

retrograde	10100 Jan 15 13:47	23° <u>08</u> '41		max. Earth dist.	10106 Oct 12 00:51	29° <u>07</u> '07	44.99646 AU
opposition	10100 Apr 08 03:21	22° <u>06</u> '54 -5°55'15					
min. Earth dist.	10100 Apr 09 04:01	22° <u>05</u> '42 44.20668 AU		conjunction	10106 Oct 13 11:47	29° <u>09</u> '17 -3°45'13	
direct	10100 Jun 28 13:13	21° <u>05</u> '31		minimum elong	10106 Oct 13 11:54	29° <u>09</u> '17 3°45'02	
evening set	10100 Sep 21 12:53	22° <u>16</u> '31		morning rise	10106 Oct 28 22:56	29° <u>31</u> '59	
max. Earth dist.	10100 Oct 05 02:42	22° <u>35</u> '58 46.11176 AU			10106 Nov 18 10:56	0° <u>00</u> '	
				retrograde	10107 Jan 24 03:17	0° <u>00</u> '46'34	
conjunction	10100 Oct 06 06:59	22° <u>37</u> '40 -5°31'32			10107 Apr 02 16:14	30° <u>00</u> '	
minimum elong	10100 Oct 06 07:07	22° <u>37</u> '41 5°31'23		opposition	10107 Apr 16 09:20	29° <u>43</u> '37 -3°45'55	
morning rise	10100 Oct 21 03:03	22° <u>58</u> '57		min. Earth dist.	10107 Apr 17 18:01	29° <u>41</u> '58 42.89931 AU	
retrograde	10101 Jan 16 22:44	24° <u>12</u> '30		direct	10107 Jul 06 18:24	28° <u>40</u> '53	
opposition	10101 Apr 09 10:37	23° <u>10</u> '36 -5°37'32		evening set	10107 Sep 29 09:38	29° <u>53</u> '18	
min. Earth dist.	10101 Apr 10 13:12	23° <u>09</u> '17 44.03306 AU			10107 Oct 03 23:55	0° <u>00</u> '	
direct	10101 Jun 29 19:21	22° <u>09</u> '05		max. Earth dist.	10107 Oct 13 08:12	0° <u>00</u> '13'49 44.79611 AU	
evening set	10101 Sep 22 18:10	23° <u>20</u> '16					
max. Earth dist.	10101 Oct 06 10:55	23° <u>39</u> '56 45.93730 AU		conjunction	10107 Oct 14 21:10	0° <u>00</u> '16'07 -3°26'39	
				minimum elong	10107 Oct 14 21:16	0° <u>00</u> '16'07 3°26'28	
conjunction	10101 Oct 07 15:18	23° <u>41</u> '39 -5°14'24		morning rise	10107 Oct 30 10:31	0° <u>00</u> '39'03	
minimum elong	10101 Oct 07 15:26	23° <u>41</u> '40 5°14'15		retrograde	10108 Jan 25 12:57	1° <u>00</u> '53'51	
morning rise	10101 Oct 22 14:05	24° <u>03</u> '12		opposition	10108 Apr 16 17:47	0° <u>00</u> '50'40 -3°26'25	
retrograde	10102 Jan 18 04:21	25° <u>16</u> '54		min. Earth dist.	10108 Apr 18 03:41	0° <u>00</u> '48'57 42.69683 AU	
opposition	10102 Apr 10 17:51	24° <u>14</u> '52 -5°19'33			10108 Jun 04 03:57	30° <u>00</u> '	
min. Earth dist.	10102 Apr 11 20:53	24° <u>13</u> '32 43.85552 AU		direct	10108 Jul 07 02:35	29° <u>47</u> '41	
direct	10102 Jul 01 04:56	23° <u>13</u> '12			10108 Aug 08 15:52	0° <u>00</u> '	
evening set	10102 Sep 23 24:00	24° <u>24</u> '34		evening set	10108 Sep 29 17:09	1° <u>00</u> '00'22	
				max. Earth dist.	10108 Oct 13 17:30	1° <u>00</u> '21'04 44.59288 AU	
conjunction	10102 Oct 08 23:45	24° <u>46</u> '12 -4°57'01					
minimum elong	10102 Oct 08 23:52	24° <u>46</u> '13 4°56'51		conjunction	10108 Oct 15 06:44	1° <u>00</u> '23'23 -3°07'52	
max. Earth dist.	10102 Oct 07 17:07	24° <u>44</u> '21 45.75857 AU		minimum elong	10108 Oct 15 06:49	1° <u>00</u> '23'23 3°07'40	
morning rise	10102 Oct 24 01:26	25° <u>08</u> '00		morning rise	10108 Oct 30 21:49	1° <u>00</u> '46'32	
retrograde	10103 Jan 19 13:24	26° <u>21</u> '52		retrograde	10109 Jan 25 21:18	3° <u>00</u> '01'35	
opposition	10103 Apr 12 01:25	25° <u>19</u> '42 -5°01'20		opposition	10109 Apr 18 02:31	1° <u>00</u> '58'10 -3°06'39	
min. Earth dist.	10103 Apr 13 05:51	25° <u>18</u> '17 43.67347 AU		min. Earth dist.	10109 Apr 19 13:14	1° <u>00</u> '56'24 42.49174 AU	
direct	10103 Jul 02 12:13	24° <u>17</u> '51		direct	10109 Jul 08 11:52	0° <u>00</u> '54'57	
evening set	10103 Sep 25 06:05	25° <u>29</u> '24		evening set	10109 Oct 01 01:16	2° <u>00</u> '07'55	
max. Earth dist.	10103 Oct 09 00:52	25° <u>49</u> '22 45.57487 AU		max. Earth dist.	10109 Oct 15 02:38	2° <u>00</u> '28'46 44.38744 AU	
conjunction	10103 Oct 10 08:33	25° <u>51</u> '18 -4°39'25		conjunction	10109 Oct 16 16:35	2° <u>00</u> '31'09 -2°48'49	
minimum elong	10103 Oct 10 08:40	25° <u>51</u> '18 4°39'16		minimum elong	10109 Oct 16 16:39	2° <u>00</u> '31'09 2°48'36	
morning rise	10103 Oct 25 12:42	26° <u>13</u> '19		morning rise	10109 Nov 01 09:28	2° <u>00</u> '54'30	
retrograde	10104 Jan 20 23:37	27° <u>27</u> '22		retrograde	10110 Jan 27 09:42	4° <u>00</u> '09'50	
opposition	10104 Apr 12 09:11	26° <u>25</u> '02 -4°42'52		opposition	10110 Apr 19 11:16	3° <u>00</u> '06'11 -2°46'37	
min. Earth dist.	10104 Apr 13 15:19	26° <u>23</u> '31 43.48639 AU		min. Earth dist.	10110 Apr 20 21:58	3° <u>00</u> '04'25 42.28467 AU	
direct	10104 Jul 02 18:19	25° <u>23</u> '00		direct	10110 Jul 09 18:00	2° <u>00</u> '02'44	
evening set	10104 Sep 25 12:29	26° <u>34</u> '44		evening set	10110 Oct 02 09:49	3° <u>00</u> '16'01	
max. Earth dist.	10104 Oct 09 08:33	26° <u>54</u> '51 45.38644 AU		max. Earth dist.	10110 Oct 16 11:19	3° <u>00</u> '36'59 44.17988 AU	
conjunction	10104 Oct 10 17:26	26° <u>56</u> '52 -4°21'35		conjunction	10110 Oct 18 02:43	3° <u>00</u> '39'27 -2°29'31	
minimum elong	10104 Oct 10 17:33	26° <u>56</u> '52 4°21'25		minimum elong	10110 Oct 18 02:48	3° <u>00</u> '39'28 2°29'19	
morning rise	10104 Oct 26 00:06	27° <u>19</u> '07		morning rise	10110 Nov 02 21:13	4° <u>00</u> '03'01	
retrograde	10105 Jan 21 10:36	28° <u>33</u> '20		retrograde	10111 Jan 28 22:40	5° <u>00</u> '18'39	
opposition	10105 Apr 13 17:03	27° <u>30</u> '48 -4°24'08		opposition	10111 Apr 20 20:30	4° <u>00</u> '14'48 -2°26'19	
min. Earth dist.	10105 Apr 14 23:28	27° <u>29</u> '17 43.29474 AU		min. Earth dist.	10111 Apr 22 08:50	4° <u>00</u> '12'56 42.07563 AU	
direct	10105 Jul 03 23:40	26° <u>28</u> '33		direct	10111 Jul 11 00:15	3° <u>00</u> '11'06	
evening set	10105 Sep 26 19:08	27° <u>40</u> '31		evening set	10111 Oct 03 18:41	4° <u>00</u> '24'44	
max. Earth dist.	10105 Oct 10 15:31	28° <u>00</u> '43 45.19343 AU		max. Earth dist.	10111 Oct 17 21:56	4° <u>00</u> '45'55 43.97040 AU	
conjunction	10105 Oct 12 02:24	28° <u>02</u> '52 -4°03'31		conjunction	10111 Oct 19 13:09	4° <u>00</u> '48'23 -2°09'59	
minimum elong	10105 Oct 12 02:30	28° <u>02</u> '52 4°03'21		minimum elong	10111 Oct 19 13:13	4° <u>00</u> '48'23 2°09'45	
morning rise	10105 Oct 27 11:29	28° <u>25</u> '21		morning rise	10111 Nov 04 08:55	5° <u>00</u> '12'10	
retrograde	10106 Jan 22 20:29	29° <u>39</u> '45		retrograde	10112 Jan 30 07:58	6° <u>00</u> '28'07	
opposition	10106 Apr 15 01:15	28° <u>37</u> '00 -4°05'10		opposition	10112 Apr 21 05:46	5° <u>00</u> '24'03 -2°05'45	
min. Earth dist.	10106 Apr 16 09:42	28° <u>35</u> '23 43.09885 AU		min. Earth dist.	10112 Apr 22 17:51	5° <u>00</u> '22'12 41.86459 AU	
direct	10106 Jul 05 07:39	27° <u>34</u> '31		direct	10112 Jul 11 10:55	4° <u>00</u> '20'08	
evening set	10106 Sep 28 02:09	28° <u>46</u> '42		evening set	10112 Oct 04 04:10	5° <u>00</u> '34'10	

max. Earth dist.	10112 Oct 18 06:40	5°M.55'25	43.75878 AU	behind sun begin	10118 Oct 27 19:42	13°M.12'03	
				behind sun end	10118 Oct 28 02:15	13°M.12'27	
conjunction	10112 Oct 19 23:45	5°M.58'01	-1°50'12	morning rise	10118 Nov 12 23:26	13°M.37'18	
minimum elong	10112 Oct 19 23:48	5°M.58'01	1°49'58	retrograde	10119 Feb 07 20:35	14°M.56'18	
morning rise	10112 Nov 04 20:54	6°M.22'00		opposition	10119 Apr 30 07:24	13°M.50'34	0°25'28
retrograde	10113 Jan 30 18:44	7°M.38'19		min. Earth dist.	10119 May 02 02:54	13°M.48'15	40.29776 AU
opposition	10113 Apr 22 15:27	6°M.34'03	-1°44'55	direct	10119 Jul 20 09:55	12°M.44'46	
min. Earth dist.	10113 Apr 24 04:56	6°M.32'07	41.65132 AU	evening set	10119 Oct 13 12:25	14°M.02'14	
direct	10113 Jul 12 20:29	5°M.29'55		max. Earth dist.	10119 Oct 27 11:02	14°M.24'05	42.18156 AU
evening set	10113 Oct 05 13:57	6°M.44'22					
max. Earth dist.	10113 Oct 19 17:31	7°M.05'47	43.54438 AU	conjunction	10119 Oct 29 11:48	14°M.27'19	0°34'56
				minimum elong	10119 Oct 29 11:47	14°M.27'19	0°35'14
conjunction	10113 Oct 21 10:48	7°M.08'25	-1°30'10	morning rise	10119 Nov 14 12:14	14°M.52'30	
minimum elong	10113 Oct 21 10:50	7°M.08'25	1°29'55		10119 Nov 19 10:08	15°M.	
morning rise	10113 Nov 06 08:51	7°M.32'36		retrograde	10120 Feb 09 09:51	16°M.12'02	
retrograde	10114 Feb 01 04:51	8°M.49'19		opposition	10120 Apr 30 19:00	15°M.06'01	0°48'05
opposition	10114 Apr 24 01:26	7°M.44'51	-1°23'50	min. Earth dist.	10120 May 02 15:03	15°M.03'40	40.06158 AU
min. Earth dist.	10114 Apr 25 15:56	7°M.42'51	41.43492 AU		10120 May 05 11:49	15°R.M.	
direct	10114 Jul 14 06:44	6°M.40'29		direct	10120 Jul 20 20:07	13°M.59'53	
evening set	10114 Oct 07 00:32	7°M.55'23			10120 Oct 02 03:25	15°M.	
max. Earth dist.	10114 Oct 21 03:22	8°M.16'53	43.32661 AU	evening set	10120 Oct 14 01:56	15°M.17'57	
				max. Earth dist.	10120 Oct 27 23:30	15°M.39'53	41.94424 AU
conjunction	10114 Oct 22 22:13	8°M.19'37	-1°09'54				
minimum elong	10114 Oct 22 22:15	8°M.19'38	1°09'40	conjunction	10120 Oct 30 01:05	15°M.43'10	0°56'35
morning rise	10114 Nov 07 21:15	8°M.44'00		minimum elong	10120 Oct 30 01:04	15°M.43'10	0°56'53
retrograde	10115 Feb 02 18:13	10°M.01'08		morning rise	10120 Nov 15 01:04	16°M.08'29	
opposition	10115 Apr 25 11:31	8°M.56'27	-1°02'29	retrograde	10121 Feb 10 00:12	17°M.28'36	
min. Earth dist.	10115 Apr 27 02:41	8°M.54'25	41.21494 AU	opposition	10121 May 02 07:05	16°M.22'17	1°10'57
direct	10115 Jul 15 14:27	7°M.51'50		min. Earth dist.	10121 May 04 04:25	16°M.19'51	39.82375 AU
evening set	10115 Oct 08 11:35	9°M.07'12		direct	10121 Jul 22 04:58	15°M.15'50	
max. Earth dist.	10115 Oct 22 13:25	9°M.28'46	43.10478 AU	evening set	10121 Oct 15 15:57	16°M.34'31	
				max. Earth dist.	10121 Oct 29 12:58	16°M.56'33	41.70561 AU
conjunction	10115 Oct 24 10:00	9°M.31'38	-0°49'24				
minimum elong	10115 Oct 24 10:01	9°M.31'38	0°49'08	conjunction	10121 Oct 31 14:39	16°M.59'52	1°18'27
morning rise	10115 Nov 09 09:39	9°M.56'11		minimum elong	10121 Oct 31 14:37	16°M.59'52	1°18'45
retrograde	10116 Feb 04 07:58	11°M.13'46		morning rise	10121 Nov 16 14:05	17°M.25'19	
opposition	10116 Apr 25 22:12	10°M.08'51	-0°40'52	retrograde	10122 Feb 11 15:40	18°M.46'01	
min. Earth dist.	10116 Apr 27 15:17	10°M.06'42	40.99089 AU	opposition	10122 May 03 19:23	17°M.39'25	1°34'03
direct	10116 Jul 15 23:06	9°M.03'57		min. Earth dist.	10122 May 05 16:18	17°M.37'00	39.58483 AU
evening set	10116 Oct 08 22:53	10°M.19'49		direct	10122 Jul 23 16:12	16°M.32'38	
max. Earth dist.	10116 Oct 23 01:02	10°M.41'30	42.87903 AU	evening set	10122 Oct 17 06:49	17°M.52'01	
				max. Earth dist.	10122 Oct 31 01:18	18°M.14'01	41.46585 AU
conjunction	10116 Oct 24 21:56	10°M.44'25	-0°28'41				
minimum elong	10116 Oct 24 21:56	10°M.44'25	0°28'25	conjunction	10122 Nov 02 04:39	18°M.17'29	1°40'32
morning rise	10116 Nov 09 22:01	11°M.09'08		minimum elong	10122 Nov 02 04:36	18°M.17'28	1°40'50
retrograde	10117 Feb 04 21:29	12°M.27'10		morning rise	10122 Nov 18 03:20	18°M.43'02	
opposition	10117 Apr 27 08:59	11°M.22'00	-0°19'01	retrograde	10123 Feb 13 08:17	20°M.04'22	
min. Earth dist.	10117 Apr 29 02:10	11°M.19'50	40.76303 AU	opposition	10123 May 05 08:06	18°M.57'29	1°57'23
direct	10117 Jul 17 10:04	10°M.16'48		min. Earth dist.	10123 May 07 06:27	18°M.54'58	39.34508 AU
evening set	10117 Oct 10 10:56	11°M.33'11		direct	10123 Jul 25 04:05	17°M.50'23	
max. Earth dist.	10117 Oct 24 11:00	11°M.54'53	42.64953 AU	evening set	10123 Oct 18 22:09	19°M.10'28	
				max. Earth dist.	10123 Nov 01 16:18	19°M.32'37	41.22527 AU
conjunction	10117 Oct 26 10:12	11°M.57'57	-0°07'45				
minimum elong	10117 Oct 26 10:12	11°M.57'57	0°07'28	conjunction	10123 Nov 03 19:09	19°M.36'03	2°02'49
behind sun begin	10117 Oct 26 04:18	11°M.57'36		minimum elong	10123 Nov 03 19:05	19°M.36'03	2°03'08
behind sun end	10117 Oct 26 16:06	11°M.58'19		morning rise	10123 Nov 19 16:36	20°M.01'43	
morning rise	10117 Nov 11 10:43	12°M.22'50		retrograde	10124 Feb 14 22:30	21°M.23'44	
retrograde	10118 Feb 06 10:47	13°M.41'21		opposition	10124 May 05 21:15	20°M.16'34	2°20'57
asc. node	10118 Mar 08 20:26	13°M.30'26		min. Earth dist.	10124 May 07 19:25	20°M.14'03	39.10452 AU
opposition	10118 Apr 28 20:01	12°M.35'54	0°03'06	direct	10124 Jul 25 18:59	19°M.09'09	
min. Earth dist.	10118 Apr 30 15:04	12°M.33'38	40.53185 AU	evening set	10124 Oct 19 14:09	20°M.30'00	
direct	10118 Jul 18 20:43	11°M.30'24		max. Earth dist.	10124 Nov 02 05:24	20°M.52'06	40.98382 AU
evening set	10118 Oct 11 23:23	12°M.47'19					
max. Earth dist.	10118 Oct 25 23:36	13°M.09'08	42.41682 AU	conjunction	10124 Nov 04 09:45	20°M.55'41	2°25'18
				minimum elong	10124 Nov 04 09:41	20°M.55'40	2°25'37
conjunction	10118 Oct 27 22:59	13°M.12'15	0°13'32	morning rise	10124 Nov 20 06:03	21°M.21'26	
minimum elong	10118 Oct 27 22:58	13°M.12'15	0°13'49	retrograde	10125 Feb 15 14:19	22°M.44'10	

opposition	10125 May 07 10:48	21° M 36'44	2°44'44	max. Earth dist.	10131 Nov 12 20:28	0° ♂ 40'31	39.23281 AU
min. Earth dist.	10125 May 09 09:53	21° M 34'09	38.86302 AU				
direct	10125 Jul 27 07:13	20° M 29'00		conjunction	10131 Nov 15 07:32	0° ♂ 44'46	5°07'35
evening set	10125 Oct 21 06:58	21° M 50'39		minimum elong	10131 Nov 15 07:22	0° ♂ 44'46	5°07'57
max. Earth dist.	10125 Nov 03 20:20	22° M 12'47	40.74084 AU	morning rise	10131 Nov 30 10:31	1° ♂ 10'43	
				retrograde	10132 Feb 26 16:20	2° ♂ 39'30	
conjunction	10125 Nov 06 01:11	22° M 16'25	2°47'58	opposition	10132 May 16 22:05	1° ♂ 29'43	5°36'41
minimum elong	10125 Nov 06 01:06	22° M 16'25	2°48'18	min. Earth dist.	10132 May 19 02:51	1° ♂ 26'42	37.11148 AU
morning rise	10125 Nov 21 19:45	22° M 42'16		direct	10132 Aug 05 12:33	0° ♂ 19'19	
retrograde	10126 Feb 17 03:51	24° M 05'46		evening set	10132 Nov 01 02:44	1° ♂ 47'39	
opposition	10126 May 09 00:44	22° M 58'02	3°08'43	max. Earth dist.	10132 Nov 13 14:13	2° ♂ 09'09	38.97526 AU
min. Earth dist.	10126 May 11 00:57	22° M 55'23	38.61976 AU				
direct	10126 Jul 28 20:40	21° M 49'59		conjunction	10132 Nov 16 02:08	2° ♂ 13'30	5°31'20
evening set	10126 Oct 23 00:41	23° M 12'29		minimum elong	10132 Nov 16 01:57	2° ♂ 13'30	5°31'44
max. Earth dist.	10126 Nov 05 11:24	23° M 34'35	40.49585 AU	morning rise	10132 Dec 01 01:19	2° ♂ 39'24	
				retrograde	10133 Feb 27 10:56	4° ♂ 09'13	
conjunction	10126 Nov 07 17:04	23° M 38'19	3°10'50	opposition	10133 May 18 15:24	2° ♂ 59'03	6°01'53
minimum elong	10126 Nov 07 16:59	23° M 38'18	3°11'11	min. Earth dist.	10133 May 20 21:20	2° ♂ 55'57	36.85519 AU
morning rise	10126 Nov 23 09:50	24° M 04'13		direct	10133 Aug 07 03:32	1° ♂ 48'15	
retrograde	10127 Feb 18 21:34	25° M 28'31		evening set	10133 Nov 03 02:01	3° ♂ 17'42	
opposition	10127 May 10 15:07	24° M 20'30	3°32'55	max. Earth dist.	10133 Nov 15 09:45	3° ♂ 39'08	38.71759 AU
min. Earth dist.	10127 May 12 15:33	24° M 17'49	38.37425 AU				
direct	10127 Jul 30 08:17	23° M 12'06		conjunction	10133 Nov 17 21:26	3° ♂ 43'30	5°55'11
evening set	10127 Oct 24 19:07	24° M 35'28		minimum elong	10133 Nov 17 21:14	3° ♂ 43'29	5°55'33
max. Earth dist.	10127 Nov 07 01:50	24° M 57'29	40.24807 AU	morning rise	10133 Dec 02 16:31	4° ♂ 09'18	
				retrograde	10134 Mar 01 08:02	5° ♂ 40'13	
conjunction	10127 Nov 09 09:22	25° M 01'21	3°33'52	opposition	10134 May 20 08:57	4° ♂ 29'41	6°27'11
minimum elong	10127 Nov 09 09:15	25° M 01'21	3°34'13	min. Earth dist.	10134 May 22 14:17	4° ♂ 26'36	36.59915 AU
morning rise	10127 Nov 24 23:57	25° M 27'18		direct	10134 Aug 08 19:18	3° ♂ 18'27	
retrograde	10128 Feb 20 15:55	26° M 52'27		evening set	10134 Nov 05 02:18	4° ♂ 49'08	
opposition	10128 May 11 06:07	25° M 44'06	3°57'19	max. Earth dist.	10134 Nov 17 04:05	5° ♂ 10'19	38.46017 AU
min. Earth dist.	10128 May 13 08:30	25° M 41'17	38.12599 AU				
direct	10128 Jul 30 19:59	24° M 35'20		conjunction	10134 Nov 19 17:15	5° ♂ 14'50	6°19'06
evening set	10128 Oct 25 14:14	25° M 59'37		minimum elong	10134 Nov 19 17:03	5° ♂ 14'49	6°19'30
max. Earth dist.	10128 Nov 07 18:35	26° M 21'37	39.99761 AU	morning rise	10134 Dec 04 07:57	5° ♂ 40'32	
				retrograde	10135 Mar 03 05:54	7° ♂ 12'37	
conjunction	10128 Nov 10 02:16	26° M 25'32	3°57'04	opposition	10135 May 22 03:20	6° ♂ 01'42	6°52'34
minimum elong	10128 Nov 10 02:08	26° M 25'31	3°57'26	min. Earth dist.	10135 May 24 09:57	5° ♂ 58'31	36.34375 AU
morning rise	10128 Nov 25 14:19	26° M 51'31		direct	10135 Aug 10 11:37	4° ♂ 50'03	
retrograde	10129 Feb 21 09:52	28° M 17'30		evening set	10135 Nov 07 03:20	6° ♂ 22'02	
opposition	10129 May 12 21:24	27° M 08'49	4°21'54	max. Earth dist.	10135 Nov 19 01:13	6° ♂ 43'06	38.20347 AU
min. Earth dist.	10129 May 14 23:46	27° M 05'59	37.87515 AU				
direct	10129 Aug 01 12:32	25° M 59'40		conjunction	10135 Nov 21 13:38	6° ♂ 47'36	6°43'03
evening set	10129 Oct 27 10:14	27° M 24'53		minimum elong	10135 Nov 21 13:26	6° ♂ 47'35	6°43'26
max. Earth dist.	10129 Nov 09 09:38	27° M 46'43	39.74461 AU	morning rise	10135 Dec 05 23:20	7° ♂ 13'11	
				retrograde	10136 Mar 04 03:33	8° ♂ 46'28	
conjunction	10129 Nov 11 19:28	27° M 50'49	4°20'26	opposition	10136 May 22 22:12	7° ♂ 35'12	7°18'00
minimum elong	10129 Nov 11 19:19	27° M 50'49	4°20'47	min. Earth dist.	10136 May 25 04:19	7° ♂ 32'02	36.08920 AU
morning rise	10129 Nov 27 04:57	28° M 16'48		direct	10136 Aug 11 07:51	6° ♂ 23'10	
retrograde	10130 Feb 23 05:13	29° M 43'41		evening set	10136 Nov 08 05:34	7° ♂ 56'30	
opposition	10130 May 14 13:14	28° M 34'38	4°46'40	max. Earth dist.	10136 Nov 19 20:48	8° ♂ 17'17	37.94767 AU
min. Earth dist.	10130 May 16 17:06	28° M 31'43	37.62211 AU				
direct	10130 Aug 03 04:11	27° M 25'05		conjunction	10136 Nov 22 10:34	8° ♂ 21'55	7°07'02
evening set	10130 Oct 29 06:57	28° M 51'17		minimum elong	10136 Nov 22 10:21	8° ♂ 21'54	7°07'27
max. Earth dist.	10130 Nov 11 03:27	29° M 13'05	39.48941 AU	morning rise	10136 Dec 06 15:14	8° ♂ 47'20	
				retrograde	10137 Mar 06 03:15	10° ♂ 21'54	
conjunction	10130 Nov 13 13:22	29° M 17'14	4°43'57	opposition	10137 May 24 17:35	9° ♂ 10'18	7°43'28
minimum elong	10130 Nov 13 13:13	29° M 17'13	4°44'19	min. Earth dist.	10137 May 27 00:24	9° ♂ 07'05	35.83562 AU
morning rise	10130 Nov 28 19:37	29° M 43'12		direct	10137 Aug 13 02:15	7° ♂ 57'52	
	10130 Dec 09 01:53	0° ♂		evening set	10137 Nov 10 08:44	9° ♂ 32'38	
retrograde	10131 Feb 24 21:59	1° ♂ 11'00		max. Earth dist.	10137 Nov 21 18:41	9° ♂ 53'12	37.69234 AU
opposition	10131 May 16 05:25	0° ♂ 01'35	5°11'36				
	10131 May 17 09:22	30° ♂		conjunction	10137 Nov 24 08:21	9° ♂ 57'52	7°31'00
min. Earth dist.	10131 May 18 09:52	29° M 58'37	37.36725 AU	minimum elong	10137 Nov 24 08:07	9° ♂ 57'51	7°31'25
direct	10131 Aug 04 21:16	28° M 51'37		morning rise	10137 Dec 08 07:15	10° ♂ 23'07	
	10131 Oct 19 16:19	0° ♂		retrograde	10138 Mar 08 00:09	11° ♂ 59'02	
evening set	10131 Oct 31 04:34	0° ♂ 18'52		opposition	10138 May 26 13:44	10° ♂ 47'05	8°08'56

min. Earth dist.	10138 May 28 21:12	10° 7 43'48	35.58226 AU	morning rise	10144 Dec 18 06:00	22° 7 19'17	
direct	10138 Aug 14 21:35	9° 7 34'16		retrograde	10145 Mar 20 10:33	24° 7 06'12	
evening set	10138 Nov 12 13:16	11° 7 10'30		opposition	10145 Jun 07 04:44	22° 7 51'23	11°05'20
max. Earth dist.	10138 Nov 23 16:23	11° 7 30'45	37.43702 AU	min. Earth dist.	10145 Jun 09 15:23	22° 7 47'43	33.80819 AU
				direct	10145 Aug 26 04:51	21° 7 35'14	
conjunction	10138 Nov 26 06:46	11° 7 35'31	7°54'58	evening set	10145 Nov 27 04:47	23° 7 23'33	
minimum elong	10138 Nov 26 06:30	11° 7 35'30	7°55'23	max. Earth dist.	10145 Dec 05 21:04	23° 7 40'27	35.64846 AU
morning rise	10138 Dec 09 23:39	12° 7 00'32					
retrograde	10139 Mar 09 22:56	13° 7 37'52		conjunction	10145 Dec 08 14:41	23° 7 45'49	10°39'51
opposition	10139 May 28 10:19	12° 7 25'35	8°34'25	minimum elong	10145 Dec 08 14:23	23° 7 45'47	10°40'18
min. Earth dist.	10139 May 30 17:55	12° 7 22'15	35.32882 AU	morning rise	10145 Dec 19 23:39	24° 7 08'00	
direct	10139 Aug 16 16:06	11° 7 12'20		retrograde	10146 Mar 22 14:50	25° 7 56'45	
evening set	10139 Nov 14 18:49	12° 7 50'06		opposition	10146 Jun 09 06:08	24° 7 41'30	11°29'46
max. Earth dist.	10139 Nov 25 14:15	13° 7 09'58	37.18113 AU	min. Earth dist.	10146 Jun 11 16:02	24° 7 37'51	33.56009 AU
				direct	10146 Aug 28 04:59	23° 7 24'50	
conjunction	10139 Nov 28 05:54	13° 7 14'53	8°18'53	evening set	10146 Nov 29 18:47	25° 7 15'11	
minimum elong	10139 Nov 28 05:39	13° 7 14'52	8°19'18	max. Earth dist.	10146 Dec 08 00:42	25° 7 31'24	35.39915 AU
morning rise	10139 Dec 11 16:16	13° 7 39'38					
retrograde	10140 Mar 10 22:37	15° 7 18'26		conjunction	10146 Dec 10 18:38	25° 7 36'50	11°02'30
opposition	10140 May 29 07:52	14° 7 05'46	8°59'51	minimum elong	10146 Dec 10 18:18	25° 7 36'48	11°02'57
min. Earth dist.	10140 May 31 16:57	14° 7 02'19	35.07483 AU	morning rise	10146 Dec 21 17:25	25° 7 58'24	
direct	10140 Aug 17 09:36	12° 7 52'04		retrograde	10147 Mar 24 18:22	27° 7 49'05	
evening set	10140 Nov 16 01:22	14° 7 31'26		opposition	10147 Jun 11 08:22	26° 7 33'23	11°53'50
max. Earth dist.	10140 Nov 26 14:05	14° 7 50'58	36.92476 AU	min. Earth dist.	10147 Jun 13 19:00	26° 7 29'40	33.31534 AU
				direct	10147 Aug 30 03:43	25° 7 16'14	
conjunction	10140 Nov 29 05:36	14° 7 55'55	8°42'45	evening set	10147 Dec 02 10:17	27° 7 08'42	
minimum elong	10140 Nov 29 05:20	14° 7 55'54	8°43'11	max. Earth dist.	10147 Dec 10 06:29	27° 7 24'16	35.15363 AU
morning rise	10140 Dec 12 08:57	15° 7 20'22					
retrograde	10141 Mar 12 23:51	17° 7 00'41		conjunction	10147 Dec 12 23:18	27° 7 29'40	11°24'47
opposition	10141 May 31 05:55	15° 7 47'37	9°25'13	minimum elong	10147 Dec 12 22:59	27° 7 29'38	11°25'14
min. Earth dist.	10141 Jun 02 14:33	15° 7 44'11	34.82041 AU	morning rise	10147 Dec 23 11:13	27° 7 50'34	
direct	10141 Aug 19 06:34	14° 7 33'27		retrograde	10148 Mar 25 23:42	29° 7 43'15	
evening set	10141 Nov 18 09:19	16° 7 14'29		opposition	10148 Jun 12 11:20	28° 7 27'08	12°17'30
max. Earth dist.	10141 Nov 28 12:49	16° 7 33'29	36.66792 AU	min. Earth dist.	10148 Jun 14 20:34	28° 7 23'29	33.07459 AU
				direct	10148 Aug 31 06:23	27° 7 09'30	
conjunction	10141 Dec 01 06:05	16° 7 38'37	9°06'31	evening set	10148 Dec 04 03:00	29° 7 04'12	
minimum elong	10141 Dec 01 05:48	16° 7 38'36	9°06'56	max. Earth dist.	10148 Dec 11 11:04	29° 7 18'55	34.91216 AU
morning rise	10141 Dec 14 02:07	17° 7 02'43					
retrograde	10142 Mar 15 02:59	18° 7 44'35		conjunction	10148 Dec 14 04:36	29° 7 24'25	11°46'37
opposition	10142 Jun 02 04:35	17° 7 31'06	9°50'30	minimum elong	10148 Dec 14 04:15	29° 7 24'23	11°47'04
min. Earth dist.	10142 Jun 04 14:40	17° 7 27'33	34.56592 AU	morning rise	10148 Dec 24 05:14	29° 7 44'34	
direct	10142 Aug 21 04:08	16° 7 16'27			10149 Jan 01 00:33	0° 7	
evening set	10142 Nov 20 18:21	17° 7 59'12		retrograde	10149 Mar 28 07:14	1° 7 39'23	
max. Earth dist.	10142 Nov 30 14:37	18° 7 17'49	36.41117 AU	opposition	10149 Jun 14 15:09	0° 7 22'52	12°40'41
				min. Earth dist.	10149 Jun 17 00:59	0° 7 19'09	32.83799 AU
conjunction	10142 Dec 03 07:22	18° 7 22'57	9°30'09		10149 Jun 29 16:52	30° 7 19'27	
minimum elong	10142 Dec 03 07:04	18° 7 22'56	9°30'36	direct	10149 Sep 02 07:34	29° 7 10'47	
morning rise	10142 Dec 15 19:17	18° 7 46'39			10149 Nov 03 17:30	0° 7	
retrograde	10143 Mar 17 05:49	20° 7 30'08		evening set	10149 Dec 06 21:30	1° 7 30'148	
opposition	10143 Jun 04 03:59	19° 7 16'13	10°15'39	max. Earth dist.	10149 Dec 13 18:57	1° 7 315'47	34.67473 AU
min. Earth dist.	10143 Jun 06 13:54	19° 7 12'39	34.31185 AU				
direct	10143 Aug 23 05:12	18° 7 01'05		conjunction	10149 Dec 16 11:01	1° 7 321'12	12°07'58
evening set	10143 Nov 23 04:34	19° 7 45'37		minimum elong	10149 Dec 16 10:42	1° 7 321'11	12°08'24
max. Earth dist.	10143 Dec 02 15:02	20° 7 03'38	36.15519 AU	morning rise	10149 Dec 25 23:22	1° 7 340'32	
				retrograde	10150 Mar 30 14:30	3° 7 337'33	
conjunction	10143 Dec 05 08:58	20° 7 08'55	9°53'37	opposition	10150 Jun 16 19:36	2° 7 320'40	13°03'20
minimum elong	10143 Dec 05 08:41	20° 7 08'54	9°54'04	min. Earth dist.	10150 Jun 19 04:37	2° 7 316'59	32.60521 AU
morning rise	10143 Dec 17 12:34	20° 7 32'10		direct	10150 Sep 04 11:58	1° 7 302'08	
retrograde	10144 Mar 18 09:16	22° 7 17'21		evening set	10150 Dec 09 17:38	3° 7 301'37	
opposition	10144 Jun 05 04:00	21° 7 02'58	10°40'37	max. Earth dist.	10150 Dec 16 01:18	3° 7 314'33	34.44102 AU
min. Earth dist.	10144 Jun 07 14:20	20° 7 59'22	34.05908 AU				
direct	10144 Aug 24 04:19	19° 7 47'19		conjunction	10150 Dec 18 18:10	3° 7 320'06	12°28'46
evening set	10144 Nov 24 15:56	21° 7 33'43		minimum elong	10150 Dec 18 17:49	3° 7 320'05	12°29'13
max. Earth dist.	10144 Dec 03 17:52	21° 7 51'13	35.90063 AU	morning rise	10150 Dec 27 17:46	3° 7 338'32	
				retrograde	10151 Apr 02 00:40	5° 7 337'51	
conjunction	10144 Dec 06 11:32	21° 7 56'32	10°16'52	opposition	10151 Jun 19 01:03	4° 7 320'35	13°25'25
minimum elong	10144 Dec 06 11:13	21° 7 56'30	10°17'19	min. Earth dist.	10151 Jun 21 10:18	4° 7 316'53	32.37609 AU

direct	10151 Sep 06 15:43	3°30'138		retrograde	10158 Apr 17 06:25	20°33'42	
evening set	10151 Dec 12 15:16	5°30'338		opposition	10158 Jul 03 14:13	19°31'743	15°38'27
max. Earth dist.	10151 Dec 18 10:17	5°30'15'37	34.21060 AU	min. Earth dist.	10158 Jul 05 20:45	19°30'14'02	30.87929 AU
conjunction	10151 Dec 21 02:10	5°30'21'09	12°49'00	direct	10158 Sep 20 20:21	17°30'55'35	
minimum elong	10151 Dec 21 01:51	5°30'21'07	12°49'27	evening set	10159 Jan 02 21:17	20°30'20'00	
morning rise	10151 Dec 29 11:58	5°30'38'34		max. Earth dist.	10159 Jan 02 21:39	20°30'20'02	32.71210 AU
retrograde	10152 Apr 03 09:41	7°30'40'17		conjunction	10159 Jan 05 09:09	20°30'25'31	14°49'01
opposition	10152 Jun 20 07:26	6°30'22'39	13°46'52	minimum elong	10159 Jan 05 08:52	20°30'25'29	14°49'28
min. Earth dist.	10152 Jun 22 16:40	6°30'18'55	32.15010 AU	morning rise	10159 Jan 07 20:26	20°30'30'59	
direct	10152 Sep 07 22:01	5°30'03'15		retrograde	10159 Apr 19 19:54	22°30'54'01	
evening set	10152 Dec 14 14:55	7°30'07'54		opposition	10159 Jul 06 02:16	21°30'33'40	15°53'25
max. Earth dist.	10152 Dec 19 18:48	7°30'18'41	33.98352 AU	min. Earth dist.	10159 Jul 08 07:16	21°30'30'03	30.68771 AU
conjunction	10152 Dec 22 11:01	7°30'24'18	13°08'36	direct	10159 Sep 23 08:22	20°30'11'07	
minimum elong	10152 Dec 22 10:40	7°30'24'16	13°09'03	max. Earth dist.	10160 Jan 05 12:13	22°30'36'58	32.52223 AU
morning rise	10152 Dec 30 06:12	7°30'40'37		conjunction	10160 Jan 07 23:12	22°30'42'26	15°02'10
retrograde	10153 Apr 05 21:01	9°30'44'50		minimum elong	10160 Jan 07 22:58	22°30'42'25	15°02'35
opposition	10153 Jun 22 14:25	8°30'26'49	14°07'37	retrograde	10160 Apr 21 12:30	25°30'12'12	
min. Earth dist.	10153 Jun 24 23:02	8°30'23'05	31.92749 AU	opposition	10160 Jul 07 15:04	23°30'51'30	16°07'04
direct	10153 Sep 10 03:59	7°30'06'58		min. Earth dist.	10160 Jul 09 18:48	23°30'47'57	30.50408 AU
evening set	10153 Dec 17 16:25	9°30'14'22		direct	10160 Sep 24 20:06	22°30'28'34	
max. Earth dist.	10153 Dec 22 04:51	9°30'23'53	33.75974 AU	max. Earth dist.	10161 Jan 07 05:41	24°30'55'58	32.34059 AU
conjunction	10153 Dec 24 20:52	9°30'29'32	13°27'30	conjunction	10161 Jan 09 14:21	25°30'01'16	15°14'03
minimum elong	10153 Dec 24 20:33	9°30'29'31	13°27'57	minimum elong	10161 Jan 09 14:07	25°30'01'15	15°14'29
morning rise	10154 Jan 01 00:23	9°30'44'38		retrograde	10161 Apr 24 04:20	27°30'32'15	
retrograde	10154 Apr 08 05:43	11°30'51'27		opposition	10161 Jul 10 04:37	26°30'11'14	16°19'22
opposition	10154 Jun 24 22:30	10°30'33'02	14°27'38	min. Earth dist.	10161 Jul 12 07:23	26°30'07'45	30.32859 AU
min. Earth dist.	10154 Jun 27 07:38	10°30'29'15	31.70830 AU	direct	10161 Sep 27 10:02	24°30'47'58	
direct	10154 Sep 12 09:59	9°30'12'44		max. Earth dist.	10162 Jan 09 22:25	27°30'16'46	32.16754 AU
evening set	10154 Dec 20 20:04	11°30'23'01		conjunction	10162 Jan 12 06:07	27°30'22'01	15°24'36
max. Earth dist.	10154 Dec 24 16:08	11°30'31'11	33.53985 AU	minimum elong	10162 Jan 12 05:56	27°30'22'00	15°25'01
conjunction	10154 Dec 27 07:23	11°30'36'49	13°45'38	retrograde	10162 Apr 26 21:56	29°30'54'11	
minimum elong	10154 Dec 27 07:03	11°30'36'47	13°46'05	opposition	10162 Jul 12 18:56	28°30'32'54	16°30'12
morning rise	10155 Jan 02 17:49	11°30'50'33		min. Earth dist.	10162 Jul 14 19:43	28°30'29'32	30.16144 AU
retrograde	10155 Apr 10 17:06	14°30'00'05		direct	10162 Sep 30 00:07	27°30'09'19	
opposition	10155 Jun 27 07:10	12°30'41'17	14°46'48	max. Earth dist.	10163 Jan 12 16:45	29°30'39'33	32.00270 AU
min. Earth dist.	10155 Jun 29 15:02	12°30'37'34	31.49319 AU	conjunction	10163 Jan 14 22:39	29°30'44'40	15°33'46
direct	10155 Sep 14 17:43	11°30'20'31		minimum elong	10163 Jan 14 22:28	29°30'44'39	15°34'12
evening set	10155 Dec 24 01:58	13°30'33'50		retrograde	10163 Jan 21 16:08	0°00'00'00	
max. Earth dist.	10155 Dec 27 03:16	13°30'40'24	33.32432 AU	opposition	10163 Apr 29 14:25	2°00'17'59	
conjunction	10155 Dec 29 18:41	13°30'46'06	14°02'56	min. Earth dist.	10163 Jul 15 10:11	0°00'56'27	16°39'32
minimum elong	10155 Dec 29 18:23	13°30'46'04	14°03'23	direct	10163 Jul 17 10:35	0°00'53'06	30.00218 AU
morning rise	10156 Jan 04 10:37	13°30'58'17		max. Earth dist.	10163 Aug 21 14:26	30°00'00'00	
retrograde	10156 Apr 12 04:23	16°30'10'43		conjunction	10163 Oct 02 13:39	29°30'32'35	
opposition	10156 Jun 28 16:48	14°30'51'31	15°05'03	minimum elong	10163 Nov 12 12:37	0°00'00'00	
min. Earth dist.	10156 Jul 01 01:09	14°30'47'44	31.28284 AU	retrograde	10164 Jan 15 11:36	2°00'04'10	31.84604 AU
direct	10156 Sep 15 23:41	13°30'30'17		conjunction	10164 Jan 17 15:51	2°00'09'10	15°41'31
evening set	10156 Dec 26 10:54	15°30'46'50		minimum elong	10164 Jan 17 15:43	2°00'09'10	15°41'55
max. Earth dist.	10156 Dec 28 17:00	15°30'51'44	33.11405 AU	retrograde	10164 May 01 09:51	4°00'43'33	
conjunction	10156 Dec 31 06:42	15°30'57'19	14°19'19	opposition	10164 Jul 17 01:59	3°00'21'48	16°47'19
minimum elong	10156 Dec 31 06:24	15°30'57'17	14°19'46	min. Earth dist.	10164 Jul 19 00:10	3°00'18'35	29.85070 AU
morning rise	10157 Jan 05 01:44	16°30'07'45		direct	10164 Oct 04 05:13	1°00'57'39	
retrograde	10157 Apr 14 16:26	18°30'23'15		max. Earth dist.	10165 Jan 17 06:35	4°00'30'28	31.69712 AU
opposition	10157 Jul 01 03:07	17°30'03'40	15°22'18	conjunction	10165 Jan 19 09:45	4°00'35'24	15°47'46
min. Earth dist.	10157 Jul 03 09:52	16°30'59'58	31.07790 AU	minimum elong	10165 Jan 19 09:38	4°00'35'23	15°48'10
direct	10157 Sep 18 10:30	15°30'41'59		retrograde	10165 May 04 02:59	7°00'10'48	
evening set	10157 Dec 30 00:02	18°30'02'07		opposition	10165 Jul 19 18:44	5°00'48'48	16°53'29
max. Earth dist.	10157 Dec 31 05:39	18°30'04'49	32.90966 AU	min. Earth dist.	10165 Jul 21 16:45	5°00'45'35	29.70672 AU
conjunction	10158 Jan 02 19:30	18°30'10'28	14°34'43	direct	10165 Oct 06 19:18	4°00'24'22	
minimum elong	10158 Jan 02 19:14	18°30'10'27	14°35'09	max. Earth dist.	10166 Jan 20 03:23	6°00'58'27	31.55607 AU
morning rise	10158 Jan 06 14:21	18°30'18'47					

conjunction	10166 Jan 22 04:22	7°03'13	15°52'30	minimum elong	10174 Feb 11 22:41	27°24'26	15°29'28
minimum elong	10166 Jan 22 04:18	7°03'12	15°52'52	max. Earth dist.	10174 Feb 10 15:20	27°21'18	30.76134 AU
retrograde	10166 May 06 21:06	9°39'31			10174 May 10 19:09	0°	
opposition	10166 Jul 22 11:57	8°17'19	16°57'59	retrograde	10174 May 27 11:06	0°05'01	
min. Earth dist.	10166 Jul 24 07:41	8°14'15	29.57032 AU		10174 Jun 13 08:24	30°	
direct	10166 Oct 09 13:33	6°52'37		opposition	10174 Aug 11 23:39	28°41'39	16°27'22
max. Earth dist.	10167 Jan 22 23:09	9°27'44	31.42299 AU	min. Earth dist.	10174 Aug 13 04:05	28°39'38	28.81231 AU
				direct	10174 Oct 30 02:12	27°15'45	
conjunction	10167 Jan 24 23:27	9°32'27	15°55'38				
minimum elong	10167 Jan 24 23:24	9°32'27	15°56'01	conjunction	10175 Feb 14 19:34	0°00'03	15°18'08
retrograde	10167 May 09 16:02	12°09'37		minimum elong	10175 Feb 14 19:49	0°00'04	15°18'24
opposition	10167 Jul 25 05:59	10°47'11	17°00'44	max. Earth dist.	10175 Feb 13 14:59	29°57'11	30.71222 AU
min. Earth dist.	10167 Jul 27 00:59	10°44'09	29.44192 AU		10175 Feb 14 19:07	0°	
direct	10167 Oct 12 05:27	9°22'14		retrograde	10175 May 30 09:30	2°40'48	
max. Earth dist.	10168 Jan 25 21:32	11°58'30	31.29839 AU	opposition	10175 Aug 14 20:25	1°17'27	16°14'42
				min. Earth dist.	10175 Aug 15 21:27	1°15'40	28.76699 AU
conjunction	10168 Jan 27 18:57	12°02'57	15°57'08		10175 Oct 10 11:51	30°	
minimum elong	10168 Jan 27 18:57	12°02'57	15°57'29	direct	10175 Nov 02 00:19	29°51'35	
retrograde	10168 May 11 10:33	14°40'52			10175 Nov 24 01:54	0°	
opposition	10168 Jul 27 00:29	13°18'14	17°01'43				
min. Earth dist.	10168 Jul 28 17:19	13°15'21	29.32179 AU	conjunction	10176 Feb 17 16:40	2°36'00	15°05'16
direct	10168 Oct 14 00:15	11°53'03		minimum elong	10176 Feb 17 16:56	2°36'02	15°05'30
max. Earth dist.	10169 Jan 27 18:17	14°30'11	31.18266 AU	max. Earth dist.	10176 Feb 16 14:50	2°33'25	30.67453 AU
				retrograde	10176 Jun 01 05:57	5°16'50	
conjunction	10169 Jan 29 14:53	14°34'34	15°56'57	opposition	10176 Aug 16 17:28	3°53'31	16°00'06
minimum elong	10169 Jan 29 14:54	14°34'34	15°57'18	min. Earth dist.	10176 Aug 17 17:06	3°51'50	28.73272 AU
	10169 Feb 09 10:13	15°		direct	10176 Nov 03 20:27	2°27'42	
retrograde	10169 May 14 06:07	17°13'09		evening set	10177 Feb 17 07:28	5°06'40	
opposition	10169 Jul 29 19:18	15°50'19	17°00'52				
min. Earth dist.	10169 Jul 31 10:46	15°47'31	29.21066 AU	conjunction	10177 Feb 19 13:53	5°12'08	14°50'37
	10169 Aug 30 11:58	15°		minimum elong	10177 Feb 19 14:11	5°12'10	14°50'51
direct	10169 Oct 16 18:46	14°24'54		max. Earth dist.	10177 Feb 18 14:52	5°09'49	30.64800 AU
	10169 Dec 01 19:46	15°		morning rise	10177 Feb 21 20:53	5°17'38	
max. Earth dist.	10170 Jan 30 18:01	17°03'03	31.07646 AU	retrograde	10177 Jun 04 02:06	7°52'53	
				opposition	10177 Aug 19 14:20	6°29'38	15°43'37
conjunction	10170 Feb 01 11:19	17°07'08	15°55'01	min. Earth dist.	10177 Aug 20 10:52	6°28'11	28.70899 AU
minimum elong	10170 Feb 01 11:23	17°07'09	15°55'21	direct	10177 Nov 06 19:21	5°03'55	
retrograde	10170 May 17 00:58	19°46'18		evening set	10178 Feb 18 16:23	7°39'08	
opposition	10170 Aug 01 14:46	18°23'16	16°58'07				
min. Earth dist.	10170 Aug 03 04:21	18°20'37	29.10899 AU	conjunction	10178 Feb 22 11:01	7°48'13	14°34'15
direct	10170 Oct 19 15:28	16°57'41		minimum elong	10178 Feb 22 11:20	7°48'15	14°34'27
max. Earth dist.	10171 Feb 02 15:46	19°36'33	30.98051 AU	max. Earth dist.	10178 Feb 21 13:58	7°46'07	30.63204 AU
				morning rise	10178 Feb 26 06:10	7°57'20	
conjunction	10171 Feb 04 07:41	19°40'30	15°51'19	retrograde	10178 Jun 06 22:27	10°28'49	
minimum elong	10171 Feb 04 07:46	19°40'31	15°51'39	opposition	10178 Aug 22 11:30	9°05'38	15°25'17
retrograde	10171 May 19 21:55	22°20'10		min. Earth dist.	10178 Aug 23 06:22	9°04'18	28.69567 AU
opposition	10171 Aug 04 10:31	20°56'59	16°53'25	direct	10178 Nov 09 15:39	7°40'00	
min. Earth dist.	10171 Aug 05 21:33	20°54'30	29.01780 AU	evening set	10179 Feb 20 10:13	10°12'17	
direct	10171 Oct 22 11:11	19°31'14					
max. Earth dist.	10172 Feb 05 16:07	22°10'57	30.89560 AU	conjunction	10179 Feb 25 07:51	10°24'03	14°16'13
				minimum elong	10179 Feb 25 08:13	10°24'06	14°16'25
conjunction	10172 Feb 07 04:29	22°14'34	15°45'48	max. Earth dist.	10179 Feb 24 14:09	10°22'17	30.62663 AU
minimum elong	10172 Feb 07 04:38	22°14'35	15°46'06	morning rise	10179 Mar 02 05:57	10°35'52	
retrograde	10172 May 21 17:39	24°54'37		retrograde	10179 Jun 09 17:53	13°04'23	
opposition	10172 Aug 06 06:38	23°31'20	16°46'44	opposition	10179 Aug 25 08:31	11°41'17	15°05'11
min. Earth dist.	10172 Aug 07 15:52	23°28'58	28.93765 AU	min. Earth dist.	10179 Aug 26 00:38	11°40'08	28.69243 AU
direct	10172 Oct 24 08:06	22°05'29		direct	10179 Nov 12 13:43	10°15'44	
max. Earth dist.	10173 Feb 07 14:53	24°45'47	30.82251 AU	evening set	10180 Feb 22 07:40	12°45'22	
conjunction	10173 Feb 09 01:20	24°49'13	15°38'25	conjunction	10180 Feb 28 04:28	12°59'26	13°56'35
minimum elong	10173 Feb 09 01:30	24°49'14	15°38'44	minimum elong	10180 Feb 28 04:50	12°59'28	13°56'45
retrograde	10173 May 24 15:24	27°29'36		max. Earth dist.	10180 Feb 27 12:24	12°57'50	30.63153 AU
opposition	10173 Aug 09 02:58	26°06'14	16°38'03	morning rise	10180 Mar 05 01:41	13°13'32	
min. Earth dist.	10173 Aug 10 08:54	26°04'07	28.86916 AU	retrograde	10180 Jun 11 12:25	15°39'23	
direct	10173 Oct 27 05:55	24°40'20		opposition	10180 Aug 27 05:16	14°16'22	14°43'22
				min. Earth dist.	10180 Aug 27 19:12	14°15'23	28.69950 AU
conjunction	10174 Feb 11 22:28	27°24'25	15°29'12	direct	10180 Nov 14 10:47	12°50'55	

























































































































evening set	10181 Feb 23 07:23	15° $\mathbf{\text{X}}$ 18'04		max. Earth dist.	10187 Mar 17 21:06	0° $\mathbf{\text{Y}}$ 40'08	30.97259 AU
				morning rise	10187 Mar 28 09:51	1° $\mathbf{\text{Y}}$ 04'42	
conjunction	10181 Mar 02 00:55	15° $\mathbf{\text{X}}$ 34'09	13°35'23	retrograde	10187 Jun 29 12:32	3° $\mathbf{\text{Y}}$ 14'44	
minimum elong	10181 Mar 02 01:19	15° $\mathbf{\text{X}}$ 34'11	13°35'32	opposition	10187 Sep 14 21:46	1° $\mathbf{\text{Y}}$ 52'44	11°28'32
max. Earth dist.	10181 Mar 01 12:28	15° $\mathbf{\text{X}}$ 32'54	30.64685 AU	min. Earth dist.	10187 Sep 14 17:03	1° $\mathbf{\text{Y}}$ 53'03	29.05573 AU
morning rise	10181 Mar 08 18:43	15° $\mathbf{\text{X}}$ 50'16		direct	10187 Dec 03 14:44	0° $\mathbf{\text{Y}}$ 28'41	
retrograde	10181 Jun 14 05:42	18° $\mathbf{\text{X}}$ 13'37		evening set	10188 Mar 08 02:49	2° $\mathbf{\text{Y}}$ 40'05	
opposition	10181 Aug 30 01:53	16° $\mathbf{\text{X}}$ 50'41	14°19'54				
min. Earth dist.	10181 Aug 30 13:36	16° $\mathbf{\text{X}}$ 49'51	28.71667 AU	conjunction	10188 Mar 19 09:05	3° $\mathbf{\text{Y}}$ 06'11	10°29'03
direct	10181 Nov 17 09:15	15° $\mathbf{\text{X}}$ 25'22		minimum elong	10188 Mar 19 09:29	3° $\mathbf{\text{Y}}$ 06'14	10°29'04
evening set	10182 Feb 25 08:17	17° $\mathbf{\text{X}}$ 50'05		max. Earth dist.	10188 Mar 19 16:24	3° $\mathbf{\text{Y}}$ 06'54	31.06760 AU
				morning rise	10188 Mar 30 14:56	3° $\mathbf{\text{Y}}$ 32'16	
conjunction	10182 Mar 04 20:45	18° $\mathbf{\text{X}}$ 08'00	13°12'41	retrograde	10188 Jul 01 04:10	5° $\mathbf{\text{Y}}$ 40'19	
minimum elong	10182 Mar 04 21:08	18° $\mathbf{\text{X}}$ 08'02	13°12'49	opposition	10188 Sep 16 15:15	4° $\mathbf{\text{Y}}$ 18'37	10°55'45
max. Earth dist.	10182 Mar 04 09:50	18° $\mathbf{\text{X}}$ 06'55	30.67263 AU	min. Earth dist.	10188 Sep 16 07:10	4° $\mathbf{\text{Y}}$ 19'10	29.15243 AU
morning rise	10182 Mar 12 09:29	18° $\mathbf{\text{X}}$ 25'56		direct	10188 Dec 05 11:11	2° $\mathbf{\text{Y}}$ 54'54	
retrograde	10182 Jun 17 00:51	20° $\mathbf{\text{X}}$ 46'54		evening set	10189 Mar 10 07:10	5° $\mathbf{\text{Y}}$ 04'17	
opposition	10182 Sep 01 22:09	19° $\mathbf{\text{X}}$ 24'03	13°54'52				
min. Earth dist.	10182 Sep 02 06:49	19° $\mathbf{\text{X}}$ 23'26	28.74448 AU	conjunction	10189 Mar 22 01:10	5° $\mathbf{\text{Y}}$ 31'22	9°58'01
direct	10182 Nov 20 05:52	17° $\mathbf{\text{X}}$ 58'51		minimum elong	10189 Mar 22 01:34	5° $\mathbf{\text{Y}}$ 31'25	9°58'01
evening set	10183 Feb 27 10:09	20° $\mathbf{\text{X}}$ 21'13		max. Earth dist.	10189 Mar 22 10:54	5° $\mathbf{\text{Y}}$ 32'19	31.17299 AU
				morning rise	10189 Apr 02 18:44	5° $\mathbf{\text{Y}}$ 58'26	
conjunction	10183 Mar 07 16:16	20° $\mathbf{\text{X}}$ 40'48	12°48'34	retrograde	10189 Jul 03 18:56	8° $\mathbf{\text{Y}}$ 04'34	
minimum elong	10183 Mar 07 16:42	20° $\mathbf{\text{X}}$ 40'50	12°48'40	opposition	10189 Sep 19 08:29	6° $\mathbf{\text{Y}}$ 43'08	10°22'02
max. Earth dist.	10183 Mar 07 09:16	20° $\mathbf{\text{X}}$ 40'06	30.70928 AU	min. Earth dist.	10189 Sep 18 22:28	6° $\mathbf{\text{Y}}$ 43'49	29.25940 AU
morning rise	10183 Mar 15 22:26	21° $\mathbf{\text{X}}$ 00'25		direct	10189 Dec 08 04:41	5° $\mathbf{\text{Y}}$ 19'47	
retrograde	10183 Jun 19 16:50	23° $\mathbf{\text{X}}$ 19'03		evening set	10190 Mar 12 11:42	7° $\mathbf{\text{Y}}$ 27'13	
opposition	10183 Sep 04 18:11	21° $\mathbf{\text{X}}$ 56'18	13°28'18				
min. Earth dist.	10183 Sep 05 00:53	21° $\mathbf{\text{X}}$ 55'50	28.78324 AU	conjunction	10190 Mar 24 16:36	7° $\mathbf{\text{Y}}$ 55'10	9°26'12
direct	10183 Nov 23 03:44	20° $\mathbf{\text{X}}$ 31'16		minimum elong	10190 Mar 24 16:59	7° $\mathbf{\text{Y}}$ 55'13	9°26'10
evening set	10184 Feb 29 12:35	22° $\mathbf{\text{X}}$ 51'18		max. Earth dist.	10190 Mar 25 05:20	7° $\mathbf{\text{Y}}$ 56'24	31.28818 AU
				morning rise	10190 Apr 05 20:49	8° $\mathbf{\text{Y}}$ 23'05	
conjunction	10184 Mar 09 11:00	23° $\mathbf{\text{X}}$ 12'25	12°23'04	retrograde	10190 Jul 06 08:48	10° $\mathbf{\text{Y}}$ 27'22	
minimum elong	10184 Mar 09 11:24	23° $\mathbf{\text{X}}$ 12'28	12°23'09	opposition	10190 Sep 22 01:08	9° $\mathbf{\text{Y}}$ 06'15	9°47'32
max. Earth dist.	10184 Mar 09 05:55	23° $\mathbf{\text{X}}$ 11'55	30.75733 AU	min. Earth dist.	10190 Sep 21 12:34	9° $\mathbf{\text{Y}}$ 07'06	29.37574 AU
morning rise	10184 Mar 18 09:33	23° $\mathbf{\text{X}}$ 33'34		direct	10190 Dec 10 23:48	7° $\mathbf{\text{Y}}$ 43'16	
retrograde	10184 Jun 21 11:04	25° $\mathbf{\text{X}}$ 49'57		evening set	10191 Mar 14 16:30	9° $\mathbf{\text{Y}}$ 48'47	
opposition	10184 Sep 06 13:40	24° $\mathbf{\text{X}}$ 27'19	13°00'17				
min. Earth dist.	10184 Sep 06 16:41	24° $\mathbf{\text{X}}$ 27'07	28.83357 AU	conjunction	10191 Mar 27 07:22	10° $\mathbf{\text{Y}}$ 17'31	8°53'41
direct	10184 Nov 25 01:46	23° $\mathbf{\text{X}}$ 02'28		minimum elong	10191 Mar 27 07:45	10° $\mathbf{\text{Y}}$ 17'33	8°53'38
evening set	10185 Mar 02 15:34	25° $\mathbf{\text{X}}$ 20'15		max. Earth dist.	10191 Mar 27 21:45	10° $\mathbf{\text{Y}}$ 18'53	31.41235 AU
				morning rise	10191 Apr 08 21:42	10° $\mathbf{\text{Y}}$ 46'12	
conjunction	10185 Mar 12 05:29	25° $\mathbf{\text{X}}$ 42'48	11°56'17	retrograde	10191 Jul 08 22:17	12° $\mathbf{\text{Y}}$ 48'42	
minimum elong	10185 Mar 12 05:55	25° $\mathbf{\text{X}}$ 42'50	11°56'21	opposition	10191 Sep 24 17:09	11° $\mathbf{\text{Y}}$ 27'53	9°12'21
max. Earth dist.	10185 Mar 12 04:18	25° $\mathbf{\text{X}}$ 42'41	30.81707 AU	min. Earth dist.	10191 Sep 24 02:07	11° $\mathbf{\text{Y}}$ 28'54	29.50111 AU
morning rise	10185 Mar 21 19:14	26° $\mathbf{\text{X}}$ 05'20		direct	10191 Dec 13 15:59	10° $\mathbf{\text{Y}}$ 05'15	
retrograde	10185 Jun 24 02:39	28° $\mathbf{\text{X}}$ 19'32		evening set	10192 Mar 15 21:16	12° $\mathbf{\text{Y}}$ 08'54	
opposition	10185 Sep 09 08:49	26° $\mathbf{\text{X}}$ 57'05	12°30'56				
min. Earth dist.	10185 Sep 09 10:00	26° $\mathbf{\text{X}}$ 57'00	28.89575 AU	conjunction	10192 Mar 28 21:34	12° $\mathbf{\text{Y}}$ 38'19	8°20'35
direct	10185 Nov 27 21:47	25° $\mathbf{\text{X}}$ 32'27		minimum elong	10192 Mar 28 21:55	12° $\mathbf{\text{Y}}$ 38'21	8°20'31
evening set	10186 Mar 04 19:08	27° $\mathbf{\text{X}}$ 48'02		max. Earth dist.	10192 Mar 29 15:06	12° $\mathbf{\text{Y}}$ 39'59	31.54507 AU
				morning rise	10192 Apr 10 20:56	13° $\mathbf{\text{Y}}$ 07'41	
conjunction	10186 Mar 14 23:17	28° $\mathbf{\text{X}}$ 11'53	11°28'17	retrograde	10192 Jul 10 08:47	15° $\mathbf{\text{Y}}$ 08'26	
minimum elong	10186 Mar 14 23:41	28° $\mathbf{\text{X}}$ 11'55	11°28'20	opposition	10192 Sep 26 08:37	13° $\mathbf{\text{Y}}$ 47'55	8°36'36
max. Earth dist.	10186 Mar 15 00:29	28° $\mathbf{\text{X}}$ 12'00	30.88896 AU	min. Earth dist.	10192 Sep 25 15:53	13° $\mathbf{\text{Y}}$ 49'03	29.63467 AU
morning rise	10186 Mar 25 03:19	28° $\mathbf{\text{X}}$ 35'43		direct	10192 Dec 15 09:38	12° $\mathbf{\text{Y}}$ 25'39	
	10186 May 04 15:26	0° $\mathbf{\text{Y}}$		evening set	10193 Mar 18 02:22	14° $\mathbf{\text{Y}}$ 27'29	
retrograde	10186 Jun 26 20:27	0° $\mathbf{\text{Y}}$ 47'47					
	10186 Aug 21 18:07	30° $\mathbf{\text{R}}$ $\mathbf{\text{X}}$		conjunction	10193 Mar 31 10:59	14° $\mathbf{\text{Y}}$ 57'31	7°46'59
opposition	10186 Sep 12 03:29	29° $\mathbf{\text{X}}$ 25'33	12°00'19	minimum elong	10193 Mar 31 11:19	14° $\mathbf{\text{Y}}$ 57'33	7°46'54
min. Earth dist.	10186 Sep 12 00:39	29° $\mathbf{\text{X}}$ 25'44	28.96992 AU	max. Earth dist.	10193 Apr 01 05:31	14° $\mathbf{\text{Y}}$ 59'16	31.68566 AU
direct	10186 Nov 30 19:14	28° $\mathbf{\text{X}}$ 01'11		morning rise	10193 Apr 13 18:55	15° $\mathbf{\text{Y}}$ 27'28	
	10187 Feb 28 13:08	0° $\mathbf{\text{Y}}$		retrograde	10193 Jul 12 21:12	17° $\mathbf{\text{Y}}$ 26'31	
evening set	10187 Mar 06 22:42	0° $\mathbf{\text{Y}}$ 14'39		opposition	10193 Sep 28 23:17	16° $\mathbf{\text{Y}}$ 06'18	8°00'23
				min. Earth dist.	10193 Sep 28 03:40	16° $\mathbf{\text{Y}}$ 07'37	29.77623 AU
conjunction	10187 Mar 17 16:26	0° $\mathbf{\text{Y}}$ 39'41	10°59'10	direct	10193 Dec 18 00:32	14° $\mathbf{\text{Y}}$ 44'23	
minimum elong	10187 Mar 17 16:52	0° $\mathbf{\text{Y}}$ 39'43	10°59'12	evening set	10194 Mar 20 07:17	16° $\mathbf{\text{Y}}$ 44'28	

conjunction	10194 Apr 02 23:49	17° Υ 15'00	7°12'59	retrograde	10200 Jul 28 13:01	2° \mathcal{B} 42'36	
minimum elong	10194 Apr 03 00:07	17° Υ 15'01	7°12'53	min. Earth dist.	10200 Oct 14 00:05	1° \mathcal{B} 26'48	30.99260 AU
max. Earth dist.	10194 Apr 03 21:29	17° Υ 17'01	31.83395 AU	opposition	10200 Oct 15 11:07	1° \mathcal{B} 24'33	3°40'59
morning rise	10194 Apr 16 15:16	17° Υ 45'27		direct	10201 Jan 04 01:24	0° \mathcal{B} 05'15	
retrograde	10194 Jul 15 06:50	19° Υ 42'52		evening set	10201 Apr 03 15:54	1° \mathcal{B} 54'45	
opposition	10194 Oct 01 13:30	18° Υ 22'56	7°23'47				
min. Earth dist.	10194 Sep 30 16:44	18° Υ 24'19	29.92554 AU	conjunction	10201 Apr 18 19:12	2° \mathcal{B} 26'47	3°10'07
direct	10194 Dec 20 15:27	17° Υ 01'22		minimum elong	10201 Apr 18 19:21	2° \mathcal{B} 26'48	3°09'54
evening set	10195 Mar 22 12:11	18° Υ 59'43		max. Earth dist.	10201 Apr 20 08:14	2° \mathcal{B} 30'04	33.09233 AU
				morning rise	10201 May 03 21:14	2° \mathcal{B} 58'44	
conjunction	10195 Apr 05 11:35	19° Υ 30'41	6°38'39	retrograde	10201 Jul 30 16:58	4° \mathcal{B} 46'30	
minimum elong	10195 Apr 05 11:52	19° Υ 30'42	6°38'32	min. Earth dist.	10201 Oct 16 08:06	3° \mathcal{B} 31'09	31.19715 AU
max. Earth dist.	10195 Apr 06 10:30	19° Υ 32'49	31.98987 AU	opposition	10201 Oct 17 20:22	3° \mathcal{B} 28'49	3°04'03
morning rise	10195 Apr 19 10:08	20° Υ 01'34		direct	10202 Jan 06 13:10	2° \mathcal{B} 09'58	
retrograde	10195 Jul 17 18:11	21° Υ 57'24		evening set	10202 Apr 05 20:24	3° \mathcal{B} 58'12	
min. Earth dist.	10195 Oct 03 02:51	20° Υ 39'20	30.08273 AU				
opposition	10195 Oct 04 02:49	20° Υ 37'45	6°46'54	conjunction	10202 Apr 21 01:59	4° \mathcal{B} 30'12	2°35'37
direct	10195 Dec 23 07:34	19° Υ 16'31		minimum elong	10202 Apr 21 02:05	4° \mathcal{B} 30'13	2°35'23
evening set	10196 Mar 23 16:57	21° Υ 13'12		max. Earth dist.	10202 Apr 22 15:42	4° \mathcal{B} 33'32	33.30108 AU
				morning rise	10202 May 06 06:37	5° \mathcal{B} 02'08	
conjunction	10196 Apr 06 22:46	21° Υ 44'31	6°04'05	retrograde	10202 Aug 01 23:19	6° \mathcal{B} 48'47	
minimum elong	10196 Apr 06 23:01	21° Υ 44'33	6°03'57	min. Earth dist.	10202 Oct 18 14:05	5° \mathcal{B} 33'57	31.40763 AU
max. Earth dist.	10196 Apr 08 00:43	21° Υ 46'55	32.15349 AU	opposition	10202 Oct 20 04:59	5° \mathcal{B} 31'29	2°27'23
morning rise	10196 Apr 21 03:29	22° Υ 15'45		direct	10203 Jan 08 21:46	4° \mathcal{B} 13'02	
retrograde	10196 Jul 19 03:36	24° Υ 10'03		evening set	10203 Apr 08 00:33	6° \mathcal{B} 00'05	
opposition	10196 Oct 05 15:25	22° Υ 50'41	6°09'48				
min. Earth dist.	10196 Oct 04 14:10	22° Υ 52'21	30.24807 AU	conjunction	10203 Apr 23 08:09	6° \mathcal{B} 32'01	2°01'21
direct	10196 Dec 24 21:24	21° Υ 29'48		minimum elong	10203 Apr 23 08:14	6° \mathcal{B} 32'01	2°01'06
evening set	10197 Mar 25 21:46	23° Υ 24'55		max. Earth dist.	10203 Apr 25 00:29	6° \mathcal{B} 35'33	33.51499 AU
				morning rise	10203 May 08 14:32	7° \mathcal{B} 03'52	
conjunction	10197 Apr 09 09:07	23° Υ 56'30	5°29'20	retrograde	10203 Aug 04 02:59	8° \mathcal{B} 49'29	
minimum elong	10197 Apr 09 09:21	23° Υ 56'31	5°29'11	min. Earth dist.	10203 Oct 20 21:42	7° \mathcal{B} 35'00	31.62303 AU
max. Earth dist.	10197 Apr 10 12:52	23° Υ 59'02	32.32529 AU	opposition	10203 Oct 22 13:03	7° \mathcal{B} 32'32	1°51'02
morning rise	10197 Apr 23 19:25	24° Υ 28'00		direct	10204 Jan 11 06:36	6° \mathcal{B} 14'30	
retrograde	10197 Jul 21 13:04	26° Υ 20'51		evening set	10204 Apr 09 04:53	8° \mathcal{B} 00'25	
min. Earth dist.	10197 Oct 06 22:55	25° Υ 03'38	30.42179 AU				
opposition	10197 Oct 08 03:21	25° Υ 01'47	5°32'35	conjunction	10204 Apr 24 13:42	8° \mathcal{B} 32'13	1°27'23
direct	10197 Dec 27 11:57	23° Υ 41'15		minimum elong	10204 Apr 24 13:46	8° \mathcal{B} 32'13	1°27'08
evening set	10198 Mar 28 02:23	25° Υ 34'51		max. Earth dist.	10204 Apr 26 06:27	8° \mathcal{B} 35'45	33.73327 AU
				morning rise	10204 May 09 21:31	9° \mathcal{B} 03'56	
conjunction	10198 Apr 11 18:37	26° Υ 06'39	4°54'30	retrograde	10204 Aug 05 08:12	10° \mathcal{B} 48'33	
minimum elong	10198 Apr 11 18:50	26° Υ 06'40	4°54'20	min. Earth dist.	10204 Oct 22 02:27	9° \mathcal{B} 34'34	31.84262 AU
max. Earth dist.	10198 Apr 13 00:50	26° Υ 09'23	32.50530 AU	opposition	10204 Oct 23 20:10	9° \mathcal{B} 31'57	1°15'03
morning rise	10198 Apr 26 09:50	26° Υ 38'21		direct	10205 Jan 12 15:01	8° \mathcal{B} 14'19	
retrograde	10198 Jul 23 22:06	28° Υ 29'50		evening set	10205 Apr 11 09:04	9° \mathcal{B} 59'10	
min. Earth dist.	10198 Oct 09 08:24	27° Υ 13'03	30.60413 AU				
opposition	10198 Oct 10 14:44	27° Υ 11'05	4°55'19	conjunction	10205 Apr 26 18:42	10° \mathcal{B} 30'47	0°53'45
direct	10198 Dec 30 00:58	25° Υ 50'57		minimum elong	10205 Apr 26 18:45	10° \mathcal{B} 30'47	0°53'29
evening set	10199 Mar 30 06:57	27° Υ 43'06		max. Earth dist.	10205 Apr 28 13:23	10° \mathcal{B} 34'28	33.95513 AU
				morning rise	10205 May 12 03:17	11° \mathcal{B} 02'20	
conjunction	10199 Apr 14 03:33	28° Υ 15'02	4°19'38	retrograde	10205 Aug 07 12:50	12° \mathcal{B} 46'00	
minimum elong	10199 Apr 14 03:44	28° Υ 15'03	4°19'27	min. Earth dist.	10205 Oct 24 08:44	11° \mathcal{B} 32'22	32.06586 AU
max. Earth dist.	10199 Apr 15 12:13	28° Υ 17'59	32.69364 AU	opposition	10205 Oct 26 02:59	11° \mathcal{B} 29'44	0°39'29
morning rise	10199 Apr 28 22:56	28° Υ 46'53		direct	10206 Jan 14 21:50	10° \mathcal{B} 12'29	
	10199 Jun 07 13:40	0° \mathcal{B}		evening set	10206 Apr 13 12:56	11° \mathcal{B} 56'18	
retrograde	10199 Jul 26 06:03	0° \mathcal{B} 37'03					
	10199 Sep 14 23:42	30° $\mathcal{R}\Upsilon$		conjunction	10206 Apr 28 22:55	12° \mathcal{B} 27'43	0°20'32
min. Earth dist.	10199 Oct 11 16:34	29° Υ 20'45	30.79457 AU	minimum elong	10206 Apr 28 22:56	12° \mathcal{B} 27'43	0°20'15
opposition	10199 Oct 13 01:13	29° Υ 18'39	4°18'06	max. Earth dist.	10206 Apr 30 18:28	12° \mathcal{B} 31'26	34.18027 AU
direct	10200 Jan 01 15:09	27° Υ 58'56		morning rise	10206 May 14 07:48	12° \mathcal{B} 59'03	
evening set	10200 Apr 01 11:30	29° Υ 49'43		retrograde	10206 Aug 09 16:00	14° \mathcal{B} 41'49	
	10200 Apr 06 08:24	0° \mathcal{B}		min. Earth dist.	10206 Oct 26 12:59	13° \mathcal{B} 28'35	32.29221 AU
				opposition	10206 Oct 28 09:00	13° \mathcal{B} 25'52	0°04'23
conjunction	10200 Apr 16 11:39	0° \mathcal{B} 21'44	3°44'49	desc. node	10206 Dec 13 12:01	12° \mathcal{B} 26'00	
minimum elong	10200 Apr 16 11:48	0° \mathcal{B} 21'45	3°44'37	direct	10207 Jan 17 06:22	12° \mathcal{B} 08'59	
max. Earth dist.	10200 Apr 17 21:51	0° \mathcal{B} 24'48	32.88955 AU	evening set	10207 Apr 15 16:46	13° \mathcal{B} 51'49	
morning rise	10200 May 01 10:49	0° \mathcal{B} 53'40					

conjunction	10207 May 01 02:29	14° 8 22'58 -0°12'21	max. Earth dist.	10213 May 13 14:31	25° 8 25'21 35.84867 AU
minimum elong	10207 May 01 02:28	14° 8 22'58 0°12'39	morning rise	10213 May 26 09:03	25° 8 50'03
behind sun begin	10207 Apr 30 22:20	14° 8 22'38	retrograde	10213 Aug 21 19:47	27° 8 27'52
behind sun end	10207 May 01 06:36	14° 8 23'18	min. Earth dist.	10213 Nov 08 03:23	26° 8 17'21 33.97628 AU
max. Earth dist.	10207 May 02 23:00	14° 8 26'45 34.40823 AU	opposition	10213 Nov 10 08:47	26° 8 14'11 -3°45'53
morning rise	10207 May 16 11:19	14° 8 54'03	direct	10214 Jan 30 14:08	24° 8 59'56
	10207 May 19 11:33	15° 8	evening set	10214 Apr 28 12:37	26° 8 37'21
retrograde	10207 Aug 11 19:08	16° 8 35'57			
min. Earth dist.	10207 Oct 28 17:10	15° 8 23'05 32.52182 AU	conjunction	10214 May 13 09:13	27° 8 05'54 -3°47'50
opposition	10207 Oct 30 14:17	15° 8 20'18 -0°30'14	minimum elong	10214 May 13 09:05	27° 8 05'54 3°48'12
	10207 Nov 13 11:48	15° 8	max. Earth dist.	10214 May 15 14:40	27° 8 10'13 36.09987 AU
direct	10208 Jan 19 13:09	14° 8 03'47	morning rise	10214 May 28 05:16	27° 8 34'25
	10208 Mar 22 21:32	15° 8	retrograde	10214 Aug 23 20:54	29° 8 11'44
evening set	10208 Apr 16 20:12	15° 8 45'41	min. Earth dist.	10214 Nov 10 03:44	28° 8 01'35 34.22971 AU
			opposition	10214 Nov 12 09:58	27° 8 58'23 -4°16'16
conjunction	10208 May 02 05:27	16° 8 16'33 -0°44'42	direct	10215 Feb 01 15:11	26° 8 44'32
minimum elong	10208 May 02 05:25	16° 8 16'33 0°45'00	evening set	10215 Apr 30 14:40	28° 8 21'23
max. Earth dist.	10208 May 04 03:44	16° 8 20'27 34.63933 AU			
morning rise	10208 May 17 13:34	16° 8 47'21	conjunction	10215 May 15 08:03	28° 8 49'29 -4°16'19
retrograde	10208 Aug 12 19:30	18° 8 28'25	minimum elong	10215 May 15 07:54	28° 8 49'28 4°16'41
min. Earth dist.	10208 Oct 29 20:53	17° 8 15'54 32.75466 AU	max. Earth dist.	10215 May 17 14:46	28° 8 53'52 36.35285 AU
opposition	10208 Oct 31 18:56	17° 8 13'04 -1°04'19	morning rise	10215 May 30 00:40	29° 8 17'31
direct	10209 Jan 20 21:34	15° 8 56'55		10215 Jun 23 06:13	0° II
evening set	10209 Apr 18 23:32	17° 8 37'55	retrograde	10215 Aug 25 18:09	0° II 54'22
				10215 Nov 01 02:03	30° 8
conjunction	10209 May 04 07:30	18° 8 08'28 -1°16'35	min. Earth dist.	10215 Nov 12 03:48	29° 8 44'34 34.48446 AU
minimum elong	10209 May 04 07:27	18° 8 08'28 1°16'54	opposition	10215 Nov 14 10:23	29° 8 41'21 -4°45'59
max. Earth dist.	10209 May 06 06:19	18° 8 12'23 34.87367 AU	direct	10216 Feb 03 18:00	28° 8 27'53
morning rise	10209 May 19 14:43	18° 8 38'57		10216 Apr 29 10:17	0° II
retrograde	10209 Aug 14 21:06	20° 8 19'15	evening set	10216 May 01 16:43	0° II 04'12
min. Earth dist.	10209 Oct 31 22:37	19° 8 07'10 32.99136 AU			
opposition	10209 Nov 02 22:56	19° 8 04'13 -1°37'51	conjunction	10216 May 16 06:16	0° II 31'48 -4°44'11
direct	10210 Jan 23 02:16	17° 8 48'25	minimum elong	10216 May 16 06:07	0° II 31'48 4°44'34
evening set	10210 Apr 21 02:32	19° 8 28'36	max. Earth dist.	10216 May 18 12:47	0° II 36'09 36.60668 AU
			morning rise	10216 May 30 19:26	0° II 59'23
conjunction	10210 May 06 09:08	19° 8 58'47 -1°47'57	retrograde	10216 Aug 26 15:25	2° II 35'46
minimum elong	10210 May 06 09:04	19° 8 58'47 1°48'17	min. Earth dist.	10216 Nov 13 02:27	1° II 26'22 34.73999 AU
max. Earth dist.	10210 May 08 10:25	20° 8 02'53 35.11187 AU	opposition	10216 Nov 15 10:26	1° II 23'06 -5°15'00
morning rise	10210 May 21 14:44	20° 8 28'55	direct	10217 Feb 04 19:03	0° II 09'59
retrograde	10210 Aug 16 19:10	22° 8 08'32	evening set	10217 May 03 18:24	1° II 45'47
min. Earth dist.	10210 Nov 03 01:33	20° 8 56'46 33.23212 AU			
opposition	10210 Nov 05 02:23	20° 8 53'48 -2°10'48	conjunction	10217 May 18 04:06	2° II 12'54 -5°11'26
direct	10211 Jan 25 07:27	19° 8 38'23	minimum elong	10217 May 18 03:56	2° II 12'53 5°11'49
evening set	10211 Apr 23 05:20	21° 8 17'47	max. Earth dist.	10217 May 20 12:13	2° II 17'20 36.86078 AU
			morning rise	10217 Jun 01 13:10	2° II 39'58
conjunction	10211 May 08 09:55	21° 8 47'36 -2°18'47	retrograde	10217 Aug 28 09:55	4° II 15'57
minimum elong	10211 May 08 09:49	21° 8 47'35 2°19'07	min. Earth dist.	10217 Nov 15 02:28	3° II 06'49 34.99552 AU
max. Earth dist.	10211 May 10 11:31	21° 8 51'42 35.35403 AU	opposition	10217 Nov 17 10:04	3° II 03'35 -5°43'22
morning rise	10211 May 23 13:47	22° 8 17'22	direct	10218 Feb 06 21:31	1° II 50'49
retrograde	10211 Aug 18 19:51	23° 8 56'19	evening set	10218 May 05 20:04	3° II 26'07
min. Earth dist.	10211 Nov 05 01:47	22° 8 45'01 33.47686 AU			
opposition	10211 Nov 07 05:03	22° 8 41'56 -2°43'08	conjunction	10218 May 20 01:24	3° II 52'43 -5°38'03
direct	10212 Jan 27 09:41	21° 8 26'54	minimum elong	10218 May 20 01:14	3° II 52'42 5°38'27
evening set	10212 Apr 24 07:58	23° 8 05'35	max. Earth dist.	10218 May 22 08:55	3° II 57'05 37.11467 AU
			morning rise	10218 Jun 03 06:21	4° II 19'17
conjunction	10212 May 09 10:19	23° 8 35'01 -2°49'03	retrograde	10218 Aug 30 06:40	5° II 54'51
minimum elong	10212 May 09 10:13	23° 8 35'00 2°49'24	min. Earth dist.	10218 Nov 16 23:55	4° II 46'05 35.25077 AU
max. Earth dist.	10212 May 11 13:59	23° 8 39'14 35.59976 AU	opposition	10218 Nov 19 09:02	4° II 42'46 -6°11'02
morning rise	10212 May 24 11:52	24° 8 04'23	direct	10219 Feb 08 21:00	3° II 30'20
retrograde	10212 Aug 19 19:42	25° 8 42'45	evening set	10219 May 07 21:19	5° II 05'10
min. Earth dist.	10212 Nov 06 03:35	24° 8 31'48 33.72515 AU			
opposition	10212 Nov 08 07:12	24° 8 28'43 -3°14'50	conjunction	10219 May 21 22:12	5° II 31'13 -6°04'03
direct	10213 Jan 28 10:43	23° 8 14'04	minimum elong	10219 May 21 22:01	5° II 31'12 6°04'27
evening set	10213 Apr 26 10:25	24° 8 52'06	max. Earth dist.	10219 May 24 06:49	5° II 35'38 37.36800 AU
			morning rise	10219 Jun 04 22:39	5° II 57'16
conjunction	10213 May 11 10:07	25° 8 21'06 -3°18'44	retrograde	10219 Sep 01 02:50	7° II 32'28
minimum elong	10213 May 11 10:00	25° 8 21'05 3°19'05	min. Earth dist.	10219 Nov 18 22:56	6° II 23'54 35.50559 AU

opposition	10219 Nov 21 07:35	6°II20'39	-6°38'01	morning rise	10226 Jun 13 20:05	16°II47'29	
direct	10220 Feb 10 19:42	5°II08'30		retrograde	10226 Sep 11 11:35	18°II20'53	
evening set	10220 May 08 22:25	6°II42'52		min. Earth dist.	10226 Nov 29 17:35	17°II14'22	37.30213 AU
				opposition	10226 Dec 02 06:49	17°II10'58	-9°27'25
conjunction	10220 May 22 18:31	7°II08'23	-6°29'25	direct	10227 Feb 21 23:36	16°II01'00	
minimum elong	10220 May 22 18:20	7°II08'22	6°29'50	evening set	10227 May 21 22:59	17°II33'12	
max. Earth dist.	10220 May 25 03:15	7°II12'47	37.62096 AU				
morning rise	10220 Jun 05 14:09	7°II33'53		conjunction	10227 Jun 03 03:03	17°II54'41	-9°08'58
retrograde	10220 Sep 01 23:19	9°II08'43		minimum elong	10227 Jun 03 02:50	17°II54'40	9°09'24
min. Earth dist.	10220 Nov 19 19:42	8°II00'27	35.76012 AU	max. Earth dist.	10227 Jun 05 16:09	17°II59'12	39.40561 AU
opposition	10220 Nov 22 05:20	7°II57'09	-7°04'19	morning rise	10227 Jun 15 06:51	18°II16'09	
direct	10221 Feb 11 18:06	6°II45'18		retrograde	10227 Sep 13 05:42	19°II49'25	
evening set	10221 May 10 23:16	8°II19'15		min. Earth dist.	10227 Dec 01 11:51	18°II43'13	37.55944 AU
				opposition	10227 Dec 04 01:29	18°II39'48	-9°48'52
conjunction	10221 May 24 14:12	8°II44'12	-6°54'09	direct	10228 Feb 23 17:47	17°II30'10	
minimum elong	10221 May 24 14:00	8°II44'11	6°54'34	evening set	10228 May 22 22:23	19°II02'13	
max. Earth dist.	10221 May 26 23:25	8°II48'36	37.87384 AU				
morning rise	10221 Jun 07 04:56	9°II09'09		conjunction	10228 Jun 03 19:47	19°II23'05	-9°29'12
retrograde	10221 Sep 03 20:18	10°II43'39		minimum elong	10228 Jun 03 19:34	19°II23'04	9°29'40
min. Earth dist.	10221 Nov 21 16:27	9°II35'39	36.01518 AU	max. Earth dist.	10228 Jun 06 08:33	19°II27'33	39.66020 AU
opposition	10221 Nov 24 02:52	9°II32'19	-7°29'55	morning rise	10228 Jun 15 17:14	19°II43'57	
direct	10222 Feb 13 14:37	8°II20'45		retrograde	10228 Sep 13 23:42	21°II17'07	
evening set	10222 May 12 23:37	9°II54'19		min. Earth dist.	10228 Dec 02 05:43	20°II11'13	37.81539 AU
				opposition	10228 Dec 04 19:47	20°II07'48	-10°09'38
conjunction	10222 May 26 09:24	10°II18'43	-7°18'14	direct	10229 Feb 24 11:10	18°II58'30	
minimum elong	10222 May 26 09:12	10°II18'42	7°18'40	evening set	10229 May 24 21:34	20°II30'23	
max. Earth dist.	10222 May 28 20:01	10°II23'11	38.12742 AU				
morning rise	10222 Jun 08 18:44	10°II43'06		conjunction	10229 Jun 05 12:23	20°II50'39	-9°48'51
retrograde	10222 Sep 05 13:04	12°II17'18		minimum elong	10229 Jun 05 12:11	20°II50'38	9°49'17
min. Earth dist.	10222 Nov 23 13:08	11°II09'33	36.27102 AU	max. Earth dist.	10229 Jun 08 02:05	20°II55'09	39.91313 AU
opposition	10222 Nov 25 23:49	11°II06'13	-7°54'49	morning rise	10229 Jun 17 02:59	21°II10'55	
direct	10223 Feb 15 14:21	9°II54'57		retrograde	10229 Sep 15 13:31	22°II44'00	
evening set	10223 May 15 00:01	11°II28'11		min. Earth dist.	10229 Dec 04 00:35	21°II38'19	38.06922 AU
				opposition	10229 Dec 06 13:53	21°II34'57	-10°29'47
conjunction	10223 May 28 04:07	11°II52'00	-7°41'40	direct	10230 Feb 26 08:08	20°II25'58	
minimum elong	10223 May 28 03:54	11°II51'59	7°42'05	evening set	10230 May 26 20:39	21°II57'43	
max. Earth dist.	10223 May 30 14:27	11°II56'25	38.38191 AU				
morning rise	10223 Jun 10 08:06	12°II15'48		conjunction	10230 Jun 07 04:26	22°II17'22	-10°07'53
retrograde	10223 Sep 07 06:45	13°II49'45		minimum elong	10230 Jun 07 04:13	22°II17'21	10°08'21
min. Earth dist.	10223 Nov 25 07:49	12°II42'21	36.52798 AU	max. Earth dist.	10230 Jun 09 16:56	22°II21'45	40.16371 AU
opposition	10223 Nov 27 20:04	12°II38'57	-8°19'01	morning rise	10230 Jun 18 12:16	22°II37'01	
direct	10224 Feb 17 12:03	11°II27'59		retrograde	10230 Sep 17 04:39	24°II10'01	
evening set	10224 May 16 00:02	13°II00'54		min. Earth dist.	10230 Dec 05 17:21	23°II04'39	38.32056 AU
				opposition	10230 Dec 08 07:30	23°II01'15	-10°49'18
conjunction	10224 May 28 22:33	13°II24'09	-8°04'28	direct	10231 Feb 28 03:13	21°II52'32	
minimum elong	10224 May 28 22:20	13°II24'08	8°04'54	evening set	10231 May 28 19:31	23°II24'09	
max. Earth dist.	10224 May 31 10:37	13°II28'40	38.63738 AU				
morning rise	10224 Jun 10 20:44	13°II47'23		conjunction	10231 Jun 08 20:21	23°II43'11	-10°26'21
retrograde	10224 Sep 07 23:05	15°II21'06		minimum elong	10231 Jun 08 20:09	23°II43'10	10°26'48
min. Earth dist.	10224 Nov 26 04:12	14°II13'58	36.78575 AU	max. Earth dist.	10231 Jun 11 09:34	23°II47'36	40.41157 AU
opposition	10224 Nov 28 16:07	14°II10'35	-8°42'30	morning rise	10231 Jun 19 21:08	24°II02'13	
direct	10225 Feb 18 09:55	12°II59'57		retrograde	10231 Sep 18 19:22	25°II35'10	
evening set	10225 May 17 23:54	14°II32'36		min. Earth dist.	10231 Dec 07 11:45	24°II29'57	38.56914 AU
				opposition	10231 Dec 10 00:41	24°II26'38	-11°08'11
conjunction	10225 May 30 16:21	14°II55'15	-8°26'36	direct	10232 Feb 29 21:47	23°II18'11	
minimum elong	10225 May 30 16:08	14°II55'14	8°27'02	evening set	10232 May 29 18:17	24°II49'41	
max. Earth dist.	10225 Jun 02 04:10	14°II59'44	38.89350 AU				
morning rise	10225 Jun 12 08:37	15°II17'54		conjunction	10232 Jun 09 11:51	25°II08'04	-10°44'14
retrograde	10225 Sep 09 16:52	16°II51'27		minimum elong	10232 Jun 09 11:38	25°II08'04	10°44'42
min. Earth dist.	10225 Nov 27 22:05	15°II44'41	37.04394 AU	max. Earth dist.	10232 Jun 12 00:25	25°II12'26	40.65686 AU
opposition	10225 Nov 30 11:37	15°II41'14	-9°05'18	morning rise	10232 Jun 20 05:19	25°II26'29	
direct	10226 Feb 20 05:36	14°II30'56		retrograde	10232 Sep 19 10:49	26°II59'22	
evening set	10226 May 19 23:32	16°II03'21		min. Earth dist.	10232 Dec 08 03:49	25°II54'24	38.81517 AU
				opposition	10232 Dec 10 17:27	25°II51'04	-11°26'28
conjunction	10226 Jun 01 09:51	16°II25'25	-8°48'06	direct	10233 Mar 02 14:52	24°II42'52	
minimum elong	10226 Jun 01 09:38	16°II25'24	8°48'33	evening set	10233 May 31 16:37	26°II14'14	
max. Earth dist.	10226 Jun 03 22:40	16°II29'56	39.14972 AU				

conjunction	10233 Jun 11 02:43	26°II32'00	-11°01'32	retrograde	10239 Sep 29 12:26	6°☾24'25	
minimum elong	10233 Jun 11 02:31	26°II32'00	11°02'00	min. Earth dist.	10239 Dec 18 15:13	5°☾20'59	40.49783 AU
max. Earth dist.	10233 Jun 13 15:22	26°II36'20	40.89979 AU	opposition	10239 Dec 21 05:05	5°☾17'43	-13°17'23
morning rise	10233 Jun 21 12:55	26°II49'48		direct	10240 Mar 12 04:23	4°☾11'19	
retrograde	10233 Sep 21 04:23	28°II22'37		evening set	10240 Jun 12 01:15	5°☾42'35	
min. Earth dist.	10233 Dec 09 20:33	27°II17'51	39.05938 AU				
opposition	10233 Dec 12 10:01	27°II14'32	-11°44'08	conjunction	10240 Jun 20 02:44	5°☾55'50	-12°46'43
direct	10234 Mar 04 05:09	26°II06'35		minimum elong	10240 Jun 20 02:33	5°☾55'50	12°47'10
evening set	10234 Jun 02 14:50	27°II37'51		max. Earth dist.	10240 Jun 22 15:34	6°☾00'01	42.56355 AU
				morning rise	10240 Jun 28 04:19	6°☾09'06	
conjunction	10234 Jun 12 17:27	27°II55'00	-11°18'16	retrograde	10240 Sep 30 03:53	7°☾42'13	
minimum elong	10234 Jun 12 17:14	27°II54'59	11°18'44	min. Earth dist.	10240 Dec 19 05:25	6°☾39'00	40.73067 AU
max. Earth dist.	10234 Jun 15 06:48	27°II59'21	41.14126 AU	opposition	10240 Dec 21 19:17	6°☾35'46	-13°30'56
morning rise	10234 Jun 22 19:55	28°II12'09		direct	10241 Mar 13 15:53	5°☾29'36	
retrograde	10234 Sep 22 18:46	29°II44'56		evening set	10241 Jun 13 22:39	7°☾00'57	
min. Earth dist.	10234 Dec 11 12:41	28°II40'21	39.30219 AU				
opposition	10234 Dec 14 02:01	28°II37'04	-12°01'11	conjunction	10241 Jun 21 15:24	7°☾13'33	-12°59'35
direct	10235 Mar 05 21:16	27°II29'21		minimum elong	10241 Jun 21 15:15	7°☾13'32	13°00'04
evening set	10235 Jun 04 12:56	29°II00'34		max. Earth dist.	10241 Jun 24 04:51	7°☾17'44	42.79289 AU
				morning rise	10241 Jun 29 08:06	7°☾26'08	
conjunction	10235 Jun 14 07:40	29°II17'05	-11°34'25	retrograde	10241 Oct 01 15:27	8°☾59'23	
minimum elong	10235 Jun 14 07:28	29°II17'04	11°34'53	min. Earth dist.	10241 Dec 20 20:42	7°☾56'18	40.95997 AU
max. Earth dist.	10235 Jun 16 20:21	29°II21'21	41.38158 AU	opposition	10241 Dec 23 09:15	7°☾53'09	-13°43'56
morning rise	10235 Jun 24 02:31	29°II33'35		direct	10242 Mar 15 07:02	6°☾47'14	
	10235 Jul 10 08:45	0°☾		evening set	10242 Jun 15 20:19	8°☾18'40	
retrograde	10235 Sep 24 08:50	1°☾06'22					
min. Earth dist.	10235 Dec 13 03:22	0°☾02'03	39.54405 AU	conjunction	10242 Jun 23 03:53	8°☾30'35	-13°11'57
	10235 Dec 14 17:45	30°RII		minimum elong	10242 Jun 23 03:43	8°☾30'35	13°12'25
opposition	10235 Dec 15 17:41	29°II58'43	-12°17'37	max. Earth dist.	10242 Jun 25 15:47	8°☾34'40	43.01855 AU
direct	10236 Mar 06 13:06	28°II51'16		morning rise	10242 Jun 30 11:29	8°☾42'30	
	10236 May 22 15:26	0°☾		retrograde	10242 Oct 03 02:16	10°☾15'53	
evening set	10236 Jun 05 10:44	0°☾22'26		min. Earth dist.	10242 Dec 22 09:43	9°☾13'02	41.18537 AU
				opposition	10242 Dec 24 22:44	9°☾09'52	-13°56'27
conjunction	10236 Jun 14 21:42	0°☾38'19	-11°49'59	direct	10243 Mar 16 21:51	8°☾04'10	
minimum elong	10236 Jun 14 21:29	0°☾38'18	11°50'27	evening set	10243 Jun 17 17:49	9°☾35'43	
max. Earth dist.	10236 Jun 17 11:36	0°☾42'39	41.62092 AU				
morning rise	10236 Jun 24 08:34	0°☾54'10		conjunction	10243 Jun 24 16:09	9°☾46'57	-13°23'52
retrograde	10236 Sep 24 19:18	2°☾26'59		minimum elong	10243 Jun 24 15:59	9°☾46'57	13°24'21
min. Earth dist.	10236 Dec 13 19:29	1°☾22'51	39.78481 AU	max. Earth dist.	10243 Jun 27 04:10	9°☾51'01	43.24008 AU
opposition	10236 Dec 16 09:02	1°☾19'34	-12°33'26	morning rise	10243 Jul 01 14:28	9°☾58'11	
direct	10237 Mar 08 07:48	0°☾12'22		retrograde	10243 Oct 04 13:33	11°☾31'43	
evening set	10237 Jun 07 08:35	1°☾43'32		min. Earth dist.	10243 Dec 24 00:40	10°☾28'58	41.40655 AU
				opposition	10243 Dec 26 12:08	10°☾25'53	-14°08'28
conjunction	10237 Jun 16 11:21	1°☾58'45	-12°04'59	direct	10244 Mar 17 13:05	9°☾20'24	
minimum elong	10237 Jun 16 11:10	1°☾58'45	12°05'27	evening set	10244 Jun 18 15:29	10°☾52'05	
max. Earth dist.	10237 Jun 19 00:31	2°☾03'02	41.85926 AU				
morning rise	10237 Jun 25 14:09	2°☾13'58		conjunction	10244 Jun 25 04:05	11°☾02'36	-13°35'18
retrograde	10237 Sep 26 08:12	3°☾46'50		minimum elong	10244 Jun 25 03:56	11°☾02'35	13°35'46
min. Earth dist.	10237 Dec 15 09:24	2°☾42'59	40.02435 AU	max. Earth dist.	10244 Jun 27 15:15	11°☾06'35	43.45758 AU
opposition	10237 Dec 18 00:02	2°☾39'39	-12°48'40	morning rise	10244 Jul 01 16:38	11°☾13'08	
direct	10238 Mar 09 23:48	1°☾32'43		retrograde	10244 Oct 05 01:28	12°☾46'49	
evening set	10238 Jun 09 06:02	3°☾03'54		min. Earth dist.	10244 Dec 24 13:28	11°☾44'15	41.62365 AU
				opposition	10244 Dec 27 01:02	11°☾41'10	-14°19'59
conjunction	10238 Jun 18 00:39	3°☾18'28	-12°19'26	direct	10245 Mar 19 02:38	10°☾35'53	
minimum elong	10238 Jun 18 00:27	3°☾18'27	12°19'54	evening set	10245 Jun 20 13:03	12°☾07'42	
max. Earth dist.	10238 Jun 20 14:20	3°☾22'45	42.09612 AU				
morning rise	10238 Jun 26 19:18	3°☾33'02		conjunction	10245 Jun 26 15:38	12°☾17'30	-13°46'17
retrograde	10238 Sep 27 22:35	5°☾05'58		minimum elong	10245 Jun 26 15:29	12°☾17'30	13°46'45
min. Earth dist.	10238 Dec 17 01:01	4°☾02'18	40.26227 AU	max. Earth dist.	10245 Jun 29 02:05	12°☾21'25	43.67133 AU
opposition	10238 Dec 19 14:52	3°☾59'02	-13°03'19	morning rise	10245 Jul 02 18:14	12°☾27'19	
direct	10239 Mar 11 14:25	2°☾52'22		retrograde	10245 Oct 06 14:42	14°☾01'12	
evening set	10239 Jun 11 03:41	4°☾23'34		min. Earth dist.	10245 Dec 26 02:47	12°☾58'45	41.83754 AU
				opposition	10245 Dec 28 13:50	12°☾55'43	-14°31'01
conjunction	10239 Jun 19 13:53	4°☾37'29	-12°33'20	direct	10246 Mar 20 13:57	11°☾50'38	
minimum elong	10239 Jun 19 13:43	4°☾37'28	12°33'48	evening set	10246 Jun 22 10:45	13°☾22'37	
max. Earth dist.	10239 Jun 22 03:39	4°☾41'45	42.33114 AU				
morning rise	10239 Jun 27 23:59	4°☾51'25		conjunction	10246 Jun 28 02:57	13°☾31'41	-13°56'47

minimum elong	10246 Jun 28 02:49	13°  31'41	13°57'14	evening set	10253 Jul 05 01:43	21°  53'15	
max. Earth dist.	10246 Jun 30 14:05	13°  35'37	43.88221 AU				
morning rise	10246 Jul 03 19:04	13°  40'45		conjunction	10253 Jul 06 03:39	21°  54'56	-14°57'23
retrograde	10246 Oct 08 01:09	15°  14'52		minimum elong	10253 Jul 06 03:33	21°  54'56	14°57'50
min. Earth dist.	10246 Dec 27 15:48	14°  12'33	42.04863 AU	morning rise	10253 Jul 07 05:25	21°  56'36	
opposition	10246 Dec 30 02:14	14°  09'33	-14°41'34	max. Earth dist.	10253 Jul 08 12:45	21°  58'37	45.29340 AU
direct	10247 Mar 22 02:29	13°  04'39		retrograde	10253 Oct 16 01:36	23°  35'01	
evening set	10247 Jun 24 08:47	14°  36'53		min. Earth dist.	10254 Jan 05 02:15	22°  33'52	43.45960 AU
				opposition	10254 Jan 07 09:59	22°  31'04	-15°41'57
conjunction	10247 Jun 29 13:58	14°  45'11	-14°06'49	direct	10254 Mar 30 10:29	21°  27'39	
minimum elong	10247 Jun 29 13:50	14°  45'11	14°07'17				
max. Earth dist.	10247 Jul 01 23:50	14°  49'01	44.09066 AU	conjunction	10254 Jul 07 13:18	23°  04'57	-15°04'20
morning rise	10247 Jul 04 19:08	14°  53'29		minimum elong	10254 Jul 07 13:14	23°  04'56	15°04'47
retrograde	10247 Oct 09 12:11	16°  27'52		max. Earth dist.	10254 Jul 09 20:56	23°  08'32	45.48245 AU
min. Earth dist.	10247 Dec 29 03:05	15°  25'46	42.25755 AU	retrograde	10254 Oct 17 09:46	24°  44'37	
opposition	10247 Dec 31 14:11	15°  22'44	-14°51'37	min. Earth dist.	10255 Jan 06 12:34	23°  43'39	43.64744 AU
direct	10248 Mar 22 13:48	14°  18'02		opposition	10255 Jan 08 20:28	23°  40'51	-15°48'50
evening set	10248 Jun 25 07:07	15°  50'34		direct	10255 Mar 31 21:56	22°  37'36	
conjunction	10248 Jun 30 00:50	15°  58'04	-14°16'22	conjunction	10255 Jul 08 22:52	24°  14'27	-15°10'54
minimum elong	10248 Jun 30 00:44	15°  58'04	14°16'49	minimum elong	10255 Jul 08 22:48	24°  14'27	15°11'20
max. Earth dist.	10248 Jul 02 11:28	16°  01'56	44.29706 AU	max. Earth dist.	10255 Jul 11 05:44	24°  17'58	45.66680 AU
morning rise	10248 Jul 04 18:30	16°  05'34		retrograde	10255 Oct 18 19:46	25°  53'43	
retrograde	10248 Oct 09 20:50	17°  40'17		min. Earth dist.	10256 Jan 08 00:30	24°  52'49	43.83056 AU
min. Earth dist.	10248 Dec 29 16:15	16°  38'18	42.46440 AU	opposition	10256 Jan 10 06:46	24°  50'06	-15°55'20
opposition	10249 Jan 01 02:08	16°  35'20	-15°01'10	direct	10256 Apr 01 09:54	23°  47'01	
direct	10249 Mar 24 03:42	15°  30'51					
evening set	10249 Jun 27 06:00	17°  03'43		conjunction	10256 Jul 09 08:18	25°  23'24	-15°17'07
				minimum elong	10256 Jul 09 08:15	25°  23'24	15°17'34
conjunction	10249 Jul 01 11:18	17°  10'23	-14°25'27	max. Earth dist.	10256 Jul 11 14:52	25°  26'54	45.84662 AU
minimum elong	10249 Jul 01 11:11	17°  10'22	14°25'55	retrograde	10256 Oct 19 05:52	27°  02'15	
max. Earth dist.	10249 Jul 03 21:20	17°  14'12	44.50155 AU	min. Earth dist.	10257 Jan 08 11:06	26°  01'27	44.00906 AU
morning rise	10249 Jul 05 16:30	17°  17'03		opposition	10257 Jan 10 16:51	25°  58'46	-16°01'27
retrograde	10249 Oct 11 06:48	18°  52'09		direct	10257 Apr 02 20:25	24°  55'50	
min. Earth dist.	10249 Dec 31 03:06	17°  50'24	42.66913 AU				
opposition	10250 Jan 02 13:44	17°  47'25	-15°10'14	conjunction	10257 Jul 10 17:11	26°  31'46	-15°22'57
direct	10250 Mar 25 17:01	16°  43'09		minimum elong	10257 Jul 10 17:08	26°  31'46	15°23'23
evening set	10250 Jun 29 05:49	18°  16'27		max. Earth dist.	10257 Jul 12 22:15	26°  35'08	46.02213 AU
				retrograde	10257 Oct 20 17:35	28°  10'11	
conjunction	10250 Jul 02 21:38	18°  22'12	-14°34'05	min. Earth dist.	10258 Jan 09 21:13	27°  09'28	44.18371 AU
minimum elong	10250 Jul 02 21:32	18°  22'12	14°34'33	opposition	10258 Jan 12 02:46	27°  06'49	-16°07'10
max. Earth dist.	10250 Jul 05 07:26	18°  25'59	44.70378 AU	direct	10258 Apr 04 03:19	26°  04'01	
morning rise	10250 Jul 06 13:25	18°  27'57					
retrograde	10250 Oct 12 20:32	20°  03'32		conjunction	10258 Jul 12 02:07	27°  39'31	-15°28'24
min. Earth dist.	10251 Jan 01 15:14	19°  01'56	42.87157 AU	minimum elong	10258 Jul 12 02:04	27°  39'31	15°28'51
opposition	10251 Jan 04 01:06	18°  59'00	-15°18'49	max. Earth dist.	10258 Jul 14 07:43	27°  42'54	46.19411 AU
direct	10251 Mar 27 02:36	17°  54'57		retrograde	10258 Oct 22 00:52	29°  17'30	
evening set	10251 Jul 01 07:19	19°  28'50		min. Earth dist.	10259 Jan 11 08:10	28°  16'51	44.35502 AU
				opposition	10259 Jan 13 12:18	28°  14'16	-16°12'30
conjunction	10251 Jul 04 07:53	19°  33'33	-14°42'16	direct	10259 Apr 05 13:56	27°  11'36	
minimum elong	10251 Jul 04 07:46	19°  33'33	14°42'44				
morning rise	10251 Jul 07 08:18	19°  38'16		conjunction	10259 Jul 13 10:46	28°  46'40	-15°33'28
max. Earth dist.	10251 Jul 06 17:53	19°  37'20	44.90359 AU	minimum elong	10259 Jul 13 10:44	28°  46'40	15°33'54
retrograde	10251 Oct 14 07:08	21°  14'28		max. Earth dist.	10259 Jul 15 15:08	28°  49'59	46.36321 AU
min. Earth dist.	10252 Jan 03 02:54	20°  13'02	43.07106 AU		10259 Sep 06 08:26	0°  00	
opposition	10252 Jan 05 12:12	20°  10'08	-15°26'58	retrograde	10259 Oct 23 06:55	0°  24'16	
direct	10252 Mar 27 13:10	19°  06'18			10259 Dec 10 14:24	30°  00	
evening set	10252 Jul 02 11:46	20°  40'57		min. Earth dist.	10260 Jan 12 16:50	29°  23'46	44.52361 AU
				opposition	10260 Jan 14 21:37	29°  21'09	-16°17'26
conjunction	10252 Jul 04 17:44	20°  44'27	-14°50'02	direct	10260 Apr 06 00:24	28°  18'37	
minimum elong	10252 Jul 04 17:39	20°  44'27	14°50'29				
morning rise	10252 Jul 06 23:37	20°  47'57		conjunction	10260 Jul 13 19:07	29°  53'18	-15°38'10
max. Earth dist.	10252 Jul 07 02:23	20°  48'08	45.10027 AU	minimum elong	10260 Jul 13 19:05	29°  53'18	15°38'36
retrograde	10252 Oct 14 18:06	22°  24'57		max. Earth dist.	10260 Jul 15 23:33	29°  56'36	46.52966 AU
min. Earth dist.	10253 Jan 03 13:48	21°  23'43	43.26729 AU		10260 Jul 18 05:47	0°  00	
opposition	10253 Jan 05 23:09	21°  20'50	-15°34'40	retrograde	10260 Oct 23 14:53	1°  30'32	
direct	10253 Mar 28 22:07	20°  17'13		min. Earth dist.	10261 Jan 13 03:18	0°  30'06	44.68972 AU

opposition	10261 Jan 15 06:55	0°Ω27'33 -16°21'58	direct	10269 Apr 16 04:34	8°Ω05'38
	10261 Feb 08 08:49	30°RΩ			
direct	10261 Apr 07 11:11	29°Ω25'11	conjunction	10269 Jul 23 17:15	9°Ω37'20 -16°04'27
	10261 Jun 02 07:37	0°Ω	minimum elong	10269 Jul 23 17:17	9°Ω37'20 16°04'51
			max. Earth dist.	10269 Jul 25 14:51	9°Ω40'06 47.88180 AU
conjunction	10261 Jul 15 03:28	0°Ω59'28 -15°42'28	retrograde	10269 Nov 02 16:44	11°Ω11'45
minimum elong	10261 Jul 15 03:27	0°Ω59'28 15°42'53	min. Earth dist.	10270 Jan 23 13:05	10°Ω12'19 46.02827 AU
max. Earth dist.	10261 Jul 17 07:47	1°Ω02'45 46.69390 AU	opposition	10270 Jan 25 10:37	10°Ω10'07 -16°46'34
retrograde	10261 Oct 24 23:13	2°Ω36'21	direct	10270 Apr 17 11:06	9°Ω09'09
min. Earth dist.	10262 Jan 14 12:08	1°Ω36'04 44.85334 AU			
opposition	10262 Jan 16 15:54	1°Ω33'31 -16°26'06	conjunction	10270 Jul 25 00:19	10°Ω40'32 -16°05'48
direct	10262 Apr 08 20:57	0°Ω31'19	minimum elong	10270 Jul 25 00:22	10°Ω40'33 16°06'11
			max. Earth dist.	10270 Jul 26 21:48	10°Ω43'18 48.01008 AU
conjunction	10262 Jul 16 11:28	2°Ω05'14 -15°46'23	retrograde	10270 Nov 03 21:18	12°Ω14'40
minimum elong	10262 Jul 16 11:27	2°Ω05'14 15°46'49	min. Earth dist.	10271 Jan 24 22:25	11°Ω15'14 46.15495 AU
max. Earth dist.	10262 Jul 18 14:39	2°Ω08'26 46.85560 AU	opposition	10271 Jan 26 18:18	11°Ω13'07 -16°47'43
retrograde	10262 Oct 26 10:02	3°Ω41'47	direct	10271 Apr 18 20:44	10°Ω12'16
min. Earth dist.	10263 Jan 15 21:28	2°Ω41'38 45.01439 AU			
opposition	10263 Jan 18 00:48	2°Ω39'07 -16°29'51	conjunction	10271 Jul 26 07:20	11°Ω43'21 -16°06'51
direct	10263 Apr 10 03:34	1°Ω37'06	minimum elong	10271 Jul 26 07:23	11°Ω43'21 16°07'14
			max. Earth dist.	10271 Jul 28 04:10	11°Ω46'04 48.13487 AU
conjunction	10263 Jul 17 19:33	3°Ω10'41 -15°49'57	retrograde	10271 Nov 05 02:53	13°Ω17'11
minimum elong	10263 Jul 17 19:34	3°Ω10'41 15°50'21	min. Earth dist.	10272 Jan 26 05:31	12°Ω17'52 46.27823 AU
max. Earth dist.	10263 Jul 19 23:19	3°Ω13'54 47.01451 AU	opposition	10272 Jan 28 01:34	12°Ω15'44 -16°48'31
retrograde	10263 Oct 27 17:37	4°Ω46'54	direct	10272 Apr 19 06:13	11°Ω14'59
min. Earth dist.	10264 Jan 17 07:18	3°Ω46'51 45.17225 AU			
opposition	10264 Jan 19 09:24	3°Ω44'25 -16°33'13	conjunction	10272 Jul 26 14:04	12°Ω45'46 -16°07'35
direct	10264 Apr 10 11:23	2°Ω42'33	minimum elong	10272 Jul 26 14:08	12°Ω45'46 16°07'57
			max. Earth dist.	10272 Jul 28 09:45	12°Ω48'24 48.25649 AU
conjunction	10264 Jul 18 03:24	4°Ω15'50 -15°53'09	retrograde	10272 Nov 05 11:57	14°Ω19'20
minimum elong	10264 Jul 18 03:24	4°Ω15'50 15°53'34	min. Earth dist.	10273 Jan 26 13:45	13°Ω20'04 46.39862 AU
max. Earth dist.	10264 Jul 20 05:36	4°Ω18'56 47.17022 AU	opposition	10273 Jan 28 08:58	13°Ω18'00 -16°49'01
retrograde	10264 Oct 28 01:17	5°Ω51'44	direct	10273 Apr 20 13:20	12°Ω17'21
min. Earth dist.	10265 Jan 17 15:33	4°Ω51'53 45.32665 AU			
opposition	10265 Jan 19 17:57	4°Ω49'25 -16°36'15	conjunction	10273 Jul 27 20:44	13°Ω47'51 -16°08'00
direct	10265 Apr 11 18:34	3°Ω47'45	minimum elong	10273 Jul 27 20:47	13°Ω47'51 16°08'22
			max. Earth dist.	10273 Jul 29 16:58	13°Ω50'30 48.37533 AU
conjunction	10265 Jul 19 11:05	5°Ω20'43 -15°56'01		10273 Sep 23 01:09	15°Ω
minimum elong	10265 Jul 19 11:07	5°Ω20'43 15°56'26	retrograde	10273 Nov 06 20:04	15°Ω21'09
max. Earth dist.	10265 Jul 21 13:06	5°Ω23'48 47.32205 AU		10273 Dec 22 13:51	15°RΩ
retrograde	10265 Oct 29 08:09	6°Ω56'21	min. Earth dist.	10274 Jan 27 21:46	14°Ω21'57 46.51602 AU
min. Earth dist.	10266 Jan 19 02:02	5°Ω56'33 45.47687 AU	opposition	10274 Jan 29 16:10	14°Ω19'55 -16°49'10
opposition	10266 Jan 21 02:31	5°Ω54'11 -16°38'56	direct	10274 Apr 21 19:20	13°Ω19'24
direct	10266 Apr 13 05:06	4°Ω52'42			
			conjunction	10274 Jul 29 03:18	14°Ω49'38 -16°08'06
conjunction	10266 Jul 20 18:55	6°Ω25'20 -15°58'34	minimum elong	10274 Jul 29 03:24	14°Ω49'38 16°08'27
minimum elong	10266 Jul 20 18:56	6°Ω25'20 15°58'58	max. Earth dist.	10274 Jul 30 21:56	14°Ω52'11 48.49131 AU
max. Earth dist.	10266 Jul 22 20:08	6°Ω28'22 47.46953 AU		10274 Aug 05 08:29	15°Ω
retrograde	10266 Oct 30 15:53	8°Ω00'41	retrograde	10274 Nov 08 04:34	16°Ω22'40
min. Earth dist.	10267 Jan 20 10:31	7°Ω01'02 45.62227 AU	min. Earth dist.	10275 Jan 29 04:27	15°Ω23'35 46.63050 AU
opposition	10267 Jan 22 10:38	6°Ω58'41 -16°41'18	opposition	10275 Jan 30 23:01	15°Ω21'33 -16°49'01
direct	10267 Apr 14 14:58	5°Ω57'21		10275 Feb 19 03:50	15°RΩ
			direct	10275 Apr 22 22:56	14°Ω21'09
conjunction	10267 Jul 22 02:31	7°Ω29'41 -16°00'49		10275 Jun 22 13:47	15°Ω
minimum elong	10267 Jul 22 02:34	7°Ω29'41 16°01'14			
max. Earth dist.	10267 Jul 24 01:57	7°Ω32'36 47.61195 AU	conjunction	10275 Jul 30 09:49	15°Ω51'08 -16°07'54
retrograde	10267 Nov 01 03:20	9°Ω04'44	minimum elong	10275 Jul 30 09:54	15°Ω51'09 16°08'16
min. Earth dist.	10268 Jan 21 19:52	8°Ω05'09 45.76256 AU	max. Earth dist.	10275 Aug 01 04:25	15°Ω53'41 48.60413 AU
opposition	10268 Jan 23 18:51	8°Ω02'53 -16°43'21	retrograde	10275 Nov 09 08:59	17°Ω23'57
direct	10268 Apr 14 20:31	7°Ω01'41	min. Earth dist.	10276 Jan 30 13:15	16°Ω24'53 46.74161 AU
			opposition	10276 Feb 01 06:01	16°Ω22'57 -16°48'33
conjunction	10268 Jul 22 10:00	8°Ω33'42 -16°02'47	direct	10276 Apr 23 06:37	15°Ω22'40
minimum elong	10268 Jul 22 10:01	8°Ω33'42 16°03'10			
max. Earth dist.	10268 Jul 24 09:22	8°Ω36'36 47.74927 AU	conjunction	10276 Jul 30 16:10	16°Ω52'24 -16°07'24
retrograde	10268 Nov 01 10:57	10°Ω08'27	minimum elong	10276 Jul 30 16:16	16°Ω52'25 16°07'45
min. Earth dist.	10269 Jan 22 05:18	9°Ω08'54 45.89764 AU	max. Earth dist.	10276 Aug 01 10:05	16°Ω54'55 48.71357 AU
opposition	10269 Jan 24 02:51	9°Ω06'42 -16°45'07	retrograde	10276 Nov 09 12:52	18°Ω24'59

min. Earth dist.	10277 Jan 30 19:56	17° Ω 26'03	46.84892 AU	conjunction	10285 Aug 08 22:08	25° Ω 52'24	-15°51'17
opposition	10277 Feb 01 12:48	17° Ω 24'07	-16°47'47	minimum elong	10285 Aug 08 22:17	25° Ω 52'25	15°51'35
direct	10277 Apr 24 15:59	16° Ω 23'57		max. Earth dist.	10285 Aug 10 07:59	25° Ω 54'23	49.49203 AU
				retrograde	10285 Nov 18 22:27	27° Ω 23'07	
conjunction	10277 Jul 31 22:28	17° Ω 53'28	-16°06'37	opposition	10286 Feb 10 21:22	26° Ω 22'57	-16°29'08
minimum elong	10277 Jul 31 22:33	17° Ω 53'28	16°06'59	min. Earth dist.	10286 Feb 09 13:31	26° Ω 24'27	47.60564 AU
max. Earth dist.	10277 Aug 02 14:54	17° Ω 55'52	48.81891 AU	direct	10286 May 03 21:21	25° Ω 23'32	
retrograde	10277 Nov 10 21:34	19° Ω 25'50					
min. Earth dist.	10278 Feb 01 04:11	18° Ω 26'56	46.95201 AU	conjunction	10286 Aug 10 03:40	26° Ω 51'09	-15°48'10
opposition	10278 Feb 02 19:35	18° Ω 25'04	-16°46'45	minimum elong	10286 Aug 10 03:48	26° Ω 51'10	15°48'29
direct	10278 Apr 25 22:51	17° Ω 25'01		max. Earth dist.	10286 Aug 11 12:47	26° Ω 53'05	49.55990 AU
				retrograde	10286 Nov 20 00:53	28° Ω 21'42	
conjunction	10278 Aug 02 04:53	18° Ω 54'18	-16°05'35	min. Earth dist.	10287 Feb 10 18:51	27° Ω 23'09	47.67144 AU
minimum elong	10278 Aug 02 05:00	18° Ω 54'19	16°05'56	opposition	10287 Feb 12 03:01	27° Ω 21'38	-16°25'42
max. Earth dist.	10278 Aug 03 21:13	18° Ω 56'42	48.91969 AU	direct	10287 May 05 05:16	26° Ω 22'19	
retrograde	10278 Nov 12 04:39	20° Ω 26'27					
min. Earth dist.	10279 Feb 02 12:06	19° Ω 27'36	47.04998 AU	conjunction	10287 Aug 11 09:00	27° Ω 49'47	-15°44'48
opposition	10279 Feb 04 02:13	19° Ω 25'48	-16°45'27	minimum elong	10287 Aug 11 09:10	27° Ω 49'47	15°45'05
direct	10279 Apr 27 05:45	18° Ω 25'52		max. Earth dist.	10287 Aug 12 16:54	27° Ω 51'38	49.62468 AU
				retrograde	10287 Nov 21 07:34	29° Ω 20'12	
conjunction	10279 Aug 03 11:08	19° Ω 54'55	-16°04'18	min. Earth dist.	10288 Feb 12 01:50	28° Ω 21'40	47.73412 AU
minimum elong	10279 Aug 03 11:13	19° Ω 54'55	16°04'37	opposition	10288 Feb 13 08:41	28° Ω 20'13	-16°22'00
max. Earth dist.	10279 Aug 05 01:16	19° Ω 57'10	49.01524 AU	direct	10288 May 05 12:09	27° Ω 21'00	
retrograde	10279 Nov 13 12:07	21° Ω 26'50					
min. Earth dist.	10280 Feb 03 19:05	20° Ω 28'03	47.14262 AU	conjunction	10288 Aug 11 14:29	28° Ω 48'19	-15°41'10
opposition	10280 Feb 05 08:41	20° Ω 26'16	-16°43'54	minimum elong	10288 Aug 11 14:37	28° Ω 48'20	15°41'27
direct	10280 Apr 27 09:46	19° Ω 26'25		max. Earth dist.	10288 Aug 12 22:35	28° Ω 50'11	49.68628 AU
					10288 Oct 10 00:27	0° Υ	
conjunction	10280 Aug 03 17:21	20° Ω 55'15	-16°02'46	retrograde	10288 Nov 21 14:26	0° Υ 18'37	
minimum elong	10280 Aug 03 17:28	20° Ω 55'15	16°03'06		10289 Jan 03 23:32	30° Υ Ω	
max. Earth dist.	10280 Aug 05 07:00	20° Ω 57'28	49.10537 AU	min. Earth dist.	10289 Feb 12 08:11	29° Ω 20'08	47.79322 AU
retrograde	10280 Nov 13 16:31	22° Ω 26'57		opposition	10289 Feb 13 14:17	29° Ω 18'44	-16°18'02
min. Earth dist.	10281 Feb 04 03:39	21° Ω 28'08	47.22988 AU	direct	10289 May 06 18:01	28° Ω 19'36	
opposition	10281 Feb 05 15:15	21° Ω 26'27	-16°42'06				
direct	10281 Apr 28 16:47	20° Ω 26'40		conjunction	10289 Aug 12 19:42	29° Ω 46'48	-15°37'16
				minimum elong	10289 Aug 12 19:53	29° Ω 46'48	15°37'33
conjunction	10281 Aug 04 23:19	21° Ω 55'16	-16°00'59	max. Earth dist.	10289 Aug 14 02:02	29° Ω 48'33	49.74411 AU
minimum elong	10281 Aug 04 23:25	21° Ω 55'16	16°01'18		10289 Aug 22 07:54	0° Υ	
max. Earth dist.	10281 Aug 06 11:50	21° Ω 57'25	49.19052 AU	retrograde	10289 Nov 22 22:41	1° Υ 16'58	
retrograde	10281 Nov 14 20:16	23° Ω 26'44		opposition	10290 Feb 14 19:49	0° Υ 17'10	-16°13'49
min. Earth dist.	10282 Feb 05 09:55	22° Ω 27'59	47.31229 AU	min. Earth dist.	10290 Feb 13 14:17	0° Υ 18'33	47.84830 AU
opposition	10282 Feb 06 21:30	22° Ω 26'18	-16°40'03		10290 Mar 02 08:04	30° Υ Ω	
direct	10282 Apr 30 00:24	21° Ω 26'35		direct	10290 May 07 20:27	29° Ω 18'08	
					10290 Jul 10 21:18	0° Υ	
conjunction	10282 Aug 06 05:11	22° Ω 54'58	-15°58'58				
minimum elong	10282 Aug 06 05:19	22° Ω 54'58	15°59'18	conjunction	10290 Aug 14 01:11	0° Υ 45'13	-15°33'09
max. Earth dist.	10282 Aug 07 16:20	22° Ω 57'02	49.27107 AU	minimum elong	10290 Aug 14 01:20	0° Υ 45'13	15°33'25
retrograde	10282 Nov 16 03:12	24° Ω 26'14		max. Earth dist.	10290 Aug 15 07:02	0° Υ 46'56	49.79744 AU
min. Earth dist.	10283 Feb 06 17:34	23° Ω 27'27	47.39060 AU	retrograde	10290 Nov 24 03:06	2° Υ 15'15	
opposition	10283 Feb 08 03:35	23° Ω 25'51	-16°37'45	min. Earth dist.	10291 Feb 14 21:44	1° Υ 16'49	47.89851 AU
direct	10283 May 01 07:32	22° Ω 26'12		opposition	10291 Feb 16 01:13	1° Υ 15'32	-16°09'23
				direct	10291 May 09 00:42	0° Υ 16'34	
conjunction	10283 Aug 07 11:04	23° Ω 54'21	-15°56'40				
minimum elong	10283 Aug 07 11:11	23° Ω 54'22	15°56'59	conjunction	10291 Aug 15 06:40	1° Υ 43'31	-15°28'49
max. Earth dist.	10283 Aug 08 22:25	23° Ω 56'26	49.34788 AU	minimum elong	10291 Aug 15 06:51	1° Υ 43'32	15°29'05
retrograde	10283 Nov 17 09:51	25° Ω 25'25		max. Earth dist.	10291 Aug 16 11:08	1° Υ 45'10	49.84584 AU
min. Earth dist.	10284 Feb 08 00:10	24° Ω 26'41	47.46526 AU	retrograde	10291 Nov 25 05:48	3° Υ 13'25	
opposition	10284 Feb 09 09:35	24° Ω 25'06	-16°35'09	min. Earth dist.	10292 Feb 16 03:20	2° Υ 15'02	47.94346 AU
direct	10284 May 01 13:49	23° Ω 25'32		opposition	10292 Feb 17 06:37	2° Υ 13'45	-16°04'43
				direct	10292 May 09 06:12	1° Υ 14'51	
conjunction	10284 Aug 07 16:32	24° Ω 53'29	-15°54'07				
minimum elong	10284 Aug 07 16:39	24° Ω 53'30	15°54'26	conjunction	10292 Aug 15 11:50	2° Υ 41'40	-15°24'15
max. Earth dist.	10284 Aug 09 02:14	24° Ω 55'27	49.42143 AU	minimum elong	10292 Aug 15 11:59	2° Υ 41'40	15°24'31
retrograde	10284 Nov 17 17:53	26° Ω 24'21		max. Earth dist.	10292 Aug 16 14:36	2° Υ 43'12	49.88882 AU
min. Earth dist.	10285 Feb 08 06:07	25° Ω 25'41	47.53692 AU	retrograde	10292 Nov 25 11:07	4° Υ 11'26	
opposition	10285 Feb 09 15:31	25° Ω 24'07	-16°32'17	min. Earth dist.	10293 Feb 16 10:44	3° Υ 12'59	47.98315 AU
direct	10285 May 02 16:03	24° Ω 24'37		opposition	10293 Feb 17 12:07	3° Υ 11'48	-15°59'50

direct	10293 May 10 13:30	2° \mathring{M} 12'56		max. Earth dist.	10300 Aug 25 00:44	10° \mathring{M} 20'46	50.08969 AU
				morning rise	10300 Aug 27 12:02	10° \mathring{M} 24'09	
conjunction	10293 Aug 16 17:11	3° \mathring{M} 39'35 -15°19'29		retrograde	10300 Dec 04 06:04	11° \mathring{M} 48'30	
minimum elong	10293 Aug 16 17:22	3° \mathring{M} 39'36 15°19'45		min. Earth dist.	10301 Feb 25 09:31	10° \mathring{M} 50'02	48.16267 AU
max. Earth dist.	10293 Aug 17 19:48	3° \mathring{M} 41'07 49.92678 AU		opposition	10301 Feb 26 04:22	10° \mathring{M} 49'09	-15°12'06
retrograde	10293 Nov 26 16:11	5° \mathring{M} 09'13		direct	10301 May 19 03:52	9° \mathring{M} 50'35	
opposition	10294 Feb 18 17:19	4° \mathring{M} 09'37 -15°54'43		evening set	10301 Aug 21 13:10	11° \mathring{M} 11'13	
min. Earth dist.	10294 Feb 17 16:44	4° \mathring{M} 10'46 48.01788 AU					
direct	10294 May 11 21:04	3° \mathring{M} 10'46		conjunction	10301 Aug 25 08:47	11° \mathring{M} 16'27	-14°32'48
				minimum elong	10301 Aug 25 08:59	11° \mathring{M} 16'28	14°33'00
conjunction	10294 Aug 17 22:16	4° \mathring{M} 37'16 -15°14'30		max. Earth dist.	10301 Aug 26 04:39	11° \mathring{M} 17'35	50.09976 AU
minimum elong	10294 Aug 17 22:26	4° \mathring{M} 37'17 15°14'44		morning rise	10301 Aug 29 04:57	11° \mathring{M} 21'43	
max. Earth dist.	10294 Aug 18 22:50	4° \mathring{M} 38'41 49.96018 AU		retrograde	10301 Dec 05 09:22	12° \mathring{M} 45'20	
retrograde	10294 Nov 28 00:33	6° \mathring{M} 06'45		opposition	10302 Feb 27 09:06	11° \mathring{M} 46'03	-15°05'02
opposition	10295 Feb 19 22:28	5° \mathring{M} 07'10 -15°49'23		min. Earth dist.	10302 Feb 26 14:23	11° \mathring{M} 46'55	48.16950 AU
min. Earth dist.	10295 Feb 18 22:24	5° \mathring{M} 08'18 48.04844 AU		direct	10302 May 20 08:04	10° \mathring{M} 47'32	
direct	10295 May 12 23:27	4° \mathring{M} 08'21		evening set	10302 Aug 22 07:14	12° \mathring{M} 07'32	
conjunction	10295 Aug 19 03:20	5° \mathring{M} 34'43 -15°09'16		conjunction	10302 Aug 26 13:44	12° \mathring{M} 13'23	-14°25'54
minimum elong	10295 Aug 19 03:31	5° \mathring{M} 34'43 15°09'30		minimum elong	10302 Aug 26 13:57	12° \mathring{M} 13'24	14°26'06
max. Earth dist.	10295 Aug 20 03:50	5° \mathring{M} 36'07 49.98955 AU		max. Earth dist.	10302 Aug 27 07:56	12° \mathring{M} 14'25	50.10523 AU
retrograde	10295 Nov 29 06:13	7° \mathring{M} 04'03		morning rise	10302 Aug 30 20:55	12° \mathring{M} 19'16	
min. Earth dist.	10296 Feb 20 05:11	6° \mathring{M} 05'32 48.07523 AU		retrograde	10302 Dec 06 14:34	13° \mathring{M} 42'14	
opposition	10296 Feb 21 03:34	6° \mathring{M} 04'30 -15°43'48		opposition	10303 Feb 28 14:03	12° \mathring{M} 43'00	-14°57'46
direct	10296 May 13 03:27	5° \mathring{M} 05'41		min. Earth dist.	10303 Feb 27 21:26	12° \mathring{M} 43'47	48.17146 AU
				direct	10303 May 21 13:50	11° \mathring{M} 44'32	
conjunction	10296 Aug 19 08:20	6° \mathring{M} 31'56 -15°03'48		evening set	10303 Aug 23 02:13	13° \mathring{M} 03'57	
minimum elong	10296 Aug 19 08:31	6° \mathring{M} 31'56 15°04'01					
max. Earth dist.	10296 Aug 20 08:02	6° \mathring{M} 33'17 50.01567 AU		conjunction	10303 Aug 27 18:49	13° \mathring{M} 10'21	-14°18'49
retrograde	10296 Nov 29 08:05	8° \mathring{M} 01'08		minimum elong	10303 Aug 27 19:00	13° \mathring{M} 10'22	14°18'59
min. Earth dist.	10297 Feb 20 09:46	7° \mathring{M} 02'40 48.09889 AU		max. Earth dist.	10303 Aug 28 12:34	13° \mathring{M} 11'22	50.10556 AU
opposition	10297 Feb 21 08:33	7° \mathring{M} 01'37 -15°37'58		morning rise	10303 Sep 01 12:00	13° \mathring{M} 16'49	
direct	10297 May 14 09:05	6° \mathring{M} 02'50		retrograde	10303 Dec 07 19:15	14° \mathring{M} 39'11	
evening set	10297 Aug 19 14:12	7° \mathring{M} 27'39		opposition	10304 Feb 29 18:52	13° \mathring{M} 40'00	-14°50'17
				min. Earth dist.	10304 Feb 29 03:03	13° \mathring{M} 40'44	48.16789 AU
conjunction	10297 Aug 20 13:09	7° \mathring{M} 28'58 -14°58'05		direct	10304 May 21 20:44	12° \mathring{M} 41'33	
minimum elong	10297 Aug 20 13:20	7° \mathring{M} 28'59 14°58'18		evening set	10304 Aug 22 21:53	14° \mathring{M} 00'24	
morning rise	10297 Aug 21 12:31	7° \mathring{M} 30'18					
max. Earth dist.	10297 Aug 21 11:36	7° \mathring{M} 30'15 50.03868 AU		conjunction	10304 Aug 27 23:45	14° \mathring{M} 07'20	-14°11'32
retrograde	10297 Nov 30 12:12	8° \mathring{M} 58'05		minimum elong	10304 Aug 27 23:58	14° \mathring{M} 07'21	14°11'42
opposition	10298 Feb 22 13:39	7° \mathring{M} 58'35 -15°31'52		max. Earth dist.	10304 Aug 28 15:10	14° \mathring{M} 08'13	50.10041 AU
min. Earth dist.	10298 Feb 21 16:19	7° \mathring{M} 59'34 48.11958 AU		morning rise	10304 Sep 02 02:22	14° \mathring{M} 14'19	
direct	10298 May 15 15:35	6° \mathring{M} 59'50		retrograde	10304 Dec 08 03:52	15° \mathring{M} 36'08	
evening set	10298 Aug 19 17:12	8° \mathring{M} 23'05		opposition	10305 Mar 01 23:43	14° \mathring{M} 36'57	-14°42'36
				min. Earth dist.	10305 Mar 01 08:55	14° \mathring{M} 37'38	48.15893 AU
conjunction	10298 Aug 21 18:12	8° \mathring{M} 25'53 -14°52'07		direct	10305 May 22 22:43	13° \mathring{M} 38'32	
minimum elong	10298 Aug 21 18:24	8° \mathring{M} 25'54 14°52'20		evening set	10305 Aug 23 17:50	14° \mathring{M} 56'50	
morning rise	10298 Aug 23 19:40	8° \mathring{M} 28'43					
max. Earth dist.	10298 Aug 22 16:56	8° \mathring{M} 27'11 50.05881 AU		conjunction	10305 Aug 29 04:42	15° \mathring{M} 04'16	-14°04'03
retrograde	10298 Dec 01 17:19	9° \mathring{M} 54'55		minimum elong	10305 Aug 29 04:54	15° \mathring{M} 04'17	14°04'12
opposition	10299 Feb 23 18:26	8° \mathring{M} 55'27 -15°25'32		max. Earth dist.	10305 Aug 29 19:34	15° \mathring{M} 05'07	50.08985 AU
min. Earth dist.	10299 Feb 22 21:31	8° \mathring{M} 56'26 48.13719 AU		morning rise	10305 Sep 03 16:17	15° \mathring{M} 11'45	
direct	10299 May 16 21:53	7° \mathring{M} 56'46		retrograde	10305 Dec 09 10:31	16° \mathring{M} 33'00	
evening set	10299 Aug 20 05:11	9° \mathring{M} 18'58		opposition	10306 Mar 03 04:34	15° \mathring{M} 33'50	-14°34'44
				min. Earth dist.	10306 Mar 02 15:42	15° \mathring{M} 34'26	48.14469 AU
conjunction	10299 Aug 22 23:02	9° \mathring{M} 22'44 -14°45'55		direct	10306 May 24 01:30	14° \mathring{M} 35'25	
minimum elong	10299 Aug 22 23:13	9° \mathring{M} 22'45 14°46'08		evening set	10306 Aug 24 14:27	15° \mathring{M} 53'11	
max. Earth dist.	10299 Aug 23 20:02	9° \mathring{M} 23'56 50.07593 AU					
morning rise	10299 Aug 25 17:22	9° \mathring{M} 26'31		conjunction	10306 Aug 30 09:40	16° \mathring{M} 01'07	-13°56'22
retrograde	10299 Dec 03 01:07	10° \mathring{M} 51'42		minimum elong	10306 Aug 30 09:53	16° \mathring{M} 01'07	13°56'31
opposition	10300 Feb 24 23:22	9° \mathring{M} 52'18 -15°18'56		max. Earth dist.	10306 Aug 30 23:20	16° \mathring{M} 01'53	50.07448 AU
min. Earth dist.	10300 Feb 24 02:55	9° \mathring{M} 53'15 48.15175 AU		morning rise	10306 Sep 05 05:40	16° \mathring{M} 09'04	
direct	10300 May 18 00:23	8° \mathring{M} 53'40		retrograde	10306 Dec 10 12:40	17° \mathring{M} 29'48	
evening set	10300 Aug 20 20:11	10° \mathring{M} 15'02		opposition	10307 Mar 04 09:04	16° \mathring{M} 30'37	-14°26'38
				min. Earth dist.	10307 Mar 03 20:15	16° \mathring{M} 31'13	48.12591 AU
conjunction	10300 Aug 24 03:50	10° \mathring{M} 19'35 -14°39'28		direct	10307 May 25 06:09	15° \mathring{M} 32'11	
minimum elong	10300 Aug 24 04:02	10° \mathring{M} 19'35 14°39'40		evening set	10307 Aug 25 11:06	16° \mathring{M} 49'28	

conjunction	10307 Aug 31 14:27	16° \mathring{M} 57'51	-13°48'28	direct	10314 May 31 17:14	22° \mathring{M} 08'26	
minimum elong	10307 Aug 31 14:40	16° \mathring{M} 57'51	13°48'36	evening set	10314 Aug 29 18:30	23° \mathring{M} 22'57	
max. Earth dist.	10307 Sep 01 02:35	16° \mathring{M} 58'32	50.05477 AU				
morning rise	10307 Sep 06 18:43	17° \mathring{M} 06'16		conjunction	10314 Sep 07 00:18	23° \mathring{M} 34'10	-12°46'47
retrograde	10307 Dec 11 15:22	18° \mathring{M} 26'30		minimum elong	10314 Sep 07 00:31	23° \mathring{M} 34'11	12°46'52
opposition	10308 Mar 04 13:50	17° \mathring{M} 27'18	-14°18'18	max. Earth dist.	10314 Sep 07 06:20	23° \mathring{M} 34'30	49.82330 AU
min. Earth dist.	10308 Mar 04 02:42	17° \mathring{M} 27'49	48.10321 AU	morning rise	10314 Sep 15 07:20	23° \mathring{M} 45'27	
direct	10308 May 25 13:16	16° \mathring{M} 28'52		retrograde	10314 Dec 18 04:15	25° \mathring{M} 02'53	
evening set	10308 Aug 25 08:00	17° \mathring{M} 45'41		opposition	10315 Mar 11 22:12	24° \mathring{M} 03'41	-13°13'29
				min. Earth dist.	10315 Mar 11 16:40	24° \mathring{M} 03'57	47.85036 AU
conjunction	10308 Aug 31 19:14	17° \mathring{M} 54'30	-13°40'20	direct	10315 Jun 01 20:47	23° \mathring{M} 05'12	
minimum elong	10308 Aug 31 19:26	17° \mathring{M} 54'30	13°40'29	evening set	10315 Aug 30 17:01	24° \mathring{M} 19'24	
max. Earth dist.	10308 Sep 01 07:36	17° \mathring{M} 55'12	50.03147 AU				
morning rise	10308 Sep 07 07:16	18° \mathring{M} 03'22		conjunction	10315 Sep 08 05:27	24° \mathring{M} 30'59	-12°37'06
retrograde	10308 Dec 11 19:37	19° \mathring{M} 23'08		minimum elong	10315 Sep 08 05:40	24° \mathring{M} 31'00	12°37'12
opposition	10309 Mar 05 18:30	18° \mathring{M} 23'55	-14°09'45	max. Earth dist.	10315 Sep 08 10:49	24° \mathring{M} 31'17	49.77434 AU
min. Earth dist.	10309 Mar 05 07:43	18° \mathring{M} 24'26	48.07699 AU	morning rise	10315 Sep 16 19:02	24° \mathring{M} 42'39	
direct	10309 May 26 20:33	17° \mathring{M} 25'28		retrograde	10315 Dec 19 11:33	25° \mathring{M} 59'45	
evening set	10309 Aug 26 05:16	18° \mathring{M} 41'51		opposition	10316 Mar 12 03:02	25° \mathring{M} 00'31	-13°03'20
				min. Earth dist.	10316 Mar 11 23:23	25° \mathring{M} 00'42	47.79742 AU
conjunction	10309 Sep 01 23:59	18° \mathring{M} 51'05	-13°31'59	direct	10316 Jun 01 23:49	24° \mathring{M} 02'01	
minimum elong	10309 Sep 02 00:12	18° \mathring{M} 51'05	13°32'07	evening set	10316 Aug 30 15:43	25° \mathring{M} 15'53	
max. Earth dist.	10309 Sep 02 10:35	18° \mathring{M} 51'41	50.00491 AU				
morning rise	10309 Sep 08 19:42	19° \mathring{M} 00'23		conjunction	10316 Sep 08 10:26	25° \mathring{M} 27'50	-12°27'14
retrograde	10309 Dec 13 03:26	20° \mathring{M} 19'42		minimum elong	10316 Sep 08 10:38	25° \mathring{M} 27'51	12°27'18
opposition	10310 Mar 06 23:02	19° \mathring{M} 20'29	-14°00'58	max. Earth dist.	10316 Sep 08 14:24	25° \mathring{M} 28'03	49.72013 AU
min. Earth dist.	10310 Mar 06 12:49	19° \mathring{M} 20'58	48.04774 AU	morning rise	10316 Sep 17 06:20	25° \mathring{M} 39'51	
direct	10310 May 27 23:18	18° \mathring{M} 22'01		retrograde	10316 Dec 19 16:06	26° \mathring{M} 56'37	
evening set	10310 Aug 27 02:38	19° \mathring{M} 37'59		opposition	10317 Mar 13 07:46	25° \mathring{M} 57'22	-12°53'00
				min. Earth dist.	10317 Mar 13 04:19	25° \mathring{M} 57'32	47.73915 AU
conjunction	10310 Sep 03 04:52	19° \mathring{M} 47'38	-13°23'24	direct	10317 Jun 03 03:08	24° \mathring{M} 58'49	
minimum elong	10310 Sep 03 05:04	19° \mathring{M} 47'39	13°23'32	evening set	10317 Aug 31 14:34	26° \mathring{M} 12'22	
max. Earth dist.	10310 Sep 03 15:15	19° \mathring{M} 48'13	49.97526 AU				
morning rise	10310 Sep 10 08:02	19° \mathring{M} 57'20		conjunction	10317 Sep 09 15:30	26° \mathring{M} 24'40	-12°17'10
retrograde	10310 Dec 14 09:11	21° \mathring{M} 16'15		minimum elong	10317 Sep 09 15:44	26° \mathring{M} 24'41	12°17'15
opposition	10311 Mar 08 03:43	20° \mathring{M} 17'02	-13°51'56	max. Earth dist.	10317 Sep 09 17:36	26° \mathring{M} 24'48	49.66055 AU
min. Earth dist.	10311 Mar 07 18:54	20° \mathring{M} 17'27	48.01533 AU	morning rise	10317 Sep 18 17:50	26° \mathring{M} 37'03	
direct	10311 May 29 02:16	19° \mathring{M} 18'34		retrograde	10317 Dec 20 19:24	27° \mathring{M} 53'30	
evening set	10311 Aug 28 00:17	20° \mathring{M} 34'07		opposition	10318 Mar 14 12:29	26° \mathring{M} 54'12	-12°42'27
				min. Earth dist.	10318 Mar 14 11:10	26° \mathring{M} 54'16	47.67580 AU
conjunction	10311 Sep 04 09:37	20° \mathring{M} 44'11	-13°14'35	direct	10318 Jun 04 09:26	25° \mathring{M} 55'35	
minimum elong	10311 Sep 04 09:51	20° \mathring{M} 44'12	13°14'41	evening set	10318 Sep 01 13:35	27° \mathring{M} 08'51	
max. Earth dist.	10311 Sep 04 19:16	20° \mathring{M} 44'44	49.94264 AU				
morning rise	10311 Sep 11 19:56	20° \mathring{M} 54'18		conjunction	10318 Sep 10 20:42	27° \mathring{M} 21'30	-12°06'53
retrograde	10311 Dec 15 12:59	22° \mathring{M} 12'48		minimum elong	10318 Sep 10 20:55	27° \mathring{M} 21'31	12°06'57
opposition	10312 Mar 08 08:16	21° \mathring{M} 13'36	-13°42'39	max. Earth dist.	10318 Sep 10 22:40	27° \mathring{M} 21'37	49.59623 AU
min. Earth dist.	10312 Mar 07 23:14	21° \mathring{M} 14'01	47.97981 AU	morning rise	10318 Sep 20 05:00	27° \mathring{M} 34'13	
direct	10312 May 29 05:12	20° \mathring{M} 15'07		retrograde	10318 Dec 21 22:34	28° \mathring{M} 50'22	
evening set	10312 Aug 27 22:03	21° \mathring{M} 30'19		opposition	10319 Mar 15 17:08	27° \mathring{M} 51'01	-12°31'41
				min. Earth dist.	10319 Mar 15 16:18	27° \mathring{M} 51'03	47.60791 AU
conjunction	10312 Sep 04 14:24	21° \mathring{M} 40'47	-13°05'32	direct	10319 Jun 05 16:50	26° \mathring{M} 52'21	
minimum elong	10312 Sep 04 14:36	21° \mathring{M} 40'47	13°05'39	evening set	10319 Sep 02 12:38	28° \mathring{M} 05'19	
max. Earth dist.	10312 Sep 04 22:37	21° \mathring{M} 41'15	49.90671 AU				
morning rise	10312 Sep 12 07:52	21° \mathring{M} 51'17		conjunction	10319 Sep 12 01:35	28° \mathring{M} 18'18	-11°56'24
retrograde	10312 Dec 15 17:00	23° \mathring{M} 09'25		minimum elong	10319 Sep 12 01:48	28° \mathring{M} 18'19	11°56'28
opposition	10313 Mar 09 13:00	22° \mathring{M} 10'13	-13°33'09	max. Earth dist.	10319 Sep 12 01:35	28° \mathring{M} 18'18	49.52773 AU
min. Earth dist.	10313 Mar 09 05:46	22° \mathring{M} 10'33	47.94092 AU	morning rise	10319 Sep 21 15:59	28° \mathring{M} 31'23	
direct	10313 May 30 09:59	21° \mathring{M} 11'44		retrograde	10319 Dec 23 06:00	29° \mathring{M} 47'14	
evening set	10313 Aug 28 20:05	22° \mathring{M} 26'36		opposition	10320 Mar 15 21:49	28° \mathring{M} 47'49	-12°20'42
				min. Earth dist.	10320 Mar 15 21:48	28° \mathring{M} 47'49	47.53626 AU
conjunction	10313 Sep 05 19:20	22° \mathring{M} 37'26	-12°56'16	direct	10320 Jun 05 20:05	27° \mathring{M} 49'06	
minimum elong	10313 Sep 05 19:34	22° \mathring{M} 37'26	12°56'22	evening set	10320 Sep 02 11:46	29° \mathring{M} 01'48	
max. Earth dist.	10313 Sep 06 03:34	22° \mathring{M} 37'54	49.86720 AU				
morning rise	10313 Sep 13 19:37	22° \mathring{M} 48'20		conjunction	10320 Sep 12 06:41	29° \mathring{M} 15'08	-11°45'42
retrograde	10313 Dec 16 20:26	24° \mathring{M} 06'07		minimum elong	10320 Sep 12 06:54	29° \mathring{M} 15'08	11°45'44
opposition	10314 Mar 10 17:37	23° \mathring{M} 06'55	-13°23'25	max. Earth dist.	10320 Sep 12 06:27	29° \mathring{M} 15'07	49.45564 AU
min. Earth dist.	10314 Mar 10 10:54	23° \mathring{M} 07'13	47.89794 AU	morning rise	10320 Sep 22 02:57	29° \mathring{M} 28'33	

	10320 Oct 16 15:37	0° <u>♁</u>	min. Earth dist.	10327 Mar 23 12:59	5° <u>♁</u> 28'50	46.94758 AU
retrograde	10320 Dec 23 12:03	0° <u>♁</u> 44'08	direct	10327 Jun 12 22:37	4° <u>♁</u> 30'06	
	10321 Mar 03 06:37	30° <u>♁</u> 7	evening set	10327 Sep 08 10:47	5° <u>♁</u> 41'30	
opposition	10321 Mar 17 02:34	29° <u>♁</u> 44'40 -12°09'28				
min. Earth dist.	10321 Mar 17 03:50	29° <u>♁</u> 44'37 47.46125 AU	conjunction	10327 Sep 19 19:41	5° <u>♁</u> 57'05 -10°24'19	
direct	10321 Jun 06 23:47	28° <u>♁</u> 45'54	minimum elong	10327 Sep 19 19:53	5° <u>♁</u> 57'06 10°24'18	
evening set	10321 Sep 03 11:08	29° <u>♁</u> 58'21	max. Earth dist.	10327 Sep 19 12:20	5° <u>♁</u> 56'40 48.86453 AU	
	10321 Sep 04 16:27	0° <u>♁</u>	morning rise	10327 Oct 01 06:20	6° <u>♁</u> 12'47	
			retrograde	10327 Dec 31 03:52	7° <u>♁</u> 27'00	
conjunction	10321 Sep 13 11:45	0° <u>♁</u> 12'01 -11°34'45	opposition	10328 Mar 23 12:42	6° <u>♁</u> 27'19 -10°44'14	
minimum elong	10321 Sep 13 11:57	0° <u>♁</u> 12'02 11°34'48	min. Earth dist.	10328 Mar 23 20:24	6° <u>♁</u> 26'57 46.84787 AU	
max. Earth dist.	10321 Sep 13 10:48	0° <u>♁</u> 11'58 49.38058 AU	direct	10328 Jun 13 05:02	5° <u>♁</u> 28'15	
morning rise	10321 Sep 23 13:45	0° <u>♁</u> 25'46	evening set	10328 Sep 08 11:28	6° <u>♁</u> 39'30	
retrograde	10321 Dec 24 16:35	1° <u>♁</u> 41'05				
opposition	10322 Mar 18 07:13	0° <u>♁</u> 41'35 -11°58'00	conjunction	10328 Sep 20 01:31	6° <u>♁</u> 55'24 -10°11'49	
min. Earth dist.	10322 Mar 18 08:19	0° <u>♁</u> 41'32 47.38334 AU	minimum elong	10328 Sep 20 01:44	6° <u>♁</u> 55'25 10°11'49	
	10322 Apr 28 08:09	30° <u>♁</u> 7	max. Earth dist.	10328 Sep 19 17:48	6° <u>♁</u> 54'57 48.76361 AU	
direct	10322 Jun 08 02:56	29° <u>♁</u> 42'46	morning rise	10328 Oct 01 17:05	7° <u>♁</u> 11'24	
	10322 Jul 18 10:02	0° <u>♁</u>	retrograde	10328 Dec 31 06:11	8° <u>♁</u> 25'28	
evening set	10322 Sep 04 10:39	0° <u>♁</u> 55'01	opposition	10329 Mar 24 17:50	7° <u>♁</u> 25'42 -10°31'10	
			min. Earth dist.	10329 Mar 25 02:08	7° <u>♁</u> 25'18 46.74286 AU	
conjunction	10322 Sep 14 16:51	1° <u>♁</u> 09'00 -11°23'35	direct	10329 Jun 14 13:32	6° <u>♁</u> 26'33	
minimum elong	10322 Sep 14 17:05	1° <u>♁</u> 09'01 11°23'37	evening set	10329 Sep 09 12:23	7° <u>♁</u> 37'39	
max. Earth dist.	10322 Sep 14 14:27	1° <u>♁</u> 08'52 49.30255 AU				
morning rise	10322 Sep 25 00:39	1° <u>♁</u> 23'05	conjunction	10329 Sep 21 07:13	7° <u>♁</u> 53'51 -9°59'07	
retrograde	10322 Dec 25 20:35	2° <u>♁</u> 38'11	minimum elong	10329 Sep 21 07:25	7° <u>♁</u> 53'52 9°59'05	
opposition	10323 Mar 19 11:56	1° <u>♁</u> 38'39 -11°46'18	max. Earth dist.	10329 Sep 20 21:07	7° <u>♁</u> 53'16 48.65749 AU	
min. Earth dist.	10323 Mar 19 14:40	1° <u>♁</u> 38'31 47.30263 AU	morning rise	10329 Oct 03 03:53	8° <u>♁</u> 10'09	
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evening set	10323 Sep 05 10:16	1° <u>♁</u> 51'50	opposition	10330 Mar 25 23:04	8° <u>♁</u> 24'12 -10°17'53	
			min. Earth dist.	10330 Mar 26 08:38	8° <u>♁</u> 23'45 46.63287 AU	
conjunction	10323 Sep 15 22:08	2° <u>♁</u> 06'09 -11°12'11	direct	10330 Jun 15 18:24	7° <u>♁</u> 24'58	
minimum elong	10323 Sep 15 22:21	2° <u>♁</u> 06'10 11°12'13	evening set	10330 Sep 10 13:20	8° <u>♁</u> 35'54	
max. Earth dist.	10323 Sep 15 19:56	2° <u>♁</u> 06'02 49.22186 AU				
morning rise	10323 Sep 26 11:22	2° <u>♁</u> 20'34	conjunction	10330 Sep 22 13:07	8° <u>♁</u> 52'24 -9°46'13	
retrograde	10323 Dec 27 00:13	3° <u>♁</u> 35'28	minimum elong	10330 Sep 22 13:20	8° <u>♁</u> 52'25 9°46'11	
opposition	10324 Mar 19 16:44	2° <u>♁</u> 35'54 -11°34'21	max. Earth dist.	10330 Sep 22 02:25	8° <u>♁</u> 51'47 48.54642 AU	
min. Earth dist.	10324 Mar 19 19:31	2° <u>♁</u> 35'46 47.21907 AU	morning rise	10330 Oct 04 14:35	9° <u>♁</u> 09'01	
direct	10324 Jun 09 14:43	1° <u>♁</u> 37'01	retrograde	10331 Jan 02 20:35	10° <u>♁</u> 22'45	
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			min. Earth dist.	10331 Mar 27 15:23	9° <u>♁</u> 22'16 46.51821 AU	
conjunction	10324 Sep 16 03:11	3° <u>♁</u> 03'30 -11°00'33	direct	10331 Jun 16 23:29	8° <u>♁</u> 23'27	
minimum elong	10324 Sep 16 03:24	3° <u>♁</u> 03'31 11°00'34	evening set	10331 Sep 11 14:32	9° <u>♁</u> 34'15	
max. Earth dist.	10324 Sep 15 23:18	3° <u>♁</u> 03'17 49.13827 AU				
morning rise	10324 Sep 26 22:00	3° <u>♁</u> 18'15	conjunction	10331 Sep 23 18:58	9° <u>♁</u> 51'03 -9°33'05	
retrograde	10324 Dec 27 08:17	4° <u>♁</u> 32'58	minimum elong	10331 Sep 23 19:11	9° <u>♁</u> 51'03 9°33'02	
opposition	10325 Mar 20 21:39	3° <u>♁</u> 33'23 -11°22'10	max. Earth dist.	10331 Sep 23 07:17	9° <u>♁</u> 50'22 48.43122 AU	
min. Earth dist.	10325 Mar 21 01:19	3° <u>♁</u> 33'12 47.13252 AU	morning rise	10331 Oct 06 01:07	10° <u>♁</u> 07'57	
direct	10325 Jun 10 18:33	2° <u>♁</u> 34'28	retrograde	10332 Jan 04 03:31	11° <u>♁</u> 21'32	
evening set	10325 Sep 06 10:00	3° <u>♁</u> 46'08	opposition	10332 Mar 27 09:31	10° <u>♁</u> 21'28 -9°50'38	
			min. Earth dist.	10332 Mar 27 20:41	10° <u>♁</u> 20'56 46.39973 AU	
conjunction	10325 Sep 17 08:38	4° <u>♁</u> 01'06 -10°48'41	direct	10332 Jun 17 02:23	9° <u>♁</u> 22'00	
minimum elong	10325 Sep 17 08:51	4° <u>♁</u> 01'07 10°48'42	evening set	10332 Sep 11 15:42	10° <u>♁</u> 32'42	
max. Earth dist.	10325 Sep 17 04:24	4° <u>♁</u> 00'52 49.05128 AU	max. Earth dist.	10332 Sep 23 11:28	10° <u>♁</u> 49'00 48.31226 AU	
morning rise	10325 Sep 28 08:49	4° <u>♁</u> 16'11				
retrograde	10325 Dec 28 16:41	5° <u>♁</u> 30'43	conjunction	10332 Sep 24 00:43	10° <u>♁</u> 49'46 -9°19'44	
opposition	10326 Mar 22 02:32	4° <u>♁</u> 31'06 -11°09'44	minimum elong	10332 Sep 24 00:55	10° <u>♁</u> 49'47 9°19'41	
min. Earth dist.	10326 Mar 22 07:50	4° <u>♁</u> 30'52 47.04222 AU	morning rise	10332 Oct 06 11:39	11° <u>♁</u> 06'58	
direct	10326 Jun 11 20:58	3° <u>♁</u> 32'10	retrograde	10333 Jan 04 09:18	12° <u>♁</u> 20'25	
evening set	10326 Sep 07 10:22	4° <u>♁</u> 43'42	opposition	10333 Mar 28 15:00	11° <u>♁</u> 20'15 -9°36'40	
			min. Earth dist.	10333 Mar 29 03:56	11° <u>♁</u> 19'38 46.27783 AU	
conjunction	10326 Sep 18 14:11	4° <u>♁</u> 58'59 -10°36'36	direct	10333 Jun 18 06:54	10° <u>♁</u> 20'40	
minimum elong	10326 Sep 18 14:24	4° <u>♁</u> 58'59 10°36'36	evening set	10333 Sep 12 17:10	11° <u>♁</u> 31'16	
max. Earth dist.	10326 Sep 18 08:45	4° <u>♁</u> 58'40 48.96035 AU				
morning rise	10326 Sep 29 19:35	5° <u>♁</u> 14'22	conjunction	10333 Sep 25 06:50	11° <u>♁</u> 48'38 -9°06'09	
retrograde	10326 Dec 30 00:01	6° <u>♁</u> 28'44	minimum elong	10333 Sep 25 07:03	11° <u>♁</u> 48'38 9°06'05	
opposition	10327 Mar 23 07:29	5° <u>♁</u> 29'06 -10°57'06	max. Earth dist.	10333 Sep 24 17:45	11° <u>♁</u> 47'52 48.19015 AU	


























































































































morning rise	10333 Oct 07 22:09	12° <u>06</u> '07		conjunction	10340 Oct 02 04:19	18° <u>04</u> '22	-7°24'29
retrograde	10334 Jan 05 12:41	13° <u>09</u> '27		minimum elong	10340 Oct 02 04:29	18° <u>04</u> '23	7°24'22
opposition	10334 Mar 29 20:17	12° <u>09</u> '10	-9°22'26	morning rise	10340 Oct 16 00:36	19° <u>07</u> '50	
min. Earth dist.	10334 Mar 30 09:14	12° <u>08</u> '33	46.15286 AU	retrograde	10341 Jan 12 14:35	20° <u>21</u> '00	
direct	10334 Jun 19 14:33	11° <u>09</u> '28		opposition	10341 Apr 05 13:29	19° <u>20</u> '05	-7°35'59
evening set	10334 Sep 13 18:56	12° <u>30</u> '00		min. Earth dist.	10341 Apr 06 09:57	19° <u>19</u> '06	45.18516 AU
				direct	10341 Jun 26 04:44	18° <u>09</u> '41	
conjunction	10334 Sep 26 12:52	12° <u>04</u> '38	-8°52'20	evening set	10341 Sep 19 13:20	19° <u>30</u> '11	
minimum elong	10334 Sep 26 13:04	12° <u>04</u> '39	8°52'16				
max. Earth dist.	10334 Sep 25 21:58	12° <u>04</u> '46	48.06513 AU	conjunction	10341 Oct 03 11:30	19° <u>04</u> '47	-7°09'04
morning rise	10334 Oct 09 08:47	13° <u>05</u> '25		minimum elong	10341 Oct 03 11:40	19° <u>04</u> '48	7°08'57
retrograde	10335 Jan 06 19:23	14° <u>18</u> '40		max. Earth dist.	10341 Oct 02 13:12	19° <u>04</u> '28	47.09237 AU
opposition	10335 Mar 31 01:50	13° <u>18</u> '18	-9°07'58	morning rise	10341 Oct 17 11:33	20° <u>09</u> '31	
min. Earth dist.	10335 Mar 31 15:46	13° <u>17</u> '38	46.02517 AU	retrograde	10342 Jan 13 23:50	21° <u>22</u> '42	
direct	10335 Jun 20 19:59	12° <u>18</u> '30		opposition	10342 Apr 06 19:41	20° <u>21</u> '40	-7°19'50
evening set	10335 Sep 14 20:36	13° <u>28</u> '57		min. Earth dist.	10342 Apr 07 16:41	20° <u>20</u> '39	45.02877 AU
				direct	10342 Jun 27 08:20	19° <u>21</u> '06	
conjunction	10335 Sep 27 19:00	13° <u>04</u> '53	-8°38'16	evening set	10342 Sep 20 17:03	20° <u>31</u> '39	
minimum elong	10335 Sep 27 19:12	13° <u>04</u> '54	8°38'11				
max. Earth dist.	10335 Sep 27 03:56	13° <u>04</u> '00	47.93727 AU	conjunction	10342 Oct 04 18:45	20° <u>51</u> '31	-6°53'25
morning rise	10335 Oct 10 19:09	14° <u>04</u> '57		minimum elong	10342 Oct 04 18:55	20° <u>51</u> '32	6°53'17
retrograde	10336 Jan 08 03:02	15° <u>18</u> '09		max. Earth dist.	10342 Oct 03 18:33	20° <u>50</u> '05	46.93477 AU
opposition	10336 Mar 31 07:33	14° <u>17</u> '41	-8°53'14	morning rise	10342 Oct 18 22:27	21° <u>11</u> '31	
min. Earth dist.	10336 Mar 31 22:31	14° <u>16</u> '58	45.89458 AU	retrograde	10343 Jan 15 08:09	22° <u>24</u> '42	
direct	10336 Jun 21 00:54	13° <u>17</u> '47		opposition	10343 Apr 08 02:14	21° <u>23</u> '31	-7°03'27
evening set	10336 Sep 14 22:43	14° <u>28</u> '12		min. Earth dist.	10343 Apr 09 01:16	21° <u>22</u> '24	44.86780 AU
max. Earth dist.	10336 Sep 27 09:20	14° <u>45</u> '29	47.80670 AU	direct	10343 Jun 28 13:32	20° <u>22</u> '48	
				evening set	10343 Sep 21 20:44	21° <u>33</u> '24	
conjunction	10336 Sep 28 01:18	14° <u>04</u> '25	-8°23'58	max. Earth dist.	10343 Oct 05 01:47	21° <u>52</u> '05	46.77297 AU
minimum elong	10336 Sep 28 01:28	14° <u>04</u> '26	8°23'53				
morning rise	10336 Oct 11 05:42	15° <u>04</u> '46		conjunction	10343 Oct 06 02:02	21° <u>53</u> '32	-6°37'33
retrograde	10337 Jan 08 12:07	16° <u>17</u> '55		minimum elong	10343 Oct 06 02:12	21° <u>53</u> '33	6°37'25
opposition	10337 Apr 01 13:10	15° <u>17</u> '23	-8°38'16	morning rise	10343 Oct 20 09:03	22° <u>13</u> '47	
min. Earth dist.	10337 Apr 02 04:08	15° <u>16</u> '40	45.76113 AU	retrograde	10344 Jan 16 13:01	23° <u>27</u> '01	
direct	10337 Jun 22 03:16	14° <u>17</u> '23		opposition	10344 Apr 08 08:46	22° <u>25</u> '40	-6°46'49
evening set	10337 Sep 16 01:03	15° <u>27</u> '48		min. Earth dist.	10344 Apr 09 07:49	22° <u>24</u> '33	44.70292 AU
				direct	10344 Jun 28 22:05	21° <u>24</u> '46	
conjunction	10337 Sep 29 07:44	15° <u>04</u> '19	-8°09'26	evening set	10344 Sep 22 00:54	22° <u>35</u> '27	
minimum elong	10337 Sep 29 07:55	15° <u>04</u> '19	8°09'20	max. Earth dist.	10344 Oct 05 07:12	22° <u>54</u> '16	46.60756 AU
max. Earth dist.	10337 Sep 28 14:15	15° <u>04</u> '17	47.67280 AU				
morning rise	10337 Oct 12 16:24	16° <u>04</u> '57		conjunction	10344 Oct 06 09:24	22° <u>55</u> '50	-6°21'27
retrograde	10338 Jan 09 18:40	17° <u>18</u> '05		minimum elong	10344 Oct 06 09:34	22° <u>55</u> '50	6°21'17
opposition	10338 Apr 02 19:06	16° <u>17</u> '28	-8°23'02	morning rise	10344 Oct 20 19:57	23° <u>16</u> '21	
min. Earth dist.	10338 Apr 03 12:06	16° <u>16</u> '39	45.62409 AU	retrograde	10345 Jan 16 19:59	24° <u>29</u> '38	
direct	10338 Jun 23 08:36	15° <u>17</u> '23		opposition	10345 Apr 09 15:25	23° <u>28</u> '07	-6°29'55
evening set	10338 Sep 17 03:42	16° <u>27</u> '49		min. Earth dist.	10345 Apr 10 15:49	23° <u>26</u> '56	44.53485 AU
				direct	10345 Jun 30 05:08	22° <u>27</u> '03	
conjunction	10338 Sep 30 14:31	16° <u>04</u> '36	-7°54'40	evening set	10345 Sep 23 05:10	23° <u>37</u> '48	
minimum elong	10338 Sep 30 14:41	16° <u>04</u> '36	7°54'34				
max. Earth dist.	10338 Sep 29 20:48	16° <u>04</u> '33	47.53501 AU	conjunction	10345 Oct 07 17:05	23° <u>58</u> '26	-6°05'05
morning rise	10338 Oct 14 03:01	17° <u>05</u> '31		minimum elong	10345 Oct 07 17:14	23° <u>58</u> '27	6°04'56
retrograde	10339 Jan 10 22:40	18° <u>18</u> '38		max. Earth dist.	10345 Oct 06 14:39	23° <u>56</u> '52	46.43902 AU
opposition	10339 Apr 04 00:56	17° <u>17</u> '57	-8°07'35	morning rise	10345 Oct 22 06:45	24° <u>19</u> '13	
min. Earth dist.	10339 Apr 04 18:23	17° <u>17</u> '06	45.48275 AU	retrograde	10346 Jan 18 03:23	25° <u>32</u> '34	
direct	10339 Jun 24 16:55	16° <u>17</u> '46		opposition	10346 Apr 10 22:16	24° <u>30</u> '54	-6°12'46
evening set	10339 Sep 18 06:45	17° <u>28</u> '14		min. Earth dist.	10346 Apr 11 23:32	24° <u>29</u> '40	44.36382 AU
				direct	10346 Jul 01 12:49	23° <u>29</u> '39	
conjunction	10339 Oct 01 21:18	17° <u>04</u> '18	-7°39'41	evening set	10346 Sep 24 09:50	24° <u>40</u> '31	
minimum elong	10339 Oct 01 21:29	17° <u>04</u> '18	7°39'35	max. Earth dist.	10346 Oct 07 21:23	24° <u>59</u> '45	46.26786 AU
max. Earth dist.	10339 Oct 01 01:11	17° <u>04</u> '06	47.39260 AU				
morning rise	10339 Oct 15 13:53	18° <u>06</u> '29		conjunction	10346 Oct 09 00:47	25° <u>01</u> '24	-5°48'30
retrograde	10340 Jan 12 06:45	19° <u>19</u> '38		minimum elong	10346 Oct 09 00:56	25° <u>01</u> '24	5°48'19
opposition	10340 Apr 04 07:07	18° <u>18</u> '50	-7°51'54	morning rise	10346 Oct 23 17:36	25° <u>22</u> '25	
min. Earth dist.	10340 Apr 05 02:04	18° <u>17</u> '55	45.33662 AU	retrograde	10347 Jan 19 14:34	26° <u>35</u> '52	
direct	10340 Jun 24 22:34	17° <u>18</u> '33		opposition	10347 Apr 12 05:06	25° <u>34</u> '03	-5°55'22
evening set	10340 Sep 18 09:48	18° <u>29</u> '02		min. Earth dist.	10347 Apr 13 06:21	25° <u>32</u> '48	44.19038 AU
max. Earth dist.	10340 Oct 01 07:29	18° <u>47</u> '08	47.24504 AU	direct	10347 Jul 02 16:10	24° <u>32</u> '37	

evening set	10347 Sep 25 14:45	25° <u>0</u> 43'36		conjunction	10353 Oct 16 12:54	2° <u>0</u> 35'09	-3°45'28
max. Earth dist.	10347 Oct 09 04:03	26° <u>0</u> 03'01	46.09422 AU	minimum elong	10353 Oct 16 13:00	2° <u>0</u> 35'09	3°45'13
				morning rise	10353 Oct 31 23:52	2° <u>0</u> 57'51	
conjunction	10347 Oct 10 08:40	26° <u>0</u> 04'45	-5°31'39	retrograde	10354 Jan 27 06:21	4° <u>0</u> 12'28	
minimum elong	10347 Oct 10 08:48	26° <u>0</u> 04'45	5°31'29	opposition	10354 Apr 19 11:07	3° <u>0</u> 09'29	-3°46'12
morning rise	10347 Oct 25 04:31	26° <u>0</u> 26'01		min. Earth dist.	10354 Apr 20 19:12	3° <u>0</u> 07'52	42.89035 AU
retrograde	10348 Jan 21 00:01	27° <u>0</u> 39'34		direct	10354 Jul 09 18:24	2° <u>0</u> 06'45	
opposition	10348 Apr 12 12:21	26° <u>0</u> 37'36	-5°37'41	evening set	10354 Oct 02 10:59	3° <u>0</u> 19'10	
min. Earth dist.	10348 Apr 13 15:13	26° <u>0</u> 36'16	44.01461 AU	max. Earth dist.	10354 Oct 16 09:32	3° <u>0</u> 39'41	44.78751 AU
direct	10348 Jul 02 20:55	25° <u>0</u> 36'00					
evening set	10348 Sep 25 19:47	26° <u>0</u> 47'08		conjunction	10354 Oct 17 22:18	3° <u>0</u> 41'58	-3°26'56
				minimum elong	10354 Oct 17 22:23	3° <u>0</u> 41'59	3°26'42
conjunction	10348 Oct 10 16:44	27° <u>0</u> 08'31	-5°14'33	morning rise	10354 Nov 02 11:26	4° <u>0</u> 04'54	
minimum elong	10348 Oct 10 16:52	27° <u>0</u> 08'32	5°14'22	retrograde	10355 Jan 28 15:30	5° <u>0</u> 19'44	
max. Earth dist.	10348 Oct 09 12:16	27° <u>0</u> 06'48	45.91832 AU	opposition	10355 Apr 20 19:35	4° <u>0</u> 16'32	-3°26'43
morning rise	10348 Oct 25 15:22	27° <u>0</u> 30'03		min. Earth dist.	10355 Apr 22 05:32	4° <u>0</u> 14'49	42.68842 AU
retrograde	10349 Jan 21 06:35	28° <u>0</u> 43'44		direct	10355 Jul 11 02:58	3° <u>0</u> 13'34	
opposition	10349 Apr 13 19:38	27° <u>0</u> 41'36	-5°19'45	evening set	10355 Oct 03 18:41	4° <u>0</u> 26'15	
min. Earth dist.	10349 Apr 14 22:20	27° <u>0</u> 40'17	43.83638 AU	max. Earth dist.	10355 Oct 17 19:07	4° <u>0</u> 46'58	44.58447 AU
direct	10349 Jul 04 05:58	26° <u>0</u> 39'51					
evening set	10349 Sep 27 01:28	27° <u>0</u> 51'09		conjunction	10355 Oct 19 08:05	4° <u>0</u> 49'16	-3°08'10
max. Earth dist.	10349 Oct 10 18:32	28° <u>0</u> 10'56	45.73972 AU	minimum elong	10355 Oct 19 08:10	4° <u>0</u> 49'16	3°07'54
				morning rise	10355 Nov 03 22:55	5° <u>0</u> 12'25	
conjunction	10349 Oct 12 01:02	28° <u>0</u> 12'48	-4°57'13	retrograde	10356 Jan 29 22:38	6° <u>0</u> 27'30	
minimum elong	10349 Oct 12 01:09	28° <u>0</u> 12'48	4°57'01	opposition	10356 Apr 21 04:17	5° <u>0</u> 24'04	-3°06'59
morning rise	10349 Oct 27 02:34	28° <u>0</u> 34'34		min. Earth dist.	10356 Apr 22 14:49	5° <u>0</u> 22'18	42.48306 AU
retrograde	10350 Jan 22 14:24	29° <u>0</u> 48'24		direct	10356 Jul 11 13:46	4° <u>0</u> 20'51	
opposition	10350 Apr 15 03:02	28° <u>0</u> 46'07	-5°01'33	evening set	10356 Oct 04 02:45	5° <u>0</u> 33'49	
min. Earth dist.	10350 Apr 16 07:16	28° <u>0</u> 44'43	43.65533 AU	max. Earth dist.	10356 Oct 18 03:29	5° <u>0</u> 54'39	44.37837 AU
direct	10350 Jul 05 13:56	27° <u>0</u> 44'12					
evening set	10350 Sep 28 07:24	28° <u>0</u> 55'43		conjunction	10356 Oct 19 17:50	5° <u>0</u> 57'03	-2°49'09
max. Earth dist.	10350 Oct 12 03:01	29° <u>0</u> 15'43	45.55782 AU	minimum elong	10356 Oct 19 17:54	5° <u>0</u> 57'03	2°48'54
				morning rise	10356 Nov 04 10:34	6° <u>0</u> 20'25	
conjunction	10350 Oct 13 09:44	29° <u>0</u> 17'35	-4°39'38	retrograde	10357 Jan 30 10:10	7° <u>0</u> 35'46	
minimum elong	10350 Oct 13 09:51	29° <u>0</u> 17'36	4°39'26	opposition	10357 Apr 22 13:07	6° <u>0</u> 32'07	-2°46'59
morning rise	10350 Oct 28 13:42	29° <u>0</u> 39'36		min. Earth dist.	10357 Apr 24 00:08	6° <u>0</u> 30'20	42.27498 AU
	10350 Nov 12 09:08	0° <u>0</u> 00'00		direct	10357 Jul 12 20:36	5° <u>0</u> 28'39	
retrograde	10351 Jan 23 22:02	0° <u>0</u> 53'37		evening set	10357 Oct 05 11:20	6° <u>0</u> 41'56	
	10351 Apr 09 01:25	30° <u>0</u> 00'00		max. Earth dist.	10357 Oct 19 12:42	7° <u>0</u> 02'55	44.16950 AU
opposition	10351 Apr 16 10:47	29° <u>0</u> 51'12	-4°43'05				
min. Earth dist.	10351 Apr 17 16:01	29° <u>0</u> 49'44	43.47061 AU	conjunction	10357 Oct 21 04:03	7° <u>0</u> 05'23	-2°29'53
direct	10351 Jul 06 22:34	28° <u>0</u> 49'06		minimum elong	10357 Oct 21 04:07	7° <u>0</u> 05'23	2°29'37
	10351 Sep 28 23:58	0° <u>0</u> 00'00		morning rise	10357 Nov 05 22:18	7° <u>0</u> 28'57	
evening set	10351 Sep 29 13:41	0° <u>0</u> 00'49		retrograde	10358 Jan 31 21:54	8° <u>0</u> 44'37	
max. Earth dist.	10351 Oct 13 10:10	0° <u>0</u> 20'57	45.37203 AU	opposition	10358 Apr 23 22:12	7° <u>0</u> 40'44	-2°26'43
				min. Earth dist.	10358 Apr 25 10:44	7° <u>0</u> 38'52	42.06448 AU
conjunction	10351 Oct 14 18:23	0° <u>0</u> 22'56	-4°21'49	direct	10358 Jul 14 03:15	6° <u>0</u> 37'01	
minimum elong	10351 Oct 14 18:30	0° <u>0</u> 22'56	4°21'36	evening set	10358 Oct 06 20:14	7° <u>0</u> 50'40	
morning rise	10351 Oct 30 00:55	0° <u>0</u> 45'11		max. Earth dist.	10358 Oct 20 23:02	8° <u>0</u> 11'49	43.95858 AU
retrograde	10352 Jan 25 08:59	1° <u>0</u> 59'24					
opposition	10352 Apr 16 18:41	0° <u>0</u> 56'48	-4°24'23	conjunction	10358 Oct 22 14:28	8° <u>0</u> 14'19	-2°10'22
min. Earth dist.	10352 Apr 18 00:36	0° <u>0</u> 55'18	43.28176 AU	minimum elong	10358 Oct 22 14:32	8° <u>0</u> 14'19	2°10'07
	10352 Jun 15 06:12	30° <u>0</u> 00'00		morning rise	10358 Nov 07 10:04	8° <u>0</u> 38'05	
direct	10352 Jul 07 04:23	29° <u>0</u> 54'31		retrograde	10359 Feb 02 09:14	9° <u>0</u> 54'04	
	10352 Jul 28 22:05	0° <u>0</u> 00'00		opposition	10359 Apr 25 07:31	8° <u>0</u> 49'58	-2°06'11
evening set	10352 Sep 29 20:26	1° <u>0</u> 06'27		min. Earth dist.	10359 Apr 26 19:41	8° <u>0</u> 48'07	41.85213 AU
max. Earth dist.	10352 Oct 13 17:31	1° <u>0</u> 26'42	45.18166 AU	direct	10359 Jul 15 12:28	7° <u>0</u> 46'01	
				evening set	10359 Oct 08 05:31	9° <u>0</u> 00'03	
conjunction	10352 Oct 15 03:30	1° <u>0</u> 28'47	-4°03'45	max. Earth dist.	10359 Oct 22 07:43	9° <u>0</u> 21'18	43.74578 AU
minimum elong	10352 Oct 15 03:37	1° <u>0</u> 28'48	4°03'33				
morning rise	10352 Oct 30 12:21	1° <u>0</u> 51'17		conjunction	10359 Oct 24 00:53	9° <u>0</u> 23'54	-1°50'37
retrograde	10353 Jan 25 20:36	3° <u>0</u> 05'41		minimum elong	10359 Oct 24 00:56	9° <u>0</u> 23'55	1°50'20
opposition	10353 Apr 18 02:52	2° <u>0</u> 02'54	-4°05'25	morning rise	10359 Nov 08 21:50	9° <u>0</u> 47'53	
min. Earth dist.	10353 Apr 19 10:49	2° <u>0</u> 01'18	43.08829 AU	retrograde	10360 Feb 03 20:53	11° <u>0</u> 04'13	
direct	10353 Jul 08 10:12	1° <u>0</u> 00'24		opposition	10360 Apr 25 17:15	9° <u>0</u> 59'55	-1°45'23
evening set	10353 Oct 01 03:30	2° <u>0</u> 12'34		min. Earth dist.	10360 Apr 27 06:49	9° <u>0</u> 57'58	41.63812 AU
max. Earth dist.	10353 Oct 15 02:25	2° <u>0</u> 33'01	44.98678 AU	direct	10360 Jul 15 21:46	8° <u>0</u> 55'44	

evening set	10360 Oct 08 15:15	10°M.10'11		opposition	10366 May 03 09:14	17°M.17'06	0°24'51
max. Earth dist.	10360 Oct 22 19:05	10°M.31'38	43.53128 AU	min. Earth dist.	10366 May 05 04:00	17°M.14'50	40.30014 AU
				direct	10366 Jul 23 09:36	16°M.11'23	
conjunction	10360 Oct 24 11:55	10°M.34'14	-1°30'37	evening set	10366 Oct 16 13:47	17°M.28'54	
minimum elong	10360 Oct 24 11:58	10°M.34'14	1°30'21	max. Earth dist.	10366 Oct 30 12:22	17°M.50'47	42.18461 AU
morning rise	10360 Nov 09 09:47	10°M.58'25					
retrograde	10361 Feb 04 06:26	12°M.15'09		conjunction	10366 Nov 01 12:59	17°M.54'00	0°34'20
opposition	10361 Apr 27 03:05	11°M.10'38	-1°24'19	minimum elong	10366 Nov 01 12:58	17°M.54'00	0°34'40
min. Earth dist.	10361 Apr 28 16:48	11°M.08'40	41.42234 AU	morning rise	10366 Nov 17 13:18	18°M.19'11	
direct	10361 Jul 17 09:02	10°M.06'14		retrograde	10367 Feb 12 13:19	19°M.38'48	
evening set	10361 Oct 10 01:40	11°M.21'07		opposition	10367 May 04 21:03	18°M.32'51	0°47'26
max. Earth dist.	10361 Oct 24 04:47	11°M.42'39	43.31494 AU	min. Earth dist.	10367 May 06 17:03	18°M.30'30	40.06500 AU
				direct	10367 Jul 24 21:36	17°M.26'48	
conjunction	10361 Oct 25 23:09	11°M.45'22	-1°10'23	evening set	10367 Oct 18 03:14	18°M.44'54	
minimum elong	10361 Oct 25 23:11	11°M.45'22	1°10'05	max. Earth dist.	10367 Nov 01 01:08	19°M.06'52	41.94772 AU
morning rise	10361 Nov 10 22:04	12°M.09'45					
retrograde	10362 Feb 05 18:22	13°M.26'54		conjunction	10367 Nov 03 02:16	19°M.10'08	0°55'57
opposition	10362 Apr 28 13:15	12°M.22'12	-1°03'00	minimum elong	10367 Nov 03 02:15	19°M.10'08	0°56'17
min. Earth dist.	10362 Apr 30 03:49	12°M.20'11	41.20455 AU	morning rise	10367 Nov 19 02:06	19°M.35'28	
direct	10362 Jul 18 17:48	11°M.17'34		retrograde	10368 Feb 14 01:11	20°M.55'38	
evening set	10362 Oct 11 12:31	12°M.32'57		opposition	10368 May 05 09:15	19°M.49'22	1°10'16
max. Earth dist.	10362 Oct 25 15:30	12°M.54'35	43.09595 AU	min. Earth dist.	10368 May 07 06:21	19°M.46'57	39.82689 AU
				direct	10368 Jul 25 09:54	18°M.42'59	
conjunction	10362 Oct 27 10:47	12°M.57'22	-0°49'55	evening set	10368 Oct 18 17:27	20°M.01'42	
minimum elong	10362 Oct 27 10:48	12°M.57'22	0°49'36	max. Earth dist.	10368 Nov 01 14:02	20°M.23'42	41.70827 AU
morning rise	10362 Nov 12 10:14	13°M.21'56					
retrograde	10363 Feb 07 07:22	14°M.39'34		conjunction	10368 Nov 03 15:57	20°M.27'03	1°17'47
opposition	10363 Apr 29 23:47	13°M.34'38	-0°41'25	minimum elong	10368 Nov 03 15:55	20°M.27'03	1°18'09
min. Earth dist.	10363 May 01 15:53	13°M.32'32	40.98387 AU	morning rise	10368 Nov 19 15:18	20°M.52'30	
direct	10363 Jul 20 01:59	12°M.29'46		retrograde	10369 Feb 14 16:04	22°M.13'15	
evening set	10363 Oct 12 23:59	13°M.45'40		opposition	10369 May 06 21:30	21°M.06'41	1°33'21
max. Earth dist.	10363 Oct 27 02:52	14°M.07'25	42.87390 AU	min. Earth dist.	10369 May 08 18:45	21°M.04'14	39.58661 AU
				direct	10369 Jul 26 20:17	19°M.59'56	
conjunction	10363 Oct 28 22:48	14°M.10'16	-0°29'12	evening set	10369 Oct 20 08:18	21°M.19'18	
minimum elong	10363 Oct 28 22:49	14°M.10'16	0°28'53	max. Earth dist.	10369 Nov 03 02:29	21°M.41'18	41.46663 AU
morning rise	10363 Nov 13 22:45	14°M.34'59					
	10363 Dec 01 04:06	15°M.		conjunction	10369 Nov 05 06:02	21°M.44'46	1°39'50
retrograde	10364 Feb 08 22:51	15°M.53'06		minimum elong	10369 Nov 05 05:59	21°M.44'46	1°40'12
	10364 Apr 20 20:08	15°R.M.		morning rise	10369 Nov 21 04:35	22°M.10'20	
opposition	10364 Apr 30 10:34	14°M.47'58	-0°19'34	retrograde	10370 Feb 16 08:54	23°M.31'41	
min. Earth dist.	10364 May 02 02:47	14°M.45'51	40.75986 AU	opposition	10370 May 08 10:22	22°M.24'48	1°56'39
direct	10364 Jul 20 09:24	13°M.42'50		min. Earth dist.	10370 May 10 09:12	22°M.22'15	39.34457 AU
evening set	10364 Oct 13 12:01	14°M.59'15		direct	10370 Jul 28 06:14	21°M.17'42	
	10364 Oct 13 23:46	15°M.		evening set	10370 Oct 21 23:37	22°M.37'45	
max. Earth dist.	10364 Oct 27 12:58	15°M.21'01	42.64802 AU	max. Earth dist.	10370 Nov 04 17:17	22°M.59'52	41.22349 AU
conjunction	10364 Oct 29 11:06	15°M.24'02	-0°08'18	conjunction	10370 Nov 06 20:28	23°M.03'20	2°02'06
minimum elong	10364 Oct 29 11:06	15°M.24'02	0°07'58	minimum elong	10370 Nov 06 20:24	23°M.03'19	2°02'29
behind sun begin	10364 Oct 29 05:19	15°M.23'41		morning rise	10370 Nov 22 17:49	23°M.28'59	
behind sun end	10364 Oct 29 16:54	15°M.24'23		retrograde	10371 Feb 18 00:01	24°M.51'00	
morning rise	10364 Nov 14 11:27	15°M.48'55		opposition	10371 May 09 23:27	23°M.43'48	2°20'11
retrograde	10365 Feb 09 12:42	17°M.07'31		min. Earth dist.	10371 May 11 21:50	23°M.41'16	39.10132 AU
asc. node	10365 Mar 21 13:02	16°M.49'01		direct	10371 Jul 29 19:34	22°M.36'21	
opposition	10365 May 01 21:52	16°M.02'08	0°02'31	evening set	10371 Oct 23 15:45	23°M.57'08	
min. Earth dist.	10365 May 03 16:14	15°M.59'54	40.53194 AU	max. Earth dist.	10371 Nov 06 06:21	24°M.19'12	40.97931 AU
	10365 Jul 05 12:19	15°R.M.					
direct	10365 Jul 21 19:30	14°M.56'43		conjunction	10371 Nov 08 11:12	24°M.22'48	2°24'33
	10365 Aug 07 06:01	15°M.		minimum elong	10371 Nov 08 11:07	24°M.22'48	2°24'56
evening set	10365 Oct 15 00:35	16°M.13'41		morning rise	10371 Nov 24 07:23	24°M.48'33	
max. Earth dist.	10365 Oct 29 01:32	16°M.35'34	42.41817 AU	retrograde	10372 Feb 19 15:52	26°M.11'16	
				opposition	10372 May 10 13:01	25°M.03'45	2°43'57
conjunction	10365 Oct 30 24:00	16°M.38'37	0°12'58	min. Earth dist.	10372 May 12 12:33	25°M.01'08	38.85739 AU
minimum elong	10365 Oct 30 23:59	16°M.38'37	0°13'17	direct	10372 Jul 30 08:23	23°M.55'57	
behind sun begin	10365 Oct 30 20:20	16°M.38'24		evening set	10372 Oct 24 08:23	25°M.17'32	
behind sun end	10365 Oct 31 03:39	16°M.38'51		max. Earth dist.	10372 Nov 06 21:49	25°M.39'39	40.73434 AU
morning rise	10365 Nov 16 00:17	17°M.03'40					
retrograde	10366 Feb 11 00:13	18°M.22'45		conjunction	10372 Nov 09 02:32	25°M.43'17	2°47'12

minimum elong	10372 Nov 09 02:27	25° \mathcal{M} 43'17	2°47'36	retrograde	10379 Mar 01 19:31	6° \mathcal{A} 06'14	
morning rise	10372 Nov 24 21:00	26° \mathcal{M} 09'07		opposition	10379 May 21 00:31	4° \mathcal{A} 56'31	5°35'38
retrograde	10373 Feb 20 05:31	27° \mathcal{M} 32'34		min. Earth dist.	10379 May 23 05:20	4° \mathcal{A} 53'30	37.10997 AU
opposition	10373 May 12 03:03	26° \mathcal{M} 24'45	3°07'55	direct	10379 Aug 09 14:19	3° \mathcal{A} 46'12	
min. Earth dist.	10373 May 14 02:57	26° \mathcal{M} 22'06	38.61265 AU	evening set	10379 Nov 05 04:08	5° \mathcal{A} 14'35	
direct	10373 Jul 31 23:37	25° \mathcal{M} 16'38		max. Earth dist.	10379 Nov 17 16:01	5° \mathcal{A} 36'09	38.97345 AU
evening set	10373 Oct 26 02:00	26° \mathcal{M} 39'02					
max. Earth dist.	10373 Nov 08 12:31	27° \mathcal{M} 01'08	40.48859 AU	conjunction	10379 Nov 20 03:35	5° \mathcal{A} 40'28	5°30'19
				minimum elong	10379 Nov 20 03:25	5° \mathcal{A} 40'28	5°30'45
conjunction	10373 Nov 10 18:16	27° \mathcal{M} 04'52	3°10'02	morning rise	10379 Dec 05 02:46	6° \mathcal{A} 06'23	
minimum elong	10373 Nov 10 18:10	27° \mathcal{M} 04'52	3°10'25	retrograde	10380 Mar 02 13:01	7° \mathcal{A} 36'18	
morning rise	10373 Nov 26 11:01	27° \mathcal{M} 30'46		opposition	10380 May 21 17:49	6° \mathcal{A} 26'12	6°00'48
retrograde	10374 Feb 21 22:36	28° \mathcal{M} 55'01		min. Earth dist.	10380 May 23 23:41	6° \mathcal{A} 23'05	36.85266 AU
opposition	10374 May 13 17:18	27° \mathcal{M} 46'55	3°32'04	direct	10380 Aug 10 06:35	5° \mathcal{A} 15'28	
min. Earth dist.	10374 May 15 17:29	27° \mathcal{M} 44'14	38.36712 AU	evening set	10380 Nov 06 03:26	6° \mathcal{A} 44'59	
direct	10374 Aug 02 11:51	26° \mathcal{M} 38'28		max. Earth dist.	10380 Nov 18 10:44	7° \mathcal{A} 06'23	38.71432 AU
evening set	10374 Oct 27 20:19	28° \mathcal{M} 01'45					
max. Earth dist.	10374 Nov 10 03:47	28° \mathcal{M} 23'49	40.24150 AU	conjunction	10380 Nov 20 22:52	7° \mathcal{A} 10'47	5°54'09
				minimum elong	10380 Nov 20 22:40	7° \mathcal{A} 10'47	5°54'36
conjunction	10374 Nov 12 10:33	28° \mathcal{M} 27'39	3°33'02	morning rise	10380 Dec 05 18:05	7° \mathcal{A} 36'38	
minimum elong	10374 Nov 12 10:26	28° \mathcal{M} 27'38	3°33'27	retrograde	10381 Mar 04 09:18	9° \mathcal{A} 07'37	
morning rise	10374 Nov 28 01:05	28° \mathcal{M} 53'36		opposition	10381 May 23 11:31	7° \mathcal{A} 57'08	6°26'05
	10375 Jan 16 04:20	0° \mathcal{A}		min. Earth dist.	10381 May 25 17:13	7° \mathcal{A} 54'01	36.59466 AU
retrograde	10375 Feb 23 15:41	0° \mathcal{A} 18'42		direct	10381 Aug 11 21:59	6° \mathcal{A} 45'58	
	10375 Apr 03 16:05	30° $\mathcal{R}\mathcal{M}$		evening set	10381 Nov 08 03:41	8° \mathcal{A} 16'40	
opposition	10375 May 15 08:16	29° \mathcal{M} 10'18	3°56'26	max. Earth dist.	10381 Nov 20 05:18	8° \mathcal{A} 37'51	38.45449 AU
min. Earth dist.	10375 May 17 10:00	29° \mathcal{M} 07'32	38.12009 AU				
direct	10375 Aug 04 00:04	28° \mathcal{M} 01'32		conjunction	10381 Nov 22 18:44	8° \mathcal{A} 42'23	6°18'03
evening set	10375 Oct 29 15:17	29° \mathcal{M} 25'45		minimum elong	10381 Nov 22 18:32	8° \mathcal{A} 42'22	6°18'30
max. Earth dist.	10375 Nov 11 20:19	29° \mathcal{M} 47'49	39.99268 AU	morning rise	10381 Dec 07 09:31	9° \mathcal{A} 08'07	
				retrograde	10382 Mar 06 06:28	10° \mathcal{A} 40'15	
conjunction	10375 Nov 14 03:13	29° \mathcal{M} 51'41	3°56'12	opposition	10382 May 25 05:48	9° \mathcal{A} 29'22	6°51'28
minimum elong	10375 Nov 14 03:06	29° \mathcal{M} 51'40	3°56'36	min. Earth dist.	10382 May 27 12:52	9° \mathcal{A} 26'10	36.33650 AU
	10375 Nov 19 01:23	0° \mathcal{A}		direct	10382 Aug 13 14:13	8° \mathcal{A} 17'45	
morning rise	10375 Nov 29 15:18	0° \mathcal{A} 17'40		evening set	10382 Nov 10 04:46	9° \mathcal{A} 49'43	
retrograde	10376 Feb 25 10:57	1° \mathcal{A} 43'40		max. Earth dist.	10382 Nov 22 02:23	10° \mathcal{A} 10'47	38.19488 AU
opposition	10376 May 15 23:35	0° \mathcal{A} 34'58	4°20'59				
min. Earth dist.	10376 May 18 01:16	0° \mathcal{A} 32'11	37.87109 AU	conjunction	10382 Nov 24 15:10	10° \mathcal{A} 15'19	6°42'00
	10376 Jun 12 04:44	30° $\mathcal{R}\mathcal{M}$		minimum elong	10382 Nov 24 14:56	10° \mathcal{A} 15'18	6°42'27
direct	10376 Aug 04 14:26	29° \mathcal{M} 25'50		morning rise	10382 Dec 09 01:01	10° \mathcal{A} 40'54	
	10376 Sep 25 22:23	0° \mathcal{A}		retrograde	10383 Mar 08 05:26	12° \mathcal{A} 14'14	
evening set	10376 Oct 30 11:21	0° \mathcal{A} 51'03		opposition	10383 May 27 00:37	11° \mathcal{A} 02'57	7°16'54
max. Earth dist.	10376 Nov 12 11:23	1° \mathcal{A} 12'57	39.74143 AU	min. Earth dist.	10383 May 29 07:00	10° \mathcal{A} 59'45	36.07895 AU
				direct	10383 Aug 15 08:54	9° \mathcal{A} 50'53	
conjunction	10376 Nov 14 20:32	1° \mathcal{A} 17'00	4°19'32	evening set	10383 Nov 12 06:45	11° \mathcal{A} 24'10	
minimum elong	10376 Nov 14 20:24	1° \mathcal{A} 16'59	4°19'57	max. Earth dist.	10383 Nov 23 21:43	11° \mathcal{A} 44'57	37.93605 AU
morning rise	10376 Nov 30 06:00	1° \mathcal{A} 42'59					
retrograde	10377 Feb 26 07:39	3° \mathcal{A} 09'55		conjunction	10383 Nov 26 11:53	11° \mathcal{A} 49'37	7°05'59
opposition	10377 May 17 15:24	2° \mathcal{A} 00'54	4°45'42	minimum elong	10383 Nov 26 11:40	11° \mathcal{A} 49'36	7°06'26
min. Earth dist.	10377 May 19 19:00	1° \mathcal{A} 57'59	37.61968 AU	morning rise	10383 Dec 10 16:42	12° \mathcal{A} 15'03	
direct	10377 Aug 06 04:38	0° \mathcal{A} 51'23		retrograde	10384 Mar 09 04:40	13° \mathcal{A} 49'37	
evening set	10377 Nov 01 08:08	2° \mathcal{A} 17'38		opposition	10384 May 27 20:05	12° \mathcal{A} 37'57	7°42'22
max. Earth dist.	10377 Nov 14 05:18	2° \mathcal{A} 39'29	39.48762 AU	min. Earth dist.	10384 May 30 03:23	12° \mathcal{A} 34'41	35.82261 AU
				direct	10384 Aug 16 02:44	11° \mathcal{A} 25'26	
conjunction	10377 Nov 16 14:32	2° \mathcal{A} 43'35	4°43'00	evening set	10384 Nov 13 09:48	13° \mathcal{A} 00'07	
minimum elong	10377 Nov 16 14:23	2° \mathcal{A} 43'34	4°43'25	max. Earth dist.	10384 Nov 24 20:00	13° \mathcal{A} 20'42	37.67843 AU
morning rise	10377 Dec 01 20:47	3° \mathcal{A} 09'34					
retrograde	10378 Feb 28 00:56	4° \mathcal{A} 37'27		conjunction	10384 Nov 27 09:34	13° \mathcal{A} 25'22	7°29'57
opposition	10378 May 19 07:44	3° \mathcal{A} 28'05	5°10'35	minimum elong	10384 Nov 27 09:20	13° \mathcal{A} 25'21	7°30'25
min. Earth dist.	10378 May 21 11:34	3° \mathcal{A} 25'08	37.36579 AU	morning rise	10384 Dec 11 08:37	13° \mathcal{A} 50'37	
direct	10378 Aug 07 21:49	2° \mathcal{A} 18'11		retrograde	10385 Mar 11 01:56	15° \mathcal{A} 26'30	
evening set	10378 Nov 03 05:46	3° \mathcal{A} 45'29		opposition	10385 May 29 16:03	14° \mathcal{A} 14'27	8°07'51
max. Earth dist.	10378 Nov 15 21:42	4° \mathcal{A} 07'09	39.23149 AU	min. Earth dist.	10385 May 31 23:10	14° \mathcal{A} 11'10	35.56764 AU
				direct	10385 Aug 17 23:35	13° \mathcal{A} 01'31	
conjunction	10378 Nov 18 08:42	4° \mathcal{A} 11'24	5°06'36	evening set	10385 Nov 15 14:07	14° \mathcal{A} 37'39	
minimum elong	10378 Nov 18 08:32	4° \mathcal{A} 11'23	5°07'02	max. Earth dist.	10385 Nov 26 17:27	14° \mathcal{A} 57'55	37.42232 AU
morning rise	10378 Dec 03 11:43	4° \mathcal{A} 37'22					

conjunction	10385 Nov 29 07:46	15° \mathring{A} 02'41	7°53'54	evening set	10392 Nov 30 05:06	26° \mathring{A} 49'31	
minimum elong	10385 Nov 29 07:32	15° \mathring{A} 02'40	7°54'22	max. Earth dist.	10392 Dec 08 21:57	27° \mathring{A} 06'28	35.64761 AU
morning rise	10385 Dec 13 00:55	15° \mathring{A} 27'43					
retrograde	10386 Mar 13 01:34	17° \mathring{A} 04'59		conjunction	10392 Dec 11 15:32	27° \mathring{A} 11'49	10°38'26
opposition	10386 May 31 12:39	15° \mathring{A} 52'33	8°33'17	minimum elong	10392 Dec 11 15:12	27° \mathring{A} 11'48	10°38'55
min. Earth dist.	10386 Jun 02 19:49	15° \mathring{A} 49'15	35.31426 AU	morning rise	10392 Dec 23 01:04	27° \mathring{A} 34'04	
direct	10386 Aug 19 19:25	14° \mathring{A} 39'12		retrograde	10393 Mar 25 18:03	29° \mathring{A} 22'49	
evening set	10386 Nov 17 19:16	16° \mathring{A} 16'52		opposition	10393 Jun 12 08:20	28° \mathring{A} 07'34	11°28'15
max. Earth dist.	10386 Nov 28 16:03	16° \mathring{A} 36'50	37.16733 AU	min. Earth dist.	10393 Jun 14 18:12	28° \mathring{A} 03'56	33.55900 AU
				direct	10393 Aug 31 06:38	26° \mathring{A} 50'57	
conjunction	10386 Dec 01 06:37	16° \mathring{A} 41'39	8°17'47	evening set	10393 Dec 02 19:09	28° \mathring{A} 41'15	
minimum elong	10386 Dec 01 06:21	16° \mathring{A} 41'38	8°18'16	max. Earth dist.	10393 Dec 11 02:05	28° \mathring{A} 57'32	35.39796 AU
morning rise	10386 Dec 14 17:12	17° \mathring{A} 06'25					
retrograde	10387 Mar 15 00:23	18° \mathring{A} 45'09		conjunction	10393 Dec 13 19:37	29° \mathring{A} 02'57	11°01'04
opposition	10387 Jun 02 10:02	17° \mathring{A} 32'22	8°58'41	minimum elong	10393 Dec 13 19:19	29° \mathring{A} 02'55	11°01'34
min. Earth dist.	10387 Jun 04 18:12	17° \mathring{A} 28'59	35.06189 AU	morning rise	10393 Dec 24 19:01	29° \mathring{A} 24'35	
direct	10387 Aug 21 14:24	16° \mathring{A} 18'36			10394 Jan 12 13:30	0° \mathring{B}	
evening set	10387 Nov 20 01:51	17° \mathring{A} 57'51		retrograde	10394 Mar 27 20:50	1° \mathring{B} 15'15	
max. Earth dist.	10387 Nov 30 15:42	18° \mathring{A} 17'28	36.91323 AU	opposition	10394 Jun 14 10:40	29° \mathring{A} 59'34	11°52'19
					10394 Jun 14 03:46	30° \mathring{R} \mathring{A}	
conjunction	10387 Dec 03 06:16	18° \mathring{A} 22'20	8°41'36	min. Earth dist.	10394 Jun 16 21:08	29° \mathring{A} 55'52	33.31337 AU
minimum elong	10387 Dec 03 06:01	18° \mathring{A} 22'19	8°42'05	direct	10394 Sep 02 07:09	28° \mathring{A} 42'27	
morning rise	10387 Dec 16 09:56	18° \mathring{A} 46'48			10394 Nov 17 03:23	0° \mathring{B}	
retrograde	10388 Mar 16 00:40	20° \mathring{A} 27'03		evening set	10394 Dec 05 10:33	0° \mathring{B} 34'51	
opposition	10388 Jun 03 07:53	19° \mathring{A} 13'54	9°23'59	max. Earth dist.	10394 Dec 13 07:15	0° \mathring{B} 50'28	35.15118 AU
min. Earth dist.	10388 Jun 05 15:39	19° \mathring{A} 10'31	34.81025 AU				
direct	10388 Aug 22 10:48	17° \mathring{A} 59'41		conjunction	10394 Dec 16 00:11	0° \mathring{B} 55'52	11°23'21
evening set	10388 Nov 21 09:36	19° \mathring{A} 40'37		minimum elong	10394 Dec 15 23:51	0° \mathring{B} 55'51	11°23'50
max. Earth dist.	10388 Dec 01 14:35	19° \mathring{A} 59'44	36.65935 AU	morning rise	10394 Dec 26 12:48	1° \mathring{B} 16'50	
				retrograde	10395 Mar 30 01:59	3° \mathring{B} 09'30	
conjunction	10388 Dec 04 06:42	20° \mathring{A} 04'46	9°05'18	opposition	10395 Jun 16 13:36	1° \mathring{B} 53'24	12°16'00
minimum elong	10388 Dec 04 06:24	20° \mathring{A} 04'45	9°05'47	min. Earth dist.	10395 Jun 18 22:59	1° \mathring{B} 49'44	33.07103 AU
morning rise	10388 Dec 17 03:02	20° \mathring{A} 28'54		direct	10395 Sep 04 08:56	0° \mathring{B} 35'47	
retrograde	10389 Mar 18 02:37	22° \mathring{A} 10'44		evening set	10395 Dec 08 03:19	2° \mathring{B} 30'24	
opposition	10389 Jun 05 06:41	20° \mathring{A} 57'11	9°49'12	max. Earth dist.	10395 Dec 15 12:12	2° \mathring{B} 45'11	34.90785 AU
min. Earth dist.	10389 Jun 07 15:56	20° \mathring{A} 53'41	34.55877 AU				
direct	10389 Aug 24 06:34	19° \mathring{A} 42'31		conjunction	10395 Dec 18 05:39	2° \mathring{B} 50'41	11°45'12
evening set	10389 Nov 23 18:38	21° \mathring{A} 25'10		minimum elong	10395 Dec 18 05:19	2° \mathring{B} 50'39	11°45'42
max. Earth dist.	10389 Dec 03 16:20	21° \mathring{A} 43'54	36.40555 AU	morning rise	10395 Dec 28 06:59	3° \mathring{B} 10'53	
				retrograde	10396 Mar 31 07:57	5° \mathring{B} 05'40	
conjunction	10389 Dec 06 07:56	21° \mathring{A} 48'57	9°28'53	opposition	10396 Jun 17 17:21	3° \mathring{B} 49'08	12°39'11
minimum elong	10389 Dec 06 07:39	21° \mathring{A} 48'55	9°29'22	min. Earth dist.	10396 Jun 20 03:26	3° \mathring{B} 45'24	32.83262 AU
morning rise	10389 Dec 18 20:14	22° \mathring{A} 12'40		direct	10396 Sep 05 08:55	2° \mathring{B} 31'02	
retrograde	10390 Mar 20 05:05	23° \mathring{A} 56'08		evening set	10396 Dec 09 21:44	4° \mathring{B} 27'58	
opposition	10390 Jun 07 06:01	22° \mathring{A} 42'11	10°14'17	max. Earth dist.	10396 Dec 16 19:56	4° \mathring{B} 42'00	34.66883 AU
min. Earth dist.	10390 Jun 09 14:51	22° \mathring{A} 38'41	34.30744 AU				
direct	10390 Aug 26 05:47	21° \mathring{A} 27'02		conjunction	10396 Dec 19 11:59	4° \mathring{B} 47'26	12°06'33
evening set	10390 Nov 26 04:55	23° \mathring{A} 11'30		minimum elong	10396 Dec 19 11:39	4° \mathring{B} 47'24	12°07'03
max. Earth dist.	10390 Dec 05 16:30	23° \mathring{A} 29'37	36.15200 AU	morning rise	10396 Dec 29 01:07	5° \mathring{B} 06'50	
				retrograde	10397 Apr 02 15:21	7° \mathring{B} 03'47	
conjunction	10390 Dec 08 09:44	23° \mathring{A} 34'50	9°52'17	opposition	10397 Jun 19 21:55	5° \mathring{B} 46'51	13°01'52
minimum elong	10390 Dec 08 09:25	23° \mathring{A} 34'49	9°52'46	min. Earth dist.	10397 Jun 22 06:34	5° \mathring{B} 43'12	32.59863 AU
morning rise	10390 Dec 20 13:46	23° \mathring{A} 58'08		direct	10397 Sep 07 12:50	4° \mathring{B} 28'19	
retrograde	10391 Mar 22 09:16	25° \mathring{A} 43'18		evening set	10397 Dec 12 17:37	6° \mathring{B} 27'39	
opposition	10391 Jun 09 06:10	24° \mathring{A} 28'54	10°39'11	max. Earth dist.	10397 Dec 19 02:20	6° \mathring{B} 40'41	34.43438 AU
min. Earth dist.	10391 Jun 11 16:01	24° \mathring{A} 25'20	34.05673 AU				
direct	10391 Aug 28 04:05	23° \mathring{A} 13'17		conjunction	10397 Dec 21 19:00	6° \mathring{B} 46'13	12°27'22
evening set	10391 Nov 28 16:12	24° \mathring{A} 59'37		minimum elong	10397 Dec 21 18:41	6° \mathring{B} 46'12	12°27'52
max. Earth dist.	10391 Dec 07 19:32	25° \mathring{A} 17'14	35.89913 AU	morning rise	10397 Dec 30 19:29	7° \mathring{B} 04'44	
				retrograde	10398 Apr 05 01:19	9° \mathring{B} 03'59	
conjunction	10391 Dec 10 12:16	25° \mathring{A} 22'28	10°15'29	opposition	10398 Jun 22 03:18	7° \mathring{B} 46'40	13°23'55
minimum elong	10391 Dec 10 11:58	25° \mathring{A} 22'26	10°15'59	min. Earth dist.	10398 Jun 24 12:12	7° \mathring{B} 42'59	32.36942 AU
morning rise	10391 Dec 22 07:14	25° \mathring{A} 45'16		direct	10398 Sep 09 16:33	6° \mathring{B} 27'42	
retrograde	10392 Mar 23 12:28	27° \mathring{A} 32'11		evening set	10398 Dec 15 15:08	8° \mathring{B} 29'34	
opposition	10392 Jun 10 07:00	26° \mathring{A} 17'22	11°03'51	max. Earth dist.	10398 Dec 21 11:56	8° \mathring{B} 41'42	34.20466 AU
min. Earth dist.	10392 Jun 12 16:56	26° \mathring{A} 13'45	33.80696 AU				
direct	10392 Aug 29 06:03	25° \mathring{A} 01'15		conjunction	10398 Dec 24 02:59	8° \mathring{B} 47'09	12°47'34

minimum elong	10398 Dec 24 02:39	8°  47'08	12°48'04	max. Earth dist.	10406 Jan 05 22:43	23°  47'32	32.71592 AU
morning rise	10399 Jan 01 13:44	9°  04'40					
retrograde	10399 Apr 07 10:42	11°  06'20		conjunction	10406 Jan 08 10:13	23°  53'01	14°47'16
opposition	10399 Jun 24 09:32	9°  48'39	13°45'20	minimum elong	10406 Jan 08 09:58	23°  53'00	14°47'45
min. Earth dist.	10399 Jun 26 17:43	9°  44'59	32.14475 AU	morning rise	10406 Jan 11 02:09	23°  58'55	
direct	10399 Sep 11 23:07	8°  29'16		retrograde	10406 Apr 22 22:49	26°  21'36	
evening set	10399 Dec 18 14:22	10°  33'47		opposition	10406 Jul 09 04:49	25°  01'19	15°51'33
max. Earth dist.	10399 Dec 23 20:09	10°  44'44	33.97946 AU	min. Earth dist.	10406 Jul 11 09:45	24°  57'42	30.69025 AU
				direct	10406 Sep 26 09:20	23°  38'51	
conjunction	10399 Dec 26 11:36	10°  50'17	13°07'06	max. Earth dist.	10407 Jan 08 13:05	26°  04'38	32.52385 AU
minimum elong	10399 Dec 26 11:17	10°  50'15	13°07'36				
morning rise	10400 Jan 03 07:59	11°  06'42		conjunction	10407 Jan 11 00:33	26°  10'09	15°00'27
retrograde	10400 Apr 08 22:02	13°  10'52		minimum elong	10407 Jan 11 00:18	26°  10'08	15°00'55
opposition	10400 Jun 25 16:35	11°  52'51	14°06'01	retrograde	10407 Apr 25 14:08	28°  39'58	
min. Earth dist.	10400 Jun 28 00:31	11°  49'10	31.92441 AU	opposition	10407 Jul 11 17:38	27°  19'17	16°05'17
direct	10400 Sep 13 04:40	10°  33'02		min. Earth dist.	10407 Jul 13 22:01	27°  15'42	30.50391 AU
evening set	10400 Dec 20 15:37	12°  40'18		direct	10407 Sep 28 21:13	25°  56'24	
max. Earth dist.	10400 Dec 25 06:43	12°  50'05	33.75819 AU	max. Earth dist.	10408 Jan 11 06:44	28°  23'43	32.33907 AU
conjunction	10400 Dec 27 21:25	12°  55'36	13°25'56	conjunction	10408 Jan 13 15:41	28°  29'03	15°12'24
minimum elong	10400 Dec 27 21:05	12°  55'35	13°26'25	minimum elong	10408 Jan 13 15:29	28°  29'01	15°12'52
morning rise	10401 Jan 04 02:14	13°  10'49			10408 Feb 25 22:22	0° 	
retrograde	10401 Apr 11 08:26	15°  17'35		retrograde	10408 Apr 27 04:55	1°  00'02	
opposition	10401 Jun 28 00:31	13°  59'12	14°25'56		10408 Jun 30 10:32	30°  R 	
min. Earth dist.	10401 Jun 30 08:39	13°  55'30	31.70783 AU	opposition	10408 Jul 13 07:17	29°  39'00	16°17'41
direct	10401 Sep 15 11:56	12°  38'59		min. Earth dist.	10408 Jul 15 10:17	29°  35'29	30.32498 AU
evening set	10401 Dec 23 19:05	14°  49'08		direct	10408 Sep 30 11:25	28°  15'42	
max. Earth dist.	10401 Dec 27 17:26	14°  57'31	33.54090 AU		10408 Dec 23 23:22	0° 	
				max. Earth dist.	10409 Jan 12 23:05	0°  44'20	32.16243 AU
conjunction	10401 Dec 30 07:57	15°  03'05	13°44'00				
minimum elong	10401 Dec 30 07:39	15°  03'03	13°44'30	conjunction	10409 Jan 15 07:27	0°  49'39	15°23'03
morning rise	10402 Jan 05 20:02	15°  16'57		minimum elong	10409 Jan 15 07:14	0°  49'38	15°23'30
retrograde	10402 Apr 13 21:53	17°  26'27		retrograde	10409 Apr 29 22:27	3°  21'47	
opposition	10402 Jun 30 09:20	16°  07'42	14°45'02	opposition	10409 Jul 15 21:32	2°  00'26	16°28'37
min. Earth dist.	10402 Jul 02 16:25	16°  04'02	31.49516 AU	min. Earth dist.	10409 Jul 17 22:57	1°  57'01	30.15447 AU
direct	10402 Sep 17 19:43	14°  47'02		direct	10409 Oct 03 00:54	0°  36'46	
evening set	10402 Dec 27 00:35	17°  00'12		max. Earth dist.	10410 Jan 15 18:06	3°  06'52	31.99458 AU
max. Earth dist.	10402 Dec 30 04:56	17°  07'02	33.32748 AU				
				conjunction	10410 Jan 18 00:03	3°  12'00	15°32'19
conjunction	10403 Jan 01 19:15	17°  12'38	14°01'14	minimum elong	10410 Jan 17 23:54	3°  11'59	15°32'46
minimum elong	10403 Jan 01 18:56	17°  12'36	14°01'43	retrograde	10410 May 02 15:19	5°  45'15	
morning rise	10403 Jan 07 13:06	17°  25'00		opposition	10410 Jul 18 12:47	4°  23'36	16°38'03
retrograde	10403 Apr 16 08:03	19°  37'21		min. Earth dist.	10410 Jul 20 13:06	4°  20'15	29.99271 AU
opposition	10403 Jul 02 19:08	18°  18'14	15°03'13	direct	10410 Oct 05 15:56	2°  59'38	
min. Earth dist.	10403 Jul 05 02:46	18°  14'30	31.28651 AU	max. Earth dist.	10411 Jan 18 12:27	5°  31'04	31.83605 AU
direct	10403 Sep 20 02:46	16°  57'07					
evening set	10403 Dec 30 09:21	19°  13'29		conjunction	10411 Jan 20 16:59	5°  36'05	15°40'07
max. Earth dist.	10404 Jan 01 18:18	19°  18'39	33.11854 AU	minimum elong	10411 Jan 20 16:50	5°  36'04	15°40'33
				retrograde	10411 May 05 10:30	8°  10'25	
conjunction	10404 Jan 04 07:28	19°  24'11	14°17'34	opposition	10411 Jul 21 04:34	6°  48'32	16°45'52
minimum elong	10404 Jan 04 07:11	19°  24'10	14°18'04	min. Earth dist.	10411 Jul 23 02:32	6°  45'20	29.84000 AU
morning rise	10404 Jan 09 04:53	19°  34'50		direct	10411 Oct 08 07:46	5°  24'17	
retrograde	10404 Apr 17 20:18	21°  50'14		max. Earth dist.	10412 Jan 21 08:19	7°  57'03	31.68654 AU
opposition	10404 Jul 04 05:26	20°  30'43	15°20'26				
min. Earth dist.	10404 Jul 06 11:41	20°  27'04	31.08240 AU	conjunction	10412 Jan 23 10:54	8°  01'56	15°46'24
direct	10404 Sep 21 13:05	19°  09'09		minimum elong	10412 Jan 23 10:48	8°  01'55	15°46'49
evening set	10405 Jan 01 21:57	21°  29'02		retrograde	10412 May 07 03:50	10°  37'17	
max. Earth dist.	10405 Jan 03 07:00	21°  32'04	32.91442 AU	opposition	10412 Jul 22 21:05	9°  15'12	16°52'02
				min. Earth dist.	10412 Jul 24 18:37	9°  12'00	29.69599 AU
conjunction	10405 Jan 05 20:30	21°  37'41	14°32'57	direct	10412 Oct 09 22:36	7°  50'42	
minimum elong	10405 Jan 05 20:12	21°  37'39	14°33'26	max. Earth dist.	10413 Jan 23 04:44	10°  24'44	31.54599 AU
morning rise	10405 Jan 09 18:24	21°  46'16					
retrograde	10405 Apr 20 09:29	24°  05'01		conjunction	10413 Jan 25 05:25	10°  29'27	15°51'07
opposition	10405 Jul 06 16:48	22°  45'06	15°36'34	minimum elong	10413 Jan 25 05:19	10°  29'27	15°51'31
min. Earth dist.	10405 Jul 08 23:22	22°  41'25	30.88343 AU	retrograde	10413 May 09 23:49	13°  05'47	
direct	10405 Sep 23 21:19	21°  23'05		opposition	10413 Jul 25 14:17	11°  43'30	16°56'31
evening set	10406 Jan 05 17:45	23°  47'05		min. Earth dist.	10413 Jul 27 09:25	11°  40'28	29.56045 AU

direct	10413 Oct 12 15:57	10° \approx 18'46		retrograde	10421 May 30 12:04	3° \times 32'55	
max. Earth dist.	10414 Jan 26 01:02	12° \approx 53'57	31.41390 AU	opposition	10421 Aug 15 02:01	2° \times 09'28	16°26'14
				min. Earth dist.	10421 Aug 16 06:48	2° \times 07'25	28.79707 AU
conjunction	10414 Jan 28 00:24	12° \approx 58'34	15°54'14	direct	10421 Nov 02 02:45	0° \times 43'29	
minimum elong	10414 Jan 28 00:23	12° \approx 58'34	15°54'38				
	10414 Mar 28 00:35	15° \approx		conjunction	10422 Feb 17 20:52	3° \times 27'46	15°17'06
retrograde	10414 May 12 18:47	15° \approx 35'47		minimum elong	10422 Feb 17 21:07	3° \times 27'47	15°17'22
	10414 Jun 28 22:28	15° \times		max. Earth dist.	10422 Feb 16 15:42	3° \times 24'50	30.69579 AU
opposition	10414 Jul 28 08:17	14° \approx 13'19	16°59'15	retrograde	10422 Jun 02 09:51	6° \times 08'34	
min. Earth dist.	10414 Jul 30 02:55	14° \approx 10'18	29.43318 AU	opposition	10422 Aug 17 22:44	4° \times 45'04	16°13'41
direct	10414 Oct 15 07:08	12° \approx 48'22		min. Earth dist.	10422 Aug 18 23:55	4° \times 43'16	28.74936 AU
	10415 Jan 18 09:15	15° \approx		direct	10422 Nov 05 01:38	3° \times 19'04	
max. Earth dist.	10415 Jan 28 23:04	15° \approx 24'42	31.29051 AU				
				conjunction	10423 Feb 20 18:02	6° \times 03'26	15°04'19
conjunction	10415 Jan 30 20:00	15° \approx 29'06	15°55'42	minimum elong	10423 Feb 20 18:18	6° \times 03'28	15°04'34
minimum elong	10415 Jan 30 19:59	15° \approx 29'06	15°56'06	max. Earth dist.	10423 Feb 19 16:21	6° \times 00'52	30.65623 AU
retrograde	10415 May 15 13:34	18° \approx 07'07		retrograde	10423 Jun 05 05:05	8° \times 44'15	
opposition	10415 Jul 31 02:40	16° \approx 44'28	17°00'13	opposition	10423 Aug 20 19:35	7° \times 20'46	15°59'09
min. Earth dist.	10415 Aug 01 18:51	16° \approx 41'38	29.31424 AU	min. Earth dist.	10423 Aug 21 19:11	7° \times 19'06	28.71385 AU
direct	10415 Oct 18 02:20	15° \approx 19'20		direct	10423 Nov 07 22:30	5° \times 54'49	
max. Earth dist.	10416 Jan 31 19:55	17° \approx 56'34	31.17577 AU	evening set	10424 Feb 21 05:59	8° \times 33'27	
conjunction	10416 Feb 02 15:57	18° \approx 00'54	15°55'30	conjunction	10424 Feb 23 15:05	8° \times 39'10	14°49'43
minimum elong	10416 Feb 02 16:00	18° \approx 00'55	15°55'52	minimum elong	10424 Feb 23 15:23	8° \times 39'12	14°49'56
retrograde	10416 May 17 09:00	20° \approx 39'37		max. Earth dist.	10424 Feb 22 16:03	8° \times 36'51	30.62921 AU
opposition	10416 Aug 01 21:41	19° \approx 16'48	16°59'20	morning rise	10424 Feb 26 00:45	8° \times 44'56	
min. Earth dist.	10416 Aug 03 12:54	19° \approx 14'02	29.20388 AU	retrograde	10424 Jun 07 02:54	11° \times 19'55	
direct	10416 Oct 19 19:51	17° \approx 51'28		opposition	10424 Aug 22 16:24	9° \times 56'29	15°42'42
max. Earth dist.	10417 Feb 02 19:21	20° \approx 29'43	31.07005 AU	min. Earth dist.	10424 Nov 23 12:24	9° \times 55'04	28.69029 AU
				direct	10424 Nov 09 21:06	8° \times 30'36	
conjunction	10417 Feb 04 12:25	20° \approx 33'47	15°53'35	evening set	10425 Feb 21 15:50	11° \times 05'37	
minimum elong	10417 Feb 04 12:28	20° \approx 33'47	15°53'56				
retrograde	10417 May 20 04:21	23° \approx 13'05		conjunction	10425 Feb 25 12:03	11° \times 14'51	14°33'22
opposition	10417 Aug 04 17:06	21° \approx 50'07	16°56'36	minimum elong	10425 Feb 25 12:23	11° \times 14'53	14°33'35
min. Earth dist.	10417 Aug 06 06:10	21° \approx 47'30	29.10229 AU	max. Earth dist.	10425 Feb 24 15:51	11° \times 12'49	30.61399 AU
direct	10417 Oct 22 15:34	20° \approx 24'37		morning rise	10425 Mar 01 08:48	11° \times 24'07	
max. Earth dist.	10418 Feb 05 17:03	23° \approx 03'34	30.97376 AU	retrograde	10425 Jun 09 23:12	13° \times 55'26	
				opposition	10425 Aug 25 13:23	12° \times 32'05	15°24'22
conjunction	10418 Feb 07 09:00	23° \approx 07'32	15°49'54	min. Earth dist.	10425 Aug 26 07:50	12° \times 30'47	28.67822 AU
minimum elong	10418 Feb 07 09:07	23° \approx 07'33	15°50'14	direct	10425 Nov 12 17:57	11° \times 06'19	
retrograde	10418 May 23 00:27	25° \approx 47'21		evening set	10426 Feb 23 10:01	13° \times 38'26	
opposition	10418 Aug 07 12:55	24° \approx 24'14	16°51'57				
min. Earth dist.	10418 Aug 09 00:11	24° \approx 21'43	29.01026 AU	conjunction	10426 Feb 28 08:54	13° \times 50'20	14°15'19
direct	10418 Oct 25 10:42	22° \approx 58'33		minimum elong	10426 Feb 28 09:15	13° \times 50'22	14°15'29
max. Earth dist.	10419 Feb 08 17:20	25° \approx 38'21	30.88751 AU	max. Earth dist.	10426 Feb 27 15:42	13° \times 48'36	30.61037 AU
				morning rise	10426 Mar 05 08:16	14° \times 02'16	
conjunction	10419 Feb 10 05:49	25° \approx 41'59	15°44'26	retrograde	10426 Jun 12 18:58	16° \times 30'39	
minimum elong	10419 Feb 10 05:56	25° \approx 42'00	15°44'46	opposition	10426 Aug 28 10:15	15° \times 07'25	15°04'14
retrograde	10419 May 25 19:26	28° \approx 22'11		min. Earth dist.	10426 Aug 29 01:23	15° \times 06'21	28.67715 AU
opposition	10419 Aug 10 09:05	26° \approx 58'56	16°45'21	direct	10426 Nov 15 16:45	13° \times 41'47	
min. Earth dist.	10419 Aug 11 18:27	26° \approx 56'33	28.92816 AU	evening set	10427 Feb 25 07:30	16° \times 11'16	
direct	10419 Oct 28 08:42	25° \approx 33'07					
max. Earth dist.	10420 Feb 11 15:46	28° \approx 13'27	30.81196 AU	conjunction	10427 Mar 03 05:25	16° \times 25'27	13°55'38
				minimum elong	10427 Mar 03 05:48	16° \times 25'29	13°55'48
conjunction	10420 Feb 13 02:45	28° \approx 16'56	15°37'10	max. Earth dist.	10427 Mar 02 14:20	16° \times 23'56	30.61764 AU
minimum elong	10420 Feb 13 02:56	28° \approx 16'57	15°37'27	morning rise	10427 Mar 09 03:46	16° \times 39'39	
	10420 Mar 30 16:43	0° \times		retrograde	10427 Jun 15 14:22	19° \times 05'26	
retrograde	10420 May 27 16:34	0° \times 57'26		opposition	10427 Aug 31 07:05	17° \times 42'18	14°42'22
	10420 Jul 27 18:14	30° \times		min. Earth dist.	10427 Aug 31 20:29	17° \times 41'21	28.68675 AU
opposition	10420 Aug 12 05:17	29° \approx 34'03	16°36'47	direct	10427 Nov 18 13:14	16° \times 16'48	
min. Earth dist.	10420 Aug 13 11:53	29° \approx 31'53	28.85691 AU	evening set	10428 Feb 27 07:25	18° \times 43'50	
direct	10420 Oct 30 05:24	28° \approx 08'08					
	10421 Jan 23 19:49	0° \times		conjunction	10428 Mar 05 01:54	19° \times 00'01	13°34'24
conjunction	10421 Feb 14 23:57	0° \times 52'14	15°28'03	minimum elong	10428 Mar 05 02:17	19° \times 00'04	13°34'31
minimum elong	10421 Feb 15 00:09	0° \times 52'15	15°28'21	max. Earth dist.	10428 Mar 04 14:06	18° \times 58'51	30.63560 AU
max. Earth dist.	10421 Feb 13 16:33	0° \times 49'06	30.74778 AU	morning rise	10428 Mar 11 20:39	19° \times 16'14	
				retrograde	10428 Jun 17 09:11	21° \times 39'32	

opposition	10428 Sep 02 03:36	20° H 16'33	14°18'51	conjunction	10435 Mar 23 10:59	6° Y 33'34	10°28'17
min. Earth dist.	10428 Sep 02 14:21	20° H 15'47	28.70654 AU	minimum elong	10435 Mar 23 11:24	6° Y 33'37	10°28'16
direct	10428 Nov 20 11:20	18° H 51'13		max. Earth dist.	10435 Mar 23 17:46	6° Y 34'14	31.05521 AU
evening set	10429 Feb 28 08:34	21° H 15'52		morning rise	10435 Apr 03 17:21	6° Y 59'42	
				retrograde	10435 Jul 05 05:50	9° Y 07'48	
conjunction	10429 Mar 07 21:55	21° H 33'53	13°11'40	opposition	10435 Sep 20 17:25	7° Y 46'02	10°54'58
minimum elong	10429 Mar 07 22:20	21° H 33'55	13°11'48	min. Earth dist.	10435 Sep 20 09:24	7° Y 46'35	29.13932 AU
max. Earth dist.	10429 Mar 07 11:47	21° H 32'52	30.66384 AU	direct	10435 Dec 09 11:24	6° Y 22'18	
morning rise	10429 Mar 15 11:35	21° H 51'55		evening set	10436 Mar 13 08:39	8° Y 31'41	
retrograde	10429 Jun 20 03:28	24° H 12'52					
opposition	10429 Sep 05 00:01	22° H 50'00	13°53'46	conjunction	10436 Mar 25 03:06	8° Y 58'49	9°57'18
min. Earth dist.	10429 Sep 05 08:23	22° H 49'25	28.73663 AU	minimum elong	10436 Mar 25 03:30	8° Y 58'52	9°57'16
direct	10429 Nov 23 07:44	21° H 24'50		max. Earth dist.	10436 Mar 25 13:00	8° Y 59'46	31.15946 AU
evening set	10430 Mar 02 10:36	23° H 47'10		morning rise	10436 Apr 05 21:03	9° Y 25'55	
				retrograde	10436 Jul 06 21:09	11° Y 32'06	
conjunction	10430 Mar 10 17:31	24° H 06'51	12°47'32	opposition	10436 Sep 22 10:34	10° Y 10'37	10°21'18
minimum elong	10430 Mar 10 17:56	24° H 06'53	12°47'37	min. Earth dist.	10436 Sep 22 00:40	10° Y 11'17	29.24563 AU
max. Earth dist.	10430 Mar 10 11:02	24° H 06'12	30.70241 AU	direct	10436 Dec 11 05:57	8° Y 47'14	
morning rise	10430 Mar 19 00:27	24° H 26'32		evening set	10437 Mar 15 13:18	10° Y 54'40	
retrograde	10430 Jun 22 19:46	26° H 45'12					
opposition	10430 Sep 07 20:07	25° H 22'29	13°27'12	conjunction	10437 Mar 27 18:35	11° Y 22'40	9°25'31
min. Earth dist.	10430 Sep 08 02:17	25° H 22'03	28.77677 AU	minimum elong	10437 Mar 27 18:58	11° Y 22'43	9°25'28
direct	10430 Nov 26 05:50	23° H 57'30		max. Earth dist.	10437 Mar 28 07:09	11° Y 23'53	31.27460 AU
evening set	10431 Mar 04 13:24	26° H 17'33		morning rise	10437 Apr 08 23:13	11° Y 50'38	
				retrograde	10437 Jul 09 12:00	13° Y 54'57	
conjunction	10431 Mar 13 12:33	26° H 38'46	12°22'03	opposition	10437 Sep 25 03:09	12° Y 33'47	9°46'50
minimum elong	10431 Mar 13 12:59	26° H 38'48	12°22'08	min. Earth dist.	10437 Sep 24 14:05	12° Y 34'41	29.36239 AU
max. Earth dist.	10431 Mar 13 07:34	26° H 38'16	30.75126 AU	direct	10437 Dec 14 01:43	11° Y 10'47	
morning rise	10431 Mar 22 11:52	26° H 59'59		evening set	10438 Mar 17 17:55	13° Y 16'19	
retrograde	10431 Jun 25 13:56	29° H 16'25					
opposition	10431 Sep 10 15:33	27° H 53'50	12°59'13	conjunction	10438 Mar 30 09:13	13° Y 45'06	8°53'01
min. Earth dist.	10431 Sep 10 18:42	27° H 53'37	28.82732 AU	minimum elong	10438 Mar 30 09:35	13° Y 45'08	8°52'56
direct	10431 Nov 29 02:03	26° H 29'03		max. Earth dist.	10438 Mar 31 00:05	13° Y 46'31	31.39962 AU
evening set	10432 Mar 05 16:39	28° H 46'53		morning rise	10438 Apr 11 23:55	14° Y 13'50	
				retrograde	10438 Jul 12 01:02	16° Y 16'22	
conjunction	10432 Mar 15 07:14	29° H 09'29	11°55'18	opposition	10438 Sep 27 19:14	14° Y 55'31	9°11'39
minimum elong	10432 Mar 15 07:39	29° H 09'32	11°55'21	min. Earth dist.	10438 Sep 27 04:05	14° Y 56'32	29.48896 AU
max. Earth dist.	10432 Mar 15 05:57	29° H 09'22	30.81059 AU	direct	10438 Dec 16 17:57	13° Y 32'53	
morning rise	10432 Mar 24 21:37	29° H 32'06		evening set	10439 Mar 19 22:49	15° Y 36'34	
	10432 Apr 06 01:02	0° Y					
retrograde	10432 Jun 27 05:16	1° Y 46'21		conjunction	10439 Apr 01 23:27	16° Y 06'02	8°19'55
opposition	10432 Sep 12 10:50	0° Y 23'57	12°29'56	minimum elong	10439 Apr 01 23:49	16° Y 06'04	8°19'49
min. Earth dist.	10432 Sep 12 12:13	0° Y 23'51	28.88837 AU	max. Earth dist.	10439 Apr 02 17:19	16° Y 07'44	31.53390 AU
	10432 Sep 26 23:55	30° H		morning rise	10439 Apr 14 23:12	16° Y 35'27	
direct	10432 Nov 30 22:23	28° H 59'22		retrograde	10439 Jul 14 13:09	18° Y 36'14	
	10433 Jan 31 15:33	0° Y		opposition	10439 Sep 30 10:30	17° Y 15'43	8°35'54
evening set	10433 Mar 07 20:17	1° Y 15'00		min. Earth dist.	10439 Sep 29 17:12	17° Y 16'53	29.62433 AU
				direct	10439 Dec 19 12:03	15° Y 53'28	
conjunction	10433 Mar 18 01:02	1° Y 38'54	11°27'22	evening set	10440 Mar 21 03:57	17° Y 55'22	
minimum elong	10433 Mar 18 01:27	1° Y 38'56	11°27'24				
max. Earth dist.	10433 Mar 18 01:38	1° Y 38'58	30.88075 AU	conjunction	10440 Apr 03 12:56	18° Y 25'26	7°46'19
morning rise	10433 Mar 28 05:42	2° Y 02'48		minimum elong	10440 Apr 03 13:16	18° Y 25'27	7°46'12
retrograde	10433 Jun 29 22:39	4° Y 14'56		max. Earth dist.	10440 Apr 04 08:07	18° Y 27'14	31.67646 AU
opposition	10433 Sep 15 05:29	2° Y 52'42	11°59'23	morning rise	10440 Apr 16 21:14	18° Y 55'25	
min. Earth dist.	10433 Sep 15 03:11	2° Y 52'52	28.96054 AU	retrograde	10440 Jul 16 01:57	20° Y 54'32	
direct	10433 Dec 03 19:55	1° Y 28'22		min. Earth dist.	10440 Oct 01 05:28	19° Y 35'40	29.76801 AU
evening set	10434 Mar 10 00:06	3° Y 41'51		opposition	10440 Oct 02 01:20	19° Y 34'20	7°59'40
				direct	10440 Dec 21 03:04	18° Y 12'27	
conjunction	10434 Mar 20 18:23	4° Y 06'56	10°58'20	evening set	10441 Mar 23 08:56	20° Y 12'36	
minimum elong	10434 Mar 20 18:48	4° Y 06'59	10°58'20				
max. Earth dist.	10434 Mar 20 22:48	4° Y 07'22	30.96216 AU	conjunction	10441 Apr 06 01:47	20° Y 43'10	7°12'19
morning rise	10434 Mar 31 12:17	4° Y 32'00		minimum elong	10441 Apr 06 02:06	20° Y 43'12	7°12'11
retrograde	10434 Jul 02 13:22	6° Y 42'05		max. Earth dist.	10441 Apr 07 00:01	20° Y 45'15	31.82677 AU
opposition	10434 Sep 17 23:48	5° Y 20'04	11°27'42	morning rise	10441 Apr 19 17:33	21° Y 13'40	
min. Earth dist.	10434 Sep 17 19:38	5° Y 20'21	29.04419 AU	retrograde	10441 Jul 18 10:44	23° Y 11'10	
direct	10434 Dec 06 15:19	3° Y 56'00		opposition	10441 Oct 04 15:37	21° Y 51'16	7°23'04
evening set	10435 Mar 12 04:17	6° Y 07'25		min. Earth dist.	10441 Oct 03 18:23	21° Y 52'41	29.91918 AU

direct	10441 Dec 23 19:36	20° Υ 29'46		minimum elong	10448 Apr 20 22:34	5° \mathcal{B} 56'16	3°09'28
evening set	10442 Mar 25 14:10	22° Υ 28'12		max. Earth dist.	10448 Apr 22 10:29	5° \mathcal{B} 59'28	33.07356 AU
				morning rise	10448 May 06 00:40	6° \mathcal{B} 28'14	
conjunction	10442 Apr 08 13:50	22° Υ 59'12	6°38'00	retrograde	10448 Aug 01 20:28	8° \mathcal{B} 15'58	
minimum elong	10442 Apr 08 14:07	22° Υ 59'14	6°37'50	min. Earth dist.	10448 Oct 18 11:10	7° \mathcal{B} 00'28	31.17712 AU
max. Earth dist.	10442 Apr 09 12:54	23° Υ 01'21	31.98426 AU	opposition	10448 Oct 19 22:57	6° \mathcal{B} 58'11	3°03'40
morning rise	10442 Apr 22 12:41	23° Υ 30'07		direct	10449 Jan 08 16:04	5° \mathcal{B} 39'11	
retrograde	10442 Jul 20 21:25	25° Υ 26'02		evening set	10449 Apr 07 23:17	7° \mathcal{B} 27'25	
min. Earth dist.	10442 Oct 06 04:56	24° Υ 08'03	30.07761 AU				
opposition	10442 Oct 07 05:00	24° Υ 06'27	6°46'12	conjunction	10449 Apr 23 05:04	7° \mathcal{B} 59'27	2°35'15
direct	10442 Dec 26 09:35	22° Υ 45'17		minimum elong	10449 Apr 23 05:11	7° \mathcal{B} 59'27	2°34'59
evening set	10443 Mar 27 19:09	24° Υ 42'05		max. Earth dist.	10449 Apr 24 18:22	8° \mathcal{B} 02'44	33.27999 AU
				morning rise	10449 May 08 09:54	8° \mathcal{B} 31'23	
conjunction	10443 Apr 11 01:17	25° Υ 13'26	6°03'26	retrograde	10449 Aug 04 02:59	10° \mathcal{B} 18'01	
minimum elong	10443 Apr 11 01:33	25° Υ 13'28	6°03'16	min. Earth dist.	10449 Oct 20 17:09	9° \mathcal{B} 03'02	31.38583 AU
max. Earth dist.	10443 Apr 12 03:17	25° Υ 15'50	32.14854 AU	opposition	10449 Oct 22 07:33	9° \mathcal{B} 00'35	2°27'02
morning rise	10443 Apr 25 06:15	25° Υ 44'42		direct	10450 Jan 11 01:07	7° \mathcal{B} 42'01	
retrograde	10443 Jul 23 05:49	27° Υ 39'06		evening set	10450 Apr 10 03:28	9° \mathcal{B} 29'05	
opposition	10443 Oct 09 17:53	26° Υ 19'48	6°09'08				
min. Earth dist.	10443 Oct 08 16:57	26° Υ 21'26	30.24283 AU	conjunction	10450 Apr 25 11:18	10° \mathcal{B} 01'02	2°01'01
direct	10443 Dec 28 22:55	24° Υ 58'58		minimum elong	10450 Apr 25 11:23	10° \mathcal{B} 01'02	2°00'43
evening set	10444 Mar 29 00:15	26° Υ 54'10		max. Earth dist.	10450 Apr 27 03:22	10° \mathcal{B} 04'32	33.49274 AU
				morning rise	10450 May 10 17:51	10° \mathcal{B} 32'54	
conjunction	10444 Apr 12 11:50	27° Υ 25'47	5°28'44	retrograde	10450 Aug 06 05:43	12° \mathcal{B} 18'29	
minimum elong	10444 Apr 12 12:04	27° Υ 25'49	5°28'32	min. Earth dist.	10450 Oct 23 00:09	11° \mathcal{B} 03'55	31.60056 AU
max. Earth dist.	10444 Apr 13 14:53	27° Υ 28'16	32.31945 AU	opposition	10450 Oct 24 15:24	11° \mathcal{B} 01'26	1°50'42
morning rise	10444 Apr 26 22:26	27° Υ 57'20		direct	10451 Jan 13 10:50	9° \mathcal{B} 43'17	
retrograde	10444 Jul 24 15:30	29° Υ 50'15		evening set	10451 Apr 12 07:41	11° \mathcal{B} 29'14	
min. Earth dist.	10444 Oct 10 01:53	28° Υ 33'04	30.41490 AU				
opposition	10444 Oct 11 05:50	28° Υ 31'14	5°31'58	conjunction	10451 Apr 27 16:43	12° \mathcal{B} 01'04	1°27'05
direct	10444 Dec 30 13:44	27° Υ 10'45		minimum elong	10451 Apr 27 16:46	12° \mathcal{B} 01'04	1°26'46
evening set	10445 Mar 31 05:08	29° Υ 04'25		max. Earth dist.	10451 Apr 29 09:17	12° \mathcal{B} 04'35	33.71090 AU
				morning rise	10451 May 13 00:46	12° \mathcal{B} 32'48	
conjunction	10445 Apr 14 21:41	29° Υ 36'14	4°53'57	retrograde	10451 Aug 08 10:39	14° \mathcal{B} 17'25	
minimum elong	10445 Apr 14 21:54	29° Υ 36'15	4°53'44	min. Earth dist.	10451 Oct 25 04:48	13° \mathcal{B} 03'22	31.82053 AU
max. Earth dist.	10445 Apr 16 03:24	29° Υ 38'56	32.49705 AU	opposition	10451 Oct 26 22:35	13° \mathcal{B} 00'44	1°14'45
	10445 Apr 25 19:55	0° \mathcal{B}		direct	10452 Jan 15 17:54	11° \mathcal{B} 43'01	
morning rise	10445 Apr 29 13:07	0° \mathcal{B} 07'58		evening set	10452 Apr 13 11:43	13° \mathcal{B} 27'55	
retrograde	10445 Jul 27 00:06	1° \mathcal{B} 59'30					
opposition	10445 Oct 13 17:19	0° \mathcal{B} 40'45	4°54'46	conjunction	10452 Apr 28 21:37	13° \mathcal{B} 59'34	0°53'28
min. Earth dist.	10445 Oct 12 12:07	0° \mathcal{B} 42'39	30.59419 AU	minimum elong	10452 Apr 28 21:39	13° \mathcal{B} 59'35	0°53'08
	10445 Nov 10 02:30	30° \mathcal{R} Υ		max. Earth dist.	10452 Apr 30 16:36	14° \mathcal{B} 03'17	33.93357 AU
direct	10446 Jan 02 02:44	29° Υ 20'36		morning rise	10452 May 14 06:20	14° \mathcal{B} 31'09	
	10446 Feb 22 02:12	0° \mathcal{B}			10452 May 29 02:14	15° \mathcal{B}	
evening set	10446 Apr 02 09:44	1° \mathcal{B} 12'47		retrograde	10452 Aug 09 13:50	16° \mathcal{B} 14'51	
				min. Earth dist.	10452 Oct 26 11:07	15° \mathcal{B} 01'10	32.04490 AU
conjunction	10446 Apr 17 06:34	1° \mathcal{B} 44'45	4°19'08		10452 Oct 27 05:47	15° \mathcal{R} \mathcal{B}	
minimum elong	10446 Apr 17 06:45	1° \mathcal{B} 44'46	4°18'54	opposition	10452 Oct 28 05:19	14° \mathcal{B} 58'32	0°39'12
max. Earth dist.	10446 Apr 18 14:06	1° \mathcal{B} 47'36	32.68188 AU	direct	10453 Jan 16 24:00	13° \mathcal{B} 41'14	
morning rise	10446 May 02 02:14	2° \mathcal{B} 16'37			10453 Apr 02 16:44	15° \mathcal{B}	
retrograde	10446 Jul 29 07:59	4° \mathcal{B} 06'48		evening set	10453 Apr 15 15:44	15° \mathcal{B} 25'08	
min. Earth dist.	10446 Oct 14 19:57	2° \mathcal{B} 50'25	30.78091 AU				
opposition	10446 Oct 16 03:54	2° \mathcal{B} 48'21	4°17'36	conjunction	10453 May 01 01:51	15° \mathcal{B} 56'35	0°20'16
direct	10447 Jan 04 16:26	1° \mathcal{B} 28'34		minimum elong	10453 May 01 01:52	15° \mathcal{B} 56'35	0°19'56
evening set	10447 Apr 04 14:26	3° \mathcal{B} 19'22		max. Earth dist.	10453 May 02 21:26	16° \mathcal{B} 00'19	34.16015 AU
				morning rise	10453 May 16 10:57	16° \mathcal{B} 27'57	
conjunction	10447 Apr 19 14:49	3° \mathcal{B} 51'24	3°44'23	retrograde	10453 Aug 11 18:14	18° \mathcal{B} 10'46	
minimum elong	10447 Apr 19 14:59	3° \mathcal{B} 51'24	3°44'08	min. Earth dist.	10453 Oct 28 14:53	16° \mathcal{B} 57'34	32.27295 AU
max. Earth dist.	10447 Apr 21 00:19	3° \mathcal{B} 54'24	32.87398 AU	opposition	10453 Oct 30 11:18	16° \mathcal{B} 54'49	0°04'07
morning rise	10447 May 04 14:10	4° \mathcal{B} 23'21		desc. node	10453 Dec 12 19:30	15° \mathcal{B} 57'37	
retrograde	10447 Jul 31 15:01	6° \mathcal{B} 12'16		direct	10454 Jan 19 07:49	15° \mathcal{B} 37'55	
min. Earth dist.	10447 Oct 17 03:53	4° \mathcal{B} 56'18	30.97537 AU	evening set	10454 Apr 17 19:29	17° \mathcal{B} 20'52	
opposition	10447 Oct 18 13:44	4° \mathcal{B} 54'08	3°40'33				
direct	10448 Jan 07 03:18	3° \mathcal{B} 34'43		conjunction	10454 May 03 05:25	17° \mathcal{B} 52'04	-0°12'35
evening set	10448 Apr 05 18:55	5° \mathcal{B} 24'12		minimum elong	10454 May 03 05:24	17° \mathcal{B} 52'04	0°12'57
				behind sun begin	10454 May 03 01:25	17° \mathcal{B} 51'44	
conjunction	10448 Apr 20 22:26	5° \mathcal{B} 56'16	3°09'44	behind sun end	10454 May 03 09:22	17° \mathcal{B} 52'23	

max. Earth dist.	10454 May 05 02:30	17° 8 55'54	34.38981 AU	direct	10461 Feb 01 18:49	28° 8 30'23	
morning rise	10454 May 18 14:22	18° 8 23'11			10461 Apr 26 11:45	0° II	
retrograde	10454 Aug 13 22:38	20° 8 05'11		evening set	10461 Apr 30 16:05	0° II 07'49	
min. Earth dist.	10454 Oct 30 19:43	18° 8 52'20	32.50414 AU				
opposition	10454 Nov 01 16:46	18° 8 49'34	-0°30'29	conjunction	10461 May 15 12:50	0° II 36'23	-3°47'57
direct	10455 Jan 21 14:01	17° 8 33'04		minimum elong	10461 May 15 12:42	0° II 36'22	3°48'22
evening set	10455 Apr 19 23:08	19° 8 15'06		max. Earth dist.	10461 May 17 18:05	0° II 40'41	36.07323 AU
				morning rise	10461 May 30 08:56	1° II 04'54	
conjunction	10455 May 05 08:30	19° 8 46'00	-0°44'55	retrograde	10461 Aug 25 21:30	2° II 42'12	
minimum elong	10455 May 05 08:29	19° 8 46'00	0°45'16	min. Earth dist.	10461 Nov 12 06:48	1° II 31'54	34.20282 AU
max. Earth dist.	10455 May 07 06:35	19° 8 49'54	34.62218 AU	opposition	10461 Nov 14 12:29	1° II 28'44	-4°16'23
morning rise	10455 May 20 16:46	20° 8 16'50		direct	10462 Feb 03 18:05	0° II 14'43	
retrograde	10455 Aug 16 00:40	21° 8 58'02		evening set	10462 May 02 18:00	1° II 51'34	
min. Earth dist.	10455 Nov 01 23:09	20° 8 45'34	32.73780 AU				
opposition	10455 Nov 03 21:20	20° 8 42'44	-1°04'33	conjunction	10462 May 17 11:31	2° II 19'40	-4°16'24
direct	10456 Jan 23 21:36	19° 8 26'36		minimum elong	10462 May 17 11:22	2° II 19'39	4°16'51
evening set	10456 Apr 21 02:42	21° 8 07'47		max. Earth dist.	10462 May 19 17:50	2° II 24'01	36.32596 AU
				morning rise	10462 Jun 01 04:15	2° II 47'44	
conjunction	10456 May 06 10:50	21° 8 38'22	-1°16'46	retrograde	10462 Aug 27 19:12	4° II 24'32	
minimum elong	10456 May 06 10:47	21° 8 38'22	1°17'09	min. Earth dist.	10462 Nov 14 06:01	3° II 14'37	34.45783 AU
max. Earth dist.	10456 May 08 09:26	21° 8 42'16	34.85679 AU	opposition	10462 Nov 16 12:53	3° II 11'24	-4°46'05
morning rise	10456 May 21 18:11	22° 8 08'53		direct	10463 Feb 05 20:36	1° II 57'46	
retrograde	10456 Aug 17 01:57	23° 8 49'19		evening set	10463 May 04 19:57	3° II 34'04	
min. Earth dist.	10456 Nov 03 01:50	22° 8 37'13	32.97411 AU				
opposition	10456 Nov 05 01:29	22° 8 34'19	-1°38'03	conjunction	10463 May 19 09:38	4° II 01'41	-4°44'15
direct	10457 Jan 25 02:38	21° 8 18'33		minimum elong	10463 May 19 09:29	4° II 01'40	4°44'41
evening set	10457 Apr 23 05:42	22° 8 58'53		max. Earth dist.	10463 May 21 16:21	4° II 06'02	36.58066 AU
				morning rise	10463 Jun 02 22:53	4° II 29'16	
conjunction	10457 May 08 12:30	23° 8 29'06	-1°48'07	retrograde	10463 Aug 29 18:09	6° II 05'37	
minimum elong	10457 May 08 12:25	23° 8 29'06	1°48'30	min. Earth dist.	10463 Nov 16 04:44	4° II 56'06	34.71482 AU
max. Earth dist.	10457 May 10 13:08	23° 8 33'09	35.09391 AU	opposition	10463 Nov 18 12:45	4° II 52'49	-5°15'05
morning rise	10457 May 23 18:13	23° 8 59'16		direct	10464 Feb 07 21:12	3° II 39'34	
retrograde	10457 Aug 18 23:55	25° 8 38'58		evening set	10464 May 05 21:36	5° II 15'22	
min. Earth dist.	10457 Nov 05 04:48	24° 8 27'12	33.21307 AU				
opposition	10457 Nov 07 04:58	24° 8 24'17	-2°10'59	conjunction	10464 May 20 07:28	5° II 42'29	-5°11'28
direct	10458 Jan 27 10:06	23° 8 08'51		minimum elong	10464 May 20 07:18	5° II 42'28	5°11'55
evening set	10458 Apr 25 08:42	24° 8 48'22		max. Earth dist.	10464 May 22 15:48	5° II 46'56	36.83684 AU
				morning rise	10464 Jun 03 16:38	6° II 09'34	
conjunction	10458 May 10 13:25	25° 8 18'13	-2°18'56	retrograde	10464 Aug 30 14:00	7° II 45'30	
minimum elong	10458 May 10 13:20	25° 8 18'13	2°19'20	min. Earth dist.	10464 Nov 17 04:18	6° II 36'18	34.97286 AU
max. Earth dist.	10458 May 12 14:16	25° 8 22'15	35.33377 AU	opposition	10464 Nov 19 12:18	6° II 33'02	-5°43'23
morning rise	10458 May 25 17:27	25° 8 48'01		direct	10465 Feb 08 23:32	5° II 20'10	
retrograde	10458 Aug 21 00:15	27° 8 27'01		evening set	10465 May 07 23:06	6° II 55'29	
min. Earth dist.	10458 Nov 07 05:10	26° 8 15'40	33.45532 AU				
opposition	10458 Nov 09 07:35	26° 8 12'37	-2°43'18	conjunction	10465 May 22 04:33	7° II 22'05	-5°38'03
direct	10459 Jan 29 13:45	24° 8 57'31		minimum elong	10465 May 22 04:22	7° II 22'05	5°38'29
evening set	10459 Apr 27 11:20	26° 8 36'18		max. Earth dist.	10465 May 24 12:32	7° II 26'29	37.09364 AU
				morning rise	10465 Jun 05 09:38	7° II 48'40	
conjunction	10459 May 12 13:53	27° 8 05'45	-2°49'11	retrograde	10465 Sep 01 10:53	9° II 24'13	
minimum elong	10459 May 12 13:47	27° 8 05'44	2°49'35	min. Earth dist.	10465 Nov 19 01:39	8° II 15'25	35.23138 AU
max. Earth dist.	10459 May 14 16:58	27° 8 09'56	35.57687 AU	opposition	10465 Nov 21 11:16	8° II 12'05	-6°11'00
morning rise	10459 May 27 15:31	27° 8 35'09		direct	10466 Feb 10 22:55	6° II 59'34	
retrograde	10459 Aug 22 21:44	29° 8 13'32		evening set	10466 May 10 00:26	8° II 34'27	
min. Earth dist.	10459 Nov 09 07:09	28° 8 02'28	33.70104 AU				
opposition	10459 Nov 11 09:51	27° 8 59'25	-3°14'59	conjunction	10466 May 24 01:27	9° II 00'31	-6°03'59
direct	10460 Jan 31 17:13	26° 8 44'41		minimum elong	10466 May 24 01:16	9° II 00'31	6°04'28
evening set	10460 Apr 28 13:49	28° 8 22'46		max. Earth dist.	10466 May 26 10:53	9° II 05'00	37.35039 AU
				morning rise	10466 Jun 07 01:57	9° II 26'35	
conjunction	10460 May 13 13:36	28° 8 51'46	-3°18'52	retrograde	10466 Sep 03 05:29	11° II 01'47	
minimum elong	10460 May 13 13:29	28° 8 51'46	3°19'18	min. Earth dist.	10466 Nov 21 00:49	9° II 53'14	35.48961 AU
max. Earth dist.	10460 May 15 17:06	28° 8 55'58	35.82344 AU	opposition	10466 Nov 23 09:45	9° II 49'57	-6°37'56
morning rise	10460 May 28 12:39	29° 8 20'44		direct	10467 Feb 12 22:46	8° II 37'47	
	10460 Jun 19 10:38	0° II		evening set	10467 May 12 01:43	10° II 12'15	
retrograde	10460 Aug 23 21:16	0° II 58'33					
	10460 Nov 01 17:56	30° R 8		conjunction	10467 May 25 21:53	10° II 37'47	-6°29'18
min. Earth dist.	10460 Nov 10 06:23	29° 8 47'55	33.95026 AU	minimum elong	10467 May 25 21:42	10° II 37'46	6°29'46
opposition	10460 Nov 12 11:22	29° 8 44'46	-3°46'01	max. Earth dist.	10467 May 28 06:44	10° II 42'12	37.60657 AU

morning rise	10467 Jun 08 17:39	11°II03'18		conjunction	10474 Jun 05 07:10	21°II25'59	-9°08'44
retrograde	10467 Sep 05 02:00	12°II38'11		minimum elong	10474 Jun 05 06:56	21°II25'58	9°09'14
min. Earth dist.	10467 Nov 22 21:37	11°II29'59	35.74700 AU	max. Earth dist.	10474 Jun 07 19:31	21°II30'27	39.38592 AU
opposition	10467 Nov 25 07:43	11°II26'39	-7°04'11	morning rise	10474 Jun 17 11:06	21°II47'28	
direct	10468 Feb 14 20:39	10°II14'48		retrograde	10474 Sep 15 07:51	23°II20'46	
evening set	10468 May 13 02:38	11°II48'53		min. Earth dist.	10474 Dec 03 14:48	22°II14'34	37.53942 AU
				opposition	10474 Dec 06 04:18	22°II11'09	-9°48'38
conjunction	10468 May 26 17:44	12°II13'52	-6°54'00	direct	10475 Feb 25 22:00	21°II01'28	
minimum elong	10468 May 26 17:32	12°II13'51	6°54'29	evening set	10475 May 26 02:22	22°II33'35	
max. Earth dist.	10468 May 29 03:14	12°II18'17	37.86164 AU				
morning rise	10468 Jun 09 08:32	12°II38'50		conjunction	10475 Jun 06 23:57	22°II54'29	-9°28'58
retrograde	10468 Sep 05 22:26	14°II13'25		minimum elong	10475 Jun 06 23:44	22°II54'28	9°29'28
min. Earth dist.	10468 Nov 23 19:25	13°II05'27	36.00348 AU	max. Earth dist.	10475 Jun 09 12:36	22°II58'56	39.64015 AU
opposition	10468 Nov 26 05:23	13°II02'09	-7°29'45	morning rise	10475 Jun 18 21:31	23°II15'22	
direct	10469 Feb 15 17:17	11°II50'37		retrograde	10475 Sep 17 02:07	24°II48'34	
evening set	10469 May 15 03:20	13°II24'19		min. Earth dist.	10475 Dec 05 09:08	23°II42'38	37.79542 AU
				opposition	10475 Dec 07 22:44	23°II39'14	-10°09'23
conjunction	10469 May 28 13:14	13°II48'44	-7°18'03	direct	10476 Feb 27 15:16	22°II29'53	
minimum elong	10469 May 28 13:02	13°II48'43	7°18'32	evening set	10476 May 27 01:25	24°II01'50	
max. Earth dist.	10469 May 30 23:16	13°II53'10	38.11589 AU				
morning rise	10469 Jun 10 22:40	14°II13'08		conjunction	10476 Jun 07 16:24	24°II22'07	-9°48'34
retrograde	10469 Sep 07 17:01	15°II47'25		minimum elong	10476 Jun 07 16:10	24°II22'06	9°49'05
min. Earth dist.	10469 Nov 25 15:57	14°II39'44	36.25914 AU	max. Earth dist.	10476 Jun 10 05:54	24°II26'37	39.89359 AU
opposition	10469 Nov 28 02:22	14°II36'26	-7°54'37	morning rise	10476 Jun 19 07:07	24°II42'24	
direct	10470 Feb 17 16:28	13°II25'12		retrograde	10476 Sep 17 18:20	26°II15'30	
evening set	10470 May 17 03:45	14°II58'33		min. Earth dist.	10476 Dec 06 03:18	25°II09'50	38.05015 AU
				opposition	10476 Dec 08 16:46	25°II06'28	-10°29'29
conjunction	10470 May 30 08:00	15°II22'24	-7°41'28	direct	10477 Feb 28 10:12	23°II57'25	
minimum elong	10470 May 30 07:48	15°II22'23	7°41'58	evening set	10477 May 29 00:32	25°II29'15	
max. Earth dist.	10470 Jun 01 17:51	15°II26'47	38.36945 AU				
morning rise	10470 Jun 12 12:09	15°II46'14		conjunction	10477 Jun 09 08:29	25°II48'55	-10°07'34
retrograde	10470 Sep 09 12:18	17°II20'14		minimum elong	10477 Jun 09 08:16	25°II48'54	10°08'05
min. Earth dist.	10470 Nov 27 11:31	16°II12'51	36.51463 AU	max. Earth dist.	10477 Jun 11 21:10	25°II53'20	40.14549 AU
opposition	10470 Nov 29 22:53	16°II09'30	-8°18'48	morning rise	10477 Jun 20 16:29	26°II08'36	
direct	10471 Feb 19 13:34	14°II58'34		retrograde	10477 Sep 19 11:32	27°II41'37	
evening set	10471 May 19 03:51	16°II31'36		min. Earth dist.	10477 Dec 07 20:06	26°II36'15	38.30322 AU
				opposition	10477 Dec 10 10:20	26°II32'51	-10°48'56
conjunction	10471 Jun 01 02:31	16°II54'52	-8°04'15	direct	10478 Mar 02 03:34	25°II24'07	
minimum elong	10471 Jun 01 02:18	16°II54'52	8°04'44	evening set	10478 May 30 23:18	26°II55'49	
max. Earth dist.	10471 Jun 03 13:50	16°II59'21	38.62300 AU				
morning rise	10471 Jun 14 00:46	17°II18'08		conjunction	10478 Jun 11 00:22	27°II14'53	-10°25'58
retrograde	10471 Sep 11 04:29	18°II51'55		minimum elong	10478 Jun 11 00:09	27°II14'52	10°26'29
min. Earth dist.	10471 Nov 29 07:50	17°II44'46	36.77024 AU	max. Earth dist.	10478 Jun 13 13:55	27°II19'19	40.39530 AU
opposition	10471 Dec 01 18:54	17°II41'26	-8°42'18	morning rise	10478 Jun 22 01:16	27°II33'56	
direct	10472 Feb 21 11:54	16°II30'48		retrograde	10478 Sep 21 00:31	29°II06'54	
evening set	10472 May 20 03:54	18°II03'34		min. Earth dist.	10478 Dec 09 14:40	28°II01'43	38.55377 AU
				opposition	10478 Dec 12 03:39	27°II58'24	-11°07'46
conjunction	10472 Jun 01 20:27	18°II26'15	-8°26'23	direct	10479 Mar 03 23:11	26°II49'57	
minimum elong	10472 Jun 01 20:14	18°II26'14	8°26'53	evening set	10479 Jun 01 22:11	28°II21'32	
max. Earth dist.	10472 Jun 04 07:22	18°II30'40	38.87693 AU				
morning rise	10472 Jun 14 12:53	18°II48'55		conjunction	10479 Jun 12 15:54	28°II39'58	-10°43'48
retrograde	10472 Sep 11 20:57	20°II22'30		minimum elong	10479 Jun 12 15:42	28°II39'57	10°44'19
min. Earth dist.	10472 Nov 30 01:40	19°II15'43	37.02641 AU	max. Earth dist.	10479 Jun 15 04:18	28°II44'19	40.64238 AU
opposition	10472 Dec 02 14:30	19°II12'18	-9°05'06	morning rise	10479 Jun 23 09:35	28°II58'24	
direct	10473 Feb 22 08:38	18°II01'59			10479 Aug 03 12:09	0°☾	
evening set	10473 May 22 03:27	19°II34'30		retrograde	10479 Sep 22 14:28	0°☾31'19	
					10479 Nov 13 19:48	30°☾II	
conjunction	10473 Jun 03 13:57	19°II56'35	-8°47'53	min. Earth dist.	10479 Dec 11 06:42	29°II26'24	38.80133 AU
minimum elong	10473 Jun 03 13:44	19°II56'34	8°48'23	opposition	10479 Dec 13 20:25	29°II23'03	-11°26'00
max. Earth dist.	10473 Jun 06 02:24	20°II01'06	39.13129 AU	direct	10480 Mar 04 17:56	28°II14'52	
morning rise	10473 Jun 16 00:14	20°II18'40		evening set	10480 Jun 02 20:45	29°II46'21	
retrograde	10473 Sep 13 13:56	21°II52'07			10480 Jun 10 21:02	0°☾	
min. Earth dist.	10473 Dec 01 21:17	20°II45'34	37.28295 AU				
opposition	10473 Dec 04 09:47	20°II42'12	-9°27'12	conjunction	10480 Jun 13 07:07	0°☾04'09	-11°01'03
direct	10474 Feb 24 04:20	19°II32'12		minimum elong	10480 Jun 13 06:53	0°☾04'08	11°01'34
evening set	10474 May 24 03:01	21°II04'29		max. Earth dist.	10480 Jun 15 19:44	0°☾08'29	40.88633 AU
				morning rise	10480 Jun 23 17:29	0°☾21'57	

retrograde	10480 Sep 23 06:35	1°☾54'50		conjunction	10487 Jun 23 07:19	9°☾27'42	-12°46'17
min. Earth dist.	10480 Dec 12 00:16	0°☾50'04	39.04583 AU	minimum elong	10487 Jun 23 07:08	9°☾27'41	12°46'49
opposition	10480 Dec 14 13:06	0°☾46'47	-11°43'37	max. Earth dist.	10487 Jun 25 19:48	9°☾31'52	42.53354 AU
	10481 Jan 23 07:37	30°☿II		morning rise	10487 Jul 01 09:11	9°☾41'00	
direct	10481 Mar 06 10:13	29°II38'51		retrograde	10487 Oct 03 06:36	11°☾14'03	
	10481 Apr 16 05:55	0°☾		min. Earth dist.	10487 Dec 22 09:18	10°☾10'42	40.70031 AU
evening set	10481 Jun 04 19:04	1°☾10'13		opposition	10487 Dec 24 22:32	10°☾07'30	-13°30'30
				direct	10488 Mar 15 20:49	9°☾01'13	
conjunction	10481 Jun 14 21:54	1°☾27'23	-11°17'46	evening set	10488 Jun 16 02:55	10°☾32'34	
minimum elong	10481 Jun 14 21:43	1°☾27'22	11°18'17				
max. Earth dist.	10481 Jun 17 10:23	1°☾31'41	41.12733 AU	conjunction	10488 Jun 23 19:58	10°☾45'11	-12°59'08
morning rise	10481 Jun 25 00:37	1°☾44'34		minimum elong	10488 Jun 23 19:49	10°☾45'11	12°59'39
retrograde	10481 Sep 24 20:50	3°☾17'23		max. Earth dist.	10488 Jun 26 09:04	10°☾49'22	42.76265 AU
min. Earth dist.	10481 Dec 13 16:23	2°☾12'49	39.28728 AU	morning rise	10488 Jul 01 12:56	10°☾57'49	
opposition	10481 Dec 16 05:13	2°☾09'33	-12°00'40	retrograde	10488 Oct 03 18:33	12°☾31'00	
direct	10482 Mar 08 02:56	1°☾01'49		min. Earth dist.	10488 Dec 22 23:40	11°☾27'52	40.92995 AU
evening set	10482 Jun 06 17:16	2°☾33'06		opposition	10488 Dec 25 12:22	11°☾24'42	-13°43'29
				direct	10489 Mar 17 11:24	10°☾18'41	
conjunction	10482 Jun 16 12:17	2°☾49'38	-11°33'55	evening set	10489 Jun 18 00:13	11°☾50'08	
minimum elong	10482 Jun 16 12:05	2°☾49'37	11°34'25				
max. Earth dist.	10482 Jun 19 00:02	2°☾53'51	41.36553 AU	conjunction	10489 Jun 25 08:10	12°☾02'06	-13°11'28
morning rise	10482 Jun 26 07:25	3°☾06'11		minimum elong	10489 Jun 25 08:00	12°☾02'05	13°12'00
retrograde	10482 Sep 26 12:33	4°☾38'58		max. Earth dist.	10489 Jun 27 20:02	12°☾06'10	42.98931 AU
min. Earth dist.	10482 Dec 15 07:51	3°☾34'35	39.52647 AU	morning rise	10489 Jul 02 16:10	12°☾14'02	
opposition	10482 Dec 17 20:52	3°☾31'19	-12°17'07	retrograde	10489 Oct 05 06:48	13°☾47'24	
direct	10483 Mar 09 17:34	2°☾23'49		min. Earth dist.	10489 Dec 24 12:48	12°☾44'30	41.15694 AU
evening set	10483 Jun 08 15:13	3°☾55'02		opposition	10489 Dec 27 01:55	12°☾41'20	-13°55'56
				direct	10490 Mar 19 00:29	11°☾35'34	
conjunction	10483 Jun 18 02:27	4°☾10'56	-11°49'30	evening set	10490 Jun 19 21:38	13°☾07'10	
minimum elong	10483 Jun 18 02:16	4°☾10'55	11°50'02				
max. Earth dist.	10483 Jun 20 15:15	4°☾15'11	41.60177 AU	conjunction	10490 Jun 26 20:24	13°☾18'27	-13°23'19
morning rise	10483 Jun 27 13:34	4°☾26'49		minimum elong	10490 Jun 26 20:16	13°☾18'26	13°23'49
retrograde	10483 Sep 28 00:45	5°☾59'36		max. Earth dist.	10490 Jun 29 08:54	13°☾22'32	43.21292 AU
min. Earth dist.	10483 Dec 16 23:58	4°☾55'22	39.76382 AU	morning rise	10490 Jul 03 19:08	13°☾29'42	
opposition	10483 Dec 19 12:19	4°☾52'09	-12°32'58	retrograde	10490 Oct 06 17:08	15°☾03'14	
direct	10484 Mar 10 10:47	3°☾44'52		min. Earth dist.	10490 Dec 26 03:34	14°☾00'30	41.38051 AU
evening set	10484 Jun 09 13:00	5°☾16'03		opposition	10490 Dec 28 15:07	13°☾57'24	-14°07'52
				direct	10491 Mar 20 15:36	12°☾51'54	
conjunction	10484 Jun 18 16:00	5°☾31'18	-12°04'32	evening set	10491 Jun 21 19:17	14°☾23'39	
minimum elong	10484 Jun 18 15:49	5°☾31'17	12°05'02				
max. Earth dist.	10484 Jun 21 03:58	5°☾35'29	41.83655 AU	conjunction	10491 Jun 28 08:23	14°☾34'13	-13°34'41
morning rise	10484 Jun 27 19:04	5°☾46'32		minimum elong	10491 Jun 28 08:13	14°☾34'13	13°35'12
retrograde	10484 Sep 28 13:53	7°☾19'21		max. Earth dist.	10491 Jun 30 19:38	14°☾38'13	43.43298 AU
min. Earth dist.	10484 Dec 17 13:45	6°☾15'22	39.99994 AU	morning rise	10491 Jul 04 21:26	14°☾44'48	
opposition	10484 Dec 20 03:22	6°☾12'06	-12°48'13	retrograde	10491 Oct 08 04:21	16°☾18'31	
direct	10485 Mar 12 02:04	5°☾05'03		min. Earth dist.	10491 Dec 27 16:09	15°☾16'01	41.60019 AU
evening set	10485 Jun 11 10:35	6°☾36'14		opposition	10491 Dec 30 04:07	15°☾12'54	-14°19'19
				direct	10492 Mar 21 05:50	14°☾07'38	
conjunction	10485 Jun 20 05:27	6°☾50'50	-12°19'00	evening set	10492 Jun 22 16:46	15°☾39'33	
minimum elong	10485 Jun 20 05:16	6°☾50'49	12°19'32				
max. Earth dist.	10485 Jun 22 18:23	6°☾55'03	42.07015 AU	conjunction	10492 Jun 28 19:58	15°☾49'24	-13°45'35
morning rise	10485 Jun 29 00:19	7°☾05'25		minimum elong	10492 Jun 28 19:51	15°☾49'24	13°46'06
retrograde	10485 Sep 30 01:41	8°☾38'17		max. Earth dist.	10492 Jul 01 06:47	15°☾53'21	43.64895 AU
min. Earth dist.	10485 Dec 19 05:25	7°☾34'28	40.23491 AU	morning rise	10492 Jul 04 23:12	15°☾59'16	
opposition	10485 Dec 21 18:06	7°☾31'15	-13°02'53	retrograde	10492 Oct 08 17:38	17°☾33'13	
direct	10486 Mar 13 18:50	6°☾24'27		min. Earth dist.	10492 Dec 28 06:15	16°☾30'49	41.81578 AU
evening set	10486 Jun 13 08:10	7°☾55'40		opposition	10492 Dec 30 17:03	16°☾27'47	-14°30'18
				direct	10493 Mar 22 18:37	15°☾22'44	
conjunction	10486 Jun 21 18:35	8°☾09'36	-12°32'55	evening set	10493 Jun 24 14:38	16°☾54'50	
minimum elong	10486 Jun 21 18:24	8°☾09'35	12°33'26				
max. Earth dist.	10486 Jun 24 07:11	8°☾13'48	42.30267 AU	conjunction	10493 Jun 30 07:32	17°☾03'57	-13°56'03
morning rise	10486 Jun 30 04:56	8°☾23'33		minimum elong	10493 Jun 30 07:23	17°☾03'56	13°56'34
retrograde	10486 Oct 01 15:08	9°☾56'30		max. Earth dist.	10493 Jul 02 18:10	17°☾07'52	43.86097 AU
min. Earth dist.	10486 Dec 20 18:59	8°☾52'56	40.46843 AU	morning rise	10493 Jul 06 00:18	17°☾13'05	
opposition	10486 Dec 23 08:24	8°☾49'42	-13°16'59	retrograde	10493 Oct 10 06:22	18°☾47'14	
direct	10487 Mar 15 09:23	7°☾43'09		min. Earth dist.	10493 Dec 29 19:09	17°☾44'59	42.02731 AU
evening set	10487 Jun 15 05:31	9°☾14'26		opposition	10494 Jan 01 05:23	17°☾42'00	-14°40'48

direct	10494 Mar 24 05:47	16°☾37'07		retrograde	10500 Oct 19 06:45	27°☾07'23	
evening set	10494 Jun 26 12:37	18°☾09'27		min. Earth dist.	10501 Jan 08 05:15	26°☾06'10	43.43412 AU
				opposition	10501 Jan 10 13:10	26°☾03'22	-15°41'05
conjunction	10494 Jul 01 18:37	18°☾17'48 -14°06'03		direct	10501 Apr 02 14:01	24°☾59'50	
minimum elong	10494 Jul 01 18:30	18°☾17'48 14°06'34					
max. Earth dist.	10494 Jul 04 03:59	18°☾21'36 44.06921 AU		conjunction	10501 Jul 10 17:45	26°☾37'07 -15°03'27	
morning rise	10494 Jul 07 00:37	18°☾26'09		minimum elong	10501 Jul 10 17:41	26°☾37'07 15°03'56	
retrograde	10494 Oct 11 19:18	20°☾00'35		max. Earth dist.	10501 Jul 13 01:29	26°☾40'42 45.45834 AU	
min. Earth dist.	10494 Dec 31 07:11	18°☾58'28 42.23546 AU		retrograde	10501 Oct 20 15:50	28°☾16'44	
opposition	10495 Jan 02 17:31	18°☾55'30 -14°50'50		min. Earth dist.	10502 Jan 09 15:12	27°☾15'44 43.62458 AU	
direct	10495 Mar 25 16:03	17°☾50'48		opposition	10502 Jan 11 23:32	27°☾12'54 -15°47'53	
evening set	10495 Jun 28 10:49	19°☾23'22		direct	10502 Apr 03 23:51	26°☾09'35	
conjunction	10495 Jul 03 05:27	19°☾30'57 -14°15'36		conjunction	10502 Jul 12 03:16	27°☾46'27 -15°09'56	
minimum elong	10495 Jul 03 05:20	19°☾30'56 14°16'06		minimum elong	10502 Jul 12 03:12	27°☾46'26 15°10'26	
max. Earth dist.	10495 Jul 05 15:33	19°☾34'47 44.27437 AU		max. Earth dist.	10502 Jul 14 10:57	27°☾50'01 45.64576 AU	
morning rise	10495 Jul 07 23:59	19°☾38'30		retrograde	10502 Oct 21 23:34	29°☾25'41	
retrograde	10495 Oct 13 02:52	21°☾13'13		min. Earth dist.	10503 Jan 11 03:25	28°☾24'45 43.81105 AU	
min. Earth dist.	10496 Jan 01 20:14	20°☾11'13 42.44075 AU		opposition	10503 Jan 13 09:57	28°☾22'02 -15°54'17	
opposition	10496 Jan 04 05:25	20°☾08'17 -15°00'24		direct	10503 Apr 05 12:41	27°☾18'54	
direct	10496 Mar 26 06:06	19°☾03'46					
evening set	10496 Jun 29 09:45	20°☾36'40		conjunction	10503 Jul 13 12:36	28°☾55'21 -15°16'03	
				minimum elong	10503 Jul 13 12:33	28°☾55'20 15°16'31	
conjunction	10496 Jul 03 16:02	20°☾43'24 -14°24'42		max. Earth dist.	10503 Jul 15 19:24	28°☾58'51 45.82901 AU	
minimum elong	10496 Jul 03 15:56	20°☾43'24 14°25'12			10503 Aug 28 13:19	0°♂	
max. Earth dist.	10496 Jul 06 01:05	20°☾47'09 44.47717 AU		retrograde	10503 Oct 23 08:44	0°♂34'11	
morning rise	10496 Jul 07 22:17	20°☾50'07			10503 Dec 20 08:15	30°♂☾	
retrograde	10496 Oct 13 11:10	22°☾25'11		min. Earth dist.	10504 Jan 12 13:41	29°☾33'26 43.99288 AU	
min. Earth dist.	10497 Jan 02 06:59	21°☾23'23 42.64385 AU		opposition	10504 Jan 14 20:03	29°☾30'43 -16°00'18	
opposition	10497 Jan 04 16:59	21°☾20'25 -15°09'28		direct	10504 Apr 06 00:07	28°☾27'46	
direct	10497 Mar 27 19:25	20°☾16'05			10504 Jul 11 10:01	0°♂	
evening set	10497 Jul 01 09:16	21°☾49'23					
				conjunction	10504 Jul 13 21:46	0°♂03'48 -15°21'48	
conjunction	10497 Jul 05 02:19	21°☾55'13 -14°33'20		minimum elong	10504 Jul 13 21:43	0°♂03'48 15°22'17	
minimum elong	10497 Jul 05 02:13	21°☾55'13 14°33'49		max. Earth dist.	10504 Jul 16 03:12	0°♂07'12 46.00748 AU	
max. Earth dist.	10497 Jul 07 11:43	21°☾58'59 44.67785 AU		retrograde	10504 Oct 23 20:21	1°♂42'16	
morning rise	10497 Jul 08 19:18	22°☾01'02		min. Earth dist.	10505 Jan 13 00:46	0°♂41'36 44.16996 AU	
retrograde	10497 Oct 14 21:33	23°☾36'33		opposition	10505 Jan 15 06:07	0°♂38'57 -16°05'57	
min. Earth dist.	10498 Jan 03 19:25	22°☾34'51 42.84494 AU			10505 Feb 19 10:10	30°♂☾	
opposition	10498 Jan 06 04:26	22°☾31'57 -15°18'04		direct	10505 Apr 07 08:28	29°☾36'10	
direct	10498 Mar 29 08:04	21°☾27'49			10505 May 22 21:54	0°♂	
evening set	10498 Jul 03 10:33	23°☾01'37					
				conjunction	10505 Jul 15 06:50	1°♂11'47 -15°27'12	
conjunction	10498 Jul 06 12:33	23°☾06'27 -14°41'31		minimum elong	10505 Jul 15 06:49	1°♂11'47 15°27'40	
minimum elong	10498 Jul 06 12:28	23°☾06'26 14°42'01		max. Earth dist.	10505 Jul 17 12:19	1°♂15'10 46.18118 AU	
morning rise	10498 Jul 09 14:29	23°☾11'16		retrograde	10505 Oct 25 04:58	2°♂49'51	
max. Earth dist.	10498 Jul 08 21:54	23°☾10'11 44.87664 AU		min. Earth dist.	10506 Jan 14 11:46	1°♂49'15 44.34206 AU	
retrograde	10498 Oct 16 07:35	24°☾47'20		opposition	10506 Jan 16 15:52	1°♂46'41 -16°11'14	
min. Earth dist.	10499 Jan 05 06:11	23°☾45'49 43.04379 AU		direct	10506 Apr 08 18:26	0°♂44'03	
opposition	10499 Jan 07 15:22	23°☾42'55 -15°26'11					
direct	10499 Mar 30 19:50	22°☾38'59		conjunction	10506 Jul 16 15:36	2°♂19'15 -15°32'14	
evening set	10499 Jul 05 14:22	24°☾13'30		minimum elong	10506 Jul 16 15:33	2°♂19'15 15°32'42	
				max. Earth dist.	10506 Jul 18 19:12	2°♂22'30 46.35025 AU	
conjunction	10499 Jul 07 22:26	24°☾17'09 -14°49'15		retrograde	10506 Oct 26 13:09	3°♂56'55	
minimum elong	10499 Jul 07 22:21	24°☾17'08 14°49'44		min. Earth dist.	10507 Jan 15 21:06	2°♂56'27 44.50988 AU	
morning rise	10499 Jul 10 06:24	24°☾20'47		opposition	10507 Jan 18 01:13	2°♂53'52 -16°16'09	
max. Earth dist.	10499 Jul 10 06:47	24°☾20'48 45.07317 AU		direct	10507 Apr 10 02:49	1°♂51'23	
retrograde	10499 Oct 17 20:45	25°☾57'35					
min. Earth dist.	10500 Jan 06 17:18	24°☾56'15 43.24040 AU		conjunction	10507 Jul 18 00:11	3°♂26'11 -15°36'56	
opposition	10500 Jan 09 02:21	24°☾53'23 -15°33'51		minimum elong	10507 Jul 18 00:11	3°♂26'11 15°37'23	
direct	10500 Apr 01 03:54	23°☾49'39		max. Earth dist.	10507 Jul 20 04:04	3°♂29'27 46.51532 AU	
evening set	10500 Jul 08 02:01	25°☾25'25		retrograde	10507 Oct 27 19:54	5°♂03'29	
				min. Earth dist.	10508 Jan 17 08:06	4°♂03'04 44.67403 AU	
conjunction	10500 Jul 09 08:10	25°☾27'21 -14°56'33		opposition	10508 Jan 19 10:38	4°♂00'34 -16°20'42	
minimum elong	10500 Jul 09 08:05	25°☾27'21 14°57'03		direct	10508 Apr 10 13:22	2°♂58'14	
morning rise	10500 Jul 10 14:11	25°☾29'18					
max. Earth dist.	10500 Jul 11 17:18	25°☾31'03 45.26725 AU		conjunction	10508 Jul 18 08:28	4°♂32'38 -15°41'15	

minimum elong	10508 Jul 18 08:26	4°Ω32'38	15°41'42	min. Earth dist.	10517 Jan 26 17:06	13°Ω46'18	46.00799 AU
max. Earth dist.	10508 Jul 20 11:40	4°Ω35'51	46.67721 AU	opposition	10517 Jan 28 14:26	13°Ω44'07	-16°45'09
retrograde	10508 Oct 28 03:01	6°Ω09'34		direct	10517 Apr 20 15:37	12°Ω43'09	
min. Earth dist.	10509 Jan 17 16:41	5°Ω09'18	44.83510 AU				
opposition	10509 Jan 19 19:42	5°Ω06'48	-16°24'51	conjunction	10517 Jul 28 05:27	14°Ω14'37	-16°04'25
direct	10509 Apr 12 00:36	4°Ω04'36		minimum elong	10517 Jul 28 05:30	14°Ω14'38	16°04'50
				max. Earth dist.	10517 Jul 30 02:48	14°Ω17'22	47.99017 AU
conjunction	10509 Jul 19 16:37	5°Ω38'38	-15°45'12		10517 Aug 29 16:56	15°Ω	
minimum elong	10509 Jul 19 16:38	5°Ω38'38	15°45'39	retrograde	10517 Nov 07 05:13	15°Ω48'47	
max. Earth dist.	10509 Jul 21 19:02	5°Ω41'47	46.83617 AU		10518 Jan 18 19:41	15°RΩ	
retrograde	10509 Oct 29 13:44	7°Ω15'14		min. Earth dist.	10518 Jan 28 02:47	14°Ω49'21	46.13459 AU
min. Earth dist.	10510 Jan 19 02:25	6°Ω15'03	44.99349 AU	opposition	10518 Jan 29 22:05	14°Ω47'16	-16°46'16
opposition	10510 Jan 21 04:33	6°Ω12'36	-16°28'38	direct	10518 Apr 21 22:52	13°Ω46'24	
direct	10510 Apr 13 09:01	5°Ω10'33			10518 Jul 17 08:59	15°Ω	
conjunction	10510 Jul 21 00:44	6°Ω44'14	-15°48'46	conjunction	10518 Jul 29 12:33	15°Ω17'33	-16°05'27
minimum elong	10510 Jul 21 00:44	6°Ω44'14	15°49'13	minimum elong	10518 Jul 29 12:37	15°Ω17'33	16°05'51
max. Earth dist.	10510 Jul 23 03:33	6°Ω47'23	46.99258 AU	max. Earth dist.	10518 Jul 31 08:27	15°Ω20'13	48.11424 AU
retrograde	10510 Oct 30 23:19	8°Ω20'30		retrograde	10518 Nov 08 09:19	16°Ω51'24	
min. Earth dist.	10511 Jan 20 11:45	7°Ω20'26	45.14905 AU	min. Earth dist.	10519 Jan 29 10:03	15°Ω52'04	46.25650 AU
opposition	10511 Jan 22 13:14	7°Ω18'01	-16°32'02	opposition	10519 Jan 31 05:32	15°Ω49'58	-16°47'05
direct	10511 Apr 14 16:02	6°Ω16'08			10519 Mar 22 21:18	15°RΩ	
				direct	10519 Apr 23 07:45	14°Ω49'11	
conjunction	10511 Jul 22 08:27	7°Ω49'29	-15°52'00		10519 May 24 08:01	15°Ω	
minimum elong	10511 Jul 22 08:29	7°Ω49'29	15°52'27				
max. Earth dist.	10511 Jul 24 09:52	7°Ω52'33	47.14625 AU	conjunction	10519 Jul 30 19:15	16°Ω20'01	-16°06'12
retrograde	10511 Nov 01 08:55	9°Ω25'26		minimum elong	10519 Jul 30 19:18	16°Ω20'01	16°06'36
min. Earth dist.	10512 Jan 21 20:01	8°Ω25'32	45.30184 AU	max. Earth dist.	10519 Aug 01 14:14	16°Ω22'37	48.23389 AU
opposition	10512 Jan 23 21:46	8°Ω23'07	-16°35'04	retrograde	10519 Nov 09 15:27	17°Ω53'35	
direct	10512 Apr 14 22:08	7°Ω21'24		min. Earth dist.	10520 Jan 30 18:59	16°Ω54'14	46.37449 AU
				opposition	10520 Feb 01 13:00	16°Ω52'13	-16°47'36
conjunction	10512 Jul 22 16:13	8°Ω54'25	-15°54'52	direct	10520 Apr 23 17:33	15°Ω51'30	
minimum elong	10512 Jul 22 16:14	8°Ω54'25	15°55'18				
max. Earth dist.	10512 Jul 24 17:56	8°Ω57'29	47.29699 AU	conjunction	10520 Jul 31 02:03	17°Ω22'02	-16°06'38
retrograde	10512 Nov 01 13:36	10°Ω30'04		minimum elong	10520 Jul 31 02:08	17°Ω22'02	16°07'02
min. Earth dist.	10513 Jan 22 06:03	9°Ω30'14	45.45147 AU	max. Earth dist.	10520 Aug 01 21:14	17°Ω24'38	48.35008 AU
opposition	10513 Jan 24 06:14	9°Ω27'54	-16°37'44	retrograde	10520 Nov 09 22:37	18°Ω55'19	
direct	10513 Apr 16 07:57	8°Ω26'21		min. Earth dist.	10521 Jan 31 02:29	17°Ω56'01	46.48910 AU
				opposition	10521 Feb 01 20:07	17°Ω54'01	-16°47'48
conjunction	10513 Jul 23 23:49	9°Ω59'04	-15°57'23	direct	10521 Apr 25 01:49	16°Ω53'25	
minimum elong	10513 Jul 23 23:51	9°Ω59'04	15°57'50				
max. Earth dist.	10513 Jul 26 00:33	10°Ω02'04	47.44452 AU	conjunction	10521 Aug 01 08:32	18°Ω23'39	-16°06'46
retrograde	10513 Nov 02 19:13	11°Ω34'25		minimum elong	10521 Aug 01 08:36	18°Ω23'39	16°07'09
min. Earth dist.	10514 Jan 23 14:07	10°Ω34'45	45.59744 AU	max. Earth dist.	10521 Aug 03 02:09	18°Ω26'09	48.46319 AU
opposition	10514 Jan 25 14:24	10°Ω32'24	-16°40'03	retrograde	10521 Nov 11 07:44	19°Ω56'39	
direct	10514 Apr 17 17:55	9°Ω31'01		min. Earth dist.	10522 Feb 01 09:38	18°Ω57'27	46.60087 AU
				opposition	10522 Feb 03 03:09	18°Ω55'28	-16°47'41
conjunction	10514 Jul 25 07:20	11°Ω03'26	-15°59'36	direct	10522 Apr 26 06:37	17°Ω54'57	
minimum elong	10514 Jul 25 07:21	11°Ω03'26	16°00'00				
max. Earth dist.	10514 Jul 27 07:02	11°Ω06'21	47.58801 AU	conjunction	10522 Aug 02 15:02	19°Ω24'55	-16°06'36
retrograde	10514 Nov 04 04:30	12°Ω38'30		minimum elong	10522 Aug 02 15:08	19°Ω24'55	16°06'58
min. Earth dist.	10515 Jan 24 23:43	11°Ω38'54	45.73924 AU	max. Earth dist.	10522 Aug 04 09:03	19°Ω27'26	48.57349 AU
opposition	10515 Jan 26 22:29	11°Ω36'38	-16°42'04	retrograde	10522 Nov 12 12:54	20°Ω57'40	
direct	10515 Apr 19 02:36	10°Ω35'24		min. Earth dist.	10523 Feb 02 17:51	19°Ω58'30	46.70975 AU
				opposition	10523 Feb 04 10:00	19°Ω56'35	-16°47'14
conjunction	10515 Jul 26 14:53	12°Ω07'30	-16°01'29	direct	10523 Apr 27 13:12	18°Ω56'11	
minimum elong	10515 Jul 26 14:55	12°Ω07'30	16°01'55				
max. Earth dist.	10515 Jul 28 14:25	12°Ω10'24	47.72713 AU	conjunction	10523 Aug 03 21:23	20°Ω25'54	-16°06'07
retrograde	10515 Nov 05 12:33	13°Ω42'17		minimum elong	10523 Aug 03 21:27	20°Ω25'54	16°06'29
min. Earth dist.	10516 Jan 26 08:40	12°Ω42'46	45.87616 AU	max. Earth dist.	10523 Aug 05 14:19	20°Ω28'21	48.68119 AU
opposition	10516 Jan 28 06:31	12°Ω40'33	-16°43'45	retrograde	10523 Nov 13 17:20	21°Ω58'25	
direct	10516 Apr 19 11:05	11°Ω39'28		min. Earth dist.	10524 Feb 04 00:09	20°Ω59'23	46.81590 AU
				opposition	10524 Feb 05 16:46	20°Ω57'26	-16°46'29
conjunction	10516 Jul 26 22:07	13°Ω11'15	-16°03'05	direct	10524 Apr 27 20:00	19°Ω57'10	
minimum elong	10516 Jul 26 22:10	13°Ω11'15	16°03'30				
max. Earth dist.	10516 Jul 28 19:33	13°Ω14'01	47.86125 AU	conjunction	10524 Aug 04 03:29	21°Ω26'40	-16°05'20
retrograde	10516 Nov 05 22:30	14°Ω45'44		minimum elong	10524 Aug 04 03:36	21°Ω26'40	16°05'42

max. Earth dist.	10524 Aug 05 19:54	21° Ω 29'04	48.78594 AU			10533 Feb 11 16:42	30° $\mathcal{R}\mathcal{Q}$	
retrograde	10524 Nov 13 24:00	22° Ω 58'59		min. Earth dist.		10533 Feb 12 18:03	29° Ω 58'49	47.58499 AU
min. Earth dist.	10525 Feb 04 08:27	21° Ω 59'59	46.91903 AU	opposition		10533 Feb 14 01:25	29° Ω 57'20	-16°27'23
opposition	10525 Feb 05 23:34	21° Ω 58'07	-16°45'26	direct		10533 May 07 03:56	28° Ω 57'56	
direct	10525 Apr 29 03:36	20° Ω 57'58				10533 Jul 25 19:20	0° \mathfrak{M}	
conjunction	10525 Aug 05 09:47	22° Ω 27'15	-16°04'16	conjunction		10533 Aug 13 08:48	0° \mathfrak{M} 25'37	-15°46'29
minimum elong	10525 Aug 05 09:53	22° Ω 27'15	16°04'37	minimum elong		10533 Aug 13 08:58	0° \mathfrak{M} 25'38	15°46'47
max. Earth dist.	10525 Aug 07 02:07	22° Ω 29'39	48.88759 AU	max. Earth dist.		10533 Aug 14 17:03	0° \mathfrak{M} 27'30	49.53886 AU
retrograde	10525 Nov 15 06:15	23° Ω 59'22		retrograde		10533 Nov 23 07:47	1° \mathfrak{M} 56'12	
min. Earth dist.	10526 Feb 05 15:15	23° Ω 00'29	47.01858 AU	min. Earth dist.		10534 Feb 13 23:22	0° \mathfrak{M} 57'37	47.64941 AU
opposition	10526 Feb 07 05:57	22° Ω 58'39	-16°44'04	opposition		10534 Feb 15 06:58	0° \mathfrak{M} 56'08	-16°23'58
direct	10526 Apr 30 11:16	21° Ω 58'38				10534 Apr 21 06:13	30° $\mathcal{R}\mathcal{Q}$	
conjunction	10526 Aug 06 15:53	23° Ω 27'43	-16°02'55	direct		10534 May 08 08:05	29° Ω 56'47	
minimum elong	10526 Aug 06 16:00	23° Ω 27'43	16°03'16			10534 May 25 09:40	0° \mathfrak{M}	
max. Earth dist.	10526 Aug 08 06:22	23° Ω 29'59	48.98543 AU	conjunction		10534 Aug 14 14:15	1° \mathfrak{M} 24'18	-15°43'07
retrograde	10526 Nov 16 15:57	24° Ω 59'39		minimum elong		10534 Aug 14 14:23	1° \mathfrak{M} 24'19	15°43'24
min. Earth dist.	10527 Feb 06 22:33	24° Ω 00'50	47.11414 AU	max. Earth dist.		10534 Aug 15 21:48	1° \mathfrak{M} 26'09	49.60224 AU
opposition	10527 Feb 08 12:26	23° Ω 59'03	-16°42'27	retrograde		10534 Nov 24 11:38	2° \mathfrak{M} 54'43	
direct	10527 May 01 14:41	22° Ω 59'10		min. Earth dist.		10535 Feb 15 06:41	1° \mathfrak{M} 56'07	47.71082 AU
conjunction	10527 Aug 07 21:56	24° Ω 28'03	-16°01'18	opposition		10535 Feb 16 12:44	1° \mathfrak{M} 54'42	-16°20'16
minimum elong	10527 Aug 07 22:04	24° Ω 28'04	16°01'38	direct		10535 May 09 14:20	0° \mathfrak{M} 55'26	
max. Earth dist.	10527 Aug 09 12:28	24° Ω 30'20	49.07887 AU	conjunction		10535 Aug 15 19:34	2° \mathfrak{M} 22'47	-15°39'29
retrograde	10527 Nov 17 22:48	25° Ω 59'48		minimum elong		10535 Aug 15 19:44	2° \mathfrak{M} 22'47	15°39'46
min. Earth dist.	10528 Feb 08 06:48	25° Ω 01'01	47.20488 AU	max. Earth dist.		10535 Aug 17 03:09	2° \mathfrak{M} 24'37	49.66279 AU
opposition	10528 Feb 09 18:56	24° Ω 59'19	-16°40'33	retrograde		10535 Nov 25 15:43	3° \mathfrak{M} 53'03	
direct	10528 May 01 19:26	23° Ω 59'33		opposition		10536 Feb 17 18:20	2° \mathfrak{M} 53'06	-16°16'18
conjunction	10528 Aug 08 04:03	25° Ω 28'15	-15°59'26	min. Earth dist.		10536 Feb 16 12:15	2° \mathfrak{M} 54'31	47.76917 AU
minimum elong	10528 Aug 08 04:10	25° Ω 28'16	15°59'47	direct		10536 May 09 22:29	1° \mathfrak{M} 53'54	
max. Earth dist.	10528 Aug 09 16:50	25° Ω 30'25	49.16746 AU	conjunction		10536 Aug 16 00:50	3° \mathfrak{M} 21'06	-15°35'35
retrograde	10528 Nov 18 03:21	26° Ω 59'48		minimum elong		10536 Aug 16 00:59	3° \mathfrak{M} 21'06	15°35'51
min. Earth dist.	10529 Feb 08 13:11	26° Ω 01'07	47.29051 AU	max. Earth dist.		10536 Aug 17 06:45	3° \mathfrak{M} 22'50	49.72028 AU
opposition	10529 Feb 10 01:11	25° Ω 59'26	-16°38'25	retrograde		10536 Nov 26 00:06	4° \mathfrak{M} 51'13	
direct	10529 May 03 00:52	24° Ω 59'45		opposition		10537 Feb 17 23:52	3° \mathfrak{M} 51'21	-16°12'04
conjunction	10529 Aug 09 10:02	26° Ω 28'15	-15°57'20	min. Earth dist.		10537 Feb 16 18:35	3° \mathfrak{M} 52'44	47.82445 AU
minimum elong	10529 Aug 09 10:10	26° Ω 28'16	15°57'40	direct		10537 May 11 03:11	2° \mathfrak{M} 52'15	
max. Earth dist.	10529 Aug 10 21:33	26° Ω 30'21	49.25071 AU	conjunction		10537 Aug 17 06:12	4° \mathfrak{M} 19'17	-15°31'26
retrograde	10529 Nov 19 07:38	27° Ω 59'38		minimum elong		10537 Aug 17 06:22	4° \mathfrak{M} 19'18	15°31'42
min. Earth dist.	10530 Feb 09 21:30	27° Ω 00'55	47.37083 AU	max. Earth dist.		10537 Aug 18 12:23	4° \mathfrak{M} 21'02	49.77443 AU
opposition	10530 Feb 11 07:30	26° Ω 59'19	-16°36'03	retrograde		10537 Nov 27 07:19	5° \mathfrak{M} 49'17	
direct	10530 May 04 10:09	25° Ω 59'44		min. Earth dist.		10538 Feb 18 01:33	4° \mathfrak{M} 50'48	47.87599 AU
conjunction	10530 Aug 10 15:59	27° Ω 28'01	-15°55'00	opposition		10538 Feb 19 05:22	4° \mathfrak{M} 49'30	-16°07'35
minimum elong	10530 Aug 10 16:06	27° Ω 28'02	15°55'20	direct		10538 May 12 07:05	3° \mathfrak{M} 50'28	
max. Earth dist.	10530 Aug 12 03:05	27° Ω 30'05	49.32892 AU	conjunction		10538 Aug 18 11:26	5° \mathfrak{M} 17'23	-15°27'02
retrograde	10530 Nov 20 13:15	28° Ω 59'11		minimum elong		10538 Aug 18 11:36	5° \mathfrak{M} 17'24	15°27'17
min. Earth dist.	10531 Feb 11 04:03	28° Ω 00'31	47.44617 AU	max. Earth dist.		10538 Aug 19 16:02	5° \mathfrak{M} 19'02	49.82473 AU
opposition	10531 Feb 12 13:27	27° Ω 58'57	-16°33'25	retrograde		10538 Nov 28 13:15	6° \mathfrak{M} 47'15	
direct	10531 May 05 18:41	26° Ω 59'25		min. Earth dist.		10539 Feb 19 06:54	5° \mathfrak{M} 48'51	47.92336 AU
conjunction	10531 Aug 11 21:38	28° Ω 27'30	-15°52'25	opposition		10539 Feb 20 10:41	5° \mathfrak{M} 47'33	-16°02'51
minimum elong	10531 Aug 11 21:47	28° Ω 27'30	15°52'44	direct		10539 May 13 09:54	4° \mathfrak{M} 48'36	
max. Earth dist.	10531 Aug 13 06:54	28° Ω 29'27	49.40256 AU	conjunction		10539 Aug 19 16:43	6° \mathfrak{M} 15'24	-15°22'24
retrograde	10531 Nov 21 22:17	29° Ω 58'28		minimum elong		10539 Aug 19 16:54	6° \mathfrak{M} 15'25	15°22'40
min. Earth dist.	10532 Feb 12 10:45	28° Ω 59'49	47.51744 AU	max. Earth dist.		10539 Aug 20 20:13	6° \mathfrak{M} 16'59	49.87044 AU
opposition	10532 Feb 13 19:29	28° Ω 58'17	-16°30'32	retrograde		10539 Nov 29 16:43	7° \mathfrak{M} 45'09	
direct	10532 May 05 22:42	27° Ω 58'49		opposition		10540 Feb 21 16:12	6° \mathfrak{M} 45'31	-15°57'53
conjunction	10532 Aug 12 03:14	29° Ω 26'42	-15°49'35	min. Earth dist.		10540 Feb 20 14:35	6° \mathfrak{M} 46'43	47.96590 AU
minimum elong	10532 Aug 12 03:21	29° Ω 26'42	15°49'53	direct		10540 May 13 16:47	5° \mathfrak{M} 46'38	
max. Earth dist.	10532 Aug 13 12:42	29° Ω 28'39	49.47235 AU	conjunction		10540 Aug 19 22:04	7° \mathfrak{M} 13'19	-15°17'34
retrograde	10532 Sep 05 10:17	0° \mathfrak{M}		minimum elong		10540 Aug 19 22:15	7° \mathfrak{M} 13'20	15°17'48
retrograde	10532 Nov 22 04:01	0° \mathfrak{M} 57'28		max. Earth dist.		10540 Aug 21 01:00	7° \mathfrak{M} 14'52	49.91113 AU

retrograde	10540 Nov 29 20:14	8° \mathring{M} 42'58	direct	10548 May 21 10:04	13° \mathring{M} 25'26	
opposition	10541 Feb 21 21:33	7° \mathring{M} 43'23 -15°52'42	evening set	10548 Aug 23 15:31	14° \mathring{M} 45'56	
min. Earth dist.	10541 Feb 20 20:30	7° \mathring{M} 44'33 48.00297 AU				
direct	10541 May 15 00:40	6° \mathring{M} 44'33	conjunction	10548 Aug 27 14:08	14° \mathring{M} 51'20 -14°30'57	
			minimum elong	10548 Aug 27 14:21	14° \mathring{M} 51'21 14°31'08	
conjunction	10541 Aug 21 03:21	8° \mathring{M} 11'07 -15°12'31	max. Earth dist.	10548 Aug 28 09:05	14° \mathring{M} 52'25 50.07122 AU	
minimum elong	10541 Aug 21 03:31	8° \mathring{M} 11'07 15°12'46	morning rise	10548 Aug 31 13:22	14° \mathring{M} 56'46	
max. Earth dist.	10541 Aug 22 03:53	8° \mathring{M} 12'32 49.94624 AU	retrograde	10548 Dec 07 17:54	16° \mathring{M} 20'14	
retrograde	10541 Dec 01 04:10	9° \mathring{M} 40'38	opposition	10549 Mar 01 13:40	15° \mathring{M} 20'55 -15°03'08	
min. Earth dist.	10542 Feb 22 03:04	8° \mathring{M} 42'12 48.03456 AU	min. Earth dist.	10549 Feb 28 19:15	15° \mathring{M} 21'46 48.14004 AU	
opposition	10542 Feb 23 02:44	8° \mathring{M} 41'06 -15°47'19	direct	10549 May 22 11:05	14° \mathring{M} 22'21	
direct	10542 May 16 04:56	7° \mathring{M} 42'18	evening set	10549 Aug 24 09:47	15° \mathring{M} 42'14	
conjunction	10542 Aug 22 08:38	9° \mathring{M} 08'44 -15°07'16	conjunction	10549 Aug 28 19:01	15° \mathring{M} 48'14 -14°24'04	
minimum elong	10542 Aug 22 08:50	9° \mathring{M} 08'45 15°07'30	minimum elong	10549 Aug 28 19:13	15° \mathring{M} 48'15 14°24'14	
max. Earth dist.	10542 Aug 23 08:55	9° \mathring{M} 10'08 49.97596 AU	max. Earth dist.	10549 Aug 29 13:05	15° \mathring{M} 49'16 50.07576 AU	
retrograde	10542 Dec 02 09:56	10° \mathring{M} 38'08	morning rise	10549 Sep 02 04:53	15° \mathring{M} 54'16	
min. Earth dist.	10543 Feb 23 09:51	9° \mathring{M} 39'39 48.06085 AU	retrograde	10549 Dec 08 20:45	17° \mathring{M} 17'06	
opposition	10543 Feb 24 07:58	9° \mathring{M} 38'38 -15°41'44	opposition	10550 Mar 02 18:27	16° \mathring{M} 17'49 -14°55'51	
direct	10543 May 17 10:11	8° \mathring{M} 39'52	min. Earth dist.	10550 Mar 02 01:58	16° \mathring{M} 18'35 48.14179 AU	
			direct	10550 May 23 16:36	15° \mathring{M} 19'19	
conjunction	10543 Aug 23 13:36	10° \mathring{M} 06'11 -15°01'48	evening set	10550 Aug 25 04:58	16° \mathring{M} 38'36	
minimum elong	10543 Aug 23 13:46	10° \mathring{M} 06'11 15°02'01				
max. Earth dist.	10543 Aug 24 12:21	10° \mathring{M} 07'29 50.00088 AU	conjunction	10550 Aug 29 23:58	16° \mathring{M} 45'09 -14°16'57	
retrograde	10543 Dec 03 14:18	11° \mathring{M} 35'27	minimum elong	10550 Aug 30 00:11	16° \mathring{M} 45'10 14°17'07	
opposition	10544 Feb 25 13:04	10° \mathring{M} 35'58 -15°35'54	max. Earth dist.	10550 Aug 30 17:49	16° \mathring{M} 46'10 50.07672 AU	
min. Earth dist.	10544 Feb 24 15:03	10° \mathring{M} 36'59 48.08269 AU	morning rise	10550 Sep 03 19:36	16° \mathring{M} 51'45	
direct	10544 May 17 13:19	9° \mathring{M} 37'13	retrograde	10550 Dec 09 22:41	18° \mathring{M} 13'59	
evening set	10544 Aug 22 08:43	11° \mathring{M} 01'30	opposition	10551 Mar 03 23:13	17° \mathring{M} 14'46 -14°48'20	
			min. Earth dist.	10551 Mar 03 07:00	17° \mathring{M} 15'31 48.13950 AU	
conjunction	10544 Aug 23 18:36	11° \mathring{M} 03'26 -14°56'06	direct	10551 May 25 00:27	16° \mathring{M} 16'17	
minimum elong	10544 Aug 23 18:49	11° \mathring{M} 03'27 14°56'19	evening set	10551 Aug 26 00:29	17° \mathring{M} 35'02	
morning rise	10544 Aug 25 04:57	11° \mathring{M} 05'24				
max. Earth dist.	10544 Aug 24 16:28	11° \mathring{M} 04'42 50.02152 AU	conjunction	10551 Aug 31 04:41	17° \mathring{M} 42'07 -14°09'37	
retrograde	10544 Dec 03 17:37	12° \mathring{M} 32'36	minimum elong	10551 Aug 31 04:53	17° \mathring{M} 42'07 14°09'46	
opposition	10545 Feb 25 18:06	11° \mathring{M} 33'08 -15°29'51	max. Earth dist.	10551 Aug 31 20:25	17° \mathring{M} 43'01 50.07332 AU	
min. Earth dist.	10545 Feb 24 21:54	11° \mathring{M} 34'05 48.10064 AU	morning rise	10551 Sep 05 09:38	17° \mathring{M} 49'14	
direct	10545 May 18 18:50	10° \mathring{M} 34'25	retrograde	10551 Dec 11 06:17	19° \mathring{M} 10'56	
evening set	10545 Aug 22 16:49	11° \mathring{M} 57'24	opposition	10552 Mar 04 04:07	18° \mathring{M} 11'44 -14°40'36	
			min. Earth dist.	10552 Mar 03 13:14	18° \mathring{M} 12'26 48.13267 AU	
conjunction	10545 Aug 24 23:39	12° \mathring{M} 00'32 -14°50'10	direct	10552 May 25 05:15	17° \mathring{M} 13'18	
minimum elong	10545 Aug 24 23:50	12° \mathring{M} 00'33 14°50'23	evening set	10552 Aug 25 20:46	18° \mathring{M} 31'32	
max. Earth dist.	10545 Aug 25 21:17	12° \mathring{M} 01'47 50.03866 AU				
morning rise	10545 Aug 27 06:56	12° \mathring{M} 03'43	conjunction	10552 Aug 31 09:46	18° \mathring{M} 39'05 -14°02'05	
retrograde	10545 Dec 04 20:49	13° \mathring{M} 29'37	minimum elong	10552 Aug 31 09:58	18° \mathring{M} 39'06 14°02'15	
opposition	10546 Feb 26 23:00	12° \mathring{M} 30'11 -15°23'32	max. Earth dist.	10552 Sep 01 01:12	18° \mathring{M} 39'58 50.06496 AU	
min. Earth dist.	10546 Feb 26 02:47	12° \mathring{M} 31'07 48.11509 AU	morning rise	10552 Sep 05 23:29	18° \mathring{M} 46'42	
direct	10546 May 20 02:12	11° \mathring{M} 31'29	retrograde	10552 Dec 11 12:46	20° \mathring{M} 07'53	
evening set	10546 Aug 23 06:15	12° \mathring{M} 53'31	opposition	10553 Mar 05 08:53	19° \mathring{M} 08'42 -14°32'40	
			min. Earth dist.	10553 Mar 04 19:39	19° \mathring{M} 09'19 48.12051 AU	
conjunction	10546 Aug 26 04:26	12° \mathring{M} 57'31 -14°44'00	direct	10553 May 26 10:11	18° \mathring{M} 10'16	
minimum elong	10546 Aug 26 04:39	12° \mathring{M} 57'32 14°44'12	evening set	10553 Aug 26 17:30	19° \mathring{M} 27'59	
max. Earth dist.	10546 Aug 27 00:25	12° \mathring{M} 58'40 50.05247 AU				
morning rise	10546 Aug 29 03:09	13° \mathring{M} 01'34	conjunction	10553 Sep 01 14:46	19° \mathring{M} 36'01 -13°54'21	
retrograde	10546 Dec 06 04:07	14° \mathring{M} 26'33	minimum elong	10553 Sep 01 14:59	19° \mathring{M} 36'02 13°54'29	
min. Earth dist.	10547 Feb 27 08:37	13° \mathring{M} 28'02 48.12648 AU	max. Earth dist.	10553 Sep 02 04:19	19° \mathring{M} 36'48 50.05135 AU	
opposition	10547 Feb 28 03:55	13° \mathring{M} 27'08 -15°16'59	morning rise	10553 Sep 07 12:51	19° \mathring{M} 44'06	
direct	10547 May 21 06:50	12° \mathring{M} 28'29	retrograde	10553 Dec 12 18:39	21° \mathring{M} 04'46	
evening set	10547 Aug 23 22:10	13° \mathring{M} 49'42	opposition	10554 Mar 06 13:38	20° \mathring{M} 05'35 -14°24'32	
			min. Earth dist.	10554 Mar 06 00:48	20° \mathring{M} 06'11 48.10301 AU	
conjunction	10547 Aug 27 09:22	13° \mathring{M} 54'27 -14°37'36	direct	10554 May 27 12:00	19° \mathring{M} 07'09	
minimum elong	10547 Aug 27 09:34	13° \mathring{M} 54'27 14°37'47	evening set	10554 Aug 27 14:17	20° \mathring{M} 24'22	
max. Earth dist.	10547 Aug 28 05:37	13° \mathring{M} 55'36 50.06330 AU				
morning rise	10547 Aug 30 21:05	13° \mathring{M} 59'14	conjunction	10554 Sep 02 19:36	20° \mathring{M} 32'52 -13°46'25	
retrograde	10547 Dec 07 11:03	15° \mathring{M} 23'24	minimum elong	10554 Sep 02 19:49	20° \mathring{M} 32'52 13°46'33	
opposition	10548 Feb 29 08:51	14° \mathring{M} 24'02 -15°10'11	max. Earth dist.	10554 Sep 03 07:48	20° \mathring{M} 33'33 50.03231 AU	
min. Earth dist.	10548 Feb 28 14:35	14° \mathring{M} 24'53 48.13479 AU	morning rise	10554 Sep 09 01:48	20° \mathring{M} 41'23	

retrograde	10554 Dec 13 22:13	22° <u>01</u> '33		minimum elong	10561 Sep 09 05:30	27° <u>08</u> '05	12°44'52
opposition	10555 Mar 07 18:27	21° <u>02</u> '21 -14°16'12		max. Earth dist.	10561 Sep 09 11:22	27° <u>08</u> '25	49.79395 AU
min. Earth dist.	10555 Mar 07 07:41	21° <u>02</u> '51 48.08036 AU		morning rise	10561 Sep 17 13:40	27° <u>19</u> '26	
direct	10555 May 28 16:20	20° <u>03</u> '53		retrograde	10561 Dec 20 07:13	28° <u>36</u> '45	
evening set	10555 Aug 28 11:30	21° <u>20</u> '38		opposition	10562 Mar 14 02:42	27° <u>37</u> '28	-13°11'23
				min. Earth dist.	10562 Mar 13 20:59	27° <u>37</u> '44	47.82165 AU
conjunction	10555 Sep 04 00:32	21° <u>29</u> '34 -13°38'17		direct	10562 Jun 04 02:30	26° <u>38</u> '55	
minimum elong	10555 Sep 04 00:46	21° <u>29</u> '35 13°38'25		evening set	10562 Sep 01 20:29	27° <u>53</u> '01	
max. Earth dist.	10555 Sep 04 12:22	21° <u>30</u> '14 50.00862 AU					
morning rise	10555 Sep 10 14:25	21° <u>38</u> '32		conjunction	10562 Sep 10 10:12	28° <u>04</u> '40	-12°35'03
retrograde	10555 Dec 14 23:59	22° <u>58</u> '12		minimum elong	10562 Sep 10 10:25	28° <u>04</u> '41	12°35'06
opposition	10556 Mar 07 23:05	21° <u>58</u> '59 -14°07'39		max. Earth dist.	10562 Sep 10 16:22	28° <u>05</u> '01	49.74718 AU
min. Earth dist.	10556 Mar 07 12:26	21° <u>59</u> '28 48.05327 AU		morning rise	10562 Sep 19 01:01	28° <u>16</u> '25	
direct	10556 May 28 23:11	21° <u>00</u> '29		retrograde	10562 Dec 21 13:46	29° <u>33</u> '26	
evening set	10556 Aug 28 08:45	22° <u>16</u> '47		opposition	10563 Mar 15 07:24	28° <u>34</u> '10	-13°01'11
				min. Earth dist.	10563 Mar 15 02:53	28° <u>34</u> '22	47.77155 AU
conjunction	10556 Sep 04 05:14	22° <u>26</u> '07 -13°29'57		direct	10563 Jun 05 06:58	27° <u>35</u> '37	
minimum elong	10556 Sep 04 05:26	22° <u>26</u> '08 13°30'03		evening set	10563 Sep 02 19:16	28° <u>49</u> '26	
max. Earth dist.	10556 Sep 04 15:12	22° <u>26</u> '41 49.98076 AU					
morning rise	10556 Sep 11 02:42	22° <u>35</u> '31		conjunction	10563 Sep 11 15:11	29° <u>01</u> '28	-12°25'07
retrograde	10556 Dec 15 05:39	23° <u>54</u> '44		minimum elong	10563 Sep 11 15:24	29° <u>01</u> '28	12°25'11
opposition	10557 Mar 09 03:46	22° <u>55</u> '28 -13°58'52		max. Earth dist.	10563 Sep 11 19:45	29° <u>01</u> '43	49.69638 AU
min. Earth dist.	10557 Mar 08 18:23	22° <u>55</u> '54 48.02241 AU		morning rise	10563 Sep 20 12:22	29° <u>13</u> '34	
direct	10557 May 30 04:39	21° <u>56</u> '57			10563 Oct 28 09:35	0° <u>00</u> '	
evening set	10557 Aug 29 06:19	23° <u>12</u> '49		retrograde	10563 Dec 22 20:43	0° <u>00</u> '30'18	
					10564 Feb 17 09:09	30° <u>00</u> '	
conjunction	10557 Sep 05 10:09	23° <u>22</u> '33 -13°21'22		opposition	10564 Mar 15 12:03	29° <u>31</u> '03	-12°50'46
minimum elong	10557 Sep 05 10:23	23° <u>22</u> '34 13°21'29		min. Earth dist.	10564 Mar 15 08:01	29° <u>31</u> '14	47.71710 AU
max. Earth dist.	10557 Sep 05 20:13	23° <u>23</u> '07 49.94931 AU		direct	10564 Jun 05 08:25	28° <u>32</u> '30	
morning rise	10557 Sep 12 14:56	23° <u>32</u> '22		evening set	10564 Sep 02 18:05	29° <u>46</u> '03	
retrograde	10557 Dec 16 11:26	24° <u>51</u> '09					
opposition	10558 Mar 10 08:16	23° <u>51</u> '52 -13°49'51		conjunction	10564 Sep 11 20:16	29° <u>58</u> '26	-12°14'58
min. Earth dist.	10558 Mar 09 23:54	23° <u>52</u> '15 47.98810 AU		minimum elong	10564 Sep 11 20:30	29° <u>58</u> '27	12°15'00
direct	10558 May 31 09:47	22° <u>53</u> '19		max. Earth dist.	10564 Sep 11 23:21	29° <u>58</u> '36	49.64065 AU
evening set	10558 Aug 30 04:06	24° <u>08</u> '46			10564 Sep 12 23:50	0° <u>00</u> '	
				morning rise	10564 Sep 20 23:48	0° <u>00</u> '10'53	
conjunction	10558 Sep 06 14:55	24° <u>18</u> '55 -13°12'34		retrograde	10564 Dec 23 01:19	1° <u>02</u> '27'20	
minimum elong	10558 Sep 06 15:08	24° <u>18</u> '55 13°12'40		opposition	10565 Mar 16 16:57	0° <u>02</u> '28'05	-12°40'09
max. Earth dist.	10558 Sep 06 23:39	24° <u>19</u> '25 49.91481 AU		min. Earth dist.	10565 Mar 16 15:04	0° <u>02</u> '28'10	47.65743 AU
morning rise	10558 Sep 14 02:45	24° <u>29</u> '07			10565 Apr 11 20:41	30° <u>00</u> '	
retrograde	10558 Dec 17 18:29	25° <u>47</u> '29		direct	10565 Jun 06 12:31	29° <u>29</u> '32	
opposition	10559 Mar 11 12:50	24° <u>48</u> '12 -13°40'36			10565 Jul 30 22:59	0° <u>00</u> '	
min. Earth dist.	10559 Mar 11 04:19	24° <u>48</u> '36 47.95091 AU		evening set	10565 Sep 03 17:18	0° <u>00</u> '42'49	
direct	10559 Jun 01 11:09	23° <u>49</u> '38					
evening set	10559 Aug 31 01:46	25° <u>04</u> '43		conjunction	10565 Sep 13 01:34	0° <u>00</u> '55'33	-12°04'38
				minimum elong	10565 Sep 13 01:47	0° <u>00</u> '55'33	12°04'41
conjunction	10559 Sep 07 19:33	25° <u>15</u> '15 -13°03'32		max. Earth dist.	10565 Sep 13 03:58	0° <u>00</u> '55'41	49.57964 AU
minimum elong	10559 Sep 07 19:47	25° <u>15</u> '16 13°03'38		morning rise	10565 Sep 22 11:04	1° <u>00</u> '08'21	
max. Earth dist.	10559 Sep 08 03:35	25° <u>15</u> '42 49.87736 AU		retrograde	10565 Dec 24 03:28	2° <u>00</u> '24'31	
morning rise	10559 Sep 15 14:28	25° <u>25</u> '50		opposition	10566 Mar 17 21:35	1° <u>00</u> '25'14	-12°29'19
retrograde	10559 Dec 18 22:40	26° <u>43</u> '50		min. Earth dist.	10566 Mar 17 20:08	1° <u>00</u> '25'18	47.59227 AU
opposition	10560 Mar 11 17:34	25° <u>44</u> '32 -13°31'06		direct	10566 Jun 07 19:10	0° <u>00</u> '26'39	
min. Earth dist.	10560 Mar 11 10:44	25° <u>44</u> '51 47.91083 AU		evening set	10566 Sep 04 16:36	1° <u>00</u> '39'40	
direct	10560 Jun 01 15:01	24° <u>45</u> '58					
evening set	10560 Aug 30 23:54	26° <u>00</u> '42		conjunction	10566 Sep 14 06:41	1° <u>00</u> '52'44	-11°54'06
				minimum elong	10566 Sep 14 06:55	1° <u>00</u> '52'45	11°54'08
conjunction	10560 Sep 08 00:29	26° <u>11</u> '37 -12°54'16		max. Earth dist.	10566 Sep 14 06:47	1° <u>00</u> '52'44	49.51323 AU
minimum elong	10560 Sep 08 00:42	26° <u>11</u> '37 12°54'21		morning rise	10566 Sep 23 22:17	2° <u>00</u> '05'53	
max. Earth dist.	10560 Sep 08 08:27	26° <u>12</u> '04 49.83720 AU		retrograde	10566 Dec 25 09:32	3° <u>00</u> '21'47	
morning rise	10560 Sep 16 02:03	26° <u>22</u> '35		opposition	10567 Mar 19 02:28	2° <u>00</u> '22'27	-12°18'18
retrograde	10560 Dec 19 00:35	27° <u>40</u> '14		min. Earth dist.	10567 Mar 19 02:38	2° <u>00</u> '22'27	47.52201 AU
opposition	10561 Mar 12 22:02	26° <u>40</u> '56 -13°21'21		direct	10567 Jun 09 00:28	1° <u>00</u> '23'49	
min. Earth dist.	10561 Mar 12 15:06	26° <u>41</u> '16 47.86783 AU		evening set	10567 Sep 05 15:45	2° <u>00</u> '36'35	
direct	10561 Jun 02 21:53	25° <u>42</u> '22					
evening set	10561 Aug 31 22:10	26° <u>56</u> '47		conjunction	10567 Sep 15 11:49	2° <u>00</u> '49'58	-11°43'22
				minimum elong	10567 Sep 15 12:01	2° <u>00</u> '49'59	11°43'24
conjunction	10561 Sep 09 05:17	27° <u>08</u> '04 -12°44'46		max. Earth dist.	10567 Sep 15 11:40	2° <u>00</u> '49'58	49.44187 AU

morning rise	10567 Sep 25 09:11	3° <u>♁</u> 03'28	conjunction	10574 Sep 22 00:52	9° <u>♁</u> 32'30	-10°22'02
retrograde	10567 Dec 26 15:39	4° <u>♁</u> 19'06	minimum elong	10574 Sep 22 01:05	9° <u>♁</u> 32'30	10°22'00
opposition	10568 Mar 19 07:19	3° <u>♁</u> 19'43 -12°07'03	max. Earth dist.	10574 Sep 21 17:53	9° <u>♁</u> 32'06	48.84221 AU
min. Earth dist.	10568 Mar 19 08:39	3° <u>♁</u> 19'39 47.44699 AU	morning rise	10574 Oct 03 12:20	9° <u>♁</u> 48'15	
direct	10568 Jun 09 06:16	2° <u>♁</u> 21'02	retrograde	10575 Jan 02 08:39	11° <u>♁</u> 02'22	
evening set	10568 Sep 05 15:21	3° <u>♁</u> 33'31	opposition	10575 Mar 26 17:36	10° <u>♁</u> 02'37	-10°41'51
			min. Earth dist.	10575 Mar 27 01:01	10° <u>♁</u> 02'16	46.82599 AU
conjunction	10568 Sep 15 16:59	3° <u>♁</u> 47'15 -11°32'26	direct	10575 Jun 16 11:07	9° <u>♁</u> 03'31	
minimum elong	10568 Sep 15 17:13	3° <u>♁</u> 47'16 11°32'27	evening set	10575 Sep 11 15:41	10° <u>♁</u> 14'41	
max. Earth dist.	10568 Sep 15 15:22	3° <u>♁</u> 47'09 49.36623 AU				
morning rise	10568 Sep 25 20:07	4° <u>♁</u> 01'05	conjunction	10575 Sep 23 06:29	10° <u>♁</u> 30'38	-10°09'30
retrograde	10568 Dec 27 00:02	5° <u>♁</u> 16'26	minimum elong	10575 Sep 23 06:42	10° <u>♁</u> 30'38	10°09'26
opposition	10569 Mar 20 11:57	4° <u>♁</u> 17'00 -11°55'36	max. Earth dist.	10575 Sep 22 23:12	10° <u>♁</u> 30'12	48.74297 AU
min. Earth dist.	10569 Mar 20 13:34	4° <u>♁</u> 16'56 47.36802 AU	morning rise	10575 Oct 04 22:50	10° <u>♁</u> 46'41	
direct	10569 Jun 10 07:19	3° <u>♁</u> 18'14	retrograde	10576 Jan 03 12:19	12° <u>♁</u> 00'40	
evening set	10569 Sep 06 14:55	4° <u>♁</u> 30'29	opposition	10576 Mar 26 22:44	11° <u>♁</u> 00'51	-10°28'45
			min. Earth dist.	10576 Mar 27 06:25	11° <u>♁</u> 00'30	46.72300 AU
conjunction	10569 Sep 16 22:13	4° <u>♁</u> 44'33 -11°21'16	direct	10576 Jun 16 16:47	10° <u>♁</u> 01'41	
minimum elong	10569 Sep 16 22:25	4° <u>♁</u> 44'34 11°21'16	evening set	10576 Sep 11 16:42	11° <u>♁</u> 12'44	
max. Earth dist.	10569 Sep 16 19:30	4° <u>♁</u> 44'24 49.28668 AU				
morning rise	10569 Sep 27 07:02	4° <u>♁</u> 58'43	conjunction	10576 Sep 23 12:16	11° <u>♁</u> 28'59	-9°56'46
retrograde	10569 Dec 28 05:57	6° <u>♁</u> 13'49	minimum elong	10576 Sep 23 12:28	11° <u>♁</u> 29'00	9°56'43
opposition	10570 Mar 21 16:51	5° <u>♁</u> 14'19 -11°43'54	max. Earth dist.	10576 Sep 23 02:36	11° <u>♁</u> 28'25	48.63888 AU
min. Earth dist.	10570 Mar 21 20:19	5° <u>♁</u> 14'10 47.28545 AU	morning rise	10576 Oct 05 09:43	11° <u>♁</u> 45'20	
direct	10570 Jun 11 09:56	4° <u>♁</u> 15'30	retrograde	10577 Jan 03 18:29	12° <u>♁</u> 59'11	
evening set	10570 Sep 07 14:35	5° <u>♁</u> 27'32	opposition	10577 Mar 28 03:57	11° <u>♁</u> 59'19	-10°15'25
			min. Earth dist.	10577 Mar 28 13:34	11° <u>♁</u> 58'52	46.61500 AU
conjunction	10570 Sep 18 03:24	5° <u>♁</u> 41'55 -11°09'53	direct	10577 Jun 17 22:16	11° <u>♁</u> 00'04	
minimum elong	10570 Sep 18 03:37	5° <u>♁</u> 41'55 11°09'52	evening set	10577 Sep 12 17:49	12° <u>♁</u> 11'00	
max. Earth dist.	10570 Sep 18 00:36	5° <u>♁</u> 41'45 49.20388 AU				
morning rise	10570 Sep 28 17:36	5° <u>♁</u> 56'23	conjunction	10577 Sep 24 18:20	12° <u>♁</u> 27'32	-9°43'50
retrograde	10570 Dec 29 07:13	7° <u>♁</u> 11'16	minimum elong	10577 Sep 24 18:33	12° <u>♁</u> 27'33	9°43'45
opposition	10571 Mar 22 21:39	6° <u>♁</u> 11'42 -11°31'58	max. Earth dist.	10577 Sep 24 08:05	12° <u>♁</u> 26'57	48.52949 AU
min. Earth dist.	10571 Mar 23 00:52	6° <u>♁</u> 11'33 47.19968 AU	morning rise	10577 Oct 06 20:28	12° <u>♁</u> 44'12	
direct	10571 Jun 12 17:36	5° <u>♁</u> 12'49	retrograde	10578 Jan 04 23:42	13° <u>♁</u> 57'55	
evening set	10571 Sep 08 14:30	6° <u>♁</u> 24'38	opposition	10578 Mar 29 09:20	12° <u>♁</u> 57'57	-10°01'53
			min. Earth dist.	10578 Mar 29 20:08	12° <u>♁</u> 57'27	46.50149 AU
conjunction	10571 Sep 19 08:34	6° <u>♁</u> 39'20 -10°58'16	direct	10578 Jun 19 05:23	11° <u>♁</u> 58'37	
minimum elong	10571 Sep 19 08:47	6° <u>♁</u> 39'21 10°58'14	evening set	10578 Sep 13 19:05	13° <u>♁</u> 09'25	
max. Earth dist.	10571 Sep 19 03:56	6° <u>♁</u> 39'04 49.11803 AU				
morning rise	10571 Sep 30 04:21	6° <u>♁</u> 54'08	conjunction	10578 Sep 26 00:10	13° <u>♁</u> 26'15	-9°30'41
retrograde	10571 Dec 30 11:54	8° <u>♁</u> 08'48	minimum elong	10578 Sep 26 00:22	13° <u>♁</u> 26'16	9°30'36
opposition	10572 Mar 23 02:34	7° <u>♁</u> 09'11 -11°19'48	max. Earth dist.	10578 Sep 25 12:07	13° <u>♁</u> 25'33	48.41481 AU
min. Earth dist.	10572 Mar 23 06:59	7° <u>♁</u> 08'59 47.11109 AU	morning rise	10578 Oct 08 07:03	13° <u>♁</u> 43'13	
direct	10572 Jun 12 23:49	6° <u>♁</u> 10'14	retrograde	10579 Jan 06 08:15	14° <u>♁</u> 56'48	
evening set	10572 Sep 08 14:25	7° <u>♁</u> 21'52	opposition	10579 Mar 30 14:42	13° <u>♁</u> 56'45	-9°48'08
			min. Earth dist.	10579 Mar 31 02:09	13° <u>♁</u> 56'12	46.38287 AU
conjunction	10572 Sep 19 13:58	7° <u>♁</u> 36'53 -10°46'25	direct	10579 Jun 20 08:18	12° <u>♁</u> 57'18	
minimum elong	10572 Sep 19 14:12	7° <u>♁</u> 36'54 10°46'24	evening set	10579 Sep 14 20:28	14° <u>♁</u> 07'59	
max. Earth dist.	10572 Sep 19 09:32	7° <u>♁</u> 36'38 49.02928 AU				
morning rise	10572 Sep 30 15:00	7° <u>♁</u> 52'00	conjunction	10579 Sep 27 06:12	14° <u>♁</u> 25'07	-9°17'20
retrograde	10572 Dec 30 18:03	9° <u>♁</u> 06'29	minimum elong	10579 Sep 27 06:24	14° <u>♁</u> 25'08	9°17'14
opposition	10573 Mar 24 07:34	8° <u>♁</u> 06'48 -11°07'23	max. Earth dist.	10579 Sep 26 16:48	14° <u>♁</u> 24'21	48.29509 AU
min. Earth dist.	10573 Mar 24 12:51	8° <u>♁</u> 06'34 47.01939 AU	morning rise	10579 Oct 09 17:45	14° <u>♁</u> 42'22	
direct	10573 Jun 14 05:40	7° <u>♁</u> 07'48	retrograde	10580 Jan 07 16:01	15° <u>♁</u> 55'50	
evening set	10573 Sep 09 14:45	8° <u>♁</u> 19'16	opposition	10580 Mar 30 20:12	14° <u>♁</u> 55'40	-9°34'10
			min. Earth dist.	10580 Mar 31 09:40	14° <u>♁</u> 55'02	46.25959 AU
conjunction	10573 Sep 20 19:22	8° <u>♁</u> 34'35 -10°34'20	direct	10580 Jun 20 11:28	13° <u>♁</u> 56'06	
minimum elong	10573 Sep 20 19:35	8° <u>♁</u> 34'36 10°34'17	evening set	10580 Sep 14 22:01	15° <u>♁</u> 06'42	
max. Earth dist.	10573 Sep 20 13:32	8° <u>♁</u> 34'15 48.93751 AU				
morning rise	10573 Oct 02 01:38	8° <u>♁</u> 50'01	conjunction	10580 Sep 27 12:19	15° <u>♁</u> 24'07	-9°03'45
retrograde	10574 Jan 01 02:08	10° <u>♁</u> 04'19	minimum elong	10580 Sep 27 12:30	15° <u>♁</u> 24'08	9°03'39
opposition	10574 Mar 25 12:25	9° <u>♁</u> 04'36 -10°54'44	max. Earth dist.	10580 Sep 26 22:31	15° <u>♁</u> 23'19	48.17113 AU
min. Earth dist.	10574 Mar 25 17:56	9° <u>♁</u> 04'21 46.92457 AU	morning rise	10580 Oct 10 04:17	15° <u>♁</u> 41'39	
direct	10574 Jun 15 07:55	8° <u>♁</u> 05'33	retrograde	10581 Jan 07 19:33	16° <u>♁</u> 55'00	
evening set	10574 Sep 10 15:07	9° <u>♁</u> 16'51	opposition	10581 Apr 01 01:36	15° <u>♁</u> 54'44	-9°19'58
			min. Earth dist.	10581 Apr 01 15:04	15° <u>♁</u> 54'06	46.13226 AU

direct	10581 Jun 21 18:36	14° <u>♁</u> 55'03	retrograde	10588 Jan 15 17:12	23° <u>♁</u> 56'36
evening set	10581 Sep 15 23:51	16° <u>♁</u> 05'34	opposition	10588 Apr 07 18:32	22° <u>♁</u> 55'39 -7°33'34
			min. Earth dist.	10588 Apr 08 14:07	22° <u>♁</u> 54'42 45.15697 AU
conjunction	10581 Sep 28 18:23	16° <u>♁</u> 23'16 -8°49'57	direct	10588 Jun 28 10:58	21° <u>♁</u> 55'13
minimum elong	10581 Sep 28 18:35	16° <u>♁</u> 23'17 8°49'51	evening set	10588 Sep 21 17:55	23° <u>♁</u> 05'44
max. Earth dist.	10581 Sep 28 02:37	16° <u>♁</u> 22'21 48.04332 AU			
morning rise	10581 Oct 11 14:54	16° <u>♁</u> 41'06	conjunction	10588 Oct 05 16:25	23° <u>♁</u> 25'22 -7°06'44
retrograde	10582 Jan 09 00:35	17° <u>♁</u> 54'21	minimum elong	10588 Oct 05 16:35	23° <u>♁</u> 25'23 7°06'33
opposition	10582 Apr 02 07:06	16° <u>♁</u> 53'59 -9°05'31	max. Earth dist.	10588 Oct 04 18:40	23° <u>♁</u> 24'05 47.06589 AU
min. Earth dist.	10582 Apr 02 22:03	16° <u>♁</u> 53'16 46.00152 AU	morning rise	10588 Oct 19 16:53	23° <u>♁</u> 45'09
direct	10582 Jun 23 01:20	15° <u>♁</u> 54'10	retrograde	10589 Jan 16 03:09	24° <u>♁</u> 58'21
evening set	10582 Sep 17 01:41	17° <u>♁</u> 04'38	opposition	10589 Apr 09 00:52	23° <u>♁</u> 57'18 -7°17'23
max. Earth dist.	10582 Sep 29 09:02	17° <u>♁</u> 21'42 47.91229 AU	min. Earth dist.	10589 Apr 09 21:19	23° <u>♁</u> 56'18 45.00371 AU
			direct	10589 Jun 29 15:21	22° <u>♁</u> 56'44
conjunction	10582 Sep 30 00:40	17° <u>♁</u> 22'37 -8°35'56	evening set	10589 Sep 22 21:38	24° <u>♁</u> 07'18
minimum elong	10582 Sep 30 00:51	17° <u>♁</u> 22'38 8°35'48			
morning rise	10582 Oct 13 01:20	17° <u>♁</u> 40'43	conjunction	10589 Oct 06 23:43	24° <u>♁</u> 27'12 -6°51'03
retrograde	10583 Jan 10 06:34	18° <u>♁</u> 53'56	minimum elong	10589 Oct 06 23:53	24° <u>♁</u> 27'13 6°50'53
opposition	10583 Apr 03 12:47	17° <u>♁</u> 53'26 -8°50'49	max. Earth dist.	10589 Oct 06 00:30	24° <u>♁</u> 25'50 46.91121 AU
min. Earth dist.	10583 Apr 04 04:19	17° <u>♁</u> 52'42 45.86774 AU	morning rise	10589 Oct 21 03:43	24° <u>♁</u> 47'14
direct	10583 Jun 24 08:10	16° <u>♁</u> 53'31	retrograde	10590 Jan 17 13:48	26° <u>♁</u> 00'29
evening set	10583 Sep 18 03:44	18° <u>♁</u> 03'56	opposition	10590 Apr 10 07:25	24° <u>♁</u> 59'17 -7°00'58
			min. Earth dist.	10590 Apr 11 05:57	24° <u>♁</u> 58'12 44.84537 AU
conjunction	10583 Oct 01 06:47	18° <u>♁</u> 22'12 -8°21'39	direct	10590 Jun 30 18:39	23° <u>♁</u> 58'34
minimum elong	10583 Oct 01 06:59	18° <u>♁</u> 22'13 8°21'32	evening set	10590 Sep 24 01:35	25° <u>♁</u> 09'12
max. Earth dist.	10583 Sep 30 13:52	18° <u>♁</u> 21'13 47.77855 AU	max. Earth dist.	10590 Oct 07 07:14	25° <u>♁</u> 27'56 46.75171 AU
morning rise	10583 Oct 14 11:46	18° <u>♁</u> 40'35			
retrograde	10584 Jan 11 15:41	19° <u>♁</u> 53'45	conjunction	10590 Oct 08 07:11	25° <u>♁</u> 29'22 -6°35'10
opposition	10584 Apr 03 18:30	18° <u>♁</u> 53'10 -8°35'53	minimum elong	10590 Oct 08 07:21	25° <u>♁</u> 29'23 6°34'58
min. Earth dist.	10584 Apr 04 10:14	18° <u>♁</u> 52'25 45.73139 AU	morning rise	10590 Oct 22 14:33	25° <u>♁</u> 49'40
direct	10584 Jun 24 11:20	17° <u>♁</u> 53'08	retrograde	10591 Jan 18 20:40	27° <u>♁</u> 02'55
evening set	10584 Sep 18 06:03	19° <u>♁</u> 03'32	opposition	10591 Apr 11 14:00	26° <u>♁</u> 01'35 -6°44'18
			min. Earth dist.	10591 Apr 12 12:37	26° <u>♁</u> 00'29 44.68228 AU
conjunction	10584 Oct 01 13:15	19° <u>♁</u> 22'05 -8°07'09	direct	10591 Jul 02 00:57	25° <u>♁</u> 00'42
minimum elong	10584 Oct 01 13:26	19° <u>♁</u> 22'05 8°07'01	evening set	10591 Sep 25 05:43	26° <u>♁</u> 11'24
max. Earth dist.	10584 Sep 30 19:25	19° <u>♁</u> 21'02 47.64209 AU			
morning rise	10584 Oct 14 22:21	19° <u>♁</u> 40'45	conjunction	10591 Oct 09 14:32	26° <u>♁</u> 31'49 -6°19'02
retrograde	10585 Jan 11 23:28	20° <u>♁</u> 53'53	minimum elong	10591 Oct 09 14:41	26° <u>♁</u> 31'49 6°18'50
opposition	10585 Apr 05 00:18	19° <u>♁</u> 53'12 -8°20'40	max. Earth dist.	10591 Oct 08 12:24	26° <u>♁</u> 30'15 46.58752 AU
min. Earth dist.	10585 Apr 05 17:36	19° <u>♁</u> 52'22 45.59237 AU	morning rise	10591 Oct 24 01:25	26° <u>♁</u> 52'22
direct	10585 Jun 25 14:58	18° <u>♁</u> 53'04	retrograde	10592 Jan 20 03:00	28° <u>♁</u> 05'40
evening set	10585 Sep 19 08:37	20° <u>♁</u> 03'29	opposition	10592 Apr 11 20:49	27° <u>♁</u> 04'10 -6°27'24
			min. Earth dist.	10592 Apr 12 21:20	27° <u>♁</u> 02'58 44.51485 AU
conjunction	10585 Oct 02 19:53	20° <u>♁</u> 22'18 -7°52'24	direct	10592 Jul 02 08:49	26° <u>♁</u> 03'05
minimum elong	10585 Oct 02 20:04	20° <u>♁</u> 22'19 7°52'16	evening set	10592 Sep 25 10:08	27° <u>♁</u> 13'51
max. Earth dist.	10585 Oct 02 01:58	20° <u>♁</u> 21'15 47.50309 AU			
morning rise	10585 Oct 16 08:53	20° <u>♁</u> 41'15	conjunction	10592 Oct 09 22:21	27° <u>♁</u> 34'32 -6°02'41
retrograde	10586 Jan 13 05:11	21° <u>♁</u> 54'22	minimum elong	10592 Oct 09 22:31	27° <u>♁</u> 34'32 6°02'28
opposition	10586 Apr 06 06:12	20° <u>♁</u> 53'36 -8°05'13	max. Earth dist.	10592 Oct 08 20:09	27° <u>♁</u> 32'57 46.41919 AU
min. Earth dist.	10586 Apr 06 23:20	20° <u>♁</u> 52'47 45.45063 AU	morning rise	10592 Oct 24 12:17	27° <u>♁</u> 55'20
direct	10586 Jun 26 20:38	19° <u>♁</u> 53'22	retrograde	10593 Jan 20 07:45	29° <u>♁</u> 08'41
evening set	10586 Sep 20 11:22	21° <u>♁</u> 03'49	opposition	10593 Apr 13 03:33	28° <u>♁</u> 07'00 -6°10'16
max. Earth dist.	10586 Oct 03 06:32	21° <u>♁</u> 21'45 47.36109 AU	min. Earth dist.	10593 Apr 14 04:43	28° <u>♁</u> 05'46 44.34355 AU
			direct	10593 Jul 03 18:32	27° <u>♁</u> 05'44
conjunction	10586 Oct 04 02:22	21° <u>♁</u> 22'55 -7°37'24	evening set	10593 Sep 26 14:55	28° <u>♁</u> 16'36
minimum elong	10586 Oct 04 02:32	21° <u>♁</u> 22'55 7°37'15	max. Earth dist.	10593 Oct 10 02:12	28° <u>♁</u> 35'50 46.24736 AU
morning rise	10586 Oct 17 19:25	21° <u>♁</u> 42'08			
retrograde	10587 Jan 14 11:57	22° <u>♁</u> 55'16	conjunction	10593 Oct 11 06:06	28° <u>♁</u> 37'31 -5°46'05
opposition	10587 Apr 07 12:21	21° <u>♁</u> 54'25 -7°49'31	minimum elong	10593 Oct 11 06:15	28° <u>♁</u> 37'31 5°45'52
min. Earth dist.	10587 Apr 08 07:07	21° <u>♁</u> 53'30 45.30576 AU	morning rise	10593 Oct 25 23:15	28° <u>♁</u> 58'34
direct	10587 Jun 28 02:51	20° <u>♁</u> 54'05		10593 Dec 19 13:58	0° <u>♁</u>
evening set	10587 Sep 21 14:24	22° <u>♁</u> 04'34	retrograde	10594 Jan 21 16:44	0° <u>♁</u> 12'00
				10594 Feb 24 04:41	30° <u>♁</u>
conjunction	10587 Oct 05 09:21	22° <u>♁</u> 23'56 -7°22'11	opposition	10594 Apr 14 10:30	29° <u>♁</u> 10'09 -5°52'51
minimum elong	10587 Oct 05 09:31	22° <u>♁</u> 23'56 7°22'02	min. Earth dist.	10594 Apr 15 12:17	29° <u>♁</u> 08'52 44.16914 AU
max. Earth dist.	10587 Oct 04 13:25	22° <u>♁</u> 22'45 47.21558 AU	direct	10594 Jul 05 00:24	28° <u>♁</u> 08'41
morning rise	10587 Oct 19 06:02	22° <u>♁</u> 43'26	evening set	10594 Sep 27 19:43	29° <u>♁</u> 19'39

max. Earth dist.	10594 Oct 11 09:17	29° <u>♁</u> 39'05	46.07243 AU	morning rise	10600 Nov 04 05:03	6° <u>♂</u> 33'08	
				retrograde	10601 Jan 30 11:48	7° <u>♂</u> 47'49	
conjunction	10594 Oct 12 13:56	29° <u>♁</u> 40'48	-5°29'15	opposition	10601 Apr 22 16:28	6° <u>♂</u> 44'51	-3°43'39
minimum elong	10594 Oct 12 14:04	29° <u>♁</u> 40'49	5°29'01	min. Earth dist.	10601 Apr 23 23:51	6° <u>♂</u> 43'16	42.87456 AU
	10594 Oct 25 22:14	0° <u>♂</u>		direct	10601 Jul 12 22:15	5° <u>♂</u> 42'10	
morning rise	10594 Oct 27 09:59	0° <u>♂</u> 02'07		evening set	10601 Oct 05 16:08	6° <u>♂</u> 54'39	
retrograde	10595 Jan 23 02:03	1° <u>♂</u> 15'39		max. Earth dist.	10601 Oct 19 15:31	7° <u>♂</u> 15'15	44.77328 AU
opposition	10595 Apr 15 17:46	0° <u>♂</u> 13'36	-5°35'11				
min. Earth dist.	10595 Apr 16 20:53	0° <u>♂</u> 12'16	43.99189 AU	conjunction	10601 Oct 21 03:31	7° <u>♂</u> 17'29	-3°24'30
	10595 Apr 27 07:15	30° <u>♂</u> <u>♁</u>		minimum elong	10601 Oct 21 03:37	7° <u>♂</u> 17'29	3°24'12
direct	10595 Jul 06 06:11	29° <u>♁</u> 11'58		morning rise	10601 Nov 05 16:43	7° <u>♂</u> 40'26	
	10595 Sep 11 23:45	0° <u>♂</u>					
evening set	10595 Sep 29 00:57	0° <u>♂</u> 23'03					
conjunction	10595 Oct 13 22:04	0° <u>♂</u> 44'28	-5°12'10				
minimum elong	10595 Oct 13 22:12	0° <u>♂</u> 44'28	5°11'56				
max. Earth dist.	10595 Oct 12 17:15	0° <u>♂</u> 42'43	45.89503 AU				
morning rise	10595 Oct 28 20:56	1° <u>♂</u> 06'00					
retrograde	10596 Jan 24 11:36	2° <u>♂</u> 19'39					
opposition	10596 Apr 16 00:57	1° <u>♂</u> 17'27	-5°17'15				
min. Earth dist.	10596 Apr 17 03:49	1° <u>♂</u> 16'07	43.81233 AU				
direct	10596 Jul 06 11:54	0° <u>♂</u> 15'37					
evening set	10596 Sep 29 06:35	1° <u>♂</u> 26'53					
max. Earth dist.	10596 Oct 12 23:41	1° <u>♂</u> 46'40	45.71526 AU				
conjunction	10596 Oct 14 06:20	1° <u>♂</u> 48'32	-4°54'50				
minimum elong	10596 Oct 14 06:28	1° <u>♂</u> 48'32	4°54'36				
morning rise	10596 Oct 29 08:03	2° <u>♂</u> 10'19					
retrograde	10597 Jan 24 20:53	3° <u>♂</u> 24'07					
opposition	10597 Apr 17 08:32	2° <u>♂</u> 21'45	-4°59'03				
min. Earth dist.	10597 Apr 18 12:59	2° <u>♂</u> 20'20	43.63052 AU				
direct	10597 Jul 07 18:28	1° <u>♂</u> 19'44					
evening set	10597 Sep 30 12:24	2° <u>♂</u> 31'12					
max. Earth dist.	10597 Oct 14 08:28	2° <u>♂</u> 51'14	45.53317 AU				
conjunction	10597 Oct 15 14:54	2° <u>♂</u> 53'05	-4°37'15				
minimum elong	10597 Oct 15 15:01	2° <u>♂</u> 53'06	4°36'59				
morning rise	10597 Oct 30 19:01	3° <u>♂</u> 15'07					
retrograde	10598 Jan 26 03:14	4° <u>♂</u> 29'06					
opposition	10598 Apr 18 16:10	3° <u>♂</u> 26'35	-4°40'36				
min. Earth dist.	10598 Apr 19 20:46	3° <u>♂</u> 25'09	43.44627 AU				
direct	10598 Jul 09 03:50	2° <u>♂</u> 24'24					
evening set	10598 Oct 01 18:44	3° <u>♂</u> 36'05					
conjunction	10598 Oct 16 23:34	3° <u>♂</u> 58'13	-4°19'25				
minimum elong	10598 Oct 16 23:41	3° <u>♂</u> 58'13	4°19'10				
max. Earth dist.	10598 Oct 15 15:34	3° <u>♂</u> 56'15	45.34863 AU				
morning rise	10598 Nov 01 06:17	4° <u>♂</u> 20'29					
retrograde	10599 Jan 27 13:07	5° <u>♂</u> 34'40					
opposition	10599 Apr 20 00:03	4° <u>♂</u> 32'01	-4°21'52				
min. Earth dist.	10599 Apr 21 05:30	4° <u>♂</u> 30'32	43.25944 AU				
direct	10599 Jul 10 10:36	3° <u>♂</u> 29'41					
evening set	10599 Oct 03 01:17	4° <u>♂</u> 41'36					
max. Earth dist.	10599 Oct 16 23:43	5° <u>♂</u> 01'57	45.16090 AU				
conjunction	10599 Oct 18 08:32	5° <u>♂</u> 03'58	-4°01'21				
minimum elong	10599 Oct 18 08:39	5° <u>♂</u> 03'59	4°01'04				
morning rise	10599 Nov 02 17:30	5° <u>♂</u> 26'29					
retrograde	10600 Jan 29 00:23	6° <u>♂</u> 40'55					
opposition	10600 Apr 21 08:16	5° <u>♂</u> 38'06	-4°02'53				
min. Earth dist.	10600 Apr 22 15:23	5° <u>♂</u> 36'32	43.06906 AU				
direct	10600 Jul 11 16:23	4° <u>♂</u> 35'36					
evening set	10600 Oct 04 08:28	5° <u>♂</u> 47'48					
max. Earth dist.	10600 Oct 18 08:12	6° <u>♂</u> 08'19	44.96938 AU				
conjunction	10600 Oct 19 17:56	6° <u>♂</u> 10'24	-3°43'02				
minimum elong	10600 Oct 19 18:02	6° <u>♂</u> 10'24	3°42'46				