

[Printer-friendly version](#)

Minor Planet Center

Search MPC



56

MPC Operations Status[Processing \(Info\)](#)ECS: [Accessible](#)

MPC Status Page

Observer Services (NEOs)

NEO Services Overview

NEO Confirmation

NEO Confirmation (RA order)

NEO Ratings

NEO Page

NEO Observation Planning Aid

NEOChecker

NEOCMChecker

NEOCP Blog

Observer Services

Services Overview

Minor Planet & Comet Ephem.

Natural Satellite Ephemerides

New Object Ephemerides

MPCChecker

CMTChecker

Distant Artificial Satellites

Observing List Customizer

Sky Coverage

Databases

MPC Database

Light Curve Database

Orbital Elements

Orbital Elements Overview

MPCORB

Orbital Elements for Programs

MPCAT

MPCUPDATE

Astrometric Observations

MPCAT-OBS

MPCOBS

Publications

Publications Overview

MPECs

MPC Archive

MPC RSS Feeds

CBAT RSS Feeds

Documentation

Documentation Overview

Tech Info

Minor Body Astrometry

What's New

Lists and Plots

Lists and Plots Overview

Critical-List Minor Planets

MPEC 2012-L37 : DAILY ORBIT UPDATE (2012 JUNE 14 UT)

The following [Minor Planet Electronic Circular](#) may be linked-to from your own Web pages, but must not otherwise be [redistributed electronically](#).

A form allowing access to any *MPEC* is at [the bottom of this page](#).

[Read MPEC 2012-L36](#)[Read MPEC 2012-L38](#)

M.P.E.C. 2012-L37

Issued 2012 June 14, 06:02 UT

The Minor Planet Electronic Circulars contain information on unusual minor planets and routine data on comets. They are published on behalf of Commission 20 of the International Astronomical Union by the Minor Planet Center, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.

Prepared using the [Tamkin Foundation Computer Network](#)

MPC@CFA.HARVARD.EDU

URL <http://www.minorplanetcenter.net/>

ISSN 1523-6714

DAILY ORBIT UPDATE (2012 JUNE 14 UT)

Update to [MPEC 2012-L34](#)

Full-precision elements for the objects listed here are available at <http://www.minorplanetcenter.org/iau/MPCORB.html>

New identification:

K02U44B	K12K47V	MPCS
K02U47N	K12L03M	MPCS
K03Se6Q	K12K50B	MPCS
K04RX2D	K12L03J	MPCS
K08W03N	K12K49B	MPCS
K09X21N	K12K49U	MPCS
K11C58F	K12L04L	MPCS
K12K45H	K08UL7J	MPCS
K12L05A	K08Q32Q	MPCS

New multiple-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Opp	C
J93B09B	15.9	0.15	K123E	255.123	229.584	120.949	15.387	0.12281	2.68303	6	X
J93T06F	16.0	0.15	K123E	276.297	122.358	218.393	10.855	0.15685	2.93206	5	X
J97R12L	16.8	0.15	K123E	281.021	169.985	177.884	7.746	0.24897	3.01113	3	X
J98F09M	19.4	0.15	K123E	6.141	32.191	162.476	10.360	0.44431	2.28673	3	X
J98H00N	18.6	0.15	K123E	3.095	28.195	181.083	6.935	0.18071	2.28836	3	X
J98K12H	16.2	0.15	K123E	273.585	151.142	188.532	12.750	0.15529	2.76896	7	X
J99TH0R	15.7	0.15	K123E	319.647	78.204	204.007	12.598	0.19214	2.79141	4	X
J99TR0E	16.1	0.15	K123E	246.180	180.439	221.108	13.056	0.19644	2.74748	5	X
K00B100	15.7	0.15	K123E	228.167	254.196	117.026	10.503	0.05979	2.99421	6	X
K00Q84V	16.1	0.15	K123E	263.429	196.974	175.982	10.569	0.36192	2.58381	3	X
K00QK2E	16.3	0.15	K123E	251.829	215.318	146.549	10.565	0.22042	2.61203	5	X
K00S47X	16.4	0.15	K123E	279.956	132.422	208.295	11.680	0.28956	2.58468	3	X
K00S910	16.4	0.15	K123E	274.667	135.279	214.108	12.915	0.20753	2.58600	5	X
K00SK4G	16.4	0.15	K123E	245.802	348.407	11.621	2.192	0.15146	2.65068	7	X
K00SP4C	16.6	0.15	K123E	291.040	170.711	155.050	5.895	0.26894	2.59703	5	X
K00SR3N	16.2	0.15	K123E	250.873	156.478	204.463	15.301	0.15675	2.64485	5	X
K00SS4C	16.6	0.15	K123E	266.961	118.268	223.159	13.205	0.16975	2.62192	4	X
K00T54G	16.5	0.15	K123E	273.385	156.178	205.371	14.658	0.18589	2.60903	5	X
K00W65H	16.5	0.15	K123E	215.080	203.120	212.870	15.151	0.13212	2.62729	7	X

Minor Planets	K00WG0H	16.3	0.15	K123E	246.347	153.635	219.015	13.379	0.27734	2.66359	4	X
Comets	K00Y14Z	16.0	0.15	K123E	288.701	112.762	255.854	28.260	0.31419	2.59105	4	X
Animations	K01FL6B	16.7	0.15	K123E	24.260	25.255	185.860	9.402	0.00847	2.97048	6	X
General	K01O16Q	16.9	0.15	K123E	294.009	252.120	78.395	15.473	0.35958	2.42074	3	X
MPC Blog	K01P36L	16.7	0.15	K123E	258.272	171.514	223.456	12.498	0.28993	2.42293	4	X
Contact Us	K01QR5R	15.2	0.15	K123E	310.041	182.448	140.296	25.187	0.19621	3.20841	5	X
Index	K01S86Z	17.8	0.15	K123E	251.353	179.091	184.501	7.585	0.22412	2.45536	5	X
Site Map	K01SE3P	16.9	0.15	K123E	273.984	165.199	187.542	10.367	0.24763	2.43924	4	X
Links	K01U15Z	16.5	0.15	K123E	273.159	157.628	216.255	12.781	0.24102	2.45555	4	X
Minor Planet Center	K01UA6L	16.0	0.15	K123E	44.120	336.725	206.506	13.432	0.03402	2.57199	6	X
Central Bureau for Astro. Tel.	K02A11Q	16.8	0.15	K123E	186.002	302.006	111.730	12.182	0.19217	2.63334	5	X
Cometary Science Archive	K02A38Q	16.5	0.15	K123E	218.453	270.161	118.222	12.941	0.28705	2.56610	7	X
Smithsonian Astro. Obs.	K02D05M	16.8	0.15	K123E	55.882	318.235	193.191	8.807	0.25521	2.78230	7	X
	K02E62M	15.9	0.15	K123E	336.345	74.838	183.969	14.193	0.04305	2.77458	5	X
	K02F40K	17.2	0.15	K123E	87.765	342.696	152.169	7.556	0.06306	2.76174	4	X
	K02GC4Q	15.9	0.15	K123E	196.603	200.931	202.911	15.283	0.13642	2.79799	7	X
	K02GF2S	17.0	0.15	K123E	344.266	112.085	133.784	7.967	0.28088	2.88758	4	X
	K02L35D	17.1	0.15	K123E	326.647	198.867	98.580	15.543	0.50145	2.94754	3	X
	K02N03S	15.6	0.15	K123E	284.420	102.293	233.818	16.408	0.17389	3.03168	5	X
	K02N73T	17.0	0.15	K123E	328.538	5.148	255.469	5.487	0.15241	2.27645	2	X
	K02O35L	16.1	0.15	K123E	6.063	73.716	152.346	9.159	0.03388	2.07289	5	X
	K02P33F	18.1	0.15	K123E	304.110	136.913	159.284	5.625	0.17683	2.26291	4	X
	K02PA3T	15.5	0.15	K123E	236.774	169.007	192.465	11.145	0.10781	3.11389	5	X
	K02PG8L	16.2	0.15	K123E	224.492	236.020	144.723	10.574	0.10841	3.11096	4	X
	K02PJ5A	17.4	0.15	K123E	324.340	136.640	132.409	7.939	0.14257	2.26969	4	X
	K02Q24Y	15.0	0.15	K123E	238.157	158.428	235.898	22.801	0.35566	3.12941	4	X
	K02Q77W	15.8	0.15	K123E	189.109	274.888	137.594	12.704	0.16780	3.13717	5	X
	K02Q93Y	16.1	0.15	K123E	264.192	184.723	150.641	10.278	0.08064	3.12433	5	X
	K02QE8A	17.5	0.15	K123E	324.775	356.243	268.745	5.520	0.15012	2.28647	6	X
	K02R86P	16.0	0.15	K123E	301.705	134.947	184.210	10.937	0.27739	3.06933	6	X
	K02RD4C	17.9	0.15	K123E	272.166	211.811	132.005	8.604	0.24202	2.29227	4	X
	K02RL7D	17.6	0.15	K123E	280.487	10.073	312.506	1.940	0.16474	2.29256	6	X
	K02RP3A	16.8	0.15	K123E	262.040	162.469	184.108	12.985	0.11307	3.13056	4	X
	K02RQ4K	16.9	0.15	K123E	342.342	86.874	190.829	15.130	0.20434	3.03592	3	X
	K02S12V	15.9	0.15	K123E	249.119	205.622	193.146	15.296	0.19045	3.08699	4	X
	K02S73J	16.0	0.15	K123E	228.436	232.449	133.420	9.131	0.04217	3.16475	6	X
	K02T42S	17.2	0.15	K123E	247.645	173.392	197.220	5.956	0.22365	2.32507	3	X
	K02TA3P	15.7	0.15	K123E	185.718	239.461	204.973	15.672	0.06511	3.14967	7	X
	K02TA6R	16.0	0.15	K123E	314.475	71.935	219.684	9.247	0.20701	3.13603	3	X
	K02TB2W	15.5	0.15	K123E	338.693	74.301	190.809	16.329	0.20143	3.12977	5	X
	K02TG7J	15.9	0.15	K123E	254.597	140.437	224.064	19.770	0.25068	3.12963	3	X
	K02TI5E	15.2	0.15	K123E	281.725	133.264	205.789	9.190	0.16436	3.10721	5	X
	K02TJ4Q	15.6	0.15	K123E	312.280	133.277	198.741	16.507	0.21822	3.04027	4	X
	K02TL8L	16.9	0.15	K123E	307.890	43.983	277.430	7.232	0.17199	2.26824	7	X
	K02Tc3J	16.2	0.15	K123E	264.227	264.652	80.531	20.367	0.16422	3.22454	4	X
	K02U44B	16.0	0.15	K123E	308.384	92.029	220.040	14.982	0.25091	3.14149	5	X
	K02U47N	16.1	0.15	K123E	276.504	274.200	68.800	10.710	0.23423	3.14504	4	S
	K02W27M	17.8	0.15	K123E	265.489	303.553	40.550	3.852	0.17465	2.35585	5	X
	K02X19A	16.0	0.15	K123E	275.193	100.811	240.105	22.917	0.19558	2.32009	4	X
	K02X61Z	16.6	0.15	K123E	274.945	68.707	262.922	19.630	0.05875	1.90988	4	X
	K03B03C	16.6	0.15	K123E	28.028	62.725	125.598	30.582	0.31326	2.61575	4	X
	K03B35Q	20.1	0.15	K123E	243.817	223.870	137.052	8.484	0.24487	1.42493	4	X
	K03E36X	16.3	0.15	K123E	351.093	136.051	93.859	15.115	0.22734	2.62448	5	X
	K03E39S	16.3	0.15	K123E	66.750	39.612	105.421	14.110	0.19604	2.60710	4	X
	K03F29Y	16.9	0.15	K123E	43.399	37.772	137.303	8.429	0.14858	2.62026	6	X
	K03F70V	16.6	0.15	K123E	0.973	66.572	170.311	12.637	0.04546	2.60928	4	X
	K03G51J	17.7	0.15	K123E	12.033	38.518	187.837	12.655	0.20428	2.62324	3	X
	K03G56B	17.0	0.15	K123E	1.935	58.981	178.865	10.408	0.01204	2.64722	5	X
	K03J08U	16.2	0.15	K123E	336.260	71.933	185.814	10.803	0.11057	2.69231	4	X
	K03K00G	16.5	0.15	K123E	1.356	169.812	85.863	15.893	0.21681	2.65483	5	X
	K03M04V	16.1	0.15	K123E	323.264	43.445	269.996	13.234	0.20436	2.71874	4	X
	K03N05N	18.3	0.15	K123E	289.534	44.988	270.661	2.206	0.20098	2.11374	2	S
	K03R20N	16.0	0.15	K123E	243.408	209.116	164.356	9.537	0.19774	2.91601	4	X
	K03S40Y	16.3	0.15	K123E	277.945	128.815	206.947	14.041	0.19519	2.87816	4	X
	K03S93Z	15.9	0.15	K123E	262.078	179.155	204.160	13.317	0.14828	2.87281	5	X
	K03SD2R	16.1	0.15	K123E	150.988	240.696	197.901	16.068	0.07787	3.09137	4	X
	K03SJ5H	16.2	0.15	K123E	273.022	119.567	218.548	10.560	0.13518	2.94797	4	X
	K03Sd2N	17.8	0.15	K123E	187.853	260.148	133.632	5.006	0.00947	2.20917	6	X
	K03Sd9R	16.3	0.15	K123E	274.627	198.553	129.283	11.059	0.09406	3.00579	5	X
	K03Se6Q	15.9	0.15	K123E	299.161	187.948	118.501	10.537	0.10724	2.98628	5	S
	K03U04D	16.7	0.15	K123E	117.368	222.469	237.626	22.114	0.27090	2.27716	3	X
	K03U28T	17.4	0.15	K123E	183.045	208.365	197.864	7.540	0.04642	2.20537	5	X
	K03UD5B	15.9	0.15	K123E	193.104	197.593	212.376	10.495	0.09838	3.03710	6	X
	K03UF6A	18.2	0.15	K123E	3.215	82.181	136.682	5.387	0.04472	2.21113	4	X
	K03UL6T	15.5	0.15	K123E	149.825	217.435	220.329	16.611	0.18906	3.13982	6	X
	K03UX6S	16.5	0.15	K123E	94.568	302.293	183.697	9.143	0.11422	3.07806	4	X
	K03W07N	15.2	0.15	K123E	290.657	280.455	106.826	30.485	0.40419	2.79593	4	X

K03X10U	15.6	0.15	K123E	206.254	287.140	109.735	16.663	0.24490	3.10546	5 X
K03X16R	15.5	0.15	K123E	181.273	308.681	112.188	12.823	0.13903	3.14965	4 X
K03YI2L	17.8	0.15	K123E	135.662	276.501	172.042	5.660	0.14279	2.27728	4 X
K04BE4Z	17.7	0.15	K123E	33.741	57.605	127.941	8.488	0.04544	2.36123	4 X
K04C00L	20.6	0.15	K123E	248.956	274.529	109.502	13.305	0.53622	1.28458	6 X
K04CC0R	15.1	0.15	K123E	288.338	170.702	158.649	15.431	0.13386	3.41719	6 X
K04F97F	16.9	0.15	K123E	32.228	41.072	161.340	14.080	0.17169	2.41305	4 X
K04N06D	17.4	0.15	K123E	317.461	15.909	273.141	4.817	0.28584	2.56873	2 X
K04O04J	16.9	0.15	K123E	296.620	240.321	76.687	5.977	0.32667	2.57486	3 X
K04P12P	15.9	0.15	K123E	296.180	176.486	134.322	10.674	0.17746	2.61187	4 X
K04P21D	16.4	0.15	K123E	223.350	233.504	154.861	9.475	0.27104	2.68417	4 X
K04P39F	16.3	0.15	K123E	274.568	177.872	161.072	12.349	0.18011	2.64364	3 X
K04P42P	16.9	0.15	K123E	259.471	206.992	161.126	6.597	0.34883	2.63036	4 X
K04P51P	16.6	0.15	K123E	290.034	186.292	131.934	13.414	0.19324	2.62354	5 X
K04P60F	16.6	0.15	K123E	237.920	233.544	137.759	11.359	0.21135	2.68040	6 X
K04P81C	16.8	0.15	K123E	291.424	342.020	341.887	3.123	0.25649	2.60593	6 X
K04PA6R	16.9	0.15	K123E	295.272	171.585	156.017	15.294	0.10416	2.59522	7 X
K04Q18K	16.3	0.15	K123E	270.036	172.431	179.613	14.041	0.27167	2.67698	3 X
K04Q24X	15.6	0.15	K123E	229.445	310.972	60.570	38.926	0.28148	2.72597	4 X
K04R00W	17.4	0.15	K123E	267.182	158.533	200.209	13.811	0.27500	2.60920	3 X
K04R01Z	17.3	0.15	K123E	312.693	58.399	234.942	19.671	0.04919	1.96070	4 X
K04R07T	16.5	0.15	K123E	269.658	255.625	100.804	14.231	0.30565	2.65375	5 X
K04RD9D	16.6	0.15	K123E	279.922	104.394	220.366	12.308	0.06536	2.67078	4 X
K04RJ2V	16.2	0.15	K123E	284.869	128.725	213.011	12.899	0.28036	2.63834	4 X
K04RK2F	16.4	0.15	K123E	295.173	101.490	216.093	10.400	0.21273	2.62514	3 X
K04RK2T	17.1	0.15	K123E	259.461	175.835	164.703	11.609	0.08916	2.68991	3 X
K04RK7F	16.3	0.15	K123E	282.365	105.722	223.888	11.878	0.28928	2.62564	2 X
K04RK9K	16.5	0.15	K123E	290.237	111.917	217.186	10.662	0.26298	2.60889	3 X
K04RL1F	16.5	0.15	K123E	333.562	49.909	247.242	10.481	0.25156	2.55332	4 X
K04RS8C	16.8	0.15	K123E	258.302	176.982	188.753	8.140	0.23651	2.69351	4 X
K04RX2D	16.0	0.15	K123E	319.033	217.803	70.725	15.245	0.22380	2.64889	3 X
K04T05W	16.7	0.15	K123E	340.181	68.782	201.133	12.272	0.25077	2.66668	4 S
K04T37Y	16.6	0.15	K123E	323.756	75.185	201.909	13.206	0.18571	2.71413	5 X
K04TB9K	16.9	0.15	K123E	281.902	207.098	129.691	7.760	0.26925	2.64871	5 X
K04TZ6B	15.7	0.15	K123E	238.811	230.190	151.351	15.760	0.29403	2.74214	7 X
K04V75G	16.1	0.15	K123E	286.468	222.857	109.490	13.949	0.21477	2.72289	5 X
K05A80H	16.2	0.15	K123E	195.238	283.344	116.837	10.881	0.09219	3.08396	5 X
K05E56L	18.3	0.15	K123E	331.054	84.197	172.206	5.259	0.16153	2.22187	4 X
K05EE6H	15.9	0.15	K123E	127.032	310.151	175.477	17.713	0.14984	3.18221	6 X
K05EG4H	15.8	0.15	K123E	182.669	266.538	154.498	10.913	0.22099	3.17454	5 X
K05ER0Z	15.4	0.15	K123E	75.469	23.380	155.492	16.275	0.04203	3.18034	4 X
K05ET2C	17.1	0.15	K123E	55.858	13.997	134.860	6.303	0.16454	2.24660	6 X
K05F03D	16.1	0.15	K123E	353.735	120.629	111.368	39.599	0.28582	2.28909	4 X
K05H06P	16.7	0.15	K123E	291.714	227.110	68.502	24.718	0.12426	2.29512	3 X
K05J80N	17.9	0.15	K123E	337.571	155.826	90.655	23.368	0.19736	2.30620	2 X
K05JB1O	17.2	0.15	K123E	324.617	112.397	155.242	7.074	0.11465	2.29234	4 X
K05L06N	17.2	0.15	K123E	281.320	233.526	114.165	13.852	0.36718	2.36061	4 X
K05L09X	17.2	0.15	K123E	347.201	117.822	113.480	7.361	0.30495	2.30579	3 X
K05L37X	18.2	0.15	K123E	307.136	182.858	109.509	7.471	0.20513	2.30123	4 X
K05L39G	16.9	0.15	K123E	247.602	131.886	235.054	23.038	0.19473	2.29929	4 X
K05M03K	17.5	0.15	K123E	321.826	140.969	124.397	8.701	0.10582	2.31563	3 X
K05N86F	18.3	0.15	K123E	314.816	113.108	159.994	1.508	0.17603	2.36525	5 X
K05P02B	17.1	0.15	K123E	341.152	140.811	139.664	24.420	0.19845	2.31788	5 X
K05P04B	17.5	0.15	K123E	309.791	336.621	328.980	3.364	0.33560	2.33807	4 X
K05QH1E	16.9	0.15	K123E	313.085	35.180	288.874	4.808	0.24570	2.33814	5 X
K05QH6J	17.4	0.15	K123E	257.492	353.116	359.257	2.757	0.18915	2.44518	4 X
K05R44M	16.9	0.15	K123E	310.147	187.881	124.325	11.110	0.32004	2.37684	7 X
K05S03S	17.0	0.15	K123E	145.081	246.292	190.557	11.216	0.17530	2.63716	4 X
K05SC5Q	17.5	0.15	K123E	277.137	145.087	186.431	14.481	0.17623	2.43783	3 X
K05SD2G	15.6	0.15	K123E	180.046	197.172	225.618	10.933	0.17225	2.60440	5 X
K05SF3P	16.8	0.15	K123E	49.881	332.560	199.239	11.584	0.11347	2.54912	3 X
K05SO6Y	16.3	0.15	K123E	79.270	266.406	210.680	7.184	0.20632	2.74681	3 X
K05TD8A	17.2	0.15	K123E	159.586	242.357	188.497	14.270	0.08375	2.55711	4 X
K05U73O	16.1	0.15	K123E	154.956	238.168	223.352	21.660	0.06508	2.54998	4 X
K05U79H	16.6	0.15	K123E	209.062	197.698	193.427	8.935	0.16262	2.57342	5 X
K05UA3P	17.5	0.15	K123E	289.049	245.040	76.429	2.755	0.22251	2.48327	5 X
K05UF5W	16.3	0.15	K123E	188.494	281.254	124.591	6.147	0.16460	2.59909	5 X
K05UL2N	15.9	0.15	K123E	322.376	46.023	227.614	29.286	0.07215	2.59146	3 X
K05UM2G	16.2	0.15	K123E	1.174	1.713	227.724	15.051	0.09074	2.58054	4 X
K05UM8Q	16.6	0.15	K123E	21.226	355.007	216.483	12.540	0.09118	2.61502	5 X
K05Ue1Z	17.0	0.15	K123E	23.747	7.682	214.609	12.088	0.15560	2.58646	5 X
K05Uh0K	17.3	0.15	K123E	257.821	342.020	2.888	1.558	0.10150	2.55056	5 X
K05W54G	17.5	0.15	K123E	105.582	249.708	235.426	22.126	0.15824	1.90100	5 X
K05WA7U	16.4	0.15	K123E	195.604	302.213	89.010	7.338	0.15044	2.71856	4 X
K05WE1Q	16.5	0.15	K123E	5.780	113.120	106.261	15.840	0.10238	2.85542	3 X
K05WE4N	15.9	0.15	K123E	246.672	145.368	210.152	11.091	0.11478	2.59175	5 X
K05WF5J	16.4	0.15	K123E	155.323	329.381	103.305	13.401	0.09694	2.65346	3 X

K05X66N	17.4	0.15	K123E	102.102	17.368	91.849	24.157	0.08778	1.92008	4	X
K05X92H	15.2	0.15	K123E	28.047	260.387	256.565	15.503	0.20168	3.08497	3	X
K05Y03W	15.3	0.15	K123E	8.624	66.368	116.022	22.504	0.53851	3.11596	3	X
K05Y06Z	16.7	0.15	K123E	140.893	343.640	104.079	12.685	0.08404	2.76906	4	X
K05Y44Q	16.9	0.15	K123E	196.306	255.251	130.507	3.951	0.08056	2.76929	7	X
K05Y93J	17.1	0.15	K123E	217.256	249.579	139.630	8.056	0.17970	2.66920	4	X
K05YF2C	16.1	0.15	K123E	271.950	281.897	98.880	11.690	0.19800	2.52054	6	X
K05YQ8G	16.7	0.15	K123E	234.497	249.420	123.000	13.743	0.20053	2.68361	5	X
K06A79B	16.4	0.15	K123E	271.654	202.001	128.510	7.443	0.06732	2.77077	7	X
K06A82G	16.2	0.15	K123E	238.985	253.192	118.656	14.318	0.18546	2.57173	6	X
K06B62O	16.5	0.15	K123E	145.126	306.755	140.455	9.622	0.15279	2.78959	5	X
K06BB0K	15.9	0.15	K123E	224.800	242.030	121.982	9.189	0.03277	2.86695	4	X
K06BH2T	16.3	0.15	K123E	220.948	248.122	134.635	13.357	0.21634	2.68782	3	X
K06BI6E	15.8	0.15	K123E	273.420	194.252	146.419	9.192	0.20226	2.79189	4	X
K06BL0S	16.6	0.15	K123E	245.807	226.804	152.561	18.566	0.06432	2.73330	5	X
K06BL1D	16.3	0.15	K123E	214.838	249.399	139.497	9.880	0.22425	2.80134	5	X
K06BR7R	16.3	0.15	K123E	258.995	213.052	131.189	5.980	0.12462	2.74849	7	X
K06C10C	16.7	0.15	K123E	75.025	311.431	184.681	14.913	0.18278	2.93377	7	X
K06D61C	16.3	0.15	K123E	273.443	140.021	185.261	11.429	0.06266	3.03892	4	X
K06D79N	16.4	0.15	K123E	126.700	285.380	174.312	8.996	0.16638	2.91442	4	X
K06D90Q	16.3	0.15	K123E	129.643	282.635	173.630	12.063	0.06258	3.01706	5	X
K06DH2T	16.7	0.15	K123E	331.464	107.295	158.234	10.897	0.06898	3.01375	3	X
K06F29P	15.9	0.15	K123E	72.732	298.501	204.353	13.462	0.16852	3.15541	4	X
K06F50Q	15.6	0.15	K123E	322.656	162.430	145.010	24.630	0.16995	3.14056	5	X
K06G22C	16.1	0.15	K123E	38.414	3.450	191.042	11.373	0.05596	3.13400	5	X
K06G35G	15.8	0.15	K123E	1.506	39.712	186.704	11.057	0.19082	3.15217	3	X
K06G36V	16.2	0.15	K123E	359.240	50.796	184.948	10.354	0.10555	3.10672	6	X
K06G53A	15.1	0.15	K123E	320.682	169.137	109.150	18.227	0.16935	3.15581	4	X
K06H45A	15.9	0.15	K123E	358.134	37.576	192.680	15.780	0.14063	3.13859	5	X
K06H61E	15.5	0.15	K123E	342.964	11.574	284.831	10.486	0.33178	3.08618	3	X
K06H70D	17.2	0.15	K123E	355.732	34.359	192.610	12.247	0.38832	3.22965	3	X
K06H93K	15.7	0.15	K123E	110.862	251.920	212.834	16.448	0.24895	3.17622	5	X
K06H94K	16.3	0.15	K123E	249.199	189.496	180.872	13.173	0.01633	3.09443	6	X
K06HF3M	15.8	0.15	K123E	206.306	202.564	188.864	9.879	0.08294	3.18442	5	X
K06J03K	15.5	0.15	K123E	18.893	354.179	220.340	14.072	0.10789	3.17278	5	X
K06J19U	16.5	0.15	K123E	305.949	133.351	199.693	16.226	0.22108	3.12700	5	X
K06J25Y	20.4	0.15	K123E	208.263	321.597	64.088	6.871	0.47920	1.12603	4	X
K06J46D	15.9	0.15	K123E	11.339	80.979	152.664	16.470	0.19631	3.18120	4	X
K06K03F	15.5	0.15	K123E	346.891	47.577	207.646	16.238	0.16248	3.12423	4	X
K06K12B	15.5	0.15	K123E	93.995	46.696	95.098	17.996	0.03024	3.14049	4	X
K06K85M	15.3	0.15	K123E	350.305	181.912	102.658	20.050	0.07457	3.08472	6	X
K06K90H	15.0	0.15	K123E	79.493	48.684	102.709	17.421	0.06114	3.13631	6	X
K06Q76V	18.0	0.15	K123E	24.850	46.106	144.559	5.975	0.10427	2.21846	6	X
K06QI2F	17.6	0.15	K123E	135.978	282.179	162.218	8.127	0.17706	2.31872	5	X
K06R05L	17.0	0.15	K123E	295.557	62.239	226.098	8.680	0.09752	2.20769	4	X
K06R36A	17.6	0.15	K123E	223.758	261.050	120.618	7.385	0.14434	2.21077	6	X
K06R39Q	17.5	0.15	K123E	286.429	165.930	131.663	3.149	0.20519	2.20089	4	X
K06R47U	17.3	0.15	K123E	194.734	280.763	125.854	8.468	0.17511	2.23557	4	X
K06R95W	17.5	0.15	K123E	344.330	42.908	200.970	6.730	0.07369	2.26702	5	X
K06S40Q	18.0	0.15	K123E	219.511	229.137	153.390	7.293	0.13958	2.22375	5	X
K06SI1Z	14.7	0.15	K123E	261.024	222.104	136.460	10.387	0.20973	3.94589	6	X
K06SW2Z	17.0	0.15	K123E	114.075	284.225	180.007	10.955	0.12484	2.33968	3	X
K06SZ5X	17.7	0.15	K123E	253.187	193.782	154.474	4.625	0.16568	2.22998	5	X
K06UG5P	17.6	0.15	K123E	0.475	43.790	183.919	6.789	0.06312	2.29495	5	X
K06UN9G	17.4	0.15	K123E	19.480	174.032	24.790	7.437	0.06003	2.34665	4	X
K06W15E	15.3	0.15	K123E	49.860	240.333	301.500	29.208	0.31258	2.62057	4	X
K06Y46K	16.8	0.15	K123E	24.065	70.692	131.399	13.241	0.07271	2.54802	4	X
K07B20W	16.8	0.15	K123E	46.388	12.640	145.831	12.748	0.18980	2.63952	3	X
K07B49X	17.4	0.15	K123E	154.128	287.151	145.113	13.038	0.09864	2.52133	5	X
K07B54V	17.3	0.15	K123E	87.825	352.936	138.830	7.277	0.11539	2.53960	5	X
K07BA1S	17.1	0.15	K123E	52.638	0.077	155.387	7.900	0.21754	2.63444	6	X
K07C14Z	16.5	0.15	K123E	11.635	67.769	149.161	11.710	0.12586	2.62647	5	X
K07C36M	16.9	0.15	K123E	70.318	18.325	135.018	10.573	0.14036	2.58025	6	X
K07C57R	16.8	0.15	K123E	78.879	11.578	116.398	14.784	0.18769	2.62838	2	X
K07D10Y	16.4	0.15	K123E	42.525	21.181	164.824	14.353	0.08249	2.66147	4	X
K07D28K	17.1	0.15	K123E	7.727	81.452	140.273	6.873	0.07436	2.66554	4	X
K07D34Q	16.5	0.15	K123E	81.643	348.675	162.503	15.147	0.03899	2.63102	4	X
K07D90R	16.8	0.15	K123E	300.538	158.759	140.462	5.118	0.12843	2.61466	8	X
K07DA9Y	16.7	0.15	K123E	137.221	266.057	183.570	14.919	0.00248	2.68213	4	X
K07DB0D	16.5	0.15	K123E	1.619	45.102	180.816	12.860	0.11870	2.76917	3	X
K07DB2Y	16.4	0.15	K123E	320.672	118.630	152.743	12.131	0.04953	2.62475	6	X
K07E24O	17.0	0.15	K123E	250.283	195.799	157.561	6.964	0.05084	2.65954	8	X
K07E45E	16.5	0.15	K123E	13.234	28.049	182.085	9.650	0.11998	2.77227	4	X
K07E60U	17.2	0.15	K123E	310.875	133.721	162.538	14.857	0.11847	2.61908	4	X
K07E79M	16.9	0.15	K123E	41.472	351.029	193.625	13.983	0.07412	2.74420	5	X
K07E89M	16.6	0.15	K123E	300.572	136.364	160.755	10.710	0.10870	2.59941	4	X
K07E91C	16.2	0.15	K123E	82.491	345.593	151.642	12.545	0.12638	2.66105	5	X

K07EF3D	16.6	0.15	K123E	286.553	154.538	153.731	10.859	0.03704	2.65786	5	X
K07EH0A	16.3	0.15	K123E	82.319	326.105	169.547	13.102	0.09992	2.66013	4	X
K07EH5Y	16.3	0.15	K123E	301.252	114.872	197.121	14.139	0.24981	2.76568	3	X
K07EI1Q	16.8	0.15	K123E	150.823	221.933	213.930	8.351	0.12071	2.74608	4	X
K07EK5Y	16.8	0.15	K123E	345.645	80.670	169.431	12.922	0.23456	2.69913	3	X
K07F25A	16.8	0.15	K123E	90.428	296.545	182.471	12.451	0.22055	2.69662	4	X
K07G28F	16.2	0.15	K123E	50.726	35.114	155.432	14.169	0.18584	2.66705	4	X
K07G35F	16.9	0.15	K123E	97.833	300.988	194.456	12.940	0.02075	2.75472	3	X
K07G39P	16.6	0.15	K123E	291.832	254.244	47.651	7.111	0.06395	2.83401	4	X
K07G50L	16.3	0.15	K123E	43.613	316.243	223.438	12.077	0.12135	2.77895	7	X
K07G77F	16.6	0.15	K123E	17.783	67.359	142.433	13.710	0.16307	2.80126	4	X
K07H58D	16.3	0.15	K123E	38.445	2.287	179.909	13.253	0.13312	2.78449	7	X
K07J19V	16.4	0.15	K123E	342.211	147.714	107.799	13.462	0.19117	2.84662	4	X
K07J24D	17.3	0.15	K123E	59.184	25.079	162.177	14.853	0.14631	2.75980	5	X
K07J30U	18.1	0.15	K123E	274.929	60.615	227.109	19.669	0.04203	1.87150	4	X
K07J33E	16.1	0.15	K123E	333.815	209.195	90.460	10.604	0.22782	2.77462	5	X
K07L12X	16.7	0.15	K123E	339.695	102.390	160.263	11.869	0.07151	2.88862	6	X
K07L22J	15.7	0.15	K123E	232.373	254.041	128.869	15.639	0.15875	2.85097	6	X
K07L27W	16.8	0.15	K123E	53.579	13.511	175.488	15.641	0.13906	2.79582	5	X
K07L33Z	16.6	0.15	K123E	330.534	92.526	204.348	11.553	0.13162	2.80611	5	X
K07M06V	16.4	0.15	K123E	338.787	206.014	84.848	14.298	0.14943	2.73641	5	X
K07M13M	17.7	0.15	K123E	337.100	294.434	242.656	38.195	0.56855	1.40116	4	X
K07M16E	16.5	0.15	K123E	286.150	211.365	134.996	13.482	0.30790	3.08945	3	X
K07M20T	18.7	0.15	K123E	288.589	148.499	226.490	16.613	0.61314	1.84631	3	X
K07O01H	16.2	0.15	K123E	345.526	82.817	174.579	14.673	0.08567	3.14300	5	X
K07RD2P	17.8	0.15	K123E	223.591	166.884	218.309	19.440	0.08338	1.91952	5	X
K07RI2X	15.6	0.15	K123E	331.587	86.194	216.025	14.935	0.24390	3.15734	6	X
K07RI7U	15.8	0.15	K123E	276.093	163.931	213.946	18.047	0.23068	3.12781	3	X
K07T00V	16.0	0.15	K123E	304.632	134.353	199.046	15.081	0.22524	3.10221	4	X
K07V07X	19.5	0.15	K123E	272.186	105.339	243.987	16.810	0.37566	1.87643	2	X
K08A04F	19.7	0.15	K123E	235.265	293.350	109.411	8.920	0.41076	1.38260	5	X
K08A16R	17.9	0.15	K123E	3.311	82.106	134.118	7.009	0.08548	2.24605	4	X
K08B22R	17.2	0.15	K123E	141.860	291.817	150.532	8.923	0.12012	2.21844	4	X
K08C62U	17.3	0.15	K123E	341.741	93.224	148.411	9.500	0.18091	2.32496	4	X
K08C84W	17.6	0.15	K123E	27.743	34.676	155.521	6.032	0.09271	2.31306	6	X
K08CH9K	16.8	0.15	K123E	45.170	33.510	126.248	11.938	0.22470	2.38382	2	X
K08D22F	18.1	0.15	K123E	19.334	41.755	141.654	2.906	0.16503	2.41722	5	X
K08D53L	17.4	0.15	K123E	319.539	93.622	185.614	8.687	0.20567	2.36475	5	X
K08D69T	17.7	0.15	K123E	56.909	4.903	146.841	6.774	0.17202	2.35019	4	X
K08D81H	17.4	0.15	K123E	84.296	296.209	185.152	7.231	0.20883	2.32975	5	X
K08E58C	18.2	0.15	K123E	348.159	274.475	320.118	2.800	0.14263	2.39930	4	X
K08E70X	17.9	0.15	K123E	25.629	65.916	122.873	3.051	0.11922	2.34292	2	X
K08EF8S	17.7	0.15	K123E	336.831	101.077	151.184	5.515	0.17063	2.43336	4	X
K08EG5C	17.5	0.15	K123E	21.847	347.312	205.969	9.380	0.19329	2.37402	5	X
K08EG5Y	17.7	0.15	K123E	87.440	340.144	147.019	6.473	0.10085	2.36876	4	X
K08EG8E	17.1	0.15	K123E	323.540	168.264	79.509	7.413	0.16272	2.44927	4	X
K08FC7Y	18.3	0.15	K123E	317.594	235.313	44.350	3.876	0.19032	2.41482	4	X
K08G23J	17.8	0.15	K123E	26.429	34.283	161.884	6.690	0.05745	2.38018	3	X
K08GE3J	16.6	0.15	K123E	322.640	188.984	68.645	16.820	0.07885	2.45999	3	X
K08GE5S	16.7	0.15	K123E	320.924	180.152	95.629	9.631	0.24080	2.45453	4	X
K08K25A	18.0	0.15	K123E	313.294	150.414	144.316	6.040	0.23377	2.48077	4	X
K08L08K	16.7	0.15	K123E	77.950	334.311	171.407	8.290	0.12956	2.45578	6	X
K08L15E	17.5	0.15	K123E	296.877	165.126	144.032	13.219	0.17812	2.51848	4	X
K08O00A	17.1	0.15	K123E	311.572	170.542	134.259	11.514	0.31367	2.62700	3	X
K08P02U	15.8	0.15	K123E	256.013	257.775	110.781	15.661	0.27453	2.74048	2	X
K08P20N	15.5	0.15	K123E	271.654	254.612	96.641	16.668	0.30300	2.73170	5	X
K08P21M	16.9	0.15	K123E	309.816	241.990	66.529	8.743	0.32755	2.66053	3	X
K08P21N	15.5	0.15	K123E	256.335	229.924	145.555	25.844	0.14186	2.79970	7	X
K08Q10X	16.1	0.15	K123E	307.105	159.511	168.778	14.427	0.26828	2.64254	6	X
K08Q15M	16.3	0.15	K123E	324.972	108.905	162.529	11.730	0.04323	2.87372	5	X
K08Q16H	15.9	0.15	K123E	264.733	229.828	117.777	11.796	0.15020	2.84108	5	X
K08Q20V	15.9	0.15	K123E	263.748	156.699	188.322	12.831	0.17584	2.79852	6	X
K08Q39M	16.5	0.15	K123E	221.556	199.567	187.299	7.845	0.19045	3.03359	3	X
K08Q41F	16.9	0.15	K123E	234.382	193.282	173.295	7.441	0.09375	2.92902	5	X
K08Q45B	15.7	0.15	K123E	316.778	86.898	193.271	10.136	0.07236	3.01807	4	X
K08R00A	16.6	0.15	K123E	283.304	141.300	217.139	14.294	0.24118	2.68768	4	X
K08R29B	17.0	0.15	K123E	329.035	96.353	180.641	9.153	0.10507	2.85451	4	X
K08R51E	17.1	0.15	K123E	315.980	109.392	195.492	6.183	0.33201	2.63317	6	X
K08R65D	16.2	0.15	K123E	200.273	243.263	157.377	10.359	0.06095	3.01719	3	X
K08R83W	16.2	0.15	K123E	180.884	244.086	173.229	14.211	0.11263	2.99841	4	X
K08RA0O	17.1	0.15	K123E	311.409	121.244	177.650	7.440	0.20927	2.72463	5	X
K08RB7N	16.2	0.15	K123E	279.397	134.034	189.038	9.852	0.07256	2.90569	6	X
K08RD0S	15.8	0.15	K123E	285.300	197.482	145.538	15.939	0.14136	2.86074	4	X
K08RD2A	16.6	0.15	K123E	270.566	222.541	160.055	14.137	0.26500	2.68798	6	X
K08RD3W	16.1	0.15	K123E	239.909	153.335	218.770	11.822	0.16122	2.87482	4	X
K08S12P	16.5	0.15	K123E	337.059	109.291	168.939	15.978	0.14310	2.69806	5	X
K08S27G	15.9	0.15	K123E	161.299	247.402	187.390	8.346	0.13132	3.22271	5	X

K08S30J	16.5	0.15	K123E	254.562	188.509	174.852	9.451	0.19993	2.77993	4	X
K08S34P	15.7	0.15	K123E	203.351	208.687	191.713	10.308	0.11684	3.14713	5	X
K08S45M	15.9	0.15	K123E	261.591	155.420	193.390	8.430	0.11262	3.02326	5	X
K08S66W	15.3	0.15	K123E	164.903	243.443	181.684	16.462	0.22873	3.41683	4	X
K08S78B	15.8	0.15	K123E	186.600	218.122	190.310	11.760	0.06910	3.14086	4	X
K08SB5C	16.2	0.15	K123E	224.089	206.115	168.812	9.575	0.09903	3.16110	5	X
K08SG9V	16.9	0.15	K123E	230.698	181.439	190.281	12.023	0.06703	2.98529	6	X
K08SH0P	16.5	0.15	K123E	317.710	72.229	203.291	8.416	0.02068	3.02995	5	X
K08SH2K	17.3	0.15	K123E	294.959	90.388	228.995	8.750	0.31098	2.74128	3	X
K08SK0J	16.4	0.15	K123E	315.964	40.963	249.206	4.007	0.20599	2.99109	2	X
K08SQ1C	15.7	0.15	K123E	190.700	240.468	171.997	9.645	0.14468	3.13091	3	X
K08SQ8L	16.5	0.15	K123E	309.244	108.933	210.182	13.384	0.17296	2.86502	3	X
K08T06X	16.4	0.15	K123E	235.637	175.883	193.627	9.823	0.11239	3.02238	3	X
K08T33F	16.1	0.15	K123E	262.996	150.329	195.863	10.372	0.11833	3.05592	5	X
K08T49J	16.8	0.15	K123E	289.404	107.920	205.011	9.279	0.07439	2.98001	3	X
K08T61M	16.6	0.15	K123E	298.365	29.164	274.723	1.442	0.10613	3.06988	4	X
K08T63H	16.7	0.15	K123E	269.588	134.434	205.988	10.116	0.07549	3.06778	5	X
K08T64U	16.1	0.15	K123E	217.726	165.890	218.155	14.336	0.06896	3.08894	6	X
K08T95L	16.0	0.15	K123E	0.767	16.983	215.850	17.305	0.05651	3.10295	5	X
K08T98O	16.4	0.15	K123E	343.502	53.291	195.185	10.475	0.09274	3.13777	4	X
K08TB8U	16.0	0.15	K123E	112.119	282.170	203.224	10.330	0.05720	3.13255	7	X
K08TH1P	15.2	0.15	K123E	208.447	166.660	237.346	25.845	0.21293	3.13751	3	X
K08TI4F	16.2	0.15	K123E	334.255	18.163	287.898	13.075	0.25606	2.62064	4	X
K08TI5P	15.6	0.15	K123E	222.947	182.572	211.204	16.765	0.19145	3.19658	4	X
K08U14H	16.4	0.15	K123E	158.512	246.305	194.397	10.546	0.06757	3.11885	4	X
K08U16V	16.5	0.15	K123E	334.472	60.187	201.980	12.769	0.05795	3.13764	5	X
K08U77X	15.0	0.15	K123E	285.280	88.633	241.421	24.798	0.21847	3.11699	3	X
K08U79T	16.2	0.15	K123E	259.631	126.361	225.606	16.003	0.12890	3.05723	3	X
K08U99C	15.6	0.15	K123E	224.714	224.616	192.644	15.970	0.13847	3.00679	5	X
K08UC9S	16.0	0.15	K123E	267.230	120.582	223.918	13.471	0.10709	3.09589	2	S
K08UJ7C	15.2	0.15	K123E	211.141	303.813	93.672	23.379	0.15112	3.19062	4	X
K08UO2L	15.8	0.15	K123E	225.758	238.889	140.436	12.317	0.10329	3.16529	5	X
K08UT5F	16.7	0.15	K123E	293.990	115.702	229.893	16.576	0.15305	2.86649	4	X
K08W03N	16.2	0.15	K123E	300.697	72.741	231.350	8.918	0.11313	3.14603	2	S
K08W07G	16.1	0.15	K123E	294.397	92.444	225.858	16.162	0.11174	3.09038	6	X
K08W25J	15.4	0.15	K123E	263.575	277.163	62.133	26.517	0.20541	3.19270	2	X
K08WA3B	15.8	0.15	K123E	268.763	157.228	192.406	10.333	0.18723	3.02440	4	X
K09F56T	17.5	0.15	K123E	28.100	312.005	234.534	19.555	0.05999	1.93435	4	X
K09K22J	20.0	0.15	K123E	316.595	50.877	243.872	5.748	0.43460	2.10168	2	X
K09N00H	18.7	0.15	K123E	276.933	216.693	145.698	7.326	0.48603	2.17629	2	X
K09O02V	16.3	0.15	K123E	248.645	262.601	115.761	23.026	0.35935	2.31435	4	X
K09Q05H	16.3	0.15	K123E	320.920	317.130	278.567	23.397	0.23738	2.34893	4	X
K09Q10R	17.2	0.15	K123E	307.808	355.316	291.652	4.318	0.15679	2.24929	2	S
K09Q14G	17.2	0.15	K123E	209.567	225.769	176.496	8.449	0.25412	2.41859	6	X
K09R70S	18.3	0.15	K123E	311.189	109.064	180.071	5.410	0.22720	2.30647	3	X
K09S36Y	16.9	0.15	K123E	86.024	293.890	210.137	9.171	0.02479	2.62057	5	X
K09S40P	17.4	0.15	K123E	224.995	174.680	201.330	10.545	0.09260	2.52462	5	X
K09S46Y	16.3	0.15	K123E	22.712	343.901	215.045	12.403	0.11174	2.73991	4	X
K09S83L	17.9	0.15	K123E	320.605	95.210	179.997	5.194	0.16508	2.26926	7	X
K09SE0O	17.4	0.15	K123E	265.493	128.534	211.366	9.384	0.17082	2.35638	4	X
K09SL3T	16.9	0.15	K123E	146.197	238.122	202.602	10.165	0.03858	2.63550	4	X
K09SK8C	16.5	0.15	K123E	141.811	251.543	191.214	7.822	0.13604	2.76238	6	X
K09SN3N	17.0	0.15	K123E	235.126	168.519	199.042	14.252	0.13064	2.47058	3	X
K09SS2Z	17.6	0.15	K123E	270.167	199.744	133.434	4.041	0.24036	2.35057	5	X
K09SS3O	17.7	0.15	K123E	228.886	208.394	164.794	6.876	0.15708	2.47204	6	X
K09SS7X	16.6	0.15	K123E	53.242	313.574	218.270	13.917	0.08623	2.68530	2	S
K09SX3F	17.4	0.15	K123E	242.395	151.347	218.478	8.068	0.18064	2.32727	4	X
K09SY2N	16.9	0.15	K123E	51.326	340.636	187.614	7.815	0.13500	2.55918	4	X
K09T04E	17.3	0.15	K123E	282.810	185.856	136.106	6.944	0.16139	2.39403	7	X
K09T14V	16.1	0.15	K123E	316.002	72.195	205.552	5.304	0.09722	2.56165	4	X
K09T20W	17.3	0.15	K123E	288.192	205.725	110.808	3.731	0.19835	2.35267	5	X
K09T27F	15.8	0.15	K123E	192.654	230.372	172.072	13.910	0.08717	2.68361	6	X
K09T35Z	17.1	0.15	K123E	306.043	88.135	211.026	9.933	0.19383	2.33898	5	X
K09T41P	16.5	0.15	K123E	199.162	165.272	231.262	21.075	0.04635	2.70510	2	X
K09T46V	17.1	0.15	K123E	290.232	45.059	275.323	3.366	0.24235	2.33206	5	X
K09U17Q	15.8	0.15	K123E	129.870	216.847	226.514	15.052	0.17644	3.04590	2	X
K09U59W	16.0	0.15	K123E	210.912	148.483	234.465	21.145	0.04417	2.66131	3	X
K09U85B	15.8	0.15	K123E	255.122	263.775	75.621	7.615	0.03441	2.77105	2	S
K09U96W	17.1	0.15	K123E	201.312	196.550	201.963	7.685	0.09201	2.61729	4	X
K09UD6R	16.8	0.15	K123E	219.127	180.701	207.245	12.699	0.16387	2.59594	4	X
K09UF2Z	15.7	0.15	K123E	278.544	291.963	35.932	12.657	0.22150	2.56171	2	X
K09V77A	15.6	0.15	K123E	126.511	343.003	115.409	12.562	0.18851	3.02820	4	X
K09VA3J	16.5	0.15	K123E	306.578	244.038	89.523	14.201	0.18230	2.59178	5	X
K09VA4S	16.3	0.15	K123E	183.639	235.488	178.280	13.916	0.15883	2.74081	5	X
K09VA4T	16.1	0.15	K123E	251.126	240.633	110.687	10.668	0.13999	2.56853	5	X
K09VA7U	16.2	0.15	K123E	32.633	0.501	220.696	14.527	0.05679	2.53580	6	X
K09VB5Q	16.5	0.15	K123E	192.140	210.850	192.351	13.993	0.12364	2.65154	5	X

K09W74N	15.7	0.15	K123E	348.885	143.679	87.344	7.950	0.12561	3.08782	4	X
K09W80A	15.7	0.15	K123E	154.895	338.319	94.385	10.400	0.11903	3.07336	3	X
K09W89D	16.5	0.15	K123E	197.883	194.840	214.859	13.702	0.22181	2.65674	2	X
K09WA0D	15.8	0.15	K123E	169.553	351.524	70.494	10.093	0.09685	2.99850	3	X
K09WB0B	15.2	0.15	K123E	93.073	32.520	86.216	28.168	0.15073	3.21303	3	X
K09WJ5E	15.2	0.15	K123E	59.629	70.644	94.915	11.785	0.05436	3.08584	4	X
K09WJ7L	16.1	0.15	K123E	17.714	87.578	124.010	8.440	0.04024	2.97443	4	X
K09X21N	15.3	0.15	K123E	283.239	217.972	101.225	10.789	0.07287	3.13702	3	S
K09Y15B	15.5	0.15	K123E	175.846	321.368	102.474	19.808	0.10961	3.23024	4	X
K10A09A	15.6	0.15	K123E	254.850	227.300	132.547	16.360	0.11477	3.13229	7	X
K10A18D	15.9	0.15	K123E	239.029	260.385	100.635	11.640	0.07809	3.13181	5	X
K11A45N	16.8	0.15	K123E	140.297	315.250	125.428	9.388	0.19578	2.46667	5	X
K11A48K	16.8	0.15	K123E	98.162	2.983	124.681	15.553	0.05574	2.57313	4	X
K11A55J	17.2	0.15	K123E	20.320	94.901	105.702	4.389	0.13115	2.74134	4	S
K11A65P	16.9	0.15	K123E	345.986	136.618	112.951	8.958	0.15885	2.73892	3	X
K11A76T	16.4	0.15	K123E	116.322	351.919	117.250	11.138	0.02574	2.74306	6	X
K11B04L	16.8	0.15	K123E	338.601	130.579	121.548	12.947	0.15227	2.60564	5	X
K11B11C	16.8	0.15	K123E	114.083	327.897	141.268	7.447	0.12444	2.49267	7	X
K11B12P	15.9	0.15	K123E	32.149	48.497	131.848	12.834	0.19415	3.15556	4	X
K11B13W	15.8	0.15	K123E	8.744	106.416	114.505	13.950	0.09975	2.75618	5	X
K11B25M	16.0	0.15	K123E	132.625	341.749	112.480	22.808	0.03016	2.65123	2	X
K11B30V	16.2	0.15	K123E	356.608	114.843	115.346	12.086	0.03362	2.68700	6	X
K11B45X	16.2	0.15	K123E	46.125	64.539	108.969	12.460	0.09381	3.11629	4	X
K11B52C	15.6	0.15	K123E	6.180	95.426	122.710	16.359	0.16413	3.12239	3	X
K11B56D	16.4	0.15	K123E	342.400	84.763	158.973	8.553	0.08017	2.63430	6	X
K11B70M	16.4	0.15	K123E	56.411	356.805	168.426	10.324	0.14568	3.18261	2	X
K11B76R	17.3	0.15	K123E	201.963	242.694	148.915	6.598	0.03211	2.64226	4	X
K11B83S	16.1	0.15	K123E	359.290	325.804	293.782	12.453	0.22521	2.66317	6	X
K11B89H	16.6	0.15	K123E	135.316	262.233	187.436	9.324	0.08781	2.83724	6	X
K11BA4R	16.8	0.15	K123E	300.696	153.943	158.133	14.449	0.16539	2.58503	4	X
K11BA9G	17.6	0.15	K123E	314.287	89.338	194.487	3.604	0.07494	2.79409	2	S
K11BC7V	17.0	0.15	K123E	353.550	98.824	142.493	12.158	0.13001	2.75233	4	X
K11C01H	15.6	0.15	K123E	5.574	112.384	112.039	11.851	0.08495	3.09929	6	X
K11C01Y	15.8	0.15	K123E	122.039	311.555	143.106	13.713	0.14153	2.79410	4	X
K11C05W	17.5	0.15	K123E	179.353	288.549	126.226	7.283	0.09757	2.37508	6	X
K11C18V	16.7	0.15	K123E	22.595	97.261	131.742	10.135	0.15801	2.59055	4	X
K11C36W	16.2	0.15	K123E	334.360	134.522	134.374	15.483	0.20289	2.72920	5	X
K11C46G	15.4	0.15	K123E	81.964	25.368	118.413	28.815	0.14284	3.10473	3	X
K11C58F	16.8	0.15	K123E	319.983	138.462	146.756	8.418	0.20075	2.75534	2	S
K11C60V	16.6	0.15	K123E	322.694	123.174	149.644	5.851	0.04371	2.72122	4	X
K11C61B	16.3	0.15	K123E	76.785	358.188	148.225	10.797	0.12636	2.90108	2	X
K11C72D	15.8	0.15	K123E	31.809	49.868	136.524	17.624	0.18036	3.14372	4	X
K11C85P	16.6	0.15	K123E	15.703	45.245	167.853	9.543	0.06032	3.15206	3	X
K11C87Z	16.7	0.15	K123E	168.702	265.495	157.231	11.998	0.05202	2.73945	6	X
K11C92Y	17.1	0.15	K123E	335.195	69.019	189.978	6.350	0.02047	2.71765	5	X
K11D00A	15.9	0.15	K123E	38.570	39.466	146.918	17.753	0.15308	3.11290	4	X
K11D03T	15.2	0.15	K123E	313.231	151.610	134.687	11.597	0.09821	2.98490	3	X
K11D20R	16.1	0.15	K123E	19.403	60.244	144.476	13.602	0.09407	3.14612	4	X
K11D22P	16.1	0.15	K123E	221.916	214.202	167.890	10.481	0.06899	3.05215	4	X
K11D31N	16.1	0.15	K123E	8.388	90.811	149.920	16.763	0.20929	3.11830	4	X
K11D41A	15.8	0.15	K123E	287.071	147.312	163.585	8.994	0.02047	3.17902	5	X
K11D51F	15.1	0.15	K123E	106.141	358.632	119.509	17.464	0.12545	3.06931	4	X
K11E07Z	16.6	0.15	K123E	106.703	320.455	168.218	9.600	0.03638	3.16330	6	X
K11E10K	16.1	0.15	K123E	352.480	86.880	151.479	11.511	0.13546	3.18822	4	X
K11E23X	16.7	0.15	K123E	96.089	329.530	154.162	12.120	0.16045	3.07809	3	X
K11E30R	15.7	0.15	K123E	52.563	66.344	114.406	11.490	0.07708	3.18093	5	X
K11E42D	16.0	0.15	K123E	67.387	14.757	155.855	9.698	0.05740	3.13461	7	X
K11E59J	16.3	0.15	K123E	260.266	207.432	130.418	13.528	0.05130	3.04851	4	X
K11E62V	15.8	0.15	K123E	332.342	158.458	111.433	10.506	0.06064	3.15688	6	X
K11E66R	15.6	0.15	K123E	291.137	148.033	168.350	9.592	0.07756	3.13548	7	X
K11E80Z	15.7	0.15	K123E	119.763	305.791	166.287	9.625	0.05984	3.17356	7	X
K11E84H	16.4	0.15	K123E	6.994	76.748	174.895	15.900	0.03276	3.05605	5	X
K11F14P	16.7	0.15	K123E	353.858	86.815	177.644	16.331	0.14211	3.17234	3	X
K11F16T	15.3	0.15	K123E	58.969	44.031	149.890	19.186	0.14439	3.14897	6	X
K11F18M	16.7	0.15	K123E	338.012	92.115	196.324	13.853	0.10725	3.16195	4	X
K11F64P	16.3	0.15	K123E	233.219	189.745	203.609	14.443	0.10321	2.57025	6	X
K11F75Z	16.4	0.15	K123E	320.931	134.108	177.735	13.380	0.19610	2.78482	4	X
K11FC0F	16.3	0.15	K123E	169.888	229.210	203.004	8.822	0.12273	2.93331	6	X
K11FF2L	15.4	0.15	K123E	49.900	93.392	114.018	16.744	0.17652	3.15165	5	X
K11G49M	16.3	0.15	K123E	94.958	314.537	202.729	16.836	0.16089	3.10818	5	X
K11WD4V	17.1	0.15	K123E	355.678	25.635	157.789	6.044	0.67834	2.78607	3	X
K12BD2M	15.6	0.15	K123E	339.400	242.979	333.305	29.295	0.31100	2.61718	4	X
K12D30U	18.2	0.15	K123E	356.428	61.683	147.216	28.233	0.50686	2.60332	2	X
K12F23C	16.2	0.15	K123E	345.433	151.737	73.850	25.174	0.24119	2.24367	3	X
K12F62C	16.3	0.15	K123E	329.202	61.066	192.247	11.757	0.25885	2.64871	3	X
K12G12J	16.5	0.15	K123E	63.868	252.781	216.544	20.979	0.27067	2.33141	4	X
K12G37Y	16.7	0.15	K123E	16.318	101.817	70.696	11.018	0.20680	2.58975	4	X

K12H00J	17.5	0.15	K123E	19.270	312.575	223.251	23.974	0.09235	1.86304	5 X
K12H02C	16.9	0.15	K123E	338.077	169.272	104.042	21.702	0.50465	3.03033	2 X
K12H11S	16.1	0.15	K123E	345.783	157.500	73.722	16.025	0.04396	2.55568	5 X
K12H24G	16.3	0.15	K123E	325.310	73.585	193.953	14.466	0.08635	2.60621	6 X
K12H25H	16.8	0.15	K123E	46.098	62.693	83.137	25.014	0.28519	2.34523	3 X
K12H40O	16.4	0.15	K123E	358.250	283.725	255.726	26.430	0.39080	2.64335	2 X
K12H41Q	16.3	0.15	K123E	243.282	225.098	96.695	4.783	0.01152	2.71670	6 X
K12H47B	18.2	0.15	K123E	103.844	246.521	209.946	20.873	0.09791	1.93478	3 X
K12H49Q	17.4	0.15	K123E	328.282	107.527	147.519	3.706	0.12586	2.62929	5 X
K12H59K	17.1	0.15	K123E	31.381	98.968	76.000	12.173	0.12516	2.68257	3 X
K12H61X	17.5	0.15	K123E	358.365	53.880	140.907	4.202	0.06179	2.25540	5 X
K12H68K	15.7	0.15	K123E	9.768	131.717	73.474	11.677	0.07980	2.87747	4 X
K12H79U	17.3	0.15	K123E	4.230	98.934	112.596	4.050	0.21224	2.67441	3 X
K12J08L	15.7	0.15	K123E	299.171	59.723	225.261	9.052	0.04733	3.14744	9 X
K12J16E	16.4	0.15	K123E	331.276	150.674	106.263	16.888	0.09669	2.46534	6 X
K12J16F	15.2	0.15	K123E	285.015	202.084	106.423	21.194	0.01959	3.13771	5 X
K12J38A	15.9	0.15	K123E	283.559	255.209	69.111	17.557	0.24284	3.12400	4 X
K12K15D	17.0	0.15	K123E	335.854	141.003	112.281	3.696	0.10186	2.70187	5 X
K12K17L	15.7	0.15	K123E	20.798	346.888	216.765	8.824	0.10911	3.08657	8 X
K12K18F	17.5	0.15	K123E	84.860	247.897	230.497	22.642	0.13644	1.84834	3 X
K12K25G	15.6	0.15	K123E	281.537	217.063	100.073	14.747	0.06806	3.16034	3 X
K12K30O	15.6	0.15	K123E	331.799	171.066	90.961	17.722	0.08070	3.03866	3 X
K12K34S	16.9	0.15	K123E	310.610	192.169	95.172	5.534	0.16446	2.54435	4 X
K12K45H	19.5	0.15	K123E	251.248	122.135	223.823	15.021	0.17073	1.65040	2 S
K12K46J	16.7	0.15	K123E	326.259	147.186	125.661	5.782	0.27604	2.75174	4 X
K12K47G	15.7	0.15	K123E	342.148	147.423	107.030	11.627	0.05429	3.12924	6 X
K12K50K	16.5	0.15	K123E	343.574	46.082	206.004	9.837	0.05643	2.98424	4 X
K12K50L	16.7	0.15	K123E	305.181	195.619	116.564	16.690	0.28150	2.61522	5 S
K12L00H	17.4	0.15	K123E	57.215	284.051	234.177	19.677	0.06810	1.95016	4 X
K12L00N	17.2	0.15	K123E	271.683	213.087	119.754	7.424	0.13455	2.33265	6 X
K12L00X	17.1	0.15	K123E	342.698	20.234	222.357	19.603	0.04427	1.93155	5 X
K12L05A	16.3	0.15	K123E	281.073	222.232	112.805	13.223	0.21214	2.69894	7 X

New perturbed one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc C
K12D61H	19.1	0.15	K123E	341.881	130.710	86.188	23.389	0.51003	2.21214	107 X
K12D78G	16.0	0.15	K123E	28.823	270.607	215.517	13.433	0.19704	2.80227	162 X
K12F01D	22.8	0.15	K123E	337.722	64.551	175.164	6.077	0.49706	2.02817	92 X
K12F01Q	19.1	0.15	K123E	326.456	169.257	98.321	5.180	0.61850	2.60044	90 X
K12H11V	16.8	0.15	K123E	344.422	162.719	69.680	15.965	0.05737	2.57827	90 X
K12H31G	18.9	0.15	K123E	310.992	172.948	148.414	10.218	0.52998	2.17245	59 X
K12J16B	19.7	0.15	K123E	317.222	189.139	70.436	35.747	0.27704	1.73678	30 X
K12K04A	21.2	0.15	K123E	345.746	237.275	215.097	5.812	0.77998	1.10037	28 X
K12K06C	21.7	0.15	K123E	354.350	337.924	195.458	11.333	0.24620	1.24038	26 X
K12K11J	16.6	0.15	K123E	245.791	304.892	339.653	35.818	0.57001	1.57662	28 X
K12K45M	18.6	0.15	K123E	332.727	158.493	95.240	28.205	0.59273	2.26549	15 X
K12L00A	27.5	0.15	K123E	233.803	68.013	237.303	3.256	0.01937	1.04090	12 X
K12L00T	25.9	0.15	K123E	333.392	189.259	77.712	5.498	0.55578	2.30861	3 X
K12L00U	25.0	0.15	K123E	299.612	200.356	88.778	3.147	0.33635	1.53485	4 X
K12L01C	16.1	0.15	K123E	344.320	52.070	53.974	34.434	0.76113	1.98865	6 X
K12L01D	21.9	0.15	K123E	349.388	303.007	246.181	15.215	0.11770	1.18838	4 X
K12L01P	23.4	0.15	K123E	289.763	224.725	76.939	19.805	0.32457	1.49764	3 X
K12L01R	20.5	0.15	K123E	7.420	66.557	83.135	42.320	0.38119	1.33656	5 X
K12L01Z	19.7	0.15	K123E	334.700	13.886	264.687	26.261	0.59327	2.54824	3 X
K12L02K	17.1	0.15	K123E	10.121	22.806	108.541	38.164	0.85061	2.34730	3 X
K12L04F	24.4	0.15	K123E	258.520	72.964	252.476	5.853	0.26097	1.27133	1 S
K12L04G	23.5	0.15	K123E	219.848	100.185	262.716	14.098	0.31087	1.13215	1 S

New one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc C
K12F23R	17.2	0.15	K124N	7.469	64.461	160.315	16.794	0.33073	3.07048	81 S
K12G30G	16.6	0.15	K1243	178.254	358.024	23.206	6.257	0.04994	2.74650	43 S
K12H13B	16.9	0.15	K125D	21.206	126.267	75.326	15.489	0.16432	3.05655	53 X
K12H24M	16.9	0.15	K125D	4.850	111.874	114.385	12.686	0.17251	2.67170	47 S
K12H77R	18.4	0.15	K125D	3.700	173.797	49.375	3.407	0.15129	2.35973	50 S
K12H79L	15.7	0.15	K125D	314.380	220.000	70.356	10.135	0.06355	3.11256	42 S
K12J02E	15.9	0.15	K125D	78.828	72.597	72.250	10.901	0.06424	2.99583	55 X
K12J23V	15.3	0.15	K125D	7.769	137.712	91.855	16.389	0.10384	3.16312	28 S
K12J64S	18.5	0.15	K125D	335.097	156.785	123.545	1.479	0.22114	2.24457	25 S
K12J64T	16.3	0.15	K125D	183.342	223.112	198.791	6.034	0.03402	2.76425	24 S
K12J64U	17.0	0.15	K125D	44.198	343.809	209.746	6.537	0.07473	2.57448	24 S
K12J65N	17.4	0.15	K125D	17.198	141.554	71.011	8.684	0.25030	2.71392	28 S
K12J65O	17.8	0.15	K125D	359.723	172.579	69.897	6.623	0.20301	2.61964	28 S
K12J65Y	17.0	0.15	K125D	325.901	223.514	71.864	5.311	0.24118	2.61318	28 S
K12K00F	17.7	0.15	K125D	29.030	114.678	91.274	24.041	0.03574	1.94739	28 X
K12K09V	16.4	0.15	K125D	334.420	154.142	116.042	12.296	0.10914	3.03778	52 X
K12K09X	17.4	0.15	K125D	331.608	86.187	189.923	11.767	0.11796	2.69828	30 X

K12K10P	17.9	0.15	K125D	316.719	202.918	96.736	5.734	0.18630	2.57728	46	X
K12K12K	17.4	0.15	K125D	346.821	154.681	104.563	35.192	0.21342	2.68031	31	S
K12K16H	17.8	0.15	K125D	336.701	138.470	138.180	5.290	0.20688	2.59537	24	X
K12K16P	16.6	0.15	K125D	272.918	122.624	228.878	12.109	0.18234	2.66468	24	X
K12K16R	17.1	0.15	K125D	299.405	242.770	94.200	8.259	0.30027	2.65141	19	S
K12K30J	16.0	0.15	K125D	280.530	232.967	92.154	17.498	0.02804	3.16991	25	X
K12K30K	16.5	0.15	K125D	279.502	141.621	190.025	10.429	0.06300	3.10442	25	X
K12K30V	15.8	0.15	K125D	346.722	92.287	166.736	4.326	0.11520	3.09540	24	X
K12K40T	17.3	0.15	K125D	18.706	118.304	99.675	12.921	0.10511	2.76139	25	X
K12K42F	16.8	0.15	K125D	20.822	75.716	140.015	12.029	0.07799	2.67026	25	X
K12K42R	17.7	0.15	K1262	353.744	109.301	148.565	12.912	0.23266	2.71614	18	X
K12K43A	17.2	0.15	K125D	307.996	247.064	71.280	8.971	0.23475	2.48098	28	S
K12K44G	16.0	0.15	K125D	69.943	315.408	215.574	9.785	0.05690	2.98667	18	S
K12K44W	16.7	0.15	K125D	352.988	31.533	220.517	13.720	0.20624	2.61315	31	X
K12K45B	18.9	0.15	K1262	192.403	330.561	90.834	25.153	0.06334	1.81236	15	X
K12K45G	17.9	0.15	K1262	52.649	68.184	127.527	23.464	0.05295	1.90402	14	X
K12K45K	17.9	0.15	K1262	90.743	277.354	226.901	16.440	0.15484	2.01116	13	X
K12K46E	16.0	0.15	K125D	314.636	214.002	97.557	12.774	0.21939	2.58321	21	S
K12K46G	16.6	0.15	K125D	331.652	34.443	244.802	10.550	0.19493	2.56371	23	S
K12K47W	16.6	0.15	K125D	336.988	178.079	97.212	14.868	0.13962	2.61998	25	X
K12K47Z	16.7	0.15	K125D	19.492	63.392	153.215	1.879	0.08589	2.54438	21	S
K12K48A	15.5	0.15	K1262	350.097	43.103	218.240	21.997	0.14867	2.96884	17	X
K12K48C	17.8	0.15	K125D	54.799	306.716	231.588	4.334	0.09054	2.26060	25	S
K12K48D	16.8	0.15	K125D	10.321	111.155	119.764	5.005	0.08763	2.67917	18	S
K12K48E	15.4	0.15	K1262	95.681	43.516	105.898	11.865	0.05536	3.07653	9	S
K12K48O	17.9	0.15	K1262	15.704	147.512	78.727	6.397	0.11597	2.33120	15	S
K12K48P	16.4	0.15	K125D	86.710	275.611	225.941	11.905	0.12645	2.62612	19	S
K12K48R	16.5	0.15	K1262	359.616	5.389	244.597	16.285	0.21612	3.12076	15	S
K12K49A	16.0	0.15	K125D	14.098	153.364	73.927	17.877	0.08925	3.10512	25	S
K12K49N	16.8	0.15	K1262	298.871	227.424	113.888	8.086	0.25410	2.54068	13	X
K12K49O	17.0	0.15	K1262	21.393	0.913	223.488	12.117	0.13765	2.71824	13	X
K12K49Q	15.8	0.15	K125D	309.074	153.185	148.803	6.103	0.04386	3.11287	18	S
K12K49R	17.2	0.15	K125D	3.370	96.889	142.449	5.407	0.15632	2.54662	18	S
K12K49S	16.2	0.15	K1262	331.633	53.820	239.721	26.752	0.20212	3.21794	13	X
K12K49T	16.8	0.15	K125D	341.806	155.277	108.319	7.692	0.02180	2.73979	18	S
K12K49Z	16.2	0.15	K125D	36.606	354.764	207.795	8.625	0.08190	3.06714	18	S
K12K50A	16.0	0.15	K1262	345.147	146.754	122.610	10.802	0.08569	3.00718	13	X
K12K50E	15.3	0.15	K1262	238.896	260.450	116.762	11.842	0.06453	3.03939	13	X
K12K50G	15.3	0.15	K1262	279.537	202.676	141.125	10.263	0.11182	3.03990	13	X
K12K50H	17.8	0.15	K125D	338.058	172.968	102.484	10.186	0.19181	2.31924	20	S
K12K50J	18.1	0.15	K125D	321.345	64.356	231.740	2.082	0.18788	2.36007	13	S
K12K50M	16.4	0.15	K125D	342.570	182.226	81.443	14.512	0.12938	2.65749	20	S
K12L00K	17.7	0.15	K1262	312.791	137.815	183.913	4.568	0.25485	2.34406	5	X
K12L00L	16.6	0.15	K1262	37.461	348.929	211.503	9.007	0.16707	3.13605	5	X
K12L00V	18.8	0.15	K1262	83.078	289.020	231.304	19.841	0.08584	1.83481	12	X
K12L01F	17.3	0.15	K1262	264.440	280.818	90.925	25.082	0.26462	2.33133	4	X
K12L01N	16.1	0.15	K125D	48.014	66.867	116.661	13.600	0.10599	3.08257	28	X
K12L02M	18.7	0.15	K1262	159.760	210.451	243.988	17.184	0.05769	1.91003	3	X
K12L02N	17.9	0.15	K1262	337.841	89.780	210.409	15.668	0.18370	2.15431	2	X
K12L02Q	16.9	0.15	K1262	319.631	48.313	253.899	5.304	0.15180	2.35132	15	S
K12L02R	16.8	0.15	K1262	8.979	162.946	73.791	6.737	0.21638	2.55847	3	S
K12L02U	16.1	0.15	K125D	286.795	259.873	67.144	11.202	0.08271	3.15213	28	S
K12L03K	15.4	0.15	K1262	292.196	178.024	162.634	22.475	0.11673	3.11275	3	X
K12L03V	19.2	0.15	K1262	275.004	144.239	221.916	14.962	0.19732	1.81210	2	X
K12L03W	17.8	0.15	K1262	173.197	164.770	264.866	18.991	0.17039	1.99575	1EX	
K12L03X	18.3	0.15	K1262	158.706	22.801	62.879	26.580	0.10308	1.87753	1EX	
K12L03Y	18.6	0.15	K1262	183.065	359.628	69.069	27.099	0.06154	1.88965	1EX	
K12L03Z	20.3	0.15	K1262	348.710	4.815	274.622	6.698	0.40461	2.33926	1ES	
K12L04A	18.5	0.15	K1262	116.395	13.311	116.940	24.037	0.09873	1.84736	1EX	
K12L04B	17.4	0.15	K1262	322.928	87.174	228.983	20.765	0.19739	1.97890	1EX	
K12L04C	18.0	0.15	K1262	131.324	347.615	132.592	21.218	0.14228	1.86405	1EX	
K12L04D	19.8	0.15	K1262	44.346	86.356	116.728	21.791	0.14024	1.80454	1EX	
K12L04E	17.8	0.15	K1262	107.977	11.748	129.376	22.565	0.14566	1.99840	1EX	
K12L04H	18.1	0.15	K1262	301.606	23.664	321.865	2.005	0.30932	2.35423	1ES	
K12L04J	18.0	0.15	K1262	345.768	166.759	108.246	14.984	0.28605	2.53244	4	X
K12L04V	17.2	0.15	K1262	16.795	139.313	93.175	13.981	0.12336	2.64036	4	S
K12L05B	15.2	0.15	K125D	335.732	197.472	78.710	25.315	0.14456	3.16789	19	S
K12L05C	20.0	0.15	K1262	352.404	152.132	119.268	7.648	0.43282	2.88509	12	S
K12L05D	20.3	0.15	K1262	3.165	155.412	89.916	26.761	0.14781	1.90877	18ES	
K12L05E	18.6	0.15	K1262	357.934	78.924	185.027	11.717	0.44513	2.90524	1	X

New observations:

J98F09M	C2012 06	12.54916	18	59	12.823+00	41	21.08	20.8	iLEL037F51
J98F09M	C2012 06	12.56040	18	59	12.076+00	41	18.01	20.3	iLEL037F51
K03B35Q	C2012 06	12.55293	19	21	21.816+00	14	11.38	19.0	iLEL037F51
K03B35Q	C2012 06	12.56411	19	21	21.812+00	14	15.28	19.0	iLEL037F51
K04C00L	KC2012 06	14.04887	20	59	09.43 +04	56	09.2	19.5	VvEL037I93

K04C00L	KC2012	06	14.05600	20	59	11.98	+04	56	21.9	19.4	VvEL037I93
K04C00L	KC2012	06	14.06574	20	59	15.51	+04	56	39.3	19.2	VvEL037I93
K04C00L	KC2012	06	14.07062	20	59	17.20	+04	56	48.1	19.3	VvEL037I93
K06J25Y	KC2012	06	12.92083	15	05	59.66	-24	16	10.9		tEL037204
K06J25Y	KC2012	06	12.92720	15	05	57.43	-24	16	11.3		tEL037204
K06J25Y	KC2012	06	12.93357	15	05	55.14	-24	16	10.1	18.8	RtEL037204
K07M13M	KC2012	06	13.05344	21	18	49.74	+72	01	57.9	17.7	RtEL037204
K07M13M	KC2012	06	13.05537	21	18	47.09	+72	01	57.3		tEL037204
K07M13M	KC2012	06	13.05692	21	18	45.01	+72	01	56.6		tEL037204
K07M20T	KC2012	06	12.99713	18	12	46.42	+10	22	25.7		tEL037204
K07M20T	KC2012	06	13.00492	18	12	45.72	+10	22	50.0		tEL037204
K07M20T	KC2012	06	13.01273	18	12	45.01	+10	23	14.1	18.4	RtEL037204
K07M20T	KC2012	06	13.88407	18	11	29.67	+11	08	38.6	19.4	VuEL037A13
K07M20T	KC2012	06	13.88718	18	11	29.44	+11	08	47.4	19.6	VuEL037A13
K07M20T	KC2012	06	13.90964	18	11	27.31	+11	09	59.7	19.7	VuEL037A13
K07M20T	KC2012	06	13.91276	18	11	27.00	+11	10	09.9	19.6	VuEL037A13
K07V07X	QC2012	06	12.53344	15	54	56.19	-13	49	02.3	20.3	RrEL037E12
K07V07X	HC2012	06	13.18620	15	54	04.76	-13	34	35.4		oEL037691
K07V07X	HC2012	06	13.22596	15	54	01.48	-13	33	43.0		oEL037691
K07V07X	HC2012	06	13.26571	15	53	58.16	-13	32	49.5		oEL037691
K08A04F	KC2012	06	13.40590	21	51	48.84	-11	40	46.6	20.4	RoEL037291
K08A04F	KC2012	06	13.41004	21	51	49.44	-11	40	45.9	20.5	RoEL037291
K09K22J	C2012	06	13.17560	15	46	03.75	-13	34	37.9		oEL037691
K09K22J	C2012	06	13.21536	15	46	04.16	-13	33	43.6		oEL037691
K09K22J	C2012	06	13.25510	15	46	04.63	-13	32	48.9		oEL037691
K09N00H	HC2012	06	13.19172	15	55	24.77	-06	37	49.2		oEL037691
K09N00H	HC2012	06	13.23146	15	55	21.55	-06	37	45.5		oEL037691
K09N00H	HC2012	06	13.27122	15	55	18.38	-06	37	41.4		oEL037691
K09N00H	C2012	06	13.34665	15	55	12.635	-06	37	32.10	21.0	wLEL037F51
K09N00H	C2012	06	13.36137	15	55	11.457	-06	37	30.69	20.9	wLEL037F51
K09N00H	C2012	06	13.37611	15	55	10.257	-06	37	29.17	20.9	wLEL037F51
K11WD4V	C2012	06	13.31833	17	40	19.14	-00	06	46.8	16.5	RuEL037H45
K11WD4V	C2012	06	13.31894	17	40	19.11	-00	06	47.9	16.7	RuEL037H45
K11WD4V	C2012	06	13.32038	17	40	19.00	-00	06	50.7	16.6	RuEL037H45
K11WD4V	C2012	06	13.32150	17	40	18.91	-00	06	52.6	16.6	RuEL037H45
K11WD4V	C2012	06	13.32249	17	40	18.86	-00	06	54.2	16.6	RuEL037H45
K12D30U	C2012	06	12.40155	18	38	02.765	+36	20	23.56	20.4	gLEL037F51
K12D30U	C2012	06	12.41255	18	38	02.174	+36	20	10.92	20.3	gLEL037F51
K12D30U	C2012	06	12.42369	18	38	01.566	+36	19	57.85	19.8	rLEL037F51
K12D30U	C2012	06	12.43353	18	38	01.025	+36	19	46.51	19.8	rLEL037F51
K12D61H	C2012	06	14.16841	13	35	56.30	+18	20	36.7	18.2	VoEL037G48
K12D61H	C2012	06	14.17116	13	35	56.73	+18	20	17.9	18.0	VoEL037G48
K12D61H	C2012	06	14.17183	13	35	56.88	+18	20	12.8	17.8	VoEL037G48
K12F01D	KC2012	06	13.34833221	28	02.71	+28	21	59.8			uEL037H21
K12F01D	KC2012	06	13.35900621	28	03.37	+28	21	36.7		22.1	VuEL037H21
K12F01D	KC2012	06	13.36999321	28	04.04	+28	21	12.2		22.7	VuEL037H21
K12F01Q	]C2012	06	14.15862	10	42	14.04	+14	27	26.3	21.6	RoEL037695
K12F01Q	]C2012	06	14.16474	10	42	14.84	+14	27	20.5	21.6	RoEL037695
K12F01Q	]C2012	06	14.16881	10	42	15.34	+14	27	16.8	21.5	RoEL037695
K12H31G	C2012	06	13.23295	15	32	35.25	+17	20	40.7	18.6	RuEL037H45
K12H31G	C2012	06	13.23501	15	32	35.09	+17	20	41.9	18.6	RuEL037H45
K12H31G	C2012	06	13.23633	15	32	34.93	+17	20	42.6	18.7	RuEL037H45
K12H31G	C2012	06	13.23748	15	32	34.81	+17	20	43.5	18.9	RuEL037H45
K12H31G	C2012	06	13.23924	15	32	34.70	+17	20	44.3	18.7	RuEL037H45
K12H31G	C2012	06	13.24102	15	32	34.54	+17	20	45.4	18.8	RuEL037H45
K12J16B	KC2012	06	13.14878	14	16	27.84	-20	21	15.6	19.5	VuEL037H21
K12J16B	KC2012	06	13.15442	14	16	26.72	-20	21	48.2	18.8	VuEL037H21
K12J16B	KC2012	06	13.15723	14	16	26.15	-20	22	04.5	18.9	VuEL037H21
K12K04A	]C2012	06	14.18089	13	31	08.59	-02	03	38.1	21.9	RoEL037695
K12K04A	]C2012	06	14.19662	13	31	10.10	-02	03	53.1	21.9	RoEL037695
K12K04A	]C2012	06	14.20347	13	31	10.75	-02	03	59.1	21.7	RoEL037695
K12K06C	KC2012	06	13.38997	16	43	27.36	+36	56	07.2	20.4	RoEL037291
K12K06C	KC2012	06	13.39308	16	43	27.31	+36	55	59.8	20.4	RoEL037291
K12K06C	KC2012	06	13.39538	16	43	27.29	+36	55	54.5	20.3	RoEL037291
K12K11J	C2012	06	14.15377	08	47	52.97	+21	32	52.7	20.5	RoEL037H01
K12K11J	C2012	06	14.15872	08	47	53.41	+21	32	47.9	21.0	RoEL037H01
K12K11J	C2012	06	14.16778	08	47	54.25	+21	32	39.0	20.4	RoEL037H01
K12K11J	C2012	06	14.17330	08	47	54.78	+21	32	33.6	20.4	RoEL037H01
K12K45M	KC2012	06	13.11862	10	31	12.40	+56	19	22.2	19.8	VuEL037H21
K12K45M	KC2012	06	13.12330	10	31	12.39	+56	19	07.3	19.7	VuEL037H21
K12K45M	KC2012	06	13.12871	10	31	12.36	+56	18	50.5	19.6	VuEL037H21
K12L00A	KC2012	06	13.25760217	13	18.81	+49	03	18.4			uEL037H21
K12L00A	KC2012	06	13.27182317	13	18.91	+49	04	26.4		22.5	VuEL037H21
K12L00A	KC2012	06	13.28750217	13	19.16	+49	05	38.9		22.1	VuEL037H21
K12L00T	QC2012	06	12.47509	19	18	05.82	-53	55	22.4	17.4	RrEL037E12
K12L00T	QC2012	06	12.47616	19	18	13.32	-53	55	36.6	17.4	RrEL037E12
K12L00T	QC2012	06	12.47796	19	18	25.96	-53	55	58.6	17.6	RrEL037E12

K12L00T	QC2012	06	12.48166	19	18	51.79	-53	56	45.2	17.5	RrEL037E12	
K12L00U	KC2012	06	12.97128	15	55	48.41	-08	41	15.1	18.6	RtEL037204	
K12L00U	KC2012	06	12.97907	15	55	50.97	-08	41	45.5		tEL037204	
K12L00U	KC2012	06	12.98585	15	55	53.18	-08	42	11.4		tEL037204	
K12L00U	KC2012	06	13.20547615	57	23.80	-08	56	41.9		19.3	VuEL037H21	
K12L00U	KC2012	06	13.20841615	57	24.77	-08	56	53.9		19.3	VuEL037H21	
K12L00U	KC2012	06	13.21134415	57	25.73	-08	57	05.7		19.3	VuEL037H21	
K12L00U	C2012	06	13.33257	15	58	21.685	-09	04	26.16		19.4	wLEL037F51
K12L00U	C2012	06	13.34730	15	58	26.446	-09	05	28.96		19.0	wLEL037F51
K12L00U	C2012	06	13.36202	15	58	31.167	-09	06	31.03		19.6	wLEL037F51
K12L00U	C2012	06	13.37676	15	58	35.865	-09	07	32.67		19.6	wLEL037F51
K12L01C	KC2012	06	13.09892	10	13	42.65	+28	17	31.6		18.2	VuEL037H21
K12L01C	KC2012	06	13.10268	10	13	44.14	+28	17	16.6		18.3	VuEL037H21
K12L01C	KC2012	06	13.10668	10	13	45.76	+28	17	01.0		18.3	VuEL037H21
K12L01C	KC2012	06	13.11066	10	13	47.38	+28	16	45.5		18.3	VuEL037H21
K12L01C	C2012	06	14.15123	10	20	41.60	+27	09	08.9		18.1	VoEL037G48
K12L01C	C2012	06	14.15280	10	20	42.25	+27	09	03.2		17.9	VoEL037G48
K12L01C	C2012	06	14.15336	10	20	42.43	+27	09	00.3		17.9	VoEL037G48
K12L01C	C2012	06	14.15391	10	20	42.66	+27	08	58.2		18.0	VoEL037G48
K12L01D	KC2012	06	12.94580	16	09	35.88	+10	19	49.5			tEL037204
K12L01D	KC2012	06	12.95336	16	09	36.08	+10	20	17.4			tEL037204
K12L01D	KC2012	06	12.96127	16	09	36.25	+10	20	46.4		18.8	RtEL037204
K12L01D	KC2012	06	13.10544316	09	44.77	+10	29	35.7		19.4	VuEL037H21	
K12L01D	KC2012	06	13.11031716	09	44.91	+10	29	53.6		19.2	VuEL037H21	
K12L01D	KC2012	06	13.11443816	09	45.01	+10	30	08.3		19.6	VuEL037H21	
K12L01D	C2012	06	13.26286	16	09	48.53	+10	39	06.9		19.3	RuEL037H45
K12L01D	C2012	06	13.26388	16	09	48.54	+10	39	10.5		19.2	RuEL037H45
K12L01D	C2012	06	13.26531	16	09	48.57	+10	39	16.1		19.4	RuEL037H45
K12L01D	C2012	06	13.26688	16	09	48.60	+10	39	21.0		19.6	RuEL037H45
K12L01D	C2012	06	13.26903	16	09	48.66	+10	39	28.6		19.6	RuEL037H45
K12L01D	C2012	06	13.27222	16	09	48.73	+10	39	40.2		19.6	RuEL037H45
K12L01D	C2012	06	13.27362	16	09	48.78	+10	39	44.6		19.2	RuEL037H45
K12L01D	C2012	06	13.27766	16	09	48.87	+10	39	59.4		19.5	RuEL037H45
K12L01D	C2012	06	13.27888	16	09	48.93	+10	40	04.1		19.5	RuEL037H45
K12L01P	KC2012	06	13.13545614	18	16.46	-25	55	16.9		19.9	VuEL037H21	
K12L01P	KC2012	06	13.14032014	18	13.35	-25	56	23.5				uEL037H21
K12L01P	KC2012	06	13.14486314	18	10.42	-25	57	26.8		20.0	VuEL037H21	
K12L01R	KC2012	06	13.29834116	56	21.42	-12	41	19.5		19.3	VuEL037H21	
K12L01R	KC2012	06	13.29964816	56	20.98	-12	41	27.8		19.1	VuEL037H21	
K12L01R	KC2012	06	13.30093316	56	20.55	-12	41	36.0		19.4	VuEL037H21	
K12L01R	C2012	06	13.30167	16	56	20.86	-12	41	39.1		18.5	VrEL037G96
K12L01R	C2012	06	13.30859	16	56	18.60	-12	42	23.8		18.6	VrEL037G96
K12L01R	C2012	06	13.31548	16	56	16.33	-12	43	08.5		18.5	VrEL037G96
K12L01R	mC2012	06	14.21035	16	51	34.38	-14	18	15.8			oEL037291
K12L01R	mC2012	06	14.21131	16	51	34.09	-14	18	21.4			oEL037291
K12L01R	mC2012	06	14.21226	16	51	33.76	-14	18	28.2			oEL037291
K12L01Z	QC2012	06	12.46835419	18	57.639	-48	47	31.51		14.3	VrEL037E12	
K12L01Z	QC2012	06	12.46893619	18	58.060	-48	47	09.96		14.2	VrEL037E12	
K12L01Z	QC2012	06	12.46922419	18	58.214	-48	46	59.57		14.3	VrEL037E12	
K12L01Z	QC2012	06	12.46951719	18	58.424	-48	46	48.84		14.1	VrEL037E12	
K12L01Z	QC2012	06	12.82771719	22	33.85	-44	52	14.1		14.0	VrEL037E12	
K12L01Z	QC2012	06	12.83051919	22	35.57	-44	50	16.7		14.0	VrEL037E12	
K12L01Z	QC2012	06	13.54372519	30	28.186	-35	59	55.91		13.6	VrEL037E12	
K12L01Z	QC2012	06	13.54429019	30	28.460	-35	59	29.12		13.6	VrEL037E12	
K12L01Z	QC2012	06	13.54456319	30	28.611	-35	59	16.20		13.6	VrEL037E12	
K12L01Z	QC2012	06	13.54485019	30	28.757	-35	59	02.42		13.6	VrEL037E12	
K12L01Z	C2012	06	14.07948	19	35	33.73	-28	30	58.6		13.9	VoEL037807
K12L01Z	C2012	06	14.08069	19	35	34.35	-28	29	56.3		13.9	VoEL037807
K12L01Z	C2012	06	14.08188	19	35	34.97	-28	28	54.8		14.0	VoEL037807
K12L01Z	C2012	06	14.08308	19	35	35.57	-28	27	52.6		14.0	VoEL037807
K12L02K	KC2012	06	13.40068	19	28	56.43	-08	02	47.6		19.5	RoEL037291
K12L02K	KC2012	06	13.40212	19	28	56.24	-08	02	49.1		19.7	RoEL037291
03352	C2012	06	13.27238	13	18	12.238	-01	07	42.72		18.3	zLEL037F51
03352	C2012	06	13.27925	13	18	12.583	-01	07	47.27		18.4	zLEL037F51
24445	C2012	06	12.32230	16	25	20.038	+03	20	29.92		20.2	gLEL037F51
24445	C2012	06	12.33334	16	25	19.394	+03	20	31.69		20.2	gLEL037F51
27002	C2012	06	13.34002	16	22	45.147	-05	57	34.18		19.9	wLEL037F51
27002	C2012	06	13.35477	16	22	43.974	-05	57	40.10		19.8	wLEL037F51
27002	C2012	06	13.36951	16	22	42.778	-05	57	46.05		19.4	wLEL037F51
27002	C2012	06	13.38427	16	22	41.637	-05	57	51.99		19.8	wLEL037F51
53110	C2012	06	13.34333	16	49	28.143	-07	28	17.38		18.2	wLEL037F51
53110	C2012	06	13.37281	16	49	23.558	-07	29	26.20		18.2	wLEL037F51
53110	C2012	06	13.38760	16	49	21.255	-07	30	00.68		18.2	wLEL037F51
85184	C2012	06	12.45804	18	28	55.990	+46	25	17.76		19.3	rLEL037F51
85184	C2012	06	12.46798	18	28	54.733	+46	25	33.67		19.1	rLEL037F51
85184	C2012	06	12.47883	18	28	53.362	+46	25	51.07		18.9	iLEL037F51
85184	C2012	06	12.48978	18	28	51.976	+46	26	08.44		18.9	iLEL037F51

85184	C2012 06	13.42542	18 27	02.663+46	50 17.77	20.1	gLEL037F51
85184	C2012 06	13.43559	18 27	01.385+46	50 33.21	20.1	gLEL037F51
A1955	C2012 06	14.19058	13 30	13.04 -26	14 54.1	20.5	RoEL037H01
A1955	C2012 06	14.19763	13 30	13.11 -26	14 51.6	20.6	RoEL037H01
A1955	C2012 06	14.20804	13 30	13.22 -26	14 47.9	20.6	RoEL037H01
A1955	C2012 06	14.22252	13 30	13.38 -26	14 42.7	20.5	RoEL037H01
D6900	HC2012 06	13.19433	15 54	23.27 -08	37 25.5		oEL037691
D6900	HC2012 06	13.23407	15 54	20.47 -08	37 18.5		oEL037691
D6900	HC2012 06	13.27383	15 54	17.65 -08	37 11.9		oEL037691
G2854	KC2012 06	13.89821	19 10	57.49 +08	55 30.5	19.9	VuEL037A13
G2854	KC2012 06	13.92409	19 10	55.56 +08	55 13.2	19.5	VuEL037A13
R6732	KC2012 06	13.17083	14 44	44.16 +38	38 14.9	21.7	VuEL037H21
R6732	KC2012 06	13.18547	14 44	42.74 +38	38 09.9	22.4	VuEL037H21
R6732	KC2012 06	13.19551	14 44	41.83 +38	38 06.5		uEL037H21
W9437	C2012 06	13.30278	16 36	25.34 +59	31 44.5	17.5	VrEL037703
W9437	C2012 06	13.30867	16 36	24.26 +59	31 08.5	17.4	VrEL037703
W9437	C2012 06	13.31455	16 36	23.36 +59	30 32.8	17.4	VrEL037703
W9437	C2012 06	13.32037	16 36	22.17 +59	29 56.5	17.1	VrEL037703
W9437	C2012 06	14.15912	16 34	47.00 +58	05 29.1	16.9	RoEL037G48
W9437	C2012 06	14.16072	16 34	46.80 +58	05 19.6	17.0	RoEL037G48
W9437	C2012 06	14.16124	16 34	46.76 +58	05 17.0	16.8	RoEL037G48
W9437	C2012 06	14.16178	16 34	46.65 +58	05 13.8	17.0	RoEL037G48

A. U. Tomatic

(C) Copyright 2012 MPC

M.P.E.C. 2012-L37

[Read MPEC 2012-L36](#)[Read MPEC 2012-L38](#)

Display MPEC number:

Clear

Enter an [MPEC](#) number in one of the following forms:

- 1997-B01 (the full form)
- J97B01 (the packed version of the full form)
- B01 (the abbreviated form)

