

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

№	04	V															
55219	1.0	19.3	341439	1.1	20.9	426457	1.1	21.3	365838	1.2	19.6	309195	1.3	20.6	218723	1.3	19.3
164104	1.0	18.8	433342	1.1	20.9	52859	1.1	18.7	83801	1.2	19.1	203840	1.3	19.9	497338	1.3	22.9
251427	1.0	20.0	282181	1.1	21.8	101188	1.1	20.8	151101	1.2	19.7	464489	1.3	19.6	139996	1.3	19.9
90798	1.0	19.9	211594	1.1	20.3	266371	1.1	19.8	31949	1.2	19.8	374350	1.3	19.7	241411	1.3	20.2
499568	1.0	20.7	22903	1.1	18.4	112972	1.1	19.7	295188	1.2	20.4	401933	1.3	20.7	313597	1.3	20.7
308684	1.0	19.3	33740	1.1	18.1	433118	1.1	20.4	331963	1.2	21.0	83131	1.3	18.7	231758	1.3	19.8
304621	1.0	20.9	175118	1.1	19.9	491239	1.1	21.2	118657	1.2	18.7	500308	1.3	21.4	87698	1.3	19.0
94348	1.0	18.9	99284	1.1	18.9	276114	1.1	20.0	506251	1.2	21.9	286555	1.3	20.4	165545	1.3	19.1
110284	1.0	21.1	304691	1.1	19.9	341845	1.1	20.4	456136	1.2	20.4	112829	1.3	19.0	241688	1.3	21.0
301034	1.0	20.6	232802	1.1	20.6	470236	1.1	21.4	172769	1.2	19.2	28227	1.3	16.8	299874	1.3	20.4
457625	1.0	20.4	300221	1.1	20.9	467739	1.1	20.9	301918	1.2	20.8	497701	1.3	21.3	140550	1.3	19.3
129755	1.0	19.9	242426	1.1	19.8	80107	1.1	19.5	136501	1.2	19.8	62322	1.3	19.3	309401	1.3	20.4
79601	1.0	20.0	522456	1.1	19.6	490868	1.1	21.4	170729	1.2	20.0	186908	1.3	20.0	435250	1.3	21.0
210991	1.0	19.4	330098	1.1	20.4	330976	1.1	19.7	222793	1.2	19.7	155933	1.3	20.8	498645	1.3	21.4
196535	1.0	19.7	519921	1.1	20.6	406241	1.1	20.7	207933	1.2	20.2	387593	1.3	21.9	336314	1.3	20.8
109661	1.0	20.5	300143	1.1	21.0	462273	1.1	20.7	263867	1.2	20.1	171700	1.3	19.7	135916	1.3	19.5
217068	1.0	21.2	176077	1.1	20.5	332597	1.1	20.4	500974	1.2	22.0	336268	1.3	19.9	151279	1.3	19.9
500376	1.0	22.2	169099	1.1	17.9	372949	1.1	21.0	214976	1.2	20.1	84805	1.3	18.3	505189	1.3	20.4
374089	1.0	21.4	358073	1.1	19.6	492216	1.1	21.2	16290	1.2	18.7	91459	1.3	19.2	370947	1.3	20.6
508641	1.0	20.9	457654	1.1	21.8	6806	1.1	17.2	434853	1.2	21.3	104725	1.3	19.2	269786	1.3	20.7
341509	1.0	21.2	505668	1.1	20.7	326099	1.1	20.8	89068	1.2	19.1	333287	1.3	20.3	437654	1.3	20.5
7708	1.0	15.9	337826	1.1	19.8	522439	1.1	20.8	370054	1.2	21.4	121374	1.3	20.8	299475	1.3	20.1
19471	1.0	17.2	130101	1.1	18.5	95492	1.1	18.7	196812	1.2	20.0	361605	1.3	20.3	350389	1.3	21.0
300181	1.0	20.4	473130	1.1	20.5	465357	1.1	21.3	67867	1.2	18.7	45743	1.3	18.4	347655	1.3	21.7
302129	1.0	20.3	346410	1.1	20.5	504149	1.1	21.8	292662	1.2	20.6	174070	1.3	19.4	259526	1.3	20.9
497561	1.0	20.9	63472	1.1	19.5	282833	1.1	21.3	45893	1.2	17.4	77082	1.3	17.7	299359	1.3	20.6
371724	1.0	19.7	351505	1.1	21.1	52838	1.1	18.6	74763	1.2	20.6	311282	1.3	20.9	301656	1.3	19.8
285149	1.0	20.8	326444	1.1	21.0	177938	1.1	19.7	471179	1.2	23.1	389134	1.3	21.2	372930	1.3	20.2
312135	1.0	20.1	264535	1.1	20.7	505611	1.1	20.8	405409	1.2	19.9	382897	1.3	21.3	208433	1.3	19.2
468237	1.0	21.2	62458	1.1	19.3	224557	1.1	19.8	507322	1.2	21.3	303279	1.3	20.1	17727	1.3	17.3
175358	1.0	19.5	68869	1.1	19.3	465140	1.1	21.4	310006	1.2	20.4	284317	1.3	21.8	94695	1.3	18.4
436008	1.0	21.0	262900	1.1	20.7	338946	1.1	19.9	386192	1.2	21.2	499571	1.3	21.2	258490	1.3	18.9
77631	1.0	17.6	471412	1.1	21.8	260061	1.1	19.9	270553	1.2	19.7	433678	1.3	20.6	89593	1.3	19.4
176475	1.0	19.6	113494	1.1	20.2	378822	1.1	20.5	190041	1.2	19.7	190434	1.3	19.6	13237	1.3	17.4
267472	1.0	19.2	224387	1.1	20.7	370073	1.1	21.8	432299	1.2	21.1	208474	1.3	21.2	380052	1.3	19.3
455981	1.0	20.8	288123	1.1	20.7	284125	1.1	21.3	287815	1.2	19.9	201726	1.3	19.9	324455	1.3	19.8
211431	1.0	20.1	129718	1.1	20.0	315463	1.1	21.4	461521	1.2	21.3	128344	1.3	19.0	39235	1.3	18.3
70253	1.0	18.0	30382	1.1	18.1	292451	1.1	21.9	289315	1.2	23.4	122469	1.3	19.6	21076	1.3	19.3
268511	1.0	20.7	175518	1.1	20.7	140724	1.1	19.7	275199	1.2	20.9	503255	1.3	20.5	377610	1.3	22.2
12126	1.0	16.9	214568	1.1	20.4	141559	1.1	20.2	39193	1.2	18.9	192645	1.3	20.8	420814	1.3	20.0
286996	1.0	21.5	505298	1.1	21.4	298285	1.1	19.9	40379	1.2	18.7	392743	1.3	21.0	284269	1.3	20.0
416278	1.0	19.9	59708	1.1	18.8	27760	1.2	18.4	310116	1.2	20.0	91418	1.3	19.1	283559	1.3	20.4
315414	1.0	20.5	110321	1.1	20.3	169269	1.2	19.0	468466	1.2	20.3	195524	1.3	19.2	368568	1.3	21.0
161522	1.0	19.8	328167	1.1	21.3	60173	1.2	18.8	477202	1.2	20.6	218759	1.3	19.3	221281	1.3	19.8
214215	1.0	20.0	293347	1.1	20.4	55993	1.2	19.3	502345	1.2	20.9	207596	1.3	20.7	423225	1.3	21.3
281032	1.0	20.6	163682	1.1	19.7	248367	1.2	20.0	188681	1.2	19.3	300124	1.3	20.7	457578	1.3	21.9
228399	1.0	20.1	242898	1.1	19.2	499858	1.2	20.4	27119	1.2	18.2	456956	1.3	20.7	268045	1.3	20.3
161538	1.0	20.1	207519	1.1	20.1	161238	1.2	20.2	100556	1.2	18.7	141066	1.3	18.9	231852	1.3	20.9
247855	1.0	20.3	34139	1.1	19.5	260708	1.2	20.0	332357	1.2	20.6	405362	1.3	21.7	427772	1.3	20.5
360567	1.0	20.5	406866	1.1	19.6	16180	1.2	17.0	94949	1.2	20.3	51780	1.3	19.2	177727	1.3	19.2
72202	1.0	18.8	200716	1.1	18.6	348940	1.2	21.2	95151	1.2	19.6	483322	1.3	21.4	12436	1.4	17.7
289836	1.0	21.1	406384	1.1	20.6	465125	1.2	21.0	118960	1.2	18.8	165495	1.3	18.7	213018	1.4	20.2
430423	1.0	21.8	271933	1.1	20.3	138583	1.2	19.9	274729	1.2	20.2	429120	1.3	21.5	343116	1.4	20.7
34879	1.0	17.6	59499	1.1	18.5	146850	1.2	19.6	291270	1.2	19.9	483340	1.3	20.3	382759	1.4	18.8
428048	1.0	20.7	15569	1.1	18.6	300107	1.2	19.6	313546	1.2	18.9	375338	1.3	20.3	172037	1.4	20.6
376305	1.0	20.0	214192	1.1	19.9	380785	1.2	21.2	173950	1.2	21.2	209427	1.3	18.5	198430	1.4	19.8
292797	1.0	20.7	159863	1.1	20.3	211436	1.2	19.8	65633	1.2	18.0	114608	1.3	20.2	258283	1.4	20.0
420064	1.0	19.6	375835	1.1	20.4	123349	1.2	19.1	84772	1.2	18.7	437690	1.3	20.5	310452	1.4	21.0
176162	1.0	18.7	166629	1.1	19.4	293947	1.2	19.9	147608	1.2	19.8	138735	1.3	19.6	376252	1.4	20.0
364017	1.0	21.9	264161	1.1	20.4	203595	1.2	19.1	47862	1.2	19.1	70354	1.3	18.6	357352	1.4	21.3
298832	1.0	20.7	135294	1.1	20.1	83081	1.2	19.7	392141	1.2	20.4	467742	1.3	21.2	194784	1.4	20.0
299529	1.1	20.5	259540	1.1	19.8	383804	1.2	20.7	504412	1.2	20.8	280408	1.3	21.0	259706	1.4	20.4
67151	1.1	20.0	158958	1.1	18.7	214344	1.2	19.7	153120	1.2	19.5	402143	1.3	21.0	53259	1.4	18.9
508331	1.1	21.5	159950	1.1	19.3	61085	1.2	17.3	503275	1.2	20.9	214927	1.3	20.3	50518	1.4	20.4
39919	1.1	18.7	222624	1.1	18.6	364768	1.2	21.2	418950	1.2	20.0	87070	1.3	19.3	205238	1.4	19.7
511682	1.1	21.4	25610	1.1	18.0	299826	1.2	19.4	60663	1.2	19.1	175095	1.3	19.4	4732	1.4	16.3
234700	1.1	20.1	374053	1.1	21.3	426334	1.2	20.6	162692	1.2	20.5	117742	1.3	19.1	294909	1.4	21.6
472398	1.1	20.2	44921	1.1	18.0	112684	1.2	19.3	433309	1.2	20.7	43701	1.3	18.7	333235	1.4	19.9
303249	1.1	20.3	158108	1.1	19.6	148586	1.2	20.4	338277	1.2	20.7	374178	1.3	20.2	128261	1.4	19.2
238797	1.1	19.7	302893	1.1	19.4	428069	1.2	20.1	372941	1.2	20.3	303737	1.3	21.1	174849	1.4	19.4
499577	1.1	21.0	268490	1.1	20.6	376836	1.2	21.9	160298	1.2	18.9	197859	1.3				

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

№	04	V															
386569	1.4	20.9	217981	1.4	20.9	96337	1.5	19.8	204901	1.6	19.9	215464	1.6	19.1	67428	1.7	17.4
324533	1.4	19.0	386611	1.4	20.1	234821	1.5	20.4	106401	1.6	19.3	232297	1.6	20.4	382350	1.7	18.6
33432	1.4	18.0	149683	1.4	19.6	99518	1.5	18.0	392428	1.6	20.7	283539	1.6	20.7	158950	1.7	19.5
419415	1.4	20.8	153506	1.4	20.8	30391	1.5	18.7	67002	1.6	18.6	497735	1.6	21.3	267401	1.7	20.7
522268	1.4	20.0	73018	1.4	18.6	209346	1.5	19.9	367192	1.6	20.4	5759	1.6	16.9	190145	1.7	20.0
439355	1.4	20.5	28787	1.4	18.2	54957	1.5	17.3	428047	1.6	20.2	55235	1.6	19.1	100963	1.7	18.6
64216	1.4	18.4	406129	1.4	20.3	338515	1.5	21.2	350767	1.6	22.0	172463	1.6	20.1	273476	1.7	19.1
203465	1.4	20.1	387109	1.4	21.5	210555	1.5	19.7	168268	1.6	20.2	14338	1.6	16.8	279771	1.7	20.2
402183	1.4	19.4	358093	1.4	20.3	119900	1.5	19.5	196190	1.6	19.2	498203	1.6	21.4	497210	1.7	22.4
345670	1.4	20.0	103287	1.4	19.0	122181	1.5	20.1	242354	1.6	19.4	36979	1.7	18.5	102742	1.7	19.5
406375	1.4	21.2	109042	1.4	19.6	345698	1.5	21.1	382767	1.6	21.7	136929	1.7	20.1	268471	1.7	20.5
225205	1.4	18.9	233974	1.5	19.7	36726	1.5	18.8	71370	1.6	19.0	243569	1.7	19.5	82709	1.7	19.6
125598	1.4	19.1	371063	1.5	21.0	319119	1.5	19.5	517193	1.6	21.1	26917	1.7	17.7	284411	1.7	21.4
469647	1.4	21.7	415139	1.5	20.6	467374	1.5	21.4	495390	1.6	20.9	164781	1.7	18.9	343231	1.7	19.7
423255	1.4	20.9	74537	1.5	18.4	16763	1.5	18.4	216301	1.6	20.1	282224	1.7	21.2	6869	1.7	16.6
394787	1.4	20.1	58020	1.5	17.8	504258	1.5	21.4	1362	1.6	17.5	425032	1.7	20.6	456694	1.7	21.2
146402	1.4	20.4	381702	1.5	19.5	293283	1.5	20.0	210223	1.6	20.1	267323	1.7	20.8	351928	1.7	21.8
28356	1.4	18.8	423221	1.5	21.3	209005	1.5	18.9	236134	1.6	19.6	422074	1.7	21.5	19152	1.7	17.7
496023	1.4	20.9	329806	1.5	20.8	429166	1.5	21.7	302140	1.6	21.5	496985	1.7	21.3	189850	1.7	19.4
495425	1.4	21.2	288095	1.5	20.4	363301	1.5	19.8	318238	1.6	20.6	106967	1.7	18.9	327759	1.7	21.0
348964	1.4	20.3	375852	1.5	20.3	180305	1.5	19.3	382329	1.6	20.7	505283	1.7	21.2	58329	1.7	19.9
338924	1.4	20.2	369996	1.5	21.6	341312	1.5	20.9	115719	1.6	19.4	166207	1.7	18.8	188052	1.7	19.8
326340	1.4	20.5	115955	1.5	18.7	239454	1.5	20.4	502873	1.6	20.5	221280	1.7	20.5	274484	1.7	20.4
383995	1.4	21.3	356950	1.5	19.1	288851	1.5	20.6	396214	1.6	20.3	496574	1.7	21.8	199563	1.7	18.5
9103	1.4	16.2	383719	1.5	19.8	500635	1.5	20.7	368223	1.6	21.4	339506	1.7	19.8	414169	1.7	21.8
385883	1.4	20.3	396562	1.5	21.0	39586	1.5	19.6	250491	1.6	19.2	399078	1.7	19.9	286734	1.7	19.7
145597	1.4	19.5	469175	1.5	20.1	344268	1.5	21.1	322481	1.6	20.2	498401	1.7	21.7	472826	1.7	20.3
385136	1.4	20.6	38686	1.5	18.9	300798	1.5	19.7	416242	1.6	19.5	204222	1.7	20.3	173244	1.7	21.3
208097	1.4	21.1	98417	1.5	20.2	421549	1.5	21.8	381744	1.6	21.1	148623	1.7	20.1	258674	1.7	19.7
301821	1.4	20.7	382176	1.5	19.9	416190	1.5	20.7	146354	1.6	19.7	268416	1.7	21.5	419648	1.7	21.8
469238	1.4	19.3	389708	1.5	20.0	147262	1.5	19.8	107295	1.6	19.3	287777	1.7	20.0	287075	1.7	20.3
498722	1.4	20.7	62111	1.5	17.3	309384	1.5	20.8	15339	1.6	18.0	171933	1.7	19.3	15853	1.7	17.0
114768	1.4	20.2	126001	1.5	19.5	307144	1.5	19.6	436708	1.6	21.0	502611	1.7	20.0	359099	1.7	20.7
198898	1.4	20.8	480783	1.5	21.2	172405	1.5	20.3	372439	1.6	20.1	463956	1.7	21.4	252793	1.7	19.5
521274	1.4	20.1	202495	1.5	20.7	355784	1.5	21.0	6540	1.6	16.8	151202	1.7	19.5	312136	1.7	20.5
68946	1.4	19.3	375915	1.5	19.6	65127	1.5	17.8	522499	1.6	21.2	381498	1.7	21.0	401335	1.7	19.8
54156	1.4	18.7	192856	1.5	20.3	381553	1.5	20.9	125467	1.6	19.6	322889	1.7	21.7	521235	1.7	20.8
33590	1.4	17.9	354571	1.5	18.9	15953	1.5	17.6	217029	1.6	20.0	469761	1.7	21.4	152351	1.7	20.0
226728	1.4	19.6	117428	1.5	18.2	499832	1.5	20.9	126959	1.6	19.0	457598	1.7	21.3	309900	1.7	20.4
38268	1.4	18.3	285302	1.5	21.1	419460	1.5	19.4	133793	1.6	19.4	417289	1.7	20.3	430477	1.7	20.1
127104	1.4	19.1	423606	1.5	21.6	420700	1.5	20.4	401135	1.6	21.7	368260	1.7	21.6	179042	1.7	18.5
130646	1.4	19.9	42267	1.5	18.7	77906	1.5	19.8	205692	1.6	19.7	376317	1.7	20.1	132439	1.7	19.5
306361	1.4	20.8	336201	1.5	19.7	31734	1.5	17.7	428911	1.6	21.3	309848	1.7	19.2	508754	1.7	20.5
285623	1.4	21.1	372954	1.5	20.7	522375	1.5	20.0	296733	1.6	20.9	415674	1.7	20.9	472152	1.7	19.9
342960	1.4	21.0	285238	1.5	20.7	355250	1.5	20.1	24206	1.6	17.4	460173	1.7	20.6	343125	1.7	20.4
23335	1.4	19.0	162615	1.5	18.2	520851	1.5	19.3	386598	1.6	20.1	283035	1.7	20.4	409187	1.7	22.2
386300	1.4	21.5	26075	1.5	18.2	326964	1.5	19.4	428699	1.6	20.9	313682	1.7	21.1	456713	1.7	21.2
249508	1.4	19.1	83798	1.5	18.6	503561	1.5	20.3	95562	1.6	19.1	276789	1.7	20.6	245185	1.7	20.4
346256	1.4	19.3	61924	1.5	18.2	99911	1.5	19.2	230871	1.6	20.9	111076	1.7	19.2	272661	1.7	20.2
45384	1.4	18.5	458755	1.5	21.5	15382	1.5	17.3	70346	1.6	19.4	268422	1.7	19.2	388262	1.7	20.9
348908	1.4	20.7	341436	1.5	20.6	356833	1.5	21.4	477966	1.6	21.0	292617	1.7	19.4	257569	1.7	19.4
55739	1.4	19.4	311156	1.5	20.4	212557	1.6	19.6	106267	1.6	19.3	123400	1.7	19.9	498044	1.7	20.6
133621	1.4	18.6	59908	1.5	18.3	115192	1.6	20.1	504339	1.6	21.7	169658	1.7	18.9	34927	1.7	19.6
32773	1.4	17.4	251940	1.5	21.0	453322	1.6	21.0	22343	1.6	18.8	362750	1.7	20.2	155581	1.7	19.8
371203	1.4	20.9	462311	1.5	19.8	55559	1.6	18.8	47958	1.6	18.6	196529	1.7	20.3	322407	1.7	20.9
500740	1.4	21.5	365936	1.5	20.5	79455	1.6	19.6	333199	1.6	19.1	335509	1.7	20.5	331528	1.7	21.4
288067	1.4	20.6	264705	1.5	20.8	313491	1.6	19.8	119147	1.6	19.2	108234	1.7	18.9	138788	1.7	19.8
505065	1.4	21.1	201232	1.5	19.9	437223	1.6	21.4	2898	1.6	15.6	412816	1.7	19.7	1522	1.7	15.3
315809	1.4	19.3	55390	1.5	19.3	483046	1.6	21.1	426994	1.6	19.8	162039	1.7	21.8	437401	1.7	20.1
378313	1.4	20.2	74018	1.5	18.4	278888	1.6	20.4	18030	1.6	18.9	205020	1.7	20.6	265787	1.7	20.3
496999	1.4	21.5	312727	1.5	19.8	62156	1.6	19.2	406900	1.6	19.7	214019	1.7	19.7	422383	1.7	21.3
170290	1.4	21.2	13022	1.5	16.7	39087	1.6	17.3	242885	1.6	20.4	123066	1.7	20.5	392502	1.7	20.7
277643	1.4	19.5	111614	1.5	19.4	213882	1.6	20.2	100203	1.6	19.2	352062	1.7	21.6	510756	1.7	21.4
127904	1.4	18.9	192785	1.5	20.1	219655	1.6	20.4	377799	1.6	20.0	282740	1.7	19.9	470019	1.7	21.0
427766	1.4	20.2	204926	1.5	19.5	308099	1.6	20.9	180274	1.6	19.7	303425	1.7	20.4	337101	1.7	20.7
497891	1.4	21.6	174033	1.5	20.0	123251	1.6	19.6	437010	1.6	21.1	204701	1.7	20.6	79143	1.7	17.2
499335	1.4	21.1	107358	1.5	18.0	495872	1.6	22.5	512325	1.6	22.1	468376	1.7	19.7	19040	1.7	17.2
501386	1.4	20.6	498234	1.5	21.4	132217	1.6	19.9	499304	1.6	21.4	170095	1.7	19.2	22770	1.7	17.1
462538	1.4	22.1	296712	1.5	20.7	124699	1.6	20.0	311272	1.6	19.9	204688	1.7	19.2	32369	1.7	17.8
501462	1.4	21.4	435319	1.5	20.9	364753	1.6	21.4	129548	1.6	19.6	238548	1.7	20.0	308164	1.7	20.1
423669	1.4	21.1	279371	1.5	20.3	302288	1.6	21.1	470131	1.6	21.4	420885	1.7	2			

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

№	04	V															
151848	1.8	19.6	497564	1.8	21.0	237680	1.9	20.2	140699	1.9	19.0	468479	2.0	22.1	121956	2.1	19.7
408101	1.8	19.9	247470	1.8	18.6	508326	1.9	20.5	333217	1.9	19.2	323448	2.0	19.8	426970	2.1	20.5
84069	1.8	18.3	120310	1.8	19.0	211181	1.9	19.1	398576	1.9	20.4	106013	2.0	18.0	123012	2.1	19.0
116864	1.8	18.9	513015	1.8	21.2	365175	1.9	19.8	82276	1.9	18.2	2545	2.0	15.6	467778	2.1	20.3
195561	1.8	18.1	438196	1.8	21.0	505080	1.9	21.8	329823	1.9	20.9	217884	2.0	20.7	34667	2.1	19.9
353910	1.8	20.7	140307	1.8	20.3	346867	1.9	20.5	346859	1.9	20.3	141948	2.0	19.3	126997	2.1	19.6
336410	1.8	21.5	234422	1.8	20.2	405319	1.9	21.5	125952	1.9	18.2	353906	2.0	21.5	203480	2.1	18.8
15291	1.8	17.1	320510	1.8	20.7	503186	1.9	21.0	275597	1.9	20.2	325129	2.0	20.4	176557	2.1	19.9
260016	1.8	19.9	212489	1.8	19.9	368632	1.9	21.6	258809	1.9	21.2	469263	2.0	20.7	35152	2.1	18.7
186177	1.8	19.9	332624	1.8	21.0	111852	1.9	19.2	57257	1.9	19.2	165355	2.0	20.0	228633	2.1	19.8
371948	1.8	19.1	495091	1.8	21.6	206278	1.9	18.0	269046	1.9	19.2	62597	2.0	19.9	51283	2.1	18.1
384800	1.8	19.9	90630	1.8	18.4	468906	1.9	20.7	212863	1.9	19.8	321172	2.0	20.8	341148	2.1	21.3
173685	1.8	20.8	66288	1.8	17.9	239974	1.9	19.2	162697	1.9	19.3	172449	2.0	21.0	500307	2.1	21.4
173317	1.8	20.3	167555	1.8	19.1	506264	1.9	20.0	143584	1.9	19.1	7370	2.0	16.5	62141	2.1	18.6
177125	1.8	18.7	64821	1.8	18.5	52856	1.9	17.0	497147	1.9	21.7	389695	2.0	20.6	272487	2.1	21.1
174706	1.8	20.2	488530	1.8	21.4	82418	1.9	19.1	121944	1.9	18.8	376143	2.0	19.5	505847	2.1	20.3
64149	1.8	18.4	416161	1.8	20.7	183749	1.9	20.4	298822	1.9	20.0	504431	2.0	22.3	303606	2.1	20.5
262845	1.8	21.0	327351	1.8	21.2	161062	1.9	19.7	500354	1.9	21.0	370996	2.0	22.1	331244	2.1	20.3
428529	1.8	20.7	508491	1.8	20.1	204090	1.9	20.5	227498	1.9	20.3	219592	2.0	20.0	357215	2.1	19.4
127541	1.8	18.1	502444	1.8	20.8	62033	1.9	19.2	387281	1.9	21.0	101769	2.0	18.4	254587	2.1	19.9
427452	1.8	21.0	146903	1.8	19.4	109725	1.9	19.8	115127	1.9	18.9	320314	2.1	20.2	174007	2.1	20.1
496383	1.8	21.7	474582	1.8	19.1	87809	1.9	19.6	460683	1.9	19.6	41719	2.1	18.8	109209	2.1	19.6
132163	1.8	19.4	497458	1.8	21.3	420632	1.9	18.9	217952	1.9	21.0	296256	2.1	19.9	495360	2.1	20.9
335821	1.8	20.2	140872	1.8	19.1	225815	1.9	19.5	138595	1.9	20.4	178663	2.1	21.3	12109	2.1	15.7
272841	1.8	20.2	18646	1.8	17.6	439440	1.9	20.2	501213	1.9	21.7	409706	2.1	19.3	342784	2.1	20.5
409833	1.8	21.2	65988	1.8	18.3	264782	1.9	18.9	240024	1.9	19.9	317073	2.1	19.3	360116	2.1	19.9
507314	1.8	21.1	468427	1.8	21.2	111450	1.9	19.4	192553	1.9	21.0	192502	2.1	20.0	92298	2.1	19.3
109289	1.8	19.4	92553	1.8	18.2	495887	1.9	22.5	243068	1.9	19.2	211179	2.1	19.0	212486	2.1	20.1
470696	1.8	20.9	117076	1.8	19.1	160409	1.9	20.3	378316	1.9	19.9	347983	2.1	20.6	143288	2.1	19.5
459915	1.8	21.8	439283	1.8	19.4	462160	1.9	20.8	135347	1.9	20.1	494838	2.1	22.3	502614	2.1	21.1
157310	1.8	19.7	401158	1.8	20.8	424046	1.9	21.1	350202	1.9	19.8	129182	2.1	19.6	57281	2.1	19.3
496932	1.8	20.9	262374	1.9	20.6	326961	1.9	19.9	384115	1.9	20.0	384187	2.1	21.2	133155	2.1	19.5
427905	1.8	22.0	24550	1.9	18.6	99392	1.9	18.4	310467	1.9	20.0	219734	2.1	21.1	92322	2.1	18.7
409212	1.8	21.5	151009	1.9	18.8	505587	1.9	20.4	286084	1.9	19.9	46081	2.1	18.6	409018	2.1	20.1
127622	1.8	18.3	112192	1.9	19.0	369098	1.9	21.1	310061	1.9	19.9	191714	2.1	20.5	464878	2.1	20.5
292686	1.8	19.3	86877	1.9	19.2	33527	1.9	18.4	384783	1.9	20.9	415373	2.1	20.5	53825	2.1	17.8
174063	1.8	19.8	191789	1.9	19.5	49177	1.9	16.2	240274	1.9	20.3	354869	2.1	20.0	497497	2.1	21.2
309919	1.8	19.7	12809	1.9	17.4	427911	1.9	22.6	143359	1.9	19.0	257261	2.1	19.8	373468	2.1	21.4
257547	1.8	21.0	362439	1.9	20.6	381938	1.9	21.2	390410	1.9	20.8	342925	2.1	20.4	420170	2.1	19.6
270520	1.8	19.7	4370	1.9	17.6	505051	1.9	20.3	313646	1.9	21.8	262148	2.1	19.8	215106	2.1	20.5
85548	1.8	19.3	504985	1.9	20.5	348857	1.9	20.7	388818	1.9	20.8	233343	2.1	20.2	376227	2.1	20.1
272751	1.8	20.1	90420	1.9	18.8	85655	1.9	18.8	498643	1.9	21.3	273118	2.1	20.3	214416	2.1	20.5
346084	1.8	20.1	406376	1.9	21.7	473021	1.9	21.5	412264	1.9	21.1	396254	2.1	19.8	55795	2.1	18.9
109400	1.8	18.6	53532	1.9	18.9	255771	1.9	21.0	329540	1.9	19.4	57745	2.1	17.8	326355	2.1	20.6
192876	1.8	20.1	48024	1.9	18.1	371161	1.9	21.1	434927	1.9	20.4	120383	2.1	19.6	250995	2.1	19.4
274352	1.8	19.7	303671	1.9	21.4	46213	1.9	17.8	312578	2.0	19.7	216068	2.1	19.5	457724	2.1	20.1
288423	1.8	20.1	198863	1.9	20.4	434825	1.9	21.5	505087	2.0	21.6	387274	2.1	20.1	319472	2.1	19.9
230651	1.8	19.5	33911	1.9	17.6	219364	1.9	20.0	165338	2.0	20.2	329812	2.1	20.3	227937	2.1	20.2
18152	1.8	17.6	497187	1.9	20.9	378888	1.9	21.2	203543	2.0	18.8	191993	2.1	20.5	260865	2.1	20.2
126417	1.8	19.0	385279	1.9	20.2	59291	1.9	17.6	173325	2.0	19.7	353543	2.1	21.6	373472	2.1	19.8
112089	1.8	18.8	156960	1.9	19.2	215139	1.9	20.2	23394	2.0	18.7	147917	2.1	20.6	196152	2.1	20.4
300115	1.8	22.1	404355	1.9	19.2	353995	1.9	21.6	180926	2.0	19.1	209052	2.1	19.5	19183	2.1	18.2
213029	1.8	20.5	299717	1.9	20.3	464627	1.9	20.8	410307	2.0	21.6	465404	2.1	20.8	495375	2.1	20.6
347404	1.8	20.8	356942	1.9	20.4	358984	1.9	21.1	162303	2.0	19.6	261973	2.1	20.8	466618	2.1	21.2
284968	1.8	19.2	91495	1.9	19.5	523693	1.9	21.8	247718	2.0	19.0	129813	2.1	20.0	140655	2.1	19.6
245036	1.8	20.3	376025	1.9	20.8	393241	1.9	21.4	521228	2.0	20.1	43078	2.1	18.6	416275	2.1	20.1
468640	1.8	21.3	54974	1.9	18.0	60617	1.9	18.3	415723	2.0	21.5	174649	2.1	20.9	498424	2.1	21.4
225609	1.8	19.2	365447	1.9	20.4	382092	1.9	20.3	133266	2.0	19.4	326650	2.1	19.3	333685	2.1	21.3
303312	1.8	20.4	320313	1.9	20.7	401859	1.9	21.3	380564	2.0	21.0	426571	2.1	21.0	120174	2.1	20.0
272991	1.8	18.9	388718	1.9	21.4	428805	1.9	19.8	461360	2.0	20.8	222803	2.1	20.1	508591	2.1	22.0
255757	1.8	21.7	377395	1.9	19.5	281974	1.9	20.5	519560	2.0	20.2	332350	2.1	20.4	269940	2.1	20.0
469044	1.8	19.9	297680	1.9	20.1	288443	1.9	20.2	244805	2.0	19.8	151755	2.1	19.6	478272	2.1	21.0
28644	1.8	18.7	469824	1.9	21.2	178082	1.9	20.5	143528	2.0	19.8	508517	2.1	20.8	272863	2.1	19.8
415089	1.8	20.3	68364	1.9	19.6	428043	1.9	20.0	390629	2.0	20.6	210274	2.1	20.1	245506	2.1	20.1
119760	1.8	19.2	276807	1.9	19.9	312964	1.9	20.7	430638	2.0	21.4	359897	2.1	21.1	431315	2.1	20.6
251008	1.8	20.5	509909	1.9	20.3	89217	1.9	18.0	11495	2.0	18.6	4346	2.1	16.9	55048	2.1	18.2
522519	1.8	20.4	332354	1.9	20.0	317491	1.9	20.5	93418	2.0	19.0	430251	2.1	20.5	33253	2.2	18.1
272904	1.8	20.0	391746	1.9	21.8	67735	1.9	19.4	24011	2.0	19.3	300072	2.1	20.2	501116	2.2	22.2
236145	1.8	20.2	497128	1.9	21.8	87512	1.9	18.5	286457	2.0	20.5	406418	2.1	21.4	374120	2.2	20.1
506006	1.8	21.1	259593	1.9	20.5	299963	1.9	20.6	422633	2.0	21.4	32328	2.1	18.1	77544	2.2	18.2
111370	1.8	20.0	349046	1.9	20.8	328255	1.9	21.1	141251	2.0	18.2	80084					

