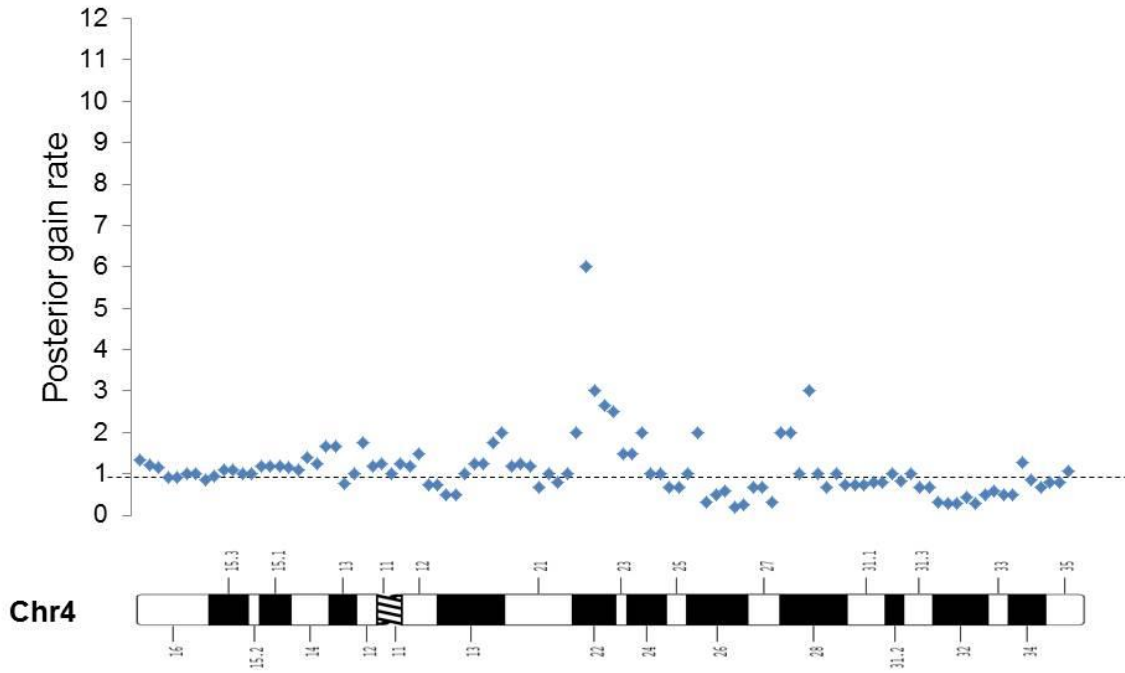
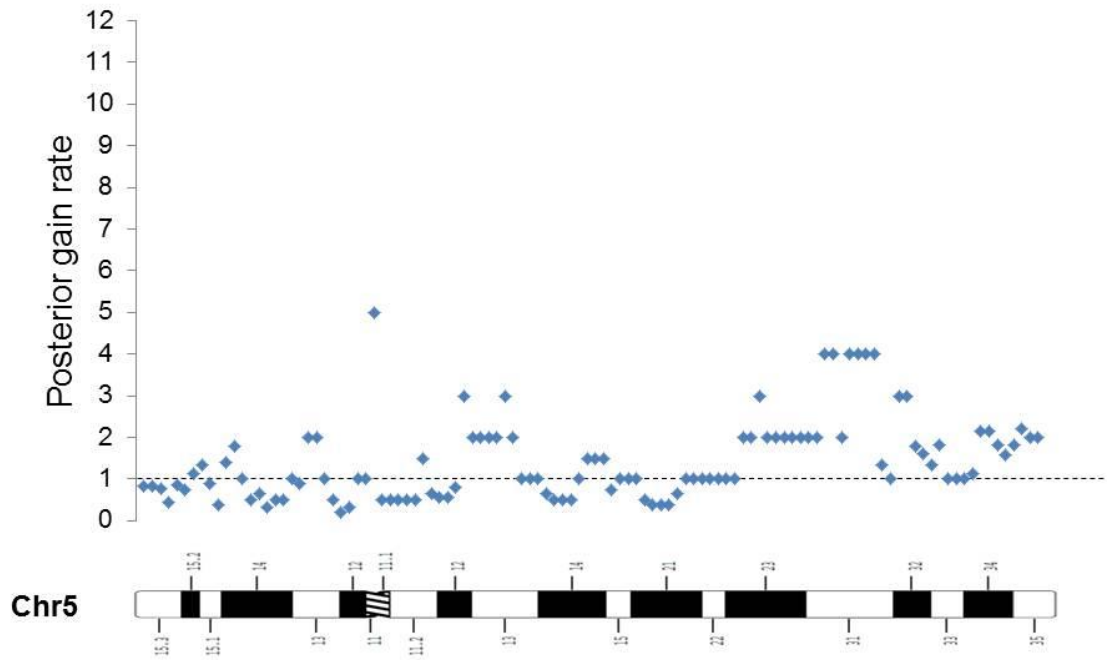


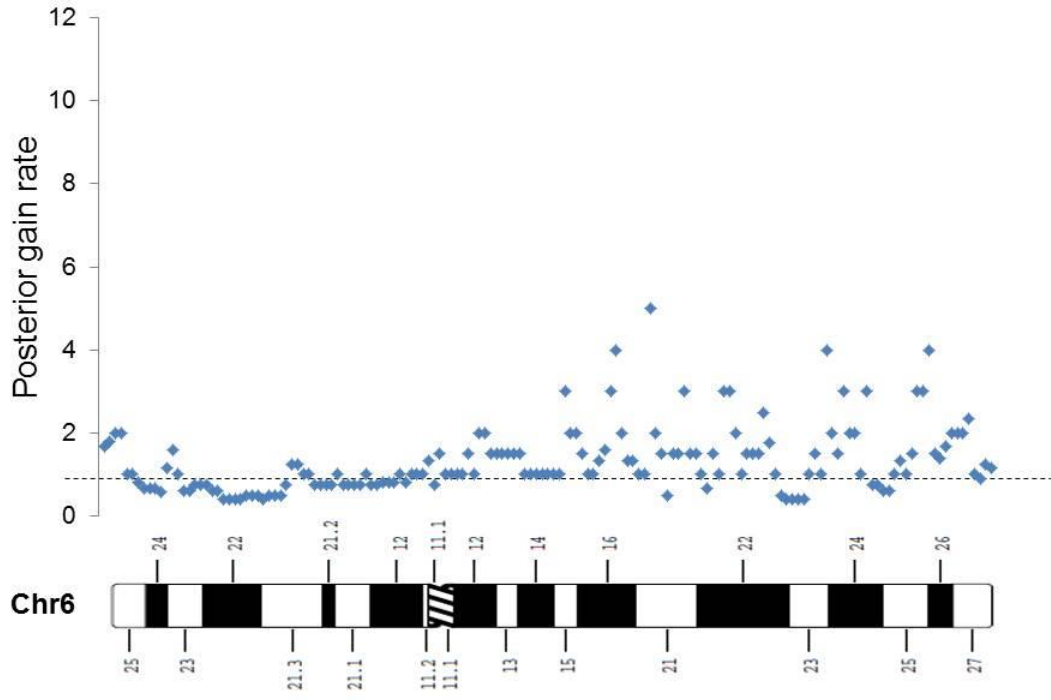
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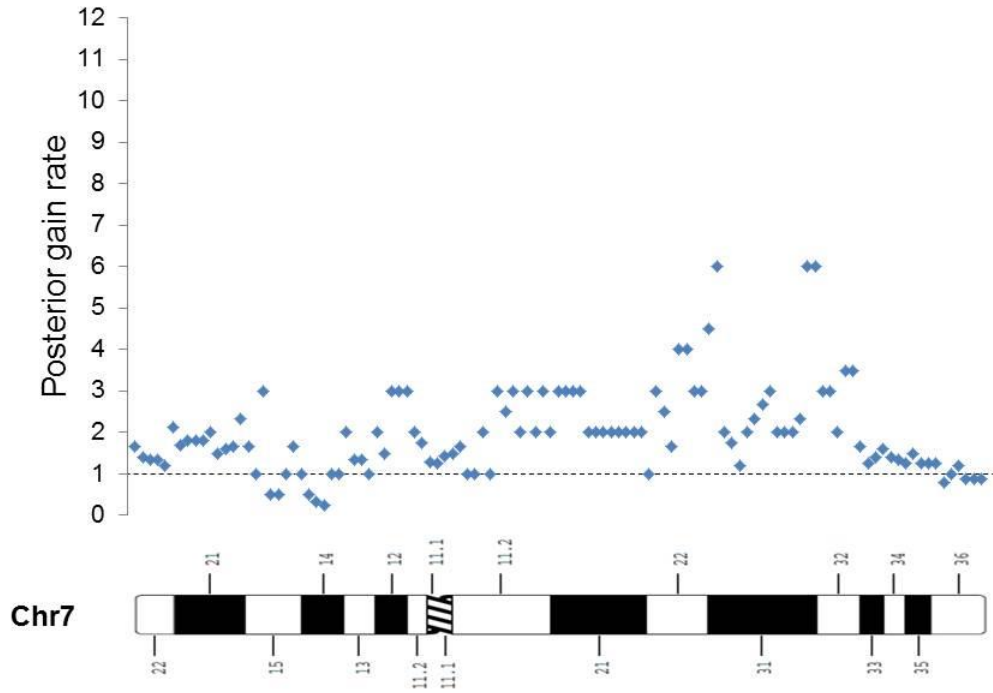
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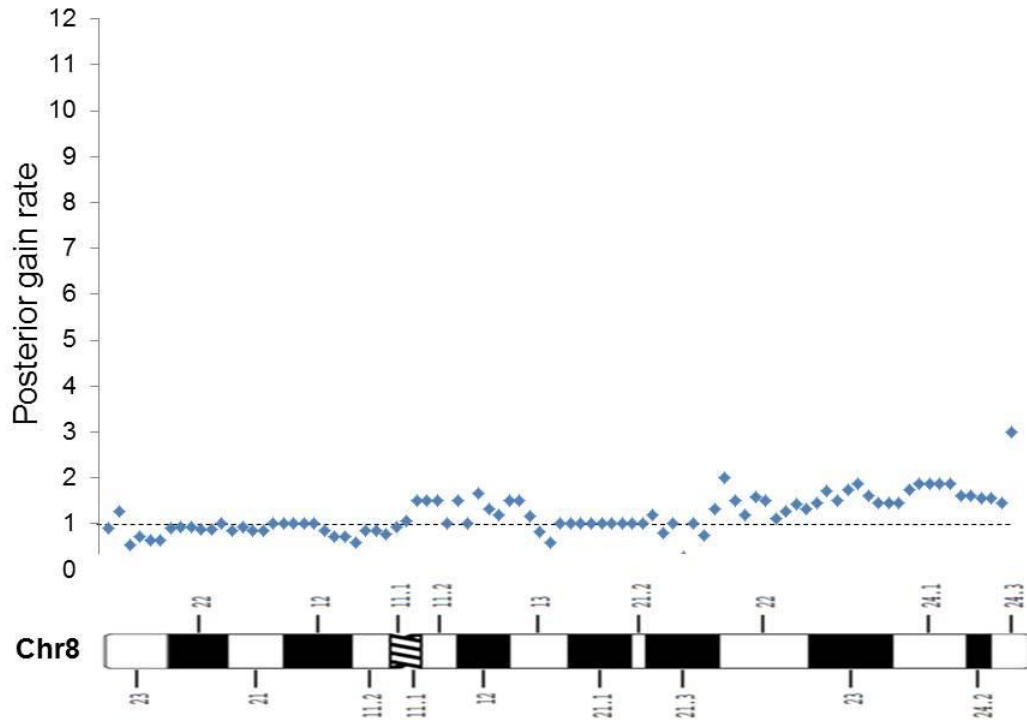
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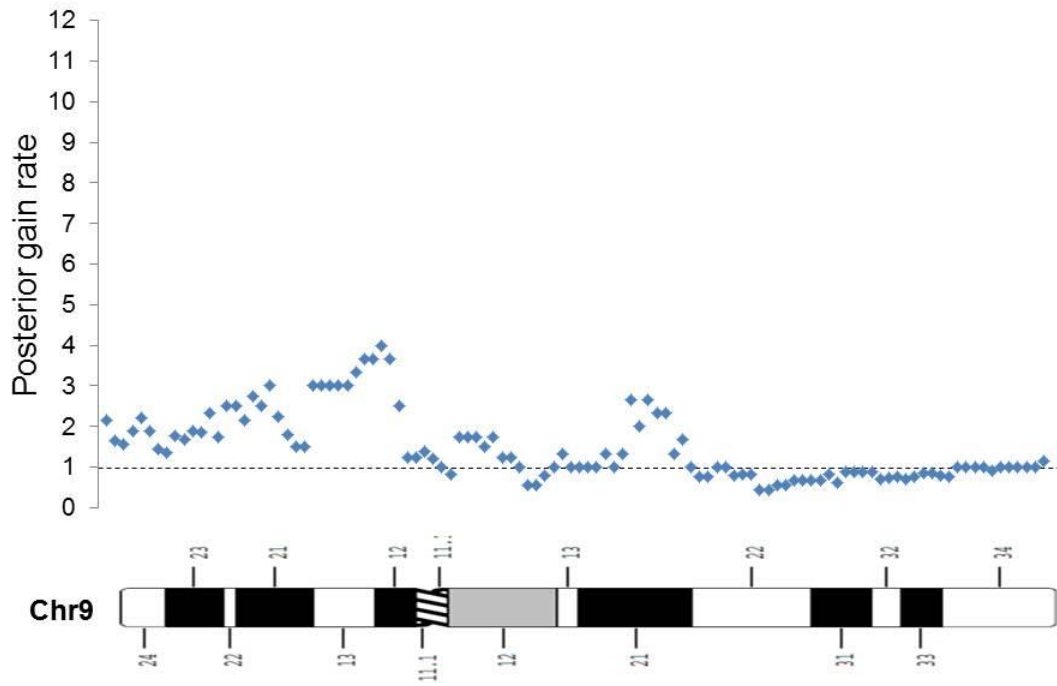
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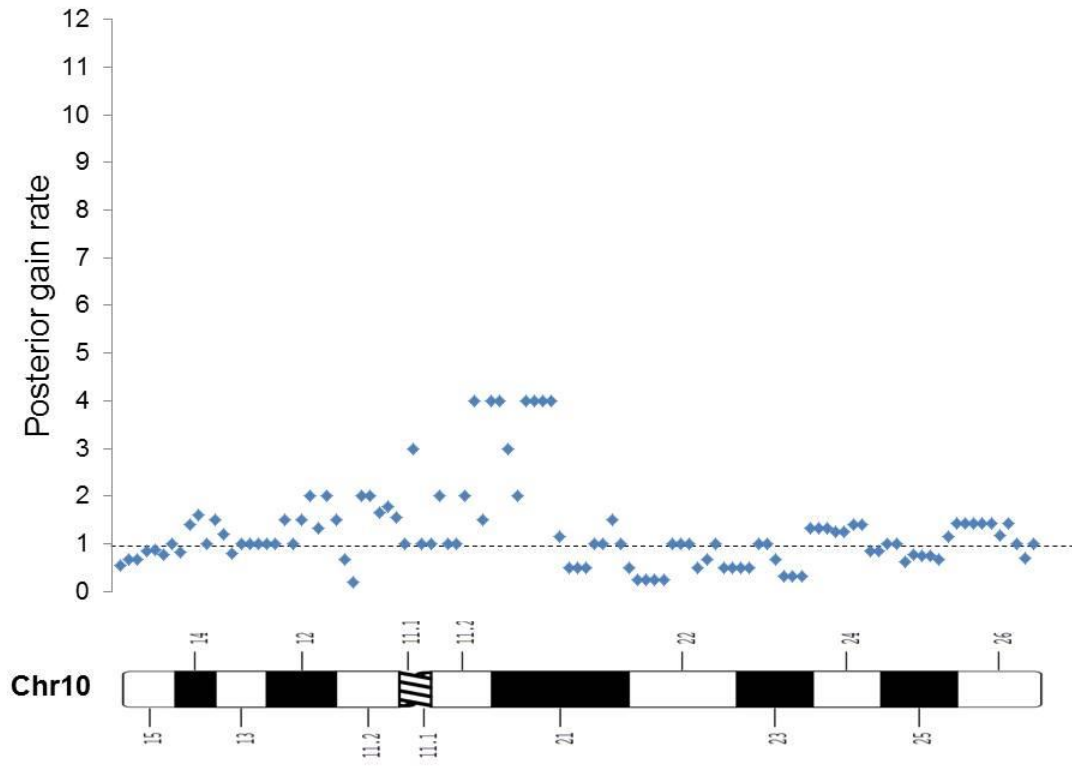
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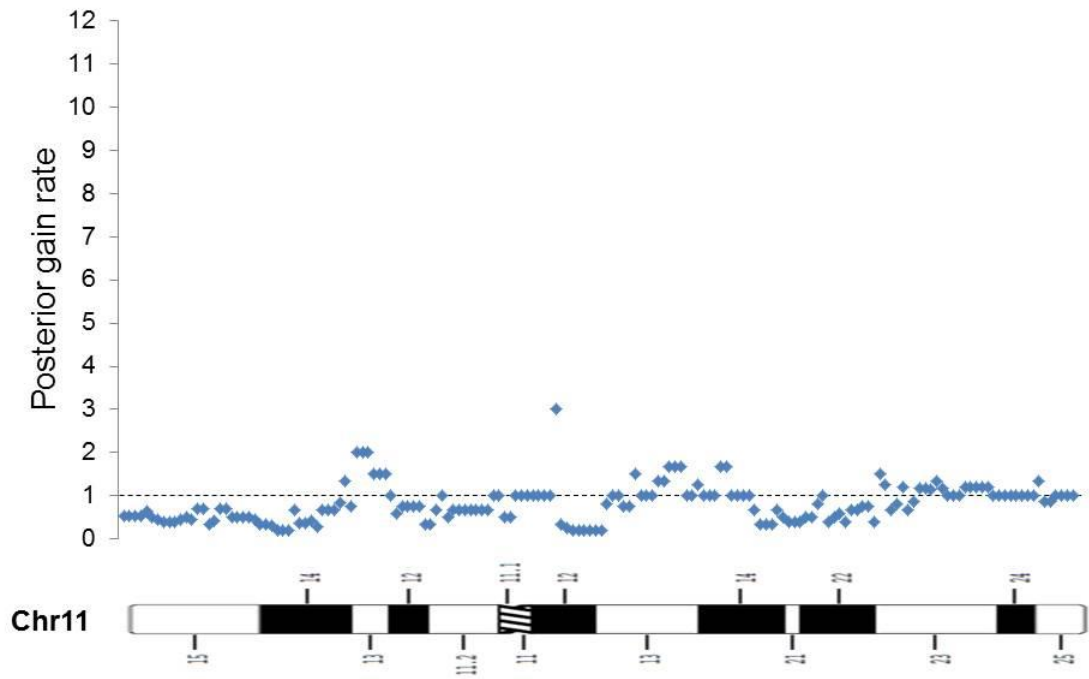
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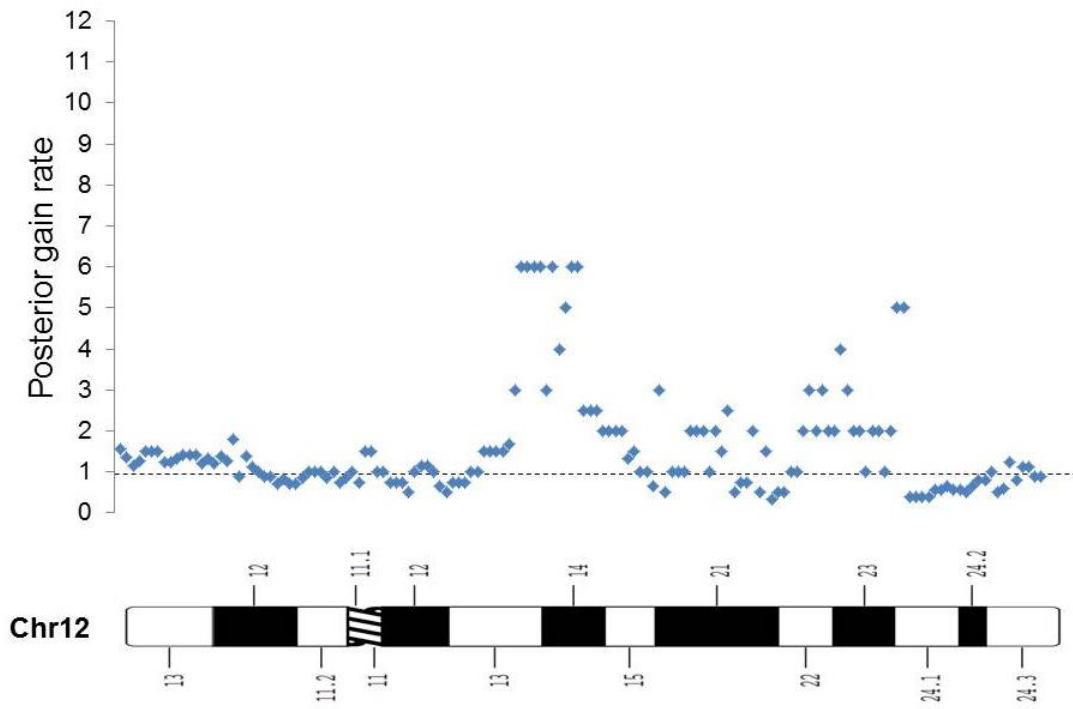
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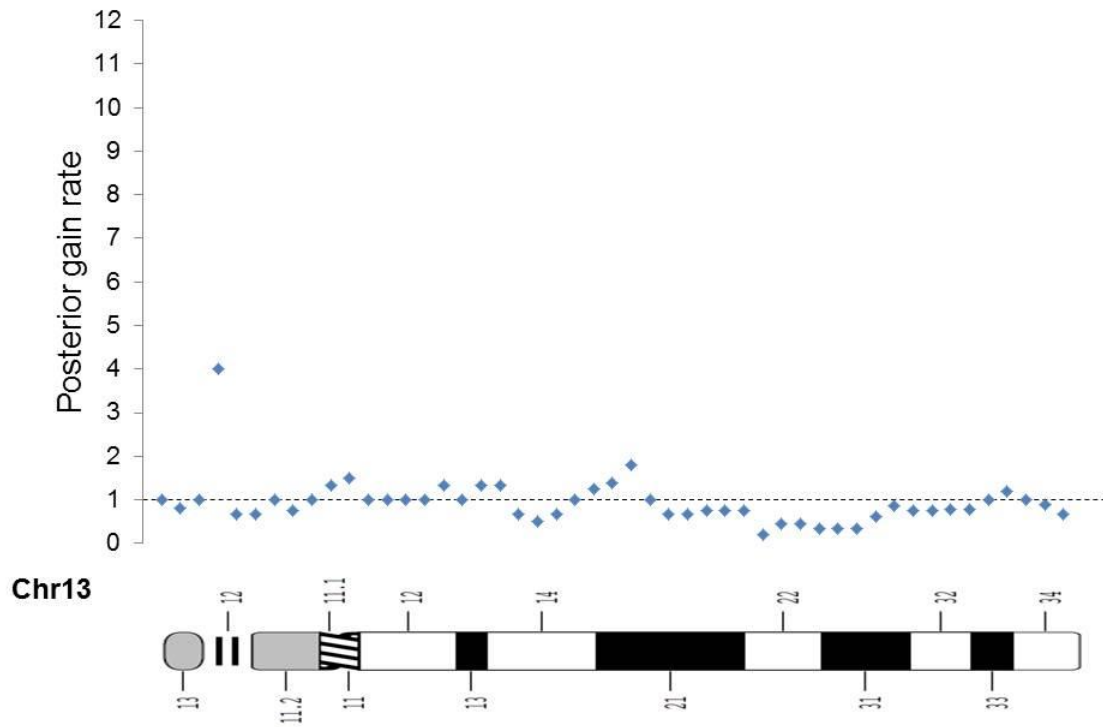
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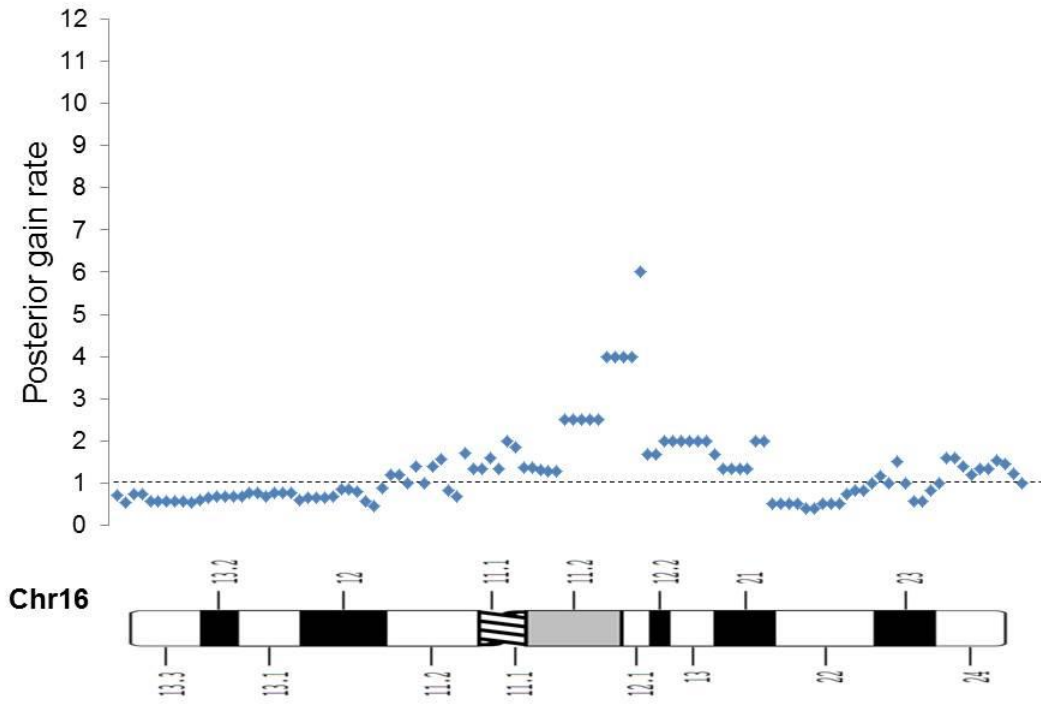
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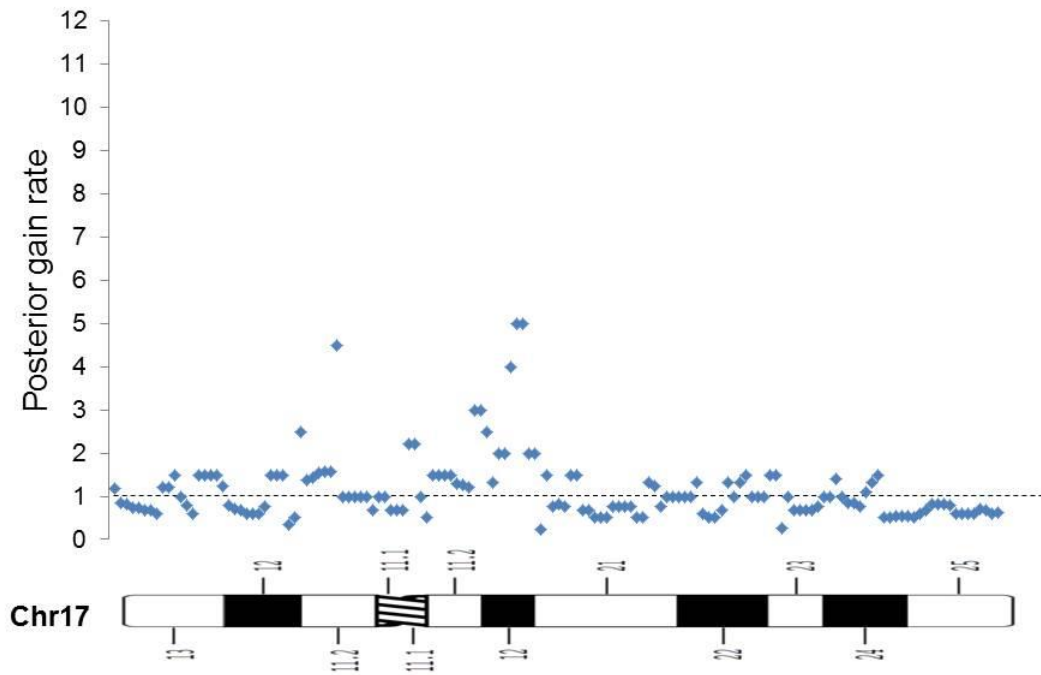
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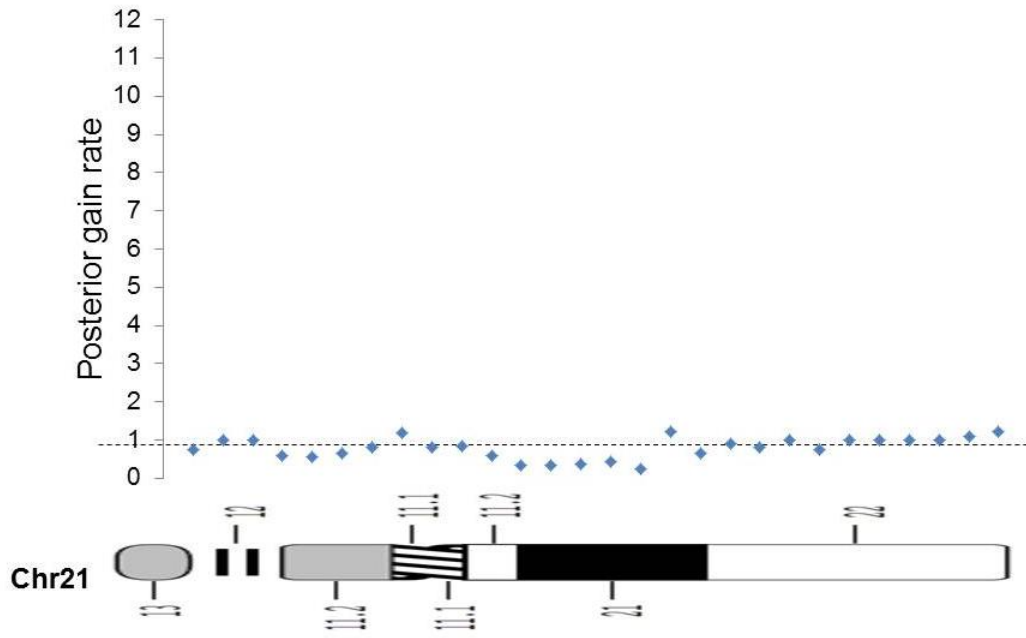
o



p



s



t

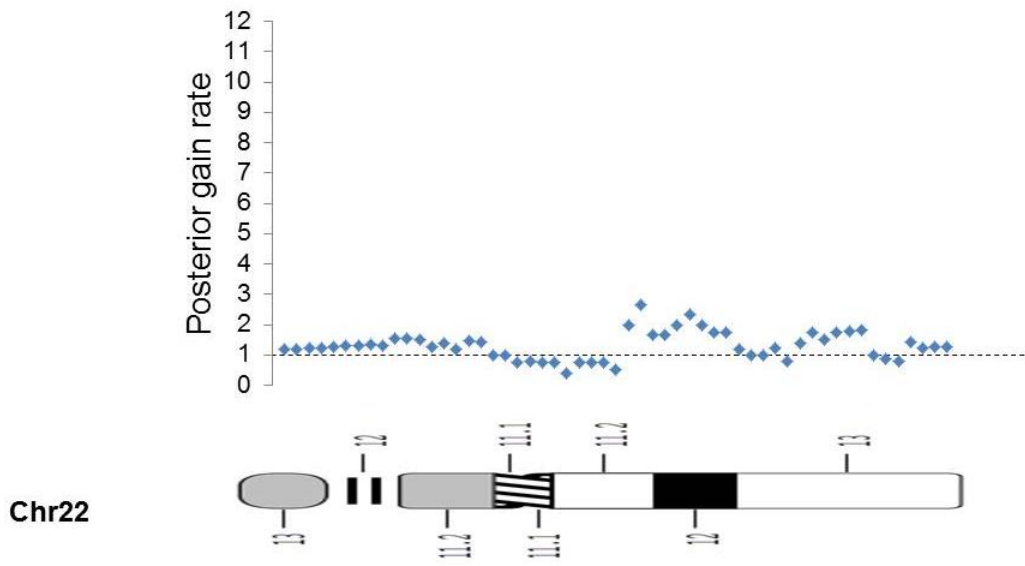


Figure S2. Permutation testing reveals that skewing at 19p region is highly significant ($p < 10^{-11}$). Furthermore, even after 10^7 random simulations we have calculated that it would require 10^4 - 10^5 more simulation to observe such a skewing at least once.

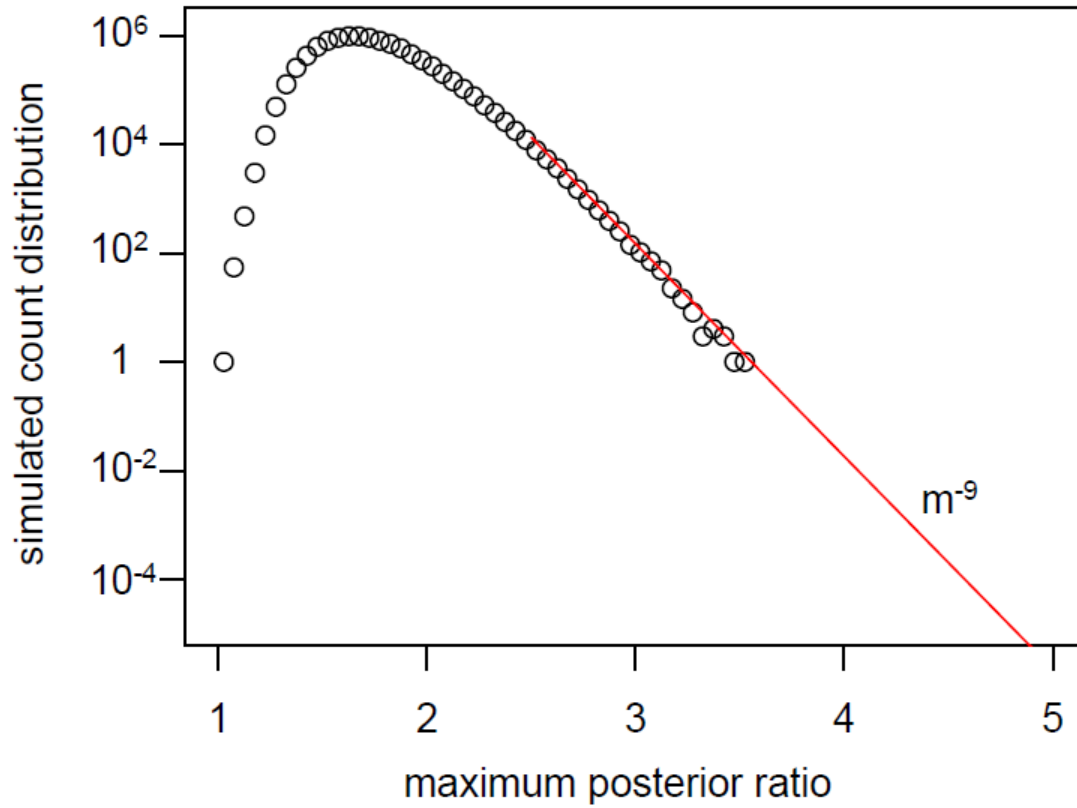


Table S1 (related to Figure 3). Details of data in Figure 3, including sex ratio of total variants, duplications and deletions, and number of genes assayed on Chromosome 19 in 500 KB bins.

Chromosome Band	Regional Bin		Total Variants		Duplications		Deletions		Number of Genes
	Start (KB)	Finish (KB)	F	M	F	M	F	M	
19p13.3	100,000	500,000	11	15	2	7	6	5	15
	500,000	1,000,000	15	18	4	10	6	4	27
	1,000,000	1,500,000	15	21	2	11	6	4	28
	1,500,000	2,000,000	5	20	1	13	1	3	19
	2,000,000	2,500,000	16	15	4	13	4	0	22
	2,500,000	3,000,000	10	15	4	11	4	2	14
	3,000,000	3,500,000	15	18	5	9	9	5	10
	3,500,000	4,000,000	17	26	3	10	13	10	25
19p13.3	4,000,000	4,500,000	19	26	2	10	13	11	19
19 p13.3	4,500,000	5,000,000	20	22	1	13	9	7	17 UHRF1
19p13.3	5,000,000	5,500,000	2	17	1	11	2	3	5 KDM4B PTPRS
19p13.3	5,500,000	6,000,000	1	14	1	10	0	2	20
19p13.3	6,000,000	6,500,000	1	8	1	8	0	0	15
19p13.3 & 13.2	6,500,000	7,000,000	4	11	1	10	0	0	12
19p13.2	7,000,000	7,500,000	6	10	1	10	1	0	7
19p13.2	7,500,000	8,000,000	3	8	1	5	1	0	30
	8,000,000	8,500,000	2	5	1	4	1	1	14
19p13.2	8,500,000	9,000,000	4	5	1	4	0	0	12
19p13.2	9,000,000	9,500,000	1	5	1	4	0	0	21
19p13.2	9,500,000	10,000,000	1	7	1	5	0	0	16 7ZNFFBx12;UBL5
19p13.2	10,000,000	10,500,000	3	6	0	4	3	0	11 DNMT1
19p13.2	10,500,000	11,000,000	6	9	0	6	5	1	22
19p13.2	11,000,000	11,500,000	14	13	1	5	4	0	18

									166kb dup mat inherited
midpoint 19p13.2	11,500,000	12,000,000	4	11	0	7	3	3	20 3 ZNF ELAV 3 SWSAP1
19p13.2	12,000,000	12,500,000	4	13	0	7	2	3	19 13 ZNF cluster
19p13.2	12,500,000	13,000,000	8	11	4	10	1	4	27 6 ZNF
19p13.2	13,500,000	14,000,000	14	10	3	5	7	3	13
19p13.2	14,000,000	14,500,000	11	9	2	6	6	2	16
19p13.12	14,500,000	15,000,000	22	10	3	6	6	3	22 ZNF 333
	15,000,000	15,500,000	9	10	2	4	5	5	17
	15,500,000	16,000,000	9	6	2	3	5	2	20
19p13.11	16,000,000	16,500,000	6	5	1	2	2	2	16
	16,500,000	17,000,000	3	6	1	1	0	2	13
	17,000,000	17,500,000	3	5	1	2	0	1	18
	17,500,000	18,000,000	5	5	1	2	0	1	17
	18,000,000	18,500,000	3	4	1	2	1	2	22
	18,500,000	19,000,000	19	5	2	2	1	2	17 many females with 142kb gain inherited from normal parent
	19,000,000	19,500,000	5	3	2	1	2	2	22
	19,500,000	20,000,000	1	4	1	2	0	1	16
	20,000,000	20,500,000	2	6	1	2	0	2	6 5 ZNF
	20,500,000	21,000,000	3	7	1	5	1	1	8 2 ZNF
	21,000,000	21,500,000	3	6	1	4	1	1	13 5 ZNF
	21,500,000	22,000,000	1	5	1	3	0	1	8 3 ZNF:
19p12	22,500,000	23,000,000	1	4	1	2	0	1	10 3 ZNF

	23,000,000	23,500,000	1	4	1	2	0	1	9 3 ZNF
	23,500,000	24,000,000	3	11	2	3	0	5	8 3 ZNF
	24,000,000	24,500,000	3	11	2	3	1	5	6 2 ZNF
19p11	24,500,000	25,000,000	2	3	1	2	0	0	0
	25,000,000	25,500,000	1	2	0	1	0	0	0
	25,500,000	26,000,000	1	2	0	2	0	0	0
	26,000,000	26,500,000	1	2	0	2	0	0	0
CENTROMERE	26,500,000	27,000,000	1	2	0	2	0	0	0
19q11	27,000,000	27,500,000	1	2	0	2	0	0	0
	27,500,000	28,000,000	2	2	0	2	0	0	0
	28,000,000	28,500,000	6	7	1	4	0	1	2
	28,500,000	29,000,000	5	7	1	4	0	1	0
19q12	29,000,000	29,500,000	2	5	1	3	0	1	2
	29,500,000	30,000,000	3	6	1	4	1	1	2
	30,000,000	30,500,000	6	7	3	5	1	1	7
	30,500,000	31,000,000	20	13	3	6	1	2	3
	31,000,000	31,500,000	21	12	3	5	2	4	1
19q12	31,500,000	32,000,000	7	12	3	4	2	7	1
19q12-q13.11	32,000,000	32,500,000	5	13	2	5	1	6	2
	32,500,000	33,000,000	5	13	2	5	1	6	3
19q13.11	33,000,000	33,500,000	4	13	2	4	2	7	13
	33,500,000	34,000,000	4	12	2	5	2	5	11
	34,000,000	34,500,000	4	9	2	4	2	4	5
	34,500,000	35,000,000	9	10	2	5	5	3	12
	35,000,000	35,500,000	8	8	1	4	5	2	12
	35,500,000	36,000,000	6	8	1	3	3	3	25
	36,000,000	36,500,000	6	9	1	3	2	2	36
	36,500,000	37,000,000	6	7	1	3	3	1	17
	37,000,000	37,500,000	5	8	1	3	2	3	12 10 ZNF:

	37,500,000	38,000,000	5	6	1	2	1	1	9 7 ZNF
19q13.12- 13.2	38,000,000	38,500,000	4	4	1	2	1	0	19 WDR 87, 7 ZNF
	38,500,000	39,000,000	3	4	1	2	1	0	15
	39,000,000	39,500,000	3	3	1	2	0	0	19 SIRT2, HNRNPL
	39,500,000	40,000,000	3	4	1	2	0	0	24 FBOXP, ZNFRP
	40,000,000	40,500,000	1	4	1	3	0	0	16 DYRK1B, LEUTX
	40,500,000	41,000,000	1	6	1	3	0	0	18
	41,000,000	41,500,000	0	9	0	5	0	0	22 SHKBP1,SNRPA, RAB4B, C19ORF54
	41,500,000	42,000,000	0	4	0	1	0	0	21 TGFB1,HNRPUL1,CCDC97
	42,000,000	42,500,000	7	5	0	1	1	0	18
	42,500,000	43,000,000	5	3	1	2	2	1	19 2Z NF, OCT2
	43,000,000	43,500,000	3	4	1	3	1	1	15
	43,500,000	44,000,000	4	1	1	1	1	0	15
	44,000,000	44,500,000	2	1	1	1	0	0	21 8 ZNF
	44,500,000	45,000,000	1	1	0	1	0	0	20 15 ZNF
	45,000,000	45,500,000	1	6	0	1	0	0	19
	45,500,000	46,000,000	12	10	3	3	0	0	22
19q13.32	46,000,000	46,500,000	3	6	1	1	0	2	25
	46,500,000	47,000,000	4	5	1	3	0	2	18
	47,000,000	47,500,000	6	7	2	2	1	2	16
	47,500,000	48,000,000	10	8	6	3	1	2	18
	48,000,000	48,500,000	22	11	8	3	1	2	16

	48,500,000	49,000,000	19	10	7	4	0	0	17 ZNF114
	49,000,000	49,500,000	5	4	5	3	0	0	30
	49,500,000	50,000,000	10	2	8	2	0	0	40
	50,000,000	50,500,000	10	3	5	2	0	1	35
	50,500,000	51,000,000	12	8	5	5	0	2	14
	51,000,000	51,500,000	6	8	5	4	0	3	24
	51,500,000	52,000,000	6	6	5	2	0	3	30
	52,000,000	52,500,000	7	13	5	8	0	3	25 6 ZNF
q13.41	52,500,000	53,000,000	12	15	6	9	2	1	17 13 ZNF
	53,000,000	53,500,000	8	10	7	6	1	1	16 10 ZNF:
	53,500,000	54,000,000	7	12	5	7	2	2	24 10 ZNF
	54,000,000	54,500,000	9	12	8	11	1	0	70
	54,500,000	55,000,000	14	18	11	10	0	0	29
	55,000,000	55,500,000	14	17	11	10	0	0	29
19q13.42	55,500,000	56,000,000	7	11	6	6	1	2	26
19q42- q13.43	56,000,000	56,500,000	12	15	8	10	1	0	22 7 ZNF
19q13.43	56,500,000	57,000,000	11	18	9	13	1	0	16 7 ZNF
19q13.43	57,000,000	57,500,000	9	13	8	10	1	0	12 6 ZNF
	57,500,000	58,000,000	7	11	7	7	0	1	19 10 ZNF
	58,000,000	58,500,000	7	10	6	4	1	0	24 21 ZNF
	58,500,000	59,000,000	6	8	5	4	0	0	29 15 ZNF