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## MPEC 2019-V143 : DAILY ORBIT UPDATE (2019 November 11)

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M.P.E.C. 2019-V143

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Update to 2019-V142

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

New identification:

K14V01Z K13J07T

Veres

New multiple-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Opp	C
J97U03H	17.5	0.15	K194R	292.674	39.021	43.133	24.468	0.27784	2.37284	5	X
K00S53W	18.0	0.15	K194R	336.204	23.943	344.375	4.594	0.23815	2.41677	5	X
K01R47F	18.1	0.15	K194R	246.379	70.483	354.944	20.035	0.12806	1.87405	5	X
K01R51J	16.9	0.15	K194R	320.618	243.915	149.748	26.035	0.37314	2.71564	4	X
K01T00Q	17.9	0.15	K194R	319.408	12.915	22.127	26.438	0.22826	2.33744	3	X
K01T01S	17.1	0.15	K194R	341.006	344.162	4.262	26.088	0.32907	2.32986	5	X
K02M05X	16.1	0.15	K194R	324.517	94.950	258.412	13.758	0.18751	2.60986	7	X
K02N07U	17.8	0.15	K194R	315.693	41.445	309.482	7.835	0.37383	2.26551	4	X
K02N21C	16.5	0.15	K194R	18.278	209.375	133.475	17.967	0.18200	2.54368	6	X
K02QA1Q	15.8	0.15	K194R	323.551	281.145	178.256	12.063	0.14447	2.99018	12	X
K02R26N	15.7	0.15	K194R	10.440	36.141	307.618	13.468	0.20078	3.12014	10	X
K02S75P	15.0	0.15	K194R	232.439	252.997	254.692	20.687	0.00830	3.08766	11	X
K02TD7J	15.5	0.15	K194R	356.885	21.607	6.476	17.778	0.21388	3.11525	7	X
K02TG9X	16.2	0.15	K194R	354.378	60.307	248.792	11.039	0.16643	2.64113	10	X
K02U27R	16.8	0.15	K194R	352.727	324.269	32.705	16.503	0.19769	2.61363	5	X
K02V25K	16.6	0.15	K194R	278.219	90.151	44.281	27.654	0.39309	2.61261	4	X
K02V99B	16.6	0.15	K194R	313.123	123.071	272.456	27.456	0.30312	2.62874	3	X
K02X45X	16.3	0.15	K194R	344.488	340.267	79.377	34.023	0.17743	2.59739	8	X
K03B34D	15.9	0.15	K194R	326.126	314.792	143.608	19.567	0.22596	3.19267	8	X
K03SR4E	15.8	0.15	K194R	14.782	329.974	22.395	11.058	0.13112	2.99596	9	X
K03SW6F	18.3	0.15	K194R	282.711	35.377	21.018	11.914	0.14570	1.90965	6	X
K03W12M	17.6	0.15	K194R	191.663	242.210	236.690	19.799	0.07153	1.94374	7	X
K03W80V	16.1	0.15	K194R	293.590	180.126	276.622	17.066	0.19976	3.04406	6	X
K03WA0A	15.9	0.15	K194R	348.138	91.127	252.940	25.735	0.26145	3.10848	4	X
K03Y73S	16.5	0.15	K194R	314.617	139.782	259.160	27.200	0.27304	3.08404	5	X
K04BD2L	15.9	0.15	K194R	317.126	119.155	328.119	16.127	0.20540	3.09233	8	X
K04D24Z	18.3	0.15	K194R	263.517	275.053	154.168	23.451	0.13523	1.95879	6	X
K04EA6N	16.5	0.15	K194R	316.601	97.452	355.639	15.753	0.23101	3.13563	6	X
K04TB2K	17.3	0.15	K194R	299.180	93.041	0.149	21.355	0.31709	2.39314	4	X
K05E36N	17.2	0.15	K194R	310.225	190.951	258.078	7.044	0.50499	2.94079	4	X
K05EU1Y	16.1	0.15	K194R	1.953	347.717	6.518	15.683	0.21744	2.55253	7	X

K05J63K	17.7	0.15	K194R	312.664	225.052	144.770	24.236	0.07065	1.92399	8	X
K05QE4N	17.1	0.15	K194R	333.126	12.919	17.488	9.553	0.22450	2.74258	5	X
K05QE7O	16.9	0.15	K194R	347.601	10.477	1.813	12.805	0.19960	2.72216	7	X
K05TD9A	17.8	0.15	K194R	310.257	23.919	35.067	9.082	0.19897	2.77067	4	X
K05U75Z	16.0	0.15	K194R	352.887	124.430	243.572	23.722	0.15937	2.76778	7	X
K05Ue5Z	17.7	0.15	K194R	300.837	67.525	350.483	19.635	0.19669	1.95072	6	X
K05Uo2Q	17.2	0.15	K194R	328.724	303.638	75.579	7.118	0.19618	2.28807	8	X
K05V35T	17.7	0.15	K194R	149.724	310.343	255.891	3.951	0.10885	2.29438	9	X
K05YR3D	16.2	0.15	K194R	313.334	131.799	282.273	13.971	0.13425	2.87542	5	X
K06A09D	17.1	0.15	K194R	264.144	169.460	307.761	23.557	0.21615	2.34204	5	X
K06J22U	16.1	0.15	K194R	343.230	58.951	12.529	15.570	0.18727	2.87807	7	X
K06K89F	18.5	0.15	K194R	338.452	72.534	246.259	38.178	0.30917	1.87032	5	X
K06Q06G	18.0	0.15	K194R	326.909	356.480	341.588	20.990	0.16472	1.88419	5	X
K06SF3Z	17.0	0.15	K194R	353.398	297.186	41.900	14.173	0.30797	2.63060	5	X
K06Sg2H	16.8	0.15	K194R	358.127	330.624	13.147	13.063	0.29877	2.64556	8	X
K06UJ1R	16.7	0.15	K194R	286.450	160.423	249.377	12.273	0.18986	2.69482	7	X
K06V29H	18.0	0.15	K194R	334.423	93.626	270.956	3.610	0.36293	2.67177	4	X
K06WE0L	17.9	0.15	K194R	264.182	159.328	262.526	19.082	0.10519	1.91011	4	X
K06X25A	16.6	0.15	K194R	263.594	222.040	257.227	10.727	0.19223	2.68749	8	X
K06X45S	17.3	0.15	K194R	317.328	111.583	261.295	22.713	0.28519	2.20334	3	X
K07C00N	16.4	0.15	K194R	126.110	272.521	286.865	22.659	0.17449	2.30114	6	X
K07C15U	15.9	0.15	K194R	272.071	139.910	323.709	25.291	0.14281	2.73872	5	X
K07E11N	17.8	0.15	K194R	272.928	93.433	338.055	22.183	0.16363	2.26209	4	X
K07E81F	16.4	0.15	K194R	311.223	338.562	140.949	14.768	0.47991	3.51269	4	X
K07RP4H	15.7	0.15	K194R	299.473	119.503	312.279	9.215	0.01033	3.12089	11	X
K07VI1T	15.3	0.15	K194R	349.158	108.132	268.316	30.684	0.14621	3.20916	7	X
K08A11Z	18.2	0.15	K194R	309.593	135.293	276.611	5.189	0.26447	2.56458	4	X
K08C82S	17.4	0.15	K194R	329.576	69.335	305.539	28.453	0.36044	2.58083	3	X
K08E25A	17.0	0.15	K194R	299.593	52.826	54.825	8.281	0.15368	2.57482	7	X
K08ED7D	18.6	0.15	K194R	247.236	80.972	26.435	5.452	0.09531	2.15957	5	X
K08H66P	17.1	0.15	K194R	184.978	95.954	115.907	12.415	0.28855	2.68555	4	X
K08O10D	15.4	0.15	K194R	348.304	4.017	321.099	16.309	0.25010	3.10937	8	X
K08R24B	16.8	0.15	K194R	340.902	58.574	311.535	8.970	0.33354	3.07836	5	X
K08S02O	17.6	0.15	K194R	346.357	309.479	32.831	9.871	0.34682	2.35936	2	X
K08S78Q	16.9	0.15	K194R	326.757	92.377	323.336	9.450	0.29198	3.07249	5	X
K08SB3D	18.1	0.15	K194R	303.622	28.133	28.384	3.864	0.18412	2.33806	5	X
K08SR3Q	16.2	0.15	K194R	290.671	201.913	261.724	13.756	0.25217	3.16302	5	X
K08U53S	16.9	0.15	K194R	315.092	15.170	54.537	6.667	0.37057	3.12474	4	X
K08U92G	16.4	0.15	K194R	340.023	341.761	47.163	21.889	0.31535	3.06491	4	X
K08UN0E	15.8	0.15	K194R	342.924	114.529	281.765	22.812	0.37753	3.16746	5	X
K08UY1F	15.9	0.15	K194R	321.147	145.360	261.839	17.003	0.19726	3.10249	4	X
K08WA1Y	19.6	0.15	K194R	267.488	168.439	248.205	11.920	0.21395	1.69731	5	X
K08Y02F	16.3	0.15	K194R	303.641	89.872	59.531	21.840	0.50432	3.14106	4	X
K09B59B	15.4	0.15	K194R	355.532	262.076	111.833	26.020	0.26286	3.19571	9	X
K09B60K	16.1	0.15	K194R	333.697	306.239	139.346	17.327	0.22208	3.12697	7	X
K09J15P	16.5	0.15	K194R	325.215	235.172	183.567	21.495	0.04802	2.58848	8	X
K09Q00X	15.7	0.15	K194R	321.019	55.239	312.605	11.590	0.14986	2.88347	10	X
K09Q01X	16.5	0.15	K194R	327.830	76.118	279.848	13.628	0.16871	2.88514	5	X
K09S87Y	18.0	0.15	K194R	306.757	3.799	36.561	7.515	0.13373	2.21729	5	X
K09X01A	17.6	0.15	K194R	248.178	162.411	261.950	20.161	0.04039	1.87028	4	X
K09X21T	18.1	0.15	K194R	257.520	143.714	278.463	17.868	0.08963	1.88339	4	X
K10A10B	15.4	0.15	K194R	216.569	200.910	297.145	24.672	0.06356	3.16888	6	X
K10C77R	16.0	0.15	K194R	336.808	56.261	338.536	21.853	0.22978	3.12631	6	X
K10D12L	15.3	0.15	K194R	258.379	197.529	288.393	27.870	0.18847	3.10168	4	X
K10E88P	18.2	0.15	K194R	146.637	200.447	333.922	19.430	0.05333	1.90642	5	X
K10EA8P	17.3	0.15	K194R	330.202	19.881	29.496	6.230	0.15629	2.29894	8	X
K10LD2E	17.8	0.15	K194R	327.571	358.733	28.441	10.236	0.28589	2.68734	4	X
K10MA7R	16.2	0.15	K194R	3.981	46.560	299.148	13.542	0.13438	2.67601	10	X
K10N57W	17.2	0.15	K194R	329.471	359.479	27.707	12.511	0.19208	2.69520	6	X
K10R39D	17.9	0.15	K194R	317.700	57.143	353.013	12.231	0.28518	2.65621	6	X
K10R40G	16.9	0.15	K194R	353.948	27.782	330.909	11.770	0.19892	2.66071	5	X
K10R63S	16.6	0.15	K194R	308.885	77.513	7.295	13.556	0.31093	2.65162	7	X
K10T05H	16.8	0.15	K194R	336.740	3.294	14.163	14.441	0.20666	2.67813	6	X
K10U07H	19.1	0.15	K194R	326.401	0.459	9.392	15.649	0.53591	2.71761	3	X
K10U61W	16.3	0.15	K194R	290.419	171.281	244.070	12.156	0.28990	2.77407	6	X
K10V28L	17.0	0.15	K194R	311.129	21.098	44.097	13.771	0.24568	2.68500	4	X
K11FB6B	16.0	0.15	K194R	17.710	70.855	264.529	6.504	0.18837	3.20514	6	X
K11G64Q	16.1	0.15	K194R	292.174	97.480	59.453	22.255	0.36313	2.76887	4	X
K11O59N	15.3	0.15	K194R	321.586	193.915	193.834	17.217	0.32515	3.93585	4	X
K11S20E	17.8	0.15	K194R	335.259	85.696	242.836	14.036	0.31770	2.53749	6	X
K11SJ1D	16.7	0.15	K194R	324.717	106.892	268.768	25.674	0.46993	2.55354	4	X
K11S07X	15.8	0.15	K194R	340.122	125.074	256.089	14.595	0.21835	2.55058	9	X
K11U63F	17.5	0.15	K194R	332.612	54.500	281.723	17.795	0.08206	1.94487	5	X
K11U63H	17.0	0.15	K194R	317.490	66.234	325.499	15.666	0.28647	2.52975	4	X
K11UF5E	16.5	0.15	K194R	303.644	61.341	316.856	13.562	0.11443	2.58007	7	X
K11Ud8P	16.5	0.15	K194R	15.567	19.775	278.870	13.827	0.08392	2.59492	8	X
K11W01A	17.3	0.15	K194R	322.617	109.380	244.249	12.119	0.20406	2.62349	7	X
K11W76C	15.9	0.15	K194R	348.795	126.389	230.497	15.611	0.18765	2.55266	8	X
K11Y38J	16.1	0.15	K194R	317.668	119.211	278.001	13.674	0.19121	2.61762	8	X
K11Y39U	17.1	0.15	K194R	297.994	90.377	335.379	27.764	0.35413	2.59848	5	X
K11Y64K	17.0	0.15	K194R	302.831	295.779	116.923	26.134	0.28632	2.58460	4	X
K12A10X	17.3	0.15	K194R	1.996	12.829	343.287	20.475	0.06841	1.93717	9	X
K12A21K	16.4	0.15	K194R	320.675	85.294	347.815	14.983	0.13933	2.52732	9	X
K12B31Q	16.8	0.15	K194R	279.328	140.992	308.709	32.115	0.19171	2.61152	3	X
K12B61F	16.9	0.15	K194R	318.488	117.877	300.706	28.420	0.36520	2.55579	4	X
K12BB0S	18.1	0.15	K194R	311.827	89.271	319.964	26.814	0.40578	2.58439	3	X
K12BF1U	17.7	0.15	K194R	297.273	213.475	226.272	6.904	0.33339	2.57873	4	X
K12C37P	17.2	0.15	K194R	311.506	18.371	43.243	14.436	0.23751	2.58523	5	X
K12H34T	16.2	0.15	K194R	301.984	81.445	46.192	15.515	0.06707	2.63832	7	X
K12P19Q	15.7	0.15	K194R	348.456	241.146	174.233	10.920	0.32464	3.27355	10	X
K12V07N	19.4	0.15	K194R	318.547	135.250	241.666	3.916	0.43489	2.26551	2	X
K12V34M	17.3	0.15	K194R	298.225	120.613	275.839	19.172	0.25564	2.32421	6	X
K12XD4D	17.5	0.15	K194R	305.159	136.198	314.670	25.101	0.17757	2.29406	4	X

K12XF5B	15.7	0.15	K194R	329.576	34.918	311.658	11.397	0.20721	2.46613	8	X
K12XF6R	17.3	0.15	K194R	329.404	322.031	51.740	5.727	0.31071	2.32311	8	X
K13AB8U	17.1	0.15	K194R	331.366	59.675	304.079	10.365	0.34009	2.38476	7	X
K13B78H	17.0	0.15	K194R	272.485	133.541	323.427	24.556	0.21850	2.40416	5	X
K13C90F	18.3	0.15	K194R	324.956	87.885	320.085	19.684	0.33194	2.31786	6	X
K13G35D	18.0	0.15	K194R	248.932	70.188	4.371	20.519	0.13347	1.85741	4	X
K13G37K	17.8	0.15	K194R	287.070	59.969	32.207	22.416	0.34489	2.41107	5	X
K13H26W	16.0	0.15	K194R	317.845	196.738	227.189	16.250	0.15008	2.52244	9	X
K13J08K	16.7	0.15	K194R	296.945	88.588	340.629	7.361	0.14103	2.55603	7	X
K13J29D	15.3	0.15	K194R	332.480	131.085	256.833	26.044	0.21725	3.20365	5	X
K13P40T	16.8	0.15	K194R	323.211	108.315	311.256	17.010	0.28276	3.08051	5	X
K13P51O	16.2	0.15	K194R	303.868	96.135	330.441	24.194	0.22471	3.17335	6	X
K13P60M	16.4	0.15	K194R	323.862	89.605	286.097	10.444	0.31551	3.20804	4	X
K13Q74Y	15.7	0.15	K194R	3.680	4.299	319.510	25.521	0.26182	3.15605	7	X
K13R06J	16.6	0.15	K194R	320.540	57.825	345.378	25.981	0.26599	3.18566	3	X
K13S16U	16.6	0.15	K194R	323.523	33.184	22.618	14.546	0.33184	3.12635	5	X
K13S70V	15.9	0.15	K194R	344.514	34.959	354.949	10.527	0.07163	3.10957	9	X
K13S73E	16.0	0.15	K194R	315.612	39.560	23.620	26.427	0.20712	3.16834	4	X
K13T01Y	15.7	0.15	K194R	321.170	45.151	17.379	9.475	0.08141	3.16350	11	X
K13T04B	15.5	0.15	K194R	6.049	79.952	256.506	23.501	0.34302	3.17202	5	X
K13TE3M	16.4	0.15	K194R	331.717	21.162	21.507	14.619	0.25826	3.15827	4	X
K13W47Y	16.2	0.15	K194R	319.420	177.761	281.270	14.606	0.23685	3.16203	5	X
K13Y44V	17.7	0.15	K194R	273.130	131.873	305.226	4.602	0.05784	2.17187	9	X
K14A33U	16.4	0.15	K194R	351.783	345.019	111.615	12.428	0.05667	3.15932	8	X
K14E13A	17.9	0.15	K194R	307.447	34.207	13.501	6.209	0.18087	2.19679	6	X
K14HJ2H	19.0	0.15	K194R	282.319	142.208	236.462	31.706	0.34477	1.74979	3	X
K14OL5R	16.9	0.15	K194R	303.380	123.806	308.686	30.413	0.34894	2.62282	4	X
K14Od3H	16.6	0.15	K194R	357.342	66.864	288.638	11.994	0.26924	2.78185	6	X
K14Q73P	16.9	0.15	K194R	331.298	106.800	282.584	12.492	0.26268	2.73404	6	X
K14Q73R	16.7	0.15	K194R	329.142	110.461	286.609	13.532	0.11315	2.64797	7	X
K14QX6G	16.8	0.15	K194R	327.565	106.112	290.819	7.598	0.17384	2.78256	6	X
K14Qe4X	17.0	0.15	K194R	357.597	59.018	298.308	12.515	0.21540	2.77022	3	X
K14R26W	16.2	0.15	K194R	336.889	69.090	278.042	13.755	0.16278	2.86563	5	X
K14SO8G	16.4	0.15	K194R	324.608	22.112	26.307	26.204	0.10148	2.73617	6	X
K14T33A	18.5	0.15	K194R	262.151	281.754	163.595	22.468	0.18404	1.83177	4	V
K14U57K	16.6	0.15	K194R	304.549	183.053	267.913	20.460	0.53915	2.88816	5	X
K14U72V	16.7	0.15	K194R	47.161	271.225	35.900	9.321	0.12126	2.86135	7	X
K14UB5R	18.2	0.15	K194R	269.362	151.021	268.810	19.013	0.09420	1.83619	5	X
K14V01Z	18.6	0.15	K194R	239.283	359.831	93.518	25.403	0.15449	1.85645	4	V
K14Wa2N	18.0	0.15	K194R	238.660	182.119	263.553	19.980	0.10033	1.87636	5	X
K14Wg6J	15.7	0.15	K194R	309.666	113.585	309.421	25.663	0.13643	3.14268	6	X
K14X07S	18.4	0.15	K194R	283.885	283.142	117.395	22.566	0.13544	1.87469	5	X
K14X21V	16.4	0.15	K194R	330.772	45.879	310.880	11.366	0.30066	3.13238	4	X
K14X38K	16.8	0.15	K194R	314.355	135.948	287.694	8.046	0.29125	3.07203	6	X
K14X38R	17.1	0.15	K194R	11.737	356.685	286.034	14.989	0.04570	2.01172	10	X
K14Y26R	15.9	0.15	K194R	300.118	133.592	268.269	17.603	0.18685	3.17634	6	X
K14Y33G	16.3	0.15	K194R	331.702	251.610	156.096	15.655	0.24659	2.97258	9	X
K14Y42O	17.4	0.15	K194R	74.992	309.699	288.203	18.990	0.04950	1.92300	9	X
K14Y47C	15.5	0.15	K194R	309.475	152.316	289.101	27.372	0.14869	3.10922	4	X
K14Y56F	16.5	0.15	K194R	334.852	23.891	18.463	17.402	0.19695	3.08672	6	X
K15AF6J	18.1	0.15	K194R	294.170	82.745	300.240	17.145	0.10040	1.94427	4	X
K15AO7K	16.3	0.15	K194R	332.083	110.015	295.518	12.955	0.17135	3.07706	5	X
K15AP5U	16.2	0.15	K194R	342.106	2.721	56.235	9.534	0.19804	2.93578	6	X
K15AQ5G	16.2	0.15	K194R	333.402	71.789	356.293	15.558	0.23317	3.12399	8	X
K15B17Q	15.9	0.15	K194R	348.218	76.603	322.947	20.521	0.20183	3.18390	8	X
K15BK4J	16.0	0.15	K194R	337.813	110.107	286.745	14.069	0.22565	3.16344	7	X
K15BL4R	16.5	0.15	K194R	329.673	83.906	294.885	20.424	0.29049	3.16301	3	X
K15Bp3O	17.4	0.15	K194R	219.895	189.912	319.452	22.252	0.10026	1.87871	8	X
K15Bp3R	17.7	0.15	K194R	337.740	100.273	250.537	17.866	0.08080	1.95941	5	X
K15C13F	17.5	0.15	K194R	292.831	140.051	267.479	18.894	0.09068	1.90202	7	X
K15C60G	16.1	0.15	K194R	309.765	119.029	315.022	25.947	0.19819	3.10596	5	X
K15O35P	19.2	0.15	K194R	318.650	223.561	134.443	35.145	0.34942	2.54732	2	V
K15Q09U	16.2	0.15	K194R	328.414	115.864	252.470	23.266	0.28992	2.58257	5	X
K15RA0X	18.3	0.15	K194R	309.232	91.260	322.278	3.215	0.30256	2.42955	4	X
K15RB7M	17.2	0.15	K194R	317.541	9.349	36.077	14.605	0.19536	2.43774	6	X
K15S06B	18.3	0.15	K194R	329.057	58.154	316.758	8.720	0.31912	2.48172	4	X
K15TT0B	17.8	0.15	K194R	358.467	87.194	253.487	3.414	0.16466	2.43010	5	X
K15TT9B	17.0	0.15	K194R	285.959	175.478	263.531	5.280	0.13542	2.47297	8	X
K15VB9J	17.2	0.15	K194R	358.688	328.068	56.205	7.304	0.12917	2.38465	11	X
K15VE1P	17.7	0.15	K194R	334.582	20.007	353.804	3.663	0.21312	2.54265	6	X
K15X80M	15.8	0.15	K194R	237.360	185.978	304.570	20.815	0.06055	2.73554	6	X
K15XH1B	16.6	0.15	K194R	330.971	99.619	281.797	12.614	0.18514	2.55514	7	X
K15XK0P	16.8	0.15	K194R	252.976	220.477	254.944	9.901	0.08052	2.57642	8	X
K15Xc1F	16.6	0.15	K194R	351.024	217.455	158.626	15.481	0.14276	2.53895	4	X
K16A50E	17.0	0.15	K194R	347.463	68.542	288.704	11.319	0.29685	2.69582	4	X
K16A65N	17.3	0.15	K194R	326.534	102.496	290.202	27.344	0.37240	2.67459	3	X
K16AF9Z	16.1	0.15	K194R	344.212	113.880	253.206	12.169	0.39682	2.73476	5	X
K16AH1H	16.0	0.15	K194R	333.061	131.310	270.073	27.733	0.07856	2.58656	6	X
K16AO2Y	16.0	0.15	K194R	339.855	46.689	296.227	17.727	0.18647	3.07314	7	X
K16CH5H	17.0	0.15	K194R	310.368	116.133	309.697	12.563	0.19017	2.71622	5	X
K16CP4P	16.7	0.15	K194R	336.735	334.439	35.374	13.699	0.37555	2.75835	6	X
K16CT2T	16.2	0.15	K194R	337.435	21.530	6.429	14.938	0.16960	2.72360	7	X
K16F34R	17.1	0.15	K194R	228.760	172.063	346.819	2.771	0.15148	3.10601	5	X
K16G14B	16.6	0.15	K194R	321.014	247.834	181.193	16.709	0.15868	3.06946	6	X
K16N01L	18.2	0.15	K194R	298.037	290.529	100.659	24.439	0.10491	1.88268	7	V
K16O00U	17.4	0.15	K194R	171.693	233.368	280.880	18.935	0.06301	1.92128	7	X
K16R08H	18.0	0.15	K194R	331.782	30.343	329.139	18.616	0.08476	1.94850	7	X
K16S23B	17.7	0.15	K194R	337.723	345.405	10.386	22.647	0.14223	2.00773	7	X
K17B81K	17.1	0.15	K194R	323.435	214.989	129.574	10.540	0.09126	2.78410	6	X
K17DB8H	16.3	0.15	K194R	276.270	110.940	319.107	21.658	0.04303	2.56505	7	X
K19N06O	16.6	0.15	K194R	335.521	61.648	310.957	29.887	0.31166	2.56378	6	X
K19R03F	17.1	0.15	K194R	319.357	74.814	306.813	15.275	0.27788	2.54235	3	X
K19T03D	18.1	0.15	K194R	248.328	168.238	264.574	19.133	0.13076	1.83139	6	X



New perturbed one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K19N07K	17.9	0.15	K194R	333.155	81.632	280.974	27.217	0.37405	2.57332	142	X
K19O01L	21.9	0.15	K194R	271.142	141.146	221.982	10.644	0.28831	1.46406	107	X
K19O05B	16.9	0.15	K194R	340.804	6.963	345.375	15.364	0.48066	2.96839	104	X
K19P00A	19.5	0.15	K194R	336.861	103.614	228.641	15.063	0.57780	3.01370	100	X
K19P02O	17.7	0.15	K194R	321.676	100.906	265.179	26.694	0.40061	2.59568	161	X
K19P02R	18.9	0.15	K194R	347.102	57.083	349.038	10.990	0.79768	5.77257	92	X
K19Q07G	18.8	0.15	K194R	320.871	136.753	250.094	6.203	0.38981	2.57619	156	X
K19S00M	20.8	0.15	K194R	320.429	164.789	209.286	19.333	0.53980	2.56033	48	X
K19S05U	19.8	0.15	K194R	317.766	310.080	41.078	24.972	0.22196	1.80264	43	X
K19S06H	19.9	0.15	K194R	270.631	6.637	107.383	8.177	0.47809	2.00441	45	X
K19T03N	18.8	0.15	K194R	306.234	103.985	342.283	14.804	0.53567	2.91135	44	X
K19T04Q	21.0	0.15	K194R	93.760	317.044	210.821	43.928	0.40607	1.04059	34	X
K19T06D	18.0	0.15	K194R	326.250	119.543	278.498	28.902	0.37953	2.59455	35	X
K19U02R	22.2	0.15	K194R	298.419	231.122	228.861	10.465	0.65024	2.43397	22	X
K19U09T	18.7	0.15	K194R	285.374	25.168	69.506	25.672	0.64006	2.29537	23	X
K19U11B	20.5	0.15	K194R	314.546	156.992	265.678	5.153	0.62163	2.83182	94	X
K19U11O	20.6	0.15	K194R	309.900	294.845	54.170	47.792	0.31355	1.83962	32	X
K19U12R	24.2	0.15	K194R	247.100	342.805	39.723	10.108	0.24006	1.32401	11	X
K19U13D	23.5	0.15	K194R	237.223	346.553	39.077	43.881	0.18367	1.25859	7	X
K19U13Y	23.3	0.15	K194R	237.585	81.300	47.676	32.471	0.52822	1.61993	10	X
K19U14A	18.9	0.15	K194R	316.328	284.624	223.921	72.071	0.66080	3.77591	14	X
K19U14N	20.7	0.15	K194R	239.581	52.227	48.294	32.485	0.31754	1.74815	6	X
K19U14Q	20.6	0.15	K194R	333.422	223.051	63.574	36.622	0.76326	2.40471	10	X
K19V00K	24.4	0.15	K194R	292.396	176.400	256.531	2.195	0.54678	2.17317	25	X
K19V00N	24.9	0.15	K194R	278.230	62.931	43.500	4.724	0.59520	2.01891	16	X
K19V02D	21.4	0.15	K194R	310.424	257.196	38.813	33.635	0.73895	1.99480	6	X

New observations:

J98B07Y	C1998	01	24.42653	09	12	32.60	+17	08	16.0	18.8	RoEV143566
J98B07Y	C1998	01	24.43666	09	12	32.58	+17	08	24.9	19.3	RoEV143566
J98B07Y	C1998	01	24.44730	09	12	32.55	+17	08	34.4	18.7	RoEV143566
K10U07H	C2019	11	09.12306001	36	05.68	+44	45	14.5		18.72	rUEV143I41
K10U07H	C2019	11	09.21265001	36	02.75	+44	46	34.1		18.74	rUEV143I41
K10U07H	C2019	11	09.22358001	36	02.39	+44	46	43.7		18.72	rUEV143I41
K10U07H	C2019	11	09.23590001	36	01.95	+44	46	54.3		19.33	gUEV143I41
K10U07H	C2019	11	10.22493101	35	40.51	+45	00	16.1		19.26	gUEV143I41
K10U07H	C2019	11	10.27260001	35	39.05	+45	00	53.6		19.08	gUEV143I41
K10U07H	C2019	11	10.31891001	35	37.67	+45	01	28.5		18.75	rUEV143I41
K10U07H	C2019	11	10.42121	01	35	35.670	+45	02	51.97	18.4	iUEV143F52
K10U07H	C2019	11	10.42891	01	35	35.444	+45	02	57.66	18.4	iUEV143F52
K10U07H	C2019	11	10.43661	01	35	35.199	+45	03	03.27	18.4	iUEV143F52
K10U07H	C2019	11	10.44430	01	35	34.974	+45	03	08.80	18.3	iUEV143F52
K12V07N	KC2019	11	07.04427705	31	38.81	+24	23	53.3		19.1	GVEV143C95
K12V07N	KC2019	11	07.05051505	31	38.74	+24	23	50.2		19.3	GVEV143C95
K12V07N	KC2019	11	07.05664405	31	38.73	+24	23	47.2		18.9	GVEV143C95
K12V07N	KC2019	11	07.06280705	31	38.64	+24	23	44.0		19.3	GVEV143C95
K14HJ2H	C2019	11	10.24965721	45	33.73	+34	10	30.1		18.82	oVEV143T08
K14HJ2H	C2019	11	10.25023921	45	33.95	+34	10	28.1		18.79	oVEV143T08
K14HJ2H	C2019	11	10.25430221	45	35.60	+34	10	13.5		18.46	oVEV143T08
K14HJ2H	C2019	11	10.25886721	45	37.42	+34	09	55.9		18.75	oVEV143T08
K14HJ2H	C2019	11	10.25996821	45	37.86	+34	09	51.7		18.93	oVEV143T08
K19O01L	KC2019	11	02.11320422	47	05.98	+06	11	33.6		19.2	VuEV143H21
K19O01L	KC2019	11	02.11521922	47	06.99	+06	11	27.5		19.0	VuEV143H21
K19O01L	KC2019	11	02.11723822	47	07.96	+06	11	21.4		19.1	VuEV143H21
K19O01L	KC2019	11	02.11925722	47	08.97	+06	11	15.3		19.4	VuEV143H21
K19O01L	KC2019	11	02.12127422	47	09.96	+06	11	09.2		19.0	VuEV143H21
K19O01L	KC2019	11	02.12359322	47	11.12	+06	11	02.2		19.0	VuEV143H21
K19P00A	C2019	11	10.07463	23	47	11.03	+11	25	37.0	20.8	VuEV143807
K19P00A	C2019	11	10.07817	23	47	11.52	+11	25	33.2	20.8	VuEV143807
K19P00A	C2019	11	10.08162	23	47	11.98	+11	25	30.2	20.9	VuEV143807
K19P02R	C2019	11	10.53218	08	12	42.589	+54	10	59.33	18.5	iUEV143F51
K19P02R	C2019	11	10.54138	08	12	44.608	+54	10	56.16	18.5	iUEV143F51
K19P02R	C2019	11	10.55144	08	12	46.820	+54	10	52.57	18.5	iUEV143F51
K19P02R	C2019	11	10.56226	08	12	49.184	+54	10	48.78	18.4	iUEV143F51
K19S00M	KC2019	11	02.23631501	57	25.30	-03	00	34.9		18.9	VuEV143H21
K19S00M	KC2019	11	02.23802901	57	25.62	-03	00	42.0		19.1	VuEV143H21
K19S00M	KC2019	11	02.23994701	57	25.95	-03	00	49.9		18.9	VuEV143H21
K19S00M	KC2019	11	02.24196501	57	26.32	-03	00	58.2		19.0	VuEV143H21
K19S06H	C2019	11	10.45664	05	30	18.665	-03	08	05.20	18.8	iUEV143F52
K19S06H	C2019	11	10.46954	05	30	20.406	-03	08	12.53	18.9	iUEV143F52
K19S06H	C2019	11	10.48243	05	30	22.144	-03	08	20.20	19.0	iUEV143F52
K19S06H	C2019	11	10.49535	05	30	23.882	-03	08	27.82	19.0	iUEV143F52
K19T04Q	KC2019	11	02.22268801	02	08.05	-09	57	43.4		19.2	VuEV143H21
K19T04Q	KC2019	11	02.22571401	02	07.20	-09	58	13.6		19.4	VuEV143H21
K19T04Q	KC2019	11	02.22874101	02	06.41	-09	58	43.8		19.3	VuEV143H21
K19T04Q	KC2019	11	02.23156601	02	05.62	-09	59	12.5		19.4	VuEV143H21
K19T04Q	C2019	11	10.12183	00	29	48.73	-29	13	06.8	19.7	VuEV143807
K19T04Q	C2019	11	10.12454	00	29	48.08	-29	13	26.3	19.7	VuEV143807
K19T04Q	C2019	11	10.12736	00	29	47.40	-29	13	47.1	19.9	VuEV143807
K19U02R	C2019	11	10.04799	23	02	48.02	+08	09	56.6	18.6	VuEV143807
K19U02R	C2019	11	10.05067	23	02	46.62	+08	09	30.2	18.5	VuEV143807
K19U02R	C2019	11	10.05341	23	02	45.18	+08	09	03.3	18.4	VuEV143807
K19U09T	C2019	11	10.02443	22	21	14.78	-49	54	17.4	20.4	VuEV143807
K19U09T	C2019	11	10.02719	22	21	14.74	-49	54	12.4	20.5	VuEV143807
K19U09T	C2019	11	10.03003	22	21	14.66	-49	54	07.4	20.4	VuEV143807
K19U11B	C2019	11	10.03850	22	41	14.38	+12	58	06.3	19.2	VuEV143807
K19U11B	C2019	11	10.04075	22	41	14.62	+12	58	06.7	19.3	VuEV143807
K19U11B	C2019	11	10.04299	22	41	14.85	+12	58	07.4	19.5	VuEV143807
K19U11O	C2019	11	10.23919	03	12	01.01	-14	02	11.9	19.8	VuEV143807
K19U11O	C2019	11	10.24207	03	12	00.10	-14	01	58.4	19.8	VuEV143807

K19U110	C2019	11	10.24492	03	11	59.20	-14	01	44.8	
K19U12R	C2019	11	02.18232900		39	51.12	-05	26	53.8	
K19U12R	C2019	11	02.18330800		39	51.22	-05	26	22.7	
K19U12R	C2019	11	02.18439500		39	51.37	-05	25	48.4	
K19U12R	C2019	11	02.20064300		39	53.43	-05	17	11.5	
K19U12R	C2019	11	02.20602600		39	54.10	-05	14	20.3	
K19U12R	C2019	11	02.20731700		39	54.27	-05	13	39.2	
K19U13D	KC2019	11	02.26690802		22	22.90	+19	45	46.3	
K19U13D	KC2019	11	02.26947802		22	15.17	+19	48	07.6	
K19U13D	KC2019	11	02.27046202		22	12.20	+19	49	01.6	
K19U130	C2019	11	09.27581003		58	11.09	+35	31	58.8	
K19U130	C2019	11	09.27670903		58	11.44	+35	31	57.3	
K19U130	C2019	11	09.32424003		58	29.38	+35	30	30.6	
K19U130	C2019	11	09.32516003		58	29.72	+35	30	28.9	
K19U13Y	C2019	11	10.21707	02	42	41.34	+08	30	45.7	
K19U13Y	C2019	11	10.22151	02	42	37.58	+08	31	45.1	
K19U13Y	C2019	11	10.22622	02	42	33.57	+08	32	48.2	
K19U13Y	C2019	11	10.23075	02	42	29.74	+08	33	48.6	
K19U14A	C2019	11	10.33598	04	11	33.55	-20	15	34.8	
K19U14A	C2019	11	10.34040	04	11	33.10	-20	15	49.9	
K19U14A	C2019	11	10.34465	04	11	32.65	-20	16	04.3	
K19U14N	C2019	11	06.23633	01	31	39.14	-18	30	36.2	
K19U14N	C2019	11	06.24000	01	31	38.34	-18	30	27.9	
K19U14N	C2019	11	06.24345	01	31	37.61	-18	30	18.8	
K19U14Q	C2019	11	10.27306	03	52	26.61	-04	13	34.7	
K19U14Q	C2019	11	10.27875	03	52	25.27	-04	13	25.0	
K19U14Q	C2019	11	10.28646	03	52	23.51	-04	13	12.0	
K19V00K	C2019	11	10.35685	23	38	39.99	+23	35	49.0	
K19V00K	C2019	11	10.35842	23	38	40.03	+23	35	57.9	
K19V00K	C2019	11	10.35999	23	38	40.05	+23	36	04.8	
K19V00K	C2019	11	10.36313	23	38	40.10	+23	36	21.1	
K19V00N	C2019	11	10.88872223		20	56.14	+36	14	31.9	
K19V00N	C2019	11	10.88979223		20	46.34	+36	15	44.7	
K19V00N	C2019	11	10.89076523		20	37.37	+36	16	50.8	
K19V00N	C2019	11	10.89319723		20	14.73	+36	19	38.3	
K19V00N	C2019	11	10.89485123		19	59.07	+36	21	33.8	
K19V00N	C2019	11	10.89640623		19	44.51	+36	23	20.9	
K19V00N	C2019	11	10.89815723		19	28.08	+36	25	20.8	
K19V02D	C2019	11	10.05907	23	45	02.17	+05	36	08.4	
K19V02D	C2019	11	10.06181	23	45	02.77	+05	36	35.4	
K19V02D	C2019	11	10.06461	23	45	03.39	+05	37	03.9	
K19V04S	C2019	11	06.60041601		47	43.11	+01	26	33.2	
K19V04S	C2019	11	06.60042201		47	43.44	+01	26	33.0	
K19V04S	C2019	11	06.60042801		47	43.79	+01	26	32.9	
K19V04S	C2019	11	06.60043401		47	44.14	+01	26	32.4	
K19V04S	C2019	11	06.60044001		47	44.46	+01	26	32.1	
01620	KC2019	11	09.78727	22	08	32.96	+08	28	22.5	
01620	KC2019	11	09.79522	22	08	33.96	+08	28	27.3	
01620	KC2019	11	09.80317	22	08	34.86	+08	28	31.0	
01620	KC2019	11	09.82699	22	08	37.73	+08	28	43.4	
01620	C2019	11	10.29809	22	09	35.283	+08	32	55.78	
01620	C2019	11	10.31080822		09	36.78	+08	33	02.6	
01620	C2019	11	10.31407522		09	37.16	+08	33	04.3	
01620	C2019	11	10.31900	22	09	37.753	+08	33	06.65	
01620	C2019	11	10.32105922		09	37.98	+08	33	08.0	
01620	C2019	11	10.33602222		09	39.76	+08	33	15.7	
01620	C2019	11	10.94641022		10	55.11	+08	38	30.3	
01620	C2019	11	10.94786522		10	55.31	+08	38	31.7	
01620	C2019	11	10.94932122		10	55.48	+08	38	31.6	
01627	C2019	11	10.51482809		36	26.82	+12	09	00.3	
01627	C2019	11	10.51806409		36	26.98	+12	08	59.9	
01627	C2019	11	10.52364109		36	27.24	+12	08	59.1	
01627	C2019	11	10.53603509		36	27.83	+12	08	56.8	
02059	C2019	11	09.06809322		29	40.67	-11	03	50.1	
02059	C2019	11	09.06952922		29	40.94	-11	03	50.9	
02059	C2019	11	09.07096822		29	41.23	-11	03	51.4	
02059	C2019	11	09.07241022		29	41.50	-11	03	52.1	
02059	C2019	11	09.07383622		29	41.77	-11	03	52.8	
02059	C2019	11	09.07512022		29	42.01	-11	03	53.4	
02062	C2019	11	10.53744012		34	20.47	+04	32	17.7	
02062	C2019	11	10.54248012		34	21.72	+04	32	12.7	
02102	C2019	11	10.60139109		10	09.63	-22	14	05.7	
02102	C2019	11	10.60461109		10	10.04	-22	14	02.5	
02102	C2019	11	10.62169709		10	12.25	-22	13	44.6	
02212	C2019	11	10.60953411		50	07.62	+11	52	27.0	
02212	C2019	11	10.61316311		50	08.77	+11	52	18.8	
02212	C2019	11	10.61976711		50	10.88	+11	52	04.1	
02212	C2019	11	10.63132211		50	14.55	+11	51	38.1	
02212	C2019	11	10.65283911		50	21.42	+11	50	49.5	
03102	C2019	11	10.40400604		19	35.83	+03	43	20.6	
03102	C2019	11	10.40726504		19	35.57	+03	43	19.2	
03102	C2019	11	10.41390104		19	34.98	+03	43	16.7	
03102	C2019	11	10.42831904		19	33.74	+03	43	10.9	
03200	C2019	11	10.34540500		35	55.67	+38	45	40.8	
03200	C2019	11	10.34836300		35	55.38	+38	45	35.5	
03200	C2019	11	10.35469200		35	54.67	+38	45	23.6	
03200	C2019	11	10.36617000		35	53.45	+38	45	02.4	
05143	C2019	11	10.20858819		36	50.12	-19	59	22.7	
05143	C2019	11	10.21232119		36	50.55	-19	59	21.6	
05143	C2019	11	10.21836619		36	51.37	-19	59	20.3	
05143	C2019	11	10.22855319		36	52.59	-19	59	15.5	
05626	C2019	11	10.48608708		58	15.40	+10	23	26.3	
05626	C2019	11	10.48932808		58	15.79	+10	23	24.3	

19.8	VuEV143807
17.8	VuEV143H21
17.3	VuEV143H21
17.5	VuEV143H21
17.6	VuEV143H21
17.7	VuEV143H21
17.2	VuEV143H21
18.0	VuEV143H21
18.0	VuEV143H21
18.3	VuEV143H21
18.76g	UEV143I41
18.80g	UEV143I41
18.35r	UEV143I41
18.19r	UEV143I41
19.6	VuEV143807
19.6	VuEV143807
19.6	VuEV143807
19.7	VuEV143807
21.7	GVEV143807
21.7	GVEV143807
21.7	GVEV143807
20.9	VuEV143807
21.2	VuEV143807
21.2	VuEV143807
21.5	GVEV143807
21.6	GVEV143807
21.6	GVEV143807
19.1	RoEV143F65
19.4	RoEV143F65
19.4	RoEV143F65
19.2	RoEV143F65
16.6	GVEV143G34
16.6	GVEV143G34
16.8	GVEV143G34
16.2	GVEV143G34
16.0	GVEV143G34
15.9	GVEV143G34
15.9	GVEV143G34
19.6	VuEV143807
19.0	VuEV143807
18.7	VuEV143807
13.9	GVEV143381
14.0	GVEV143381
13.9	GVEV143381
14.1	GVEV143381
14.1	GVEV143381
16.5	GVEV143A16
17.0	GVEV143A16
17.3	GVEV143A16
17.9	GVEV143A16
16.1	iUEV143F51
16.10o	VEV143T08
16.17o	VEV143T08
16.1	iUEV143F51
16.24o	VEV143T08
16.62o	VEV143T08
	qEV143I15
	qEV143I15
	qEV143I15
17.11o	VEV143T08
17.17o	VEV143T08
17.33o	VEV143T08
17.91o	VEV143T08
16.6	VuEV143H21
16.5	VuEV143H21
16.4	VuEV143H21
16.5	VuEV143H21
16.6	VuEV143H21
16.4	VuEV143H21
19.24r	UEV143I41
19.11r	UEV143I41
17.24o	VEV143T05
17.50o	VEV143T05
17.52o	VEV143T05
16.38o	VEV143T08
16.39o	VEV143T08
16.30o	VEV143T08
16.37o	VEV143T08
16.39o	VEV143T08
16.89o	VEV143T08
16.90o	VEV143T08
17.05o	VEV143T08
17.65o	VEV143T08
16.78o	VEV143T08
16.54o	VEV143T08
17.15o	VEV143T08
16.50o	VEV143T08
18.23o	VEV143T05
18.26o	VEV143T05
18.10o	VEV143T05
17.82o	VEV143T05
15.81o	VEV143T08
15.78o	VEV143T08

05626	C2019	11	10.49579108	58	16.58	+10	23	20.0	15.83oVEV143T08	
06047	C2019	11	10.50690808	58	17.92	+10	23	13.1	15.78oVEV143T08	
06047	C2019	11	11.21867	21	48	35.344	-00	59	23.52	18.9 iUEV143F52
06047	C2019	11	11.23161	21	48	35.182	-00	59	02.55	19.3 iUEV143F52
09400	C2019	11	11.24451	21	48	35.024	-00	58	41.60	19.3 iUEV143F52
09400	KC2019	11	09.03462221	14	24.78	-16	42	03.1	17.5 VuEV143H21	
09400	KC2019	11	09.03584321	14	24.80	-16	42	00.2	17.6 VuEV143H21	
09400	KC2019	11	09.03728021	14	24.82	-16	41	56.5	17.5 VuEV143H21	
09400	KC2019	11	09.03871721	14	24.86	-16	41	53.4	17.6 VuEV143H21	
09400	KC2019	11	09.04015321	14	24.88	-16	41	50.0	17.4 VuEV143H21	
09400	C2019	11	10.27459121	14	53.89	-15	52	54.1	16.78oVEV143T05	
09400	C2019	11	10.27781621	14	53.96	-15	52	46.5	16.67oVEV143T05	
09400	C2019	11	10.28447421	14	54.12	-15	52	30.3	16.72oVEV143T05	
09400	C2019	11	10.29461221	14	54.33	-15	52	06.5	17.11oVEV143T05	
11066	C2019	11	10.61454212	04	00.25	+21	20	20.2	18.68oVEV143T08	
11066	C2019	11	10.61791412	04	00.61	+21	20	16.3	18.37oVEV143T08	
11066	C2019	11	10.62345012	04	01.17	+21	20	10.6	17.54oVEV143T08	
11066	C2019	11	10.63784212	04	02.59	+21	19	55.6	17.91oVEV143T08	
18882	C2019	11	10.56827210	17	05.63	+11	47	41.5	18.83oVEV143T08	
18882	C2019	11	10.58128810	17	07.05	+11	47	15.0	18.45oVEV143T08	
18882	C2019	11	10.59111310	17	08.15	+11	46	54.1	18.49oVEV143T08	
18882	C2019	11	10.64953710	17	14.61	+11	44	51.1	18.70oVEV143T08	
36236	C2019	11	10.56011004	30	11.91	+32	26	05.6	17.11oVEV143T08	
36236	C2019	11	10.56353704	30	11.22	+32	25	57.3	17.36oVEV143T08	
36236	C2019	11	10.58664104	30	06.44	+32	25	01.3	17.76oVEV143T08	
36284	C2019	11	10.62622410	46	14.72	+27	38	15.1	19.07oVEV143T08	
36284	C2019	11	10.62947910	46	14.95	+27	38	13.7	19.31oVEV143T08	
36284	C2019	11	10.63598410	46	15.34	+27	38	11.1	19.11oVEV143T08	
36284	C2019	11	10.64349110	46	15.73	+27	38	06.9	19.28oVEV143T08	
54686	C2019	11	10.61617610	14	26.93	-19	38	18.3	18.40oVEV143T05	
54686	C2019	11	10.61985810	14	27.47	-19	38	20.1	18.80oVEV143T05	
54686	C2019	11	10.62585810	14	28.39	-19	38	22.2	18.89oVEV143T05	
54686	C2019	11	10.64024510	14	30.72	-19	38	26.7	19.03oVEV143T05	
66146	C2019	11	10.27643621	36	48.84	-25	47	41.4	15.26oVEV143T05	
66146	C2019	11	10.27965421	36	49.11	-25	47	38.0	15.27oVEV143T05	
66146	C2019	11	10.28679321	36	49.71	-25	47	30.7	15.21oVEV143T05	
66146	C2019	11	10.29930621	36	50.75	-25	47	18.1	15.14oVEV143T05	
85236	C2019	11	10.51482809	38	23.44	+11	55	33.1	16.76oVEV143T08	
85236	C2019	11	10.51806409	38	22.68	+11	56	05.2	16.73oVEV143T08	
85236	C2019	11	10.52364109	38	21.38	+11	57	00.9	16.84oVEV143T08	
85236	C2019	11	10.53603509	38	18.48	+11	59	03.6	16.65oVEV143T08	
85628	C2019	11	10.50041909	04	38.17	+20	12	43.2	17.96oVEV143T08	
85628	C2019	11	10.50364809	04	39.14	+20	12	45.0	17.68oVEV143T08	
85628	C2019	11	10.50925709	04	40.96	+20	12	47.7	17.85oVEV143T08	
85628	C2019	11	10.52040909	04	44.48	+20	12	52.7	17.86oVEV143T08	
87684	C2019	11	10.27413321	22	57.36	-28	48	18.5	17.54oVEV143T05	
87684	C2019	11	10.27735821	22	58.02	-28	48	15.9	17.84oVEV143T05	
87684	C2019	11	10.28356021	22	59.22	-28	48	11.6	18.40oVEV143T05	
87684	C2019	11	10.29369721	23	01.25	-28	48	03.9	17.74oVEV143T05	
96590	C2019	11	10.53493112	36	54.73	+05	25	56.0	18.14rUEV143I41	
96590	C2019	11	10.53995012	36	55.88	+05	25	49.2	18.12rUEV143I41	
96590	C2019	11	10.54500012	36	57.04	+05	25	42.3	18.12rUEV143I41	
D7064	C2019	11	10.57657	08	56	46.893	+45	15	52.71	19.6 iUEV143F51
D7064	C2019	11	10.58246	08	56	48.883	+45	16	01.60	19.7 iUEV143F51
D7064	C2019	11	10.58842	08	56	50.867	+45	16	10.48	19.8 iUEV143F51
D7084	KC2019	11	09.02242921	26	54.05	+56	12	33.2	17.3 VuEV143H21	
D7084	KC2019	11	09.02386621	26	54.66	+56	12	29.7	17.5 VuEV143H21	
D7084	KC2019	11	09.02530521	26	55.27	+56	12	26.7	17.5 VuEV143H21	
D7084	KC2019	11	09.02674421	26	55.89	+56	12	23.7	17.4 VuEV143H21	
F3249	C2019	11	08.53590011	45	27.00	-01	14	20.9	19.80rUEV143I41	
F3249	C2019	11	08.54597011	45	28.06	-01	14	35.8	19.72rUEV143I41	
F3249	C2019	11	08.55102011	45	28.57	-01	14	43.0	19.61rUEV143I41	
F3249	C2019	11	10.54450011	49	01.01	-02	03	17.9	19.91rUEV143I41	
F3814	C2019	11	10.37368503	38	20.64	+25	12	49.2	16.78oVEV143T08	
F3814	C2019	11	10.37703103	38	20.16	+25	12	46.4	16.77oVEV143T08	
F3814	C2019	11	10.38472503	38	19.08	+25	12	39.5	16.93oVEV143T08	
F3814	C2019	11	10.39688603	38	17.36	+25	12	28.9	16.79oVEV143T08	
F4229	C2019	11	08.54455012	26	58.93	+03	37	25.2	18.08rUEV143I41	
F4229	C2019	11	08.54959012	26	59.75	+03	37	22.0	18.18rUEV143I41	
F4229	C2019	11	10.53744012	32	15.90	+03	16	20.1	18.32rUEV143I41	
F4229	C2019	11	10.54248012	32	16.68	+03	16	16.9	18.36rUEV143I41	
F4229	C2019	11	10.55256912	32	18.27	+03	16	10.5	18.36rUEV143I41	
F9399	C2019	11	10.37958404	34	14.35	-13	40	22.0	18.13oVEV143T05	
F9399	C2019	11	10.38287704	34	14.06	-13	40	30.4	18.57oVEV143T05	
F9399	C2019	11	10.38847404	34	13.56	-13	40	43.2	18.30oVEV143T05	
F9399	C2019	11	10.39839504	34	12.66	-13	41	07.9	18.39oVEV143T05	
G2082	C2019	11	10.41114303	15	44.56	-35	02	30.1	15.66oVEV143T05	
G2082	C2019	11	10.41434203	15	44.84	-35	02	41.6	15.79oVEV143T05	
G2082	C2019	11	10.41974803	15	45.30	-35	03	01.9	15.63oVEV143T05	
G2082	C2019	11	10.43163903	15	46.32	-35	03	45.9	15.73oVEV143T05	
G3081	C2019	11	10.43103205	33	32.99	+06	19	54.6	17.66oVEV143T08	
G3081	C2019	11	10.43426905	33	32.64	+06	19	47.9	18.27oVEV143T08	
G3081	C2019	11	10.44031605	33	32.01	+06	19	36.3	18.20oVEV143T08	
G3081	C2019	11	10.45169605	33	30.76	+06	19	13.7	17.49oVEV143T08	
G3696	C2019	11	10.49209709	06	25.85	+11	29	59.1	15.45oVEV143T08	
G3696	C2019	11	10.49533109	06	25.58	+11	30	21.2	15.60oVEV143T08	
G3696	C2019	11	10.50088009	06	25.17	+11	30	59.1	15.46oVEV143T08	
G3696	C2019	11	10.51206509	06	24.29	+11	32	15.2	15.50oVEV143T08	
G4211	KC2019	11	09.07798622	36	59.63	-14	36	46.7	19.1 VuEV143H21	
G4211	KC2019	11	09.07827422	36	59.75	-14	36	45.7	18.9 VuEV143H21	
G4211	KC2019	11	09.08042822	37	00.63	-14	36	38.8	18.8 VuEV143H21	
G4211	KC2019	11	09.08258222	37	01.50	-14	36	32.1	18.3 VuEV143H21	
H1486	C2019	11	10.60458	08	23	51.904	+07	45	43.23	19.6 iUEV143F52



H1486	C2019	11	10.62581	08	23	56.437+07	45	18.22	19.7	iUEV143F52	
I8174	C2019	11	10.63651	08	23	58.739+07	45	05.50	19.9	iUEV143F52	
I8174	C2019	11	10.53587012	58	52.13	+15	17	44.6	18.95	rUEV143I41	
I8174	C2019	11	10.54801012	58	55.17	+15	18	01.0	18.98	rUEV143I41	
I8174	C2019	11	10.55098012	58	55.90	+15	18	05.1	19.08	rUEV143I41	
J2563	C2019	11	10.55306012	58	56.42	+15	18	07.7	19.30	rUEV143I41	
J2563	C2019	11	10.45863106	06	08.89	+17	39	57.4	17.79	oVEV143T08	
J2563	C2019	11	10.46186006	06	08.90	+17	40	02.5	17.72	oVEV143T08	
J2563	C2019	11	10.46858506	06	08.90	+17	40	12.6	17.84	oVEV143T08	
J2563	C2019	11	10.48053306	06	08.92	+17	40	31.7	17.77	oVEV143T08	
L4088	C2019	11	10.47541008	39	26.19	+14	50	39.4	16.73	oVEV143T08	
L4088	C2019	11	10.47866108	39	26.26	+14	50	43.1	16.67	oVEV143T08	
L4088	C2019	11	10.48422808	39	26.40	+14	50	49.5	16.50	oVEV143T08	
L4088	C2019	11	10.49486908	39	26.59	+14	51	01.5	16.39	oVEV143T08	
O3025	C2019	11	10.52642606	53	49.83	+28	08	54.3	16.49	oVEV143T08	
O3025	C2019	11	10.52933206	53	49.93	+28	08	48.3	16.46	oVEV143T08	
O3025	C2019	11	10.53932006	53	50.26	+28	08	27.4	16.46	oVEV143T08	
O3025	C2019	11	10.54665706	53	50.50	+28	08	11.9	16.50	oVEV143T08	
O8926	C2019	11	08.08137018	35	38.90	+79	57	03.9	17.27	rUEV143I41	
O8926	C2019	11	08.09595018	35	30.05	+79	56	45.9	17.18	rUEV143I41	
O8926	C2019	11	08.13320918	35	07.73	+79	55	59.6	17.41	gUEV143I41	
O8926	C2019	11	08.13372018	35	07.42	+79	55	59.0	17.49	gUEV143I41	
O8926	C2019	11	08.14931918	34	58.17	+79	55	39.4	17.44	gUEV143I41	
T4739	C2019	11	10.56688611	23	34.57	+27	55	30.8	17.50	oVEV143T08	
T4739	C2019	11	10.57011311	23	34.53	+27	55	17.9	17.59	oVEV143T08	
T4739	C2019	11	10.57851711	23	34.42	+27	54	46.2	17.53	oVEV143T08	
T4739	C2019	11	10.58925311	23	34.23	+27	54	03.7	18.36	oVEV143T08	
W6742	KC2019	11	09.11139222	51	26.01	+50	04	24.4	19.5	VuEV143H21	
W6742	KC2019	11	09.11354522	51	26.00	+50	04	23.2	19.4	VuEV143H21	
W6742	KC2019	11	09.11569622	51	26.09	+50	04	21.9	19.5	VuEV143H21	
W6777	C2019	11	10.31638123	08	08.89	+17	32	04.6	18.26	oVEV143T08	
W6777	C2019	11	10.31966623	08	09.51	+17	31	59.6	18.09	oVEV143T08	
W6777	C2019	11	10.32673423	08	10.83	+17	31	46.9	18.12	oVEV143T08	
W6777	C2019	11	10.33971623	08	13.30	+17	31	24.1	18.32	oVEV143T08	
X3555	C2019	11	10.43241206	13	42.88	+08	01	35.5	18.05	oVEV143T08	
X3555	C2019	11	10.43564906	13	43.03	+08	01	39.4	18.05	oVEV143T08	
X3555	C2019	11	10.44123806	13	43.20	+08	01	45.6	17.99	oVEV143T08	
X3555	C2019	11	10.45307806	13	43.61	+08	01	59.1	17.98	oVEV143T08	
Z4030	C2019	11	10.40446704	45	33.44	+08	36	07.8	16.31	oVEV143T08	
Z4030	C2019	11	10.40492704	45	33.44	+08	36	07.7	16.34	oVEV143T08	
Z4030	C2019	11	10.40772604	45	33.48	+08	36	06.5	16.26	oVEV143T08	
Z4030	C2019	11	10.40818504	45	33.49	+08	36	06.4	16.29	oVEV143T08	
Z4030	C2019	11	10.41343504	45	33.57	+08	36	04.5	16.23	oVEV143T08	
Z4030	C2019	11	10.41439504	45	33.56	+08	36	04.2	16.32	oVEV143T08	
Z4030	C2019	11	10.42339204	45	33.69	+08	36	01.2	16.92	oVEV143T08	
Z4030	C2019	11	10.42777904	45	33.73	+08	35	59.5	16.33	oVEV143T08	
b0307	C2019	11	10.53744012	26	23.55	+04	30	10.2	19.20	rUEV143I41	
b0307	C2019	11	10.54248012	26	24.41	+04	30	02.0	19.19	rUEV143I41	
b0307	C2019	11	10.54752012	26	25.28	+04	29	53.7	19.17	rUEV143I41	
c0160	C2019	11	11.21803	21	59	39.730-01	21	06.31	19.6	iUEV143F52	
c0160	C2019	11	11.23097	21	59	41.651-01	20	56.68	19.7	iUEV143F52	
c0160	C2019	11	11.24387	21	59	43.572-01	20	47.45	19.8	iUEV143F52	
c0160	C2019	11	11.26265	21	59	46.351-01	20	33.85	19.6	iUEV143F52	
c0160	C2019	11	11.27426	21	59	48.077-01	20	25.42	19.6	iUEV143F52	
c0160	C2019	11	11.28589	21	59	49.796-01	20	16.99	19.7	iUEV143F52	
c0160	C2019	11	11.29752	21	59	51.542-01	20	08.65	19.4	iUEV143F52	
i2243	C2019	11	08.25616001	55	25.57	+36	03	21.9	18.67	gUEV143I41	
i2243	C2019	11	08.31534001	55	20.88	+36	03	56.7	17.93	rUEV143I41	
i2243	C2019	11	10.22819001	53	10.14	+36	21	19.1	18.61	gUEV143I41	
i2243	C2019	11	10.31800001	53	03.64	+36	22	03.9	18.12	rUEV143I41	
i2243	C2019	11	10.35829101	53	01.55	+36	22	28.6	17.80	oVEV143T08	
i2243	C2019	11	10.36117101	53	01.33	+36	22	29.7	18.27	oVEV143T08	
i2243	C2019	11	10.36758801	53	00.83	+36	22	33.1	17.96	oVEV143T08	
i2243	C2019	11	10.38264301	52	59.74	+36	22	40.1	18.39	oVEV143T08	
j8745	C2019	11	10.46370	06	00	04.044-07	18	59.93	17.4	iUEV143F52	
j8745	C2019	11	10.47660	06	00	05.695-07	19	00.43	17.4	iUEV143F52	
k7475	C2019	11	10.37672	02	53	27.342-38	42	48.29	18.6	iUEV143F51	
k7475	C2019	11	10.38566	02	53	27.552-38	42	51.66	18.5	iUEV143F51	
k7475	C2019	11	10.39460	02	53	27.753-38	42	55.11	18.6	iUEV143F51	
k7475	C2019	11	10.40355	02	53	27.972-38	42	58.33	18.5	iUEV143F51	
m1394	KC2019	11	10.03926	03	17	54.69	+19	35	29.4	14.8	GVEV143A16
m1394	KC2019	11	10.04720	03	17	51.82	+19	34	36.7	14.8	GVEV143A16
m1394	KC2019	11	10.05516	03	17	48.79	+19	33	43.6	14.7	GVEV143A16
m1394	KC2019	11	10.06309	03	17	45.99	+19	32	50.6	14.6	GVEV143A16
m1542	C2019	11	11.26200	22	10	57.519-01	59	53.28	19.4	iUEV143F52	
m1542	C2019	11	11.27362	22	10	58.215-01	59	30.23	19.4	iUEV143F52	
m1542	C2019	11	11.28525	22	10	58.891-01	59	07.38	19.4	iUEV143F52	
m1542	C2019	11	11.29687	22	10	59.568-01	58	44.45	19.4	iUEV143F52	
n2143	C2019	11	10.27095	22	19	12.754+00	39	04.61	17.9	iUEV143F52	
n2143	C2019	11	10.28391	22	19	13.313+00	38	50.67	18.0	iUEV143F52	
n2143	C2019	11	10.29684	22	19	13.866+00	38	36.54	17.8	iUEV143F52	
n2143	C2019	11	11.26393	22	20	04.150+00	21	12.41	18.0	iUEV143F52	
n2143	C2019	11	11.27554	22	20	04.688+00	20	59.99	18.0	iUEV143F52	
n2143	C2019	11	11.28717	22	20	05.234+00	20	47.42	18.0	iUEV143F52	
n2143	C2019	11	11.29880	22	20	05.781+00	20	34.99	18.0	iUEV143F52	
o3960	C2019	11	10.22192120	42	24.24	+24	33	35.9	18.52	oVEV143T08	
o3960	C2019	11	10.22799520	42	24.15	+24	33	36.2	18.72	oVEV143T08	
o3960	C2019	11	10.23052520	42	24.12	+24	33	35.3	18.61	oVEV143T08	
o3960	C2019	11	10.24430120	42	23.94	+24	33	35.6	19.10	oVEV143T08	

MPEC number:

Enter an MPEC number in one of the following forms:

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- J97B01 (the packed version of the full form)
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