55	0°14'08	max. Earth dist.	690 Jan 20 j 11:03	3°≈13'31	31.03897 AU
minimum elong	684 Jan 07 j 08:19	19°☾57'55	0°14'07	retrograde	690 May 05 j 15:09	5°≈44'29	
behind sun begin	684 Jan 07 j 05:02	19°☾57'37		opposition	690 Jul 25 j 09:04	4°≈20'15	0°-14'-9
behind sun end	684 Jan 07 j 11:36	19°☾58'12		min. Earth dist.	690 Jul 24 j 17:25	4°≈21'19	29.03575 AU
max. Earth dist.	684 Jan 07 j 17:39	19°☾58'47	31.09114 AU	direct	690 Oct 12 j 05:42	2°≈57'15	
retrograde	684 Apr 21 j 10:18	22°☾29'19					
opposition	684 Jul 11 j 02:50	21°☾05'24	0°12'49	conjunction	691 Jan 22 j 06:53	5°≈25'03	0°-15'-20
min. Earth dist.	684 Jul 10 j 17:18	21°☾06'03	29.08554 AU	minimum elong	691 Jan 22 j 06:52	5°≈25'03	0°15'20
direct	684 Sep 28 j 13:03	19°☾42'16		behind sun begin	691 Jan 22 j 04:44	5°≈24'51	
				behind sun end	691 Jan 22 j 09:00	5°≈25'14	
conjunction	685 Jan 08 j 18:13	22°☾10'06	0°09'58	max. Earth dist.	691 Jan 22 j 22:55	5°≈26'33	31.03213 AU
minimum elong	685 Jan 08 j 18:13	22°☾10'06	0°09'58	retrograde	691 May 08 j 03:54	7°≈57'34	
behind sun begin	685 Jan 08 j 13:00	22°☾09'37		opposition	691 Jul 27 j 22:12	6°≈33'17	0°-18'-37
behind sun end	685 Jan 08 j 23:26	22°☾10'34		min. Earth dist.	691 Jul 27 j 06:45	6°≈34'20	29.02868 AU
max. Earth dist.	685 Jan 09 j 04:48	22°☾11'05	31.08005 AU	direct	691 Oct 14 j 17:52	5°≈10'19	
retrograde	685 Apr 23 j 22:14	24°☾41'38					
opposition	685 Jul 13 j 15:51	23°☾17'38	0°08'20	conjunction	692 Jan 24 j 17:26	7°≈38'07	0°-19'-30
min. Earth dist.	685 Jul 13 j 04:15	23°☾18'26	29.07485 AU	minimum elong	692 Jan 24 j 17:26	7°≈38'07	0°19'32
direct	685 Oct 01 j 00:27	21°☾54'29		max. Earth dist.	692 Jan 25 j 09:27	7°≈39'38	31.02473 AU

retrograde	692 May 09 j 17:42	10°≈10'48		retrograde	700 May 27 j 23:38	27°≈58'14	
opposition	692 Jul 29 j 11:12	8°≈46'28	0°-23'-5	opposition	700 Aug 16 j 18:53	26°≈33'20	0°-56'-58
min. Earth dist.	692 Jul 28 j 18:30	8°≈47'37	29.02082 AU	min. Earth dist.	700 Aug 15 j 22:56	26°≈34'42	28.94152 AU
direct	692 Oct 16 j 05:27	7°≈23'31		direct	700 Nov 02 j 23:31	25°≈10'16	
conjunction	693 Jan 26 j 04:12	9°≈51'21	0°-23'-39	conjunction	701 Feb 12 j 19:54	27°≈38'09	0°-55'-6
minimum elong	693 Jan 26 j 04:12	9°≈51'21	0°23'39	minimum elong	701 Feb 12 j 19:54	27°≈38'09	0°55'06
max. Earth dist.	693 Jan 26 j 20:35	9°≈52'54	31.01621 AU	max. Earth dist.	701 Feb 13 j 16:56	27°≈40'08	30.93758 AU
retrograde	693 May 12 j 05:42	12°≈24'10			701 May 03 j 09:13	0°✕	
min. Earth dist.	693 Jul 31 j 08:23	11°≈00'53	29.01178 AU	retrograde	701 May 30 j 14:18	0°✕11'57	
opposition	693 Aug 01 j 00:29	10°≈59'47	0°-27'-30		701 Jun 27 j 03:32	30°R≈	
direct	693 Oct 18 j 17:16	9°≈36'51		min. Earth dist.	701 Aug 18 j 10:18	28°≈48'31	28.93479 AU
conjunction	694 Jan 28 j 14:59	12°≈04'39	0°-27'-46	opposition	701 Aug 19 j 07:40	28°≈47'03	-1°00'-53
minimum elong	694 Jan 28 j 14:59	12°≈04'39	0°27'47	direct	701 Nov 05 j 10:47	27°≈24'00	
max. Earth dist.	694 Jan 29 j 08:02	12°≈06'16	31.00661 AU	conjunction	702 Feb 15 j 07:11	29°≈51'56	0°-58'-43
retrograde	694 May 14 j 19:01	14°≈37'36		minimum elong	702 Feb 15 j 07:11	29°≈51'56	0°58'45
opposition	694 Aug 03 j 13:33	13°≈13'08	0°-31'-53	max. Earth dist.	702 Feb 16 j 04:48	29°≈53'59	30.93110 AU
min. Earth dist.	694 Aug 02 j 20:07	13°≈14'20	29.00153 AU		702 Feb 18 j 20:18	0°✕	
direct	694 Oct 21 j 05:38	11°≈50'11		retrograde	702 Jun 02 j 03:37	2°✕25'53	
conjunction	695 Jan 31 j 01:51	14°≈17'59	0°-31'-50	opposition	702 Aug 21 j 20:33	1°✕00'57	-1°-4'-43
minimum elong	695 Jan 31 j 01:51	14°≈17'59	0°31'50	min. Earth dist.	702 Aug 20 j 23:46	1°✕02'23	28.92864 AU
max. Earth dist.	695 Jan 31 j 18:39	14°≈19'34	30.99582 AU		702 Oct 02 j 01:40	30°R≈	
retrograde	695 May 17 j 06:53	16°≈51'02		direct	702 Nov 07 j 22:46	29°≈37'58	
min. Earth dist.	695 Aug 05 j 09:47	15°≈27'38	28.99045 AU		702 Dec 13 j 19:00	0°✕	
opposition	695 Aug 06 j 02:33	15°≈26'29	0°-36'-13	conjunction	703 Feb 17 j 18:48	2°✕05'57	-1°-2'-16
direct	695 Oct 23 j 15:56	14°≈03'30		minimum elong	703 Feb 17 j 18:48	2°✕05'57	1°02'16
retrograde	695 Dec 21 j 09:36	15°≈		max. Earth dist.	703 Feb 18 j 17:07	2°✕08'04	30.92512 AU
conjunction	696 Feb 02 j 12:49	16°≈31'16	0°-35'-52	retrograde	703 Jun 04 j 18:23	4°✕40'02	
minimum elong	696 Feb 02 j 12:49	16°≈31'16	0°35'53	min. Earth dist.	703 Aug 23 j 11:07	3°✕16'36	28.92266 AU
max. Earth dist.	696 Feb 03 j 07:01	16°≈33'00	30.98451 AU	opposition	703 Aug 24 j 09:07	3°✕15'05	-1°-8'-28
retrograde	696 May 18 j 18:25	19°≈04'26		direct	703 Nov 10 j 11:14	1°✕52'07	
opposition	696 Aug 07 j 15:27	17°≈39'48	0°-40'-30	conjunction	704 Feb 20 j 06:26	4°✕20'10	-1°-5'-43
min. Earth dist.	696 Aug 06 j 21:26	17°≈41'02	28.97907 AU	minimum elong	704 Feb 20 j 06:25	4°✕20'10	1°05'45
direct	696 Oct 25 j 04:02	16°≈16'46		max. Earth dist.	704 Feb 21 j 04:21	4°✕22'14	30.91893 AU
conjunction	697 Feb 03 j 23:30	18°≈44'32	0°-39'-50	retrograde	704 Jun 06 j 06:26	6°✕54'23	
minimum elong	697 Feb 03 j 23:30	18°≈44'32	0°39'51	opposition	704 Aug 25 j 22:00	5°✕29'25	-1°-12'-6
max. Earth dist.	697 Feb 04 j 17:20	18°≈46'13	30.97324 AU	min. Earth dist.	704 Aug 25 j 00:55	5°✕30'53	28.91635 AU
retrograde	697 May 21 j 07:56	21°≈17'49		direct	704 Nov 11 j 21:30	4°✕06'28	
min. Earth dist.	697 Aug 09 j 10:15	19°≈54'21	28.96821 AU	conjunction	705 Feb 21 j 18:15	6°✕34'33	-1°-9'-5
opposition	697 Aug 10 j 04:29	19°≈53'05	0°-44'-43	minimum elong	705 Feb 21 j 18:15	6°✕34'33	1°09'05
direct	697 Oct 27 j 13:15	18°≈30'02		max. Earth dist.	705 Feb 22 j 17:13	6°✕36'44	30.91220 AU
conjunction	698 Feb 06 j 10:35	20°≈57'48	0°-43'-45	retrograde	705 Jun 08 j 18:42	9°✕08'53	
minimum elong	698 Feb 06 j 10:35	20°≈57'48	0°43'46	opposition	705 Aug 28 j 10:47	7°✕43'54	-1°-15'-38
max. Earth dist.	698 Feb 07 j 06:10	20°≈59'39	30.96269 AU	min. Earth dist.	705 Aug 27 j 12:56	7°✕45'25	28.90914 AU
retrograde	698 May 23 j 19:54	23°≈31'12		direct	705 Nov 14 j 09:47	6°✕20'55	
opposition	698 Aug 12 j 17:16	22°≈06'24	0°-48'-52	conjunction	706 Feb 24 j 06:12	8°✕49'03	-1°-12'-20
min. Earth dist.	698 Aug 11 j 22:13	22°≈07'43	28.95817 AU	minimum elong	706 Feb 24 j 06:11	8°✕49'03	1°12'21
direct	698 Oct 30 j 01:02	20°≈43'20		max. Earth dist.	706 Feb 25 j 04:01	8°✕51'07	30.90444 AU
conjunction	699 Feb 08 j 21:34	23°≈11'07	0°-47'-36	retrograde	706 Jun 11 j 08:29	11°✕23'28	
minimum elong	699 Feb 08 j 21:34	23°≈11'07	0°47'36	opposition	706 Aug 30 j 23:32	9°✕58'26	-1°-19'-3
max. Earth dist.	699 Feb 09 j 16:56	23°≈12'57	30.95322 AU	min. Earth dist.	706 Aug 30 j 02:15	9°✕59'54	28.90094 AU
retrograde	699 May 26 j 11:02	25°≈44'39		direct	706 Nov 16 j 19:13	8°✕35'25	
min. Earth dist.	699 Aug 14 j 10:09	24°≈21'10	28.94935 AU	conjunction	707 Feb 26 j 18:23	11°✕03'34	-1°-15'-28
opposition	699 Aug 15 j 06:05	24°≈19'48	0°-52'-57	minimum elong	707 Feb 26 j 18:22	11°✕03'34	1°15'29
direct	699 Nov 01 j 11:55	22°≈56'43		max. Earth dist.	707 Feb 27 j 17:11	11°✕05'44	30.89564 AU
conjunction	700 Feb 11 j 08:42	25°≈24'33	0°-51'-23	retrograde	707 Jun 13 j 20:05	13°✕38'03	
minimum elong	700 Feb 11 j 08:42	25°≈24'33	0°51'25	opposition	707 Sep 02 j 12:11	12°✕12'56	-1°-22'-21
max. Earth dist.	700 Feb 12 j 05:30	25°≈26'32	30.94480 AU	min. Earth dist.	707 Sep 01 j 14:44	12°✕14'25	28.89168 AU
				direct	707 Nov 19 j 07:44	10°✕49'52	
				conjunction	708 Feb 29 j 06:18	13°✕18'01	-1°-18'-30

minimum elong	708 Feb 29 j 06:18	13° ✕ 18'01	1°18'32	minimum elong	716 Mar 18 j 09:17	1° ∇ 12'40	1°38'09
max. Earth dist.	708 Mar 01 j 04:17	13° ✕ 20'05	30.88613 AU	max. Earth dist.	716 Mar 19 j 10:07	1° ∇ 15'00	30.83900 AU
retrograde	708 Jun 15 j 09:55	15° ✕ 52'32		retrograde	716 Jul 03 j 19:50	3° ∇ 47'37	
min. Earth dist.	708 Sep 03 j 03:04	14° ✕ 28'50	28.88211 AU	min. Earth dist.	716 Sep 21 j 04:19	2° ∇ 23'49	28.83908 AU
opposition	708 Sep 04 j 00:45	14° ✕ 27'20	-1°-25'-32	opposition	716 Sep 22 j 02:55	2° ∇ 22'13	-1°-45'-57
direct	708 Nov 20 j 18:24	13° ✕ 04'11		direct	716 Dec 08 j 14:36	0° ∇ 58'57	
conjunction	709 Mar 02 j 18:27	15° ✕ 32'21	-1°-21'-25	conjunction	717 Mar 20 j 22:12	3° ∇ 27'36	-1°-39'-57
minimum elong	709 Mar 02 j 18:26	15° ✕ 32'21	1°21'25	minimum elong	717 Mar 20 j 22:12	3° ∇ 27'36	1°39'58
max. Earth dist.	709 Mar 03 j 17:26	15° ✕ 34'32	30.87649 AU	max. Earth dist.	717 Mar 21 j 21:48	3° ∇ 29'50	30.83685 AU
retrograde	709 Jun 17 j 21:48	18° ✕ 06'55		retrograde	717 Jul 06 j 09:54	6° ∇ 02'38	
opposition	709 Sep 06 j 13:15	16° ✕ 41'37	-1°-28'-35	opposition	717 Sep 24 j 15:06	4° ∇ 37'15	-1°-47'-48
min. Earth dist.	709 Sep 05 j 15:56	16° ✕ 43'06	28.87275 AU	min. Earth dist.	717 Sep 23 j 16:43	4° ∇ 38'49	28.83681 AU
direct	709 Nov 23 j 05:44	15° ✕ 18'25		direct	717 Dec 11 j 00:36	3° ∇ 13'58	
conjunction	710 Mar 05 j 06:35	17° ✕ 46'36	-1°-24'-12	conjunction	718 Mar 23 j 11:24	5° ∇ 42'43	-1°-41'-37
minimum elong	710 Mar 05 j 06:34	17° ✕ 46'36	1°24'13	minimum elong	718 Mar 23 j 11:24	5° ∇ 42'43	1°41'38
max. Earth dist.	710 Mar 06 j 05:26	17° ✕ 48'45	30.86754 AU	max. Earth dist.	718 Mar 24 j 11:25	5° ∇ 44'59	30.83408 AU
retrograde	710 Jun 20 j 12:28	20° ✕ 21'11		retrograde	718 Jul 08 j 22:13	8° ∇ 17'47	
min. Earth dist.	710 Sep 08 j 03:16	18° ✕ 57'22	28.86430 AU	min. Earth dist.	718 Sep 26 j 05:54	6° ∇ 53'55	28.83359 AU
opposition	710 Sep 09 j 01:36	18° ✕ 55'49	-1°-31'-30	opposition	718 Sep 27 j 03:19	6° ∇ 52'25	-1°-49'-31
direct	710 Nov 25 j 17:31	17° ✕ 32'33		direct	718 Dec 13 j 11:23	5° ∇ 29'07	
conjunction	711 Mar 07 j 18:49	20° ✕ 00'46	-1°-26'-51	conjunction	719 Mar 26 j 00:38	7° ∇ 57'57	-1°-43'-8
minimum elong	711 Mar 07 j 18:48	20° ✕ 00'46	1°26'52	minimum elong	719 Mar 26 j 00:38	7° ∇ 57'57	1°43'08
max. Earth dist.	711 Mar 08 j 17:59	20° ✕ 02'57	30.85948 AU	max. Earth dist.	719 Mar 26 j 23:37	8° ∇ 00'07	30.83047 AU
retrograde	711 Jun 23 j 01:37	22° ✕ 35'24		retrograde	719 Jul 11 j 12:47	10° ∇ 33'01	
opposition	711 Sep 11 j 13:51	21° ✕ 09'58	-1°-34'-16	opposition	719 Sep 29 j 15:18	9° ∇ 07'38	-1°-51'-3
min. Earth dist.	711 Sep 10 j 16:11	21° ✕ 11'29	28.85699 AU	min. Earth dist.	719 Sep 28 j 17:36	9° ∇ 09'10	28.82955 AU
direct	711 Nov 28 j 05:36	19° ✕ 46'40		direct	719 Dec 15 j 23:15	7° ∇ 44'17	
conjunction	712 Mar 09 j 07:08	22° ✕ 14'55	-1°-29'-23	conjunction	720 Mar 27 j 13:52	10° ∇ 13'11	-1°-44'-30
minimum elong	712 Mar 09 j 07:08	22° ✕ 14'55	1°29'24	minimum elong	720 Mar 27 j 13:52	10° ∇ 13'11	1°44'31
max. Earth dist.	712 Mar 10 j 06:58	22° ✕ 17'10	30.85291 AU	max. Earth dist.	720 Mar 28 j 12:34	10° ∇ 15'19	30.82599 AU
retrograde	712 Jun 24 j 16:04	24° ✕ 49'36		retrograde	720 Jul 13 j 01:52	12° ∇ 48'15	
min. Earth dist.	712 Sep 12 j 03:02	23° ✕ 25'45	28.85115 AU	min. Earth dist.	720 Sep 30 j 06:59	11° ∇ 24'16	28.82489 AU
opposition	712 Sep 13 j 02:04	23° ✕ 24'08	-1°-36'-54	opposition	720 Oct 01 j 03:25	11° ∇ 22'50	-1°-52'-25
direct	712 Nov 29 j 18:20	22° ✕ 00'48		direct	720 Dec 17 j 11:40	9° ∇ 59'25	
conjunction	713 Mar 11 j 19:20	24° ✕ 29'07	-1°-31'-47	conjunction	721 Mar 30 j 03:05	12° ∇ 28'22	-1°-45'-42
minimum elong	713 Mar 11 j 19:19	24° ✕ 29'07	1°31'47	minimum elong	721 Mar 30 j 03:04	12° ∇ 28'22	1°45'42
max. Earth dist.	713 Mar 12 j 18:55	24° ✕ 31'21	30.84771 AU	max. Earth dist.	721 Mar 31 j 01:42	12° ∇ 30'30	30.82133 AU
retrograde	713 Jun 27 j 04:46	27° ✕ 03'52		retrograde	721 Jul 15 j 16:04	15° ∇ 03'24	
opposition	713 Sep 15 j 14:27	25° ✕ 38'24	-1°-39'-24	opposition	721 Oct 03 j 15:16	13° ∇ 37'57	-1°-53'-37
min. Earth dist.	713 Sep 14 j 16:10	25° ✕ 39'57	28.84675 AU	min. Earth dist.	721 Oct 02 j 18:08	13° ∇ 39'26	28.82021 AU
direct	713 Dec 02 j 04:46	24° ✕ 15'04		direct	721 Dec 20 j 00:53	12° ∇ 14'28	
conjunction	714 Mar 14 j 07:57	26° ✕ 43'27	-1°-34'-3	conjunction	722 Apr 01 j 16:23	14° ∇ 43'28	-1°-46'-44
minimum elong	714 Mar 14 j 07:56	26° ✕ 43'27	1°34'04	minimum elong	722 Apr 01 j 16:23	14° ∇ 43'28	1°46'45
max. Earth dist.	714 Mar 15 j 08:42	26° ✕ 45'47	30.84395 AU	max. Earth dist.	722 Apr 02 j 14:14	14° ∇ 45'31	30.81676 AU
retrograde	714 Jun 29 j 18:04	29° ✕ 18'15		retrograde	722 Jul 18 j 05:09	17° ∇ 18'28	
min. Earth dist.	714 Sep 17 j 03:23	27° ✕ 54'25	28.84353 AU	min. Earth dist.	722 Oct 05 j 07:12	15° ∇ 54'23	28.81605 AU
opposition	714 Sep 18 j 02:29	27° ✕ 52'48	-1°-41'-44	opposition	722 Oct 06 j 03:04	15° ∇ 52'59	-1°-54'-38
direct	714 Dec 04 j 17:05	26° ✕ 29'29		direct	722 Dec 22 j 11:55	14° ∇ 29'26	
conjunction	715 Mar 16 j 20:32	28° ✕ 57'57	-1°-36'-10	conjunction	723 Apr 04 j 05:49	16° ∇ 58'28	-1°-47'-37
minimum elong	715 Mar 16 j 20:31	28° ✕ 57'57	1°36'10	minimum elong	723 Apr 04 j 05:49	16° ∇ 58'28	1°47'37
max. Earth dist.	715 Mar 17 j 20:17	29° ✕ 00'12	30.84120 AU	max. Earth dist.	723 Apr 05 j 04:23	17° ∇ 00'36	30.81303 AU
retrograde	715 Apr 14 j 00:20	0° ∇		retrograde	723 Jul 20 j 19:23	19° ∇ 33'25	
retrograde	715 Jul 02 j 08:05	1° ∇ 32'50		opposition	723 Oct 08 j 14:43	18° ∇ 07'55	-1°-55'-29
opposition	715 Sep 20 j 14:45	0° ∇ 07'24	-1°-43'-55	min. Earth dist.	723 Oct 07 j 18:15	18° ∇ 09'22	28.81281 AU
min. Earth dist.	715 Sep 19 j 16:12	0° ∇ 08'59	28.84122 AU	direct	723 Dec 25 j 01:32	16° ∇ 44'20	
direct	715 Sep 25 j 00:46	30° R ✕					
direct	715 Dec 07 j 02:34	28° ✕ 44'06		conjunction	724 Apr 05 j 18:58	19° ∇ 13'25	-1°-48'-20
	716 Feb 13 j 22:34	0° ∇		minimum elong	724 Apr 05 j 18:58	19° ∇ 13'25	1°48'21
				max. Earth dist.	724 Apr 06 j 16:25	19° ∇ 15'26	30.81039 AU
conjunction	716 Mar 18 j 09:17	1° ∇ 12'40	-1°-38'-8	retrograde	724 Jul 22 j 08:37	21° ∇ 48'21	

min. Earth dist.	724 Oct 09 j 06:39	20° Υ 24'13	28.81095 AU	opposition	732 Oct 27 j 22:39	8° Υ 24'08	-1°-55'-6
opposition	724 Oct 10 j 02:30	20° Υ 22'49	-1°-56'-10	min. Earth dist.	732 Oct 27 j 06:32	8° Υ 25'16	28.82281 AU
direct	724 Dec 26 j 12:16	18° Υ 59'11		direct	733 Jan 13 j 10:11	7° Υ 00'17	
conjunction	725 Apr 08 j 08:31	21° Υ 28'20	-1°-48'-53	conjunction	733 Apr 26 j 23:41	9° Υ 30'07	-1°-47'-13
minimum elong	725 Apr 08 j 08:31	21° Υ 28'20	1°48'54	minimum elong	733 Apr 26 j 23:41	9° Υ 30'07	1°47'15
max. Earth dist.	725 Apr 09 j 06:55	21° Υ 30'26	30.80921 AU	max. Earth dist.	733 Apr 27 j 16:10	9° Υ 31'40	30.82159 AU
retrograde	725 Jul 24 j 20:05	24° Υ 03'13		retrograde	733 Aug 12 j 06:10	12° Υ 04'35	
opposition	725 Oct 12 j 14:01	22° Υ 37'43	-1°-56'-40	opposition	733 Oct 30 j 09:57	10° Υ 39'22	-1°-54'-10
min. Earth dist.	725 Oct 11 j 18:04	22° Υ 39'07	28.81048 AU	min. Earth dist.	733 Oct 29 j 19:13	10° Υ 40'25	28.82266 AU
direct	725 Dec 29 j 00:37	21° Υ 14'03		direct	734 Jan 15 j 21:37	9° Υ 15'27	
conjunction	726 Apr 10 j 21:59	23° Υ 43'15	-1°-49'-16	conjunction	734 Apr 29 j 14:00	11° Υ 45'21	-1°-46'-16
minimum elong	726 Apr 10 j 21:59	23° Υ 43'15	1°49'17	minimum elong	734 Apr 29 j 14:00	11° Υ 45'21	1°46'18
max. Earth dist.	726 Apr 11 j 19:08	23° Υ 45'15	30.80954 AU	max. Earth dist.	734 Apr 30 j 06:46	11° Υ 46'55	30.82135 AU
retrograde	726 Jul 27 j 09:44	26° Υ 18'06		retrograde	734 Aug 14 j 18:19	14° Υ 19'41	
min. Earth dist.	726 Oct 14 j 05:45	24° Υ 54'03	28.81150 AU	opposition	734 Nov 01 j 21:10	12° Υ 54'30	-1°-53'-3
opposition	726 Oct 15 j 01:37	24° Υ 52'38	-1°-56'-59	min. Earth dist.	734 Nov 01 j 06:49	12° Υ 55'31	28.82234 AU
direct	726 Dec 31 j 10:43	23° Υ 28'57		direct	735 Jan 18 j 10:43	11° Υ 30'31	
conjunction	727 Apr 13 j 11:40	25° Υ 58'15	-1°-49'-29	conjunction	735 May 02 j 04:00	14° Υ 00'27	-1°-45'-10
minimum elong	727 Apr 13 j 11:40	25° Υ 58'15	1°49'29	minimum elong	735 May 02 j 04:00	14° Υ 00'27	1°45'10
max. Earth dist.	727 Apr 14 j 09:29	26° Υ 00'18	30.81108 AU	max. Earth dist.	735 May 02 j 19:01	14° Υ 01'52	30.82128 AU
retrograde	727 Jul 29 j 21:32	28° Υ 33'04		retrograde	735 May 29 j 07:56	15° Υ	
opposition	727 Oct 17 j 13:08	27° Υ 07'39	-1°-57'-7	retrograde	735 Aug 17 j 07:57	16° Υ 34'41	
min. Earth dist.	727 Oct 16 j 18:06	27° Υ 09'00	28.81354 AU	opposition	735 Nov 04 j 08:16	15° Υ 09'30	-1°-51'-47
direct	728 Jan 02 j 21:15	25° Υ 43'58		min. Earth dist.	735 Nov 03 j 18:21	15° Υ 10'29	28.82261 AU
conjunction	728 Apr 15 j 01:22	28° Υ 13'21	-1°-49'-31	direct	735 Nov 09 j 22:40	15° Υ	
minimum elong	728 Apr 15 j 01:22	28° Υ 13'21	1°49'33	direct	736 Jan 20 j 21:38	13° Υ 45'27	
max. Earth dist.	728 Apr 15 j 22:12	28° Υ 15'19	30.81367 AU	direct	736 Mar 29 j 15:07	15° Υ	
retrograde	728 Jun 06 j 03:30	0° Υ		conjunction	736 May 03 j 18:10	16° Υ 15'28	-1°-43'-53
retrograde	728 Jul 31 j 11:04	0° Υ 48'09		minimum elong	736 May 03 j 18:11	16° Υ 15'28	1°43'54
min. Earth dist.	728 Sep 26 j 06:56	30° Υ	28.81639 AU	max. Earth dist.	736 May 04 j 09:39	16° Υ 16'55	30.82192 AU
opposition	728 Oct 18 j 05:20	29° Υ 24'09	-1°-57'-4	retrograde	736 Aug 18 j 19:03	18° Υ 49'35	
direct	728 Oct 19 j 00:37	29° Υ 22'48		opposition	736 Nov 05 j 19:20	17° Υ 24'25	-1°-50'-20
direct	729 Jan 04 j 08:42	27° Υ 59'06		min. Earth dist.	736 Nov 05 j 06:23	17° Υ 25'20	28.82373 AU
conjunction	729 Apr 04 j 21:03	0° Υ		direct	737 Jan 22 j 08:43	16° Υ 00'19	
conjunction	729 Apr 17 j 15:12	0° Υ 28'35	-1°-49'-24	conjunction	737 May 06 j 08:13	18° Υ 30'23	-1°-42'-28
minimum elong	729 Apr 17 j 15:12	0° Υ 28'35	1°49'24	minimum elong	737 May 06 j 08:13	18° Υ 30'23	1°42'28
max. Earth dist.	729 Apr 18 j 11:44	0° Υ 30'31	30.81653 AU	max. Earth dist.	737 May 06 j 22:27	18° Υ 31'43	30.82375 AU
retrograde	729 Aug 02 j 23:18	3° Υ 03'22		retrograde	737 Aug 21 j 07:30	21° Υ 04'24	
opposition	729 Oct 21 j 12:15	1° Υ 38'03	-1°-56'-51	opposition	737 Nov 08 j 06:19	19° Υ 39'17	-1°-48'-44
min. Earth dist.	729 Oct 20 j 18:33	1° Υ 39'18	28.81917 AU	min. Earth dist.	737 Nov 07 j 17:07	19° Υ 40'13	28.82616 AU
direct	730 Jan 06 j 20:03	0° Υ 14'21		direct	738 Jan 24 j 20:25	18° Υ 15'07	
conjunction	730 Apr 20 j 05:20	2° Υ 43'57	-1°-49'-6	conjunction	738 May 08 j 22:25	20° Υ 45'16	-1°-40'-53
minimum elong	730 Apr 20 j 05:21	2° Υ 43'57	1°49'07	minimum elong	738 May 08 j 22:25	20° Υ 45'16	1°40'53
max. Earth dist.	730 Apr 21 j 01:07	2° Υ 45'48	30.81914 AU	max. Earth dist.	738 May 09 j 12:30	20° Υ 46'36	30.82678 AU
retrograde	730 Aug 05 j 13:33	5° Υ 18'40		retrograde	738 Aug 23 j 18:30	23° Υ 19'11	
opposition	730 Oct 23 j 23:36	3° Υ 53'25	-1°-56'-26	opposition	738 Nov 10 j 17:16	21° Υ 54'07	-1°-46'-57
min. Earth dist.	730 Oct 23 j 05:43	3° Υ 54'41	28.82134 AU	min. Earth dist.	738 Nov 10 j 05:26	21° Υ 54'58	28.82988 AU
direct	731 Jan 09 j 08:39	2° Υ 29'40		direct	739 Jan 27 j 07:09	20° Υ 29'56	
conjunction	731 Apr 22 j 19:28	4° Υ 59'22	-1°-48'-38	conjunction	739 May 11 j 12:36	23° Υ 00'11	-1°-39'-8
minimum elong	731 Apr 22 j 19:28	4° Υ 59'22	1°48'39	minimum elong	739 May 11 j 12:36	23° Υ 00'11	1°39'09
max. Earth dist.	731 Apr 23 j 13:51	5° Υ 01'05	30.82080 AU	max. Earth dist.	739 May 12 j 02:03	23° Υ 01'26	30.83133 AU
retrograde	731 Aug 08 j 02:50	7° Υ 34'01		retrograde	739 Aug 26 j 07:55	25° Υ 33'59	
opposition	731 Oct 26 j 11:14	6° Υ 08'48	-1°-55'-51	opposition	739 Nov 13 j 04:10	24° Υ 09'00	-1°-45'00
min. Earth dist.	731 Oct 25 j 19:08	6° Υ 09'56	28.82255 AU	min. Earth dist.	739 Nov 12 j 15:46	24° Υ 09'53	28.83498 AU
direct	732 Jan 11 j 20:03	4° Υ 45'01		direct	740 Jan 29 j 18:49	22° Υ 44'47	
conjunction	732 Apr 24 j 09:34	7° Υ 14'47	-1°-48'-1	conjunction	740 May 13 j 02:36	25° Υ 15'08	-1°-37'-15
minimum elong	732 Apr 24 j 09:34	7° Υ 14'47	1°48'02	minimum elong	740 May 13 j 02:37	25° Υ 15'08	1°37'16
max. Earth dist.	732 Apr 25 j 03:54	7° Υ 16'30	30.82159 AU	max. Earth dist.	740 May 13 j 15:11	25° Υ 16'19	30.83700 AU
retrograde	732 Aug 09 j 17:00	9° Υ 49'20		retrograde	740 Aug 27 j 20:09	27° Υ 48'52	

opposition	740 Nov 14 j 15:10	26° $\text{R}23'57$	-1°-42'-54	max. Earth dist.	748 Jun 01 j 02:25	13° $\text{II}15'01$	30.87674 AU
min. Earth dist.	740 Nov 14 j 04:22	26° $\text{R}24'43$	28.84110 AU	retrograde	748 Sep 14 j 23:39	15° $\text{II}47'03$	
direct	741 Jan 31 j 06:05	24° $\text{R}59'45$		opposition	748 Dec 02 j 04:59	14° $\text{II}22'33$	-1°-20'-47
				min. Earth dist.	748 Dec 02 j 00:25	14° $\text{II}22'52$	28.87955 AU
conjunction	741 May 15 j 17:00	27° $\text{R}30'12$	-1°-35'-12	direct	749 Feb 18 j 08:07	12° $\text{II}57'52$	
minimum elong	741 May 15 j 17:00	27° $\text{R}30'12$	1°35'13				
max. Earth dist.	741 May 16 j 05:30	27° $\text{R}31'22$	30.84350 AU	conjunction	749 Jun 03 j 11:53	15° $\text{II}28'46$	-1°-14'00
	741 Aug 15 j 08:19	0° II		minimum elong	749 Jun 03 j 11:53	15° $\text{II}28'46$	1°14'02
retrograde	741 Aug 30 j 09:46	0° $\text{II}03'49$		max. Earth dist.	749 Jun 03 j 15:41	15° $\text{II}29'07$	30.88159 AU
	741 Sep 14 j 13:31	30° $\text{R}8$		retrograde	749 Sep 17 j 10:05	18° $\text{II}01'05$	
opposition	741 Nov 17 j 01:53	28° $\text{R}39'00$	-1°-40'-38	opposition	749 Dec 04 j 15:27	16° $\text{II}36'37$	-1°-17'-26
min. Earth dist.	741 Nov 16 j 15:12	28° $\text{R}39'45$	28.84759 AU	min. Earth dist.	749 Dec 04 j 12:28	16° $\text{II}36'50$	28.88501 AU
direct	742 Feb 02 j 19:58	27° $\text{R}14'47$		direct	750 Feb 20 j 19:27	15° $\text{II}11'52$	
conjunction	742 May 18 j 07:25	29° $\text{R}45'21$	-1°-33'00	conjunction	750 Jun 06 j 02:08	17° $\text{II}42'50$	-1°-10'-49
minimum elong	742 May 18 j 07:25	29° $\text{R}45'21$	1°33'01	minimum elong	750 Jun 06 j 02:08	17° $\text{II}42'50$	1°10'50
max. Earth dist.	742 May 18 j 17:58	29° $\text{R}46'20$	30.84997 AU	max. Earth dist.	750 Jun 06 j 05:48	17° $\text{II}43'10$	30.88776 AU
	742 May 24 j 20:32	0° II		retrograde	750 Sep 19 j 22:04	20° $\text{II}14'58$	
retrograde	742 Sep 01 j 22:54	2° $\text{II}18'51$		opposition	750 Dec 07 j 01:52	18° $\text{II}50'34$	-1°-13'-58
opposition	742 Nov 19 j 12:51	0° $\text{II}54'07$	-1°-38'-13	min. Earth dist.	750 Dec 06 j 22:40	18° $\text{II}50'47$	28.89177 AU
min. Earth dist.	742 Nov 19 j 03:41	0° $\text{II}54'46$	28.85390 AU	direct	751 Feb 23 j 08:46	17° $\text{II}25'46$	
	742 Dec 24 j 01:12	30° $\text{R}8$					
direct	743 Feb 05 j 07:18	29° $\text{R}29'52$		conjunction	751 Jun 08 j 16:02	19° $\text{II}56'48$	-1°-7'-32
	743 Mar 19 j 20:54	0° II		minimum elong	751 Jun 08 j 16:03	19° $\text{II}56'48$	1°07'34
				max. Earth dist.	751 Jun 08 j 18:18	19° $\text{II}57'00$	30.89529 AU
conjunction	743 May 20 j 21:52	2° $\text{II}00'32$	-1°-30'-40	retrograde	751 Sep 22 j 10:16	22° $\text{II}28'48$	
minimum elong	743 May 20 j 21:53	2° $\text{II}00'32$	1°30'41	opposition	751 Dec 09 j 12:21	21° $\text{II}04'28$	-1°-10'-24
max. Earth dist.	743 May 21 j 08:22	2° $\text{II}01'30$	30.85591 AU	min. Earth dist.	751 Dec 09 j 10:11	21° $\text{II}04'37$	28.90010 AU
retrograde	743 Sep 04 j 11:47	4° $\text{II}33'54$		direct	752 Feb 25 j 19:36	19° $\text{II}39'39$	
opposition	743 Nov 21 j 23:42	3° $\text{II}09'14$	-1°-35'-39				
min. Earth dist.	743 Nov 21 j 15:15	3° $\text{II}09'50$	28.85932 AU	conjunction	752 Jun 10 j 06:12	22° $\text{II}10'46$	-1°-4'-8
direct	744 Feb 07 j 20:40	1° $\text{II}44'57$		minimum elong	752 Jun 10 j 06:13	22° $\text{II}10'46$	1°04'10
				max. Earth dist.	752 Jun 10 j 08:50	22° $\text{II}11'00$	30.90438 AU
conjunction	744 May 22 j 12:16	4° $\text{II}15'41$	-1°-28'-12	retrograde	752 Sep 23 j 22:34	24° $\text{II}42'37$	
minimum elong	744 May 22 j 12:17	4° $\text{II}15'41$	1°28'13	opposition	752 Dec 10 j 22:39	23° $\text{II}18'23$	-1°-6'-43
max. Earth dist.	744 May 22 j 20:25	4° $\text{II}16'26$	30.86101 AU	min. Earth dist.	752 Dec 10 j 20:54	23° $\text{II}18'31$	28.90968 AU
retrograde	744 Sep 06 j 02:02	6° $\text{II}48'54$		direct	753 Feb 27 j 08:44	21° $\text{II}53'35$	
opposition	744 Nov 23 j 10:30	5° $\text{II}24'16$	-1°-32'-56				
min. Earth dist.	744 Nov 23 j 02:55	5° $\text{II}24'49$	28.86401 AU	conjunction	753 Jun 12 j 20:16	24° $\text{II}24'48$	-1°00'-39
direct	745 Feb 09 j 08:46	3° $\text{II}59'56$		minimum elong	753 Jun 12 j 20:16	24° $\text{II}24'48$	1°00'40
				max. Earth dist.	753 Jun 12 j 20:54	24° $\text{II}24'51$	30.91456 AU
conjunction	745 May 25 j 02:49	6° $\text{II}30'42$	-1°-25'-37	retrograde	753 Sep 26 j 12:33	26° $\text{II}56'31$	
minimum elong	745 May 25 j 02:49	6° $\text{II}30'42$	1°25'38	opposition	753 Dec 13 j 09:02	25° $\text{II}32'24$	-1°-2'-56
max. Earth dist.	745 May 25 j 10:51	6° $\text{II}31'27$	30.86529 AU	min. Earth dist.	753 Dec 13 j 07:54	25° $\text{II}32'29$	28.92017 AU
retrograde	745 Sep 08 j 12:38	9° $\text{II}03'45$		direct	754 Mar 01 j 20:42	24° $\text{II}07'37$	
opposition	745 Nov 25 j 21:18	7° $\text{II}39'09$	-1°-30'-5				
min. Earth dist.	745 Nov 25 j 15:12	7° $\text{II}39'36$	28.86784 AU	conjunction	754 Jun 15 j 10:31	26° $\text{II}38'56$	0°-57'-4
direct	746 Feb 11 j 21:11	6° $\text{II}14'44$		minimum elong	754 Jun 15 j 10:31	26° $\text{II}38'56$	0°57'04
				max. Earth dist.	754 Jun 15 j 11:17	26° $\text{II}39'00$	30.92514 AU
conjunction	746 May 27 j 17:12	8° $\text{II}45'32$	-1°-22'-53	retrograde	754 Sep 28 j 23:20	29° $\text{II}10'32$	
minimum elong	746 May 27 j 17:12	8° $\text{II}45'32$	1°22'54	opposition	754 Dec 15 j 19:27	27° $\text{II}46'32$	0°-59'-3
max. Earth dist.	746 May 27 j 23:20	8° $\text{II}46'07$	30.86904 AU	min. Earth dist.	754 Dec 15 j 19:47	27° $\text{II}46'31$	28.93067 AU
retrograde	746 Sep 11 j 01:02	11° $\text{II}18'24$		direct	755 Mar 04 j 08:54	26° $\text{II}21'46$	
opposition	746 Nov 28 j 07:51	9° $\text{II}53'50$	-1°-27'-7				
min. Earth dist.	746 Nov 28 j 01:57	9° $\text{II}54'15$	28.87143 AU	conjunction	755 Jun 18 j 00:36	28° $\text{II}53'09$	0°-53'-23
direct	747 Feb 14 j 09:14	8° $\text{II}29'19$		minimum elong	755 Jun 18 j 00:37	28° $\text{II}53'09$	0°53'25
				max. Earth dist.	755 Jun 17 j 23:22	28° $\text{II}53'03$	30.93557 AU
conjunction	747 May 30 j 07:34	11° $\text{II}00'10$	-1°-20'-3		755 Jul 18 j 23:13	0° II	
minimum elong	747 May 30 j 07:34	11° $\text{II}00'10$	1°20'04	retrograde	755 Oct 01 j 12:25	1° $\text{II}24'37$	
max. Earth dist.	747 May 30 j 13:20	11° $\text{II}00'42$	30.87262 AU	opposition	755 Dec 18 j 05:50	0° $\text{II}00'44$	0°-55'-5
retrograde	747 Sep 13 j 11:37	13° $\text{II}32'50$		min. Earth dist.	755 Dec 18 j 06:26	0° $\text{II}00'42$	28.94079 AU
opposition	747 Nov 30 j 18:32	12° $\text{II}08'18$	-1°-24'00		755 Dec 18 j 16:18	30° $\text{R}11$	
min. Earth dist.	747 Nov 30 j 14:17	12° $\text{II}08'36$	28.87516 AU	direct	756 Mar 05 j 20:41	28° $\text{II}35'58$	
direct	748 Feb 16 j 20:05	10° $\text{II}43'42$			756 May 19 j 08:06	0° II	
conjunction	748 May 31 j 21:40	13° $\text{II}14'34$	-1°-17'-5	conjunction	756 Jun 19 j 14:44	1° $\text{II}07'26$	0°-49'-39
minimum elong	748 May 31 j 21:40	13° $\text{II}14'34$	1°17'05	minimum elong	756 Jun 19 j 14:44	1° $\text{II}07'26$	0°49'39

max. Earth dist.	756 Jun 19 j 13:00	1°☾07'16	30.94521 AU	min. Earth dist.	765 Jan 06 j 10:01	20°☾02'46	29.01778 AU
retrograde	756 Oct 02 j 23:31	3°☾38'45		direct	765 Mar 26 j 09:38	18°☾38'08	
opposition	756 Dec 19 j 16:25	2°☾14'57	0°-51'-2				
min. Earth dist.	756 Dec 19 j 18:58	2°☾14'46	28.94994 AU	conjunction	765 Jul 10 j 18:44	21°☾09'51	0°-13'-28
direct	757 Mar 08 j 07:27	0°☾50'09		minimum elong	765 Jul 10 j 18:44	21°☾09'51	0°13'29
				behind sun begin	765 Jul 10 j 15:12	21°☾09'32	
conjunction	757 Jun 22 j 04:55	3°☾21'40	0°-45'-49	behind sun end	765 Jul 10 j 22:17	21°☾10'10	
minimum elong	757 Jun 22 j 04:55	3°☾21'40	0°45'51	max. Earth dist.	765 Jul 10 j 09:19	21°☾08'59	31.02367 AU
max. Earth dist.	757 Jun 22 j 01:32	3°☾21'21	30.95398 AU	retrograde	765 Oct 23 j 04:18	23°☾39'33	
retrograde	757 Oct 05 j 11:06	5°☾52'48		opposition	766 Jan 08 j 12:45	22°☾16'19	0°-12'-8
opposition	757 Oct 22 j 02:40	4°☾29'06	0°-46'-55	min. Earth dist.	766 Jan 08 j 21:54	22°☾15'40	29.02986 AU
min. Earth dist.	757 Dec 22 j 05:17	4°☾28'55	28.95815 AU	direct	766 Mar 28 j 20:58	20°☾51'10	
direct	758 Mar 10 j 19:21	3°☾04'15					
				conjunction	766 Jul 13 j 08:12	23°☾22'56	0°-9'-17
conjunction	758 Jun 24 j 19:02	5°☾35'48	0°-41'-56	minimum elong	766 Jul 13 j 08:12	23°☾22'56	0°09'17
minimum elong	758 Jun 24 j 19:02	5°☾35'48	0°41'57	behind sun begin	766 Jul 13 j 02:41	23°☾22'26	
max. Earth dist.	758 Jun 24 j 14:24	5°☾35'22	30.96178 AU	behind sun end	766 Jul 13 j 13:42	23°☾23'25	
retrograde	758 Oct 07 j 20:42	8°☾06'46		max. Earth dist.	766 Jul 12 j 21:34	23°☾21'57	31.03606 AU
opposition	758 Dec 24 j 13:10	6°☾43'06	0°-42'-44	retrograde	766 Oct 25 j 15:47	25°☾52'29	
min. Earth dist.	758 Dec 24 j 17:40	6°☾42'47	28.96566 AU	opposition	767 Jan 10 j 23:00	24°☾29'22	0°-7'-39
direct	759 Mar 13 j 06:46	5°☾18'12		min. Earth dist.	767 Jan 11 j 07:53	24°☾28'44	29.04223 AU
				direct	767 Mar 31 j 09:10	23°☾04'14	
conjunction	759 Jun 27 j 08:54	7°☾49'47	0°-38'00				
minimum elong	759 Jun 27 j 08:54	7°☾49'47	0°38'01	conjunction	767 Jul 15 j 21:30	25°☾36'03	0°-5'-5
max. Earth dist.	759 Jun 27 j 03:44	7°☾49'18	30.96913 AU	minimum elong	767 Jul 15 j 21:30	25°☾36'03	0°05'07
retrograde	759 Oct 10 j 07:39	10°☾20'33		behind sun begin	767 Jul 15 j 15:07	25°☾35'29	
opposition	759 Dec 26 j 23:26	8°☾56'56	0°-38'-30	behind sun end	767 Jul 16 j 03:54	25°☾36'37	
min. Earth dist.	759 Dec 27 j 04:04	8°☾56'37	28.97277 AU	max. Earth dist.	767 Jul 15 j 10:02	25°☾35'00	31.04823 AU
direct	760 Mar 14 j 19:36	7°☾31'58		retrograde	767 Oct 28 j 01:38	28°☾05'29	
				opposition	768 Jan 13 j 09:25	26°☾42'27	0°-3'-9
conjunction	760 Jun 28 j 22:43	10°☾03'33	0°-34'00	min. Earth dist.	768 Jan 13 j 20:06	26°☾41'42	29.05421 AU
minimum elong	760 Jun 28 j 22:43	10°☾03'34	0°34'01	direct	768 Apr 01 j 19:42	25°☾17'20	
max. Earth dist.	760 Jun 28 j 15:54	10°☾02'56	30.97626 AU				
retrograde	760 Oct 11 j 18:49	12°☾34'08		conjunction	768 Jul 17 j 10:59	27°☾49'11	0°00'-50
opposition	760 Dec 28 j 09:38	11°☾10'34	0°-34'-12	minimum elong	768 Jul 17 j 10:58	27°☾49'11	0°00'51
min. Earth dist.	760 Dec 28 j 15:34	11°☾10'08	28.98009 AU	behind sun begin	768 Jul 17 j 04:24	27°☾48'36	
direct	761 Mar 17 j 06:12	9°☾45'31		behind sun end	768 Jul 17 j 17:33	27°☾49'46	
				max. Earth dist.	768 Jul 16 j 22:47	27°☾48'04	31.05978 AU
conjunction	761 Jul 01 j 12:36	12°☾17'08	0°-29'-58	asc. node	768 Sep 26 j 22:30	0°♁00'30	
minimum elong	761 Jul 01 j 12:36	12°☾17'08	0°29'59		768 Sep 26 j 11:32	0°♁	
max. Earth dist.	761 Jul 01 j 05:57	12°☾16'31	30.98377 AU	retrograde	768 Oct 29 j 12:29	0°♁18'28	
retrograde	761 Oct 14 j 05:50	14°☾47'30			768 Dec 02 j 00:44	30°♁☾	
opposition	761 Dec 30 j 19:52	13°☾23'58	0°-29'-52	opposition	769 Jan 14 j 19:39	28°☾55'33	0°01'21
min. Earth dist.	761 Dec 31 j 02:18	13°☾23'31	28.98780 AU	min. Earth dist.	769 Jan 15 j 06:38	28°☾54'46	29.06514 AU
direct	762 Mar 19 j 20:13	11°☾58'52		direct	769 Apr 04 j 07:51	27°☾30'25	
					769 Jul 18 j 23:33	0°♁	
conjunction	762 Jul 04 j 02:08	14°☾30'30	0°-25'-53	max. Earth dist.	769 Jul 19 j 10:25	0°♁01'01	31.07008 AU
minimum elong	762 Jul 04 j 02:08	14°☾30'30	0°25'54				
max. Earth dist.	762 Jul 03 j 17:39	14°☾29'43	30.99194 AU	conjunction	769 Jul 20 j 00:24	0°♁02'18	0°03'28
retrograde	762 Oct 16 j 18:23	17°☾00'41		minimum elong	769 Jul 20 j 00:24	0°♁02'18	0°03'27
opposition	763 Jan 02 j 06:03	15°☾37'12	0°-25'-29	behind sun begin	769 Jul 19 j 17:51	0°♁01'43	
min. Earth dist.	763 Jan 02 j 12:47	15°☾36'43	28.99658 AU	behind sun end	769 Jul 20 j 06:56	0°♁02'53	
direct	763 Mar 22 j 08:49	14°☾12'03		retrograde	769 Oct 31 j 23:20	2°♁31'27	
				opposition	770 Jan 17 j 06:06	1°♁08'35	0°05'51
conjunction	763 Jul 06 j 15:46	16°☾43'42	0°-21'-46	min. Earth dist.	770 Jan 17 j 18:29	1°♁07'43	29.07493 AU
minimum elong	763 Jul 06 j 15:46	16°☾43'42	0°21'48		770 Mar 05 j 14:22	30°♁☾	
max. Earth dist.	763 Jul 06 j 07:47	16°☾42'58	31.00127 AU	direct	770 Apr 06 j 18:18	29°☾43'26	
retrograde	763 Oct 19 j 04:32	19°☾13'43			770 May 08 j 18:07	0°♁	
opposition	764 Jan 04 j 16:19	17°☾50'17	0°-21'-4				
min. Earth dist.	764 Jan 05 j 00:05	17°☾49'44	29.00652 AU	conjunction	770 Jul 22 j 13:42	2°♁15'20	0°07'39
direct	764 Mar 23 j 21:10	16°☾25'07		minimum elong	770 Jul 22 j 13:42	2°♁15'20	0°07'40
				behind sun begin	770 Jul 22 j 07:46	2°♁14'48	
conjunction	764 Jul 08 j 05:08	18°☾56'47	0°-17'-38	behind sun end	770 Jul 22 j 19:38	2°♁15'52	
minimum elong	764 Jul 08 j 05:08	18°☾56'47	0°17'38	max. Earth dist.	770 Jul 21 j 23:39	2°♁14'03	31.07919 AU
max. Earth dist.	764 Jul 07 j 19:37	18°☾55'55	31.01197 AU	retrograde	770 Nov 03 j 09:33	4°♁44'19	
retrograde	764 Oct 20 j 17:33	21°☾26'38		opposition	771 Jan 19 j 16:30	3°♁21'31	0°10'20
opposition	765 Jan 06 j 02:30	20°☾03'18	0°-16'-37	min. Earth dist.	771 Jan 20 j 05:39	3°♁20'36	29.08340 AU

direct	771 Apr 09 j 07:59	1°Ω56'21		opposition	779 Feb 06 j 03:07	20°Ω59'50	0°44'56
max. Earth dist.	771 Jul 24 j 10:40	4°Ω26'46	31.08721 AU	min. Earth dist.	779 Feb 06 j 20:14	20°Ω58'38	29.15147 AU
				direct	779 Apr 27 j 06:57	19°Ω34'34	
conjunction	771 Jul 25 j 02:48	4°Ω28'15	0°11'49	conjunction	779 Aug 12 j 07:39	22°Ω06'27	0°44'01
minimum elong	771 Jul 25 j 02:47	4°Ω28'15	0°11'49	minimum elong	779 Aug 12 j 07:39	22°Ω06'27	0°44'00
behind sun begin	771 Jul 24 j 22:16	4°Ω27'51		max. Earth dist.	779 Aug 11 j 12:50	22°Ω04'42	31.15664 AU
behind sun end	771 Jul 25 j 07:19	4°Ω28'39		retrograde	779 Nov 23 j 07:37	24°Ω34'14	
retrograde	771 Nov 05 j 21:35	6°Ω57'05		opposition	780 Feb 08 j 13:30	23°Ω11'56	0°49'01
opposition	772 Jan 22 j 02:47	5°Ω34'18	0°14'47	min. Earth dist.	780 Feb 09 j 07:10	23°Ω10'42	29.16236 AU
min. Earth dist.	772 Jan 22 j 16:27	5°Ω33'21	29.09110 AU	direct	780 Apr 28 j 19:33	21°Ω46'41	
direct	772 Apr 10 j 20:12	4°Ω09'05					
conjunction	772 Jul 26 j 15:53	6°Ω41'00	0°15'59	conjunction	780 Aug 13 j 19:54	24°Ω18'35	0°47'48
minimum elong	772 Jul 26 j 15:53	6°Ω41'00	0°15'59	minimum elong	780 Aug 13 j 19:53	24°Ω18'35	0°47'49
max. Earth dist.	772 Jul 26 j 00:01	6°Ω39'32	31.09450 AU	max. Earth dist.	780 Aug 12 j 23:19	24°Ω16'41	31.16723 AU
retrograde	772 Nov 07 j 07:22	9°Ω09'40		retrograde	780 Nov 24 j 19:18	26°Ω46'18	
opposition	773 Jan 23 j 13:10	7°Ω46'56	0°19'13	opposition	781 Feb 10 j 00:00	25°Ω24'02	0°53'01
min. Earth dist.	773 Jan 24 j 04:11	7°Ω45'53	29.09809 AU	min. Earth dist.	781 Feb 10 j 17:57	25°Ω22'47	29.17264 AU
direct	773 Apr 13 j 08:47	6°Ω21'40		direct	781 May 01 j 06:34	23°Ω58'49	
max. Earth dist.	773 Jul 28 j 11:09	8°Ω51'56	31.10140 AU				
conjunction	773 Jul 29 j 04:44	8°Ω53'34	0°20'06	conjunction	781 Aug 16 j 08:15	26°Ω30'43	0°51'31
minimum elong	773 Jul 29 j 04:44	8°Ω53'34	0°20'06	minimum elong	781 Aug 16 j 08:15	26°Ω30'43	0°51'31
retrograde	773 Nov 09 j 19:51	11°Ω22'04		max. Earth dist.	781 Aug 15 j 12:03	26°Ω28'50	31.17685 AU
opposition	774 Jan 25 j 23:21	9°Ω59'22	0°23'37	retrograde	781 Nov 27 j 04:58	28°Ω58'19	
min. Earth dist.	774 Jan 26 j 14:11	9°Ω58'19	29.10503 AU	opposition	782 Feb 12 j 10:40	27°Ω36'07	0°56'57
direct	774 Apr 15 j 22:03	8°Ω34'04		min. Earth dist.	782 Feb 13 j 05:56	27°Ω34'47	29.18170 AU
				direct	782 May 03 j 18:36	26°Ω10'54	
conjunction	774 Jul 31 j 17:34	11°Ω05'56	0°24'12	conjunction	782 Aug 18 j 20:22	28°Ω42'46	0°55'09
minimum elong	774 Jul 31 j 17:34	11°Ω05'56	0°24'13	minimum elong	782 Aug 18 j 20:22	28°Ω42'46	0°55'10
max. Earth dist.	774 Jul 31 j 00:19	11°Ω04'21	31.10840 AU	max. Earth dist.	782 Aug 17 j 22:30	28°Ω40'44	31.18534 AU
retrograde	774 Nov 12 j 06:10	13°Ω34'18		retrograde	782 Sep 24 j 04:11	0°♄	
opposition	775 Jan 28 j 09:48	12°Ω11'37	0°27'59	retrograde	782 Nov 29 j 17:25	1°♄10'16	
min. Earth dist.	775 Jan 29 j 01:59	12°Ω10'29	29.11239 AU		783 Feb 07 j 17:30	30°♄	
direct	775 Apr 18 j 10:13	10°Ω46'18		opposition	783 Feb 14 j 21:16	29°Ω48'05	1°00'48
max. Earth dist.	775 Aug 02 j 11:55	13°Ω16'29	31.11619 AU	min. Earth dist.	783 Feb 15 j 16:16	29°Ω46'46	29.18964 AU
				direct	783 May 06 j 08:11	28°Ω22'52	
conjunction	775 Aug 03 j 05:58	13°Ω18'09	0°28'16		783 Jul 27 j 06:11	0°♄	
minimum elong	775 Aug 03 j 05:57	13°Ω18'09	0°28'15	max. Earth dist.	783 Aug 20 j 10:45	0°♄52'42	31.19257 AU
	775 Sep 22 j 09:55	15°Ω					
retrograde	775 Nov 14 j 16:42	15°Ω46'21		conjunction	783 Aug 21 j 08:23	0°♄54'42	0°58'43
	776 Jan 08 j 11:41	15°♄		minimum elong	783 Aug 21 j 08:23	0°♄54'42	0°58'42
opposition	776 Jan 30 j 20:03	14°Ω23'44	0°32'18	retrograde	783 Dec 02 j 03:24	3°♄22'05	
min. Earth dist.	776 Jan 31 j 11:30	14°Ω22'39	29.12064 AU	opposition	784 Feb 17 j 07:59	1°♄59'55	1°04'33
direct	776 Apr 19 j 23:01	12°Ω58'23		min. Earth dist.	784 Feb 18 j 04:33	1°♄58'29	29.19637 AU
	776 Jul 22 j 02:31	15°Ω		direct	784 May 07 j 20:49	0°♄34'41	
conjunction	776 Aug 04 j 18:31	15°Ω30'15	0°32'17	conjunction	784 Aug 22 j 20:19	3°♄06'27	1°02'11
minimum elong	776 Aug 04 j 18:31	15°Ω30'15	0°32'17	minimum elong	784 Aug 22 j 20:19	3°♄06'27	1°02'11
max. Earth dist.	776 Aug 04 j 00:11	15°Ω28'33	31.12491 AU	max. Earth dist.	784 Aug 21 j 21:38	3°♄04'21	31.19881 AU
retrograde	776 Nov 16 j 01:59	17°Ω58'19		retrograde	784 Dec 03 j 14:00	5°♄33'42	
opposition	777 Feb 01 j 06:21	16°Ω35'46	0°36'34	opposition	785 Feb 18 j 18:25	4°♄11'33	1°08'12
min. Earth dist.	777 Feb 01 j 22:59	16°Ω34'36	29.13006 AU	min. Earth dist.	785 Feb 19 j 14:30	4°♄10'09	29.20215 AU
direct	777 Apr 22 j 09:27	15°Ω10'26		direct	785 May 10 j 10:09	2°♄46'16	
				max. Earth dist.	785 Aug 24 j 09:08	5°♄15'52	31.20419 AU
conjunction	777 Aug 07 j 07:02	17°Ω42'17	0°36'15				
minimum elong	777 Aug 07 j 07:01	17°Ω42'17	0°36'14	conjunction	785 Aug 25 j 08:11	5°♄18'00	1°05'33
max. Earth dist.	777 Aug 06 j 12:39	17°Ω40'35	31.13490 AU	minimum elong	785 Aug 25 j 08:10	5°♄18'00	1°05'33
retrograde	777 Nov 18 j 12:18	20°Ω10'15		retrograde	785 Dec 05 j 23:39	7°♄45'07	
opposition	778 Feb 03 j 16:41	18°Ω47'47	0°40'47	opposition	786 Feb 21 j 05:09	6°♄22'58	1°11'45
min. Earth dist.	778 Feb 04 j 09:00	18°Ω46'38	29.14042 AU	min. Earth dist.	786 Feb 22 j 02:26	6°♄21'29	29.20746 AU
direct	778 Apr 24 j 20:59	17°Ω22'28		direct	786 May 12 j 21:34	4°♄57'40	
conjunction	778 Aug 09 j 19:16	19°Ω54'21	0°40'09	conjunction	786 Aug 27 j 19:41	7°♄29'19	1°08'50
minimum elong	778 Aug 09 j 19:16	19°Ω54'21	0°40'10	minimum elong	786 Aug 27 j 19:40	7°♄29'19	1°08'50
max. Earth dist.	778 Aug 08 j 23:58	19°Ω52'33	31.14559 AU	max. Earth dist.	786 Aug 26 j 20:47	7°♄27'11	31.20941 AU
retrograde	778 Nov 20 j 22:19	22°Ω22'14		retrograde	786 Dec 08 j 09:14	9°♄56'19	

opposition	787 Feb 23 j 15:47	8° $\mathring{\mu}$ 34'10	1°15'12	max. Earth dist.	795 Sep 16 j 00:43	27° $\mathring{\mu}$ 07'00	31.27611 AU
min. Earth dist.	787 Feb 24 j 12:37	8° $\mathring{\mu}$ 32'43	29.21272 AU				
direct	787 May 15 j 10:19	7° $\mathring{\mu}$ 08'51		conjunction	795 Sep 17 j 00:02	27° $\mathring{\mu}$ 09'11	1°33'16
max. Earth dist.	787 Aug 29 j 07:32	9° $\mathring{\mu}$ 38'14	31.21484 AU	minimum elong	795 Sep 17 j 00:02	27° $\mathring{\mu}$ 09'11	1°33'15
				retrograde	795 Dec 28 j 05:50	29° $\mathring{\mu}$ 35'50	
conjunction	787 Aug 30 j 07:05	9° $\mathring{\mu}$ 40'25	1°12'00	opposition	796 Mar 14 j 17:41	28° $\mathring{\mu}$ 14'04	1°40'44
minimum elong	787 Aug 30 j 07:04	9° $\mathring{\mu}$ 40'25	1°11'59	min. Earth dist.	796 Mar 15 j 15:31	28° $\mathring{\mu}$ 12'34	29.27954 AU
retrograde	787 Dec 10 j 18:35	12° $\mathring{\mu}$ 07'20		direct	796 Jun 03 j 20:42	26° $\mathring{\mu}$ 49'07	
opposition	788 Feb 26 j 02:19	10° $\mathring{\mu}$ 45'11	1°18'32	max. Earth dist.	796 Sep 17 j 10:42	29° $\mathring{\mu}$ 18'11	31.28053 AU
min. Earth dist.	788 Feb 26 j 23:33	10° $\mathring{\mu}$ 43'43	29.21868 AU				
direct	788 May 16 j 20:41	9° $\mathring{\mu}$ 19'51		conjunction	796 Sep 18 j 10:56	29° $\mathring{\mu}$ 20'27	1°35'21
				minimum elong	796 Sep 18 j 10:56	29° $\mathring{\mu}$ 20'27	1°35'22
conjunction	788 Aug 31 j 18:30	11° $\mathring{\mu}$ 51'23	1°15'04				
minimum elong	788 Aug 31 j 18:30	11° $\mathring{\mu}$ 51'23	1°15'04	retrograde	796 Dec 29 j 15:18	1° $\mathring{\mu}$ 47'04	
max. Earth dist.	788 Aug 30 j 19:57	11° $\mathring{\mu}$ 49'17	31.22118 AU	opposition	797 Mar 17 j 04:55	0° $\mathring{\mu}$ 25'17	1°42'54
retrograde	788 Dec 12 j 03:02	14° $\mathring{\mu}$ 18'13		min. Earth dist.	797 Mar 18 j 03:15	0° $\mathring{\mu}$ 23'45	29.28344 AU
opposition	789 Feb 27 j 13:05	12° $\mathring{\mu}$ 56'05	1°21'45				
min. Earth dist.	789 Feb 28 j 10:14	12° $\mathring{\mu}$ 54'37	29.22549 AU	direct	797 Apr 01 j 18:52	30° $\mathring{\mu}$	
direct	789 May 19 j 08:56	11° $\mathring{\mu}$ 30'46					
max. Earth dist.	789 Sep 02 j 06:08	14° $\mathring{\mu}$ 00'05	31.22855 AU				
				conjunction	797 Sep 20 j 21:44	1° $\mathring{\mu}$ 31'36	1°37'18
conjunction	789 Sep 03 j 05:40	14° $\mathring{\mu}$ 02'16	1°18'02	minimum elong	797 Sep 20 j 21:43	1° $\mathring{\mu}$ 31'36	1°37'18
minimum elong	789 Sep 03 j 05:39	14° $\mathring{\mu}$ 02'16	1°18'01	max. Earth dist.	797 Sep 19 j 22:24	1° $\mathring{\mu}$ 29'25	31.28378 AU
retrograde	789 Dec 14 j 14:06	16° $\mathring{\mu}$ 29'03		retrograde	797 Dec 31 j 23:08	3° $\mathring{\mu}$ 58'10	
opposition	790 Mar 01 j 23:46	15° $\mathring{\mu}$ 06'58	1°24'52	opposition	798 Mar 19 j 16:13	2° $\mathring{\mu}$ 36'23	1°44'54
min. Earth dist.	790 Mar 02 j 20:22	15° $\mathring{\mu}$ 05'33	29.23351 AU	min. Earth dist.	798 Mar 20 j 14:41	2° $\mathring{\mu}$ 34'50	29.28615 AU
direct	790 May 21 j 19:01	13° $\mathring{\mu}$ 41'42		direct	798 Jun 08 j 20:07	1° $\mathring{\mu}$ 11'27	
				max. Earth dist.	798 Sep 22 j 07:56	3° $\mathring{\mu}$ 40'19	31.28618 AU
conjunction	790 Sep 05 j 16:56	16° $\mathring{\mu}$ 13'11	1°20'52				
minimum elong	790 Sep 05 j 16:55	16° $\mathring{\mu}$ 13'11	1°20'53	conjunction	798 Sep 23 j 08:16	3° $\mathring{\mu}$ 42'35	1°39'07
max. Earth dist.	790 Sep 04 j 18:35	16° $\mathring{\mu}$ 11'06	31.23699 AU	minimum elong	798 Sep 23 j 08:16	3° $\mathring{\mu}$ 42'35	1°39'08
retrograde	790 Dec 16 j 23:31	18° $\mathring{\mu}$ 39'57		retrograde	799 Jan 03 j 09:55	6° $\mathring{\mu}$ 09'07	
opposition	791 Mar 04 j 10:39	17° $\mathring{\mu}$ 17'55	1°27'50	opposition	799 Mar 22 j 03:24	4° $\mathring{\mu}$ 47'17	1°46'46
min. Earth dist.	791 Mar 05 j 07:57	17° $\mathring{\mu}$ 16'27	29.24231 AU	min. Earth dist.	799 Mar 23 j 01:18	4° $\mathring{\mu}$ 45'47	29.28844 AU
direct	791 May 24 j 06:16	15° $\mathring{\mu}$ 52'43		direct	799 Jun 11 j 06:09	3° $\mathring{\mu}$ 22'21	
max. Earth dist.	791 Sep 07 j 04:36	18° $\mathring{\mu}$ 22'01	31.24604 AU				
				conjunction	799 Sep 25 j 18:45	5° $\mathring{\mu}$ 53'23	1°40'47
conjunction	791 Sep 08 j 03:52	18° $\mathring{\mu}$ 24'11	1°23'36	minimum elong	799 Sep 25 j 18:45	5° $\mathring{\mu}$ 53'23	1°40'47
minimum elong	791 Sep 08 j 03:52	18° $\mathring{\mu}$ 24'11	1°23'36	max. Earth dist.	799 Sep 24 j 19:42	5° $\mathring{\mu}$ 51'14	31.28829 AU
retrograde	791 Dec 19 j 11:52	20° $\mathring{\mu}$ 50'56		retrograde	800 Jan 05 j 18:24	8° $\mathring{\mu}$ 19'53	
opposition	792 Mar 05 j 21:25	19° $\mathring{\mu}$ 28'59	1°30'41	opposition	800 Mar 23 j 14:45	6° $\mathring{\mu}$ 58'01	1°48'28
min. Earth dist.	792 Mar 06 j 17:58	19° $\mathring{\mu}$ 27'34	29.25141 AU	min. Earth dist.	800 Mar 24 j 13:11	6° $\mathring{\mu}$ 56'29	29.29060 AU
direct	792 May 25 j 18:59	18° $\mathring{\mu}$ 03'51		direct	800 Jun 12 j 18:07	5° $\mathring{\mu}$ 33'04	
				max. Earth dist.	800 Sep 26 j 05:25	8° $\mathring{\mu}$ 01'48	31.29067 AU
conjunction	792 Sep 09 j 15:04	20° $\mathring{\mu}$ 35'19	1°26'12				
minimum elong	792 Sep 09 j 15:04	20° $\mathring{\mu}$ 35'19	1°26'13	conjunction	800 Sep 27 j 05:01	8° $\mathring{\mu}$ 04'01	1°42'18
max. Earth dist.	792 Sep 08 j 16:27	20° $\mathring{\mu}$ 33'13	31.25489 AU	minimum elong	800 Sep 27 j 05:01	8° $\mathring{\mu}$ 04'01	1°42'18
retrograde	792 Dec 20 j 22:15	23° $\mathring{\mu}$ 02'04		retrograde	801 Jan 07 j 05:41	10° $\mathring{\mu}$ 30'29	
opposition	793 Mar 08 j 08:23	21° $\mathring{\mu}$ 40'10	1°33'24	opposition	801 Mar 26 j 01:56	9° $\mathring{\mu}$ 08'35	1°50'01
min. Earth dist.	793 Mar 09 j 06:12	21° $\mathring{\mu}$ 38'40	29.26007 AU	min. Earth dist.	801 Mar 26 j 23:05	9° $\mathring{\mu}$ 07'08	29.29334 AU
direct	793 May 28 j 06:50	20° $\mathring{\mu}$ 15'06		direct	801 Jun 15 j 06:18	7° $\mathring{\mu}$ 43'39	
max. Earth dist.	793 Sep 11 j 02:55	22° $\mathring{\mu}$ 44'24	31.26316 AU				
				conjunction	801 Sep 29 j 15:23	10° $\mathring{\mu}$ 14'31	1°43'41
conjunction	793 Sep 12 j 02:08	22° $\mathring{\mu}$ 46'34	1°28'41	minimum elong	801 Sep 29 j 15:23	10° $\mathring{\mu}$ 14'31	1°43'40
minimum elong	793 Sep 12 j 02:07	22° $\mathring{\mu}$ 46'34	1°28'41	max. Earth dist.	801 Sep 28 j 16:58	10° $\mathring{\mu}$ 12'25	31.29375 AU
retrograde	793 Dec 23 j 09:15	25° $\mathring{\mu}$ 13'17		retrograde	802 Jan 09 j 15:35	12° $\mathring{\mu}$ 40'59	
opposition	794 Mar 10 j 19:26	23° $\mathring{\mu}$ 51'27	1°35'59	opposition	802 Mar 28 j 13:27	11° $\mathring{\mu}$ 19'04	1°51'25
min. Earth dist.	794 Mar 11 j 16:28	23° $\mathring{\mu}$ 50'00	29.26783 AU	min. Earth dist.	802 Mar 29 j 11:07	11° $\mathring{\mu}$ 17'35	29.29694 AU
direct	794 May 30 j 19:46	22° $\mathring{\mu}$ 26'26		direct	802 Jun 17 j 17:17	9° $\mathring{\mu}$ 54'11	
				max. Earth dist.	802 Oct 01 j 03:13	12° $\mathring{\mu}$ 22'54	31.29784 AU
conjunction	794 Sep 14 j 13:03	24° $\mathring{\mu}$ 57'52	1°31'03				
minimum elong	794 Sep 14 j 13:03	24° $\mathring{\mu}$ 57'52	1°31'03	conjunction	802 Oct 02 j 01:24	12° $\mathring{\mu}$ 24'58	1°44'54
max. Earth dist.	794 Sep 13 j 13:38	24° $\mathring{\mu}$ 55'41	31.27023 AU	minimum elong	802 Oct 02 j 01:24	12° $\mathring{\mu}$ 24'58	1°44'55
retrograde	794 Dec 25 j 19:46	27° $\mathring{\mu}$ 24'34		retrograde	803 Jan 12 j 02:30	14° $\mathring{\mu}$ 51'27	
opposition	795 Mar 13 j 06:40	26° $\mathring{\mu}$ 02'46	1°38'26	opposition	803 Mar 31 j 00:48	13° $\mathring{\mu}$ 29'33	1°52'39
min. Earth dist.	795 Mar 14 j 04:46	26° $\mathring{\mu}$ 01'15	29.27441 AU	min. Earth dist.	803 Mar 31 j 21:00	13° $\mathring{\mu}$ 28'10	29.30130 AU
direct	795 Jun 02 j 07:28	24° $\mathring{\mu}$ 37'48		direct	803 Jun 20 j 06:07	12° $\mathring{\mu}$ 04'43	

conjunction	803 Oct 04 j 11:33	14°♁35'28	1°45'59		811 Aug 19 j 21:46	0°♁	
minimum elong	803 Oct 04 j 11:33	14°♁35'28	1°45'59				
max. Earth dist.	803 Oct 03 j 13:42	14°♁33'25	31.30241 AU	conjunction	811 Oct 21 j 19:15	2°♁01'18	1°49'01
retrograde	804 Jan 14 j 13:33	17°♁01'58		minimum elong	811 Oct 21 j 19:15	2°♁01'18	1°49'01
opposition	804 Apr 01 j 12:12	15°♁40'06	1°53'43	max. Earth dist.	811 Oct 20 j 23:41	1°♁59'28	31.31016 AU
min. Earth dist.	804 Apr 02 j 08:57	15°♁38'41	29.30608 AU	retrograde	812 Jan 31 j 23:12	4°♁28'08	
direct	804 Jun 21 j 17:43	14°♁15'20		opposition	812 Apr 19 j 10:47	3°♁06'09	1°56'19
				min. Earth dist.	812 Apr 20 j 04:58	3°♁04'55	29.30970 AU
conjunction	804 Oct 05 j 21:43	16°♁46'02	1°46'54	direct	812 Jul 09 j 15:52	1°♁41'42	
minimum elong	804 Oct 05 j 21:43	16°♁46'02	1°46'55	max. Earth dist.	812 Oct 22 j 09:43	4°♁10'01	31.30684 AU
max. Earth dist.	804 Oct 05 j 00:38	16°♁44'04	31.30716 AU				
retrograde	805 Jan 15 j 23:48	19°♁12'34		conjunction	812 Oct 23 j 04:51	4°♁11'48	1°48'42
opposition	805 Apr 03 j 23:47	17°♁50'44	1°54'37	minimum elong	812 Oct 23 j 04:52	4°♁11'48	1°48'43
min. Earth dist.	805 Apr 04 j 19:49	17°♁49'22	29.31054 AU	retrograde	813 Feb 02 j 10:42	6°♁38'42	
direct	805 Jun 24 j 07:07	16°♁26'03		opposition	813 Apr 21 j 22:53	5°♁16'39	1°55'54
max. Earth dist.	805 Oct 07 j 10:09	18°♁54'41	31.31128 AU	min. Earth dist.	813 Apr 22 j 17:09	5°♁15'24	29.30667 AU
				direct	813 Jul 12 j 03:56	3°♁52'13	
conjunction	805 Oct 08 j 07:40	18°♁56'42	1°47'40				
minimum elong	805 Oct 08 j 07:40	18°♁56'42	1°47'40	conjunction	813 Oct 25 j 14:18	6°♁22'13	1°48'14
retrograde	806 Jan 18 j 10:07	21°♁23'18		minimum elong	813 Oct 25 j 14:18	6°♁22'13	1°48'14
opposition	806 Apr 06 j 11:34	20°♁01'28	1°55'21	max. Earth dist.	813 Oct 24 j 20:34	6°♁20'34	31.30416 AU
min. Earth dist.	806 Apr 07 j 07:37	20°♁00'06	29.31435 AU	retrograde	814 Feb 04 j 20:55	8°♁49'10	
direct	806 Jun 26 j 17:43	18°♁36'52		opposition	814 Apr 24 j 10:57	7°♁27'05	1°55'19
				min. Earth dist.	814 Apr 25 j 03:49	7°♁25'56	29.30430 AU
conjunction	806 Oct 10 j 17:50	21°♁07'28	1°48'17	direct	814 Jul 14 j 17:36	6°♁02'41	
minimum elong	806 Oct 10 j 17:50	21°♁07'28	1°48'17				
max. Earth dist.	806 Oct 09 j 21:31	21°♁05'33	31.31451 AU	conjunction	814 Oct 27 j 23:43	8°♁32'37	1°47'37
retrograde	807 Jan 20 j 18:40	23°♁34'06		minimum elong	814 Oct 27 j 23:43	8°♁32'37	1°47'37
opposition	807 Apr 08 j 23:20	22°♁12'17	1°55'55	max. Earth dist.	814 Oct 27 j 06:02	8°♁30'57	31.30230 AU
min. Earth dist.	807 Apr 09 j 19:26	22°♁10'55	29.31692 AU	retrograde	815 Feb 07 j 07:15	10°♁59'38	
direct	807 Jun 29 j 06:13	20°♁47'44		opposition	815 Apr 26 j 22:55	9°♁37'31	1°54'34
max. Earth dist.	807 Oct 12 j 06:29	23°♁16'17	31.31640 AU	min. Earth dist.	815 Apr 27 j 15:11	9°♁36'25	29.30298 AU
				direct	815 Jul 17 j 04:00	8°♁13'11	
conjunction	807 Oct 13 j 03:47	23°♁18'16	1°48'44				
minimum elong	807 Oct 13 j 03:47	23°♁18'16	1°48'44	conjunction	815 Oct 30 j 09:12	10°♁43'03	1°46'50
retrograde	808 Jan 23 j 06:03	25°♁44'58		minimum elong	815 Oct 30 j 09:12	10°♁43'03	1°46'50
opposition	808 Apr 10 j 11:08	24°♁23'09	1°56'20	max. Earth dist.	815 Oct 29 j 17:22	10°♁41'34	31.30136 AU
min. Earth dist.	808 Apr 11 j 06:35	24°♁21'50	29.31810 AU	retrograde	816 Feb 09 j 15:54	13°♁10'08	
direct	808 Jun 30 j 16:28	22°♁58'38		opposition	816 Apr 28 j 11:02	11°♁48'02	1°53'39
				min. Earth dist.	816 Apr 29 j 02:42	11°♁46'58	29.30220 AU
conjunction	808 Oct 14 j 13:53	25°♁29'07	1°49'03	direct	816 Jul 18 j 17:08	10°♁23'46	
minimum elong	808 Oct 14 j 13:53	25°♁29'07	1°49'03				
max. Earth dist.	808 Oct 13 j 17:41	25°♁27'13	31.31672 AU	conjunction	816 Oct 31 j 18:28	12°♁53'34	1°45'54
retrograde	809 Jan 24 j 14:52	27°♁55'51		minimum elong	816 Oct 31 j 18:28	12°♁53'34	1°45'54
opposition	809 Apr 12 j 23:06	26°♁34'01	1°56'34	max. Earth dist.	816 Oct 31 j 02:20	12°♁52'03	31.30085 AU
min. Earth dist.	809 Apr 13 j 19:13	26°♁32'39	29.31762 AU				
direct	809 Jul 03 j 04:26	25°♁09'33		retrograde	817 Jan 06 j 22:35	15°♁	
					817 Feb 11 j 03:42	15°♁20'46	
conjunction	809 Oct 16 j 23:47	27°♁39'56	1°49'11		817 Mar 19 j 09:30	15°♁	
minimum elong	809 Oct 16 j 23:46	27°♁39'56	1°49'11	opposition	817 Apr 30 j 23:09	13°♁58'39	1°52'34
max. Earth dist.	809 Oct 16 j 02:57	27°♁37'58	31.31563 AU	min. Earth dist.	817 May 01 j 13:35	13°♁57'40	29.30176 AU
	810 Jan 07 j 06:59	0°♁		direct	817 Jul 21 j 03:39	12°♁34'27	
retrograde	810 Jan 27 j 02:23	0°♁06'42			817 Nov 01 j 07:21	15°♁	
	810 Feb 16 j 05:45	30°♁		conjunction	817 Nov 03 j 03:56	15°♁04'12	1°44'49
opposition	810 Apr 15 j 11:00	28°♁44'50	1°56'39	minimum elong	817 Nov 03 j 03:56	15°♁04'12	1°44'49
min. Earth dist.	810 Apr 16 j 05:57	28°♁43'33	29.31584 AU	max. Earth dist.	817 Nov 02 j 13:26	15°♁02'50	31.30034 AU
direct	810 Jul 05 j 16:06	27°♁20'22		retrograde	818 Feb 13 j 12:24	17°♁31'30	
				opposition	818 May 03 j 11:33	16°♁09'23	1°51'20
conjunction	810 Oct 19 j 09:34	29°♁50'40	1°49'11	min. Earth dist.	818 May 04 j 02:10	16°♁08'23	29.30104 AU
minimum elong	810 Oct 19 j 09:34	29°♁50'40	1°49'11				
max. Earth dist.	810 Oct 18 j 13:42	29°♁48'48	31.31323 AU	direct	818 Jun 22 j 16:28	15°♁	
	810 Oct 23 j 12:57	0°♁			818 Jul 23 j 15:15	14°♁45'16	
retrograde	811 Jan 29 j 12:27	2°♁17'29			818 Aug 22 j 19:31	15°♁	
opposition	811 Apr 17 j 23:03	0°♁55'33	1°56'34	conjunction	818 Nov 05 j 13:12	17°♁14'56	1°43'34
min. Earth dist.	811 Apr 18 j 18:42	0°♁54'13	29.31301 AU	minimum elong	818 Nov 05 j 13:12	17°♁14'56	1°43'34
	811 May 25 j 03:39	30°♁		max. Earth dist.	818 Nov 04 j 22:34	17°♁13'33	31.29943 AU
direct	811 Jul 08 j 02:45	29°♁31'06		retrograde	819 Feb 15 j 23:40	19°♁42'21	

opposition	819 May 05 j 23:48	18°M20'12	1°49'55	opposition	827 May 24 j 04:09	5°Z45'55	1°33'19
min. Earth dist.	819 May 06 j 12:59	18°M19'19	29.29967 AU	min. Earth dist.	827 May 24 j 12:28	5°Z45'21	29.25562 AU
direct	819 Jul 26 j 01:54	16°M56'08		direct	827 Aug 13 j 00:58	4°Z22'03	
conjunction	819 Nov 07 j 22:41	19°M25'45	1°42'11	conjunction	827 Nov 25 j 00:37	6°Z50'56	1°26'05
minimum elong	819 Nov 07 j 22:41	19°M25'45	1°42'10	minimum elong	827 Nov 25 j 00:37	6°Z50'56	1°26'05
max. Earth dist.	819 Nov 07 j 08:58	19°M24'28	31.29747 AU	max. Earth dist.	827 Nov 24 j 16:42	6°Z50'11	31.25258 AU
retrograde	820 Feb 18 j 10:03	21°M53'16		retrograde	828 Mar 07 j 00:41	9°Z19'12	
opposition	820 May 07 j 12:12	20°M31'06	1°48'22	opposition	828 May 25 j 16:36	7°Z56'32	1°30'36
min. Earth dist.	820 May 08 j 02:01	20°M30'10	29.29714 AU	min. Earth dist.	828 May 25 j 22:55	7°Z56'07	29.25112 AU
direct	820 Jul 27 j 11:40	19°M07'05		direct	828 Aug 14 j 11:25	6°Z32'44	
conjunction	820 Nov 09 j 08:09	21°M36'37	1°40'39	conjunction	828 Nov 26 j 09:48	9°Z01'35	1°23'29
minimum elong	820 Nov 09 j 08:09	21°M36'37	1°40'39	minimum elong	828 Nov 26 j 09:48	9°Z01'35	1°23'29
max. Earth dist.	820 Nov 08 j 18:52	21°M35'22	31.29439 AU	max. Earth dist.	828 Nov 26 j 03:14	9°Z00'58	31.24847 AU
retrograde	821 Feb 19 j 21:33	24°M04'13		retrograde	829 Mar 09 j 11:35	11°Z30'01	
opposition	821 May 10 j 00:42	22°M42'00	1°46'39	opposition	829 May 28 j 05:27	10°Z07'20	1°27'45
min. Earth dist.	821 May 10 j 13:01	22°M41'11	29.29327 AU	min. Earth dist.	829 May 28 j 11:49	10°Z06'54	29.24730 AU
direct	821 Jul 30 j 00:38	21°M18'01		direct	829 Aug 16 j 20:40	8°Z43'37	
conjunction	821 Nov 11 j 17:28	23°M47'28	1°38'59	conjunction	829 Nov 28 j 18:51	11°Z12'25	1°20'45
minimum elong	821 Nov 11 j 17:28	23°M47'28	1°38'58	minimum elong	829 Nov 28 j 18:51	11°Z12'25	1°20'45
max. Earth dist.	821 Nov 11 j 04:18	23°M46'14	31.28983 AU	max. Earth dist.	829 Nov 28 j 13:25	11°Z11'54	31.24495 AU
retrograde	822 Feb 22 j 09:45	26°M15'10		retrograde	830 Mar 11 j 23:32	13°Z41'01	
opposition	822 May 12 j 13:22	24°M52'53	1°44'47	opposition	830 May 30 j 18:11	12°Z18'20	1°24'46
min. Earth dist.	822 May 13 j 01:56	24°M52'02	29.28808 AU	min. Earth dist.	830 May 30 j 22:38	12°Z18'02	29.24369 AU
direct	822 Aug 01 j 11:58	23°M28'55		direct	830 Aug 19 j 08:51	10°Z54'41	
conjunction	822 Nov 14 j 02:55	25°M58'16	1°37'10	conjunction	830 Dec 01 j 04:04	13°Z23'28	1°17'54
minimum elong	822 Nov 14 j 02:55	25°M58'16	1°37'10	minimum elong	830 Dec 01 j 04:04	13°Z23'28	1°17'55
max. Earth dist.	822 Nov 13 j 14:58	25°M57'08	31.28408 AU	max. Earth dist.	830 Nov 30 j 22:56	13°Z22'59	31.24127 AU
retrograde	823 Feb 24 j 20:13	28°M26'02		retrograde	831 Mar 14 j 12:45	15°Z52'14	
opposition	823 May 15 j 01:46	27°M03'40	1°42'47	opposition	831 Jun 02 j 06:57	14°Z29'32	1°21'40
min. Earth dist.	823 May 15 j 13:18	27°M02'53	29.28164 AU	min. Earth dist.	831 Jun 02 j 11:29	14°Z29'13	29.23986 AU
direct	823 Aug 04 j 01:17	25°M39'42		direct	831 Aug 21 j 18:48	13°Z05'58	
conjunction	823 Nov 16 j 12:10	28°M08'57	1°35'13	conjunction	831 Dec 03 j 13:27	15°Z34'43	1°14'57
minimum elong	823 Nov 16 j 12:10	28°M08'57	1°35'13	minimum elong	831 Dec 03 j 13:27	15°Z34'43	1°14'56
max. Earth dist.	823 Nov 15 j 23:57	28°M07'48	31.27730 AU	max. Earth dist.	831 Dec 03 j 09:47	15°Z34'22	31.23714 AU
retrograde	824 Jan 10 j 21:31	0°Z		retrograde	832 Mar 16 j 00:11	18°Z03'39	
opposition	824 Feb 27 j 07:28	0°Z36'47		opposition	832 Jun 03 j 19:50	16°Z40'56	1°18'26
min. Earth dist.	824 Apr 16 j 18:24	30°RM		min. Earth dist.	832 Jun 03 j 23:10	16°Z40'42	29.23516 AU
direct	824 May 16 j 14:20	29°M14'20	1°40'37	direct	832 Aug 23 j 07:04	15°Z17'26	
conjunction	824 May 17 j 01:22	29°M13'36	29.27461 AU	conjunction	832 Dec 04 j 22:39	17°Z46'09	1°11'52
retrograde	824 Aug 05 j 12:24	27°M50'23		minimum elong	832 Dec 04 j 22:39	17°Z46'09	1°11'52
direct	824 Nov 09 j 06:06	0°Z		max. Earth dist.	832 Dec 04 j 18:43	17°Z45'47	31.23196 AU
conjunction	824 Nov 17 j 21:22	0°Z19'31	1°33'07	retrograde	833 Mar 18 j 12:54	20°Z15'15	
minimum elong	824 Nov 17 j 21:22	0°Z19'31	1°33'08	opposition	833 Jun 06 j 08:54	18°Z52'29	1°15'06
max. Earth dist.	824 Nov 17 j 11:08	0°Z18'33	31.27015 AU	min. Earth dist.	833 Jun 06 j 11:48	18°Z52'17	29.22942 AU
retrograde	825 Feb 28 j 16:39	2°Z47'26		direct	833 Aug 25 j 17:58	17°Z29'03	
opposition	825 May 19 j 02:58	1°Z24'54	1°38'20	conjunction	833 Dec 07 j 08:11	19°Z57'42	1°08'41
min. Earth dist.	825 May 19 j 13:13	1°Z24'12	29.26746 AU	minimum elong	833 Dec 07 j 08:11	19°Z57'42	1°08'42
direct	825 Aug 08 j 02:11	0°Z00'57		max. Earth dist.	833 Dec 07 j 05:54	19°Z57'29	31.22553 AU
conjunction	825 Nov 20 j 06:25	2°Z29'59	1°30'55	retrograde	834 Mar 20 j 23:56	22°Z26'56	
minimum elong	825 Nov 20 j 06:25	2°Z29'59	1°30'54	opposition	834 Jun 08 j 21:55	21°Z04'07	1°11'39
max. Earth dist.	825 Nov 19 j 20:10	2°Z29'01	31.26337 AU	min. Earth dist.	834 Jun 09 j 00:23	21°Z03'57	29.22220 AU
retrograde	826 Mar 03 j 04:39	4°Z58'00		direct	834 Aug 28 j 07:54	19°Z40'43	
opposition	826 May 21 j 15:30	3°Z35'24	1°35'53	conjunction	834 Dec 09 j 17:31	22°Z09'19	1°05'25
min. Earth dist.	826 May 22 j 00:06	3°Z34'49	29.26111 AU	minimum elong	834 Dec 09 j 17:31	22°Z09'19	1°05'25
direct	826 Aug 10 j 13:13	2°Z11'28		max. Earth dist.	834 Dec 09 j 14:47	22°Z09'03	31.21771 AU
conjunction	826 Nov 22 j 15:33	4°Z40'25	1°28'34	retrograde	835 Mar 23 j 12:59	24°Z38'40	
minimum elong	826 Nov 22 j 15:33	4°Z40'26	1°28'34	opposition	835 Jun 11 j 10:53	23°Z15'46	1°08'06
max. Earth dist.	826 Nov 22 j 07:13	4°Z39'38	31.25744 AU	min. Earth dist.	835 Jun 11 j 12:11	23°Z15'41	29.21365 AU
retrograde	827 Mar 05 j 13:26	7°Z08'34		direct	835 Aug 30 j 19:23	21°Z52'23	

conjunction	835 Dec 12 j 03:00	24° ♁ 20'53	1°02'03	conjunction	843 Dec 29 j 06:09	11° ♁ 52'41	0°32'16
minimum elong	835 Dec 12 j 03:00	24° ♁ 20'53	1°02'02	minimum elong	843 Dec 29 j 06:09	11° ♁ 52'41	0°32'15
max. Earth dist.	835 Dec 12 j 01:39	24° ♁ 20'46	31.20850 AU	max. Earth dist.	843 Dec 29 j 11:56	11° ♁ 53'13	31.14198 AU
retrograde	836 Mar 24 j 21:51	26° ♁ 50'22		retrograde	844 Apr 11 j 22:39	14° ♁ 23'20	
opposition	836 Jun 12 j 23:55	25° ♁ 27'22	1°04'27	opposition	844 Jul 01 j 08:10	12° ♁ 59'50	0°32'18
min. Earth dist.	836 Jun 13 j 01:20	25° ♁ 27'17	29.20389 AU	min. Earth dist.	844 Jul 01 j 01:00	13° ♁ 00'19	29.13848 AU
direct	836 Sep 01 j 07:55	24° ♁ 03'59		direct	844 Sep 19 j 01:18	11° ♁ 36'40	
conjunction	836 Dec 13 j 12:20	26° ♁ 32'23	0°58'35	conjunction	844 Dec 30 j 15:58	14° ♁ 04'43	0°28'15
minimum elong	836 Dec 13 j 12:20	26° ♁ 32'23	0°58'35	minimum elong	844 Dec 30 j 15:58	14° ♁ 04'43	0°28'15
max. Earth dist.	836 Dec 13 j 11:20	26° ♁ 32'18	31.19859 AU	max. Earth dist.	844 Dec 30 j 23:08	14° ♁ 05'24	31.13453 AU
retrograde	837 Mar 27 j 09:08	29° ♁ 01'58		retrograde	845 Apr 14 j 09:26	16° ♁ 35'34	
opposition	837 Jun 15 j 12:54	27° ♁ 38'52	1°00'42	opposition	845 Jul 03 j 21:29	15° ♁ 12'01	0°28'00
min. Earth dist.	837 Jun 15 j 12:27	27° ♁ 38'54	29.19377 AU	min. Earth dist.	845 Jul 03 j 14:27	15° ♁ 12'30	29.13060 AU
direct	837 Sep 03 j 19:40	26° ♁ 15'27		direct	845 Sep 21 j 13:33	13° ♁ 48'55	
conjunction	837 Dec 15 j 21:35	28° ♁ 43'46	0°55'03	conjunction	846 Jan 02 j 01:46	16° ♁ 16'57	0°24'12
minimum elong	837 Dec 15 j 21:35	28° ♁ 43'46	0°55'02	minimum elong	846 Jan 02 j 01:46	16° ♁ 16'57	0°24'12
max. Earth dist.	837 Dec 15 j 21:47	28° ♁ 43'48	31.18846 AU	max. Earth dist.	846 Jan 02 j 09:09	16° ♁ 17'38	31.12620 AU
	838 Jan 20 j 01:04	0° ♁		retrograde	846 Apr 16 j 22:17	18° ♁ 47'58	
retrograde	838 Mar 29 j 19:52	1° ♁ 13'29		opposition	846 Jul 06 j 10:41	17° ♁ 24'22	0°23'38
	838 Jun 12 j 01:41	30° ♁		min. Earth dist.	846 Jul 06 j 02:09	17° ♁ 24'57	29.12158 AU
opposition	838 Jun 18 j 02:02	29° ♁ 50'16	0°56'53	direct	846 Sep 24 j 01:25	16° ♁ 01'18	
min. Earth dist.	838 Jun 18 j 01:38	29° ♁ 50'18	29.18388 AU				
direct	838 Sep 06 j 06:09	28° ♁ 26'51		conjunction	847 Jan 04 j 11:46	18° ♁ 29'19	0°20'07
	838 Nov 23 j 11:36	0° ♁		minimum elong	847 Jan 04 j 11:47	18° ♁ 29'19	0°20'07
conjunction	838 Dec 18 j 06:59	0° ♁ 55'05	0°51'26	max. Earth dist.	847 Jan 04 j 19:39	18° ♁ 30'03	31.11641 AU
minimum elong	838 Dec 18 j 06:59	0° ♁ 55'05	0°51'26	retrograde	847 Apr 19 j 09:49	21° ♁ 00'30	
max. Earth dist.	838 Dec 18 j 08:29	0° ♁ 55'13	31.17896 AU	opposition	847 Jul 08 j 23:52	19° ♁ 36'50	0°19'15
retrograde	839 Apr 01 j 07:03	3° ♁ 24'54		min. Earth dist.	847 Jul 08 j 15:57	19° ♁ 37'22	29.11113 AU
opposition	839 Jun 20 j 14:47	2° ♁ 01'37	0°52'58	direct	847 Sep 26 j 12:06	18° ♁ 13'46	
min. Earth dist.	839 Jun 20 j 12:16	2° ♁ 01'47	29.17471 AU				
direct	839 Sep 08 j 18:08	0° ♁ 38'12		conjunction	848 Jan 06 j 21:50	20° ♁ 41'45	0°16'00
conjunction	839 Dec 20 j 16:19	3° ♁ 06'22	0°47'44	minimum elong	848 Jan 06 j 21:50	20° ♁ 41'45	0°16'00
minimum elong	839 Dec 20 j 16:19	3° ♁ 06'22	0°47'44	behind sun begin	848 Jan 06 j 20:42	20° ♁ 41'39	
max. Earth dist.	839 Dec 20 j 18:14	3° ♁ 06'33	31.17024 AU	behind sun end	848 Jan 06 j 22:58	20° ♁ 41'51	
retrograde	840 Apr 02 j 19:38	5° ♁ 36'21		max. Earth dist.	848 Jan 07 j 06:35	20° ♁ 42'34	31.10539 AU
opposition	840 Jun 22 j 03:53	4° ♁ 12'59	0°48'59	retrograde	848 Apr 20 j 21:21	23° ♁ 13'04	
min. Earth dist.	840 Jun 22 j 01:02	4° ♁ 13'11	29.16651 AU	opposition	848 Jul 10 j 13:03	21° ♁ 49'20	0°14'50
direct	840 Sep 10 j 03:31	2° ♁ 49'37		min. Earth dist.	848 Jul 10 j 03:30	21° ♁ 49'59	29.09944 AU
conjunction	840 Dec 22 j 01:40	5° ♁ 17'44	0°43'58	direct	848 Sep 28 j 00:22	20° ♁ 26'15	
conjunction	840 Dec 22 j 01:40	5° ♁ 17'44	0°43'58	conjunction	849 Jan 08 j 07:38	22° ♁ 54'11	0°11'52
minimum elong	840 Dec 22 j 01:40	5° ♁ 17'44	0°43'58	minimum elong	849 Jan 08 j 07:38	22° ♁ 54'11	0°11'53
max. Earth dist.	840 Dec 22 j 05:35	5° ♁ 18'06	31.16253 AU	behind sun begin	849 Jan 08 j 03:07	22° ♁ 53'46	
retrograde	841 Apr 05 j 07:06	7° ♁ 47'51		behind sun end	849 Jan 08 j 12:09	22° ♁ 54'35	
opposition	841 Jun 24 j 16:56	6° ♁ 24'27	0°44'55	max. Earth dist.	849 Jan 08 j 16:22	22° ♁ 55'00	31.09326 AU
min. Earth dist.	841 Jun 24 j 12:24	6° ♁ 24'45	29.15907 AU	retrograde	849 Apr 23 j 09:48	25° ♁ 25'39	
direct	841 Sep 12 j 15:15	5° ♁ 01'07		opposition	849 Jul 13 j 02:21	24° ♁ 01'48	0°10'24
conjunction	841 Dec 24 j 11:03	7° ♁ 29'12	0°40'07	min. Earth dist.	849 Jul 12 j 16:54	24° ♁ 02'26	29.08710 AU
minimum elong	841 Dec 24 j 11:03	7° ♁ 29'12	0°40'08	direct	849 Sep 30 j 09:49	22° ♁ 38'42	
max. Earth dist.	841 Dec 24 j 15:01	7° ♁ 29'34	31.15549 AU				
retrograde	842 Apr 07 j 20:46	9° ♁ 59'30		conjunction	850 Jan 10 j 17:41	25° ♁ 06'35	0°07'44
opposition	842 Jun 27 j 05:57	8° ♁ 36'03	0°40'46	minimum elong	850 Jan 10 j 17:41	25° ♁ 06'35	0°07'44
min. Earth dist.	842 Jun 27 j 00:44	8° ♁ 36'24	29.15232 AU	behind sun begin	850 Jan 10 j 11:53	25° ♁ 06'03	
direct	842 Sep 15 j 01:35	7° ♁ 12'46		behind sun end	850 Jan 10 j 23:29	25° ♁ 07'06	
conjunction	842 Dec 26 j 20:39	9° ♁ 40'51	0°36'13	max. Earth dist.	850 Jan 11 j 04:11	25° ♁ 07'34	31.08084 AU
minimum elong	842 Dec 26 j 20:39	9° ♁ 40'51	0°36'13	retrograde	850 Apr 25 j 21:19	27° ♁ 38'11	
max. Earth dist.	842 Dec 27 j 02:35	9° ♁ 41'24	31.14881 AU	opposition	850 Jul 15 j 15:17	26° ♁ 14'13	0°05'57
retrograde	843 Apr 10 j 08:51	12° ♁ 11'19		min. Earth dist.	850 Jul 15 j 04:27	26° ♁ 14'57	29.07472 AU
opposition	843 Jun 29 j 19:03	10° ♁ 47'50	0°36'34	direct	850 Oct 02 j 21:26	24° ♁ 51'05	
min. Earth dist.	843 Jun 29 j 13:10	10° ♁ 48'14	29.14553 AU				
direct	843 Sep 17 j 14:29	9° ♁ 24'37		conjunction	851 Jan 13 j 03:37	27° ♁ 18'56	0°03'35
				minimum elong	851 Jan 13 j 03:36	27° ♁ 18'56	0°03'35
				behind sun begin	851 Jan 12 j 21:15	27° ♁ 18'21	
				behind sun end	851 Jan 13 j 09:57	27° ♁ 19'30	
				max. Earth dist.	851 Jan 13 j 13:59	27° ♁ 19'54	31.06871 AU

retrograde	851 Apr 28 j 11:09	29°☾50'40		max. Earth dist.	858 Jan 28 j 19:43	12°☾49'17	31.00774 AU
opposition	851 Jul 18 j 04:21	28°☾26'36	0°01'30		858 Apr 08 j 11:09	15°☾	
min. Earth dist.	851 Jul 17 j 16:52	28°☾27'23	29.06305 AU	retrograde	858 May 14 j 04:07	15°☾20'36	
direct	851 Oct 05 j 07:57	27°☾03'28			858 Jun 19 j 20:05	15°☾☾	
desc. node	851 Nov 18 j 09:30	27°☾35'44		opposition	858 Aug 02 j 23:35	13°☾56'11	0°-29'-30
				min. Earth dist.	858 Aug 02 j 07:13	13°☾57'18	29.00386 AU
conjunction	852 Jan 15 j 13:35	29°☾31'17	0°00'-40	direct	858 Oct 20 j 15:40	12°☾33'12	
minimum elong	852 Jan 15 j 13:35	29°☾31'17	0°00'42				
behind sun begin	852 Jan 15 j 07:12	29°☾30'42		conjunction	859 Jan 30 j 14:23	15°☾01'03	0°-29'-36
behind sun end	852 Jan 15 j 19:59	29°☾31'51		minimum elong	859 Jan 30 j 14:22	15°☾01'03	0°29'37
max. Earth dist.	852 Jan 16 j 02:03	29°☾32'27	31.05742 AU		859 Jan 30 j 03:16	15°☾	
	852 Jan 28 j 05:41	0°☾		max. Earth dist.	859 Jan 31 j 07:54	15°☾02'42	30.99921 AU
retrograde	852 Apr 29 j 23:39	2°☾03'09		retrograde	859 May 16 j 16:19	17°☾34'02	
opposition	852 Jul 19 j 17:22	0°☾39'01	0°-2'-57	opposition	859 Aug 05 j 12:38	16°☾09'33	0°-33'-49
min. Earth dist.	852 Jul 19 j 04:58	0°☾39'51	29.05229 AU	min. Earth dist.	859 Aug 04 j 19:18	16°☾10'45	28.99474 AU
	852 Aug 13 j 12:33	30°☾☾			859 Sep 24 j 12:18	15°☾☾	
direct	852 Oct 06 j 20:29	29°☾15'52		direct	859 Oct 23 j 03:36	14°☾46'35	
	852 Nov 27 j 14:32	0°☾			859 Nov 20 j 02:58	15°☾	
conjunction	853 Jan 16 j 23:36	1°☾43'40	0°-4'-53	conjunction	860 Feb 02 j 01:06	17°☾14'25	0°-33'-37
minimum elong	853 Jan 16 j 23:37	1°☾43'40	0°04'54	minimum elong	860 Feb 02 j 01:06	17°☾14'25	0°33'38
behind sun begin	853 Jan 16 j 17:22	1°☾43'07		max. Earth dist.	860 Feb 02 j 17:57	17°☾16'00	30.98954 AU
behind sun end	853 Jan 17 j 05:51	1°☾44'14		retrograde	860 May 18 j 06:01	19°☾47'32	
max. Earth dist.	853 Jan 17 j 12:09	1°☾44'51	31.04735 AU	min. Earth dist.	860 Aug 06 j 08:28	18°☾24'10	28.98462 AU
retrograde	853 May 02 j 13:31	4°☾15'42		opposition	860 Aug 07 j 01:49	18°☾22'58	0°-38'-5
opposition	853 Jul 22 j 06:23	2°☾51'30	0°-7'-25	direct	860 Oct 24 j 13:55	16°☾59'58	
min. Earth dist.	853 Jul 21 j 16:30	2°☾52'26	29.04286 AU				
direct	853 Oct 09 j 06:41	1°☾28'22		conjunction	861 Feb 03 j 12:08	19°☾27'48	0°-37'-35
				minimum elong	861 Feb 03 j 12:08	19°☾27'48	0°37'36
conjunction	854 Jan 19 j 09:46	3°☾56'10	0°-9'-2	max. Earth dist.	861 Feb 04 j 06:25	19°☾29'32	30.97892 AU
minimum elong	854 Jan 19 j 09:45	3°☾56'10	0°09'04	retrograde	861 May 20 j 18:20	22°☾01'01	
behind sun begin	854 Jan 19 j 04:16	3°☾55'40		opposition	861 Aug 09 j 14:50	20°☾36'22	0°-42'-18
behind sun end	854 Jan 19 j 15:15	3°☾56'40		min. Earth dist.	861 Aug 08 j 21:11	20°☾37'34	28.97366 AU
max. Earth dist.	854 Jan 19 j 23:53	3°☾57'30	31.03835 AU	direct	861 Oct 27 j 01:58	19°☾13'19	
retrograde	854 May 05 j 01:21	6°☾28'21					
opposition	854 Jul 24 j 19:28	5°☾04'06	0°-11'-52	conjunction	862 Feb 05 j 23:02	21°☾41'08	0°-41'-30
min. Earth dist.	854 Jul 24 j 05:25	5°☾05'03	29.03435 AU	minimum elong	862 Feb 05 j 23:02	21°☾41'08	0°41'31
direct	854 Oct 11 j 19:11	3°☾41'00		max. Earth dist.	862 Feb 06 j 16:55	21°☾42'50	30.96786 AU
				retrograde	862 May 23 j 08:31	24°☾14'27	
conjunction	855 Jan 21 j 20:01	6°☾08'48	0°-13'-11	min. Earth dist.	862 Aug 11 j 09:13	22°☾50'58	28.96264 AU
minimum elong	855 Jan 21 j 20:01	6°☾08'48	0°13'12	opposition	862 Aug 12 j 03:45	22°☾49'42	0°-46'-27
behind sun begin	855 Jan 21 j 16:10	6°☾08'27		direct	862 Oct 29 j 12:28	21°☾26'37	
behind sun end	855 Jan 21 j 23:52	6°☾09'09					
max. Earth dist.	855 Jan 22 j 10:42	6°☾10'11	31.03035 AU	conjunction	863 Feb 08 j 10:04	23°☾54'25	0°-45'-21
retrograde	855 May 07 j 15:31	8°☾41'09		minimum elong	863 Feb 08 j 10:04	23°☾54'25	0°45'22
opposition	855 Jul 27 j 08:18	7°☾16'51	0°-16'-19	max. Earth dist.	863 Feb 09 j 05:08	23°☾56'14	30.95681 AU
min. Earth dist.	855 Jul 26 j 16:34	7°☾17'55	29.02665 AU	retrograde	863 May 25 j 20:56	26°☾27'50	
direct	855 Oct 14 j 07:22	5°☾53'47		opposition	863 Aug 14 j 16:33	25°☾03'00	0°-50'-33
				min. Earth dist.	863 Aug 13 j 22:07	25°☾04'16	28.95196 AU
conjunction	856 Jan 24 j 06:22	8°☾21'37	0°-17'-20	direct	863 Nov 01 j 01:03	23°☾39'53	
minimum elong	856 Jan 24 j 06:22	8°☾21'37	0°17'21				
max. Earth dist.	856 Jan 24 j 21:48	8°☾23'04	31.02280 AU	conjunction	864 Feb 10 j 21:06	26°☾07'42	0°-49'-8
retrograde	856 May 09 j 03:33	10°☾54'08		minimum elong	864 Feb 10 j 21:06	26°☾07'42	0°49'09
opposition	856 Jul 28 j 21:29	9°☾29'47	0°-20'-44	max. Earth dist.	864 Feb 11 j 16:38	26°☾09'33	30.94665 AU
min. Earth dist.	856 Jul 28 j 06:09	9°☾30'50	29.01931 AU	retrograde	864 May 27 j 11:46	28°☾41'13	
direct	856 Oct 15 j 18:12	8°☾06'46		min. Earth dist.	864 Aug 15 j 09:17	27°☾17'41	28.94239 AU
				opposition	864 Aug 16 j 05:20	27°☾16'19	0°-54'-33
conjunction	857 Jan 25 j 16:48	10°☾34'35	0°-21'-27	direct	864 Nov 02 j 13:23	25°☾53'11	
minimum elong	857 Jan 25 j 16:48	10°☾34'35	0°21'28				
max. Earth dist.	857 Jan 26 j 09:23	10°☾36'10	31.01551 AU	conjunction	865 Feb 12 j 08:06	28°☾21'01	0°-52'-51
retrograde	857 May 11 j 15:24	13°☾07'16		minimum elong	865 Feb 12 j 08:06	28°☾21'01	0°52'52
opposition	857 Jul 31 j 10:32	11°☾42'54	0°-25'-8	max. Earth dist.	865 Feb 13 j 04:19	28°☾22'56	30.93756 AU
min. Earth dist.	857 Jul 30 j 17:40	11°☾44'03	29.01187 AU		865 Mar 31 j 15:26	0°☾☾	
direct	857 Oct 18 j 06:10	10°☾19'55		retrograde	865 May 29 j 23:57	0°☾☾54'40	
					865 Jul 31 j 00:30	30°☾☾	
conjunction	858 Jan 28 j 03:27	12°☾47'45	0°-25'-33	opposition	865 Aug 18 j 18:13	29°☾29'42	0°-58'-29
minimum elong	858 Jan 28 j 03:27	12°☾47'45	0°25'33	min. Earth dist.	865 Aug 17 j 22:34	29°☾31'03	28.93405 AU

direct	865 Nov 05 j 00:24	28° ≈ 06'35		conjunction	874 Mar 04 j 17:56	18° ✕ 28'34	-1°-22'-11
	866 Jan 30 j 13:04	0° ✕		minimum elong	874 Mar 04 j 17:56	18° ✕ 28'34	1°22'11
				max. Earth dist.	874 Mar 05 j 16:33	18° ✕ 30'43	30.88093 AU
conjunction	866 Feb 14 j 19:25	0° ✕ 34'26	0°-56'-29	retrograde	874 Jun 19 j 23:44	21° ✕ 03'12	
minimum elong	866 Feb 14 j 19:25	0° ✕ 34'26	0°56'29	opposition	874 Sep 08 j 12:20	19° ✕ 38'00	-1°-29'-21
max. Earth dist.	866 Feb 15 j 16:47	0° ✕ 36'27	30.92987 AU	min. Earth dist.	874 Sep 07 j 15:10	19° ✕ 39'28	28.87761 AU
retrograde	866 Jun 01 j 12:31	3° ✕ 08'12		direct	874 Nov 25 j 05:02	18° ✕ 14'52	
min. Earth dist.	866 Aug 20 j 09:29	1° ✕ 44'41	28.92698 AU				
opposition	866 Aug 21 j 06:43	1° ✕ 43'13	-1°-2'-20	conjunction	875 Mar 07 j 06:16	20° ✕ 43'08	-1°-24'-53
direct	866 Nov 07 j 12:25	0° ✕ 20'07		minimum elong	875 Mar 07 j 06:15	20° ✕ 43'08	1°24'54
				max. Earth dist.	875 Mar 08 j 05:28	20° ✕ 45'20	30.87258 AU
conjunction	867 Feb 17 j 06:40	2° ✕ 48'01	-1°00'-2	retrograde	875 Jun 22 j 13:41	23° ✕ 17'47	
minimum elong	867 Feb 17 j 06:40	2° ✕ 48'01	1°00'03	min. Earth dist.	875 Sep 10 j 02:29	21° ✕ 54'03	28.86935 AU
max. Earth dist.	867 Feb 18 j 03:48	2° ✕ 50'01	30.92332 AU	opposition	875 Sep 11 j 00:44	21° ✕ 52'30	-1°-32'-11
retrograde	867 Jun 04 j 01:44	5° ✕ 21'56		direct	875 Nov 27 j 18:21	20° ✕ 29'19	
opposition	867 Aug 23 j 19:31	3° ✕ 56'56	-1°-6'-5				
min. Earth dist.	867 Aug 22 j 22:37	3° ✕ 58'22	28.92107 AU	conjunction	876 Mar 08 j 18:20	22° ✕ 57'36	-1°-27'-28
direct	867 Nov 09 j 21:58	2° ✕ 33'51		minimum elong	876 Mar 08 j 18:20	22° ✕ 57'36	1°27'28
				max. Earth dist.	876 Mar 09 j 17:01	22° ✕ 59'45	30.86449 AU
conjunction	868 Feb 19 j 18:04	5° ✕ 01'49	-1°-3'-30	retrograde	876 Jun 24 j 03:28	25° ✕ 32'17	
minimum elong	868 Feb 19 j 18:04	5° ✕ 01'49	1°03'31	opposition	876 Sep 12 j 13:16	24° ✕ 06'56	-1°-34'-52
max. Earth dist.	868 Feb 20 j 16:47	5° ✕ 03'58	30.91782 AU	min. Earth dist.	876 Sep 11 j 15:41	24° ✕ 08'26	28.86179 AU
retrograde	868 Jun 05 j 14:04	7° ✕ 35'52		direct	876 Nov 29 j 05:30	22° ✕ 43'41	
min. Earth dist.	868 Aug 24 j 10:13	6° ✕ 12'23	28.91590 AU				
opposition	868 Aug 25 j 08:14	6° ✕ 10'52	-1°-9'-45	conjunction	877 Mar 11 j 06:49	25° ✕ 12'00	-1°-29'-54
direct	868 Nov 11 j 09:43	4° ✕ 47'50		minimum elong	877 Mar 11 j 06:49	25° ✕ 12'00	1°29'55
				max. Earth dist.	877 Mar 12 j 06:44	25° ✕ 14'15	30.85736 AU
conjunction	869 Feb 21 j 05:36	7° ✕ 15'51	-1°-6'-53	retrograde	877 Jun 26 j 15:12	26° ✕ 46'42	
minimum elong	869 Feb 21 j 05:36	7° ✕ 15'51	1°06'54	min. Earth dist.	877 Sep 14 j 02:57	26° ✕ 22'52	28.85521 AU
max. Earth dist.	869 Feb 22 j 03:42	7° ✕ 17'56	30.91291 AU	opposition	877 Sep 15 j 01:27	26° ✕ 21'18	-1°-37'-25
retrograde	869 Jun 08 j 03:35	9° ✕ 50'03		direct	877 Dec 01 j 18:02	24° ✕ 58'01	
opposition	869 Aug 27 j 20:57	8° ✕ 25'02	-1°-13'-18				
min. Earth dist.	869 Aug 26 j 23:06	8° ✕ 26'33	28.91123 AU	conjunction	878 Mar 13 j 19:13	27° ✕ 26'21	-1°-32'-13
direct	869 Nov 13 j 19:16	7° ✕ 02'02		minimum elong	878 Mar 13 j 19:13	27° ✕ 26'21	1°32'14
				max. Earth dist.	878 Mar 14 j 18:18	27° ✕ 28'32	30.85138 AU
conjunction	870 Feb 23 j 17:29	9° ✕ 30'07	-1°-10'-10	878 Jun 20 j 21:59	0° ∇		
minimum elong	870 Feb 23 j 17:29	9° ✕ 30'07	1°10'11	retrograde	878 Jun 29 j 04:11	0° ∇ 01'07	
max. Earth dist.	870 Feb 24 j 16:53	9° ✕ 32'20	30.90808 AU	878 Jul 07 j 10:48	30° R ✕		
retrograde	870 Jun 10 j 16:01	12° ✕ 04'27		opposition	878 Sep 17 j 13:47	28° ✕ 35'40	-1°-39'-48
min. Earth dist.	870 Aug 29 j 11:50	10° ✕ 40'57	28.90620 AU	min. Earth dist.	878 Sep 16 j 15:30	28° ✕ 37'14	28.84996 AU
opposition	870 Aug 30 j 09:41	10° ✕ 39'27	-1°-16'-45	direct	878 Dec 04 j 04:00	27° ✕ 12'22	
direct	870 Nov 16 j 06:19	9° ✕ 16'27					
				conjunction	879 Mar 16 j 07:44	29° ✕ 40'45	-1°-34'-23
conjunction	871 Feb 26 j 05:23	11° ✕ 44'36	-1°-13'-20	minimum elong	879 Mar 16 j 07:44	29° ✕ 40'45	1°34'24
minimum elong	871 Feb 26 j 05:23	11° ✕ 44'36	1°13'21	max. Earth dist.	879 Mar 17 j 08:11	29° ✕ 43'04	30.84663 AU
max. Earth dist.	871 Feb 27 j 03:54	11° ✕ 46'44	30.90273 AU	879 Mar 24 j 19:54	0° ∇		
retrograde	871 Jun 13 j 06:49	14° ✕ 19'03		retrograde	879 Jul 01 j 15:57	2° ∇ 15'33	
opposition	871 Sep 01 j 22:22	12° ✕ 54'01	-1°-20'-5	min. Earth dist.	879 Sep 19 j 03:29	0° ∇ 51'41	28.84583 AU
min. Earth dist.	871 Sep 01 j 00:12	12° ✕ 55'34	28.90051 AU	opposition	879 Sep 20 j 01:58	0° ∇ 50'06	-1°-42'-3
direct	871 Nov 18 j 16:16	11° ✕ 31'02		879 Oct 22 j 01:37	30° R ✕		
				direct	879 Dec 06 j 15:09	29° ✕ 26'47	
conjunction	872 Feb 28 j 17:32	13° ✕ 59'14	-1°-16'-24	880 Jan 19 j 20:57	0° ∇		
minimum elong	872 Feb 28 j 17:32	13° ✕ 59'14	1°16'25				
max. Earth dist.	872 Feb 29 j 16:34	14° ✕ 01'25	30.89640 AU	conjunction	880 Mar 17 j 20:18	1° ∇ 55'14	-1°-36'-25
retrograde	872 Jun 14 j 20:04	16° ✕ 33'46		minimum elong	880 Mar 17 j 20:18	1° ∇ 55'14	1°36'25
opposition	872 Sep 03 j 11:11	15° ✕ 08'42	-1°-23'-18	max. Earth dist.	880 Mar 18 j 20:00	1° ∇ 57'28	30.84319 AU
min. Earth dist.	872 Sep 02 j 13:41	15° ✕ 10'12	28.89369 AU	retrograde	880 Jul 03 j 06:18	4° ∇ 30'06	
direct	872 Nov 20 j 04:59	13° ✕ 45'41		opposition	880 Sep 21 j 14:12	3° ∇ 04'39	-1°-44'-8
				min. Earth dist.	880 Sep 20 j 15:19	3° ∇ 06'15	28.84300 AU
conjunction	873 Mar 02 j 05:41	16° ✕ 13'55	-1°-19'-21	direct	880 Dec 08 j 01:08	1° ∇ 41'20	
minimum elong	873 Mar 02 j 05:40	16° ✕ 13'55	1°19'22				
max. Earth dist.	873 Mar 03 j 04:22	16° ✕ 16'04	30.88914 AU	conjunction	881 Mar 20 j 09:03	4° ∇ 09'52	-1°-38'-17
retrograde	873 Jun 17 j 11:16	18° ✕ 48'31		minimum elong	881 Mar 20 j 09:02	4° ∇ 09'52	1°38'19
opposition	873 Sep 05 j 23:49	17° ✕ 23'23	-1°-26'-24	max. Earth dist.	881 Mar 21 j 09:29	4° ∇ 12'10	30.84067 AU
min. Earth dist.	873 Sep 05 j 01:33	17° ✕ 24'55	28.88595 AU	retrograde	881 Jul 05 j 18:43	6° ∇ 44'48	
direct	873 Nov 22 j 17:39	16° ✕ 00'19		min. Earth dist.	881 Sep 23 j 04:13	5° ∇ 20'55	28.84080 AU
				opposition	881 Sep 24 j 02:25	5° ∇ 19'22	-1°-46'-4

direct	881 Dec 10 j 12:51	3°♃56'04		minimum elong	890 Apr 10 j 08:41	24°♃25'51	1°48'13
				max. Earth dist.	890 Apr 11 j 06:14	24°♃27'52	30.80887 AU
conjunction	882 Mar 22 j 22:00	6°♃24'42	-1°-40'-1	retrograde	890 Jul 26 j 17:37	27°♃00'43	
minimum elong	882 Mar 22 j 22:00	6°♃24'42	1°40'02	opposition	890 Oct 14 j 13:34	25°♃35'14	-1°-55'-54
max. Earth dist.	882 Mar 23 j 21:57	6°♃26'57	30.83873 AU	min. Earth dist.	890 Oct 13 j 18:35	25°♃36'34	28.80917 AU
retrograde	882 Jul 08 j 09:39	8°♃59'40		direct	890 Dec 30 j 22:15	24°♃11'33	
opposition	882 Sep 26 j 14:22	7°♃34'17	-1°-47'-50				
min. Earth dist.	882 Sep 25 j 15:37	7°♃35'52	28.83890 AU	conjunction	891 Apr 12 j 22:09	26°♃40'46	-1°-48'-30
direct	882 Dec 13 j 00:32	6°♃10'58		minimum elong	891 Apr 12 j 22:09	26°♃40'46	1°48'31
				max. Earth dist.	891 Apr 13 j 19:05	26°♃42'44	30.80732 AU
conjunction	883 Mar 25 j 11:05	8°♃39'43	-1°-41'-36	retrograde	891 Jul 29 j 07:40	29°♃15'36	
minimum elong	883 Mar 25 j 11:05	8°♃39'43	1°41'37	min. Earth dist.	891 Oct 16 j 05:21	27°♃51'30	28.80838 AU
max. Earth dist.	883 Mar 26 j 10:45	8°♃41'57	30.83660 AU	opposition	891 Oct 17 j 01:05	27°♃50'07	-1°-56'-7
retrograde	883 Jul 10 j 22:51	11°♃14'45		direct	892 Jan 02 j 09:13	26°♃26'22	
min. Earth dist.	883 Sep 28 j 05:15	9°♃50'52	28.83661 AU				
opposition	883 Sep 29 j 02:37	9°♃49'23	-1°-49'-26	conjunction	892 Apr 14 j 11:34	28°♃55'40	-1°-48'-38
direct	883 Dec 15 j 11:28	8°♃26'04		minimum elong	892 Apr 14 j 11:34	28°♃55'41	1°48'38
				max. Earth dist.	892 Apr 15 j 08:30	28°♃57'38	30.80722 AU
conjunction	884 Mar 27 j 00:14	10°♃54'54	-1°-43'-1		892 May 13 j 20:49	0°♃	
minimum elong	884 Mar 27 j 00:14	10°♃54'54	1°43'01	retrograde	892 Jul 30 j 19:47	1°♃30'28	
max. Earth dist.	884 Mar 27 j 23:55	10°♃57'08	30.83399 AU	opposition	892 Oct 18 j 12:42	0°♃05'01	-1°-56'-10
retrograde	884 Jul 12 j 13:59	13°♃29'58		min. Earth dist.	892 Oct 17 j 18:10	0°♃06'19	28.80905 AU
opposition	884 Sep 30 j 14:42	12°♃04'36	-1°-50'-52		892 Oct 21 j 11:34	30°♃	
min. Earth dist.	884 Sep 29 j 16:51	12°♃06'08	28.83351 AU	direct	893 Jan 03 j 19:55	28°♃41'15	
direct	884 Dec 17 j 00:58	10°♃41'16			893 Mar 15 j 11:36	0°♃	
conjunction	885 Mar 29 j 13:35	13°♃10'11	-1°-44'-17	conjunction	893 Apr 17 j 01:19	1°♃10'38	-1°-48'-36
minimum elong	885 Mar 29 j 13:35	13°♃10'11	1°44'18	minimum elong	893 Apr 17 j 01:19	1°♃10'38	1°48'37
max. Earth dist.	885 Mar 30 j 11:57	13°♃12'17	30.83034 AU	max. Earth dist.	893 Apr 17 j 22:18	1°♃12'36	30.80867 AU
retrograde	885 Jul 15 j 04:17	15°♃45'15		retrograde	893 Aug 02 j 10:14	3°♃45'23	
min. Earth dist.	885 Oct 02 j 06:23	14°♃21'18	28.82946 AU	opposition	893 Oct 21 j 00:00	2°♃19'58	-1°-56'-2
opposition	885 Oct 03 j 02:48	14°♃19'52	-1°-52'-8	min. Earth dist.	893 Oct 20 j 04:52	2°♃21'19	28.81101 AU
direct	885 Dec 19 j 12:31	12°♃56'30		direct	894 Jan 06 j 09:23	0°♃56'12	
conjunction	886 Apr 01 j 03:06	15°♃25'28	-1°-45'-23	conjunction	894 Apr 19 j 15:04	3°♃25'41	-1°-48'-23
minimum elong	886 Apr 01 j 03:06	15°♃25'28	1°45'24	minimum elong	894 Apr 19 j 15:04	3°♃25'41	1°48'24
max. Earth dist.	886 Apr 02 j 01:51	15°♃27'37	30.82588 AU	max. Earth dist.	894 Apr 20 j 11:00	3°♃27'33	30.81110 AU
retrograde	886 Jul 17 j 16:38	18°♃00'31		retrograde	894 Aug 04 j 23:48	6°♃00'24	
opposition	886 Oct 05 j 14:43	16°♃35'07	-1°-53'-14	opposition	894 Oct 23 j 11:32	4°♃35'02	-1°-55'-43
min. Earth dist.	886 Oct 04 j 18:01	16°♃36'34	28.82461 AU	min. Earth dist.	894 Oct 22 j 17:47	4°♃36'17	28.81384 AU
direct	886 Dec 22 j 01:39	15°♃11'42		direct	895 Jan 08 j 20:45	3°♃11'16	
conjunction	887 Apr 03 j 16:18	17°♃40'42	-1°-46'-20	conjunction	895 Apr 22 j 04:54	5°♃40'51	-1°-48'-1
minimum elong	887 Apr 03 j 16:18	17°♃40'42	1°46'22	minimum elong	895 Apr 22 j 04:54	5°♃40'51	1°48'02
max. Earth dist.	887 Apr 04 j 13:37	17°♃42'43	30.82089 AU	max. Earth dist.	895 Apr 23 j 01:12	5°♃42'45	30.81413 AU
retrograde	887 Jul 20 j 05:59	20°♃15'43		retrograde	895 Aug 07 j 13:13	8°♃15'31	
min. Earth dist.	887 Oct 07 j 06:44	18°♃51'41	28.81968 AU	opposition	895 Oct 25 j 22:56	6°♃50'13	-1°-55'-14
opposition	887 Oct 08 j 02:39	18°♃50'17	-1°-54'-10	min. Earth dist.	895 Oct 25 j 05:03	6°♃51'28	28.81682 AU
direct	887 Dec 24 j 12:25	17°♃26'47		direct	896 Jan 11 j 09:38	5°♃26'26	
conjunction	888 Apr 05 j 05:47	19°♃55'51	-1°-47'-7	conjunction	896 Apr 23 j 18:51	7°♃56'06	-1°-47'-28
minimum elong	888 Apr 05 j 05:47	19°♃55'51	1°47'08	minimum elong	896 Apr 23 j 18:51	7°♃56'06	1°47'29
max. Earth dist.	888 Apr 06 j 04:00	19°♃57'56	30.81605 AU	max. Earth dist.	896 Apr 24 j 13:19	7°♃57'50	30.81703 AU
retrograde	888 Jul 21 j 17:55	22°♃30'49		retrograde	896 Aug 09 j 03:51	10°♃30'43	
opposition	888 Oct 09 j 14:22	21°♃05'21	-1°-54'-55	opposition	896 Oct 27 j 10:22	9°♃05'28	-1°-54'-34
min. Earth dist.	888 Oct 08 j 18:40	21°♃06'44	28.81511 AU	min. Earth dist.	896 Oct 26 j 17:42	9°♃06'38	28.81952 AU
direct	888 Dec 26 j 00:05	19°♃41'47		direct	897 Jan 12 j 20:56	7°♃41'39	
conjunction	889 Apr 07 j 19:09	22°♃10'53	-1°-47'-45	conjunction	897 Apr 26 j 09:07	10°♃11'25	-1°-46'-46
minimum elong	889 Apr 07 j 19:09	22°♃10'53	1°47'46	minimum elong	897 Apr 26 j 09:07	10°♃11'25	1°46'48
max. Earth dist.	889 Apr 08 j 16:10	22°♃12'52	30.81196 AU	max. Earth dist.	897 Apr 27 j 03:48	10°♃13'10	30.81930 AU
retrograde	889 Jul 24 j 06:58	24°♃45'49		retrograde	897 Aug 11 j 16:14	12°♃45'57	
min. Earth dist.	889 Oct 11 j 06:19	23°♃21'43	28.81157 AU	opposition	897 Oct 29 j 21:48	11°♃20'44	-1°-53'-43
opposition	889 Oct 12 j 02:02	23°♃20'19	-1°-55'-30	min. Earth dist.	897 Oct 29 j 05:53	11°♃21'51	28.82126 AU
direct	889 Dec 28 j 10:47	21°♃56'41		direct	898 Jan 15 j 09:34	9°♃56'53	
conjunction	890 Apr 10 j 08:41	24°♃25'51	-1°-48'-12	conjunction	898 Apr 28 j 23:13	12°♃26'42	-1°-45'-54

minimum elong	898 Apr 28 j 23:13	12°♃26'42	1°45'54	min. Earth dist.	905 Nov 16 j 02:57	29°♃20'30	28.84126 AU
max. Earth dist.	898 Apr 29 j 15:54	12°♃28'16	30.82070 AU	direct	906 Feb 02 j 07:55	27°♃55'27	
	898 Aug 05 j 21:43	15°♃			906 May 06 j 02:12	0°♂	
retrograde	898 Aug 14 j 05:15	15°♃01'08					
	898 Aug 22 j 11:20	15°♃		conjunction	906 May 17 j 16:20	0°♂25'52	-1°-33'-23
opposition	898 Nov 01 j 09:03	13°♃35'56	-1°-52'-43	minimum elong	906 May 17 j 16:21	0°♂25'52	1°33'23
min. Earth dist.	898 Oct 31 j 17:43	13°♃37'01	28.82229 AU	max. Earth dist.	906 May 18 j 05:01	0°♂27'03	30.84395 AU
direct	899 Jan 17 j 20:50	12°♃12'02		retrograde	906 Sep 01 j 09:44	2°♂59'24	
				opposition	906 Nov 19 j 00:50	1°♂34'33	-1°-38'-40
conjunction	899 May 01 j 13:24	14°♃41'54	-1°-44'-53	min. Earth dist.	906 Nov 18 j 14:18	1°♂35'18	28.84856 AU
minimum elong	899 May 01 j 13:24	14°♃41'54	1°44'54	direct	907 Feb 04 j 20:40	0°♂10'18	
max. Earth dist.	899 May 02 j 06:05	14°♃43'28	30.82142 AU				
	899 May 09 j 14:48	15°♃		conjunction	907 May 20 j 06:31	2°♂40'49	-1°-31'-8
retrograde	899 Aug 16 j 16:02	17°♃16'14		minimum elong	907 May 20 j 06:31	2°♂40'49	1°31'10
opposition	899 Nov 03 j 20:19	15°♃51'03	-1°-51'-32	max. Earth dist.	907 May 20 j 17:23	2°♂41'49	30.85176 AU
min. Earth dist.	899 Nov 03 j 06:15	15°♃52'02	28.82279 AU	retrograde	907 Sep 03 j 23:13	5°♂14'15	
	899 Dec 06 j 02:08	15°♃		opposition	907 Nov 21 j 11:38	3°♂49'30	-1°-36'-11
direct	900 Jan 20 j 08:25	14°♃27'04		min. Earth dist.	907 Nov 21 j 01:39	3°♂50'13	28.85656 AU
	900 Mar 04 j 17:15	15°♃		direct	908 Feb 07 j 07:48	2°♂25'15	
conjunction	900 May 03 j 03:26	16°♃56'59	-1°-43'-42	conjunction	908 May 21 j 20:55	4°♂55'53	-1°-28'-45
minimum elong	900 May 03 j 03:26	16°♃56'59	1°43'42	minimum elong	908 May 21 j 20:55	4°♂55'53	1°28'46
max. Earth dist.	900 May 03 j 18:47	16°♃58'26	30.82204 AU	max. Earth dist.	908 May 22 j 07:47	4°♂56'53	30.85970 AU
retrograde	900 Aug 18 j 05:41	19°♃31'12		retrograde	908 Sep 05 j 10:49	7°♂29'12	
opposition	900 Nov 05 j 07:24	18°♃06'01	-1°-50'-11	opposition	908 Nov 22 j 22:32	6°♂04'34	-1°-33'-34
min. Earth dist.	900 Nov 04 j 17:11	18°♃07'01	28.82343 AU	min. Earth dist.	908 Nov 22 j 14:04	6°♂05'10	28.86424 AU
direct	901 Jan 21 j 19:43	16°♃41'57		direct	909 Feb 08 j 19:15	4°♂40'19	
conjunction	901 May 05 j 17:38	19°♃11'57	-1°-42'-21	conjunction	909 May 24 j 11:24	7°♂11'01	-1°-26'-14
minimum elong	901 May 05 j 17:38	19°♃11'57	1°42'23	minimum elong	909 May 24 j 11:25	7°♂11'01	1°26'15
max. Earth dist.	901 May 06 j 08:32	19°♃13'20	30.82281 AU	max. Earth dist.	909 May 24 j 20:18	7°♂11'51	30.86714 AU
retrograde	901 Aug 20 j 16:26	21°♃46'01		retrograde	909 Sep 08 j 00:38	9°♂44'13	
opposition	901 Nov 07 j 18:25	20°♃20'52	-1°-48'-40	opposition	909 Nov 25 j 09:14	8°♂19'40	-1°-30'-48
min. Earth dist.	901 Nov 07 j 05:48	20°♃21'46	28.82453 AU	min. Earth dist.	909 Nov 25 j 01:00	8°♂20'15	28.87119 AU
direct	902 Jan 24 j 06:40	18°♃56'44		direct	910 Feb 11 j 06:18	6°♂55'22	
conjunction	902 May 08 j 07:50	21°♃26'47	-1°-40'-52	conjunction	910 May 27 j 01:57	9°♂26'10	-1°-23'-36
minimum elong	902 May 08 j 07:50	21°♃26'47	1°40'52	minimum elong	910 May 27 j 01:57	9°♂26'10	1°23'36
max. Earth dist.	902 May 08 j 22:20	21°♃28'09	30.82446 AU	max. Earth dist.	910 May 27 j 09:59	9°♂26'54	30.87355 AU
retrograde	902 Aug 23 j 05:40	24°♃00'45		retrograde	910 Sep 10 j 10:29	11°♂59'13	
opposition	902 Nov 10 j 05:20	22°♃35'37	-1°-46'-59	opposition	910 Nov 27 j 20:11	10°♂34'43	-1°-27'-54
min. Earth dist.	902 Nov 09 j 16:16	22°♃36'32	28.82663 AU	min. Earth dist.	910 Nov 27 j 13:56	10°♂35'10	28.87708 AU
direct	903 Jan 26 j 20:06	21°♃11'26		direct	911 Feb 13 j 17:29	9°♂10'23	
conjunction	903 May 10 j 21:44	23°♃41'33	-1°-39'-13	conjunction	911 May 29 j 16:15	11°♂41'12	-1°-20'-49
minimum elong	903 May 10 j 21:44	23°♃41'33	1°39'15	minimum elong	911 May 29 j 16:16	11°♂41'12	1°20'51
max. Earth dist.	903 May 11 j 11:15	23°♃42'49	30.82715 AU	max. Earth dist.	911 May 29 j 23:11	11°♂41'51	30.87911 AU
retrograde	903 Aug 25 j 17:58	26°♃15'24		retrograde	911 Sep 12 j 22:43	14°♂14'06	
opposition	903 Nov 12 j 16:23	24°♃50'18	-1°-45'-9	opposition	911 Nov 30 j 06:54	12°♂49'39	-1°-24'-53
min. Earth dist.	903 Nov 12 j 04:37	24°♃51'08	28.83007 AU	min. Earth dist.	911 Nov 30 j 00:41	12°♂50'05	28.88210 AU
direct	904 Jan 29 j 07:23	23°♃26'04		direct	912 Feb 16 j 06:37	11°♂25'13	
conjunction	904 May 12 j 11:57	25°♃56'17	-1°-37'-25	conjunction	912 May 31 j 06:40	13°♂56'06	-1°-17'-56
minimum elong	904 May 12 j 11:57	25°♃56'17	1°37'26	minimum elong	912 May 31 j 06:40	13°♂56'06	1°17'57
max. Earth dist.	904 May 13 j 01:44	25°♃57'34	30.83137 AU	max. Earth dist.	912 May 31 j 12:07	13°♂56'36	30.88382 AU
retrograde	904 Aug 27 j 07:07	28°♃30'01		retrograde	912 Sep 14 j 10:03	16°♂28'49	
opposition	904 Nov 14 j 03:08	27°♃04'59	-1°-43'-9	opposition	912 Dec 01 j 17:33	15°♂04'23	-1°-21'-44
min. Earth dist.	904 Nov 13 j 15:06	27°♃05'51	28.83492 AU	min. Earth dist.	912 Dec 01 j 13:14	15°♂04'41	28.88663 AU
direct	905 Jan 30 j 20:12	25°♃40'44		direct	913 Feb 17 j 17:25	13°♂39'52	
conjunction	905 May 15 j 02:05	28°♃11'02	-1°-35'-28	conjunction	913 Jun 02 j 21:07	16°♂10'47	-1°-14'-56
minimum elong	905 May 15 j 02:05	28°♃11'02	1°35'30	minimum elong	913 Jun 02 j 21:07	16°♂10'47	1°14'58
max. Earth dist.	905 May 17 j 14:13	28°♃12'10	30.83702 AU	max. Earth dist.	913 Jun 03 j 02:12	16°♂11'15	30.88830 AU
	905 Jul 07 j 21:53	0°♂		retrograde	913 Sep 16 j 22:03	18°♂43'18	
retrograde	905 Aug 29 j 21:39	0°♂44'40		opposition	913 Dec 04 j 04:05	17°♂18'54	-1°-18'-28
	905 Oct 22 j 22:16	30°♃		min. Earth dist.	913 Dec 03 j 23:53	17°♂19'12	28.89098 AU
opposition	905 Nov 16 j 14:03	29°♃19'43	-1°-40'-59	direct	914 Feb 20 j 07:04	15°♂54'19	

conjunction	914 Jun 05 j 11:12	18°II25'15	-1°-11'-49	conjunction	922 Jun 24 j 04:07	6°☾17'37	0°-43'-30
minimum elong	914 Jun 05 j 11:12	18°II25'15	1°11'50	minimum elong	922 Jun 24 j 04:07	6°☾17'37	0°43'31
max. Earth dist.	914 Jun 05 j 14:26	18°II25'33	30.89281 AU	max. Earth dist.	922 Jun 24 j 01:22	6°☾17'22	30.95995 AU
retrograde	914 Sep 19 j 10:53	20°II57'34		retrograde	922 Oct 07 j 08:03	8°☾48'43	
opposition	914 Dec 06 j 14:38	19°II33'11	-1°-15'-5	opposition	922 Dec 24 j 01:51	7°☾25'02	0°-44'-26
min. Earth dist.	914 Dec 06 j 11:32	19°II33'24	28.89578 AU	min. Earth dist.	922 Dec 24 j 04:37	7°☾24'50	28.96436 AU
direct	915 Feb 22 j 19:24	18°II08'31		direct	923 Mar 12 j 18:09	6°☾00'11	
conjunction	915 Jun 08 j 01:27	20°II39'30	-1°-8'-36	conjunction	923 Jun 26 j 18:08	8°☾31'43	0°-39'-37
minimum elong	915 Jun 08 j 01:27	20°II39'30	1°08'38	minimum elong	923 Jun 26 j 18:08	8°☾31'43	0°39'38
max. Earth dist.	915 Jun 08 j 05:02	20°II39'50	30.89800 AU	max. Earth dist.	923 Jun 26 j 13:13	8°☾31'16	30.96821 AU
retrograde	915 Sep 21 j 22:02	23°II11'38		retrograde	923 Oct 09 j 20:25	11°☾02'40	
opposition	915 Dec 09 j 01:02	21°II47'17	-1°-11'-35	opposition	923 Dec 26 j 12:13	9°☾39'02	0°-40'-15
min. Earth dist.	915 Dec 08 j 22:33	21°II47'28	28.90135 AU	min. Earth dist.	923 Dec 26 j 16:23	9°☾38'45	28.97222 AU
direct	916 Feb 25 j 08:46	20°II22'33		direct	924 Mar 14 j 06:10	8°☾14'09	
conjunction	916 Jun 09 j 15:27	22°II53'34	-1°-5'-17	conjunction	924 Jun 28 j 08:15	10°☾45'44	0°-35'-40
minimum elong	916 Jun 09 j 15:28	22°II53'34	1°05'18	minimum elong	924 Jun 28 j 08:15	10°☾45'44	0°35'41
max. Earth dist.	916 Jun 09 j 17:14	22°II53'44	30.90422 AU	max. Earth dist.	924 Jun 28 j 03:12	10°☾45'16	30.97564 AU
retrograde	916 Sep 23 j 11:11	25°II25'32		retrograde	924 Oct 11 j 07:12	13°☾16'30	
opposition	916 Dec 10 j 11:27	24°II01'14	-1°-7'-59	opposition	924 Dec 27 j 22:36	11°☾52'55	0°-36'-1
min. Earth dist.	916 Dec 10 j 09:18	24°II01'23	28.90818 AU	min. Earth dist.	924 Dec 28 j 03:45	11°☾52'33	28.97913 AU
direct	917 Feb 26 j 20:30	22°II36'27		direct	925 Mar 16 j 19:36	10°☾27'59	
conjunction	917 Jun 12 j 05:41	25°II07'31	-1°-1'-52	conjunction	925 Jun 30 j 22:05	12°☾59'35	0°-31'-41
minimum elong	917 Jun 12 j 05:41	25°II07'31	1°01'54	minimum elong	925 Jun 30 j 22:05	12°☾59'35	0°31'42
max. Earth dist.	917 Jun 12 j 07:46	25°II07'43	30.91163 AU	max. Earth dist.	925 Jun 30 j 14:53	12°☾58'55	30.98234 AU
retrograde	917 Sep 25 j 22:24	27°II39'18		retrograde	925 Oct 13 j 20:07	15°☾30'09	
opposition	917 Dec 12 j 21:52	26°II15'05	-1°-4'-17	opposition	925 Dec 30 j 08:49	14°☾06'37	0°-31'-44
min. Earth dist.	917 Dec 12 j 20:52	26°II15'10	28.91619 AU	min. Earth dist.	925 Dec 30 j 14:34	14°☾06'13	28.98568 AU
direct	918 Mar 01 j 08:39	24°II50'17		direct	926 Mar 19 j 07:45	12°☾41'37	
conjunction	918 Jun 14 j 19:42	27°II21'26	0°-58'-22	conjunction	926 Jul 03 j 11:57	15°☾13'15	0°-27'-40
minimum elong	918 Jun 14 j 19:43	27°II21'26	0°58'23	minimum elong	926 Jul 03 j 11:57	15°☾13'15	0°27'40
max. Earth dist.	918 Jun 14 j 20:15	27°II21'29	30.92045 AU	max. Earth dist.	926 Jul 03 j 04:56	15°☾12'36	30.98879 AU
retrograde	918 Sep 28 j 11:27	29°II53'04		retrograde	926 Oct 16 j 07:15	17°☾43'37	
opposition	918 Dec 15 j 08:13	28°II28'57	-1°00'-29	opposition	927 Jan 01 j 19:08	16°☾20'07	0°-27'-24
min. Earth dist.	918 Dec 15 j 06:56	28°II29'02	28.92554 AU	min. Earth dist.	927 Jan 02 j 02:15	16°☾19'37	28.99218 AU
direct	919 Mar 03 j 20:03	27°II04'08		direct	927 Mar 21 j 21:05	14°☾55'03	
conjunction	919 Jun 17 j 09:41	29°II35'22	0°-54'-46	conjunction	927 Jul 06 j 01:24	17°☾26'41	0°-23'-36
minimum elong	919 Jun 17 j 09:41	29°II35'22	0°54'47	minimum elong	927 Jul 06 j 01:24	17°☾26'41	0°23'37
max. Earth dist.	919 Jun 17 j 09:59	29°II35'23	30.93026 AU	max. Earth dist.	927 Jul 05 j 16:44	17°☾25'53	30.99557 AU
	919 Jun 28 j 11:38	0°☾		retrograde	927 Oct 18 j 19:16	19°☾56'52	
retrograde	919 Sep 30 j 21:22	2°☾06'52		opposition	928 Jan 04 j 05:17	18°☾33'24	0°-23'-2
opposition	919 Dec 17 j 18:42	0°☾42'52	0°-56'-35	min. Earth dist.	928 Jan 04 j 12:09	18°☾32'55	28.99922 AU
min. Earth dist.	919 Dec 17 j 19:11	0°☾42'50	28.93565 AU	direct	928 Mar 23 j 09:41	17°☾08'16	
	920 Jan 13 j 04:52	30°RII					
direct	920 Mar 05 j 06:49	29°II18'04		conjunction	928 Jul 07 j 15:02	19°☾39'55	0°-19'-30
	920 Apr 25 j 08:47	0°☾		minimum elong	928 Jul 07 j 15:02	19°☾39'55	0°19'31
				max. Earth dist.	928 Jul 07 j 06:13	19°☾39'07	31.00293 AU
conjunction	920 Jun 18 j 23:50	1°☾49'23	0°-51'-5	retrograde	928 Oct 20 j 04:35	22°☾09'54	
minimum elong	920 Jun 18 j 23:50	1°☾49'23	0°51'06	opposition	929 Jan 05 j 15:27	20°☾46'29	0°-18'-39
max. Earth dist.	920 Jun 18 j 23:03	1°☾49'18	30.94063 AU	min. Earth dist.	929 Jan 05 j 23:53	20°☾45'53	29.00713 AU
retrograde	920 Oct 02 j 09:33	4°☾20'45		direct	929 Mar 25 j 20:56	19°☾21'19	
opposition	920 Dec 19 j 04:55	2°☾56'53	0°-52'-37				
min. Earth dist.	920 Dec 19 j 05:27	2°☾56'50	28.94589 AU	conjunction	929 Jul 10 j 04:30	21°☾52'58	0°-15'-23
direct	921 Mar 07 j 18:52	1°☾32'04		minimum elong	929 Jul 10 j 04:30	21°☾52'58	0°15'25
				behind sun begin	929 Jul 10 j 03:04	21°☾52'50	
conjunction	921 Jun 21 j 14:02	4°☾03'29	0°-47'-20	behind sun end	929 Jul 10 j 05:55	21°☾53'06	
minimum elong	921 Jun 21 j 14:02	4°☾03'29	0°47'21	max. Earth dist.	929 Jul 09 j 18:52	21°☾52'05	31.01151 AU
max. Earth dist.	921 Jun 21 j 11:53	4°☾03'17	30.95063 AU	retrograde	929 Oct 22 j 16:16	24°☾22'46	
retrograde	921 Oct 04 j 20:39	6°☾34'44		opposition	930 Jan 08 j 01:38	22°☾59'25	0°-14'-14
opposition	921 Dec 21 j 15:27	5°☾10'57	0°-48'-33	min. Earth dist.	930 Jan 08 j 09:34	22°☾58'51	29.01631 AU
min. Earth dist.	921 Dec 21 j 17:54	5°☾10'47	28.95563 AU	direct	930 Mar 28 j 08:58	21°☾34'13	
direct	922 Mar 10 j 04:45	3°☾46'08					
				conjunction	930 Jul 12 j 17:42	24°☾05'53	0°-11'-15

minimum elong	930 Jul 12 j 17:43	24° \mathcal{E} 05'53	0°11'17	behind sun end	936 Jul 26 j 04:36	7° \mathcal{N} 23'26	
behind sun begin	930 Jul 12 j 12:56	24° \mathcal{E} 05'28		retrograde	936 Nov 06 j 21:08	9° \mathcal{N} 51'57	
behind sun end	930 Jul 12 j 22:29	24° \mathcal{E} 06'19		opposition	937 Jan 23 j 01:25	8° \mathcal{N} 29'10	0°16'52
max. Earth dist.	930 Jul 12 j 07:29	24° \mathcal{E} 04'57	31.02132 AU	min. Earth dist.	937 Jan 23 j 14:32	8° \mathcal{N} 28'15	29.09296 AU
retrograde	930 Oct 25 j 02:03	26° \mathcal{E} 35'32		direct	937 Apr 12 j 20:38	7° \mathcal{N} 03'57	
opposition	931 Jan 10 j 11:53	25° \mathcal{E} 12'16	0°-9'-48				
min. Earth dist.	931 Jan 10 j 21:06	25° \mathcal{E} 11'37	29.02688 AU	conjunction	937 Jul 28 j 14:26	9° \mathcal{N} 35'50	0°17'54
direct	931 Mar 30 j 18:22	23° \mathcal{E} 47'03		minimum elong	937 Jul 28 j 14:26	9° \mathcal{N} 35'50	0°17'54
				max. Earth dist.	937 Jul 27 j 22:33	9° \mathcal{N} 34'22	31.09696 AU
conjunction	931 Jul 15 j 07:03	26° \mathcal{E} 18'45	0°-7'-7	retrograde	937 Nov 09 j 06:57	12° \mathcal{N} 04'29	
minimum elong	931 Jul 15 j 07:02	26° \mathcal{E} 18'45	0°07'08	opposition	938 Jan 25 j 11:53	10° \mathcal{N} 41'45	0°21'15
behind sun begin	931 Jul 15 j 00:59	26° \mathcal{E} 18'13		min. Earth dist.	938 Jan 26 j 02:46	10° \mathcal{N} 40'42	29.10114 AU
behind sun end	931 Jul 15 j 13:06	26° \mathcal{E} 19'17		direct	938 Apr 15 j 08:21	9° \mathcal{N} 16'30	
max. Earth dist.	931 Jul 14 j 20:46	26° \mathcal{E} 17'49	31.03256 AU	max. Earth dist.	938 Jul 30 j 10:16	11° \mathcal{N} 46'48	31.10487 AU
retrograde	931 Oct 27 j 11:59	28° \mathcal{E} 48'15					
opposition	932 Jan 12 j 21:55	27° \mathcal{E} 25'05	0°-5'-20	conjunction	938 Jul 31 j 03:11	11° \mathcal{N} 48'22	0°21'59
min. Earth dist.	932 Jan 13 j 07:06	27° \mathcal{E} 24'26	29.03849 AU	minimum elong	938 Jul 31 j 03:11	11° \mathcal{N} 48'22	0°21'59
direct	932 Apr 01 j 07:25	25° \mathcal{E} 59'52		retrograde	938 Nov 11 j 18:23	14° \mathcal{N} 16'51	
				opposition	939 Jan 27 j 22:08	12° \mathcal{N} 54'09	0°25'36
conjunction	932 Jul 16 j 20:19	28° \mathcal{E} 31'38	0°-2'-57	min. Earth dist.	939 Jan 28 j 12:46	12° \mathcal{N} 53'08	29.10878 AU
minimum elong	932 Jul 16 j 20:20	28° \mathcal{E} 31'38	0°02'58	direct	939 Apr 17 j 21:03	11° \mathcal{N} 28'53	
behind sun begin	932 Jul 16 j 13:46	28° \mathcal{E} 31'03					
behind sun end	932 Jul 17 j 02:54	28° \mathcal{E} 32'12		conjunction	939 Aug 02 j 15:58	14° \mathcal{N} 00'43	0°26'02
max. Earth dist.	932 Jul 16 j 08:29	28° \mathcal{E} 30'32	31.04451 AU	minimum elong	939 Aug 02 j 15:58	14° \mathcal{N} 00'43	0°26'02
	932 Aug 28 j 03:34	0° \mathcal{N}		max. Earth dist.	939 Aug 01 j 22:21	13° \mathcal{N} 59'06	31.11235 AU
retrograde	932 Oct 28 j 23:19	1° \mathcal{N} 01'00			939 Aug 29 j 23:41	15° \mathcal{N}	
	933 Jan 01 j 02:44	30° \mathcal{R} \mathcal{E}		retrograde	939 Nov 14 j 03:43	16° \mathcal{N} 29'03	
opposition	933 Jan 14 j 08:10	29° \mathcal{E} 37'55	0°00'-53	opposition	940 Jan 30 j 08:22	15° \mathcal{N} 06'24	0°29'55
min. Earth dist.	933 Jan 14 j 18:22	29° \mathcal{E} 37'12	29.05068 AU	min. Earth dist.	940 Jan 31 j 00:27	15° \mathcal{N} 05'16	29.11639 AU
asc. node	933 Mar 29 j 00:12	28° \mathcal{E} 13'17			940 Feb 03 j 03:41	15° \mathcal{R} \mathcal{N}	
direct	933 Apr 03 j 17:58	28° \mathcal{E} 12'43		direct	940 Apr 19 j 07:01	13° \mathcal{N} 41'05	
	933 Jun 29 j 02:44	0° \mathcal{N}			940 Jul 01 j 01:17	15° \mathcal{N}	
				max. Earth dist.	940 Aug 03 j 11:01	16° \mathcal{N} 11'16	31.12007 AU
conjunction	933 Jul 19 j 09:42	0° \mathcal{N} 44'32	0°01'19				
minimum elong	933 Jul 19 j 09:41	0° \mathcal{N} 44'32	0°01'20	conjunction	940 Aug 04 j 04:41	16° \mathcal{N} 12'54	0°30'02
behind sun begin	933 Jul 19 j 03:06	0° \mathcal{N} 43'57		minimum elong	940 Aug 04 j 04:41	16° \mathcal{N} 12'54	0°30'02
behind sun end	933 Jul 19 j 16:17	0° \mathcal{N} 45'07		retrograde	940 Nov 15 j 12:50	18° \mathcal{N} 41'05	
max. Earth dist.	933 Jul 18 j 22:01	0° \mathcal{N} 43'28	31.05661 AU	opposition	941 Jan 31 j 18:39	17° \mathcal{N} 18'28	0°34'10
retrograde	933 Oct 31 j 09:44	3° \mathcal{N} 13'46		min. Earth dist.	941 Feb 01 j 10:34	17° \mathcal{N} 17'22	29.12429 AU
opposition	934 Jan 16 j 18:27	1° \mathcal{N} 50'47	0°03'34	direct	941 Apr 21 j 20:16	15° \mathcal{N} 53'08	
min. Earth dist.	934 Jan 17 j 05:33	1° \mathcal{N} 50'01	29.06253 AU				
direct	934 Apr 06 j 06:23	0° \mathcal{N} 25'37		conjunction	941 Aug 06 j 17:04	18° \mathcal{N} 24'57	0°34'00
				minimum elong	941 Aug 06 j 17:04	18° \mathcal{N} 24'57	0°34'00
conjunction	934 Jul 21 j 22:53	2° \mathcal{N} 57'27	0°05'31	max. Earth dist.	941 Aug 05 j 22:15	18° \mathcal{N} 23'12	31.12828 AU
minimum elong	934 Jul 21 j 22:53	2° \mathcal{N} 57'27	0°05'31	retrograde	941 Nov 17 j 23:11	20° \mathcal{N} 53'00	
behind sun begin	934 Jul 21 j 16:33	2° \mathcal{N} 56'53		opposition	942 Feb 03 j 05:00	19° \mathcal{N} 30'25	0°38'22
behind sun end	934 Jul 22 j 05:13	2° \mathcal{N} 58'00		min. Earth dist.	942 Feb 03 j 21:23	19° \mathcal{N} 29'17	29.13313 AU
max. Earth dist.	934 Jul 21 j 09:11	2° \mathcal{N} 56'11	31.06819 AU	direct	942 Apr 24 j 06:19	18° \mathcal{N} 05'04	
retrograde	934 Nov 02 j 22:22	5° \mathcal{N} 26'33		max. Earth dist.	942 Aug 08 j 11:25	20° \mathcal{N} 35'12	31.13762 AU
opposition	935 Jan 19 j 04:46	4° \mathcal{N} 03'39	0°08'01				
min. Earth dist.	935 Jan 19 j 16:20	4° \mathcal{N} 02'50	29.07379 AU	conjunction	942 Aug 09 j 05:32	20° \mathcal{N} 36'53	0°37'54
direct	935 Apr 08 j 18:20	2° \mathcal{N} 38'28		minimum elong	942 Aug 09 j 05:32	20° \mathcal{N} 36'53	0°37'54
				retrograde	942 Nov 20 j 08:44	23° \mathcal{N} 04'49	
conjunction	935 Jul 24 j 12:08	5° \mathcal{N} 10'20	0°09'39	opposition	943 Feb 05 j 15:21	21° \mathcal{N} 42'19	0°42'31
minimum elong	935 Jul 24 j 12:08	5° \mathcal{N} 10'20	0°09'40	min. Earth dist.	943 Feb 06 j 08:06	21° \mathcal{N} 41'09	29.14303 AU
behind sun begin	935 Jul 24 j 06:44	5° \mathcal{N} 09'51		direct	943 Apr 26 j 17:55	20° \mathcal{N} 16'59	
behind sun end	935 Jul 24 j 17:31	5° \mathcal{N} 10'49					
max. Earth dist.	935 Jul 23 j 22:33	5° \mathcal{N} 09'05	31.07885 AU	conjunction	943 Aug 11 j 17:43	22° \mathcal{N} 48'47	0°41'45
retrograde	935 Nov 05 j 09:07	7° \mathcal{N} 39'18		minimum elong	943 Aug 11 j 17:43	22° \mathcal{N} 48'47	0°41'46
opposition	936 Jan 21 j 15:12	6° \mathcal{N} 16'28	0°12'27	max. Earth dist.	943 Aug 10 j 22:15	22° \mathcal{N} 46'59	31.14811 AU
min. Earth dist.	936 Jan 22 j 04:22	6° \mathcal{N} 15'32	29.08389 AU	retrograde	943 Nov 22 j 20:46	25° \mathcal{N} 16'38	
direct	936 Apr 10 j 07:43	4° \mathcal{N} 51'16		opposition	944 Feb 08 j 01:41	23° \mathcal{N} 54'12	0°46'36
max. Earth dist.	936 Jul 25 j 09:42	7° \mathcal{N} 21'43	31.08845 AU	min. Earth dist.	944 Feb 08 j 18:17	23° \mathcal{N} 53'03	29.15403 AU
				direct	944 Apr 28 j 05:38	22° \mathcal{N} 28'54	
conjunction	936 Jul 26 j 01:17	7° \mathcal{N} 23'09	0°13'47	max. Earth dist.	944 Aug 12 j 11:25	24° \mathcal{N} 59'01	31.15938 AU
minimum elong	936 Jul 26 j 01:16	7° \mathcal{N} 23'09	0°13'47				
behind sun begin	936 Jul 25 j 21:56	7° \mathcal{N} 22'51		conjunction	944 Aug 13 j 06:07	25° \mathcal{N} 00'45	0°45'33

minimum elong	944 Aug 13 j 06:07	25°Ω00'45	0°45'33	minimum elong	952 Aug 31 j 05:43	12°♄35'50	1°12'59
retrograde	944 Nov 24 j 07:12	27°Ω28'30		retrograde	952 Dec 11 j 17:19	15°♄02'48	
opposition	945 Feb 09 j 12:08	26°Ω06'10	0°50'37	opposition	953 Feb 27 j 01:15	13°♄40'43	1°19'33
min. Earth dist.	945 Feb 10 j 05:54	26°Ω04'55	29.16550 AU	min. Earth dist.	953 Feb 27 j 22:21	13°♄39'16	29.22768 AU
direct	945 Apr 30 j 18:36	24°Ω40'55		direct	953 May 18 j 18:27	12°♄15'28	
conjunction	945 Aug 15 j 18:16	27°Ω12'46	0°49'16	conjunction	953 Sep 02 j 17:14	14°♄47'00	1°15'59
minimum elong	945 Aug 15 j 18:16	27°Ω12'46	0°49'17	minimum elong	953 Sep 02 j 17:14	14°♄47'00	1°15'59
max. Earth dist.	945 Aug 14 j 22:12	27°Ω10'55	31.17094 AU	max. Earth dist.	953 Sep 01 j 18:20	14°♄44'52	31.22933 AU
retrograde	945 Nov 26 j 19:10	29°Ω40'27		retrograde	953 Dec 14 j 02:35	17°♄13'52	
opposition	946 Feb 11 j 22:35	28°Ω18'12	0°54'34	opposition	954 Mar 01 j 12:08	15°♄51'46	1°22'41
min. Earth dist.	946 Feb 12 j 15:53	28°Ω17'00	29.17697 AU	min. Earth dist.	954 Mar 02 j 10:00	15°♄50'15	29.23275 AU
direct	946 May 03 j 06:54	26°Ω53'00		direct	954 May 21 j 06:52	14°♄26'30	
max. Earth dist.	946 Aug 17 j 10:25	29°Ω23'01	31.18199 AU	max. Earth dist.	954 Sep 04 j 04:37	16°♄55'46	31.23478 AU
conjunction	946 Aug 18 j 06:22	29°Ω24'52	0°52'55	conjunction	954 Sep 05 j 04:17	16°♄57'58	1°18'51
minimum elong	946 Aug 18 j 06:21	29°Ω24'52	0°52'55	minimum elong	954 Sep 05 j 04:17	16°♄57'58	1°18'51
	946 Sep 03 j 03:43	0°♄		retrograde	954 Dec 16 j 13:51	19°♄24'46	
retrograde	946 Nov 29 j 05:34	1°♄52'28		opposition	955 Mar 03 j 22:49	18°♄02'41	1°25'42
opposition	947 Feb 14 j 09:17	0°♄30'17	0°58'25	min. Earth dist.	955 Mar 04 j 19:35	18°♄01'15	29.23868 AU
min. Earth dist.	947 Feb 15 j 04:11	0°♄28'58	29.18771 AU	direct	955 May 23 j 18:55	16°♄37'25	
	947 Mar 04 j 22:21	30°♄		conjunction	955 Sep 07 j 15:34	19°♄08'51	1°21'37
direct	947 May 05 j 18:50	29°Ω05'07		minimum elong	955 Sep 07 j 15:34	19°♄08'51	1°21'37
	947 Jul 04 j 13:52	0°♄		max. Earth dist.	955 Sep 06 j 16:34	19°♄06'43	31.24110 AU
conjunction	947 Aug 20 j 18:29	1°♄36'59	0°56'30	retrograde	955 Dec 18 j 23:52	21°♄35'35	
minimum elong	947 Aug 20 j 18:29	1°♄36'59	0°56'30	opposition	956 Mar 05 j 09:35	20°♄13'32	1°28'35
max. Earth dist.	947 Aug 19 j 21:32	1°♄35'03	31.19218 AU	min. Earth dist.	956 Mar 06 j 07:18	20°♄12'02	29.24557 AU
retrograde	947 Dec 01 j 17:34	4°♄04'29		direct	956 May 25 j 06:58	18°♄48'19	
opposition	948 Feb 16 j 19:44	2°♄42'22	1°02'12	max. Earth dist.	956 Sep 08 j 03:31	21°♄17'34	31.24847 AU
min. Earth dist.	948 Feb 17 j 14:25	2°♄41'04	29.19724 AU	conjunction	956 Sep 09 j 02:41	21°♄19'43	1°24'16
direct	948 May 07 j 08:14	1°♄17'13		minimum elong	956 Sep 09 j 02:41	21°♄19'43	1°24'15
max. Earth dist.	948 Aug 21 j 08:56	3°♄47'03	31.20093 AU	retrograde	956 Dec 20 j 11:30	23°♄46'25	
conjunction	948 Aug 22 j 06:39	3°♄49'04	0°59'59	opposition	957 Mar 07 j 20:24	22°♄24'25	1°31'21
minimum elong	948 Aug 22 j 06:39	3°♄49'04	0°59'59	min. Earth dist.	957 Mar 08 j 17:11	22°♄22'59	29.25321 AU
retrograde	948 Dec 03 j 02:59	6°♄16'28		direct	957 May 27 j 20:17	20°♄59'16	
opposition	949 Feb 18 j 06:31	4°♄54'23	1°05'52	conjunction	957 Sep 11 j 13:39	23°♄30'39	1°26'47
min. Earth dist.	949 Feb 19 j 02:38	4°♄52'59	29.20545 AU	minimum elong	957 Sep 11 j 13:39	23°♄30'39	1°26'48
direct	949 May 09 j 19:07	3°♄29'14		max. Earth dist.	957 Sep 10 j 14:30	23°♄28'30	31.25625 AU
conjunction	949 Aug 24 j 18:36	6°♄01'02	1°03'23	retrograde	957 Dec 22 j 21:15	25°♄57'21	
minimum elong	949 Aug 24 j 18:36	6°♄01'02	1°03'23	opposition	958 Mar 10 j 07:24	24°♄35'24	1°33'59
max. Earth dist.	949 Aug 23 j 20:46	5°♄59'01	31.20841 AU	min. Earth dist.	958 Mar 11 j 05:00	24°♄33'55	29.26117 AU
retrograde	949 Dec 05 j 11:49	8°♄28'20		direct	958 May 30 j 06:56	23°♄10'19	
opposition	950 Feb 20 j 17:15	7°♄06'17	1°09'27	max. Earth dist.	958 Sep 13 j 02:01	25°♄39'35	31.26408 AU
min. Earth dist.	950 Feb 21 j 13:21	7°♄04'53	29.21222 AU	conjunction	958 Sep 14 j 00:41	25°♄41'42	1°29'11
direct	950 May 12 j 08:23	5°♄41'07		minimum elong	958 Sep 14 j 00:40	25°♄41'42	1°29'11
max. Earth dist.	950 Aug 26 j 07:15	8°♄10'42	31.21456 AU	retrograde	958 Dec 25 j 06:21	28°♄08'22	
conjunction	950 Aug 27 j 06:26	8°♄12'51	1°06'41	opposition	959 Mar 12 j 18:17	26°♄46'30	1°36'28
minimum elong	950 Aug 27 j 06:26	8°♄12'51	1°06'41	min. Earth dist.	959 Mar 13 j 15:36	26°♄45'02	29.26871 AU
retrograde	950 Dec 07 j 21:53	10°♄40'02		direct	959 Jun 01 j 19:38	25°♄21'29	
opposition	951 Feb 23 j 03:53	9°♄17'59	1°12'56	max. Earth dist.	959 Sep 15 j 11:56	27°♄50'38	31.27118 AU
min. Earth dist.	951 Feb 24 j 00:38	9°♄16'32	29.21802 AU	conjunction	959 Sep 16 j 11:38	27°♄52'51	1°31'27
direct	951 May 14 j 18:24	7°♄52'47		minimum elong	959 Sep 16 j 11:38	27°♄52'50	1°31'28
conjunction	951 Aug 29 j 18:14	10°♄24'28	1°09'53		959 Nov 23 j 20:03	0°♄	
minimum elong	951 Aug 29 j 18:13	10°♄24'28	1°09'54	retrograde	959 Dec 27 j 16:54	0°♄19'30	
max. Earth dist.	951 Aug 28 j 19:35	10°♄22'22	31.21987 AU		960 Jan 31 j 08:27	30°♄	
retrograde	951 Dec 10 j 06:39	12°♄51'32		opposition	960 Mar 14 j 05:23	28°♄57'41	1°38'49
opposition	952 Feb 25 j 14:37	11°♄29'28	1°16'18	min. Earth dist.	960 Mar 15 j 03:02	28°♄56'12	29.27544 AU
min. Earth dist.	952 Feb 26 j 11:59	11°♄27'59	29.22292 AU	direct	960 Jun 03 j 05:22	27°♄32'42	
direct	952 May 16 j 06:46	10°♄04'14			960 Sep 16 j 03:16	0°♄	
max. Earth dist.	952 Aug 30 j 05:46	12°♄33'37	31.22457 AU	conjunction	960 Sep 17 j 22:37	0°♄04'03	1°33'35
conjunction	952 Aug 31 j 05:44	12°♄35'50	1°12'59	minimum elong	960 Sep 17 j 22:37	0°♄04'03	1°33'35

max. Earth dist.	960 Sep 16 j 23:42	0° <u>♁</u> 01'54	31.27721 AU	retrograde	969 Jan 15 j 11:39	19° <u>♁</u> 56'58	
retrograde	960 Dec 29 j 01:47	2° <u>♁</u> 30'42		opposition	969 Apr 03 j 11:03	18° <u>♁</u> 35'02	1°53'16
opposition	961 Mar 16 j 16:37	1° <u>♁</u> 08'55	1°41'02	min. Earth dist.	969 Apr 04 j 07:24	18° <u>♁</u> 33'39	29.29940 AU
min. Earth dist.	961 Mar 17 j 14:45	1° <u>♁</u> 07'23	29.28078 AU	direct	969 Jun 23 j 17:45	17° <u>♁</u> 10'13	
	961 May 04 j 12:00	30° <u>♁</u> <u>♃</u>					
direct	961 Jun 05 j 17:28	29° <u>♁</u> <u>♃</u> 43'59		conjunction	969 Oct 07 j 20:04	19° <u>♁</u> 40'52	1°46'26
	961 Jul 07 j 10:20	0° <u>♁</u>		minimum elong	969 Oct 07 j 20:04	19° <u>♁</u> 40'52	1°46'27
max. Earth dist.	961 Sep 19 j 09:13	2° <u>♁</u> 13'00	31.28192 AU	max. Earth dist.	969 Oct 06 j 23:16	19° <u>♁</u> 38'55	31.30021 AU
				retrograde	970 Jan 17 j 20:17	22° <u>♁</u> 07'23	
conjunction	961 Sep 20 j 09:24	2° <u>♁</u> 15'16	1°35'35	opposition	970 Apr 05 j 22:35	20° <u>♁</u> 45'28	1°54'05
minimum elong	961 Sep 20 j 09:24	2° <u>♁</u> 15'16	1°35'35	min. Earth dist.	970 Apr 06 j 18:51	20° <u>♁</u> 44'05	29.30360 AU
retrograde	961 Dec 31 j 12:38	4° <u>♁</u> 41'54		direct	970 Jun 26 j 05:55	19° <u>♁</u> 20'44	
opposition	962 Mar 19 j 03:50	3° <u>♁</u> 20'07	1°43'06	max. Earth dist.	970 Oct 09 j 08:29	21° <u>♁</u> 49'19	31.30457 AU
min. Earth dist.	962 Mar 20 j 01:35	3° <u>♁</u> 18'38	29.28493 AU				
direct	962 Jun 08 j 04:29	1° <u>♁</u> 55'13		conjunction	970 Oct 10 j 05:53	21° <u>♁</u> 51'19	1°47'08
				minimum elong	970 Oct 10 j 05:53	21° <u>♁</u> 51'19	1°47'07
conjunction	962 Sep 22 j 20:09	4° <u>♁</u> 26'26	1°37'27	retrograde	971 Jan 20 j 06:47	24° <u>♁</u> 17'53	
minimum elong	962 Sep 22 j 20:09	4° <u>♁</u> 26'26	1°37'26	opposition	971 Apr 08 j 10:06	22° <u>♁</u> 56'00	1°54'44
max. Earth dist.	962 Sep 21 j 20:54	4° <u>♁</u> 24'16	31.28528 AU	min. Earth dist.	971 Apr 09 j 05:28	22° <u>♁</u> 54'40	29.30792 AU
retrograde	963 Jan 02 j 21:51	6° <u>♁</u> 53'03		direct	971 Jun 28 j 16:10	21° <u>♁</u> 31'19	
opposition	963 Mar 21 j 15:09	5° <u>♁</u> 31'15	1°45'00				
min. Earth dist.	963 Mar 22 j 13:54	5° <u>♁</u> 29'42	29.28764 AU	conjunction	971 Oct 12 j 15:57	24° <u>♁</u> 01'52	1°47'39
direct	963 Jun 10 j 16:09	4° <u>♁</u> 06'22		minimum elong	971 Oct 12 j 15:57	24° <u>♁</u> 01'52	1°47'40
max. Earth dist.	963 Sep 24 j 06:33	6° <u>♁</u> 35'15	31.28745 AU	max. Earth dist.	971 Oct 11 j 19:53	23° <u>♁</u> 59'59	31.30859 AU
				retrograde	972 Jan 22 j 16:03	26° <u>♁</u> 28'29	
conjunction	963 Sep 25 j 06:44	6° <u>♁</u> 37'30	1°39'10	opposition	972 Apr 09 j 21:48	25° <u>♁</u> 06'37	1°55'13
minimum elong	963 Sep 25 j 06:44	6° <u>♁</u> 37'30	1°39'10	min. Earth dist.	972 Apr 10 j 17:52	25° <u>♁</u> 05'15	29.31162 AU
retrograde	964 Jan 05 j 08:57	9° <u>♁</u> 04'05		direct	972 Jun 30 j 02:54	23° <u>♁</u> 42'01	
opposition	964 Mar 23 j 02:14	7° <u>♁</u> 42'16	1°46'46	max. Earth dist.	972 Oct 13 j 05:19	26° <u>♁</u> 10'34	31.31192 AU
min. Earth dist.	964 Mar 24 j 00:03	7° <u>♁</u> 40'46	29.28931 AU				
direct	964 Jun 12 j 03:48	6° <u>♁</u> 17'21		conjunction	972 Oct 14 j 01:53	26° <u>♁</u> 12'30	1°48'02
				minimum elong	972 Oct 14 j 01:53	26° <u>♁</u> 12'30	1°48'01
conjunction	964 Sep 26 j 17:20	8° <u>♁</u> 48'25	1°40'45	retrograde	973 Jan 24 j 03:36	28° <u>♁</u> 39'11	
minimum elong	964 Sep 26 j 17:20	8° <u>♁</u> 48'25	1°40'44	opposition	973 Apr 12 j 09:35	27° <u>♁</u> 17'19	1°55'32
max. Earth dist.	964 Sep 25 j 17:45	8° <u>♁</u> 46'13	31.28868 AU	min. Earth dist.	973 Apr 13 j 04:22	27° <u>♁</u> 16'02	29.31440 AU
retrograde	965 Jan 06 j 19:12	11° <u>♁</u> 14'58		direct	973 Jul 02 j 14:06	25° <u>♁</u> 52'46	
opposition	965 Mar 25 j 13:39	9° <u>♁</u> 53'06	1°48'23				
min. Earth dist.	965 Mar 26 j 12:23	9° <u>♁</u> 51'33	29.29038 AU	conjunction	973 Oct 16 j 11:47	28° <u>♁</u> 23'12	1°48'15
direct	965 Jun 14 j 16:42	8° <u>♁</u> 28'12		minimum elong	973 Oct 16 j 11:47	28° <u>♁</u> 23'12	1°48'16
max. Earth dist.	965 Sep 28 j 04:07	10° <u>♁</u> 56'58	31.28969 AU	max. Earth dist.	973 Oct 15 j 15:52	28° <u>♁</u> 21'20	31.31401 AU
					973 Dec 02 j 07:26	0° <u>♁</u> <u>♃</u>	
conjunction	965 Sep 29 j 03:32	10° <u>♁</u> 59'09	1°42'11	retrograde	974 Jan 26 j 14:21	0° <u>♁</u> <u>♃</u> 49'56	
minimum elong	965 Sep 29 j 03:32	10° <u>♁</u> 59'09	1°42'11		974 Mar 25 j 19:06	30° <u>♁</u> <u>♃</u>	
retrograde	966 Jan 09 j 06:35	13° <u>♁</u> 25'40		opposition	974 Apr 14 j 21:36	29° <u>♁</u> 28'04	1°55'42
opposition	966 Mar 28 j 00:56	12° <u>♁</u> 03'45	1°49'51	min. Earth dist.	974 Apr 15 j 17:13	29° <u>♁</u> 26'44	29.31589 AU
min. Earth dist.	966 Mar 28 j 22:27	12° <u>♁</u> 02'17	29.29142 AU	direct	974 Jul 05 j 02:04	28° <u>♁</u> 03'35	
direct	966 Jun 17 j 06:39	10° <u>♁</u> 38'50			974 Oct 03 j 16:43	0° <u>♁</u> <u>♃</u>	
				conjunction	974 Oct 18 j 21:44	0° <u>♁</u> <u>♃</u> 33'56	1°48'20
conjunction	966 Oct 01 j 13:46	13° <u>♁</u> 09'42	1°43'28	minimum elong	974 Oct 18 j 21:44	0° <u>♁</u> <u>♃</u> 33'56	1°48'19
minimum elong	966 Oct 01 j 13:46	13° <u>♁</u> 09'42	1°43'27	max. Earth dist.	974 Oct 18 j 01:54	0° <u>♁</u> <u>♃</u> 32'05	31.31484 AU
max. Earth dist.	966 Sep 30 j 14:37	13° <u>♁</u> 07'33	31.29091 AU	retrograde	975 Jan 29 j 01:57	3° <u>♁</u> <u>♃</u> 00'43	
retrograde	967 Jan 11 j 16:00	15° <u>♁</u> 36'12		opposition	975 Apr 17 j 09:19	1° <u>♁</u> <u>♃</u> 38'50	1°55'41
opposition	967 Mar 30 j 12:12	14° <u>♁</u> 14'15	1°51'09	min. Earth dist.	975 Apr 18 j 03:55	1° <u>♁</u> <u>♃</u> 37'34	29.31590 AU
min. Earth dist.	967 Mar 31 j 10:03	14° <u>♁</u> 12'45	29.29316 AU	direct	975 Jul 07 j 15:16	0° <u>♁</u> <u>♃</u> 14'23	
direct	967 Jun 19 j 17:41	12° <u>♁</u> 49'20		max. Earth dist.	975 Oct 20 j 11:42	2° <u>♁</u> <u>♃</u> 42'48	31.31411 AU
				conjunction	975 Oct 21 j 07:38	2° <u>♁</u> <u>♃</u> 44'40	1°48'14
conjunction	967 Oct 03 j 23:59	15° <u>♁</u> 20'07	1°44'37	minimum elong	975 Oct 21 j 07:38	2° <u>♁</u> <u>♃</u> 44'40	1°48'15
minimum elong	967 Oct 03 j 23:58	15° <u>♁</u> 20'07	1°44'37	retrograde	976 Jan 31 j 12:22	5° <u>♁</u> <u>♃</u> 11'30	
max. Earth dist.	967 Oct 03 j 01:56	15° <u>♁</u> 18'04	31.29309 AU	opposition	976 Apr 18 j 21:21	3° <u>♁</u> <u>♃</u> 49'34	1°55'31
retrograde	968 Jan 14 j 01:00	17° <u>♁</u> 46'36		min. Earth dist.	976 Apr 19 j 16:28	3° <u>♁</u> <u>♃</u> 48'17	29.31458 AU
opposition	968 Mar 31 j 23:35	16° <u>♁</u> 24'39	1°52'17	direct	976 Jul 09 j 02:23	2° <u>♁</u> <u>♃</u> 25'09	
min. Earth dist.	968 Apr 01 j 20:27	16° <u>♁</u> 23'13	29.29575 AU				
direct	968 Jun 21 j 07:08	14° <u>♁</u> 59'46		conjunction	976 Oct 22 j 17:25	4° <u>♁</u> <u>♃</u> 55'21	1°48'00
max. Earth dist.	968 Oct 04 j 11:37	17° <u>♁</u> 28'24	31.29619 AU	minimum elong	976 Oct 22 j 17:25	4° <u>♁</u> <u>♃</u> 55'21	1°48'00
				max. Earth dist.	976 Oct 21 j 22:32	4° <u>♁</u> <u>♃</u> 53'35	31.31222 AU
conjunction	968 Oct 05 j 09:58	17° <u>♁</u> 30'29	1°45'36				
minimum elong	968 Oct 05 j 09:58	17° <u>♁</u> 30'29	1°45'36				

retrograde	977 Feb 01 j 21:53	7°M.22'12		retrograde	985 Feb 19 j 10:42	24°M.47'25	
opposition	977 Apr 21 j 09:22	6°M.00'15	1°55'11	opposition	985 May 09 j 10:51	23°M.25'16	1°46'39
min. Earth dist.	977 Apr 22 j 03:41	5°M.59'00	29.31208 AU	min. Earth dist.	985 May 10 j 00:01	23°M.24'22	29.29975 AU
direct	977 Jul 11 j 16:23	4°M.35'50		direct	985 Jul 29 j 09:40	22°M.01'17	
max. Earth dist.	977 Oct 24 j 07:41	7°M.04'08	31.30945 AU				
				conjunction	985 Nov 11 j 06:17	24°M.30'50	1°39'01
conjunction	977 Oct 25 j 02:59	7°M.05'56	1°47'37	minimum elong	985 Nov 11 j 06:17	24°M.30'50	1°39'02
minimum elong	977 Oct 25 j 02:59	7°M.05'56	1°47'38	max. Earth dist.	985 Nov 10 j 17:50	24°M.29'40	31.29764 AU
retrograde	978 Feb 04 j 08:58	9°M.32'50		retrograde	986 Feb 21 j 21:37	26°M.58'29	
opposition	978 Apr 23 j 21:19	8°M.10'49	1°54'41	opposition	986 May 11 j 23:17	25°M.36'18	1°44'53
min. Earth dist.	978 Apr 24 j 15:07	8°M.09'36	29.30922 AU	min. Earth dist.	986 May 12 j 11:36	25°M.35'28	29.29715 AU
direct	978 Jul 14 j 03:40	6°M.46'25		direct	986 Jul 31 j 23:38	24°M.12'23	
conjunction	978 Oct 27 j 12:32	9°M.16'26	1°47'04	conjunction	986 Nov 13 j 15:39	26°M.41'52	1°37'17
minimum elong	978 Oct 27 j 12:32	9°M.16'26	1°47'03	minimum elong	986 Nov 13 j 15:40	26°M.41'52	1°37'16
max. Earth dist.	978 Oct 26 j 18:57	9°M.14'46	31.30653 AU	max. Earth dist.	986 Nov 13 j 02:38	26°M.40'39	31.29440 AU
retrograde	979 Feb 06 j 17:28	11°M.43'22		retrograde	987 Feb 24 j 10:03	29°M.09'37	
opposition	979 Apr 26 j 09:24	10°M.21'18	1°54'01	opposition	987 May 14 j 11:51	27°M.47'24	1°42'57
min. Earth dist.	979 Apr 27 j 02:51	10°M.20'07	29.30634 AU	min. Earth dist.	987 May 14 j 23:42	27°M.46'36	29.29319 AU
direct	979 Jul 16 j 16:30	8°M.56'56		direct	987 Aug 03 j 11:23	26°M.23'30	
conjunction	979 Oct 29 j 21:54	11°M.26'50	1°46'22	conjunction	987 Nov 16 j 01:11	28°M.52'55	1°35'24
minimum elong	979 Oct 29 j 21:54	11°M.26'50	1°46'22	minimum elong	987 Nov 16 j 01:11	28°M.52'55	1°35'25
max. Earth dist.	979 Oct 29 j 04:04	11°M.25'10	31.30397 AU	max. Earth dist.	987 Nov 15 j 13:35	28°M.51'49	31.28962 AU
retrograde	980 Feb 09 j 03:35	13°M.53'50			987 Dec 16 j 18:07	0° \nearrow	
opposition	980 Apr 27 j 21:23	12°M.31'45	1°53'12	retrograde	988 Feb 26 j 19:00	1° \nearrow 20'45	
min. Earth dist.	980 Apr 28 j 13:22	12°M.30'39	29.30418 AU		988 May 15 j 01:50	30°R.M.	
direct	980 Jul 18 j 03:01	11°M.07'24		opposition	988 May 16 j 00:30	29°M.58'28	1°40'52
				min. Earth dist.	988 May 16 j 12:15	29°M.57'41	29.28753 AU
conjunction	980 Oct 31 j 07:24	13°M.37'15	1°45'32	direct	988 Aug 05 j 00:20	28°M.34'36	
minimum elong	980 Oct 31 j 07:24	13°M.37'15	1°45'31		988 Oct 19 j 06:19	0° \nearrow	
max. Earth dist.	980 Oct 30 j 15:24	13°M.35'44	31.30221 AU				
	980 Dec 09 j 03:56	15°M.		conjunction	988 Nov 17 j 10:32	1° \nearrow 03'54	1°33'24
retrograde	981 Feb 10 j 12:51	16°M.04'20		minimum elong	988 Nov 17 j 10:32	1° \nearrow 03'54	1°33'23
	981 Apr 19 j 08:52	15°R.M.		max. Earth dist.	988 Nov 16 j 22:29	1° \nearrow 02'46	31.28340 AU
opposition	981 Apr 30 j 09:40	14°M.42'13	1°52'13	retrograde	989 Feb 28 j 05:45	3° \nearrow 31'49	
min. Earth dist.	981 May 01 j 01:38	14°M.41'08	29.30283 AU	opposition	989 May 18 j 13:09	2° \nearrow 09'28	1°38'39
direct	981 Jul 20 j 13:25	13°M.17'57		min. Earth dist.	989 May 18 j 23:40	2° \nearrow 08'45	29.28065 AU
	981 Oct 12 j 04:18	15°M.		direct	989 Aug 07 j 11:59	0° \nearrow 45'36	
conjunction	981 Nov 02 j 16:38	15°M.47'42	1°44'32	conjunction	989 Nov 19 j 19:52	3° \nearrow 14'47	1°31'15
minimum elong	981 Nov 02 j 16:38	15°M.47'42	1°44'32	minimum elong	989 Nov 19 j 19:52	3° \nearrow 14'47	1°31'16
max. Earth dist.	981 Nov 02 j 00:52	15°M.46'13	31.30138 AU	max. Earth dist.	989 Nov 19 j 09:19	3° \nearrow 13'48	31.27597 AU
retrograde	982 Feb 13 j 00:18	18°M.14'54		retrograde	990 Mar 02 j 15:11	5° \nearrow 42'47	
opposition	982 May 02 j 21:46	16°M.52'47	1°51'04	opposition	990 May 21 j 01:52	4° \nearrow 20'20	1°36'18
min. Earth dist.	982 May 03 j 11:52	16°M.51'49	29.30221 AU	min. Earth dist.	990 May 21 j 12:38	4° \nearrow 19'36	29.27278 AU
direct	982 Jul 23 j 00:11	15°M.28'34		direct	990 Aug 09 j 23:41	2° \nearrow 56'28	
max. Earth dist.	982 Nov 04 j 11:19	17°M.56'54	31.30091 AU				
				conjunction	990 Nov 22 j 05:05	5° \nearrow 25'32	1°28'59
conjunction	982 Nov 05 j 02:03	17°M.58'17	1°43'22	minimum elong	990 Nov 22 j 05:05	5° \nearrow 25'32	1°28'58
minimum elong	982 Nov 05 j 02:03	17°M.58'17	1°43'22	max. Earth dist.	990 Nov 21 j 18:48	5° \nearrow 24'34	31.26800 AU
retrograde	983 Feb 15 j 11:22	20°M.25'36		retrograde	991 Mar 05 j 02:05	7° \nearrow 53'36	
opposition	983 May 05 j 09:57	19°M.03'28	1°49'45	opposition	991 May 23 j 14:16	6° \nearrow 31'04	1°33'48
min. Earth dist.	983 May 06 j 00:27	19°M.02'29	29.30182 AU	min. Earth dist.	991 May 23 j 23:10	6° \nearrow 30'27	29.26468 AU
direct	983 Jul 25 j 11:12	17°M.39'21		direct	991 Aug 12 j 11:13	5° \nearrow 07'11	
conjunction	983 Nov 07 j 11:28	20°M.09'01	1°42'04	conjunction	991 Nov 24 j 14:19	7° \nearrow 36'09	1°26'35
minimum elong	983 Nov 07 j 11:28	20°M.09'01	1°42'05	minimum elong	991 Nov 24 j 14:19	7° \nearrow 36'09	1°26'35
max. Earth dist.	983 Nov 06 j 21:29	20°M.07'42	31.30054 AU	max. Earth dist.	991 Nov 24 j 05:06	7° \nearrow 35'17	31.26000 AU
retrograde	984 Feb 17 j 23:25	22°M.36'26		retrograde	992 Mar 06 j 12:43	10° \nearrow 04'19	
opposition	984 May 06 j 22:17	21°M.14'18	1°48'17	opposition	992 May 25 j 03:02	8° \nearrow 41'42	1°31'11
min. Earth dist.	984 May 07 j 11:18	21°M.13'25	29.30111 AU	min. Earth dist.	992 May 25 j 11:55	8° \nearrow 41'06	29.25702 AU
direct	984 Jul 26 j 23:07	19°M.50'15		direct	992 Aug 13 j 21:54	7° \nearrow 17'50	
conjunction	984 Nov 08 j 20:46	22°M.19'52	1°40'37	conjunction	992 Nov 25 j 23:22	9° \nearrow 46'43	1°24'04
minimum elong	984 Nov 08 j 20:46	22°M.19'52	1°40'37	minimum elong	992 Nov 25 j 23:23	9° \nearrow 46'43	1°24'03
max. Earth dist.	984 Nov 08 j 07:00	22°M.18'34	31.29952 AU	max. Earth dist.	992 Nov 25 j 15:31	9° \nearrow 45'58	31.25282 AU

retrograde	993 Mar 09 j 00:12	12° ♁ 15'00		direct	1001 Sep 03 j 05:03	26° ♁ 58'57	
opposition	993 May 27 j 15:41	10° ♁ 52'19	1°28'25				
min. Earth dist.	993 May 27 j 22:31	10° ♁ 51'51	29.25018 AU	conjunction	1001 Dec 15 j 11:00	29° ♁ 27'24	0°56'19
direct	993 Aug 16 j 09:21	9° ♁ 28'29		minimum elong	1001 Dec 15 j 11:00	29° ♁ 27'24	0°56'20
				max. Earth dist.	1001 Dec 15 j 10:27	29° ♁ 27'21	31.19376 AU
conjunction	993 Nov 28 j 08:31	11° ♁ 57'18	1°21'25		1001 Dec 29 j 21:22	0° ♁	
minimum elong	993 Nov 28 j 08:31	11° ♁ 57'18	1°21'26	retrograde	1002 Mar 29 j 07:05	1° ♁ 57'03	
max. Earth dist.	993 Nov 28 j 01:09	11° ♁ 56'37	31.24649 AU	opposition	1002 Jun 17 j 11:41	0° ♁ 33'59	0°58'17
retrograde	994 Mar 11 j 12:02	14° ♁ 25'44		min. Earth dist.	1002 Jun 17 j 11:24	0° ♁ 34'00	29.18873 AU
opposition	994 May 30 j 04:19	13° ♁ 03'00	1°25'32		1002 Jul 09 j 01:21	30° ♁	
min. Earth dist.	994 May 30 j 10:50	13° ♁ 02'33	29.24435 AU	direct	1002 Sep 05 j 16:04	29° ♁ 10'34	
direct	994 Aug 18 j 19:22	11° ♁ 39'13			1002 Oct 31 j 04:40	0° ♁	
conjunction	994 Nov 30 j 17:44	14° ♁ 08'00	1°18'40	conjunction	1002 Dec 17 j 20:21	1° ♁ 38'57	0°52'46
minimum elong	994 Nov 30 j 17:44	14° ♁ 08'00	1°18'39	minimum elong	1002 Dec 17 j 20:21	1° ♁ 38'57	0°52'46
max. Earth dist.	994 Nov 30 j 12:15	14° ♁ 07'29	31.24108 AU	max. Earth dist.	1002 Dec 17 j 19:55	1° ♁ 38'55	31.18312 AU
retrograde	995 Mar 13 j 23:30	16° ♁ 36'34		retrograde	1003 Mar 31 j 19:19	4° ♁ 08'43	
opposition	995 Jun 01 j 17:00	15° ♁ 13'49	1°22'31	opposition	1003 Jun 20 j 00:45	2° ♁ 45'32	0°54'27
min. Earth dist.	995 Jun 01 j 22:08	15° ♁ 13'28	29.23905 AU	min. Earth dist.	1003 Jun 20 j 00:21	2° ♁ 45'34	29.17800 AU
direct	995 Aug 21 j 08:32	13° ♁ 50'07		direct	1003 Sep 08 j 02:39	1° ♁ 22'07	
conjunction	995 Dec 03 j 02:44	16° ♁ 18'52	1°15'47	conjunction	1003 Dec 20 j 05:41	3° ♁ 50'24	0°49'09
minimum elong	995 Dec 03 j 02:45	16° ♁ 18'52	1°15'47	minimum elong	1003 Dec 20 j 05:41	3° ♁ 50'24	0°49'09
max. Earth dist.	995 Dec 02 j 21:12	16° ♁ 18'20	31.23605 AU	max. Earth dist.	1003 Dec 20 j 07:14	3° ♁ 50'33	31.17245 AU
retrograde	996 Mar 15 j 12:46	18° ♁ 47'36		retrograde	1004 Apr 02 j 07:10	6° ♁ 20'17	
opposition	996 Jun 03 j 05:49	17° ♁ 24'49	1°19'23	opposition	1004 Jun 21 j 13:45	4° ♁ 57'00	0°50'32
min. Earth dist.	996 Jun 03 j 10:00	17° ♁ 24'32	29.23413 AU	min. Earth dist.	1004 Jun 21 j 11:51	4° ♁ 57'07	29.16747 AU
direct	996 Aug 22 j 19:32	16° ♁ 01'12		direct	1004 Sep 09 j 15:39	3° ♁ 33'34	
conjunction	996 Dec 04 j 12:03	18° ♁ 29'55	1°12'47	conjunction	1004 Dec 21 j 14:57	6° ♁ 01'47	0°45'27
minimum elong	996 Dec 04 j 12:04	18° ♁ 29'55	1°12'47	minimum elong	1004 Dec 21 j 14:58	6° ♁ 01'47	0°45'26
max. Earth dist.	996 Dec 04 j 08:26	18° ♁ 29'35	31.23111 AU	max. Earth dist.	1004 Dec 21 j 16:33	6° ♁ 01'56	31.16239 AU
retrograde	997 Mar 17 j 22:48	20° ♁ 58'49		retrograde	1005 Apr 04 j 20:35	8° ♁ 31'48	
opposition	997 Jun 05 j 18:45	19° ♁ 36'02	1°16'07	opposition	1005 Jun 24 j 02:43	7° ♁ 08'24	0°46'32
min. Earth dist.	997 Jun 05 j 22:28	19° ♁ 35'47	29.22898 AU	min. Earth dist.	1005 Jun 23 j 23:41	7° ♁ 08'36	29.15797 AU
direct	997 Aug 25 j 07:45	18° ♁ 12'29		direct	1005 Sep 12 j 02:07	5° ♁ 44'59	
conjunction	997 Dec 06 j 21:13	20° ♁ 41'10	1°09'41	conjunction	1005 Dec 24 j 00:23	8° ♁ 13'08	0°41'41
minimum elong	997 Dec 06 j 21:13	20° ♁ 41'10	1°09'41	minimum elong	1005 Dec 24 j 00:24	8° ♁ 13'08	0°41'41
max. Earth dist.	997 Dec 06 j 17:27	20° ♁ 40'49	31.22582 AU	max. Earth dist.	1005 Dec 24 j 04:06	8° ♁ 13'29	31.15337 AU
retrograde	998 Mar 20 j 10:37	23° ♁ 10'14		retrograde	1006 Apr 07 j 07:04	10° ♁ 43'17	
opposition	998 Jun 08 j 07:39	21° ♁ 47'26	1°12'45	opposition	1006 Jun 26 j 15:42	9° ♁ 19'50	0°42'29
min. Earth dist.	998 Jun 08 j 10:01	21° ♁ 47'16	29.22328 AU	min. Earth dist.	1006 Jun 26 j 11:50	9° ♁ 20'05	29.14942 AU
direct	998 Aug 27 j 19:21	20° ♁ 23'57		direct	1006 Sep 14 j 14:23	7° ♁ 56'26	
conjunction	998 Dec 09 j 06:40	22° ♁ 52'36	1°06'29	conjunction	1006 Dec 26 j 09:45	10° ♁ 24'32	0°37'51
minimum elong	998 Dec 09 j 06:40	22° ♁ 52'36	1°06'28	minimum elong	1006 Dec 26 j 09:45	10° ♁ 24'32	0°37'50
max. Earth dist.	998 Dec 09 j 04:16	22° ♁ 52'23	31.21957 AU	max. Earth dist.	1006 Dec 26 j 13:40	10° ♁ 24'55	31.14545 AU
retrograde	999 Mar 22 j 21:15	25° ♁ 21'50		retrograde	1007 Apr 09 j 20:00	12° ♁ 54'50	
opposition	999 Jun 10 j 20:37	23° ♁ 58'59	1°09'17	opposition	1007 Jun 29 j 04:34	11° ♁ 31'20	0°38'21
min. Earth dist.	999 Jun 10 j 23:18	23° ♁ 58'48	29.21646 AU	min. Earth dist.	1007 Jun 28 j 23:00	11° ♁ 31'42	29.14197 AU
direct	999 Aug 30 j 06:57	22° ♁ 35'33		direct	1007 Sep 17 j 02:19	10° ♁ 07'59	
conjunction	999 Dec 11 j 16:06	25° ♁ 04'09	1°03'11	conjunction	1007 Dec 28 j 19:16	12° ♁ 36'04	0°33'58
minimum elong	999 Dec 11 j 16:06	25° ♁ 04'09	1°03'12	minimum elong	1007 Dec 28 j 19:16	12° ♁ 36'04	0°33'58
max. Earth dist.	999 Dec 11 j 13:55	25° ♁ 03'57	31.21227 AU	max. Earth dist.	1007 Dec 29 j 00:54	12° ♁ 36'35	31.13838 AU
retrograde	1000 Mar 24 j 08:47	27° ♁ 33'33		retrograde	1008 Apr 11 j 07:32	15° ♁ 06'32	
opposition	1000 Jun 12 j 09:39	26° ♁ 10'39	1°05'42	opposition	1008 Jun 30 j 17:44	13° ♁ 42'58	0°34'10
min. Earth dist.	1000 Jun 12 j 10:36	26° ♁ 10'35	29.20843 AU	min. Earth dist.	1008 Jun 30 j 12:03	13° ♁ 43'22	29.13523 AU
direct	1000 Aug 31 j 18:34	24° ♁ 47'15		direct	1008 Sep 18 j 14:02	12° ♁ 19'41	
conjunction	1000 Dec 13 j 01:29	27° ♁ 15'47	0°59'48	conjunction	1008 Dec 30 j 04:45	14° ♁ 47'44	0°30'01
minimum elong	1000 Dec 13 j 01:29	27° ♁ 15'47	0°59'47	minimum elong	1008 Dec 30 j 04:45	14° ♁ 47'44	0°30'00
max. Earth dist.	1000 Dec 12 j 23:53	27° ♁ 15'38	31.20355 AU	max. Earth dist.	1008 Dec 30 j 11:07	14° ♁ 48'20	31.13200 AU
retrograde	1001 Mar 26 j 19:39	29° ♁ 45'19		retrograde	1009 Apr 13 j 19:25	17° ♁ 18'23	
opposition	1001 Jun 14 j 22:51	28° ♁ 22'20	1°02'02	opposition	1009 Jul 03 j 06:46	15° ♁ 54'48	0°29'55
min. Earth dist.	1001 Jun 15 j 00:10	28° ♁ 22'15	29.19909 AU	min. Earth dist.	1009 Jul 02 j 23:09	15° ♁ 55'19	29.12889 AU

direct	1009 Sep 21 j 01:28	14°☾31'34		min. Earth dist.	1016 Jul 18 j 15:08	1°☾22'28	29.06401 AU
					1016 Sep 27 j 01:09	30°☾☾	
conjunction	1010 Jan 01 j 14:25	16°☾59'36	0°26'01	direct	1016 Oct 06 j 08:09	29°☾58'33	
minimum elong	1010 Jan 01 j 14:25	16°☾59'36	0°26'02		1016 Oct 15 j 13:15	0°☾☾	
max. Earth dist.	1010 Jan 01 j 21:27	17°☾00'16	31.12559 AU				
retrograde	1010 Apr 16 j 06:42	19°☾30'26		conjunction	1017 Jan 16 j 12:21	2°☾26'25	0°-2'-48
opposition	1010 Jul 05 j 19:49	18°☾06'49	0°25'37	minimum elong	1017 Jan 16 j 12:21	2°☾26'25	0°02'50
min. Earth dist.	1010 Jul 05 j 12:32	18°☾07'19	29.12241 AU	behind sun begin	1017 Jan 16 j 05:57	2°☾25'50	
direct	1010 Sep 23 j 11:37	16°☾43'39		behind sun end	1017 Jan 16 j 18:44	2°☾26'59	
				max. Earth dist.	1017 Jan 17 j 00:25	2°☾27'32	31.05829 AU
conjunction	1011 Jan 04 j 00:17	19°☾11'40	0°21'59	retrograde	1017 May 02 j 00:16	4°☾58'19	
minimum elong	1011 Jan 04 j 00:17	19°☾11'40	0°21'59	opposition	1017 Jul 21 j 16:13	3°☾34'12	0°-5'-10
max. Earth dist.	1011 Jan 04 j 08:29	19°☾12'27	31.11891 AU	min. Earth dist.	1017 Jul 21 j 04:18	3°☾35'00	29.05296 AU
retrograde	1011 Apr 18 j 18:49	21°☾42'41		direct	1017 Oct 08 j 20:14	2°☾11'05	
opposition	1011 Jul 08 j 08:57	20°☾19'03	0°21'17				
min. Earth dist.	1011 Jul 08 j 00:05	20°☾19'39	29.11527 AU	conjunction	1018 Jan 18 j 22:31	4°☾38'55	0°-6'-56
direct	1011 Sep 25 j 22:41	18°☾55'55		minimum elong	1018 Jan 18 j 22:32	4°☾38'55	0°06'57
				behind sun begin	1018 Jan 18 j 16:34	4°☾38'23	
conjunction	1012 Jan 06 j 10:02	21°☾23'56	0°17'55	behind sun end	1018 Jan 19 j 04:29	4°☾39'27	
minimum elong	1012 Jan 06 j 10:02	21°☾23'56	0°17'56	max. Earth dist.	1018 Jan 19 j 11:20	4°☾40'07	31.04773 AU
max. Earth dist.	1012 Jan 06 j 18:07	21°☾24'41	31.11126 AU	retrograde	1018 May 04 j 12:13	7°☾10'57	
retrograde	1012 Apr 20 j 07:55	23°☾55'08		opposition	1018 Jul 24 j 05:03	5°☾46'46	0°-9'-36
opposition	1012 Jul 09 j 22:19	22°☾31'27	0°16'55	min. Earth dist.	1018 Jul 23 j 15:12	5°☾47'43	29.04289 AU
min. Earth dist.	1012 Jul 09 j 13:37	22°☾32'02	29.10715 AU	direct	1018 Oct 11 j 08:02	4°☾23'40	
direct	1012 Sep 27 j 08:48	21°☾08'21					
				conjunction	1019 Jan 21 j 08:43	6°☾51'29	0°-11'-3
conjunction	1013 Jan 07 j 20:09	23°☾36'21	0°13'49	minimum elong	1019 Jan 21 j 08:42	6°☾51'29	0°11'04
minimum elong	1013 Jan 07 j 20:09	23°☾36'21	0°13'49	behind sun begin	1019 Jan 21 j 03:52	6°☾51'03	
behind sun begin	1013 Jan 07 j 16:41	23°☾36'02		behind sun end	1019 Jan 21 j 13:33	6°☾51'56	
behind sun end	1013 Jan 07 j 23:38	23°☾36'40		max. Earth dist.	1019 Jan 21 j 22:11	6°☾52'45	31.03810 AU
max. Earth dist.	1013 Jan 08 j 05:45	23°☾37'15	31.10251 AU	retrograde	1019 May 06 j 23:41	9°☾23'41	
retrograde	1013 Apr 22 j 20:28	26°☾07'42		opposition	1019 Jul 26 j 18:12	7°☾59'27	0°-14'-1
opposition	1013 Jul 12 j 11:29	24°☾43'58	0°12'31	min. Earth dist.	1019 Jul 26 j 04:24	8°☾00'23	29.03389 AU
min. Earth dist.	1013 Jul 12 j 01:51	24°☾44'37	29.09768 AU	direct	1019 Oct 13 j 18:43	6°☾36'22	
direct	1013 Sep 29 j 21:02	23°☾20'53					
				conjunction	1020 Jan 23 j 18:54	9°☾04'11	0°-15'-10
conjunction	1014 Jan 10 j 06:10	25°☾48'52	0°09'43	minimum elong	1020 Jan 23 j 18:54	9°☾04'11	0°15'10
minimum elong	1014 Jan 10 j 06:10	25°☾48'52	0°09'43	behind sun begin	1020 Jan 23 j 16:34	9°☾03'58	
behind sun begin	1014 Jan 10 j 00:52	25°☾48'23		behind sun end	1020 Jan 23 j 21:14	9°☾04'24	
behind sun end	1014 Jan 10 j 11:27	25°☾49'20		max. Earth dist.	1020 Jan 24 j 09:56	9°☾05'36	31.02965 AU
max. Earth dist.	1014 Jan 10 j 15:09	25°☾49'42	31.09246 AU	retrograde	1020 May 08 j 12:04	11°☾36'33	
retrograde	1014 Apr 25 j 10:31	28°☾20'22		opposition	1020 Jul 28 j 07:14	10°☾12'15	0°-18'-25
opposition	1014 Jul 15 j 00:44	26°☾56'32	0°08'06	min. Earth dist.	1020 Jul 27 j 15:34	10°☾13'20	29.02584 AU
min. Earth dist.	1014 Jul 14 j 14:37	26°☾57'13	29.08706 AU	direct	1020 Oct 15 j 06:04	8°☾49'12	
direct	1014 Oct 02 j 07:17	25°☾33'27					
				conjunction	1021 Jan 25 j 05:14	11°☾17'02	0°-19'-16
conjunction	1015 Jan 12 j 16:16	28°☾01'24	0°05'36	minimum elong	1021 Jan 25 j 05:13	11°☾17'02	0°19'17
minimum elong	1015 Jan 12 j 16:16	28°☾01'24	0°05'35	max. Earth dist.	1021 Jan 25 j 20:18	11°☾18'27	31.02199 AU
behind sun begin	1015 Jan 12 j 10:06	28°☾00'50		retrograde	1021 May 11 j 00:42	13°☾49'34	
behind sun end	1015 Jan 12 j 22:26	28°☾01'57		opposition	1021 Jul 30 j 20:17	12°☾25'15	0°-22'-47
max. Earth dist.	1015 Jan 13 j 02:50	28°☾02'23	31.08128 AU	min. Earth dist.	1021 Jul 30 j 04:43	12°☾26'19	29.01860 AU
	1015 Mar 13 j 12:59	0°☾☾		direct	1021 Oct 17 j 15:50	11°☾02'14	
retrograde	1015 Apr 27 j 21:58	0°☾☾33'02					
	1015 Jun 14 j 00:51	30°☾☾☾		conjunction	1022 Jan 27 j 15:49	13°☾30'04	0°-23'-20
opposition	1015 Jul 17 j 13:53	29°☾09'07	0°03'40	minimum elong	1022 Jan 27 j 15:48	13°☾30'04	0°23'21
min. Earth dist.	1015 Jul 17 j 03:23	29°☾09'49	29.07550 AU	max. Earth dist.	1022 Jan 28 j 08:38	13°☾31'40	31.01489 AU
direct	1015 Oct 04 j 19:45	27°☾46'01			1022 Mar 10 j 21:08	15°☾☾	
	1016 Jan 08 j 23:45	0°☾☾		retrograde	1022 May 13 j 12:48	16°☾02'47	
					1022 Jul 20 j 01:58	15°☾☾☾	
conjunction	1016 Jan 15 j 02:19	0°☾☾13'55	0°01'26	opposition	1022 Aug 02 j 09:17	14°☾38'25	0°-27'-8
minimum elong	1016 Jan 15 j 02:17	0°☾☾13'55	0°01'26	min. Earth dist.	1022 Aug 01 j 16:39	14°☾39'34	29.01153 AU
behind sun begin	1016 Jan 14 j 19:53	0°☾☾13'20		direct	1022 Oct 20 j 03:06	13°☾15'27	
behind sun end	1016 Jan 15 j 08:41	0°☾☾14'29			1023 Jan 10 j 19:42	15°☾☾	
max. Earth dist.	1016 Jan 15 j 12:52	0°☾☾14'54	31.06971 AU				
retrograde	1016 Apr 29 j 12:09	2°☾☾45'41		conjunction	1023 Jan 30 j 02:17	15°☾☾43'18	0°-27'-23
desc. node	1016 May 17 j 10:44	2°☾☾40'30		minimum elong	1023 Jan 30 j 02:17	15°☾☾43'18	0°27'25
opposition	1016 Jul 19 j 03:02	1°☾☾21'39	0°00'-44	max. Earth dist.	1023 Jan 30 j 18:38	15°☾☾44'51	31.00779 AU

retrograde	1023 May 16 j 03:03	18° \approx 16'11		retrograde	1031 Jun 03 j 09:47	6° \times 05'15	
opposition	1023 Aug 04 j 22:24	16° \approx 51'48	0°-31'-27	min. Earth dist.	1031 Aug 22 j 09:36	4° \times 41'39	28.92390 AU
min. Earth dist.	1023 Aug 04 j 05:24	16° \approx 52'57	29.00436 AU	opposition	1031 Aug 23 j 06:01	4° \times 40'14	-1°-3'-45
direct	1023 Oct 22 j 12:23	15° \approx 28'50		direct	1031 Nov 09 j 10:41	3° \times 17'06	
conjunction	1024 Feb 01 j 13:11	17° \approx 56'44	0°-31'-24	conjunction	1032 Feb 19 j 06:09	5° \times 44'59	-1°-1'-19
minimum elong	1024 Feb 01 j 13:11	17° \approx 56'44	0°31'24	minimum elong	1032 Feb 19 j 06:09	5° \times 44'59	1°01'20
max. Earth dist.	1024 Feb 02 j 06:57	17° \approx 58'24	31.00026 AU	max. Earth dist.	1032 Feb 20 j 02:47	5° \times 46'56	30.91930 AU
retrograde	1024 May 17 j 15:39	20° \approx 29'46		retrograde	1032 Jun 04 j 23:53	8° \times 18'53	
opposition	1024 Aug 06 j 11:32	19° \approx 05'20	0°-35'-43	opposition	1032 Aug 24 j 18:46	6° \times 53'49	-1°-7'-25
min. Earth dist.	1024 Aug 05 j 18:22	19° \approx 06'30	28.99646 AU	min. Earth dist.	1032 Aug 23 j 21:55	6° \times 55'15	28.91618 AU
direct	1024 Oct 24 j 00:34	17° \approx 42'24		direct	1032 Nov 10 j 19:46	5° \times 30'40	
conjunction	1025 Feb 03 j 00:03	20° \approx 10'18	0°-35'-22	conjunction	1033 Feb 20 j 17:38	7° \times 58'37	-1°-4'-43
minimum elong	1025 Feb 03 j 00:03	20° \approx 10'18	0°35'23	minimum elong	1033 Feb 20 j 17:38	7° \times 58'37	1°04'44
max. Earth dist.	1025 Feb 03 j 17:22	20° \approx 11'56	30.99191 AU	max. Earth dist.	1033 Feb 21 j 15:51	8° \times 00'43	30.91208 AU
retrograde	1025 May 20 j 07:04	22° \approx 43'27		retrograde	1033 Jun 07 j 12:13	10° \times 32'38	
min. Earth dist.	1025 Aug 08 j 06:42	21° \approx 20'12	28.98756 AU	min. Earth dist.	1033 Aug 26 j 10:14	9° \times 09'01	28.90953 AU
opposition	1025 Aug 09 j 00:39	21° \approx 18'58	0°-39'-55	opposition	1033 Aug 27 j 07:28	9° \times 07'33	-1°-10'-59
direct	1025 Oct 26 j 12:28	19° \approx 56'01		direct	1033 Nov 13 j 07:31	7° \times 44'26	
conjunction	1026 Feb 05 j 11:13	22° \approx 23'56	0°-39'-16	conjunction	1034 Feb 23 j 05:10	10° \times 12'25	-1°-8'00
minimum elong	1026 Feb 05 j 11:13	22° \approx 23'56	0°39'16	minimum elong	1034 Feb 23 j 05:10	10° \times 12'25	1°08'01
max. Earth dist.	1026 Feb 06 j 05:13	22° \approx 25'38	30.98223 AU	max. Earth dist.	1034 Feb 24 j 03:06	10° \times 14'30	30.90599 AU
retrograde	1026 May 22 j 19:24	24° \approx 57'13		retrograde	1034 Jun 10 j 03:33	12° \times 46'34	
opposition	1026 Aug 11 j 13:40	23° \approx 32'38	0°-44'-5	opposition	1034 Aug 29 j 20:01	11° \times 21'29	-1°-14'-28
min. Earth dist.	1026 Aug 10 j 20:23	23° \approx 33'49	28.97730 AU	min. Earth dist.	1034 Aug 28 j 21:55	11° \times 23'00	28.90391 AU
direct	1026 Oct 29 j 00:16	22° \approx 09'40		direct	1034 Nov 15 j 18:31	9° \times 58'22	
conjunction	1027 Feb 07 j 22:20	24° \approx 37'34	0°-43'-8	conjunction	1035 Feb 25 j 16:52	12° \times 26'27	-1°-11'-12
minimum elong	1027 Feb 07 j 22:20	24° \approx 37'34	0°43'09	minimum elong	1035 Feb 25 j 16:51	12° \times 26'27	1°11'14
max. Earth dist.	1027 Feb 08 j 16:30	24° \approx 39'17	30.97152 AU	max. Earth dist.	1035 Feb 26 j 15:45	12° \times 28'37	30.90058 AU
retrograde	1027 May 25 j 09:03	27° \approx 10'56		retrograde	1035 Jun 12 j 16:14	15° \times 00'44	
min. Earth dist.	1027 Aug 13 j 08:04	25° \approx 47'33	28.96615 AU	min. Earth dist.	1035 Aug 31 j 11:14	13° \times 37'08	28.89877 AU
opposition	1027 Aug 14 j 02:39	25° \approx 46'16	0°-48'-10	opposition	1035 Sep 01 j 08:46	13° \times 35'39	-1°-17'-49
direct	1027 Oct 31 j 12:53	24° \approx 23'15		direct	1035 Nov 18 j 05:20	12° \times 12'34	
conjunction	1028 Feb 10 j 09:18	26° \approx 51'08	0°-46'-55	conjunction	1036 Feb 28 j 04:38	14° \times 40'43	-1°-14'-17
minimum elong	1028 Feb 10 j 09:17	26° \approx 51'08	0°46'55	minimum elong	1036 Feb 28 j 04:37	14° \times 40'43	1°14'18
max. Earth dist.	1028 Feb 11 j 03:38	26° \approx 52'52	30.96001 AU	max. Earth dist.	1036 Feb 29 j 03:42	14° \times 42'54	30.89557 AU
retrograde	1028 May 26 j 21:37	29° \approx 24'36		retrograde	1036 Jun 14 j 07:25	17° \times 15'07	
opposition	1028 Aug 15 j 15:45	27° \approx 59'50	0°-52'-11	opposition	1036 Sep 02 j 21:25	15° \times 50'02	-1°-21'-4
min. Earth dist.	1028 Aug 14 j 21:45	28° \approx 01'04	28.95462 AU	min. Earth dist.	1036 Sep 01 j 22:51	15° \times 51'36	28.89371 AU
direct	1028 Nov 02 j 00:38	26° \approx 36'46		direct	1036 Nov 19 j 17:46	14° \times 26'59	
conjunction	1029 Feb 11 j 20:32	29° \approx 04'38	0°-50'-38	conjunction	1037 Mar 01 j 16:41	16° \times 55'11	-1°-17'-16
minimum elong	1029 Feb 11 j 20:32	29° \approx 04'38	0°50'40	minimum elong	1037 Mar 01 j 16:40	16° \times 55'11	1°17'17
max. Earth dist.	1029 Feb 12 j 16:03	29° \approx 06'29	30.94857 AU	max. Earth dist.	1037 Mar 02 j 15:29	16° \times 57'21	30.89014 AU
retrograde	1029 Mar 08 j 17:49	0° \times		retrograde	1037 Jun 16 j 21:39	19° \times 29'43	
opposition	1029 May 29 j 10:15	1° \times 38'11		opposition	1037 Sep 05 j 10:03	18° \times 04'36	-1°-24'-11
min. Earth dist.	1029 Aug 17 j 08:57	0° \times 14'39	28.94341 AU	min. Earth dist.	1037 Sep 04 j 12:35	18° \times 06'05	28.88806 AU
opposition	1029 Aug 18 j 04:25	0° \times 13'18	0°-56'-7	direct	1037 Nov 22 j 05:32	16° \times 41'33	
direct	1029 Aug 26 j 06:32	30° \times		conjunction	1038 Mar 04 j 04:58	19° \times 09'50	-1°-20'-8
conjunction	1029 Nov 04 j 13:02	28° \approx 50'12		minimum elong	1038 Mar 04 j 04:58	19° \times 09'50	1°20'08
direct	1030 Jan 09 j 05:49	0° \times		max. Earth dist.	1038 Mar 05 j 04:16	19° \times 12'02	30.88405 AU
conjunction	1030 Feb 14 j 07:40	1° \times 18'03	0°-54'-17	retrograde	1038 Jun 19 j 11:21	21° \times 44'26	
minimum elong	1030 Feb 14 j 07:40	1° \times 18'03	0°54'17	opposition	1038 Sep 07 j 22:39	20° \times 19'18	-1°-27'-11
max. Earth dist.	1030 Feb 15 j 02:57	1° \times 19'53	30.93765 AU	min. Earth dist.	1038 Sep 07 j 00:16	20° \times 20'51	28.88145 AU
retrograde	1030 May 31 j 22:17	3° \times 51'43		direct	1038 Nov 24 j 18:31	18° \times 56'14	
opposition	1030 Aug 20 j 17:18	2° \times 26'45	0°-59'-59	conjunction	1039 Mar 06 j 17:02	21° \times 24'32	-1°-22'-52
min. Earth dist.	1030 Aug 19 j 22:03	2° \times 28'05	28.93310 AU	minimum elong	1039 Mar 06 j 17:02	21° \times 24'32	1°22'54
direct	1030 Nov 06 j 23:10	1° \times 03'38		max. Earth dist.	1039 Mar 07 j 15:25	21° \times 26'39	30.87690 AU
conjunction	1031 Feb 16 j 18:54	3° \times 31'29	0°-57'-51	retrograde	1039 Jun 21 j 23:42	23° \times 59'12	
minimum elong	1031 Feb 16 j 18:54	3° \times 31'29	0°57'52	opposition	1039 Sep 10 j 11:22	22° \times 34'00	-1°-30'-3
max. Earth dist.	1031 Feb 17 j 15:57	3° \times 33'29	30.92781 AU	min. Earth dist.	1039 Sep 09 j 13:54	22° \times 35'30	28.87398 AU

direct	1039 Nov 27 j 05:07	21° ✕ 10'54		direct	1047 Dec 15 j 01:21	9° ∇ 06'48	
conjunction	1040 Mar 08 j 05:26	23° ✕ 39'13	-1°-25'-30	conjunction	1048 Mar 26 j 10:00	11° ∇ 35'29	-1°-41'-30
minimum elong	1040 Mar 08 j 05:26	23° ✕ 39'13	1°25'30	minimum elong	1048 Mar 26 j 10:00	11° ∇ 35'29	1°41'31
max. Earth dist.	1040 Mar 09 j 04:54	23° ✕ 41'26	30.86911 AU	max. Earth dist.	1048 Mar 27 j 09:37	11° ∇ 37'43	30.83285 AU
retrograde	1040 Jun 23 j 11:45	26° ✕ 13'55		retrograde	1048 Jul 11 j 22:44	14° ∇ 10'28	
opposition	1040 Sep 11 j 23:46	24° ✕ 48'39	-1°-32'-47	min. Earth dist.	1048 Sep 29 j 03:22	12° ∇ 46'34	28.83384 AU
min. Earth dist.	1040 Sep 11 j 01:50	24° ✕ 50'11	28.86598 AU	opposition	1048 Sep 30 j 01:15	12° ∇ 45'02	-1°-49'-17
direct	1040 Nov 28 j 17:25	23° ✕ 25'30		direct	1048 Dec 16 j 11:47	11° ∇ 21'41	
conjunction	1041 Mar 10 j 17:44	25° ✕ 53'50	-1°-27'-59	conjunction	1049 Mar 28 j 23:18	13° ∇ 50'28	-1°-42'-50
minimum elong	1041 Mar 10 j 17:44	25° ✕ 53'50	1°28'01	minimum elong	1049 Mar 28 j 23:18	13° ∇ 50'28	1°42'52
max. Earth dist.	1041 Mar 11 j 16:09	25° ✕ 55'57	30.86111 AU	max. Earth dist.	1049 Mar 29 j 23:41	13° ∇ 52'47	30.83232 AU
retrograde	1041 Jun 26 j 01:24	28° ✕ 28'34		retrograde	1049 Jul 14 j 12:23	16° ∇ 25'29	
opposition	1041 Sep 14 j 12:12	27° ✕ 03'13	-1°-35'-23	opposition	1049 Oct 02 j 13:17	15° ∇ 00'05	-1°-50'-38
min. Earth dist.	1041 Sep 13 j 14:28	27° ✕ 04'44	28.85820 AU	min. Earth dist.	1049 Oct 01 j 15:17	15° ∇ 01'38	28.83308 AU
direct	1041 Dec 01 j 03:25	25° ✕ 40'00		direct	1049 Dec 19 j 00:21	13° ∇ 36'45	
conjunction	1042 Mar 13 j 06:10	28° ✕ 08'21	-1°-30'-20	conjunction	1050 Mar 31 j 12:30	16° ∇ 05'38	-1°-44'-1
minimum elong	1042 Mar 13 j 06:10	28° ✕ 08'21	1°30'21	minimum elong	1050 Mar 31 j 12:30	16° ∇ 05'38	1°44'01
max. Earth dist.	1042 Mar 14 j 05:44	28° ✕ 10'34	30.85344 AU	max. Earth dist.	1050 Apr 01 j 11:17	16° ∇ 07'47	30.83122 AU
	1042 May 07 j 05:44	0° ∇		retrograde	1050 Jul 17 j 02:08	18° ∇ 40'40	
retrograde	1042 Jun 28 j 12:10	0° ∇ 43'06		min. Earth dist.	1050 Oct 04 j 04:09	17° ∇ 16'47	28.83165 AU
	1042 Aug 21 j 13:14	30° R ✕		opposition	1050 Oct 05 j 01:22	17° ∇ 15'18	-1°-51'-48
min. Earth dist.	1042 Sep 16 j 02:35	29° ✕ 19'13	28.85097 AU	direct	1050 Dec 21 j 10:39	15° ∇ 51'57	
opposition	1042 Sep 17 j 00:23	29° ✕ 17'42	-1°-37'-50				
direct	1042 Dec 03 j 15:30	27° ✕ 54'25		conjunction	1051 Apr 03 j 02:00	18° ∇ 20'54	-1°-45'-2
	1043 Mar 05 j 16:41	0° ∇		minimum elong	1051 Apr 03 j 02:00	18° ∇ 20'54	1°45'03
conjunction	1043 Mar 15 j 18:33	0° ∇ 22'47	-1°-32'-34	max. Earth dist.	1051 Apr 04 j 01:13	18° ∇ 23'06	30.82925 AU
minimum elong	1043 Mar 15 j 18:33	0° ∇ 22'47	1°32'35	retrograde	1051 Jul 19 j 13:31	20° ∇ 55'57	
max. Earth dist.	1043 Mar 16 j 17:34	0° ∇ 24'57	30.84681 AU	opposition	1051 Oct 07 j 13:25	19° ∇ 30'35	-1°-52'-48
retrograde	1043 Jul 01 j 02:12	2° ∇ 57'33		min. Earth dist.	1051 Oct 06 j 16:44	19° ∇ 32'02	28.82918 AU
opposition	1043 Sep 19 j 12:38	1° ∇ 32'07	-1°-40'-8	direct	1051 Dec 23 j 22:46	18° ∇ 07'12	
min. Earth dist.	1043 Sep 18 j 14:08	1° ∇ 33'41	28.84503 AU	conjunction	1052 Apr 04 j 15:22	20° ∇ 36'13	-1°-45'-53
direct	1043 Dec 06 j 02:01	0° ∇ 08'46		minimum elong	1052 Apr 04 j 15:22	20° ∇ 36'13	1°45'54
conjunction	1044 Mar 17 j 07:00	2° ∇ 37'11	-1°-34'-38	max. Earth dist.	1052 Apr 05 j 13:09	20° ∇ 38'16	30.82645 AU
minimum elong	1044 Mar 17 j 07:00	2° ∇ 37'11	1°34'39	retrograde	1052 Jul 21 j 03:30	23° ∇ 11'14	
max. Earth dist.	1044 Mar 18 j 06:53	2° ∇ 39'26	30.84141 AU	min. Earth dist.	1052 Oct 08 j 04:48	21° ∇ 47'18	28.82601 AU
retrograde	1044 Jul 02 j 14:16	5° ∇ 12'00		opposition	1052 Oct 09 j 01:22	21° ∇ 45'51	-1°-53'-38
min. Earth dist.	1044 Sep 20 j 02:58	3° ∇ 48'02	28.84038 AU	direct	1052 Dec 25 j 09:28	20° ∇ 22'25	
opposition	1044 Sep 21 j 00:53	3° ∇ 46'30	-1°-42'-17	conjunction	1053 Apr 07 j 04:58	22° ∇ 51'29	-1°-46'-35
direct	1044 Dec 07 j 12:34	2° ∇ 23'08		minimum elong	1053 Apr 07 j 04:58	22° ∇ 51'29	1°46'36
conjunction	1045 Mar 19 j 19:40	4° ∇ 51'36	-1°-36'-35	max. Earth dist.	1053 Apr 08 j 02:53	22° ∇ 53'33	30.82294 AU
minimum elong	1045 Mar 19 j 19:40	4° ∇ 51'36	1°36'36	retrograde	1053 Jul 23 j 15:06	25° ∇ 26'28	
max. Earth dist.	1045 Mar 20 j 19:35	4° ∇ 53'51	30.83752 AU	opposition	1053 Oct 11 j 13:08	24° ∇ 01'05	-1°-54'-18
retrograde	1045 Jul 05 j 05:07	7° ∇ 26'26		min. Earth dist.	1053 Oct 10 j 17:47	24° ∇ 02'26	28.82239 AU
opposition	1045 Sep 23 j 12:51	6° ∇ 00'56	-1°-44'-16	direct	1053 Dec 27 j 20:00	22° ∇ 37'34	
min. Earth dist.	1045 Sep 22 j 13:54	6° ∇ 02'33	28.83720 AU	conjunction	1054 Apr 09 j 18:28	25° ∇ 06'42	-1°-47'-8
direct	1045 Dec 10 j 01:05	4° ∇ 37'33		minimum elong	1054 Apr 09 j 18:28	25° ∇ 06'42	1°47'08
conjunction	1046 Mar 22 j 08:20	7° ∇ 06'05	-1°-38'-22	max. Earth dist.	1054 Apr 10 j 15:48	25° ∇ 08'42	30.81947 AU
minimum elong	1046 Mar 22 j 08:20	7° ∇ 06'05	1°38'23	retrograde	1054 Jul 26 j 05:06	27° ∇ 41'38	
max. Earth dist.	1046 Mar 23 j 08:10	7° ∇ 08'20	30.83490 AU	min. Earth dist.	1054 Oct 13 j 04:55	26° ∇ 17'37	28.81909 AU
retrograde	1046 Jul 07 j 18:51	9° ∇ 40'58		opposition	1054 Oct 14 j 00:49	26° ∇ 16'13	-1°-54'-47
min. Earth dist.	1046 Sep 25 j 03:01	8° ∇ 17'01	28.83527 AU	direct	1054 Dec 30 j 09:02	24° ∇ 52'38	
opposition	1046 Sep 26 j 01:04	8° ∇ 15'28	-1°-46'-6	conjunction	1055 Apr 12 j 07:48	27° ∇ 21'49	-1°-47'-30
direct	1046 Dec 12 j 12:31	6° ∇ 52'06		minimum elong	1055 Apr 12 j 07:48	27° ∇ 21'49	1°47'31
conjunction	1047 Mar 24 j 21:04	9° ∇ 20'42	-1°-40'-1	max. Earth dist.	1055 Apr 13 j 04:47	27° ∇ 23'48	30.81639 AU
minimum elong	1047 Mar 24 j 21:04	9° ∇ 20'42	1°40'02	retrograde	1055 Jul 28 j 17:45	29° ∇ 56'43	
max. Earth dist.	1047 Mar 25 j 21:35	9° ∇ 23'01	30.83355 AU	opposition	1055 Oct 16 j 12:36	28° ∇ 31'17	-1°-55'-5
retrograde	1047 Jul 10 j 08:56	11° ∇ 55'37		min. Earth dist.	1055 Oct 15 j 17:56	28° ∇ 32'36	28.81649 AU
opposition	1047 Sep 28 j 13:08	10° ∇ 30'10	-1°-47'-47	direct	1056 Jan 01 j 20:44	27° ∇ 07'38	
min. Earth dist.	1047 Sep 27 j 14:07	10° ∇ 31'46	28.83430 AU	conjunction	1056 Apr 13 j 21:27	29° ∇ 36'53	-1°-47'-43

minimum elong	1056 Apr 13 j 21:27	29° Υ 36'53	1°47'43	direct	1064 Jan 19 j 18:57	15° Υ 08'35	
max. Earth dist.	1056 Apr 14 j 18:38	29° Υ 38'53	30.81435 AU				
	1056 Apr 24 j 04:00	0° Υ		conjunction	1064 May 02 j 12:43	17° Υ 38'29	-1°-43'-27
retrograde	1056 Jul 30 j 07:32	2° Υ 11'43		minimum elong	1064 May 02 j 12:43	17° Υ 38'29	1°43'28
opposition	1056 Oct 18 j 00:00	0° Υ 46'17	-1°-55'-14	max. Earth dist.	1064 May 03 j 04:59	17° Υ 40'01	30.82887 AU
min. Earth dist.	1056 Oct 17 j 04:35	0° Υ 47'39	28.81498 AU	retrograde	1064 Aug 17 j 14:49	20° Υ 12'49	
	1056 Nov 15 j 22:22	30° Υ		opposition	1064 Nov 04 j 19:18	18° Υ 47'42	-1°-49'-57
direct	1057 Jan 03 j 09:42	29° Υ 22'35		min. Earth dist.	1064 Nov 04 j 05:29	18° Υ 48'41	28.83041 AU
	1057 Feb 19 j 14:41	0° Υ		direct	1065 Jan 21 j 06:02	17° Υ 23'46	
conjunction	1057 Apr 16 j 11:01	1° Υ 51'55	-1°-47'-45	conjunction	1065 May 05 j 03:03	19° Υ 53'44	-1°-42'-11
minimum elong	1057 Apr 16 j 11:02	1° Υ 51'55	1°47'47	minimum elong	1065 May 05 j 03:03	19° Υ 53'44	1°42'13
max. Earth dist.	1057 Apr 17 j 07:11	1° Υ 53'48	30.81343 AU	max. Earth dist.	1065 May 05 j 18:39	19° Υ 55'11	30.82964 AU
retrograde	1057 Aug 01 j 21:25	4° Υ 26'41		retrograde	1065 Aug 20 j 04:10	22° Υ 27'56	
opposition	1057 Oct 20 j 11:36	3° Υ 01'16	-1°-55'-11	opposition	1065 Nov 07 j 06:26	21° Υ 02'49	-1°-48'-32
min. Earth dist.	1057 Oct 19 j 17:16	3° Υ 02'33	28.81479 AU	min. Earth dist.	1065 Nov 06 j 16:26	21° Υ 03'49	28.83081 AU
direct	1058 Jan 05 j 20:53	1° Υ 37'32		direct	1066 Jan 23 j 19:13	19° Υ 38'48	
conjunction	1058 Apr 19 j 00:42	4° Υ 06'56	-1°-47'-38	conjunction	1066 May 07 j 17:04	22° Υ 08'49	-1°-40'-47
minimum elong	1058 Apr 19 j 00:42	4° Υ 06'56	1°47'39	minimum elong	1066 May 07 j 17:04	22° Υ 08'49	1°40'48
max. Earth dist.	1058 Apr 19 j 21:39	4° Υ 08'54	30.81391 AU	max. Earth dist.	1066 May 08 j 07:13	22° Υ 10'08	30.82991 AU
retrograde	1058 Aug 04 j 11:22	6° Υ 41'39		retrograde	1066 Aug 22 j 17:03	24° Υ 42'53	
opposition	1058 Oct 22 j 23:01	5° Υ 16'16	-1°-54'-58	opposition	1066 Nov 09 j 17:37	23° Υ 17'46	-1°-46'-56
min. Earth dist.	1058 Oct 22 j 04:20	5° Υ 17'35	28.81586 AU	min. Earth dist.	1066 Nov 09 j 05:08	23° Υ 18'39	28.83114 AU
direct	1059 Jan 08 j 10:23	3° Υ 52'32		direct	1067 Jan 26 j 07:01	21° Υ 53'41	
conjunction	1059 Apr 21 j 14:20	6° Υ 22'00	-1°-47'-21	conjunction	1067 May 10 j 07:18	24° Υ 23'44	-1°-39'-13
minimum elong	1059 Apr 21 j 14:20	6° Υ 22'00	1°47'22	minimum elong	1067 May 10 j 07:18	24° Υ 23'44	1°39'14
max. Earth dist.	1059 Apr 22 j 09:54	6° Υ 23'50	30.81570 AU	max. Earth dist.	1067 May 10 j 21:44	24° Υ 25'05	30.83047 AU
retrograde	1059 Aug 07 j 00:26	8° Υ 56'41		retrograde	1067 Aug 25 j 06:07	26° Υ 57'40	
opposition	1059 Oct 25 j 10:29	7° Υ 31'20	-1°-54'-34	opposition	1067 Nov 12 j 04:31	25° Υ 32'34	-1°-45'-11
min. Earth dist.	1059 Oct 24 j 16:27	7° Υ 32'37	28.81827 AU	min. Earth dist.	1067 Nov 11 j 16:05	25° Υ 33'27	28.83187 AU
direct	1060 Jan 10 j 21:01	6° Υ 07'35		direct	1068 Jan 28 j 20:59	24° Υ 08'23	
conjunction	1060 Apr 23 j 04:15	8° Υ 37'09	-1°-46'-54	conjunction	1068 May 11 j 21:22	26° Υ 38'30	-1°-37'-31
minimum elong	1060 Apr 23 j 04:15	8° Υ 37'09	1°46'55	minimum elong	1068 May 11 j 21:22	26° Υ 38'30	1°37'31
max. Earth dist.	1060 Apr 24 j 00:28	8° Υ 39'03	30.81853 AU	max. Earth dist.	1068 May 12 j 10:06	26° Υ 39'42	30.83165 AU
retrograde	1060 Aug 08 j 12:28	11° Υ 11'47		retrograde	1068 Aug 26 j 18:59	29° Υ 12'18	
opposition	1060 Oct 26 j 21:53	9° Υ 46'30	-1°-54'00	opposition	1068 Nov 13 j 15:29	27° Υ 47'13	-1°-43'-17
min. Earth dist.	1060 Oct 26 j 04:25	9° Υ 47'44	28.82132 AU	min. Earth dist.	1068 Nov 13 j 03:54	27° Υ 48'02	28.83358 AU
direct	1061 Jan 12 j 09:10	8° Υ 22'45		direct	1069 Jan 30 j 08:14	26° Υ 22'58	
conjunction	1061 Apr 25 j 18:13	10° Υ 52'24	-1°-46'-17	conjunction	1069 May 14 j 11:34	28° Υ 53'09	-1°-35'-39
minimum elong	1061 Apr 25 j 18:13	10° Υ 52'24	1°46'17	minimum elong	1069 May 14 j 11:35	28° Υ 53'09	1°35'40
max. Earth dist.	1061 Apr 26 j 12:47	10° Υ 54'09	30.82184 AU	max. Earth dist.	1069 May 15 j 00:50	28° Υ 54'23	30.83388 AU
retrograde	1061 Aug 11 j 02:44	13° Υ 26'59			1069 Jun 14 j 06:17	0° Υ	
opposition	1061 Oct 29 j 09:09	12° Υ 01'46	-1°-53'-14	retrograde	1069 Aug 29 j 06:56	1° Υ 26'49	
min. Earth dist.	1061 Oct 28 j 16:00	12° Υ 02'59	28.82463 AU	opposition	1069 Nov 16 j 02:15	0° Υ 01'46	-1°-41'-13
direct	1062 Jan 14 j 19:37	10° Υ 37'59		min. Earth dist.	1069 Nov 15 j 15:11	0° Υ 02'33	28.83639 AU
conjunction	1062 Apr 28 j 08:22	13° Υ 07'45	-1°-45'-30	direct	1070 Feb 01 j 20:56	30° Υ	
minimum elong	1062 Apr 28 j 08:22	13° Υ 07'45	1°45'30		1070 Apr 15 j 18:50	28° Υ 37'29	
max. Earth dist.	1062 Apr 29 j 02:53	13° Υ 09'29	30.82491 AU			0° Υ	
retrograde	1062 Jun 23 j 00:40	15° Υ		conjunction	1070 May 17 j 01:35	1° Υ 07'44	-1°-33'-39
opposition	1062 Aug 13 j 13:57	15° Υ 42'16		minimum elong	1070 May 17 j 01:35	1° Υ 07'44	1°33'40
min. Earth dist.	1062 Oct 05 j 08:12	15° Υ		max. Earth dist.	1070 May 17 j 13:15	1° Υ 08'50	30.83755 AU
opposition	1062 Oct 31 j 20:37	14° Υ 17'06	-1°-52'-19	retrograde	1070 Aug 31 j 20:50	3° Υ 41'17	
min. Earth dist.	1062 Oct 31 j 04:57	14° Υ 18'13	28.82741 AU	opposition	1070 Nov 18 j 13:04	2° Υ 16'17	-1°-39'00
direct	1063 Jan 17 j 06:18	12° Υ 53'18		min. Earth dist.	1070 Nov 18 j 01:58	2° Υ 17'05	28.84084 AU
	1063 Apr 20 j 14:46	15° Υ		direct	1071 Feb 04 j 07:45	0° Υ 51'58	
conjunction	1063 Apr 30 j 22:26	15° Υ 23'08	-1°-44'-33	conjunction	1071 May 19 j 15:38	3° Υ 22'18	-1°-31'-31
minimum elong	1063 Apr 30 j 22:26	15° Υ 23'08	1°44'34	minimum elong	1071 May 19 j 15:39	3° Υ 22'18	1°31'31
max. Earth dist.	1063 May 01 j 15:41	15° Υ 24'45	30.82742 AU	max. Earth dist.	1071 May 20 j 03:40	3° Υ 23'26	30.84272 AU
retrograde	1063 Aug 16 j 03:02	17° Υ 57'34		retrograde	1071 Sep 03 j 07:21	5° Υ 55'45	
opposition	1063 Nov 03 j 07:59	16° Υ 32'27	-1°-51'-13	opposition	1071 Nov 20 j 23:55	4° Υ 30'50	-1°-36'-38
min. Earth dist.	1063 Nov 02 j 16:18	16° Υ 33'33	28.82939 AU	min. Earth dist.	1071 Nov 20 j 14:01	4° Υ 31'32	28.84667 AU

direct	1072 Feb 06 j 18:32	3°II06'31		minimum elong	1080 Jun 09 j 00:21	23°II34'54	1°06'26
				max. Earth dist.	1080 Jun 09 j 03:36	23°II35'12	30.90082 AU
conjunction	1072 May 21 j 05:49	5°II36'56	-1°-29'-13	retrograde	1080 Sep 22 j 21:38	26°II07'01	
minimum elong	1072 May 21 j 05:50	5°II36'56	1°29'15	opposition	1080 Dec 09 j 23:37	24°II42'42	-1°-9'-14
max. Earth dist.	1072 May 21 j 16:41	5°II37'57	30.84938 AU	min. Earth dist.	1080 Dec 09 j 21:38	24°II42'51	28.90403 AU
retrograde	1072 Sep 04 j 19:52	8°II10'16		direct	1081 Feb 26 j 07:41	23°II17'59	
opposition	1072 Nov 22 j 10:31	6°II45'28	-1°-34'-7				
min. Earth dist.	1072 Nov 22 j 00:25	6°II46'11	28.85378 AU	conjunction	1081 Jun 11 j 14:27	25°II49'00	-1°-3'-5
direct	1073 Feb 08 j 06:22	5°II21'07		minimum elong	1081 Jun 11 j 14:27	25°II49'01	1°03'06
				max. Earth dist.	1081 Jun 11 j 16:17	25°II49'11	30.90675 AU
conjunction	1073 May 23 j 20:07	7°II51'40	-1°-26'-48	retrograde	1081 Sep 25 j 09:54	28°II20'56	
minimum elong	1073 May 23 j 20:07	7°II51'40	1°26'49	opposition	1081 Dec 12 j 09:59	26°II56'40	-1°-5'-37
max. Earth dist.	1073 May 24 j 06:26	7°II52'38	30.85689 AU	min. Earth dist.	1081 Dec 12 j 07:45	26°II56'49	28.91040 AU
retrograde	1073 Sep 07 j 07:25	10°II24'54		direct	1082 Feb 28 j 19:43	25°II31'53	
opposition	1073 Nov 24 j 21:21	9°II00'12	-1°-31'-27				
min. Earth dist.	1073 Nov 24 j 13:00	9°II00'48	28.86157 AU	conjunction	1082 Jun 14 j 04:21	28°II02'56	0°-59'-39
direct	1074 Feb 10 j 16:09	7°II35'52		minimum elong	1082 Jun 14 j 04:21	28°II02'56	0°59'41
				max. Earth dist.	1082 Jun 14 j 05:55	28°II03'05	30.91365 AU
conjunction	1074 May 26 j 10:17	10°II06'31	-1°-24'-15		1082 Aug 12 j 18:20	0°☾	
minimum elong	1074 May 26 j 10:18	10°II06'31	1°24'16	retrograde	1082 Sep 27 j 20:34	0°☾34'41	
max. Earth dist.	1074 May 26 j 19:53	10°II07'24	30.86486 AU		1082 Nov 13 j 17:10	30°RII	
retrograde	1074 Sep 09 j 20:07	12°II39'39		opposition	1082 Dec 14 j 20:28	29°II10'28	-1°-1'-54
opposition	1074 Nov 27 j 08:02	11°II15'03	-1°-28'-39	min. Earth dist.	1082 Dec 14 j 19:45	29°II10'31	28.91798 AU
min. Earth dist.	1074 Nov 26 j 23:34	11°II15'39	28.86936 AU	direct	1083 Mar 03 j 05:45	27°II45'38	
direct	1075 Feb 13 j 04:30	9°II50'42			1083 Jun 09 j 06:13	0°☾	
conjunction	1075 May 29 j 00:39	12°II21'27	-1°-21'-34	conjunction	1083 Jun 16 j 18:23	0°☾16'43	0°-56'-8
minimum elong	1075 May 29 j 00:39	12°II21'27	1°21'34	minimum elong	1083 Jun 16 j 18:23	0°☾16'43	0°56'09
max. Earth dist.	1075 May 29 j 08:33	12°II22'11	30.87242 AU	max. Earth dist.	1083 Jun 16 j 19:19	0°☾16'49	30.92202 AU
retrograde	1075 Sep 12 j 08:28	14°II54'28		retrograde	1083 Sep 30 j 07:44	2°☾48'18	
opposition	1075 Nov 29 j 18:48	13°II29'57	-1°-25'-43	opposition	1083 Dec 17 j 06:39	1°☾24'10	0°-58'-6
min. Earth dist.	1075 Nov 29 j 12:11	13°II30'25	28.87663 AU	min. Earth dist.	1083 Dec 17 j 05:31	1°☾24'15	28.92696 AU
direct	1076 Feb 15 j 16:08	12°II05'35			1084 Feb 27 j 08:02	30°RII	
				direct	1084 Mar 04 j 18:09	29°II59'18	
conjunction	1076 May 30 j 15:12	14°II36'24	-1°-18'-45		1084 Mar 11 j 05:15	0°☾	
minimum elong	1076 May 30 j 15:12	14°II36'25	1°18'46				
max. Earth dist.	1076 May 30 j 22:43	14°II37'07	30.87931 AU	conjunction	1084 Jun 18 j 08:24	2°☾30'28	0°-52'-32
retrograde	1076 Sep 13 j 21:05	17°II09'16		minimum elong	1084 Jun 18 j 08:24	2°☾30'28	0°52'34
opposition	1076 Dec 01 j 05:29	15°II44'49	-1°-22'-39	max. Earth dist.	1084 Jun 18 j 08:08	2°☾30'26	30.93169 AU
min. Earth dist.	1076 Nov 30 j 23:22	15°II45'15	28.88291 AU	retrograde	1084 Oct 01 j 18:46	5°☾01'53	
direct	1077 Feb 17 j 06:14	14°II20'24		opposition	1084 Dec 18 j 17:05	3°☾37'51	0°-54'-12
				min. Earth dist.	1084 Dec 18 j 17:21	3°☾37'50	28.93727 AU
conjunction	1077 Jun 02 j 05:30	16°II51'17	-1°-15'-50	direct	1085 Mar 07 j 04:55	2°☾12'59	
minimum elong	1077 Jun 02 j 05:30	16°II51'17	1°15'50				
max. Earth dist.	1077 Jun 02 j 10:49	16°II51'47	30.88521 AU	conjunction	1085 Jun 20 j 22:23	4°☾44'13	0°-48'-51
retrograde	1077 Sep 16 j 09:54	19°II24'00		minimum elong	1085 Jun 20 j 22:24	4°☾44'13	0°48'52
opposition	1077 Dec 03 j 16:09	17°II59'35	-1°-19'-28	max. Earth dist.	1085 Jun 20 j 22:10	4°☾44'12	30.94257 AU
min. Earth dist.	1077 Dec 03 j 11:18	17°II59'55	28.88847 AU	retrograde	1085 Oct 04 j 06:24	7°☾15'30	
direct	1078 Feb 19 j 17:30	16°II35'05		opposition	1085 Dec 21 j 03:22	5°☾51'35	0°-50'-13
				min. Earth dist.	1085 Dec 21 j 03:50	5°☾51'33	28.94839 AU
conjunction	1078 Jun 04 j 19:54	19°II06'02	-1°-12'-48	direct	1086 Mar 09 j 17:49	4°☾26'44	
minimum elong	1078 Jun 04 j 19:55	19°II06'02	1°12'49				
max. Earth dist.	1078 Jun 05 j 01:15	19°II06'32	30.89052 AU	conjunction	1086 Jun 23 j 12:18	6°☾58'03	0°-45'-5
retrograde	1078 Sep 18 j 22:19	21°II38'32		minimum elong	1086 Jun 23 j 12:18	6°☾58'03	0°45'07
opposition	1078 Dec 06 j 02:44	20°II14'10	-1°-16'-10	max. Earth dist.	1086 Jun 23 j 10:15	6°☾57'52	30.95398 AU
min. Earth dist.	1078 Dec 05 j 22:50	20°II14'26	28.89350 AU	retrograde	1086 Oct 06 j 19:05	9°☾29'13	
direct	1079 Feb 22 j 07:21	18°II49'36		opposition	1086 Dec 23 j 13:42	8°☾05'25	0°-46'-10
				min. Earth dist.	1086 Dec 23 j 15:18	8°☾05'18	28.95991 AU
conjunction	1079 Jun 07 j 10:01	21°II20'34	-1°-9'-39	direct	1087 Mar 12 j 04:23	6°☾40'34	
minimum elong	1079 Jun 07 j 10:01	21°II20'34	1°09'40				
max. Earth dist.	1079 Jun 07 j 13:16	21°II20'52	30.89561 AU	conjunction	1087 Jun 26 j 02:24	9°☾11'59	0°-41'-16
retrograde	1079 Sep 21 j 11:33	23°II52'53		minimum elong	1087 Jun 26 j 02:24	9°☾11'59	0°41'16
opposition	1079 Dec 08 j 13:13	22°II28'32	-1°-12'-45	max. Earth dist.	1087 Jun 26 j 00:23	9°☾11'48	30.96530 AU
min. Earth dist.	1079 Dec 08 j 09:43	22°II28'47	28.89860 AU	retrograde	1087 Oct 09 j 07:18	11°☾43'01	
direct	1080 Feb 24 j 19:42	21°II03'54		opposition	1087 Dec 26 j 00:08	10°☾19'19	0°-42'-2
				min. Earth dist.	1087 Dec 26 j 02:54	10°☾19'07	28.97080 AU
conjunction	1080 Jun 09 j 00:21	23°II34'54	-1°-6'-25	direct	1088 Mar 13 j 18:07	8°☾54'29	

conjunction	1088 Jun 27 j 16:25	11° \mathcal{E} 25'58	0°-37'-22	conjunction	1096 Jul 16 j 05:50	29° \mathcal{E} 13'50	0°-4'-59
minimum elong	1088 Jun 27 j 16:26	11° \mathcal{E} 25'58	0°37'24	minimum elong	1096 Jul 16 j 05:49	29° \mathcal{E} 13'50	0°05'01
max. Earth dist.	1088 Jun 27 j 12:00	11° \mathcal{E} 25'34	30.97580 AU	behind sun begin	1096 Jul 15 j 23:25	29° \mathcal{E} 13'16	
retrograde	1088 Oct 10 j 20:27	13° \mathcal{E} 56'51		behind sun end	1096 Jul 16 j 12:13	29° \mathcal{E} 14'24	
opposition	1088 Dec 27 j 10:27	12° \mathcal{E} 33'15	0°-37'-51	max. Earth dist.	1096 Jul 15 j 19:21	29° \mathcal{E} 12'53	31.04032 AU
min. Earth dist.	1088 Dec 27 j 13:47	12° \mathcal{E} 33'01	28.98081 AU		1096 Aug 06 j 06:46	0° \mathcal{O}	
direct	1089 Mar 16 j 06:29	11° \mathcal{E} 08'23		retrograde	1096 Oct 28 j 10:34	1° \mathcal{N} 43'19	
				opposition	1097 Jan 13 j 20:38	0° \mathcal{N} 20'09	0°-3'-4
conjunction	1089 Jun 30 j 06:33	13° \mathcal{E} 39'57	0°-33'-26	min. Earth dist.	1097 Jan 14 j 06:30	0° \mathcal{N} 19'28	29.04555 AU
minimum elong	1089 Jun 30 j 06:33	13° \mathcal{E} 39'57	0°33'27		1097 Jan 25 j 21:11	30° \mathcal{R} \mathcal{E}	
max. Earth dist.	1089 Jun 30 j 01:50	13° \mathcal{E} 39'31	30.98520 AU	direct	1097 Apr 03 j 06:00	28° \mathcal{E} 54'58	
retrograde	1089 Oct 13 j 07:03	16° \mathcal{E} 10'40			1097 Jun 07 j 09:28	0° \mathcal{N}	
opposition	1089 Dec 29 j 20:59	14° \mathcal{E} 47'09	0°-33'-37				
min. Earth dist.	1089 Dec 30 j 02:05	14° \mathcal{E} 46'47	28.98962 AU	conjunction	1097 Jul 18 j 19:00	1° \mathcal{N} 26'41	0°00'-48
direct	1090 Mar 18 j 18:45	13° \mathcal{E} 22'16		minimum elong	1097 Jul 18 j 19:00	1° \mathcal{N} 26'41	0°00'49
				behind sun begin	1097 Jul 18 j 12:25	1° \mathcal{N} 26'06	
conjunction	1090 Jul 02 j 20:18	15° \mathcal{E} 53'52	0°-29'-27	behind sun end	1097 Jul 19 j 01:35	1° \mathcal{N} 27'16	
minimum elong	1090 Jul 02 j 20:18	15° \mathcal{E} 53'52	0°29'29	max. Earth dist.	1097 Jul 18 j 06:49	1° \mathcal{N} 25'34	31.05099 AU
max. Earth dist.	1090 Jul 02 j 13:43	15° \mathcal{E} 53'15	30.99361 AU	asc. node	1097 Sep 27 j 01:58	3° \mathcal{N} 36'40	
retrograde	1090 Oct 15 j 19:38	18° \mathcal{E} 24'24		retrograde	1097 Oct 30 j 22:53	3° \mathcal{N} 56'02	
opposition	1091 Jan 01 j 07:18	17° \mathcal{E} 00'57	0°-29'-20	opposition	1098 Jan 16 j 06:50	2° \mathcal{N} 32'57	0°01'20
min. Earth dist.	1091 Jan 01 j 12:30	17° \mathcal{E} 00'35	28.99751 AU	min. Earth dist.	1098 Jan 16 j 16:39	2° \mathcal{N} 32'16	29.05673 AU
direct	1091 Mar 21 j 07:13	15° \mathcal{E} 36'01		direct	1098 Apr 05 j 18:02	1° \mathcal{N} 07'46	
conjunction	1091 Jul 05 j 10:14	18° \mathcal{E} 07'39	0°-25'-26	conjunction	1098 Jul 21 j 08:11	3° \mathcal{N} 39'32	0°03'25
minimum elong	1091 Jul 05 j 10:14	18° \mathcal{E} 07'39	0°25'26	minimum elong	1098 Jul 21 j 08:11	3° \mathcal{N} 39'32	0°03'25
max. Earth dist.	1091 Jul 05 j 03:00	18° \mathcal{E} 06'59	31.00106 AU	behind sun begin	1098 Jul 21 j 01:38	3° \mathcal{N} 38'58	
retrograde	1091 Oct 18 j 06:11	20° \mathcal{E} 38'00		behind sun end	1098 Jul 21 j 14:43	3° \mathcal{N} 40'07	
opposition	1092 Jan 03 j 17:35	19° \mathcal{E} 14'36	0°-25'-1	max. Earth dist.	1098 Jul 20 j 20:23	3° \mathcal{N} 38'28	31.06243 AU
min. Earth dist.	1092 Jan 04 j 00:46	19° \mathcal{E} 14'05	29.00470 AU	retrograde	1098 Nov 02 j 09:29	6° \mathcal{N} 08'45	
direct	1092 Mar 22 j 17:31	17° \mathcal{E} 49'37		opposition	1099 Jan 18 j 17:08	4° \mathcal{N} 45'46	0°05'46
				min. Earth dist.	1099 Jan 19 j 04:29	4° \mathcal{N} 44'59	29.06829 AU
conjunction	1092 Jul 07 j 00:02	20° \mathcal{E} 21'15	0°-21'-22	direct	1099 Apr 08 j 06:05	3° \mathcal{N} 20'37	
minimum elong	1092 Jul 07 j 00:02	20° \mathcal{E} 21'15	0°21'24				
max. Earth dist.	1092 Jul 06 j 15:44	20° \mathcal{E} 20'29	31.00814 AU	conjunction	1099 Jul 23 j 21:21	5° \mathcal{N} 52'25	0°07'32
retrograde	1092 Oct 19 j 16:22	22° \mathcal{E} 51'25		minimum elong	1099 Jul 23 j 21:22	5° \mathcal{N} 52'25	0°07'33
opposition	1093 Jan 05 j 03:47	21° \mathcal{E} 28'04	0°-20'-40	behind sun begin	1099 Jul 23 j 15:24	5° \mathcal{N} 51'53	
min. Earth dist.	1093 Jan 05 j 10:50	21° \mathcal{E} 27'34	29.01160 AU	behind sun end	1099 Jul 24 j 03:20	5° \mathcal{N} 52'57	
direct	1093 Mar 25 j 06:31	20° \mathcal{E} 03'01		max. Earth dist.	1099 Jul 23 j 07:56	5° \mathcal{N} 51'11	31.07404 AU
				retrograde	1099 Nov 04 j 22:23	8° \mathcal{N} 21'29	
conjunction	1093 Jul 09 j 13:32	22° \mathcal{E} 34'40	0°-17'-18	opposition	1100 Jan 21 j 03:15	6° \mathcal{N} 58'36	0°10'10
minimum elong	1093 Jul 09 j 13:32	22° \mathcal{E} 34'40	0°17'18	min. Earth dist.	1100 Jan 21 j 14:33	6° \mathcal{N} 57'49	29.07970 AU
max. Earth dist.	1093 Jul 09 j 04:04	22° \mathcal{E} 33'48	31.01503 AU	direct	1100 Apr 09 j 19:00	5° \mathcal{N} 33'27	
retrograde	1093 Oct 22 j 02:07	25° \mathcal{E} 04'39					
opposition	1094 Jan 07 j 14:05	23° \mathcal{E} 41'20	0°-16'-17	conjunction	1100 Jul 25 j 10:40	8° \mathcal{N} 05'18	0°11'39
min. Earth dist.	1094 Jan 07 j 22:32	23° \mathcal{E} 40'44	29.01877 AU	minimum elong	1100 Jul 25 j 10:40	8° \mathcal{N} 05'18	0°11'38
direct	1094 Mar 27 j 17:09	22° \mathcal{E} 16'14		behind sun begin	1100 Jul 25 j 06:03	8° \mathcal{N} 04'53	
				behind sun end	1100 Jul 25 j 15:17	8° \mathcal{N} 05'42	
conjunction	1094 Jul 12 j 03:04	24° \mathcal{E} 47'53	0°-13'-12	max. Earth dist.	1100 Jul 24 j 20:49	8° \mathcal{N} 04'01	31.08499 AU
minimum elong	1094 Jul 12 j 03:03	24° \mathcal{E} 47'53	0°13'14	retrograde	1100 Nov 06 j 08:52	10° \mathcal{N} 34'14	
behind sun begin	1094 Jul 11 j 23:20	24° \mathcal{E} 47'33					
behind sun end	1094 Jul 12 j 06:46	24° \mathcal{E} 48'12					
max. Earth dist.	1094 Jul 11 j 17:35	24° \mathcal{E} 47'01	31.02252 AU				
retrograde	1094 Oct 24 j 12:27	27° \mathcal{E} 17'41					
opposition	1095 Jan 10 j 00:11	25° \mathcal{E} 54'24	0°-11'-54				
min. Earth dist.	1095 Jan 10 j 08:45	25° \mathcal{E} 53'48	29.02659 AU				
direct	1095 Mar 30 j 05:28	24° \mathcal{E} 29'15					
conjunction	1095 Jul 14 j 16:23	27° \mathcal{E} 00'55	0°-9'-6				
minimum elong	1095 Jul 14 j 16:23	27° \mathcal{E} 00'55	0°09'06				
behind sun begin	1095 Jul 14 j 10:49	27° \mathcal{E} 00'25					
behind sun end	1095 Jul 14 j 21:57	27° \mathcal{E} 01'24					
max. Earth dist.	1095 Jul 14 j 05:23	26° \mathcal{E} 59'54	31.03083 AU				
retrograde	1095 Oct 26 j 23:47	29° \mathcal{E} 30'34					
opposition	1096 Jan 12 j 10:26	28° \mathcal{E} 07'20	0°-7'-29				
min. Earth dist.	1096 Jan 12 j 19:40	28° \mathcal{E} 06'41	29.03554 AU				
direct	1096 Mar 31 j 16:11	26° \mathcal{E} 42'08					