

Table 1. Comparison of HSAs defined manually, with SystemTracker and AutoGRAPH (Derrien et al., 2007) on the cattle-human radiation hybrid map dataset (Evans-van der Wind et al., 2005).

Marker	order	HSA	HSA_start	HSA_end	Marker_name	CCAS1514	CC475154	BTA	BTA_start	BTA_end	HSB	Evts	vandW	Tracker	AutoGRAPH	Comment	Comment
1	1	23818824	3301927	BZ08854	BZ08854	BZ08854	BZ08854	1	12	12	1	1	1	1	1		
2	2	256218	3256313	BZ02823	BZ02823	BZ02823	BZ02823	1	40	40	1	1	1	1	1		
3	3	3129899	3132050	BZ08981	BZ08981	BZ08981	BZ08981	1	43	43	1	1	1	1	1		
4	4	3025703	3025736	CC22891	CC22891	CC22891	CC22891	1	46	46	1	1	1	1	1		
5	5	2853152	2953688	CC31314	CC31314	CC31314	CC31314	1	53	53	1	1	1	1	1		
6	6	2863907	2863946	CC73677	CC73677	CC73677	CC73677	1	56	56	1	1	1	1	1		
7	7	2719477	2719517	BZ05871	BZ05871	BZ05871	BZ05871	1	56	56	1	1	1	1	1		
8	8	2985166	2985342	BZ02991	BZ02991	BZ02991	BZ02991	1	56	56	1	1	1	1	1		
9	9	2472788	2472756	BZ03218	BZ03218	BZ03218	BZ03218	1	76	76	1	1	1	1	1		
10	10	2344241	2343306	BZ07005	BZ07005	BZ07005	BZ07005	1	79	79	1	1	1	1	1		
11	11	2220896	2220956	CC34886	CC34886	CC34886	CC34886	1	79	79	1	1	1	1	1		
12	12	2115220	2115271	CC47920	CC47920	CC47920	CC47920	1	82	82	1	1	1	1	1		
13	13	2054234	2054534	BZ07042	BZ07042	BZ07042	BZ07042	1	82	82	1	1	1	1	1		
14	14	1961515	1961565	CC53925	CC53925	CC53925	CC53925	1	106	106	1	1	1	1	1		
15	15	1863972	1863793	CC38018	CC38018	CC38018	CC38018	1	110	110	1	1	1	1	1		
16	16	1879602	1879243	BZ06460	BZ06460	BZ06460	BZ06460	1	116	116	1	1	1	1	1		
17	17	1888071	1888098	BZ05784	BZ05784	BZ05784	BZ05784	1	113	113	1	1	1	1	1		
18	18	1473654	1473678	CC48525	CC48525	CC48525	CC48525	1	140	140	1	1	1	1	1		
19	19	1447358	1447328	BZ04230	BZ04230	BZ04230	BZ04230	1	144	144	1	1	1	1	1		
20	20	7640203	7640238	BZ09904	BZ09904	BZ09904	BZ09904	1	158	158	1	1	1	1	1		
21	21	7749353	7749374	AW63888	AW63888	AW63888	AW63888	1	172	172	2	2	2	2	2		
22	22	7844658	7844671	BZ02388	BZ02388	BZ02388	BZ02388	1	172	172	2	2	2	2	2		
23	23	7900395	7900804	BZ01636	BZ01636	BZ01636	BZ01636	1	179	179	2	2	2	2	2		
24	24	8037626	8037601	BZ06406	BZ06406	BZ06406	BZ06406	1	190	190	2	2	2	2	2		
25	25	8164631	8164665	BZ05659	BZ05659	BZ05659	BZ05659	1	210	210	2	2	2	2	2		
26	26	8269360	8269738	BZ03143	BZ03143	BZ03143	BZ03143	1	230	230	2	2	2	2	2		
27	27	8378951	8379551	BZ01936	BZ01936	BZ01936	BZ01936	1	252	252	2	2	2	2	2		
28	28	8398614	8398627	CC42704	CC42704	CC42704	CC42704	1	252	252	2	2	2	2	2		
29	29	8215902	8216070	BZ02016	BZ02016	BZ02016	BZ02016	1	270	270	2	2	2	2	2		
30	30	8649523	8649166	BZ05163	BZ05163	BZ05163	BZ05163	1	287	287	2	2	2	2	2		
31	31	87391643	87391947	X12657	X12657	X12657	X12657	1	295	295	2	2	2	2	2		
32	32	8856289	8856877	BZ03336	BZ03336	BZ03336	BZ03336	1	302	302	2	2	2	2	2		
33	33	9005745	9005187	BZ06059	BZ06059	BZ06059	BZ06059	1	302	302	2	2	2	2	2		
34	34	9057472	9057942	X12901	X12901	X12901	X12901	1	306	306	2	2	2	2	2		
35	35	9599169	9599176	BZ09514	BZ09514	BZ09514	BZ09514	1	310	310	2	2	2	2	2		
36	36	9670658	9670731	CC31970	CC31970	CC31970	CC31970	1	310	310	2	2	2	2	2		
37	37	9770716	9770715	BZ09609	BZ09609	BZ09609	BZ09609	1	314	314	2	2	2	2	2		
38	38	9800636	9800583	BZ02063	BZ02063	BZ02063	BZ02063	1	314	314	2	2	2	2	2		
39	39	9976469	9977005	BZ04534	BZ04534	BZ04534	BZ04534	1	318	318	2	2	2	2	2		
40	40	10084087	10084504	BZ02231	BZ02231	BZ02231	BZ02231	1	326	326	2	2	2	2	2		
41	41	10189188	10189637	BZ04924	BZ04924	BZ04924	BZ04924	1	329	329	2	2	2	2	2		
42	42	10303609	10303585	BZ09633	BZ09633	BZ09633	BZ09633	1	333	333	2	2	2	2	2		
43	43	10408922	10408278	BZ04364	BZ04364	BZ04364	BZ04364	1	333	333	2	2	2	2	2		
44	44	10589832	1059017	BZ01743	BZ01743	BZ01743	BZ01743	1	333	333	2	2	2	2	2		
45	45	106813926	106814320	BZ01082	BZ01082	BZ01082	BZ01082	1	347	347	2	2	2	2	2		
46	46	10806748	10807685	BZ05101	BZ05101	BZ05101	BZ05101	1	360	360	2	2	2	2	2		
47	47	10901080	10911129	AW32867	AW32867	AW32867	AW32867	1	367	367	2	2	2	2	2		
48	48	10968022	10968053	BZ03805	BZ03805	BZ03805	BZ03805	1	374	374	2	2	2	2	2		
49	49	11057720	11057872	BZ02952	BZ02952	BZ02952	BZ02952	1	374	374	2	2	2	2	2		
50	50	11195274	11195308	BZ01043	BZ01043	BZ01043	BZ01043	1	374	374	2	2	2	2	2		
51	51	11285126	11285150	AW28920	AW28920	AW28920	AW28920	1	432	432	2	2	2	2	2		
52	52	113840249	113840584	BZ02071	BZ02071	BZ02071	BZ02071	1	435	435	2	2	2	2	2		
53	53	115104108	11510504	BZ01675	BZ01675	BZ01675	BZ01675	1	442	442	2	2	2	2	2		
54	54	116254637	11624797	BZ02772	BZ02772	BZ02772	BZ02772	1	453	453	2	2	2	2	2		
55	55	117541236	11741464	BZ04569	BZ04569	BZ04569	BZ04569	1	458	458	2	2	2	2	2		
56	56	118474552	118474682	BZ03478	BZ03478	BZ03478	BZ03478	1	458	458	2	2	2	2	2		
57	57	119539139	11953968	BZ03095	BZ03095	BZ03095	BZ03095	1	464	464	2	2	2	2	2		
58	58	120585697	120585745	BZ04972	BZ04972	BZ04972	BZ04972	1	466	466	2	2	2	2	2		
59	59	12087134	12087147	AW28925	AW28925	AW28925	AW28925	1	466	466	2	2	2	2	2		
60	60	12166580	12165560	BZ02109	BZ02109	BZ02109	BZ02109	1	469	469	2	2	2	2	2		
61	61	12268726	12268826	BZ03559	BZ03559	BZ03559	BZ03559	1	475	475	2	2	2	2	2		
62	62	123380971	123381064	BZ02606	BZ02606	BZ02606	BZ02606	1	477	477	2	2	2	2	2		
63	63	12313967	12314091	BF44029	BF44029	BF44029	BF44029	1	477	477	2	2	2	2	2		
64	64	12420178	12420166	AW28973	AW28973	AW28973	AW28973	1	477	477	2	2	2	2	2		
65	65	125424098	125424189	BZ051965	BZ051965	BZ051965	BZ051965	1	488	488	2	2	2	2	2		
66	66	126179249	12617996	AW28928	AW28928	AW28928	AW28928	1	494	494	2	2	2	2	2		
67	67	126740087	12674084	BZ01166	BZ01166	BZ01166	BZ01166	1	502	502	2	2	2	2	2		
68	68	19872213	19872752	BZ08764	BZ08764	BZ08764	BZ08764	1	509	509	3	3	3	3	3		
69	69	19814897	1981497	AW28927	AW28927	AW28927	AW28927	1	509	509	3	3	3	3	3		
70	70	19747572	1974771	BZ09608	BZ09608	BZ09608	BZ09608	1	512	512	3	3	3	3	3		
71	71	19672729	19672862	AW315482	AW315482	AW315482	AW315482	1	514	514	3	3	3	3	3		
72	72	19632813	19632697	BZ04383	BZ04383	BZ04383	BZ04383	1	517	517	3	3	3	3	3		
73	73	19517638	19517665	BZ02156	BZ02156	BZ02156	BZ02156	1	517	517	3	3	3	3	3		
74	74	19441949	19441956	BZ09001	BZ09001	BZ09001	BZ09001	1	517	517	3	3	3	3	3		
75	75	19349698	19349664	BZ02522	BZ02522	BZ02522	BZ02522	1	517	517	3	3	3	3	3		
76	76	19246304	19246305	BZ02483	BZ02483	BZ02483	BZ02483	1	519	519	3	3	3	3	3		
77	77	19104472	19103577	BZ04629	BZ04629	BZ04629	BZ04629	1	525	525	3	3	3	3	3		
78	78	19037306	19037308	BZ02027	BZ02027	BZ02027	BZ02027	1	527	527	3	3	3	3	3		
79	79	18940957	189401007	BZ01844	BZ01844	BZ01844	BZ01844	1	572	572	3	3	3	3	3		
80	80	18819878	18818841	BZ01694	BZ01694	BZ01694	BZ01694	1	579	579	3	3	3	3	3		
81	81	18751628	18751841	X16577	X16577	X16577	X16577	1	579	579	3	3	3	3	3		
82	82	18642392	18642416	BZ01112	BZ01112	BZ01112	BZ01112	1	581	581	3	3	3	3	3		

254	2	119791265	119791334	CC91613	CC91613	CC91613	2	702	702	14	14	10
255	2	12109477	12109484	BZ09417	BZ09417	BZ09417	2	702	702	14	14	10
256	2	120824931	120825306	AW669304	AW669304	AW669304	2	702	702	14	14	10
257	2	121065463	121065571	BZ25702	BZ25702	BZ25702	2	702	702	14	14	10
258	2	122669374	122669521	CC533374	CC533374	CC533374	2	715	715	14	14	10
259	2	122978146	122978540	BZ048549	BZ048549	BZ048549	2	715	715	14	14	10
260	2	124504005	124506072	BZ885291	BZ885291	BZ885291	2	728	728	14	14	10
261	2	124559007	124561074	BZ041667	BZ041667	BZ041667	2	734	734	14	14	10
262	2	126027434	126028084	BZ045414	BZ045414	BZ045414	2	758	758	14	14	10
263	2	127152788	127153033	CC769033	CC769033	CC769033	2	769	769	14	14	10
264	2	192242348	192242588	BZ025299	BZ025299	BZ025299	2	805	805	15	15	11
265	2	193396323	193396343	BZ032341	BZ032341	BZ032341	2	810	810	15	15	11
266	2	194651348	194651429	CC477506	CC477506	CC477506	2	830	830	15	15	11
267	2	195288828	195290200	BZ035576	BZ035576	BZ035576	2	830	830	15	15	11
268	2	196425890	196425994	BZ025572	BZ025572	BZ025572	2	830	830	15	15	11
269	2	197676001	197677502	AW289239	AW289239	AW289239	2	835	835	15	15	11
270	2	197732479	197732752	BZ056433	BZ056433	BZ056433	2	840	840	15	15	11
271	2	198791950	198779695	BZ044867	BZ044867	BZ044867	2	845	845	15	15	11
272	2	198778187	198779695	BZ022169	BZ022169	BZ022169	2	845	845	15	15	11
273	2	200818604	200818902	BZ019896	BZ019896	BZ019896	2	855	855	15	15	11
274	2	201547802	201548094	AW289179	AW289179	AW289179	2	855	855	15	15	11
275	2	202218780	202218833	BZ048460	BZ048460	BZ048460	2	860	860	15	15	11
276	2	204416859	204417247	X03304	X03304	X03304	2	866	866	15	15	11
277	2	20329337	203295704	BZ049214	BZ049214	BZ049214	2	871	871	15	15	11
279	2	20541001	20541097	BZ047229	BZ047229	BZ047229	2	893	893	15	15	11
280	2	20649825	206498735	CC474021	CC474021	CC474021	2	893	893	15	15	11
281	2	207522425	207522588	BZ024812	BZ024812	BZ024812	2	893	893	15	15	11
282	2	208586072	208586322	BZ059579	BZ059579	BZ059579	2	893	893	15	15	11
283	2	209198240	209198304	BZ046290	BZ046290	BZ046290	2	897	897	15	15	11
284	2	210608881	210681306	BZ070123	BZ070123	BZ070123	2	897	897	15	15	11
285	2	21106537	211066599	BZ046502	BZ046502	BZ046502	2	902	902	15	15	11
286	2	212222847	212223113	CC771713	CC771713	CC771713	2	916	916	15	15	11
287	2	213207825	213208361	BZ014526	BZ014526	BZ014526	2	920	920	15	15	11
288	2	21493193	214933601	BZ025641	BZ025641	BZ025641	2	941	941	15	15	11
289	2	214003195	214030816	BZ023076	BZ023076	BZ023076	2	944	944	15	15	11
290	2	210072383	210072330	CC447378	CC447378	CC447378	2	948	948	15	15	11
291	2	217288331	21728434	BZ022604	BZ022604	BZ022604	2	948	948	15	15	11
292	2	218321201	21831612	BZ097294	BZ097294	BZ097294	2	948	948	15	15	11
293	2	218854448	218854604	U19947	U19947	U19947	2	951	951	15	15	11
294	2	21890633	21890835	AW289209	AW289209	AW289209	2	955	955	15	15	11
295	2	219872690	219873034	AW47613	AW47613	AW47613	2	963	963	15	15	11
296	2	22060102	22060699	BZ010262	BZ010262	BZ010262	2	963	963	15	15	11
297	2	221609310	221609412	BZ047191	BZ047191	BZ047191	2	970	970	15	15	11
298	2	222688344	22268976	BZ008871	BZ008871	BZ008871	2	970	970	15	15	11
299	2	223746859	223747966	BZ048393	BZ048393	BZ048393	2	974	974	15	15	11
300	2	22457690	22458807	AW47344	AW47344	AW47344	2	981	981	15	15	11
301	2	22510633	22510634	BZ019600	BZ019600	BZ019600	2	981	981	15	15	11
302	2	22672898	22673277	BZ023439	BZ023439	BZ023439	2	988	988	15	15	11
303	2	22722886	22722985	BZ014460	BZ014460	BZ014460	2	988	988	15	15	11
304	2	228176571	228176788	BZ054904	BZ054904	BZ054904	2	999	999	15	15	11
305	2	22961000	229631569	BZ002874	BZ002874	BZ002874	2	1007	1007	15	15	11
306	2	23060709	23060836	BZ034427	BZ034427	BZ034427	2	1007	1007	15	15	11
307	2	231751458	231751560	BZ017471	BZ017471	BZ017471	2	1013	1013	15	15	11
308	2	23278808	23278912	CC330665	CC330665	CC330665	2	1034	1034	15	15	11
309	2	23262497	23264772	BZ024912	BZ024912	BZ024912	2	1059	1059	16	16	12
310	2	23042949	23043595	AW289350	AW289350	AW289350	2	1074	1074	16	16	12
311	2	31147495	31147727	BZ014861	BZ014861	BZ014861	2	1074	1077	16	16	12
312	2	30874410	30874972	AW428607	AW428607	AW428607	2	1077	1077	16	16	12
313	2	29704460	29704660	CC338666	CC338666	CC338666	2	1077	1077	16	16	12
314	2	29260271	29260475	BZ019725	BZ019725	BZ019725	2	1080	1080	16	16	12
315	2	28246998	28247210	BZ048644	BZ048644	BZ048644	2	1080	1080	16	16	12
316	2	27309422	27309699	BZ042423	BZ042423	BZ042423	2	1087	1087	16	16	12
317	2	26953516	26953698	AW437332	AW437332	AW437332	2	1090	1090	16	16	12
318	2	26323668	26323027	AW289302	AW289302	AW289302	2	1090	1090	16	16	12
319	2	25703230	25703354	BZ044434	BZ044434	BZ044434	2	1097	1097	16	16	12
320	2	24413849	24414157	BZ040416	BZ040416	BZ040416	2	1120	1120	16	16	12
322	2	23291023	23291485	BZ014597	BZ014597	BZ014597	2	1143	1143	16	16	12
323	2	22719467	22719782	AW289232	AW289232	AW289232	2	1148	1148	16	16	12
324	2	22163451	22163451	AW261138	AW261138	AW261138	2	1163	1163	16	16	12
325	2	21122609	21122899	CC331371	CC331371	CC331371	2	1172	1172	16	16	12
327	2	20050168	20050248	BZ021605	BZ021605	BZ021605	2	1178	1178	16	16	12
328	2	19232873	19232995	BZ024433	BZ024433	BZ024433	2	1187	1187	16	16	12
329	2	18209422	18209574	BZ054082	BZ054082	BZ054082	2	1190	1190	16	16	12
330	2	17046307	17046417	S68064	S68064	S68064	2	1190	1190	16	16	12
331	2	16466627	16466876	AW482123	AW482123	AW482123	2	0	0	17	17	13
332	2	164217038	164217858	BZ023861	BZ023861	BZ023861	2	7	7	17	17	13
333	2	16319089	16319313	BZ030502	BZ030502	BZ030502	2	7	7	17	17	13
334	2	162252311	162252930	BZ031498	BZ031498	BZ031498	2	13	13	17	17	13
335	2	16100897	16101215	BZ024794	BZ024794	BZ024794	2	23	23	17	17	13
336	2	160028086	160028308	BZ049113	BZ049113	BZ049113	2	34	34	17	17	13
337	2	159301042	159301285	BE117503	BE117503	BE117503	2	42	42	17	17	13
338	2	158625193	158625236	BZ017759	BZ017759	BZ017759	2	45	45	17	17	13
339	2	158572813	158573104	X75671	X75671	X75671	2	45	45	17	17	13
340	2	15694160	15694249	BE117553	BE117553	BE117553	2	58	58	17	17	13
342	2	15682820	15682888	BZ010632	BZ010632	BZ010632	2	62	62	17	17	13
343	2	15561758	15561867	BZ049355	BZ049355	BZ049355	2	66	66	17	17	13
344	2	154882695	154882763	AW289420	AW289420	AW289420	2	70	70	17	17	13
345	2	154472857	154473100	BZ025269	BZ025269	BZ025269	2	70	70	17	17	13
346	2	15345308	15345353	X75867	X75867	X75867	2	96	96	17	17	13
348	2	15320089	15320349	BZ045746	BZ045746	BZ045746	2	103	103	17	17	13
349	2	152128996	152129961	BZ048493	BZ048493	BZ048493	2	114	114	17	17	13
350	2	15192272	151927950	L41543	L41543	L41543	2	118	118	17	17	13
351	2	15174858	15174798	AW289261	AW289261	AW289261	2	118	118	17	17	13
352	2	15097948	150979542	CC447538	CC447538	CC447538	2	121	121	17	17	13
353	2	15032626	15032673	D89656	D89656	D89656	2	121	121	17	17	13
354	2	15010067	15010144	D49548	D49548	D49548	2	128	128	17	17	13
355	2	150204725	150204907	D49550	D49550	D49550	2	131	131	17	17	13
356	2	14911713	149117215	CC350079	CC350079	CC350079	2	140	140	17	17	13
357	2	148339948	148339948	B64924	B64924	B64924	2	143	143	17	17	13
358	2	147750854</										

507	7	10218395	10217919	CC514109	CC514109	CC514109	4	131	131	22	21	17
508	7	11241762	11242077	BZ209900	BZ209900	BZ209900	4	115	115	22	21	17
509	7	12439449	12439670	D26549	D26549	D26549	4	154	154	22	21	17
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511	7	13534033	13534276	BZ207900	BZ207900	BZ207900	4	161	161	22	21	17
512	7	14434076	14434294	CC469592	CC469592	CC469592	4	167	167	22	21	17
513	7	15556303	15557077	CC499795	CC499795	CC499795	4	174	174	22	21	17
514	7	16494039	16494288	CC744889	CC744889	CC744889	4	174	174	22	21	17
515	7	1790984	1790984	CC531188	CC531188	CC531188	4	184	184	22	21	17
516	7	1807648	1807913	CC502226	CC502226	CC502226	4	190	190	22	21	17
517	7	19434658	19435114	CC466397	CC466397	CC466397	4	190	190	22	21	17
518	7	19815165	20013842	BZ010615	BZ010615	BZ010615	4	193	193	22	21	17
519	7	21578120	21578464	BZ237067	BZ237067	BZ237067	4	196	196	22	21	17
520	7	22994904	22995053	BZ248444	BZ248444	BZ248444	4	203	203	22	21	17
521	7	23330733	23330916	AW209294	AW209294	AW209294	4	209	209	22	21	17
522	7	27110153	27110277	CC514299	CC514299	CC514299	4	209	209	22	21	17
523	7	28840001	28840211	BE217416	BE217416	BE217416	4	209	209	23	21	17
524	7	28653556	28653542	L05745	L05745	L05745	4	209	209	23	21	17
525	7	2893834	28934166	CC490427	CC490427	CC490427	4	216	216	23	21	17
526	7	28943403	28943676	CC595041	CC595041	CC595041	4	219	219	23	21	17
527	7	28267884	28268567	CC546970	CC546970	CC546970	4	219	219	23	21	17
528	7	21891195	21891425	CC767620	CC767620	CC767620	4	219	219	23	21	17
529	7	28084544	28084987	CC573716	CC573716	CC573716	4	225	225	23	21	17
530	7	29920604	29920846	X01503	X01503	X01503	4	229	229	23	21	17
531	7	29780175	29780397	CC541504	CC541504	CC541504	4	232	232	23	21	17
532	7	29491253	29493343	X03642	X03642	X03642	4	236	236	23	21	17
533	7	28732525	28735580	CC508041	CC508041	CC508041	4	236	236	23	21	17
534	7	27857317	27858098	CC471384	CC471384	CC471384	4	236	236	23	21	17
535	7	24740454	24740544	BZ264564	BZ264564	BZ264564	4	239	239	23	21	17
536	7	26772409	26772569	BZ268341	BZ268341	BZ268341	4	243	243	23	21	17
537	7	102645521	10264681	CC508340	CC508340	CC508340	4	254	254	24	21	17
538	7	10304073	10304207	AW202117	AW202117	AW202117	4	257	257	24	21	17
539	7	103680256	103680720	CC589195	CC589195	CC589195	4	261	261	24	21	17
540	7	10424631	10424868	AW483805	AW483805	AW483805	4	275	275	24	21	17
541	7	10469224	10469814	CC519712	CC519712	CC519712	4	278	278	24	21	17
542	7	10572693	10572751	CC584898	CC584898	CC584898	4	285	285	24	21	17
543	7	106395231	10639586	AW357054	AW357054	AW357054	4	285	285	24	21	17
544	7	116756326	11675698	CC517995	CC517995	CC517995	4	292	292	24	21	17
545	7	116017303	116017495	AW464296	AW464296	AW464296	4	295	295	24	21	17
546	7	115742701	115742901	BZ014154	BZ014154	BZ014154	4	295	295	25	21	17
547	7	11472334	11472385	BZ286868	BZ286868	BZ286868	4	295	295	25	21	17
548	7	113786232	11378692	CC532890	CC532890	CC532890	4	299	299	25	21	17
549	7	11205158	112053805	AW289361	AW289361	AW289361	4	302	302	24	21	17
550	7	11206159	11206568	CC534797	CC534797	CC534797	4	306	306	24	21	17
551	7	11194559	11194922	BZ207910	BZ207910	BZ207910	4	330	330	25	21	17
552	7	11084185	11084110	CC516947	CC516947	CC516947	4	343	343	24	21	17
553	7	10984649	10984686	CC498153	CC498153	CC498153	4	347	347	24	21	17
554	7	10883742	108839124	CC500413	CC500413	CC500413	4	347	347	25	21	17
555	7	10780342	10780370	CC774120	CC774120	CC774120	4	359	359	25	21	17
556	7	37128596	37129042	BZ047997	BZ047997	BZ047997	4	377	377	26	21	17
557	7	36218995	36219288	BZ263307	BZ263307	BZ263307	4	380	380	26	21	17
558	7	35254975	35255289	BZ200805	BZ200805	BZ200805	4	384	384	26	21	17
559	7	34591283	34591668	CC510473	CC510473	CC510473	4	384	384	26	21	17
560	7	33774887	33775089	BZ202674	BZ202674	BZ202674	4	387	387	26	21	17
561	7	32184262	32184963	CC533615	CC533615	CC533615	4	387	387	26	21	17
562	7	31442530	31442550	BZ203515	BZ203515	BZ203515	4	387	387	26	21	17
563	7	30919253	30919423	CC560273	CC560273	CC560273	4	394	394	26	21	17
564	7	29993693	29994195	CC509534	CC509534	CC509534	4	414	414	26	21	17
565	7	28606839	28607317	CC517191	CC517191	CC517191	4	418	418	26	21	17
566	7	28111367	28111627	BZ252153	BZ252153	BZ252153	4	422	422	26	21	17
567	7	27076759	27076980	BZ09169	BZ09169	BZ09169	4	427	427	26	21	17
568	7	26106259	26106494	AW346369	AW346369	AW346369	4	431	431	26	21	17
569	7	2608442	26085672	CC503269	CC503269	CC503269	4	436	436	26	21	17
570	7	23866994	23867086	BZ041133	BZ041133	BZ041133	4	450	450	26	21	17
571	7	23812820	23812918	CC529242	CC529242	CC529242	4	454	454	27	21	17
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573	7	23812820	23812918	CC529242	CC529242	CC529242	4	454	454	27	21	17
574	7	4682676	4683378	BZ271449	BZ271449	BZ271449	4	465	465	26	21	17
575	7	4572376	45724088	M76478	M76478	M76478	4	465	465	26	21	17
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580	7	44914085	44914239	CC523866	CC523866	CC523866	4	469	469	28	21	17
581	7	4386344	4386352	CC771434	CC771434	CC771434	4	473	473	28	21	17
582	7	42505678	42506230	BZ018094	BZ018094	BZ018094	4	485	485	27	21	17
583	7	41938189	41938603	BZ273654	BZ273654	BZ273654	4	497	497	28	21	17
584	7	40810661	40811081	CC593826	CC593826	CC593826	4	497	497	28	21	17
585	7	39814634	39815012	CC490627	CC490627	CC490627	4	501	501	29	21	17
586	7	38925632	38925988	BZ036282	BZ036282	BZ036282	4	501	501	29	21	17
587	7	31797966	31798046	CC479182	CC479182	CC479182	4	523	523	29	21	17
588	7	31874111	31874117	BZ268117	BZ268117	BZ268117	4	538	538	29	21	17
589	7	31992558	31993040	BZ269066	BZ269066	BZ269066	4	557	557	29	21	17
590	7	12097267	12097268	BZ276586	BZ276586	BZ276586	4	565	565	28	21	17
591	7	12124916	12124999	AW430276	AW430276	AW430276	4	569	569	29	21	17
592	7	12280313	12280296	CC492581	CC492581	CC492581	4	574	574	28	21	17
593	7	122199330	122199517	CC497750	CC497750	CC497750	4	583	583	28	21	17
594	7	12282097	122830173	BZ01102	BZ01102	BZ01102	4	599	599	29	21	17
595	7	12349182	12349282	CC530547	CC530547	CC530547	4	617	617	29	21	17
596	7	125874002	125874068	BZ051950	BZ051950	BZ051950	4	628	628	29	21	17
597	7	12712286	127123164	CC547739	CC547739	CC547739	4	643	643	29	21	17
598	7	12809396	12809669	AW267076	AW267076	AW267076	4	667	667	29	21	17
599	7	12906423	12906488	AW289176	AW289176	AW289176	4	671	671	29	21	17
600	7	129184438	129184733	BZ262656	BZ262656	BZ262656	4	675	675	29	21	17
601	7	12921018	12921879	M81851	M81851	M81851	4	679	679	29	21	17
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603	7	13107128	131072061	CC560915	CC560915	CC560915	4	690	690	29	21	17
604	7	13206288	13206257	CC500550	CC500550	CC500550	4	690	690	29	21	17
605	7	13132428	13132979	BZ045646	BZ045646	BZ045646	4	694	694	29	21	17
606	7	13406302	13406477	CC582448	CC582448	CC582448	4	712	712	29	21	17
6												

774	12	11931993	11932376	CC92988	CC92988	CC92988	5	639	639	35	34	29
775	12	11092620	11093680	BZ21380	BZ21380	BZ21380	5	639	639	35	34	29
776	12	10210576	D8049	D8049	D8049	D8049	5	644	644	35	34	29
777	12	8986633	8989808	MI7025	MI7025	MI7025	5	644	644	35	34	29
778	12	8994193	8994587	BZ05626	BZ05626	BZ05626	5	650	650	35	34	29
779	12	7043360	7043580	CC54813	CC54813	CC54813	5	655	655	36	34	29
781	12	6217388	6217689	MI1720	MI1720	MI1720	5	655	655	36	34	29
782	12	5177788	5177905	CC480296	CC480296	CC480296	5	670	670	36	34	29
784	12	4782784	4782934	BZ27078	BZ27078	BZ27078	5	674	674	36	34	29
785	12	3167967	3168365	CC770412	CC770412	CC770412	5	678	678	36	34	29
787	12	2266550	2291004	CC592888	CC592888	CC592888	5	695	695	36	34	29
788	12	1833866	1833863	CC588553	CC588553	CC588553	5	699	699	36	34	29
789	12	1262521	1262687	CC763960	CC763960	CC763960	5	699	699	36	34	29
790	12	16648034	16648179	AW347612	AW347612	AW347612	5	699	699	37	35	30
791	12	16821966	16822120	CC476740	CC476740	CC476740	5	707	707	37	35	30
792	12	16926149	16926343	CC495717	CC495717	CC495717	5	710	710	37	35	30
795	12	36494513	36494936	AW463030	AW463030	AW463030	5	714	714	38	36	31
796	12	36934304	36934528	CC523426	CC523426	CC523426	5	718	718	38	36	31
797	12	37011941	37011643	AW468487	AW468487	AW468487	5	718	718	38	36	31
798	12	37998541	37998983	CC501001	CC501001	CC501001	5	722	722	38	36	31
799	12	38093144	38093391	BZ939074	BZ939074	BZ939074	5	726	726	38	36	31
800	12	40417408	40417534	BZ85444	BZ85444	BZ85444	5	751	751	38	36	31
801	12	41164713	41164841	BZ880204	BZ880204	BZ880204	5	772	772	38	36	31
802	12	41952236	41952395	CC476227	CC476227	CC476227	5	784	784	38	36	31
804	12	4324873	4325104	CC499495	CC499495	CC499495	5	790	790	38	36	31
806	12	43846010	43846888	CC493446	CC493446	CC493446	5	802	802	38	36	31
807	12	44409410	44409598	CC770408	CC770408	CC770408	5	805	805	38	36	31
808	12	4562435	4562855	CC57174	CC57174	CC57174	5	808	808	38	36	31
809	12	4644501	4644574	CC583840	CC583840	CC583840	5	811	811	38	36	31
810	12	4726882	4726911	BZ85527	BZ85527	BZ85527	5	814	814	38	36	31
811	12	48448255	48448373	BZ962098	BZ962098	BZ962098	5	817	817	38	36	31
812	12	48987531	4898765	AW484143	AW484143	AW484143	5	826	826	38	36	31
813	12	49473146	49473658	X68212	X68212	X68212	5	826	826	38	36	31
814	12	16576328	16576565	BZ939769	BZ939769	BZ939769	0	0	0	39	37	32
816	12	16536132	16536128	BZ939769	BZ939769	BZ939769	0	0	0	39	37	32
817	12	164733872	164734360	CC379967	CC379967	CC379967	6	16	16	4	4	37
818	12	12247972	12248006	CC541186	CC541186	CC541186	6	32	32	40	38	32
819	12	12150807	12150971	CC583565	CC583565	CC583565	6	40	40	40	38	32
820	12	12040131	12040146	BZ920664	BZ920664	BZ920664	6	57	57	47	47	37
821	12	11955737	11955804	AW461695	AW461695	AW461695	6	66	66	40	38	32
822	12	11942172	11942196	BZ978015	BZ978015	BZ978015	6	70	70	40	38	32
823	12	11830871	11830845	BZ984857	BZ984857	BZ984857	6	95	95	47	47	37
824	12	117188624	117188702	CC529946	CC529946	CC529946	6	100	100	40	38	32
825	12	117088232	11708844	CC499312	CC499312	CC499312	6	104	104	40	38	32
826	12	11622620	11622923	CC57180	CC57180	CC57180	6	119	119	40	38	32
827	12	11514769	115148237	CC519593	CC519593	CC519593	6	123	123	40	38	32
829	12	114529179	114529548	BZ938237	BZ938237	BZ938237	6	130	130	40	38	32
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832	12	111288230	11128873	CC55181	CC55181	CC55181	6	141	141	40	38	32
833	12	11102493	11102562	BE117562	BE117562	BE117562	6	141	141	40	38	32
834	12	11013829	11013222	BZ931816	BZ931816	BZ931816	6	144	144	40	38	32
835	12	109520411	109520786	BZ932324	BZ932324	BZ932324	6	148	148	40	38	32
836	12	108428189	10843052	BZ81520	BZ81520	BZ81520	6	152	152	40	38	32
837	12	10747889	10747208	CC513945	CC513945	CC513945	6	156	156	40	38	32
838	12	10652866	10652918	BZ963645	BZ963645	BZ963645	6	165	165	40	38	32
839	12	10534878	10534263	BZ919177	BZ919177	BZ919177	6	178	178	40	38	32
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841	12	104074991	10407459	AW266941	AW266941	AW266941	6	183	183	40	38	32
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843	12	102425514	102425793	CC527810	CC527810	CC527810	6	202	202	40	38	32
844	12	101143765	101147980	AW280359	AW280359	AW280359	6	206	206	40	38	32
846	12	100698750	100699159	BZ85846	BZ85846	BZ85846	6	218	218	40	38	32
847	12	99523512	99524023	BZ955226	BZ955226	BZ955226	6	230	230	40	38	32
848	12	9844722	9844789	CC521461	CC521461	CC521461	6	239	239	40	38	32
849	12	9648206	9648551	BZ964247	BZ964247	BZ964247	6	244	244	40	38	32
850	12	9524266	95243081	CC492227	CC492227	CC492227	6	264	264	40	38	32
851	12	94291258	94291545	CC583566	CC583566	CC583566	6	282	282	40	38	32
853	12	9326768	93267824	CC521028	CC521028	CC521028	6	278	278	40	38	32
854	12	9218699	92186310	CC512565	CC512565	CC512565	6	278	278	40	38	32
855	12	9104456	9104467	BZ99685	BZ99685	BZ99685	6	282	282	40	38	32
856	12	89668992	89669220	BE664068	BE664068	BE664068	6	295	295	40	38	32
857	12	8864723	8864790	CC581382	CC581382	CC581382	6	310	310	41	39	33
858	12	19255066	19255895	CC524804	CC524804	CC524804	6	310	310	41	39	33
859	12	20274344	20274547	BE642805	BE642805	BE642805	6	343	343	41	39	33
860	12	21478748	21478883	CC526569	CC526569	CC526569	6	343	343	41	39	33
861	12	2252736	2252829	CC570778	CC570778	CC570778	6	350	350	41	39	33
862	12	2346872	2346923	CC580112	CC580112	CC580112	6	385	385	41	39	33
865	12	24574354	24574544	CC576598	CC576598	CC576598	6	401	401	41	39	33
866	12	25513021	25513326	BZ989411	BZ989411	BZ989411	6	401	401	41	39	33
867	12	26762942	26763294	BZ907175	BZ907175	BZ907175	6	410	410	41	39	33
868	12	28255453	28256028	BZ983331	BZ983331	BZ983331	6	414	414	41	39	33
869	12	29073780	29074028	BZ949499	BZ949499	BZ949499	6	436	436	41	39	33
871	12	30443627	30444071	CC552404	CC552404	CC552404	6	473	473	41	39	33
872	12	31419424	31419429	CC520450	CC520450	CC520450	6	482	482	41	39	33
873	12	32560075	32560502	CC498713	CC498713	CC498713	6	500	500	41	39	33
874	12	33391783	33392312	BZ916228	BZ916228	BZ916228	6	509	509	41	39	33
875	12	34407668	34407711	CC562367	CC562367	CC562367	6	522	522	41	39	33
876	12	35706299	35706899	CC763699	CC763699	CC763699	6	529	529	41	39	33
877	12	37112643	37112824	CC502049	CC502049	CC502049	6	542	542	41	39	33
878	12	3745312	3745310	AW353112	AW353112	AW353112	6	550	550	41	39	33
879	12	37844694	37844914	AW695993	AW695993	AW695993	6	554	554	41	39	33
880	12	3756606	3756887	BZ93679	BZ93679	BZ93679	6	554	554	41	39	33
881	12	38524187	38524601	AW42871	AW42871	AW42871	6	559	559	41	39	33
882	12	39112660	39112660	AW440312	AW440312	AW440312	6	569	569	41	39	33
883	12	39334539	39334742	AW95792	AW95792	AW95792	6	577	577	41	39	33
884	12	40020228	40020740	CC528198	CC528198	CC528198	6	592	592	41	39	33
885	12	41218760	41218770	BZ970510	BZ970510	BZ970510	6	621	621	41	39	33
886	12	41802839	41803153	AW392555	AW392555	AW392555	6	643	643	41	39	33
887	12	42287517	42287636	BZ988222	BZ988222	BZ988222	6	647	647	41	39	33
888	12	43251962	43251997	BZ920662	BZ920662	BZ920662						

1040	19	277908	277922	CC578938	CC578938	CC578938	7	467	467	51	49	42
1041	19	1276404	1276427	BZ201546	BZ201546	BZ201546	7	471	471	51	47	42
1042	19	1529414	1529540	AW632312	AW632312	AW632312	7	471	471	51	49	42
1043	19	1932233	1932309	AW261150	AW261150	AW261150	7	476	476	51	49	42
1044	5	13229612	13229979	AW148500	AW148500	AW148500	7	476	476	52	deleced	52
1045	5	13289004	13289085	BZ373600	BZ373600	BZ373600	7	489	489	52	50	43
1046	5	13335958	13336455	X75068	X75068	X75068	7	497	497	52	50	43
1047	5	13358608	13359157	XZ7858	XZ7858	XZ7858	7	501	501	52	50	43
1048	5	13489814	13489868	CC7618198	CC7618198	CC7618198	7	527	527	52	50	43
1049	5	135884803	135885410	CC551706	CC551706	CC551706	7	540	540	52	50	43
1050	5	136389746	13640000	AW359237	AW359237	AW359237	7	540	540	52	50	43
1052	5	13706763	13708814	CC525807	CC525807	CC525807	7	556	556	52	50	43
1053	5	137115161	137115700	AW289339	AW289339	AW289339	7	556	556	52	50	43
1054	5	138101717	138101872	BZ011786	BZ011786	BZ011786	7	565	565	52	50	43
1055	5	139137019	13915722	BZ281009	BZ281009	BZ281009	7	573	573	52	50	43
1056	5	13991926	139992217	U48356	U48356	U48356	7	573	573	52	50	43
1057	5	140148501	140148577	BZ288174	BZ288174	BZ288174	7	573	573	52	50	43
1058	5	141141286	141141824	BZ261104	BZ261104	BZ261104	7	573	573	52	50	43
1059	5	141360420	141360468	AW428576	AW428576	AW428576	7	577	577	52	50	43
1060	5	142103330	142103750	CC587863	CC587863	CC587863	7	585	585	52	50	43
1061	5	143185013	143185108	CC479340	CC479340	CC479340	7	589	589	52	50	43
1062	5	14423099	144230919	BZ247116	BZ247116	BZ247116	7	603	603	52	50	43
1063	5	145300639	145300876	CC557183	CC557183	CC557183	7	616	616	52	50	43
1064	5	14599260	145949935	AW289211	AW289211	AW289211	7	637	637	52	50	43
1065	5	146182500	146182843	CC477180	CC477180	CC477180	7	644	644	52	50	43
1066	5	14723059	147027550	BZ260778	BZ260778	BZ260778	7	655	655	52	50	43
1067	5	148186682	148187474	CC483684	CC483684	CC483684	7	684	684	52	50	43
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1071	5	150678581	150678700	AW461573	AW461573	AW461573	7	788	788	52	50	43
1072	5	150388480	150388739	AW266929	AW266929	AW266929	7	788	788	52	50	43
1073	5	15008962	15009143	CC584482	CC584482	CC584482	7	797	797	52	50	43
1074	5	151022197	151022405	AW266930	AW266930	AW266930	7	817	817	52	50	43
1075	5	151083969	151084188	CC590913	CC590913	CC590913	7	832	832	52	50	43
1076	5	151982356	151982360	CC582993	CC582993	CC582993	7	841	841	52	50	43
1077	5	15300382	153030650	BZ270791	BZ270791	BZ270791	7	865	865	52	50	43
1078	5	154130945	154131060	BZ017719	BZ017719	BZ017719	7	869	869	52	50	43
1080	5	154984697	154984707	BZ099998	BZ099998	BZ099998	7	883	883	52	50	43
1081	5	15601785	156038294	BZ261679	BZ261679	BZ261679	7	887	887	52	50	43
1082	5	157154336	157154819	CC531675	CC531675	CC531675	7	892	887	52	50	43
1083	5	158086177	158086342	BZ020099	BZ020099	BZ020099	7	892	892	52	50	43
1084	5	159069109	159069241	CC497808	CC497808	CC497808	7	906	906	52	50	43
1085	5	160128796	160129233	BZ013937	BZ013937	BZ013937	7	906	906	52	50	43
1087	5	161152435	161152922	BZ247699	BZ247699	BZ247699	7	926	926	52	50	43
1088	5	161274699	161274717	X03717	X03717	X03717	7	931	931	52	50	43
1089	5	162213107	162213335	BZ099547	BZ099547	BZ099547	7	946	946	52	50	43
1090	5	163165942	163166029	CC471837	CC471837	CC471837	7	962	962	52	50	43
1091	5	16391585	163917103	BZ246772	BZ246772	BZ246772	7	967	967	52	50	43
1092	5	164022099	164022400	BZ257167	BZ257167	BZ257167	7	972	972	52	50	43
1093	5	16508895	165088997	BZ281131	BZ281131	BZ281131	7	987	987	52	50	43
1094	5	166095605	166095859	CC590309	CC590309	CC590309	7	1005	1005	52	50	43
1095	5	16701560	167015633	BZ015633	BZ015633	BZ015633	7	1005	1005	52	50	43
1096	5	80090362	80090920	BZ013783	BZ013783	BZ013783	7	1021	1021	51	44	deleced
1097	5	80661646	80661969	AW314133	AW314133	AW314133	7	1048	1048	53	51	44
1098	5	81115981	81116347	CC487999	CC487999	CC487999	7	1048	1048	53	51	44
1099	5	82432362	82432362	CC490538	CC490538	CC490538	7	1083	1083	53	51	44
1100	5	82972312	82973398	U02292	U02292	U02292	7	1099	1099	53	51	44
1101	5	83141885	83142326	BZ246767	BZ246767	BZ246767	7	1099	1099	53	51	44
1102	5	83911452	83912227	CC525453	CC525453	CC525453	7	1118	1118	53	51	44
1103	5	85198930	85199136	BZ291101	BZ291101	BZ291101	7	1130	1130	53	51	44
1104	5	86737888	86737977	CC521453	CC521453	CC521453	7	1132	1132	53	51	44
1105	5	87424448	87426365	CC532431	CC532431	CC532431	7	1167	1167	53	51	44
1106	5	88068280	88068564	AW289198	AW289198	AW289198	7	1182	1182	53	51	44
1107	5	88635353	88635415	CC590259	CC590259	CC590259	7	1191	1191	53	51	44
1108	5	89671480	89671670	CC154044	CC154044	CC154044	7	1200	1200	53	51	44
1109	5	90289229	90289529	BZ257875	BZ257875	BZ257875	7	1208	1208	53	51	44
1110	5	91846510	91846597	BZ36902	BZ36902	BZ36902	7	1212	1212	53	51	44
1111	5	9238198	9238471	BZ287450	BZ287450	BZ287450	7	1224	1224	53	51	44
1113	5	9382186	9382318	BZ278088	BZ278088	BZ278088	7	1225	1225	53	51	44
1114	5	94891456	94891763	BZ09128	BZ09128	BZ09128	7	1242	1242	53	51	44
1115	5	95890600	95890738	BZ051943	BZ051943	BZ051943	7	1250	1250	53	51	44
1116	5	96451666	96451707	AW314546	AW314546	AW314546	7	1255	1255	53	51	44
1117	5	96910013	96910119	CC530755	CC530755	CC530755	7	1270	1270	53	51	44
1118	5	98133845	98134167	BZ032026	BZ032026	BZ032026	7	1288	1288	53	51	44
1120	5	99002020	99002424	BZ253299	BZ253299	BZ253299	7	1307	1307	53	51	44
1121	5	10002512	10002496	CC525525	CC525525	CC525525	7	1318	1318	53	51	44
1122	5	101008668	101031077	CC483975	CC483975	CC483975	7	1325	1325	53	51	44
1124	5	101950400	101950518	CC593804	CC593804	CC593804	7	1328	1328	53	51	44
1125	5	10296412	10296928	CC573785	CC573785	CC573785	7	1336	1336	53	51	44
1126	5	104078330	104078717	CC590330	CC590330	CC590330	7	1344	1344	53	51	44
1127	5	104095140	104095638	BZ07418	BZ07418	BZ07418	7	1348	1348	53	51	44
1128	5	106037388	106037388	CC578085	CC578085	CC578085	7	1370	1370	53	51	44
1129	5	106746001	106749916	AW485404	AW485404	AW485404	7	1370	1370	53	51	44
1130	5	107022010	107022094	CC559825	CC559825	CC559825	7	1370	1370	53	51	44
1131	5	10804492	108045228	CC561997	CC561997	CC561997	7	1389	1389	53	51	44
1132	5	108884662	108887023	CC59292	CC59292	CC59292	7	1410	1410	53	51	44
1133	5	109725853	109726214	BZ021795	BZ021795	BZ021795	7	1410	1410	53	51	44
1135	4	170061557	170061775	CC522148	CC522148	CC522148	7	0	0	54	52	45
1136	4	170223654	170223654	AW464696	AW464696	AW464696	7	16	16	54	52	45
1137	4	170986403	170986567	CC506643	CC506643	CC506643	7	20	20	54	52	45
1138	4	171632491	171632656	CC566492	CC566492	CC566492	7	24	24	54	52	45
1140	4	17304466	17304469	CC510345	CC510345	CC510345	7	44	44	54	52	45
1141	4	174452156	174452241	BZ206647	BZ206647	BZ206647	7	54	54	54	52	45
1142	4	175526306	175526900	BZ272734	BZ272734	BZ272734	7	57	57	54	52	45
1143	4	176621233	176621314	CC498901	CC498901	CC498901	7	60	60	54	52	45
1144	8	11753861	11734116	AW269016	AW269016	AW269016	7	65	66	54	52	45
1145	8	11653144	11653533	CC515941	CC515941	CC515941	7	70	70	55	53	46
1146	8	10958948	10959168	CC475217	CC475217	CC475217	7	76	76	55		

Table with 20 columns (IDs 1303-1553) and 6 rows of alphanumeric data. The data is organized in a grid format, likely representing a mapping or classification system.

AG here

AG is wrong in merging these two blocks, as other blocks comes in between

2 -> 1

This singleton prevented merging of two blocks

1 -> 2

singleton

AG here

1555	14	8776356	8776369	BZ931998	BZ931998	BZ931998	10	681	681	78	76	69
1556	14	8804695	8804710	CC23401	CC23401	CC23401	10	684	684	78	76	69
1557	14	8919044	8919043	BZ91552	BZ91552	BZ91552	10	687	687	78	76	69
1558	14	9018304	9018315	CC14173	CC14173	CC14173	10	694	694	78	76	69
1559	2	9512669	9512674	BZ93184	BZ93184	BZ93184	11	0	0	79	70	0
1560	2	9519801	9519803	AW33682	AW33682	AW33682	11	8	8	79	70	70
1561	2	9672466	9672495	BZ932543	BZ932543	BZ932543	11	8	8	79	70	70
1562	2	9717318	9717374	AW43908	AW43908	AW43908	11	11	11	79	70	70
1563	2	9738380	9738716	CC33310	CC33310	CC33310	11	17	17	79	79	79
1564	2	9825262	9825264	BZ953931	BZ953931	BZ953931	11	23	23	79	70	70
1565	2	9968475	9968502	AW48180	AW48180	AW48180	11	26	26	79	70	70
1566	2	9990876	9991094	BZ96906	BZ96906	BZ96906	11	30	30	79	79	79
1567	2	10034429	10034586	CC491027	CC491027	CC491027	11	39	39	79	77	77
1568	2	10157256	10157631	BZ90888	BZ90888	BZ90888	11	44	44	79	70	70
1569	2	10196394	10196508	AW41551	AW41551	AW41551	11	47	47	79	79	79
1570	2	10271191	10271199	BZ89374	BZ89374	BZ89374	11	50	50	77	70	70
1571	2	10416315	10416455	BZ926855	BZ926855	BZ926855	11	59	59	79	79	79
1572	2	10580720	10580985	BZ952395	BZ952395	BZ952395	11	68	68	77	70	70
1573	2	1466794	14668074	AW92130	AW92130	AW92130	11	79	79	78	71	71
1574	2	14517349	14517571	BZ942883	BZ942883	BZ942883	11	89	89	80	78	71
1576	2	14553357	14553322	AW26953	AW26953	AW26953	11	89	89	80	78	71
1577	2	1486599	1486599	AW26299	AW26299	AW26299	11	92	92	78	71	71
1578	2	7338272	7338556	BZ93507	BZ93507	BZ93507	11	103	103	80	78	71
1579	2	7321276	7321302	AW32757	AW32757	AW32757	11	108	108	80	78	71
1580	2	7262449	7262487	BZ92292	BZ92292	BZ92292	11	111	111	80	78	71
1581	2	7174267	7174296	CC47371	CC47371	CC47371	11	120	120	80	78	71
1582	2	71565792	71566190	AW487346	AW487346	AW487346	11	122	122	80	78	71
1583	2	7058814	7058820	BZ95721	BZ95721	BZ95721	11	128	128	80	78	71
1584	2	7148472	7148491	X88491	X88491	X88491	11	131	131	79	71	71
1585	2	3235928	3235953	AW388065	AW388065	AW388065	11	145	145	81	79	72
1586	2	3299391	3299394	BZ98163	BZ98163	BZ98163	11	151	151	81	79	72
1587	2	3353671	3353671	AW42271	AW42271	AW42271	11	151	151	81	79	72
1588	2	3365592	33655789	BZ943157	BZ943157	BZ943157	11	163	163	79	72	72
1589	2	34664823	3466516	BZ90811	BZ90811	BZ90811	11	178	178	81	79	72
1590	2	3598132	3598122	BZ90849	BZ90849	BZ90849	11	180	180	81	79	72
1591	2	3708906	3708900	BZ92879	BZ92879	BZ92879	11	183	183	81	79	72
1592	2	37764916	3776552	BZ920139	BZ920139	BZ920139	11	188	188	81	79	72
1593	2	3888411	3888498	AW46449	AW46449	AW46449	11	210	210	79	72	72
1594	2	3929076	3929104	BZ90876	BZ90876	BZ90876	11	213	213	79	72	72
1595	2	4059449	4059450	BZ90927	BZ90927	BZ90927	11	222	222	81	79	72
1596	2	4170765	4170800	BZ90947	BZ90947	BZ90947	11	228	228	81	79	72
1598	2	4247184	4247137	AW37984	AW37984	AW37984	11	237	237	81	79	72
1599	2	42981508	42981705	BZ916795	BZ916795	BZ916795	11	237	237	81	79	72
1600	2	4383297	4383333	BZ90819	BZ90819	BZ90819	11	243	243	79	72	72
1601	2	4437105	4437243	AJ00548	AJ00548	AJ00548	11	246	246	81	79	72
1602	2	4484802	4484856	BZ91564	BZ91564	BZ91564	11	252	252	79	72	72
1603	2	4604840	4604876	BZ937491	BZ937491	BZ937491	11	258	258	79	72	72
1604	2	4687631	4687672	BZ90950	BZ90950	BZ90950	11	261	261	81	79	72
1605	2	4784449	4784475	AW26975	AW26975	AW26975	11	271	271	79	72	72
1606	2	4882647	4882769	U2004	U2004	U2004	11	278	278	79	72	72
1607	2	4977787	4977849	BZ93065	BZ93065	BZ93065	11	282	282	81	79	72
1608	2	4918708	4918737	BZ94837	BZ94837	BZ94837	11	285	285	79	72	72
1609	2	5035732	50354005	BZ938075	BZ938075	BZ938075	11	288	288	79	72	72
1610	2	5116286	5116721	L14855	L14855	L14855	11	288	288	81	79	72
1611	2	5181457	5181574	BZ95618	BZ95618	BZ95618	11	291	291	81	79	72
1612	2	5205725	5205730	BZ94262	BZ94262	BZ94262	11	310	310	81	79	72
1613	2	5405302	5405388	BZ948266	BZ948266	BZ948266	11	315	315	81	79	72
1614	2	5539715	5539848	BZ91665	BZ91665	BZ91665	11	337	337	81	79	72
1615	2	5568914	5568995	BZ94164	BZ94164	BZ94164	11	340	340	81	79	72
1616	2	5645158	5645154	BZ948263	BZ948263	BZ948263	11	351	351	81	79	72
1617	2	5788289	5788321	BZ95242	BZ95242	BZ95242	11	357	357	81	79	72
1618	2	5878544	5878408	BZ95016	BZ95016	BZ95016	11	369	369	81	79	72
1620	2	5985060	5983109	BZ90922	BZ90922	BZ90922	11	374	374	81	79	72
1623	2	61170237	6117021	BZ920913	BZ920913	BZ920913	11	383	383	81	79	72
1624	2	7384895	7384121	BZ92799	BZ92799	BZ92799	11	388	388	82	80	73
1625	2	7561177	7561345	AW35401	AW35401	AW35401	11	393	393	83	80	73
1626	2	10612738	10612903	AW312031	AW312031	AW312031	11	418	418	83	81	74
1627	2	10698026	10698028	CC72637	CC72637	CC72637	11	427	427	83	81	74
1628	2	10804483	10804820	CC37463	CC37463	CC37463	11	432	432	83	81	74
1630	2	11112959	11112999	BZ947794	BZ947794	BZ947794	11	451	451	83	81	74
1631	2	111612053	11161222	AW46001	AW46001	AW46001	11	453	453	83	81	74
1632	2	11316329	11316369	BZ915916	BZ915916	BZ915916	11	462	462	83	80	73
1633	2	113672545	113672698	AW428019	AW428019	AW428019	11	479	479	83	81	74
1634	2	8900997	8900104	CC475816	CC475816	CC475816	11	497	497	84	82	75
1635	2	8819506	88199705	BZ94229	BZ94229	BZ94229	11	502	502	84	82	75
1636	2	8691628	8691614	AW29381	AW29381	AW29381	11	507	507	84	82	75
1637	2	86628026	86628518	BZ939600	BZ939600	BZ939600	11	507	507	84	82	75
1638	2	8592206	8592186	CC47289	CC47289	CC47289	11	510	510	84	82	75
1639	2	8579687	8579769	AW29187	AW29187	AW29187	11	513	513	84	82	75
1640	2	8567219	8567387	M81593	M81593	M81593	11	513	513	84	82	75
1641	2	84752672	8473786	BZ924161	BZ924161	BZ924161	11	513	513	84	82	75
1642	2	8357074	8357064	BZ92772	BZ92772	BZ92772	11	518	518	84	82	75
1643	2	8228773	8228861	BZ907565	BZ907565	BZ907565	11	526	526	84	82	75
1644	2	81201882	8120232	BZ951026	BZ951026	BZ951026	11	532	532	84	82	75
1645	2	8028427	8028703	CC14824	CC14824	CC14824	11	549	549	84	82	75
1646	2	7946308	7946112	BZ94398	BZ94398	BZ94398	11	554	554	84	82	75
1647	2	7800161	7800177	BZ943635	BZ943635	BZ943635	11	568	568	84	82	75
1648	2	76897250	76897405	BZ90712	BZ90712	BZ90712	11	570	570	84	82	75
1649	2	6122076	6122076	AW56448	AW56448	AW56448	11	595	595	85	83	76
1650	2	62965635	6296966	BZ955708	BZ955708	BZ955708	11	611	611	85	83	76
1651	2	6374379	6374360	AW479517	AW479517	AW479517	11	621	621	85	83	76
1652	2	63804430	6380556	BZ906230	BZ906230	BZ906230	11	626	626	85	83	76
1653	2	64706245	6470566	BZ921785	BZ921785	BZ921785	11	629	629	85	83	76
1654	2	65880510	6588073	BZ952530	BZ952530	BZ952530	11	637	637	85	83	76
1655	2	66962790	6696146	BZ915155	BZ915155	BZ915155	11	640	640	85	83	76
1656	2	6754812	6754912	AW34665	AW34665	AW34665	11	642	642	85	83	76
1657	2	6798436	6798451	BZ949272	BZ949272	BZ949272	11	656	656	85	83	76
1658	2	69204030	6920625	BZ940166	BZ940166	BZ940166	11	662	662	85	83	76
1659	2	6996412	6996512	422248	422248	422248	11	683	683	85	83	76
1660	2	80546852	80547178	BZ852021	BZ852021	BZ852021	11	697	697	86	84	77
1661	2	2969932	2969133	BZ94944	BZ94944	BZ94944	11	708	708	86	84	77
1662												

1809	13	9447125	9447184	BZ02176	BZ02176	BZ02176	12	496	496	91	89	82
1810	13	9551369	9551391	BZ08307	BZ08307	BZ08307	12	517	517	91	89	82
1811	13	9668275	9668542	BZ04245	BZ04245	BZ04245	12	533	533	91	89	82
1812	13	9779091	9779207	BZ04125	BZ04125	BZ04125	12	543	543	91	89	82
1813	13	9800218	9800218	BZ05437	BZ05437	BZ05437	12	547	547	91	89	82
1814	13	9865912	9866040	CC08421	CC08421	CC08421	12	557	557	91	89	82
1815	13	101188809	101188943	CC08206	CC08206	CC08206	12	572	572	91	89	82
1816	13	10208352	10208805	CC03999	CC03999	CC03999	12	572	572	91	89	82
1817	13	10234826	10234826	BZ08313	BZ08313	BZ08313	12	577	577	91	89	82
1818	13	10234684	10236387	CC05574	CC05574	CC05574	12	577	577	91	89	82
1819	13	10340828	10340939	CC04269	CC04269	CC04269	12	577	577	91	89	82
1820	13	10414377	10418361	CC04068	CC04068	CC04068	12	581	581	91	89	82
1822	13	10538078	10539537	CC03629	CC03629	CC03629	12	602	602	91	89	82
1823	13	10644381	10644458	CC05121	CC05121	CC05121	12	606	606	91	89	82
1824	13	10756035	10756072	BZ09623	BZ09623	BZ09623	12	617	617	91	89	82
1826	13	10875396	10875722	BZ09620	BZ09620	BZ09620	12	638	638	91	89	82
1827	13	10980782	10980936	CC05595	CC05595	CC05595	12	643	643	91	89	82
1829	13	11065606	11065752	CC01129	CC01129	CC01129	12	652	652	91	89	82
1830	13	11170235	11170241	BZ08552	BZ08552	BZ08552	12	657	657	91	89	82
1831	13	11278310	11278369	CC04428	CC04428	CC04428	12	692	692	91	89	82
1832	13	112851231	11285173	X00673	X00673	X00673	12	702	702	91	89	82
1833	13	11320980	11320980	L09113	L09113	L09113	12	702	702	91	89	82
1834	20	818347	8183781	CC070305	CC070305	CC070305	13	0	0	92	90	83
1835	20	8697370	8694005	J01317	J01317	J01317	13	8	8	92	90	83
1836	20	9210137	9210055	BZ09057	BZ09057	BZ09057	13	11	11	92	90	83
1837	20	1020200	1028241	CC08701	CC08701	CC08701	13	17	17	92	90	83
1838	20	1055249	1055339	AW267000	AW267000	AW267000	13	26	26	92	90	83
1839	20	1055309	1055454	AW16418	AW16418	AW16418	13	33	33	92	90	83
1840	20	1125972	1125986	CC034153	CC034153	CC034153	13	42	42	92	90	83
1841	20	1218282	1218632	CC079427	CC079427	CC079427	13	57	57	92	90	83
1842	20	1326205	1326254	CC077540	CC077540	CC077540	13	78	78	92	90	83
1843	20	14309204	14309204	CC0580704	CC0580704	CC0580704	13	88	88	92	90	83
1844	20	15340233	15340502	BZ046431	BZ046431	BZ046431	13	102	102	92	90	83
1845	20	16660807	16660981	AW062538	AW062538	AW062538	13	112	112	92	90	83
1846	20	1296431	1296865	BZ063771	BZ063771	BZ063771	13	130	130	93	91	84
1847	20	11871358	11871671	CC0584524	CC0584524	CC0584524	13	157	157	93	91	84
1848	20	10712604	10712688	BZ048795	BZ048795	BZ048795	13	180	180	93	91	84
1849	20	9591820	9592119	CC0532463	CC0532463	CC0532463	13	190	190	93	91	84
1851	20	8663584	8663605	CC050213	CC050213	CC050213	13	197	197	93	91	84
1852	20	7595728	7596017	CC046972	CC046972	CC046972	13	197	197	93	91	84
1853	20	6670322	6670983	BZ096185	BZ096185	BZ096185	13	197	197	93	91	84
1854	20	2703263	2703863	CC015837	CC015837	CC015837	13	209	209	93	91	84
1855	20	3508002	3508875	CC029324	CC029324	CC029324	13	216	216	94	91	84
1856	20	34741404	34741981	CC085079	CC085079	CC085079	13	219	219	94	92	85
1857	20	33818029	33818028	CC096068	CC096068	CC096068	13	223	223	94	92	85
1858	20	1020360	1051111	BZ091499	BZ091499	BZ091499	13	232	232	95	93	86
1859	20	20673742	20674003	CC003379	CC003379	CC003379	13	232	232	95	93	86
1860	20	21692304	21692348	BZ013728	BZ013728	BZ013728	13	232	232	95	93	86
1861	20	2284228	2284228	AW03968	AW03968	AW03968	13	240	240	95	93	86
1862	20	23793104	23793200	CC073067	CC073067	CC073067	13	258	258	95	93	86
1863	20	24782334	24782737	CC084042	CC084042	CC084042	13	258	258	95	93	86
1864	20	25917515	25918065	BZ086452	BZ086452	BZ086452	13	258	258	95	93	86
1865	20	38686727	38686906	BZ000194	BZ000194	BZ000194	13	258	258	95	93	86
1866	20	1370361	1370785	AF011925	AF011925	AF011925	13	258	258	96	94	87
1867	20	13916409	13916720	CC070952	CC070952	CC070952	13	258	258	96	94	87
1868	20	1493948	1493948	CC078975	CC078975	CC078975	13	269	269	96	94	87
1869	20	15916391	15916779	BZ063038	BZ063038	BZ063038	13	274	274	96	94	87
1870	20	10982568	10982877	BZ021480	BZ021480	BZ021480	13	285	285	96	94	87
1871	20	1767444	1767953	CC091511	CC091511	CC091511	13	285	285	96	94	87
1872	20	18722312	18722710	CC092765	CC092765	CC092765	13	285	285	96	94	87
1873	20	32702848	32703080	BZ090411	BZ090411	BZ090411	13	290	290	97	95	88
1874	20	31643886	31644070	BZ075181	BZ075181	BZ075181	13	300	300	97	95	88
1875	20	30655489	30655749	CC086447	CC086447	CC086447	13	300	300	97	95	88
1876	20	2980472	2980970	AF025996	AF025996	AF025996	13	300	300	97	95	88
1877	20	28951600	28951945	AW083818	AW083818	AW083818	13	300	300	97	95	88
1878	20	2862496	2862496	CC047777	CC047777	CC047777	13	310	310	97	95	88
1879	20	2800408	2800401	AW042460	AW042460	AW042460	13	310	310	97	95	88
1880	20	17362911	17363081	BZ048834	BZ048834	BZ048834	13	318	318	98	96	89
1881	20	18401461	18401663	BZ041462	BZ041462	BZ041462	13	318	318	98	96	89
1882	20	20568461	20568636	CC026619	CC026619	CC026619	13	331	331	98	96	89
1883	20	19592629	19592823	CC059113	CC059113	CC059113	13	331	331	98	96	89
1884	20	21500799	21508255	CC046709	CC046709	CC046709	13	331	331	98	96	89
1885	20	22229661	22229906	BZ019357	BZ019357	BZ019357	13	331	331	98	96	89
1886	20	23348713	23348846	CC032673	CC032673	CC032673	13	331	331	98	96	89
1887	20	2256380	22564003	Y10811	Y10811	Y10811	13	339	339	98	96	89
1888	20	24472164	24472282	CC082994	CC082994	CC082994	13	347	347	98	96	89
1889	20	5722648	5722843	BZ070107	BZ070107	BZ070107	13	359	359	99	97	90
1890	20	5489750	5489802	AW045566	AW045566	AW045566	13	359	359	99	97	90
1892	20	4404644	4404860	CC078084	CC078084	CC078084	13	363	363	99	97	90
1893	20	2768199	2768072	CC055191	CC055191	CC055191	13	367	367	99	97	90
1894	20	3884285	3884472	BZ082161	BZ082161	BZ082161	13	371	371	99	97	90
1895	20	1611312	1611093	CC052964	CC052964	CC052964	13	375	375	99	97	90
1896	20	1053013	1053153	AW056149	AW056149	AW056149	13	375	375	99	97	90
1897	20	148819	149446	CC082737	CC082737	CC082737	13	375	375	99	97	90
1898	20	7041250	7041401	CC076776	CC076776	CC076776	13	383	383	100	98	91
1899	20	585236	585247	188551	188551	188551	13	383	383	100	98	91
1900	20	4785408	4785877	BZ021973	BZ021973	BZ021973	13	383	383	100	98	91
1901	20	3995726	3995870	BZ09470	BZ09470	BZ09470	13	391	391	100	98	91
1902	20	3152016	3152011	AW029084	AW029084	AW029084	13	399	399	100	98	91
1903	20	2626452	2626989	CC014264	CC014264	CC014264	13	399	399	100	98	91
1904	20	1742616	1742957	CC049713	CC049713	CC049713	13	402	402	100	98	91
1905	20	2374515	2374712	BZ090499	BZ090499	BZ090499	13	402	402	100	98	91
1906	20	6224452	62244836	CC067737	CC067737	CC067737	13	406	406	100	98	91
1907	20	61417160	61417324	CC003739	CC003739	CC003739	13	412	412	101	99	92
1908	20	60446077	60446362	BZ075209	BZ075209	BZ075209	13	416	416	101	99	92
1909	20	9440611	9440701	CC058412	CC058412	CC058412	13	417	417	101	99	92
1910	20	5837132	5837569	CC085604	CC085604	CC085604	13	440	440	101	99	92
1911	20	57430401	57430851	BZ044092	BZ044092	BZ044092	13	440	440	101	99	92
1912	20	5691961	5691961	X03404	X03404	X03404	13	462	462	101	99	92
1914	20	56527141	56527602	CC058887	CC058887	CC058887	13					

2065	8	9172444	91721638	CC587432	CC587432	CC587432	14	651	651	106	104	97
2066	8	9088158	9088838	CC589878	CC589878	CC589878	14	656	656	106	104	97
2067	8	9084660	9084660	CC54922	CC54922	CC54922	14	656	656	106	104	97
2068	8	89439276	89439511	BZ69797	BZ69797	BZ69797	14	665	665	106	104	97
2069	8	8807896	8807878	CC558033	CC558033	CC558033	14	680	680	106	104	97
2070	8	8645628	8645787	AW359112	AW359112	AW359112	14	680	680	106	104	97
2071	8	8730679	8730691	CC50929	CC50929	CC50929	14	680	680	106	104	97
2072	8	8536878	8536946	CC10731	CC10731	CC10731	14	685	685	106	104	97
2073	8	8438394	8438348	BZ68348	BZ68348	BZ68348	14	700	700	106	104	97
2074	8	8275300	8275402	J05394	J05394	J05394	14	708	708	106	104	97
2075	11	10535052	10535055	BZ04394	BZ04394	BZ04394	15	0	0	107	105	98
2076	11	10399003	10400017	CC50722	CC50722	CC50722	15	0	0	107	105	98
2077	11	10377008	10377046	BZ04149	BZ04149	BZ04149	15	18	18	107	105	98
2078	11	10295720	10295722	BZ06687	BZ06687	BZ06687	15	24	24	107	105	98
2079	11	10174025	10174095	AW20913	AW20913	AW20913	15	42	42	107	105	98
2080	11	10041744	10041828	BZ03988	BZ03988	BZ03988	15	51	51	107	105	98
2081	11	99486633	99486755	BZ027106	BZ027106	BZ027106	15	64	64	107	105	98
2082	11	98057943	98058502	BZ055507	BZ055507	BZ055507	15	73	73	107	105	98
2083	11	97468044	97468208	CC524771	CC524771	CC524771	15	83	83	107	105	98
2084	11	96432094	96432194	BZ012680	BZ012680	BZ012680	15	90	90	107	105	98
2086	11	95141849	95142073	AW437796	AW437796	AW437796	15	104	104	107	105	98
2087	11	95097962	95098033	BZ055534	BZ055534	BZ055534	15	107	107	107	105	98
2088	11	94205732	94206216	BZ041759	BZ041759	BZ041759	15	114	114	107	105	98
2089	11	106279226	106279419	CC536484	CC536484	CC536484	15	117	117	108	106	99
2090	11	107119064	107119979	BZ051933	BZ051933	BZ051933	15	121	121	108	106	99
2091	11	10859683	108598767	BZ056575	BZ056575	BZ056575	15	127	127	108	106	99
2092	11	109838207	109838400	D00471	D00471	D00471	15	152	152	108	106	99
2093	11	111252548	111252540	BZ02157	BZ02157	BZ02157	15	164	164	108	106	99
2094	11	11147069	11147069	L30987	L30987	L30987	15	168	168	108	106	99
2095	11	112353401	112353972	BZ027848	BZ027848	BZ027848	15	185	185	108	106	99
2096	11	112651193	112651983	X16451	X16451	X16451	15	188	188	108	106	99
2097	11	11628688	11628682	BE217514	BE217514	BE217514	15	188	188	108	106	99
2098	11	113523776	113524252	BZ099722	BZ099722	BZ099722	15	197	197	108	106	99
2099	11	114892040	114892100	BZ07632	BZ07632	BZ07632	15	201	201	108	106	99
2100	11	11628819	11628882	BE17430	BE17430	BE17430	15	206	206	108	106	99
2101	11	11621677	11621986	AW26863	AW26863	AW26863	15	210	210	108	106	99
2102	11	11654346	11654400	D49678	D49678	D49678	15	218	218	108	106	99
2103	11	11658477	11658504	BZ041912	BZ041912	BZ041912	15	227	227	108	106	99
2104	11	1170222	11702604	BZ09034	BZ09034	BZ09034	15	231	231	108	106	99
2105	11	11842698	118427043	U3019	U3019	U3019	15	244	244	108	106	99
2106	11	11904612	119047264	AW20917	AW20917	AW20917	15	252	252	108	106	99
2109	11	12095880	12096231	BZ029011	BZ029011	BZ029011	15	264	264	108	106	99
2110	11	12170107	12170223	BZ09693	BZ09693	BZ09693	15	268	268	108	106	99
2111	11	12300903	12300523	CC545465	CC545465	CC545465	15	272	272	108	106	99
2112	11	18003675	18003700	BZ049997	BZ049997	BZ049997	15	272	272	107	107	detected
2113	11	17966880	AW417711	AW417711	AW417711	AW417711	15	277	277	109	107	detected
2114	11	17308248	17308459	AW428590	AW428590	AW428590	15	277	277	109	107	detected
2115	11	16732957	16734158	BZ06721	BZ06721	BZ06721	15	286	286	109	107	detected
2116	11	15992965	15993462	BZ01135	BZ01135	BZ01135	15	294	294	109	107	detected
2117	11	14739631	14739764	BZ016579	BZ016579	BZ016579	15	302	302	109	107	detected
2118	11	13954314	13954630	BZ07353	BZ07353	BZ07353	15	311	311	109	107	detected
2119	11	13368462	13367366	AW44552	AW44552	AW44552	15	311	311	109	107	detected
2120	11	12138967	12139553	BZ05567	BZ05567	BZ05567	15	319	319	109	107	detected
2121	11	11266744	11267044	BZ040058	BZ040058	BZ040058	15	327	327	109	107	detected
2122	11	10275888	10276179	BZ09975	BZ09975	BZ09975	15	331	331	109	107	detected
2123	11	914738	9148239	BZ09834	BZ09834	BZ09834	15	335	335	109	107	detected
2124	11	8519726	8520139	BZ001233	BZ001233	BZ001233	15	343	343	109	107	detected
2125	11	7124759	7124974	BZ05804	BZ05804	BZ05804	15	355	355	109	107	detected
2126	11	6507130	6507951	BE217530	BE217530	BE217530	15	364	364	109	107	detected
2127	11	5610085	5610256	BZ032604	BZ032604	BZ032604	15	367	367	109	107	detected
2128	11	5204158	5204653	X00776	X00776	X00776	15	371	371	109	107	detected
2129	11	497257	497257	BZ035869	BZ035869	BZ035869	15	375	375	109	107	detected
2130	11	4116233	4116373	AW24890	AW24890	AW24890	15	379	379	109	107	detected
2131	11	7120012	7120141	BZ03482	BZ03482	BZ03482	15	390	390	109	107	detected
2132	11	7141319	71413424	AW46368	AW46368	AW46368	15	397	397	109	107	detected
2133	11	7192154	7192155	BZ09782	BZ09782	BZ09782	15	401	401	109	107	detected
2134	11	7222701	7222748	X73790	X73790	X73790	15	401	401	109	107	detected
2135	11	7292209	7292179	BZ042903	BZ042903	BZ042903	15	409	409	109	107	detected
2136	11	7394668	7394684	AF02948	AF02948	AF02948	15	413	413	109	107	detected
2137	11	74838563	74838716	BZ037307	BZ037307	BZ037307	15	431	431	109	107	detected
2138	11	7496070	7496993	AW63706	AW63706	AW63706	15	431	431	109	107	detected
2140	11	7540181	7540181	BZ03601	BZ03601	BZ03601	15	443	443	109	107	detected
2141	11	2628745	2628801	BZ098298	BZ098298	BZ098298	15	455	455	109	107	detected
2142	11	2707492	2707512	CC503764	CC503764	CC503764	15	467	467	111	109	detected
2143	11	2781716	2781742	BZ03879	BZ03879	BZ03879	15	483	483	111	109	detected
2145	11	2819057	2817043	BZ062707	BZ062707	BZ062707	15	494	494	109	107	detected
2146	11	2864690	2864788	BZ000212	BZ000212	BZ000212	15	498	498	109	107	detected
2147	11	2866998	28661361	BZ02512	BZ02512	BZ02512	15	505	505	109	107	detected
2148	11	2986866	2992125	X57033	X57033	X57033	15	505	505	109	107	detected
2149	11	3037583	3037404	BZ035672	BZ035672	BZ035672	15	509	509	109	107	detected
2150	11	3109420	3109844	BZ03309	BZ03309	BZ03309	15	513	513	111	109	detected
2151	11	3208342	3208366	AW26879	AW26879	AW26879	15	516	516	109	107	detected
2152	11	3242422	3242426	BZ013019	BZ013019	BZ013019	15	524	524	111	109	detected
2153	11	3350915	3351028	BZ051441	BZ051441	BZ051441	15	537	537	109	107	detected
2154	11	3381276	3381255	BZ08190	BZ08190	BZ08190	15	546	546	109	107	detected
2155	11	3530750	3530752	863418	863418	863418	15	550	550	109	107	detected
2156	11	3529758	3529798	BZ037718	BZ037718	BZ037718	15	550	550	109	107	detected
2158	11	3620800	3620842	BZ031055	BZ031055	BZ031055	15	554	554	109	107	detected
2159	11	3745019	3745182	BZ03029	BZ03029	BZ03029	15	554	554	109	107	detected
2160	11	3848414	3848853	BZ031300	BZ031300	BZ031300	15	563	563	109	107	detected
2161	11	3956433	3956828	BE17538	BE17538	BE17538	15	563	563	111	109	detected
2162	11	4007147	4007179	CC44740	CC44740	CC44740	15	571	571	109	107	detected
2164	11	4190455	4190896	BZ038943	BZ038943	BZ038943	15	576	576	109	107	detected
2165	11	4229794	4229814	BZ03650	BZ03650	BZ03650	15	576	576	109	107	detected
2166	11	4366615	4366761	BZ03289	BZ03289	BZ03289	15	576	576	109	107	detected
2168	11	4408501	4408736	AF08748	AF08748	AF08748	15	596	596	109	107	detected
2169	11	4486037	4486705	CC54789	CC54789	CC54789	15	607	607	111	109	detected
2171	11	4621363	4621292	BZ01869	BZ01869	BZ01869	15	621	621	109	107	detected
2172	11											

2328	4	131554805	131555230	CCS87165	CCS87165	CCS87165	17	319	319	126	121	114
2329	4	13802093	13802100	CC41090	CC41090	CC41090	17	319	319	126	121	114
2330	4	129549153	129549636	BE217446	BE217446	BE217446	17	322	322	126	121	114
2331	4	12808488	12808735	BZ65634	BZ65634	BZ65634	17	322	322	126	121	114
2332	4	12885061	12885628	CCS7916	CCS7916	CCS7916	17	326	326	126	121	114
2333	4	125949470	125950145	BZ04360	BZ04360	BZ04360	17	330	330	126	121	114
2334	4	124764463	124764624	BZ667931	BZ667931	BZ667931	17	330	330	126	121	114
2335	4	123730398	123730632	M12791	M12791	M12791	17	330	330	126	121	114
2336	4	16278815	162789204	CC770472	CC770472	CC770472	17	350	350	127	115	110
2337	4	161611778	161612345	CCS00703	CCS00703	CCS00703	17	362	362	127	115	110
2339	4	160519596	160520221	CC499519	CC499519	CC499519	17	377	377	127	115	110
2340	4	159957676	159957676	L11668	L11668	L11668	17	377	377	127	115	110
2341	4	159359654	159359843	CCS56740	CCS56740	CCS56740	17	384	384	127	115	110
2342	4	158446638	158490755	BZ684847	BZ684847	BZ684847	17	397	397	127	115	110
2343	4	15736142	157363059	BZ61467	BZ61467	BZ61467	17	409	409	127	115	110
2344	4	131891720	131891844	AW267154	AW267154	AW267154	17	439	439	127	115	110
2345	4	13120333	13120426	CCS29345	CCS29345	CCS29345	17	446	446	128	116	111
2346	4	130118154	130118225	BZ63603	BZ63603	BZ63603	17	449	449	128	116	111
2347	12	12901980	129020040	BZ65428	BZ65428	BZ65428	17	464	464	128	116	111
2348	12	127992329	127992508	BZ014992	BZ014992	BZ014992	17	493	493	128	116	111
2349	12	126996765	126996954	CC775508	CC775508	CC775508	17	499	499	128	116	111
2350	12	125816088	125817142	CCS84599	CCS84599	CCS84599	17	502	502	128	116	111
2351	12	124899400	124899497	BZ023723	BZ023723	BZ023723	17	505	505	128	116	111
2353	12	12373712	123735880	CCS62433	CCS62433	CCS62433	17	518	518	128	116	111
2354	12	122661584	122662389	BZ036180	BZ036180	BZ036180	17	518	518	128	116	111
2355	12	12159376	12159373	CCS17369	CCS17369	CCS17369	17	527	527	128	116	111
2356	12	12066222	12066221	CC762885	CC762885	CC762885	17	527	527	128	116	111
2357	12	11960612	11960692	BZ649599	BZ649599	BZ649599	17	537	537	128	116	111
2358	12	11925458	11925587	Y00120	Y00120	Y00120	17	540	540	128	116	111
2359	12	11778892	117788252	BZ029323	BZ029323	BZ029323	17	540	540	128	116	111
2360	12	116408150	116408366	CC769367	CC769367	CC769367	17	543	543	128	116	111
2361	12	115437862	115438153	BZ090964	BZ090964	BZ090964	17	546	546	128	116	111
2362	12	114288073	114288366	BZ090071	BZ090071	BZ090071	17	550	550	128	116	111
2363	12	113300007	113300339	CC762218	CC762218	CC762218	17	550	550	128	116	111
2364	12	112173168	112173291	CC499603	CC499603	CC499603	17	553	553	128	116	111
2365	12	11054531	110544212	AW428602	AW428602	AW428602	17	560	560	128	116	111
2366	12	109148507	109148881	BZ038971	BZ038971	BZ038971	17	566	566	128	116	111
2367	12	107990819	107990754	CC771011	CC771011	CC771011	17	569	569	128	116	111
2368	12	10754135	107541676	AW289449	AW289449	AW289449	17	583	583	128	116	111
2369	12	107542808	107543271	AW289325	AW289325	AW289325	17	589	589	128	116	111
2370	12	106880032	106880262	BZ085044	BZ085044	BZ085044	17	589	589	128	116	111
2371	22	2392768	2392765	AW112529	AW112529	AW112529	17	599	599	128	116	111
2372	22	24434924	24435091	M73216	M73216	M73216	17	599	599	129	117	112
2373	22	25787407	25787698	BZ026003	BZ026003	BZ026003	17	609	609	129	117	112
2374	22	2585133	2685221	CC481950	CC481950	CC481950	17	614	614	129	117	112
2376	22	27101889	27102271	CCS84837	CCS84837	CCS84837	17	619	619	129	117	112
2377	22	28053686	28053775	BZ692125	BZ692125	BZ692125	17	619	619	129	117	112
2378	22	28066284	2808511	U63311	U63311	U63311	17	630	630	129	117	112
2379	22	2841458	2841594	CCS03537	CCS03537	CCS03537	17	630	630	129	117	112
2380	22	30003557	30003976	CCS83163	CCS83163	CCS83163	17	641	641	129	117	112
2381	22	30618004	30618199	BZ61032	BZ61032	BZ61032	17	645	645	129	117	112
2382	22	30806866	30807186	CCS43145	CCS43145	CCS43145	17	652	652	129	117	112
2383	22	23292334	23292785	CC476601	CC476601	CC476601	17	690	690	130	118	113
2384	22	22450211	22450881	AJ184253	AJ184253	AJ184253	17	697	697	130	118	113
2386	22	19676009	19677872	NM_006767	NM_006767	NM_006767	17	705	705	130	118	113
2387	22	19280000	20280119	BZ647359	BZ647359	BZ647359	17	709	709	130	118	113
2388	22	19566514	19568663	NM_004782	NM_004782	NM_004782	17	709	709	130	118	113
2389	22	19129098	19121115	BZ024710	BZ024710	BZ024710	17	713	713	130	118	113
2390	22	185246971	18524916	AW462471	AW462471	AW462471	17	734	734	130	118	113
2391	22	1847912	18489842	CCS34458	CCS34458	CCS34458	17	738	738	130	118	113
2392	22	17293033	17293236	NM_009974	NM_009974	NM_009974	17	748	748	130	118	113
2393	16	68852469	68852413	AW428609	AW428609	AW428609	18	0	0	129	117	112
2394	16	68923088	68923330	AW425927	AW425927	AW425927	18	0	0	131	119	114
2395	16	68753784	68753877	AA08013	AA08013	AA08013	18	3	3	131	119	114
2396	16	7477643	7477972	CC770793	CC770793	CC770793	18	8	8	132	120	115
2398	16	74245625	74245790	CCS64655	CCS64655	CCS64655	18	26	26	132	120	115
2399	16	75306620	75306985	BZ043242	BZ043242	BZ043242	18	26	26	132	120	115
2400	16	76429259	76429694	BZ060652	BZ060652	BZ060652	18	32	32	132	120	115
2401	16	7662184	7662203	U22298	U22298	U22298	18	44	44	132	120	115
2402	16	78597864	78597980	CCS94487	CCS94487	CCS94487	18	44	44	132	120	115
2403	16	79602322	79603311	CCS84546	CCS84546	CCS84546	18	63	63	132	120	115
2404	16	8077101	8077320	BZ645199	BZ645199	BZ645199	18	73	73	132	120	115
2406	16	81183286	81183489	BZ677608	BZ677608	BZ677608	18	83	83	132	120	115
2408	16	82177432	82177771	BZ888720	BZ888720	BZ888720	18	101	101	132	120	115
2409	16	82741233	82741489	CCS73057	CCS73057	CCS73057	18	108	108	132	120	115
2410	16	84843864	84843943	CCS18201	CCS18201	CCS18201	18	117	117	132	120	115
2411	16	84842871	84842990	BZ011650	BZ011650	BZ011650	18	117	117	132	120	115
2412	16	85996486	85996828	BZ091889	BZ091889	BZ091889	18	124	124	132	120	115
2413	16	87096039	87096239	CCS89619	CCS89619	CCS89619	18	124	124	132	120	115
2414	16	88289496	88289587	AW487657	AW487657	AW487657	18	127	127	132	120	115
2415	16	33853867	33854340	CC767636	CC767636	CC767636	18	131	131	132	120	115
2416	16	45260305	45260400	BZ675566	BZ675566	BZ675566	18	134	134	132	120	115
2418	16	46291182	46291465	AW654244	AW654244	AW654244	18	153	153	133	121	116
2419	16	47130224	47130279	AW357770	AW357770	AW357770	18	169	169	133	121	116
2420	16	48199046	48199165	CC478158	CC478158	CC478158	18	177	177	133	121	116
2421	16	49198673	49198984	CCS44003	CCS44003	CCS44003	18	177	177	133	121	116
2422	16	50301614	50301929	BZ044003	BZ044003	BZ044003	18	181	181	133	121	116
2423	16	51352305	51352316	BZ046536	BZ046536	BZ046536	18	201	201	133	121	116
2424	16	5237361	52373968	CCS56266	CCS56266	CCS56266	18	222	222	133	121	116
2425	16	5343878	53438778	CCS26403	CCS26403	CCS26403	18	222	222	133	121	116
2427	16	54095751	54097211	AW659176	AW659176	AW659176	18	226	226	133	121	116
2428	16	54248384	54248384	X79015	X79015	X79015	18	228	228	133	121	116
2429	16	54953726	54953916	AW478071	AW478071	AW478071	18	250	250	133	121	116
2430	16	55708859	55709031	CCS59807	CCS59807	CCS59807	18	258	258	133	121	116
2431	16	56068716	56068866	BZ025203	BZ025203	BZ025203	18	267	267	133	121	116
2432	16	57614369	57614619	BZ011989								

2585	5	170156927	170157178	BZ283716	BZ283716	BZ283716	20	25	25	145	140	131
2586	5	171221131	17120243	CC525673	CC525673	CC525673	20	28	28	145	140	131
2587	5	172291964	172291955	BZ270995	BZ270995	BZ270995	20	50	50	145	140	131
2588	5	172471873	172471235	BZ249143	BZ249143	BZ249143	20	50	50	145	140	131
2589	5	172485862	172484617	CC777008	CC777008	CC777008	20	53	53	145	140	131
2591	5	173292015	173292081	CC532530	CC532530	CC532530	20	70	70	145	140	131
2593	5	74049828	74049999	AW289200	AW289200	AW289200	20	99	99	145	140	131
2594	5	7298406	7298691	BZ27566	BZ27566	BZ27566	20	102	102	146	141	132
2595	5	7181975	7181999	BZ26145	BZ26145	BZ26145	20	106	106	146	141	132
2596	5	70888475	70888526	CC500233	CC500233	CC500233	20	106	106	146	141	132
2597	5	70279399	70274137	AF035323	AF035323	AF035323	20	109	109	146	141	132
2598	5	67519912	6751128	BZ280812	BZ280812	BZ280812	20	116	116	146	141	132
2599	5	67584161	67584175	BZ279837	BZ279837	BZ279837	20	119	119	146	141	132
2600	5	66880399	66880705	CC482374	CC482374	CC482374	20	123	123	146	141	132
2601	5	6542640	6542576	CC547620	CC547620	CC547620	20	138	138	146	141	132
2602	5	6511666	65112472	AW289180	AW289180	AW289180	20	138	138	146	141	132
2603	5	64533041	64533332	CC523832	CC523832	CC523832	20	145	145	146	141	132
2604	5	63497077	63497408	CC566529	CC566529	CC566529	20	157	157	146	141	132
2605	5	62403744	62403412	CC529092	CC529092	CC529092	20	161	161	146	141	132
2606	5	61801692	61802055	CC563347	CC563347	CC563347	20	169	169	146	141	132
2607	5	61722450	61722560	AW289315	AW289315	AW289315	20	177	177	146	141	132
2608	5	60983223	60983491	CC586997	CC586997	CC586997	20	187	187	146	141	132
2610	5	59978938	59979198	CC533683	CC533683	CC533683	20	195	195	146	141	132
2611	5	59053325	59054001	CC01841	CC01841	CC01841	20	199	199	146	141	132
2612	5	58251252	58251971	CC488301	CC488301	CC488301	20	210	210	146	141	132
2613	5	57157627	57157781	CC566568	CC566568	CC566568	20	220	220	146	141	132
2614	5	56191236	56191587	CC472921	CC472921	CC472921	20	220	220	146	141	132
2615	5	55095567	55095687	CC935532	CC935532	CC935532	20	223	223	146	141	132
2616	5	5405474	54059752	CC542419	CC542419	CC542419	20	226	226	146	141	132
2617	5	53217339	53217512	AW244894	AW244894	AW244894	20	230	230	146	141	132
2618	5	52809860	52810128	CC747406	CC747406	CC747406	20	233	233	146	141	132
2619	5	5238756	52387739	L25866	L25866	L25866	20	233	233	146	141	132
2621	5	51877403	51877925	CC526556	CC526556	CC526556	20	244	244	146	141	132
2622	5	50892409	50892537	CC589443	CC589443	CC589443	20	248	248	146	141	132
2623	5	49676201	49676297	CC521543	CC521543	CC521543	20	260	260	146	141	132
2624	5	48565417	48565743	CC488096	CC488096	CC488096	20	275	275	146	141	132
2625	5	46539610	46539836	BZ030455	BZ030455	BZ030455	20	278	278	146	141	132
2626	5	44601652	44601922	CC545088	CC545088	CC545088	20	294	294	146	141	132
2627	5	43691696	43691936	L02543	L02543	L02543	20	309	309	146	141	132
2628	5	42835975	42836400	D25220	D25220	D25220	20	320	320	146	141	132
2629	5	41841384	41841625	BZ039302	BZ039302	BZ039302	20	330	330	146	141	132
2630	5	40803252	40803698	CC572194	CC572194	CC572194	20	330	330	146	141	132
2631	5	39791738	39792359	CC525812	CC525812	CC525812	20	333	333	146	141	132
2632	5	38967663	38967899	BZ034737	BZ034737	BZ034737	20	357	357	146	141	132
2633	5	37869056	37869267	BZ015127	BZ015127	BZ015127	20	357	357	146	141	132
2634	5	37038912	37039253	CC589115	CC589115	CC589115	20	374	374	146	141	132
2635	5	35869502	35869712	BZ286635	BZ286635	BZ286635	20	383	383	146	141	132
2636	5	34858790	34858949	BZ266925	BZ266925	BZ266925	20	387	387	146	141	132
2637	5	33841801	33841935	CC596142	CC596142	CC596142	20	397	397	146	141	132
2638	5	32850639	32850784	BZ279841	BZ279841	BZ279841	20	425	425	146	141	132
2639	5	31773408	31773701	CC510228	CC510228	CC510228	20	447	447	146	141	132
2640	5	30668667	30669180	CC587609	CC587609	CC587609	20	464	464	146	141	132
2641	5	29608752	29609339	BZ031717	BZ031717	BZ031717	20	478	478	146	141	132
2643	5	28399104	28399418	CC488860	CC488860	CC488860	20	492	492	146	141	132
2644	5	27167900	27168200	CC587251	CC587251	CC587251	20	505	505	146	141	132
2645	5	26217446	26217799	CC532599	CC532599	CC532599	20	509	509	146	141	132
2646	5	24867009	24867105	CC524554	CC524554	CC524554	20	533	533	146	141	132
2647	5	24547129	24547383	AF013085	AF013085	AF013085	20	540	540	146	141	132
2648	5	23857409	23857883	BZ014829	BZ014829	BZ014829	20	543	543	146	141	132
2649	5	22535922	22536200	CC493750	CC493750	CC493750	20	564	564	146	141	132
2650	5	21449012	21449156	CC520996	CC520996	CC520996	20	590	590	146	141	132
2651	5	20258203	20258203	BZ264099	BZ264099	BZ264099	20	600	600	146	141	132
2652	5	19264976	19265121	CC501934	CC501934	CC501934	20	607	607	146	141	132
2653	5	18279173	18279496	BZ027231	BZ027231	BZ027231	20	614	614	146	141	132
2654	5	16877163	16877398	BZ262031	BZ262031	BZ262031	20	627	627	146	141	132
2655	5	17329613	17329683	BZ027273	BZ027273	BZ027273	20	637	637	146	141	132
2657	5	13967562	13967913	CC578133	CC578133	CC578133	20	675	675	146	141	132
2658	5	12943668	12943918	CC556510	CC556510	CC556510	20	683	683	146	141	132
2659	5	11814739	11814799	CC560395	CC560395	CC560395	20	699	699	146	141	132
2661	5	10581252	10581624	BZ026035	BZ026035	BZ026035	20	724	724	146	141	132
2662	5	9906549	9906611	BZ04162	BZ04162	BZ04162	20	737	737	146	141	132
2663	5	9006763	9006808	CC481538	CC481538	CC481538	20	752	752	146	141	132
2664	5	7573878	7574070	CC541236	CC541236	CC541236	20	752	752	146	141	132
2665	5	6307578	6307866	CC564722	CC564722	CC564722	20	760	760	146	141	132
2666	5	5506155	5506009	CC479930	CC479930	CC479930	20	767	767	146	141	132
2667	5	441934	4419177	CC711203	CC711203	CC711203	20	775	775	146	141	132
2669	5	3507587	3507859	CC503913	CC503913	CC503913	20	775	775	146	141	132
2670	5	2343951	2344261	CC573749	CC573749	CC573749	20	783	783	146	141	132
2671	5	23074	23080	BZ062065	BZ062065	BZ062065	20	814	814	146	141	132
2672	5	21625068	21625376	BZ032701	BZ032701	BZ032701	20	0	0	147	142	133
2673	5	2279391	22794601	AW289286	AW289286	AW289286	21	3	3	147	143	133
2674	5	22954846	22954846	CC492289	CC492289	CC492289	21	3	3	147	143	133
2676	5	23202684	23202987	BZ288341	BZ288341	BZ288341	21	3	3	147	143	133
2677	5	9963268	9963444	BZ834030	BZ834030	BZ834030	21	119	119	148	143	134
2678	5	9728245	9728329	U31122	U31122	U31122	21	143	143	148	143	134
2679	5	9631668	9631668	BZ081462	BZ081462	BZ081462	21	151	151	148	143	134
2680	5	9532283	9532317	BZ261796	BZ261796	BZ261796	21	155	155	148	143	134
2682	5	9435703	9435706	BZ032575	BZ032575	BZ032575	21	155	155	148	143	134
2683	5	9323206	9323235	BZ262392	BZ262392	BZ262392	21	163	163	148	143	134
2684	5	92278637	92278879	CC588559	CC588559	CC588559	21	166	166	148	143	134
2685	5	91297594	91297902	CC469826	CC469826	CC469826	21	170	170	148	143	134
2686	5	90131496	90131598	BZ289745	BZ289745	BZ289745	21	187	187	148	143	134
2687	5	89018425	89018917	CC477951	CC477951	CC477951	21	187	187	148	143	134
2688	5	8406006	8406166	CC539338	CC539338	CC539338	21	191	191	149	144	135
2689	5	86992304	86993320	CC471417	CC471417	CC471417	21	211	211	149	144	135
2690	5	8242348	82423709	S80443	S80443	S80443	21	216	216	149	144	135
2691	5	80881754	80881999	CC563473	CC563473							

2851	3	13402808	13402999	BZ09105	BZ09105	BZ09105	22	770	770	159	154	145
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2853	3	12881073	12881054	AW354958	AW354958	AW354958	22	810	810	160	155	146
2854	3	12820833	12820648	CC488538	CC488538	CC488538	22	819	819	160	155	146
2855	3	54438088	54438228	CC554778	CC554778	CC554778	23	0	0	161	156	147
2856	6	55411905	55412338	BZ096558	BZ096558	BZ096558	23	7	7	161	156	147
2858	6	56437228	56437652	CC553822	CC553822	CC553822	23	22	22	161	156	147
2859	6	50999225	57000067	AW266887	AW266887	AW266887	23	32	32	161	156	147
2860	6	57466829	57466829	CC496629	CC496629	CC496629	23	37	37	161	156	147
2861	6	58439018	58439084	BZ046213	BZ046213	BZ046213	23	39	39	161	156	147
2862	6	62749778	62746183	BZ030083	BZ030083	BZ030083	23	81	81	161	156	147
2863	6	33364960	33365651	CC591860	CC591860	CC591860	23	108	108	162	157	148
2864	6	34177497	34177661	CC520595	CC520595	CC520595	23	108	108	162	157	148
2865	6	35192318	35192808	BZ052963	BZ052963	BZ052963	23	110	110	162	157	148
2866	6	36095224	36094902	BZ052523	BZ052523	BZ052523	23	116	116	162	157	148
2867	6	37097212	37097400	BZ066173	BZ066173	BZ066173	23	130	130	162	157	148
2869	6	38149103	38149195	BZ052525	BZ052525	BZ052525	23	136	136	162	157	148
2870	6	38994981	38972255	BZ088689	BZ088689	BZ088689	23	136	136	162	157	148
2871	6	39964344	39964514	BZ033908	BZ033908	BZ033908	23	157	157	162	157	148
2872	6	41108495	41109164	CC588514	CC588514	CC588514	23	171	171	162	157	148
2873	6	42142111	42142208	BZ046044	BZ046044	BZ046044	23	174	174	162	157	148
2874	6	42237180	42237180	BZ019541	BZ019541	BZ019541	23	189	189	162	157	148
2876	6	44381880	44384544	CC527624	CC527624	CC527624	23	219	219	162	157	148
2877	6	45150878	45151526	CC706902	CC706902	CC706902	23	224	224	162	157	148
2878	6	46237552	46237599	CC492532	CC492532	CC492532	23	226	226	162	157	148
2879	6	47203219	47203351	BZ048608	BZ048608	BZ048608	23	237	237	162	157	148
2880	6	48281512	48282220	CC489788	CC489788	CC489788	23	245	245	162	157	148
2881	6	50687100	50687221	CC526543	CC526543	CC526543	23	263	263	162	157	148
2882	6	49591284	49591483	BZ022724	BZ022724	BZ022724	23	275	275	162	157	148
2883	6	51620781	51620877	CC564262	CC564262	CC564262	23	287	287	162	157	148
2884	6	52248876	52249322	AW289423	AW289423	AW289423	23	293	293	162	157	148
2885	6	52452366	52452536	AW417159	AW417159	AW417159	23	293	293	162	157	148
2886	6	53240349	53240606	AW347590	AW347590	AW347590	23	293	293	162	157	148
2887	6	3269874	3266116	U09022	U09022	U09022	23	295	295	163	158	149
2888	6	31651047	3164571	AP011926	AP011926	AP011926	23	301	301	163	158	149
2889	6	32259295	32259599	W01212	W01212	W01212	23	307	307	163	158	149
2890	6	31062016	31062398	CC770129	CC770129	CC770129	23	325	325	163	158	149
2891	6	30171413	30171666	CC502313	CC502313	CC502313	23	356	356	163	158	149
2892	6	29269007	29269107	BZ073607	BZ073607	BZ073607	23	356	356	163	158	149
2893	6	28128995	28129125	CC774095	CC774095	CC774095	23	356	356	163	158	149
2894	6	27475655	27475806	BZ083000	BZ083000	BZ083000	23	359	359	163	158	149
2895	6	26237142	26237142	CC523412	CC523412	CC523412	23	359	359	163	158	149
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2897	6	24758972	24759066	CC469880	CC469880	CC469880	23	371	371	163	158	149
2898	6	23675683	23675907	BZ079663	BZ079663	BZ079663	23	375	375	163	158	149
2899	6	23353188	23353412	BZ043535	BZ043535	BZ043535	23	375	375	163	158	149
2900	6	22359712	22359900	CC549051	CC549051	CC549051	23	379	379	163	158	149
2902	6	21306201	21306372	CC506269	CC506269	CC506269	23	387	387	163	158	149
2903	6	20292879	20292935	CC475203	CC475203	CC475203	23	409	409	163	158	149
2904	6	19469047	19469202	CC475636	CC475636	CC475636	23	411	411	163	158	149
2905	6	18401728	18407395	BZ051620	BZ051620	BZ051620	23	415	415	163	158	149
2906	6	17220044	17220166	CC579498	CC579498	CC579498	23	423	423	163	158	149
2907	6	16302126	16302393	CC530122	CC530122	CC530122	23	426	426	163	158	149
2908	6	15256921	15257018	CC507661	CC507661	CC507661	23	430	430	163	158	149
2909	6	14375445	14374895	CC735678	CC735678	CC735678	23	430	430	163	158	149
2910	6	13175664	13175751	BZ043444	BZ043444	BZ043444	23	441	441	163	158	149
2912	6	12089544	12089757	BZ081180	BZ081180	BZ081180	23	457	457	163	158	149
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2914	6	10112928	10112928	CC773631	CC773631	CC773631	23	465	465	163	158	149
2915	6	9064357	9064943	BZ083137	BZ083137	BZ083137	23	477	477	163	158	149
2916	6	8114693	8114859	CC554716	CC554716	CC554716	23	477	477	163	158	149
2917	6	7101837	7101996	CC568662	CC568662	CC568662	23	489	489	163	158	149
2918	6	6189638	6189930	CC513564	CC513564	CC513564	23	496	496	163	158	149
2919	6	5336919	5337245	BZ086461	BZ086461	BZ086461	23	500	500	163	158	149
2920	6	4213719	4210273	CC518276	CC518276	CC518276	23	507	507	163	158	149
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2924	6	1562146	1562214	CC507621	CC507621	CC507621	23	541	541	163	158	149
2925	6	341176	341407	BZ016566	BZ016566	BZ016566	23	544	544	163	158	149
2926	6	7908352	7908392	BZ056100	BZ056100	BZ056100	24	0	0	164	159	150
2927	6	7548208	7548492	CC472793	CC472793	CC472793	24	3	3	164	159	150
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2929	6	7262337	7262531	CC499301	CC499301	CC499301	24	20	20	164	159	150
2930	6	72349206	72349356	BZ043012	BZ043012	BZ043012	24	20	20	164	159	150
2931	6	71442335	71442388	BZ020065	BZ020065	BZ020065	24	14	14	164	159	150
2932	6	70273324	70273720	CC517338	CC517338	CC517338	24	39	39	164	159	150
2933	6	69297120	69297389	CC771709	CC771709	CC771709	24	54	54	164	159	150
2934	6	68218669	68218868	BZ032869	BZ032869	BZ032869	24	63	63	164	159	150
2935	6	66983570	66984089	BZ025654	BZ025654	BZ025654	24	74	74	164	159	150
2936	6	66084873	66085010	BZ042223	BZ042223	BZ042223	24	74	74	164	159	150
2937	6	62559833	62559912	CC515380	CC515380	CC515380	24	74	74	164	159	150
2938	6	63994484	63996613	BZ083085	BZ083085	BZ083085	24	88	88	164	159	150
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2950	6	53133500	53133792	CC495691	CC495691	CC495691	24	158	158	164	159	150
2951	6	52624808	52626097	AW461557	AW461557	AW461557	24	161	161	164	159	150
2952	6	51943311	51943403	BZ017451	BZ017451	BZ017451	24	167	167	164	159	150
2953	6	51859568	51859819	BZ035847	BZ035847	BZ						

3109	10	104854091	104856095	CC473615	CC473615	CC473615	26	287	287	178	171	161
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3111	10	10545863	10545863	CC593624	CC593624	CC593624	26	299	299	178	171	161
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3113	10	10745593	10745593	CC585779	CC585779	CC585779	26	317	317	178	171	161
3114	10	108433028	108433028	BZ041034	BZ041034	BZ041034	26	337	337	178	171	161
3115	10	109432965	109433101	CC520635	CC520635	CC520635	26	382	382	178	171	161
3116	10	110379598	110376224	BZ066535	BZ066535	BZ066535	26	394	394	178	171	161
3117	10	111435591	111451729	CC466138	CC466138	CC466138	26	408	398	178	171	161
3119	10	112534607	112534218	CC549607	CC549607	CC549607	26	405	405	178	171	161
3120	10	113571846	113572006	BZ065995	BZ065995	BZ065995	26	405	405	178	171	161
3121	10	11428017	11428017	AW209417	AW209417	AW209417	26	415	415	178	171	161
3122	10	115666115	115666931	AF013092	AF013092	AF013092	26	437	437	178	171	161
3123	10	116463728	116463972	CC603321	CC603321	CC603321	26	457	457	178	171	161
3124	10	117644162	117644670	BZ069205	BZ069205	BZ069205	26	464	464	178	171	161
3125	10	118627668	118627827	CC565193	CC565193	CC565193	26	467	467	178	171	161
3126	10	119541337	119541811	BZ061918	BZ061918	BZ061918	26	470	470	178	171	161
3127	10	120444862	120444755	AW327236	AW327236	AW327236	26	470	470	178	171	161
3128	10	121779890	121779890	BZ069536	BZ069536	BZ069536	26	479	479	178	171	161
3129	10	122782825	122782825	CC499337	CC499337	CC499337	26	477	477	178	171	161
3130	10	123842846	123843042	CC475045	CC475045	CC475045	26	489	489	178	171	161
3131	10	124254043	124254042	AW207015	AW207015	AW207015	26	489	489	178	171	161
3133	10	125013455	125013629	BZ070511	BZ070511	BZ070511	26	499	499	178	171	161
3135	10	12579623	12576013	CC098680	CC098680	CC098680	26	505	505	178	171	161
3136	10	12689991	12689991	CC525452	CC525452	CC525452	26	516	516	178	171	161
3137	10	128027240	128027321	CC572279	CC572279	CC572279	26	530	530	178	171	161
3138	10	129041946	129042509	CC541563	CC541563	CC541563	26	534	534	178	171	161
3139	10	130253524	130253728	BZ088017	BZ088017	BZ088017	26	537	537	178	171	161
3140	10	13110426	131104564	BZ023326	BZ023326	BZ023326	26	551	551	178	171	161
3141	10	132249003	13226371	BZ082266	BZ082266	BZ082266	26	565	565	178	171	161
3142	10	134383548	134383723	CC487757	CC487757	CC487757	26	583	583	178	171	161
3143	10	135082542	135082665	AW426122	AW426122	AW426122	26	589	589	178	171	161
3144	8	1802880	1802198	BZ087871	BZ087871	BZ087871	27	0	0	172	172	162
3145	8	2819731	2819725	BZ040888	BZ040888	BZ040888	27	0	0	179	179	162
3146	8	3553288	3553591	CC467485	CC467485	CC467485	27	3	3	172	172	162
3147	8	4557931	4558202	BZ046725	BZ046725	BZ046725	27	18	18	179	179	162
3148	8	5504815	5505037	CC547920	CC547920	CC547920	27	48	48	172	172	162
3150	8	6347713	6348192	AF094699	AF094699	AF094699	27	48	48	179	179	162
3151	8	6460728	6460978	CC772376	CC772376	CC772376	27	71	71	172	172	162
3153	4	17699489	176994808	BZ054808	BZ054808	BZ054808	27	122	122	180	180	163
3154	4	17780489	177805637	CC561430	CC561430	CC561430	27	147	147	180	180	163
3155	4	178782844	178782811	CC760073	CC760073	CC760073	27	162	162	173	173	163
3156	4	179837004	179837294	CC519877	CC519877	CC519877	27	172	172	180	180	163
3157	4	180915181	180915006	BZ010025	BZ010025	BZ010025	27	182	182	180	180	163
3158	4	181049230	181047899	CC583383	CC583383	CC583383	27	187	187	180	180	163
3160	4	18382849	18380150	BZ073245	BZ073245	BZ073245	27	208	208	180	180	163
3161	4	184794601	184794747	BZ057437	BZ057437	BZ057437	27	213	213	173	173	163
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3163	4	18590782	18591120	AW361113	AW361113	AW361113	27	235	235	173	173	163
3164	4	18641064	18641157	MD1102	MD1102	MD1102	27	247	247	180	180	163
3166	4	187802372	187802522	AW369600	AW369600	AW369600	27	272	272	180	180	163
3167	4	187097868	18709947	BZ080622	BZ080622	BZ080622	27	282	282	173	173	163
3169	4	188950699	188950849	CC506040	CC506040	CC506040	27	317	317	173	173	163
3170	4	189889935	18989352	BZ33880	BZ33880	BZ33880	27	336	336	173	173	163
3171	8	1796119	17961260	AW461077	AW461077	AW461077	27	362	362	181	181	164
3172	8	17452364	17453367	CC529063	CC529063	CC529063	27	380	380	180	180	164
3173	8	17131136	1713170	AW289341	AW289341	AW289341	27	385	385	181	181	164
3174	8	16508369	16508590	BZ025252	BZ025252	BZ025252	27	389	389	181	181	164
3175	8	16642925	16642925	XS4183	XS4183	XS4183	27	411	411	174	174	164
3177	8	15575788	15575788	BZ066372	BZ066372	BZ066372	27	415	415	181	181	164
3178	8	1444792	14448102	CC529930	CC529930	CC529930	27	415	415	174	174	164
3178	8	1344789	1344789	CC507083	CC507083	CC507083	27	424	424	174	174	164
3179	8	12924410	12924587	CC590187	CC590187	CC590187	27	428	428	181	181	164
3180	8	8219223	8219248	CC488006	CC488006	CC488006	27	433	433	182	182	164
3181	8	9279110	9279244	BZ061672	BZ061672	BZ061672	27	437	437	182	182	164
3182	8	2944072	2944768	BZ070336	BZ070336	BZ070336	27	437	437	183	183	165
3183	8	30970680	30970726	CC569958	CC569958	CC569958	27	437	437	183	183	165
3185	8	3202203	3203268	BZ060711	BZ060711	BZ060711	27	451	451	183	183	165
3186	8	3303484	3303761	BZ014972	BZ014972	BZ014972	27	456	456	183	183	165
3187	8	34043557	34043874	CC484383	CC484383	CC484383	27	456	456	176	176	165
3188	8	35880930	35881421	CC469562	CC469562	CC469562	27	464	464	176	176	165
3189	8	3609415	3609415	CC522923	CC522923	CC522923	27	464	464	176	176	165
3190	8	37867937	37868426	CC540934	CC540934	CC540934	27	473	473	176	176	165
3191	8	40598198	4059839	CC584934	CC584934	CC584934	27	482	482	183	183	165
3192	8	3899782	3900006	BZ046381	BZ046381	BZ046381	27	486	486	183	183	165
3193	8	3995972	3999468	CC513112	CC513112	CC513112	27	490	490	183	183	165
3194	8	41487585	41487566	AW289269	AW289269	AW289269	27	504	504	183	183	165
3197	8	4190818	4190919	AW358694	AW358694	AW358694	27	520	520	183	183	165
3198	8	41691667	41691628	BZ043882	BZ043882	BZ043882	27	526	526	176	176	165
3200	8	42421261	42421465	AW464753	AW464753	AW464753	27	536	536	183	183	165
3201	8	42692485	42692563	CC63114	CC63114	CC63114	27	536	536	183	183	165
3202	8	43121222	43121464	CC548187	CC548187	CC548187	27	541	541	183	183	165
3203	8	18648666	18648987	BZ042895	BZ042895	BZ042895	27	541	541	184	184	165
3204	8	19724217	19724324	CC498750	CC498750	CC498750	27	545	545	177	177	165
3205	3	27194781	27195244	BZ019176	BZ019176	BZ019176	27	545	545	180	180	165
3208	3	21378815	2138111	BZ028615	BZ028615	BZ028615	27	596	596	185	185	166
3209	3	21775795	21776118	BZ022514	BZ022514	BZ022514	27	590	590	178	178	166
3210	3	2484613	2484832	BZ013729	BZ013729	BZ013729	27	609	609	185	185	166
3211	3	2562485	2562478	CC526260	CC526260	CC526260	27	619	619	185	185	166
3212	3	2590208	2590303	BZ056184	BZ056184	BZ056184	27	628	628	178	178	166
3213	1	22581602	22589170	BZ009094	BZ009094	BZ009094	28	0	0	186	186	166
3214	1	22072429	22072492	AW464955	AW464955	AW464955	28	146	146	179	179	166
3216	1	228451070	228451407	CC762568	CC762568	CC762568	28	55	55	179	179	166
3217	1	22980259	22980304	BZ042524	BZ042524	BZ042524	28	71	71	186	186	166
3218	1	23080977	23080974	BZ080682	BZ080682	BZ080682	28	81	81	179	179	166
3219	1	23162841	23162216	BZ041881	BZ041881	BZ041881	28</					

3375	X	96723208	96723833	BZ256917	BZ256917	BZ256917	X	797	797	196	189
3376	X	97887967	9788853	CC270389	CC270389	CC270389	X	816	816	196	176
3377	X	98099668	9809997	BZ040511	BZ040511	BZ040511	X	828	828	196	189
3378	X	9924881	9925203	CC58488	CC58488	CC58488	X	852	852	196	176
3380	X	10046999	10046272	BZ01035	BZ01035	BZ01035	X	859	859	196	189
3381	X	101524529	101524863	CC775603	CC775603	CC775603	X	866	866	196	176
3382	X	105428038	105428196	CC535354	CC535354	CC535354	X	889	889	196	176
3383	X	104079724	104079817	BZ01493	BZ01493	BZ01493	X	904	904	196	176
3384	X	10281587	10281513	X0306	X0306	X0306	X	918	918	196	176
3385	X	102145352	102145830	CC477330	CC477330	CC477330	X	935	935	196	176
3386	X	105870059	105870542	CC582591	CC582591	CC582591	X	982	982	196	176
3387	X	10678824	10678807	CC520217	CC520217	CC520217	X	991	991	196	176
3388	X	107635869	107636038	CC481236	CC481236	CC481236	X	1000	1000	196	176
3389	X	10853407	10853532	BZ045492	BZ045492	BZ045492	X	1000	1000	196	176
3390	X	108711763	108711837	AW04447	AW04447	AW04447	X	1013	1013	196	176
3392	X	109499336	109499493	BZ06252	BZ06252	BZ06252	X	1014	1014	196	176
3393	X	110502258	110502335	CC511548	CC511548	CC511548	X	1014	1014	196	176
3394	X	111499778	111500198	CC576656	CC576656	CC576656	X	1019	1019	196	176
3395	X	112341688	112341821	CC587934	CC587934	CC587934	X	1024	1024	196	176
3396	X	11367621	11367842	BZ000268	BZ000268	BZ000268	X	1029	1029	196	176
3397	X	114707002	114707541	AW062747	AW062747	AW062747	X	1038	1038	196	176
3398	X	85794533	85794703	BZ09002	BZ09002	BZ09002	X	1042	1042	196	176
3399	X	84890405	84890801	CC473032	CC473032	CC473032	X	1047	1047	196	176
3400	X	83300016	83300100	BZ09102	BZ09102	BZ09102	X	1056	1056	196	176
3401	X	82562307	82562301	BZ08204	BZ08204	BZ08204	X	1056	1056	196	176
3402	X	81647456	81648173	CC566579	CC566579	CC566579	X	1060	1060	196	176
3403	X	80425267	80426016	CC555240	CC555240	CC555240	X	1070	1070	196	176
3404	X	78424172	78424361	CC562874	CC562874	CC562874	X	1095	1095	196	176
3405	X	77213078	77213078	BZ04904	BZ04904	BZ04904	X	1095	1095	196	176
3406	X	76568554	76569078	AW289378	AW289378	AW289378	X	1099	1099	196	176
3407	X	76005744	76005919	CC517219	CC517219	CC517219	X	1108	1108	196	176
3408	X	74420207	74420207	BZ09507	BZ09507	BZ09507	X	1112	1112	196	176
3410	X	73537463	73537817	BZ055438	BZ055438	BZ055438	X	1127	1127	196	176
3411	X	72828595	72829222	CC574702	CC574702	CC574702	X	1144	1144	196	176
3412	X	71541396	71541719	CC586657	CC586657	CC586657	X	1156	1156	196	176
3413	X	69667776	69667840	BZ047684	BZ047684	BZ047684	X	1174	1174	196	176
3414	X	71049399	71049697	CC567042	CC567042	CC567042	X	1178	1178	196	176
3415	X	68749607	68749227	BZ032308	BZ032308	BZ032308	X	1188	1188	196	176
3416	X	67706418	67706502	CC513396	CC513396	CC513396	X	1193	1193	196	176
3417	X	66714475	66714583	CC566852	CC566852	CC566852	X	1198	1198	196	176
3418	X	65886117	65886215	BZ064547	BZ064547	BZ064547	X	1203	1203	196	176
3419	X	51140058	51140188	BZ055438	BZ055438	BZ055438	X	1213	1213	196	176
3420	X	50381277	50381706	CC560237	CC560237	CC560237	X	1213	1213	196	176
3421	X	49386982	49387133	BZ073598	BZ073598	BZ073598	X	1218	1218	196	176
3422	X	4856444	4856528	CC586477	CC586477	CC586477	X	1218	1218	196	176
3424	X	47529683	47529960	BZ05125	BZ05125	BZ05125	X	1223	1223	196	176
3425	X	46696704	46696992	CC501756	CC501756	CC501756	X	1223	1223	196	176
3426	X	64732669	64733054	CC517135	CC517135	CC517135	X	1266	1266	196	176
3427	X	63197733	63197896	BZ069185	BZ069185	BZ069185	X	1270	1270	196	176
3428	X	52906744	52906890	BZ069950	BZ069950	BZ069950	X	1300	1300	196	176
3429	X	53852382	53853504	BZ011301	BZ011301	BZ011301	X	1318	1318	196	176
3430	X	54872808	54872879	BZ031748	BZ031748	BZ031748	X	1336	1336	196	176
3431	X	57820502	57820698	BZ091254	BZ091254	BZ091254	X	1350	1350	196	176
3432	X	45651865	45652076	CC565070	CC565070	CC565070	X	1366	1366	196	176
3433	X	44626494	44626558	BZ028347	BZ028347	BZ028347	X	1366	1366	196	176
3434	X	43511522	43511750	CC595137	CC595137	CC595137	X	1380	1380	196	176
3435	X	43361976	43362313	AW267052	AW267052	AW267052	X	1380	1380	196	176
3436	X	41652009	41652259	BZ078158	BZ078158	BZ078158	X	1389	1389	196	176
3437	X	42671917	42672728	BZ064069	BZ064069	BZ064069	X	1389	1389	196	176
3438	X	40631696	40631798	BZ040484	BZ040484	BZ040484	X	1393	1393	196	176
3439	X	39669326	39669556	BZ07544	BZ07544	BZ07544	X	1398	1398	196	176
3440	X	38575761	38576101	CC764303	CC764303	CC764303	X	1403	1403	196	176
3442	X	37815229	37815457	BZ019820	BZ019820	BZ019820	X	1413	1413	196	176
3443	X	37419345	37419605	AF036097	AF036097	AF036097	X	1413	1413	196	176
3444	X	34749663	34749481	CC517355	CC517355	CC517355	X	1413	1413	196	176
3445	X	36304090	36304195	BZ031005	BZ031005	BZ031005	X	1418	1418	196	176
3446	X	35266328	35266783	CC585642	CC585642	CC585642	X	1418	1418	196	176
3447	X	33799479	33791072	CC560121	CC560121	CC560121	X	1418	1418	196	176
3448	X	32723046	32723054	CC577844	CC577844	CC577844	X	1418	1418	196	176
3449	X	32142782	32142949	CC518632	CC518632	CC518632	X	1418	1418	196	176
3450	X	30960417	30960732	CC765676	CC765676	CC765676	X	1418	1418	196	176
3453	X	30014029	30014441	BZ051619	BZ051619	BZ051619	X	1438	1438	196	176
3454	X	29888512	29888574	CC529463	CC529463	CC529463	X	1443	1443	196	176
3455	X	27721904	27722244	CC498328	CC498328	CC498328	X	0	0	196	180
3456	X	26461406	26461710	CC565587	CC565587	CC565587	X	14	14	196	180
3457	X	25403688	25403849	CC567328	CC567328	CC567328	X	34	34	196	180
3458	X	25612657	25612560	BZ091621	BZ091621	BZ091621	X	34	34	196	180
3459	X	23458827	23457077	CC485137	CC485137	CC485137	X	40	40	196	180
3460	X	22510723	22510869	BZ087399	BZ087399	BZ087399	X	45	45	196	180
3461	X	21653195	21653562	CC773473	CC773473	CC773473	X	45	45	196	180
3462	X	20904201	20904627	BZ08280	BZ08280	BZ08280	X	45	45	196	180
3463	X	20019679	20019907	CC475753	CC475753	CC475753	X	63	63	196	180
3464	X	19932781	19932999	AW465031	AW465031	AW465031	X	63	63	196	180
3465	X	19430055	19430302	CC519438	CC519438	CC519438	X	63	63	196	180
3466	X	18055211	18055889	AW314533	AW314533	AW314533	X	76	76	196	180
3467	X	1762196	17622481	BZ098515	BZ098515	BZ098515	X	76	76	196	180
3468	X	16831858	16832448	CC472579	CC472579	CC472579	X	83	83	196	180
3469	X	15918827	15919392	CC564485	CC564485	CC564485	X	83	83	196	180
3471	X	14776605	14776605	CC541823	CC541823	CC541823	X	90	90	196	180
3472	X	13744621	13744789	BZ053371	BZ053371	BZ053371	X	97	97	196	180
3473	X	11076319	11076751	M86932	M86932	M86932	X	0	0	196	180
3474	X	949234	9492781	AW314864	AW314864	AW314864	X	13	13	196	180
3475	X	8850801	8851012	CC526415	CC526415	CC526415	X	28	28	196	180
3476	X	8031739	8031782	CC483846	CC483846	CC483846	X	39	39	196	180
3478	X	7096787	7096952	BZ073986	BZ073986	BZ073986	X	45	45	196	180
3479	X	6114748	6114748	BZ04391	BZ04391	BZ04391	X	45	45	196	180
3482	X	3254325	3254426	BZ018292	BZ018292	BZ018292	X	74	74	196	180
3483	X	1615459	1615603	AW656774	AW656774	AW656774	X	94	94	196	180
3484	X	1551960	1552450	M24103	M24103	M24103	X	100	100	196	180

AG here

Inversion missed by AG

3 > 1

AG here

AG is wrong in merging these two blocks, as other blocks comes in between

2 > 1

Table 2. Discrepancies in HSB definitions between SyntenyTracker and AutoGRAPH using cattle-human RH comparative map.

Comparison	Number of cases
Reasons for HSBs defined by SyntenyTracker being joined by AutoGRAPH	
Sub-blocks on other reference chromosomes	10
Inversion missed by AutoGRAPH	2
Reasons for HSBs defined by SyntenyTracker being broken by AutoGRAPH into >1 HSB	
Presence of singletons	2
Out-of-place markers were called HSBs by AutoGRAPH	1
Deletion of markers by AutoGRAPH resulted in losing of HSB defined by SyntenyTracker	4