

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
1	D1S468	4.22	3.54	4.46	0.75	193	213
1	D1S2660	10.78	10.21	11.2	0.78	120	128
1	D1S214	14.04	12.39	15.57	0.8	122	152
1	D1S450	20.61	21.04	20	0.81	316	340
1	D1S2667	24.68	23.19	26.18	0.82	128	156
1	D1S434	29.93	25.34	34.9	0.61	136	150
1	D1S507	33.75	29.65	38.2	0.78	191	211
1	D1S2697	37.05	34.04	40.41	0.7	291	305
1	D1S2644	43.72	39.23	48.44	0.81	120	136
1	D1S199	45.33	40.52	50.41	0.84	99	125
1	D1S2864	50.28	41.76	59.13	0.8	147	175
1	D1S234	55.1	45.36	65.26	0.82	268	288
1	D1S233	61.1	46.55	75.97	0.85	200	216
1	D1S255	65.47	48.95	82.41	0.74	91	111
1	D1S2892	70.41	51.36	89.98	0.89	101	137
1	D1S2713	73.81	51.36	96.72	0.75	261	287
1	D1S2797	75.66	51.36	100.52	0.73	102	138
1	D1S2652	80.77	54.56	107.41	0.64	97	115
1	D1S2890	85.68	56.7	115.09	0.81	214	238
1	D1S2873	89.49	57.17	121.68	0.68	173	189
1	D1S2737	90.58	58.83	122.77	0.75	199	229
1	D1S2846	91.89	58.83	124.97	0.56	171	185
1	D1S230	95.31	63.1	127.72	0.79	154	166
1	D1S198	99.3	66.3	132.67	0.8	316	330
1	D1S2841	106.45	72.16	141.34	0.78	234	254
1	D1S500	107.56	73.35	141.34	0.64	120	138
1	D1S207	113.69	76.96	151.07	0.84	149	179
1	D1S2766	118.14	78.03	158.89	0.75	190	202
1	D1S435	125.51	84.24	167.43	0.73	165	185
1	D1S2868	126.16	85.53	167.43	0.77	210	224
1	D1S2793	129.37	87.66	171.72	0.77	100	136
1	D1S206	134.2	93.04	176.02	0.82	208	226
1	D1S495	136.88	97.33	177.09	0.87	146	172
1	D1S2726	144.38	100.54	188.92	0.75	284	296
1	D1S252	150.27	103.74	197.51	0.82	90	115
1	D1S498	155.89	107.29	205.24	0.82	190	212
1	D1S2635	165.62	110.83	221.09	0.86	150	167
1	D1S484	169.68	113.5	226.43	0.64	276	290
1	D1S2878	177.86	122.64	233.92	0.84	152	178
1	D1S196	181.49	127.3	236.79	0.73	322	338
1	D1S452	188.85	133.78	244.68	0.76	123	135
1	D1S218	191.52	138.06	245.75	0.83	271	295
1	D1S2818	198.3	144.46	253	0.7	261	273
1	D1S238	202.73	148.74	257.48	0.86	296	330
1	D1S2877	205.4	151.1	260.68	0.72	147	161
1	D1S412	209.15	154.08	264.95	0.71	133	151
1	D1S413	212.44	155.15	270.52	0.77	254	270
1	D1S249	220.65	159.42	282.75	0.87	163	193
1	D1S2692	222.84	162.63	283.86	0.87	280	320
1	D1S245	227.81	165.85	290.57	0.83	243	261
1	D1S425	231.11	170.13	292.79	0.81	335	361
1	D1S227	238.52	173.33	304.46	0.71	65	79
1	D1S213	242.34	173.33	312.16	0.86	107	133
1	D1S2833	245.05	173.33	317.63	0.83	95	117

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
1	D1S2709	247.23	175.46	319.84	0.73	199	205
1	D1S2800	252.12	175.46	329.82	0.79	210	224
1	D1S2850	256.26	176.53	336.63	0.65	153	161
1	D1S2670	262.96	180.82	346.13	0.83	159	185
1	D1S2785	266.27	182.96	350.61	0.77	173	187
1	D1S304	267.51	184.04	351.96	0.61	173	183
1	D1S2842	273.46	191.69	356.24	0.78	337	359
1	D1S423	277.8	197.99	358.15	0.61	94	100
1	D1S2836	285.75	208.5	363.91	0.78	246	260
2	D2S323	5.4	7.67	2.88	0.59	185	201
2	D2S319	7.6	9.86	5.1	0.73	132	144
2	D2S2166	10.86	15.3	6.19	0.85	240	258
2	D2S2211	15.61	20.71	9.48	0.74	241	261
2	D2S162	20.03	25.02	14.86	0.75	124	152
2	D2S168	27.06	29.29	24.66	0.83	159	183
2	D2S149	34.04	36.81	31.12	0.72	218	236
2	D2S305	38.87	36.81	40.8	0.72	316	338
2	D2S2150	40.47	38.94	41.87	0.78	172	204
2	D2S165	47.43	46.43	48.32	0.84	145	177
2	D2S352	50.65	48.56	52.62	0.82	271	299
2	D2S367	54.96	50.7	59.18	0.86	309	341
2	D2S2163	59.36	53.02	65.66	0.76	123	133
2	D2S2259	64.29	54.18	74.28	0.79	322	342
2	D2S391	70.31	57.65	82.87	0.79	147	161
2	D2S2369	73.61	59.96	87.19	0.7	110	164
2	D2S337	80.69	65.65	95.73	0.88	295	319
2	D2S2368	85.48	67.78	103.2	0.83	97	121
2	D2S303	88.15	69.91	106.41	0.62	173	201
2	D2S2110	90.82	70.97	110.7	0.77	137	151
2	D2S286	94.05	74.17	113.95	0.67	85	107
2	D2S2333	103.16	75.24	131.2	0.84	84	106
2	D2S388	107.46	78.43	136.54	0.73	221	239
2	D2S2216	111.21	80.57	141.93	0.76	213	227
2	D2S2264	114.42	82.7	146.2	0.78	249	264
2	D2S293	118.16	85.92	150.47	0.84	173	199
2	D2S160	122.96	88.06	157.94	0.78	210	228
2	D2S347	131.51	94.47	168.64	0.8	271	301
2	D2S2271	133.65	96.6	170.78	0.82	136	168
2	D2S112	141.62	99.8	183.77	0.72	79	95
2	D2S2282	144.52	101.93	187.35	0.79	291	305
2	D2S151	152.04	113.7	190.57	0.8	228	256
2	D2S2241	156.92	119.07	194.94	0.79	91	107
2	D2S142	161.26	120.14	202.61	0.76	239	259
2	D2S306	164.81	123.95	205.88	0.7	228	254
2	D2S2330	169.41	129.83	209.15	0.82	171	189
2	D2S335	175.91	134.11	217.91	0.8	189	209
2	D2S2188	180.79	136.27	225.61	0.64	132	154
2	D2S364	186.21	139.47	233.25	0.8	234	260
2	D2S118	190	140.54	239.84	0.78	179	223
2	D2S117	194.45	142.89	246.42	0.82	193	221
2	D2S2358	203.46	148.01	259.41	0.83	187	209
2	D2S325	204.53	148.01	261.55	0.81	158	186
2	D2S2321	205.06	148.01	262.62	0.76	89	111
2	D2S2361	210.43	152.28	269.08	0.77	133	161

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
2	D2S2382	213.49	154.41	273.37	0.81	299	337
2	D2S163	218.45	154.41	283.01	0.8	221	239
2	D2S126	221.13	154.41	288.38	0.82	119	149
2	D2S133	224.33	156.55	292.65	0.68	227	253
2	D2S2354	227.54	161.88	293.72	0.8	263	283
2	D2S362	231.27	166.15	296.92	0.78	108	124
2	D2S396	232.9	169.05	297.98	0.83	236	254
2	D2S2344	238.33	171.63	305.73	0.79	281	301
2	D2S206	240.79	171.63	310.95	0.79	130	166
2	D2S2202	249.22	181.7	317.46	0.66	245	255
2	D2S338	250.54	181.7	319.99	0.79	270	294
2	D2S2285	258.49	192.22	325.11	0.65	134	154
2	D2S125	260.63	196.82	325.11	0.83	92	112
2	D2S140	263.56	202.14	325.11	0.77	159	175
3	D3S1270	6.96	11.27	2.13	0.75	172	194
3	D3S1297	8.31	14.06	2.13	0.83	352	370
3	D3S3630	10.7	17.47	3.47	0.81	180	196
3	D3S3706	18.97	32.57	7.49	0.64	106	122
3	D3S1304	22.33	32.57	12.35	0.8	258	280
3	D3S3728	24.29	33.54	14.78	0.69	230	238
3	D3S1597	29.92	38.26	21.65	0.81	170	188
3	D3S1263	36.1	41.65	30.37	0.86	194	214
3	D3S2338	42.1	41.65	42.25	0.86	94	114
3	D3S3659	47.44	43.72	50.91	0.65	256	268
3	D3S1266	52.6	44.92	59.96	0.73	292	308
3	D3S1609	55.11	44.92	65.16	0.64	249	265
3	D3S3567	56.69	45.99	67.11	0.73	267	289
3	D3S1277	61.52	50.27	72.57	0.82	292	314
3	D3S3521	63.12	50.27	75.77	0.83	268	302
3	D3S3685	67.94	55.61	80.11	0.89	203	229
3	D3S1581	70.61	57.73	83.31	0.88	80	110
3	D3S1289	71.41	59.87	83.31	0.81	206	226
3	D3S1300	80.32	68.5	91.97	0.83	235	267
3	D3S1600	85.97	73.01	98.76	0.72	189	205
3	D3S1285	91.18	78.25	104.41	0.74	238	256
3	D3S3697	94.99	82.02	107.83	0.89	203	228
3	D3S1566	97.75	84.26	111.11	0.84	158	180
3	D3S3681	109.22	89.86	128.31	0.83	124	164
3	D3S1276	111.89	91.99	131.51	0.71	102	118
3	D3S3634	114.56	94.13	134.72	0.78	144	168
3	D3S1603	115.09	94.13	136.09	0.72	168	186
3	D3S1271	117.76	95.19	140.05	0.74	88	108
3	D3S3574	120.43	95.19	145.4	0.84	95	115
3	D3S2496	126.83	102.66	150.74	0.74	205	219
3	D3S1278	129.73	102.66	156.38	0.87	236	264
3	D3S1558	133.93	108.69	158.71	0.77	160	174
3	D3S1267	139.12	112.34	165.7	0.88	98	136
3	D3S3606	143.94	114.48	173.21	0.83	163	189
3	D3S1292	146.6	115.55	177.48	0.84	115	149
3	D3S3637	149.8	117.8	181.74	0.89	184	214
3	D3S1309	153.74	124.09	182.93	0.74	138	156
3	D3S1569	158.38	125.87	190.05	0.8	154	178
3	D3S1593	161.04	129.45	192.42	0.78	141	161
3	D3S1555	165.32	130.52	199.91	0.8	225	245

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
3	D3S1279	169.6	131.58	207.47	0.85	272	290
3	D3S3668	175.47	134.78	216	0.83	243	265
3	D3S1614	177.75	136.91	219.2	0.83	107	131
3	D3S3725	181.87	142.25	221.34	0.84	80	108
3	D3S1565	186.04	146.51	225.28	0.63	182	198
3	D3S3715	190.43	149.72	230.99	0.78	143	155
3	D3S3609	195.6	155.08	235.81	0.88	171	193
3	D3S3592	198.68	155.08	242.42	0.8	167	181
3	D3S1262	201.14	157.23	245.06	0.8	115	137
3	D3S3686	203.81	157.23	250.41	0.79	116	142
3	D3S1580	207.73	158.3	257.25	0.84	220	240
3	D3S1601	214.45	164.8	264.08	0.86	299	331
3	D3S2748	217.24	165.87	267.51	0.73	88	120
3	D3S1265	222.83	176	269.66	0.85	220	244
3	D3S1311	224.88	180.46	269.66	0.82	137	163
4	D4S2936	1.48	1.65	1.34	0.83	174	192
4	D4S412	4.74	7.07	2.43	0.76	161	179
4	D4S3023	8.24	8.34	7.88	0.7	151	163
4	D4S2935	13.96	16.38	11.12	0.62	90	110
4	D4S403	25.9	23.37	28.67	0.76	173	189
4	D4S419	33.42	30.93	36.19	0.77	229	249
4	D4S2994	36.09	34.14	38.32	0.81	99	131
4	D4S3022	39.3	37.35	41.54	0.88	129	157
4	D4S391	43.59	40.56	46.9	0.85	153	173
4	D4S2912	47.58	42.7	52.77	0.66	175	201
4	D4S1587	50.53	43.76	57.58	0.73	226	238
4	D4S405	56.95	44.83	69.43	0.85	284	312
4	D4S2971	61.42	45.89	77.32	0.81	141	163
4	D4S428	64.24	45.89	83.02	0.77	195	211
4	D4S1592	69.53	48.02	91.64	0.7	117	145
4	D4S398	72.52	49.09	96.58	0.83	133	155
4	D4S3004	75.2	49.09	101.96	0.81	270	284
4	D4S392	78.97	50.15	108.44	0.83	84	114
4	D4S3042	83.29	53.38	113.87	0.84	215	239
4	D4S2964	88.35	55.51	122.1	0.77	124	148
4	D4S1534	95.09	63.03	127.81	0.77	152	172
4	D4S2460	97.3	65.16	130.08	0.73	187	199
4	D4S414	100.75	67.31	134.95	0.89	235	253
4	D4S2986	105.29	71.6	139.62	0.81	221	237
4	D4S1572	107.95	72.67	143.89	0.84	199	217
4	D4S406	117.06	84.48	150.34	0.87	246	272
4	D4S402	124.45	89.83	159.8	0.9	112	152
4	D4S1615	128.31	94.1	163.21	0.75	123	133
4	D4S1575	132.05	96.23	168.55	0.65	292	310
4	D4S1579	140.64	99.44	182.58	0.63	150	168
4	D4S424	144.56	101.57	189	0.83	197	215
4	D4S1586	147.06	104.77	190.07	0.77	107	125
4	D4S2962	152.98	106.91	200.16	0.82	106	132
4	D4S413	157.99	110.65	206.58	0.86	286	338
4	D4S3046	162.47	110.65	215.14	0.77	99	111
4	D4S2952	166.85	113.35	221.24	0.59	189	211
4	D4S1597	169.42	115	224.82	0.74	278	304
4	D4S1595	174.9	117.64	232.91	0.71	205	215
4	D4S1539	176.19	117.64	235.59	0.67	319	327

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
4	D4S415	181.36	122.53	241.01	0.79	268	304
4	D4S2920	190.02	131.1	248.55	0.68	113	123
4	D4S1535	195.06	138.22	252.87	0.75	254	268
4	D4S2924	199.93	145.81	255.03	0.72	263	279
4	D4S3051	203.77	150.67	257.91	0.54	234	248
4	D4S426	206.98	155.53	259.36	0.78	163	183
4	D4S2930	208.07	157.73	259.36	0.8	223	241
5	D5S1981	1.72	3.34	0	0.74	121	131
5	D5S417	6.67	11.07	2.19	0.69	94	112
5	D5S2088	9.41	14.36	4.37	0.83	138	166
5	D5S406	11.85	16	7.62	0.79	168	196
5	D5S1953	16.72	20.84	12.99	0.76	256	276
5	D5S630	19.67	24.09	15.15	0.89	287	395
5	D5S416	28.76	33.71	23.69	0.78	289	301
5	D5S2031	36.25	44.43	27.95	0.76	194	218
5	D5S419	39.99	49.78	30.09	0.82	258	290
5	D5S1993	45.34	52.97	37.62	0.79	178	198
5	D5S674	47.09	52.97	41.12	0.79	274	284
5	D5S426	51.99	52.97	51.04	0.8	279	303
5	D5S2021	54.79	54.04	55.54	0.56	116	130
5	D5S418	58.55	54.04	63.17	0.8	212	232
5	D5S1969	60.92	54.04	67.95	0.87	255	277
5	D5S407	64.67	55.11	74.41	0.86	87	115
5	D5S427	69.23	56.17	82.65	0.83	288	310
5	D5S647	74.07	58.32	90.52	0.83	328	368
5	D5S424	81.95	61.51	103.04	0.77	215	237
5	D5S672	86.26	61.51	112.03	0.63	180	186
5	D5S641	92.38	68.02	118.34	0.76	301	341
5	D5S428	95.4	70.15	122.25	0.77	248	266
5	D5S618	99.42	76.56	123.32	0.79	159	179
5	D5S644	104.76	79.76	130.83	0.85	86	116
5	D5S495	108.07	85.37	131.93	0.8	227	249
5	D5S433	111.97	87.65	137.44	0.85	69	99
5	D5S2084	114.75	91.05	140.75	0.71	122	148
5	D5S2027	119.5	91.05	149.31	0.78	184	206
5	D5S2055	125.91	96.71	156.34	0.84	276	304
5	D5S471	129.83	97.85	163.02	0.75	241	261
5	D5S2115	138.64	107.52	170.66	0.78	146	172
5	D5S2011	144.06	107.52	181.77	0.86	144	162
5	D5S436	147.49	108.71	187.35	0.85	242	262
5	D5S2090	150.34	109.91	191.81	0.83	193	213
5	D5S410	156.47	109.91	203.76	0.78	332	354
5	D5S2049	160.87	117.14	205.89	0.76	86	104
5	D5S422	164.19	119.27	210.48	0.84	118	140
5	D5S2040	168.68	120.34	218.44	0.78	229	247
5	D5S2050	171.06	121.41	222.11	0.68	194	216
5	D5S400	174.8	124.62	226.39	0.82	221	243
5	D5S1960	179.11	126.74	232.88	0.81	125	163
5	D5S2073	194.88	146.39	244.84	0.79	245	261
5	D5S408	195.49	147.63	244.84	0.72	253	289
6	D6S1617	7.02	10.04	3.65	0.87	87	109
6	D6S1574	9.18	12.2	6.3	0.84	150	176
6	D6S309	14.07	15.43	12.88	0.84	307	333
6	D6S470	18.22	20.07	16.48	0.8	125	145

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
6	D6S1721	25.08	26.28	24.57	0.77	261	281
6	D6S259	27.78	28.43	27.9	0.73	275	293
6	D6S289	29.93	30.56	29.38	0.79	163	185
6	D6S422	35.66	34.68	36.92	0.76	300	322
6	D6S1660	40.14	35.91	44.49	0.77	208	226
6	D6S276	44.41	38.05	50.92	0.83	205	237
6	D6S291	49.5	42.32	56.65	0.7	206	218
6	D6S1610	53.81	43.39	64.36	0.84	204	218
6	D6S1575	60.44	45.52	75.57	0.82	113	135
6	D6S1549	61.86	46.59	75.57	0.6	196	212
6	D6S282	66.37	48.2	84.68	0.87	107	133
6	D6S1650	68.65	48.53	88.17	0.8	116	136
6	D6S452	73.13	51.43	95.09	0.85	269	288
6	D6S272	74.28	53.04	96.16	0.7	186	204
6	D6S1573	77.78	53.04	102.66	0.78	278	298
6	D6S257	79.92	55.17	104.8	0.87	170	198
6	D6S460	89.83	62.64	117.37	0.82	283	307
6	D6S1609	92.25	62.64	122.57	0.81	82	108
6	D6S462	99.01	63.82	135.64	0.66	108	124
6	D6S300	103.45	68.51	139.52	0.76	190	216
6	D6S1671	107.88	73.21	143.4	0.88	261	287
6	D6S434	109.19	74.38	144.77	0.86	206	250
6	D6S1698	118.08	81.01	155.75	0.82	169	195
6	D6S287	121.97	82.08	162.54	0.85	110	144
6	D6S262	130	88.53	172.16	0.83	171	191
6	D6S1656	131.07	89.6	173.23	0.74	201	219
6	D6S270	135.47	90.67	181.06	0.75	149	165
6	D6S292	136.97	92.8	181.06	0.82	158	180
6	D6S1569	141.15	92.8	190.37	0.8	132	150
6	D6S308	144.46	94.93	194.85	0.76	328	356
6	D6S1654	149.8	97.06	203.41	0.82	228	250
6	D6S441	154.1	98.13	211	0.87	166	200
6	D6S1577	156.77	100.26	214.22	0.86	154	176
6	D6S1581	164.78	104.53	226.05	0.72	261	275
6	D6S305	166.39	106.66	227.12	0.84	212	238
6	D6S1599	169.95	109.45	231.92	0.68	136	162
6	D6S1719	177.88	117.87	239.13	0.75	170	184
6	D6S264	179.07	120.67	239.13	0.71	113	135
6	D6S1697	182.11	120.67	244.53	0.57	257	263
6	D6S446	189	129.34	249.96	0.62	222	234
6	D6S281	190.14	131.01	249.96	0.67	136	156
7	D7S531	5.28	9.5	1.12	0.77	281	299
7	D7S517	7.44	12.73	2.19	0.83	247	265
7	D7S641	15.27	18.12	13	0.72	92	108
7	D7S513	17.74	19.21	16.28	0.83	172	202
7	D7S2464	17.74	19.21	16.28	0.68	196	214
7	D7S664	20.84	25.32	17.87	0.71	211	223
7	D7S2557	23.29	25.32	21.62	0.73	157	171
7	D7S507	28.74	26.84	30.66	0.89	86	114
7	D7S493	34.69	33.37	36.06	0.88	207	239
7	D7S516	41.69	39.84	43.59	0.75	308	328
7	D7S2496	47.08	43.4	51.2	0.73	215	241
7	D7S2252	50.29	46.27	54.42	0.77	256	268
7	D7S484	53.5	50.57	56.56	0.74	102	120

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
7	D7S510	59.93	53.77	66.25	0.79	85	101
7	D7S691	63.67	56.97	70.54	0.74	136	154
7	D7S2427	68.5	56.97	80.22	0.81	222	254
7	D7S519	69.03	56.97	81.29	0.8	260	288
7	D7S506	73.84	58.04	89.88	0.87	125	151
7	D7S502	78.65	58.04	99.5	0.85	291	311
7	D7S2476	84.52	62.34	106.99	0.64	141	159
7	D7S1870	86.12	63.4	109.13	0.75	116	140
7	D7S669	90.42	65.53	115.57	0.81	176	198
7	D7S630	98.44	74.1	123.07	0.79	328	356
7	D7S657	104.86	79.48	130.55	0.81	248	274
7	D7S515	112.32	85.88	139.09	0.83	144	206
7	D7S2459	119.81	88.02	152	0.77	129	143
7	D7S486	124.08	92.28	156.27	0.8	226	240
7	D7S530	134.55	97.09	172.04	0.78	109	127
7	D7S640	137.83	100.31	175.61	0.85	115	155
7	D7S2560	145.34	105.13	185.85	0.85	157	203
7	D7S684	147.22	105.13	189.65	0.81	344	366
7	D7S2513	151.25	106.2	196.4	0.74	165	189
7	D7S661	155.1	108.35	202.55	0.74	307	339
7	D7S636	162.33	113.69	211.38	0.9	141	177
7	D7S483	165.18	114.75	216	0.81	174	196
7	D7S798	168.98	117.49	220.62	0.79	76	98
7	D7S2465	180.24	127.77	230.76	0.82	321	345
7	D7S2423	181.97	133.99	230.76	0.71	233	251
8	D8S264	0.73	1.43	0	0.83	140	164
8	D8S277	8.34	12.28	4.35	0.73	154	188
8	D8S503	16.19	18.76	14.12	0.74	137	153
8	D8S520	20.61	19.84	21.4	0.77	187	207
8	D8S550	21.33	19.84	22.84	0.86	191	221
8	D8S552	26.43	22	30.5	0.8	115	129
8	D8S1827	30.49	25.45	36.94	0.67	162	172
8	D8S549	31.73	25.45	38.85	0.61	78	88
8	D8S258	41.55	31.2	51.13	0.7	146	160
8	D8S1734	46.26	36.18	56.53	0.67	111	121
8	D8S1771	50.05	39.24	60.86	0.77	345	369
8	D8S1820	56.04	41.53	71.02	0.75	111	125
8	D8S1769	60.34	44.72	76.09	0.83	248	264
8	D8S505	60.87	45.79	76.09	0.8	114	128
8	D8S532	64.75	47.92	82.05	0.83	144	160
8	D8S285	71	48.98	93.15	0.78	317	333
8	D8S260	79.36	51.47	107.72	0.82	195	221
8	D8S543	87.54	55.79	120.26	0.74	117	141
8	D8S1705	96.21	57.53	135.2	0.84	196	216
8	D8S275	98.88	57.53	140.55	0.75	147	165
8	D8S270	103.69	60.73	146.99	0.79	107	123
8	D8S1778	110.2	61.8	159.82	0.87	134	160
8	D8S1762	112.42	65	159.82	0.77	228	246
8	D8S1784	118.15	67.13	169.66	0.68	280	298
8	D8S1779	123.54	74.78	172.87	0.76	197	211
8	D8S514	130	81.02	179.46	0.76	216	236
8	D8S1799	133.64	83.16	185.28	0.84	205	235
8	D8S1720	140.61	88.51	193.18	0.82	141	155
8	D8S284	143.82	89.58	198.54	0.83	275	309

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
8	D8S256	148.12	94.94	201.76	0.83	108	136
8	D8S272	154.02	99.23	209.27	0.8	215	265
8	D8S1837	156.59	101.37	212.09	0.81	192	214
8	D8S1743	162.94	101.37	223.72	0.83	91	121
8	D8S1836	165.93	108.91	223.72	0.84	129	163
9	D9S1858	0	0	0	0.57	244	256
9	D9S1779	0	0	0	0.65	129	153
9	D9S288	9.83	14.71	5.46	0.85	138	158
9	D9S1810	12.78	22.33	5.46	0.78	206	222
9	D9S286	18.06	25.58	10.96	0.89	139	173
9	D9S168	21.88	29.91	14.27	0.77	238	264
9	D9S269	24.07	30.99	17.59	0.73	177	195
9	D9S285	29.52	33.14	26.75	0.79	85	113
9	D9S157	32.24	35.3	29.77	0.85	229	253
9	D9S171	42.73	42.86	42.6	0.79	164	188
9	D9S259	47.19	43.37	51.26	0.68	138	152
9	D9S169	49.2	45.01	53.64	0.83	267	283
9	D9S161	51.81	46.08	58.46	0.78	126	144
9	D9S1853	53.6	46.08	61.68	0.65	255	273
9	D9S1817	59.34	52.51	67.07	0.89	283	317
9	D9S1874	61.38	52.51	71.18	0.84	201	213
9	D9S273	65.79	52.51	80.01	0.75	206	226
9	D9S175	70.33	56.78	84.73	0.85	259	291
9	D9S1834	73.03	57.86	89.21	0.68	189	204
9	D9S1674	76.67	58.93	95.2	0.71	221	241
9	D9S1843	80.31	61.07	100.6	0.8	240	256
9	D9S167	83.41	65.35	101.67	0.86	307	341
9	D9S1812	90.4	72.54	110.25	0.7	277	287
9	D9S283	94.85	73.97	116.76	0.81	94	120
9	D9S1796	97.53	75.04	121.07	0.8	156	184
9	D9S1781	99.4	79.32	121.07	0.8	241	261
9	D9S287	103.42	82.52	126.41	0.67	299	317
9	D9S1690	106.63	86.81	127.48	0.78	230	244
9	D9S271	109.85	86.81	133.94	0.65	142	166
9	D9S1677	117.37	91.09	144.72	0.81	234	258
9	D9S289	120.77	93.23	149.05	0.75	77	95
9	D9S1776	123.33	95.36	152.39	0.85	176	214
9	D9S1682	132.09	103.93	161.4	0.68	152	162
9	D9S290	140.86	111.43	171.46	0.83	246	268
9	D9S164	147.91	115.22	181.29	0.81	90	106
9	D9S1818	150.92	119.31	183.75	0.72	203	211
9	D9S1826	159.61	129.76	190.63	0.69	219	233
9	D9S158	161.71	131.73	192.91	0.71	333	357
9	D9S1838	163.84	136.29	192.91	0.82	167	183
10	D10S249	2.13	0	4.63	0.74	122	144
10	D10S1745	4.32	4.3	4.63	0.86	157	183
10	D10S591	13.49	17.41	9.97	0.73	312	340
10	D10S189	19	26.92	11.5	0.72	184	200
10	D10S1649	27.19	31.84	22.91	0.84	127	151
10	D10S547	29.15	34.22	23.97	0.77	238	260
10	D10S570	33.48	38.96	28.25	0.81	295	313
10	D10S191	37.9	41.1	35.1	0.82	125	153
10	D10S1653	40.36	41.1	40.13	0.78	122	136
10	D10S548	45.7	42.16	49.79	0.71	186	202

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
10	D10S197	52.1	46.43	58.33	0.75	169	183
10	D10S213	57.42	48.56	66.88	0.83	181	199
10	D10S208	60.64	50.68	71.18	0.79	177	197
10	D10S1780	63.83	51.75	76.52	0.66	230	246
10	D10S578	65.97	51.75	80.8	0.66	168	192
10	D10S196	70.23	53.88	87.21	0.78	109	119
10	D10S1790	75.57	54.94	96.84	0.83	187	209
10	D10S1652	80.77	60.28	101.96	0.78	273	299
10	D10S581	82.5	62.41	103.24	0.81	130	156
10	D10S210	86.81	65.62	108.68	0.77	128	142
10	D10S537	91.13	69.81	114.11	0.83	143	169
10	D10S580	96.72	74.22	119.86	0.73	138	148
10	D10S1730	98.96	76.38	122.18	0.83	235	269
10	D10S1686	105.04	81.78	128.99	0.85	247	285
10	D10S1765	108.79	83.93	134.34	0.84	170	192
10	D10S185	116.34	89.32	144.12	0.77	206	222
10	D10S1709	119.7	89.32	150.87	0.74	164	182
10	D10S192	124.27	91.48	157.82	0.76	242	268
10	D10S597	128.73	93.64	164.56	0.64	278	298
10	D10S1693	137.39	97.96	177.48	0.81	217	231
10	D10S587	147.57	104.09	191.51	0.81	96	118
10	D10S1656	149.25	106.61	192.58	0.76	144	162
10	D10S575	153.78	109.9	197.76	0.63	255	277
10	D10S217	157.89	115.34	201.2	0.81	100	124
10	D10S1655	162.38	119.66	205.9	0.67	312	328
10	D10S1651	168.77	129.47	208.76	0.8	210	232
10	D10S212	170.94	131.64	210.92	0.71	193	209
11	D11S1363	0	0	0	0.59	243	253
11	D11S4046	2.79	3.45	1.09	0.86	105	129
11	D11S4146	8.64	14.33	2.16	0.69	196	212
11	D11S1760	11.67	18.6	3.23	0.75	88	108
11	D11S1338	12.92	19.66	5.37	0.74	259	277
11	D11S4149	14.52	19.66	8.57	0.77	215	227
11	D11S4116	19.86	22.87	16.07	0.78	206	225
11	D11S902	21.47	23.93	18.2	0.79	152	172
11	D11S4190	26.98	28.43	24.62	0.81	232	252
11	D11S915	30.88	32.93	29.7	0.82	226	282
11	D11S904	33.57	35.18	31.02	0.82	187	215
11	D11S914	37.62	41.02	33.31	0.72	281	293
11	D11S935	45.94	45.96	44.98	0.73	200	222
11	D11S4102	47.61	48.3	46.04	0.76	143	175
11	D11S905	51.95	51.71	51.48	0.72	272	298
11	D11S4191	60.09	54.62	65.45	0.87	94	124
11	D11S987	67.48	54.9	79.51	0.82	100	138
11	D11S4162	72.82	58.09	86.99	0.65	161	167
11	D11S1314	73.64	59.25	86.99	0.76	97	123
11	D11S4207	76.13	60.42	91.3	0.89	258	296
11	D11S937	79.98	61.44	98.78	0.88	149	183
11	D11S901	85.48	65.07	105.21	0.81	314	330
11	D11S4147	87.89	67.4	107.77	0.81	228	250
11	D11S4175	91.47	70.9	111.6	0.89	290	342
11	D11S917	96.85	76.24	116.97	0.81	149	165
11	D11S898	98.98	76.57	121.23	0.79	144	166
11	D11S4090	105.74	80.51	130.45	0.82	164	192

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
11	D11S908	108.59	81.57	135.14	0.76	175	191
11	D11S4127	112.33	81.57	142.63	0.72	95	111
11	D11S925	118.47	82.64	153.31	0.85	265	293
11	D11S4094	123	85.83	159.74	0.8	189	203
11	D11S4151	127.33	89.03	165.24	0.79	335	347
11	D11S912	131.26	92.25	169.84	0.81	109	131
11	D11S4126	138.56	97.61	179.05	0.6	137	151
11	D11S1320	141.91	104.29	179.05	0.69	264	280
11	D11S968	147.77	114.87	180.14	0.81	144	164
12	D12S352	0	0	0	0.71	156	176
12	D12S1725	9.52	14.56	4.3	0.8	224	247
12	D12S99	12.6	19.94	5.37	0.83	268	300
12	D12S336	19.68	26.63	12.85	0.82	117	135
12	D12S1697	24.45	28.86	20.11	0.82	226	242
12	D12S358	26.23	29.97	22.51	0.77	246	278
12	D12S364	30.6	31.08	30.08	0.87	300	320
12	D12S310	36.06	38.92	33.3	0.7	248	256
12	D12S1682	38.5	39.99	37.18	0.78	141	159
12	D12S1617	44.03	44.26	43.83	0.81	250	270
12	D12S1640	48.7	45.33	52.21	0.55	270	282
12	D12S345	53.09	45.33	61.08	0.87	215	251
12	D12S1663	56.38	46.39	66.61	0.78	158	184
12	D12S85	61.34	48.52	74.17	0.7	104	136
12	D12S368	66.03	50.65	81.86	0.81	206	226
12	D12S83	75.17	54.93	96.2	0.81	107	127
12	D12S313	79.93	59.2	101.36	0.79	145	161
12	D12S326	86.4	64.54	108.86	0.8	210	236
12	D12S1708	91.46	67.74	116.5	0.72	175	183
12	D12S351	95.56	72	119.7	0.74	151	173
12	D12S346	104.65	74.13	135.8	0.84	191	217
12	D12S78	111.87	77.33	146.85	0.91	177	215
12	D12S1613	116.08	80.07	152.54	0.62	258	274
12	D12S1583	119.55	83.72	156.02	0.87	227	255
12	D12S1646	121.84	86.14	158.34	0.72	255	267
12	D12S79	125.31	89.79	161.73	0.88	163	189
12	D12S1718	128.05	90.56	166.33	0.45	162	174
12	D12S86	134.54	92.87	176.82	0.89	132	172
12	D12S304	144.83	96.1	192.99	0.69	314	328
12	D12S324	147.17	102	192.99	0.69	238	260
12	D12S1675	150.7	108.36	194.06	0.73	218	232
12	D12S1659	155.94	113.13	199.59	0.78	294	320
12	D12S367	159.59	116.03	203.92	0.75	143	157
12	D12S1723	164.63	120.66	209.32	0.69	201	219
12	D12S1638	168.79	127.98	209.32	0.69	207	223
13	D13S1236	2.77	0	3.72	0.65	127	141
13	D13S175	6.03	3.66	4.24	0.75	105	123
13	D13S1243	9.79	9.51	8.48	0.79	252	266
13	D13S1304	13.45	13.37	11.69	0.74	157	173
13	D13S217	17.21	16.39	16.02	0.67	246	266
13	D13S289	21.51	17.66	23.62	0.74	151	171
13	D13S171	25.08	21.94	26.84	0.71	179	207
13	D13S219	28.87	27.62	27.91	0.66	125	135
13	D13S218	32.9	33.01	31.14	0.65	145	157
13	D13S263	38.32	36.4	38.73	0.85	150	178

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
13	D13S153	45.55	44.27	45.18	0.82	94	126
13	D13S1320	49.38	47.64	49.48	0.76	265	275
13	D13S1296	52.64	47.64	55.92	0.86	94	122
13	D13S156	55.85	48.7	61.29	0.8	280	300
13	D13S1306	59.79	50.85	67.02	0.86	204	220
13	D13S170	63.9	51.92	74.23	0.9	146	176
13	D13S265	68.73	55.11	80.73	0.68	93	131
13	D13S1241	76.26	59.38	91.56	0.82	329	349
13	D13S159	79.49	62.59	94.81	0.88	157	199
13	D13S158	84.87	66.87	101.29	0.82	121	139
13	D13S1322	90.27	68.3	109.95	0.65	90	100
13	D13S173	93.52	70.11	115.4	0.82	237	257
13	D13S1265	98.82	74.95	120.83	0.81	280	310
13	D13S285	110.55	89.68	129.72	0.82	93	119
13	D13S293	114.98	94.97	129.72	0.5	97	105
14	D14S261	6.46	8.66	0	0.75	276	308
14	D14S1023	8.28	8.66	2.85	0.82	101	117
14	D14S283	13.89	11.91	11.29	0.82	132	162
14	D14S990	14.6	12.98	11.29	0.85	151	169
14	D14S972	21.51	20.38	17.71	0.74	206	219
14	D14S275	28.01	30.22	20.91	0.71	150	164
14	D14S1040	31.75	35.59	23.04	0.73	90	120
14	D14S70	40.11	43.06	32.63	0.76	103	119
14	D14S75	44.06	46.48	37.08	0.75	199	225
14	D14S288	47.51	51.02	39.32	0.84	196	220
14	D14S276	56.36	55.91	52.09	0.75	241	253
14	D14S980	60.43	57.12	59.69	0.86	162	192
14	D14S274	63.25	57.51	64.28	0.72	122	142
14	D14S63	69.18	59.11	74.61	0.77	180	198
14	D14S258	76.28	62.48	85.33	0.8	198	218
14	D14S1036	84.69	67.66	97.09	0.79	131	149
14	D14S74	87.36	68.72	101.35	0.79	301	325
14	D14S1037	92.69	72.7	108.83	0.83	98	148
14	D14S68	95.89	75.12	112.03	0.91	321	351
14	D14S1044	99.88	77.69	117.42	0.67	230	244
14	D14S280	105	80.46	124.95	0.68	243	263
14	D14S1050	107.13	81.53	128.15	0.8	217	239
14	D14S1054	113.17	83.74	137.91	0.76	160	174
14	D14S65	117.3	85.96	142.24	0.8	129	161
14	D14S985	126.61	100.71	147.64	0.76	244	258
14	D14S1051	130.78	106.58	149.67	0.35	174	194
14	D14S292	134.3	113.26	152.03	0.74	88	104
14	D14S1007	138.18	117.34	154.59	0.78	94	112
15	D15S128	6.11	12.36	0	0.78	201	219
15	D15S986	6.92	14.13	0	0.72	186	204
15	D15S975	13.06	18.21	7.7	0.47	255	263
15	D15S1002	14.58	21.75	7.7	0.79	110	138
15	D15S1019	19.12	25.29	13.11	0.63	210	226
15	D15S165	20.24	26.47	13.11	0.77	185	217
15	D15S1007	25.86	30.79	21.08	0.87	89	113
15	D15S1040	28.35	34.57	22.25	0.77	205	219
15	D15S118	32.58	39.78	25.79	0.75	222	238
15	D15S1012	35.95	42.67	29.32	0.73	98	116
15	D15S994	40.25	45.89	34.72	0.72	306	318

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
15	D15S978	45.62	51.25	40.11	0.84	187	215
15	D15S1016	47.29	51.25	43.42	0.88	279	307
15	D15S117	51.21	52.45	50.06	0.78	324	342
15	D15S1033	52.33	52.45	52.26	0.68	92	104
15	D15S1036	57.37	54.85	60.02	0.79	123	148
15	D15S153	62.4	57.25	67.73	0.86	244	278
15	D15S988	66.9	58.44	75.57	0.79	101	121
15	D15S131	71.28	59.64	83.11	0.85	244	284
15	D15S205	78.92	66.17	91.9	0.88	130	170
15	D15S979	83.4	68.3	98.81	0.84	143	175
15	D15S127	86.81	70.57	103.41	0.85	121	157
15	D15S130	100.59	81.87	120.28	0.69	288	302
15	D15S1014	107.71	87.93	129.01	0.72	192	204
15	D15S212	109.29	90.08	129.01	0.71	345	359
15	D15S120	112.58	93.35	132.28	0.75	158	186
16	D16S521	1.08	0	2.27	0.71	162	182
16	D16S3027	8.71	15.86	2.27	0.88	214	238
16	D16S423	10.36	18	3.49	0.73	140	166
16	D16S418	14.77	24.43	5.93	0.82	174	196
16	D16S404	18.07	26.58	10.8	0.8	265	285
16	D16S3075	23.28	29.79	17.21	0.78	81	99
16	D16S3102	24.53	29.79	19.35	0.69	193	211
16	D16S500	28.3	38.45	19.35	0.8	188	204
16	D16S3103	32.07	43.84	21.48	0.82	316	344
16	D16S3041	38.51	47.05	31.16	0.83	252	282
16	D16S3046	40.65	48.12	34.39	0.74	87	113
16	D16S403	43.89	48.12	40.94	0.85	142	160
16	D16S3068	48.53	50.26	47.41	0.77	223	239
16	D16S3100	52.26	50.26	55.51	0.66	274	288
16	D16S3136	62.11	51.33	74.25	0.7	176	188
16	D16S415	67.62	54.53	81.78	0.74	216	244
16	D16S3034	69.05	54.53	85.03	0.64	263	271
16	D16S3140	74.44	54.53	95.78	0.81	286	324
16	D16S3057	77.13	54.53	101.2	0.73	196	214
16	D16S514	81.15	54.53	109.51	0.82	125	141
16	D16S503	83.55	56.66	111.65	0.8	300	320
16	D16S3066	89.63	60.95	120.31	0.8	189	201
16	D16S515	92.1	63.11	122.6	0.81	327	359
16	D16S3049	97.03	65.27	130.35	0.78	237	263
16	D16S516	100.39	67.43	134.7	0.73	248	270
16	D16S3040	104.45	70.31	140.16	0.73	92	111
16	D16S505	108.96	75	144.48	0.76	140	162
16	D16S3091	111.12	77.15	146.64	0.72	170	186
16	D16S520	125.82	89.05	164.19	0.84	152	168
17	D17S849	0.63	1.25	0	0.69	257	271
17	D17S831	6.6	13.26	0	0.81	112	134
17	D17S1828	10.02	18.02	2.16	0.79	101	121
17	D17S1876	10.72	19.2	2.16	0.82	104	136
17	D17S938	14.69	25.15	4.32	0.76	242	262
17	D17S1791	17.92	27.3	8.63	0.85	273	296
17	D17S1852	22.24	31.61	12.95	0.87	283	311
17	D17S799	31.96	43.43	20.51	0.7	189	211
17	D17S921	36.14	47.71	24.82	0.72	196	214
17	D17S1857	43.01	47.71	38.49	0.62	167	177

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
17	D17S1824	49.67	48.78	50.8	0.83	96	116
17	D17S798	53.41	48.78	58.32	0.8	300	324
17	D17S927	58.25	49.85	66.92	0.73	117	133
17	D17S1868	64.16	51.99	76.62	0.74	258	272
17	D17S1795	68.44	53.07	84.33	0.73	139	149
17	D17S787	74.99	55.21	95.25	0.81	142	178
17	D17S957	80.38	57.37	103.92	0.45	157	189
17	D17S944	82.56	58.44	107.18	0.77	319	335
17	D17S1816	85.94	58.44	114.1	0.83	273	304
17	D17S949	93.27	61.65	125.61	0.8	214	232
17	D17S1862	97.6	68.09	127.76	0.84	205	235
17	D17S1807	99.21	68.09	130.99	0.86	260	288
17	D17S785	103.53	72.39	135.3	0.83	169	197
17	D17S1847	111.22	79.96	142.33	0.66	165	171
17	D17S836	112.92	81.92	145.19	0.63	207	217
17	D17S784	116.86	86.39	147.37	0.77	233	247
17	D17S928	126.46	105.07	148.54	0.77	74	108
18	D18S59	0	0	0	0.82	154	176
18	D18S476	2.84	5.04	0.22	0.76	269	281
18	D18S63	8.3	13.82	3.27	0.79	80	106
18	D18S1132	11.21	17.06	5.85	0.69	112	136
18	D18S452	18.7	25.78	12.08	0.84	131	149
18	D18S464	31.17	37.79	25.54	0.63	303	319
18	D18S1150	37.15	41.59	33.86	0.71	101	109
18	D18S53	41.24	44.24	38.77	0.79	156	186
18	D18S453	43.49	45.36	42.07	0.83	141	171
18	D18S1107	51.21	45.36	57.72	0.72	85	99
18	D18S478	52.86	45.36	61.04	0.63	247	261
18	D18S56	56.71	46.43	67.65	0.74	109	123
18	D18S1102	62.84	47.5	78.91	0.79	96	108
18	D18S468	64.48	47.5	82.2	0.8	279	291
18	D18S450	68.91	48.56	90.12	0.79	223	239
18	D18S474	71.32	48.56	95.34	0.82	126	148
18	D18S1127	77.36	53.9	102.01	0.86	184	210
18	D18S1129	83.46	57.13	111.26	0.86	240	264
18	D18S64	84.8	58.21	112.76	0.74	319	345
18	D18S1147	90.6	61.45	121.55	0.86	124	152
18	D18S68	96.48	65.35	129.46	0.79	273	299
18	D18S465	100.11	70.38	132.71	0.76	239	257
18	D18S61	105.03	73.35	138.44	0.87	213	243
18	D18S469	109.18	74.43	145.57	0.64	241	261
18	D18S1161	114.26	77.69	153.13	0.83	215	241
18	D18S462	120.05	85.99	156.4	0.7	300	322
18	D18S70	126	97.49	156.4	0.83	115	135
19	D19S886	0	0	0	0.63	148	164
19	D19S209	10.97	16.14	6.26	0.77	243	259
19	D19S894	15.55	19.45	12.3	0.78	131	155
19	D19S216	20.01	24.46	16.32	0.76	258	276
19	D19S884	26.37	30.89	22.08	0.86	97	117
19	D19S865	32.39	36.27	28.76	0.89	199	235
19	D19S221	36.22	38.4	34.35	0.85	91	115
19	D19S226	42.28	41.63	43.34	0.84	241	273
19	D19S566	47.31	41.63	53.52	0.86	148	170
19	D19S931	49.75	42.7	57.25	0.79	154	182

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
19	D19S414	54.01	42.7	65.82	0.77	168	198
19	D19S220	62.03	44.83	79.74	0.85	271	295
19	D19S420	66.3	46.96	86.19	0.8	101	121
19	D19S903	69.5	50.15	89.38	0.79	214	236
19	D19S902	72.72	53.39	92.6	0.78	241	277
19	D19S904	78.08	56.59	100.07	0.66	216	230
19	D19S571	84.08	65.45	103.4	0.83	290	322
19	D19S888	85.87	67.95	104.6	0.82	178	198
19	D19S921	87.66	70.43	105.8	0.78	189	215
19	D19S572	88.85	71.66	107	0.82	124	142
19	D19S418	92.56	74.74	111.81	0.67	90	110
19	D19S210	100.01	89.71	111.81	0.74	175	195
20	D20S117	2.83	5.48	0	0.84	154	190
20	D20S906	7.61	13.88	0.97	0.78	91	109
20	D20S842	8.97	16.26	1.6	0.85	162	186
20	D20S889	11.2	19.48	3.21	0.85	93	129
20	D20S882	15.05	27	3.21	0.71	78	90
20	D20S846	18.79	28.07	9.72	0.78	216	234
20	D20S115	21.15	30.63	11.78	0.65	238	250
20	D20S851	24.7	34.52	14.99	0.73	69	91
20	D20S186	32.3	38.82	25.84	0.85	117	143
20	D20S898	35.51	42.03	29.05	0.81	239	273
20	D20S112	39.25	43.1	35.46	0.8	217	241
20	D20S912	46.71	44.29	49.21	0.81	286	304
20	D20S871	48.61	44.29	53.03	0.89	133	165
20	D20S195	50.81	45.47	56.28	0.81	133	159
20	D20S107	55.74	46.66	64.97	0.81	200	224
20	D20S861	58.48	47.89	69.31	0.65	128	140
20	D20S119	61.77	49.02	74.75	0.83	109	129
20	D20S178	66.16	51.41	81.27	0.84	182	198
20	D20S891	66.71	51.41	82.35	0.85	196	222
20	D20S887	72.27	51.41	94.01	0.82	251	275
20	D20S196	75.01	53.77	96.82	0.82	263	299
20	D20S902	78.29	53.77	103.33	0.76	303	319
20	D20S100	84.78	58.04	112.03	0.73	213	239
20	D20S171	95.7	71.56	120.91	0.81	130	158
20	D20S173	98.09	76.01	120.91	0.67	131	185
21	D21S1911	0	0	0	0.71	137	159
21	D21S1904	2.13	0	3.7	0.52	136	154
21	D21S1256	9.72	2.21	17.19	0.66	101	121
21	D21S1899	9.72	2.21	17.19	0.86	173	193
21	D21S1884	14.2	2.21	26.44	0.59	246	256
21	D21S1922	14.78	3.27	26.44	0.64	248	260
21	D21S1914	19.39	7.56	31.23	0.86	262	284
21	D21S263	27.4	11.03	44.05	0.74	198	232
21	D21S1252	35.45	18.72	52.23	0.8	148	180
21	D21S1919	38.65	22.36	54.84	0.82	171	201
21	D21S1255	39.22	23.58	54.84	0.8	312	332
21	D21S266	45.87	30.46	61.74	0.6	159	181
22	D22S420	4.06	2.6	3.32	0.76	156	172
22	D22S539	14.44	12.49	15.35	0.55	203	221
22	D22S1174	19.32	13.57	24.18	0.72	126	152
22	D22S315	21.47	14.65	27.42	0.81	184	214
22	D22S1154	23.37	16.79	29.07	0.72	252	268

Chromosome	Marker	Avg cM	Male cM	Female cM	Heterozygosity	Lower Range (bp)	Upper Range (bp)
22	D22S1163	28.02	22.17	32.9	0.76	147	163
22	D22S280	31.3	25.37	36.23	0.82	216	228
22	D22S277	36.22	30.71	40.67	0.86	165	201
22	D22S283	38.62	30.71	45.54	0.9	132	160
22	D22S423	46.42	30.71	61.58	0.82	290	312
22	D22S274	51.54	35.04	67.47	0.77	280	302
22	D22S1170	55.26	39.4	70.21	0.64	201	215
22	D22S1169	60.61	48.68	71.88	0.8	69	85
23	DXS1060	15.12	22.77	7.66	0.9	249	271
X	DXS1223	16.75	22.77	10.93	0.87	142	164
X	DXS8051	17.29	22.77	12.03	0.93	110	140
X	DXS7108	18.37	22.77	14.2	0.85	240	264
X	DXS1224	21.23	22.77	20.1	0.75	163	177
X	DXS987	22.18	22.77	22.04	0.9	210	232
X	DXS8019	23.26	22.77	24.21	0.9	164	182
X	DXS7593	25.97	22.77	29.69	0.85	217	239
X	DXS1226	27.59	22.77	32.98	0.91	284	306
X	DXS1061	30.3	22.77	38.43	0.88	232	252
X	DXS1214	33.54	22.77	44.98	0.88	287	301
X	DXS8090	36.79	22.77	51.54	0.86	291	309
X	DXS8102	37.33	22.77	52.63	0.76	102	108
X	DXS1068	37.33	22.77	52.63	0.82	248	268
X	DXS8015	37.87	22.77	53.71	0.88	182	198
X	DXS993	42.21	22.77	62.5	0.88	271	297
X	DXS8080	44.85	22.77	67.86	0.84	81	109
X	DXS8083	46.54	22.77	71.29	0.85	166	184
X	DXS1055	47.08	22.77	72.38	0.82	145	161
X	DXS1039	50.33	22.77	78.94	0.77	181	205
X	DXS991	52.5	22.77	83.3	0.92	316	344
X	DXS1216	53.58	22.77	85.49	0.81	248	262
X	DXS986	57.37	22.77	93.17	0.87	156	184
X	DXS1196	57.91	22.77	94.26	0.88	215	235
X	DXS1217	59.72	22.77	97.92	0.79	239	257
X	DXS990	60.62	22.77	99.73	0.86	128	138
X	DXS8077	62.52	22.77	103.56	0.85	183	203
X	DXS8020	65.5	22.77	109.62	0.9	220	250
X	DXS1106	66.58	22.77	111.8	0.81	128	142
X	DXS1059	68.2	22.77	115.07	0.83	188	208
X	DXS8088	68.74	22.77	116.17	0.8	255	271
X	DXS8064	70.91	22.77	120.53	0.77	217	233
X	DXS8055	70.91	22.77	120.53	0.81	314	326
X	DXS8067	75.79	22.77	130.44	0.85	96	120
X	DXS1001	75.79	22.77	130.44	0.9	194	214
X	DXS8009	82.07	22.77	143.24	0.78	255	269
X	DXS1047	82.07	22.77	143.24	0.9	160	174
X	DXS1062	82.84	22.77	144.78	0.86	94	120
X	DXS984	85.55	22.77	150.22	0.84	162	192
X	DXS1205	87.56	22.77	154.29	0.8	188	206
X	DXS1227	88.33	22.77	155.86	0.81	84	104
X	DXS8106	91.64	22.77	162.62	0.85	268	294
X	DXS8043	94.22	22.77	167.87	0.9	150	184
X	DXS8091	96.14	22.77	172.44	0.87	84	106
X	DXS8045	96.94	22.77	173.4	0.74	219	231
X	DXS998	96.94	22.77	173.4	0.78	119	127

<b>Chromosome</b>	<b>Marker</b>	<b>Avg cM</b>	<b>Male cM</b>	<b>Female cM</b>	<b>Heterozygosity</b>	<b>Lower Range (bp)</b>	<b>Upper Range (bp)</b>
X	DXS8069	98.83	22.77	177.25	0.8	139	153
X	DXS1073	102.35	22.77	184.34	0.89	310	336