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MPEC 2019-V189 : DAILY ORBIT UPDATE (2019 November 15)

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DAILY ORBIT UPDATE (2019 November 15)

Update to 2019-V187

Full-precision elements for the objects listed here are available at
https://www.minorplanetcenter.net/iau/MPCORB.html

New identification:
K16L01X K19S07Q Weryk

New multiple-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Opp	C
J95T07G	18.3	0.15	K194R	324.109	348.505	15.354	3.810	0.25209	2.27485	3	X
J96T32Y	16.6	0.15	K194R	336.072	41.952	343.203	14.281	0.18735	3.17206	4	X
J97A11H	16.6	0.15	K194R	164.874	252.276	298.750	13.654	0.09506	2.85827	5	X
J97C00E	17.6	0.15	K194R	15.927	319.663	349.939	5.117	0.15273	2.26195	9	X
K00GI2Z	16.4	0.15	K194R	177.491	192.993	359.780	13.873	0.10732	3.08618	8	X
K00R80Q	17.8	0.15	K194R	339.744	47.455	297.023	4.027	0.25369	2.42583	4	X
K00X10X	17.5	0.15	K194R	336.589	327.895	28.737	1.695	0.18969	2.44309	7	X
K01F84L	16.2	0.15	K194R	287.538	68.682	7.480	9.659	0.04682	2.97069	9	X
K01QB9E	18.0	0.15	K194R	333.721	121.718	232.268	4.671	0.24885	2.33588	7	X
K01QL3E	18.1	0.15	K194R	313.188	25.861	333.271	4.601	0.25059	2.35307	5	X
K01QR1Y	17.3	0.15	K194R	330.624	246.366	112.494	4.934	0.17468	2.32590	12	X
K01QR9G	18.1	0.15	K194R	327.004	238.178	117.141	8.585	0.24762	2.34012	7	X
K01SC8A	17.9	0.15	K194R	332.778	4.599	347.283	5.205	0.23735	2.34082	6	X
K01T01S	17.1	0.15	K194R	341.006	344.162	4.262	26.088	0.32907	2.32986	5	X
K01U18C	18.9	0.15	K194R	314.339	134.101	277.010	6.220	0.51990	2.72496	4	X
K01W20Y	17.1	0.15	K194R	337.737	132.523	225.690	9.162	0.24188	2.73478	5	X
K01W46K	17.1	0.15	K194R	12.537	256.285	53.066	14.303	0.13036	2.37158	9	X
K01XA4E	18.6	0.15	K194R	327.008	325.476	68.344	16.581	0.50478	3.29012	4	X
K01XM9R	17.3	0.15	K194R	326.534	120.704	261.683	10.990	0.34958	2.73678	4	X
K02CN1D	16.5	0.15	K194R	292.004	151.046	280.379	8.202	0.11388	2.83249	9	X
K02G27Y	17.1	0.15	K194R	48.436	134.985	167.285	2.125	0.04806	2.87330	11	W
K02H18S	16.2	0.15	K194R	83.419	19.268	240.162	9.370	0.18272	2.97881	9	X
K02J68L	17.7	0.15	K194R	11.380	257.069	42.716	22.041	0.06173	1.95254	7	X
K02L64W	16.4	0.15	K194R	350.154	42.291	307.267	13.921	0.10562	2.55433	7	X
K02M04P	16.1	0.15	K194R	77.904	336.694	271.893	18.480	0.29441	3.05608	7	X
K02N56E	16.0	0.15	K194R	54.515	319.768	314.540	22.778	0.21820	3.08974	6	X
K02N71L	17.4	0.15	K194R	356.975	183.418	143.467	8.497	0.20023	2.58251	6	X
K02N82D	16.6	0.15	K194R	350.455	53.798	291.918	13.785	0.12802	2.58216	6	X
K02O35P	17.8	0.15	K194R	334.098	70.284	297.047	7.659	0.17958	2.58061	3	X
K02P08O	17.1	0.15	K194R	324.377	212.713	169.046	5.497	0.26033	2.58015	7	X
K02PD0T	18.5	0.15	K194R	339.449	336.313	352.790	8.042	0.31322	2.24906	5	X

K02PF4Z	16.6	0.15	K194R	328.607	76.761	309.951	13.428	0.15642	3.10636	6	X
K02PJ5N	16.5	0.15	K194R	357.001	194.613	135.516	10.835	0.20724	2.59172	10	X
K02Q21R	15.9	0.15	K194R	15.458	180.714	144.779	18.000	0.16621	3.11563	8	X
K02Q70Q	17.6	0.15	K194R	314.190	61.109	334.091	6.475	0.20782	2.59010	7	X
K02Q97D	16.1	0.15	K194R	315.060	272.295	125.560	11.347	0.13093	3.10235	9	X
K02QC7L	16.3	0.15	K194R	345.380	19.528	346.967	14.946	0.14993	2.57083	6	X
K02QF6F	15.7	0.15	K194R	0.571	249.738	87.611	10.321	0.16776	3.12752	11	X
K02QF7P	18.5	0.15	K194R	326.628	66.450	294.766	6.094	0.21439	2.24645	4	X
K02QF7R	16.2	0.15	K194R	11.214	7.323	315.628	16.686	0.22645	3.14238	6	X
K02R77Q	15.5	0.15	K194R	89.344	280.638	344.513	9.479	0.11581	3.09725	13	X
K02RB1D	18.2	0.15	K194R	346.974	1.983	329.501	6.509	0.22048	2.25183	4	X
K02RD0F	15.8	0.15	K194R	359.571	11.403	335.931	16.942	0.18486	3.14543	6	X
K02RS8G	16.6	0.15	K194R	259.290	113.871	351.628	14.485	0.11711	2.58311	8	X
K02S13U	16.9	0.15	K194R	306.636	156.621	254.206	13.510	0.20991	2.60748	5	X
K02S28A	18.4	0.15	K194R	320.789	285.605	82.558	2.917	0.31168	2.25514	7	X
K02S43Z	16.1	0.15	K194R	317.117	37.625	7.214	13.682	0.21160	3.15029	6	X
K02TC5P	15.9	0.15	K194R	352.264	74.638	282.261	7.757	0.13358	3.15109	10	X
K02TF6C	16.8	0.15	K194R	323.818	167.125	215.634	10.898	0.19624	2.60184	7	X
K02TQ2J	16.1	0.15	K194R	322.059	55.166	22.275	15.574	0.23817	3.12684	8	X
K02TQ9V	16.5	0.15	K194R	355.669	122.747	214.757	11.360	0.21145	2.61191	7	X
K02Tc4L	16.9	0.15	K194R	13.665	270.996	22.656	27.825	0.39633	2.59745	6	X
K02Tc5M	17.4	0.15	K194R	346.362	314.727	30.313	13.966	0.25771	2.62628	3	X
K02Tc5Q	16.8	0.15	K194R	353.015	287.780	46.020	26.846	0.30477	3.19914	4	X
K02V04W	16.9	0.15	K194R	276.274	207.547	236.742	12.060	0.16548	2.65866	7	X
K02W20W	17.4	0.15	K194R	289.723	14.447	51.171	18.189	0.15744	2.64080	3	X
K02XA9H	17.5	0.15	K194R	312.834	12.240	30.906	4.781	0.28715	2.63361	5	X
K02Y10V	17.8	0.15	K194R	297.759	153.924	279.540	5.614	0.34339	2.64652	5	X
K03G02B	17.9	0.15	K194R	220.282	147.441	358.390	23.321	0.22359	2.31624	5	X
K03S07U	17.2	0.15	K194R	340.257	48.676	321.419	5.516	0.27615	3.02181	5	X
K03SK1D	17.9	0.15	K194R	354.782	284.543	11.536	20.934	0.64031	3.03413	4	X
K03SN8K	16.2	0.15	K194R	345.355	20.240	345.873	11.326	0.15545	3.01753	6	X
K03T34F	16.5	0.15	K194R	329.774	114.251	275.371	7.959	0.05054	3.03854	11	X
K03U00A	18.2	0.15	K194R	323.905	335.703	25.786	22.282	0.07346	1.91711	5	X
K03U20T	18.5	0.15	K194R	238.672	63.728	35.187	21.192	0.08665	1.92020	5	X
K03UT7J	15.6	0.15	K194R	351.385	3.077	12.142	9.141	0.19190	3.98641	5	X
K03Ua0N	16.2	0.15	K194R	314.622	220.786	205.133	9.679	0.09607	2.97191	10	X
K03Ud7C	16.7	0.15	K194R	324.898	205.161	183.855	16.894	0.28506	3.05587	5	X
K03W58U	15.5	0.15	K194R	358.168	315.246	57.805	3.856	0.28389	4.00335	9	X
K03W85M	16.6	0.15	K194R	231.490	262.807	229.612	25.396	0.12983	3.09612	7	W
K04A23K	16.5	0.15	K194R	303.390	123.858	293.147	16.545	0.18590	3.15543	6	X
K04B23F	15.5	0.15	K194R	182.720	250.669	287.895	13.366	0.01225	3.18134	7	X
K04BC6Q	16.2	0.15	K194R	334.676	71.781	309.748	9.125	0.07988	3.18955	7	X
K04D01X	18.4	0.15	K194R	236.941	75.054	36.671	23.625	0.19228	1.94299	6	X
K04D27W	16.4	0.15	K194R	265.938	137.296	340.978	21.752	0.20822	3.18692	5	X
K04D34M	15.1	0.15	K194R	207.268	180.429	334.742	16.237	0.02935	3.24374	11	X
K04E92Z	17.1	0.15	K194R	125.367	188.954	28.126	25.714	0.13619	2.27268	5	X
K04H14M	16.4	0.15	K194R	277.435	99.999	14.854	25.694	0.24065	3.19112	5	X
K04TB2K	17.3	0.15	K194R	299.180	93.041	0.149	21.355	0.31709	2.39314	4	X
K04V74V	18.6	0.15	K194R	263.875	10.979	52.613	24.826	0.16028	1.84600	5	X
K04XD9L	17.7	0.15	K194R	307.798	103.023	299.695	6.152	0.17087	2.44589	7	X
K05A56B	16.6	0.15	K194R	242.884	176.569	302.886	15.948	0.06518	3.05523	6	X
K05A65P	16.7	0.15	K194R	273.565	157.725	295.210	12.962	0.12996	3.03056	8	X
K05EF8V	16.3	0.15	K194R	295.329	76.254	357.980	19.153	0.08756	3.12479	8	X
K05Q72T	17.1	0.15	K194R	338.792	30.295	336.157	9.143	0.21208	2.76997	8	X
K05Q99A	17.6	0.15	K194R	319.732	19.768	1.543	5.264	0.06384	2.26974	8	X
K05QB1H	17.8	0.15	K194R	20.909	317.547	348.709	6.665	0.15961	2.27699	7	X
K05S45L	17.0	0.15	K194R	123.209	210.584	14.220	26.250	0.11900	2.28241	5	X
K05S52R	17.2	0.15	K194R	327.094	349.417	22.025	6.954	0.11495	2.29126	6	X
K05S76U	18.6	0.15	K194R	236.918	92.499	7.456	19.810	0.08610	1.97561	5	X
K05SH3A	17.6	0.15	K194R	327.970	33.254	344.516	7.597	0.21870	2.78022	3	X
K05SI3N	18.3	0.15	K194R	338.334	80.013	273.170	1.316	0.20136	2.29671	4	X
K05SI6Z	16.2	0.15	K194R	327.108	338.589	40.612	10.076	0.29164	2.78614	7	X
K05SL2N	17.0	0.15	K194R	313.903	26.113	21.048	16.652	0.24704	2.78617	4	X
K05SQ4C	16.1	0.15	K194R	354.898	109.165	241.120	10.510	0.13413	2.77159	8	X
K05T03D	18.2	0.15	K194R	358.633	330.318	350.589	6.657	0.20194	2.29605	5	X
K05T42Q	16.1	0.15	K194R	312.256	26.070	20.094	15.138	0.17421	2.80178	6	X
K05T81C	18.3	0.15	K194R	238.286	258.309	202.381	20.449	0.10902	1.97991	4	X
K05UY3X	17.5	0.15	K194R	322.880	50.185	342.232	3.863	0.15371	2.79561	5	X
K05Ud5A	17.0	0.15	K194R	274.495	90.342	353.666	4.278	0.03590	2.76746	8	X
K05Uf1K	17.4	0.15	K194R	322.673	289.163	75.476	5.601	0.21028	2.32342	7	X
K05VD5J	18.0	0.15	K194R	294.272	155.037	242.857	18.077	0.08361	1.99747	7	X
K05WH5K	17.4	0.15	K194R	258.524	174.022	274.895	5.991	0.07776	2.34701	8	X
K05X44V	16.5	0.15	K194R	359.536	75.446	267.649	13.568	0.16863	2.84358	9	X
K05XA6C	17.6	0.15	K194R	23.208	323.023	344.155	5.594	0.14543	2.41820	9	X
K06A31P	16.0	0.15	K194R	58.663	324.448	325.733	5.216	0.05793	2.91961	11	X
K06BH0G	16.5	0.15	K194R	105.165	286.441	306.896	14.872	0.27865	3.04483	6	X
K06K56B	17.0	0.15	K194R	336.968	261.791	102.022	29.067	0.35825	2.61606	5	X
K06K84A	18.6	0.15	K194R	320.233	124.990	233.285	18.841	0.05773	1.83672	6	X
K06M00A	19.0	0.15	K194R	336.088	81.693	241.038	24.752	0.53045	2.64695	3	X
K06P10K	17.2	0.15	K194R	341.814	50.699	306.321	7.718	0.13477	2.60968	7	X
K06P38D	17.0	0.15	K194R	338.246	247.091	130.491	30.495	0.28355	2.58763	5	X
K06Q00W	17.0	0.15	K194R	1.465	359.996	326.730	13.811	0.25992	2.61944	7	X
K06Q32H	17.1	0.15	K194R	335.888	38.784	319.339	11.232	0.24026	2.63666	8	X
K06R08V	17.3	0.15	K194R	321.263	74.518	315.747	3.668	0.22018	2.63031	7	X
K06R27R	16.6	0.15	K194R	346.053	191.415	146.206	14.928	0.25148	2.64818	8	X
K06SD8B	17.5	0.15	K194R	316.015	0.960	47.818	14.463	0.25307	2.62447	3	X
K06SG8Q	17.9	0.15	K194R	299.812	74.556	351.557	12.272	0.26384	2.63451	6	X
K06ST9H	16.9	0.15	K194R	106.967	230.918	14.865	15.005	0.03709	2.61733	7	X
K06Ua1M	17.0	0.15	K194R	305.762	291.145	100.435	13.837	0.33693	2.67671	3	X
K06Ua2Z	16.3	0.15	K194R	290.540	353.159	74.595	16.035	0.14997	2.66962	8	X
K06Ua5A	16.2	0.15	K194R	3.660	21.363	292.761	13.127	0.25264	2.67845	7	X
K06Ua5Q	17.0	0.15	K194R	359.777	88.383	242.845	12.785	0.20247	2.69978	7	X
K06VE8S	17.9	0.15	K194R	321.271	69.899	300.204	5.263	0.13818	2.20513	8	X

K06W07J	17.1	0.15	K194R	313.591	344.656	71.392	15.183	0.23877	2.65803	6	X
K06WE0L	17.9	0.15	K194R	264.182	159.328	262.526	19.082	0.10519	1.91011	4	X
K06X45S	17.3	0.15	K194R	317.328	111.583	261.295	22.713	0.28519	2.20334	3	X
K06X52M	16.8	0.15	K194R	291.055	163.782	273.476	12.655	0.20119	2.70662	5	X
K07E44S	16.7	0.15	K194R	304.892	265.361	145.834	6.927	0.15273	2.78255	10	X
K07Q01X	15.9	0.15	K194R	39.478	0.679	298.999	15.350	0.15529	3.17378	6	X
K07Ti4C	18.3	0.15	K194R	323.952	24.536	356.372	4.404	0.19907	2.51410	5	X
K07V08C	17.0	0.15	K194R	278.079	87.067	13.939	29.276	0.30293	2.59957	4	X
K07VX2W	16.8	0.15	K194R	323.812	268.714	106.602	14.386	0.17676	2.61677	8	X
K07VX6K	17.2	0.15	K194R	359.927	313.681	22.134	15.467	0.15512	2.53064	8	X
K07VY1V	17.7	0.15	K194R	329.382	311.459	55.373	5.797	0.30503	2.57991	5	X
K07X37J	16.1	0.15	K194R	289.472	148.323	269.470	21.189	0.05605	2.57850	8	X
K07Y02W	16.9	0.15	K194R	342.681	57.048	294.180	15.368	0.09098	2.61757	6	X
K08A46W	17.2	0.15	K194R	305.470	113.066	285.187	13.387	0.09234	2.60037	5	X
K08AA4W	17.8	0.15	K194R	293.930	128.310	303.820	3.595	0.25349	2.56379	4	X
K08C26T	17.1	0.15	K194R	252.168	147.667	330.597	10.874	0.13307	2.61027	8	X
K08CI9C	16.3	0.15	K194R	183.429	275.866	261.471	12.032	0.12570	2.69177	9	X
K08E61S	16.7	0.15	K194R	34.732	1.796	293.354	6.490	0.17043	2.77082	6	X
K08F10R	17.6	0.15	K194R	283.146	99.003	342.389	10.821	0.17304	2.63143	5	X
K08GA2U	17.7	0.15	K194R	348.705	253.254	80.798	7.484	0.15893	2.26172	6	X
K08P05X	17.8	0.15	K194R	354.335	53.951	275.720	2.915	0.18802	2.32972	7	X
K08Q33Y	16.2	0.15	K194R	346.840	183.473	173.467	11.858	0.22149	3.07622	8	X
K08R89G	18.0	0.15	K194R	307.267	66.669	329.699	6.196	0.23624	2.36999	6	X
K08R98N	18.6	0.15	K194R	344.060	254.666	79.488	8.865	0.40250	2.35277	3	X
K08RB9C	16.5	0.15	K194R	337.702	44.205	321.262	11.872	0.34991	3.11624	4	X
K08RD2N	17.6	0.15	K194R	329.272	297.442	65.279	3.684	0.23827	2.36154	9	X
K08S53A	16.4	0.15	K194R	298.166	58.628	11.548	17.083	0.15480	3.08441	4	X
K08S92O	18.1	0.15	K194R	303.987	180.138	224.524	0.563	0.18204	2.36805	7	X
K08SA3Z	16.2	0.15	K194R	337.689	353.867	25.942	27.443	0.08971	3.11548	4	X
K08SA7K	16.0	0.15	K194R	47.784	342.754	318.874	8.166	0.10686	3.06445	9	X
K08SI9F	16.3	0.15	K194R	345.498	25.496	342.569	16.600	0.18765	3.04824	4	X
K08SO6C	16.0	0.15	K194R	316.841	112.085	297.038	10.784	0.20446	3.09872	6	X
K08SS1M	18.2	0.15	K194R	286.208	26.695	46.089	8.698	0.24347	2.37551	5	X
K08SS6B	16.3	0.15	K194R	2.178	306.370	33.016	23.894	0.22377	3.13549	4	X
K08ST0C	16.4	0.15	K194R	285.103	73.064	25.303	16.982	0.24026	3.13188	4	X
K08SV2M	16.7	0.15	K194R	348.660	8.006	0.259	16.064	0.12975	3.10238	4	X
K08T65B	16.5	0.15	K194R	336.069	21.247	354.919	11.964	0.23076	3.09227	4	X
K08T94O	17.4	0.15	K194R	307.296	339.766	57.873	7.613	0.26102	2.38063	7	X
K08TD5F	17.2	0.15	K194R	317.861	30.496	20.105	10.126	0.25474	3.10850	3	X
K08TF7Q	18.1	0.15	K194R	332.972	250.245	90.493	9.190	0.28056	2.38165	5	X
K08TF8C	15.5	0.15	K194R	301.148	186.465	241.964	16.121	0.17226	3.12237	10	X
K08U02B	16.1	0.15	K194R	322.291	75.857	3.088	17.174	0.37189	3.05704	5	X
K08U02Z	18.6	0.15	K194R	327.591	280.712	63.415	13.454	0.40215	2.38667	2	X
K08UB4Y	16.5	0.15	K194R	5.432	22.806	319.310	5.839	0.16858	3.13781	6	X
K08UC3O	15.8	0.15	K194R	129.495	327.588	262.730	9.665	0.05323	3.17688	8	X
K08UD7Q	17.2	0.15	K194R	325.335	345.890	49.668	5.378	0.29361	3.11943	5	X
K08UL5G	16.1	0.15	K194R	323.470	124.703	273.830	6.375	0.13715	3.12224	8	X
K08UM4B	16.2	0.15	K194R	328.895	107.641	282.752	8.156	0.08057	3.16566	8	X
K08UO3M	15.2	0.15	K194R	30.333	57.187	259.385	16.052	0.09974	3.18275	9	X
K08UW4C	15.6	0.15	K194R	209.863	270.644	248.458	14.593	0.09687	3.12480	9	X
K08UZ9Z	16.3	0.15	K194R	245.549	212.789	266.297	7.956	0.02655	3.17487	6	X
K08V14P	16.6	0.15	K194R	311.535	77.336	357.746	22.933	0.43145	3.13742	4	X
K08V24B	16.1	0.15	K194R	298.973	3.066	71.487	16.634	0.25655	3.16925	4	X
K08V46X	16.5	0.15	K194R	325.904	335.477	56.680	19.027	0.30415	3.13950	3	X
K08V51W	16.8	0.15	K194R	280.838	228.811	236.310	10.336	0.25167	3.10939	5	X
K08W78W	16.3	0.15	K194R	277.159	224.277	236.573	26.706	0.19259	3.18085	4	X
K08W93Q	16.1	0.15	K194R	289.465	182.917	263.686	13.683	0.19191	3.17675	5	X
K08W95C	16.2	0.15	K194R	335.094	216.625	161.552	15.360	0.26450	3.17454	5	X
K08WD6U	18.1	0.15	K194R	317.510	112.521	266.800	9.913	0.38041	2.39004	2	X
K08X37Y	16.8	0.15	K194R	290.433	147.556	296.650	3.797	0.15933	3.18807	7	X
K08X44H	16.1	0.15	K194R	281.339	209.668	239.410	26.611	0.17845	3.19152	5	X
K09A17X	18.6	0.15	K194R	281.378	160.246	287.062	4.216	0.27414	2.40979	3	X
K09O24W	16.7	0.15	K194R	329.222	231.874	146.236	15.427	0.35470	2.86142	6	X
K09R14X	17.4	0.15	K194R	359.641	331.410	12.768	8.240	0.16014	2.90013	4	X
K09SJ0K	16.6	0.15	K194R	272.491	131.314	318.762	4.870	0.03555	2.86581	10	X
K09Sa6X	16.2	0.15	K194R	334.333	308.057	63.348	14.733	0.06390	2.91833	7	X
K09W84Q	17.1	0.15	K194R	324.440	69.130	325.043	3.625	0.16187	2.96366	4	X
K09WD5B	16.2	0.15	K194R	356.513	75.028	274.867	9.248	0.10848	2.97301	9	X
K09WK6A	17.7	0.15	K194R	216.456	212.510	281.037	4.186	0.07171	2.25836	9	X
K09Y14C	16.5	0.15	K194R	322.134	84.478	312.520	7.981	0.19521	3.04412	8	X
K09Y20X	16.1	0.15	K194R	316.166	106.434	305.556	10.262	0.17372	3.03004	8	X
K09Y22G	15.3	0.15	K194R	191.309	229.992	302.711	18.079	0.12883	3.16349	5	X
K10A79G	20.0	0.15	K194R	320.227	13.842	50.169	33.002	0.58093	2.89995	3	X
K10B03F	16.3	0.15	K194R	220.606	214.825	296.909	15.702	0.17433	3.11663	4	X
K10B64A	15.8	0.15	K194R	13.110	112.086	286.366	14.872	0.12211	3.19415	9	W
K10C19A	16.9	0.15	K194R	273.880	136.238	331.342	16.171	0.23652	3.06264	5	X
K10C65F	17.9	0.15	K194R	295.371	108.685	340.869	23.094	0.24801	2.26489	4	X
K10CB7P	15.7	0.15	K194R	245.822	180.635	294.369	15.364	0.05253	3.13297	4	X
K10CG1K	16.3	0.15	K194R	270.081	124.860	334.806	18.674	0.13465	3.15688	6	X
K10E07Y	17.2	0.15	K194R	297.055	286.444	152.676	8.268	0.23111	2.97017	7	W
K10E28T	16.1	0.15	K194R	211.501	249.294	267.450	20.988	0.16885	3.08407	5	X
K10EA8P	17.3	0.15	K194R	330.202	19.881	29.496	6.230	0.15629	2.29894	8	X
K10F27A	16.9	0.15	K194R	312.290	58.641	0.608	11.586	0.20428	3.17184	4	X
K10G10G	16.8	0.15	K194R	321.041	200.141	206.575	18.667	0.32563	2.97879	4	W
K10G93J	15.5	0.15	K194R	33.040	7.713	314.879	21.149	0.04377	3.16372	8	X
K10GE2H	17.1	0.15	K194R	333.977	354.236	9.217	10.943	0.13996	2.41969	10	X
K10GG7Z	16.6	0.15	K194R	171.587	110.220	91.064	17.669	0.12584	3.13482	5	W
K10H13U	16.8	0.15	K194R	310.015	91.897	328.539	15.357	0.21553	3.04662	4	X
K10H96T	17.0	0.15	K194R	0.491	75.515	266.475	10.665	0.13288	2.61767	7	X
K10J01Q	17.7	0.15	K194R	8.101	268.915	30.950	27.756	0.40617	2.61493	4	X
K10J16L	16.0	0.15	K194R	273.618	146.735	308.807	15.941	0.09055	3.14458	8	X
K10J94E	16.9	0.15	K194R	292.422	132.184	309.968	13.911	0.27169	3.07741	4	X
K10K31O	16.2	0.15	K194R	218.980	226.244	282.178	13.213	0.10094	3.22138	5	X

K10KC1K	17.6	0.15	K194R	226.447	215.336	271.808	23.295	0.17645	2.33786	5	W
K10L33A	16.5	0.15	K194R	265.721	91.302	20.466	18.721	0.14040	3.18579	6	X
K10LC7T	17.1	0.15	K194R	217.674	260.791	249.660	22.366	0.26173	2.32359	7	X
K10MA7R	16.2	0.15	K194R	3.981	46.560	299.148	13.542	0.13438	2.67601	10	X
K10O00S	15.9	0.15	K194R	296.065	133.543	353.378	27.863	0.13716	3.15528	4	X
K10O60F	16.9	0.15	K194R	17.792	14.587	298.061	8.521	0.20294	2.72400	9	X
K10RD3M	17.6	0.15	K194R	310.072	104.364	303.381	8.741	0.25175	2.69404	4	X
K10RI3S	15.8	0.15	K194R	302.501	100.822	305.555	15.901	0.11506	2.74135	8	X
K10T04U	17.1	0.15	K194R	311.769	29.669	11.659	11.374	0.07718	2.68657	6	X
K10T72O	18.1	0.15	K194R	300.020	60.052	8.792	8.410	0.24285	2.69465	3	X
K10T93V	18.6	0.15	K194R	301.102	53.187	12.779	34.382	0.33242	2.71224	2	B
K10U74A	16.8	0.15	K194R	30.137	31.422	272.972	7.627	0.19041	2.75806	5	X
K10U79D	17.8	0.15	K194R	300.112	54.975	13.819	7.256	0.24984	2.73812	4	X
K10V37D	17.3	0.15	K194R	354.291	84.446	259.167	13.478	0.20390	2.73342	5	X
K10V39E	16.8	0.15	K194R	348.264	258.457	72.804	11.740	0.33492	2.77433	5	X
K10V69K	17.0	0.15	K194R	331.208	287.971	78.029	10.246	0.33796	2.76095	3	X
K10V74H	16.4	0.15	K194R	284.058	60.975	16.780	9.266	0.12504	2.74948	10	X
K10X33C	16.6	0.15	K194R	298.015	145.304	270.029	15.433	0.08103	2.79659	5	X
K11A63X	18.2	0.15	K194R	285.537	109.063	306.325	3.938	0.06093	2.14048	6	X
K11B75W	17.9	0.15	K194R	47.486	323.820	313.030	6.762	0.14386	2.23379	6	X
K11BA5X	16.1	0.15	K194R	30.098	16.685	305.126	9.227	0.05972	3.00225	9	X
K11C98B	16.9	0.15	K194R	316.828	149.177	253.562	7.523	0.28976	2.87401	6	X
K11F38E	16.3	0.15	K194R	61.450	290.901	5.860	11.649	0.04205	3.15760	8	X
K11F61S	16.5	0.15	K194R	291.340	66.473	13.262	11.160	0.19090	3.00402	7	X
K11G16K	16.0	0.15	K194R	331.105	35.485	354.730	10.505	0.06928	3.11324	9	X
K11G24W	16.2	0.15	K194R	344.438	16.144	355.375	10.008	0.11327	3.17884	9	X
K11G75A	18.8	0.15	K194R	251.921	38.179	31.268	21.652	0.01522	1.79711	5	X
K11Q05R	17.4	0.15	K194R	11.055	65.599	249.787	5.379	0.17756	2.44240	5	X
K11Q98E	15.8	0.15	K194R	334.508	332.426	56.051	10.365	0.30379	3.96117	6	X
K11R00C	19.5	0.15	K194R	317.175	28.063	318.919	7.391	0.28288	1.92316	4	X
K11S05X	18.4	0.15	K194R	353.106	14.166	342.930	21.590	0.09187	1.86782	5	X
K11S16G	21.1	0.15	K194R	289.676	48.758	343.964	7.416	0.35631	1.92107	3	X
K11S26K	18.4	0.15	K194R	257.310	72.684	5.893	21.277	0.16643	1.90129	4	X
K11S27W	18.1	0.15	K194R	296.900	20.396	1.994	20.117	0.08077	1.91356	3	X
K11SJ1D	16.7	0.15	K194R	324.717	106.892	268.768	25.674	0.46993	2.55354	4	X
K11SR7W	19.1	0.15	K194R	238.459	65.452	33.947	23.566	0.10561	1.91862	5	X
K11T08N	18.4	0.15	K194R	240.006	78.393	20.422	20.177	0.10261	1.89508	5	X
K11UF0F	16.2	0.15	K194R	340.985	127.088	253.184	1.855	0.34761	3.96254	4	X
K11UF7F	17.5	0.15	K194R	304.978	208.493	203.010	2.837	0.26571	2.54154	6	X
K11UJ8A	16.7	0.15	K194R	344.544	309.958	276.759	5.367	0.06107	2.98657	8	W
K11UU9S	16.4	0.15	K194R	346.130	345.892	13.777	14.728	0.09287	2.53931	5	X
K11W39H	17.3	0.15	K194R	322.019	177.128	195.430	11.827	0.29471	2.56045	4	X
K11W64H	16.1	0.15	K194R	325.672	119.386	255.383	16.729	0.14705	2.58423	8	X
K11WB8C	17.1	0.15	K194R	282.114	97.273	340.544	12.465	0.15336	2.54509	5	X
K11WC8H	18.2	0.15	K194R	58.251	1.797	259.981	18.637	0.03731	1.94841	4	X
K11WF1X	17.1	0.15	K194R	339.462	69.764	293.114	12.530	0.13364	2.53175	4	X
K11WF8M	17.7	0.15	K194R	306.354	148.686	253.930	9.818	0.12474	2.58066	4	X
K11Y14U	17.1	0.15	K194R	253.681	158.779	307.531	13.451	0.11203	2.65696	5	X
K11Y16N	18.7	0.15	K194R	294.034	168.896	261.862	3.498	0.25866	2.54544	4	X
K11Y43Z	16.4	0.15	K194R	266.668	160.925	283.992	21.116	0.04475	2.65798	7	X
K11Y62S	19.7	0.15	K194R	310.020	357.183	58.577	21.612	0.58217	2.50486	3	X
K11Y64E	16.7	0.15	K194R	232.454	206.579	301.062	15.241	0.28046	2.64288	7	X
K12A10X	17.3	0.15	K194R	1.996	12.829	343.287	20.475	0.06841	1.93717	9	X
K12B10J	16.4	0.15	K194R	335.861	69.352	310.223	13.799	0.02152	2.75798	8	X
K12B13O	17.3	0.15	K194R	280.193	234.016	227.197	26.398	0.34217	2.57192	3	X
K12B27Z	17.0	0.15	K194R	318.683	65.269	332.862	5.430	0.04151	2.74323	6	X
K12B34F	17.3	0.15	K194R	260.456	188.552	277.612	12.297	0.19908	2.64477	3	X
K12B37Q	16.7	0.15	K194R	326.743	347.540	73.286	8.676	0.23411	2.55600	8	X
K12B61F	16.9	0.15	K194R	318.488	117.877	300.706	28.420	0.36520	2.55579	4	X
K12B87B	16.2	0.15	K194R	220.401	266.427	252.077	11.595	0.22240	2.66652	12	X
K12BA3N	16.7	0.15	K194R	45.738	349.761	311.966	9.405	0.07398	2.71733	10	X
K12BB0O	17.1	0.15	K194R	248.798	160.716	321.225	12.470	0.19361	2.67028	8	X
K12BC2W	17.4	0.15	K194R	315.528	81.925	312.233	15.376	0.15691	2.67153	4	X
K12C23A	16.8	0.15	K194R	328.350	170.110	251.209	3.511	0.28696	2.54424	11	X
K12C26S	17.4	0.15	K194R	305.937	82.744	321.835	15.739	0.10934	2.71293	3	X
K12D03V	17.1	0.15	K194R	277.678	102.767	10.039	28.538	0.36561	2.61044	4	X
K12D04D	16.3	0.15	K194R	263.664	339.517	123.605	15.007	0.16198	2.72468	10	X
K12D20H	17.8	0.15	K194R	294.232	117.256	319.161	5.186	0.26085	2.62643	6	X
K12D73F	17.0	0.15	K194R	282.438	290.548	154.800	13.349	0.24048	2.68354	6	X
K12D86O	16.3	0.15	K194R	235.728	280.510	228.846	11.732	0.23722	2.70264	10	X
K12H17F	15.6	0.15	K194R	27.548	201.455	120.222	9.398	0.08389	3.04889	9	X
K12H22C	15.7	0.15	K194R	12.732	249.283	69.806	17.199	0.23409	3.13711	5	X
K12K04H	18.6	0.15	K194R	326.427	227.185	121.160	7.538	0.28336	2.17103	7	X
K12L10G	16.1	0.15	K194R	327.087	148.129	239.933	13.493	0.13334	3.11762	9	X
K12P30Z	18.2	0.15	K194R	338.856	16.088	326.296	6.819	0.24805	2.26105	4	X
K12R06Y	18.4	0.15	K194R	330.715	185.790	170.820	0.186	0.25067	2.28168	5	X
K12R17R	17.3	0.15	K194R	296.961	276.135	129.380	7.002	0.16759	2.27636	12	X
K12R23J	17.9	0.15	K194R	317.888	208.264	165.688	6.042	0.17735	2.31121	4	X
K12S53K	17.6	0.15	K194R	13.414	326.239	340.665	5.458	0.16573	2.26694	8	X
K12S54V	17.9	0.15	K194R	337.561	319.415	24.687	11.154	0.26755	2.31166	5	X
K12T73R	17.7	0.15	K194R	297.473	168.139	238.271	5.127	0.16296	2.28788	7	X
K12TE5F	17.9	0.15	K194R	323.287	6.923	1.131	7.442	0.25980	2.28076	5	X
K12TK0F	19.1	0.15	K194R	333.551	352.221	356.760	3.553	0.28117	2.30409	3	X
K12TN0U	18.0	0.15	K194R	345.689	33.940	309.822	5.673	0.14218	2.28536	6	X
K12TP2O	17.6	0.15	K194R	9.319	351.969	326.896	6.113	0.12462	2.30253	8	X
K12U31S	17.8	0.15	K194R	332.779	93.045	258.583	8.285	0.26229	2.31381	6	X
K12UG9A	17.3	0.15	K194R	328.697	177.283	187.823	21.293	0.11844	2.30856	5	X
K12UH4R	17.3	0.15	K194R	107.516	351.964	241.953	6.835	0.02120	2.27967	9	X
K12XF5B	15.7	0.15	K194R	329.576	34.918	311.658	11.397	0.20721	2.46613	8	X
K13A97C	17.9	0.15	K194R	277.067	308.418	139.231	6.409	0.25669	2.36186	5	X
K13AG4Z	18.2	0.15	K194R	315.357	148.442	239.264	10.295	0.16072	2.41537	5	X
K13AI7N	17.2	0.15	K194R	13.511	18.875	294.623	14.393	0.12460	2.53969	8	X
K13B28N	17.1	0.15	K194R	45.126	3.902	283.572	5.452	0.12910	2.44465	9	X

K13B33Q	17.1	0.15	K194R	323.286	58.224	324.657	13.787	0.08796	2.43569	6	X
K13B78H	17.0	0.15	K194R	272.485	133.541	323.427	24.556	0.21850	2.40416	5	X
K13C34T	17.6	0.15	K194R	313.610	118.667	330.653	23.477	0.25138	2.32192	5	X
K13C42Z	17.3	0.15	K194R	297.930	79.300	329.524	15.564	0.05435	2.47602	3	X
K13C88Q	18.3	0.15	K194R	48.759	348.808	275.071	18.089	0.08442	1.85307	4	X
K13CB2Z	16.4	0.15	K194R	25.775	174.256	130.850	16.223	0.12240	2.58564	9	X
K13CI5Q	18.0	0.15	K194R	269.815	139.316	313.061	3.964	0.18881	2.41502	5	X
K13G34Q	15.8	0.15	K194R	217.861	140.502	5.389	15.076	0.14730	2.56019	12	X
K13GE1K	16.5	0.15	K194R	304.417	185.790	229.545	14.024	0.06995	2.70568	6	X
K13H15D	18.2	0.15	K194R	234.185	59.715	39.467	20.192	0.10532	1.86853	4	X
K13H44B	17.5	0.15	K194R	280.310	95.486	345.468	6.256	0.13314	2.57312	6	X
K13H47M	17.2	0.15	K194R	313.001	25.802	18.783	18.801	0.11788	2.62140	5	X
K13HE5Q	17.2	0.15	K194R	307.624	190.395	215.235	13.861	0.24282	2.59794	3	X
K13J05X	18.6	0.15	K194R	277.272	18.020	33.148	22.319	0.07640	1.88924	5	X
K13J29D	15.3	0.15	K194R	332.480	131.085	256.833	26.044	0.21725	3.20365	5	X
K13L30W	16.2	0.15	K194R	14.957	71.540	263.802	12.350	0.14019	3.09950	8	X
K13L31T	18.3	0.15	K194R	248.963	218.465	224.803	20.348	0.08463	1.91366	5	X
K13M10N	16.4	0.15	K194R	141.054	285.257	284.945	14.542	0.03503	3.04074	7	X
K13M12F	17.2	0.15	K194R	356.351	47.524	298.781	11.609	0.18460	3.10791	2	X
K13N07M	15.7	0.15	K194R	299.045	277.682	136.665	11.631	0.10151	2.98386	14	X
K13N11C	15.3	0.15	K194R	318.025	276.224	122.787	16.461	0.09043	3.20990	7	X
K13N15K	17.7	0.15	K194R	137.791	273.606	274.104	16.101	0.06156	1.98591	7	X
K13P04P	15.4	0.15	K194R	28.255	47.736	275.490	10.511	0.06258	3.12937	11	X
K13P11S	15.5	0.15	K194R	310.125	151.444	268.831	8.883	0.13878	3.11237	10	X
K13P16C	16.0	0.15	K194R	0.963	145.677	188.780	14.289	0.26663	3.20144	8	X
K13P65Z	16.3	0.15	K194R	81.363	270.378	340.604	24.502	0.25069	3.09227	5	X
K13Q12V	17.7	0.15	K194R	327.264	73.387	322.080	3.070	0.27354	3.18463	6	X
K13Q18S	16.2	0.15	K194R	308.274	74.550	336.271	17.452	0.10809	3.09118	7	X
K13Q22Y	15.3	0.15	K194R	357.517	189.329	152.548	18.541	0.18583	3.16993	11	X
K13Q24V	15.7	0.15	K194R	329.804	248.855	153.240	24.224	0.26293	3.13997	8	X
K13Q42W	15.4	0.15	K194R	10.613	64.465	282.015	9.201	0.03119	3.07305	13	X
K13Q50M	16.2	0.15	K194R	336.948	209.969	166.294	17.536	0.20004	3.15966	6	X
K13Q66A	15.6	0.15	K194R	357.429	46.469	306.693	15.192	0.19606	3.17100	8	X
K13Q77P	16.9	0.15	K194R	324.315	78.683	322.812	8.539	0.24214	3.13782	5	X
K13Q82T	15.2	0.15	K194R	17.378	323.325	7.116	16.935	0.18283	3.16002	9	X
K13Q84L	16.2	0.15	K194R	0.979	9.634	332.950	16.748	0.20069	3.19596	6	X
K13Q93M	16.0	0.15	K194R	1.502	73.197	274.622	11.877	0.13263	3.14260	7	X
K13R06J	16.6	0.15	K194R	320.540	57.825	345.378	25.981	0.26599	3.18566	3	X
K13R19G	15.5	0.15	K194R	147.125	308.509	265.744	6.489	0.05978	3.08551	14	X
K13R52Y	16.1	0.15	K194R	325.076	106.211	324.395	12.703	0.29793	3.11186	7	X
K13R61H	15.5	0.15	K194R	57.672	297.056	342.551	15.684	0.21702	3.13625	8	X
K13R71H	16.3	0.15	K194R	348.408	187.412	174.364	20.290	0.20621	3.22111	5	X
K13S26D	15.9	0.15	K194R	19.628	20.315	321.460	14.942	0.05982	3.17413	6	X
K13S29H	16.1	0.15	K194R	13.958	344.209	347.296	27.434	0.14901	3.19468	3	X
K13S32A	16.3	0.15	K194R	359.607	348.978	1.525	17.759	0.20190	3.17554	4	X
K13S46M	16.9	0.15	K194R	320.709	41.182	5.262	17.111	0.23164	3.20212	4	X
K13S60H	16.2	0.15	K194R	310.600	248.110	166.288	16.395	0.24507	3.16886	6	X
K13T04B	15.5	0.15	K194R	6.049	79.952	256.506	23.501	0.34302	3.17202	5	X
K13T48E	16.2	0.15	K194R	340.433	75.298	347.694	25.854	0.18965	3.10035	5	X
K13TA4Y	16.7	0.15	K194R	319.436	35.769	16.956	28.198	0.20867	3.19935	4	X
K13W00D	15.7	0.15	K194R	310.002	10.593	34.715	28.545	0.13973	3.18651	10	X
K14B22A	18.2	0.15	K194R	258.411	255.678	213.757	0.969	0.20036	2.14556	9	X
K14F29G	17.4	0.15	K194R	150.222	249.092	309.192	5.280	0.08891	2.29389	7	X
K14F33D	16.6	0.15	K194R	56.039	339.887	289.111	11.382	0.24313	2.38066	11	X
K14G32N	17.5	0.15	K194R	221.046	304.671	198.596	22.827	0.20484	2.26352	5	X
K14G33A	16.6	0.15	K194R	37.757	343.781	299.698	4.298	0.22148	2.55118	12	X
K14HF2P	17.3	0.15	K194R	286.601	276.234	143.078	7.190	0.19343	2.29003	8	X
K14HL1K	17.2	0.15	K194R	299.663	316.615	87.012	9.880	0.18514	2.37593	6	X
K14K03U	16.3	0.15	K194R	333.828	210.683	149.985	13.523	0.23739	2.57501	10	X
K14K23R	18.1	0.15	K194R	3.089	67.335	235.634	31.380	0.35275	2.72388	4	X
K14KB1U	17.4	0.15	K194R	350.220	91.469	247.954	11.070	0.20084	2.59458	6	X
K14M02H	16.7	0.15	K194R	88.985	338.124	273.126	6.836	0.12753	2.45974	10	X
K14M28E	16.3	0.15	K194R	195.541	216.589	302.309	14.428	0.06764	2.59874	8	X
K14M44A	16.9	0.15	K194R	359.491	54.605	278.539	13.439	0.24439	2.73557	6	X
K14M63C	17.6	0.15	K194R	39.005	336.821	303.562	16.145	0.24658	2.72874	3	X
K14M77O	17.6	0.15	K194R	327.309	88.159	298.932	10.442	0.20176	2.73067	4	X
K14N00Y	16.6	0.15	K194R	333.567	239.909	120.999	10.495	0.19428	2.61973	10	X
K14N04B	17.5	0.15	K194R	296.180	140.183	277.197	12.884	0.17496	2.62022	5	X
K14N22D	16.9	0.15	K194R	297.135	135.379	278.378	12.428	0.00751	2.57989	7	X
K14N41Z	16.3	0.15	K194R	3.779	90.788	253.075	13.788	0.06146	2.67871	8	X
K14N50O	16.7	0.15	K194R	320.465	262.550	121.790	14.221	0.17723	2.69663	7	X
K14N53H	17.3	0.15	K194R	3.055	81.261	252.523	11.216	0.21190	2.76441	3	X
K14N61N	16.4	0.15	K194R	11.711	219.650	95.408	14.201	0.15502	2.69338	9	X
K14O50N	17.9	0.15	K194R	316.875	78.349	319.630	7.908	0.28854	2.74837	3	X
K14OG0F	17.1	0.15	K194R	325.825	50.210	329.345	12.581	0.21596	2.72564	4	X
K14OG9Z	17.6	0.15	K194R	27.294	313.368	329.590	13.732	0.33960	2.74341	4	X
K14OK5U	17.5	0.15	K194R	322.853	40.983	347.897	8.472	0.16023	2.71229	5	X
K14OL5R	16.9	0.15	K194R	303.380	123.806	308.686	30.413	0.34894	2.62282	4	X
K14ON6M	17.2	0.15	K194R	341.936	214.380	139.782	13.515	0.17598	2.59714	5	X
K14OP1A	16.8	0.15	K194R	327.750	282.331	87.811	12.052	0.15176	2.73519	10	X
K14OP9S	17.0	0.15	K194R	314.715	64.674	337.084	14.419	0.14250	2.66871	6	X
K14Of0L	16.3	0.15	K194R	357.603	97.907	250.391	10.763	0.12195	2.97340	7	X
K14P01E	17.5	0.15	K194R	320.388	69.068	320.412	6.852	0.24131	2.75095	4	X
K14P55C	16.6	0.15	K194R	8.598	4.196	323.852	12.438	0.13080	2.80079	4	X
K14P64C	17.1	0.15	K194R	335.497	36.911	332.789	7.161	0.23931	2.77288	6	X
K14P72J	16.9	0.15	K194R	358.541	356.388	357.044	6.125	0.05423	2.73876	10	X
K14Q00J	16.5	0.15	K194R	54.596	25.971	234.377	32.983	0.20598	2.65556	6	X
K14Q63F	16.9	0.15	K194R	267.319	145.073	315.090	10.832	0.14124	2.61748	7	X
K14Q92Q	16.6	0.15	K194R	196.055	227.275	296.131	13.636	0.03681	2.64391	7	X
K14QA4U	17.0	0.15	K194R	25.433	13.672	303.045	8.418	0.10710	2.71756	8	X
K14QB4D	17.3	0.15	K194R	313.823	118.837	285.904	7.640	0.17941	2.73605	5	X
K14QI6G	17.3	0.15	K194R	27.217	346.193	317.392	13.343	0.16430	2.76114	2	X
K14QN4C	17.3	0.15	K194R	310.291	56.367	354.027	8.795	0.15510	2.78152	8	X

K14QS5B	16.5	0.15	K194R	260.078	19.329	81.237	14.953	0.12161	2.72748	11	X
K14QW6J	16.8	0.15	K194R	327.620	56.558	10.536	25.141	0.18353	2.71845	4	X
K14Qk8A	17.1	0.15	K194R	333.137	38.333	342.660	3.801	0.08201	2.80134	8	X
K14R07U	17.1	0.15	K194R	299.502	76.054	348.828	8.294	0.22180	2.80075	5	X
K14R10Z	17.5	0.15	K194R	336.326	345.278	359.893	10.558	0.12662	2.94779	4	W
K14R66P	16.0	0.15	K194R	340.758	284.101	83.075	16.301	0.10901	3.07528	5	X
K14SE0J	17.8	0.15	K194R	292.939	95.618	339.399	14.033	0.22615	2.75951	3	X
K14SL2J	16.1	0.15	K194R	307.505	320.983	86.691	11.996	0.17407	3.04294	4	X
K14SS4M	17.3	0.15	K194R	314.555	87.775	354.604	24.997	0.34497	2.78104	4	X
K14ST5M	16.5	0.15	K194R	290.002	144.930	289.040	10.696	0.16600	2.80071	8	X
K14T63Y	16.6	0.15	K194R	34.379	354.966	314.181	7.127	0.12700	2.78102	5	X
K14U03K	17.3	0.15	K194R	302.279	192.340	235.680	10.919	0.22912	2.91041	4	X
K14U30G	19.4	0.15	K194R	301.600	156.576	218.005	20.499	0.13610	1.84451	3	X
K14U52Z	16.6	0.15	K194R	312.971	165.200	251.503	27.711	0.27951	2.87699	4	X
K14U57K	16.7	0.15	K194R	304.549	183.053	267.913	20.460	0.53915	2.88816	5	X
K14UI4X	17.9	0.15	K194R	339.892	113.913	224.263	19.332	0.07097	1.86557	5	X
K14UI5T	15.7	0.15	K194R	57.112	13.426	279.122	9.982	0.09130	2.91376	11	X
K14UK3K	16.0	0.15	K194R	330.420	12.560	15.205	10.413	0.11992	2.99523	9	X
K14UL6L	15.3	0.15	K194R	285.159	315.716	118.303	11.350	0.03603	3.02146	15	X
K14V03A	17.1	0.15	K194R	311.367	49.153	6.813	17.446	0.16385	2.89580	5	X
K14V23X	16.2	0.15	K194R	23.061	79.500	241.548	16.133	0.15065	3.07355	7	X
K14V26S	16.3	0.15	K194R	6.671	78.021	250.295	12.691	0.27094	3.01222	8	X
K14V31Y	16.3	0.15	K194R	231.482	262.147	236.339	14.987	0.08769	3.10037	7	X
K14V38G	16.7	0.15	K194R	15.782	41.749	293.889	8.267	0.10878	2.99267	8	X
K14W17Q	15.9	0.15	K194R	170.370	295.607	250.150	24.867	0.08859	3.18671	5	X
K14WD7X	16.6	0.15	K194R	304.626	171.277	248.879	9.414	0.11227	3.03555	8	X
K14WJ2Y	16.4	0.15	K194R	325.202	267.164	119.713	13.105	0.13956	3.08248	9	X
K14WJ4M	16.0	0.15	K194R	194.130	274.660	258.273	24.680	0.17753	3.12122	4	X
K14WJ6W	16.0	0.15	K194R	288.703	50.907	33.823	10.187	0.21926	3.03679	7	X
K14WJ7D	15.9	0.15	K194R	255.751	192.588	267.457	14.936	0.03149	3.09886	8	X
K14WN4U	15.4	0.15	K194R	217.774	241.865	268.752	25.133	0.20034	3.18082	5	X
K14WN6D	16.4	0.15	K194R	309.504	100.708	317.182	10.607	0.09069	2.99434	8	X
K14WN7E	16.5	0.15	K194R	328.692	114.285	268.600	15.629	0.11616	3.09338	5	X
K14WV0L	16.7	0.15	K194R	308.231	155.113	263.150	10.644	0.09873	3.04438	6	X
K14WV0Y	16.7	0.15	K194R	333.663	118.916	265.830	9.553	0.10161	3.04754	4	X
K14WX9T	16.1	0.15	K194R	350.948	230.682	117.091	10.913	0.13383	3.04783	7	X
K14Wd6F	16.6	0.15	K194R	6.247	46.415	293.250	12.165	0.16722	2.97062	6	X
K14We8D	17.7	0.15	K194R	176.691	254.430	252.691	19.721	0.03288	1.89638	6	X
K14Wj3C	16.1	0.15	K194R	102.638	341.674	273.538	8.444	0.03811	3.13169	9	X
K14Wn1Z	17.1	0.15	K194R	273.825	165.857	299.526	16.786	0.19695	3.14677	3	X
K14Wo6R	15.8	0.15	K194R	330.700	264.470	116.278	13.917	0.12318	3.07004	9	X
K14Wp3U	16.2	0.15	K194R	242.934	229.523	258.301	25.348	0.19525	3.17476	4	X
K14Wp8Y	17.0	0.15	K194R	332.036	106.699	278.279	10.362	0.24421	3.08027	5	X
K14Wq4Z	16.5	0.15	K194R	268.406	185.735	266.548	16.670	0.08218	3.12033	6	X
K14X14C	16.1	0.15	K194R	21.743	80.669	252.667	13.760	0.06161	3.11761	8	X
K14X33A	15.9	0.15	K194R	93.276	359.135	249.792	23.907	0.10523	3.21565	6	X
K14X36W	16.0	0.15	K194R	351.568	274.695	71.946	17.081	0.22572	3.12075	8	X
K14Y01O	16.6	0.15	K194R	282.547	125.505	326.836	15.937	0.21339	3.14418	3	X
K14Y20P	16.8	0.15	K194R	322.935	88.755	310.928	8.802	0.08776	2.99182	7	X
K14Y20X	16.3	0.15	K194R	337.456	358.582	20.038	10.419	0.11138	3.01693	7	X
K14Y25G	15.7	0.15	K194R	223.655	235.403	267.884	10.898	0.04579	3.19304	8	X
K14Y33L	15.7	0.15	K194R	343.543	301.659	56.961	27.523	0.21812	3.22461	6	X
K14Y37K	16.6	0.15	K194R	292.016	96.339	337.867	15.839	0.13656	3.18765	7	X
K14Y38L	16.3	0.15	K194R	325.507	35.985	3.290	4.191	0.15813	3.20899	9	X
K14Y39Z	15.5	0.15	K194R	148.876	299.849	276.846	14.725	0.04626	3.12559	9	X
K14Y51F	18.1	0.15	K194R	344.597	68.726	267.539	18.238	0.05986	1.97992	6	X
K14Y52K	18.1	0.15	K194R	257.587	37.402	43.033	24.278	0.09298	1.94834	3	X
K15A11D	17.0	0.15	K194R	301.684	79.271	0.076	15.485	0.21380	3.12644	5	X
K15A12T	16.5	0.15	K194R	295.367	70.424	13.771	11.092	0.22129	3.18180	4	X
K15A60Q	15.7	0.15	K194R	323.676	267.707	128.870	6.351	0.14982	3.22825	10	X
K15AD6V	16.4	0.15	K194R	328.544	101.173	307.597	10.776	0.13582	3.17031	4	W
K15B10O	16.4	0.15	K194R	289.217	134.268	312.493	15.626	0.19972	3.18434	4	X
K15B42C	16.6	0.15	K194R	309.438	91.742	330.705	8.717	0.23591	3.13866	6	X
K15B45A	16.4	0.15	K194R	285.486	122.900	333.338	8.901	0.20414	3.15342	7	X
K15B46C	16.3	0.15	K194R	326.408	76.908	312.981	14.966	0.23691	3.18162	7	X
K15B46O	15.9	0.15	K194R	323.249	278.283	115.903	11.199	0.22706	3.07746	8	X
K15B81U	16.1	0.15	K194R	285.158	111.189	339.412	10.193	0.17172	3.17827	5	X
K15BK5W	15.9	0.15	K194R	331.451	84.654	297.457	20.097	0.23590	3.18094	5	X
K15BR3M	16.6	0.15	K194R	342.125	70.927	294.674	14.932	0.11721	3.08783	5	X
K15Bc5R	16.1	0.15	K194R	57.411	225.211	126.041	14.472	0.13790	3.05969	8	W
K15Bp3O	17.4	0.15	K194R	219.895	189.912	319.452	22.252	0.10026	1.87871	8	X
K15Bq1W	18.3	0.15	K194R	222.527	221.817	248.998	18.724	0.09359	1.96195	6	X
K15Bt3V	16.1	0.15	K194R	353.930	51.204	315.264	15.533	0.09079	3.20962	6	X
K15DB6A	15.5	0.15	K194R	17.018	324.939	65.470	11.028	0.08778	3.09062	14	X
K15DL7B	18.0	0.15	K194R	245.153	107.247	341.724	17.194	0.12846	1.97896	4	X
K15E62D	18.2	0.15	K194R	272.075	56.345	1.399	20.606	0.08133	1.97592	6	X
K15F36H	17.8	0.15	K194R	295.887	66.144	356.796	19.818	0.12718	1.94082	5	X
K15H58P	18.8	0.15	K194R	74.577	326.612	286.441	3.322	0.12937	2.15575	5	W
K15MC0W	17.8	0.15	K194R	14.230	78.766	237.411	7.080	0.13622	2.36059	7	X
K15O19E	16.8	0.15	K194R	258.528	166.262	276.616	18.264	0.03435	2.34919	6	X
K15O32Q	17.4	0.15	K194R	335.916	302.769	59.582	7.469	0.14881	2.41749	6	X
K15O43X	18.2	0.15	K194R	336.825	23.041	327.450	11.760	0.21189	2.37096	3	X
K15O63D	17.3	0.15	K194R	273.246	348.411	84.834	15.377	0.09476	2.39873	7	X
K15P04J	18.1	0.15	K194R	340.572	90.713	261.664	5.873	0.13997	2.34650	8	X
K15P21T	17.9	0.15	K194R	305.515	295.620	97.310	8.993	0.15312	2.35184	9	X
K15P47G	18.5	0.15	K194R	329.882	12.231	356.316	6.286	0.16286	2.39339	6	X
K15P83Q	18.7	0.15	K194R	3.256	6.255	319.802	9.036	0.16376	2.33973	4	W
K15PM4S	16.9	0.15	K194R	347.476	38.776	269.765	13.141	0.11413	2.57253	3	W
K15PR6U	18.1	0.15	K194R	342.757	337.918	12.331	6.281	0.17520	2.39959	4	X
K15PS0Z	16.5	0.15	K194R	341.787	23.158	323.340	13.303	0.34370	2.55682	5	X
K15Q09U	16.2	0.15	K194R	328.414	115.864	252.470	23.266	0.28992	2.58257	5	X
K15Q11J	17.1	0.15	K194R	326.715	250.841	116.020	5.924	0.26276	2.56252	7	X
K15R01K	17.3	0.15	K194R	22.001	4.865	296.890	8.441	0.22863	2.42624	5	X

K15R19Y	17.9	0.15	K194R	331.148	354.627	13.359	7.488	0.25908	2.45493	5	W
K15R24P	17.7	0.15	K194R	307.814	97.478	299.020	1.607	0.17603	2.42671	6	X
K15R38J	18.2	0.15	K194R	54.390	208.483	52.379	1.796	0.13393	2.45644	5	W
K15R44F	18.2	0.15	K194R	332.998	206.749	171.360	2.377	0.21279	2.41185	4	W
K15R65T	17.5	0.15	K194R	238.080	76.250	2.585	22.275	0.06675	2.60877	5	W
K15R72X	16.9	0.15	K194R	353.001	334.703	3.393	14.824	0.14519	2.47476	7	X
K15R86B	18.1	0.15	K194R	304.653	112.008	295.516	10.239	0.29933	2.47475	5	X
K15R87Q	16.9	0.15	K194R	358.516	62.476	268.368	5.613	0.15776	2.44276	9	X
K15R93F	17.7	0.15	K194R	339.800	49.522	305.290	4.413	0.16266	2.42067	7	X
K15RN3X	17.9	0.15	K194R	330.657	238.895	120.789	8.032	0.25486	2.55001	4	X
K15S25G	17.1	0.15	K194R	260.625	213.995	248.427	12.113	0.09462	2.59773	6	X
K15S25Q	16.5	0.15	K194R	25.674	36.797	280.452	8.919	0.08804	2.61059	10	X
K15T50D	17.6	0.15	K194R	145.157	277.285	286.107	3.465	0.09386	2.35101	8	X
K15T93C	17.2	0.15	K194R	302.797	5.311	25.039	12.761	0.21906	2.64407	4	W
K15TJ2X	18.3	0.15	K194R	324.519	187.766	187.669	0.442	0.24917	2.48863	4	X
K15TK3C	17.2	0.15	K194R	320.675	16.608	6.948	14.602	0.17908	2.54563	6	X
K15TO1Y	18.0	0.15	K194R	303.296	90.302	320.579	6.345	0.26271	2.51828	5	X
K15TO3T	18.0	0.15	K194R	312.576	34.094	0.337	9.178	0.21643	2.53764	4	X
K15TS9S	17.0	0.15	K194R	320.851	87.847	289.788	14.054	0.13784	2.55007	4	X
K15TU5L	17.7	0.15	K194R	307.657	239.258	160.255	10.541	0.23728	2.54384	5	X
K15TV1Y	17.7	0.15	K194R	315.437	264.432	121.064	12.239	0.25227	2.57639	3	X
K15Tc0B	17.3	0.15	K194R	30.106	354.397	317.198	13.463	0.04310	2.61239	3	X
K15U66D	17.3	0.15	K194R	303.075	242.891	162.926	13.414	0.18895	2.60121	2	W
K15U75C	17.6	0.15	K194R	279.962	176.475	260.692	8.497	0.07219	2.51415	6	X
K15U81L	16.3	0.15	K194R	265.173	274.385	175.455	21.986	0.06593	2.59480	6	X
K15U88A	16.7	0.15	K194R	313.514	294.268	105.769	22.646	0.12866	2.56806	7	X
K15V60L	17.9	0.15	K194R	319.183	211.631	150.002	4.731	0.19895	2.58977	5	W
K15V77V	17.9	0.15	K194R	288.802	209.146	196.268	11.529	0.19055	2.64987	4	W
K15VB7N	16.9	0.15	K194R	341.912	354.578	350.202	4.029	0.24610	2.57895	10	X
K15VC0X	17.8	0.15	K194R	300.770	322.462	90.966	5.434	0.26812	2.58346	4	X
K15VC1Q	18.0	0.15	K194R	300.791	10.137	49.494	7.174	0.26284	2.57227	3	X
K15VC9M	17.3	0.15	K194R	349.706	275.784	64.675	3.818	0.08611	2.63651	7	W
K15VD0U	17.5	0.15	K194R	336.515	131.803	236.068	10.940	0.09835	2.57905	5	X
K15VD6Q	16.7	0.15	K194R	292.077	349.390	69.108	16.560	0.15108	2.65792	7	X
K15VE1U	15.7	0.15	K194R	276.726	196.393	245.872	26.635	0.07797	2.59881	6	X
K15VE5S	17.8	0.15	K194R	338.023	48.545	310.751	3.668	0.24396	2.55437	4	X
K15VF5F	17.0	0.15	K194R	340.085	110.989	244.941	28.249	0.05453	2.65280	4	X
K15VF6R	17.0	0.15	K194R	308.583	113.386	280.361	13.652	0.10103	2.57618	7	X
K15VG1Q	17.5	0.15	K194R	6.854	90.882	239.644	13.449	0.14105	2.56336	5	X
K15W02Y	17.1	0.15	K194R	322.024	296.822	85.499	14.449	0.18012	2.61543	5	X
K15W07O	17.8	0.15	K194R	331.174	355.380	8.639	5.780	0.32026	2.57234	3	X
K15W09N	16.9	0.15	K194R	273.108	204.305	247.099	13.559	0.17837	2.59290	5	X
K15W14Q	17.2	0.15	K194R	342.797	135.857	220.751	10.818	0.19306	2.58148	5	X
K15W15D	17.4	0.15	K194R	324.700	252.874	121.721	4.481	0.27662	2.58078	5	X
K15X80M	15.8	0.15	K194R	237.360	185.978	304.570	20.815	0.06055	2.73554	6	X
K15X84S	17.7	0.15	K194R	336.401	189.125	175.746	11.800	0.19513	2.66691	7	X
K15XE4Q	17.0	0.15	K194R	287.119	175.236	250.911	20.799	0.07753	2.64141	3	X
K15XH1A	17.4	0.15	K194R	326.307	47.880	322.490	5.712	0.35608	2.55665	7	X
K15XO5V	17.5	0.15	K194R	295.097	292.337	146.675	8.977	0.33923	2.67106	6	X
K15XZ0H	16.1	0.15	K194R	116.853	346.036	249.309	28.740	0.04614	2.63557	5	X
K15Xb2S	16.5	0.15	K194R	1.396	66.436	271.200	13.225	0.14926	2.66800	6	X
K15Xc0S	17.9	0.15	K194R	286.875	25.074	40.145	6.664	0.20651	2.62192	5	W
K15Xd1Z	17.8	0.15	K194R	244.769	208.760	281.402	15.205	0.19242	2.87874	4	X
K15Xd5Q	16.3	0.15	K194R	257.020	182.146	294.172	6.677	0.19087	2.93758	8	X
K15Xd7L	16.5	0.15	K194R	316.557	120.299	281.433	9.410	0.07720	3.12240	6	X
K15Xe3V	16.0	0.15	K194R	1.943	118.984	232.201	16.302	0.11989	3.10249	9	X
K15Xe7Y	17.1	0.15	K194R	325.523	295.152	81.614	7.222	0.15470	2.66597	8	X
K15Xf9U	16.8	0.15	K194R	202.856	220.251	308.572	15.648	0.17305	3.16268	4	X
K15Y19M	17.2	0.15	K194R	315.780	23.869	14.889	15.985	0.15174	2.62775	7	X
K15Y20J	16.9	0.15	K194R	261.768	184.385	274.765	13.990	0.11520	2.59010	6	X
K16A73F	15.7	0.15	K194R	181.425	263.223	277.304	15.163	0.13934	3.07866	6	X
K16A82M	16.8	0.15	K194R	310.516	136.100	260.019	31.596	0.20734	2.61560	2	W
K16A93W	16.0	0.15	K194R	258.490	199.454	268.230	10.839	0.11952	2.86582	8	X
K16A97R	16.6	0.15	K194R	45.461	336.830	325.151	13.145	0.07369	3.06804	6	X
K16AC0U	16.0	0.15	K194R	86.560	289.423	338.412	10.572	0.05813	3.18268	9	X
K16AC3V	15.4	0.15	K194R	174.430	214.446	331.162	24.288	0.07237	3.14391	5	X
K16AE2Z	15.8	0.15	K194R	0.443	70.573	273.482	18.760	0.06192	3.06892	6	X
K16AE6F	16.8	0.15	K194R	298.330	270.144	147.402	13.997	0.21290	2.75106	6	X
K16AG6P	16.7	0.15	K194R	304.334	285.082	126.552	13.784	0.20239	2.76796	4	X
K16AI3A	16.2	0.15	K194R	314.503	133.376	277.606	10.893	0.12844	3.01147	11	X
K16AL2Z	15.5	0.15	K194R	185.583	194.521	348.624	27.668	0.14846	3.19780	6	X
K16AL6C	16.6	0.15	K194R	316.976	98.837	306.188	8.569	0.14117	3.04624	8	X
K16AL7B	16.7	0.15	K194R	277.492	128.427	313.684	14.802	0.07525	3.08314	7	X
K16AL8Q	16.7	0.15	K194R	305.938	142.362	272.943	16.380	0.09703	2.87586	6	X
K16AM9F	16.4	0.15	K194R	335.667	131.373	251.236	9.605	0.18184	3.10828	5	X
K16AP5W	16.0	0.15	K194R	141.794	255.404	310.196	20.147	0.15097	3.15405	6	X
K16AP7L	16.7	0.15	K194R	8.301	10.452	329.452	16.854	0.07891	3.06154	4	X
K16AP7Z	16.4	0.15	K194R	12.300	356.439	334.363	18.723	0.11757	3.15377	4	X
K16B00X	17.0	0.15	K194R	307.568	104.277	324.998	28.120	0.37345	2.59939	4	X
K16B45Q	15.6	0.15	K194R	30.981	351.947	315.411	19.285	0.12421	3.21411	7	X
K16B73R	16.5	0.15	K194R	315.852	69.063	332.122	14.306	0.16188	2.87652	9	X
K16B97R	16.8	0.15	K194R	212.153	183.237	324.380	15.332	0.04773	3.12607	4	X
K16BA4S	17.0	0.15	K194R	356.980	30.640	316.951	18.177	0.11747	3.05779	4	X
K16C38J	16.2	0.15	K194R	6.436	12.596	330.130	9.285	0.09347	3.05331	10	X
K16C73V	15.9	0.15	K194R	202.029	176.215	349.802	28.218	0.15039	3.16866	4	X
K16CB5N	16.0	0.15	K194R	35.092	26.914	293.811	15.202	0.09605	3.15714	6	X
K16CC2X	16.3	0.15	K194R	357.795	52.263	304.243	10.970	0.12137	3.08580	7	X
K16CC6P	15.8	0.15	K194R	174.876	249.254	297.332	15.288	0.18034	3.13552	8	X
K16CH3G	17.1	0.15	K194R	330.373	70.839	312.502	11.712	0.19599	2.77104	4	X
K16CH6P	16.1	0.15	K194R	355.895	87.514	262.049	13.812	0.13618	2.96385	8	X
K16CS0Y	16.2	0.15	K194R	279.464	85.513	359.440	9.964	0.05788	3.10232	9	X
K16CU6P	16.4	0.15	K194R	179.963	215.120	328.601	21.469	0.10974	3.20446	5	X
K16E40V	16.4	0.15	K194R	131.255	313.043	269.705	15.205	0.00310	3.05134	5	X

K16E43M	15.5	0.15	K194R	151.398	289.798	278.688	14.831	0.08461	3.12580	9	X
K16E45Y	16.0	0.15	K194R	305.644	316.642	101.561	14.848	0.13891	3.10043	6	X
K16E89E	16.1	0.15	K194R	184.837	212.016	325.857	9.030	0.04546	3.13679	7	X
K16ED4O	16.4	0.15	K194R	305.145	57.233	5.269	24.036	0.15114	3.21676	3	X
K16EJ1Z	16.2	0.15	K194R	301.631	146.212	271.992	10.674	0.05783	3.16123	8	X
K16EM4P	16.0	0.15	K194R	337.734	147.125	235.494	14.783	0.05116	3.16682	6	X
K16F04N	15.9	0.15	K194R	296.487	67.862	18.584	26.475	0.19971	3.15052	7	X
K16F07M	16.0	0.15	K194R	230.171	156.859	346.063	6.568	0.12623	3.07688	8	X
K16F61U	20.3	0.15	K194R	45.532	257.382	6.514	20.353	0.06610	1.76063	2	X
K16G24A	16.3	0.15	K194R	286.841	93.801	353.034	15.726	0.16238	3.07734	8	X
K16G68L	16.2	0.15	K194R	252.715	99.712	32.578	16.480	0.20412	3.05739	9	X
K16L01X	16.7	0.15	K194R	307.260	25.897	36.679	54.019	0.19574	3.00245	2	V
K16N55O	18.3	0.15	K194R	30.333	12.563	270.457	19.529	0.06224	1.92152	6	X
K16O00U	17.4	0.15	K194R	171.693	233.368	280.880	18.935	0.06301	1.92128	7	X
K16P79Y	19.0	0.15	K194R	3.863	335.183	339.236	18.354	0.06777	1.96490	5	X
K16Q01X	18.4	0.15	K194R	263.749	200.674	251.676	7.668	0.22228	1.93152	5	X
K16R06Y	17.4	0.15	K194R	195.410	229.329	261.304	19.956	0.05220	1.97272	7	X
K16S23B	17.7	0.15	K194R	337.723	345.405	10.386	22.647	0.14223	2.00773	7	X
K16U12V	18.3	0.15	K194R	303.111	188.602	193.215	22.217	0.09596	2.00860	4	X
K16UE7L	19.1	0.15	K194R	298.057	46.521	315.774	3.255	0.23477	2.20140	5	W
K16Y09E	17.9	0.15	K194R	239.335	158.349	313.296	6.147	0.12101	2.27908	4	X
K17B17O	17.4	0.15	K194R	204.051	195.866	303.649	14.029	0.01923	2.43787	6	X
K17B45D	16.0	0.15	K194R	101.066	264.920	286.490	14.403	0.18792	3.11729	5	W
K17BC2V	18.2	0.15	K194R	289.134	340.605	81.620	2.817	0.18723	2.28780	6	X
K17C11L	18.7	0.15	K194R	288.575	72.506	348.821	4.508	0.15535	2.28439	4	X
K17C13D	17.6	0.15	K194R	314.442	83.728	303.789	5.350	0.11883	2.34114	8	X
K17C27Q	18.3	0.15	K194R	316.371	359.074	28.055	2.499	0.17927	2.32370	6	X
K17D08W	17.3	0.15	K194R	273.695	200.534	236.391	2.264	0.08738	2.40805	12	X
K17D24Z	17.3	0.15	K194R	323.222	94.820	284.890	5.453	0.08727	2.42242	9	X
K17D48S	18.0	0.15	K194R	296.379	43.642	12.044	7.335	0.09838	2.41401	3	X
K17D76J	17.5	0.15	K194R	312.246	208.056	184.155	13.000	0.15885	2.61172	8	X
K17D80Q	16.5	0.15	K194R	121.358	289.357	299.237	10.372	0.13825	2.59012	8	X
K17D91P	16.2	0.15	K194R	192.568	173.386	353.349	18.701	0.09514	2.57424	6	X
K17D94B	17.0	0.15	K194R	46.930	340.171	316.814	13.215	0.05507	2.73131	3	X
K17DA6X	17.0	0.15	K194R	204.874	220.110	282.464	14.078	0.05054	2.54770	4	X
K17DA8O	16.9	0.15	K194R	11.945	17.002	320.931	12.524	0.03097	2.52735	4	X
K17DB0O	16.2	0.15	K194R	156.351	290.292	266.032	12.827	0.01419	2.62008	9	X
K17DB0S	16.2	0.15	K194R	129.973	313.186	270.242	13.308	0.06529	2.66188	10	X
K17DB7E	16.6	0.15	K194R	167.580	266.106	274.557	13.795	0.08443	2.60523	9	X
K17F20N	16.8	0.15	K194R	336.026	221.309	145.823	7.977	0.14808	2.73799	7	X
K17F34L	17.1	0.15	K194R	61.740	309.352	340.420	4.731	0.01544	2.74553	9	X
K17F79N	18.0	0.15	K194R	279.382	317.142	120.059	6.702	0.25279	2.30573	5	X
K17FA5C	16.9	0.15	K194R	143.384	210.124	354.094	36.497	0.15484	2.73033	4	X
K17FA5F	16.8	0.15	K194R	313.458	79.801	317.494	13.116	0.12089	2.55153	5	X
K17FC0R	16.8	0.15	K194R	260.293	336.763	118.397	11.131	0.18309	2.52785	9	X
K17FF3X	16.4	0.15	K194R	109.709	195.290	17.731	17.670	0.16610	3.16359	3	W
K18C08H	17.4	0.15	K194R	93.138	62.742	108.399	3.775	0.15988	2.43522	6	W
K18C14Q	19.1	0.15	K194R	47.936	270.852	358.830	24.307	0.04566	1.86322	4	X
K18E02F	18.6	0.15	K194R	213.972	206.064	262.620	16.841	0.06813	1.87781	4	X
K18N11T	16.1	0.15	K194R	326.465	149.927	248.887	12.106	0.13252	3.18420	7	X
K18S08D	16.6	0.15	K194R	6.319	76.986	333.970	8.863	0.23191	3.14944	6	W
K18S09S	16.3	0.15	K194R	326.698	180.662	257.242	21.750	0.05446	2.55984	7	W
K18V59G	15.8	0.15	K194R	280.281	129.946	14.421	26.261	0.09397	3.15770	5	X
K19M03V	20.4	0.15	K194R	318.056	217.382	143.907	7.326	0.46094	2.33024	2	X
K19O00F	17.2	0.15	K194R	323.510	89.105	279.822	27.142	0.34075	2.56464	4	X
K19Q02Z	17.5	0.15	K194R	332.545	228.712	127.846	11.035	0.38003	2.75284	4	X
K19R03F	17.1	0.15	K194R	319.357	74.814	306.813	15.275	0.27788	2.54235	3	X
K19R04E	17.8	0.15	K194R	313.607	269.388	137.510	16.736	0.33356	2.60491	3	X
K19U00F	18.4	0.15	K194R	121.029	232.565	328.084	14.562	0.04336	1.86655	5	X
K19U12S	19.9	0.15	K194R	218.172	166.194	351.747	11.237	0.49388	1.72124	3	X
K19V05Q	18.3	0.15	K194R	4.496	31.789	294.306	18.997	0.05612	1.85868	5	V

New perturbed one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K17C00S	19.8	0.15	K194R	164.739	358.884	240.309	6.887	0.61003	2.60870	264	X
K19H04K	21.3	0.15	K194R	284.958	271.535	56.194	38.002	0.30886	1.26032	191	X
K19M00X	17.4	0.15	K194R	324.617	112.975	253.135	27.641	0.40622	2.60970	165	X
K19N07M	17.2	0.15	K194R	344.708	280.257	59.972	13.390	0.28315	2.61897	127	X
K19O05B	16.9	0.15	K194R	340.804	6.963	345.375	15.364	0.48066	2.96838	108	X
K19Q07H	17.7	0.15	K194R	356.046	287.107	30.306	29.370	0.35178	2.59053	79	X
K19R04N	19.7	0.15	K194R	320.058	289.814	68.362	24.132	0.45569	2.25151	60	X
K19U09O	19.8	0.15	K194R	237.381	148.116	7.746	5.473	0.57905	1.91291	40	X
K19U11J	19.6	0.15	K194R	295.567	350.601	80.957	31.938	0.39918	2.26637	18	B
K19U14C	23.1	0.15	K194R	278.971	73.605	52.864	1.941	0.67379	2.10322	26	X
K19V00S	24.2	0.15	K194R	287.485	55.146	265.026	1.821	0.47478	1.48937	13	X
K19V00V	25.3	0.15	K194R	240.740	26.447	255.591	0.306	0.29576	0.94085	13	X
K19V02T	24.2	0.15	K194R	83.460	293.085	228.859	9.280	0.21464	1.03456	18	X
K19V04B	25.7	0.15	K194R	246.215	292.839	54.631	6.350	0.10258	1.11953	10	X
K19V05H	23.6	0.15	K194R	113.063	102.567	65.610	4.577	0.35581	1.09972	7	X
K19V05P	19.9	0.15	K194R	293.745	25.396	67.022	39.637	0.54567	2.41633	3	B

New observations:

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     K03SK1D  C2019 11 14.49274 01 42 19.347+31 27 50.09         20.7 iUEV189F51
     K03SK1D  C2019 11 14.50363 01 42 18.533+31 27 47.32         20.7 iUEV189F51
     K03SK1D  C2019 11 14.51453 01 42 17.723+31 27 44.20         20.3 iUEV189F51
     K06M00A  C2019 11 15.21386 00 05 35.468+26 52 06.26         20.5 wUEV189F51
     K06M00A  C2019 11 15.22602 00 05 36.812+26 51 42.96         20.5 wUEV189F51
     K06M00A  C2019 11 15.23820 00 05 38.161+26 51 19.57         20.6 wUEV189F51
     K06M00A  C2019 11 15.25042 00 05 39.508+26 50 55.97         20.6 wUEV189F51
     K10A79G  C2019 11 11.31240007 11 56.47 +47 09 08.2          19.60rUEV189I41
     K10A79G  C2019 11 11.31285007 11 56.57 +47 09 11.2          19.56rUEV189I41
     K10A79G  C2019 11 12.32843107 16 21.42 +48 52 09.1          19.46rUEV189I41
     K10A79G  C2019 11 12.34177007 16 24.86 +48 53 30.5          19.47rUEV189I41
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     K10A79G  C2019 11 12.47681007 16 59.29 +49 07 11.1          19.52rUEV189I41
     K11S16G  C2019 11 15.21450 23 56 26.931+26 05 48.09         20.5 wUEV189F51
     K11S16G  C2019 11 15.22666 23 56 28.154+26 05 57.56         20.5 wUEV189F51
     K11S16G  C2019 11 15.23885 23 56 29.374+26 06 06.82         20.7 wUEV189F51
     K11S16G  C2019 11 15.25106 23 56 30.590+26 06 16.19         20.7 wUEV189F51
     K11Y62S  C2019 11 14.49326907 25 27.18 +13 35 26.0          16.48oVEV189T08
     K11Y62S  C2019 11 14.50315907 25 31.38 +13 37 51.1          16.75oVEV189T08
     K11Y62S  C2019 11 14.51334507 25 35.69 +13 40 20.9          17.01oVEV189T08
     K17C00S  C2017 01 04.55567010 37 14.444-02 51 41.87         22.4 GVEV189F51
     K17C00S  C2017 01 04.56807810 37 14.867-02 51 51.13         22.0 GVEV189F51
     K19H04K KC2019 11 01.64956807 56 14.662+25 59 28.04         22.52GVEV189T12
     K19M03V  C2019 08 27.27949 23 33 18.40 -10 58 00.3          19.0 GVEV189703
     K19M03V  C2019 08 27.28494 23 33 19.02 -10 58 06.6          18.9 GVEV189703
     K19M03V  C2019 08 27.29040 23 33 19.59 -10 58 13.5          19.1 GVEV189703
     K19M03V  C2019 08 27.29585 23 33 20.19 -10 58 19.7          19.2 GVEV189703
     K19M03V  C2019 08 29.49153023 37 39.51 -11 42 55.3          18.31oVEV189T08
     K19M03V  C2019 08 29.49489723 37 39.88 -11 42 59.0          18.60oVEV189T08
     K19M03V  C2019 08 29.50104823 37 40.55 -11 43 06.4          18.63oVEV189T08
     K19M03V  C2019 08 29.51350423 37 41.86 -11 43 22.0          18.05oVEV189T08
     K19M03V  C2019 11 14.33141 01 34 55.766-14 13 48.10         19.9 iUEV189F52
     K19M03V  C2019 11 14.34314 01 34 56.467-14 13 34.31         20.0 iUEV189F52
     K19M03V  C2019 11 14.35492 01 34 57.222-14 13 20.03         20.2 iUEV189F52
     K19M03V  C2019 11 14.36666 01 34 57.962-14 13 05.79         20.3 iUEV189F52
     K19R04N KC2019 11 09.96750803 51 13.16 -09 48 41.0          18.1 GVEV189C95
     K19R04N KC2019 11 09.97595403 51 11.93 -09 48 12.3          18.7 GVEV189C95
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     K19U09O .C2019 11 14.42094 01 14 19.39 +14 29 56.1          21.1 RoEV189F65
     K19U09O .C2019 11 14.42228 01 14 19.23 +14 29 55.2          21.6 RoEV189F65
     K19U12S  C2019 11 14.49208 01 33 46.560+34 04 13.58         20.5 iUEV189F51
     K19U12S  C2019 11 14.50299 01 33 44.856+34 04 11.00         20.4 iUEV189F51
     K19U12S  C2019 11 14.52478 01 33 41.433+34 04 05.38         20.4 iUEV189F51
     K19U14C KC2019 11 15.07610 22 54 25.74 -09 11 07.3          21.2 RoEV189691
     K19U14C KC2019 11 15.08235 22 54 20.50 -09 11 33.1          21.3 RoEV189691
     K19U14C KC2019 11 15.08859 22 54 15.28 -09 11 58.0          21.3 RoEV189691
     K19V00S KC2019 11 15.10867 01 46 29.17 +18 51 24.3          21.7 RoEV189691
     K19V00S KC2019 11 15.11866 01 46 30.75 +18 51 15.3          21.2 RoEV189691
     K19V00S KC2019 11 15.12865 01 46 32.22 +18 51 06.8          21.0 RoEV189691
     K19V00V KC2019 11 15.09670 02 19 32.98 +15 56 13.5          20.1 RoEV189691
     K19V00V KC2019 11 15.10426 02 19 31.22 +15 56 01.1          20.3 RoEV189691
     K19V02T KC2019 11 15.20703 02 02 27.95 +08 39 08.9          19.6 RoEV189691
     K19V02T KC2019 11 15.21356 02 02 26.27 +08 38 16.5          19.9 RoEV189691
     K19V02T KC2019 11 15.22008 02 02 24.60 +08 37 24.6          19.8 RoEV189691
     K19V04B KC2019 11 15.16028 03 24 01.44 +15 01 53.3          21.3 RoEV189691
     K19V04B KC2019 11 15.17006 03 23 59.36 +15 02 45.6          21.4 RoEV189691
     K19V05H KC2019 11 15.18199 03 59 50.09 +12 39 26.5          19.8 RoEV189691
     K19V05H KC2019 11 15.19004 03 59 48.54 +12 39 27.9          19.9 RoEV189691
     K19V05H KC2019 11 15.19808 03 59 46.95 +12 39 29.2          19.8 RoEV189691
01620         C2019 11 09.01669322 06 58.58 +08 21 36.8          16.4 VuEV189H21
01620         C2019 11 09.01791922 06 58.73 +08 21 37.5          16.5 VuEV189H21
01620         C2019 11 09.01928022 06 58.90 +08 21 37.9          16.4 VuEV189H21
01620         C2019 11 09.02064222 06 59.04 +08 21 38.7          16.4 VuEV189H21
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01620         C2019 11 09.02472622 06 59.53 +08 21 40.9          16.5 VuEV189H21
01620         C2019 11 09.02608722 06 59.71 +08 21 41.9          16.4 VuEV189H21
01627         C2019 11 14.56512709 39 33.52 +11 57 33.6          17.33oVEV189T08
01627         C2019 11 14.56908909 39 33.70 +11 57 33.0          17.21oVEV189T08
01627         C2019 11 14.57505609 39 33.96 +11 57 32.0          17.26oVEV189T08
01627         C2019 11 14.58805309 39 34.51 +11 57 30.0          17.20oVEV189T08
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01864         C2019 11 14.64142711 14 30.26 +24 23 52.2          18.90oVEV189T08
01864         C2019 11 14.64432011 14 30.51 +24 23 51.3          18.81oVEV189T08
02102         C2019 11 14.63763109 19 36.90 -20 53 30.7          17.19oVEV189T05
02102         C2019 11 14.64131309 19 37.40 -20 53 25.6          17.25oVEV189T05
02102         C2019 11 14.64774409 19 38.33 -20 53 17.0          17.65oVEV189T05
02102         C2019 11 14.65269709 19 39.07 -20 53 10.1          17.16oVEV189T05
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03200         C2019 09 22.73148 03 47 36.38 +53 46 13.8          16.0 VqEV189168
03200         C2019 09 22.79409 03 47 21.33 +53 46 40.4          15.9 VqEV189168
03200         C2019 09 22.87200 03 47 02.45 +53 47 13.1          16.0 VqEV189168
03200         C2019 09 30.68383 03 12 27.95 +54 09 32.1          16.4 RqEV189168
03200         C2019 09 30.74840 03 12 09.28 +54 09 28.6          16.0 RqEV189168
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03200         C2019 09 30.89492 03 11 26.85 +54 09 17.4          16.2 RqEV189168
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03200         C2019 10 04.81229 02 52 13.06 +53 53 06.5          16.4 RqEV189168
03200         C2019 10 04.89007 02 51 49.46 +53 52 35.8          15.7 RqEV189168
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03200         C2019 10 05.76645 02 47 26.41 +53 46 06.3          16.1 RqEV189168
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03200         C2019 10 07.68461 02 37 47.48 +53 28 17.1          16.1 RqEV189168
03200         C2019 10 07.72350 02 37 35.67 +53 27 53.2          15.9 RqEV189168
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03200          C2019 10 07.95614 02 36 24.67 +53 25 24.4           16.2 RqEV189168
03200          C2019 10 07.97003 02 36 20.41 +53 25 14.9           16.2 RqEV189168
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03200          C2019 10 17.94834 01 48 07.46 +50 30 08.8                 qEV189557
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03200          C2019 10 22.05729 01 30 38.28 +48 44 49.0                 qEV189557
03200          C2019 10 22.09809 01 30 28.35 +48 43 40.8                 qEV189557
03200          C2019 11 09.06727800 38 13.60 +39 25 24.8           16.9 VuEV189H21
03200          C2019 11 09.06863900 38 13.44 +39 25 22.2           16.8 VuEV189H21
03200          C2019 11 09.07000000 38 13.28 +39 25 19.7           16.8 VuEV189H21
03200          C2019 11 09.07135500 38 13.13 +39 25 17.1           16.8 VuEV189H21
03200          C2019 11 09.07270900 38 12.96 +39 25 14.6           16.7 VuEV189H21
03200          C2019 11 09.07406400 38 12.82 +39 25 12.1           16.8 VuEV189H21
03200          C2019 11 09.07541800 38 12.67 +39 25 09.5           16.8 VuEV189H21
03200         KC2019 11 13.89421 00 30 23.41 +36 58 06.0           17.0 GVEV189A16
03200         KC2019 11 13.90142 00 30 22.79 +36 57 53.2           16.7 GVEV189A16
03200         KC2019 11 13.90863 00 30 22.17 +36 57 40.2           17.0 GVEV189A16
03200         KC2019 11 13.91584 00 30 21.55 +36 57 27.6           16.7 GVEV189A16
03200          C2019 11 14.45483500 29 36.87 +36 41 36.2           16.88oVEV189T08
03200          C2019 11 14.45813300 29 36.60 +36 41 30.3           16.84oVEV189T08
03200          C2019 11 14.46329800 29 36.16 +36 41 20.6           17.62oVEV189T08
03200          C2019 11 14.47582700 29 35.15 +36 40 58.7           16.83oVEV189T08
03552          C2019 11 14.55446 07 11 16.501+58 08 37.68           19.5 iUEV189F51
03552          C2019 11 14.56406 07 11 16.129+58 08 41.15           19.5 iUEV189F51
03691          C2019 11 12.53993112 07 57.77 +04 56 59.6           17.93rUEV189I41
03691          C2019 11 12.54490012 07 58.49 +04 56 52.5           17.84rUEV189I41
03691          C2019 11 12.54986012 07 59.22 +04 56 45.4           17.82rUEV189I41
03691          C2019 11 12.55484012 07 59.94 +04 56 38.2           17.83rUEV189I41
03691          C2019 11 14.54167012 12 50.63 +04 08 34.1           18.23rUEV189I41
05131          C2019 11 14.39573103 11 26.95 -44 40 33.0           17.87oVEV189T05
05131          C2019 11 14.39893803 11 26.56 -44 40 31.4           17.97oVEV189T05
05131          C2019 11 14.41795103 11 23.94 -44 40 18.1           17.54oVEV189T05
05131          C2019 11 14.42394903 11 23.05 -44 40 14.2           17.59oVEV189T05
05626          C2019 11 14.56374409 06 16.62 +09 40 54.2           15.68oVEV189T08
05626          C2019 11 14.56770709 06 17.05 +09 40 51.8           15.72oVEV189T08
05626          C2019 11 14.57367309 06 17.70 +09 40 48.1           15.76oVEV189T08
05626          C2019 11 14.58572709 06 19.02 +09 40 41.0           15.80oVEV189T08
06047          C2019 11 14.22974521 48 29.65 +00 21 47.5           18.96oVEV189T08
06047          C2019 11 14.23270721 48 29.67 +00 21 52.0           18.67oVEV189T08
06047          C2019 11 14.24563621 48 29.64 +00 22 13.1           18.17oVEV189T08
06047          C2019 11 14.25397121 48 29.61 +00 22 26.4           18.63oVEV189T08
07088          C2019 11 14.56420509 35 40.84 +10 32 03.7           18.45oVEV189T08
07088          C2019 11 14.56816909 35 41.71 +10 32 02.1           17.88oVEV189T08
07088          C2019 11 14.57413509 35 43.00 +10 31 59.4           18.21oVEV189T08
07088          C2019 11 14.58664909 35 45.72 +10 31 55.3           18.05oVEV189T08
18882          C2019 11 14.60845510 24 37.08 +09 22 26.8           18.92oVEV189T08
18882          C2019 11 14.61145910 24 37.38 +09 22 21.4           18.54oVEV189T08
18882          C2019 11 14.61768710 24 38.05 +09 22 07.1           18.88oVEV189T08
18882          C2019 11 14.62913210 24 39.30 +09 21 41.0           18.55oVEV189T08
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66146         KC2019 11 13.77828 21 42 03.18 -24 50 15.6           15.6 GVEV189A16
66146         KC2019 11 13.78576 21 42 03.82 -24 50 07.7           15.5 GVEV189A16
66146          C2019 11 14.28816121 42 48.85 -24 41 52.8           15.35oVEV189T05
66146          C2019 11 14.29102621 42 49.10 -24 41 50.0           15.30oVEV189T05
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66146          C2019 11 14.30657321 42 50.43 -24 41 34.6           15.85oVEV189T05
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85628          C2019 11 14.57966909 26 43.88 +20 40 40.7           17.94oVEV189T08
85628          C2019 11 14.58900909 26 46.90 +20 40 44.3           18.45oVEV189T08
85628          C2019 11 14.59895009 26 50.12 +20 40 48.3           17.54oVEV189T08
85839          C2019 11 14.25797501 09 42.14 +09 14 25.5           18.72oVEV189T08
85839          C2019 11 14.26124101 09 41.97 +09 14 25.1           18.77oVEV189T08
85839          C2019 11 14.27784401 09 40.97 +09 14 24.7           19.01oVEV189T08
85839          C2019 11 14.28666401 09 40.46 +09 14 23.4           18.75oVEV189T08
85839          C2019 11 14.42894 01 09 31.872+09 14 15.70           18.8 iUEV189F52
85839          C2019 11 14.45245 01 09 30.462+09 14 14.24           18.9 iUEV189F52
85839          C2019 11 14.46428 01 09 29.770+09 14 13.61           18.9 iUEV189F52
87684          C2019 11 14.27789921 35 55.73 -28 00 52.5           17.94oVEV189T05
87684          C2019 11 14.28311621 35 56.67 -28 00 48.2           18.02oVEV189T05
87684          C2019 11 14.28631721 35 57.24 -28 00 46.4           17.93oVEV189T05
87684          C2019 11 14.29679221 35 59.16 -28 00 38.4           17.90oVEV189T05
88959          C2019 11 14.42630 01 08 22.667+12 15 32.92           17.8 iUEV189F52
88959          C2019 11 14.43802 01 08 18.647+12 15 53.85           17.8 iUEV189F52
88959          C2019 11 14.46161 01 08 10.508+12 16 36.15           18.0 iUEV189F52
88959          C2019 11 14.46885301 08 08.01 +12 16 49.6           17.20oVEV189T08
88959          C2019 11 14.47211901 08 06.88 +12 16 54.6           17.59oVEV189T08
88959          C2019 11 14.47769801 08 04.94 +12 17 04.9           17.88oVEV189T08
88959          C2019 11 14.48930301 08 00.98 +12 17 25.3           17.86oVEV189T08
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89830          C2019 10 04.91655 08 53 42.64 +53 42 36.9          16.1 RqEV189168
89830          C2019 10 04.97142 08 54 08.27 +53 44 32.5          16.2 RqEV189168
96590          C2019 11 12.53749012 44 38.46 +04 40 19.6          18.34rUEV189I41
96590          C2019 11 12.54245012 44 39.62 +04 40 12.9          18.24rUEV189I41
96590          C2019 11 12.54742012 44 40.77 +04 40 06.1          18.32rUEV189I41
96590          C2019 11 12.55238012 44 41.93 +04 39 59.2          18.32rUEV189I41
96744          C2019 11 14.60705108 01 57.06 -26 17 23.4          18.06oVEV189T05
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