

Table S5: Sequences of wrong orientation detected by NGS. All regions detected by NGS are listed, where the R3 read was aligned downstream to the F3 read during analysis, indicating a complex structural variant. Depending on the occurrence in HAB or in LAB, the structural variants are numbered in ascending order by their genomic position (e.g. H1 for the first variant in HAB).

type	mouse line	no.	chr	start	end	size
wro	HAB	H 1	1	14,331,201	14,334,801	3,600
wro	HAB	H 2	1	21,192,601	21,274,401	81,800
wro	HAB	H 3	1	26,742,801	26,745,401	2,600
wro	HAB	H 4	1	31,532,401	31,536,201	3,800
wro	HAB	H 5	1	31,848,201	31,851,601	3,400
wro	HAB	H 6	1	34,557,401	34,616,601	59,200
wro	HAB	H 7	1	35,883,401	35,888,201	4,800
wro	HAB	H 8	1	55,543,401	55,546,001	2,600
wro	HAB	H 9	1	69,293,601	69,296,201	2,600
wro	HAB	H 10	1	85,083,001	85,181,201	98,200
wro	HAB	H 11	1	89,994,201	90,054,201	60,000
wro	HAB	H 12	1	90,126,801	90,130,001	3,200
wro	HAB	H 13	1	101,806,201	101,810,601	4,400
wro	HAB	H 14	1	117,205,201	117,275,601	70,400
wro	HAB	H 15	1	124,819,801	124,824,401	4,600
wro	HAB	H 16	1	125,487,201	125,494,201	7,000
wro	HAB	H 17	1	141,648,201	141,716,001	67,800
wro	HAB	H 18	1	147,802,201	147,805,601	3,400
wro	HAB	H 19	1	155,233,401	155,270,001	36,600
wro	HAB	H 20	1	172,156,401	172,215,001	58,600
wro	HAB	H 21	1	173,444,201	173,479,001	34,800
wro	HAB	H 22	1	175,728,601	175,870,801	142,200
wro	HAB	H 23	1	176,029,801	176,040,201	10,400
wro	HAB	H 24	1	177,308,201	177,311,001	2,800
wro	HAB	H 25	1	187,185,201	187,187,801	2,600
wro	HAB	H 26	2	42,123,401	42,126,401	3,000
wro	HAB	H 27	2	55,314,601	55,316,801	2,200
wro	HAB	H 28	2	65,241,601	65,246,001	4,400
wro	HAB	H 29	2	69,555,401	69,557,801	2,400
wro	HAB	H 30	2	77,707,601	77,709,601	2,000
wro	HAB	H 31	2	77,734,001	77,737,001	3,000
wro	HAB	H 32	2	86,225,001	86,287,001	62,000
wro	HAB	H 33	2	88,629,801	88,695,601	65,800
wro	HAB	H 34	2	89,467,601	89,502,001	34,400
wro	HAB	H 35	2	98,502,401	98,507,601	5,200
wro	HAB	H 36	2	100,040,601	100,044,001	3,400
wro	HAB	H 37	2	111,438,601	111,444,401	5,800
wro	HAB	H 38	2	111,656,001	111,695,801	39,800
wro	HAB	H 39	2	118,389,801	118,393,601	3,800
wro	HAB	H 40	2	120,435,801	120,437,801	2,000
wro	HAB	H 41	2	121,298,601	121,355,001	56,400
wro	HAB	H 42	2	122,229,401	122,350,401	121,000
wro	HAB	H 43	2	135,488,401	135,495,601	7,200

type	mouse line	no.	chr	start	end	size
wro	HAB	H 44	2	141,415,801	141,418,601	2,800
wro	HAB	H 45	2	154,435,601	154,440,201	4,600
wro	HAB	H 46	2	156,712,001	156,774,401	62,400
wro	HAB	H 47	2	156,871,601	156,876,001	4,400
wro	HAB	H 48	2	158,130,801	158,133,601	2,800
wro	HAB	H 49	3	8,244,601	8,246,601	2,000
wro	HAB	H 50	3	15,858,401	15,896,201	37,800
wro	HAB	H 51	3	49,162,601	49,171,601	9,000
wro	HAB	H 52	3	76,177,401	76,180,601	3,200
wro	HAB	H 53	3	83,705,201	83,713,001	7,800
wro	HAB	H 54	3	92,740,601	92,767,801	27,200
wro	HAB	H 55	3	96,291,001	96,299,801	8,800
wro	HAB	H 56	3	117,137,001	117,140,001	3,000
wro	HAB	H 57	3	134,551,401	134,563,601	12,200
wro	HAB	H 58	3	137,188,001	137,201,201	13,200
wro	HAB	H 59	3	140,353,801	140,356,601	2,800
wro	HAB	H 60	3	151,052,801	151,055,201	2,400
wro	HAB	H 61	4	61,750,401	61,819,801	69,400
wro	HAB	H 62	4	62,156,001	62,184,801	28,800
wro	HAB	H 63	4	88,401,401	88,448,401	47,000
wro	HAB	H 64	4	91,229,201	91,232,601	3,400
wro	HAB	H 65	4	92,536,201	92,598,801	62,600
wro	HAB	H 66	4	100,402,201	100,405,201	3,000
wro	HAB	H 67	4	109,369,001	109,373,001	4,000
wro	HAB	H 68	4	111,575,001	111,646,201	71,200
wro	HAB	H 69	4	112,362,201	112,369,801	7,600
wro	HAB	H 70	4	115,190,801	115,273,001	82,200
wro	HAB	H 71	4	118,469,601	118,585,001	115,400
wro	HAB	H 72	4	129,340,601	129,344,201	3,600
wro	HAB	H 73	4	139,347,201	139,349,801	2,600
wro	HAB	H 74	4	143,641,601	143,728,401	86,800
wro	HAB	H 75	4	144,197,601	144,245,401	47,800
wro	HAB	H 76	4	145,016,201	145,027,801	11,600
wro	HAB	H 77	4	146,860,001	146,864,801	4,800
wro	HAB	H 78	4	146,867,601	146,961,401	93,800
wro	HAB	H 79	5	6,710,601	6,714,801	4,200
wro	HAB	H 80	5	13,772,001	13,813,401	41,400
wro	HAB	H 81	5	14,871,001	15,185,801	314,800
wro	HAB	H 82	5	22,524,201	22,527,601	3,400
wro	HAB	H 83	5	50,136,401	50,148,801	12,400
wro	HAB	H 84	5	51,346,001	51,352,001	6,000
wro	HAB	H 85	5	57,882,801	57,897,201	14,400
wro	HAB	H 86	5	66,371,401	66,387,401	16,000

type	mouse line	no.	chr	start	end	size
wro	HAB	H 87	5	66,420,201	66,423,001	2,800
wro	HAB	H 88	5	102,779,001	102,782,401	3,400
wro	HAB	H 89	5	110,123,001	110,232,401	109,400
wro	HAB	H 90	5	110,342,201	110,422,801	80,600
wro	HAB	H 91	5	138,642,601	138,693,601	51,000
wro	HAB	H 92	5	147,290,001	147,372,001	82,000
wro	HAB	H 93	6	3,298,201	3,377,801	79,600
wro	HAB	H 94	6	47,596,601	47,626,601	30,000
wro	HAB	H 95	6	48,211,201	48,222,401	11,200
wro	HAB	H 96	6	62,900,201	62,903,601	3,400
wro	HAB	H 97	6	66,585,801	66,681,401	95,600
wro	HAB	H 98	6	68,577,201	68,664,801	87,600
wro	HAB	H 99	6	70,852,401	70,856,001	3,600
wro	HAB	H 100	6	94,361,201	94,364,001	2,800
wro	HAB	H 101	6	104,323,201	104,327,201	4,000
wro	HAB	H 102	6	109,904,401	109,906,401	2,000
wro	HAB	H 103	6	129,922,001	130,132,801	210,800
wro	HAB	H 104	6	130,167,801	130,325,601	157,800
wro	HAB	H 105	6	130,832,401	130,932,401	100,000
wro	HAB	H 106	6	133,578,401	133,732,201	153,800
wro	HAB	H 107	7	11,310,601	11,341,401	30,800
wro	HAB	H 108	7	14,363,001	14,385,601	22,600
wro	HAB	H 109	7	18,937,401	19,094,801	157,400
wro	HAB	H 110	7	19,167,401	19,235,801	68,400
wro	HAB	H 111	7	19,290,001	19,405,201	115,200
wro	HAB	H 112	7	25,467,601	25,535,201	67,600
wro	HAB	H 113	7	46,716,201	46,752,201	36,000
wro	HAB	H 114	7	50,354,201	50,481,001	126,800
wro	HAB	H 115	7	52,197,601	52,200,201	2,600
wro	HAB	H 116	7	54,772,201	54,922,201	150,000
wro	HAB	H 117	7	55,423,001	55,453,401	30,400
wro	HAB	H 118	7	55,528,401	55,657,401	129,000
wro	HAB	H 119	7	62,126,401	62,130,601	4,200
wro	HAB	H 120	7	95,446,801	95,450,001	3,200
wro	HAB	H 121	7	101,244,401	101,249,401	5,000
wro	HAB	H 122	7	110,189,601	110,240,001	50,400
wro	HAB	H 123	7	110,455,401	110,537,801	82,400
wro	HAB	H 124	7	115,511,601	115,613,201	101,600
wro	HAB	H 125	7	116,228,601	116,232,801	4,200
wro	HAB	H 126	8	22,082,001	22,159,201	77,200
wro	HAB	H 127	8	28,384,801	28,427,601	42,800
wro	HAB	H 128	8	28,473,001	28,477,201	4,200
wro	HAB	H 129	8	32,338,601	32,344,201	5,600

type	mouse line	no.	chr	start	end	size
wro	HAB	H 130	8	44,115,001	44,143,201	28,200
wro	HAB	H 131	8	52,964,001	52,966,401	2,400
wro	HAB	H 132	8	73,518,601	73,528,401	9,800
wro	HAB	H 133	8	73,649,201	73,720,601	71,400
wro	HAB	H 134	8	74,545,001	74,625,201	80,200
wro	HAB	H 135	8	77,137,201	77,139,601	2,400
wro	HAB	H 136	8	91,501,001	91,504,001	3,000
wro	HAB	H 137	8	93,671,001	93,692,201	21,200
wro	HAB	H 138	8	94,213,001	94,216,201	3,200
wro	HAB	H 139	8	95,584,801	95,675,601	90,800
wro	HAB	H 140	9	2,999,801	3,032,601	32,800
wro	HAB	H 141	9	23,943,801	23,967,201	23,400
wro	HAB	H 142	9	38,331,401	38,353,801	22,400
wro	HAB	H 143	9	41,090,001	41,093,201	3,200
wro	HAB	H 144	9	41,291,401	41,294,801	3,400
wro	HAB	H 145	9	65,694,001	65,698,001	4,000
wro	HAB	H 146	9	98,786,601	98,818,401	31,800
wro	HAB	H 147	9	100,995,401	100,999,801	4,400
wro	HAB	H 148	9	105,402,801	105,406,801	4,000
wro	HAB	H 149	9	105,605,201	105,608,401	3,200
wro	HAB	H 150	10	4,058,401	4,074,601	16,200
wro	HAB	H 151	10	93,016,801	93,019,601	2,800
wro	HAB	H 152	10	100,293,801	100,298,001	4,200
wro	HAB	H 153	10	103,406,601	103,412,401	5,800
wro	HAB	H 154	10	104,227,801	104,231,801	4,000
wro	HAB	H 155	11	3,024,201	3,060,001	35,800
wro	HAB	H 156	11	31,947,401	31,950,601	3,200
wro	HAB	H 157	11	46,502,801	46,567,001	64,200
wro	HAB	H 158	11	58,473,001	58,571,201	98,200
wro	HAB	H 159	11	58,629,801	58,657,401	27,600
wro	HAB	H 160	11	58,926,601	58,929,201	2,600
wro	HAB	H 161	11	63,648,801	63,653,401	4,600
wro	HAB	H 162	11	65,360,801	65,363,401	2,600
wro	HAB	H 163	11	72,929,801	72,934,401	4,600
wro	HAB	H 164	11	74,179,201	74,203,201	24,000
wro	HAB	H 165	11	75,972,801	75,976,401	3,600
wro	HAB	H 166	11	94,612,601	94,724,601	112,000
wro	HAB	H 167	11	95,769,801	95,773,001	3,200
wro	HAB	H 168	11	101,502,801	101,509,801	7,000
wro	HAB	H 169	12	25,550,601	25,554,201	3,600
wro	HAB	H 170	12	27,400,601	27,413,601	13,000
wro	HAB	H 171	12	41,605,801	41,611,401	5,600
wro	HAB	H 172	12	43,324,601	43,330,401	5,800

type	mouse line	no.	chr	start	end	size
wro	HAB	H 173	12	104,956,201	105,175,201	219,000
wro	HAB	H 174	12	105,412,401	105,512,801	100,400
wro	HAB	H 175	12	105,537,601	105,633,201	95,600
wro	HAB	H 176	12	110,359,401	110,363,401	4,000
wro	HAB	H 177	12	114,524,801	114,562,001	37,200
wro	HAB	H 178	12	114,688,201	114,721,401	33,200
wro	HAB	H 179	12	114,722,601	114,785,601	63,000
wro	HAB	H 180	12	114,823,201	115,031,401	208,200
wro	HAB	H 181	12	115,182,401	115,278,801	96,400
wro	HAB	H 182	12	115,711,001	115,783,001	72,000
wro	HAB	H 183	12	115,919,201	116,190,401	271,200
wro	HAB	H 184	12	117,116,001	117,213,201	97,200
wro	HAB	H 185	13	19,310,001	19,400,201	90,200
wro	HAB	H 186	13	23,492,601	23,504,801	12,200
wro	HAB	H 187	13	53,535,601	53,539,401	3,800
wro	HAB	H 188	13	61,591,601	61,669,801	78,200
wro	HAB	H 189	13	61,684,601	61,693,801	9,200
wro	HAB	H 190	13	62,463,601	62,477,001	13,400
wro	HAB	H 191	13	65,081,601	65,100,601	19,000
wro	HAB	H 192	13	65,410,801	65,515,001	104,200
wro	HAB	H 193	13	66,526,601	66,595,201	68,600
wro	HAB	H 194	13	67,264,001	67,304,801	40,800
wro	HAB	H 195	13	67,466,401	67,517,801	51,400
wro	HAB	H 196	13	67,700,401	67,824,201	123,800
wro	HAB	H 197	13	67,854,001	67,925,201	71,200
wro	HAB	H 198	13	77,194,401	77,214,601	20,200
wro	HAB	H 199	13	77,541,801	77,603,001	61,200
wro	HAB	H 200	13	100,998,401	101,122,201	123,800
wro	HAB	H 201	13	101,145,601	101,220,401	74,800
wro	HAB	H 202	13	111,016,001	111,019,201	3,200
wro	HAB	H 203	14	19,327,201	19,355,401	28,200
wro	HAB	H 204	14	44,524,401	44,670,801	146,400
wro	HAB	H 205	14	51,760,801	51,876,801	116,000
wro	HAB	H 206	14	52,190,401	52,229,801	39,400
wro	HAB	H 207	14	54,488,401	54,494,601	6,200
wro	HAB	H 208	14	83,796,801	83,800,001	3,200
wro	HAB	H 209	14	84,616,801	84,623,801	7,000
wro	HAB	H 210	14	86,201,201	86,204,001	2,800
wro	HAB	H 211	14	112,009,801	112,014,801	5,000
wro	HAB	H 212	14	120,226,401	120,237,001	10,600
wro	HAB	H 213	15	10,075,601	10,078,201	2,600
wro	HAB	H 214	15	31,054,001	31,057,001	3,000
wro	HAB	H 215	15	36,023,201	36,025,801	2,600

type	mouse line	no.	chr	start	end	size
wro	HAB	H 216	15	69,031,001	69,049,801	18,800
wro	HAB	H 217	15	74,802,401	74,994,401	192,000
wro	HAB	H 218	15	75,009,601	75,091,001	81,400
wro	HAB	H 219	15	77,366,401	77,475,001	108,600
wro	HAB	H 220	15	78,118,801	78,177,001	58,200
wro	HAB	H 221	15	81,753,401	81,759,201	5,800
wro	HAB	H 222	15	84,654,001	84,657,401	3,400
wro	HAB	H 223	16	6,246,801	6,253,001	6,200
wro	HAB	H 224	16	44,789,601	44,907,601	118,000
wro	HAB	H 225	16	54,083,001	54,085,201	2,200
wro	HAB	H 226	16	54,664,201	54,670,601	6,400
wro	HAB	H 227	16	58,136,801	58,142,801	6,000
wro	HAB	H 228	16	59,051,001	59,109,601	58,600
wro	HAB	H 229	16	93,611,401	93,660,201	48,800
wro	HAB	H 230	17	15,620,401	15,626,401	6,000
wro	HAB	H 231	17	18,917,001	18,919,601	2,600
wro	HAB	H 232	17	21,390,001	21,420,401	30,400
wro	HAB	H 233	17	22,688,601	22,755,001	66,400
wro	HAB	H 234	17	24,016,601	24,060,001	43,400
wro	HAB	H 235	17	32,675,601	32,760,001	84,400
wro	HAB	H 236	17	34,281,601	34,296,201	14,600
wro	HAB	H 237	17	34,606,601	34,687,001	80,400
wro	HAB	H 238	17	35,382,401	35,560,601	178,200
wro	HAB	H 239	17	48,268,601	48,308,201	39,600
wro	HAB	H 240	17	53,089,001	53,130,601	41,600
wro	HAB	H 241	17	89,394,201	89,401,401	7,200
wro	HAB	H 242	18	11,013,601	11,045,801	32,200
wro	HAB	H 243	18	11,385,801	11,462,401	76,600
wro	HAB	H 244	18	13,368,201	13,374,401	6,200
wro	HAB	H 245	18	31,774,601	31,797,001	22,400
wro	HAB	H 246	18	39,482,001	39,489,001	7,000
wro	HAB	H 247	18	55,497,001	55,499,601	2,600
wro	HAB	H 248	18	57,817,801	57,901,201	83,400
wro	HAB	H 249	18	84,355,801	84,359,201	3,400
wro	HAB	H 250	19	4,036,001	4,040,001	4,000
wro	HAB	H 251	19	9,516,401	9,596,201	79,800
wro	HAB	H 252	19	14,097,201	14,100,201	3,000
wro	HAB	H 253	19	41,576,401	41,579,001	2,600
wro	HAB	H 254	19	60,000,801	60,005,801	5,000
wro	HAB	H 255	M	1	2,201	2,200
wro	HAB	H 256	M	6,801	10,601	3,800
wro	HAB	H 257	X	14,293,601	14,300,601	7,000
wro	HAB	H 258	X	114,801,401	114,806,201	4,800

type	mouse line	no.	chr	start	end	size
wro	HAB	H 259	X	139,671,001	139,699,801	28,800
wro	HAB	H 260	X	166,408,001	166,425,401	17,400
wro	HAB	H 261	X	166,426,601	166,446,801	20,200
wro	HAB	H 262	Y	2,793,401	2,865,001	71,600
wro	HAB	H 263	Y	2,871,801	2,875,201	3,400
wro	LAB	L 1	1	8,497,201	8,500,201	3,000
wro	LAB	L 2	1	14,331,201	14,334,801	3,600
wro	LAB	L 3	1	21,192,401	21,274,401	82,000
wro	LAB	L 4	1	26,742,801	26,745,401	2,600
wro	LAB	L 5	1	29,195,001	29,201,001	6,000
wro	LAB	L 6	1	66,839,001	66,845,001	6,000
wro	LAB	L 7	1	85,082,601	85,168,201	85,600
wro	LAB	L 8	1	85,243,401	85,282,401	39,000
wro	LAB	L 9	1	89,991,801	90,051,801	60,000
wro	LAB	L 10	1	90,126,801	90,130,001	3,200
wro	LAB	L 11	1	110,860,001	110,889,601	29,600
wro	LAB	L 12	1	112,785,201	112,800,801	15,600
wro	LAB	L 13	1	117,205,201	117,275,801	70,600
wro	LAB	L 14	1	125,487,401	125,494,001	6,600
wro	LAB	L 15	1	141,663,801	141,715,201	51,400
wro	LAB	L 16	1	147,802,201	147,805,601	3,400
wro	LAB	L 17	1	149,732,401	149,749,801	17,400
wro	LAB	L 18	1	172,157,201	172,211,601	54,400
wro	LAB	L 19	1	173,444,801	173,479,201	34,400
wro	LAB	L 20	1	175,729,201	175,865,601	136,400
wro	LAB	L 21	1	176,029,801	176,040,001	10,200
wro	LAB	L 22	2	42,123,601	42,125,801	2,200
wro	LAB	L 23	2	65,241,601	65,245,801	4,200
wro	LAB	L 24	2	77,707,601	77,709,601	2,000
wro	LAB	L 25	2	86,226,401	86,288,401	62,000
wro	LAB	L 26	2	88,630,201	88,703,201	73,000
wro	LAB	L 27	2	98,502,201	98,507,601	5,400
wro	LAB	L 28	2	100,040,601	100,043,601	3,000
wro	LAB	L 29	2	111,438,801	111,444,001	5,200
wro	LAB	L 30	2	121,287,401	121,351,801	64,400
wro	LAB	L 31	2	122,229,401	122,350,401	121,000
wro	LAB	L 32	2	135,488,401	135,495,601	7,200
wro	LAB	L 33	2	154,749,401	154,795,201	45,800
wro	LAB	L 34	2	157,526,801	157,530,401	3,600
wro	LAB	L 35	3	34,491,001	34,493,801	2,800
wro	LAB	L 36	3	49,162,401	49,171,001	8,600
wro	LAB	L 37	3	60,672,201	60,677,201	5,000
wro	LAB	L 38	3	76,177,401	76,180,401	3,000

type	mouse line	no.	chr	start	end	size
wro	LAB	L 39	3	96,291,001	96,299,601	8,600
wro	LAB	L 40	3	134,551,401	134,563,601	12,200
wro	LAB	L 41	4	61,750,201	61,819,801	69,600
wro	LAB	L 42	4	62,156,001	62,184,801	28,800
wro	LAB	L 43	4	88,401,201	88,441,801	40,600
wro	LAB	L 44	4	91,229,201	91,232,601	3,400
wro	LAB	L 45	4	93,448,001	93,470,401	22,400
wro	LAB	L 46	4	129,340,801	129,343,601	2,800
wro	LAB	L 47	4	143,640,801	143,727,401	86,600
wro	LAB	L 48	4	144,197,801	144,245,001	47,200
wro	LAB	L 49	4	146,834,401	146,961,401	127,000
wro	LAB	L 50	5	14,871,001	15,033,401	162,400
wro	LAB	L 51	5	15,052,201	15,185,801	133,600
wro	LAB	L 52	5	22,524,201	22,527,601	3,400
wro	LAB	L 53	5	26,330,001	26,424,401	94,400
wro	LAB	L 54	5	50,136,401	50,148,401	12,000
wro	LAB	L 55	5	51,346,001	51,351,601	5,600
wro	LAB	L 56	5	67,098,001	67,101,401	3,400
wro	LAB	L 57	5	102,779,001	102,782,001	3,000
wro	LAB	L 58	5	105,140,601	105,346,801	206,200
wro	LAB	L 59	5	109,252,401	109,256,801	4,400
wro	LAB	L 60	5	138,642,801	138,694,401	51,600
wro	LAB	L 61	5	147,290,601	147,372,801	82,200
wro	LAB	L 62	5	148,925,201	148,928,201	3,000
wro	LAB	L 63	6	3,294,801	3,369,201	74,400
wro	LAB	L 64	6	47,596,601	47,628,401	31,800
wro	LAB	L 65	6	70,852,401	70,854,801	2,400
wro	LAB	L 66	6	94,361,201	94,364,001	2,800
wro	LAB	L 67	6	121,647,201	121,656,201	9,000
wro	LAB	L 68	6	129,906,401	130,124,401	218,000
wro	LAB	L 69	6	130,163,401	130,324,601	161,200
wro	LAB	L 70	6	130,820,801	130,932,401	111,600
wro	LAB	L 71	6	133,623,201	133,732,601	109,400
wro	LAB	L 72	6	147,936,001	147,939,601	3,600
wro	LAB	L 73	7	46,714,601	46,752,001	37,400
wro	LAB	L 74	7	50,379,801	50,461,401	81,600
wro	LAB	L 75	7	54,760,201	54,881,601	121,400
wro	LAB	L 76	7	55,423,001	55,453,801	30,800
wro	LAB	L 77	7	55,529,201	55,667,801	138,600
wro	LAB	L 78	7	62,126,401	62,130,401	4,000
wro	LAB	L 79	7	101,244,401	101,249,401	5,000
wro	LAB	L 80	7	111,919,601	111,925,001	5,400
wro	LAB	L 81	8	19,404,001	19,474,401	70,400

type	mouse line	no.	chr	start	end	size
wro	LAB	L 82	8	22,082,201	22,150,401	68,200
wro	LAB	L 83	8	32,339,001	32,344,001	5,000
wro	LAB	L 84	8	73,518,601	73,528,601	10,000
wro	LAB	L 85	8	73,634,801	73,720,601	85,800
wro	LAB	L 86	8	74,548,001	74,625,601	77,600
wro	LAB	L 87	8	77,137,201	77,139,401	2,200
wro	LAB	L 88	8	88,120,401	88,126,401	6,000
wro	LAB	L 89	8	88,346,201	88,349,001	2,800
wro	LAB	L 90	8	91,501,001	91,503,801	2,800
wro	LAB	L 91	8	93,671,201	93,692,201	21,000
wro	LAB	L 92	8	94,213,001	94,216,201	3,200
wro	LAB	L 93	8	95,586,801	95,675,601	88,800
wro	LAB	L 94	8	128,730,201	128,735,001	4,800
wro	LAB	L 95	9	3,000,001	3,029,801	29,800
wro	LAB	L 96	9	41,090,401	41,093,001	2,600
wro	LAB	L 97	9	65,694,001	65,698,001	4,000
wro	LAB	L 98	9	98,787,201	98,819,401	32,200
wro	LAB	L 99	9	100,994,401	101,000,201	5,800
wro	LAB	L 100	9	105,402,801	105,406,601	3,800
wro	LAB	L 101	9	105,605,401	105,608,001	2,600
wro	LAB	L 102	9	114,108,201	114,128,201	20,000
wro	LAB	L 103	10	4,066,401	4,071,001	4,600
wro	LAB	L 104	10	15,299,601	15,302,601	3,000
wro	LAB	L 105	10	21,817,001	21,835,801	18,800
wro	LAB	L 106	10	21,860,001	21,881,201	21,200
wro	LAB	L 107	10	22,005,001	22,034,001	29,000
wro	LAB	L 108	10	48,491,401	48,493,801	2,400
wro	LAB	L 109	10	57,683,601	57,697,001	13,400
wro	LAB	L 110	10	88,125,601	88,129,001	3,400
wro	LAB	L 111	10	125,211,201	125,214,401	3,200
wro	LAB	L 112	10	125,941,601	125,943,801	2,200
wro	LAB	L 113	11	3,023,801	3,060,001	36,200
wro	LAB	L 114	11	31,947,401	31,950,601	3,200
wro	LAB	L 115	11	46,503,401	46,565,201	61,800
wro	LAB	L 116	11	49,010,801	49,015,401	4,600
wro	LAB	L 117	11	58,473,601	58,572,001	98,400
wro	LAB	L 118	11	58,630,401	58,656,401	26,000
wro	LAB	L 119	11	58,926,201	58,929,001	2,800
wro	LAB	L 120	11	60,374,001	60,466,001	92,000
wro	LAB	L 121	11	61,580,201	61,594,401	14,200
wro	LAB	L 122	11	62,822,801	62,825,401	2,600
wro	LAB	L 123	11	72,910,801	72,914,001	3,200
wro	LAB	L 124	11	75,972,601	75,976,001	3,400

type	mouse line	no.	chr	start	end	size
wro	LAB	L 125	11	120,981,401	120,984,401	3,000
wro	LAB	L 126	12	14,855,201	14,861,201	6,000
wro	LAB	L 127	12	27,400,601	27,413,601	13,000
wro	LAB	L 128	12	41,605,801	41,611,401	5,600
wro	LAB	L 129	12	43,324,601	43,330,201	5,600
wro	LAB	L 130	12	104,955,601	105,175,201	219,600
wro	LAB	L 131	12	105,411,601	105,531,001	119,400
wro	LAB	L 132	12	110,359,401	110,363,401	4,000
wro	LAB	L 133	12	115,998,001	116,036,401	38,400
wro	LAB	L 134	13	19,312,001	19,395,001	83,000
wro	LAB	L 135	13	22,160,601	22,175,201	14,600
wro	LAB	L 136	13	23,492,601	23,504,801	12,200
wro	LAB	L 137	13	53,535,601	53,539,401	3,800
wro	LAB	L 138	13	61,591,201	61,671,401	80,200
wro	LAB	L 139	13	61,684,401	61,693,801	9,400
wro	LAB	L 140	13	65,081,601	65,100,201	18,600
wro	LAB	L 141	13	67,466,601	67,514,601	48,000
wro	LAB	L 142	13	67,537,601	67,585,001	47,400
wro	LAB	L 143	13	67,705,201	67,814,001	108,800
wro	LAB	L 144	13	100,998,801	101,122,401	123,600
wro	LAB	L 145	13	101,140,601	101,214,001	73,400
wro	LAB	L 146	13	111,016,001	111,018,801	2,800
wro	LAB	L 147	14	44,517,601	44,594,001	76,400
wro	LAB	L 148	14	51,773,401	51,877,201	103,800
wro	LAB	L 149	14	54,488,201	54,494,601	6,400
wro	LAB	L 150	14	76,189,401	76,222,801	33,400
wro	LAB	L 151	14	83,796,601	83,799,801	3,200
wro	LAB	L 152	14	84,616,801	84,623,601	6,800
wro	LAB	L 153	14	86,201,401	86,204,001	2,600
wro	LAB	L 154	14	106,143,201	106,147,801	4,600
wro	LAB	L 155	14	120,227,001	120,237,001	10,000
wro	LAB	L 156	15	20,997,401	21,001,001	3,600
wro	LAB	L 157	15	22,190,201	22,216,801	26,600
wro	LAB	L 158	15	74,813,001	75,045,401	232,400
wro	LAB	L 159	15	77,367,601	77,475,001	107,400
wro	LAB	L 160	15	78,118,801	78,177,001	58,200
wro	LAB	L 161	15	81,753,601	81,759,201	5,600
wro	LAB	L 162	15	84,654,001	84,657,001	3,000
wro	LAB	L 163	15	98,018,401	98,037,801	19,400
wro	LAB	L 164	16	6,246,801	6,253,201	6,400
wro	LAB	L 165	16	44,787,601	44,909,801	122,200
wro	LAB	L 166	16	58,136,801	58,142,801	6,000
wro	LAB	L 167	16	93,610,001	93,660,201	50,200

type	mouse line	no.	chr	start	end	size
wro	LAB	L 168	17	8,799,001	8,801,401	2,400
wro	LAB	L 169	17	15,620,401	15,626,001	5,600
wro	LAB	L 170	17	24,018,001	24,060,001	42,000
wro	LAB	L 171	17	34,281,801	34,296,801	15,000
wro	LAB	L 172	17	34,607,001	34,687,001	80,000
wro	LAB	L 173	17	35,382,601	35,504,401	121,800
wro	LAB	L 174	17	36,172,401	36,348,401	176,000
wro	LAB	L 175	17	36,884,601	36,934,601	50,000
wro	LAB	L 176	17	48,265,401	48,308,401	43,000
wro	LAB	L 177	17	53,089,001	53,130,201	41,200
wro	LAB	L 178	18	11,013,601	11,045,801	32,200
wro	LAB	L 179	18	11,385,801	11,461,801	76,000
wro	LAB	L 180	18	57,817,801	57,901,201	83,400
wro	LAB	L 181	19	4,036,001	4,039,801	3,800
wro	LAB	L 182	19	41,576,601	41,579,401	2,800
wro	LAB	L 183	19	53,018,401	53,021,601	3,200
wro	LAB	L 184	19	60,000,801	60,005,201	4,400
wro	LAB	L 185	M	1	2,001	2,000
wro	LAB	L 186	M	7,001	10,801	3,800
wro	LAB	L 187	X	14,293,201	14,300,601	7,400
wro	LAB	L 188	X	139,671,001	139,699,401	28,400
wro	LAB	L 189	X	166,427,201	166,446,801	19,600
wro	LAB	L 190	Y	2,793,201	2,865,001	71,800