

retrograde	11100 Jan 07 13:45	11° <u>03</u> '22		min. Earth dist.	11106 Apr 20 10:14	4° <u>29</u> '23	18.23232 AU
opposition	11100 Mar 25 09:22	9° <u>02</u> '58	0°51'38	direct	11106 Jul 04 04:57	2° <u>29</u> '04	
min. Earth dist.	11100 Mar 25 06:12	9° <u>03</u> '18	18.62091 AU	evening set	11106 Oct 03 16:52	5° <u>39</u> '23	
direct	11100 Jun 08 11:18	7° <u>04</u> '26					
evening set	11100 Sep 07 05:20	10° <u>09</u> '16		conjunction	11106 Oct 20 02:11	6° <u>37</u> '26	0°58'36
				minimum elong	11106 Oct 20 02:11	6° <u>37</u> '26	0°58'57
conjunction	11100 Sep 23 10:24	11° <u>05</u> '37	0°47'57	max. Earth dist.	11106 Oct 19 22:40	6° <u>36</u> '55	20.19879 AU
minimum elong	11100 Sep 23 10:24	11° <u>05</u> '37	0°48'00	morning rise	11106 Nov 05 13:42	7° <u>35</u> '50	
max. Earth dist.	11100 Sep 23 12:23	11° <u>05</u> '55	20.59111 AU	retrograde	11107 Feb 07 21:57	10° <u>52</u> '05	
morning rise	11100 Oct 09 18:13	12° <u>02</u> '22		opposition	11107 Apr 24 22:29	8° <u>50</u> '01	1°05'31
retrograde	11101 Jan 12 03:28	15° <u>14</u> '14		min. Earth dist.	11107 Apr 25 01:28	8° <u>49</u> '42	18.16564 AU
opposition	11101 Mar 29 20:11	13° <u>13</u> '34	0°54'32	direct	11107 Jul 08 17:35	6° <u>49</u> '13	
min. Earth dist.	11101 Mar 29 18:11	13° <u>13</u> '46	18.56060 AU	evening set	11107 Oct 08 09:47	10° <u>00</u> '37	
direct	11101 Jun 12 20:32	11° <u>14</u> '43					
evening set	11101 Sep 11 17:05	14° <u>20</u> '20		conjunction	11107 Oct 24 19:56	10° <u>58</u> '59	0°59'18
				minimum elong	11107 Oct 24 19:55	10° <u>58</u> '59	0°59'40
conjunction	11101 Sep 27 23:02	15° <u>16</u> '57	0°50'25	max. Earth dist.	11107 Oct 24 16:43	10° <u>58</u> '30	20.13234 AU
minimum elong	11101 Sep 27 23:02	15° <u>16</u> '57	0°50'32	morning rise	11107 Nov 10 07:47	11° <u>57</u> '39	
max. Earth dist.	11101 Sep 28 01:05	15° <u>17</u> '15	20.52931 AU		11108 Jan 19 21:11	15° <u> </u>	
morning rise	11101 Oct 14 07:22	16° <u>13</u> '58		retrograde	11108 Feb 12 16:05	15° <u>14</u> '40	
retrograde	11102 Jan 16 16:47	19° <u>26</u> '30			11108 Mar 07 16:36	15° <u>R</u>	
opposition	11102 Apr 03 07:21	17° <u>25</u> '35	0°57'09	opposition	11108 Apr 28 12:48	13° <u>12</u> '28	1°06'08
min. Earth dist.	11102 Apr 03 06:01	17° <u>25</u> '43	18.49750 AU	min. Earth dist.	11108 Apr 28 15:46	13° <u>12</u> '09	18.09949 AU
direct	11102 Jun 17 06:46	15° <u>26</u> '26		direct	11108 Jul 12 08:00	11° <u>11</u> '23	
evening set	11102 Sep 16 05:54	18° <u>32</u> '53		evening set	11108 Oct 12 03:53	14° <u>23</u> '54	
					11108 Oct 22 07:51	15° <u> </u>	
conjunction	11102 Oct 02 12:25	19° <u>29</u> '46	0°52'38				
minimum elong	11102 Oct 02 12:24	19° <u>29</u> '46	0°52'47	conjunction	11108 Oct 28 14:30	15° <u>22</u> '34	0°59'39
max. Earth dist.	11102 Oct 02 12:20	19° <u>29</u> '45	20.46521 AU	minimum elong	11108 Oct 28 14:30	15° <u>22</u> '34	1°00'04
morning rise	11102 Oct 18 21:35	20° <u>27</u> '02		max. Earth dist.	11108 Oct 28 09:23	15° <u>21</u> '48	20.06665 AU
retrograde	11103 Jan 21 07:32	23° <u>40</u> '17		morning rise	11108 Nov 14 03:00	16° <u>21</u> '31	
opposition	11103 Apr 07 18:51	21° <u>39</u> '05	0°59'29	retrograde	11109 Feb 16 10:07	19° <u>39</u> '20	
min. Earth dist.	11103 Apr 07 18:47	21° <u>39</u> '06	18.43257 AU	opposition	11109 May 03 04:00	17° <u>37</u> '00	1°06'21
direct	11103 Jun 21 17:11	19° <u>39</u> '35		min. Earth dist.	11109 May 03 08:32	17° <u>36</u> '31	18.03427 AU
evening set	11103 Sep 20 19:20	22° <u>46</u> '57		direct	11109 Jul 16 21:34	15° <u>35</u> '37	
				evening set	11109 Oct 16 22:45	18° <u>49</u> '17	
conjunction	11103 Oct 07 02:43	23° <u>44</u> '07	0°54'35				
minimum elong	11103 Oct 07 02:43	23° <u>44</u> '07	0°54'47	conjunction	11109 Nov 02 10:11	19° <u>48</u> '15	0°59'39
max. Earth dist.	11103 Oct 07 02:51	23° <u>44</u> '08	20.39948 AU	minimum elong	11109 Nov 02 10:11	19° <u>48</u> '15	1°00'07
morning rise	11103 Oct 23 12:19	24° <u>41</u> '39		max. Earth dist.	11109 Nov 02 05:10	19° <u>47</u> '30	20.00180 AU
retrograde	11104 Jan 25 21:52	27° <u>55</u> '38		morning rise	11109 Nov 18 23:02	20° <u>47</u> '30	
opposition	11104 Apr 11 06:54	25° <u>54</u> '11	1°01'30	retrograde	11110 Feb 21 06:39	24° <u>06</u> '04	
min. Earth dist.	11104 Apr 11 07:10	25° <u>54</u> '10	18.36626 AU	opposition	11110 May 07 19:43	22° <u>03</u> '37	1°06'12
direct	11104 Jun 25 04:31	23° <u>54</u> '22		min. Earth dist.	11110 May 08 00:20	22° <u>03</u> '08	17.96969 AU
evening set	11104 Sep 24 09:36	27° <u>02</u> '39		direct	11110 Jul 21 13:32	20° <u>01</u> '58	
				evening set	11110 Oct 21 19:00	23° <u>16</u> '47	
conjunction	11104 Oct 10 17:30	28° <u>00</u> '06	0°56'14				
minimum elong	11104 Oct 10 17:30	28° <u>00</u> '06	0°56'29	conjunction	11110 Nov 07 06:51	24° <u>16</u> '03	0°59'19
max. Earth dist.	11104 Oct 10 15:40	27° <u>59</u> '50	20.33279 AU	minimum elong	11110 Nov 07 06:51	24° <u>16</u> '03	0°59'48
morning rise	11104 Oct 27 03:52	28° <u>57</u> '56		max. Earth dist.	11110 Nov 06 23:46	24° <u>14</u> '59	19.93745 AU
	11104 Nov 14 21:10	0° <u> </u>		morning rise	11110 Nov 23 20:12	25° <u>15</u> '35	
retrograde	11105 Jan 29 13:23	2° <u>12</u> '39		retrograde	11111 Feb 26 02:20	28° <u>34</u> '53	
opposition	11105 Apr 15 19:35	0° <u>10</u> '58	1°03'12	opposition	11111 May 12 12:14	26° <u>32</u> '19	1°05'38
min. Earth dist.	11105 Apr 15 21:03	0° <u>10</u> '49	18.29939 AU	min. Earth dist.	11111 May 12 18:47	26° <u>31</u> '37	17.90566 AU
	11105 Apr 20 04:16	30° <u>R</u>		direct	11111 Jul 26 04:52	24° <u>30</u> '21	
direct	11105 Jun 29 16:13	28° <u>10</u> '48		evening set	11111 Oct 26 16:03	27° <u>46</u> '19	
	11105 Sep 04 10:17	0° <u> </u>					
evening set	11105 Sep 29 00:41	1° <u>20</u> '06		conjunction	11111 Nov 12 04:35	28° <u>45</u> '53	0°58'36
				minimum elong	11111 Nov 12 04:35	28° <u>45</u> '53	0°59'08
conjunction	11105 Oct 15 09:28	2° <u>17</u> '51	0°57'34	max. Earth dist.	11111 Nov 11 21:07	28° <u>44</u> '46	19.87367 AU
minimum elong	11105 Oct 15 09:28	2° <u>17</u> '51	0°57'51	morning rise	11111 Nov 28 18:12	29° <u>45</u> '41	
max. Earth dist.	11105 Oct 15 07:57	2° <u>17</u> '38	20.26573 AU		11111 Dec 02 19:44	0° <u>X</u>	
morning rise	11105 Oct 31 20:15	3° <u>15</u> '57		retrograde	11112 Mar 02 00:13	3° <u>X</u> 05'40	
retrograde	11106 Feb 03 05:24	6° <u>31</u> '26		opposition	11112 May 16 05:25	1° <u>X</u> 02'59	1°04'40
opposition	11106 Apr 20 08:38	4° <u>29</u> '33	1°04'32	min. Earth dist.	11112 May 16 11:56	1° <u>X</u> 02'17	17.84211 AU

	11112 Jun 10 21:47	30° \mathbb{M}		conjunction	11118 Dec 15 08:54	1° \mathbb{Z} 01'00	0°43'33
direct	11112 Jul 29 22:22	29° \mathbb{M} 00'41		minimum elong	11118 Dec 15 08:55	1° \mathbb{Z} 01'00	0°44'12
	11112 Sep 15 16:42	0° \mathbb{Z}		max. Earth dist.	11118 Dec 14 20:04	0° \mathbb{Z} 59'00	19.47712 AU
evening set	11112 Oct 30 13:58	2° \mathbb{Z} 17'45		morning rise	11118 Dec 31 23:32	2° \mathbb{Z} 02'18	
				retrograde	11119 Apr 04 12:36	5° \mathbb{Z} 25'45	
conjunction	11112 Nov 16 02:55	3° \mathbb{Z} 17'37	0°57'32	opposition	11119 Jun 17 22:44	3° \mathbb{Z} 22'04	0°46'42
minimum elong	11112 Nov 16 02:55	3° \mathbb{Z} 17'37	0°58'04	min. Earth dist.	11119 Jun 18 10:08	3° \mathbb{Z} 20'49	17.45592 AU
max. Earth dist.	11112 Nov 15 17:38	3° \mathbb{Z} 16'12	19.81041 AU	direct	11119 Aug 31 21:35	1° \mathbb{Z} 17'19	
morning rise	11112 Dec 02 16:55	4° \mathbb{Z} 17'40		evening set	11119 Dec 03 20:39	4° \mathbb{Z} 41'21	
retrograde	11113 Mar 06 21:11	7° \mathbb{Z} 38'19					
opposition	11113 May 20 23:26	5° \mathbb{Z} 35'27	1°03'18	conjunction	11119 Dec 20 11:45	5° \mathbb{Z} 42'52	0°40'04
min. Earth dist.	11113 May 21 07:51	5° \mathbb{Z} 34'33	17.77936 AU	minimum elong	11119 Dec 20 11:45	5° \mathbb{Z} 42'52	0°40'43
direct	11113 Aug 03 15:42	3° \mathbb{Z} 32'48		max. Earth dist.	11119 Dec 19 22:00	5° \mathbb{Z} 40'44	19.43576 AU
evening set	11113 Nov 04 12:48	6° \mathbb{Z} 50'58		morning rise	11120 Jan 06 02:24	6° \mathbb{Z} 44'19	
				retrograde	11120 Apr 08 13:01	10° \mathbb{Z} 08'05	
conjunction	11113 Nov 21 02:20	7° \mathbb{Z} 51'07	0°56'05	opposition	11120 Jun 21 20:30	8° \mathbb{Z} 04'21	0°42'40
minimum elong	11113 Nov 21 02:20	7° \mathbb{Z} 51'07	0°56'40	min. Earth dist.	11120 Jun 22 07:17	8° \mathbb{Z} 03'10	17.41736 AU
max. Earth dist.	11113 Nov 20 16:28	7° \mathbb{Z} 49'36	19.74830 AU	direct	11120 Sep 04 21:50	5° \mathbb{Z} 59'21	
morning rise	11113 Dec 07 16:35	8° \mathbb{Z} 51'25		evening set	11120 Dec 07 23:47	9° \mathbb{Z} 24'14	
retrograde	11114 Mar 11 19:42	12° \mathbb{Z} 12'38					
opposition	11114 May 25 17:46	10° \mathbb{Z} 09'37	1°01'31	conjunction	11120 Dec 24 15:05	10° \mathbb{Z} 25'54	0°36'17
min. Earth dist.	11114 May 26 02:04	10° \mathbb{Z} 08'43	17.71793 AU	minimum elong	11120 Dec 24 15:05	10° \mathbb{Z} 25'54	0°36'56
direct	11114 Aug 08 11:18	8° \mathbb{Z} 06'35		max. Earth dist.	11120 Dec 24 02:15	10° \mathbb{Z} 23'54	19.40000 AU
evening set	11114 Nov 09 12:32	11° \mathbb{Z} 25'49		morning rise	11121 Jan 10 05:25	11° \mathbb{Z} 27'28	
				retrograde	11121 Apr 13 12:57	14° \mathbb{Z} 51'30	
conjunction	11114 Nov 26 02:27	12° \mathbb{Z} 26'14	0°54'17	opposition	11121 Jun 26 18:53	12° \mathbb{Z} 47'48	0°38'19
minimum elong	11114 Nov 26 02:27	12° \mathbb{Z} 26'14	0°54'53	min. Earth dist.	11121 Jun 27 06:08	12° \mathbb{Z} 46'34	17.38444 AU
max. Earth dist.	11114 Nov 25 15:16	12° \mathbb{Z} 24'32	19.68774 AU	direct	11121 Sep 09 21:05	10° \mathbb{Z} 42'37	
morning rise	11114 Dec 12 16:55	13° \mathbb{Z} 26'47		evening set	11121 Dec 13 03:42	14° \mathbb{Z} 08'17	
retrograde	11115 Mar 16 17:02	16° \mathbb{Z} 48'32					
opposition	11115 May 30 12:57	14° \mathbb{Z} 45'21	0°59'20	conjunction	11121 Dec 29 18:49	15° \mathbb{Z} 10'05	0°32'16
min. Earth dist.	11115 May 30 22:58	14° \mathbb{Z} 44'16	17.65852 AU	minimum elong	11121 Dec 29 18:49	15° \mathbb{Z} 10'05	0°32'55
direct	11115 Aug 13 06:20	12° \mathbb{Z} 41'57		max. Earth dist.	11121 Dec 29 04:53	15° \mathbb{Z} 07'55	19.37010 AU
evening set	11115 Nov 14 12:47	16° \mathbb{Z} 02'12		morning rise	11122 Jan 15 09:04	16° \mathbb{Z} 11'45	
				retrograde	11122 Apr 18 14:05	19° \mathbb{Z} 36'01	
conjunction	11115 Dec 01 03:05	17° \mathbb{Z} 02'53	0°52'07	opposition	11122 Jul 01 17:32	17° \mathbb{Z} 32'22	0°33'42
minimum elong	11115 Dec 01 03:05	17° \mathbb{Z} 02'53	0°52'44	min. Earth dist.	11122 Jul 02 04:33	17° \mathbb{Z} 31'09	17.35743 AU
max. Earth dist.	11115 Nov 30 15:18	17° \mathbb{Z} 01'04	19.62969 AU	direct	11122 Sep 14 22:01	15° \mathbb{Z} 27'03	
morning rise	11115 Dec 17 17:44	18° \mathbb{Z} 03'38		evening set	11122 Dec 18 07:54	18° \mathbb{Z} 53'27	
retrograde	11116 Mar 20 16:05	21° \mathbb{Z} 25'54					
opposition	11116 Jun 03 08:33	19° \mathbb{Z} 22'32	0°56'44	conjunction	11123 Jan 03 23:03	19° \mathbb{Z} 55'21	0°28'00
min. Earth dist.	11116 Jun 03 18:10	19° \mathbb{Z} 21'30	17.60192 AU	minimum elong	11123 Jan 03 23:03	19° \mathbb{Z} 55'21	0°28'37
direct	11116 Aug 17 03:56	17° \mathbb{Z} 18'46		max. Earth dist.	11123 Jan 03 10:17	19° \mathbb{Z} 53'22	19.34586 AU
evening set	11116 Nov 18 13:50	20° \mathbb{Z} 40'01		morning rise	11123 Jan 20 12:47	20° \mathbb{Z} 57'06	
				retrograde	11123 Apr 23 15:28	24° \mathbb{Z} 21'31	
conjunction	11116 Dec 05 04:28	21° \mathbb{Z} 40'56	0°49'36	opposition	11123 Jul 06 16:50	22° \mathbb{Z} 17'59	0°28'51
minimum elong	11116 Dec 05 04:28	21° \mathbb{Z} 40'56	0°50'14	min. Earth dist.	11123 Jul 07 04:03	22° \mathbb{Z} 16'45	17.33586 AU
max. Earth dist.	11116 Dec 04 16:12	21° \mathbb{Z} 39'03	19.57471 AU	direct	11123 Sep 19 22:36	20° \mathbb{Z} 12'35	
morning rise	11116 Dec 21 19:09	22° \mathbb{Z} 41'54		evening set	11123 Dec 23 12:27	23° \mathbb{Z} 39'37	
retrograde	11117 Mar 25 14:04	26° \mathbb{Z} 04'36					
opposition	11117 Jun 08 04:47	24° \mathbb{Z} 01'06	0°53'46	conjunction	11124 Jan 09 03:12	24° \mathbb{Z} 41'35	0°23'33
min. Earth dist.	11117 Jun 08 15:45	23° \mathbb{Z} 59'55	17.54885 AU	minimum elong	11124 Jan 09 03:13	24° \mathbb{Z} 41'35	0°24'10
direct	11117 Aug 22 00:34	21° \mathbb{Z} 56'58		max. Earth dist.	11124 Jan 08 13:18	24° \mathbb{Z} 39'25	19.32700 AU
evening set	11117 Nov 23 15:31	25° \mathbb{Z} 19'12		morning rise	11124 Jan 25 16:41	25° \mathbb{Z} 43'23	
				retrograde	11124 Apr 27 17:04	29° \mathbb{Z} 07'55	
conjunction	11117 Dec 10 06:23	26° \mathbb{Z} 20'20	0°46'44	opposition	11124 Jul 10 16:33	27° \mathbb{Z} 04'29	0°23'46
minimum elong	11117 Dec 10 06:23	26° \mathbb{Z} 20'20	0°47'23	min. Earth dist.	11124 Jul 11 03:53	27° \mathbb{Z} 03'14	17.31960 AU
max. Earth dist.	11117 Dec 09 17:18	26° \mathbb{Z} 18'19	19.52374 AU	direct	11124 Sep 23 23:35	24° \mathbb{Z} 58'59	
morning rise	11117 Dec 26 21:13	27° \mathbb{Z} 21'29		evening set	11124 Dec 27 17:14	28° \mathbb{Z} 26'34	
	11118 Feb 17 14:39	0° \mathbb{Z}					
retrograde	11118 Mar 30 13:43	0° \mathbb{Z} 44'35		conjunction	11125 Jan 13 07:53	29° \mathbb{Z} 28'36	0°18'55
	11118 May 11 06:07	30° \mathbb{R} \mathbb{Z}		minimum elong	11125 Jan 13 07:53	29° \mathbb{Z} 28'36	0°19'31
opposition	11118 Jun 13 01:27	28° \mathbb{Z} 40'58	0°50'25	max. Earth dist.	11125 Jan 12 19:01	29° \mathbb{Z} 26'35	19.31315 AU
min. Earth dist.	11118 Jun 13 11:56	28° \mathbb{Z} 39'49	17.50001 AU		11125 Jan 21 16:13	0° \mathbb{Z}	
direct	11118 Aug 26 23:37	26° \mathbb{Z} 36'30		morning rise	11125 Jan 29 20:44	0° \mathbb{Z} 30'24	
evening set	11118 Nov 28 17:48	29° \mathbb{Z} 59'40		retrograde	11125 May 02 19:28	3° \mathbb{Z} 54'57	
	11118 Nov 28 20:03	0° \mathbb{Z}		opposition	11125 Jul 15 16:30	1° \mathbb{Z} 51'37	0°18'31

min. Earth dist.	11125 Jul 16 03:43	1° \approx 50'24	17.30808 AU	direct	11130 Oct 23 15:10	23° \approx 42'29	
	11125 Sep 06 03:38	30° \approx 3'		evening set	11131 Jan 26 21:16	27° \approx 11'00	
direct	11125 Sep 29 01:32	29° \approx 34'03					
	11125 Oct 21 18:15	0° \approx		conjunction	11131 Feb 12 08:35	28° \approx 12'38	-0°10'36
evening set	11126 Jan 01 22:22	3° \approx 14'04		minimum elong	11131 Feb 12 08:34	28° \approx 12'38	0°10'13
				behind sun begin	11131 Feb 12 03:15	28° \approx 11'49	
conjunction	11126 Jan 18 12:31	4° \approx 16'07	0°14'09	behind sun end	11131 Feb 12 13:54	28° \approx 13'27	
minimum elong	11126 Jan 18 12:31	4° \approx 16'07	0°14'43	max. Earth dist.	11131 Feb 11 20:37	28° \approx 10'46	19.33075 AU
behind sun begin	11126 Jan 18 09:55	4° \approx 15'43		morning rise	11131 Feb 28 17:24	29° \approx 13'55	
behind sun end	11126 Jan 18 15:07	4° \approx 16'31			11131 Mar 13 13:55	0° \approx	
max. Earth dist.	11126 Jan 17 22:31	4° \approx 13'55	19.30399 AU	retrograde	11131 May 31 22:16	2° \approx 37'00	
morning rise	11126 Feb 04 00:57	5° \approx 17'55		opposition	11131 Aug 13 19:58	0° \approx 34'09	-0°14'24
retrograde	11126 May 07 20:22	8° \approx 42'24		min. Earth dist.	11131 Aug 14 05:19	0° \approx 33'08	17.34064 AU
opposition	11126 Jul 20 16:55	6° \approx 39'10	0°13'08		11131 Aug 27 01:57	30° \approx	
min. Earth dist.	11126 Jul 21 04:34	6° \approx 37'53	17.30132 AU	direct	11131 Oct 28 20:25	28° \approx 28'22	
direct	11126 Oct 04 02:30	4° \approx 33'31			11131 Dec 27 23:21	0° \approx	
evening set	11127 Jan 07 03:17	8° \approx 01'52		evening set	11132 Feb 01 00:33	1° \approx 56'37	
conjunction	11127 Jan 23 17:06	9° \approx 03'54	0°09'17	conjunction	11132 Feb 17 11:09	2° \approx 58'06	-0°15'25
minimum elong	11127 Jan 23 17:06	9° \approx 03'54	0°09'50	minimum elong	11132 Feb 17 11:08	2° \approx 58'06	0°15'04
behind sun begin	11127 Jan 23 11:38	9° \approx 03'03		behind sun begin	11132 Feb 17 08:52	2° \approx 57'45	
behind sun end	11127 Jan 23 22:34	9° \approx 04'44		behind sun end	11132 Feb 17 13:25	2° \approx 58'27	
max. Earth dist.	11127 Jan 23 04:03	9° \approx 01'51	19.29952 AU	max. Earth dist.	11132 Feb 17 00:22	2° \approx 56'25	19.35190 AU
morning rise	11127 Feb 09 04:48	10° \approx 05'38		morning rise	11132 Mar 04 19:04	3° \approx 59'12	
retrograde	11127 May 12 22:39	13° \approx 30'00		retrograde	11132 Jun 04 20:02	7° \approx 21'49	
opposition	11127 Jul 25 17:25	11° \approx 26'51	0°07'39	opposition	11132 Aug 17 20:32	5° \approx 19'04	-0°19'44
min. Earth dist.	11127 Jul 26 04:25	11° \approx 25'38	17.29910 AU	min. Earth dist.	11132 Aug 18 06:07	5° \approx 18'02	17.36476 AU
direct	11127 Oct 09 06:15	9° \approx 21'09		direct	11132 Nov 01 22:12	3° \approx 13'20	
evening set	11128 Jan 12 08:15	12° \approx 49'42		evening set	11133 Feb 05 03:30	6° \approx 41'16	
conjunction	11128 Jan 28 21:25	13° \approx 51'40	0°04'22	conjunction	11133 Feb 21 13:12	7° \approx 42'33	-0°20'07
minimum elong	11128 Jan 28 21:26	13° \approx 51'41	0°04'52	minimum elong	11133 Feb 21 13:12	7° \approx 42'33	0°19'50
behind sun begin	11128 Jan 28 14:52	13° \approx 50'40		max. Earth dist.	11133 Feb 21 02:54	7° \approx 40'56	19.37903 AU
behind sun end	11128 Jan 29 04:00	13° \approx 52'41		morning rise	11133 Mar 09 20:22	8° \approx 43'27	
max. Earth dist.	11128 Jan 28 07:51	13° \approx 49'33	19.29973 AU	retrograde	11133 Jun 09 19:58	12° \approx 05'33	
morning rise	11128 Feb 14 08:32	14° \approx 53'21		opposition	11133 Aug 22 20:37	10° \approx 02'56	-0°24'54
	11128 Feb 16 04:00	15° \approx		min. Earth dist.	11133 Aug 23 04:20	10° \approx 02'06	17.39486 AU
retrograde	11128 May 16 22:00	18° \approx 17'30		direct	11133 Nov 07 01:59	7° \approx 57'18	
opposition	11128 Jul 29 18:06	16° \approx 14'25	0°02'07	evening set	11134 Feb 10 05:49	11° \approx 24'50	
min. Earth dist.	11128 Jul 30 05:39	16° \approx 13'09	17.30183 AU				
	11128 Aug 29 03:43	15° \approx		conjunction	11134 Feb 26 14:46	12° \approx 25'54	-0°24'40
direct	11128 Oct 13 07:53	14° \approx 08'40		minimum elong	11134 Feb 26 14:46	12° \approx 25'54	0°24'25
	11128 Nov 26 15:22	15° \approx		max. Earth dist.	11134 Feb 26 06:15	12° \approx 24'35	19.41208 AU
desc. node	11128 Dec 13 05:22	15° \approx 42'37		morning rise	11134 Mar 14 20:52	13° \approx 26'35	
evening set	11129 Jan 16 12:50	17° \approx 37'19		retrograde	11134 Jun 14 17:47	16° \approx 48'09	
				opposition	11134 Aug 27 20:50	14° \approx 45'43	-0°29'53
conjunction	11129 Feb 02 01:35	18° \approx 39'13	-0°00'41	min. Earth dist.	11134 Aug 28 04:30	14° \approx 44'53	17.43091 AU
minimum elong	11129 Feb 02 01:33	18° \approx 39'13	0°00'12	direct	11134 Nov 12 03:05	12° \approx 40'15	
behind sun begin	11129 Feb 01 18:54	18° \approx 38'12		evening set	11135 Feb 15 07:25	16° \approx 07'18	
behind sun end	11129 Feb 02 08:13	18° \approx 40'14					
max. Earth dist.	11129 Feb 01 12:46	18° \approx 37'13	19.30496 AU	conjunction	11135 Mar 03 15:21	17° \approx 08'08	-0°29'02
morning rise	11129 Feb 18 11:56	19° \approx 40'47		minimum elong	11135 Mar 03 15:21	17° \approx 08'08	0°28'50
retrograde	11129 May 21 23:21	23° \approx 04'39		max. Earth dist.	11135 Mar 03 07:08	17° \approx 06'51	19.45110 AU
opposition	11129 Aug 03 18:44	21° \approx 01'38	-0°03'26	morning rise	11135 Mar 19 20:42	18° \approx 08'35	
min. Earth dist.	11129 Aug 04 05:11	21° \approx 00'30	17.30945 AU	retrograde	11135 Jun 19 16:54	21° \approx 29'35	
direct	11129 Oct 18 12:58	18° \approx 55'52		opposition	11135 Sep 01 20:38	19° \approx 27'22	-0°34'38
evening set	11130 Jan 21 17:18	22° \approx 24'29		min. Earth dist.	11135 Sep 02 02:20	19° \approx 26'45	17.47266 AU
				direct	11135 Nov 17 05:24	17° \approx 22'08	
conjunction	11130 Feb 07 05:20	23° \approx 26'17	-0°05'42	evening set	11136 Feb 20 08:19	20° \approx 48'38	
minimum elong	11130 Feb 07 05:19	23° \approx 26'17	0°05'16				
behind sun begin	11130 Feb 06 22:49	23° \approx 25'17		conjunction	11136 Mar 07 15:31	21° \approx 49'14	-0°33'12
behind sun end	11130 Feb 07 11:50	23° \approx 27'16		minimum elong	11136 Mar 07 15:30	21° \approx 49'13	0°33'02
max. Earth dist.	11130 Feb 06 16:43	23° \approx 24'19	19.31512 AU	max. Earth dist.	11136 Mar 07 09:25	21° \approx 48'17	19.49543 AU
morning rise	11130 Feb 23 14:54	24° \approx 27'43		morning rise	11136 Mar 23 19:47	22° \approx 49'25	
retrograde	11130 May 26 21:35	27° \approx 51'13		retrograde	11136 Jun 23 14:07	26° \approx 09'49	
opposition	11130 Aug 08 19:25	25° \approx 48'17	-0°08'57	opposition	11136 Sep 05 20:09	24° \approx 07'52	-0°39'08
min. Earth dist.	11130 Aug 09 06:24	25° \approx 47'05	17.32230 AU	min. Earth dist.	11136 Sep 06 01:47	24° \approx 07'16	17.51938 AU

direct	11136 Nov 21 05:53	22° H 02'55	minimum elong	11143 Apr 09 17:45	23° Y 56'49	0°54'46
evening set	11137 Feb 24 08:42	25° H 28'47	max. Earth dist.	11143 Apr 09 16:53	23° Y 56'41	19.89513 AU
			morning rise	11143 Apr 25 16:17	24° Y 55'01	
conjunction	11137 Mar 12 14:49	26° H 29'06 -0°37'07	retrograde	11143 Jul 26 05:24	28° Y 10'33	
minimum elong	11137 Mar 12 14:49	26° H 29'06 0°37'00	opposition	11143 Oct 09 05:53	26° Y 10'09	-1°01'41
max. Earth dist.	11137 Mar 12 08:38	26° H 28'09 19.54440 AU	min. Earth dist.	11143 Oct 09 05:40	26° Y 10'10	17.92690 AU
morning rise	11137 Mar 28 18:23	27° H 29'03	direct	11143 Dec 25 03:58	24° Y 07'18	
	11137 May 16 22:44	0° Y	evening set	11144 Mar 28 11:01	27° Y 26'53	
retrograde	11137 Jun 28 12:12	0° Y 48'50				
	11137 Aug 11 08:57	30° R H	conjunction	11144 Apr 13 11:05	28° Y 25'05	-0°56'19
opposition	11137 Sep 10 19:21	28° H 47'08 -0°43'22	minimum elong	11144 Apr 13 11:04	28° Y 25'05	0°56'34
min. Earth dist.	11137 Sep 10 23:27	28° H 46'42 17.57035 AU	max. Earth dist.	11144 Apr 13 11:55	28° Y 25'13	19.95871 AU
direct	11137 Nov 26 07:05	26° H 42'27	morning rise	11144 Apr 29 08:50	29° Y 22'59	
	11138 Feb 27 05:36	0° Y		11144 May 09 22:35	0° R	
evening set	11138 Mar 01 08:11	0° Y 07'39	retrograde	11144 Jul 29 21:03	2° R 37'43	
			opposition	11144 Oct 13 01:24	0° R 37'29	-1°03'26
conjunction	11138 Mar 17 13:31	1° Y 07'41 -0°40'46	min. Earth dist.	11144 Oct 12 23:58	0° R 37'38	17.99087 AU
minimum elong	11138 Mar 17 13:31	1° Y 07'41 0°40'44		11144 Oct 28 06:30	30° R Y	
max. Earth dist.	11138 Mar 17 09:25	1° Y 07'03 19.59708 AU	direct	11144 Dec 29 02:04	28° Y 34'55	
morning rise	11138 Apr 02 15:58	2° Y 07'21		11145 Feb 25 20:33	0° R	
retrograde	11138 Jul 03 08:33	5° Y 26'29	evening set	11145 Apr 02 04:07	1° R 53'23	
opposition	11138 Sep 15 18:20	3° Y 25'03 -0°47'17				
min. Earth dist.	11138 Sep 15 22:11	3° Y 24'38 17.62463 AU	conjunction	11145 Apr 18 03:18	2° R 51'16	-0°57'44
direct	11138 Dec 01 07:24	1° Y 20'42	minimum elong	11145 Apr 18 03:17	2° R 51'16	0°58'02
evening set	11139 Mar 06 07:03	4° Y 45'06	max. Earth dist.	11145 Apr 18 04:31	2° R 51'28	20.02319 AU
			morning rise	11145 May 04 00:29	3° R 48'53	
conjunction	11139 Mar 22 11:17	5° Y 44'51 -0°44'09	retrograde	11145 Aug 03 12:00	7° R 02'50	
minimum elong	11139 Mar 22 11:16	5° Y 44'51 0°44'09	opposition	11145 Oct 17 20:31	5° R 02'44	-1°04'47
max. Earth dist.	11139 Mar 22 06:56	5° Y 44'10 19.65286 AU	min. Earth dist.	11145 Oct 17 18:33	5° R 02'57	18.05603 AU
morning rise	11139 Apr 07 13:01	6° Y 44'13	direct	11146 Jan 02 21:27	3° R 00'27	
retrograde	11139 Jul 08 05:08	10° Y 02'42	evening set	11146 Apr 06 20:00	6° R 17'49	
opposition	11139 Sep 20 16:50	8° Y 01'29 -0°50'52				
min. Earth dist.	11139 Sep 20 19:27	8° Y 01'13 17.68180 AU	conjunction	11146 Apr 22 18:30	7° R 15'23	-0°58'47
direct	11139 Dec 06 07:35	5° Y 57'27	minimum elong	11146 Apr 22 18:30	7° R 15'23	0°59'08
evening set	11140 Mar 10 04:47	9° Y 21'00	max. Earth dist.	11146 Apr 22 21:30	7° R 15'50	20.08891 AU
			morning rise	11146 May 08 15:01	8° R 12'41	
conjunction	11140 Mar 26 08:17	10° Y 20'27 -0°47'14	retrograde	11146 Aug 08 02:50	11° R 25'53	
minimum elong	11140 Mar 26 08:17	10° Y 20'27 0°47'18	opposition	11146 Oct 22 14:53	9° R 25'57	-1°05'45
max. Earth dist.	11140 Mar 26 05:54	10° Y 20'05 19.71111 AU	min. Earth dist.	11146 Oct 22 11:08	9° R 26'20	18.12231 AU
morning rise	11140 Apr 11 09:02	11° Y 19'32	direct	11147 Jan 07 17:54	7° R 23'58	
retrograde	11140 Jul 12 00:17	14° Y 37'18	evening set	11147 Apr 11 11:04	10° R 40'13	
opposition	11140 Sep 24 14:56	12° Y 36'20 -0°54'07				
min. Earth dist.	11140 Sep 24 17:04	12° Y 36'07 17.74096 AU	conjunction	11147 Apr 27 08:48	11° R 37'29	-0°59'30
direct	11140 Dec 10 07:31	10° Y 32'37	minimum elong	11147 Apr 27 08:47	11° R 37'29	0°59'53
evening set	11141 Mar 15 01:58	13° Y 55'15	max. Earth dist.	11147 Apr 27 12:36	11° R 38'03	20.15578 AU
			morning rise	11147 May 13 04:49	12° R 34'31	
conjunction	11141 Mar 31 04:24	14° Y 54'24 -0°50'00		11147 Jul 01 04:02	15° R	
minimum elong	11141 Mar 31 04:23	14° Y 54'24 0°50'07	retrograde	11147 Aug 12 16:19	15° R 46'58	
max. Earth dist.	11141 Mar 31 01:43	14° Y 53'59 19.77113 AU		11147 Sep 25 19:20	15° R R	
morning rise	11141 Apr 16 04:27	15° Y 53'11	opposition	11147 Oct 27 08:35	13° R 47'13	-1°06'19
retrograde	11141 Jul 16 19:07	19° Y 10'14	min. Earth dist.	11147 Oct 27 04:24	13° R 47'38	18.18986 AU
opposition	11141 Sep 29 12:24	17° Y 09'28 -0°57'01	direct	11148 Jan 12 10:25	11° R 45'33	
min. Earth dist.	11141 Sep 29 13:42	17° Y 09'20 17.80182 AU		11148 Apr 14 20:18	15° R	
direct	11141 Dec 15 06:46	15° Y 06'03	evening set	11148 Apr 15 01:04	15° R 00'42	
evening set	11142 Mar 19 22:00	18° Y 27'44				
			conjunction	11148 Apr 30 22:16	15° R 57'40	-0°59'51
conjunction	11142 Apr 04 23:42	19° Y 26'34 -0°52'27	minimum elong	11148 Apr 30 22:15	15° R 57'40	1°00'17
minimum elong	11142 Apr 04 23:42	19° Y 26'34 0°52'36	max. Earth dist.	11148 May 01 03:30	15° R 58'28	20.22379 AU
max. Earth dist.	11142 Apr 04 22:48	19° Y 26'25 19.83260 AU	morning rise	11148 May 16 17:48	16° R 54'26	
morning rise	11142 Apr 20 22:50	20° Y 25'03	retrograde	11148 Aug 16 06:46	20° R 06'10	
retrograde	11142 Jul 21 12:28	23° Y 41'20	opposition	11148 Oct 31 01:33	18° R 06'37	-1°06'30
opposition	11142 Oct 04 09:27	21° Y 40'47 -0°59'32	min. Earth dist.	11148 Oct 30 19:32	18° R 07'14	18.25803 AU
min. Earth dist.	11142 Oct 04 09:52	21° Y 40'44 17.86379 AU	direct	11149 Jan 16 05:04	16° R 05'20	
direct	11142 Dec 20 06:16	19° Y 37'40	evening set	11149 Apr 19 14:18	19° R 19'23	
evening set	11143 Mar 24 17:02	22° Y 58'18				
			conjunction	11149 May 05 10:51	20° R 16'05	-0°59'52
conjunction	11143 Apr 09 17:46	23° Y 56'49 -0°54'33	minimum elong	11149 May 05 10:51	20° R 16'05	1°00'19

max. Earth dist.	11149 May 05 16:58	20° 8 17'00	20.29206 AU	min. Earth dist.	11155 Nov 30 23:07	17° II 38'06	18.69854 AU
morning rise	11149 May 21 05:58	21° 8 12'35		direct	11156 Feb 16 09:17	15° II 38'14	
retrograde	11149 Aug 20 19:10	24° 8 23'38		evening set	11156 May 18 13:41	18° II 45'14	
opposition	11149 Nov 04 18:01	22° 8 24'18	-1°06'19				
min. Earth dist.	11149 Nov 04 11:55	22° 8 24'55	18.32634 AU	conjunction	11156 Jun 03 07:44	19° II 40'17	-0°51'13
direct	11150 Jan 20 19:56	20° 8 23'23		minimum elong	11156 Jun 03 07:44	19° II 40'17	0°51'51
evening set	11150 Apr 24 02:40	23° 8 36'22		max. Earth dist.	11156 Jun 03 17:48	19° II 41'45	20.72410 AU
				morning rise	11156 Jun 19 01:38	20° II 35'19	
conjunction	11150 May 09 22:43	24° 8 32'47	-0°59'33	retrograde	11156 Sep 19 03:15	23° II 42'20	
minimum elong	11150 May 09 22:43	24° 8 32'47	1°00'03	opposition	11156 Dec 04 20:49	21° II 44'04	-0°55'29
max. Earth dist.	11150 May 10 05:55	24° 8 33'51	20.36019 AU	min. Earth dist.	11156 Dec 04 10:05	21° II 45'09	18.74899 AU
morning rise	11150 May 25 17:28	25° 8 29'02		direct	11157 Feb 19 21:49	19° II 45'22	
retrograde	11150 Aug 25 08:53	28° 8 39'26		evening set	11157 May 22 21:07	22° II 51'28	
opposition	11150 Nov 09 09:50	26° 8 40'18	-1°05'46				
min. Earth dist.	11150 Nov 09 01:56	26° 8 41'07	18.39399 AU	conjunction	11157 Jun 07 15:03	23° II 46'20	-0°48'52
direct	11151 Jan 25 12:54	24° 8 39'47		minimum elong	11157 Jun 07 15:03	23° II 46'20	0°49'32
evening set	11151 Apr 28 14:10	27° 8 51'42		max. Earth dist.	11157 Jun 08 01:50	23° II 47'55	20.77257 AU
				morning rise	11157 Jun 23 08:56	24° II 41'13	
conjunction	11151 May 14 09:44	28° 8 47'51	-0°58'54	retrograde	11157 Sep 23 10:54	27° II 47'47	
minimum elong	11151 May 14 09:44	28° 8 47'51	0°59'26	opposition	11157 Dec 09 08:46	25° II 49'33	-0°52'44
max. Earth dist.	11151 May 14 17:47	28° 8 49'03	20.42721 AU	min. Earth dist.	11157 Dec 08 22:42	25° II 50'33	18.79563 AU
morning rise	11151 May 30 04:12	29° 8 43'52		direct	11158 Feb 24 08:45	23° II 51'02	
	11151 Jun 03 19:58	0° II		evening set	11158 May 27 03:59	26° II 56'16	
retrograde	11151 Aug 29 20:36	2° II 53'39					
opposition	11151 Nov 14 01:11	0° II 54'43	-1°04'51	conjunction	11158 Jun 11 21:49	27° II 50'58	-0°46'17
min. Earth dist.	11151 Nov 13 17:33	0° II 55'30	18.46031 AU	minimum elong	11158 Jun 11 21:49	27° II 50'59	0°46'57
	11151 Dec 07 06:48	30° 8		max. Earth dist.	11158 Jun 12 08:40	27° II 52'33	20.81756 AU
direct	11152 Jan 30 02:43	28° 8 54'33		morning rise	11158 Jun 27 15:53	28° II 45'43	
	11152 Mar 21 19:03	0° II			11158 Jul 20 17:33	0° III	
evening set	11152 May 02 01:02	2° II 05'27		retrograde	11158 Sep 27 21:13	1° III 51'51	
					11158 Dec 11 04:25	30° 8 II	
conjunction	11152 May 17 20:12	3° II 01'21	-0°57'57	opposition	11158 Dec 13 19:56	29° II 53'38	-0°49'44
minimum elong	11152 May 17 20:12	3° II 01'21	0°58'31	min. Earth dist.	11158 Dec 13 08:23	29° II 54'47	18.83895 AU
max. Earth dist.	11152 May 18 04:50	3° II 02'38	20.49258 AU	direct	11159 Feb 28 19:57	27° II 55'17	
morning rise	11152 Jun 02 14:26	3° II 57'09			11159 May 13 02:14	0° III	
retrograde	11152 Sep 02 08:58	7° II 06'18		evening set	11159 May 31 10:09	0° III 59'43	
opposition	11152 Nov 17 15:40	5° II 07'34	-1°03'37				
min. Earth dist.	11152 Nov 17 06:29	5° II 08'30	18.52448 AU	conjunction	11159 Jun 16 04:01	1° III 54'17	-0°43'28
direct	11153 Feb 02 18:17	3° II 07'46		minimum elong	11159 Jun 16 04:01	1° III 54'17	0°44'08
evening set	11153 May 06 11:15	6° II 17'39		max. Earth dist.	11159 Jun 16 15:51	1° III 56'00	20.85924 AU
				morning rise	11159 Jul 01 22:12	2° III 48'54	
conjunction	11153 May 22 06:02	7° II 13'19	-0°56'42	retrograde	11159 Oct 02 03:55	5° III 54'40	
minimum elong	11153 May 22 06:02	7° II 13'19	0°57'17	opposition	11159 Dec 18 06:42	3° III 56'28	-0°46'30
max. Earth dist.	11153 May 22 15:22	7° II 14'42	20.55540 AU	min. Earth dist.	11159 Dec 17 19:41	3° III 57'34	18.87919 AU
morning rise	11153 Jun 07 00:03	8° II 08'54		direct	11160 Mar 04 05:04	1° III 58'19	
retrograde	11153 Sep 06 19:43	11° II 17'29		evening set	11160 Jun 03 15:57	5° III 02'00	
opposition	11153 Nov 22 05:57	9° II 18'55	-1°02'02				
min. Earth dist.	11153 Nov 21 21:17	9° II 19'48	18.58596 AU	conjunction	11160 Jun 19 09:47	5° III 56'26	-0°40'28
direct	11154 Feb 07 07:11	7° II 19'26		minimum elong	11160 Jun 19 09:47	5° III 56'26	0°41'07
evening set	11154 May 10 20:38	10° II 28'20		max. Earth dist.	11160 Jun 19 21:39	5° III 58'09	20.89808 AU
				morning rise	11160 Jul 05 04:13	6° III 50'57	
conjunction	11154 May 26 15:06	11° II 23'46	-0°55'09	retrograde	11160 Oct 05 13:29	9° III 56'24	
minimum elong	11154 May 26 15:06	11° II 23'46	0°55'44	opposition	11160 Dec 21 16:47	7° III 58'13	-0°43'02
max. Earth dist.	11154 May 27 00:41	11° II 25'11	20.61532 AU	min. Earth dist.	11160 Dec 21 04:17	7° III 59'28	18.91656 AU
morning rise	11154 Jun 11 09:02	12° II 19'09		direct	11161 Mar 08 15:14	6° III 00'15	
retrograde	11154 Sep 11 07:13	15° II 27'12		evening set	11161 Jun 07 21:19	9° III 03'17	
opposition	11154 Nov 26 19:30	13° II 28'46	-1°00'09				
min. Earth dist.	11154 Nov 26 09:22	13° II 29'48	18.64411 AU	conjunction	11161 Jun 23 15:15	9° III 57'36	-0°37'15
direct	11155 Feb 11 21:18	11° II 29'35		minimum elong	11161 Jun 23 15:15	9° III 57'36	0°37'54
evening set	11155 May 15 05:29	14° II 37'31		max. Earth dist.	11161 Jun 24 04:08	9° III 59'28	20.93396 AU
				morning rise	11161 Jul 09 09:51	10° III 52'02	
conjunction	11155 May 30 23:43	15° II 32'46	-0°53'19	retrograde	11161 Oct 09 19:48	13° III 57'14	
minimum elong	11155 May 30 23:43	15° II 32'46	0°53'57	opposition	11161 Dec 26 02:43	11° III 59'06	-0°39'23
max. Earth dist.	11155 May 31 09:54	15° II 34'15	20.67159 AU	min. Earth dist.	11161 Dec 25 14:44	12° III 00'18	18.95099 AU
morning rise	11155 Jun 15 17:33	16° II 27'58		direct	11162 Mar 12 22:46	10° III 01'20	
retrograde	11155 Sep 15 16:22	19° II 35'29		evening set	11162 Jun 12 02:13	13° III 03'45	
opposition	11155 Dec 01 08:29	17° II 37'09	-0°57'57				

conjunction	11162 Jun 27 20:15	13°☿57'59 -0°33'53	behind sun begin	11168 Jul 20 20:05	7°♄50'33	
minimum elong	11162 Jun 27 20:15	13°☿57'59 0°34'32	behind sun end	11168 Jul 21 05:35	7°♄51'53	
max. Earth dist.	11162 Jun 28 09:05	13°☿59'50 20.96693 AU	max. Earth dist.	11168 Jul 21 13:13	7°♄52'59	21.07890 AU
morning rise	11162 Jul 13 15:15	14°☿52'20	morning rise	11168 Aug 05 22:21	8°♄45'30	
retrograde	11162 Oct 14 04:55	17°☿57'21	retrograde	11168 Nov 07 01:35	11°♄50'20	
opposition	11162 Dec 30 12:07	15°☿59'15 -0°35'34	opposition	11169 Jan 23 15:31	9°♄52'16	-0°09'53
min. Earth dist.	11162 Dec 29 22:50	16°☿00'35 18.98228 AU	min. Earth dist.	11169 Jan 23 03:07	9°♄53'30	19.07994 AU
direct	11163 Mar 17 07:48	14°☿01'41	direct	11169 Apr 09 23:58	7°♄55'26	
evening set	11163 Jun 16 06:58	17°☿03'34	evening set	11169 Jul 09 09:40	10°♄55'20	
conjunction	11163 Jul 02 01:14	17°☿57'43 -0°30'21	conjunction	11169 Jul 25 05:46	11°♄49'23	-0°06'55
minimum elong	11163 Jul 02 01:14	17°☿57'43 0°30'59	minimum elong	11169 Jul 25 05:46	11°♄49'23	0°07'27
max. Earth dist.	11163 Jul 02 14:54	17°☿59'41 20.99644 AU	behind sun begin	11169 Jul 24 23:45	11°♄48'33	
morning rise	11163 Jul 17 20:30	18°☿52'02	behind sun end	11169 Jul 25 11:47	11°♄50'13	
retrograde	11163 Oct 18 11:12	21°☿56'53	max. Earth dist.	11169 Jul 25 18:15	11°♄51'09	21.07931 AU
opposition	11164 Jan 03 21:10	19°☿58'51 -0°31'34	morning rise	11169 Aug 10 03:44	12°♄43'42	
min. Earth dist.	11164 Jan 03 08:40	20°☿00'05 19.00997 AU		11169 Sep 27 06:24	15°♄	
direct	11164 Mar 20 14:27	18°☿01'28	retrograde	11169 Nov 11 08:04	15°♄48'38	
evening set	11164 Jun 19 11:34	21°☿02'53		11169 Dec 27 22:13	15°♄	
conjunction	11164 Jul 05 06:00	21°☿56'58 -0°26'41	opposition	11170 Jan 27 23:36	13°♄50'27	-0°05'19
minimum elong	11164 Jul 05 06:00	21°☿56'58 0°27'20	min. Earth dist.	11170 Jan 27 12:24	13°♄51'34	19.07751 AU
max. Earth dist.	11164 Jul 05 19:16	21°☿58'53 21.02228 AU	direct	11170 Apr 14 05:21	11°♄53'36	
morning rise	11164 Jul 21 01:43	22°☿51'15	evening set	11170 Jul 13 14:06	14°♄53'20	
retrograde	11164 Oct 21 19:45	25°☿56'00		11170 Jul 15 13:42	15°♄	
opposition	11165 Jan 07 05:59	23°☿58'01 -0°27'27	conjunction	11170 Jul 29 10:36	15°♄47'25	-0°02'47
min. Earth dist.	11165 Jan 06 16:30	23°☿59'21 19.03374 AU	minimum elong	11170 Jul 29 10:36	15°♄47'25	0°03'17
direct	11165 Mar 24 22:15	22°☿00'48	behind sun begin	11170 Jul 29 04:04	15°♄46'30	
evening set	11165 Jun 23 15:54	25°☿01'48	behind sun end	11170 Jul 29 17:09	15°♄48'20	
conjunction	11165 Jul 09 10:37	25°☿55'51 -0°22'54	max. Earth dist.	11170 Jul 29 22:03	15°♄49'03	21.07428 AU
minimum elong	11165 Jul 09 10:37	25°☿55'51 0°23'31	morning rise	11170 Aug 14 09:16	16°♄41'48	
max. Earth dist.	11165 Jul 10 00:33	25°☿57'51 21.04384 AU	retrograde	11170 Nov 15 16:43	19°♄46'52	
morning rise	11165 Jul 25 06:39	26°☿50'06	opposition	11171 Feb 01 07:24	17°♄48'31	-0°00'44
retrograde	11165 Oct 26 02:27	29°☿54'50	min. Earth dist.	11171 Jan 31 19:57	17°♄49'39	19.06981 AU
opposition	11166 Jan 11 14:45	27°☿56'52 -0°23'12	asc. node	11171 Mar 30 00:21	16°♄01'00	
min. Earth dist.	11166 Jan 11 02:09	27°☿58'07 19.05305 AU	direct	11171 Apr 18 11:57	15°♄51'36	
direct	11166 Mar 29 04:27	25°☿59'49	evening set	11171 Jul 17 18:39	18°♄51'14	
evening set	11166 Jun 27 20:21	29°☿00'27	conjunction	11171 Aug 02 15:41	19°♄45'23	0°01'28
conjunction	11166 Jul 13 15:17	29°☿54'29 -0°19'01	minimum elong	11171 Aug 02 15:41	19°♄45'23	0°00'59
minimum elong	11166 Jul 13 15:18	29°☿54'29 0°19'37	behind sun begin	11171 Aug 02 09:06	19°♄44'28	
max. Earth dist.	11166 Jul 14 04:31	29°☿56'22 21.06086 AU	behind sun end	11171 Aug 02 22:17	19°♄46'18	
	11166 Jul 15 05:42	0°♄	max. Earth dist.	11171 Aug 03 03:23	19°♄47'02	21.06402 AU
morning rise	11166 Jul 29 11:51	0°♄48'44	morning rise	11171 Aug 18 14:50	20°♄39'50	
retrograde	11166 Oct 30 10:34	3°♄53'28	retrograde	11171 Nov 19 22:59	23°♄45'04	
opposition	11167 Jan 15 23:05	1°♄55'29 -0°18'50	opposition	11172 Feb 05 15:01	21°♄46'33	0°03'52
min. Earth dist.	11167 Jan 15 09:53	1°♄56'48 19.06757 AU	min. Earth dist.	11172 Feb 05 04:39	21°♄47'35	19.05725 AU
	11167 Mar 25 20:17	30°♄	direct	11172 Apr 21 17:15	19°♄49'33	
direct	11167 Apr 02 11:27	29°☿58'33	evening set	11172 Jul 20 23:22	22°♄49'10	
	11167 Apr 09 23:04	0°♄	conjunction	11172 Aug 05 20:48	23°♄43'22	0°05'39
evening set	11167 Jul 02 00:44	2°♄58'54	minimum elong	11172 Aug 05 20:49	23°♄43'22	0°05'13
conjunction	11167 Jul 17 20:04	3°♄52'55 -0°15'02	behind sun begin	11172 Aug 05 14:26	23°♄42'29	
minimum elong	11167 Jul 17 20:05	3°♄52'55 0°15'37	behind sun end	11172 Aug 06 03:12	23°♄44'16	
behind sun begin	11167 Jul 17 18:21	3°♄52'41	max. Earth dist.	11172 Aug 06 07:37	23°♄44'54	21.04942 AU
behind sun end	11167 Jul 17 21:48	3°♄53'10	morning rise	11172 Aug 21 20:38	24°♄37'55	
max. Earth dist.	11167 Jul 18 09:32	3°♄54'51 21.07265 AU	retrograde	11172 Nov 23 07:54	27°♄43'22	
morning rise	11167 Aug 02 17:02	4°♄47'11	opposition	11173 Feb 08 22:39	25°♄44'40	0°08'26
retrograde	11167 Nov 03 17:22	7°♄51'57	min. Earth dist.	11173 Feb 08 11:57	25°♄45'45	19.04064 AU
opposition	11168 Jan 20 07:26	5°♄53'57 -0°14'24	direct	11173 Apr 25 23:14	23°♄47'36	
min. Earth dist.	11168 Jan 19 19:24	5°♄55'09 19.07660 AU	evening set	11173 Jul 25 04:06	26°♄47'15	
direct	11168 Apr 05 17:08	3°♄57'06	conjunction	11173 Aug 10 02:08	27°♄41'33	0°09'45
evening set	11168 Jul 05 05:12	6°♄57'12	minimum elong	11173 Aug 10 02:08	27°♄41'33	0°09'21
conjunction	11168 Jul 21 00:50	7°♄51'13 -0°11'00	behind sun begin	11173 Aug 09 20:35	27°♄40'47	
minimum elong	11168 Jul 21 00:50	7°♄51'13 0°11'33	behind sun end	11173 Aug 10 07:41	27°♄42'20	
			max. Earth dist.	11173 Aug 10 13:23	27°♄43'09	21.03080 AU

morning rise	11173 Aug 26 02:28	28°Ω36'12	opposition	11180 Mar 09 07:04	23°Π49'42	0°38'24
	11173 Sep 21 22:30	0°Π	min. Earth dist.	11180 Mar 09 00:15	23°Π50'24	18.82576 AU
retrograde	11173 Nov 27 14:50	1°Π41'57	direct	11180 May 23 15:11	21°Π52'02	
	11174 Feb 06 05:32	30°κΩ	evening set	11180 Aug 22 01:55	24°Π54'12	
opposition	11174 Feb 13 06:21	29°Ω43'05	0°12'59			
min. Earth dist.	11174 Feb 12 20:30	29°Ω44'04	19.02021 AU	conjunction	11180 Sep 07 04:09	25°Π49'37
direct	11174 Apr 30 04:43	27°Ω45'55		minimum elong	11180 Sep 07 04:09	25°Π49'37
	11174 Jul 15 07:44	0°Π		max. Earth dist.	11180 Sep 07 10:37	25°Π50'32
evening set	11174 Jul 29 09:15	0°Π45'42		morning rise	11180 Sep 23 09:12	26°Π45'26
				retrograde	11180 Dec 26 13:51	29°Π54'41
conjunction	11174 Aug 14 07:47	1°Π40'07	0°13'49	opposition	11181 Mar 13 16:18	27°Π54'55
minimum elong	11174 Aug 14 07:47	1°Π40'07	0°13'27	min. Earth dist.	11181 Mar 13 10:10	27°Π55'32
behind sun begin	11174 Aug 14 04:03	1°Π39'36		direct	11181 May 27 23:00	25°Π57'05
behind sun end	11174 Aug 14 11:32	1°Π40'38		evening set	11181 Aug 26 10:50	28°Π59'52
max. Earth dist.	11174 Aug 14 18:04	1°Π41'34	21.00870 AU			
morning rise	11174 Aug 30 08:52	2°Π34'53		conjunction	11181 Sep 11 13:52	29°Π55'30
retrograde	11174 Dec 02 00:13	5°Π40'58		minimum elong	11181 Sep 11 13:52	29°Π55'30
opposition	11175 Feb 17 13:51	3°Π41'57	0°17'28	max. Earth dist.	11181 Sep 11 20:07	29°Π56'24
min. Earth dist.	11175 Feb 17 03:48	3°Π42'58	18.99642 AU		11181 Sep 12 20:57	0°Ω
direct	11175 May 04 10:05	1°Π44'42		morning rise	11181 Sep 27 19:28	0°Ω51'32
evening set	11175 Aug 02 14:44	4°Π44'43		retrograde	11181 Dec 31 01:10	4°Ω01'26
				opposition	11182 Mar 18 01:57	2°Ω01'28
conjunction	11175 Aug 18 13:56	5°Π39'15	0°17'50	min. Earth dist.	11182 Mar 17 21:01	2°Ω01'59
minimum elong	11175 Aug 18 13:56	5°Π39'15	0°17'31	direct	11182 Jun 01 05:58	0°Ω03'27
max. Earth dist.	11175 Aug 19 00:29	5°Π40'45	20.98311 AU	evening set	11182 Aug 30 20:41	3°Ω06'53
morning rise	11175 Sep 03 15:33	6°Π34'09				
retrograde	11175 Dec 06 07:59	9°Π40'38		conjunction	11182 Sep 16 00:19	4°Ω02'44
opposition	11176 Feb 21 21:40	7°Π41'29	0°21'53	minimum elong	11182 Sep 16 00:18	4°Ω02'44
min. Earth dist.	11176 Feb 21 12:29	7°Π42'25	18.96914 AU	max. Earth dist.	11182 Sep 16 04:27	4°Ω03'20
direct	11176 May 07 15:42	5°Π44'10		morning rise	11182 Oct 02 06:45	4°Ω59'00
evening set	11176 Aug 05 20:34	8°Π44'28		retrograde	11183 Jan 04 14:22	8°Ω09'32
				opposition	11183 Mar 22 11:46	6°Ω09'21
conjunction	11176 Aug 21 20:16	9°Π39'08	0°21'47	min. Earth dist.	11183 Mar 22 07:50	6°Ω09'46
minimum elong	11176 Aug 21 20:16	9°Π39'08	0°21'29	direct	11183 Jun 05 14:50	4°Ω11'04
max. Earth dist.	11176 Aug 22 05:42	9°Π40'29	20.95426 AU	evening set	11183 Sep 04 07:04	7°Ω15'12
morning rise	11176 Sep 06 22:38	10°Π34'11				
retrograde	11176 Dec 09 18:24	13°Π41'09		conjunction	11183 Sep 20 11:31	8°Ω11'18
opposition	11177 Feb 25 05:38	11°Π41'52	0°26'12	minimum elong	11183 Sep 20 11:31	8°Ω11'18
min. Earth dist.	11177 Feb 24 20:22	11°Π42'49	18.93863 AU	max. Earth dist.	11183 Sep 20 15:28	8°Ω11'53
direct	11177 May 11 21:20	9°Π44'28		morning rise	11183 Oct 06 18:28	9°Ω07'48
evening set	11177 Aug 10 02:56	12°Π45'08		retrograde	11184 Jan 09 02:43	12°Ω18'59
				opposition	11184 Mar 25 22:04	10°Ω18'33
conjunction	11177 Aug 26 03:20	13°Π39'58	0°25'38	min. Earth dist.	11184 Mar 25 19:09	10°Ω18'51
minimum elong	11177 Aug 26 03:19	13°Π39'58	0°25'23	direct	11184 Jun 08 23:38	8°Ω20'00
max. Earth dist.	11177 Aug 26 13:00	13°Π41'21	20.92201 AU	evening set	11184 Sep 07 18:04	11°Ω24'50
morning rise	11177 Sep 11 06:15	14°Π35'12				
retrograde	11177 Dec 14 03:11	17°Π42'40		conjunction	11184 Sep 23 23:06	12°Ω21'11
opposition	11178 Mar 01 13:52	15°Π43'16	0°30'24	minimum elong	11184 Sep 23 23:05	12°Ω21'11
min. Earth dist.	11178 Mar 01 05:32	15°Π44'07	18.90467 AU	max. Earth dist.	11184 Sep 24 01:08	12°Ω21'29
direct	11178 May 16 02:56	13°Π45'49		morning rise	11184 Oct 10 06:53	13°Ω17'56
evening set	11178 Aug 14 09:54	16°Π46'54		retrograde	11185 Jan 12 16:00	16°Ω29'48
				opposition	11185 Mar 30 08:48	14°Ω29'05
conjunction	11178 Aug 30 10:52	17°Π41'54	0°29'22	min. Earth dist.	11185 Mar 30 06:47	14°Ω29'18
minimum elong	11178 Aug 30 10:52	17°Π41'54	0°29'09	direct	11185 Jun 13 09:04	12°Ω30'13
max. Earth dist.	11178 Aug 30 19:08	17°Π43'06	20.88641 AU	evening set	11185 Sep 12 05:50	15°Ω35'50
morning rise	11178 Sep 15 14:37	18°Π37'19				
retrograde	11178 Dec 18 15:02	21°Π45'21		conjunction	11185 Sep 28 11:43	16°Ω32'27
opposition	11179 Mar 05 22:19	19°Π45'51	0°34'29	minimum elong	11185 Sep 28 11:42	16°Ω32'27
min. Earth dist.	11179 Mar 05 14:19	19°Π46'39	18.86723 AU	max. Earth dist.	11185 Sep 28 13:51	16°Ω32'46
direct	11179 May 20 09:24	17°Π48'17		morning rise	11185 Oct 14 19:59	17°Ω29'27
evening set	11179 Aug 18 17:32	20°Π49'53		retrograde	11186 Jan 17 05:43	20°Ω41'59
				opposition	11186 Apr 03 19:48	18°Ω41'01
conjunction	11179 Sep 03 19:12	21°Π45'06	0°32'58	min. Earth dist.	11186 Apr 03 18:30	18°Ω41'09
minimum elong	11179 Sep 03 19:12	21°Π45'05	0°32'49	direct	11186 Jun 17 19:32	16°Ω41'49
max. Earth dist.	11179 Sep 04 03:27	21°Π46'17	20.84694 AU	evening set	11186 Sep 16 18:29	19°Ω48'16
morning rise	11179 Sep 19 23:28	22°Π40'42				
retrograde	11179 Dec 23 00:59	25°Π49'19		conjunction	11186 Oct 03 00:57	20°Ω45'09

minimum elong	11186 Oct 03 00:56	20° <u>♄</u> 45'09	0°53'16	max. Earth dist.	11192 Oct 28 21:49	16° <u>♄</u> 36'35	20.07228 AU
max. Earth dist.	11186 Oct 03 01:07	20° <u>♄</u> 45'10	20.46277 AU	morning rise	11192 Nov 14 15:14	17° <u>♄</u> 36'16	
morning rise	11186 Oct 19 10:02	21° <u>♄</u> 42'25		retrograde	11193 Feb 16 22:43	20° <u>♄</u> 54'01	
retrograde	11187 Jan 21 19:18	24° <u>♄</u> 55'39		opposition	11193 May 03 16:27	18° <u>♄</u> 51'43	1°06'36
opposition	11187 Apr 08 07:20	22° <u>♄</u> 54'25	0°59'58	min. Earth dist.	11193 May 03 20:51	18° <u>♄</u> 51'15	18.04018 AU
min. Earth dist.	11187 Apr 08 07:01	22° <u>♄</u> 54'27	18.43058 AU	direct	11193 Jul 17 09:59	16° <u>♄</u> 50'24	
direct	11187 Jun 22 05:39	20° <u>♄</u> 54'53		evening set	11193 Oct 17 11:20	20° <u>♄</u> 04'00	
evening set	11187 Sep 21 07:46	24° <u>♄</u> 02'13					
conjunction	11187 Oct 07 15:04	24° <u>♄</u> 59'23	0°54'59	conjunction	11193 Nov 02 22:40	21° <u>♄</u> 02'57	0°59'51
minimum elong	11187 Oct 07 15:03	24° <u>♄</u> 59'23	0°55'13	minimum elong	11193 Nov 02 22:40	21° <u>♄</u> 02'57	1°00'20
max. Earth dist.	11187 Oct 07 15:29	24° <u>♄</u> 59'27	20.39796 AU	max. Earth dist.	11193 Nov 02 17:39	21° <u>♄</u> 02'12	20.00779 AU
morning rise	11187 Oct 24 00:34	25° <u>♄</u> 56'55		morning rise	11193 Nov 19 11:25	22° <u>♄</u> 02'10	
retrograde	11188 Jan 26 10:18	29° <u>♄</u> 10'52		retrograde	11194 Feb 21 19:02	25° <u>♄</u> 20'40	
opposition	11188 Apr 11 19:19	27° <u>♄</u> 09'24	1°01'57	opposition	11194 May 08 08:09	23° <u>♄</u> 18'16	1°06'24
min. Earth dist.	11188 Apr 11 19:24	27° <u>♄</u> 09'23	18.36540 AU	min. Earth dist.	11194 May 08 12:49	23° <u>♄</u> 17'46	17.97563 AU
direct	11188 Jun 25 17:32	25° <u>♄</u> 09'32		direct	11194 Jul 22 02:12	21° <u>♄</u> 16'39	
evening set	11188 Sep 24 22:03	28° <u>♄</u> 17'49		evening set	11194 Oct 22 07:37	24° <u>♄</u> 31'23	
conjunction	11188 Oct 11 05:53	29° <u>♄</u> 15'15	0°56'36	conjunction	11194 Nov 07 19:23	25° <u>♄</u> 30'38	0°59'28
minimum elong	11188 Oct 11 05:53	29° <u>♄</u> 15'15	0°56'52	minimum elong	11194 Nov 07 19:22	25° <u>♄</u> 30'38	0°59'59
max. Earth dist.	11188 Oct 11 04:23	29° <u>♄</u> 15'02	20.33262 AU	max. Earth dist.	11194 Nov 07 12:03	25° <u>♄</u> 29'32	19.94318 AU
	11188 Oct 23 22:05	0° <u>♄</u>		morning rise	11194 Nov 24 08:40	26° <u>♄</u> 30'08	
morning rise	11188 Oct 27 16:10	0° <u>♄</u> 13'03		retrograde	11195 Feb 26 14:20	29° <u>♄</u> 49'22	
retrograde	11189 Jan 30 01:04	3° <u>♄</u> 27'46		opposition	11195 May 13 00:49	27° <u>♄</u> 46'49	1°05'47
opposition	11189 Apr 16 07:55	1° <u>♄</u> 26'03	1°03'35	min. Earth dist.	11195 May 13 07:24	27° <u>♄</u> 46'07	17.91107 AU
min. Earth dist.	11189 Apr 16 09:01	1° <u>♄</u> 25'56	18.30003 AU	direct	11195 Jul 26 17:31	25° <u>♄</u> 44'52	
	11189 May 24 08:56	30° <u>♄</u>		evening set	11195 Oct 27 04:30	29° <u>♄</u> 00'44	
direct	11189 Jun 30 04:35	29° <u>♄</u> 25'52		conjunction	11195 Nov 12 16:57	0° <u>♄</u> 00'17	0°58'43
	11189 Aug 05 08:13	0° <u>♄</u>		minimum elong	11195 Nov 12 16:57	0° <u>♄</u> 00'17	0°59'15
evening set	11189 Sep 29 13:02	2° <u>♄</u> 35'08		max. Earth dist.	11195 Nov 12 09:22	29° <u>♄</u> 59'08	19.87865 AU
conjunction	11189 Oct 15 21:45	3° <u>♄</u> 32'52	0°57'55		11195 Nov 12 15:04	0° <u>♄</u>	
minimum elong	11189 Oct 15 21:45	3° <u>♄</u> 32'52	0°58'14	morning rise	11195 Nov 29 06:29	1° <u>♄</u> 00'03	
max. Earth dist.	11189 Oct 15 20:35	3° <u>♄</u> 32'42	20.26715 AU	retrograde	11196 Mar 02 12:27	4° <u>♄</u> 19'58	
morning rise	11189 Nov 01 08:28	4° <u>♄</u> 30'57		opposition	11196 May 16 18:01	2° <u>♄</u> 17'16	1°04'47
retrograde	11190 Feb 03 17:38	7° <u>♄</u> 46'24		min. Earth dist.	11196 May 17 00:37	2° <u>♄</u> 16'33	17.84665 AU
opposition	11190 Apr 20 21:04	5° <u>♄</u> 44'31	1°04'54	direct	11196 Jul 30 11:56	0° <u>♄</u> 14'59	
min. Earth dist.	11190 Apr 20 22:23	5° <u>♄</u> 44'22	18.23455 AU	evening set	11196 Oct 31 02:29	3° <u>♄</u> 31'57	
direct	11190 Jul 04 17:39	3° <u>♄</u> 44'02		conjunction	11196 Nov 16 15:21	4° <u>♄</u> 31'47	0°57'36
evening set	11190 Oct 04 05:15	6° <u>♄</u> 54'19		minimum elong	11196 Nov 16 15:21	4° <u>♄</u> 31'47	0°58'11
conjunction	11190 Oct 20 14:29	7° <u>♄</u> 52'21	0°58'54	max. Earth dist.	11196 Nov 16 05:50	4° <u>♄</u> 30'21	19.81456 AU
minimum elong	11190 Oct 20 14:29	7° <u>♄</u> 52'21	0°59'15	morning rise	11196 Dec 03 05:18	5° <u>♄</u> 31'49	
max. Earth dist.	11190 Oct 20 11:17	7° <u>♄</u> 51'52	20.20184 AU	retrograde	11197 Mar 07 08:25	8° <u>♄</u> 52'23	
morning rise	11190 Nov 06 01:55	8° <u>♄</u> 50'43		opposition	11197 May 21 11:53	6° <u>♄</u> 49'31	1°03'22
retrograde	11191 Feb 08 10:06	12° <u>♄</u> 06'55		min. Earth dist.	11197 May 21 20:23	6° <u>♄</u> 48'36	17.78312 AU
opposition	11191 Apr 25 10:47	10° <u>♄</u> 04'52	1°05'50	direct	11197 Aug 04 04:27	4° <u>♄</u> 46'51	
min. Earth dist.	11191 Apr 25 13:24	10° <u>♄</u> 04'36	18.16946 AU	evening set	11197 Nov 05 01:09	8° <u>♄</u> 04'56	
direct	11191 Jul 09 05:52	8° <u>♄</u> 04'06		conjunction	11197 Nov 21 14:39	9° <u>♄</u> 05'03	0°56'08
evening set	11191 Oct 08 22:13	11° <u>♄</u> 15'28		minimum elong	11197 Nov 21 14:39	9° <u>♄</u> 05'03	0°56'43
conjunction	11191 Oct 25 08:17	12° <u>♄</u> 13'48	0°59'34	max. Earth dist.	11197 Nov 21 04:47	9° <u>♄</u> 03'33	19.75175 AU
minimum elong	11191 Oct 25 08:17	12° <u>♄</u> 13'48	0°59'58	morning rise	11197 Dec 08 04:51	10° <u>♄</u> 05'20	
max. Earth dist.	11191 Oct 25 05:23	12° <u>♄</u> 13'23	20.13690 AU	retrograde	11198 Mar 12 08:08	13° <u>♄</u> 26'30	
morning rise	11191 Nov 10 20:04	13° <u>♄</u> 12'27		opposition	11198 May 26 06:15	11° <u>♄</u> 23'28	1°01'32
	11191 Dec 14 15:28	15° <u>♄</u>		min. Earth dist.	11198 May 26 14:34	11° <u>♄</u> 22'34	17.72110 AU
retrograde	11192 Feb 13 04:33	16° <u>♄</u> 29'26		direct	11198 Aug 09 00:33	9° <u>♄</u> 20'26	
	11192 Apr 16 00:32	15° <u>♄</u>		evening set	11198 Nov 10 00:45	12° <u>♄</u> 39'35	
opposition	11192 Apr 29 01:13	14° <u>♄</u> 27'15	1°06'24	conjunction	11198 Nov 26 14:35	13° <u>♄</u> 39'59	0°54'17
min. Earth dist.	11192 Apr 29 03:58	14° <u>♄</u> 26'58	18.10465 AU	minimum elong	11198 Nov 26 14:35	13° <u>♄</u> 39'59	0°54'54
direct	11192 Jul 12 20:12	12° <u>♄</u> 26'13		max. Earth dist.	11198 Nov 26 03:22	13° <u>♄</u> 38'16	19.69073 AU
	11192 Oct 01 08:57	15° <u>♄</u>		morning rise	11198 Dec 13 05:00	14° <u>♄</u> 40'31	
evening set	11192 Oct 12 16:15	15° <u>♄</u> 38'41		retrograde	11199 Mar 17 04:45	18° <u>♄</u> 02'13	
conjunction	11192 Oct 29 02:47	16° <u>♄</u> 37'20	0°59'53	opposition	11199 May 31 01:17	15° <u>♄</u> 59'02	0°59'18
minimum elong	11192 Oct 29 02:47	16° <u>♄</u> 37'20	1°00'19	min. Earth dist.	11199 May 31 11:17	15° <u>♄</u> 57'57	17.66140 AU
				direct	11199 Aug 13 18:38	13° <u>♄</u> 55'38	

evening set	11199 Nov 15 00:57	17°♊15'50		max. Earth dist.	11205 Dec 29 17:03	16°♊22'30	19.37624 AU
				morning rise	11206 Jan 15 20:58	17°♊26'18	
conjunction	11199 Dec 01 15:12	18°♊16'30 0°52'04		retrograde	11206 Apr 19 02:49	20°♊50'37	
minimum elong	11199 Dec 01 15:12	18°♊16'30 0°52'43		opposition	11206 Jul 02 05:57	18°♊47'05 0°33'22	
max. Earth dist.	11199 Dec 01 03:37	18°♊14'43 19.63256 AU		min. Earth dist.	11206 Jul 02 16:55	18°♊45'53 17.36348 AU	
morning rise	11199 Dec 18 05:48	19°♊17'15		direct	11206 Sep 15 10:05	16°♊41'54	
retrograde	11200 Mar 21 04:58	22°♊39'28		evening set	11206 Dec 18 19:51	20°♊08'19	
opposition	11200 Jun 03 20:48	20°♊36'08 0°56'40					
min. Earth dist.	11200 Jun 04 06:18	20°♊35'06 17.60486 AU		conjunction	11207 Jan 04 10:57	21°♊10'12 0°27'41	
direct	11200 Aug 17 16:10	18°♊32'23		minimum elong	11207 Jan 04 10:57	21°♊10'13 0°28'21	
evening set	11200 Nov 19 01:48	21°♊53'36		max. Earth dist.	11207 Jan 03 22:14	21°♊08'14 19.35165 AU	
				morning rise	11207 Jan 21 00:39	22°♊11'57	
conjunction	11200 Dec 05 16:23	22°♊54'30 0°49'30		retrograde	11207 Apr 24 03:58	25°♊36'25	
minimum elong	11200 Dec 05 16:23	22°♊54'30 0°50'09		opposition	11207 Jul 07 05:20	23°♊32'59 0°28'28	
max. Earth dist.	11200 Dec 05 04:14	22°♊52'38 19.57777 AU		min. Earth dist.	11207 Jul 07 16:45	23°♊31'44 17.34128 AU	
morning rise	11200 Dec 22 07:03	23°♊55'28		direct	11207 Sep 20 10:31	21°♊27'40	
retrograde	11201 Mar 26 02:11	27°♊18'09		evening set	11207 Dec 24 00:38	24°♊54'41	
opposition	11201 Jun 08 17:03	25°♊14'41 0°53'39					
min. Earth dist.	11201 Jun 09 03:55	25°♊13'30 17.55209 AU		conjunction	11208 Jan 09 15:21	25°♊56'39 0°23'11	
direct	11201 Aug 22 12:00	23°♊10'35		minimum elong	11208 Jan 09 15:21	25°♊56'39 0°23'49	
evening set	11201 Nov 24 03:26	26°♊32'48		max. Earth dist.	11208 Jan 09 01:18	25°♊54'28 19.33189 AU	
				morning rise	11208 Jan 26 04:49	26°♊58'27	
conjunction	11201 Dec 10 18:16	27°♊33'55 0°46'36			11208 Mar 30 08:44	0°♊	
minimum elong	11201 Dec 10 18:16	27°♊33'55 0°47'16		retrograde	11208 Apr 28 05:49	0°♊23'00	
max. Earth dist.	11201 Dec 10 05:32	27°♊31'57 19.52722 AU			11208 May 27 11:57	30°♊	
morning rise	11201 Dec 27 09:02	28°♊35'04		opposition	11208 Jul 11 05:03	28°♊19'36 0°23'21	
	11202 Jan 21 07:55	0°♊		min. Earth dist.	11208 Jul 11 16:31	28°♊18'21 17.32391 AU	
retrograde	11202 Mar 31 02:42	1°♊58'10		direct	11208 Sep 24 12:10	26°♊14'10	
	11202 Jun 11 12:09	30°♊		evening set	11208 Dec 28 05:26	29°♊41'42	
opposition	11202 Jun 13 13:36	29°♊54'36 0°50'15			11209 Jan 02 04:15	0°♊	
min. Earth dist.	11202 Jun 13 23:51	29°♊53'29 17.50383 AU					
direct	11202 Aug 27 11:22	27°♊50'13		conjunction	11209 Jan 13 20:04	0°♊43'43 0°18'31	
	11202 Nov 07 22:48	0°♊		minimum elong	11209 Jan 13 20:05	0°♊43'43 0°19'08	
evening set	11202 Nov 29 05:41	1°♊13'22		max. Earth dist.	11209 Jan 13 07:00	0°♊41'41 19.31673 AU	
				morning rise	11209 Jan 30 08:55	1°♊45'31	
conjunction	11202 Dec 15 20:44	2°♊14'42 0°43'23		retrograde	11209 May 03 07:35	5°♊10'03	
minimum elong	11202 Dec 15 20:44	2°♊14'42 0°44'02		opposition	11209 Jul 16 05:10	3°♊06'45 0°18'04	
max. Earth dist.	11202 Dec 15 08:09	2°♊12'45 19.48133 AU		min. Earth dist.	11209 Jul 16 16:40	3°♊05'29 17.31092 AU	
morning rise	11203 Jan 01 11:21	3°♊16'00		direct	11209 Sep 29 13:44	1°♊01'11	
retrograde	11203 Apr 05 00:40	6°♊39'29		evening set	11210 Jan 02 10:37	4°♊29'08	
opposition	11203 Jun 18 11:00	4°♊35'52 0°46'30		max. Earth dist.	11210 Jan 18 10:25	5°♊28'56 19.30606 AU	
min. Earth dist.	11203 Jun 18 22:12	4°♊34'38 17.46057 AU					
direct	11203 Sep 01 09:06	2°♊31'13		conjunction	11210 Jan 19 00:43	5°♊31'10 0°13'44	
evening set	11203 Dec 04 08:20	5°♊55'15		minimum elong	11210 Jan 19 00:43	5°♊31'10 0°14'18	
				behind sun begin	11210 Jan 18 21:42	5°♊30'42	
conjunction	11203 Dec 20 23:26	6°♊56'46 0°39'51		behind sun end	11210 Jan 19 03:44	5°♊31'38	
minimum elong	11203 Dec 20 23:26	6°♊56'46 0°40'31		morning rise	11210 Feb 04 13:09	6°♊32'57	
max. Earth dist.	11203 Dec 20 10:10	6°♊54'42 19.44085 AU		retrograde	11210 May 08 08:42	9°♊57'25	
morning rise	11204 Jan 06 14:04	7°♊58'13		opposition	11210 Jul 21 05:29	7°♊54'08 0°12'39	
retrograde	11204 Apr 09 01:32	11°♊22'02		min. Earth dist.	11210 Jul 21 17:17	7°♊52'51 17.30264 AU	
opposition	11204 Jun 22 08:48	9°♊18'24 0°42'25		direct	11210 Oct 04 16:10	5°♊48'28	
min. Earth dist.	11204 Jun 22 19:19	9°♊17'15 17.42281 AU		evening set	11211 Jan 07 15:34	9°♊16'44	
direct	11204 Sep 05 09:36	7°♊13'32					
evening set	11204 Dec 08 11:39	10°♊38'26		conjunction	11211 Jan 24 05:23	10°♊18'45 0°08'50	
				minimum elong	11211 Jan 24 05:23	10°♊18'45 0°09'22	
conjunction	11204 Dec 25 02:55	11°♊40'06 0°36'03		behind sun begin	11211 Jan 23 23:46	10°♊17'53	
minimum elong	11204 Dec 25 02:55	11°♊40'06 0°36'43		behind sun end	11211 Jan 24 11:00	10°♊19'37	
max. Earth dist.	11204 Dec 24 14:23	11°♊38'09 19.40581 AU		max. Earth dist.	11211 Jan 23 16:09	10°♊16'41 19.30017 AU	
morning rise	11205 Jan 10 17:14	12°♊41'40		morning rise	11211 Feb 09 17:05	11°♊20'29	
retrograde	11205 Apr 14 01:12	16°♊05'46		retrograde	11211 May 13 10:06	14°♊44'47	
opposition	11205 Jun 27 07:08	14°♊02'10 0°38'02		opposition	11211 Jul 26 06:01	12°♊41'35 0°07'08	
min. Earth dist.	11205 Jun 27 18:23	14°♊00'57 17.39047 AU		min. Earth dist.	11211 Jul 26 17:13	12°♊40'21 17.29910 AU	
direct	11205 Sep 10 08:57	11°♊57'09		direct	11211 Oct 09 18:49	10°♊35'50	
evening set	11205 Dec 13 15:38	15°♊22'50		evening set	11212 Jan 12 20:23	14°♊04'17	
					11212 Jan 27 17:53	15°♊	
conjunction	11205 Dec 30 06:44	16°♊24'37 0°31'59					
minimum elong	11205 Dec 30 06:44	16°♊24'37 0°32'38		conjunction	11212 Jan 29 09:35	15°♊06'15 0°03'53	

minimum elong	11212 Jan 29 09:35	15°06'15	0°04'25	retrograde	11217 Jun 10 08:15	13°18'53	
behind sun begin	11212 Jan 29 02:58	15°05'14		opposition	11217 Aug 23 09:00	11°16'16	-0°25'31
behind sun end	11212 Jan 29 16:12	15°07'15		min. Earth dist.	11217 Aug 23 16:21	11°15'28	17.39426 AU
max. Earth dist.	11212 Jan 28 19:45	15°04'05	19.29917 AU	direct	11217 Nov 07 14:03	9°10'40	
morning rise	11212 Feb 14 20:44	16°07'54		evening set	11218 Feb 10 17:44	12°38'14	
retrograde	11212 May 17 10:19	19°32'00					
opposition	11212 Jul 30 06:41	17°28'50	0°01'34	conjunction	11218 Feb 27 02:41	13°39'18	-0°25'13
min. Earth dist.	11212 Jul 30 18:16	17°27'34	17.30072 AU	minimum elong	11218 Feb 27 02:41	13°39'18	0°24'59
direct	11212 Oct 13 21:31	15°23'00		max. Earth dist.	11218 Feb 26 18:17	13°38'00	19.41188 AU
desc. node	11212 Nov 07 02:55	15°38'44		morning rise	11218 Mar 15 08:49	14°40'00	
evening set	11213 Jan 17 01:00	18°51'33		retrograde	11218 Jun 15 05:47	18°01'38	
				opposition	11218 Aug 28 09:09	15°59'15	-0°30'30
conjunction	11213 Feb 02 13:44	19°53'27	-0°01'12	min. Earth dist.	11218 Aug 28 16:35	15°58'27	17.43102 AU
minimum elong	11213 Feb 02 13:44	19°53'27	0°00'44	direct	11218 Nov 12 15:06	13°53'52	
behind sun begin	11213 Feb 02 07:01	19°52'25		evening set	11219 Feb 15 19:27	17°20'59	
behind sun end	11213 Feb 02 20:27	19°54'28					
max. Earth dist.	11213 Feb 02 00:55	19°51'26	19.30343 AU	conjunction	11219 Mar 04 03:26	18°21'50	-0°29'35
morning rise	11213 Feb 19 00:08	20°55'00		minimum elong	11219 Mar 04 03:26	18°21'50	0°29'23
retrograde	11213 May 22 11:09	24°18'48		max. Earth dist.	11219 Mar 03 19:20	18°20'34	19.45145 AU
opposition	11213 Aug 04 07:09	22°15'42	-0°04'01	morning rise	11219 Mar 20 08:49	19°22'17	
min. Earth dist.	11213 Aug 04 17:40	22°14'33	17.30758 AU	retrograde	11219 Jun 20 05:27	22°43'24	
direct	11213 Oct 19 01:12	20°09'50		opposition	11219 Sep 02 08:55	20°41'15	-0°35'15
evening set	11214 Jan 22 05:24	23°38'23		min. Earth dist.	11219 Sep 02 14:30	20°40'39	17.47310 AU
				direct	11219 Nov 17 17:36	18°36'06	
conjunction	11214 Feb 07 17:26	24°40'09	-0°06'14	evening set	11220 Feb 20 20:22	22°02'41	
minimum elong	11214 Feb 07 17:26	24°40'09	0°05'47				
behind sun begin	11214 Feb 07 11:00	24°39'10		conjunction	11220 Mar 08 03:36	23°03'18	-0°33'44
behind sun end	11214 Feb 07 23:52	24°41'09		minimum elong	11220 Mar 08 03:36	23°03'18	0°33'35
max. Earth dist.	11214 Feb 07 04:45	24°38'11	19.31305 AU	max. Earth dist.	11220 Mar 07 21:25	23°02'20	19.49581 AU
morning rise	11214 Feb 24 03:04	25°41'35		morning rise	11220 Mar 24 07:57	24°03'31	
retrograde	11214 May 27 10:15	29°05'02		retrograde	11220 Jun 24 02:37	27°24'02	
opposition	11214 Aug 09 07:53	27°02'01	-0°09'33	opposition	11220 Sep 06 08:36	25°22'09	-0°39'44
min. Earth dist.	11214 Aug 09 18:43	27°00'50	17.32014 AU	min. Earth dist.	11220 Sep 06 14:19	25°21'32	17.51957 AU
direct	11214 Oct 24 03:53	24°56'08		direct	11220 Nov 21 17:39	23°17'17	
evening set	11215 Jan 27 09:08	28°24'33		evening set	11221 Feb 24 20:51	26°43'14	
conjunction	11215 Feb 12 20:28	29°26'12	-0°11'08	conjunction	11221 Mar 13 03:00	27°43'35	-0°37'39
minimum elong	11215 Feb 12 20:28	29°26'12	0°10'44	minimum elong	11221 Mar 13 03:00	27°43'35	0°37'34
behind sun begin	11215 Feb 12 15:20	29°25'24		max. Earth dist.	11221 Mar 12 20:40	27°42'36	19.54424 AU
behind sun end	11215 Feb 13 01:36	29°26'59		morning rise	11221 Mar 29 06:36	28°43'32	
max. Earth dist.	11215 Feb 12 08:48	29°24'22	19.32858 AU		11221 Apr 20 09:03	0°00'	
	11215 Feb 21 19:55	0°00'		retrograde	11221 Jun 29 01:09	2°03'26	
morning rise	11215 Mar 01 05:19	0°27'28		opposition	11221 Sep 11 07:45	0°01'48	-0°43'57
retrograde	11215 Jun 01 10:21	3°50'32		min. Earth dist.	11221 Sep 11 11:58	0°01'21	17.56978 AU
opposition	11215 Aug 14 08:23	1°47'36	-0°15'00		11221 Sep 12 00:32	30°00'	
min. Earth dist.	11215 Aug 14 17:31	1°46'36	17.33861 AU	direct	11221 Nov 26 19:10	27°57'11	
	11215 Oct 02 21:05	30°00'			11222 Feb 05 19:18	0°00'	
direct	11215 Oct 29 08:00	29°41'45		evening set	11222 Mar 01 20:26	1°22'27	
	11215 Nov 24 11:14	0°00'					
evening set	11216 Feb 01 12:33	3°09'58		conjunction	11222 Mar 18 01:49	2°22'31	-0°41'18
				minimum elong	11222 Mar 18 01:48	2°22'31	0°41'15
conjunction	11216 Feb 17 23:07	4°11'27	-0°15'58	max. Earth dist.	11222 Mar 17 21:26	2°21'50	19.59600 AU
minimum elong	11216 Feb 17 23:07	4°11'27	0°15'37	morning rise	11222 Apr 03 04:19	3°22'12	
behind sun begin	11216 Feb 17 21:44	4°11'14		retrograde	11222 Jul 03 21:28	6°41'26	
behind sun end	11216 Feb 18 00:30	4°11'39		opposition	11222 Sep 16 06:52	4°40'02	-0°47'52
max. Earth dist.	11216 Feb 17 12:29	4°09'47	19.35010 AU	min. Earth dist.	11222 Sep 16 11:00	4°39'35	17.62299 AU
morning rise	11216 Mar 05 07:04	5°12'33		direct	11222 Dec 01 19:00	2°35'43	
retrograde	11216 Jun 05 08:31	8°35'10		evening set	11223 Mar 06 19:12	6°00'10	
opposition	11216 Aug 18 08:48	6°32'22	-0°20'20				
min. Earth dist.	11216 Aug 18 18:05	6°31'22	17.36335 AU	conjunction	11223 Mar 22 23:29	6°59'56	-0°44'40
direct	11216 Nov 02 10:18	4°26'37		minimum elong	11223 Mar 22 23:28	6°59'56	0°44'41
evening set	11217 Feb 05 15:27	7°54'33		max. Earth dist.	11223 Mar 22 18:51	6°59'13	19.65056 AU
				morning rise	11223 Apr 08 01:17	7°59'20	
conjunction	11217 Feb 22 01:12	8°55'50	-0°20'40	retrograde	11223 Jul 08 18:09	11°17'53	
minimum elong	11217 Feb 22 01:11	8°55'50	0°20'22	opposition	11223 Sep 21 05:23	9°16'41	-0°51'26
max. Earth dist.	11217 Feb 21 15:10	8°54'16	19.37802 AU	min. Earth dist.	11223 Sep 21 08:12	9°16'23	17.67880 AU
morning rise	11217 Mar 10 08:22	9°56'44		direct	11223 Dec 06 19:43	7°12'38	

evening set	11224 Mar 10 17:05	10°♈36'13		max. Earth dist.	11230 Apr 23 10:01	8°♏29'44	20.08249 AU
				morning rise	11230 May 09 03:11	9°♏26'33	
conjunction	11224 Mar 26 20:37	11°♈35'42 -0°47'44		retrograde	11230 Aug 08 15:04	12°♏39'44	
minimum elong	11224 Mar 26 20:37	11°♈35'42 0°47'48		opposition	11230 Oct 23 03:00	10°♏39'41	-1°06'04
max. Earth dist.	11224 Mar 26 17:54	11°♈35'17 19.70736 AU		min. Earth dist.	11230 Oct 22 23:03	10°♏40'06	18.11648 AU
morning rise	11224 Apr 11 21:24	12°♈34'48		direct	11231 Jan 08 05:49	8°♏37'37	
retrograde	11224 Jul 12 12:57	15°♈52'37		evening set	11231 Apr 11 23:04	11°♏53'52	
opposition	11224 Sep 25 03:21	13°♈51'37 -0°54'40					
min. Earth dist.	11224 Sep 25 05:53	13°♈51'21 17.73649 AU		conjunction	11231 Apr 27 20:52	12°♏51'09	-0°59'45
direct	11224 Dec 10 19:50	11°♈47'51		minimum elong	11231 Apr 27 20:52	12°♏51'08	1°00'10
evening set	11225 Mar 15 14:15	15°♈10'31		max. Earth dist.	11231 Apr 28 00:52	12°♏51'45	20.15057 AU
				morning rise	11231 May 13 16:59	13°♏48'11	
conjunction	11225 Mar 31 16:44	16°♈09'40 -0°50'29			11231 Jun 04 01:54	15°♏	
minimum elong	11225 Mar 31 16:44	16°♈09'40 0°50'36		retrograde	11231 Aug 13 04:40	17°♏00'40	
max. Earth dist.	11225 Mar 31 13:43	16°♈09'12 19.76596 AU		opposition	11231 Oct 27 20:44	15°♏00'50	-1°06'35
morning rise	11225 Apr 16 16:51	17°♈08'28		min. Earth dist.	11231 Oct 27 16:13	15°♏01'18	18.18518 AU
retrograde	11225 Jul 17 07:12	20°♈25'32			11231 Oct 28 04:47	15°♏	
opposition	11225 Sep 30 00:53	18°♈24'42 -0°57'32		direct	11232 Jan 12 23:04	12°♏59'08	
min. Earth dist.	11225 Sep 30 02:23	18°♈24'33 17.79596 AU			11232 Mar 24 06:42	15°♏	
direct	11225 Dec 15 19:21	16°♈21'12		evening set	11232 Apr 15 13:11	16°♏14'18	
evening set	11226 Mar 20 10:09	19°♈42'51					
				conjunction	11232 May 01 10:27	17°♏11'18	-1°00'04
conjunction	11226 Apr 05 11:55	20°♈41'42 -0°52'54		minimum elong	11232 May 01 10:27	17°♏11'18	1°00'31
minimum elong	11226 Apr 05 11:54	20°♈41'42 0°53'05		max. Earth dist.	11232 May 01 15:59	17°♏12'08	20.21964 AU
max. Earth dist.	11226 Apr 05 10:52	20°♈41'33 19.82614 AU		morning rise	11232 May 17 06:01	18°♏08'04	
morning rise	11226 Apr 21 11:05	21°♈40'12		retrograde	11232 Aug 16 19:02	21°♏19'50	
retrograde	11226 Jul 22 00:47	24°♈56'30		opposition	11232 Oct 31 13:39	19°♏20'16	-1°06'44
opposition	11226 Oct 04 21:51	22°♈55'49 -1°00'01		min. Earth dist.	11232 Oct 31 07:29	19°♏20'54	18.25432 AU
min. Earth dist.	11226 Oct 04 22:34	22°♈55'44 17.85681 AU		direct	11233 Jan 16 17:15	17°♏18'58	
direct	11226 Dec 20 18:57	20°♈52'35		evening set	11233 Apr 20 02:34	20°♏33'05	
evening set	11227 Mar 25 05:15	24°♈13'11					
				conjunction	11233 May 05 23:10	21°♏29'47	-1°00'03
conjunction	11227 Apr 10 06:01	25°♈11'42 -0°54'59		minimum elong	11233 May 05 23:10	21°♏29'47	1°00'33
minimum elong	11227 Apr 10 06:00	25°♈11'42 0°55'11		max. Earth dist.	11233 May 06 05:19	21°♏30'43	20.28878 AU
max. Earth dist.	11227 Apr 10 05:01	25°♈11'33 19.88777 AU		morning rise	11233 May 21 18:21	22°♏26'19	
morning rise	11227 Apr 26 04:36	26°♈09'55		retrograde	11233 Aug 21 07:37	25°♏37'25	
retrograde	11227 Jul 26 16:49	29°♈25'25		opposition	11233 Nov 05 06:16	23°♏38'05	-1°06'30
opposition	11227 Oct 09 18:03	27°♈24'52 -1°02'08		min. Earth dist.	11233 Nov 04 23:57	23°♏38'44	18.32337 AU
min. Earth dist.	11227 Oct 09 17:55	27°♈24'53 17.91932 AU		direct	11234 Jan 21 08:37	21°♏37'11	
direct	11227 Dec 25 16:26	25°♈21'52		evening set	11234 Apr 24 14:54	24°♏50'14	
evening set	11228 Mar 28 23:06	28°♈41'24					
				conjunction	11234 May 10 11:02	25°♏46'41	-0°59'42
conjunction	11228 Apr 13 23:14	29°♈39'37 -0°56'42		minimum elong	11234 May 10 11:02	25°♏46'41	1°00'13
minimum elong	11228 Apr 13 23:14	29°♈39'37 0°56'59		max. Earth dist.	11234 May 10 18:24	25°♏47'47	20.35747 AU
max. Earth dist.	11228 Apr 14 00:15	29°♈39'46 19.95102 AU		morning rise	11234 May 26 05:50	26°♏42'57	
	11228 Apr 19 12:40	0°♏		retrograde	11234 Aug 25 21:22	29°♏53'25	
morning rise	11228 Apr 29 21:02	0°♏37'31		opposition	11234 Nov 09 22:10	27°♏54'19	-1°05'55
retrograde	11228 Jul 30 09:08	3°♏52'13		min. Earth dist.	11234 Nov 09 14:14	27°♏55'08	18.39143 AU
opposition	11228 Oct 13 13:39	1°♏51'49 -1°03'50		direct	11235 Jan 26 01:29	25°♏53'49	
min. Earth dist.	11228 Oct 13 12:16	1°♏51'58 17.98329 AU		evening set	11235 Apr 29 02:41	29°♏05'50	
	11228 Dec 08 18:09	30°♏					
direct	11228 Dec 29 14:30	29°♈49'06		conjunction	11235 May 14 22:17	0°♏02'01	-0°59'01
	11229 Jan 19 02:44	0°♏		minimum elong	11235 May 14 22:17	0°♏02'01	0°59'34
evening set	11229 Apr 02 16:09	3°♏07'32			11235 May 14 08:48	0°♏	
				max. Earth dist.	11235 May 15 06:12	0°♏03'11	20.42474 AU
conjunction	11229 Apr 18 15:20	4°♏05'26 -0°58'04		morning rise	11235 May 30 16:48	0°♏58'03	
minimum elong	11229 Apr 18 15:20	4°♏05'25 0°58'24		retrograde	11235 Aug 30 08:43	4°♏07'54	
max. Earth dist.	11229 Apr 18 16:46	4°♏05'39 20.01583 AU		opposition	11235 Nov 14 13:26	2°♏09'01	-1°04'58
morning rise	11229 May 04 12:34	5°♏03'02		min. Earth dist.	11235 Nov 14 05:50	2°♏09'48	18.45789 AU
retrograde	11229 Aug 03 23:45	8°♏16'58		direct	11236 Jan 30 14:55	0°♏08'53	
opposition	11229 Oct 18 08:40	6°♏16'44 -1°05'09		evening set	11236 May 02 13:40	3°♏19'53	
min. Earth dist.	11229 Oct 18 06:25	6°♏16'58 18.04909 AU					
direct	11230 Jan 03 09:47	4°♏14'18		conjunction	11236 May 18 08:53	4°♏15'49	-0°58'02
evening set	11230 Apr 07 08:05	7°♏31'39		minimum elong	11236 May 18 08:53	4°♏15'49	0°58'36
				max. Earth dist.	11236 May 18 17:28	4°♏17'05	20.49011 AU
conjunction	11230 Apr 23 06:39	8°♏29'14 -0°59'05		morning rise	11236 Jun 03 03:09	5°♏11'38	
minimum elong	11230 Apr 23 06:39	8°♏29'14 0°59'28		retrograde	11236 Sep 02 22:00	8°♏20'52	

opposition	11236 Nov 18 04:08	6°II22'11	-1°03'41	conjunction	11243 Jun 16 16:39	3°☾09'45	-0°43'17
min. Earth dist.	11236 Nov 17 19:05	6°II23'07	18.52192 AU	minimum elong	11243 Jun 16 16:40	3°☾09'45	0°43'57
direct	11237 Feb 03 06:39	4°II22'24		max. Earth dist.	11243 Jun 17 04:42	3°☾11'30	20.85780 AU
evening set	11237 May 06 23:56	7°II32'24		morning rise	11243 Jul 02 10:52	4°☾04'23	
				retrograde	11243 Oct 02 16:52	7°☾10'08	
conjunction	11237 May 22 18:44	8°II28'05	-0°56'44	opposition	11243 Dec 18 18:58	5°☾11'56	-0°46'15
minimum elong	11237 May 22 18:44	8°II28'05	0°57'20	min. Earth dist.	11243 Dec 18 07:46	5°☾13'03	18.87850 AU
max. Earth dist.	11237 May 23 03:47	8°II29'26	20.55265 AU	direct	11244 Mar 04 17:31	3°☾13'46	
morning rise	11237 Jun 07 12:48	9°II23'42		evening set	11244 Jun 04 04:35	6°☾17'30	
retrograde	11237 Sep 07 08:01	12°II32'22					
opposition	11237 Nov 22 18:28	10°II33'51	-1°02'03	conjunction	11244 Jun 19 22:29	7°☾11'56	-0°40'13
min. Earth dist.	11237 Nov 22 09:56	10°II34'43	18.58301 AU	minimum elong	11244 Jun 19 22:29	7°☾11'56	0°40'54
direct	11238 Feb 07 18:52	8°II34'23		max. Earth dist.	11244 Jun 20 10:42	7°☾13'42	20.89815 AU
evening set	11238 May 11 09:28	11°II43'23		morning rise	11244 Jul 05 16:56	8°☾06'27	
				retrograde	11244 Oct 06 01:37	11°☾11'54	
conjunction	11238 May 27 04:00	12°II38'51	-0°55'09	opposition	11244 Dec 22 05:10	9°☾13'45	-0°42'46
minimum elong	11238 May 27 04:00	12°II38'51	0°55'46	min. Earth dist.	11244 Dec 21 16:24	9°☾15'01	18.91734 AU
max. Earth dist.	11238 May 27 13:24	12°II40'14	20.61213 AU	direct	11245 Mar 09 03:27	7°☾15'47	
morning rise	11238 Jun 11 21:57	13°II34'15		evening set	11245 Jun 08 09:53	10°☾18'51	
retrograde	11238 Sep 11 20:19	16°II42'22					
opposition	11238 Nov 27 07:58	14°II43'57	-1°00'07	conjunction	11245 Jun 24 03:52	11°☾13'10	-0°36'59
min. Earth dist.	11238 Nov 26 22:02	14°II44'58	18.64069 AU	minimum elong	11245 Jun 24 03:52	11°☾13'10	0°37'40
direct	11239 Feb 12 09:40	12°II44'46		max. Earth dist.	11245 Jun 24 16:54	11°☾15'03	20.93542 AU
evening set	11239 May 15 18:15	15°II52'47		morning rise	11245 Jul 09 22:30	12°☾07'36	
				retrograde	11245 Oct 10 08:35	15°☾12'47	
conjunction	11239 May 31 12:34	16°II48'03	-0°53'17	opposition	11245 Dec 26 15:11	13°☾14'41	-0°39'05
minimum elong	11239 May 31 12:34	16°II48'03	0°53'55	min. Earth dist.	11245 Dec 26 03:00	13°☾15'54	18.95306 AU
max. Earth dist.	11239 May 31 22:26	16°II49'30	20.66795 AU	direct	11246 Mar 13 11:24	11°☾16'57	
morning rise	11239 Jun 16 06:29	17°II43'17		evening set	11246 Jun 12 14:58	14°☾19'23	
retrograde	11239 Sep 16 05:20	20°II50'51					
opposition	11239 Dec 01 21:02	18°II52'31	-0°57'53	conjunction	11246 Jun 28 09:03	15°☾13'37	-0°33'35
min. Earth dist.	11239 Dec 01 11:49	18°II53'27	18.69471 AU	minimum elong	11246 Jun 28 09:04	15°☾13'37	0°34'15
direct	11240 Feb 16 20:40	16°II53'34		max. Earth dist.	11246 Jun 28 22:05	15°☾15'30	20.96955 AU
evening set	11240 May 19 02:22	20°II00'38		morning rise	11246 Jul 14 04:04	16°☾07'58	
				retrograde	11246 Oct 14 17:23	19°☾12'58	
conjunction	11240 Jun 03 20:30	20°II55'42	-0°51'08	min. Earth dist.	11246 Dec 30 11:05	17°☾16'16	18.98535 AU
minimum elong	11240 Jun 03 20:30	20°II55'42	0°51'48	opposition	11246 Dec 31 00:31	17°☾14'55	-0°35'13
max. Earth dist.	11240 Jun 04 06:35	20°II57'11	20.72021 AU	direct	11247 Mar 17 19:53	15°☾17'23	
morning rise	11240 Jun 19 14:26	21°II50'45		evening set	11247 Jun 16 19:49	18°☾19'17	
retrograde	11240 Sep 19 15:45	24°II57'47					
opposition	11240 Dec 05 09:15	22°II59'31	-0°55'22	conjunction	11247 Jul 02 14:06	19°☾13'26	-0°30'01
min. Earth dist.	11240 Dec 04 22:36	23°II00'35	18.74514 AU	minimum elong	11247 Jul 02 14:06	19°☾13'26	0°30'42
direct	11241 Feb 20 10:39	21°II00'46		max. Earth dist.	11247 Jul 03 03:41	19°☾15'23	20.99987 AU
evening set	11241 May 23 09:48	24°II06'55		morning rise	11247 Jul 18 09:24	20°☾07'44	
				retrograde	11247 Oct 18 23:59	23°☾12'34	
conjunction	11241 Jun 08 03:48	25°II01'48	-0°48'45	opposition	11248 Jan 04 09:48	21°☾14'35	-0°31'12
minimum elong	11241 Jun 08 03:48	25°II01'48	0°49'25	min. Earth dist.	11248 Jan 03 21:15	21°☾15'51	19.01366 AU
max. Earth dist.	11241 Jun 08 14:37	25°II03'23	20.76896 AU	direct	11248 Mar 21 02:47	19°☾17'15	
morning rise	11241 Jun 23 21:45	25°II56'41		evening set	11248 Jun 20 00:28	22°☾18'40	
retrograde	11241 Sep 24 00:08	29°II03'16					
opposition	11241 Dec 09 21:11	27°II05'00	-0°52'35	conjunction	11248 Jul 05 18:54	23°☾12'46	-0°26'20
min. Earth dist.	11241 Dec 09 11:04	27°II06'01	18.79242 AU	minimum elong	11248 Jul 05 18:55	23°☾12'46	0°26'58
direct	11242 Feb 24 20:33	25°II06'27		max. Earth dist.	11248 Jul 06 08:11	23°☾14'40	21.02611 AU
evening set	11242 May 27 16:29	28°II11'43		morning rise	11248 Jul 21 14:36	24°☾07'01	
				retrograde	11248 Oct 22 09:03	27°☾11'46	
conjunction	11242 Jun 12 10:24	29°II06'26	-0°46'07	opposition	11249 Jan 07 18:41	25°☾13'49	-0°27'02
minimum elong	11242 Jun 12 10:24	29°II06'26	0°46'48	min. Earth dist.	11249 Jan 07 05:11	25°☾15'10	19.03760 AU
max. Earth dist.	11242 Jun 12 21:37	29°II08'04	20.81483 AU	direct	11249 Mar 25 10:39	23°☾16'40	
	11242 Jun 27 20:12	0°☾		evening set	11249 Jun 24 05:04	26°☾17'40	
morning rise	11242 Jun 28 04:30	0°☾01'11					
retrograde	11242 Sep 28 09:20	3°☾07'19		conjunction	11249 Jul 09 23:46	27°☾11'43	-0°22'31
opposition	11242 Dec 14 08:20	1°☾09'05	-0°49'32	minimum elong	11249 Jul 09 23:46	27°☾11'43	0°23'09
min. Earth dist.	11242 Dec 13 20:35	1°☾10'16	18.83684 AU	max. Earth dist.	11249 Jul 10 13:25	27°☾13'40	21.04762 AU
	11243 Jan 13 23:15	30°RII		morning rise	11249 Jul 25 19:48	28°☾05'57	
direct	11243 Mar 01 08:39	29°II10'43			11249 Sep 02 00:08	0°♂	
	11243 Apr 15 01:29	0°☾		retrograde	11249 Oct 26 15:19	1°♂10'40	
evening set	11243 May 31 22:46	2°☾15'11			11249 Dec 22 19:14	30°R☾	

opposition	11250 Jan 12 03:31	29°☿12'44	-0°22'45	conjunction	11255 Aug 03 04:53	21°♄00'59	0°02'00
min. Earth dist.	11250 Jan 11 15:09	29°☿13'58	19.05667 AU	minimum elong	11255 Aug 03 04:52	21°♄00'59	0°01'32
direct	11250 Mar 29 16:51	27°☿15'43		behind sun begin	11255 Aug 02 22:17	21°♄00'04	
	11250 Jun 23 11:36	0°♄		behind sun end	11255 Aug 03 11:28	21°♄01'54	
evening set	11250 Jun 28 09:33	0°♄16'22		max. Earth dist.	11255 Aug 03 16:32	21°♄02'38	21.06435 AU
				morning rise	11255 Aug 19 04:00	21°♄55'26	
conjunction	11250 Jul 14 04:31	1°♄10'23	-0°18'36	retrograde	11255 Nov 20 12:05	25°♄00'38	
minimum elong	11250 Jul 14 04:31	1°♄10'23	0°19'12	opposition	11256 Feb 06 03:45	23°♄02'07	0°04'27
max. Earth dist.	11250 Jul 14 17:32	1°♄12'15	21.06415 AU	min. Earth dist.	11256 Feb 05 17:23	23°♄03'10	19.05795 AU
morning rise	11250 Jul 30 01:04	2°♄04'37		direct	11256 Apr 22 06:28	21°♄05'08	
retrograde	11250 Oct 31 00:33	5°♄09'19		evening set	11256 Jul 21 12:23	24°♄04'46	
opposition	11251 Jan 16 11:59	3°♄11'23	-0°18'22				
min. Earth dist.	11251 Jan 15 23:02	3°♄12'41	19.07042 AU	conjunction	11256 Aug 06 09:50	24°♄58'59	0°06'11
direct	11251 Apr 03 00:16	1°♄14'28		minimum elong	11256 Aug 06 09:50	24°♄58'59	0°05'44
evening set	11251 Jul 02 14:06	4°♄14'49		behind sun begin	11256 Aug 06 03:31	24°♄58'06	
				behind sun end	11256 Aug 06 16:09	24°♄59'52	
conjunction	11251 Jul 18 09:25	5°♄08'50	-0°14'36	max. Earth dist.	11256 Aug 06 20:50	25°♄00'32	21.05054 AU
minimum elong	11251 Jul 18 09:25	5°♄08'50	0°15'11	morning rise	11256 Aug 22 09:37	25°♄53'31	
behind sun begin	11251 Jul 18 07:06	5°♄08'31		retrograde	11256 Nov 23 20:33	28°♄58'59	
behind sun end	11251 Jul 18 11:45	5°♄09'10		opposition	11257 Feb 09 11:21	27°♄00'19	0°09'02
max. Earth dist.	11251 Jul 18 22:26	5°♄10'42	21.07496 AU	min. Earth dist.	11257 Feb 09 00:23	27°♄01'25	19.04231 AU
morning rise	11251 Aug 03 06:21	6°♄03'05		direct	11257 Apr 26 12:37	25°♄03'15	
retrograde	11251 Nov 04 06:26	9°♄07'49		evening set	11257 Jul 25 17:13	28°♄02'58	
opposition	11252 Jan 20 20:17	7°♄09'50	-0°13'53				
min. Earth dist.	11252 Jan 20 08:41	7°♄10'59	19.07836 AU	conjunction	11257 Aug 10 15:13	28°♄57'16	0°10'18
direct	11252 Apr 06 06:13	5°♄12'59		minimum elong	11257 Aug 10 15:13	28°♄57'16	0°09'54
evening set	11252 Jul 05 18:37	8°♄13'04		behind sun begin	11257 Aug 10 09:51	28°♄56'31	
				behind sun end	11257 Aug 10 20:36	28°♄58'01	
conjunction	11252 Jul 21 14:17	9°♄07'05	-0°10'32	max. Earth dist.	11257 Aug 11 02:29	28°♄58'52	21.03303 AU
minimum elong	11252 Jul 21 14:17	9°♄07'05	0°11'06	morning rise	11257 Aug 26 15:32	29°♄51'54	
behind sun begin	11252 Jul 21 09:21	9°♄06'24			11257 Aug 29 01:46	0°♄	
behind sun end	11252 Jul 21 19:13	9°♄07'47		retrograde	11257 Nov 28 03:35	2°♄57'39	
max. Earth dist.	11252 Jul 22 02:24	9°♄08'49	21.08015 AU	opposition	11258 Feb 13 18:59	0°♄58'51	0°13'35
morning rise	11252 Aug 06 11:47	10°♄01'22		min. Earth dist.	11258 Feb 13 08:58	0°♄59'52	19.02309 AU
retrograde	11252 Nov 07 15:15	13°♄06'09			11258 Mar 11 07:49	30°♄	
opposition	11253 Jan 24 04:25	11°♄08'05	-0°09'21	direct	11258 Apr 30 17:04	29°♄01'45	
min. Earth dist.	11253 Jan 23 16:19	11°♄09'17	19.08068 AU		11258 Jun 18 06:14	0°♄	
direct	11253 Apr 10 13:14	9°♄11'14		evening set	11258 Jul 29 22:18	2°♄01'35	
evening set	11253 Jul 09 22:54	12°♄11'07					
				conjunction	11258 Aug 14 20:50	2°♄55'59	0°14'22
conjunction	11253 Jul 25 19:00	13°♄05'09	-0°06'26	minimum elong	11258 Aug 14 20:50	2°♄55'59	0°14'00
minimum elong	11253 Jul 25 19:01	13°♄05'09	0°06'57	behind sun begin	11258 Aug 14 17:29	2°♄55'31	
behind sun begin	11253 Jul 25 12:54	13°♄04'18		behind sun end	11258 Aug 15 00:11	2°♄56'27	
behind sun end	11253 Jul 26 01:07	13°♄06'00		max. Earth dist.	11258 Aug 15 07:16	2°♄57'28	21.01218 AU
max. Earth dist.	11253 Jul 26 07:16	13°♄06'54	21.07969 AU	morning rise	11258 Aug 30 21:53	3°♄50'45	
morning rise	11253 Aug 10 17:00	13°♄59'28		retrograde	11258 Dec 02 13:06	6°♄56'52	
	11253 Aug 29 14:04	15°♄		opposition	11259 Feb 18 02:36	4°♄57'55	0°18'05
retrograde	11253 Nov 11 21:20	17°♄04'22		min. Earth dist.	11259 Feb 17 16:13	4°♄58'58	19.00048 AU
opposition	11254 Jan 28 12:27	15°♄06'09	-0°04'46	direct	11259 May 04 23:14	3°♄00'45	
min. Earth dist.	11254 Jan 28 01:34	15°♄07'14	19.07762 AU	evening set	11259 Aug 03 03:46	6°♄00'48	
	11254 Jan 31 02:04	15°♄					
direct	11254 Apr 14 18:58	13°♄09'17		conjunction	11259 Aug 19 02:54	6°♄55'20	0°18'24
	11254 Jun 22 09:15	15°♄		minimum elong	11259 Aug 19 02:54	6°♄55'20	0°18'04
evening set	11254 Jul 14 03:21	16°♄09'00		max. Earth dist.	11259 Aug 19 13:30	6°♄56'50	20.98773 AU
				morning rise	11259 Sep 04 04:29	7°♄50'13	
conjunction	11254 Jul 29 23:53	17°♄03'05	-0°02'17	retrograde	11259 Dec 06 20:53	10°♄56'44	
minimum elong	11254 Jul 29 23:53	17°♄03'05	0°02'48	opposition	11260 Feb 22 10:23	8°♄57'41	0°22'30
behind sun begin	11254 Jul 29 17:19	17°♄02'10		min. Earth dist.	11260 Feb 22 01:03	8°♄58'37	18.97428 AU
behind sun end	11254 Jul 30 06:27	17°♄04'00		direct	11260 May 08 03:45	7°♄00'27	
max. Earth dist.	11254 Jul 30 11:21	17°♄04'43	21.07431 AU	evening set	11260 Aug 06 09:41	10°♄00'46	
morning rise	11254 Aug 14 22:31	17°♄57'28					
retrograde	11254 Nov 16 05:33	21°♄02'29		conjunction	11260 Aug 22 09:21	10°♄55'26	0°22'20
opposition	11255 Feb 01 20:02	19°♄04'07	-0°00'10	minimum elong	11260 Aug 22 09:21	10°♄55'26	0°22'03
min. Earth dist.	11255 Feb 01 08:41	19°♄05'15	19.06992 AU	max. Earth dist.	11260 Aug 22 18:59	10°♄56'49	20.95991 AU
asc. node	11255 Feb 14 11:33	18°♄34'05		morning rise	11260 Sep 07 11:40	11°♄50'29	
direct	11255 Apr 19 01:22	17°♄07'11		retrograde	11260 Dec 10 07:20	14°♄57'27	
evening set	11255 Jul 18 07:51	20°♄06'50		opposition	11261 Feb 25 18:22	12°♄58'16	0°26'49

min. Earth dist.	11261 Feb 25 08:56	12° \mathring{M} 59'13	18.94468 AU	conjunction	11267 Sep 21 00:03	9° \mathring{A} 26'22	0°46'14
direct	11261 May 12 10:04	11° \mathring{M} 00'58		minimum elong	11267 Sep 21 00:03	9° \mathring{A} 26'22	0°46'18
evening set	11261 Aug 10 15:59	14° \mathring{M} 01'38		max. Earth dist.	11267 Sep 21 03:51	9° \mathring{A} 26'55	20.65044 AU
				morning rise	11267 Oct 07 06:56	10° \mathring{A} 22'49	
conjunction	11261 Aug 26 16:21	14° \mathring{M} 56'28	0°26'11	retrograde	11268 Jan 09 13:31	13° \mathring{A} 33'49	
minimum elong	11261 Aug 26 16:21	14° \mathring{M} 56'28	0°25'56	opposition	11268 Mar 26 10:28	11° \mathring{A} 33'17	0°52'44
max. Earth dist.	11261 Aug 27 02:04	14° \mathring{M} 57'51	20.92838 AU	min. Earth dist.	11268 Mar 26 07:38	11° \mathring{A} 33'35	18.62111 AU
morning rise	11261 Sep 11 19:15	15° \mathring{M} 51'41		direct	11268 Jun 09 13:01	9° \mathring{A} 34'37	
retrograde	11261 Dec 14 16:38	18° \mathring{M} 59'09		evening set	11268 Sep 08 06:36	12° \mathring{A} 39'17	
opposition	11262 Mar 02 02:41	16° \mathring{M} 59'51	0°31'01				
min. Earth dist.	11262 Mar 01 18:28	17° \mathring{M} 00'41	18.91120 AU	conjunction	11268 Sep 24 11:34	13° \mathring{A} 35'35	0°48'54
direct	11262 May 16 15:32	15° \mathring{M} 02'27		minimum elong	11268 Sep 24 11:33	13° \mathring{A} 35'35	0°49'00
evening set	11262 Aug 14 23:05	18° \mathring{M} 03'33		max. Earth dist.	11268 Sep 24 13:36	13° \mathring{A} 35'53	20.59120 AU
				morning rise	11268 Oct 10 19:15	14° \mathring{A} 32'18	
conjunction	11262 Aug 31 00:01	18° \mathring{M} 58'33	0°29'55	retrograde	11269 Jan 13 03:30	17° \mathring{A} 43'58	
minimum elong	11262 Aug 31 00:00	18° \mathring{M} 58'32	0°29'44	opposition	11269 Mar 30 20:57	15° \mathring{A} 43'10	0°55'34
max. Earth dist.	11262 Aug 31 08:19	18° \mathring{M} 59'44	20.89299 AU	min. Earth dist.	11269 Mar 30 18:46	15° \mathring{A} 43'23	18.56083 AU
morning rise	11262 Sep 16 03:41	19° \mathring{M} 53'56		direct	11269 Jun 13 22:24	13° \mathring{A} 44'11	
retrograde	11262 Dec 19 03:47	23° \mathring{M} 01'56		evening set	11269 Sep 12 18:08	16° \mathring{A} 49'39	
opposition	11263 Mar 06 11:01	21° \mathring{M} 02'30	0°35'05				
min. Earth dist.	11263 Mar 06 03:12	21° \mathring{M} 03'17	18.87373 AU	conjunction	11269 Sep 28 23:57	17° \mathring{A} 46'13	0°51'19
direct	11263 May 20 21:58	19° \mathring{M} 04'59		minimum elong	11269 Sep 28 23:56	17° \mathring{A} 46'13	0°51'29
evening set	11263 Aug 19 06:46	22° \mathring{M} 06'34		max. Earth dist.	11269 Sep 29 02:06	17° \mathring{A} 46'32	20.52987 AU
				morning rise	11269 Oct 15 08:09	18° \mathring{A} 43'11	
conjunction	11263 Sep 04 08:24	23° \mathring{M} 01'45	0°33'31	retrograde	11270 Jan 17 16:16	21° \mathring{A} 55'32	
minimum elong	11263 Sep 04 08:23	23° \mathring{M} 01'45	0°33'22	opposition	11270 Apr 04 07:52	19° \mathring{A} 54'29	0°58'07
max. Earth dist.	11263 Sep 04 16:25	23° \mathring{M} 02'54	20.85321 AU	min. Earth dist.	11270 Apr 04 06:27	19° \mathring{A} 54'38	18.49870 AU
morning rise	11263 Sep 20 12:36	23° \mathring{M} 57'20		direct	11270 Jun 18 07:33	17° \mathring{A} 55'13	
retrograde	11263 Dec 23 14:09	27° \mathring{M} 05'54		evening set	11270 Sep 17 06:38	21° \mathring{A} 01'31	
opposition	11264 Mar 09 19:55	25° \mathring{M} 06'18	0°39'00				
min. Earth dist.	11264 Mar 09 13:29	25° \mathring{M} 06'58	18.83170 AU	conjunction	11270 Oct 03 13:00	21° \mathring{A} 58'22	0°53'28
direct	11264 May 24 04:51	23° \mathring{M} 08'39		minimum elong	11270 Oct 03 13:00	21° \mathring{A} 58'21	0°53'40
evening set	11264 Aug 22 15:01	26° \mathring{M} 10'45		max. Earth dist.	11270 Oct 03 13:21	21° \mathring{A} 58'25	20.46713 AU
				morning rise	11270 Oct 19 21:59	22° \mathring{A} 55'35	
conjunction	11264 Sep 07 17:13	27° \mathring{M} 06'08	0°36'58	retrograde	11271 Jan 22 07:25	26° \mathring{A} 08'40	
minimum elong	11264 Sep 07 17:12	27° \mathring{M} 06'08	0°36'52	opposition	11271 Apr 08 19:08	24° \mathring{A} 07'23	1°00'23
max. Earth dist.	11264 Sep 07 23:29	27° \mathring{M} 07'02	20.80896 AU	min. Earth dist.	11271 Apr 08 18:30	24° \mathring{A} 07'27	18.43548 AU
morning rise	11264 Sep 23 22:12	28° \mathring{M} 01'55		direct	11271 Jun 22 18:09	22° \mathring{A} 07'48	
	11264 Nov 02 07:20	0° \mathring{A}		evening set	11271 Sep 21 19:49	25° \mathring{A} 15'02	
retrograde	11264 Dec 27 02:12	1° \mathring{A} 11'05					
	11265 Feb 21 17:31	30° \mathring{R} \mathring{M}		conjunction	11271 Oct 08 03:01	26° \mathring{A} 12'10	0°55'21
opposition	11265 Mar 14 05:09	29° \mathring{M} 11'17	0°42'45	minimum elong	11271 Oct 08 03:01	26° \mathring{A} 12'10	0°55'35
min. Earth dist.	11265 Mar 13 23:15	29° \mathring{M} 11'53	18.78514 AU	max. Earth dist.	11271 Oct 08 03:37	26° \mathring{A} 12'15	20.40342 AU
direct	11265 May 28 12:03	27° \mathring{M} 13'25		morning rise	11271 Oct 24 12:26	27° \mathring{A} 09'39	
	11265 Aug 22 04:54	0° \mathring{A}			11271 Dec 27 08:46	0° \mathring{M}	
evening set	11265 Aug 26 23:58	0° \mathring{A} 16'06		retrograde	11272 Jan 26 21:26	0° \mathring{M} 23'29	
					11272 Feb 26 17:51	30° \mathring{R} \mathring{A}	
conjunction	11265 Sep 12 02:56	1° \mathring{A} 11'42	0°40'15	opposition	11272 Apr 12 07:05	28° \mathring{A} 22'00	1°02'19
minimum elong	11265 Sep 12 02:56	1° \mathring{A} 11'42	0°40'12	min. Earth dist.	11272 Apr 12 06:56	28° \mathring{A} 22'01	18.37146 AU
max. Earth dist.	11265 Sep 12 08:47	1° \mathring{A} 12'32	20.76006 AU	direct	11272 Jun 26 04:33	26° \mathring{A} 22'09	
morning rise	11265 Sep 28 08:29	2° \mathring{A} 07'42		evening set	11272 Sep 25 09:50	29° \mathring{A} 30'19	
retrograde	11265 Dec 31 13:05	5° \mathring{A} 17'26			11272 Oct 03 21:44	0° \mathring{M}	
opposition	11266 Mar 18 14:35	3° \mathring{A} 17'25	0°46'18				
min. Earth dist.	11266 Mar 18 10:02	3° \mathring{A} 17'53	18.73406 AU	conjunction	11272 Oct 11 17:37	0° \mathring{M} 27'43	0°56'56
direct	11266 Jun 01 20:08	1° \mathring{A} 19'19		minimum elong	11272 Oct 11 17:36	0° \mathring{M} 27'43	0°57'13
evening set	11266 Aug 31 09:35	4° \mathring{A} 22'36		max. Earth dist.	11272 Oct 11 16:25	0° \mathring{M} 27'33	20.33928 AU
				morning rise	11272 Oct 28 03:49	1° \mathring{M} 25'30	
conjunction	11266 Sep 16 13:11	5° \mathring{A} 18'26	0°43'21	retrograde	11273 Jan 30 13:34	4° \mathring{M} 40'06	
minimum elong	11266 Sep 16 13:10	5° \mathring{A} 18'25	0°43'20	opposition	11273 Apr 16 19:39	2° \mathring{M} 38'26	1°03'56
max. Earth dist.	11266 Sep 16 17:06	5° \mathring{A} 19'00	20.70706 AU	min. Earth dist.	11273 Apr 16 20:23	2° \mathring{M} 38'21	18.30724 AU
morning rise	11266 Oct 02 19:33	6° \mathring{A} 14'39		direct	11273 Jun 30 16:18	0° \mathring{M} 38'18	
retrograde	11267 Jan 05 01:57	9° \mathring{A} 25'01		evening set	11273 Sep 30 00:49	3° \mathring{M} 47'29	
opposition	11267 Mar 23 00:21	7° \mathring{A} 24'44	0°49'38				
min. Earth dist.	11267 Mar 22 20:30	7° \mathring{A} 25'08	18.67920 AU	conjunction	11273 Oct 16 09:28	4° \mathring{M} 45'12	0°58'12
direct	11267 Jun 06 04:24	5° \mathring{A} 26'21		minimum elong	11273 Oct 16 09:28	4° \mathring{M} 45'12	0°58'31
evening set	11267 Sep 04 19:41	8° \mathring{A} 30'18		max. Earth dist.	11273 Oct 16 08:34	4° \mathring{M} 45'04	20.27492 AU
				morning rise	11273 Nov 01 20:06	5° \mathring{M} 43'15	

retrograde	11274 Feb 04 05:24	8° $\overline{\text{M}}$ 58'38		opposition	11280 May 17 05:21	3° $\overline{\text{A}}$ 29'41	1°04'51
opposition	11274 Apr 21 08:37	6° $\overline{\text{M}}$ 56'49	1°05'12	min. Earth dist.	11280 May 17 12:05	3° $\overline{\text{A}}$ 28'58	17.85274 AU
min. Earth dist.	11274 Apr 21 09:50	6° $\overline{\text{M}}$ 56'41	18.24281 AU	direct	11280 Jul 30 23:11	1° $\overline{\text{A}}$ 27'24	
direct	11274 Jul 05 04:32	4° $\overline{\text{M}}$ 56'26		evening set	11280 Oct 31 13:34	4° $\overline{\text{A}}$ 44'14	
evening set	11274 Oct 04 16:56	8° $\overline{\text{M}}$ 06'40					
conjunction	11274 Oct 21 02:06	9° $\overline{\text{M}}$ 04'41	0°59'09	conjunction	11280 Nov 17 02:23	5° $\overline{\text{A}}$ 44'02	0°57'39
minimum elong	11274 Oct 21 02:06	9° $\overline{\text{M}}$ 04'41	0°59'32	minimum elong	11280 Nov 17 02:23	5° $\overline{\text{A}}$ 44'02	0°58'15
max. Earth dist.	11274 Oct 20 23:09	9° $\overline{\text{M}}$ 04'14	20.21053 AU	max. Earth dist.	11280 Nov 16 16:46	5° $\overline{\text{A}}$ 42'35	19.82049 AU
morning rise	11274 Nov 06 13:28	10° $\overline{\text{M}}$ 03'01		morning rise	11280 Dec 03 16:19	6° $\overline{\text{A}}$ 44'02	
retrograde	11275 Feb 08 22:18	13° $\overline{\text{M}}$ 19'12		retrograde	11281 Mar 07 19:43	10° $\overline{\text{A}}$ 04'28	
opposition	11275 Apr 25 22:25	11° $\overline{\text{M}}$ 17'15	1°06'06	opposition	11281 May 21 23:07	8° $\overline{\text{A}}$ 01'35	1°03'24
min. Earth dist.	11275 Apr 26 00:53	11° $\overline{\text{M}}$ 17'00	18.17843 AU	min. Earth dist.	11281 May 22 07:35	8° $\overline{\text{A}}$ 00'40	17.78894 AU
direct	11275 Jul 09 17:21	9° $\overline{\text{M}}$ 16'36		direct	11281 Aug 04 16:29	5° $\overline{\text{A}}$ 58'54	
evening set	11275 Oct 09 09:46	12° $\overline{\text{M}}$ 27'56		evening set	11281 Nov 05 12:05	9° $\overline{\text{A}}$ 16'49	
conjunction	11275 Oct 25 19:45	13° $\overline{\text{M}}$ 26'15	0°59'47	conjunction	11281 Nov 22 01:32	10° $\overline{\text{A}}$ 16'54	0°56'08
minimum elong	11275 Oct 25 19:44	13° $\overline{\text{M}}$ 26'15	1°00'12	minimum elong	11281 Nov 22 01:32	10° $\overline{\text{A}}$ 16'54	0°56'46
max. Earth dist.	11275 Oct 25 17:02	13° $\overline{\text{M}}$ 25'51	20.14600 AU	max. Earth dist.	11281 Nov 21 15:48	10° $\overline{\text{A}}$ 15'25	19.75759 AU
morning rise	11275 Nov 11 07:26	14° $\overline{\text{M}}$ 24'52		morning rise	11281 Dec 08 15:39	11° $\overline{\text{A}}$ 17'09	
	11275 Nov 21 13:37	15° $\overline{\text{M}}$		retrograde	11282 Mar 12 17:52	14° $\overline{\text{A}}$ 38'08	
retrograde	11276 Feb 13 16:14	17° $\overline{\text{M}}$ 41'50		opposition	11282 May 26 17:13	12° $\overline{\text{A}}$ 35'04	1°01'32
opposition	11276 Apr 29 12:51	15° $\overline{\text{M}}$ 39'47	1°06'38	min. Earth dist.	11282 May 27 01:27	12° $\overline{\text{A}}$ 34'11	17.72706 AU
min. Earth dist.	11276 Apr 29 15:45	15° $\overline{\text{M}}$ 39'28	18.11375 AU	direct	11282 Aug 09 11:46	10° $\overline{\text{A}}$ 32'00	
	11276 May 15 11:33	15° $\overline{\text{R}}$ $\overline{\text{M}}$		evening set	11282 Nov 10 11:28	13° $\overline{\text{A}}$ 50'58	
direct	11276 Jul 13 07:38	13° $\overline{\text{M}}$ 38'52		conjunction	11282 Nov 27 01:13	14° $\overline{\text{A}}$ 51'19	0°54'15
	11276 Sep 07 22:11	15° $\overline{\text{M}}$		minimum elong	11282 Nov 27 01:13	14° $\overline{\text{A}}$ 51'19	0°54'53
evening set	11276 Oct 13 03:56	16° $\overline{\text{M}}$ 51'19		max. Earth dist.	11282 Nov 26 14:05	14° $\overline{\text{A}}$ 49'37	19.69693 AU
conjunction	11276 Oct 29 14:23	17° $\overline{\text{M}}$ 49'56	1°00'04	morning rise	11282 Dec 13 15:37	15° $\overline{\text{A}}$ 51'48	
minimum elong	11276 Oct 29 14:23	17° $\overline{\text{M}}$ 49'56	1°00'32	retrograde	11283 Mar 17 15:09	19° $\overline{\text{A}}$ 13'20	
max. Earth dist.	11276 Oct 29 09:22	17° $\overline{\text{M}}$ 49'11	20.08121 AU	opposition	11283 May 31 12:11	17° $\overline{\text{A}}$ 10'06	0°59'15
morning rise	11276 Nov 15 02:44	18° $\overline{\text{M}}$ 48'51		min. Earth dist.	11283 May 31 21:56	17° $\overline{\text{A}}$ 09'02	17.66792 AU
retrograde	11277 Feb 17 10:20	22° $\overline{\text{M}}$ 06'35		direct	11283 Aug 14 06:16	15° $\overline{\text{A}}$ 06'39	
opposition	11277 May 04 04:00	20° $\overline{\text{M}}$ 04'24	1°06'47	evening set	11283 Nov 15 11:17	18° $\overline{\text{A}}$ 26'39	
min. Earth dist.	11277 May 04 08:33	20° $\overline{\text{M}}$ 03'55	18.04884 AU	conjunction	11283 Dec 02 01:30	19° $\overline{\text{A}}$ 27'15	0°52'00
direct	11277 Jul 17 21:44	18° $\overline{\text{M}}$ 03'10		minimum elong	11283 Dec 02 01:30	19° $\overline{\text{A}}$ 27'15	0°52'39
evening set	11277 Oct 17 22:57	21° $\overline{\text{M}}$ 16'45		max. Earth dist.	11283 Dec 01 14:20	19° $\overline{\text{A}}$ 25'32	19.63944 AU
conjunction	11277 Nov 03 10:13	22° $\overline{\text{M}}$ 15'40	1°00'00	morning rise	11283 Dec 18 16:03	20° $\overline{\text{A}}$ 27'58	
minimum elong	11277 Nov 03 10:13	22° $\overline{\text{M}}$ 15'40	1°00'30	retrograde	11284 Mar 21 14:19	23° $\overline{\text{A}}$ 50'01	
max. Earth dist.	11277 Nov 03 05:03	22° $\overline{\text{M}}$ 14'54	20.01600 AU	opposition	11284 Jun 04 07:36	21° $\overline{\text{A}}$ 46'37	0°56'35
morning rise	11277 Nov 19 22:53	23° $\overline{\text{M}}$ 14'51		min. Earth dist.	11284 Jun 04 16:46	21° $\overline{\text{A}}$ 45'37	17.61216 AU
retrograde	11278 Feb 22 06:14	26° $\overline{\text{M}}$ 33'19		direct	11284 Aug 18 03:34	19° $\overline{\text{A}}$ 42'49	
opposition	11278 May 08 19:48	24° $\overline{\text{M}}$ 30'59	1°06'33	evening set	11284 Nov 19 12:05	23° $\overline{\text{A}}$ 03'49	
min. Earth dist.	11278 May 09 00:44	24° $\overline{\text{M}}$ 30'28	17.98337 AU	conjunction	11284 Dec 06 02:34	24° $\overline{\text{A}}$ 04'40	0°49'24
direct	11278 Jul 22 13:57	22° $\overline{\text{M}}$ 29'27		minimum elong	11284 Dec 06 02:35	24° $\overline{\text{A}}$ 04'40	0°50'05
evening set	11278 Oct 22 19:05	25° $\overline{\text{M}}$ 44'07		max. Earth dist.	11284 Dec 05 14:40	24° $\overline{\text{A}}$ 02'50	19.58555 AU
conjunction	11278 Nov 08 06:45	26° $\overline{\text{M}}$ 43'20	0°59'35	morning rise	11284 Dec 22 17:13	25° $\overline{\text{A}}$ 05'35	
minimum elong	11278 Nov 08 06:45	26° $\overline{\text{M}}$ 43'20	1°00'07	retrograde	11285 Mar 26 12:07	28° $\overline{\text{A}}$ 28'05	
max. Earth dist.	11278 Nov 07 23:12	26° $\overline{\text{M}}$ 42'12	19.95039 AU	opposition	11285 Jun 09 03:36	26° $\overline{\text{A}}$ 24'35	0°53'31
morning rise	11278 Nov 24 19:57	27° $\overline{\text{M}}$ 42'48		min. Earth dist.	11285 Jun 09 14:08	26° $\overline{\text{A}}$ 23'26	17.56042 AU
	11279 Jan 08 15:09	0° $\overline{\text{A}}$		direct	11285 Aug 22 23:21	24° $\overline{\text{A}}$ 20'28	
retrograde	11279 Feb 27 01:38	1° $\overline{\text{A}}$ 01'58		evening set	11285 Nov 24 13:32	27° $\overline{\text{A}}$ 42'28	
	11279 Apr 18 19:27	30° $\overline{\text{R}}$ $\overline{\text{M}}$		conjunction	11285 Dec 11 04:19	28° $\overline{\text{A}}$ 43'32	0°46'29
opposition	11279 May 13 12:18	28° $\overline{\text{M}}$ 59'27	1°05'54	minimum elong	11285 Dec 11 04:19	28° $\overline{\text{A}}$ 43'32	0°47'09
min. Earth dist.	11279 May 13 19:00	28° $\overline{\text{M}}$ 58'45	17.91782 AU	max. Earth dist.	11285 Dec 10 16:02	28° $\overline{\text{A}}$ 41'39	19.53608 AU
direct	11279 Jul 27 05:39	26° $\overline{\text{M}}$ 57'32		morning rise	11285 Dec 27 19:02	29° $\overline{\text{A}}$ 44'38	
	11279 Oct 23 21:01	0° $\overline{\text{A}}$			11286 Jan 01 01:50	0° $\overline{\text{B}}$	
evening set	11279 Oct 27 15:52	0° $\overline{\text{A}}$ 13'19		retrograde	11286 Mar 31 12:12	3° $\overline{\text{B}}$ 07'35	
conjunction	11279 Nov 13 04:16	1° $\overline{\text{A}}$ 12'50	0°58'48	opposition	11286 Jun 14 00:10	1° $\overline{\text{B}}$ 04'00	0°50'05
minimum elong	11279 Nov 13 04:16	1° $\overline{\text{A}}$ 12'50	0°59'23	min. Earth dist.	11286 Jun 14 09:58	1° $\overline{\text{B}}$ 02'56	17.51323 AU
max. Earth dist.	11279 Nov 12 20:36	1° $\overline{\text{A}}$ 11'40	19.88503 AU		11286 Jul 09 17:07	30° $\overline{\text{R}}$ $\overline{\text{A}}$	
morning rise	11279 Nov 29 17:44	2° $\overline{\text{A}}$ 12'34		direct	11286 Aug 27 22:09	28° $\overline{\text{A}}$ 59'37	
retrograde	11280 Mar 02 22:56	5° $\overline{\text{A}}$ 32'22		evening set	11286 Oct 14 22:57	0° $\overline{\text{B}}$	
					11286 Nov 29 15:36	2° $\overline{\text{B}}$ 22'35	

conjunction	11286 Dec 16 06:34	3° $\overline{3}$ 23'51	0°43'13	retrograde	11293 May 03 17:50	6° \approx 18'59	
minimum elong	11286 Dec 16 06:34	3° $\overline{3}$ 23'52	0°43'55	opposition	11293 Jul 16 15:35	4° \approx 15'44	0°17'42
max. Earth dist.	11286 Dec 15 18:13	3° $\overline{3}$ 21'57	19.49122 AU	min. Earth dist.	11293 Jul 17 03:31	4° \approx 14'26	17.31475 AU
morning rise	11287 Jan 01 21:08	4° $\overline{3}$ 25'07		direct	11293 Sep 30 00:29	2° \approx 10'15	
retrograde	11287 Apr 05 11:04	7° $\overline{3}$ 48'28		evening set	11294 Jan 02 20:39	5° \approx 38'11	
opposition	11287 Jun 18 21:29	5° $\overline{3}$ 44'53	0°46'18				
min. Earth dist.	11287 Jun 19 08:21	5° $\overline{3}$ 43'42	17.47088 AU	conjunction	11294 Jan 19 10:46	6° \approx 40'12	0°13'23
direct	11287 Sep 01 19:18	3° $\overline{3}$ 40'17		minimum elong	11294 Jan 19 10:46	6° \approx 40'12	0°13'59
evening set	11287 Dec 04 18:20	7° $\overline{3}$ 04'10		behind sun begin	11294 Jan 19 07:28	6° \approx 39'42	
				behind sun end	11294 Jan 19 14:04	6° \approx 40'42	
conjunction	11287 Dec 21 09:22	8° $\overline{3}$ 05'38	0°39'40	max. Earth dist.	11294 Jan 18 20:03	6° \approx 37'54	19.30892 AU
minimum elong	11287 Dec 21 09:22	8° $\overline{3}$ 05'38	0°40'21	morning rise	11294 Feb 04 23:13	7° \approx 42'00	
max. Earth dist.	11287 Dec 20 20:22	8° $\overline{3}$ 03'37	19.45151 AU	retrograde	11294 May 08 18:57	11° \approx 06'29	
morning rise	11288 Jan 06 23:58	9° $\overline{3}$ 07'03		opposition	11294 Jul 21 15:57	9° \approx 03'15	0°12'16
retrograde	11288 Apr 09 12:02	12° $\overline{3}$ 30'46		min. Earth dist.	11294 Jul 22 03:57	9° \approx 01'57	17.30452 AU
opposition	11288 Jun 22 19:09	10° $\overline{3}$ 27'12	0°42'11	direct	11294 Oct 05 01:59	6° \approx 57'38	
min. Earth dist.	11288 Jun 23 05:25	10° $\overline{3}$ 26'05	17.43362 AU	evening set	11295 Jan 08 01:25	10° \approx 25'53	
direct	11288 Sep 05 19:35	8° $\overline{3}$ 22'26					
evening set	11288 Dec 08 21:38	11° $\overline{3}$ 47'12		conjunction	11295 Jan 24 15:15	11° \approx 27'54	0°08'29
				minimum elong	11295 Jan 24 15:15	11° \approx 27'54	0°09'03
conjunction	11288 Dec 25 12:51	12° $\overline{3}$ 48'50	0°35'50	behind sun begin	11295 Jan 24 09:32	11° \approx 27'02	
minimum elong	11288 Dec 25 12:51	12° $\overline{3}$ 48'50	0°36'31	behind sun end	11295 Jan 24 20:59	11° \approx 28'47	
max. Earth dist.	11288 Dec 25 00:15	12° $\overline{3}$ 46'52	19.41661 AU	max. Earth dist.	11295 Jan 24 01:50	11° \approx 25'48	19.30114 AU
morning rise	11289 Jan 11 03:09	13° $\overline{3}$ 50'22		morning rise	11295 Feb 10 02:59	12° \approx 29'39	
retrograde	11289 Apr 14 11:53	17° $\overline{3}$ 14'24			11295 Mar 30 04:06	15° \approx	
opposition	11289 Jun 27 17:35	15° $\overline{3}$ 10'54	0°37'47	retrograde	11295 May 13 21:13	15° \approx 54'00	
min. Earth dist.	11289 Jun 28 04:53	15° $\overline{3}$ 09'40	17.40105 AU		11295 Jun 28 16:05	15° \approx	
direct	11289 Sep 10 18:17	13° $\overline{3}$ 05'59		opposition	11295 Jul 26 16:27	13° \approx 50'49	0°06'43
evening set	11289 Dec 14 01:40	16° $\overline{3}$ 31'34		min. Earth dist.	11295 Jul 27 03:59	13° \approx 49'33	17.29923 AU
				direct	11295 Oct 10 05:15	11° \approx 45'06	
conjunction	11289 Dec 30 16:42	17° $\overline{3}$ 33'20	0°31'44		11296 Jan 09 13:19	15° \approx	
minimum elong	11289 Dec 30 16:42	17° $\overline{3}$ 33'20	0°32'25	evening set	11296 Jan 13 06:20	15° \approx 13'33	
max. Earth dist.	11289 Dec 30 02:55	17° $\overline{3}$ 31'11	19.38637 AU				
morning rise	11290 Jan 16 06:53	18° $\overline{3}$ 34'59		conjunction	11296 Jan 29 19:31	16° \approx 15'31	0°03'31
retrograde	11290 Apr 19 13:25	21° $\overline{3}$ 59'16		minimum elong	11296 Jan 29 19:32	16° \approx 15'31	0°04'02
opposition	11290 Jul 02 16:21	19° $\overline{3}$ 55'50	0°33'06	behind sun begin	11296 Jan 29 12:53	16° \approx 14'30	
min. Earth dist.	11290 Jul 03 03:24	19° $\overline{3}$ 54'37	17.37303 AU	behind sun end	11296 Jan 30 02:11	16° \approx 16'32	
direct	11290 Sep 15 20:06	17° $\overline{3}$ 50'45		max. Earth dist.	11296 Jan 29 05:28	16° \approx 13'19	19.29857 AU
evening set	11290 Dec 19 06:00	21° $\overline{3}$ 17'06		morning rise	11296 Feb 15 06:44	17° \approx 17'12	
				retrograde	11296 May 17 20:39	20° \approx 41'21	
conjunction	11291 Jan 04 21:03	22° $\overline{3}$ 18'58	0°27'25	opposition	11296 Jul 30 16:57	18° \approx 38'11	0°01'08
minimum elong	11291 Jan 04 21:03	22° $\overline{3}$ 18'58	0°28'04	min. Earth dist.	11296 Jul 31 04:42	18° \approx 36'54	17.29949 AU
max. Earth dist.	11291 Jan 04 07:57	22° $\overline{3}$ 16'56	19.36044 AU	desc. node	11296 Oct 10 18:13	16° \approx 32'42	
morning rise	11291 Jan 21 10:43	23° $\overline{3}$ 20'41		direct	11296 Oct 14 06:50	16° \approx 32'22	
retrograde	11291 Apr 24 14:15	26° $\overline{3}$ 45'08		evening set	11297 Jan 17 10:53	20° \approx 00'56	
opposition	11291 Jul 07 15:49	24° $\overline{3}$ 41'47	0°28'10				
min. Earth dist.	11291 Jul 08 03:33	24° $\overline{3}$ 40'30	17.34924 AU	conjunction	11297 Feb 02 23:40	21° \approx 02'50	-0°01'37
direct	11291 Sep 20 20:36	22° $\overline{3}$ 36'35		minimum elong	11297 Feb 02 23:40	21° \approx 02'50	0°01'07
evening set	11291 Dec 24 10:38	26° $\overline{3}$ 03'32		behind sun begin	11297 Feb 02 16:57	21° \approx 01'48	
max. Earth dist.	11292 Jan 09 10:55	27° $\overline{3}$ 03'14	19.33888 AU	behind sun end	11297 Feb 03 06:24	21° \approx 03'52	
				max. Earth dist.	11297 Feb 02 10:53	21° \approx 00'50	19.30166 AU
conjunction	11292 Jan 10 01:21	27° $\overline{3}$ 05'29	0°22'54	morning rise	11297 Feb 19 10:06	22° \approx 04'24	
minimum elong	11292 Jan 10 01:21	27° $\overline{3}$ 05'29	0°23'33	retrograde	11297 May 22 22:08	25° \approx 28'16	
morning rise	11292 Jan 26 14:50	28° $\overline{3}$ 07'16		opposition	11297 Aug 04 17:32	23° \approx 25'09	-0°04'27
	11292 Feb 29 09:25	0° \approx		min. Earth dist.	11297 Aug 05 04:13	23° \approx 23'59	17.30538 AU
retrograde	11292 Apr 28 15:55	1° \approx 31'49		direct	11297 Oct 19 11:21	21° \approx 19'17	
	11292 Jun 29 12:24	30° \approx		evening set	11298 Jan 22 15:13	24° \approx 47'50	
opposition	11292 Jul 11 15:35	29° $\overline{3}$ 28'30	0°23'01				
min. Earth dist.	11292 Jul 12 03:15	29° $\overline{3}$ 27'13	17.32985 AU	conjunction	11298 Feb 08 03:14	25° \approx 49'38	-0°06'38
direct	11292 Sep 24 22:39	27° $\overline{3}$ 23'08		minimum elong	11298 Feb 08 03:13	25° \approx 49'38	0°06'11
	11292 Dec 14 10:14	0° \approx		behind sun begin	11298 Feb 07 20:51	25° \approx 48'39	
evening set	11292 Dec 28 15:31	0° \approx 50'39		behind sun end	11298 Feb 08 09:36	25° \approx 50'36	
				max. Earth dist.	11298 Feb 07 14:33	25° \approx 47'39	19.31054 AU
conjunction	11293 Jan 14 06:09	1° \approx 52'39	0°18'13	morning rise	11298 Feb 24 12:54	26° \approx 51'05	
minimum elong	11293 Jan 14 06:09	1° \approx 52'39	0°18'49		11298 May 05 00:04	0° \approx	
max. Earth dist.	11293 Jan 13 16:38	1° \approx 50'32	19.32161 AU	retrograde	11298 May 27 20:19	0° \approx 14'36	
morning rise	11293 Jan 30 18:59	2° \approx 54'26			11298 Jun 19 23:53	30° \approx	

opposition	11298 Aug 09 18:13	28° \approx 11'33	-0°10'00	conjunction	11305 Mar 14 13:49	28° $\cancel{\text{H}}$ 54'36	-0°38'05
min. Earth dist.	11298 Aug 10 04:59	28° \approx 10'23	17.31748 AU	minimum elong	11305 Mar 14 13:48	28° $\cancel{\text{H}}$ 54'36	0°38'00
direct	11298 Oct 24 13:29	26° \approx 05'40		max. Earth dist.	11305 Mar 14 07:17	28° $\cancel{\text{H}}$ 53'35	19.53877 AU
evening set	11299 Jan 27 19:02	29° \approx 34'08		morning rise	11305 Mar 30 17:27	29° $\cancel{\text{H}}$ 54'35	
	11299 Feb 03 18:21	0° $\cancel{\text{H}}$			11305 Apr 01 05:07	0° $\cancel{\text{Y}}$	
				retrograde	11305 Jun 30 12:07	3° $\cancel{\text{Y}}$ 14'35	
conjunction	11299 Feb 13 06:25	0° $\cancel{\text{H}}$ 35'47	-0°11'33	opposition	11305 Sep 12 18:56	1° $\cancel{\text{Y}}$ 12'54	-0°44'27
minimum elong	11299 Feb 13 06:24	0° $\cancel{\text{H}}$ 35'47	0°11'09	min. Earth dist.	11305 Sep 12 23:22	1° $\cancel{\text{Y}}$ 12'26	17.56351 AU
behind sun begin	11299 Feb 13 01:27	0° $\cancel{\text{H}}$ 35'01			11305 Oct 13 03:27	30° $\cancel{\text{R}}$ $\cancel{\text{H}}$	
behind sun end	11299 Feb 13 11:22	0° $\cancel{\text{H}}$ 36'33		direct	11305 Nov 28 06:36	29° $\cancel{\text{H}}$ 08'16	
max. Earth dist.	11299 Feb 12 18:58	0° $\cancel{\text{H}}$ 34'00	19.32585 AU		11306 Jan 12 03:10	0° $\cancel{\text{Y}}$	
morning rise	11299 Mar 01 15:17	1° $\cancel{\text{H}}$ 37'04		evening set	11306 Mar 03 07:17	2° $\cancel{\text{Y}}$ 33'36	
retrograde	11299 Jun 01 21:00	5° $\cancel{\text{H}}$ 00'13					
opposition	11299 Aug 14 18:42	2° $\cancel{\text{H}}$ 57'16	-0°15'28	conjunction	11306 Mar 19 12:41	3° $\cancel{\text{Y}}$ 33'41	-0°41'44
min. Earth dist.	11299 Aug 15 03:46	2° $\cancel{\text{H}}$ 56'17	17.33596 AU	minimum elong	11306 Mar 19 12:40	3° $\cancel{\text{Y}}$ 33'41	0°41'43
direct	11299 Oct 29 18:22	0° $\cancel{\text{H}}$ 51'27		max. Earth dist.	11306 Mar 19 08:00	3° $\cancel{\text{Y}}$ 32'57	19.58884 AU
evening set	11300 Feb 01 22:25	4° $\cancel{\text{H}}$ 19'42		morning rise	11306 Apr 04 15:14	4° $\cancel{\text{Y}}$ 33'23	
				retrograde	11306 Jul 05 08:02	7° $\cancel{\text{Y}}$ 52'44	
conjunction	11300 Feb 18 09:03	5° $\cancel{\text{H}}$ 21'12	-0°16'23	opposition	11306 Sep 17 18:08	5° $\cancel{\text{Y}}$ 51'16	-0°48'21
minimum elong	11300 Feb 18 09:02	5° $\cancel{\text{H}}$ 21'12	0°16'02	min. Earth dist.	11306 Sep 17 22:36	5° $\cancel{\text{Y}}$ 50'48	17.61498 AU
max. Earth dist.	11300 Feb 17 22:27	5° $\cancel{\text{H}}$ 19'32	19.34755 AU	direct	11306 Dec 03 06:35	3° $\cancel{\text{Y}}$ 46'54	
morning rise	11300 Mar 06 17:04	6° $\cancel{\text{H}}$ 22'19		evening set	11307 Mar 08 06:18	7° $\cancel{\text{Y}}$ 11'25	
retrograde	11300 Jun 06 18:45	9° $\cancel{\text{H}}$ 45'02					
opposition	11300 Aug 19 19:15	7° $\cancel{\text{H}}$ 42'14	-0°20'49	conjunction	11307 Mar 24 10:38	8° $\cancel{\text{Y}}$ 11'13	-0°45'06
min. Earth dist.	11300 Aug 20 04:24	7° $\cancel{\text{H}}$ 41'15	17.36090 AU	minimum elong	11307 Mar 24 10:38	8° $\cancel{\text{Y}}$ 11'13	0°45'07
direct	11300 Nov 03 19:58	5° $\cancel{\text{H}}$ 36'31		max. Earth dist.	11307 Mar 24 05:39	8° $\cancel{\text{Y}}$ 10'27	19.64164 AU
evening set	11301 Feb 07 01:25	9° $\cancel{\text{H}}$ 04'30		morning rise	11307 Apr 09 12:29	9° $\cancel{\text{Y}}$ 10'39	
				retrograde	11307 Jul 10 05:10	12° $\cancel{\text{Y}}$ 29'18	
conjunction	11301 Feb 23 11:14	10° $\cancel{\text{H}}$ 05'49	-0°21'06	opposition	11307 Sep 22 16:37	10° $\cancel{\text{Y}}$ 28'01	-0°51'55
minimum elong	11301 Feb 23 11:13	10° $\cancel{\text{H}}$ 05'49	0°20'49	min. Earth dist.	11307 Sep 22 19:39	10° $\cancel{\text{Y}}$ 27'42	17.66902 AU
max. Earth dist.	11301 Feb 23 01:28	10° $\cancel{\text{H}}$ 04'17	19.37564 AU	direct	11307 Dec 08 07:23	8° $\cancel{\text{Y}}$ 23'54	
morning rise	11301 Mar 11 18:26	11° $\cancel{\text{H}}$ 06'44		evening set	11308 Mar 12 04:17	11° $\cancel{\text{Y}}$ 47'35	
retrograde	11301 Jun 11 19:05	14° $\cancel{\text{H}}$ 28'59					
opposition	11301 Aug 24 19:29	12° $\cancel{\text{H}}$ 26'24	-0°26'00	conjunction	11308 Mar 28 07:54	12° $\cancel{\text{Y}}$ 47'05	-0°48'09
min. Earth dist.	11301 Aug 25 02:47	12° $\cancel{\text{H}}$ 25'37	17.39187 AU	minimum elong	11308 Mar 28 07:53	12° $\cancel{\text{Y}}$ 47'05	0°48'14
direct	11301 Nov 09 00:03	10° $\cancel{\text{H}}$ 20'50		max. Earth dist.	11308 Mar 28 04:48	12° $\cancel{\text{Y}}$ 46'36	19.69671 AU
evening set	11302 Feb 12 03:53	13° $\cancel{\text{H}}$ 48'29		morning rise	11308 Apr 13 08:45	13° $\cancel{\text{Y}}$ 46'13	
				retrograde	11308 Jul 13 23:51	17° $\cancel{\text{Y}}$ 04'08	
conjunction	11302 Feb 28 12:53	14° $\cancel{\text{H}}$ 49'35	-0°25'39	opposition	11308 Sep 26 14:46	15° $\cancel{\text{Y}}$ 03'03	-0°55'07
minimum elong	11302 Feb 28 12:53	14° $\cancel{\text{H}}$ 49'35	0°25'24	min. Earth dist.	11308 Sep 26 17:37	15° $\cancel{\text{Y}}$ 02'45	17.72507 AU
max. Earth dist.	11302 Feb 28 04:31	14° $\cancel{\text{H}}$ 48'17	19.40944 AU	direct	11308 Dec 12 06:42	12° $\cancel{\text{Y}}$ 59'11	
morning rise	11302 Mar 16 19:07	15° $\cancel{\text{H}}$ 50'18		evening set	11309 Mar 17 01:28	16° $\cancel{\text{Y}}$ 21'56	
retrograde	11302 Jun 16 16:52	19° $\cancel{\text{H}}$ 12'03					
opposition	11302 Aug 29 19:49	17° $\cancel{\text{H}}$ 09'41	-0°30'59	conjunction	11309 Apr 02 04:00	17° $\cancel{\text{Y}}$ 21'08	-0°50'53
min. Earth dist.	11302 Aug 30 03:18	17° $\cancel{\text{H}}$ 08'52	17.42837 AU	minimum elong	11309 Apr 02 04:00	17° $\cancel{\text{Y}}$ 21'08	0°51'02
direct	11302 Nov 14 01:02	15° $\cancel{\text{H}}$ 04'20		max. Earth dist.	11309 Apr 02 00:40	17° $\cancel{\text{Y}}$ 20'37	19.75380 AU
evening set	11303 Feb 17 05:39	18° $\cancel{\text{H}}$ 31'31		morning rise	11309 Apr 18 04:11	18° $\cancel{\text{Y}}$ 19'59	
				retrograde	11309 Jul 18 19:13	21° $\cancel{\text{Y}}$ 37'09	
conjunction	11303 Mar 05 13:42	19° $\cancel{\text{H}}$ 32'23	-0°30'01	opposition	11309 Oct 01 12:16	19° $\cancel{\text{Y}}$ 36'13	-0°57'58
minimum elong	11303 Mar 05 13:42	19° $\cancel{\text{H}}$ 32'23	0°29'50	min. Earth dist.	11309 Oct 01 13:51	19° $\cancel{\text{Y}}$ 36'03	17.78320 AU
max. Earth dist.	11303 Mar 05 05:44	19° $\cancel{\text{H}}$ 31'09	19.44846 AU	direct	11309 Dec 17 06:39	17° $\cancel{\text{Y}}$ 32'36	
morning rise	11303 Mar 21 19:10	20° $\cancel{\text{H}}$ 32'53		evening set	11310 Mar 21 21:28	20° $\cancel{\text{Y}}$ 54'22	
retrograde	11303 Jun 21 16:30	23° $\cancel{\text{H}}$ 54'06					
opposition	11303 Sep 03 19:47	21° $\cancel{\text{H}}$ 51'58	-0°35'44	conjunction	11310 Apr 06 23:18	21° $\cancel{\text{Y}}$ 53'15	-0°53'16
min. Earth dist.	11303 Sep 04 01:31	21° $\cancel{\text{H}}$ 51'21	17.46962 AU	minimum elong	11310 Apr 06 23:17	21° $\cancel{\text{Y}}$ 53'15	0°53'28
direct	11303 Nov 19 04:03	19° $\cancel{\text{H}}$ 46'50		max. Earth dist.	11310 Apr 06 22:06	21° $\cancel{\text{Y}}$ 53'04	19.81291 AU
evening set	11304 Feb 22 06:54	23° $\cancel{\text{H}}$ 13'29		morning rise	11310 Apr 22 22:33	22° $\cancel{\text{Y}}$ 51'48	
				retrograde	11310 Jul 23 12:02	26° $\cancel{\text{Y}}$ 08'12	
conjunction	11304 Mar 09 14:10	24° $\cancel{\text{H}}$ 14'07	-0°34'10	opposition	11310 Oct 06 09:14	24° $\cancel{\text{Y}}$ 07'25	-1°00'26
minimum elong	11304 Mar 09 14:10	24° $\cancel{\text{H}}$ 14'07	0°34'03	min. Earth dist.	11310 Oct 06 10:06	24° $\cancel{\text{Y}}$ 07'20	17.84328 AU
max. Earth dist.	11304 Mar 09 07:48	24° $\cancel{\text{H}}$ 13'08	19.49173 AU	direct	11310 Dec 22 05:22	22° $\cancel{\text{Y}}$ 04'04	
morning rise	11304 Mar 25 18:35	25° $\cancel{\text{H}}$ 14'22		evening set	11311 Mar 26 16:27	25° $\cancel{\text{Y}}$ 24'48	
retrograde	11304 Jun 25 13:31	28° $\cancel{\text{H}}$ 34'59					
opposition	11304 Sep 07 19:31	26° $\cancel{\text{H}}$ 33'05	-0°40'14	conjunction	11311 Apr 11 17:18	26° $\cancel{\text{Y}}$ 23'22	-0°55'19
min. Earth dist.	11304 Sep 08 01:33	26° $\cancel{\text{H}}$ 32'26	17.51485 AU	minimum elong	11311 Apr 11 17:18	26° $\cancel{\text{Y}}$ 23'22	0°55'35
direct	11304 Nov 23 04:31	24° $\cancel{\text{H}}$ 28'12		max. Earth dist.	11311 Apr 11 16:13	26° $\cancel{\text{Y}}$ 23'12	19.87408 AU
evening set	11305 Feb 26 07:36	27° $\cancel{\text{H}}$ 54'14		morning rise	11311 Apr 27 16:00	27° $\cancel{\text{Y}}$ 21'37	

	11311 Jun 20 18:44	0°♄	opposition	11317 Nov 06 18:11	24°♄52'30 -1°06'38
retrograde	11311 Jul 28 05:30	0°♄37'15	min. Earth dist.	11317 Nov 06 11:57	24°♄53'08 18.31308 AU
	11311 Sep 04 16:02	30°♄♂	direct	11318 Jan 22 20:03	22°♄51'35
opposition	11311 Oct 11 05:32	28°♄♂36'36 -1°02'30	evening set	11318 Apr 26 03:02	26°♄04'50
min. Earth dist.	11311 Oct 11 05:12	28°♄♂36'38 17.90562 AU			
direct	11311 Dec 27 03:41	26°♄♂33'31	conjunction	11318 May 11 23:14	27°♄01'18 -0°59'48
evening set	11312 Mar 30 10:26	29°♄♂53'12	minimum elong	11318 May 11 23:14	27°♄01'18 1°00'21
	11312 Apr 01 07:58	0°♄	max. Earth dist.	11318 May 12 06:38	27°♄02'25 20.34707 AU
			morning rise	11318 May 27 18:05	27°♄57'38
conjunction	11312 Apr 15 10:37	0°♄51'27 -0°57'01		11318 Jul 06 08:35	0°♄
minimum elong	11312 Apr 15 10:36	0°♄51'27 0°57'18	retrograde	11318 Aug 27 09:39	1°♄08'15
max. Earth dist.	11312 Apr 15 11:43	0°♄51'37 19.93745 AU		11318 Oct 21 00:09	30°♄♂
morning rise	11312 May 01 08:27	1°♄49'24	opposition	11318 Nov 11 10:09	29°♄09'08 -1°06'00
retrograde	11312 Jul 31 20:40	5°♄04'16	min. Earth dist.	11318 Nov 11 02:30	29°♄09'55 18.38089 AU
opposition	11312 Oct 15 01:05	3°♄03'47 -1°04'10	direct	11319 Jan 27 12:58	27°♄08'36
min. Earth dist.	11312 Oct 14 23:34	3°♄03'57 17.97005 AU		11319 Apr 24 14:30	0°♄
direct	11312 Dec 31 01:19	1°♄01'01	evening set	11319 Apr 30 14:56	0°♄20'46
evening set	11313 Apr 04 03:35	4°♄19'37			
			conjunction	11319 May 16 10:36	1°♄16'59 -0°59'05
conjunction	11313 Apr 20 02:50	5°♄17'34 -0°58'21	minimum elong	11319 May 16 10:36	1°♄16'59 0°59'39
minimum elong	11313 Apr 20 02:50	5°♄17'34 0°58'42	max. Earth dist.	11319 May 16 18:17	1°♄18'08 20.41396 AU
max. Earth dist.	11313 Apr 20 04:18	5°♄17'47 20.00301 AU	morning rise	11319 Jun 01 05:12	2°♄13'04
morning rise	11313 May 06 00:08	6°♄15'13	retrograde	11319 Aug 31 21:38	5°♄23'03
retrograde	11313 Aug 05 12:14	9°♄29'20	opposition	11319 Nov 16 01:41	3°♄24'07 -1°05'01
opposition	11313 Oct 19 20:12	7°♄29'04 -1°05'26	min. Earth dist.	11319 Nov 15 18:15	3°♄24'53 18.44682 AU
min. Earth dist.	11313 Oct 19 17:36	7°♄29'20 18.03675 AU	direct	11320 Feb 01 03:19	1°♄23'55
direct	11314 Jan 04 21:07	5°♄26'37	evening set	11320 May 04 02:02	4°♄35'03
evening set	11314 Apr 08 19:29	8°♄44'09			
			conjunction	11320 May 19 21:20	5°♄31'01 -0°58'03
conjunction	11314 Apr 24 18:08	9°♄41'48 -0°59'20	minimum elong	11320 May 19 21:20	5°♄31'01 0°58'39
minimum elong	11314 Apr 24 18:08	9°♄41'48 0°59'43	max. Earth dist.	11320 May 20 05:49	5°♄32'17 20.47865 AU
max. Earth dist.	11314 Apr 24 21:43	9°♄42'20 20.07062 AU	morning rise	11320 Jun 04 15:38	6°♄26'52
morning rise	11314 May 10 14:45	10°♄39'10	retrograde	11320 Sep 04 09:59	9°♄36'12
retrograde	11314 Aug 10 02:55	13°♄52'33	opposition	11320 Nov 19 16:28	7°♄37'27 -1°03'41
opposition	11314 Oct 24 14:36	11°♄52'30 -1°06'19	min. Earth dist.	11320 Nov 19 07:39	7°♄38'21 18.51008 AU
min. Earth dist.	11314 Oct 24 10:32	11°♄52'55 18.10504 AU	direct	11321 Feb 04 18:58	5°♄37'34
direct	11315 Jan 09 17:06	9°♄50'26	evening set	11321 May 08 12:29	8°♄47'40
evening set	11315 Apr 13 10:42	13°♄06'54			
			conjunction	11321 May 24 07:22	9°♄43'23 -0°56'43
conjunction	11315 Apr 29 08:34	14°♄04'14 -0°59'58	minimum elong	11321 May 24 07:22	9°♄43'23 0°57'20
minimum elong	11315 Apr 29 08:33	14°♄04'14 1°00'23	max. Earth dist.	11321 May 24 16:06	9°♄44'41 20.54045 AU
max. Earth dist.	11315 Apr 29 12:36	14°♄04'51 20.13953 AU	morning rise	11321 Jun 09 01:30	10°♄39'01
	11315 May 14 19:44	15°♄	retrograde	11321 Sep 08 20:46	13°♄47'46
morning rise	11315 May 15 04:45	15°♄01'20	opposition	11321 Nov 24 06:53	11°♄49'07 -1°02'01
retrograde	11315 Aug 14 16:55	18°♄14'00	min. Earth dist.	11321 Nov 23 22:28	11°♄49'59 18.57046 AU
opposition	11315 Oct 29 08:17	16°♄14'12 -1°06'48	direct	11322 Feb 09 08:11	9°♄49'32
min. Earth dist.	11315 Oct 29 03:40	16°♄14'40 18.17445 AU	evening set	11322 May 12 21:57	12°♄58'35
	11315 Nov 30 12:37	15°♄♂			
direct	11316 Jan 14 10:07	14°♄12'30	conjunction	11322 May 28 16:36	13°♄54'05 -0°55'05
	11316 Feb 26 22:15	15°♄	minimum elong	11322 May 28 16:36	13°♄54'05 0°55'43
evening set	11316 Apr 17 00:58	17°♄27'54	max. Earth dist.	11322 May 29 01:56	13°♄55'28 20.59928 AU
			morning rise	11322 Jun 13 10:38	14°♄49'31
conjunction	11316 May 02 22:19	18°♄24'57 -1°00'15	retrograde	11322 Sep 13 08:05	17°♄57'40
minimum elong	11316 May 02 22:19	18°♄24'57 1°00'43	opposition	11322 Nov 28 20:27	15°♄59'07 -1°00'03
max. Earth dist.	11316 May 03 04:01	18°♄25'48 20.20916 AU	min. Earth dist.	11322 Nov 28 10:37	16°♄00'07 18.62759 AU
morning rise	11316 May 18 17:57	19°♄21'46	direct	11323 Feb 13 22:30	13°♄59'47
retrograde	11316 Aug 18 07:12	22°♄33'44	evening set	11323 May 17 06:51	17°♄07'50
opposition	11316 Nov 02 01:27	20°♄34'11 -1°06'54			
min. Earth dist.	11316 Nov 01 19:25	20°♄34'48 18.24398 AU	conjunction	11323 Jun 02 01:14	18°♄03'08 -0°53'11
direct	11317 Jan 18 04:40	18°♄32'53	minimum elong	11323 Jun 02 01:14	18°♄03'08 0°53'51
evening set	11317 Apr 21 14:26	21°♄47'12	max. Earth dist.	11323 Jun 02 10:56	18°♄04'33 20.65481 AU
			morning rise	11323 Jun 17 19:13	18°♄58'23
conjunction	11317 May 07 11:04	22°♄43'58 -1°00'11	retrograde	11323 Sep 17 17:03	22°♄05'57
minimum elong	11317 May 07 11:04	22°♄43'58 1°00'41	opposition	11323 Dec 03 09:22	20°♄07'28 -0°57'46
max. Earth dist.	11317 May 07 17:12	22°♄44'53 20.27850 AU	min. Earth dist.	11323 Dec 03 00:06	20°♄08'24 18.68165 AU
morning rise	11317 May 23 06:20	23°♄40'32	direct	11324 Feb 18 10:24	18°♄08'21
retrograde	11317 Aug 22 20:06	26°♄51'49	evening set	11324 May 20 14:57	21°♄15'27

conjunction	11324 Jun 05 09:10	22° Π 10'32	-0°51'00	retrograde	11330 Oct 16 07:04	20° \mathfrak{D} 28'25	
minimum elong	11324 Jun 05 09:10	22° Π 10'32	0°51'40	opposition	11331 Jan 01 13:15	18° \mathfrak{D} 30'28	-0°34'49
max. Earth dist.	11324 Jun 05 19:29	22° Π 12'03	20.70749 AU	min. Earth dist.	11330 Dec 31 23:40	18° \mathfrak{D} 31'50	18.98451 AU
morning rise	11324 Jun 21 03:09	23° Π 05'36		direct	11331 Mar 19 08:20	16° \mathfrak{D} 33'01	
retrograde	11324 Sep 21 03:48	26° Π 12'40		evening set	11331 Jun 18 08:54	19° \mathfrak{D} 35'02	
opposition	11324 Dec 06 21:41	24° Π 14'14	-0°55'12				
min. Earth dist.	11324 Dec 06 10:48	24° Π 15'20	18.73293 AU	conjunction	11331 Jul 04 03:11	20° \mathfrak{D} 29'13	-0°29'39
direct	11325 Feb 21 23:05	22° Π 15'19		minimum elong	11331 Jul 04 03:11	20° \mathfrak{D} 29'13	0°30'19
evening set	11325 May 24 22:19	25° Π 21'31		max. Earth dist.	11331 Jul 04 16:53	20° \mathfrak{D} 31'11	20.99958 AU
				morning rise	11331 Jul 19 22:29	21° \mathfrak{D} 23'32	
conjunction	11325 Jun 09 16:20	26° Π 16'25	-0°48'34	retrograde	11331 Oct 20 14:00	24° \mathfrak{D} 28'28	
minimum elong	11325 Jun 09 16:20	26° Π 16'25	0°49'16	opposition	11332 Jan 05 22:30	22° \mathfrak{D} 30'35	-0°30'46
max. Earth dist.	11325 Jun 10 03:24	26° Π 18'02	20.75745 AU	min. Earth dist.	11332 Jan 05 10:00	22° \mathfrak{D} 31'50	19.01381 AU
morning rise	11325 Jun 25 10:21	27° Π 11'20		direct	11332 Mar 22 14:52	20° \mathfrak{D} 33'20	
	11325 Aug 29 19:26	0° \mathfrak{D}		evening set	11332 Jun 21 13:42	23° \mathfrak{D} 34'53	
retrograde	11325 Sep 25 11:29	0° \mathfrak{D} 17'55					
	11325 Oct 22 16:33	30° \mathfrak{R} Π		conjunction	11332 Jul 07 08:11	24° \mathfrak{D} 28'59	-0°25'56
opposition	11325 Dec 11 09:37	28° Π 19'32	-0°52'22	minimum elong	11332 Jul 07 08:11	24° \mathfrak{D} 28'59	0°26'36
min. Earth dist.	11325 Dec 10 23:05	28° Π 20'36	18.78179 AU	max. Earth dist.	11332 Jul 07 21:35	24° \mathfrak{D} 30'55	21.02657 AU
direct	11326 Feb 26 09:26	26° Π 20'52		morning rise	11332 Jul 23 03:52	25° \mathfrak{D} 23'16	
evening set	11326 May 29 05:08	29° Π 26'12		retrograde	11332 Oct 23 22:34	28° \mathfrak{D} 28'06	
	11326 Jun 07 23:42	0° \mathfrak{D}		opposition	11333 Jan 09 07:30	26° \mathfrak{D} 30'15	-0°26'35
				min. Earth dist.	11333 Jan 08 18:05	26° \mathfrak{D} 31'35	19.03823 AU
conjunction	11326 Jun 13 23:06	0° \mathfrak{D} 20'56	-0°45'54	direct	11333 Mar 26 23:24	24° \mathfrak{D} 33'10	
minimum elong	11326 Jun 13 23:06	0° \mathfrak{D} 20'56	0°46'36	evening set	11333 Jun 25 18:19	27° \mathfrak{D} 34'17	
max. Earth dist.	11326 Jun 14 10:45	0° \mathfrak{D} 22'38	20.80518 AU				
morning rise	11326 Jun 29 17:14	1° \mathfrak{D} 15'42		conjunction	11333 Jul 11 13:02	28° \mathfrak{D} 28'21	-0°22'05
retrograde	11326 Sep 29 21:59	4° \mathfrak{D} 21'52		minimum elong	11333 Jul 11 13:02	28° \mathfrak{D} 28'21	0°22'43
opposition	11326 Dec 15 20:39	2° \mathfrak{D} 23'34	-0°49'17	max. Earth dist.	11333 Jul 12 02:30	28° \mathfrak{D} 30'17	21.04826 AU
min. Earth dist.	11326 Dec 15 08:29	2° \mathfrak{D} 24'47	18.82827 AU	morning rise	11333 Jul 27 09:05	29° \mathfrak{D} 22'36	
direct	11327 Mar 02 20:35	0° \mathfrak{D} 25'07			11333 Aug 07 18:08	0° \mathfrak{D}	
evening set	11327 Jun 02 11:28	3° \mathfrak{D} 29'41		retrograde	11333 Oct 28 05:29	2° \mathfrak{D} 27'22	
				opposition	11334 Jan 13 16:26	0° \mathfrak{D} 29'31	-0°22'16
conjunction	11327 Jun 18 05:24	4° \mathfrak{D} 24'16	-0°43'01	min. Earth dist.	11334 Jan 13 04:17	0° \mathfrak{D} 30'44	19.05719 AU
minimum elong	11327 Jun 18 05:24	4° \mathfrak{D} 24'16	0°43'43		11334 Jan 26 03:53	30° \mathfrak{R} \mathfrak{D}	
max. Earth dist.	11327 Jun 18 17:44	4° \mathfrak{D} 26'04	20.85036 AU	direct	11334 Mar 31 05:46	28° \mathfrak{D} 32'34	
morning rise	11327 Jul 03 23:40	5° \mathfrak{D} 18'55			11334 May 30 16:19	0° \mathfrak{D}	
retrograde	11327 Oct 04 05:03	8° \mathfrak{D} 24'44		evening set	11334 Jun 29 22:57	1° \mathfrak{D} 33'18	
opposition	11327 Dec 20 07:29	6° \mathfrak{D} 26'31	-0°45'58				
min. Earth dist.	11327 Dec 19 19:50	6° \mathfrak{D} 27'41	18.87217 AU	conjunction	11334 Jul 15 17:58	2° \mathfrak{D} 27'20	-0°18'09
direct	11328 Mar 06 05:03	4° \mathfrak{D} 28'20		minimum elong	11334 Jul 15 17:58	2° \mathfrak{D} 27'20	0°18'46
evening set	11328 Jun 05 17:17	7° \mathfrak{D} 32'10		max. Earth dist.	11334 Jul 16 06:45	2° \mathfrak{D} 29'10	21.06443 AU
				morning rise	11334 Jul 31 14:30	3° \mathfrak{D} 21'35	
conjunction	11328 Jun 21 11:13	8° \mathfrak{D} 26'37	-0°39'56	retrograde	11334 Nov 01 13:29	6° \mathfrak{D} 26'19	
minimum elong	11328 Jun 21 11:13	8° \mathfrak{D} 26'37	0°40'38	opposition	11335 Jan 18 00:47	4° \mathfrak{D} 28'25	-0°17'51
max. Earth dist.	11328 Jun 21 23:56	8° \mathfrak{D} 28'28	20.89290 AU	min. Earth dist.	11335 Jan 17 12:03	4° \mathfrak{D} 29'42	19.07040 AU
morning rise	11328 Jul 07 05:41	9° \mathfrak{D} 21'10		direct	11335 Apr 04 13:27	2° \mathfrak{D} 31'32	
retrograde	11328 Oct 07 14:54	12° \mathfrak{D} 26'41		evening set	11335 Jul 04 03:30	5° \mathfrak{D} 31'56	
opposition	11328 Dec 23 17:44	10° \mathfrak{D} 28'33	-0°42'26				
min. Earth dist.	11328 Dec 23 04:35	10° \mathfrak{D} 29'52	18.91312 AU	conjunction	11335 Jul 19 22:52	6° \mathfrak{D} 25'57	-0°14'08
direct	11329 Mar 10 15:35	8° \mathfrak{D} 30'37		minimum elong	11335 Jul 19 22:52	6° \mathfrak{D} 25'57	0°14'44
evening set	11329 Jun 09 22:47	11° \mathfrak{D} 33'47		behind sun begin	11335 Jul 19 20:04	6° \mathfrak{D} 25'34	
				behind sun end	11335 Jul 20 01:39	6° \mathfrak{D} 26'21	
conjunction	11329 Jun 25 16:47	12° \mathfrak{D} 28'08	-0°36'40	max. Earth dist.	11335 Jul 20 11:28	6° \mathfrak{D} 27'45	21.07466 AU
minimum elong	11329 Jun 25 16:48	12° \mathfrak{D} 28'09	0°37'22	morning rise	11335 Aug 04 19:50	7° \mathfrak{D} 20'13	
max. Earth dist.	11329 Jun 26 06:06	12° \mathfrak{D} 30'04	20.93221 AU	retrograde	11335 Nov 05 19:57	10° \mathfrak{D} 24'55	
morning rise	11329 Jul 11 11:29	13° \mathfrak{D} 22'36		opposition	11336 Jan 22 09:13	8° \mathfrak{D} 26'57	-0°13'22
retrograde	11329 Oct 11 21:56	16° \mathfrak{D} 27'52		min. Earth dist.	11336 Jan 21 21:49	8° \mathfrak{D} 28'05	19.07777 AU
opposition	11329 Dec 28 03:45	14° \mathfrak{D} 29'50	-0°38'43	direct	11336 Apr 07 19:22	6° \mathfrak{D} 30'05	
min. Earth dist.	11329 Dec 27 15:21	14° \mathfrak{D} 31'04	18.95075 AU	evening set	11336 Jul 07 07:49	9° \mathfrak{D} 30'11	
direct	11330 Mar 14 22:36	12° \mathfrak{D} 32'09					
evening set	11330 Jun 14 03:53	15° \mathfrak{D} 34'43		conjunction	11336 Jul 23 03:32	10° \mathfrak{D} 24'12	-0°10'03
				minimum elong	11336 Jul 23 03:32	10° \mathfrak{D} 24'12	0°10'37
conjunction	11330 Jun 29 22:02	16° \mathfrak{D} 28'58	-0°33'14	behind sun begin	11336 Jul 22 22:25	10° \mathfrak{D} 23'29	
minimum elong	11330 Jun 29 22:02	16° \mathfrak{D} 28'58	0°33'56	behind sun end	11336 Jul 23 08:39	10° \mathfrak{D} 24'55	
max. Earth dist.	11330 Jun 30 11:26	16° \mathfrak{D} 30'54	20.96805 AU	max. Earth dist.	11336 Jul 23 15:32	10° \mathfrak{D} 25'55	21.07938 AU
morning rise	11330 Jul 15 17:03	17° \mathfrak{D} 23'21		morning rise	11336 Aug 08 01:02	11° \mathfrak{D} 18'29	

retrograde	11336 Nov 09 03:57	14° Ω 23'14		retrograde	11341 Nov 29 16:32	4° Υ 13'43	
opposition	11337 Jan 25 17:18	12° Ω 25'07	-0°08'48	opposition	11342 Feb 15 07:50	2° Υ 14'55	0°14'11
min. Earth dist.	11337 Jan 25 05:14	12° Ω 26'20	19.07981 AU	min. Earth dist.	11342 Feb 14 21:46	2° Υ 15'56	19.02666 AU
direct	11337 Apr 12 02:38	10° Ω 28'14		direct	11342 May 02 06:24	0° Υ 17'49	
evening set	11337 Jul 11 12:11	13° Ω 28'06		evening set	11342 Jul 31 11:27	3° Υ 17'37	
conjunction	11337 Jul 27 08:18	14° Ω 22'08	-0°05'55	conjunction	11342 Aug 16 09:59	4° Υ 12'00	0°14'55
minimum elong	11337 Jul 27 08:17	14° Ω 22'08	0°06'29	minimum elong	11342 Aug 16 09:59	4° Υ 12'00	0°14'33
behind sun begin	11337 Jul 27 02:06	14° Ω 21'16		behind sun begin	11342 Aug 16 07:05	4° Υ 11'36	
behind sun end	11337 Jul 27 14:29	14° Ω 23'00		behind sun end	11342 Aug 16 12:53	4° Υ 12'25	
max. Earth dist.	11337 Jul 27 20:24	14° Ω 23'51	21.07891 AU	max. Earth dist.	11342 Aug 16 20:38	4° Υ 13'31	21.01624 AU
	11337 Aug 07 09:26	15° Ω		morning rise	11342 Sep 01 10:59	5° Υ 06'45	
morning rise	11337 Aug 12 06:18	15° Ω 16'27		retrograde	11342 Dec 04 02:14	8° Υ 12'48	
retrograde	11337 Nov 13 09:57	18° Ω 21'16		opposition	11343 Feb 19 15:21	6° Υ 13'54	0°18'41
opposition	11338 Jan 30 01:14	16° Ω 23'01	-0°04'12	min. Earth dist.	11343 Feb 19 04:55	6° Υ 14'57	19.00494 AU
min. Earth dist.	11338 Jan 29 14:20	16° Ω 24'06	19.07707 AU	direct	11343 May 06 12:13	4° Υ 16'45	
	11338 Mar 09 11:40	15° $\kappa\Omega$		evening set	11343 Aug 04 17:00	7° Υ 16'47	
direct	11338 Apr 16 07:52	14° Ω 26'05		conjunction	11343 Aug 20 16:07	8° Υ 11'18	0°18'56
	11338 May 23 03:19	15° Ω		minimum elong	11343 Aug 20 16:06	8° Υ 11'18	0°18'37
evening set	11338 Jul 15 16:30	17° Ω 25'47		max. Earth dist.	11343 Aug 21 02:44	8° Υ 12'49	20.99256 AU
conjunction	11338 Jul 31 13:03	18° Ω 19'51	-0°01'45	morning rise	11343 Sep 05 17:40	9° Υ 06'11	
minimum elong	11338 Jul 31 13:03	18° Ω 19'51	0°02'16	retrograde	11343 Dec 08 10:03	12° Υ 12'39	
behind sun begin	11338 Jul 31 06:28	18° Ω 18'56		opposition	11344 Feb 23 23:20	10° Υ 13'39	0°23'06
behind sun end	11338 Jul 31 19:38	18° Ω 20'46		min. Earth dist.	11344 Feb 23 14:05	10° Υ 14'35	18.97936 AU
max. Earth dist.	11338 Aug 01 00:40	18° Ω 21'30	21.07408 AU	direct	11344 May 09 17:20	8° Υ 16'28	
morning rise	11338 Aug 16 11:40	19° Ω 14'13		evening set	11344 Aug 07 22:52	11° Υ 16'47	
retrograde	11338 Nov 17 18:33	22° Ω 19'10		conjunction	11344 Aug 23 22:32	12° Υ 11'27	0°22'53
asc. node	11339 Jan 02 03:31	21° Ω 32'40		minimum elong	11344 Aug 23 22:31	12° Υ 11'27	0°22'36
opposition	11339 Feb 03 08:52	20° Ω 20'45	0°00'25	max. Earth dist.	11344 Aug 24 08:14	12° Υ 12'50	20.96514 AU
min. Earth dist.	11339 Feb 02 21:18	20° Ω 21'55	19.07013 AU	morning rise	11344 Sep 09 00:48	13° Υ 06'29	
direct	11339 Apr 20 14:26	18° Ω 23'46		retrograde	11344 Dec 11 20:41	16° Υ 13'26	
evening set	11339 Jul 19 20:56	21° Ω 23'23		opposition	11345 Feb 27 07:24	14° Υ 14'19	0°27'25
conjunction	11339 Aug 04 17:55	22° Ω 17'30	0°02'33	min. Earth dist.	11345 Feb 26 22:02	14° Υ 15'16	18.94988 AU
minimum elong	11339 Aug 04 17:56	22° Ω 17'31	0°02'04	direct	11345 May 13 23:37	12° Υ 17'04	
behind sun begin	11339 Aug 04 11:20	22° Ω 16'36		evening set	11345 Aug 12 05:26	15° Υ 17'46	
behind sun end	11339 Aug 05 00:31	22° Ω 18'25		conjunction	11345 Aug 28 05:44	16° Υ 12'35	0°26'44
max. Earth dist.	11339 Aug 05 05:42	22° Ω 19'11	21.06504 AU	minimum elong	11345 Aug 28 05:43	16° Υ 12'35	0°26'30
morning rise	11339 Aug 20 17:02	23° Ω 11'56		max. Earth dist.	11345 Aug 28 15:09	16° Υ 13'56	20.93343 AU
retrograde	11339 Nov 22 00:30	26° Ω 17'04		morning rise	11345 Sep 13 08:35	17° Υ 07'47	
opposition	11340 Feb 07 16:32	24° Ω 18'32	0°05'02	retrograde	11345 Dec 16 05:26	20° Υ 15'14	
min. Earth dist.	11340 Feb 07 06:01	24° Ω 19'35	19.05923 AU	opposition	11346 Mar 03 15:40	18° Υ 16'01	0°31'37
direct	11340 Apr 23 19:26	22° Ω 21'30		min. Earth dist.	11346 Mar 03 07:48	18° Υ 16'49	18.91598 AU
evening set	11340 Jul 23 01:32	25° Ω 21'06		direct	11346 May 18 04:51	16° Υ 18'42	
conjunction	11340 Aug 07 22:59	26° Ω 15'18	0°06'43	evening set	11346 Aug 16 12:36	19° Υ 19'49	
minimum elong	11340 Aug 07 22:59	26° Ω 15'18	0°06'17	conjunction	11346 Sep 01 13:29	20° Υ 14'48	0°30'28
behind sun begin	11340 Aug 07 16:45	26° Ω 14'26		minimum elong	11346 Sep 01 13:29	20° Υ 14'48	0°30'16
behind sun end	11340 Aug 08 05:14	26° Ω 16'10		max. Earth dist.	11346 Sep 01 21:28	20° Υ 15'57	20.89730 AU
max. Earth dist.	11340 Aug 08 10:15	26° Ω 16'54	21.05241 AU	morning rise	11346 Sep 17 17:05	21° Υ 10'11	
morning rise	11340 Aug 23 22:44	27° Ω 09'49		retrograde	11346 Dec 20 17:10	24° Υ 18'12	
	11340 Oct 31 10:42	0° Υ		opposition	11347 Mar 08 00:11	22° Υ 18'50	0°35'42
retrograde	11340 Nov 25 09:43	0° Υ 15'12		min. Earth dist.	11347 Mar 07 16:35	22° Υ 19'36	18.87745 AU
	11340 Dec 20 16:32	30° $\kappa\Omega$		direct	11347 May 22 11:58	20° Υ 21'22	
opposition	11341 Feb 11 00:06	28° Ω 16'31	0°09'38	evening set	11347 Aug 20 20:16	23° Υ 22'59	
min. Earth dist.	11341 Feb 10 12:56	28° Ω 17'38	19.04479 AU	conjunction	11347 Sep 05 21:48	24° Υ 18'09	0°34'03
direct	11341 Apr 28 01:24	26° Ω 19'27		minimum elong	11347 Sep 05 21:48	24° Υ 18'09	0°33'56
evening set	11341 Jul 27 06:16	29° Ω 19'06		max. Earth dist.	11347 Sep 06 05:15	24° Υ 19'13	20.85619 AU
	11341 Aug 08 06:45	0° Υ		morning rise	11347 Sep 22 01:56	25° Υ 13'44	
conjunction	11341 Aug 12 04:17	0° Υ 13'24	0°10'50	retrograde	11347 Dec 25 02:44	28° Υ 22'18	
minimum elong	11341 Aug 12 04:17	0° Υ 13'24	0°10'26	opposition	11348 Mar 11 09:07	26° Υ 22'45	0°39'36
behind sun begin	11341 Aug 11 23:05	0° Υ 12'40		min. Earth dist.	11348 Mar 11 03:02	26° Υ 23'22	18.83392 AU
behind sun end	11341 Aug 12 09:29	0° Υ 14'07		direct	11348 May 25 17:46	24° Υ 25'08	
max. Earth dist.	11341 Aug 12 15:41	0° Υ 15'01	21.03609 AU	evening set	11348 Aug 24 04:36	27° Υ 27'15	
morning rise	11341 Aug 28 04:36	1° Υ 08'01					

conjunction	11348 Sep 09 06:46	28° <u>♏</u> 22'37	0°37'30	retrograde	11355 Jan 23 19:37	27° <u>♑</u> 24'59	
minimum elong	11348 Sep 09 06:45	28° <u>♏</u> 22'37	0°37'25	opposition	11355 Apr 10 07:56	25° <u>♑</u> 23'42	1°00'49
max. Earth dist.	11348 Sep 09 12:34	28° <u>♏</u> 23'28	20.81042 AU	min. Earth dist.	11355 Apr 10 07:06	25° <u>♑</u> 23'47	18.43592 AU
morning rise	11348 Sep 25 11:40	29° <u>♏</u> 18'24		direct	11355 Jun 24 06:36	23° <u>♑</u> 24'07	
	11348 Oct 08 02:36	0° <u>♑</u>		evening set	11355 Sep 23 08:36	26° <u>♑</u> 31'20	
retrograde	11348 Dec 28 15:10	2° <u>♑</u> 27'33					
opposition	11349 Mar 15 18:13	0° <u>♑</u> 27'47	0°43'21	conjunction	11355 Oct 09 15:44	27° <u>♑</u> 28'27	0°55'43
min. Earth dist.	11349 Mar 15 12:35	0° <u>♑</u> 28'21	18.78588 AU	minimum elong	11355 Oct 09 15:44	27° <u>♑</u> 28'27	0°55'59
	11349 Mar 27 04:50	30° <u>♏</u> ♏		max. Earth dist.	11355 Oct 09 16:28	27° <u>♑</u> 28'34	20.40421 AU
direct	11349 May 30 01:58	28° <u>♏</u> 29'55		morning rise	11355 Oct 26 01:06	28° <u>♑</u> 25'56	
	11349 Jul 29 20:21	0° <u>♑</u>			11355 Nov 24 13:21	0° <u>♏</u>	
evening set	11349 Aug 28 13:23	1° <u>♑</u> 32'36		retrograde	11356 Jan 28 10:27	1° <u>♏</u> 39'45	
					11356 Apr 05 03:18	30° <u>♏</u> ♑	
conjunction	11349 Sep 13 16:19	2° <u>♑</u> 28'12	0°40'47	opposition	11356 Apr 13 19:55	29° <u>♑</u> 38'17	1°02'43
minimum elong	11349 Sep 13 16:19	2° <u>♑</u> 28'12	0°40'45	min. Earth dist.	11356 Apr 13 19:43	29° <u>♑</u> 38'18	18.37262 AU
max. Earth dist.	11349 Sep 13 21:44	2° <u>♑</u> 28'59	20.76018 AU	direct	11356 Jun 27 17:57	27° <u>♑</u> 38'26	
morning rise	11349 Sep 29 21:50	3° <u>♑</u> 24'12			11356 Sep 13 01:01	0° <u>♏</u>	
retrograde	11350 Jan 02 01:57	6° <u>♑</u> 33'55		evening set	11356 Sep 26 22:43	0° <u>♏</u> 46'36	
opposition	11350 Mar 20 03:39	4° <u>♑</u> 33'55	0°46'53				
min. Earth dist.	11350 Mar 19 23:25	4° <u>♑</u> 34'21	18.73364 AU	conjunction	11356 Oct 13 06:27	1° <u>♏</u> 44'00	0°57'16
direct	11350 Jun 03 08:43	2° <u>♑</u> 35'48		minimum elong	11356 Oct 13 06:26	1° <u>♏</u> 44'00	0°57'34
evening set	11350 Sep 01 22:55	5° <u>♑</u> 39'05		max. Earth dist.	11356 Oct 13 05:23	1° <u>♏</u> 43'50	20.34078 AU
				morning rise	11356 Oct 29 16:36	2° <u>♏</u> 41'46	
conjunction	11350 Sep 18 02:27	6° <u>♑</u> 34'54	0°43'52	retrograde	11357 Feb 01 01:47	5° <u>♏</u> 56'21	
minimum elong	11350 Sep 18 02:27	6° <u>♑</u> 34'54	0°43'53	opposition	11357 Apr 18 08:22	3° <u>♏</u> 54'42	1°04'17
max. Earth dist.	11350 Sep 18 06:16	6° <u>♑</u> 35'27	20.70627 AU	min. Earth dist.	11357 Apr 18 08:59	3° <u>♏</u> 54'38	18.30901 AU
morning rise	11350 Oct 04 08:44	7° <u>♑</u> 31'08		direct	11357 Jul 02 05:05	1° <u>♏</u> 54'34	
retrograde	11351 Jan 06 14:39	10° <u>♑</u> 41'28		evening set	11357 Oct 01 13:42	5° <u>♏</u> 03'45	
opposition	11351 Mar 24 13:14	8° <u>♑</u> 41'11	0°50'12				
min. Earth dist.	11351 Mar 24 09:28	8° <u>♑</u> 41'34	18.67816 AU	conjunction	11357 Oct 17 22:17	6° <u>♏</u> 01'27	0°58'30
direct	11351 Jun 07 17:33	6° <u>♑</u> 42'47		minimum elong	11357 Oct 17 22:17	6° <u>♏</u> 01'27	0°58'52
evening set	11351 Sep 06 08:59	9° <u>♑</u> 46'45		max. Earth dist.	11357 Oct 17 21:22	6° <u>♏</u> 01'18	20.27687 AU
				morning rise	11357 Nov 03 08:52	6° <u>♏</u> 59'29	
conjunction	11351 Sep 22 13:17	10° <u>♑</u> 42'48	0°46'44	retrograde	11358 Feb 05 18:07	10° <u>♏</u> 14'51	
minimum elong	11351 Sep 22 13:17	10° <u>♑</u> 42'48	0°46'47	opposition	11358 Apr 22 21:29	8° <u>♏</u> 13'03	1°05'31
max. Earth dist.	11351 Sep 22 17:00	10° <u>♑</u> 43'21	20.64931 AU	min. Earth dist.	11358 Apr 22 22:48	8° <u>♏</u> 12'55	18.24481 AU
morning rise	11351 Oct 08 20:06	11° <u>♑</u> 39'15		direct	11358 Jul 06 17:37	6° <u>♏</u> 12'41	
retrograde	11352 Jan 11 02:45	14° <u>♑</u> 50'14		evening set	11358 Oct 06 05:49	9° <u>♏</u> 22'54	
opposition	11352 Mar 27 23:20	12° <u>♑</u> 49'42	0°53'16				
min. Earth dist.	11352 Mar 27 20:38	12° <u>♑</u> 49'59	18.62000 AU	conjunction	11358 Oct 22 14:54	10° <u>♏</u> 20'54	0°59'25
direct	11352 Jun 11 01:47	10° <u>♑</u> 51'00		minimum elong	11358 Oct 22 14:53	10° <u>♏</u> 20'54	0°59'49
evening set	11352 Sep 09 19:41	13° <u>♑</u> 55'41		max. Earth dist.	11358 Oct 22 11:52	10° <u>♏</u> 20'27	20.21242 AU
				morning rise	11358 Nov 08 02:10	11° <u>♏</u> 19'13	
conjunction	11352 Sep 26 00:36	14° <u>♑</u> 51'59	0°49'22	retrograde	11359 Feb 10 11:09	14° <u>♏</u> 35'23	
minimum elong	11352 Sep 26 00:35	14° <u>♑</u> 51'59	0°49'30	opposition	11359 Apr 27 11:16	12° <u>♏</u> 33'26	1°06'23
max. Earth dist.	11352 Sep 26 02:49	14° <u>♑</u> 52'19	20.59019 AU	min. Earth dist.	11359 Apr 27 13:48	12° <u>♏</u> 33'10	18.18009 AU
morning rise	11352 Oct 12 08:14	15° <u>♑</u> 48'42		direct	11359 Jul 11 06:19	10° <u>♏</u> 32'47	
retrograde	11353 Jan 14 16:10	19° <u>♑</u> 00'21		evening set	11359 Oct 10 22:50	13° <u>♏</u> 44'06	
opposition	11353 Apr 01 09:48	16° <u>♑</u> 59'32	0°56'04				
min. Earth dist.	11353 Apr 01 07:31	16° <u>♑</u> 59'46	18.56000 AU	conjunction	11359 Oct 27 08:43	14° <u>♏</u> 42'24	1°00'01
direct	11353 Jun 15 10:52	15° <u>♑</u> 00'33		minimum elong	11359 Oct 27 08:43	14° <u>♏</u> 42'24	1°00'28
evening set	11353 Sep 14 07:13	18° <u>♑</u> 06'01		max. Earth dist.	11359 Oct 27 05:42	14° <u>♏</u> 41'57	20.14726 AU
					11359 Nov 01 06:39	15° <u>♏</u>	
conjunction	11353 Sep 30 12:57	19° <u>♑</u> 02'35	0°51'45	morning rise	11359 Nov 12 20:20	15° <u>♏</u> 41'01	
minimum elong	11353 Sep 30 12:56	19° <u>♑</u> 02'35	0°51'55	retrograde	11360 Feb 15 05:04	18° <u>♏</u> 57'56	
max. Earth dist.	11353 Sep 30 15:11	19° <u>♑</u> 02'54	20.52927 AU	opposition	11360 May 01 01:45	16° <u>♏</u> 55'52	1°06'52
morning rise	11353 Oct 16 21:05	19° <u>♑</u> 59'32		min. Earth dist.	11360 May 01 04:56	16° <u>♏</u> 55'32	18.11451 AU
retrograde	11354 Jan 19 05:34	23° <u>♑</u> 11'53			11360 Jun 30 23:37	15° <u>♏</u> ♏	
opposition	11354 Apr 05 20:34	21° <u>♑</u> 10'50	0°58'35	direct	11360 Jul 14 20:26	14° <u>♏</u> 54'56	
min. Earth dist.	11354 Apr 05 19:12	21° <u>♑</u> 10'58	18.49842 AU		11360 Jul 28 14:21	15° <u>♏</u>	
direct	11354 Jun 19 20:47	19° <u>♑</u> 11'33		evening set	11360 Oct 14 16:56	18° <u>♏</u> 07'19	
evening set	11354 Sep 18 19:36	22° <u>♑</u> 17'52					
				conjunction	11360 Oct 31 03:20	19° <u>♏</u> 05'55	1°00'16
conjunction	11354 Oct 05 01:56	23° <u>♑</u> 14'42	0°53'53	minimum elong	11360 Oct 31 03:19	19° <u>♏</u> 05'55	1°00'45
minimum elong	11354 Oct 05 01:56	23° <u>♑</u> 14'42	0°54'06	max. Earth dist.	11360 Oct 30 21:54	19° <u>♏</u> 05'07	20.08130 AU
max. Earth dist.	11354 Oct 05 02:28	23° <u>♑</u> 14'46	20.46719 AU	morning rise	11360 Nov 16 15:38	20° <u>♏</u> 04'49	
morning rise	11354 Oct 21 10:51	24° <u>♑</u> 11'55		retrograde	11361 Feb 18 23:27	23° <u>♏</u> 22'31	

opposition	11361 May 05 17:01	21° $\overline{\text{M}}$ 20'16	1°06'59	conjunction	11367 Dec 03 13:47	20° $\overline{\text{A}}$ 41'35	0°51'54
min. Earth dist.	11361 May 05 21:42	21° $\overline{\text{M}}$ 19'46	18.04820 AU	minimum elong	11367 Dec 03 13:47	20° $\overline{\text{A}}$ 41'35	0°52'35
direct	11361 Jul 19 10:56	19° $\overline{\text{M}}$ 18'59		max. Earth dist.	11367 Dec 03 03:04	20° $\overline{\text{A}}$ 39'56	19.63624 AU
evening set	11361 Oct 19 11:56	22° $\overline{\text{M}}$ 32'29		morning rise	11367 Dec 20 04:15	21° $\overline{\text{A}}$ 42'17	
				retrograde	11368 Mar 23 03:05	25° $\overline{\text{A}}$ 04'23	
conjunction	11361 Nov 04 23:08	23° $\overline{\text{M}}$ 31'24	1°00'10	opposition	11368 Jun 05 20:03	23° $\overline{\text{A}}$ 00'59	0°56'26
minimum elong	11361 Nov 04 23:08	23° $\overline{\text{M}}$ 31'24	1°00'41	min. Earth dist.	11368 Jun 06 04:58	23° $\overline{\text{A}}$ 00'01	17.60955 AU
max. Earth dist.	11361 Nov 04 17:33	23° $\overline{\text{M}}$ 30'34	20.01460 AU	direct	11368 Aug 19 15:49	20° $\overline{\text{A}}$ 57'11	
morning rise	11361 Nov 21 11:43	24° $\overline{\text{M}}$ 30'34		evening set	11368 Nov 21 00:22	24° $\overline{\text{A}}$ 18'14	
retrograde	11362 Feb 23 18:49	27° $\overline{\text{M}}$ 48'58					
opposition	11362 May 10 08:40	25° $\overline{\text{M}}$ 46'34	1°06'42	conjunction	11368 Dec 07 14:49	25° $\overline{\text{A}}$ 19'06	0°49'15
min. Earth dist.	11362 May 10 13:51	25° $\overline{\text{M}}$ 46'01	17.98124 AU	minimum elong	11368 Dec 07 14:49	25° $\overline{\text{A}}$ 19'06	0°49'57
direct	11362 Jul 24 03:00	23° $\overline{\text{M}}$ 44'56		max. Earth dist.	11368 Dec 07 03:14	25° $\overline{\text{A}}$ 17'19	19.58357 AU
evening set	11362 Oct 24 07:57	26° $\overline{\text{M}}$ 59'32		morning rise	11368 Dec 24 05:26	26° $\overline{\text{A}}$ 20'01	
				retrograde	11369 Mar 28 00:49	29° $\overline{\text{A}}$ 42'36	
conjunction	11362 Nov 09 19:34	27° $\overline{\text{M}}$ 58'45	0°59'42	opposition	11369 Jun 10 16:13	27° $\overline{\text{A}}$ 39'07	0°53'20
minimum elong	11362 Nov 09 19:34	27° $\overline{\text{M}}$ 58'45	1°00'16	min. Earth dist.	11369 Jun 11 02:23	27° $\overline{\text{A}}$ 38'01	17.55915 AU
max. Earth dist.	11362 Nov 09 11:41	27° $\overline{\text{M}}$ 57'33	19.94767 AU	direct	11369 Aug 24 11:27	25° $\overline{\text{A}}$ 35'03	
morning rise	11362 Nov 26 08:44	28° $\overline{\text{M}}$ 58'12		evening set	11369 Nov 26 01:49	28° $\overline{\text{A}}$ 57'07	
	11362 Dec 14 13:55	0° $\overline{\text{A}}$					
retrograde	11363 Feb 28 13:58	2° $\overline{\text{A}}$ 17'18		conjunction	11369 Dec 12 16:33	29° $\overline{\text{A}}$ 58'11	0°46'17
opposition	11363 May 15 01:11	0° $\overline{\text{A}}$ 14'41	1°06'01	minimum elong	11369 Dec 12 16:33	29° $\overline{\text{A}}$ 58'11	0°47'00
min. Earth dist.	11363 May 15 07:56	0° $\overline{\text{A}}$ 13'58	17.91452 AU	max. Earth dist.	11369 Dec 12 04:50	29° $\overline{\text{A}}$ 56'23	19.53553 AU
	11363 May 20 18:48	30° $\overline{\text{R}}$ $\overline{\text{M}}$			11369 Dec 13 04:16	0° $\overline{\text{B}}$	
direct	11363 Jul 28 18:51	28° $\overline{\text{M}}$ 12'41		morning rise	11369 Dec 29 07:12	0° $\overline{\text{B}}$ 59'18	
	11363 Oct 02 10:24	0° $\overline{\text{A}}$		retrograde	11370 Apr 02 01:33	4° $\overline{\text{B}}$ 22'20	
evening set	11363 Oct 29 04:28	1° $\overline{\text{A}}$ 28'23		opposition	11370 Jun 15 12:44	2° $\overline{\text{B}}$ 18'50	0°49'51
				min. Earth dist.	11370 Jun 15 22:11	2° $\overline{\text{B}}$ 17'48	17.51340 AU
conjunction	11363 Nov 14 16:50	2° $\overline{\text{A}}$ 27'53	0°58'52	direct	11370 Aug 29 09:57	0° $\overline{\text{B}}$ 14'32	
minimum elong	11363 Nov 14 16:50	2° $\overline{\text{A}}$ 27'53	0°59'27	evening set	11370 Dec 01 03:58	3° $\overline{\text{B}}$ 37'34	
max. Earth dist.	11363 Nov 14 09:06	2° $\overline{\text{A}}$ 26'43	19.88130 AU				
morning rise	11363 Dec 01 06:15	3° $\overline{\text{A}}$ 27'37		conjunction	11370 Dec 17 18:54	4° $\overline{\text{B}}$ 38'52	0°43'00
retrograde	11364 Mar 04 11:08	6° $\overline{\text{A}}$ 47'23		minimum elong	11370 Dec 17 18:54	4° $\overline{\text{B}}$ 38'52	0°43'42
opposition	11364 May 18 18:09	4° $\overline{\text{A}}$ 44'35	1°04'55	max. Earth dist.	11370 Dec 17 06:55	4° $\overline{\text{B}}$ 37'01	19.49214 AU
min. Earth dist.	11364 May 19 00:58	4° $\overline{\text{A}}$ 43'51	17.84865 AU	morning rise	11371 Jan 03 09:28	5° $\overline{\text{B}}$ 40'08	
direct	11364 Aug 01 12:50	2° $\overline{\text{A}}$ 42'13		retrograde	11371 Apr 06 23:55	9° $\overline{\text{B}}$ 03'35	
evening set	11364 Nov 02 02:09	5° $\overline{\text{A}}$ 59'00		opposition	11371 Jun 20 10:07	7° $\overline{\text{B}}$ 00'06	0°46'02
				min. Earth dist.	11371 Jun 20 20:46	6° $\overline{\text{B}}$ 58'56	17.47243 AU
conjunction	11364 Nov 18 14:54	6° $\overline{\text{A}}$ 58'47	0°57'41	direct	11371 Sep 03 07:18	4° $\overline{\text{B}}$ 55'36	
minimum elong	11364 Nov 18 14:54	6° $\overline{\text{A}}$ 58'47	0°58'18	evening set	11371 Dec 06 06:40	8° $\overline{\text{B}}$ 19'34	
max. Earth dist.	11364 Nov 18 05:16	6° $\overline{\text{A}}$ 57'20	19.81620 AU				
morning rise	11364 Dec 05 04:48	7° $\overline{\text{A}}$ 58'47		conjunction	11371 Dec 22 21:42	9° $\overline{\text{B}}$ 21'02	0°39'24
retrograde	11365 Mar 09 07:01	11° $\overline{\text{A}}$ 19'11		minimum elong	11371 Dec 22 21:42	9° $\overline{\text{B}}$ 21'02	0°40'06
opposition	11365 May 23 11:43	9° $\overline{\text{A}}$ 16'12	1°03'24	max. Earth dist.	11371 Dec 22 09:12	9° $\overline{\text{B}}$ 19'06	19.45358 AU
min. Earth dist.	11365 May 23 20:08	9° $\overline{\text{A}}$ 15'18	17.78456 AU	morning rise	11372 Jan 08 12:18	10° $\overline{\text{B}}$ 22'28	
direct	11365 Aug 06 05:34	7° $\overline{\text{A}}$ 13'26		retrograde	11372 Apr 11 01:13	13° $\overline{\text{B}}$ 46'17	
evening set	11365 Nov 07 00:33	10° $\overline{\text{A}}$ 31'19		opposition	11372 Jun 24 07:54	11° $\overline{\text{B}}$ 42'49	0°41'53
				min. Earth dist.	11372 Jun 24 18:01	11° $\overline{\text{B}}$ 41'43	17.43603 AU
conjunction	11365 Nov 23 13:56	11° $\overline{\text{A}}$ 31'24	0°56'07	direct	11372 Sep 07 07:36	9° $\overline{\text{B}}$ 38'09	
minimum elong	11365 Nov 23 13:56	11° $\overline{\text{A}}$ 31'24	0°56'45	evening set	11372 Dec 10 10:10	13° $\overline{\text{B}}$ 02'59	
max. Earth dist.	11365 Nov 23 04:27	11° $\overline{\text{A}}$ 29'57	19.75322 AU				
morning rise	11365 Dec 10 04:00	12° $\overline{\text{A}}$ 31'38		conjunction	11372 Dec 27 01:19	14° $\overline{\text{B}}$ 04'37	0°35'32
retrograde	11366 Mar 14 06:10	15° $\overline{\text{A}}$ 52'38		minimum elong	11372 Dec 27 01:19	14° $\overline{\text{B}}$ 04'37	0°36'14
opposition	11366 May 28 05:51	13° $\overline{\text{A}}$ 49'30	1°01'29	max. Earth dist.	11372 Dec 26 12:52	14° $\overline{\text{B}}$ 02'41	19.41923 AU
min. Earth dist.	11366 May 28 13:59	13° $\overline{\text{A}}$ 48'37	17.72282 AU	morning rise	11373 Jan 12 15:36	15° $\overline{\text{B}}$ 06'09	
direct	11366 Aug 11 01:05	11° $\overline{\text{A}}$ 46'22		retrograde	11373 Apr 16 00:40	18° $\overline{\text{B}}$ 30'15	
evening set	11366 Nov 11 23:44	15° $\overline{\text{A}}$ 05'19		opposition	11373 Jun 29 06:20	16° $\overline{\text{B}}$ 26'50	0°37'25
				min. Earth dist.	11373 Jun 29 17:42	16° $\overline{\text{B}}$ 25'36	17.40377 AU
conjunction	11366 Nov 28 13:24	16° $\overline{\text{A}}$ 05'40	0°54'11	direct	11373 Sep 12 07:09	14° $\overline{\text{B}}$ 22'00	
minimum elong	11366 Nov 28 13:24	16° $\overline{\text{A}}$ 05'40	0°54'51	evening set	11373 Dec 15 14:15	17° $\overline{\text{B}}$ 47'37	
max. Earth dist.	11366 Nov 28 02:32	16° $\overline{\text{A}}$ 04'01	19.69292 AU				
morning rise	11366 Dec 15 03:45	17° $\overline{\text{A}}$ 06'09		conjunction	11374 Jan 01 05:16	18° $\overline{\text{B}}$ 49'22	0°31'24
retrograde	11367 Mar 19 02:54	20° $\overline{\text{A}}$ 27'43		minimum elong	11374 Jan 01 05:16	18° $\overline{\text{B}}$ 49'22	0°32'05
opposition	11367 Jun 02 00:45	18° $\overline{\text{A}}$ 24'26	0°59'09	max. Earth dist.	11373 Dec 31 15:38	18° $\overline{\text{B}}$ 47'15	19.38907 AU
min. Earth dist.	11367 Jun 02 10:17	18° $\overline{\text{A}}$ 23'24	17.66428 AU	morning rise	11374 Jan 17 19:25	19° $\overline{\text{B}}$ 51'01	
direct	11367 Aug 15 19:07	16° $\overline{\text{A}}$ 20'57		retrograde	11374 Apr 21 02:19	23° $\overline{\text{B}}$ 15'20	
evening set	11367 Nov 16 23:37	19° $\overline{\text{A}}$ 40'58		opposition	11374 Jul 04 05:16	21° $\overline{\text{B}}$ 11'57	0°32'42

min. Earth dist.	11374 Jul 04 16:14	21° $\overline{3}$ 10'45	17.37561 AU	behind sun end	11380 Jan 31 14:22	17° \approx 31'09	
direct	11374 Sep 17 08:45	19° $\overline{3}$ 06'55		max. Earth dist.	11380 Jan 30 17:41	17° \approx 27'56	19.29952 AU
evening set	11374 Dec 20 18:27	22° $\overline{3}$ 33'14		morning rise	11380 Feb 16 18:56	18° \approx 31'47	
				retrograde	11380 May 19 09:00	21° \approx 55'50	
conjunction	11375 Jan 06 09:29	23° $\overline{3}$ 35'05	0°27'03	opposition	11380 Aug 01 05:33	19° \approx 52'35	0°00'35
minimum elong	11375 Jan 06 09:29	23° $\overline{3}$ 35'05	0°27'44	min. Earth dist.	11380 Aug 01 16:59	19° \approx 51'20	17.30058 AU
max. Earth dist.	11375 Jan 05 20:23	23° $\overline{3}$ 33'03	19.36282 AU	desc. node	11380 Sep 07 10:37	18° \approx 24'33	
morning rise	11375 Jan 22 23:09	24° $\overline{3}$ 36'48		direct	11380 Oct 15 20:35	17° \approx 46'42	
retrograde	11375 Apr 26 02:49	28° $\overline{3}$ 01'15		evening set	11381 Jan 18 22:56	21° \approx 15'09	
opposition	11375 Jul 09 04:46	25° $\overline{3}$ 57'54	0°27'44				
min. Earth dist.	11375 Jul 09 16:34	25° $\overline{3}$ 56'36	17.35138 AU	conjunction	11381 Feb 04 11:43	22° \approx 17'02	-0°02'07
direct	11375 Sep 22 09:29	23° $\overline{3}$ 52'42		minimum elong	11381 Feb 04 11:43	22° \approx 17'02	0°01'39
evening set	11375 Dec 25 23:12	27° $\overline{3}$ 19'35		behind sun begin	11381 Feb 04 04:59	22° \approx 16'00	
				behind sun end	11381 Feb 04 18:26	22° \approx 18'03	
conjunction	11376 Jan 11 13:55	28° $\overline{3}$ 21'32	0°22'30	max. Earth dist.	11381 Feb 03 23:12	22° \approx 15'04	19.30296 AU
minimum elong	11376 Jan 11 13:55	28° $\overline{3}$ 21'32	0°23'09	morning rise	11381 Feb 20 22:08	23° \approx 18'35	
max. Earth dist.	11376 Jan 10 23:28	28° $\overline{3}$ 19'16	19.34076 AU	retrograde	11381 May 24 09:34	26° \approx 42'22	
morning rise	11376 Jan 28 03:23	29° $\overline{3}$ 23'17		opposition	11381 Aug 06 06:02	24° \approx 39'12	-0°05'01
	11376 Feb 07 08:26	0° \approx		min. Earth dist.	11381 Aug 06 16:26	24° \approx 38'04	17.30704 AU
retrograde	11376 Apr 30 04:46	2° \approx 47'48		direct	11381 Oct 20 23:35	22° \approx 33'18	
opposition	11376 Jul 13 04:22	0° \approx 44'27	0°22'34	evening set	11382 Jan 24 03:14	26° \approx 01'45	
min. Earth dist.	11376 Jul 13 15:59	0° \approx 43'11	17.33148 AU				
	11376 Jul 30 11:33	30° \overline{R} $\overline{3}$		conjunction	11382 Feb 09 15:15	27° \approx 03'32	-0°07'08
direct	11376 Sep 26 11:43	28° $\overline{3}$ 39'04		minimum elong	11382 Feb 09 15:15	27° \approx 03'32	0°06'41
	11376 Nov 21 12:20	0° \approx		behind sun begin	11382 Feb 09 08:58	27° \approx 02'34	
evening set	11376 Dec 30 04:01	2° \approx 06'28		behind sun end	11382 Feb 09 21:31	27° \approx 04'30	
				max. Earth dist.	11382 Feb 09 02:45	27° \approx 01'35	19.31263 AU
conjunction	11377 Jan 15 18:39	3° \approx 08'27	0°17'47	morning rise	11382 Feb 26 00:58	28° \approx 04'58	
minimum elong	11377 Jan 15 18:39	3° \approx 08'28	0°18'25		11382 Apr 01 12:27	0° \overline{H}	
max. Earth dist.	11377 Jan 15 05:07	3° \approx 06'21	19.32301 AU	retrograde	11382 May 29 09:15	1° \overline{H} 28'27	
morning rise	11377 Feb 01 07:30	4° \approx 10'14			11382 Jul 28 20:50	30° \overline{R} \approx	
retrograde	11377 May 05 05:50	7° \approx 34'43		opposition	11382 Aug 11 06:44	29° \approx 25'23	-0°10'34
opposition	11377 Jul 18 04:27	5° \approx 31'24	0°17'13	min. Earth dist.	11382 Aug 11 17:00	29° \approx 24'16	17.32008 AU
min. Earth dist.	11377 Jul 18 16:25	5° \approx 30'05	17.31595 AU	direct	11382 Oct 26 01:55	27° \approx 19'31	
direct	11377 Oct 01 13:10	3° \approx 25'51			11383 Jan 15 21:26	0° \overline{H}	
evening set	11378 Jan 04 09:00	6° \approx 53'40		evening set	11383 Jan 29 06:56	0° \overline{H} 47'54	
conjunction	11378 Jan 20 23:05	7° \approx 55'40	0°12'56	conjunction	11383 Feb 14 18:20	1° \overline{H} 49'33	-0°12'03
minimum elong	11378 Jan 20 23:05	7° \approx 55'40	0°13'33	minimum elong	11383 Feb 14 18:20	1° \overline{H} 49'33	0°11'39
behind sun begin	11378 Jan 20 19:27	7° \approx 55'07		behind sun begin	11383 Feb 14 13:36	1° \overline{H} 48'50	
behind sun end	11378 Jan 21 02:43	7° \approx 56'13		behind sun end	11383 Feb 14 23:04	1° \overline{H} 50'17	
max. Earth dist.	11378 Jan 20 08:25	7° \approx 53'22	19.30993 AU	max. Earth dist.	11383 Feb 14 07:18	1° \overline{H} 47'50	19.32897 AU
morning rise	11378 Feb 06 11:33	8° \approx 57'26		morning rise	11383 Mar 03 03:14	2° \overline{H} 50'51	
retrograde	11378 May 10 07:18	12° \approx 21'50		retrograde	11383 Jun 03 09:33	6° \overline{H} 14'00	
opposition	11378 Jul 23 04:41	10° \approx 18'32	0°11'45	opposition	11383 Aug 16 07:17	4° \overline{H} 11'05	-0°16'02
min. Earth dist.	11378 Jul 23 16:31	10° \approx 17'14	17.30541 AU	min. Earth dist.	11383 Aug 16 15:59	4° \overline{H} 10'08	17.33954 AU
direct	11378 Oct 06 15:48	8° \approx 12'50		direct	11383 Oct 31 05:34	2° \overline{H} 05'19	
evening set	11379 Jan 09 13:44	11° \approx 40'58		evening set	11384 Feb 03 10:30	5° \overline{H} 33'34	
conjunction	11379 Jan 26 03:36	12° \approx 42'57	0°08'01	conjunction	11384 Feb 19 21:07	6° \overline{H} 35'03	-0°16'53
minimum elong	11379 Jan 26 03:35	12° \approx 42'57	0°08'34	minimum elong	11384 Feb 19 21:07	6° \overline{H} 35'03	0°16'33
behind sun begin	11379 Jan 25 21:44	12° \approx 42'03		max. Earth dist.	11384 Feb 19 10:41	6° \overline{H} 33'26	19.35160 AU
behind sun end	11379 Jan 26 09:26	12° \approx 43'51		morning rise	11384 Mar 07 05:12	7° \overline{H} 36'11	
max. Earth dist.	11379 Jan 25 14:16	12° \approx 40'52	19.30198 AU	retrograde	11384 Jun 07 08:11	10° \overline{H} 58'56	
morning rise	11379 Feb 11 15:19	13° \approx 44'40		opposition	11384 Aug 20 07:46	8° \overline{H} 56'14	-0°21'23
	11379 Mar 05 04:18	15° \approx		min. Earth dist.	11384 Aug 20 16:38	8° \overline{H} 55'16	17.36528 AU
retrograde	11379 May 15 08:14	17° \approx 08'56		direct	11384 Nov 04 07:48	6° \overline{H} 50'37	
opposition	11379 Jul 28 05:01	15° \approx 05'39	0°06'11	evening set	11385 Feb 07 13:37	10° \overline{H} 18'39	
min. Earth dist.	11379 Jul 28 16:31	15° \approx 04'24	17.30010 AU				
	11379 Jul 30 08:39	15° \overline{R} \approx		conjunction	11385 Feb 23 23:27	11° \overline{H} 19'57	-0°21'36
direct	11379 Oct 11 17:54	12° \approx 59'51		minimum elong	11385 Feb 23 23:27	11° \overline{H} 19'57	0°21'18
	11379 Dec 20 05:14	15° \approx		max. Earth dist.	11385 Feb 23 13:56	11° \overline{H} 18'28	19.38028 AU
evening set	11380 Jan 14 18:28	16° \approx 28'10		morning rise	11385 Mar 12 06:42	12° \overline{H} 20'53	
				retrograde	11385 Jun 12 08:06	15° \overline{H} 43'13	
conjunction	11380 Jan 31 07:41	17° \approx 30'07	0°03'02	opposition	11385 Aug 25 08:09	13° \overline{H} 40'44	-0°26'34
minimum elong	11380 Jan 31 07:41	17° \approx 30'07	0°03'34	min. Earth dist.	11385 Aug 25 15:23	13° \overline{H} 39'57	17.39657 AU
behind sun begin	11380 Jan 31 01:00	17° \approx 29'06		direct	11385 Nov 09 11:40	11° \overline{H} 35'19	

evening set	11386 Feb 12 16:08	15° H 03'01	retrograde	11392 Jul 14 13:02	18° Y 20'37
			opposition	11392 Sep 27 03:39	16° Y 19'29 -0°55'37
conjunction	11386 Mar 01 01:07	16° H 04'07 -0°26'09	min. Earth dist.	11392 Sep 27 06:47	16° Y 19'09 17.72261 AU
minimum elong	11386 Mar 01 01:07	16° H 04'07 0°25'56	direct	11392 Dec 12 19:50	14° Y 15'35
max. Earth dist.	11386 Feb 28 16:42	16° H 02'48 19.41407 AU	evening set	11393 Mar 17 14:13	17° Y 38'20
morning rise	11386 Mar 17 07:23	17° H 04'51			
retrograde	11386 Jun 17 05:56	20° H 26'42	conjunction	11393 Apr 02 16:49	18° Y 37'32 -0°51'18
opposition	11386 Aug 30 08:35	18° H 24'27 -0°31'33	minimum elong	11393 Apr 02 16:48	18° Y 37'31 0°51'28
min. Earth dist.	11386 Aug 30 16:06	18° H 23'39 17.43282 AU	max. Earth dist.	11393 Apr 02 13:24	18° Y 37'00 19.75103 AU
direct	11386 Nov 14 13:14	16° H 19'15	morning rise	11393 Apr 18 17:04	19° Y 36'23
evening set	11387 Feb 17 18:10	19° H 46'30	retrograde	11393 Jul 19 07:33	22° Y 53'33
			opposition	11393 Oct 02 01:09	20° Y 52'32 -0°58'26
conjunction	11387 Mar 06 02:14	20° H 47'23 -0°30'32	min. Earth dist.	11393 Oct 02 02:44	20° Y 52'22 17.78021 AU
minimum elong	11387 Mar 06 02:13	20° H 47'23 0°30'21	direct	11393 Dec 17 19:22	18° Y 48'51
max. Earth dist.	11387 Mar 05 18:09	20° H 46'08 19.45256 AU	evening set	11394 Mar 22 10:00	22° Y 10'35
morning rise	11387 Mar 22 07:41	21° H 47'53			
retrograde	11387 Jun 22 05:33	25° H 09'12	conjunction	11394 Apr 07 11:54	23° Y 09'29 -0°53'40
opposition	11387 Sep 04 08:30	23° H 07'11 -0°36'18	minimum elong	11394 Apr 07 11:53	23° Y 09'28 0°53'53
min. Earth dist.	11387 Sep 04 14:23	23° H 06'33 17.47332 AU	max. Earth dist.	11394 Apr 07 10:51	23° Y 09'19 19.80984 AU
direct	11387 Nov 19 16:27	21° H 02'11	morning rise	11394 Apr 23 11:12	24° Y 08'01
evening set	11388 Feb 22 19:33	24° H 28'55	retrograde	11394 Jul 24 00:54	27° Y 24'24
			opposition	11394 Oct 06 22:05	25° Y 23'32 -1°00'51
conjunction	11388 Mar 10 02:49	25° H 29'33 -0°34'41	min. Earth dist.	11394 Oct 06 22:58	25° Y 23'26 17.84031 AU
minimum elong	11388 Mar 10 02:48	25° H 29'33 0°34'33	direct	11394 Dec 22 18:43	23° Y 20'06
max. Earth dist.	11388 Mar 09 20:05	25° H 28'31 19.49490 AU	evening set	11395 Mar 27 05:06	26° Y 40'47
morning rise	11388 Mar 26 07:15	26° H 29'49			
retrograde	11388 Jun 26 02:39	29° H 50'32	conjunction	11395 Apr 12 05:59	27° Y 39'22 -0°55'41
opposition	11388 Sep 08 08:26	27° H 48'44 -0°40'47	minimum elong	11395 Apr 12 05:58	27° Y 39'22 0°55'56
min. Earth dist.	11388 Sep 08 14:42	27° H 48'04 17.51745 AU	max. Earth dist.	11395 Apr 12 05:06	27° Y 39'14 19.87131 AU
direct	11388 Nov 23 17:05	25° H 43'58	morning rise	11395 Apr 28 04:43	28° Y 37'37
evening set	11389 Feb 26 20:16	29° H 10'04		11395 May 22 14:36	0° B
	11389 Mar 12 07:37	0° Y	retrograde	11395 Jul 28 17:16	1° B 53'13
conjunction	11389 Mar 15 02:29	0° Y 10'26 -0°38'35		11395 Oct 08 18:40	30° R Y
minimum elong	11389 Mar 15 02:29	0° Y 10'26 0°38'32	opposition	11395 Oct 11 18:12	29° Y 52'30 -1°02'53
max. Earth dist.	11389 Mar 14 19:41	0° Y 09'23 19.54068 AU	min. Earth dist.	11395 Oct 11 17:39	29° Y 52'33 17.90321 AU
morning rise	11389 Mar 31 06:08	1° Y 10'26	direct	11395 Dec 27 16:16	27° Y 49'20
retrograde	11389 Jul 01 01:13	4° Y 30'31		11396 Mar 10 17:23	0° B
opposition	11389 Sep 13 07:52	2° Y 28'55 -0°44'59	evening set	11396 Mar 30 23:04	1° B 08'59
min. Earth dist.	11389 Sep 13 12:30	2° Y 28'25 17.56476 AU			
direct	11389 Nov 28 19:04	0° Y 24'21	conjunction	11396 Apr 15 23:18	2° B 07'15 -0°57'20
evening set	11390 Mar 03 20:05	3° Y 49'44	minimum elong	11396 Apr 15 23:18	2° B 07'15 0°57'40
			max. Earth dist.	11396 Apr 16 00:44	2° B 07'28 19.93546 AU
conjunction	11390 Mar 20 01:30	4° Y 49'50 -0°42'13	morning rise	11396 May 01 21:11	3° B 05'12
minimum elong	11390 Mar 20 01:30	4° Y 49'50 0°42'12	retrograde	11396 Aug 01 09:34	6° B 20'02
max. Earth dist.	11390 Mar 19 20:26	4° Y 49'03 19.58939 AU	opposition	11396 Oct 15 13:53	4° B 19'31 -1°04'31
morning rise	11390 Apr 05 04:06	5° Y 49'34	min. Earth dist.	11396 Oct 15 12:13	4° B 19'41 17.96852 AU
retrograde	11390 Jul 05 21:32	9° Y 08'58	direct	11396 Dec 31 14:01	2° B 16'42
opposition	11390 Sep 18 07:03	7° Y 07'33 -0°48'53	evening set	11397 Apr 04 16:08	5° B 35'17
min. Earth dist.	11390 Sep 18 11:51	7° Y 07'02 17.61488 AU			
direct	11390 Dec 03 19:01	5° Y 03'12	conjunction	11397 Apr 20 15:26	6° B 33'14 -0°58'39
evening set	11391 Mar 08 19:02	8° Y 27'47	minimum elong	11397 Apr 20 15:25	6° B 33'14 0°59'00
			max. Earth dist.	11397 Apr 20 17:09	6° B 33'29 20.00191 AU
conjunction	11391 Mar 24 23:26	9° Y 27'35 -0°45'34	morning rise	11397 May 06 12:48	7° B 30'53
minimum elong	11391 Mar 24 23:25	9° Y 27'35 0°45'37	retrograde	11397 Aug 06 00:52	10° B 45'00
max. Earth dist.	11391 Mar 24 18:10	9° Y 26'46 19.64087 AU	opposition	11397 Oct 20 08:58	8° B 44'42 -1°05'45
morning rise	11391 Apr 10 01:21	10° Y 27'02	min. Earth dist.	11397 Oct 20 06:07	8° B 44'59 18.03602 AU
retrograde	11391 Jul 10 18:19	13° Y 45'44	direct	11398 Jan 05 09:27	6° B 42'14
opposition	11391 Sep 23 05:36	11° Y 44'27 -0°52'25	evening set	11398 Apr 09 08:11	9° B 59'46
min. Earth dist.	11391 Sep 23 08:51	11° Y 44'06 17.66759 AU			
direct	11391 Dec 08 19:53	9° Y 40'20	conjunction	11398 Apr 25 06:55	10° B 57'24 -0°59'35
evening set	11392 Mar 12 17:03	13° Y 04'01	minimum elong	11398 Apr 25 06:54	10° B 57'24 1°00'00
			max. Earth dist.	11398 Apr 25 10:44	10° B 57'59 20.07021 AU
conjunction	11392 Mar 28 20:42	14° Y 03'32 -0°48'36	morning rise	11398 May 11 03:34	11° B 54'47
minimum elong	11392 Mar 28 20:41	14° Y 03'32 0°48'42		11398 Jul 24 04:06	15° B
max. Earth dist.	11392 Mar 28 17:23	14° Y 03'01 19.69473 AU	retrograde	11398 Aug 10 16:06	15° B 08'09
morning rise	11392 Apr 13 21:35	15° Y 02'41		11398 Aug 28 09:15	15° R B
			opposition	11398 Oct 25 03:20	13° B 08'07 -1°06'35

min. Earth dist.	11398 Oct 24 23:18	13° 8 08'32	18.10484 AU	conjunction	11405 May 25 20:30	10° II 59'28	-0°56'41
direct	11399 Jan 10 05:29	11° 8 06'03		minimum elong	11405 May 25 20:30	10° II 59'28	0°57'20
evening set	11399 Apr 13 23:28	14° 8 22'30		max. Earth dist.	11405 May 26 04:49	11° II 00'42	20.53478 AU
	11399 Apr 24 10:11	15° 8		morning rise	11405 Jun 10 14:43	11° II 55'07	
				retrograde	11405 Sep 10 09:16	15° II 03'54	
conjunction	11399 Apr 29 21:24	15° 8 19'51	-1°00'11	opposition	11405 Nov 25 19:52	13° II 05'13	-1°01'58
minimum elong	11399 Apr 29 21:23	15° 8 19'51	1°00'39	min. Earth dist.	11405 Nov 25 11:43	13° II 06'02	18.56420 AU
max. Earth dist.	11399 Apr 30 01:24	15° 8 20'27	20.13943 AU	direct	11406 Feb 10 20:46	11° II 05'33	
morning rise	11399 May 15 17:40	16° 8 16'57		evening set	11406 May 14 11:04	14° II 14'40	
retrograde	11399 Aug 15 06:24	19° 8 29'38					
opposition	11399 Oct 29 21:12	17° 8 29'49	-1°07'02	conjunction	11406 May 30 05:47	15° II 10'11	-0°55'01
min. Earth dist.	11399 Oct 29 16:31	17° 8 30'18	18.17432 AU	minimum elong	11406 May 30 05:47	15° II 10'11	0°55'41
direct	11400 Jan 14 23:04	15° 8 28'09		max. Earth dist.	11406 May 30 14:59	15° II 11'32	20.59261 AU
evening set	11400 Apr 18 13:49	18° 8 43'33		morning rise	11406 Jun 14 23:51	16° II 05'38	
				retrograde	11406 Sep 14 20:45	19° II 13'48	
conjunction	11400 May 04 11:13	19° 8 40'36	-1°00'25	opposition	11406 Nov 30 09:11	17° II 15'12	-0°59'57
minimum elong	11400 May 04 11:13	19° 8 40'36	1°00'55	min. Earth dist.	11406 Nov 29 23:39	17° II 16'10	18.62062 AU
max. Earth dist.	11400 May 04 16:54	19° 8 41'28	20.20887 AU	direct	11407 Feb 15 11:35	15° II 15'46	
morning rise	11400 May 20 06:52	20° 8 37'26		evening set	11407 May 18 19:52	18° II 23'53	
retrograde	11400 Aug 19 20:32	23° 8 49'25					
opposition	11400 Nov 03 14:26	21° 8 49'52	-1°07'05	conjunction	11407 Jun 03 14:17	19° II 19'11	-0°53'04
min. Earth dist.	11400 Nov 03 08:32	21° 8 50'29	18.24348 AU	minimum elong	11407 Jun 03 14:17	19° II 19'11	0°53'45
direct	11401 Jan 19 17:39	19° 8 48'35		max. Earth dist.	11407 Jun 03 23:54	19° II 20'36	20.64776 AU
evening set	11401 Apr 23 03:28	23° 8 02'56		morning rise	11407 Jun 19 08:21	20° II 14'27	
				retrograde	11407 Sep 19 05:57	23° II 22'04	
conjunction	11401 May 09 00:09	23° 8 59'42	-1°00'20	opposition	11407 Dec 04 22:10	21° II 23'31	-0°57'37
minimum elong	11401 May 09 00:09	23° 8 59'42	1°00'52	min. Earth dist.	11407 Dec 04 12:56	21° II 24'27	18.67470 AU
max. Earth dist.	11401 May 09 05:59	24° 8 00'34	20.27768 AU	direct	11408 Feb 19 22:27	19° II 24'19	
morning rise	11401 May 24 19:29	24° 8 56'17		evening set	11408 May 22 03:49	22° II 31'28	
retrograde	11401 Aug 24 09:38	28° 8 07'36					
opposition	11401 Nov 08 07:14	26° 8 08'16	-1°06'47	conjunction	11408 Jun 06 22:05	23° II 26'34	-0°50'51
min. Earth dist.	11401 Nov 08 01:04	26° 8 08'54	18.31189 AU	minimum elong	11408 Jun 06 22:05	23° II 26'34	0°51'33
direct	11402 Jan 24 09:25	24° 8 07'22		max. Earth dist.	11408 Jun 07 08:39	23° II 28'08	20.70075 AU
evening set	11402 Apr 27 16:03	27° 8 20'38		morning rise	11408 Jun 22 16:04	24° II 21'40	
				retrograde	11408 Sep 22 16:06	27° II 28'45	
conjunction	11402 May 13 12:20	28° 8 17'08	-0°59'54	opposition	11408 Dec 08 10:24	25° II 30'16	-0°55'01
minimum elong	11402 May 13 12:20	28° 8 17'08	1°00'27	min. Earth dist.	11408 Dec 07 23:26	25° II 31'23	18.72660 AU
max. Earth dist.	11402 May 13 19:29	28° 8 18'12	20.34535 AU	direct	11409 Feb 23 12:00	23° II 31'19	
morning rise	11402 May 29 07:13	29° 8 13'28		evening set	11409 May 26 11:15	26° II 37'34	
	11402 Jun 11 23:16	0° II					
retrograde	11402 Aug 28 22:53	2° II 24'07		conjunction	11409 Jun 11 05:19	27° II 32'29	-0°48'23
opposition	11402 Nov 12 23:17	0° II 25'01	-1°06'06	minimum elong	11409 Jun 11 05:19	27° II 32'29	0°49'05
min. Earth dist.	11402 Nov 12 15:53	0° II 25'46	18.37860 AU	max. Earth dist.	11409 Jun 11 16:29	27° II 34'07	20.75163 AU
	11402 Nov 23 05:36	30° R 8		morning rise	11409 Jun 26 23:22	28° II 27'25	
direct	11403 Jan 29 02:39	28° 8 24'28			11409 Jul 26 07:02	0° III	
	11403 Apr 02 01:15	0° II		retrograde	11409 Sep 27 01:01	1° III 34'03	
evening set	11403 May 02 04:07	1° II 36'41			11409 Dec 02 18:08	30° R II	
				opposition	11409 Dec 12 22:13	29° II 35'38	-0°52'08
conjunction	11403 May 17 23:48	2° II 32'55	-0°59'08	min. Earth dist.	11409 Dec 12 11:30	29° II 36'43	18.77656 AU
minimum elong	11403 May 17 23:48	2° II 32'55	0°59'44	direct	11410 Feb 27 21:31	27° II 36'56	
max. Earth dist.	11403 May 18 06:59	2° II 33'59	20.41099 AU		11410 May 18 00:13	0° III	
morning rise	11403 Jun 02 18:27	3° II 29'01		evening set	11410 May 30 17:59	0° III 42'20	
retrograde	11403 Sep 02 10:30	6° II 39'02					
opposition	11403 Nov 17 14:42	4° II 40'06	-1°05'04	conjunction	11410 Jun 15 12:02	1° III 37'05	-0°45'40
min. Earth dist.	11403 Nov 17 07:31	4° II 40'50	18.44318 AU	minimum elong	11410 Jun 15 12:02	1° III 37'05	0°46'24
direct	11404 Feb 02 16:23	2° II 39'52		max. Earth dist.	11410 Jun 15 23:57	1° III 38'50	20.80054 AU
evening set	11404 May 05 15:16	5° II 51'04		morning rise	11410 Jul 01 06:12	2° III 31'53	
				retrograde	11410 Oct 01 10:17	5° III 38'05	
conjunction	11404 May 21 10:38	6° II 47'03	-0°58'04	opposition	11410 Dec 17 09:18	3° III 39'47	-0°49'00
minimum elong	11404 May 21 10:38	6° II 47'03	0°58'41	min. Earth dist.	11410 Dec 16 20:58	3° III 41'01	18.82419 AU
max. Earth dist.	11404 May 21 18:45	6° II 48'15	20.47431 AU	direct	11411 Mar 04 09:15	1° III 41'20	
morning rise	11404 Jun 06 04:58	7° II 42'54		evening set	11411 Jun 04 00:20	4° III 45'57	
retrograde	11404 Sep 05 23:03	10° II 52'17					
opposition	11404 Nov 21 05:32	8° II 53'30	-1°03'41	conjunction	11411 Jun 19 18:18	5° III 40'33	-0°42'45
min. Earth dist.	11404 Nov 20 21:04	8° II 54'22	18.50504 AU	minimum elong	11411 Jun 19 18:18	5° III 40'33	0°43'28
direct	11405 Feb 06 08:33	6° II 53'35		max. Earth dist.	11411 Jun 20 06:42	5° III 42'22	20.84683 AU
evening set	11405 May 10 01:34	10° II 03'43		morning rise	11411 Jul 05 12:36	6° III 35'13	

retrograde	11411 Oct 05 18:24	9°☿41'04	evening set	11418 Jul 01 12:21	2°♄49'38
opposition	11411 Dec 21 20:03	7°☿42'51 -0°45'39			
min. Earth dist.	11411 Dec 21 08:15	7°☿44'02 18.86915 AU	conjunction	11418 Jul 17 07:26	3°♄43'40 -0°17'41
direct	11412 Mar 07 17:57	5°☿44'40	minimum elong	11418 Jul 17 07:26	3°♄43'40 0°18'19
evening set	11412 Jun 07 06:13	8°☿48'34	max. Earth dist.	11418 Jul 17 20:06	3°♄45'29 21.06221 AU
			morning rise	11418 Aug 02 03:59	4°♄37'55
conjunction	11412 Jun 23 00:14	9°☿43'02 -0°39'38	retrograde	11418 Nov 03 03:01	7°♄42'34
minimum elong	11412 Jun 23 00:14	9°☿43'02 0°40'21	opposition	11419 Jan 19 13:51	5°♄44'37 -0°17'20
max. Earth dist.	11412 Jun 23 13:08	9°☿44'55 20.89039 AU	min. Earth dist.	11419 Jan 19 01:14	5°♄45'53 19.06802 AU
morning rise	11412 Jul 08 18:44	10°☿37'36	direct	11419 Apr 06 02:41	3°♄47'39
retrograde	11412 Oct 09 03:32	13°☿43'08	evening set	11419 Jul 05 16:47	6°♄48'00
opposition	11412 Dec 25 06:23	11°☿45'01 -0°42'05			
min. Earth dist.	11412 Dec 24 17:07	11°☿46'21 18.91101 AU	conjunction	11419 Jul 21 12:09	7°♄42'02 -0°13'39
direct	11413 Mar 12 03:55	9°☿47'05	minimum elong	11419 Jul 21 12:09	7°♄42'02 0°14'15
evening set	11413 Jun 11 11:42	12°☿50'18	behind sun begin	11419 Jul 21 08:57	7°♄41'35
			behind sun end	11419 Jul 21 15:21	7°♄42'28
conjunction	11413 Jun 27 05:45	13°☿44'40 -0°36'20	max. Earth dist.	11419 Jul 22 00:41	7°♄43'49 21.07229 AU
minimum elong	11413 Jun 27 05:45	13°☿44'40 0°37'03	morning rise	11419 Aug 06 09:08	8°♄36'17
max. Earth dist.	11413 Jun 27 19:02	13°☿46'35 20.93046 AU	retrograde	11419 Nov 07 08:48	11°♄40'55
morning rise	11413 Jul 13 00:30	14°☿39'08	opposition	11420 Jan 23 22:11	9°♄42'53 -0°12'49
retrograde	11413 Oct 13 10:47	17°☿44'26	min. Earth dist.	11420 Jan 23 10:51	9°♄44'00 19.07555 AU
opposition	11413 Dec 29 16:30	15°☿46'24 -0°38'20	direct	11420 Apr 09 08:24	7°♄45'56
min. Earth dist.	11413 Dec 29 04:03	15°☿47'39 18.94925 AU	evening set	11420 Jul 08 21:05	10°♄45'59
direct	11414 Mar 16 11:57	13°☿48'43			
evening set	11414 Jun 15 16:59	16°☿51'19	conjunction	11420 Jul 24 16:49	11°♄40'00 -0°09'32
			minimum elong	11420 Jul 24 16:49	11°♄40'00 0°10'08
conjunction	11414 Jul 01 11:11	17°☿45'35 -0°32'53	behind sun begin	11420 Jul 24 11:32	11°♄39'16
minimum elong	11414 Jul 01 11:11	17°☿45'35 0°33'34	behind sun end	11420 Jul 24 22:07	11°♄40'45
max. Earth dist.	11414 Jul 02 00:36	17°☿47'31 20.96674 AU	max. Earth dist.	11420 Jul 25 05:05	11°♄41'45 21.07751 AU
morning rise	11414 Jul 17 06:13	18°☿39'58	morning rise	11420 Aug 09 14:20	12°♄34'16
retrograde	11414 Oct 17 20:00	21°☿45'02		11420 Oct 01 11:08	15°♄
opposition	11415 Jan 03 01:56	19°☿47'06 -0°34'24	retrograde	11420 Nov 10 17:13	15°♄38'57
min. Earth dist.	11415 Jan 02 12:25	19°☿48'27 18.98330 AU		11420 Dec 21 23:41	15°♄
direct	11415 Mar 20 20:45	17°☿49'37	opposition	11421 Jan 27 06:09	13°♄40'48 -0°08'14
evening set	11415 Jun 19 22:09	20°☿51'41	min. Earth dist.	11421 Jan 26 17:58	13°♄42'01 19.07845 AU
			direct	11421 Apr 13 15:52	11°♄43'51
conjunction	11415 Jul 05 16:27	21°☿45'52 -0°29'16	evening set	11421 Jul 13 01:17	14°♄43'41
minimum elong	11415 Jul 05 16:27	21°☿45'52 0°29'57		11421 Jul 17 21:16	15°♄
max. Earth dist.	11415 Jul 06 05:55	21°☿47'48 20.99842 AU			
morning rise	11415 Jul 21 11:47	22°☿40'12	conjunction	11421 Jul 28 21:24	15°♄37'43 -0°05'24
retrograde	11415 Oct 22 02:39	25°☿45'06	minimum elong	11421 Jul 28 21:24	15°♄37'43 0°05'57
opposition	11416 Jan 07 11:26	23°☿47'13 -0°30'19	behind sun begin	11421 Jul 28 15:07	15°♄36'51
min. Earth dist.	11416 Jan 06 23:03	23°☿48'27 19.01260 AU	behind sun end	11421 Jul 29 03:41	15°♄38'36
direct	11416 Mar 24 03:50	21°☿49'56	max. Earth dist.	11421 Jul 29 09:43	15°♄39'28 21.07817 AU
evening set	11416 Jun 23 02:58	24°☿51'30	morning rise	11421 Aug 13 19:26	16°♄32'02
			retrograde	11421 Nov 14 23:21	19°♄36'48
conjunction	11416 Jul 08 21:28	25°☿45'36 -0°25'31	opposition	11422 Jan 31 14:04	17°♄38'31 -0°03'38
minimum elong	11416 Jul 08 21:28	25°☿45'36 0°26'10	min. Earth dist.	11422 Jan 31 02:59	17°♄39'38 19.07708 AU
max. Earth dist.	11416 Jul 09 10:46	25°☿47'31 21.02521 AU	direct	11422 Apr 17 21:04	15°♄41'34
morning rise	11416 Jul 24 17:09	26°☿39'53	evening set	11422 Jul 17 05:37	18°♄41'16
retrograde	11416 Oct 25 11:58	29°☿44'42			
opposition	11417 Jan 10 20:32	27°☿46'49 -0°26'06	conjunction	11422 Aug 02 02:11	19°♄35'20 -0°01'13
min. Earth dist.	11417 Jan 10 07:16	27°☿48'09 19.03668 AU	minimum elong	11422 Aug 02 02:10	19°♄35'20 0°01'44
direct	11417 Mar 28 12:19	25°☿49'41	behind sun begin	11422 Aug 01 19:35	19°♄34'25
evening set	11417 Jun 27 07:47	28°☿50'48	behind sun end	11422 Aug 02 08:45	19°♄36'15
			max. Earth dist.	11422 Aug 02 14:08	19°♄37'02 21.07487 AU
conjunction	11417 Jul 13 02:31	29°☿44'52 -0°21'39	morning rise	11422 Aug 18 00:44	20°♄29'41
minimum elong	11417 Jul 13 02:31	29°☿44'52 0°22'18	asc. node	11422 Nov 17 13:28	23°♄34'32
max. Earth dist.	11417 Jul 13 15:38	29°☿46'45 21.04647 AU	retrograde	11422 Nov 19 07:23	23°♄34'36
	11417 Jul 17 11:44	0°♄	opposition	11423 Feb 04 21:32	21°♄36'13 0°01'00
morning rise	11417 Jul 28 22:36	0°♄39'08	min. Earth dist.	11423 Feb 04 09:39	21°♄37'25 19.07181 AU
retrograde	11417 Oct 29 18:08	3°♄43'51	direct	11423 Apr 22 03:40	19°♄39'16
opposition	11418 Jan 15 05:24	1°♄45'57 -0°21'46	evening set	11423 Jul 21 10:04	22°♄38'54
min. Earth dist.	11418 Jan 14 17:28	1°♄47'09 19.05517 AU			
	11418 Mar 11 12:26	30°♄	conjunction	11423 Aug 06 07:02	23°♄33'01 0°03'05
direct	11418 Apr 01 18:29	29°☿48'56	minimum elong	11423 Aug 06 07:02	23°♄33'01 0°02'37
	11418 Apr 22 17:47	0°♄	behind sun begin	11423 Aug 06 00:27	23°♄32'06

behind sun end	11423 Aug 06 13:37	23° Ω 33'56		conjunction	11429 Aug 29 19:04	17° η 29'47	0°27'15
max. Earth dist.	11423 Aug 06 19:00	23° Ω 34'43	21.06763 AU	minimum elong	11429 Aug 29 19:04	17° η 29'47	0°27'02
morning rise	11423 Aug 22 06:07	24° Ω 27'27		max. Earth dist.	11429 Aug 30 04:13	17° η 31'05	20.94205 AU
retrograde	11423 Nov 23 14:07	27° Ω 32'34		morning rise	11429 Sep 14 21:53	18° η 24'58	
opposition	11424 Feb 09 05:16	25° Ω 34'05	0°05'37	retrograde	11429 Dec 17 18:56	21° η 32'24	
min. Earth dist.	11424 Feb 08 18:27	25° Ω 35'10	19.06274 AU	opposition	11430 Mar 05 04:39	19° η 33'17	0°32'13
direct	11424 Apr 25 08:16	23° Ω 37'08		min. Earth dist.	11430 Mar 04 21:06	19° η 34'03	18.92433 AU
evening set	11424 Jul 24 14:31	26° Ω 36'46		direct	11430 May 19 17:52	17° η 36'02	
				evening set	11430 Aug 18 02:02	20° η 37'08	
conjunction	11424 Aug 09 11:59	27° Ω 30'57	0°07'15				
minimum elong	11424 Aug 09 11:59	27° Ω 30'57	0°06'48	conjunction	11430 Sep 03 02:52	21° η 32'06	0°30'59
behind sun begin	11424 Aug 09 05:50	27° Ω 30'06		minimum elong	11430 Sep 03 02:52	21° η 32'06	0°30'50
behind sun end	11424 Aug 09 18:07	27° Ω 31'49		max. Earth dist.	11430 Sep 03 10:38	21° η 33'13	20.90522 AU
max. Earth dist.	11424 Aug 09 23:36	27° Ω 32'36	21.05680 AU	morning rise	11430 Sep 19 06:22	22° η 27'28	
morning rise	11424 Aug 25 11:41	28° Ω 25'28		retrograde	11430 Dec 22 06:07	25° η 35'24	
	11424 Sep 25 05:37	0° η		opposition	11431 Mar 09 13:09	23° η 36'06	0°36'16
retrograde	11424 Nov 26 22:38	1° η 30'52		min. Earth dist.	11431 Mar 09 05:48	23° η 36'50	18.88492 AU
	11425 Jan 31 22:04	30° κ Ω		direct	11431 May 24 00:51	21° η 38'40	
opposition	11425 Feb 12 12:52	29° Ω 32'17	0°10'13	evening set	11431 Aug 22 09:44	24° η 40'13	
min. Earth dist.	11425 Feb 12 01:19	29° Ω 33'27	19.04999 AU				
direct	11425 Apr 29 14:36	27° Ω 35'19		conjunction	11431 Sep 07 11:14	25° η 35'22	0°34'35
	11425 Jul 18 02:49	0° η		minimum elong	11431 Sep 07 11:14	25° η 35'22	0°34'27
evening set	11425 Jul 28 19:24	0° η 35'02		max. Earth dist.	11431 Sep 07 18:19	25° η 36'23	20.86325 AU
				morning rise	11431 Sep 23 15:20	26° η 30'55	
conjunction	11425 Aug 13 17:22	1° η 29'19	0°11'22	retrograde	11431 Dec 26 15:48	29° η 39'22	
minimum elong	11425 Aug 13 17:23	1° η 29'19	0°10'58	opposition	11432 Mar 12 22:06	27° η 39'50	0°40'10
behind sun begin	11425 Aug 13 12:23	1° η 28'37		min. Earth dist.	11432 Mar 12 16:21	27° η 40'25	18.84056 AU
behind sun end	11425 Aug 13 22:22	1° η 30'01		direct	11432 May 27 07:39	25° η 42'12	
max. Earth dist.	11425 Aug 14 04:54	1° η 30'57	21.04208 AU	evening set	11432 Aug 25 17:49	28° η 44'12	
morning rise	11425 Aug 29 17:40	2° η 23'56					
retrograde	11425 Dec 01 05:50	5° η 29'39		conjunction	11432 Sep 10 19:59	29° η 39'33	0°38'01
opposition	11426 Feb 16 20:28	3° η 30'59	0°14'47	minimum elong	11432 Sep 10 19:59	29° η 39'33	0°37'57
min. Earth dist.	11426 Feb 16 10:13	3° η 32'01	19.03338 AU	max. Earth dist.	11432 Sep 11 01:43	29° η 40'22	20.81679 AU
direct	11426 May 03 18:47	1° η 34'00			11432 Sep 16 17:32	0° Ω	
evening set	11426 Aug 02 00:35	4° η 33'52		morning rise	11432 Sep 27 00:52	0° Ω 35'18	
				retrograde	11432 Dec 30 03:47	3° Ω 44'18	
conjunction	11426 Aug 17 23:06	5° η 28'15	0°15'27	opposition	11433 Mar 17 07:09	1° Ω 44'30	0°43'54
minimum elong	11426 Aug 17 23:06	5° η 28'15	0°15'05	min. Earth dist.	11433 Mar 17 01:38	1° Ω 45'04	18.79201 AU
behind sun begin	11426 Aug 17 20:44	5° η 27'56			11433 May 08 15:21	30° κ η	
behind sun end	11426 Aug 18 01:28	5° η 28'35		direct	11433 May 31 15:20	29° η 46'36	
max. Earth dist.	11426 Aug 18 09:59	5° η 29'48	21.02360 AU		11433 Jun 23 09:15	0° Ω	
morning rise	11426 Sep 03 00:03	6° η 23'00		evening set	11433 Aug 30 02:36	2° Ω 49'09	
retrograde	11426 Dec 05 15:27	9° η 29'04					
opposition	11427 Feb 21 04:09	7° η 30'19	0°19'17	conjunction	11433 Sep 15 05:29	3° Ω 44'42	0°41'16
min. Earth dist.	11427 Feb 20 17:29	7° η 31'23	19.01283 AU	minimum elong	11433 Sep 15 05:28	3° Ω 44'42	0°41'15
direct	11427 May 08 01:05	5° η 33'18		max. Earth dist.	11433 Sep 15 10:44	3° Ω 45'28	20.76625 AU
evening set	11427 Aug 06 06:08	8° η 33'23		morning rise	11433 Oct 01 10:57	4° Ω 40'40	
				retrograde	11434 Jan 03 13:51	7° Ω 50'13	
conjunction	11427 Aug 22 05:11	9° η 27'54	0°19'28	opposition	11434 Mar 21 16:23	5° Ω 50'10	0°47'24
minimum elong	11427 Aug 22 05:11	9° η 27'54	0°19'09	min. Earth dist.	11434 Mar 21 12:17	5° Ω 50'35	18.73979 AU
max. Earth dist.	11427 Aug 22 15:50	9° η 29'25	21.00087 AU	direct	11434 Jun 04 22:48	3° Ω 52'00	
morning rise	11427 Sep 07 06:42	10° η 22'47		evening set	11434 Sep 03 11:58	6° Ω 55'09	
retrograde	11427 Dec 09 23:16	13° η 29'16					
opposition	11428 Feb 25 12:10	11° η 30'25	0°23'41	conjunction	11434 Sep 19 15:29	7° Ω 50'56	0°44'20
min. Earth dist.	11428 Feb 25 02:57	11° η 31'21	18.98797 AU	minimum elong	11434 Sep 19 15:28	7° Ω 50'55	0°44'21
direct	11428 May 11 05:43	9° η 33'22		max. Earth dist.	11434 Sep 19 19:24	7° Ω 51'30	20.71261 AU
evening set	11428 Aug 09 12:13	12° η 33'44		morning rise	11434 Oct 05 21:42	8° Ω 47'06	
				retrograde	11435 Jan 08 02:53	11° Ω 57'16	
conjunction	11428 Aug 25 11:50	13° η 28'23	0°23'25	opposition	11435 Mar 26 01:57	9° Ω 56'57	0°50'42
minimum elong	11428 Aug 25 11:50	13° η 28'23	0°23'09	min. Earth dist.	11435 Mar 25 22:01	9° Ω 57'21	18.68481 AU
max. Earth dist.	11428 Aug 25 21:34	13° η 29'47	20.97389 AU	direct	11435 Jun 09 07:15	7° Ω 58'30	
morning rise	11428 Sep 10 14:02	14° η 23'24		evening set	11435 Sep 07 21:48	11° Ω 02'19	
retrograde	11428 Dec 13 09:58	17° η 30'22					
opposition	11429 Feb 28 20:13	15° η 31'23	0°28'01	conjunction	11435 Sep 24 02:02	11° Ω 58'19	0°47'10
min. Earth dist.	11429 Feb 28 10:58	15° η 32'19	18.95867 AU	minimum elong	11435 Sep 24 02:01	11° Ω 58'19	0°47'16
direct	11429 May 15 12:13	13° η 34'16		max. Earth dist.	11435 Sep 24 05:48	11° Ω 58'52	20.65632 AU
evening set	11429 Aug 13 18:49	16° η 34'58		morning rise	11435 Oct 10 08:48	12° Ω 54'44	

retrograde	11436 Jan 12 13:58	16° <u>05</u> '33		evening set	11442 Oct 07 18:22	10° <u>13</u> '18	
opposition	11436 Mar 29 12:00	14° <u>04</u> '58	0°53'44				
min. Earth dist.	11436 Mar 29 09:10	14° <u>05</u> '16	18.62749 AU	conjunction	11442 Oct 24 03:21	11° <u>13</u> '51	0°59'38
direct	11436 Jun 12 15:04	12° <u>06</u> '15		minimum elong	11442 Oct 24 03:20	11° <u>13</u> '51	1°00'05
evening set	11436 Sep 11 08:30	15° <u>01</u> '48		max. Earth dist.	11442 Oct 24 00:13	11° <u>13</u> '47	20.22422 AU
				morning rise	11442 Nov 09 14:31	12° <u>13</u> '33	
conjunction	11436 Sep 27 13:22	16° <u>07</u> '03	0°49'47		11442 Dec 29 11:14	15° <u>13</u> '	
minimum elong	11436 Sep 27 13:22	16° <u>07</u> '03	0°49'54	retrograde	11443 Feb 12 00:02	15° <u>13</u> '49	39
max. Earth dist.	11436 Sep 27 15:47	16° <u>07</u> '24	20.59816 AU		11443 Mar 29 10:14	15° <u>13</u> '	
morning rise	11436 Oct 13 20:54	17° <u>03</u> '42		opposition	11443 Apr 28 23:38	13° <u>13</u> '47	50
retrograde	11437 Jan 16 04:17	20° <u>15</u> '13		min. Earth dist.	11443 Apr 29 02:18	13° <u>13</u> '47	33
opposition	11437 Apr 02 22:16	18° <u>14</u> '23	0°56'30	direct	11443 Jul 12 18:19	11° <u>13</u> '47	18
min. Earth dist.	11437 Apr 02 19:40	18° <u>14</u> '39	18.56855 AU	evening set	11443 Oct 12 11:10	14° <u>13</u> '58	32
direct	11437 Jun 17 00:32	16° <u>15</u> '23			11443 Oct 12 21:17	15° <u>13</u> '	
evening set	11437 Sep 15 19:55	19° <u>15</u> '44					
				conjunction	11443 Oct 28 20:58	15° <u>13</u> '56	48
conjunction	11437 Oct 02 01:34	20° <u>17</u> '15	0°52'08	minimum elong	11443 Oct 28 20:58	15° <u>13</u> '56	48
minimum elong	11437 Oct 02 01:34	20° <u>17</u> '15	0°52'20	max. Earth dist.	11443 Oct 28 17:41	15° <u>13</u> '56	19
max. Earth dist.	11437 Oct 02 03:54	20° <u>17</u> '36	20.53837 AU	morning rise	11443 Nov 14 08:30	16° <u>13</u> '55	23
morning rise	11437 Oct 18 09:39	21° <u>14</u> '10		retrograde	11444 Feb 16 17:36	20° <u>13</u> '12	14
retrograde	11438 Jan 20 16:51	24° <u>16</u> '22		opposition	11444 May 02 14:05	18° <u>13</u> '10	15
opposition	11438 Apr 07 09:07	22° <u>15</u> '21	0°59'00	min. Earth dist.	11444 May 02 17:38	18° <u>13</u> '09	52
min. Earth dist.	11438 Apr 07 07:32	22° <u>15</u> '31	18.50811 AU	direct	11444 Jul 16 08:47	16° <u>13</u> '09	23
direct	11438 Jun 21 08:50	20° <u>16</u> '06		evening set	11444 Oct 16 05:14	19° <u>13</u> '21	41
evening set	11438 Sep 20 08:09	23° <u>16</u> '32	18				
				conjunction	11444 Nov 01 15:33	20° <u>13</u> '20	15
conjunction	11438 Oct 06 14:24	24° <u>19</u> '05	0°54'14	minimum elong	11444 Nov 01 15:32	20° <u>13</u> '20	15
minimum elong	11438 Oct 06 14:23	24° <u>19</u> '05	0°54'27	max. Earth dist.	11444 Nov 01 09:49	20° <u>13</u> '19	24
max. Earth dist.	11438 Oct 06 15:14	24° <u>19</u> '12	20.47744 AU	morning rise	11444 Nov 18 03:46	21° <u>13</u> '19	07
morning rise	11438 Oct 22 23:12	25° <u>16</u> '26	16	retrograde	11445 Feb 20 11:14	24° <u>13</u> '36	43
retrograde	11439 Jan 25 08:23	28° <u>13</u> '39	13	opposition	11445 May 07 05:04	22° <u>13</u> '34	31
opposition	11439 Apr 11 20:24	26° <u>13</u> '80	1°01'11	min. Earth dist.	11445 May 07 10:01	22° <u>13</u> '33	59
min. Earth dist.	11439 Apr 11 19:12	26° <u>13</u> '08	18.44671 AU	direct	11445 Jul 20 23:22	20° <u>13</u> '33	17
direct	11439 Jun 25 19:35	24° <u>13</u> '30	30	evening set	11445 Oct 21 00:01	23° <u>13</u> '46	40
evening set	11439 Sep 24 21:12	27° <u>13</u> '45	37				
				conjunction	11445 Nov 06 11:08	24° <u>13</u> '45	32
conjunction	11439 Oct 11 04:15	28° <u>14</u> '21	0°56'02	minimum elong	11445 Nov 06 11:08	24° <u>13</u> '45	32
minimum elong	11439 Oct 11 04:15	28° <u>14</u> '21	0°56'19	max. Earth dist.	11445 Nov 06 05:19	24° <u>13</u> '44	40
max. Earth dist.	11439 Oct 11 05:09	28° <u>14</u> '29	20.41552 AU	morning rise	11445 Nov 22 23:39	25° <u>13</u> '44	41
morning rise	11439 Oct 27 13:33	29° <u>14</u> '40	08	retrograde	11446 Feb 25 06:14	29° <u>13</u> '02	57
	11439 Nov 02 09:26	0° <u>13</u> '		opposition	11446 May 11 20:40	27° <u>13</u> '00	33
retrograde	11440 Jan 29 22:31	2° <u>13</u> '53	52	min. Earth dist.	11446 May 12 02:10	26° <u>13</u> '59	58
opposition	11440 Apr 15 08:20	0° <u>13</u> '52	29	direct	11446 Jul 25 15:34	24° <u>13</u> '58	57
min. Earth dist.	11440 Apr 15 08:03	0° <u>13</u> '52	31	evening set	11446 Oct 25 19:41	28° <u>13</u> '13	24
	11440 May 07 00:01	30° <u>13</u> '	45				
direct	11440 Jun 29 05:19	28° <u>15</u> '22	45	conjunction	11446 Nov 11 07:13	29° <u>13</u> '12	34
	11440 Aug 19 19:25	0° <u>13</u> '		minimum elong	11446 Nov 11 07:13	29° <u>13</u> '12	34
evening set	11440 Sep 28 11:12	2° <u>13</u> '00	50	max. Earth dist.	11446 Nov 10 23:13	29° <u>13</u> '11	22
					11446 Nov 24 11:15	0° <u>13</u> '	
conjunction	11440 Oct 14 18:52	2° <u>13</u> '58	12	morning rise	11446 Nov 27 20:19	0° <u>13</u> '11	59
minimum elong	11440 Oct 14 18:52	2° <u>13</u> '58	11	retrograde	11447 Mar 02 01:07	3° <u>13</u> '11	59
max. Earth dist.	11440 Oct 14 18:02	2° <u>13</u> '58	04	opposition	11447 May 16 12:57	1° <u>13</u> '11	59
morning rise	11440 Oct 31 04:57	3° <u>13</u> '55	56	min. Earth dist.	11447 May 16 19:49	1° <u>13</u> '11	59
retrograde	11441 Feb 02 15:10	7° <u>13</u> '10	27		11447 Jun 24 00:21	30° <u>13</u> '	
opposition	11441 Apr 19 20:49	5° <u>13</u> '08	55	direct	11447 Jul 30 07:25	29° <u>13</u> '26	18
min. Earth dist.	11441 Apr 19 21:18	5° <u>13</u> '08	52		11447 Sep 03 23:18	0° <u>13</u> '	
direct	11441 Jul 03 17:11	3° <u>13</u> '08	56	evening set	11447 Oct 30 16:07	2° <u>13</u> '11	50
evening set	11441 Oct 03 02:14	6° <u>13</u> '18	02				
				conjunction	11447 Nov 16 04:24	3° <u>13</u> '11	50
conjunction	11441 Oct 19 10:42	7° <u>13</u> '15	43	minimum elong	11447 Nov 16 04:24	3° <u>13</u> '11	50
minimum elong	11441 Oct 19 10:42	7° <u>13</u> '15	43	max. Earth dist.	11447 Nov 15 20:38	3° <u>13</u> '11	50
max. Earth dist.	11441 Oct 19 09:47	7° <u>13</u> '15	35	morning rise	11447 Dec 02 17:44	4° <u>13</u> '11	50
morning rise	11441 Nov 04 21:10	8° <u>13</u> '13	43	retrograde	11448 Mar 05 21:41	8° <u>13</u> '11	50
retrograde	11442 Feb 07 06:58	11° <u>13</u> '29	01	opposition	11448 May 20 05:40	5° <u>13</u> '11	50
opposition	11442 Apr 24 09:49	9° <u>13</u> '27	22	min. Earth dist.	11448 May 20 12:38	5° <u>13</u> '11	50
min. Earth dist.	11442 Apr 24 11:22	9° <u>13</u> '27	12	direct	11448 Aug 03 00:45	3° <u>13</u> '11	50
direct	11442 Jul 08 05:14	7° <u>13</u> '27	08	evening set	11448 Nov 03 13:33	7° <u>13</u> '11	50

conjunction	11448 Nov 20 02:14	8°♊11'42	0°57'39	retrograde	11455 Apr 08 10:38	10°♊13'29	
minimum elong	11448 Nov 20 02:14	8°♊11'42	0°58'17	opposition	11455 Jun 21 20:56	8°♊10'01	0°45'44
max. Earth dist.	11448 Nov 19 16:32	8°♊10'14	19.82233 AU	min. Earth dist.	11455 Jun 22 07:38	8°♊08'51	17.47991 AU
morning rise	11448 Dec 06 16:05	9°♊11'39		direct	11455 Sep 04 17:55	6°♊05'34	
retrograde	11449 Mar 10 18:09	12°♊31'53		evening set	11455 Dec 07 17:05	9°♊29'24	
opposition	11449 May 24 23:09	10°♊28'51	1°03'21				
min. Earth dist.	11449 May 25 07:28	10°♊27'57	17.79068 AU	conjunction	11455 Dec 24 08:04	10°♊30'51	0°39'08
direct	11449 Aug 07 17:49	8°♊26'02		minimum elong	11455 Dec 24 08:05	10°♊30'51	0°39'51
evening set	11449 Nov 08 11:40	11°♊43'44		max. Earth dist.	11455 Dec 23 19:29	10°♊28'54	19.46059 AU
				morning rise	11456 Jan 09 22:37	11°♊32'15	
conjunction	11449 Nov 25 00:58	12°♊43'46	0°56'03	retrograde	11456 Apr 12 12:04	14°♊55'59	
minimum elong	11449 Nov 25 00:58	12°♊43'46	0°56'43	opposition	11456 Jun 25 18:36	12°♊52'32	0°41'34
max. Earth dist.	11449 Nov 24 15:36	12°♊42'20	19.75935 AU	min. Earth dist.	11456 Jun 26 04:51	12°♊51'25	17.44243 AU
morning rise	11449 Dec 11 14:57	13°♊43'57		direct	11456 Sep 08 18:24	10°♊47'54	
retrograde	11450 Mar 15 16:03	17°♊04'46		evening set	11456 Dec 11 20:34	14°♊12'37	
opposition	11450 May 29 17:03	15°♊01'35	1°01'23				
min. Earth dist.	11450 May 30 01:04	15°♊00'43	17.72911 AU	conjunction	11456 Dec 28 11:40	15°♊14'13	0°35'14
direct	11450 Aug 12 12:40	12°♊58'24		minimum elong	11456 Dec 28 11:40	15°♊14'13	0°35'57
evening set	11450 Nov 13 10:43	16°♊17'09		max. Earth dist.	11456 Dec 27 22:48	15°♊12'14	19.42490 AU
				morning rise	11457 Jan 14 01:56	16°♊15'45	
conjunction	11450 Nov 30 00:18	17°♊17'27	0°54'05	retrograde	11457 Apr 17 11:33	19°♊39'47	
minimum elong	11450 Nov 30 00:18	17°♊17'27	0°54'46	opposition	11457 Jun 30 17:09	17°♊36'22	0°37'05
max. Earth dist.	11450 Nov 29 13:27	17°♊15'48	19.69940 AU	min. Earth dist.	11457 Jul 01 04:44	17°♊35'06	17.40865 AU
morning rise	11450 Dec 16 14:36	18°♊17'54		direct	11457 Sep 13 16:52	15°♊31'32	
retrograde	11451 Mar 20 13:28	21°♊39'17		evening set	11457 Dec 17 00:28	18°♊57'03	
opposition	11451 Jun 03 11:49	19°♊35'56	0°59'01				
min. Earth dist.	11451 Jun 03 21:04	19°♊34'56	17.67103 AU	conjunction	11458 Jan 02 15:26	19°♊58'48	0°31'05
direct	11451 Aug 17 06:42	17°♊32'25		minimum elong	11458 Jan 02 15:26	19°♊58'48	0°31'47
evening set	11451 Nov 18 10:17	20°♊52'14		max. Earth dist.	11458 Jan 02 01:34	19°♊56'38	19.39307 AU
				morning rise	11458 Jan 19 05:34	21°♊00'25	
conjunction	11451 Dec 05 00:25	21°♊52'48	0°51'45	retrograde	11458 Apr 22 13:12	24°♊24'41	
minimum elong	11451 Dec 05 00:25	21°♊52'48	0°52'27	opposition	11458 Jul 05 15:58	22°♊21'17	0°32'20
max. Earth dist.	11451 Dec 04 13:56	21°♊51'11	19.64326 AU	min. Earth dist.	11458 Jul 06 03:04	22°♊20'04	17.37875 AU
morning rise	11451 Dec 21 14:51	22°♊53'28		direct	11458 Sep 18 19:21	20°♊16'16	
retrograde	11452 Mar 24 12:54	26°♊15'24		evening set	11458 Dec 22 04:41	23°♊42'29	
opposition	11452 Jun 07 07:05	24°♊11'57	0°56'15				
min. Earth dist.	11452 Jun 07 15:43	24°♊11'01	17.61683 AU	conjunction	11459 Jan 07 19:40	24°♊44'20	0°26'42
direct	11452 Aug 21 03:32	22°♊08'09		minimum elong	11459 Jan 07 19:41	24°♊44'20	0°27'23
evening set	11452 Nov 22 10:58	25°♊29'00		max. Earth dist.	11459 Jan 07 06:13	24°♊42'15	19.36514 AU
				morning rise	11459 Jan 24 09:21	25°♊46'02	
conjunction	11452 Dec 09 01:20	26°♊29'49	0°49'05	retrograde	11459 Apr 27 13:04	29°♊10'27	
minimum elong	11452 Dec 09 01:20	26°♊29'49	0°49'48	opposition	11459 Jul 10 15:19	27°♊07'05	0°27'20
max. Earth dist.	11452 Dec 08 13:47	26°♊28'02	19.59113 AU	min. Earth dist.	11459 Jul 11 03:24	27°♊05'45	17.35295 AU
morning rise	11452 Dec 25 15:55	27°♊30'41		direct	11459 Sep 23 19:33	25°♊01'53	
	11453 Feb 12 11:12	0°♊		evening set	11459 Dec 27 09:16	28°♊28'43	
retrograde	11453 Mar 29 10:53	0°♊53'07					
	11453 May 14 09:40	30°♊♊		conjunction	11460 Jan 12 23:59	29°♊30'38	0°22'08
opposition	11453 Jun 12 03:02	28°♊49'38	0°53'06	minimum elong	11460 Jan 12 23:59	29°♊30'38	0°22'48
min. Earth dist.	11453 Jun 12 12:59	28°♊48'33	17.56691 AU	max. Earth dist.	11460 Jan 12 09:23	29°♊28'21	19.34166 AU
direct	11453 Aug 25 22:41	26°♊45'35			11460 Jan 20 19:43	0°♊	
	11453 Nov 25 10:25	0°♊		morning rise	11460 Jan 29 13:28	0°♊32'23	
evening set	11453 Nov 27 12:17	0°♊07'28		retrograde	11460 May 01 14:41	3°♊56'53	
				opposition	11460 Jul 14 14:54	1°♊53'31	0°22'08
conjunction	11453 Dec 14 02:59	1°♊08'31	0°46'04	min. Earth dist.	11460 Jul 15 02:35	1°♊52'14	17.33174 AU
minimum elong	11453 Dec 14 03:00	1°♊08'31	0°46'47		11460 Sep 06 19:05	30°♊♊	
max. Earth dist.	11453 Dec 13 15:29	1°♊06'44	19.54346 AU	direct	11460 Sep 27 22:26	29°♊48'07	
morning rise	11453 Dec 30 17:37	2°♊09'35			11460 Oct 18 19:31	0°♊	
retrograde	11454 Apr 03 11:39	5°♊32'30		evening set	11460 Dec 31 13:58	3°♊15'29	
opposition	11454 Jun 16 23:34	3°♊29'01	0°49'36				
min. Earth dist.	11454 Jun 17 08:52	3°♊28'00	17.52132 AU	conjunction	11461 Jan 17 04:34	4°♊17'28	0°17'24
direct	11454 Aug 30 21:14	1°♊24'45		minimum elong	11461 Jan 17 04:34	4°♊17'28	0°18'02
evening set	11454 Dec 02 14:16	4°♊47'38		max. Earth dist.	11461 Jan 16 14:57	4°♊15'20	19.32278 AU
				morning rise	11461 Feb 02 17:25	5°♊19'13	
conjunction	11454 Dec 19 05:08	5°♊48'53	0°42'45	retrograde	11461 May 06 15:40	8°♊43'43	
minimum elong	11454 Dec 19 05:08	5°♊48'53	0°43'29	opposition	11461 Jul 19 14:49	6°♊40'22	0°16'46
max. Earth dist.	11454 Dec 18 17:06	5°♊47'01	19.49995 AU	min. Earth dist.	11461 Jul 20 02:56	6°♊39'03	17.31533 AU
morning rise	11455 Jan 04 19:42	6°♊50'08		direct	11461 Oct 02 23:55	4°♊34'49	

evening set	11462 Jan 05 18:51	8° \approx 02'35		evening set	11467 Jan 30 16:35	1° \times 56'59	
conjunction	11462 Jan 22 08:57	9° \approx 04'35	0°12'32	conjunction	11467 Feb 16 04:02	2° \times 58'38	-0°12'29
minimum elong	11462 Jan 22 08:57	9° \approx 04'35	0°13'08	minimum elong	11467 Feb 16 04:02	2° \times 58'38	0°12'06
behind sun begin	11462 Jan 22 05:02	9° \approx 03'59		behind sun begin	11467 Feb 15 23:31	2° \times 57'56	
behind sun end	11462 Jan 22 12:52	9° \approx 05'11		behind sun end	11467 Feb 16 08:33	2° \times 59'19	
max. Earth dist.	11462 Jan 21 18:21	9° \approx 02'18	19.30911 AU	max. Earth dist.	11467 Feb 15 17:28	2° \times 56'59	19.33138 AU
morning rise	11462 Feb 07 21:27	10° \approx 06'21		morning rise	11467 Mar 04 12:57	3° \times 59'55	
retrograde	11462 May 11 16:54	13° \approx 30'47		retrograde	11467 Jun 04 20:01	7° \times 23'07	
opposition	11462 Jul 24 14:57	11° \approx 27'26	0°11'17	opposition	11467 Aug 17 17:19	5° \times 20'16	-0°16'32
min. Earth dist.	11462 Jul 25 02:38	11° \approx 26'10	17.30446 AU	min. Earth dist.	11467 Aug 18 01:57	5° \times 19'20	17.34230 AU
direct	11462 Oct 08 01:58	9° \approx 21'44		direct	11467 Nov 01 15:31	3° \times 14'35	
evening set	11463 Jan 10 23:22	12° \approx 49'49		evening set	11468 Feb 04 20:15	6° \times 42'50	
conjunction	11463 Jan 27 13:14	13° \approx 51'49	0°07'35	conjunction	11468 Feb 21 06:53	7° \times 44'20	-0°17'20
minimum elong	11463 Jan 27 13:14	13° \approx 51'49	0°08'10	minimum elong	11468 Feb 21 06:53	7° \times 44'20	0°16'59
behind sun begin	11463 Jan 27 07:16	13° \approx 50'54		max. Earth dist.	11468 Feb 20 20:34	7° \times 42'44	19.35458 AU
behind sun end	11463 Jan 27 19:12	13° \approx 52'44		morning rise	11468 Mar 08 15:01	8° \times 45'28	
max. Earth dist.	11463 Jan 27 00:11	13° \approx 49'46	19.30104 AU	retrograde	11468 Jun 08 18:13	12° \times 08'16	
morning rise	11463 Feb 13 01:00	14° \approx 53'32		opposition	11468 Aug 21 17:57	10° \times 05'37	-0°21'52
	11463 Feb 14 19:18	15° \approx		min. Earth dist.	11468 Aug 22 02:46	10° \times 04'40	17.36827 AU
retrograde	11463 May 16 18:45	18° \approx 17'49		direct	11468 Nov 05 17:21	8° \times 00'05	
opposition	11463 Jul 29 15:18	16° \approx 14'31	0°05'43	evening set	11469 Feb 08 23:24	11° \times 28'07	
min. Earth dist.	11463 Jul 30 02:43	16° \approx 13'16	17.29926 AU				
	11463 Aug 29 00:38	15° \times		conjunction	11469 Feb 25 09:16	12° \times 29'25	-0°22'02
direct	11463 Oct 13 04:22	14° \approx 08'43		minimum elong	11469 Feb 25 09:15	12° \times 29'25	0°21'46
	11463 Nov 26 08:38	15° \approx		max. Earth dist.	11469 Feb 24 23:55	12° \times 27'58	19.38309 AU
evening set	11464 Jan 16 04:07	17° \approx 37'00		morning rise	11469 Mar 13 16:31	13° \times 30'21	
conjunction	11464 Feb 01 17:20	18° \approx 38'57	0°02'36	retrograde	11469 Jun 13 18:43	16° \times 52'44	
minimum elong	11464 Feb 01 17:20	18° \approx 38'57	0°03'07	opposition	11469 Aug 26 18:24	14° \times 50'18	-0°27'03
behind sun begin	11464 Feb 01 10:38	18° \approx 37'55		min. Earth dist.	11469 Aug 27 01:45	14° \times 49'30	17.39908 AU
behind sun end	11464 Feb 02 00:02	18° \approx 39'59		direct	11469 Nov 10 21:40	12° \times 44'56	
max. Earth dist.	11464 Feb 01 03:39	18° \approx 36'49	19.29893 AU	evening set	11470 Feb 14 02:08	16° \times 12'37	
morning rise	11464 Feb 18 04:37	19° \approx 40'37		conjunction	11470 Mar 02 11:08	17° \times 13'44	-0°26'36
retrograde	11464 May 20 18:42	23° \approx 04'42		minimum elong	11470 Mar 02 11:08	17° \times 13'44	0°26'22
opposition	11464 Aug 02 15:39	21° \approx 01'26	0°00'06	max. Earth dist.	11470 Mar 02 02:29	17° \times 12'23	19.41611 AU
min. Earth dist.	11464 Aug 03 02:45	21° \approx 00'13	17.30037 AU	morning rise	11470 Mar 18 17:27	18° \times 14'27	
desc. node	11464 Aug 09 05:20	20° \approx 44'15		retrograde	11470 Jun 18 16:26	21° \times 36'21	
direct	11464 Oct 17 05:59	18° \approx 55'33		opposition	11470 Aug 31 18:51	19° \times 34'07	-0°32'02
evening set	11465 Jan 20 08:34	22° \approx 23'59		min. Earth dist.	11470 Sep 01 02:34	19° \times 33'17	17.43432 AU
conjunction	11465 Feb 05 21:20	23° \approx 25'52	-0°02'34	direct	11470 Nov 15 23:00	17° \times 28'56	
minimum elong	11465 Feb 05 21:21	23° \approx 25'52	0°02'04	evening set	11471 Feb 19 04:11	20° \times 56'11	
behind sun begin	11465 Feb 05 14:37	23° \approx 24'50		conjunction	11471 Mar 07 12:19	21° \times 57'04	-0°30'58
behind sun end	11465 Feb 06 04:05	23° \approx 26'54		minimum elong	11471 Mar 07 12:19	21° \times 57'04	0°30'48
max. Earth dist.	11465 Feb 05 09:21	23° \approx 24'00	19.30322 AU	max. Earth dist.	11471 Mar 07 04:06	21° \times 55'47	19.45334 AU
morning rise	11465 Feb 22 07:47	24° \approx 27'26		morning rise	11471 Mar 23 17:50	22° \times 57'34	
retrograde	11465 May 25 20:22	27° \approx 51'15		retrograde	11471 Jun 23 16:12	26° \times 18'55	
opposition	11465 Aug 07 16:13	25° \approx 48'05	-0°05'30	opposition	11471 Sep 05 18:58	24° \times 16'53	-0°36'47
min. Earth dist.	11465 Aug 08 02:22	25° \approx 46'59	17.30786 AU	min. Earth dist.	11471 Sep 06 01:06	24° \times 16'13	17.47331 AU
direct	11465 Oct 22 09:23	23° \approx 42'14		direct	11471 Nov 21 02:38	22° \times 11'53	
evening set	11466 Jan 25 12:45	27° \approx 10'40		evening set	11472 Feb 24 05:43	25° \times 38'36	
conjunction	11466 Feb 11 00:45	28° \approx 12'27	-0°07'34	conjunction	11472 Mar 11 13:01	26° \times 39'15	-0°35'06
minimum elong	11466 Feb 11 00:45	28° \approx 12'27	0°07'08	minimum elong	11472 Mar 11 13:00	26° \times 39'15	0°35'00
behind sun begin	11466 Feb 10 18:33	28° \approx 11'30		max. Earth dist.	11472 Mar 11 05:53	26° \times 38'08	19.49399 AU
behind sun end	11466 Feb 11 06:57	28° \approx 13'24		morning rise	11472 Mar 27 17:30	27° \times 39'30	
max. Earth dist.	11466 Feb 10 12:40	28° \approx 10'34	19.31402 AU		11472 May 11 04:50	0° \times	
morning rise	11466 Feb 27 10:31	29° \approx 13'53		retrograde	11472 Jun 27 13:00	1° \times 00'15	
	11466 Mar 12 07:10	0° \times			11472 Aug 15 17:13	30° \times	
retrograde	11466 May 30 19:08	2° \times 37'26		opposition	11472 Sep 09 18:54	28° \times 58'25	-0°41'16
opposition	11466 Aug 12 16:53	0° \times 34'24	-0°11'04	min. Earth dist.	11472 Sep 10 01:28	28° \times 57'43	17.51568 AU
min. Earth dist.	11466 Aug 13 02:47	0° \times 33'19	17.32200 AU	direct	11472 Nov 25 03:23	26° \times 53'37	
	11466 Aug 26 00:22	30° \times			11473 Feb 22 19:29	0° \times	
direct	11466 Oct 27 11:23	28° \approx 28'35		evening set	11473 Feb 28 06:32	0° \times 19'43	
	11466 Dec 26 13:01	0° \times					

conjunction	11473 Mar 16 12:49	1°♈20'06 -0°39'00	min. Earth dist.	11479 Oct 13 04:13	1°♈02'55	17.89626 AU
minimum elong	11473 Mar 16 12:49	1°♈20'06 0°38'56		11479 Nov 08 09:43	30°♈♈	
max. Earth dist.	11473 Mar 16 05:44	1°♈19'00 19.53800 AU	direct	11479 Dec 29 02:25	28°♈59'43	
morning rise	11473 Apr 01 16:32	2°♈20'06		11480 Feb 16 01:51	0°♈	
retrograde	11473 Jul 02 11:42	5°♈40'13	evening set	11480 Apr 01 09:47	2°♈19'33	
opposition	11473 Sep 14 18:25	3°♈38'34 -0°45'27				
min. Earth dist.	11473 Sep 14 23:16	3°♈38'02 17.56119 AU	conjunction	11480 Apr 17 10:05	3°♈17'52 -0°57'36	
direct	11473 Nov 30 06:06	1°♈33'57	minimum elong	11480 Apr 17 10:05	3°♈17'52 0°57'56	
evening set	11474 Mar 05 06:16	4°♈59'20	max. Earth dist.	11480 Apr 17 11:37	3°♈18'06 19.92881 AU	
			morning rise	11480 May 03 08:01	4°♈15'52	
conjunction	11474 Mar 21 11:46	5°♈59'27 -0°42'37	retrograde	11480 Aug 02 21:08	7°♈30'54	
minimum elong	11474 Mar 21 11:46	5°♈59'27 0°42'38	opposition	11480 Oct 17 00:52	5°♈30'27 -1°04'48	
max. Earth dist.	11474 Mar 21 06:20	5°♈58'36 19.58495 AU	min. Earth dist.	11480 Oct 16 23:10	5°♈30'38 17.96212 AU	
morning rise	11474 Apr 06 14:27	6°♈59'11	direct	11481 Jan 01 23:28	3°♈27'43	
retrograde	11474 Jul 07 07:14	10°♈18'38	evening set	11481 Apr 06 03:08	6°♈46'31	
opposition	11474 Sep 19 17:40	8°♈17'09 -0°49'19				
min. Earth dist.	11474 Sep 19 22:44	8°♈16'36 17.60960 AU	conjunction	11481 Apr 22 02:30	7°♈44'31 -0°58'52	
direct	11474 Dec 05 05:52	6°♈12'45	minimum elong	11481 Apr 22 02:29	7°♈44'31 0°59'16	
evening set	11475 Mar 10 05:22	9°♈37'20	max. Earth dist.	11481 Apr 22 04:10	7°♈44'46 19.99574 AU	
			morning rise	11481 May 07 23:57	8°♈42'14	
conjunction	11475 Mar 26 09:50	10°♈37'09 -0°45'57	retrograde	11481 Aug 07 13:33	11°♈56'33	
minimum elong	11475 Mar 26 09:50	10°♈37'09 0°46'00	opposition	11481 Oct 21 20:06	9°♈56'20 -1°05'59	
max. Earth dist.	11475 Mar 26 04:19	10°♈36'18 19.63484 AU	min. Earth dist.	11481 Oct 21 17:08	9°♈56'39 18.02994 AU	
morning rise	11475 Apr 11 11:50	11°♈36'37	direct	11482 Jan 06 19:59	7°♈53'59	
retrograde	11475 Jul 12 04:37	14°♈55'22	evening set	11482 Apr 10 19:17	11°♈11'44	
opposition	11475 Sep 24 16:05	12°♈54'00 -0°52'51				
min. Earth dist.	11475 Sep 24 19:28	12°♈53'39 17.66091 AU	conjunction	11482 Apr 26 18:06	12°♈09'26 -0°59'47	
direct	11475 Dec 10 07:12	10°♈49'49	minimum elong	11482 Apr 26 18:06	12°♈09'26 1°00'13	
evening set	11476 Mar 14 03:24	14°♈13'32	max. Earth dist.	11482 Apr 26 21:56	12°♈10'01 20.06413 AU	
			morning rise	11482 May 12 14:50	13°♈06'51	
conjunction	11476 Mar 30 07:08	15°♈13'05 -0°48'58		11482 Jun 16 23:20	15°♈	
minimum elong	11476 Mar 30 07:08	15°♈13'05 0°49'05	retrograde	11482 Aug 12 04:18	16°♈20'27	
max. Earth dist.	11476 Mar 30 03:37	15°♈12'32 19.68754 AU		11482 Oct 10 10:43	15°♈♈	
morning rise	11476 Apr 15 08:07	16°♈12'15	opposition	11482 Oct 26 14:44	14°♈20'30 -1°06'47	
retrograde	11476 Jul 15 22:51	19°♈30'15	min. Earth dist.	11482 Oct 26 10:52	14°♈20'54 18.09863 AU	
opposition	11476 Sep 28 14:17	17°♈29'03 -0°56'01	direct	11483 Jan 11 15:56	12°♈18'32	
min. Earth dist.	11476 Sep 28 17:32	17°♈28'43 17.71505 AU		11483 Apr 05 07:23	15°♈	
direct	11476 Dec 14 05:53	15°♈25'05	evening set	11483 Apr 15 10:53	15°♈35'13	
evening set	11477 Mar 19 00:29	18°♈47'53				
			conjunction	11483 May 01 08:51	16°♈32'36 -1°00'21	
conjunction	11477 Apr 04 03:09	19°♈47'07 -0°51'39	minimum elong	11483 May 01 08:51	16°♈32'36 1°00'49	
minimum elong	11477 Apr 04 03:08	19°♈47'07 0°51'50	max. Earth dist.	11483 May 01 12:41	16°♈33'11 20.13302 AU	
max. Earth dist.	11477 Apr 03 23:45	19°♈46'35 19.74323 AU	morning rise	11483 May 17 05:11	17°♈29'46	
morning rise	11477 Apr 20 03:28	20°♈46'00	retrograde	11483 Aug 16 18:42	20°♈42'39	
retrograde	11477 Jul 20 18:43	24°♈03'16	opposition	11483 Oct 31 08:40	18°♈42'55 -1°07'12	
opposition	11477 Oct 03 11:48	22°♈02'12 -0°58'48	min. Earth dist.	11483 Oct 31 04:08	18°♈43'23 18.16761 AU	
min. Earth dist.	11477 Oct 03 13:13	22°♈02'03 17.77236 AU	direct	11484 Jan 16 10:05	16°♈41'19	
direct	11477 Dec 19 06:05	19°♈58'28	evening set	11484 Apr 19 01:29	19°♈56'56	
evening set	11478 Mar 23 20:29	23°♈20'18				
			conjunction	11484 May 04 22:58	20°♈54'03 -1°00'33	
conjunction	11478 Apr 08 22:26	24°♈19'14 -0°53'59	minimum elong	11484 May 04 22:57	20°♈54'02 1°01'05	
minimum elong	11478 Apr 08 22:26	24°♈19'14 0°54'13	max. Earth dist.	11484 May 05 04:32	20°♈54'53 20.20179 AU	
max. Earth dist.	11478 Apr 08 21:28	24°♈19'05 19.80205 AU	morning rise	11484 May 20 18:40	21°♈50'55	
morning rise	11478 Apr 24 21:48	25°♈17'49	retrograde	11484 Aug 20 08:51	25°♈03'06	
retrograde	11478 Jul 25 11:28	28°♈34'19	opposition	11484 Nov 04 02:10	23°♈03'36 -1°07'13	
opposition	11478 Oct 08 08:45	26°♈33'26 -1°01'12	min. Earth dist.	11484 Nov 03 20:38	23°♈04'10 18.23597 AU	
min. Earth dist.	11478 Oct 08 09:33	26°♈33'21 17.83277 AU	direct	11485 Jan 20 04:48	21°♈02'22	
direct	11478 Dec 24 03:43	24°♈30'00	evening set	11485 Apr 23 15:15	24°♈16'53	
evening set	11479 Mar 28 15:41	27°♈50'51				
			conjunction	11485 May 09 11:59	25°♈13'42 -1°00'26	
conjunction	11479 Apr 13 16:38	28°♈49'28 -0°55'58	minimum elong	11485 May 09 11:59	25°♈13'42 1°00'58	
minimum elong	11479 Apr 13 16:38	28°♈49'27 0°56'16	max. Earth dist.	11485 May 09 17:32	25°♈14'32 20.26963 AU	
max. Earth dist.	11479 Apr 13 15:48	28°♈49'20 19.86405 AU	morning rise	11485 May 25 07:22	26°♈10'19	
morning rise	11479 Apr 29 15:27	29°♈47'45	retrograde	11485 Aug 24 21:56	29°♈21'49	
	11479 May 03 01:45	0°♈	opposition	11485 Nov 08 19:06	27°♈22'30 -1°06'52	
retrograde	11479 Jul 30 05:45	3°♈03'31	min. Earth dist.	11485 Nov 08 13:14	27°♈23'06 18.30325 AU	
opposition	11479 Oct 13 05:05	1°♈02'50 -1°03'12	direct	11486 Jan 24 20:59	25°♈21'35	

evening set	11486 Apr 28 04:09	28°♄35'02		max. Earth dist.	11492 Jun 07 21:18	24°♄42'21	20.68925 AU
				morning rise	11492 Jun 23 04:33	25°♄35'53	
conjunction	11486 May 14 00:29	29°♄31'34 -0°59'57		retrograde	11492 Sep 23 04:13	28°♄43'00	
minimum elong	11486 May 14 00:29	29°♄31'34 1°00'33		opposition	11492 Dec 08 22:34	26°♄44'26 -0°54'46	
max. Earth dist.	11486 May 14 07:25	29°♄32'37 20.33605 AU		min. Earth dist.	11492 Dec 08 11:20	26°♄45'34 18.71573 AU	
	11486 May 21 22:15	0°♄		direct	11493 Feb 24 00:15	24°♄45'21	
morning rise	11486 May 29 19:25	0°♄27'57		evening set	11493 May 26 23:34	27°♄51'41	
retrograde	11486 Aug 29 11:05	3°♄38'44					
opposition	11486 Nov 13 11:09	1°♄39'36 -1°06'09		conjunction	11493 Jun 11 17:41	28°♄46'38 -0°48'08	
min. Earth dist.	11486 Nov 13 04:16	1°♄40'18 18.36864 AU		minimum elong	11493 Jun 11 17:42	28°♄46'38 0°48'52	
	11486 Dec 31 05:04	30°♄		max. Earth dist.	11493 Jun 12 04:57	28°♄48'17 20.74140 AU	
direct	11487 Jan 29 14:05	29°♄39'00		morning rise	11493 Jun 27 11:50	29°♄41'36	
	11487 Feb 27 08:28	0°♄			11493 Jul 02 21:54	0°♄	
evening set	11487 May 02 16:22	2°♄51'22		retrograde	11493 Sep 27 12:25	2°♄48'17	
				opposition	11493 Dec 13 10:28	0°♄49'49 -0°51'51	
conjunction	11487 May 18 12:07	3°♄47'38 -0°59'10		min. Earth dist.	11493 Dec 12 23:28	0°♄50'56 18.76692 AU	
minimum elong	11487 May 18 12:07	3°♄47'38 0°59'46			11494 Jan 03 17:01	30°♄	
max. Earth dist.	11487 May 18 18:52	3°♄48'38 20.40036 AU		direct	11494 Feb 28 09:55	28°♄51'02	
morning rise	11487 Jun 03 06:51	4°♄43'46			11494 Apr 22 16:50	0°♄	
retrograde	11487 Sep 02 23:00	7°♄53'52		evening set	11494 May 31 06:26	1°♄56'33	
opposition	11487 Nov 18 02:46	5°♄54'52 -1°05'04					
min. Earth dist.	11487 Nov 17 19:53	5°♄55'34 18.43189 AU		conjunction	11494 Jun 16 00:34	2°♄51'20 -0°45'24	
direct	11488 Feb 03 04:59	3°♄54'33		minimum elong	11494 Jun 16 00:34	2°♄51'20 0°46'07	
evening set	11488 May 06 03:29	7°♄05'50		max. Earth dist.	11494 Jun 16 12:43	2°♄53'07 20.79150 AU	
				morning rise	11494 Jul 01 18:46	3°♄46'09	
conjunction	11488 May 21 22:56	8°♄01'51 -0°58'03		retrograde	11494 Oct 01 22:56	6°♄52'26	
minimum elong	11488 May 21 22:56	8°♄01'51 0°58'42		opposition	11494 Dec 17 21:31	4°♄54'06 -0°48'41	
max. Earth dist.	11488 May 22 06:52	8°♄03'01 20.46241 AU		min. Earth dist.	11494 Dec 17 09:04	4°♄55'21 18.81566 AU	
morning rise	11488 Jun 06 17:19	8°♄57'45		direct	11495 Mar 04 21:11	2°♄55'37	
retrograde	11488 Sep 06 10:58	12°♄07'11		evening set	11495 Jun 04 12:57	6°♄00'22	
opposition	11488 Nov 21 17:39	10°♄08'17 -1°03'39					
min. Earth dist.	11488 Nov 21 09:30	10°♄09'07 18.49264 AU		conjunction	11495 Jun 20 06:58	6°♄55'00 -0°42'26	
direct	11489 Feb 06 20:41	8°♄08'13		minimum elong	11495 Jun 20 06:58	6°♄55'00 0°43'10	
evening set	11489 May 10 13:56	11°♄18'25		max. Earth dist.	11495 Jun 20 19:25	6°♄56'49 20.83883 AU	
				morning rise	11495 Jul 06 01:21	7°♄49'43	
conjunction	11489 May 26 08:56	12°♄14'12 -0°56'37		retrograde	11495 Oct 06 06:35	10°♄55'39	
minimum elong	11489 May 26 08:56	12°♄14'12 0°57'18		opposition	11495 Dec 22 08:29	8°♄57'27 -0°45'17	
max. Earth dist.	11489 May 26 16:58	12°♄15'23 20.52203 AU		min. Earth dist.	11495 Dec 21 20:37	8°♄58'38 18.86153 AU	
morning rise	11489 Jun 11 03:14	13°♄09'53		direct	11496 Mar 08 05:17	6°♄59'15	
retrograde	11489 Sep 10 21:29	16°♄18'41		evening set	11496 Jun 07 18:51	10°♄03'17	
opposition	11489 Nov 26 07:53	14°♄19'51 -1°01'53					
min. Earth dist.	11489 Nov 25 23:49	14°♄20'40 18.55127 AU		conjunction	11496 Jun 23 12:56	10°♄57'47 -0°39'17	
direct	11490 Feb 11 10:01	12°♄20'01		minimum elong	11496 Jun 23 12:56	10°♄57'47 0°40'01	
evening set	11490 May 14 23:19	15°♄29'11		max. Earth dist.	11496 Jun 24 02:03	10°♄59'41 20.88311 AU	
				morning rise	11496 Jul 09 07:27	11°♄52'23	
conjunction	11490 May 30 18:08	16°♄24'44 -0°54'54		retrograde	11496 Oct 09 16:32	14°♄58'02	
minimum elong	11490 May 30 18:08	16°♄24'44 0°55'36		opposition	11496 Dec 25 18:56	12°♄59'57 -0°41'41	
max. Earth dist.	11490 May 31 03:23	16°♄26'05 20.57963 AU		min. Earth dist.	11496 Dec 25 05:43	13°♄01'16 18.90395 AU	
morning rise	11490 Jun 15 12:17	17°♄20'12		direct	11497 Mar 12 16:08	11°♄02'02	
retrograde	11490 Sep 15 08:26	20°♄28'23		evening set	11497 Jun 12 00:36	14°♄05'24	
opposition	11490 Nov 30 21:20	18°♄29'38 -0°59'48					
min. Earth dist.	11490 Nov 30 11:45	18°♄30'36 18.60780 AU		conjunction	11497 Jun 27 18:41	14°♄59'48 -0°35'57	
direct	11491 Feb 16 00:10	16°♄30'02		minimum elong	11497 Jun 27 18:41	14°♄59'48 0°36'40	
evening set	11491 May 19 08:08	19°♄38'12		max. Earth dist.	11497 Jun 28 07:55	15°♄01'42 20.92357 AU	
				morning rise	11497 Jul 13 13:29	15°♄54'18	
conjunction	11491 Jun 04 02:36	20°♄33'31 -0°52'54		retrograde	11497 Oct 14 00:13	18°♄59'42	
minimum elong	11491 Jun 04 02:36	20°♄33'31 0°53'37		opposition	11497 Dec 30 05:02	17°♄01'43 -0°37'53	
max. Earth dist.	11491 Jun 04 12:12	20°♄34'56 20.63522 AU		min. Earth dist.	11497 Dec 29 16:45	17°♄02'57 18.94245 AU	
morning rise	11491 Jun 19 20:43	21°♄28'49		direct	11498 Mar 16 23:03	15°♄04'02	
retrograde	11491 Sep 19 17:31	24°♄36'27		evening set	11498 Jun 16 06:00	18°♄06'49	
opposition	11491 Dec 05 10:16	22°♄37'46 -0°57'26					
min. Earth dist.	11491 Dec 05 00:45	22°♄38'43 18.66264 AU		conjunction	11498 Jul 02 00:15	19°♄01'06 -0°32'27	
direct	11492 Feb 20 11:42	20°♄38'25		minimum elong	11498 Jul 02 00:15	19°♄01'06 0°33'11	
evening set	11492 May 22 16:11	23°♄45'38		max. Earth dist.	11498 Jul 02 13:40	19°♄03'03 20.95989 AU	
				morning rise	11498 Jul 17 19:18	19°♄55'32	
conjunction	11492 Jun 07 10:31	24°♄40'46 -0°50'39		retrograde	11498 Oct 18 09:13	23°♄00'44	
minimum elong	11492 Jun 07 10:31	24°♄40'46 0°51'21		opposition	11499 Jan 03 14:42	21°♄02'49 -0°33'56	

min. Earth dist.	11499 Jan 03 01:24	21° Ω 04'09	18.97633 AU		11505 Jan 27 14:27	15° κ Ω	
direct	11499 Mar 21 09:19	19° Ω 05'22		opposition	11505 Jan 28 18:46	14° Ω 57'10	-0°07'37
evening set	11499 Jun 20 11:13	22° Ω 07'35		min. Earth dist.	11505 Jan 28 06:15	14° Ω 58'25	19.07170 AU
				direct	11505 Apr 15 04:49	13° Ω 00'08	
conjunction	11499 Jul 06 05:32	23° Ω 01'48	-0°28'49		11505 Jun 25 20:48	15° Ω	
minimum elong	11499 Jul 06 05:32	23° Ω 01'48	0°29'30	evening set	11505 Jul 14 14:18	16° Ω 00'00	
max. Earth dist.	11499 Jul 06 18:45	23° Ω 03'42	20.99120 AU				
morning rise	11499 Jul 22 00:53	23° Ω 56'09		conjunction	11505 Jul 30 10:24	16° Ω 54'03	-0°04'50
retrograde	11499 Oct 22 16:46	27° Ω 01'12		minimum elong	11505 Jul 30 10:23	16° Ω 54'03	0°05'24
opposition	11500 Jan 08 00:15	25° Ω 03'19	-0°29'49	behind sun begin	11505 Jul 30 04:02	16° Ω 53'10	
min. Earth dist.	11500 Jan 07 12:05	25° Ω 04'32	19.00511 AU	behind sun end	11505 Jul 30 16:45	16° Ω 54'56	
direct	11500 Mar 25 16:04	23° Ω 06'02		max. Earth dist.	11505 Jul 30 22:54	16° Ω 55'50	21.07226 AU
evening set	11500 Jun 24 16:11	26° Ω 07'44		morning rise	11505 Aug 15 08:24	17° Ω 48'22	
				retrograde	11505 Nov 16 11:30	20° Ω 53'07	
conjunction	11500 Jul 10 10:45	27° Ω 01'53	-0°25'02	opposition	11506 Feb 02 02:30	18° Ω 54'47	-0°03'00
minimum elong	11500 Jul 10 10:45	27° Ω 01'53	0°25'44	min. Earth dist.	11506 Feb 01 15:07	18° Ω 55'55	19.07212 AU
max. Earth dist.	11500 Jul 10 23:51	27° Ω 03'46	21.01738 AU	direct	11506 Apr 19 09:42	16° Ω 57'45	
morning rise	11500 Jul 26 06:27	27° Ω 56'12		evening set	11506 Jul 18 18:35	19° Ω 57'28	
	11500 Sep 06 10:31	0° Ω					
retrograde	11500 Oct 27 01:02	1° Ω 01'05		conjunction	11506 Aug 03 15:09	20° Ω 51'32	-0°00'38
	11500 Dec 18 14:41	30° κ Ω		minimum elong	11506 Aug 03 15:09	20° Ω 51'32	0°01'08
opposition	11501 Jan 12 09:21	29° Ω 03'13	-0°25'34	behind sun begin	11506 Aug 03 08:35	20° Ω 50'37	
min. Earth dist.	11501 Jan 11 20:17	29° Ω 04'31	19.02850 AU	behind sun end	11506 Aug 03 21:44	20° Ω 52'27	
direct	11501 Mar 30 01:08	27° Ω 06'03		max. Earth dist.	11506 Aug 04 03:34	20° Ω 53'18	21.07089 AU
	11501 Jun 26 16:58	0° Ω		morning rise	11506 Aug 19 13:42	21° Ω 45'54	
evening set	11501 Jun 28 20:55	0° Ω 07'16		asc. node	11506 Sep 26 22:02	23° Ω 39'58	
				retrograde	11506 Nov 20 20:14	24° Ω 50'47	
conjunction	11501 Jul 14 15:42	1° Ω 01'22	-0°21'09	opposition	11507 Feb 06 10:05	22° Ω 52'22	0°01'39
minimum elong	11501 Jul 14 15:42	1° Ω 01'22	0°21'48	min. Earth dist.	11507 Feb 05 21:49	22° Ω 53'35	19.06885 AU
max. Earth dist.	11501 Jul 15 04:28	1° Ω 03'11	21.03798 AU	direct	11507 Apr 23 16:13	20° Ω 55'21	
morning rise	11501 Jul 30 11:50	1° Ω 55'39		evening set	11507 Jul 22 22:56	23° Ω 54'59	
retrograde	11501 Oct 31 07:52	5° Ω 00'26					
opposition	11502 Jan 16 18:15	3° Ω 02'30	-0°21'12	conjunction	11507 Aug 07 19:53	24° Ω 49'06	0°03'40
min. Earth dist.	11502 Jan 16 06:28	3° Ω 03'40	19.04642 AU	minimum elong	11507 Aug 07 19:53	24° Ω 49'07	0°03'11
direct	11502 Apr 03 07:48	1° Ω 05'24		behind sun begin	11507 Aug 07 13:20	24° Ω 48'12	
evening set	11502 Jul 03 01:27	4° Ω 06'11		behind sun end	11507 Aug 08 02:27	24° Ω 50'01	
				max. Earth dist.	11507 Aug 08 08:11	24° Ω 50'51	21.06568 AU
conjunction	11502 Jul 18 20:34	5° Ω 00'15	-0°17'09	morning rise	11507 Aug 23 18:59	25° Ω 43'32	
minimum elong	11502 Jul 18 20:34	5° Ω 00'15	0°17'48	retrograde	11507 Nov 25 02:19	28° Ω 48'38	
max. Earth dist.	11502 Jul 19 09:11	5° Ω 02'03	21.05336 AU	opposition	11508 Feb 10 17:51	26° Ω 50'07	0°06'16
morning rise	11502 Aug 03 17:07	5° Ω 54'31		min. Earth dist.	11508 Feb 10 06:44	26° Ω 51'14	19.06180 AU
retrograde	11502 Nov 04 15:33	8° Ω 59'12		direct	11508 Apr 26 20:50	24° Ω 53'08	
opposition	11503 Jan 21 02:31	7° Ω 01'11	-0°16'44	evening set	11508 Jul 26 03:31	27° Ω 52'45	
min. Earth dist.	11503 Jan 20 13:54	7° Ω 02'27	19.05921 AU				
direct	11503 Apr 07 15:43	5° Ω 04'07		conjunction	11508 Aug 11 01:00	28° Ω 46'57	0°07'50
evening set	11503 Jul 07 05:52	8° Ω 04'32		minimum elong	11508 Aug 11 01:00	28° Ω 46'57	0°07'24
				behind sun begin	11508 Aug 10 18:58	28° Ω 46'06	
conjunction	11503 Jul 23 01:15	8° Ω 58'34	-0°13'06	behind sun end	11508 Aug 11 07:02	28° Ω 47'47	
minimum elong	11503 Jul 23 01:14	8° Ω 58'34	0°13'42	max. Earth dist.	11508 Aug 11 13:05	28° Ω 48'40	21.05683 AU
behind sun begin	11503 Jul 22 21:38	8° Ω 58'04		morning rise	11508 Aug 27 00:41	29° Ω 41'27	
behind sun end	11503 Jul 23 04:50	8° Ω 59'05			11508 Sep 01 14:57	0° η	
max. Earth dist.	11503 Jul 23 13:43	9° Ω 00'21	21.06378 AU	retrograde	11508 Nov 28 11:45	2° η 46'48	
morning rise	11503 Aug 07 22:15	9° Ω 52'50		opposition	11509 Feb 14 01:24	0° η 48'13	0°10'52
retrograde	11503 Nov 08 21:39	12° Ω 57'30		min. Earth dist.	11509 Feb 13 13:36	0° η 49'24	19.05096 AU
opposition	11504 Jan 25 10:51	10° Ω 59'22	-0°12'12		11509 Mar 06 16:39	30° κ Ω	
min. Earth dist.	11504 Jan 24 23:21	11° Ω 00'31	19.06748 AU	direct	11509 May 01 03:01	28° Ω 51'15	
direct	11504 Apr 10 21:39	9° Ω 02'20			11509 Jun 23 02:40	0° η	
evening set	11504 Jul 10 10:00	12° Ω 02'25		evening set	11509 Jul 30 08:24	1° η 50'57	
conjunction	11504 Jul 26 05:46	12° Ω 56'27	-0°08'59	conjunction	11509 Aug 15 06:23	2° η 45'14	0°11'57
minimum elong	11504 Jul 26 05:46	12° Ω 56'27	0°09'34	minimum elong	11509 Aug 15 06:22	2° η 45'14	0°11'33
behind sun begin	11504 Jul 26 00:17	12° Ω 55'41		behind sun begin	11509 Aug 15 01:37	2° η 44'34	
behind sun end	11504 Jul 26 11:14	12° Ω 57'13		behind sun end	11509 Aug 15 11:08	2° η 45'53	
max. Earth dist.	11504 Jul 26 18:19	12° Ω 58'15	21.07003 AU	max. Earth dist.	11509 Aug 15 18:08	2° η 46'54	21.04390 AU
morning rise	11504 Aug 11 03:15	13° Ω 50'44		morning rise	11509 Aug 31 06:40	3° η 39'50	
	11504 Sep 01 22:13	15° Ω		retrograde	11509 Dec 02 18:43	6° η 45'30	
retrograde	11504 Nov 12 05:41	16° Ω 55'25		opposition	11510 Feb 18 09:11	4° η 46'51	0°15'26

min. Earth dist.	11510 Feb 17 22:48	4° <u>7</u> 47'53	19.03595 AU		11516 Aug 27 09:20	0° <u>0</u>	
direct	11510 May 05 07:41	2° <u>7</u> 49'53					
evening set	11510 Aug 03 13:38	5° <u>7</u> 49'43		conjunction	11516 Sep 12 08:59	0° <u>0</u> 54'59	0°38'33
				minimum elong	11516 Sep 12 08:59	0° <u>0</u> 54'59	0°38'29
conjunction	11510 Aug 19 12:08	6° <u>7</u> 44'06	0°16'02	max. Earth dist.	11516 Sep 12 14:46	0° <u>0</u> 55'49	20.81953 AU
minimum elong	11510 Aug 19 12:08	6° <u>7</u> 44'06	0°15'42	morning rise	11516 Sep 28 13:48	1° <u>0</u> 50'43	
behind sun begin	11510 Aug 19 10:39	6° <u>7</u> 43'54		retrograde	11516 Dec 31 15:57	4° <u>0</u> 59'39	
behind sun end	11510 Aug 19 13:37	6° <u>7</u> 44'19		opposition	11517 Mar 18 19:43	2° <u>0</u> 59'53	0°44'29
max. Earth dist.	11510 Aug 19 23:20	6° <u>7</u> 45'42	21.02679 AU	min. Earth dist.	11517 Mar 18 14:07	3° <u>0</u> 00'27	18.79487 AU
morning rise	11510 Sep 04 13:02	7° <u>7</u> 38'50		direct	11517 Jun 02 04:42	1° <u>0</u> 01'59	
retrograde	11510 Dec 07 04:36	10° <u>7</u> 44'52		evening set	11517 Aug 31 15:30	4° <u>0</u> 04'31	
opposition	11511 Feb 22 16:52	8° <u>7</u> 46'08	0°19'56				
min. Earth dist.	11511 Feb 22 06:08	8° <u>7</u> 47'13	19.01654 AU	conjunction	11517 Sep 16 18:19	5° <u>0</u> 00'04	0°41'47
direct	11511 May 09 14:04	6° <u>7</u> 49'09		minimum elong	11517 Sep 16 18:19	5° <u>0</u> 00'04	0°41'47
evening set	11511 Aug 07 19:22	9° <u>7</u> 49'14		max. Earth dist.	11517 Sep 16 23:35	5° <u>0</u> 00'50	20.76933 AU
				morning rise	11517 Oct 02 23:44	5° <u>0</u> 56'00	
conjunction	11511 Aug 23 18:22	10° <u>7</u> 43'44	0°20'04	retrograde	11518 Jan 05 02:21	9° <u>0</u> 05'32	
minimum elong	11511 Aug 23 18:22	10° <u>7</u> 43'44	0°19'45	opposition	11518 Mar 23 05:00	7° <u>0</u> 05'31	0°47'58
max. Earth dist.	11511 Aug 24 04:58	10° <u>7</u> 45'14	21.00496 AU	min. Earth dist.	11518 Mar 23 00:52	7° <u>0</u> 05'56	18.74319 AU
morning rise	11511 Sep 08 19:51	11° <u>7</u> 38'35		direct	11518 Jun 06 11:10	5° <u>0</u> 07'22	
retrograde	11511 Dec 11 12:36	14° <u>7</u> 45'02		evening set	11518 Sep 05 00:42	8° <u>0</u> 10'31	
opposition	11512 Feb 27 00:59	12° <u>7</u> 46'13	0°24'20				
min. Earth dist.	11512 Feb 26 15:52	12° <u>7</u> 47'08	18.99231 AU	conjunction	11518 Sep 21 04:08	9° <u>0</u> 06'16	0°44'50
direct	11512 May 12 18:58	10° <u>7</u> 49'12		minimum elong	11518 Sep 21 04:07	9° <u>0</u> 06'16	0°44'53
evening set	11512 Aug 11 01:25	13° <u>7</u> 49'33		max. Earth dist.	11518 Sep 21 08:21	9° <u>0</u> 06'53	20.71635 AU
				morning rise	11518 Oct 07 10:15	10° <u>0</u> 02'26	
conjunction	11512 Aug 27 01:02	14° <u>7</u> 44'11	0°24'00	retrograde	11519 Jan 09 14:59	13° <u>0</u> 12'35	
minimum elong	11512 Aug 27 01:02	14° <u>7</u> 44'11	0°23'44	opposition	11519 Mar 27 14:30	11° <u>0</u> 12'19	0°51'14
max. Earth dist.	11512 Aug 27 10:43	14° <u>7</u> 45'34	20.97825 AU	min. Earth dist.	11519 Mar 27 10:20	11° <u>0</u> 12'45	18.68901 AU
morning rise	11512 Sep 12 03:11	15° <u>7</u> 39'12		direct	11519 Jun 10 19:42	9° <u>0</u> 13'55	
retrograde	11512 Dec 14 23:07	18° <u>7</u> 46'06		evening set	11519 Sep 09 10:35	12° <u>0</u> 17'44	
opposition	11513 Mar 02 09:08	16° <u>7</u> 47'10	0°28'39				
min. Earth dist.	11513 Mar 01 23:58	16° <u>7</u> 48'05	18.96291 AU	conjunction	11519 Sep 25 14:43	13° <u>0</u> 13'44	0°47'39
direct	11513 May 17 01:59	14° <u>7</u> 50'03		minimum elong	11519 Sep 25 14:43	13° <u>0</u> 13'44	0°47'44
evening set	11513 Aug 15 08:10	17° <u>7</u> 50'45		max. Earth dist.	11519 Sep 25 18:39	13° <u>0</u> 14'18	20.66097 AU
				morning rise	11519 Oct 11 21:25	14° <u>0</u> 10'08	
conjunction	11513 Aug 31 08:22	18° <u>7</u> 45'32	0°27'50	retrograde	11520 Jan 14 02:59	17° <u>0</u> 20'56	
minimum elong	11513 Aug 31 08:22	18° <u>7</u> 45'32	0°27'38	opposition	11520 Mar 31 00:29	15° <u>0</u> 20'26	0°54'15
max. Earth dist.	11513 Aug 31 17:06	18° <u>7</u> 46'47	20.94604 AU	min. Earth dist.	11520 Mar 30 21:34	15° <u>0</u> 20'44	18.63269 AU
morning rise	11513 Sep 16 11:08	19° <u>7</u> 40'42		direct	11520 Jun 14 03:24	13° <u>0</u> 21'47	
retrograde	11513 Dec 19 07:41	22° <u>7</u> 48'05		evening set	11520 Sep 12 21:09	16° <u>0</u> 26'19	
opposition	11514 Mar 06 17:28	20° <u>7</u> 48'59	0°32'51				
min. Earth dist.	11514 Mar 06 10:08	20° <u>7</u> 49'44	18.92801 AU	conjunction	11520 Sep 29 01:58	17° <u>0</u> 22'34	0°50'13
direct	11514 May 21 07:12	18° <u>7</u> 51'45		minimum elong	11520 Sep 29 01:58	17° <u>0</u> 22'34	0°50'23
evening set	11514 Aug 19 15:19	21° <u>7</u> 52'49		max. Earth dist.	11520 Sep 29 04:42	17° <u>0</u> 22'58	20.60385 AU
				morning rise	11520 Oct 15 09:26	18° <u>0</u> 19'13	
conjunction	11514 Sep 04 16:09	22° <u>7</u> 47'47	0°31'33	retrograde	11521 Jan 17 16:44	21° <u>0</u> 30'43	
minimum elong	11514 Sep 04 16:08	22° <u>7</u> 47'47	0°31'23	opposition	11521 Apr 04 10:49	19° <u>0</u> 29'59	0°56'59
max. Earth dist.	11514 Sep 04 23:40	22° <u>7</u> 48'51	20.90860 AU	min. Earth dist.	11521 Apr 04 07:59	19° <u>0</u> 30'16	18.57474 AU
morning rise	11514 Sep 20 19:36	23° <u>7</u> 43'07		direct	11521 Jun 18 12:17	17° <u>0</u> 31'04	
retrograde	11514 Dec 23 18:52	26° <u>7</u> 51'00		evening set	11521 Sep 17 08:36	20° <u>0</u> 36'25	
opposition	11515 Mar 11 02:00	24° <u>7</u> 51'42	0°36'54				
min. Earth dist.	11515 Mar 10 18:43	24° <u>7</u> 52'26	18.88798 AU	conjunction	11521 Oct 03 14:10	21° <u>0</u> 32'56	0°52'33
direct	11515 May 25 14:51	22° <u>7</u> 54'16		minimum elong	11521 Oct 03 14:09	21° <u>0</u> 32'56	0°52'45
evening set	11515 Aug 23 22:47	25° <u>7</u> 55'46		max. Earth dist.	11521 Oct 03 16:37	21° <u>0</u> 33'17	20.54501 AU
				morning rise	11521 Oct 19 22:09	22° <u>0</u> 29'49	
conjunction	11515 Sep 09 00:14	26° <u>7</u> 50'55	0°35'08	retrograde	11522 Jan 22 05:57	25° <u>0</u> 42'01	
minimum elong	11515 Sep 09 00:14	26° <u>7</u> 50'55	0°35'02	opposition	11522 Apr 08 21:34	23° <u>0</u> 41'06	0°59'27
max. Earth dist.	11515 Sep 09 07:04	26° <u>7</u> 51'54	20.86611 AU	min. Earth dist.	11522 Apr 08 19:57	23° <u>0</u> 41'16	18.51521 AU
morning rise	11515 Sep 25 04:19	27° <u>7</u> 46'26		direct	11522 Jun 22 21:38	21° <u>0</u> 41'57	
	11515 Nov 10 08:47	0° <u>0</u>		evening set	11522 Sep 21 20:51	24° <u>0</u> 48'09	
retrograde	11515 Dec 28 03:59	0° <u>0</u> 54'50					
	11516 Feb 15 10:16	30° <u>0</u> 7		conjunction	11522 Oct 08 03:03	25° <u>0</u> 44'56	0°54'37
opposition	11516 Mar 14 10:53	28° <u>0</u> 55'19	0°40'47	minimum elong	11522 Oct 08 03:02	25° <u>0</u> 44'56	0°54'52
min. Earth dist.	11516 Mar 14 05:14	28° <u>0</u> 55'53	18.84329 AU	max. Earth dist.	11522 Oct 08 04:05	25° <u>0</u> 45'05	20.48495 AU
direct	11516 May 28 20:35	26° <u>0</u> 57'40		morning rise	11522 Oct 24 11:46	26° <u>0</u> 42'06	
evening set	11516 Aug 27 06:52	29° <u>0</u> 59'39		retrograde	11523 Jan 26 20:49	29° <u>0</u> 55'02	

opposition	11523 Apr 13 08:56	27° $\underline{\text{A}}$ 53'56	1°01'36	evening set	11529 Oct 22 12:43	25° M 01'53	
min. Earth dist.	11523 Apr 13 07:35	27° $\underline{\text{A}}$ 54'05	18.45452 AU				
direct	11523 Jun 27 07:29	25° $\underline{\text{A}}$ 54'32		conjunction	11529 Nov 07 23:46	26° M 00'44	1°00'25
evening set	11523 Sep 26 09:52	29° $\underline{\text{A}}$ 01'39		minimum elong	11529 Nov 07 23:46	26° M 00'44	1°00'59
				max. Earth dist.	11529 Nov 07 17:44	25° M 59'50	20.02452 AU
conjunction	11523 Oct 12 16:50	29° $\underline{\text{A}}$ 58'42	0°56'24	morning rise	11529 Nov 24 12:12	26° M 59'51	
minimum elong	11523 Oct 12 16:50	29° $\underline{\text{A}}$ 58'42	0°56'42		11530 Jan 31 11:44	0° A	
max. Earth dist.	11523 Oct 12 17:44	29° $\underline{\text{A}}$ 58'50	20.42354 AU	retrograde	11530 Feb 26 18:28	0° A 18'01	
	11523 Oct 13 01:38	0° M			11530 Mar 25 07:44	30° R M	
morning rise	11523 Oct 29 02:05	0° M 56'09		opposition	11530 May 13 09:19	28° M 15'33	1°06'56
retrograde	11524 Jan 31 11:30	4° M 09'51		min. Earth dist.	11530 May 13 14:57	28° M 14'56	17.99023 AU
opposition	11524 Apr 16 20:57	2° M 08'35	1°03'26	direct	11530 Jul 27 04:07	26° M 13'52	
min. Earth dist.	11524 Apr 16 20:49	2° M 08'36	18.39242 AU	evening set	11530 Oct 27 08:20	29° M 28'12	
direct	11524 Jun 30 18:21	0° M 08'57			11530 Nov 05 06:17	0° A	
evening set	11524 Sep 30 00:04	3° M 17'01					
				conjunction	11530 Nov 12 19:49	0° A 27'21	0°59'52
conjunction	11524 Oct 16 07:39	4° M 14'22	0°57'53	minimum elong	11530 Nov 12 19:48	0° A 27'21	1°00'29
minimum elong	11524 Oct 16 07:39	4° M 14'22	0°58'14	max. Earth dist.	11530 Nov 12 11:44	0° A 26'08	19.95599 AU
max. Earth dist.	11524 Oct 16 06:43	4° M 14'14	20.36080 AU	morning rise	11530 Nov 29 08:51	1° A 26'44	
morning rise	11524 Nov 01 17:38	5° M 12'05		retrograde	11531 Mar 03 13:34	4° A 45'36	
retrograde	11525 Feb 04 03:33	8° M 26'34		opposition	11531 May 18 01:30	2° A 42'54	1°06'09
opposition	11525 Apr 21 09:22	6° M 25'08	1°04'56	min. Earth dist.	11531 May 18 08:16	2° A 42'11	17.92233 AU
min. Earth dist.	11525 Apr 21 10:01	6° M 25'04	18.32893 AU	direct	11531 Jul 31 20:16	0° A 40'49	
direct	11525 Jul 05 05:56	4° M 25'13		evening set	11531 Nov 01 04:32	3° A 56'15	
evening set	11525 Oct 04 15:12	7° M 34'18					
				conjunction	11531 Nov 17 16:47	4° A 55'42	0°58'57
conjunction	11525 Oct 20 23:35	8° M 31'57	0°59'03	minimum elong	11531 Nov 17 16:47	4° A 55'42	0°59'35
minimum elong	11525 Oct 20 23:34	8° M 31'57	0°59'28	max. Earth dist.	11531 Nov 17 09:06	4° A 54'32	19.88877 AU
max. Earth dist.	11525 Oct 20 22:15	8° M 31'45	20.29633 AU	morning rise	11531 Dec 04 06:04	5° A 55'22	
morning rise	11525 Nov 06 09:58	9° M 29'56		retrograde	11532 Mar 07 09:42	9° A 14'53	
retrograde	11526 Feb 08 19:30	12° M 45'11		opposition	11532 May 21 18:13	7° A 12'00	1°04'57
opposition	11526 Apr 25 22:36	10° M 43'35	1°06'05	min. Earth dist.	11532 May 22 01:09	7° A 11'15	17.85597 AU
min. Earth dist.	11526 Apr 26 00:30	10° M 43'23	18.26357 AU	direct	11532 Aug 04 13:38	5° A 09'32	
direct	11526 Jul 09 18:06	8° M 43'23		evening set	11532 Nov 05 01:55	8° A 26'04	
evening set	11526 Oct 09 07:14	11° M 53'29					
				conjunction	11532 Nov 21 14:31	9° A 25'48	0°57'40
conjunction	11526 Oct 25 16:09	12° M 51'26	0°59'54	minimum elong	11532 Nov 21 14:31	9° A 25'48	0°58'20
minimum elong	11526 Oct 25 16:08	12° M 51'26	1°00'21	max. Earth dist.	11532 Nov 21 04:56	9° A 24'21	19.82352 AU
max. Earth dist.	11526 Oct 25 12:37	12° M 50'54	20.23016 AU	morning rise	11532 Dec 08 04:18	10° A 25'44	
morning rise	11526 Nov 11 03:14	13° M 49'42		retrograde	11533 Mar 12 05:41	13° A 45'54	
	11526 Dec 02 08:47	15° M		opposition	11533 May 26 11:30	11° A 42'50	1°03'20
retrograde	11527 Feb 13 12:53	17° M 05'43		min. Earth dist.	11533 May 26 19:39	11° A 41'58	17.79206 AU
opposition	11527 Apr 30 12:28	15° M 03'55	1°06'52	direct	11533 Aug 09 06:36	9° A 40'00	
min. Earth dist.	11527 Apr 30 15:21	15° M 03'36	18.19660 AU	evening set	11533 Nov 09 23:54	12° A 57'39	
	11527 May 02 01:33	15° R M					
direct	11527 Jul 14 07:41	13° M 03'22		conjunction	11533 Nov 26 13:10	13° A 57'40	0°56'00
	11527 Sep 21 10:04	15° M		minimum elong	11533 Nov 26 13:10	13° A 57'40	0°56'41
evening set	11527 Oct 14 00:10	16° M 14'30		max. Earth dist.	11533 Nov 26 04:06	13° A 56'17	19.76099 AU
				morning rise	11533 Dec 13 03:05	14° A 57'51	
conjunction	11527 Oct 30 09:54	17° M 12'45	1°00'26	retrograde	11534 Mar 17 04:02	18° A 18'38	
minimum elong	11527 Oct 30 09:53	17° M 12'45	1°00'55	opposition	11534 May 31 05:29	16° A 15'26	1°01'19
max. Earth dist.	11527 Oct 30 06:06	17° M 12'11	20.16238 AU	min. Earth dist.	11534 May 31 13:20	16° A 14'35	17.73107 AU
morning rise	11527 Nov 15 21:21	18° M 11'18		direct	11534 Aug 14 01:25	14° A 12'17	
retrograde	11528 Feb 18 05:51	21° M 28'03		evening set	11534 Nov 14 22:43	17° A 31'00	
opposition	11528 May 04 02:50	19° M 26'02	1°07'17				
min. Earth dist.	11528 May 04 06:44	19° M 25'37	18.12820 AU	conjunction	11534 Dec 01 12:15	18° A 31'18	0°53'59
direct	11528 Jul 17 21:26	17° M 25'08		minimum elong	11534 Dec 01 12:16	18° A 31'18	0°54'42
evening set	11528 Oct 17 18:05	20° M 37'19		max. Earth dist.	11534 Dec 01 01:42	18° A 29'41	19.70173 AU
				morning rise	11534 Dec 18 02:32	19° A 31'43	
conjunction	11528 Nov 03 04:21	21° M 35'52	1°00'36	retrograde	11535 Mar 22 01:14	22° A 53'08	
minimum elong	11528 Nov 03 04:21	21° M 35'52	1°01'07	opposition	11535 Jun 05 00:14	20° A 49'49	0°58'54
max. Earth dist.	11528 Nov 02 22:17	21° M 34'57	20.09364 AU	min. Earth dist.	11535 Jun 05 09:15	20° A 48'51	17.67371 AU
morning rise	11528 Nov 19 16:31	22° M 34'42		direct	11535 Aug 18 19:23	18° A 46'21	
retrograde	11529 Feb 22 00:16	25° M 52'10		evening set	11535 Nov 19 22:22	22° A 06'10	
opposition	11529 May 08 17:50	23° M 49'55	1°07'18				
min. Earth dist.	11529 May 08 22:53	23° M 49'23	18.05922 AU	conjunction	11535 Dec 06 12:28	23° A 06'43	0°51'37
direct	11529 Jul 22 12:32	21° M 48'37		minimum elong	11535 Dec 06 12:28	23° A 06'43	0°52'20

max. Earth dist.	11535 Dec 06 02:22	23° 7 05'10	19.64629 AU	min. Earth dist.	11542 Jul 07 15:34	23° 3 35'00	17.37675 AU
morning rise	11535 Dec 23 02:51	24° 7 07'23		direct	11542 Sep 20 07:36	21° 3 31'09	
retrograde	11536 Mar 26 01:19	27° 7 29'21		evening set	11542 Dec 23 16:36	24° 3 57'18	
opposition	11536 Jun 08 19:24	25° 7 25'59	0°56'05				
min. Earth dist.	11536 Jun 09 03:56	25° 7 25'03	17.62015 AU	conjunction	11543 Jan 09 07:35	25° 3 59'09	0°26'18
direct	11536 Aug 22 15:21	23° 7 22'16		minimum elong	11543 Jan 09 07:35	25° 3 59'09	0°27'00
evening set	11536 Nov 23 23:02	26° 7 43'09		max. Earth dist.	11543 Jan 08 17:52	25° 3 57'01	19.36251 AU
				morning rise	11543 Jan 25 21:17	27° 3 00'50	
conjunction	11536 Dec 10 13:21	27° 7 43'58	0°48'54		11543 Mar 29 17:56	0° ~	
minimum elong	11536 Dec 10 13:21	27° 7 43'58	0°49'38	retrograde	11543 Apr 29 00:52	0° ~ 25'14	
max. Earth dist.	11536 Dec 10 01:58	27° 7 42'13	19.59471 AU		11543 May 29 19:24	30° R 3	
morning rise	11536 Dec 27 03:55	28° 7 44'50		opposition	11543 Jul 12 03:38	28° 3 21'45	0°26'51
	11537 Jan 18 02:58	0° 3		min. Earth dist.	11543 Jul 12 15:53	28° 3 20'25	17.34970 AU
retrograde	11537 Mar 30 23:45	2° 3 07'20		direct	11543 Sep 25 08:24	26° 3 16'27	
opposition	11537 Jun 13 15:26	0° 3 03'57	0°52'53	evening set	11543 Dec 28 21:09	29° 3 43'12	
min. Earth dist.	11537 Jun 14 01:21	0° 3 02'52	17.57056 AU		11544 Jan 02 10:36	0° ~	
	11537 Jun 15 03:47	30° R 7					
direct	11537 Aug 27 10:54	28° 7 00'00		conjunction	11544 Jan 14 11:51	0° ~ 45'07	0°21'41
	11537 Nov 04 22:30	0° 3		minimum elong	11544 Jan 14 11:51	0° ~ 45'07	0°22'21
evening set	11537 Nov 29 00:16	1° 3 21'56		max. Earth dist.	11544 Jan 13 21:10	0° ~ 42'50	19.33792 AU
				morning rise	11544 Jan 31 01:21	1° ~ 46'52	
conjunction	11537 Dec 15 14:55	2° 3 22'58	0°45'51	retrograde	11544 May 03 02:29	5° ~ 11'19	
minimum elong	11537 Dec 15 14:55	2° 3 22'58	0°46'36	opposition	11544 Jul 16 03:01	3° ~ 07'49	0°21'38
max. Earth dist.	11537 Dec 15 03:38	2° 3 21'14	19.54704 AU	min. Earth dist.	11544 Jul 16 14:40	3° ~ 06'32	17.32758 AU
morning rise	11538 Jan 01 05:28	3° 3 24'03		direct	11544 Sep 29 10:52	1° ~ 02'18	
retrograde	11538 Apr 05 00:31	6° 3 47'02		evening set	11545 Jan 02 01:45	4° ~ 29'34	
opposition	11538 Jun 18 11:59	4° 3 43'39	0°49'20				
min. Earth dist.	11538 Jun 18 21:24	4° 3 42'37	17.52467 AU	conjunction	11545 Jan 18 16:21	5° ~ 31'32	0°16'56
direct	11538 Sep 01 08:44	2° 3 39'29		minimum elong	11545 Jan 18 16:21	5° ~ 31'32	0°17'34
evening set	11538 Dec 04 02:28	6° 3 02'24		max. Earth dist.	11545 Jan 18 02:39	5° ~ 29'24	19.31835 AU
				morning rise	11545 Feb 04 05:13	6° ~ 33'18	
conjunction	11538 Dec 20 17:14	7° 3 03'40	0°42'29	retrograde	11545 May 08 02:51	9° ~ 57'43	
minimum elong	11538 Dec 20 17:15	7° 3 03'40	0°43'13	opposition	11545 Jul 21 02:56	7° ~ 54'14	0°16'14
max. Earth dist.	11538 Dec 20 05:01	7° 3 01'46	19.50291 AU	min. Earth dist.	11545 Jul 21 15:02	7° ~ 52'54	17.31072 AU
morning rise	11539 Jan 06 07:47	8° 3 04'55		direct	11545 Oct 04 12:05	5° ~ 48'33	
retrograde	11539 Apr 09 23:21	11° 3 28'20		evening set	11546 Jan 07 06:22	9° ~ 16'13	
opposition	11539 Jun 23 09:18	9° 3 24'56	0°45'26				
min. Earth dist.	11539 Jun 23 20:15	9° 3 23'44	17.48238 AU	conjunction	11546 Jan 23 20:27	10° ~ 18'12	0°12'03
direct	11539 Sep 06 06:09	7° 3 20'33		minimum elong	11546 Jan 23 20:27	10° ~ 18'12	0°12'39
evening set	11539 Dec 09 05:14	10° 3 44'24		behind sun begin	11546 Jan 23 16:15	10° ~ 17'33	
				behind sun end	11546 Jan 24 00:40	10° ~ 18'51	
conjunction	11539 Dec 25 20:12	11° 3 45'51	0°38'50	max. Earth dist.	11546 Jan 23 06:01	10° ~ 15'57	19.30442 AU
minimum elong	11539 Dec 25 20:12	11° 3 45'51	0°39'34	morning rise	11546 Feb 09 08:59	11° ~ 19'57	
max. Earth dist.	11539 Dec 25 07:28	11° 3 43'52	19.46238 AU	retrograde	11546 May 13 04:28	14° ~ 44'20	
morning rise	11540 Jan 11 10:42	12° 3 47'15		opposition	11546 Jul 26 02:59	12° ~ 40'50	0°10'44
retrograde	11540 Apr 14 00:34	16° 3 11'01		min. Earth dist.	11546 Jul 26 14:24	12° ~ 39'35	17.29982 AU
opposition	11540 Jun 27 07:06	14° 3 07'36	0°41'12	direct	11546 Oct 09 14:45	10° ~ 35'01	
min. Earth dist.	11540 Jun 27 17:34	14° 3 06'28	17.44349 AU	evening set	11547 Jan 12 10:56	14° ~ 03'00	
direct	11540 Sep 10 06:20	12° 3 03'00			11547 Jan 27 17:03	15° ~	
evening set	11540 Dec 13 08:42	15° 3 27'42		max. Earth dist.	11547 Jan 28 11:57	15° ~ 02'59	19.29656 AU
conjunction	11540 Dec 29 23:44	16° 3 29'18	0°34'54	conjunction	11547 Jan 29 00:48	15° ~ 04'59	0°07'05
minimum elong	11540 Dec 29 23:44	16° 3 29'18	0°35'37	minimum elong	11547 Jan 29 00:47	15° ~ 04'59	0°07'39
max. Earth dist.	11540 Dec 29 10:29	16° 3 27'15	19.42515 AU	behind sun begin	11547 Jan 28 18:42	15° ~ 04'03	
morning rise	11541 Jan 15 13:58	17° 3 30'49		behind sun end	11547 Jan 29 06:53	15° ~ 05'55	
retrograde	11541 Apr 18 23:42	20° 3 54'52		morning rise	11547 Feb 14 12:34	16° ~ 06'42	
opposition	11541 Jul 02 05:32	18° 3 51'27	0°36'41	retrograde	11547 May 18 05:04	19° ~ 30'56	
min. Earth dist.	11541 Jul 02 17:24	18° 3 50'09	17.40812 AU	opposition	11547 Jul 31 03:11	17° ~ 27'30	0°05'08
direct	11541 Sep 15 05:58	16° 3 46'36		min. Earth dist.	11547 Jul 31 14:24	17° ~ 26'16	17.29512 AU
evening set	11541 Dec 18 12:34	20° 3 12'04		direct	11547 Oct 14 16:24	15° ~ 21'35	
				evening set	11548 Jan 17 15:38	18° ~ 49'49	
conjunction	11542 Jan 04 03:32	21° 3 13'48	0°30'42				
minimum elong	11542 Jan 04 03:32	21° 3 13'48	0°31'25	conjunction	11548 Feb 03 04:52	19° ~ 51'46	0°02'04
max. Earth dist.	11542 Jan 03 13:29	21° 3 11'37	19.39179 AU	minimum elong	11548 Feb 03 04:51	19° ~ 51'46	0°02'37
morning rise	11542 Jan 20 17:38	22° 3 15'26		behind sun begin	11548 Feb 02 22:07	19° ~ 50'44	
retrograde	11542 Apr 24 00:58	25° 3 39'41		behind sun end	11548 Feb 03 11:34	19° ~ 52'47	
opposition	11542 Jul 07 04:19	23° 3 36'14	0°31'53	max. Earth dist.	11548 Feb 02 15:23	19° ~ 49'39	19.29519 AU

morning rise	11548 Feb 19 16:09	20° \approx 53'25	conjunction	11554 Mar 03 22:56	18° \times 27'25 -0°27'09
retrograde	11548 May 22 06:24	24° \approx 17'29	minimum elong	11554 Mar 03 22:55	18° \times 27'25 0°26'56
desc. node	11548 Jul 03 21:43	23° \approx 30'11	max. Earth dist.	11554 Mar 03 14:11	18° \times 26'03 19.41564 AU
opposition	11548 Aug 04 03:37	22° \approx 14'08 -0°00'29	morning rise	11554 Mar 20 05:19	19° \times 28'10
min. Earth dist.	11548 Aug 04 14:15	22° \approx 12'58 17.29714 AU	retrograde	11554 Jun 20 05:12	22° \times 50'09
direct	11548 Oct 18 18:52	20° \approx 08'12	opposition	11554 Sep 02 07:11	20° \times 47'58 -0°32'39
evening set	11549 Jan 21 19:59	23° \approx 36'35	min. Earth dist.	11554 Sep 02 14:52	20° \times 47'09 17.43366 AU
			direct	11554 Nov 17 10:46	18° \times 42'51
conjunction	11549 Feb 07 08:47	24° \approx 38'28 -0°03'06	evening set	11555 Feb 20 16:07	22° \times 10'09
minimum elong	11549 Feb 07 08:47	24° \approx 38'28 0°02'37			
behind sun begin	11549 Feb 07 02:04	24° \approx 37'26	conjunction	11555 Mar 09 00:17	23° \times 11'03 -0°31'30
behind sun end	11549 Feb 07 15:30	24° \approx 39'29	minimum elong	11555 Mar 09 00:17	23° \times 11'03 0°31'21
max. Earth dist.	11549 Feb 06 21:08	24° \approx 36'39 19.30053 AU	max. Earth dist.	11555 Mar 08 16:05	23° \times 09'47 19.45246 AU
morning rise	11549 Feb 23 19:13	25° \approx 40'01	morning rise	11555 Mar 25 05:49	24° \times 11'34
retrograde	11549 May 27 07:07	29° \approx 03'52	retrograde	11555 Jun 25 04:27	27° \times 33'00
opposition	11549 Aug 09 04:10	27° \approx 00'40 -0°06'06	opposition	11555 Sep 07 07:12	25° \times 31'00 -0°37'23
min. Earth dist.	11549 Aug 09 13:58	26° \approx 59'36 17.30573 AU	min. Earth dist.	11555 Sep 07 13:25	25° \times 30'20 17.47220 AU
direct	11549 Oct 23 21:07	24° \approx 54'48	direct	11555 Nov 22 14:40	23° \times 26'04
evening set	11550 Jan 27 00:18	28° \approx 23'15	evening set	11556 Feb 25 17:42	26° \times 52'50
conjunction	11550 Feb 12 12:19	29° \approx 25'01 -0°08'06	conjunction	11556 Mar 13 01:01	27° \times 53'29 -0°35'38
minimum elong	11550 Feb 12 12:19	29° \approx 25'01 0°07'39	minimum elong	11556 Mar 13 01:01	27° \times 53'29 0°35'32
behind sun begin	11550 Feb 12 06:14	29° \approx 24'05	max. Earth dist.	11556 Mar 12 17:43	27° \times 52'21 19.49268 AU
behind sun end	11550 Feb 12 18:24	29° \approx 25'57	morning rise	11556 Mar 29 05:34	28° \times 53'46
max. Earth dist.	11550 Feb 12 00:26	29° \approx 23'10 19.31247 AU		11556 Apr 17 03:15	0° Ψ
	11550 Feb 21 19:14	0° \times	retrograde	11556 Jun 29 01:15	2° Ψ 14'35
morning rise	11550 Feb 28 22:08	0° \times 26'29	opposition	11556 Sep 11 07:14	0° Ψ 12'46 -0°41'51
retrograde	11550 Jun 01 07:41	3° \times 50'04	min. Earth dist.	11556 Sep 11 13:50	0° Ψ 12'03 17.51416 AU
opposition	11550 Aug 14 04:47	1° \times 47'03 -0°11'40		11556 Sep 16 06:23	30° \times
min. Earth dist.	11550 Aug 14 14:18	1° \times 46'00 17.32092 AU	direct	11556 Nov 26 15:40	28° \times 07'59
	11550 Oct 02 06:04	30° \times		11557 Feb 02 01:16	0° Ψ
direct	11550 Oct 28 23:03	29° \approx 41'16	evening set	11557 Mar 01 18:23	1° Ψ 34'07
	11550 Nov 24 11:15	0° \times			
evening set	11551 Feb 01 04:08	3° \times 09'42	conjunction	11557 Mar 18 00:43	2° Ψ 34'30 -0°39'31
			minimum elong	11557 Mar 18 00:43	2° Ψ 34'30 0°39'29
conjunction	11551 Feb 17 15:38	4° \times 11'22 -0°13'02	max. Earth dist.	11557 Mar 17 17:43	2° Ψ 33'25 19.53631 AU
minimum elong	11551 Feb 17 15:38	4° \times 11'22 0°12'39	morning rise	11557 Apr 03 04:28	3° Ψ 34'31
behind sun begin	11551 Feb 17 11:25	4° \times 10'43	retrograde	11557 Jul 03 23:38	6° Ψ 54'42
behind sun end	11551 Feb 17 19:52	4° \times 12'01	opposition	11557 Sep 16 06:41	4° Ψ 53'01 -0°46'02
max. Earth dist.	11551 Feb 17 05:20	4° \times 09'46 19.33069 AU	min. Earth dist.	11557 Sep 16 11:33	4° Ψ 52'30 17.55935 AU
morning rise	11551 Mar 06 00:37	5° \times 12'41	direct	11557 Dec 01 18:06	2° Ψ 48'25
retrograde	11551 Jun 06 08:20	8° \times 35'57	evening set	11558 Mar 06 18:14	6° Ψ 13'48
opposition	11551 Aug 19 05:24	6° \times 33'09 -0°17'08			
min. Earth dist.	11551 Aug 19 13:53	6° \times 32'14 17.34184 AU	conjunction	11558 Mar 22 23:46	7° Ψ 13'56 -0°43'08
direct	11551 Nov 03 02:21	4° \times 27'32	minimum elong	11558 Mar 22 23:45	7° Ψ 13'56 0°43'08
evening set	11552 Feb 06 07:57	7° \times 55'51	max. Earth dist.	11558 Mar 22 18:18	7° Ψ 13'05 19.58304 AU
			morning rise	11558 Apr 08 02:30	8° Ψ 13'40
conjunction	11552 Feb 22 18:34	8° \times 57'21 -0°17'52	retrograde	11558 Jul 08 19:36	11° Ψ 33'09
minimum elong	11552 Feb 22 18:34	8° \times 57'21 0°17'33	opposition	11558 Sep 21 05:44	9° Ψ 31'37 -0°49'53
max. Earth dist.	11552 Feb 22 08:16	8° \times 55'45 19.35426 AU	min. Earth dist.	11558 Sep 21 10:51	9° Ψ 31'04 17.60771 AU
morning rise	11552 Mar 10 02:45	9° \times 58'30	direct	11558 Dec 06 18:03	7° Ψ 27'11
retrograde	11552 Jun 10 07:24	13° \times 21'24	evening set	11559 Mar 11 17:14	10° Ψ 51'46
opposition	11552 Aug 23 06:02	11° \times 18'49 -0°22'29			
min. Earth dist.	11552 Aug 23 14:42	11° \times 17'52 17.36803 AU	conjunction	11559 Mar 27 21:46	11° Ψ 51'35 -0°46'26
direct	11552 Nov 07 04:36	9° \times 13'21	minimum elong	11559 Mar 27 21:45	11° Ψ 51'35 0°46'32
evening set	11553 Feb 10 11:13	12° \times 41'27	max. Earth dist.	11559 Mar 27 16:26	11° Ψ 50'46 19.63305 AU
			morning rise	11559 Apr 12 23:49	12° Ψ 51'04
conjunction	11553 Feb 26 21:07	13° \times 42'47 -0°22'35	retrograde	11559 Jul 13 16:22	16° Ψ 09'48
minimum elong	11553 Feb 26 21:07	13° \times 42'47 0°22'19	opposition	11559 Sep 26 04:12	14° Ψ 08'24 -0°53'23
max. Earth dist.	11553 Feb 26 11:53	13° \times 41'20 19.38283 AU	min. Earth dist.	11559 Sep 26 07:29	14° Ψ 08'03 17.65929 AU
morning rise	11553 Mar 15 04:23	14° \times 43'44	direct	11559 Dec 11 18:55	12° Ψ 04'10
retrograde	11553 Jun 15 07:22	18° \times 06'13	evening set	11560 Mar 15 15:10	15° Ψ 27'51
opposition	11553 Aug 28 06:39	16° \times 03'50 -0°27'40			
min. Earth dist.	11553 Aug 28 13:59	16° \times 03'02 17.39876 AU	conjunction	11560 Mar 31 18:55	16° Ψ 27'24 -0°49'25
direct	11553 Nov 12 08:43	13° \times 58'33	minimum elong	11560 Mar 31 18:54	16° Ψ 27'24 0°49'34
evening set	11554 Feb 15 13:54	17° \times 26'17	max. Earth dist.	11560 Mar 31 15:41	16° Ψ 26'54 19.68618 AU
			morning rise	11560 Apr 16 19:56	17° Ψ 26'34

retrograde	11560 Jul 17 11:04	20° Υ 44'33			11567 Mar 13 20:09	15° \mathcal{B}	
opposition	11560 Sep 30 02:20	18° Υ 43'18	-0°56'31	evening set	11567 Apr 16 23:13	16° \mathcal{B} 49'28	
min. Earth dist.	11560 Sep 30 05:25	18° Υ 42'58	17.71414 AU				
direct	11560 Dec 15 18:19	16° Υ 39'17		conjunction	11567 May 02 21:14	17° \mathcal{B} 46'52	-1°00'34
evening set	11561 Mar 20 12:18	20° Υ 02'03		minimum elong	11567 May 02 21:13	17° \mathcal{B} 46'52	1°01'05
				max. Earth dist.	11567 May 03 00:48	17° \mathcal{B} 47'24	20.13567 AU
conjunction	11561 Apr 05 14:59	21° Υ 01'16	-0°52'04	morning rise	11567 May 18 17:36	18° \mathcal{B} 44'01	
minimum elong	11561 Apr 05 14:58	21° Υ 01'16	0°52'16	retrograde	11567 Aug 18 07:57	21° \mathcal{B} 56'54	
max. Earth dist.	11561 Apr 05 11:59	21° Υ 00'49	19.74282 AU	opposition	11567 Nov 01 20:58	19° \mathcal{B} 57'13	-1°07'26
morning rise	11561 Apr 21 15:20	22° Υ 00'09		min. Earth dist.	11567 Nov 01 16:32	19° \mathcal{B} 57'40	18.16987 AU
retrograde	11561 Jul 22 06:08	25° Υ 17'24		direct	11568 Jan 17 22:01	17° \mathcal{B} 55'39	
opposition	11561 Oct 04 23:47	23° Υ 16'18	-0°59'16	evening set	11568 Apr 20 13:51	21° \mathcal{B} 11'17	
min. Earth dist.	11561 Oct 05 00:51	23° Υ 16'11	17.77259 AU				
direct	11561 Dec 20 17:35	21° Υ 12'33		conjunction	11568 May 06 11:22	22° \mathcal{B} 08'23	-1°00'45
evening set	11562 Mar 25 08:12	24° Υ 34'21		minimum elong	11568 May 06 11:22	22° \mathcal{B} 08'23	1°01'17
				max. Earth dist.	11568 May 06 16:41	22° \mathcal{B} 09'12	20.20351 AU
conjunction	11562 Apr 10 10:12	25° Υ 33'16	-0°54'23	morning rise	11568 May 22 07:06	23° \mathcal{B} 05'16	
minimum elong	11562 Apr 10 10:12	25° Υ 33'16	0°54'39	retrograde	11568 Aug 21 21:41	26° \mathcal{B} 17'28	
max. Earth dist.	11562 Apr 10 09:35	25° Υ 33'11	19.80290 AU	opposition	11568 Nov 05 14:33	24° \mathcal{B} 18'00	-1°07'25
morning rise	11562 Apr 26 09:38	26° Υ 31'51		min. Earth dist.	11568 Nov 05 09:19	24° \mathcal{B} 18'32	18.23713 AU
retrograde	11562 Jul 26 23:37	29° Υ 48'21		direct	11569 Jan 21 17:01	22° \mathcal{B} 16'47	
opposition	11562 Oct 09 20:48	27° Υ 47'27	-1°01'37	evening set	11569 Apr 25 03:49	25° \mathcal{B} 31'20	
min. Earth dist.	11562 Oct 09 21:21	27° Υ 47'24	17.83423 AU				
direct	11562 Dec 25 16:18	25° Υ 44'02		conjunction	11569 May 11 00:36	26° \mathcal{B} 28'09	-1°00'35
evening set	11563 Mar 30 03:29	29° Υ 04'51		minimum elong	11569 May 11 00:35	26° \mathcal{B} 28'09	1°01'10
	11563 Apr 14 05:58	0° \mathcal{B}		max. Earth dist.	11569 May 11 05:38	26° \mathcal{B} 28'55	20.27014 AU
				morning rise	11569 May 26 20:02	27° \mathcal{B} 24'47	
conjunction	11563 Apr 15 04:29	0° \mathcal{B} 03'27	-0°56'20		11569 Jul 20 01:02	0° \mathcal{B}	
minimum elong	11563 Apr 15 04:29	0° \mathcal{B} 03'27	0°56'38	retrograde	11569 Aug 26 11:16	0° \mathcal{B} 36'17	
max. Earth dist.	11563 Apr 15 03:57	0° \mathcal{B} 03'22	19.86608 AU		11569 Oct 04 01:15	30° \mathcal{R} \mathcal{B}	
morning rise	11563 May 01 03:21	1° \mathcal{B} 01'45		opposition	11569 Nov 10 07:25	28° \mathcal{B} 37'00	-1°07'01
retrograde	11563 Jul 31 16:59	4° \mathcal{B} 17'31		min. Earth dist.	11569 Nov 10 01:46	28° \mathcal{B} 37'34	18.30312 AU
opposition	11563 Oct 14 17:01	2° \mathcal{B} 16'50	-1°03'35	direct	11570 Jan 26 09:30	26° \mathcal{B} 36'06	
min. Earth dist.	11563 Oct 14 15:53	2° \mathcal{B} 16'58	17.89875 AU	evening set	11570 Apr 29 16:41	29° \mathcal{B} 49'35	
direct	11563 Dec 30 13:55	0° \mathcal{B} 13'46			11570 May 02 15:44	0° \mathcal{B}	
evening set	11564 Apr 02 21:43	3° \mathcal{B} 33'35					
				conjunction	11570 May 15 13:07	0° \mathcal{B} 46'08	-1°00'04
conjunction	11564 Apr 18 22:04	4° \mathcal{B} 31'53	-0°57'56	minimum elong	11570 May 15 13:07	0° \mathcal{B} 46'08	1°00'41
minimum elong	11564 Apr 18 22:04	4° \mathcal{B} 31'53	0°58'18	max. Earth dist.	11570 May 15 19:37	0° \mathcal{B} 47'06	20.33521 AU
max. Earth dist.	11564 Apr 18 23:50	4° \mathcal{B} 32'10	19.93172 AU	morning rise	11570 May 31 08:06	1° \mathcal{B} 42'31	
morning rise	11564 May 04 20:03	5° \mathcal{B} 29'53		retrograde	11570 Aug 30 23:50	4° \mathcal{B} 53'19	
retrograde	11564 Aug 04 09:29	8° \mathcal{B} 44'55		opposition	11570 Nov 14 23:38	2° \mathcal{B} 54'11	-1°06'16
opposition	11564 Oct 18 12:57	6° \mathcal{B} 44'30	-1°05'08	min. Earth dist.	11570 Nov 14 17:05	2° \mathcal{B} 54'51	18.36709 AU
min. Earth dist.	11564 Oct 18 11:12	6° \mathcal{B} 44'41	17.96528 AU	direct	11571 Jan 31 03:03	0° \mathcal{B} 53'35	
direct	11565 Jan 03 11:26	4° \mathcal{B} 41'49		evening set	11571 May 04 04:54	4° \mathcal{B} 05'59	
evening set	11565 Apr 07 15:03	8° \mathcal{B} 00'36					
				conjunction	11571 May 20 00:43	5° \mathcal{B} 02'16	-0°59'14
conjunction	11565 Apr 23 14:27	8° \mathcal{B} 58'36	-0°59'10	minimum elong	11571 May 20 00:43	5° \mathcal{B} 02'16	0°59'53
minimum elong	11565 Apr 23 14:27	8° \mathcal{B} 58'36	0°59'34	max. Earth dist.	11571 May 20 07:00	5° \mathcal{B} 03'13	20.39816 AU
max. Earth dist.	11565 Apr 23 16:15	8° \mathcal{B} 58'52	19.99905 AU	morning rise	11571 Jun 04 19:30	5° \mathcal{B} 58'25	
morning rise	11565 May 09 11:58	9° \mathcal{B} 56'19		retrograde	11571 Sep 04 11:39	9° \mathcal{B} 08'33	
retrograde	11565 Aug 09 01:43	13° \mathcal{B} 10'38		opposition	11571 Nov 19 15:12	7° \mathcal{B} 09'32	-1°05'08
opposition	11565 Oct 23 08:15	11° \mathcal{B} 10'27	-1°06'18	min. Earth dist.	11571 Nov 19 08:29	7° \mathcal{B} 10'13	18.42911 AU
min. Earth dist.	11565 Oct 23 05:12	11° \mathcal{B} 10'46	18.03324 AU	direct	11572 Feb 04 17:26	5° \mathcal{B} 09'12	
direct	11566 Jan 08 07:27	9° \mathcal{B} 08'08		evening set	11572 May 07 16:02	8° \mathcal{B} 20'31	
evening set	11566 Apr 12 07:28	12° \mathcal{B} 25'54					
				conjunction	11572 May 23 11:35	9° \mathcal{B} 16'33	-0°58'05
conjunction	11566 Apr 28 06:20	13° \mathcal{B} 23'35	-1°00'03	minimum elong	11572 May 23 11:35	9° \mathcal{B} 16'33	0°58'45
minimum elong	11566 Apr 28 06:20	13° \mathcal{B} 23'35	1°00'30	max. Earth dist.	11572 May 23 19:20	9° \mathcal{B} 17'43	20.45923 AU
max. Earth dist.	11566 Apr 28 10:09	13° \mathcal{B} 24'10	20.06731 AU	morning rise	11572 Jun 08 06:02	10° \mathcal{B} 12'28	
morning rise	11566 May 14 03:06	14° \mathcal{B} 21'01		retrograde	11572 Sep 07 23:19	13° \mathcal{B} 21'56	
	11566 May 25 08:14	15° \mathcal{B}		opposition	11572 Nov 23 06:05	11° \mathcal{B} 23'01	-1°03'40
retrograde	11566 Aug 13 16:50	17° \mathcal{B} 34'36		min. Earth dist.	11572 Nov 22 22:08	11° \mathcal{B} 23'49	18.48917 AU
opposition	11566 Oct 28 02:49	15° \mathcal{B} 34'42	-1°07'04	direct	11573 Feb 08 09:41	9° \mathcal{B} 22'56	
min. Earth dist.	11566 Oct 27 23:12	15° \mathcal{B} 35'04	18.10161 AU	evening set	11573 May 12 02:19	12° \mathcal{B} 33'11	
	11566 Nov 11 06:03	15° \mathcal{R} \mathcal{B}					
direct	11567 Jan 13 03:40	13° \mathcal{B} 32'46		conjunction	11573 May 27 21:23	13° \mathcal{B} 28'58	-0°56'37

minimum elong	11573 May 27 21:23	13° Π 28'58	0°57'18	direct	11580 Mar 09 18:20	8° \mathfrak{D} 15'39	
max. Earth dist.	11573 May 28 05:21	13° Π 30'09	20.51844 AU	evening set	11580 Jun 09 07:49	11° \mathfrak{D} 19'44	
morning rise	11573 Jun 12 15:47	14° Π 24'41					
retrograde	11573 Sep 12 09:47	17° Π 33'31		conjunction	11580 Jun 25 01:57	12° \mathfrak{D} 14'16	-0°38'59
opposition	11573 Nov 27 20:19	15° Π 34'40	-1°01'51	minimum elong	11580 Jun 25 01:57	12° \mathfrak{D} 14'16	0°39'44
min. Earth dist.	11573 Nov 27 12:13	15° Π 35'30	18.54770 AU	max. Earth dist.	11580 Jun 25 14:55	12° \mathfrak{D} 16'09	20.88236 AU
direct	11574 Feb 12 21:55	13° Π 34'49		morning rise	11580 Jul 10 20:29	13° \mathfrak{D} 08'52	
evening set	11574 May 16 11:48	16° Π 44'03		retrograde	11580 Oct 11 05:22	16° \mathfrak{D} 14'33	
				opposition	11580 Dec 27 07:36	14° \mathfrak{D} 16'29	-0°41'19
conjunction	11574 Jun 01 06:41	17° Π 39'37	-0°54'51	min. Earth dist.	11580 Dec 26 18:36	14° \mathfrak{D} 17'47	18.90296 AU
minimum elong	11574 Jun 01 06:41	17° Π 39'37	0°55'34	direct	11581 Mar 14 04:29	12° \mathfrak{D} 18'33	
max. Earth dist.	11574 Jun 01 16:06	17° Π 41'00	20.57623 AU	evening set	11581 Jun 13 13:37	15° \mathfrak{D} 21'58	
morning rise	11574 Jun 17 00:50	18° Π 35'07					
retrograde	11574 Sep 16 20:35	21° Π 43'21		conjunction	11581 Jun 29 07:43	16° \mathfrak{D} 16'22	-0°35'36
opposition	11574 Dec 02 09:39	19° Π 44'36	-0°59'43	minimum elong	11581 Jun 29 07:43	16° \mathfrak{D} 16'22	0°36'21
min. Earth dist.	11574 Dec 02 00:05	19° Π 45'34	18.60471 AU	max. Earth dist.	11581 Jun 29 20:31	16° \mathfrak{D} 18'13	20.92218 AU
direct	11575 Feb 17 12:28	17° Π 45'01		morning rise	11581 Jul 15 02:34	17° \mathfrak{D} 10'53	
evening set	11575 May 20 20:42	20° Π 53'16		retrograde	11581 Oct 15 12:51	20° \mathfrak{D} 16'18	
				opposition	11581 Dec 31 17:50	18° \mathfrak{D} 18'18	-0°37'29
conjunction	11575 Jun 05 15:12	21° Π 48'37	-0°52'48	min. Earth dist.	11581 Dec 31 05:47	18° \mathfrak{D} 19'30	18.94057 AU
minimum elong	11575 Jun 05 15:12	21° Π 48'37	0°53'31	direct	11582 Mar 18 12:46	16° \mathfrak{D} 20'35	
max. Earth dist.	11575 Jun 06 00:54	21° Π 50'03	20.63254 AU	evening set	11582 Jun 17 19:08	19° \mathfrak{D} 23'23	
morning rise	11575 Jun 21 09:21	22° Π 43'55					
retrograde	11575 Sep 21 06:21	25° Π 51'37		conjunction	11582 Jul 03 13:24	20° \mathfrak{D} 17'41	-0°32'04
opposition	11575 Dec 06 22:40	23° Π 52'58	-0°57'18	minimum elong	11582 Jul 03 13:24	20° \mathfrak{D} 17'41	0°32'47
min. Earth dist.	11575 Dec 06 13:01	23° Π 53'57	18.66039 AU	max. Earth dist.	11582 Jul 04 02:26	20° \mathfrak{D} 19'34	20.95739 AU
direct	11576 Feb 21 23:17	21° Π 53'39		morning rise	11582 Jul 19 08:26	21° \mathfrak{D} 12'06	
evening set	11576 May 24 04:39	25° Π 00'58		retrograde	11582 Oct 19 22:09	24° \mathfrak{D} 17'17	
				opposition	11583 Jan 05 03:27	22° \mathfrak{D} 19'20	-0°33'29
conjunction	11576 Jun 08 23:03	25° Π 56'08	-0°50'30	min. Earth dist.	11583 Jan 04 14:30	22° \mathfrak{D} 20'38	18.97317 AU
minimum elong	11576 Jun 08 23:03	25° Π 56'08	0°51'15	direct	11583 Mar 22 22:05	20° \mathfrak{D} 21'48	
max. Earth dist.	11576 Jun 09 10:07	25° Π 57'45	20.68744 AU	evening set	11583 Jun 22 00:28	23° \mathfrak{D} 24'01	
morning rise	11576 Jun 24 17:07	26° Π 51'16					
retrograde	11576 Sep 24 16:31	29° Π 58'28		conjunction	11583 Jul 07 18:49	24° \mathfrak{D} 18'14	-0°28'24
opposition	11576 Dec 10 11:00	27° Π 59'56	-0°54'35	minimum elong	11583 Jul 07 18:49	24° \mathfrak{D} 18'14	0°29'06
min. Earth dist.	11576 Dec 09 23:45	28° Π 01'05	18.71429 AU	max. Earth dist.	11583 Jul 08 07:26	24° \mathfrak{D} 20'03	20.98736 AU
direct	11577 Feb 25 12:13	26° Π 00'55		morning rise	11583 Jul 23 14:12	25° \mathfrak{D} 12'36	
evening set	11577 May 28 12:13	29° Π 07'21		retrograde	11583 Oct 24 04:40	28° \mathfrak{D} 17'35	
	11577 Jun 12 14:30	0° \mathfrak{D}		opposition	11584 Jan 09 13:02	26° \mathfrak{D} 19'38	-0°29'20
conjunction	11577 Jun 13 06:24	0° \mathfrak{D} 02'20	-0°47'57	min. Earth dist.	11584 Jan 09 01:13	26° \mathfrak{D} 20'49	19.00056 AU
minimum elong	11577 Jun 13 06:24	0° \mathfrak{D} 02'20	0°48'41	direct	11584 Mar 26 05:20	24° \mathfrak{D} 22'14	
max. Earth dist.	11577 Jun 13 17:41	0° \mathfrak{D} 03'59	20.74033 AU	evening set	11584 Jun 25 05:16	27° \mathfrak{D} 23'54	
morning rise	11577 Jun 29 00:35	0° \mathfrak{D} 57'18					
retrograde	11577 Sep 29 01:57	4° \mathfrak{D} 04'04		conjunction	11584 Jul 10 23:54	28° \mathfrak{D} 18'03	-0°24'35
opposition	11577 Dec 14 22:48	2° \mathfrak{D} 05'39	-0°51'37	minimum elong	11584 Jul 10 23:54	28° \mathfrak{D} 18'03	0°25'16
min. Earth dist.	11577 Dec 14 11:48	2° \mathfrak{D} 06'46	18.76613 AU	max. Earth dist.	11584 Jul 11 12:41	28° \mathfrak{D} 19'53	21.01218 AU
direct	11578 Mar 01 21:51	0° \mathfrak{D} 06'55		morning rise	11584 Jul 26 19:37	29° \mathfrak{D} 12'22	
evening set	11578 Jun 01 19:09	3° \mathfrak{D} 12'32			11584 Aug 10 09:42	0° \mathfrak{D}	
				retrograde	11584 Oct 27 13:42	2° \mathfrak{D} 17'12	
conjunction	11578 Jun 17 13:21	4° \mathfrak{D} 07'20	-0°45'10	opposition	11585 Jan 12 22:04	0° \mathfrak{D} 19'12	-0°25'03
minimum elong	11578 Jun 17 13:21	4° \mathfrak{D} 07'20	0°45'55	min. Earth dist.	11585 Jan 12 09:22	0° \mathfrak{D} 20'28	19.02267 AU
max. Earth dist.	11578 Jun 18 01:36	4° \mathfrak{D} 09'07	20.79090 AU		11585 Jan 20 23:29	30° \mathfrak{R} \mathfrak{D}	
morning rise	11578 Jul 03 07:35	5° \mathfrak{D} 02'11		direct	11585 Mar 30 14:15	28° \mathfrak{D} 21'54	
retrograde	11578 Oct 03 11:25	8° \mathfrak{D} 08'31			11585 Jun 02 21:28	0° \mathfrak{D}	
opposition	11578 Dec 19 10:05	6° \mathfrak{D} 10'15	-0°48'24	evening set	11585 Jun 29 10:02	1° \mathfrak{D} 23'05	
min. Earth dist.	11578 Dec 18 21:42	6° \mathfrak{D} 11'29	18.81516 AU				
direct	11579 Mar 06 09:21	4° \mathfrak{D} 11'48		conjunction	11585 Jul 15 04:51	2° \mathfrak{D} 17'10	-0°20'40
evening set	11579 Jun 06 01:42	7° \mathfrak{D} 16'37		minimum elong	11585 Jul 15 04:51	2° \mathfrak{D} 17'10	0°21'20
				max. Earth dist.	11585 Jul 15 17:16	2° \mathfrak{D} 18'57	21.03176 AU
conjunction	11579 Jun 21 19:45	8° \mathfrak{D} 11'17	-0°42'10	morning rise	11585 Jul 31 01:01	3° \mathfrak{D} 11'28	
minimum elong	11579 Jun 21 19:45	8° \mathfrak{D} 11'17	0°42'55	retrograde	11585 Oct 31 19:38	6° \mathfrak{D} 16'09	
max. Earth dist.	11579 Jun 22 08:03	8° \mathfrak{D} 13'04	20.83833 AU	opposition	11586 Jan 17 06:43	4° \mathfrak{D} 18'06	-0°20'39
morning rise	11579 Jul 07 14:10	9° \mathfrak{D} 05'59		min. Earth dist.	11586 Jan 16 19:14	4° \mathfrak{D} 19'15	19.03990 AU
retrograde	11579 Oct 07 20:02	12° \mathfrak{D} 11'59		direct	11586 Apr 03 20:11	2° \mathfrak{D} 20'51	
opposition	11579 Dec 23 21:07	10° \mathfrak{D} 13'49	-0°44'58	evening set	11586 Jul 03 14:27	5° \mathfrak{D} 21'36	
min. Earth dist.	11579 Dec 23 09:18	10° \mathfrak{D} 15'00	18.86097 AU				
				conjunction	11586 Jul 19 09:37	6° \mathfrak{D} 15'40	-0°16'39

minimum elong	11586 Jul 19 09:37	6°Ω15'40	0°17'18		11591 Nov 13 04:51	0°♊	
max. Earth dist.	11586 Jul 19 22:16	6°Ω17'28	21.04678 AU	retrograde	11591 Nov 25 16:07	0°♊03'49	
morning rise	11586 Aug 04 06:10	7°Ω09'56			11591 Dec 08 05:35	30°♋Ω	
retrograde	11586 Nov 05 04:00	10°Ω14'33		opposition	11592 Feb 11 06:22	28°Ω05'22	0°06'55
opposition	11587 Jan 21 15:02	8°Ω16'25	-0°16'10	min. Earth dist.	11592 Feb 10 19:04	28°Ω06'30	19.06060 AU
min. Earth dist.	11587 Jan 21 02:32	8°Ω17'40	19.05272 AU	direct	11592 Apr 27 09:18	26°Ω08'26	
direct	11587 Apr 08 04:39	6°Ω19'13		evening set	11592 Jul 26 16:19	29°Ω08'10	
evening set	11587 Jul 07 18:42	9°Ω19'37			11592 Aug 10 21:12	0°♊	
conjunction	11587 Jul 23 14:04	10°Ω13'39	-0°12'34	conjunction	11592 Aug 11 13:49	0°♊02'22	0°08'25
minimum elong	11587 Jul 23 14:04	10°Ω13'39	0°13'11	minimum elong	11592 Aug 11 13:49	0°♊02'22	0°07'58
behind sun begin	11587 Jul 23 10:09	10°Ω13'06		behind sun begin	11592 Aug 11 07:55	0°♊01'33	
behind sun end	11587 Jul 23 18:00	10°Ω14'12		behind sun end	11592 Aug 11 19:44	0°♊03'12	
max. Earth dist.	11587 Jul 24 02:36	10°Ω15'26	21.05752 AU	max. Earth dist.	11592 Aug 12 02:06	0°♊04'07	21.05612 AU
morning rise	11587 Aug 08 11:06	11°Ω07'55		morning rise	11592 Aug 27 13:30	0°♊56'54	
retrograde	11587 Nov 09 10:11	14°Ω12'32		retrograde	11592 Nov 29 00:48	4°♊02'20	
opposition	11588 Jan 25 23:20	12°Ω14'19	-0°11'36	opposition	11593 Feb 14 14:00	2°♊03'50	0°11'31
min. Earth dist.	11588 Jan 25 11:47	12°Ω15'28	19.06163 AU	min. Earth dist.	11593 Feb 14 02:02	2°♊05'02	19.05064 AU
direct	11588 Apr 11 09:48	10°Ω17'10		direct	11593 May 01 15:47	0°♊06'56	
evening set	11588 Jul 10 22:53	13°Ω17'17		evening set	11593 Jul 30 21:23	3°♊06'44	
conjunction	11588 Jul 26 18:40	14°Ω11'19	-0°08'26	conjunction	11593 Aug 15 19:19	4°♊01'02	0°12'33
minimum elong	11588 Jul 26 18:40	14°Ω11'19	0°09'02	minimum elong	11593 Aug 15 19:19	4°♊01'02	0°12'10
behind sun begin	11588 Jul 26 13:03	14°Ω10'32		behind sun begin	11593 Aug 15 14:50	4°♊00'25	
behind sun end	11588 Jul 27 00:18	14°Ω12'06		behind sun end	11593 Aug 15 23:47	4°♊01'40	
max. Earth dist.	11588 Jul 27 07:28	14°Ω13'08	21.06465 AU	max. Earth dist.	11593 Aug 16 07:00	4°♊02'42	21.04393 AU
	11588 Aug 10 00:10	15°Ω		morning rise	11593 Aug 31 19:35	4°♊55'40	
morning rise	11588 Aug 11 16:09	15°Ω05'36		retrograde	11593 Dec 03 08:07	8°♊01'25	
retrograde	11588 Nov 12 18:18	18°Ω10'16		opposition	11594 Feb 18 21:44	6°♊02'51	0°16'05
opposition	11589 Jan 29 07:08	16°Ω11'58	-0°07'00	min. Earth dist.	11594 Feb 18 11:22	6°♊03'54	19.03623 AU
min. Earth dist.	11589 Jan 28 18:30	16°Ω13'14	19.06692 AU	direct	11594 May 05 20:09	4°♊05'58	
	11589 Mar 02 14:03	15°♋Ω		evening set	11594 Aug 04 02:44	7°♊05'56	
direct	11589 Apr 15 17:20	14°Ω14'53		conjunction	11594 Aug 20 01:14	8°♊00'19	0°16'38
	11589 May 28 08:05	15°Ω		minimum elong	11594 Aug 20 01:13	8°♊00'19	0°16'17
evening set	11589 Jul 15 03:06	17°Ω14'47		max. Earth dist.	11594 Aug 20 12:27	8°♊01'55	21.02723 AU
conjunction	11589 Jul 30 23:12	18°Ω08'51	-0°04'17	morning rise	11594 Sep 05 02:04	8°♊55'03	
minimum elong	11589 Jul 30 23:13	18°Ω08'51	0°04'50	retrograde	11594 Dec 07 17:50	12°♊01'10	
behind sun begin	11589 Jul 30 16:47	18°Ω07'57		opposition	11595 Feb 23 05:35	10°♊02'31	0°20'35
behind sun end	11589 Jul 31 05:39	18°Ω09'44		min. Earth dist.	11595 Feb 22 18:53	10°♊03'36	19.01702 AU
max. Earth dist.	11589 Jul 31 11:46	18°Ω10'38	21.06806 AU	direct	11595 May 10 02:49	8°♊05'37	
morning rise	11589 Aug 15 21:16	19°Ω03'10		evening set	11595 Aug 08 08:28	11°♊05'46	
retrograde	11589 Nov 17 00:58	22°Ω07'57		conjunction	11595 Aug 24 07:26	12°♊00'17	0°20'39
opposition	11590 Feb 02 14:59	20°Ω09'35	-0°02'22	minimum elong	11595 Aug 24 07:25	12°♊00'17	0°20'21
min. Earth dist.	11590 Feb 02 03:26	20°Ω10'45	19.06855 AU	max. Earth dist.	11595 Aug 24 17:50	12°♊01'46	21.00537 AU
direct	11590 Apr 19 22:05	18°Ω12'33		morning rise	11595 Sep 09 08:53	12°♊55'09	
evening set	11590 Jul 19 07:19	21°Ω12'20		retrograde	11595 Dec 12 01:32	16°♊01'40	
conjunction	11590 Aug 04 03:55	22°Ω06'25	-0°00'02	opposition	11596 Feb 27 13:48	14°♊02'54	0°25'00
minimum elong	11590 Aug 04 03:54	22°Ω06'25	0°00'33	min. Earth dist.	11596 Feb 27 04:51	14°♊03'48	18.99257 AU
behind sun begin	11590 Aug 03 21:20	22°Ω05'31		direct	11596 May 13 07:47	12°♊05'55	
behind sun end	11590 Aug 04 10:28	22°Ω07'20		evening set	11596 Aug 11 14:41	15°♊06'19	
max. Earth dist.	11590 Aug 04 16:33	22°Ω08'13	21.06791 AU	conjunction	11596 Aug 27 14:17	16°♊00'58	0°24'36
asc. node	11590 Aug 05 10:24	22°Ω10'47		minimum elong	11596 Aug 27 14:16	16°♊00'58	0°24'20
morning rise	11590 Aug 20 02:25	23°Ω00'48		max. Earth dist.	11596 Aug 27 23:51	16°♊02'20	20.97830 AU
retrograde	11590 Nov 21 09:02	26°Ω05'44		morning rise	11596 Sep 12 16:22	16°♊55'58	
opposition	11591 Feb 06 22:33	24°Ω07'20	0°02'17	retrograde	11596 Dec 15 12:04	20°♊02'53	
min. Earth dist.	11591 Feb 06 10:03	24°Ω08'35	19.06647 AU	opposition	11597 Mar 02 21:51	18°♊03'58	0°29'19
direct	11591 Apr 24 04:48	22°Ω10'21		min. Earth dist.	11597 Mar 02 12:50	18°♊04'52	18.96276 AU
evening set	11591 Jul 23 11:47	25°Ω10'04		direct	11597 May 17 14:41	16°♊06'51	
conjunction	11591 Aug 08 08:45	26°Ω04'13	0°04'15	evening set	11597 Aug 15 21:21	19°♊07'33	
minimum elong	11591 Aug 08 08:44	26°Ω04'13	0°03'47	conjunction	11597 Aug 31 21:32	20°♊02'20	0°28'26
behind sun begin	11591 Aug 08 02:13	26°Ω03'18		minimum elong	11597 Aug 31 21:32	20°♊02'20	0°28'13
behind sun end	11591 Aug 08 15:16	26°Ω05'07		max. Earth dist.	11597 Sep 01 06:03	20°♊03'33	20.94575 AU
max. Earth dist.	11591 Aug 08 21:04	26°Ω05'58	21.06392 AU	morning rise	11597 Sep 17 00:17	20°♊57'30	
morning rise	11591 Aug 24 07:50	26°Ω58'39					

retrograde	11597 Dec 19 20:18	24° <u>10</u> 04'50	
opposition	11598 Mar 07 06:17	22° <u>10</u> 05'43	0°33'30
min. Earth dist.	11598 Mar 06 23:06	22° <u>10</u> 06'27	18.92766 AU
direct	11598 May 21 20:26	20° <u>10</u> 08'26	
evening set	11598 Aug 20 04:17	23° <u>10</u> 09'28	
conjunction	11598 Sep 05 05:05	24° <u>10</u> 04'25	0°32'08
minimum elong	11598 Sep 05 05:05	24° <u>10</u> 04'25	0°32'00
max. Earth dist.	11598 Sep 05 12:47	24° <u>10</u> 05'31	20.90834 AU
morning rise	11598 Sep 21 08:28	24° <u>10</u> 59'44	
retrograde	11598 Dec 24 07:13	28° <u>10</u> 07'32	
opposition	11599 Mar 11 14:42	26° <u>10</u> 08'11	0°37'32
min. Earth dist.	11599 Mar 11 07:21	26° <u>10</u> 08'55	18.88797 AU
direct	11599 May 26 03:44	24° <u>10</u> 10'41	
evening set	11599 Aug 24 11:45	27° <u>10</u> 12'07	
conjunction	11599 Sep 09 13:09	28° <u>10</u> 07'14	0°35'42
minimum elong	11599 Sep 09 13:09	28° <u>10</u> 07'14	0°35'36
max. Earth dist.	11599 Sep 09 20:07	28° <u>10</u> 08'14	20.86653 AU
morning rise	11599 Sep 25 17:12	29° <u>10</u> 02'44	
	11599 Oct 13 09:13	0° <u>10</u>	
retrograde	11599 Dec 28 16:14	2° <u>10</u> 11'02	
opposition	11600 Mar 14 23:25	0° <u>10</u> 11'25	0°41'24
min. Earth dist.	11600 Mar 14 17:41	0° <u>10</u> 12'00	18.84434 AU
	11600 Mar 19 15:41	30° <u>10</u>	
direct	11600 May 29 10:01	28° <u>10</u> 13'43	
	11600 Aug 04 00:35	0° <u>10</u>	
evening set	11600 Aug 27 19:40	1° <u>10</u> 15'36	
conjunction	11600 Sep 12 21:45	2° <u>10</u> 10'54	0°39'06
minimum elong	11600 Sep 12 21:45	2° <u>10</u> 10'54	0°39'04
max. Earth dist.	11600 Sep 13 03:55	2° <u>10</u> 11'47	20.82126 AU
morning rise	11600 Sep 29 02:30	3° <u>10</u> 06'36	
retrograde	11601 Jan 01 04:06	6° <u>10</u> 15'25	
opposition	11601 Mar 19 08:12	4° <u>10</u> 15'34	0°45'04
min. Earth dist.	11601 Mar 19 02:17	4° <u>10</u> 16'10	18.79746 AU
direct	11601 Jun 02 17:51	2° <u>10</u> 17'36	
evening set	11601 Sep 01 04:14	5° <u>10</u> 20'02	
conjunction	11601 Sep 17 06:56	6° <u>10</u> 15'32	0°42'19
minimum elong	11601 Sep 17 06:56	6° <u>10</u> 15'32	0°42'19
max. Earth dist.	11601 Sep 17 12:28	6° <u>10</u> 16'20	20.77279 AU
morning rise	11601 Oct 03 12:16	7° <u>10</u> 11'27	
retrograde	11602 Jan 05 13:50	10° <u>10</u> 20'49	