

## Supplemental Data

### Genome-wide Trans-ethnic Meta-analysis Identifies Seven Genetic Loci Influencing Erythrocyte Traits and a Role for *RBPMS* in Erythropoiesis

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#### Acknowledgements

## Individual Study Methods and Cohort Descriptions

The cohorts contributing to this study were general population samples. All participants provided written informed consent and studies were approved by their local Research Ethics Committees and/or Institutional Review Boards. Summary demographic characteristics are listed in **Table S2**. References for ascertainment methods and erythrocyte trait measurement for each participating study are given below.

### European Ancestry Cohorts

Age, Gene/Environment Susceptibility-Reykjavik Study (AGES)<sup>1,2</sup>

Atherosclerosis Risk in Communities Study (ARIC)<sup>2,3</sup>

Austrian Stroke Prevention Study (ASPS)<sup>4</sup>

Baltimore Longitudinal Study of Aging (BLSA)<sup>5</sup>

Coronary Artery Risk Development in Young Adults (CARDIA)<sup>6</sup>

Cardiovascular Health Study (CHS)<sup>2,7</sup>

Framingham Heart Study (FHS)<sup>2,8</sup>

Johns Hopkins Genetic Study of Atherosclerosis Risk (GeneSTAR)<sup>9-11</sup>

Health, Aging, and Body Composition (HealthABC)<sup>9,12</sup>

Invecchiare in Chianti Study (InCHIANTI)<sup>5</sup>

PROspective Study of Pravastatin in the Elderly at Risk (PROSPER/PHASE)<sup>13</sup>

Rotterdam Study I (RS-I)<sup>2,14</sup>

Rotterdam Study II (RS-II)<sup>14</sup>

Rotterdam Study III (RS-III)<sup>14</sup>

### East-Asian Ancestry Cohorts

The BioBank Japan Project (RIKEN)<sup>15,16</sup>

Asian Genetic Epidemiology Network (AGEN)<sup>17,18</sup>

### African-American Ancestry Cohorts

Atherosclerosis Risk in Communities Study (ARIC)<sup>3,12,19</sup>

Jackson Heart Study (JHS)<sup>12,19,20</sup>

Coronary Artery Risk Development in Young Adults (CARDIA)<sup>6,12,19</sup>

Cardiovascular Health Study (CHS)<sup>7</sup>

Johns Hopkins Genetic Study of Atherosclerosis Risk (GeneSTAR)<sup>9-11</sup>

Health, Aging, and Body Composition (HealthABC)<sup>9,12</sup>

Women's Health Initiative (WHI)<sup>12,19,21</sup>

Replication CohortsGutenberg Health Study (GHS)<sup>22</sup>

Genes and Blood-Clotting Study (GBC)<sup>23</sup>

Netherlands Epidemiology of Obesity Study (NEO)<sup>24</sup>

JUPITER Trial<sup>25</sup>

HealthyAging in Neighborhoods of Diversity across the Life Span (HANDLS)<sup>9,12</sup>

## Supplemental Methods and Results

### Additional Human Replication Findings

The discovery and replication results were meta-analysed separately for the EUR and AFR cohorts in METAL and with RE2, and as a further step, the combined METAL results were further meta-analysed with the EAS discovery data using METAL, MANTRA and RE2 methods. (**Table S5**).

In both the replication and discovery samples, we verified the allele directions in the original input files to address the question whether allele flipping could account for the *RPMS* finding for MCH. In our results rs2979489 only became genome-wide significant in the trans-ethnic meta-analysis; the individual ethnic-specific results were not significant. We checked the allele frequencies in several 1000G panels. In all cases A was the most common allele and G the rarest, as is the case in our HapMap analyses.

### Pleiotropy analysis

To further relate these findings in the *rbpms* gene family back to the human association data, we evaluated *RPMS* in WBC traits and *RPMS2* in our RBC analyses and WBC traits. The purpose of this analysis was to explore possible pleiotropy which might suggest effects on an earlier hematopoietic progenitor cell.

Variants in the *RPMS* and *RPMS2* gene regions (+/- 50kb from exon borders) showed no association with WBC traits in a trans-ethnic analysis of the same cohorts.<sup>26</sup> Further, there was no evidence of association with erythrocyte traits in the *RPMS2* region. Therefore, while there may be evidence of a functional class effect of the *rbpms* genes in the zebrafish experimental data, the human association data suggest that genetic variation in the *RPMS* locus specifically influences erythrocyte traits in humans and that *RPMS* is likely the true causal gene underlying this association.

## Supplemental Figures

### Figure S1

#### **-log P value plots and varLD plots**

Regional association plots for loci identified by our trans-ethnic analysis. For each trait-locus identified in the MANTRA analyses, including the novel and previously known loci, we have plotted the individual ethnicity-specific meta-analysis (METAL) results, the trans-ethnic fixed effects meta-analysis (METAL) and the Bayesian meta-analysis (MANTRA) results with SNPs colored according to the credible interval set for that region. Also shown for each region is the pair-wise LD correlation (varLD) and RNA expression of genes within the locus in erythroblast cell lines).<sup>27</sup>

Index for Figure S1

trait	Region	chr	cyto	Index SNP	Total_gene	Page
Hct	1	2	2p21	rs4953318	PRKCE	10
Hct	2	2	2q21	rs6430549	ACMSD	11
Hct	3	4	4q12	rs218237	KIT	12
Hct	4	4	4q21	rs1398018	SHROOM3	13
Hct	5	6	6p22	rs1800562	HFE	14
Hct	6	6	6q23	rs9399137	HBS1L	15
Hct	7	7	7q22	rs2075672	ACTL6B	16
Hct	8	7	7q31	rs2299433	MET	17
Hct	9	7	7q36	rs10224210	PRKAG2	18
Hct	10	9	9q34	rs495828	ABO	19
Hct	11	10	10q21	rs16926246	HK1	20
Hct	12	12	12q24	rs3184504	SH2B3	21
Hct	13	15	15q24	rs4886755	NRG4	22
Hct	14	17	17q21	rs241030	CRHR1	23
Hct	15	22	22q12	rs2413450	TMPRSS6	24
Hct	16	22	22q13	rs5765524	FBLN1	25
Hb	1	2	2p21	rs4953318	PRKCE	27
Hb	2	3	3q29	rs12632706	TFRC	28
Hb	3	4	4q12	rs170117	KIT	29
Hb	4	6	6p22	rs1800562	HFE	30
Hb	5	6	6p21	rs412657	NOTCH4	31
Hb	6	7	7q22	rs1617640	EPO	32
Hb	7	7	7q31	rs2299433	MET	33
Hb	8	7	7q36	rs10480299	PRKAG2	34
Hb	9	9	9q34	rs495828	ABO	35
Hb	10	10	10q21	rs16926246	HK1	36
Hb	11	12	12q24	rs11066301	PTPN11	37
Hb	12	15	15q24	rs4886755	NRG4	38
Hb	13	16	16p13	rs2562181	MPG	39
Hb	14	17	17q21	rs241030	CRHR1	40
Hb	15	22	22q12	rs4820268	TMPRSS6	41
MCHC	1	1	1q23	rs2479868	SPTA1	43
MCHC	2	6	6p22	rs198846	HIST1H1T	44
MCHC	3	6	6q23	rs9376090	HBS1L	45
MCHC	4	8	8p11	rs4737009	ANK1	46
MCHC	5	12	12q24	rs671	NA	47
MCHC	6	16	16p13	rs7197554	C16orf35	48
MCHC	7	16	16q24	rs2608604	CDT1	49
MCHC	8	22	22q12	rs2413450	TMPRSS6	50
MCH	1	1	1q31	rs12127588	PTPRC	52
MCH	2	2	2p16	rs13019832	BCL11A	53
MCH	3	3	3p24	rs2060597	PLCL2	54
MCH	4	3	3p24	rs1505307	THR3	55
MCH	5	3	3q23	rs6791816	ATR	56
MCH	6	3	3q29	rs9859401	TFRC	57

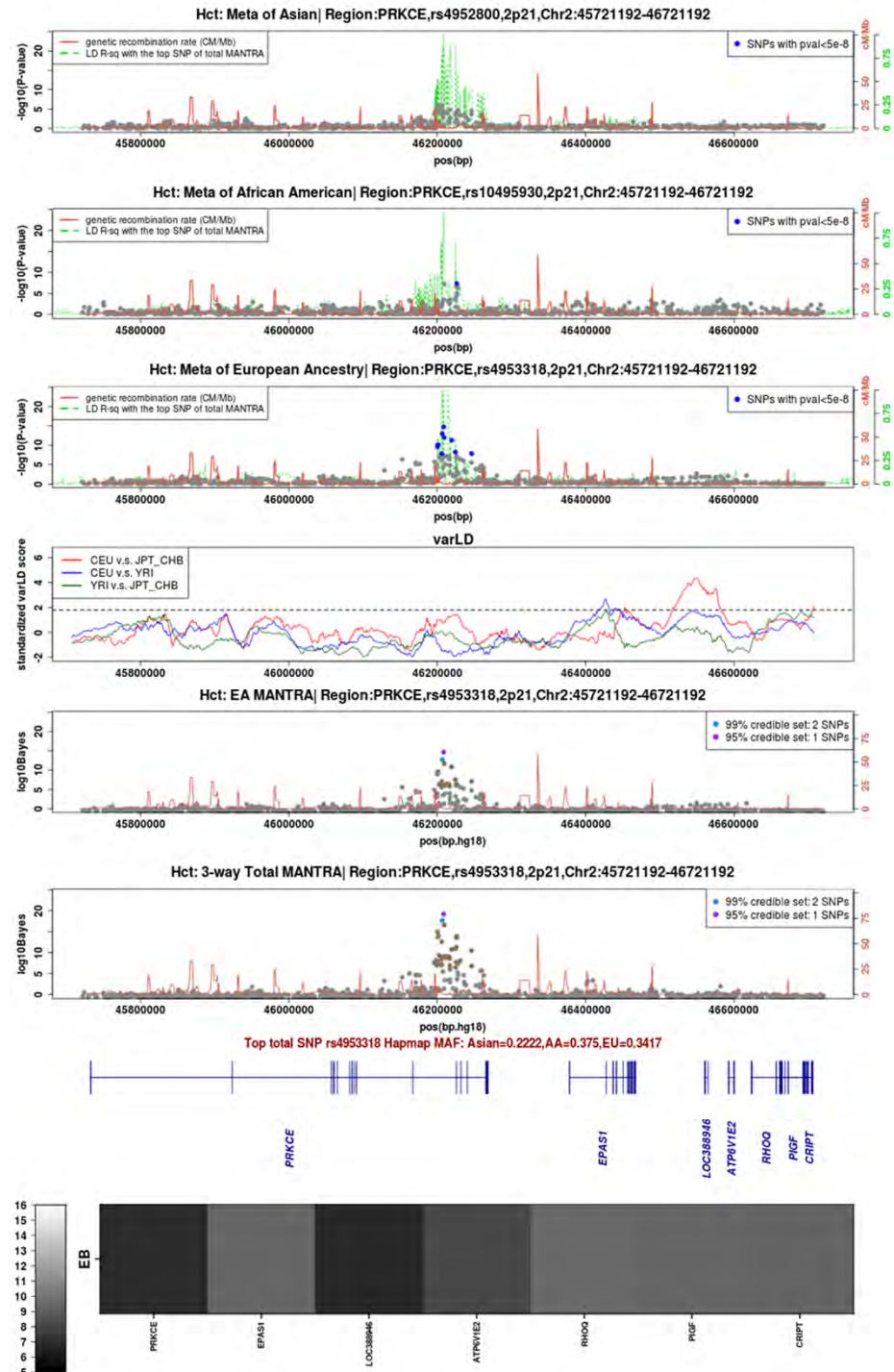
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MCH	17	8	8p12	rs2979489	RBPMS	68
MCH	18	9	9p24	rs10758656	RCL1/MIR101-2	69
MCH	19	10	10q11	rs11239550	08-mrt	70
MCH	20	10	10q11	rs17720193	NA	71
MCH	21	12	12p13	rs7309743	CCND2	72
MCH	22	12	12q24	rs2074356	NA	73
MCH	23	14	14q23	rs7155454	FNTB/MIR4706	74
MCH	24	15	15q22	rs7165102	C15orf44	75
MCH	25	16	16p13	rs1122794	ITFG3	76
MCH	26	17	17q11	rs9892942	ERAL1	77
MCH	27	19	19p13	rs8887	KIAA1881/PLIN4	78
MCH	28	19	19p13	rs2242517	GCDH	79
MCH	29	20	20q13	rs737092	RBM38	80
MCH	30	22	22q12	rs2413450	TMPRSS6	81
MCV	1	1	1q23	rs12041363	OR10R2	83
MCV	2	1	1q31	rs1036332	PTPRC/LOC100131234	84
MCV	3	1	1q44	rs3811444	TRIM58	85
MCV	4	2	2p25	rs10929547	ID2	86
MCV	5	2	2p16	rs13027161	BCL11A/MIR4432	87
MCV	6	3	3p24	rs9821630	PLCL2	88
MCV	7	3	3p24	rs1505307	THRB	89
MCV	8	3	3q23	rs6780250	ATR	90
MCV	9	3	3q29	rs3893275	ZDHHC19	91
MCV	10	4	4q12	rs218237	KIT	92
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MCV	17	6	6q26	rs381500	QKI	99
MCV	18	7	7p12	rs12718598	IKZF1	100
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MCV	23	9	9q34	rs8176749	ABO	105
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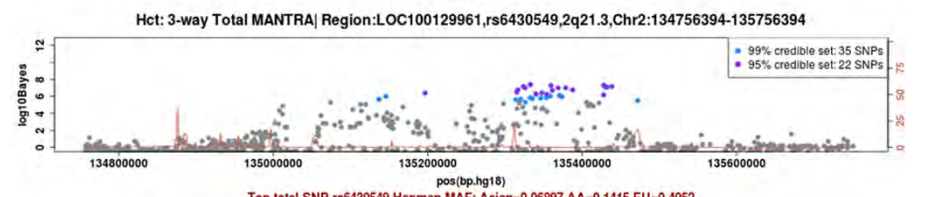
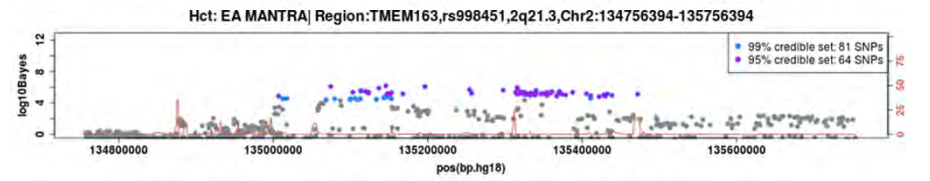
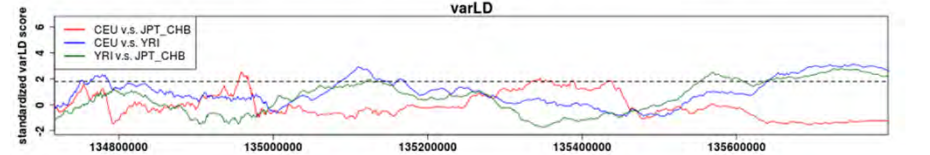
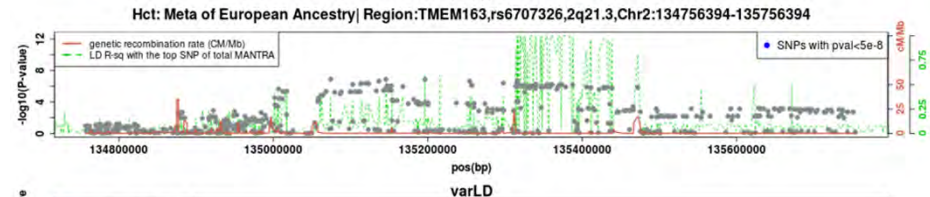
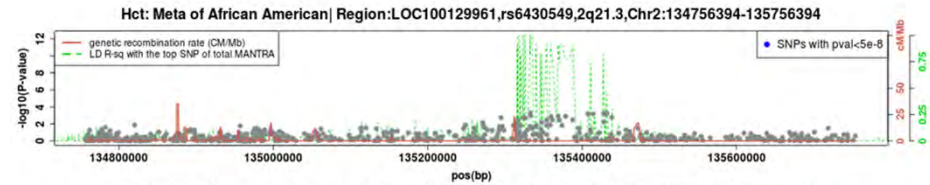
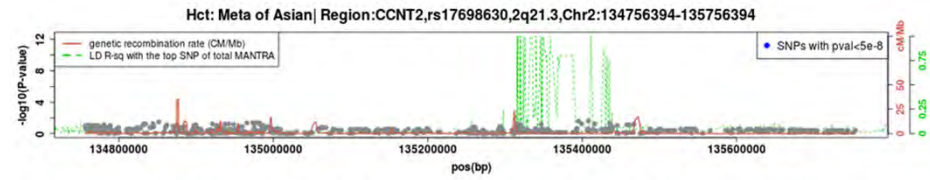


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MCV	36	22	22q11	rs4820091	UBE2L3	118
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RBC	2	4	4p14	rs3860068	TMEM156	124
RBC	3	4	4q12	rs218237	KIT	125
RBC	4	6	6p21	rs9349205	CCND3	126
RBC	5	6	6q21	rs9400273	CD164/CCDC162P	127
RBC	6	6	6q23	rs9376090	HBS1L	128
RBC	7	6	6q24	rs592423	CITED2/LOC645434	129
RBC	8	7	7q22	rs2075672	ACTL6B	130
RBC	9	9	9p24	rs10758656	RCL1/MIR101-2	131
RBC	10	9	9q34	rs579459	ABO	132
RBC	11	12	12p13	rs7309743	CCND2	133
RBC	12	16	16p13	rs13339636	NA	134
RBC	13	17	17q21	rs2732706	LRRC37A	135
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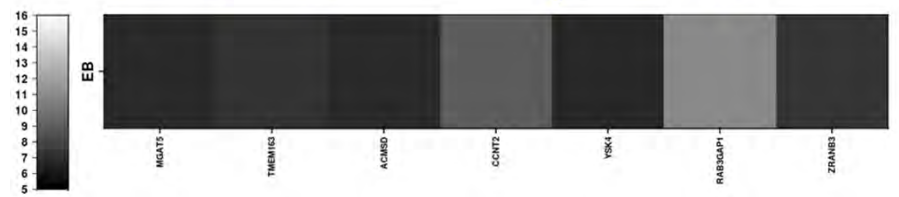
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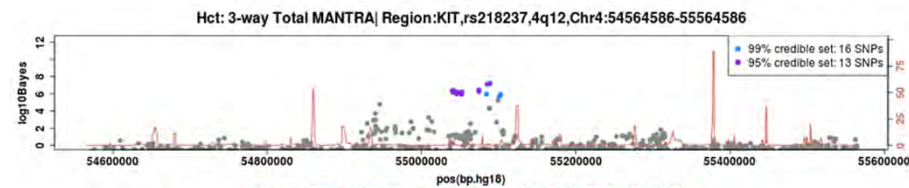
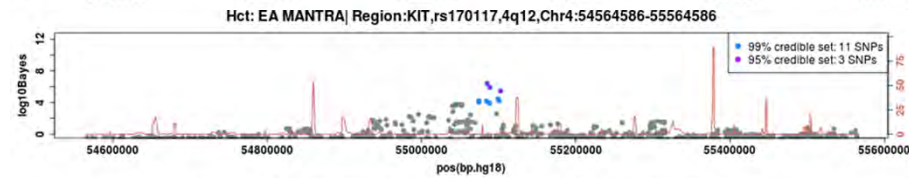
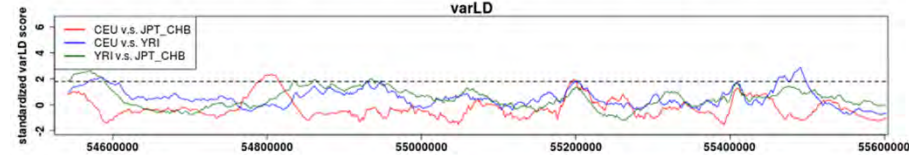
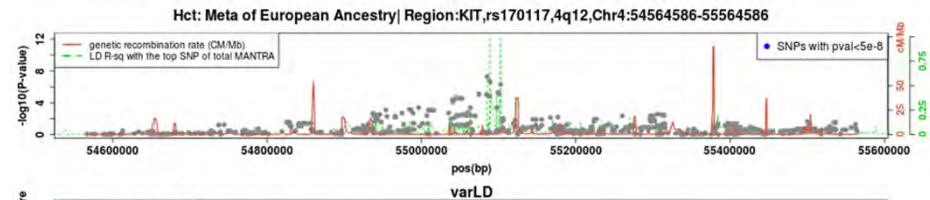
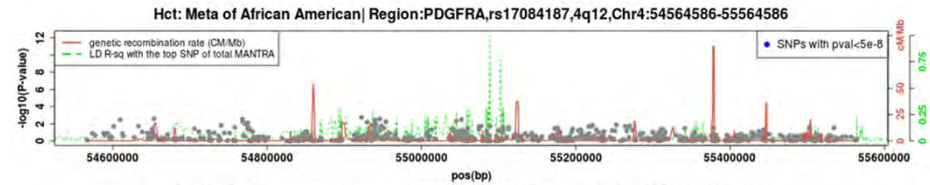
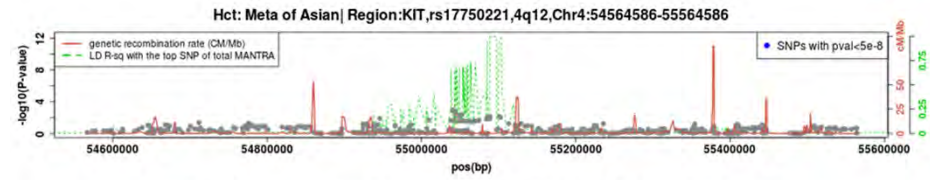
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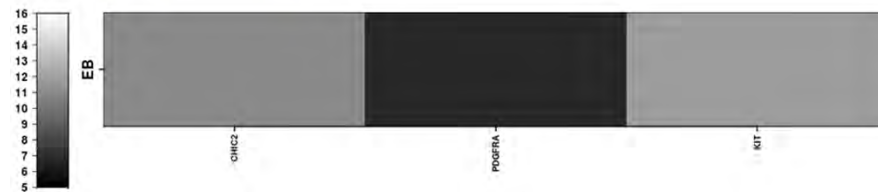


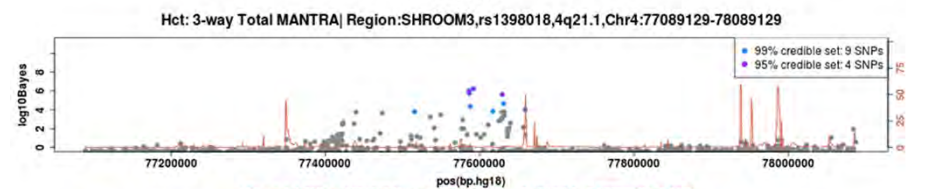
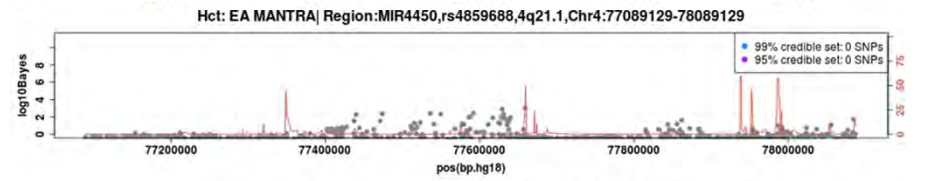
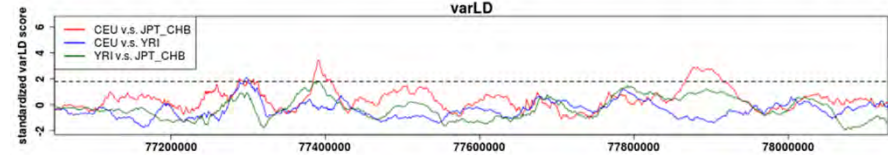
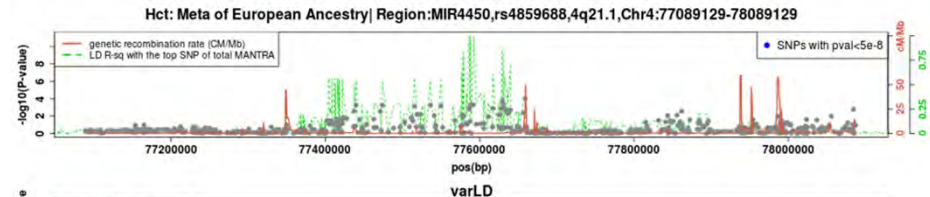
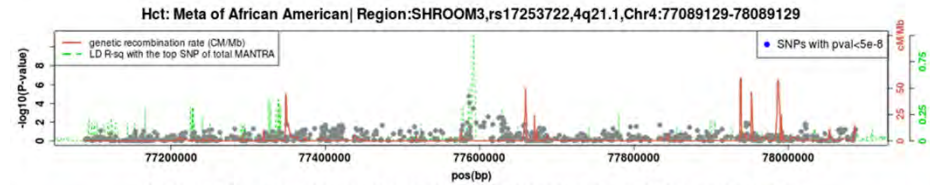
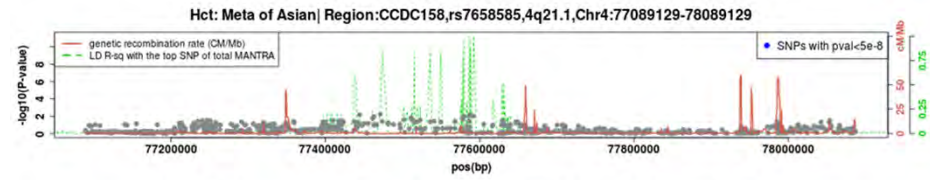
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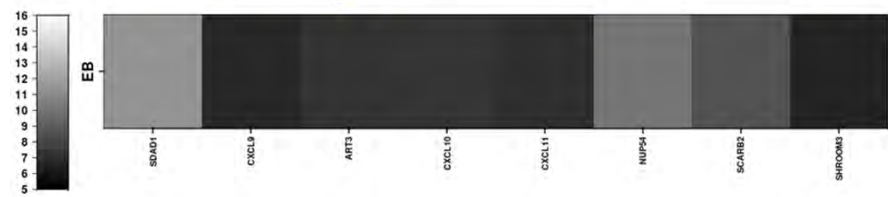


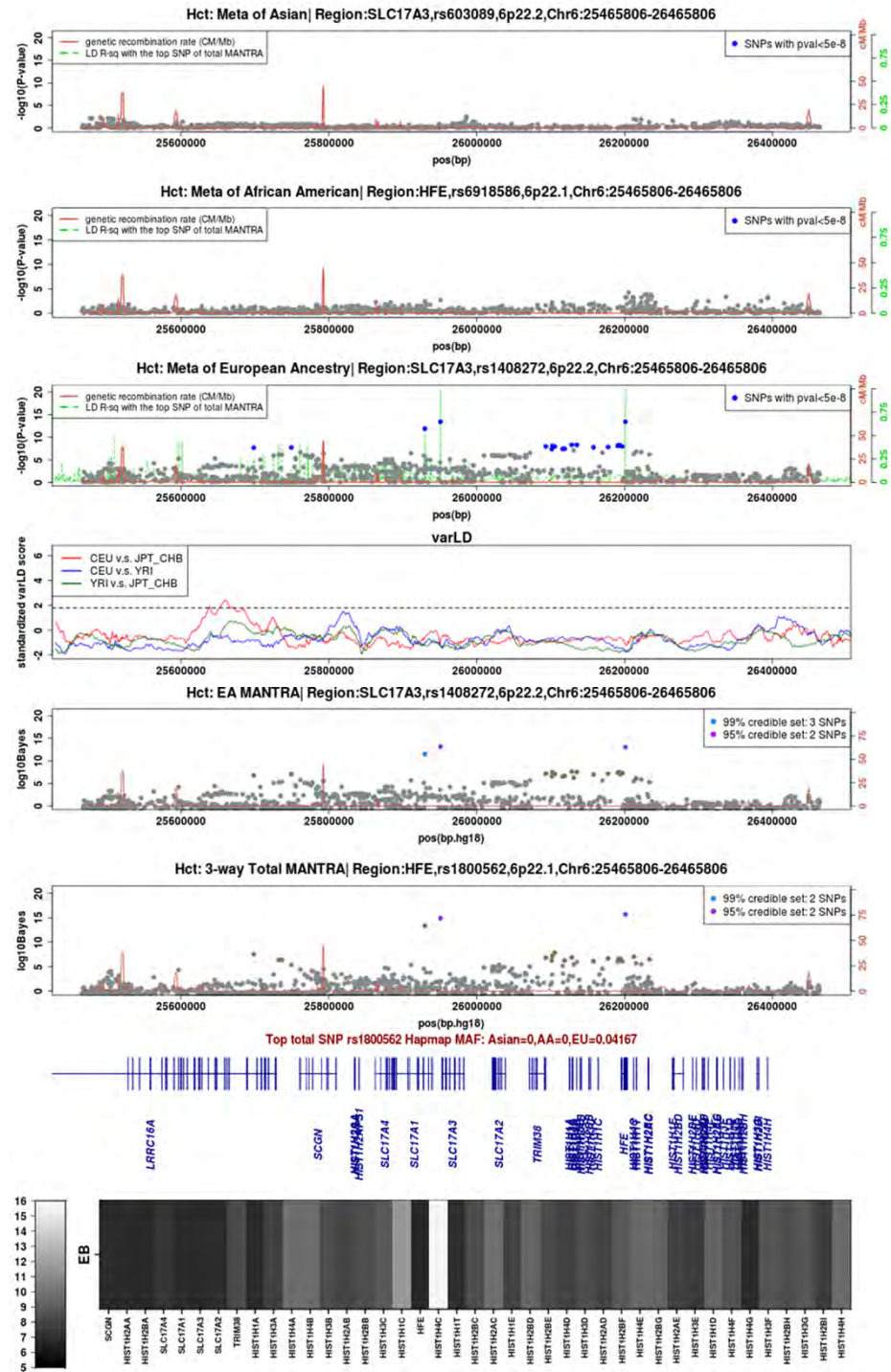
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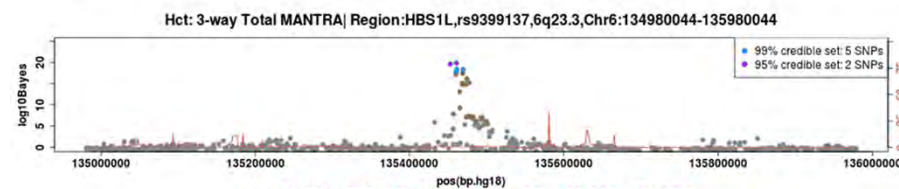
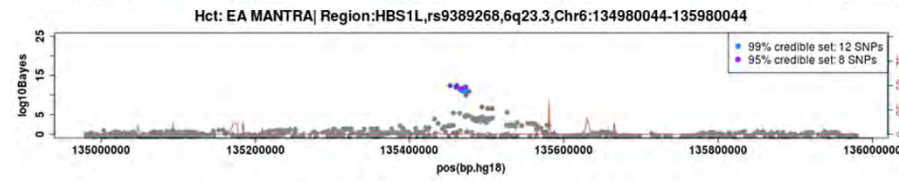
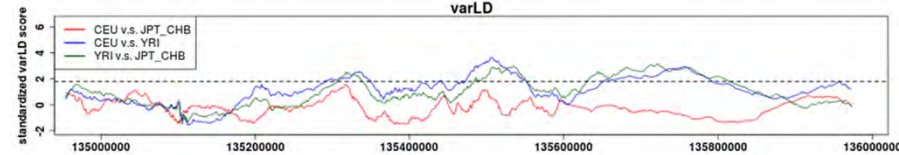
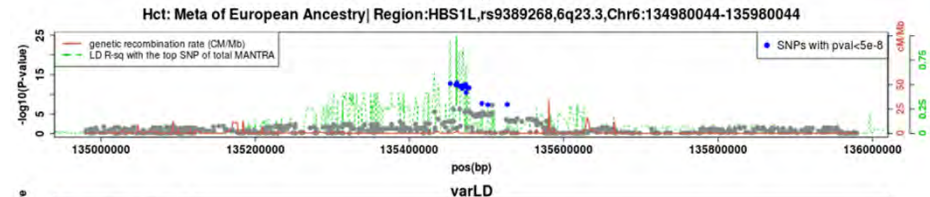
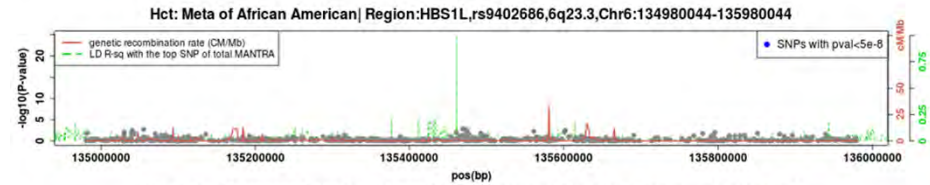
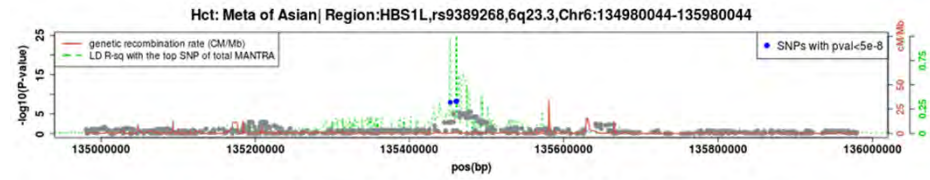




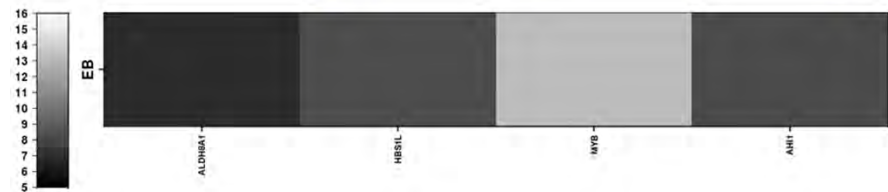
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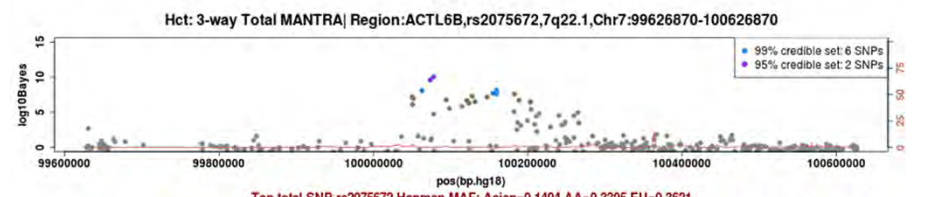
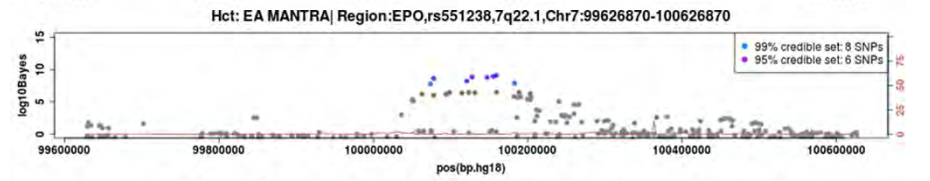
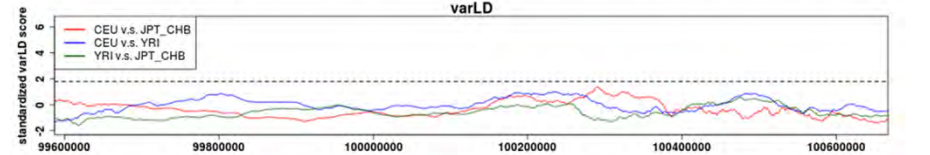
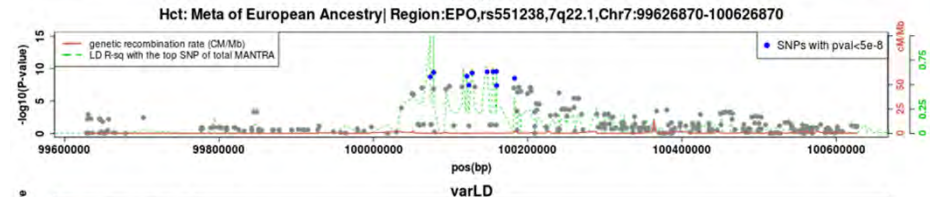
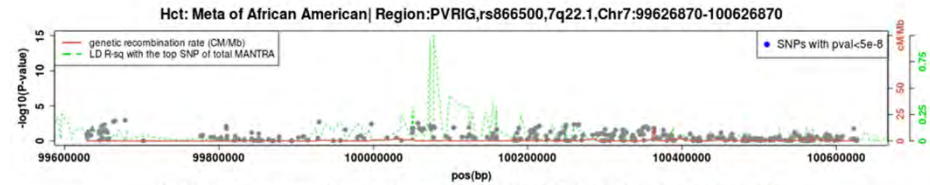
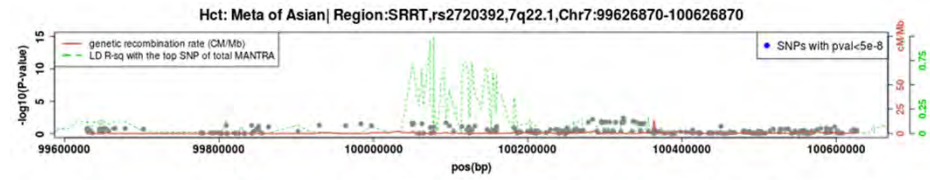




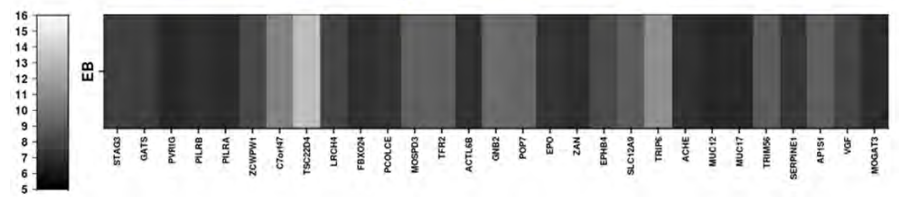
Top total SNP rs9399137 Hapmap MAF: Asian=0.3202, AA=0.04167, EU=0.225

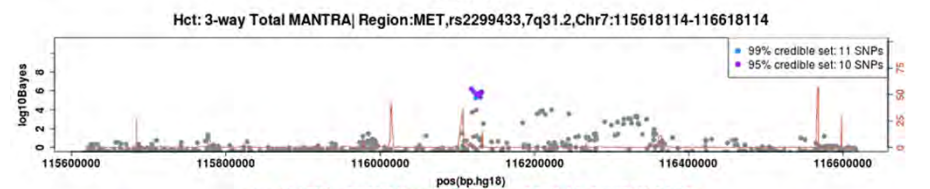
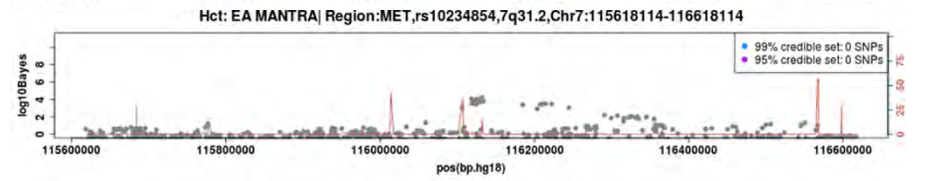
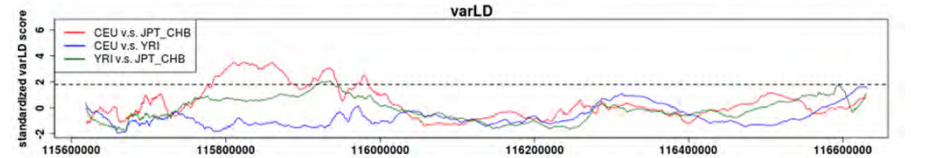
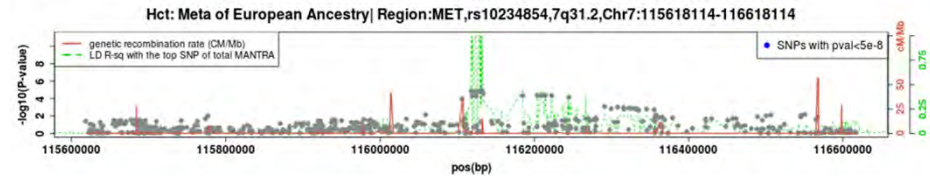
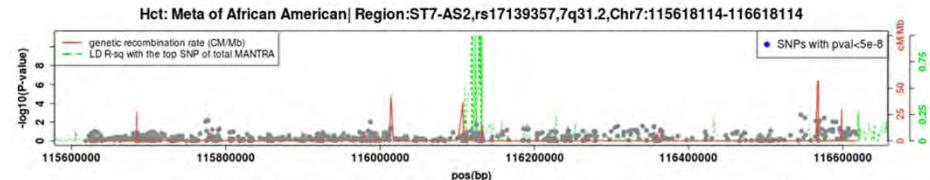
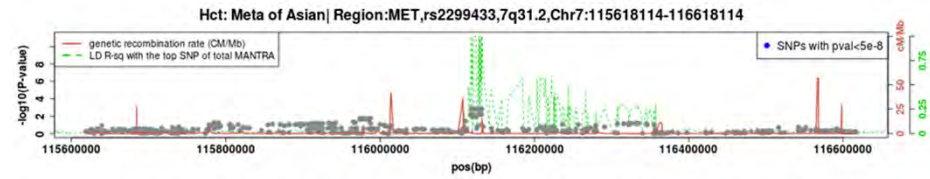




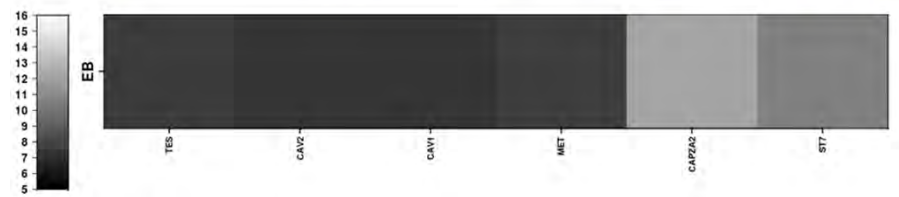


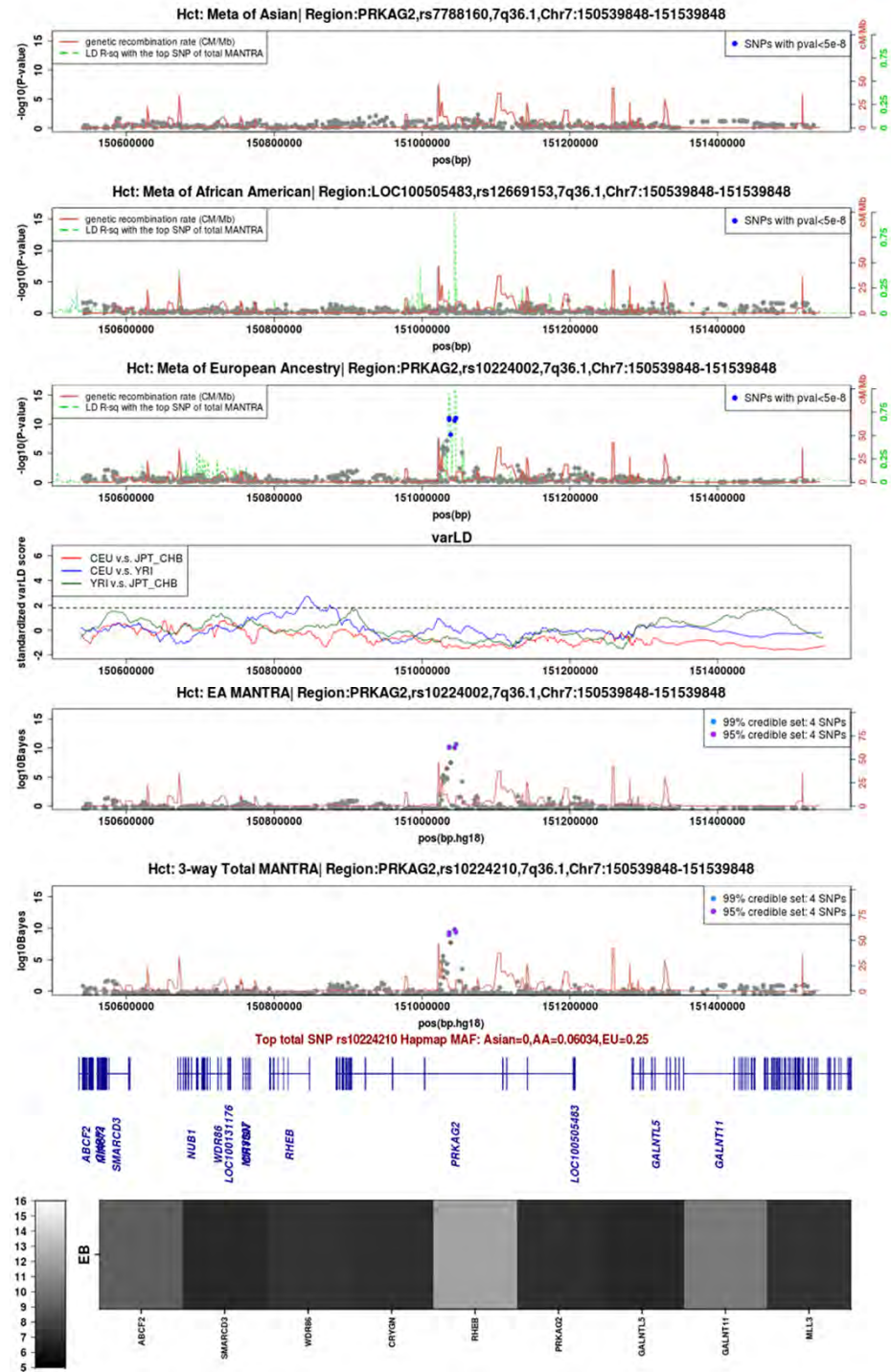
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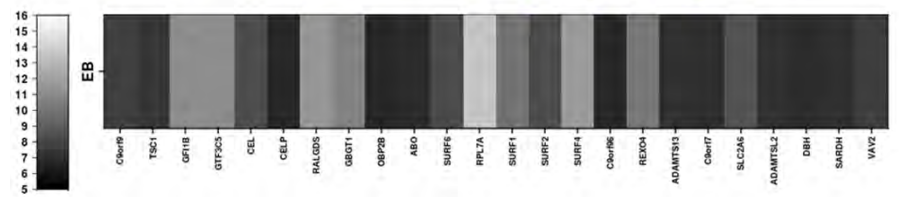
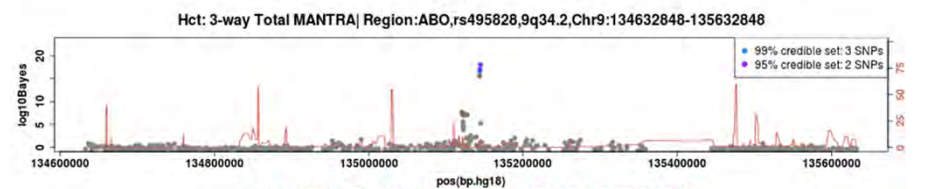
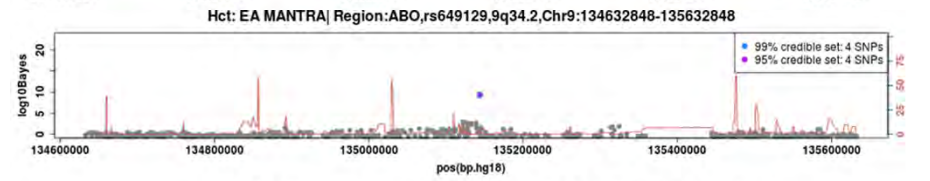
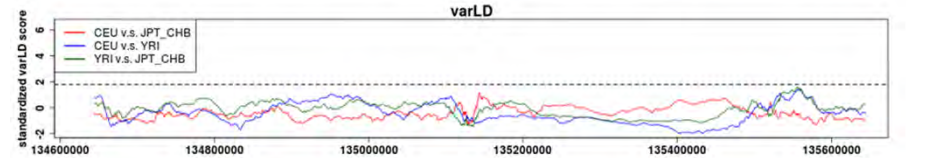
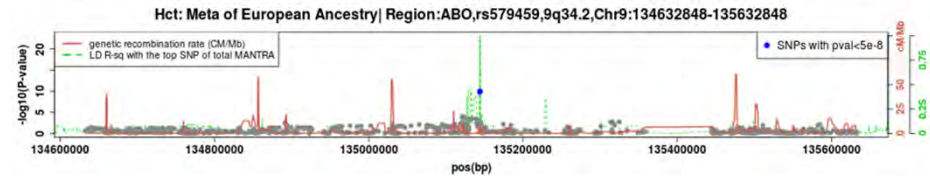
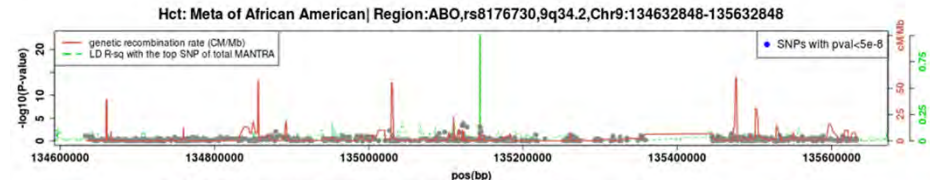
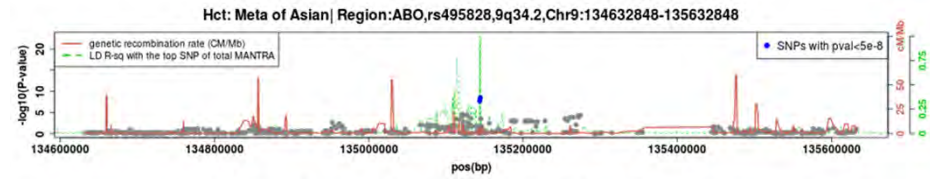


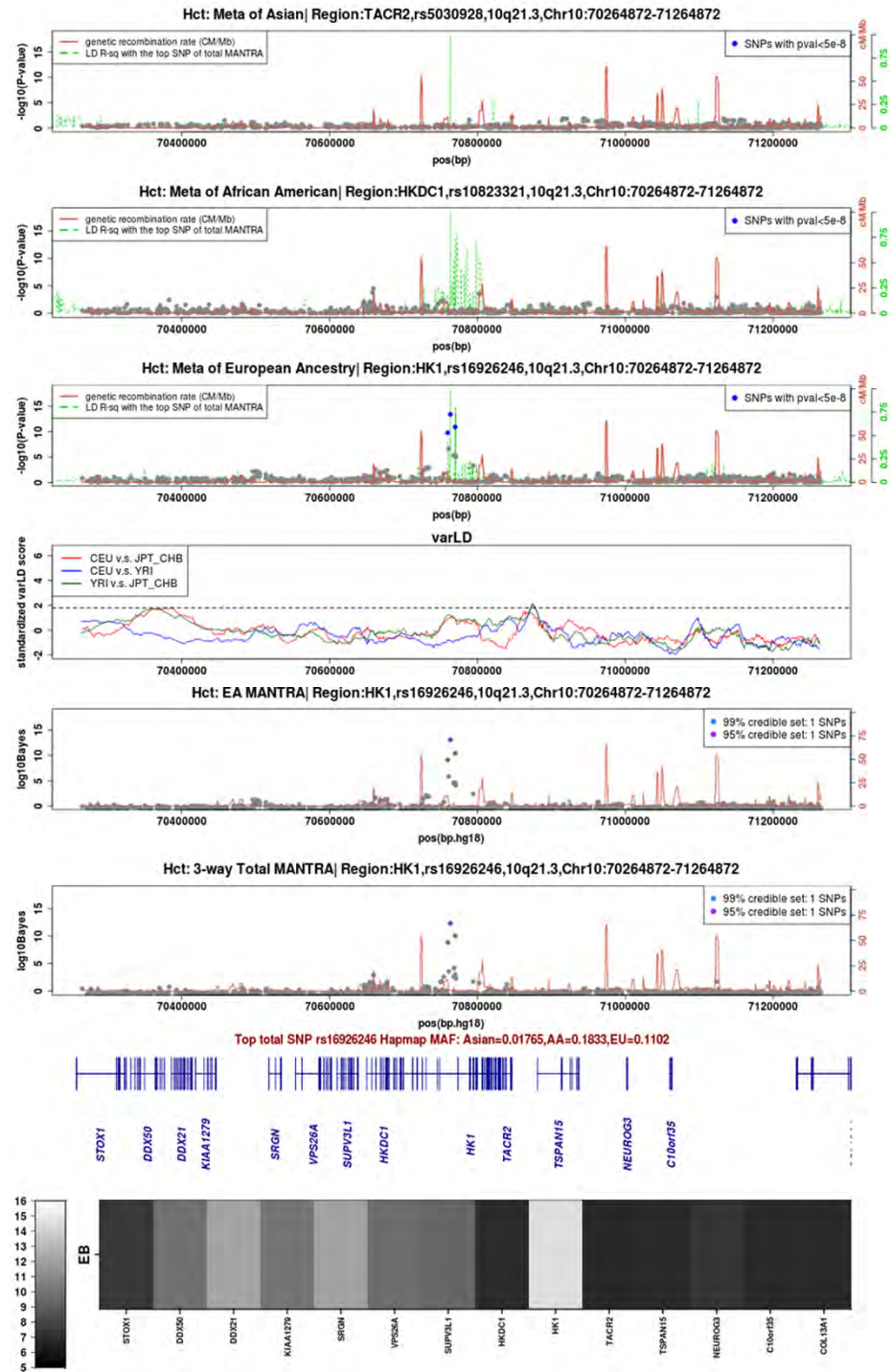


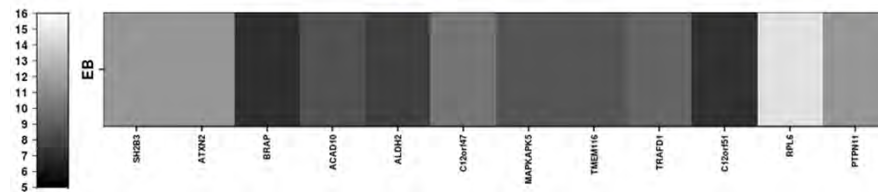
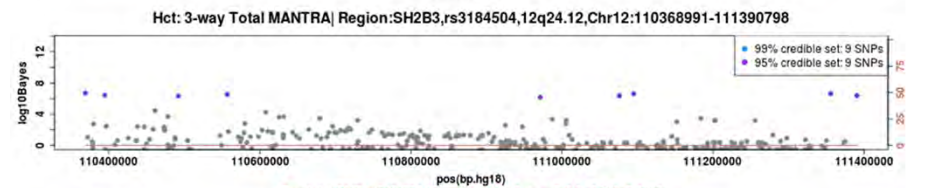
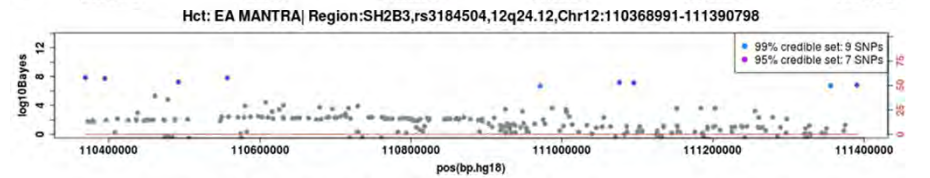
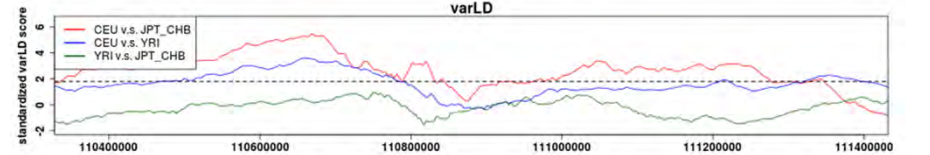
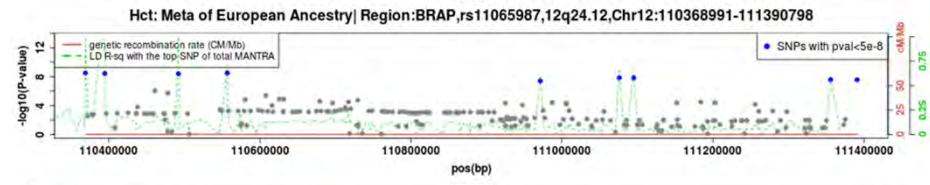
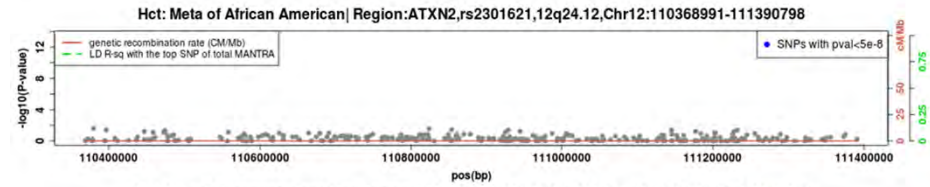
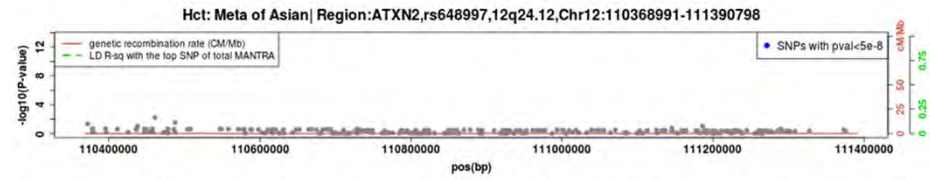
Top total SNP rs2299433 Hapmap MAF: Asian=0.2921, AA=0.1017, EU=0.2018

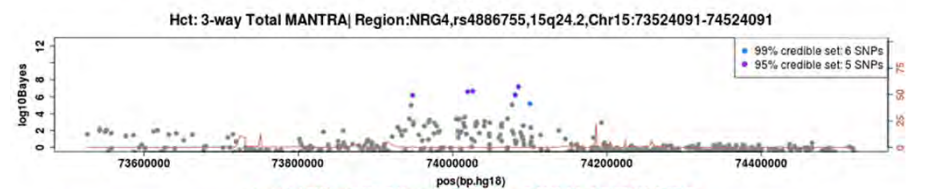
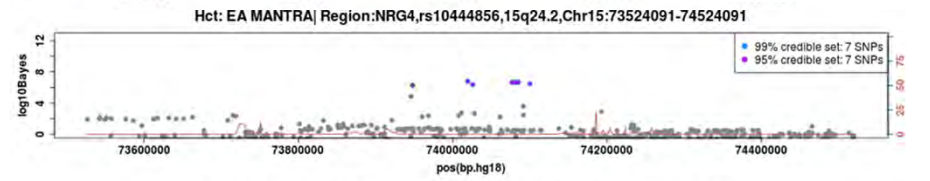
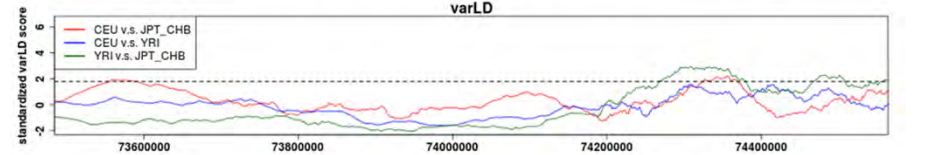
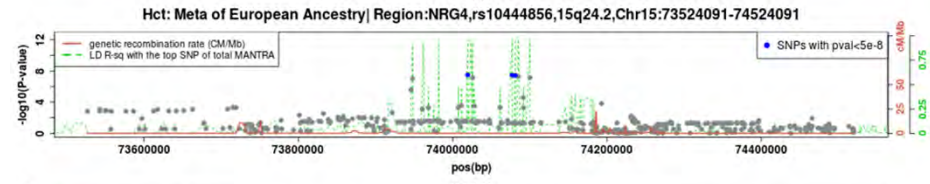
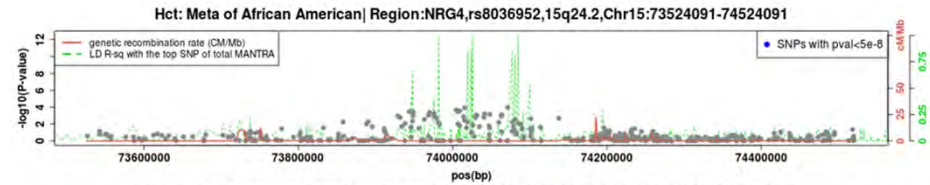
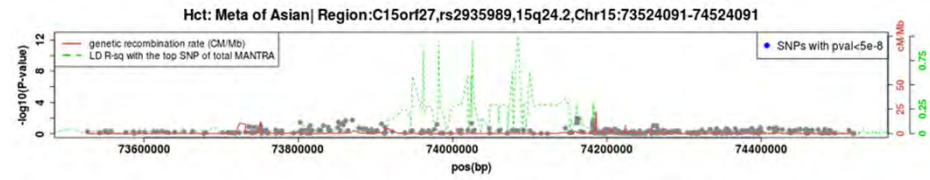




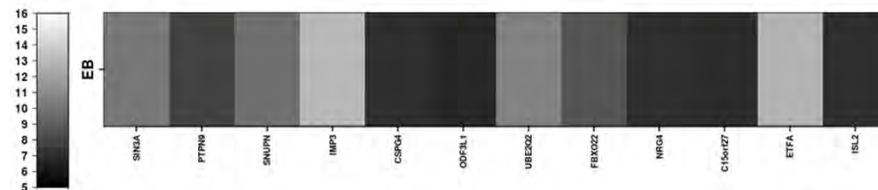


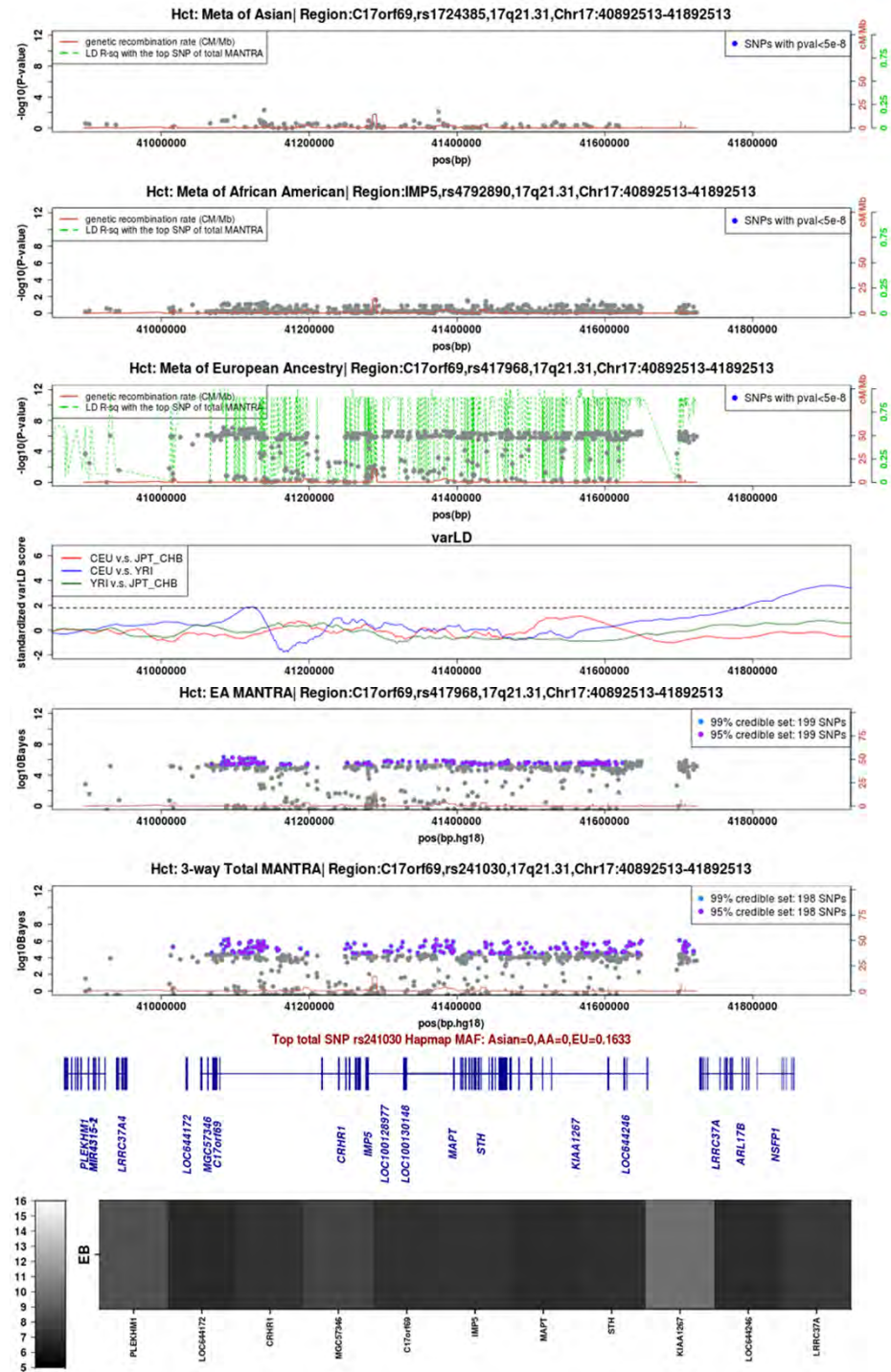




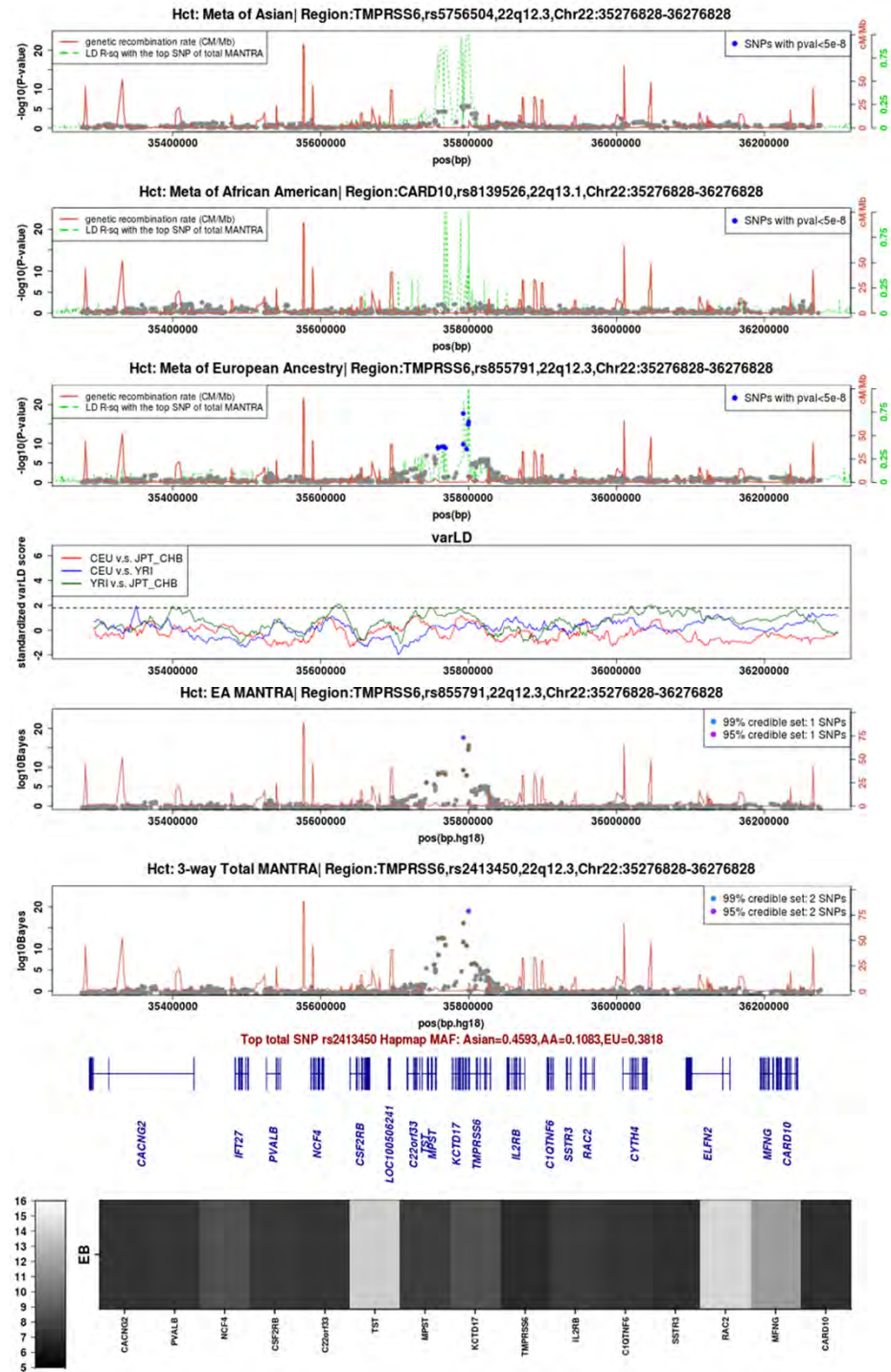


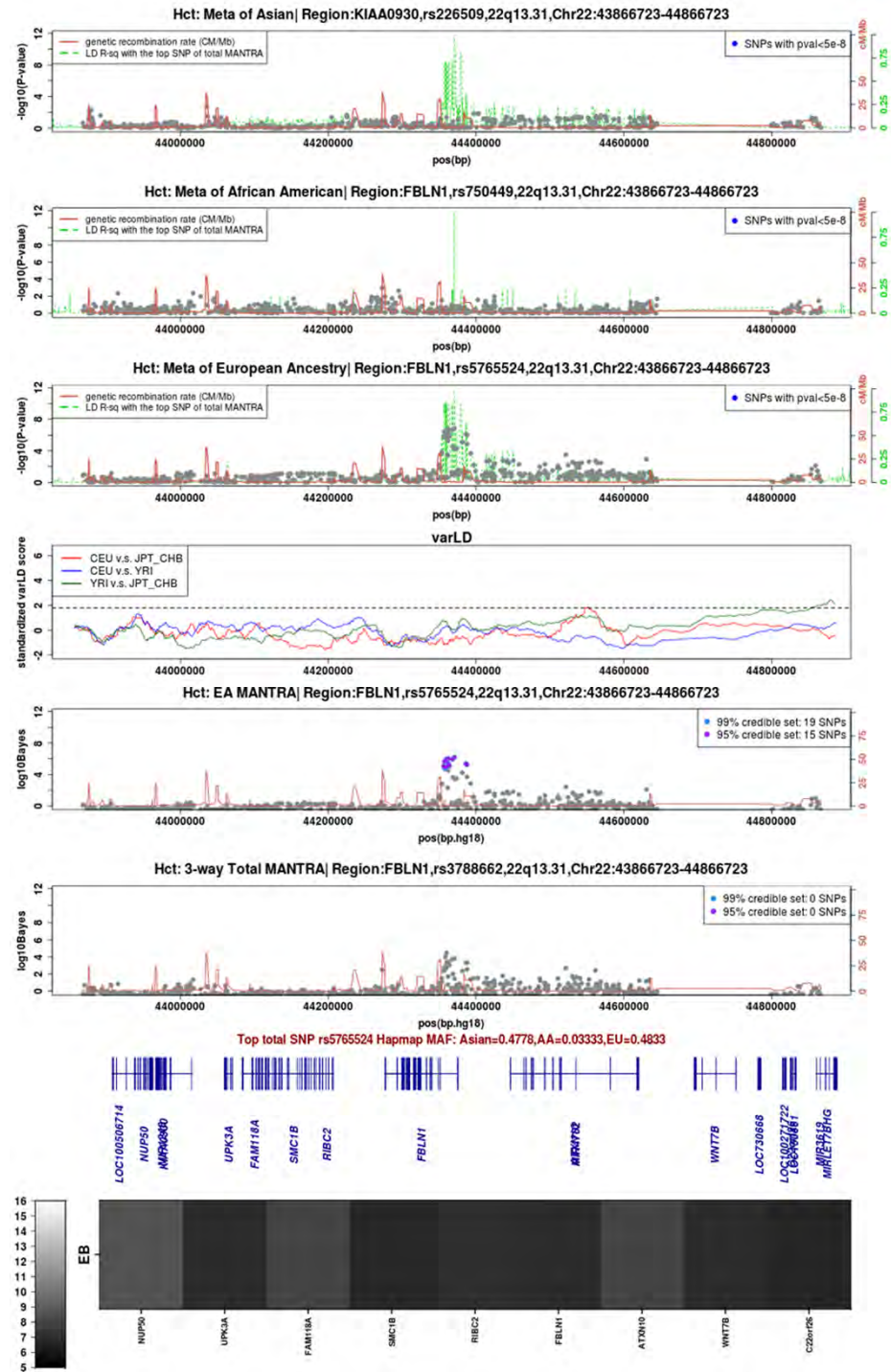
Top total SNP rs4886755 Hapmap MAF: Asian=0.4444,AA=0.2167,EU=0.4917



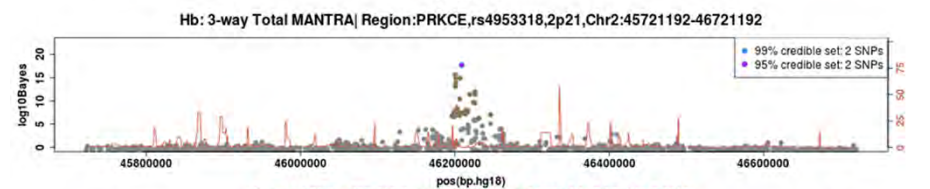
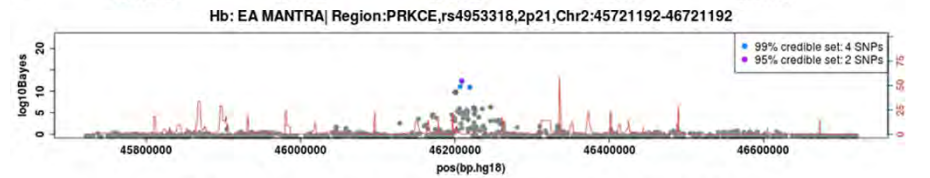
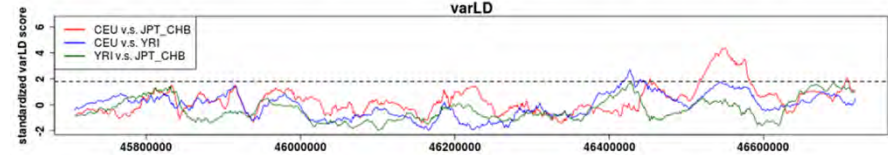
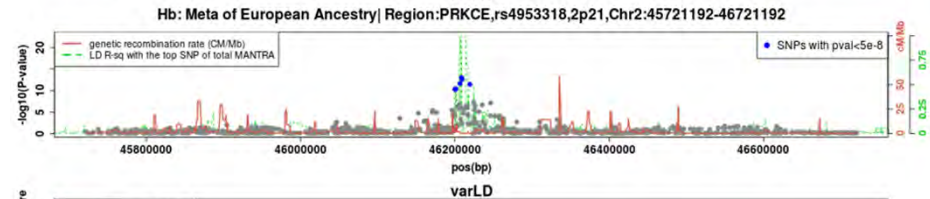
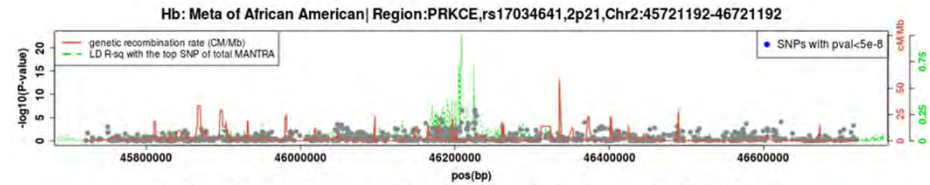
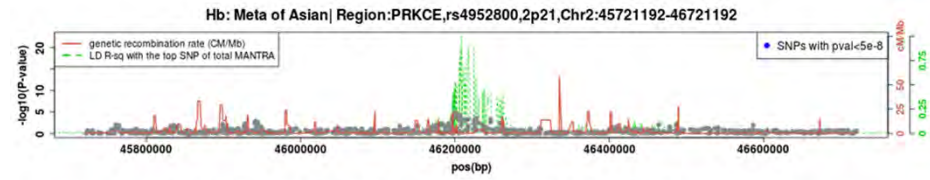




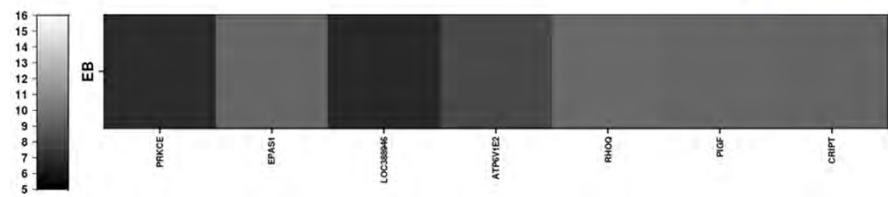


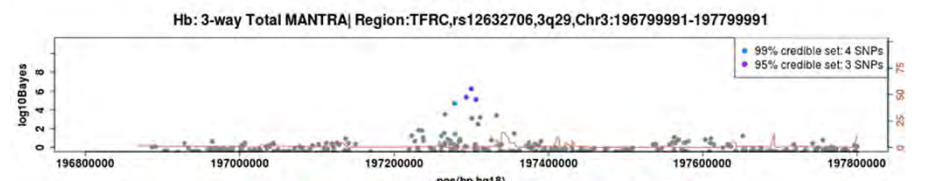
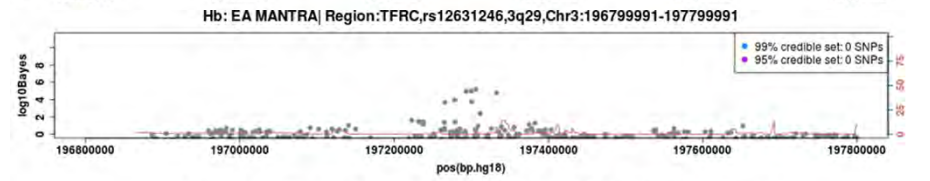
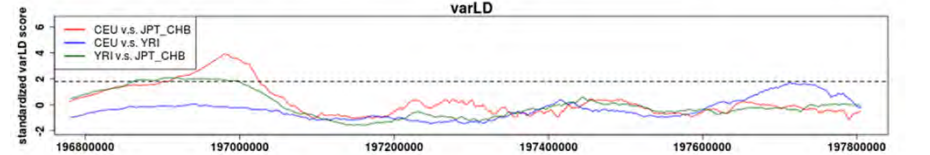
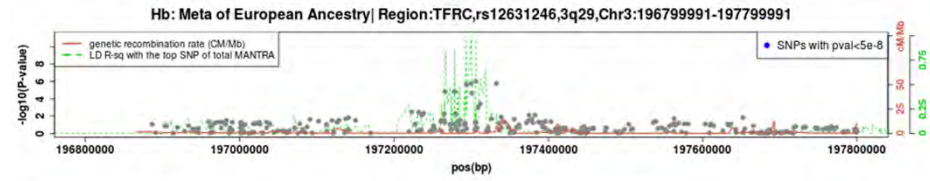
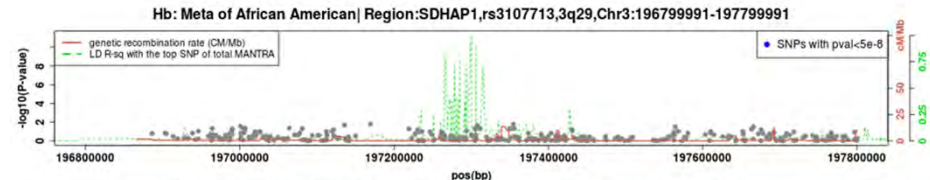
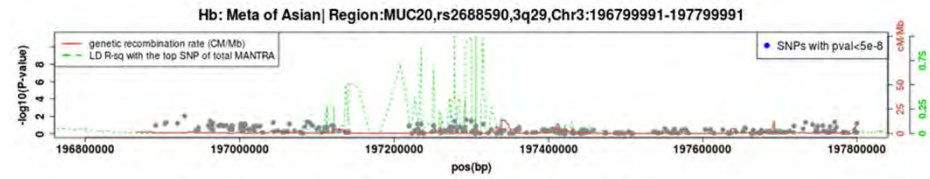


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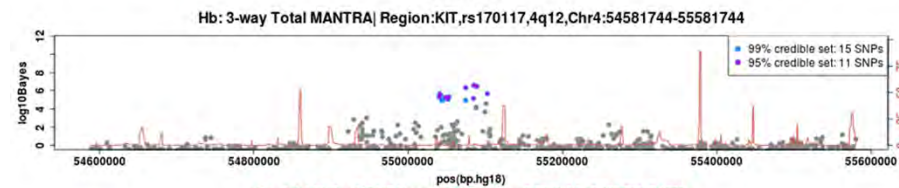
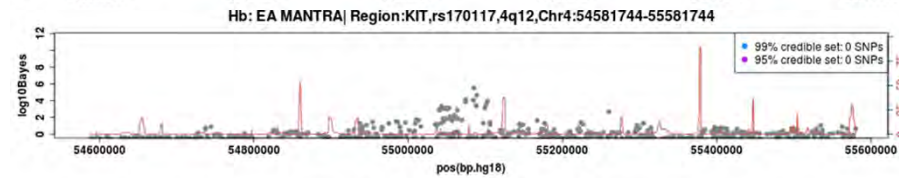
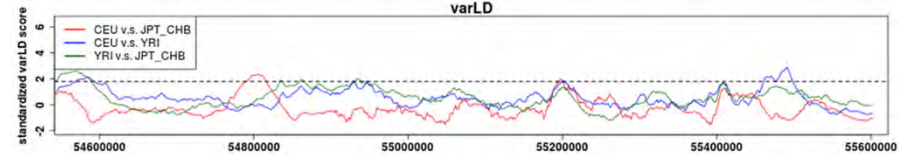
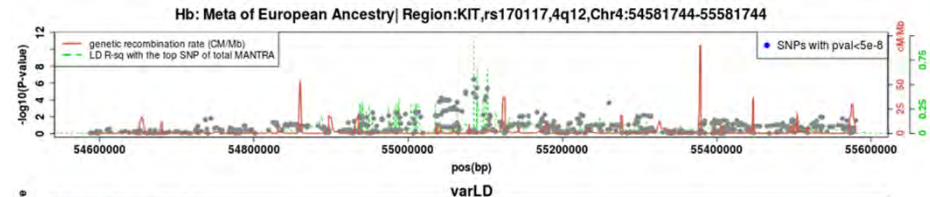
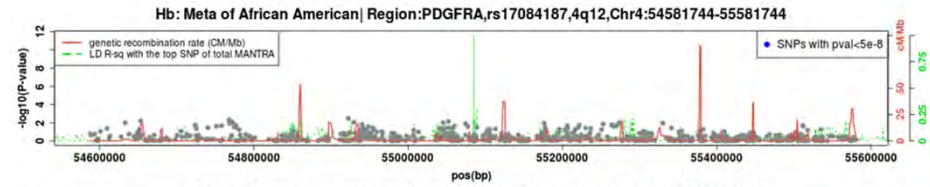
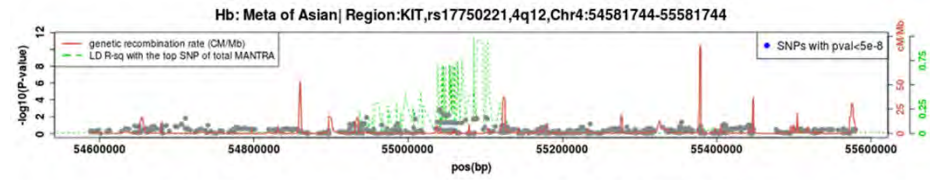
Top total SNP rs4953318 Hapmap MAF: Asian=0.2222, AA=0.375, EU=0.3417



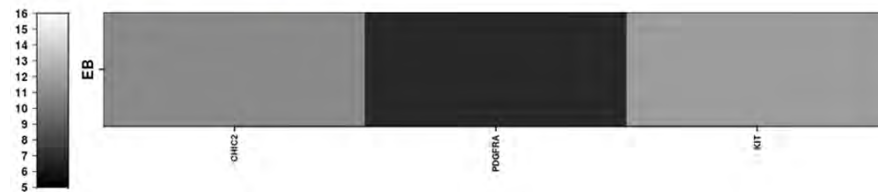


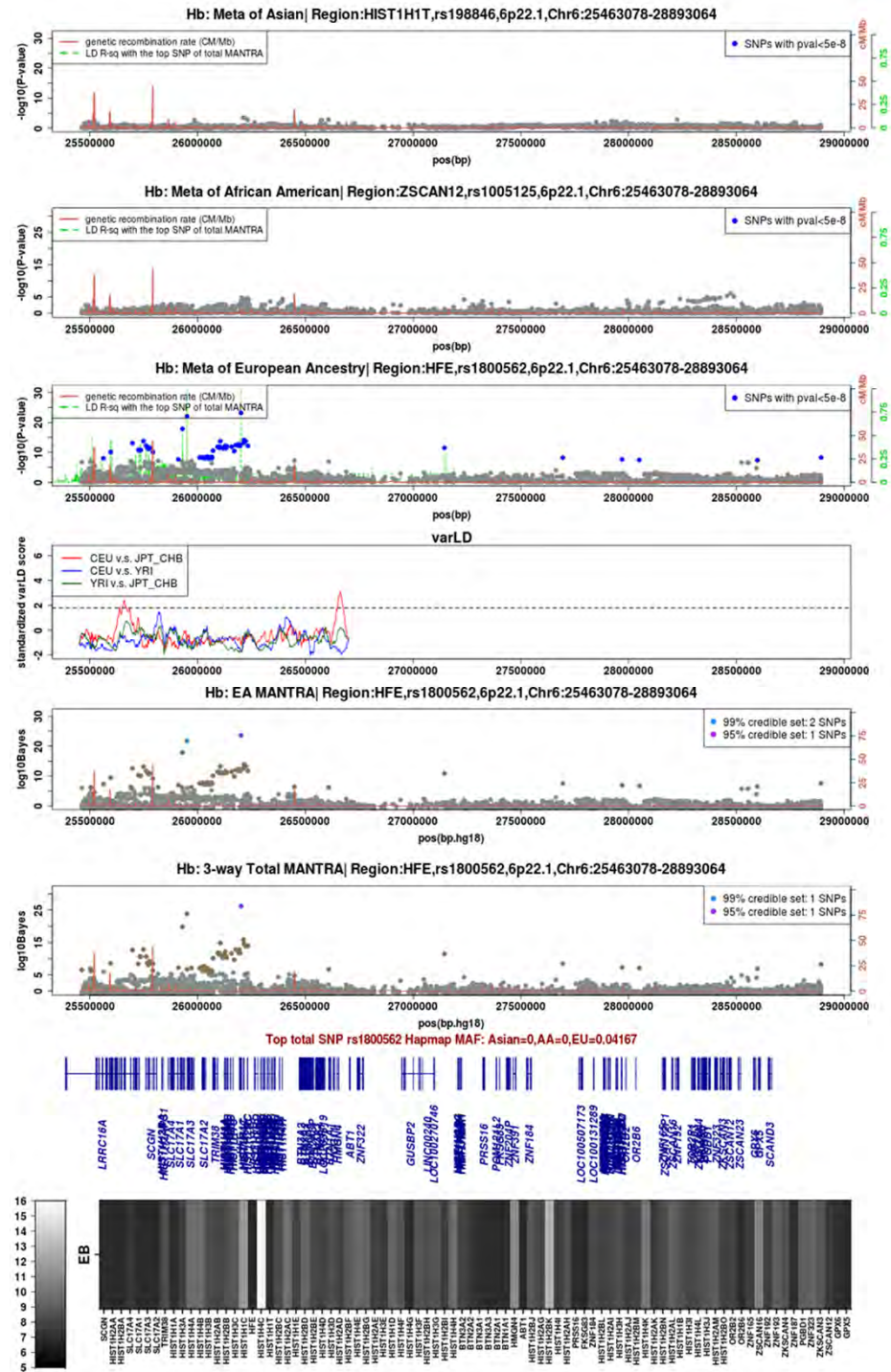
Top total SNP rs12632706 Hapmap MAF: Asian=0.07303,AA=0.1,EU=0.4107

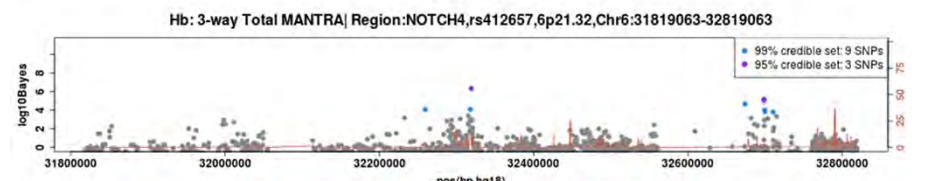
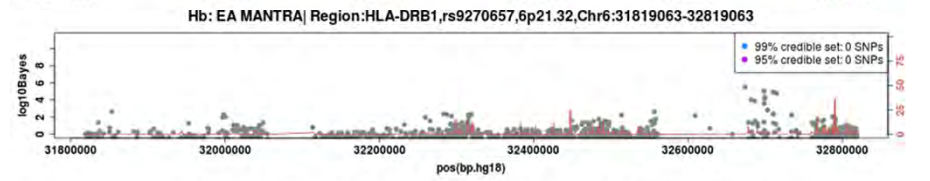
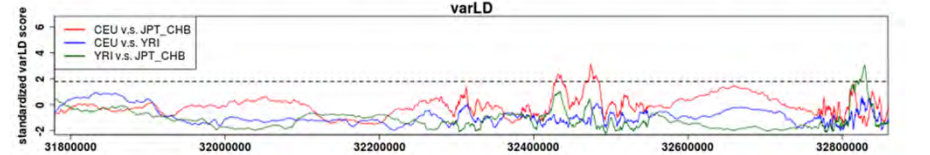
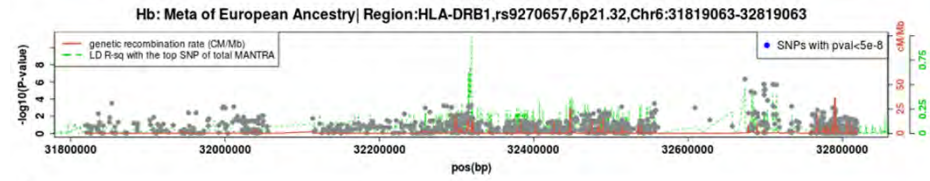
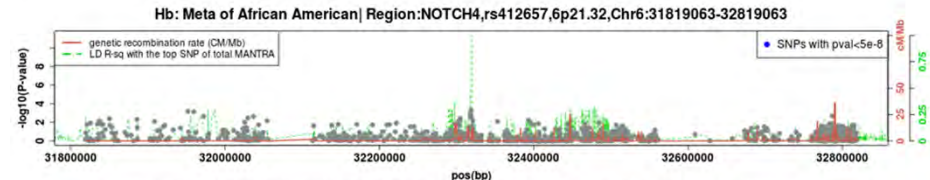
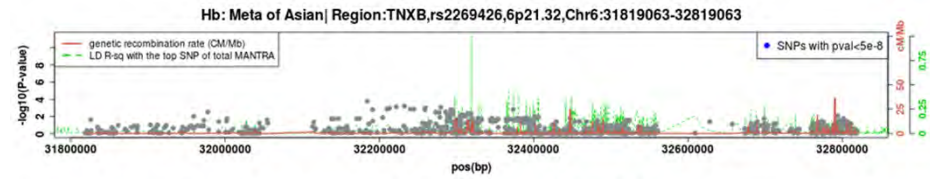




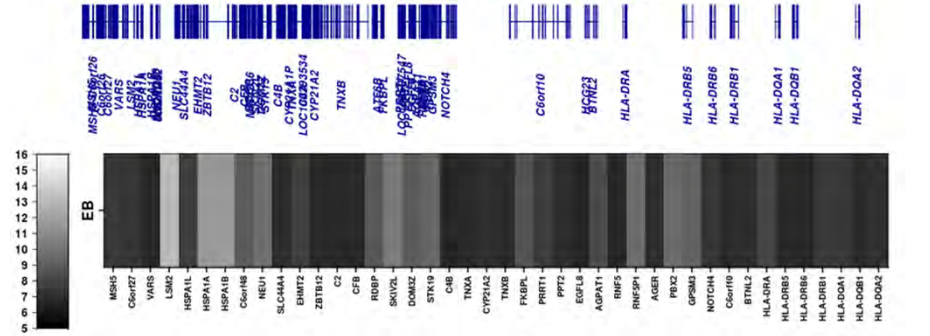
Top total SNP rs170117 Hapmap MAF: Asian=0.3258, AA=0.125, EU=0.1333



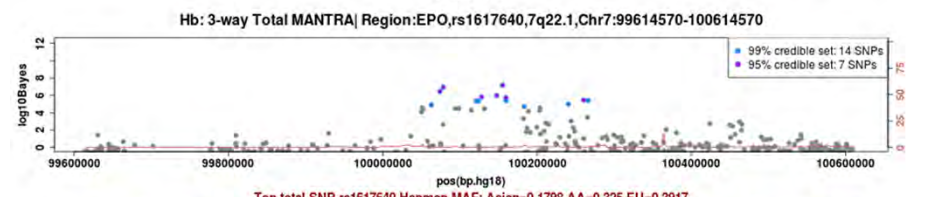
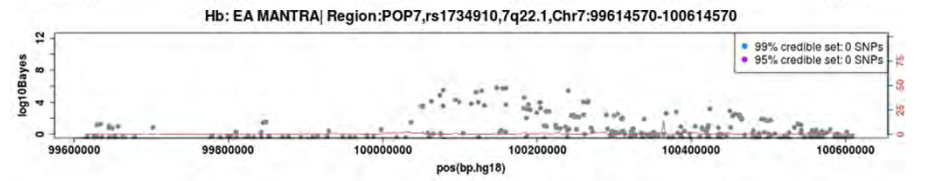
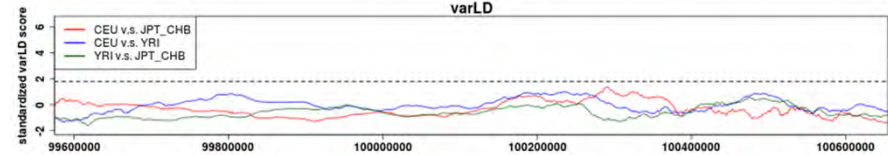
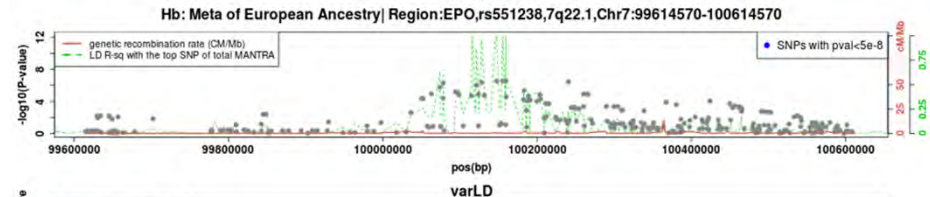
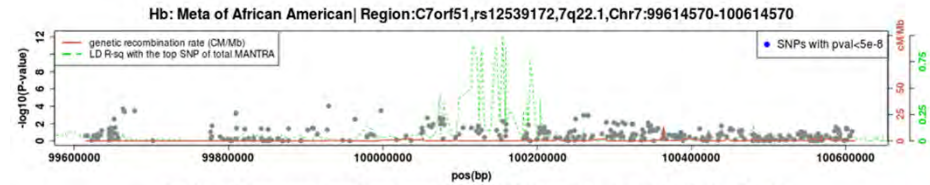
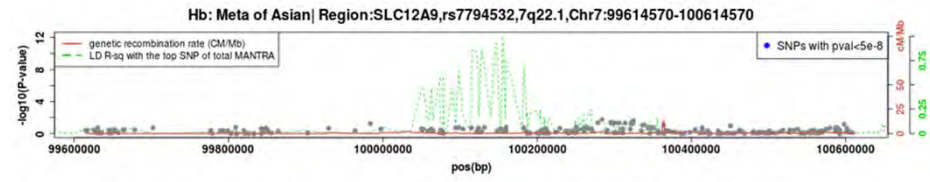




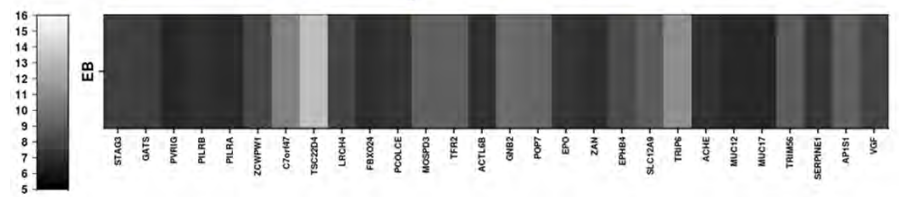
Top total SNP rs412657 Hapmap MAF: Asian=0.2644,AA=0.2685,EU=0.2542

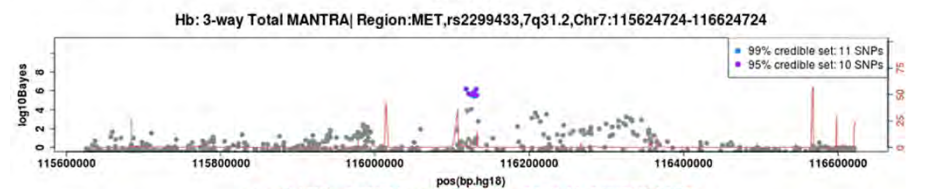
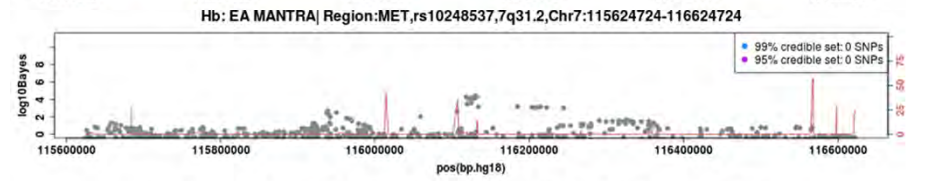
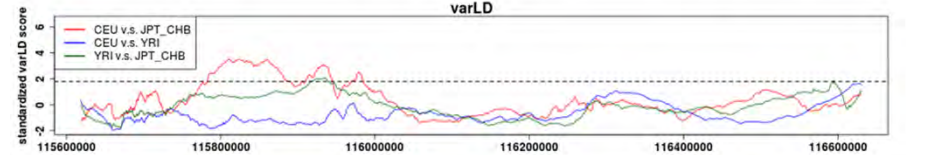
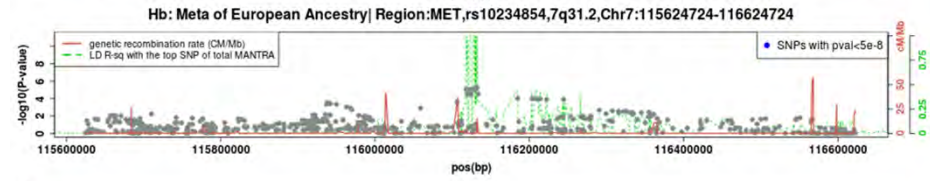
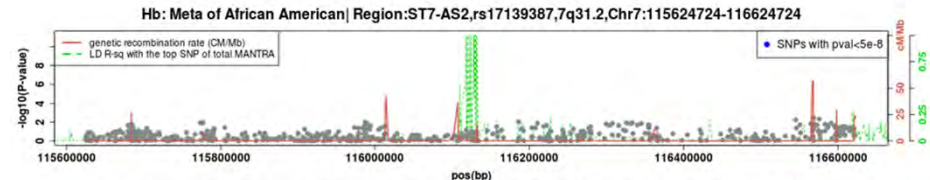
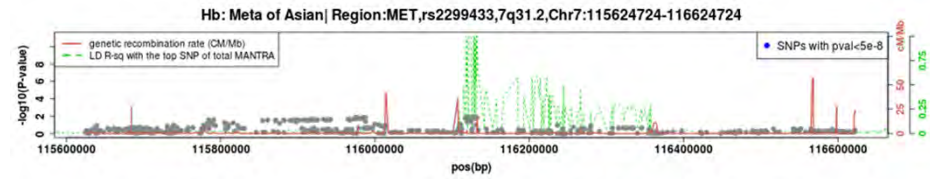






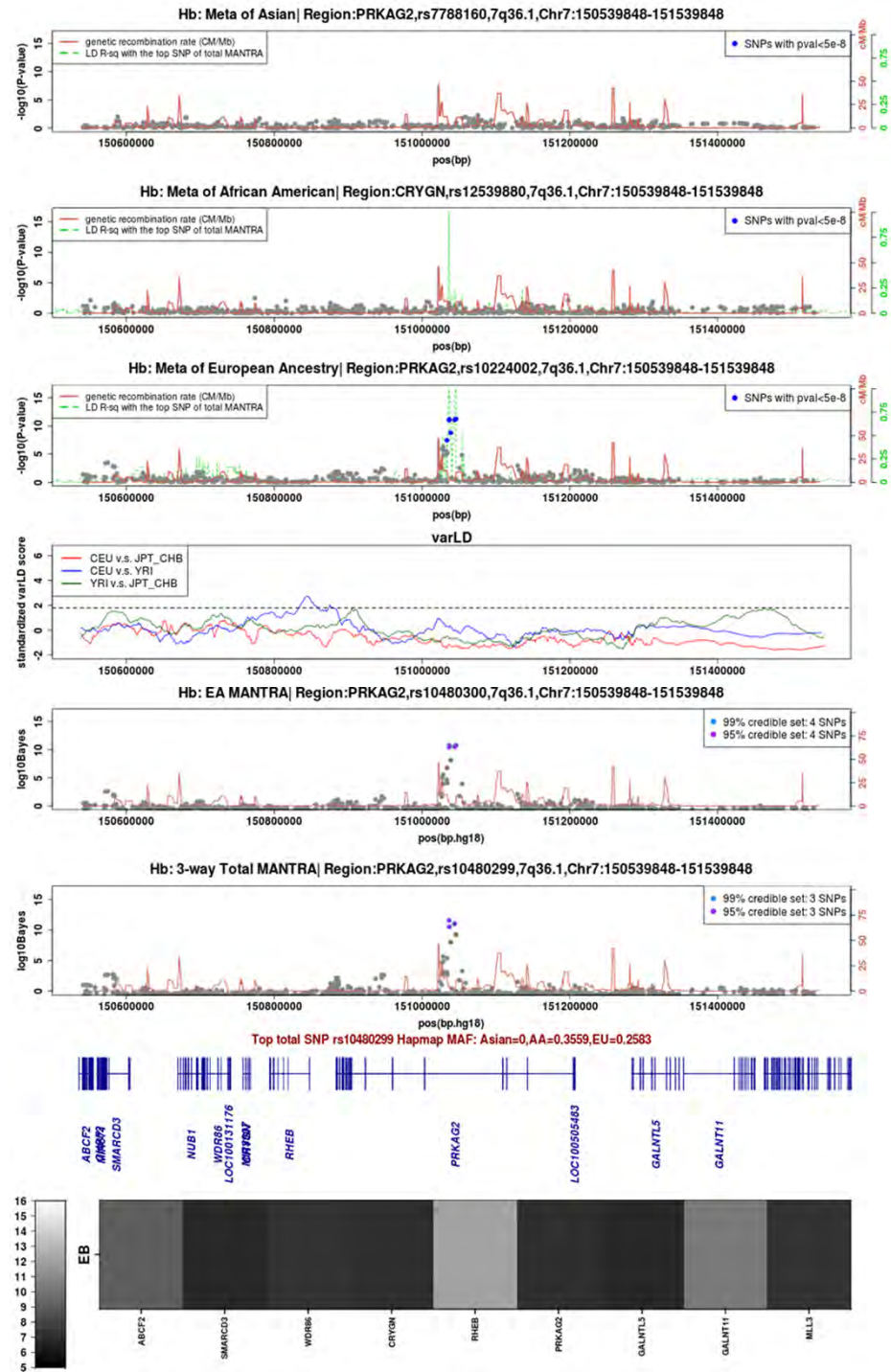
Top total SNP rs1617640 Hapmap MAF: Asian=0.1798, AA=0.325, EU=0.3917

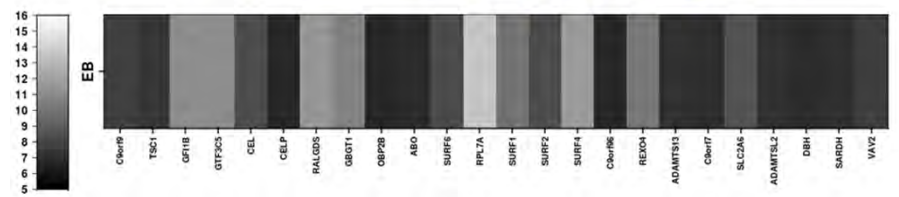
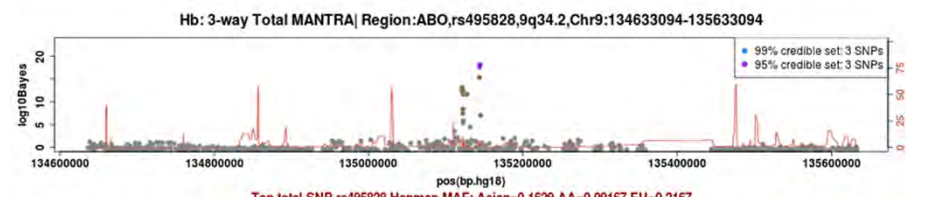
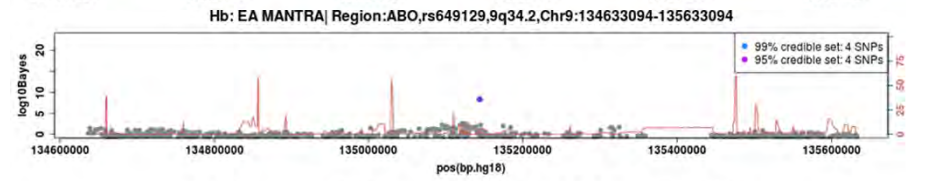
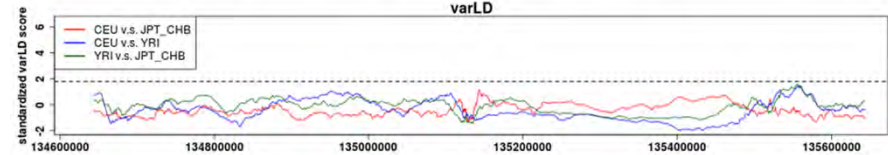
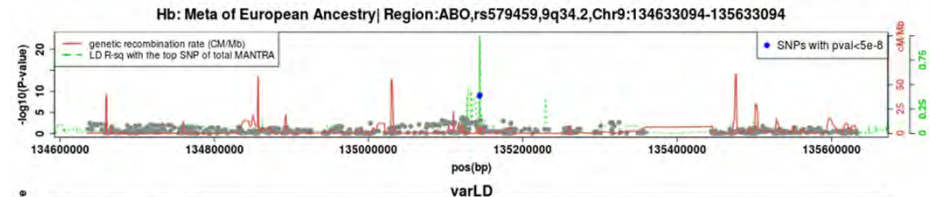
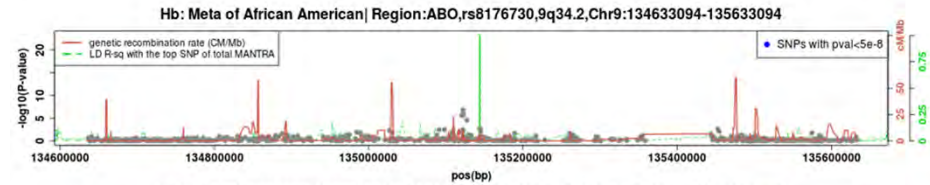
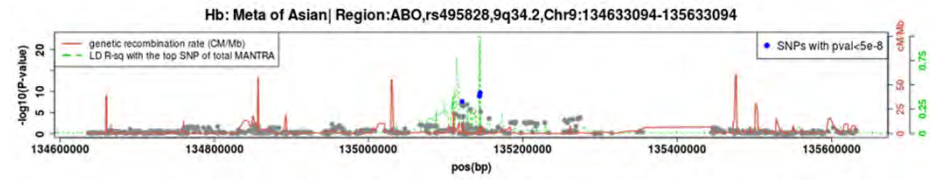


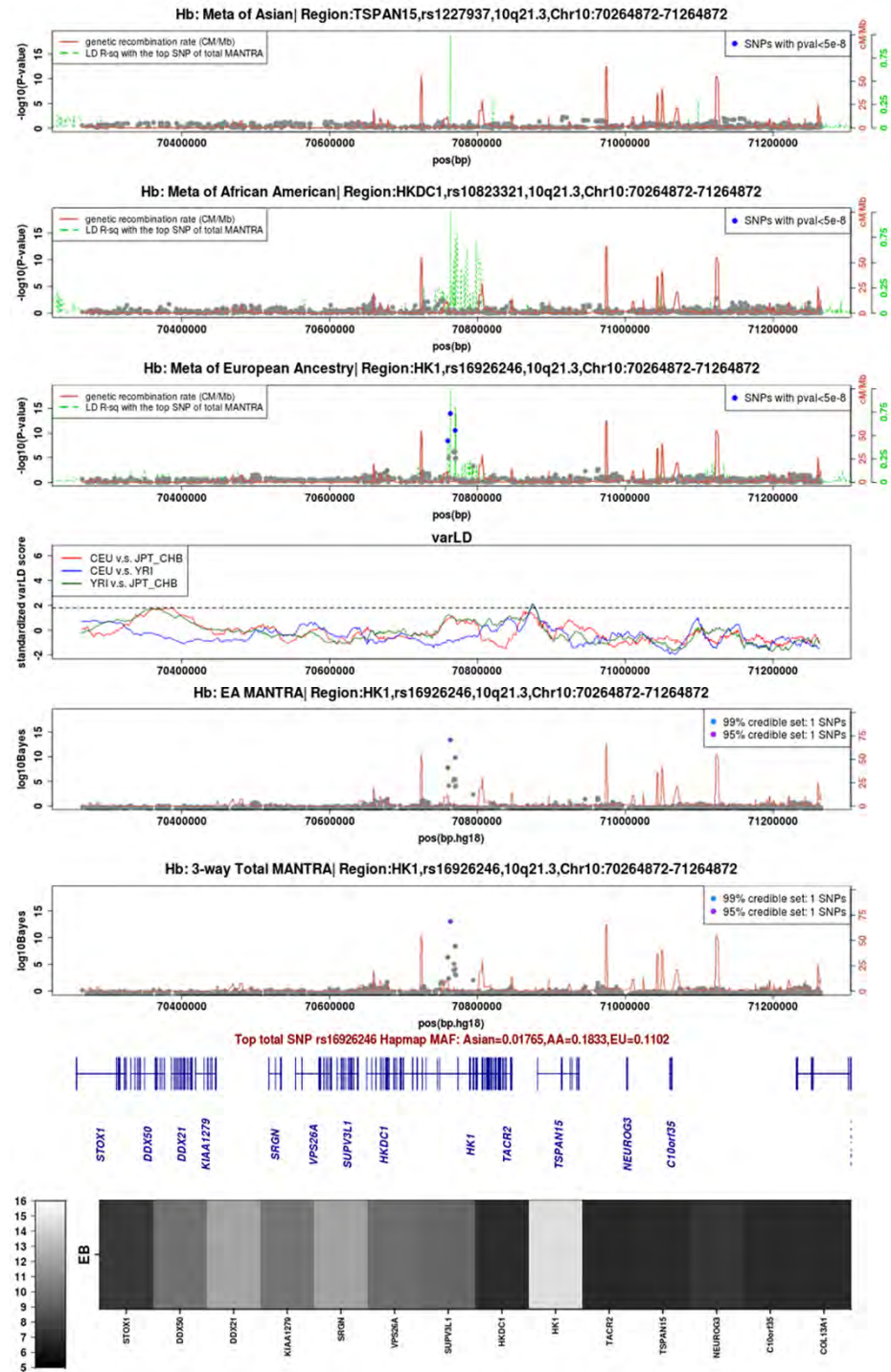


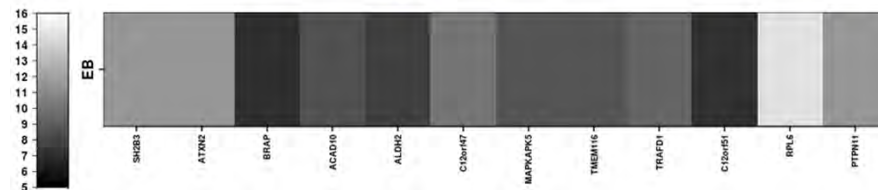
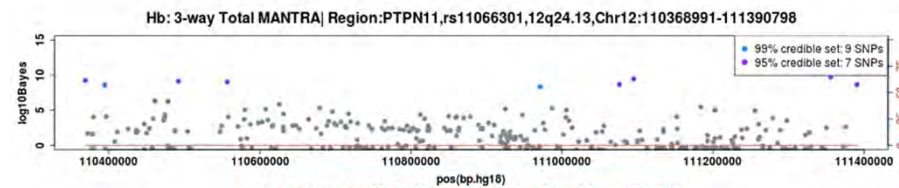
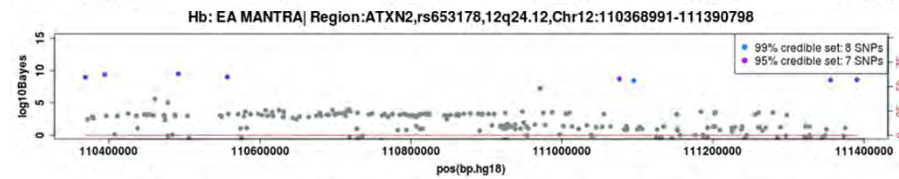
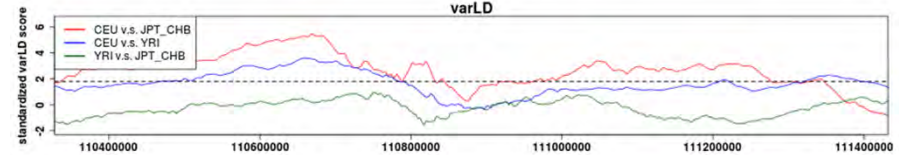
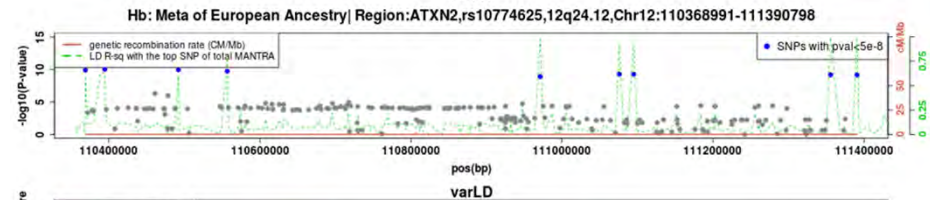
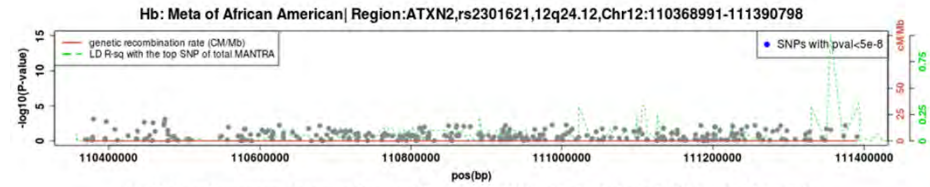
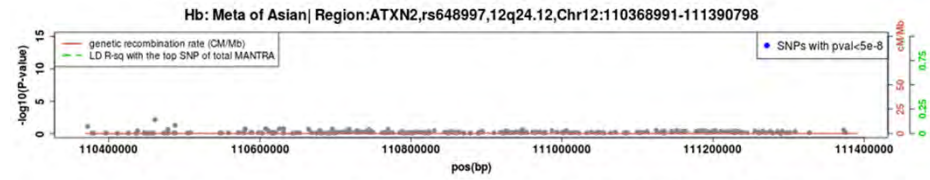
Top total SNP rs2299433 Hapmap MAF: Asian=0.2921, AA=0.1017, EU=0.2018

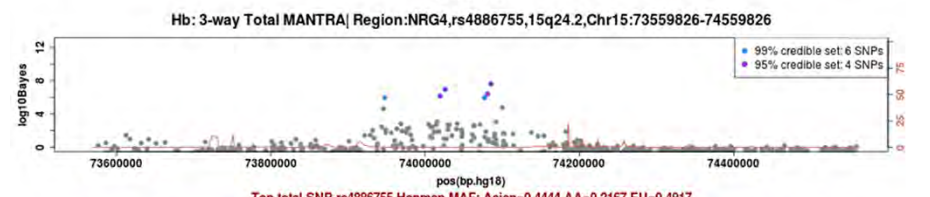
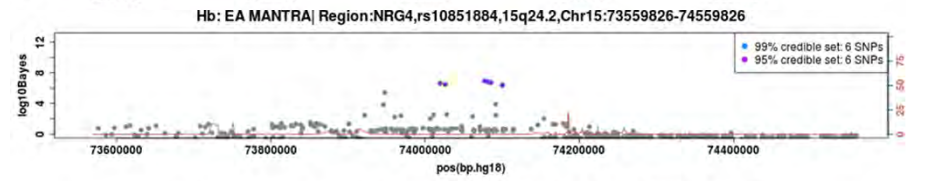
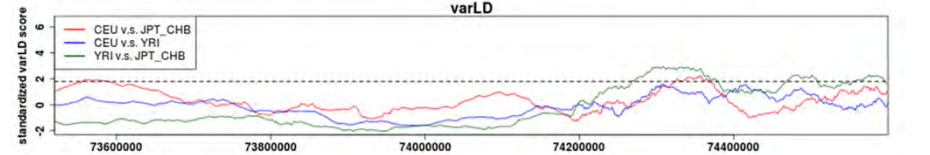
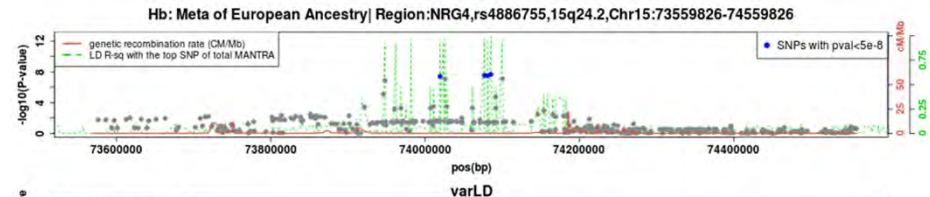
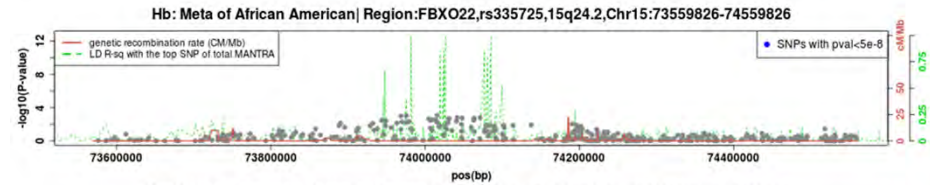
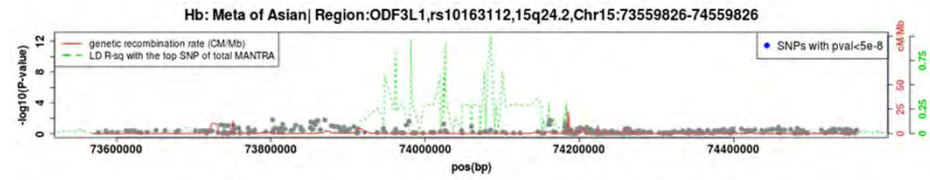




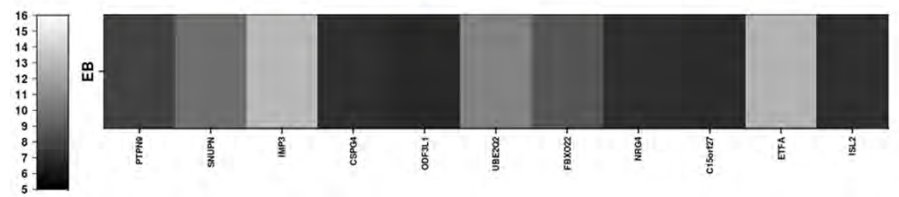


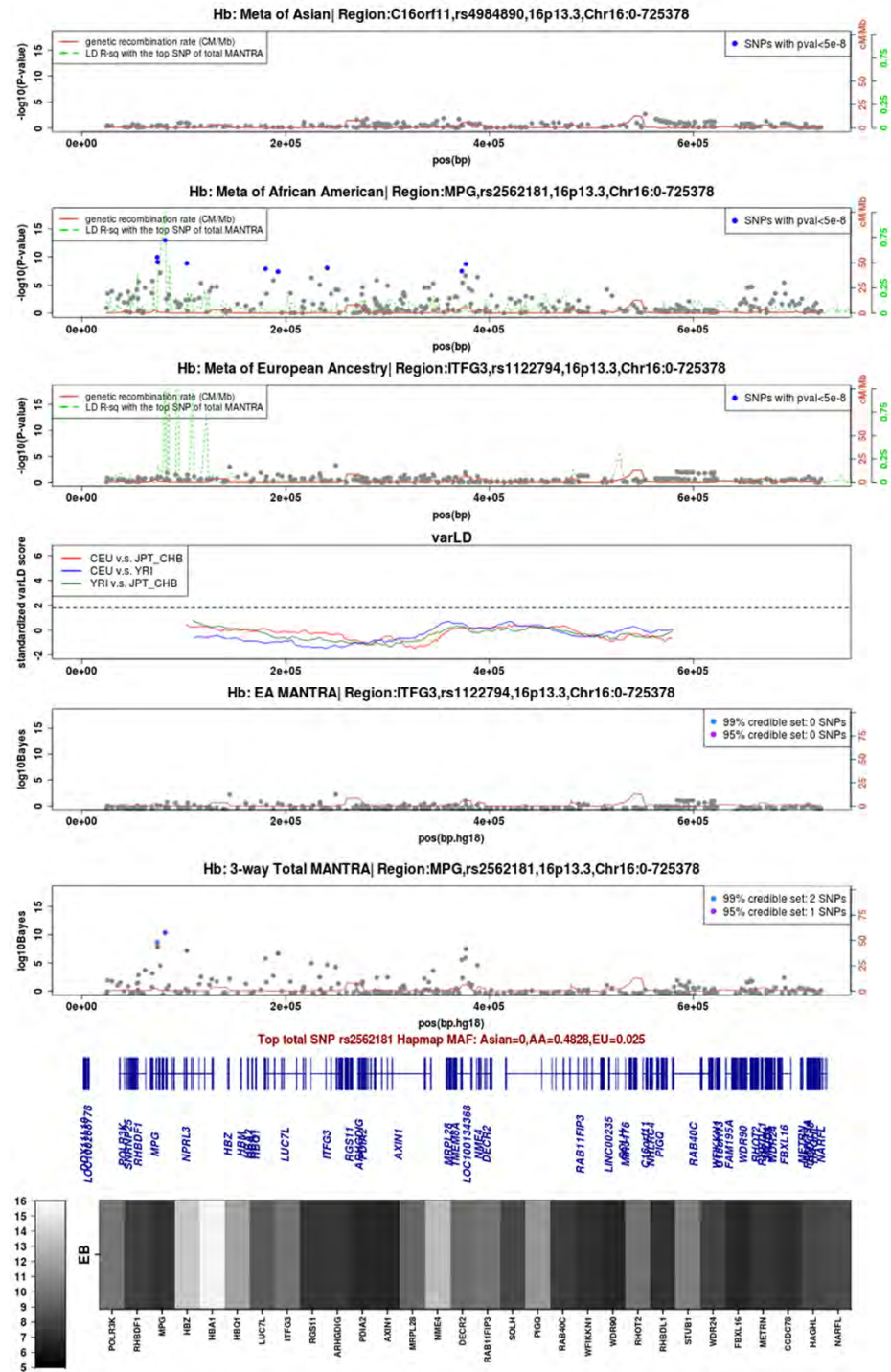




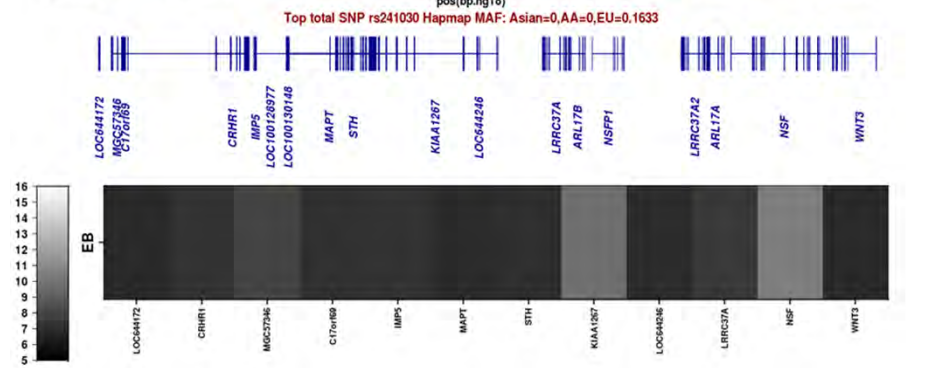
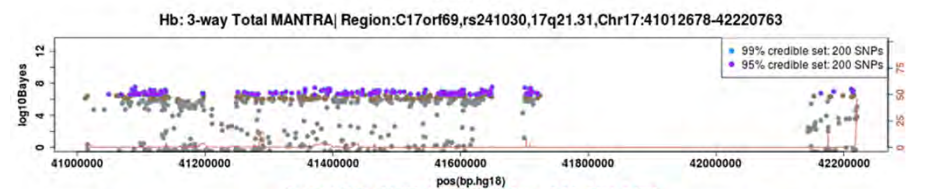
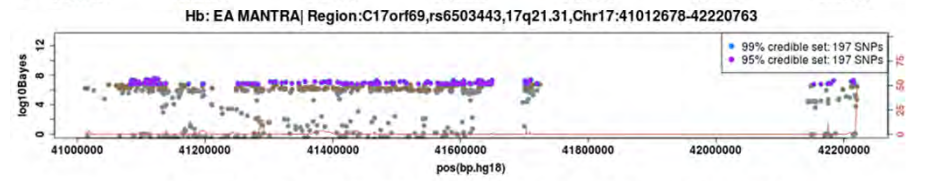
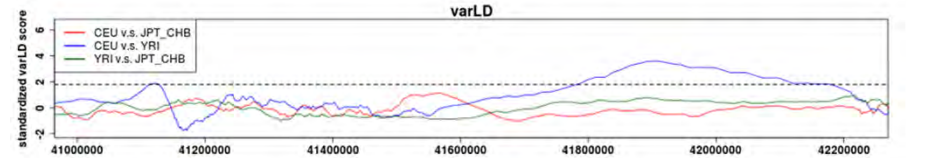
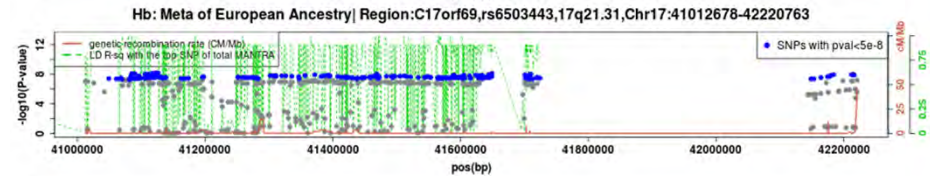
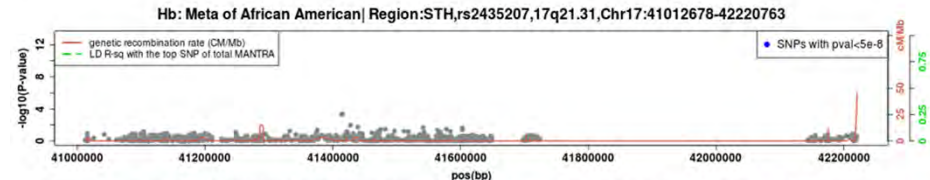
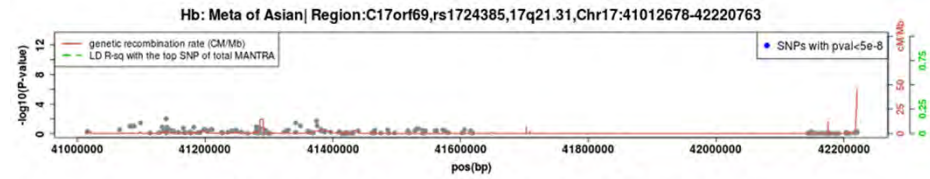


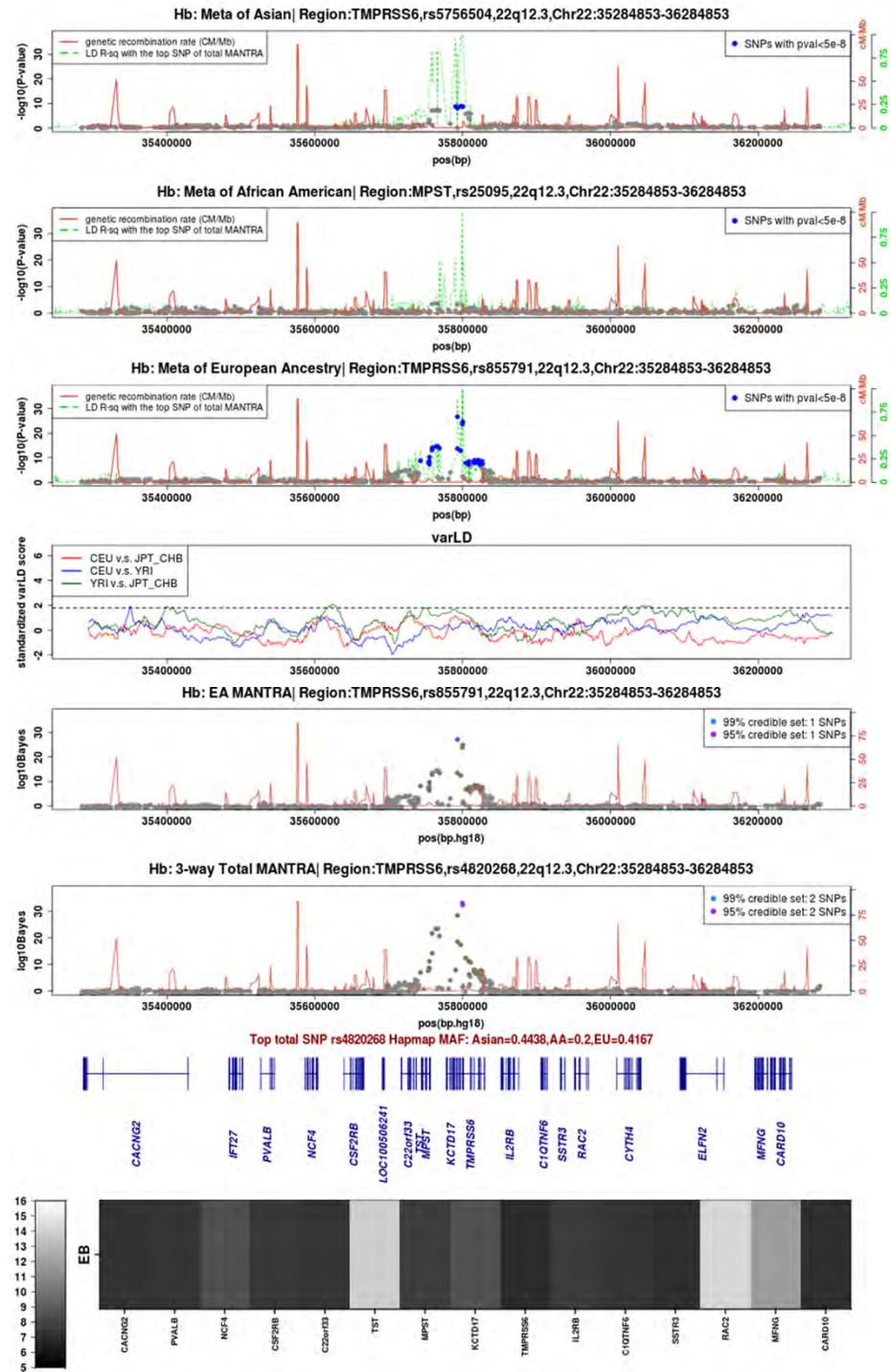
Top total SNP rs4886755 Hapmap MAF: Asian=0.4444, AA=0.2167, EU=0.4917



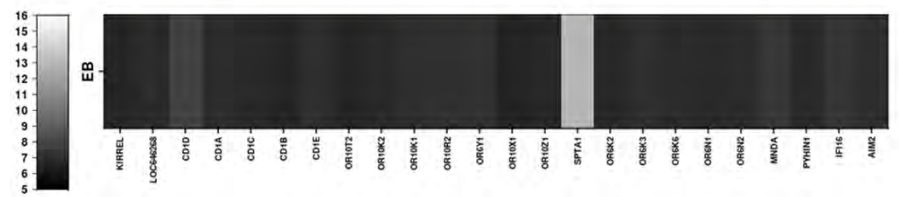
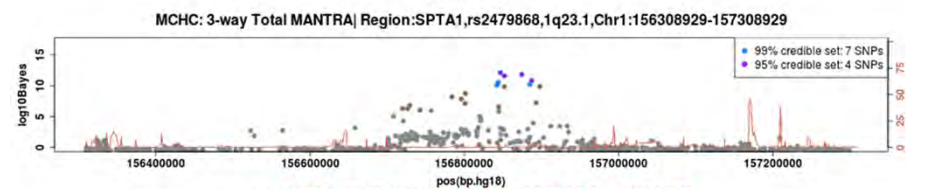
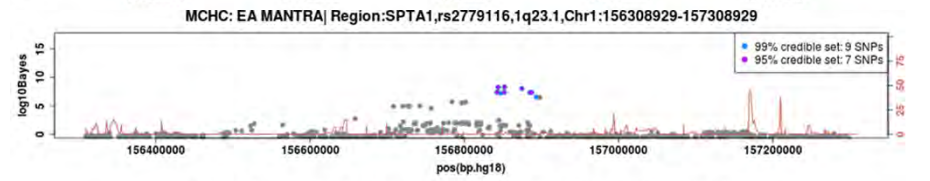
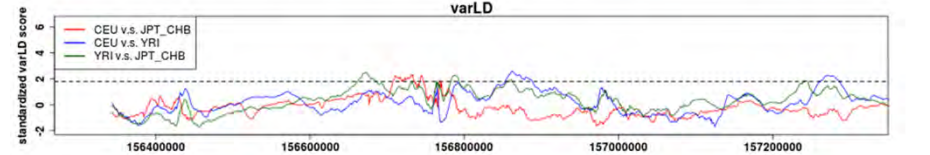
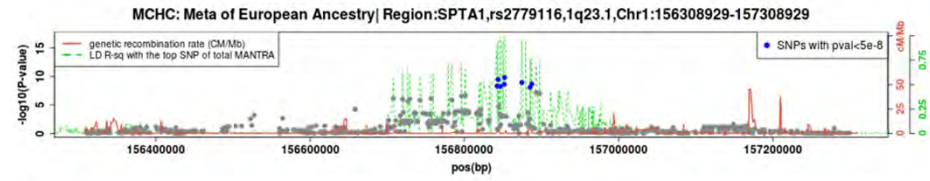
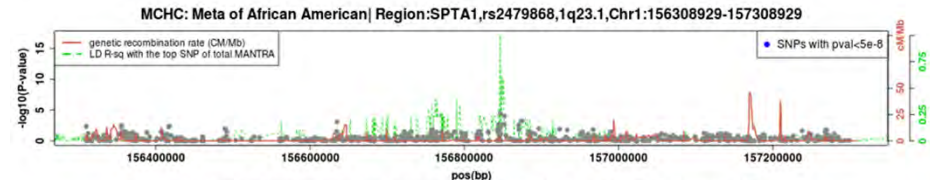
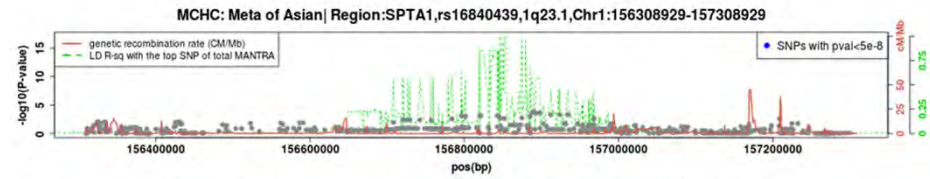


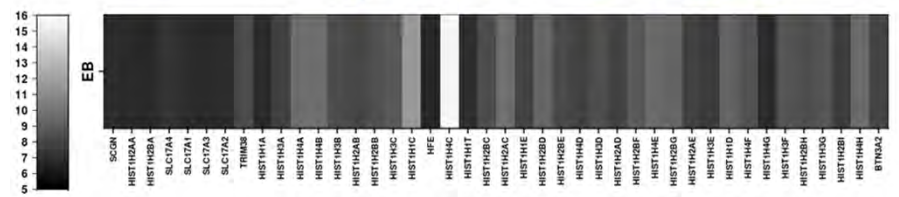
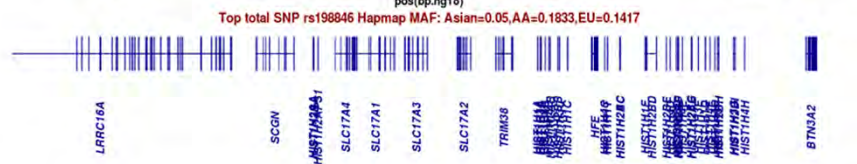
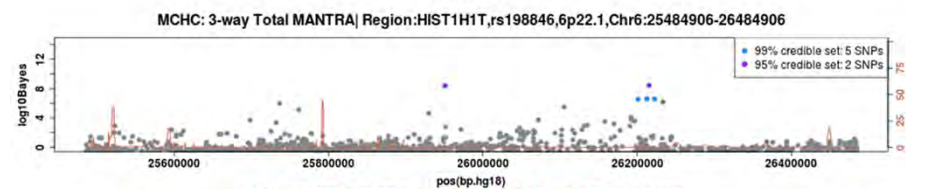
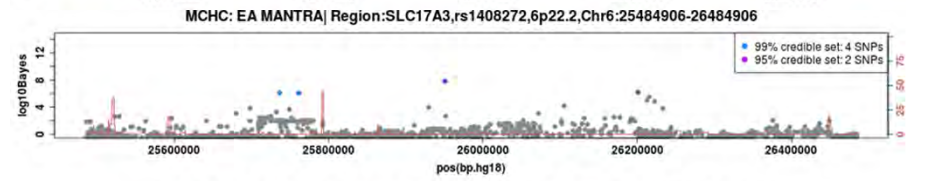
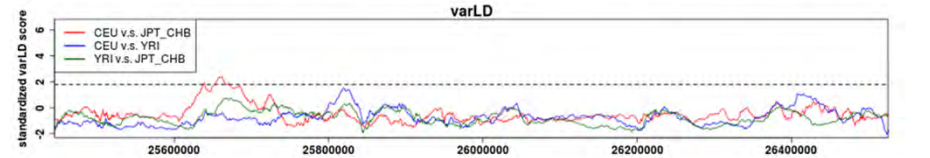
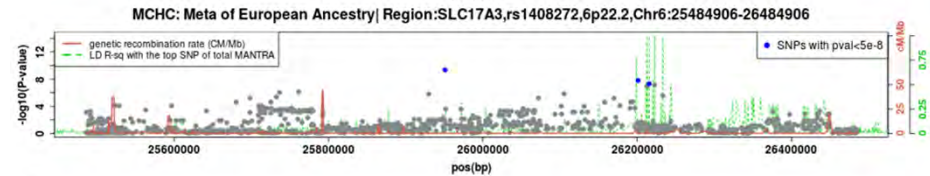
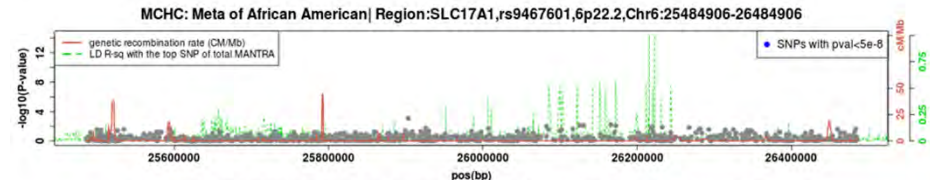
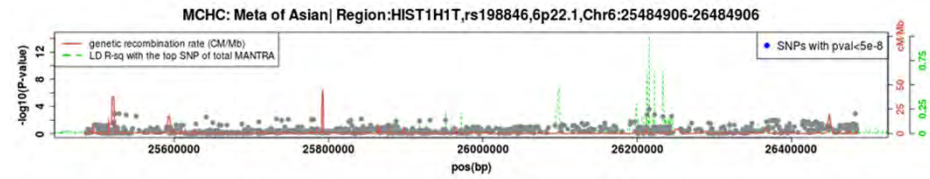


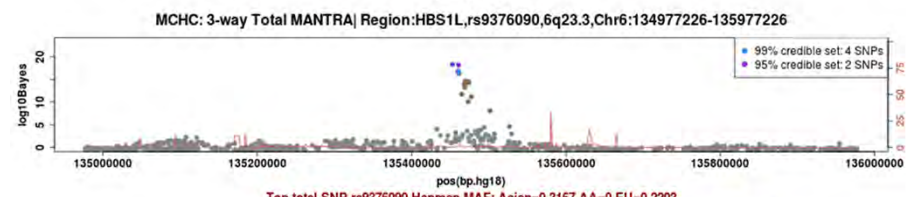
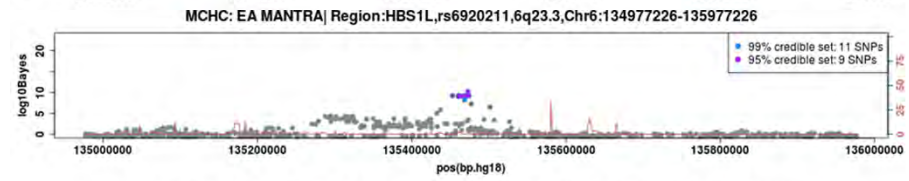
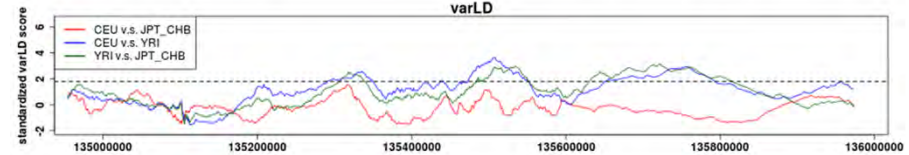
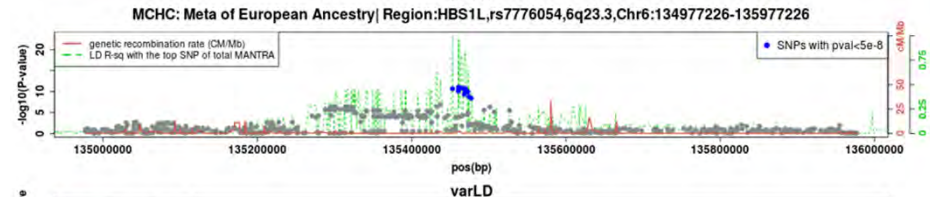
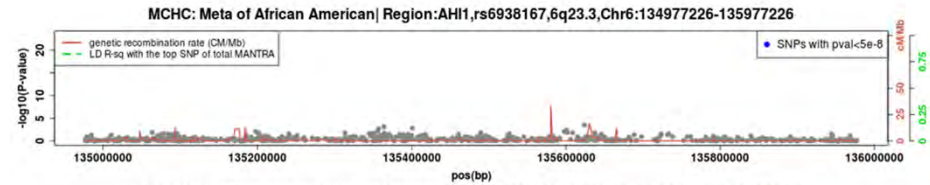
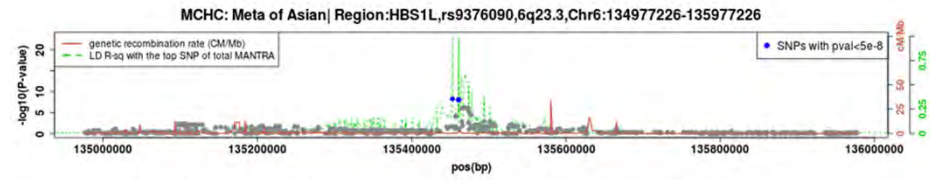




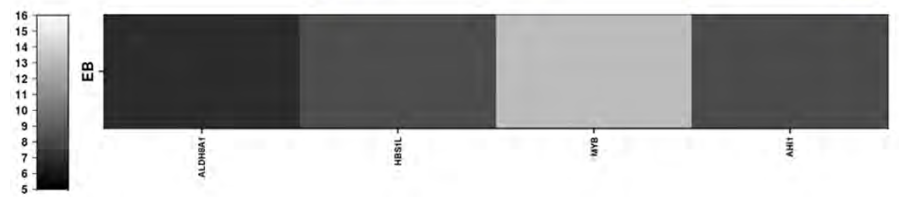
MCHC

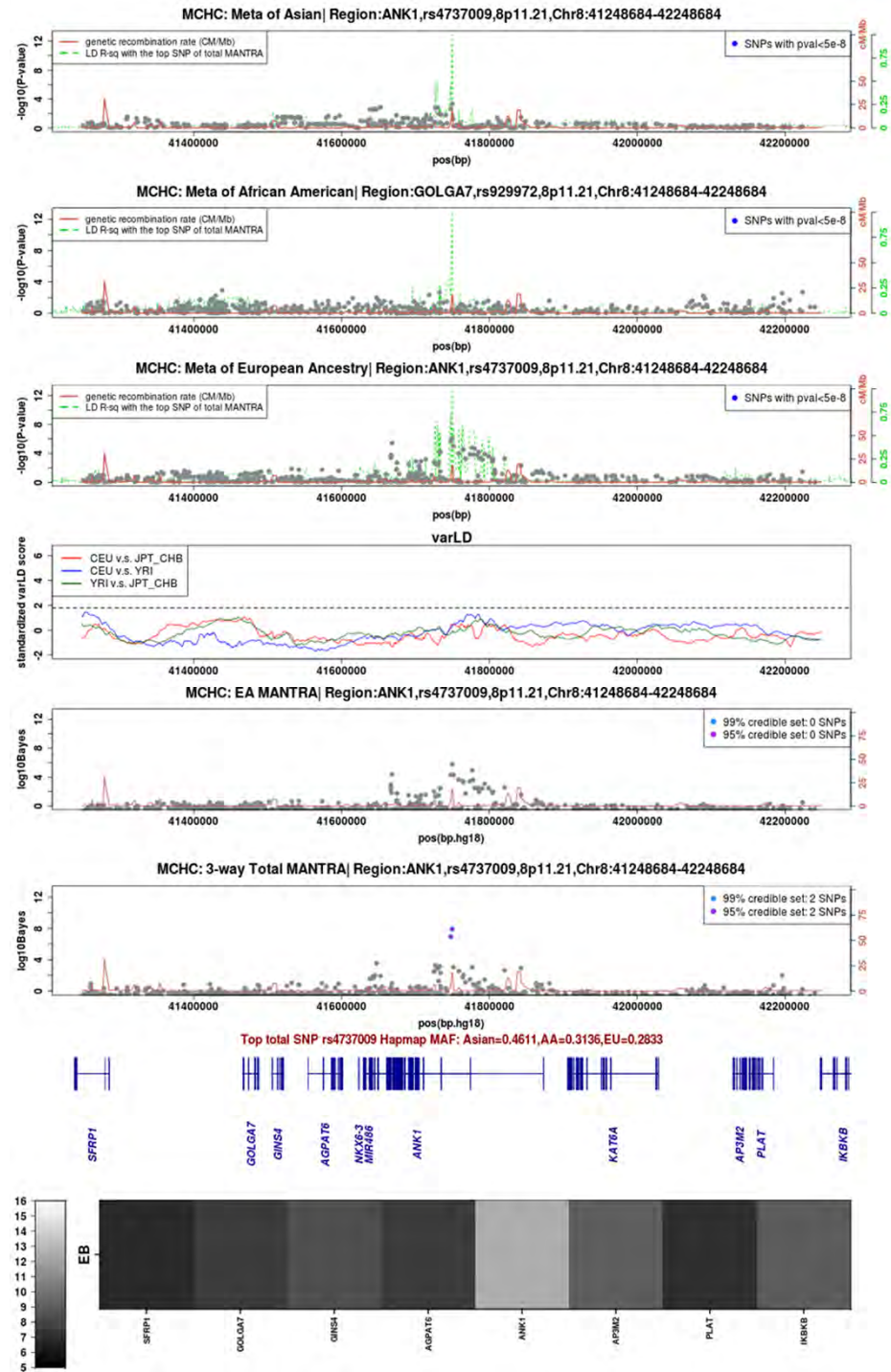


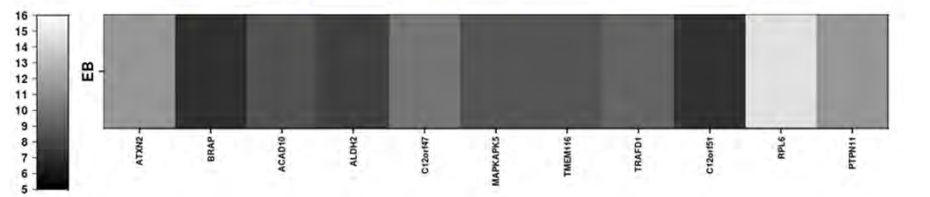
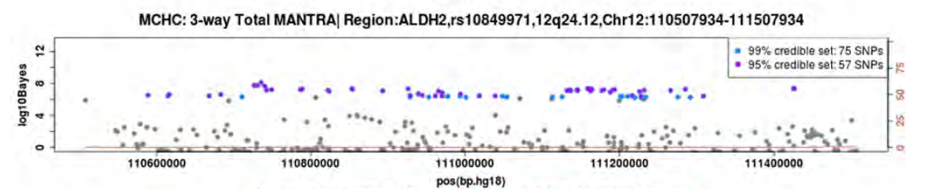
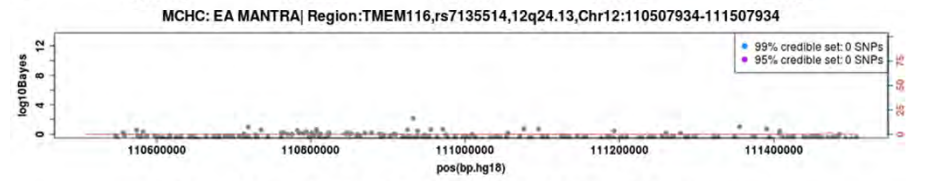
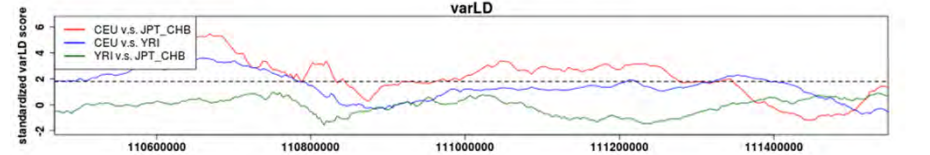
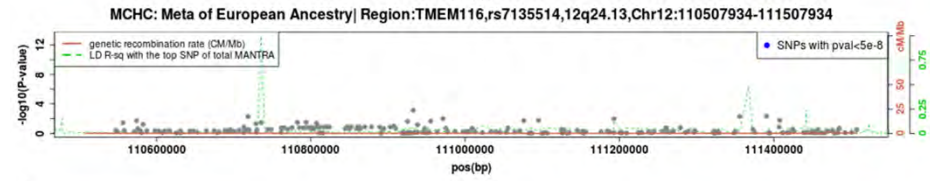
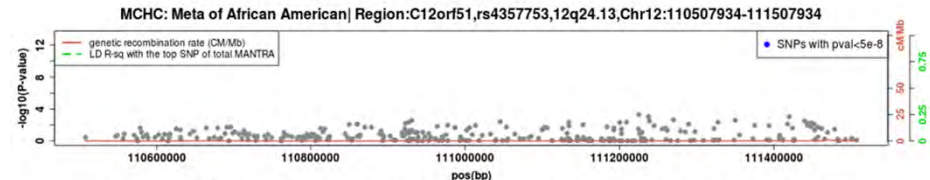
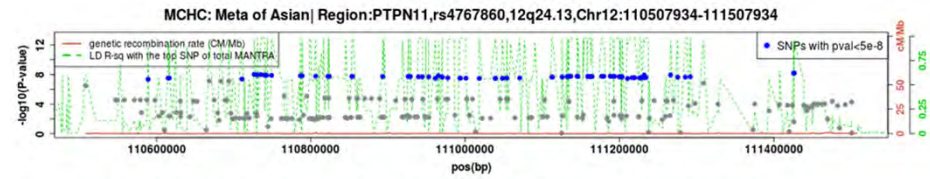




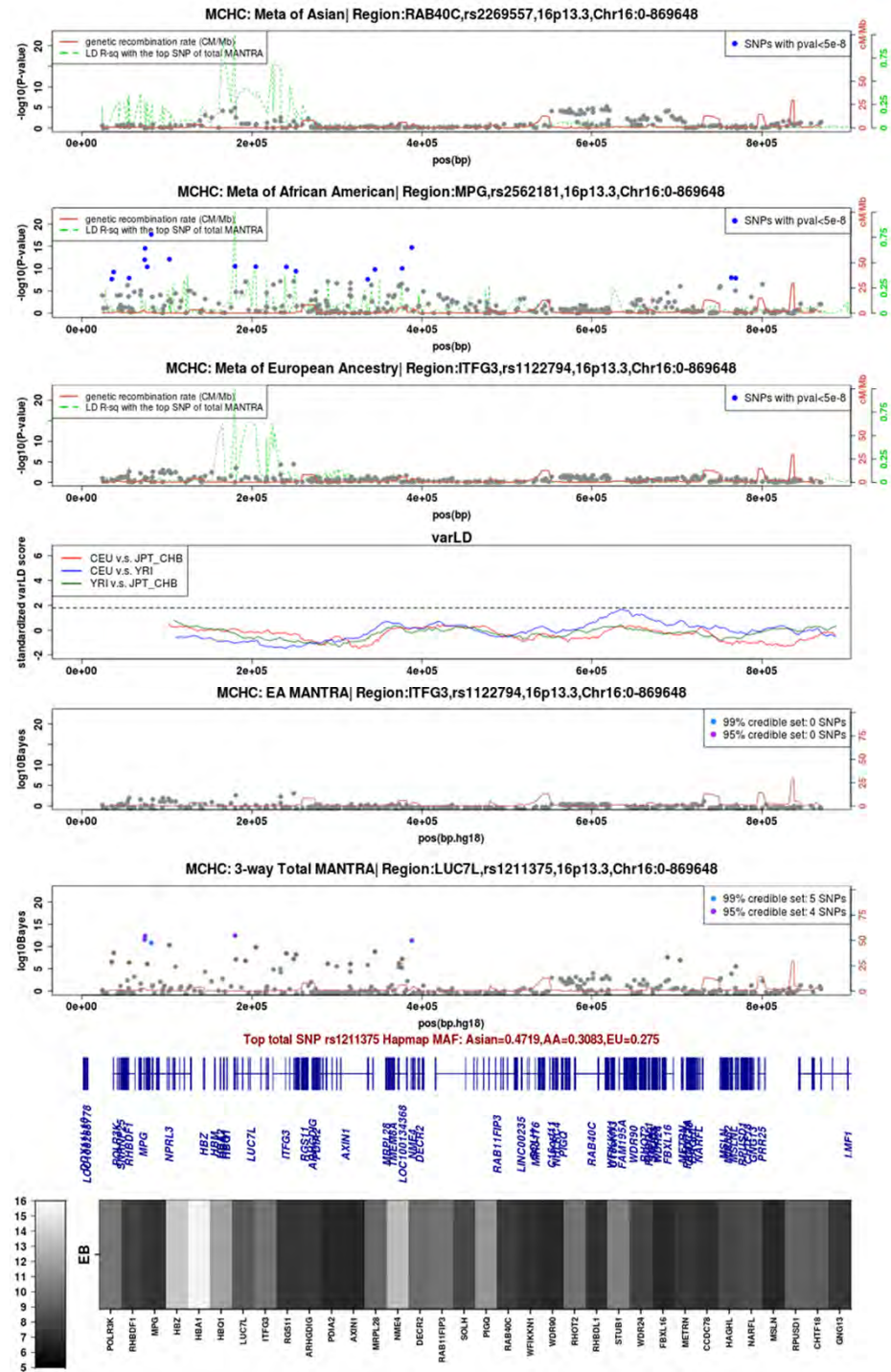
Top total SNP rs9376090 Hapmap MAF: Asian=0.3167, AA=0, EU=0.2203

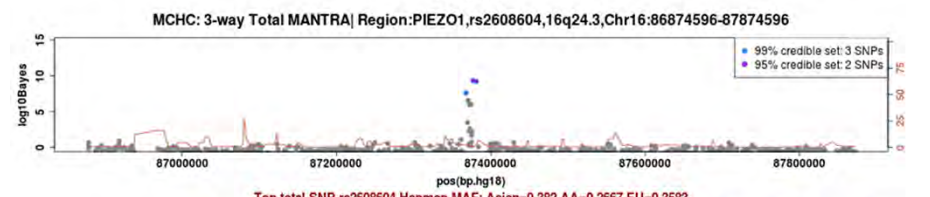
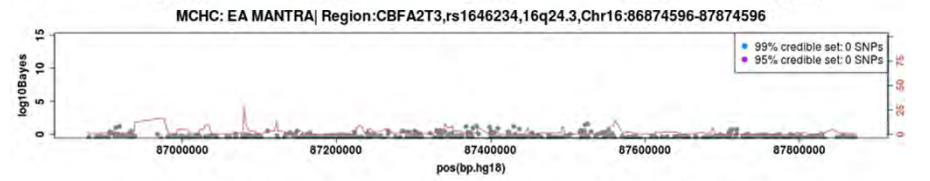
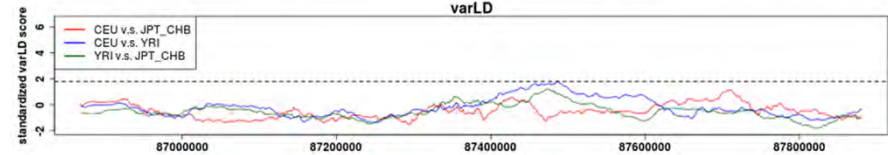
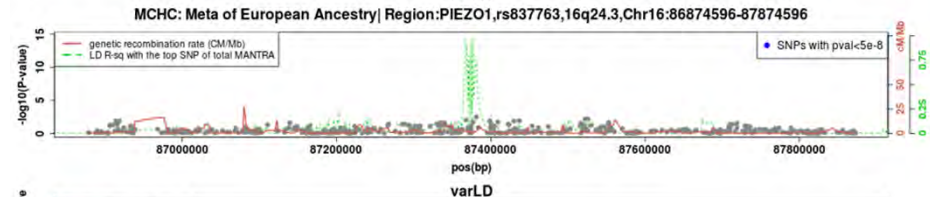
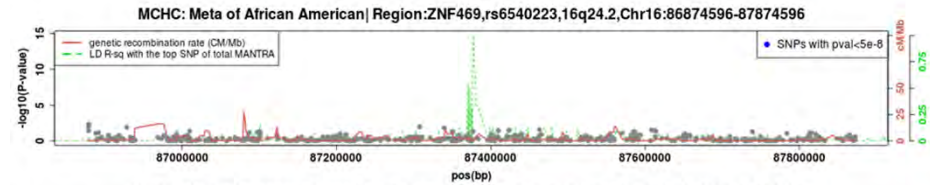
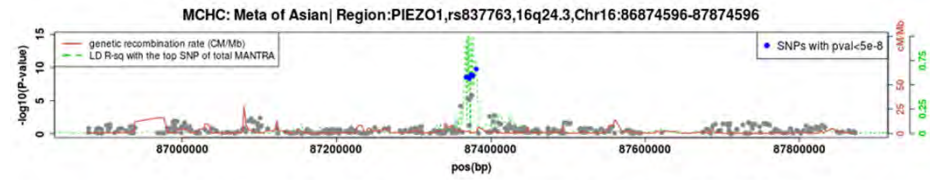




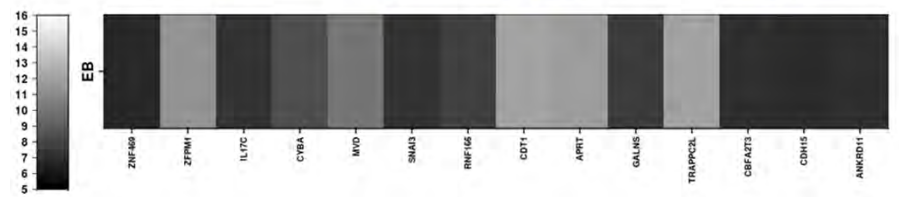


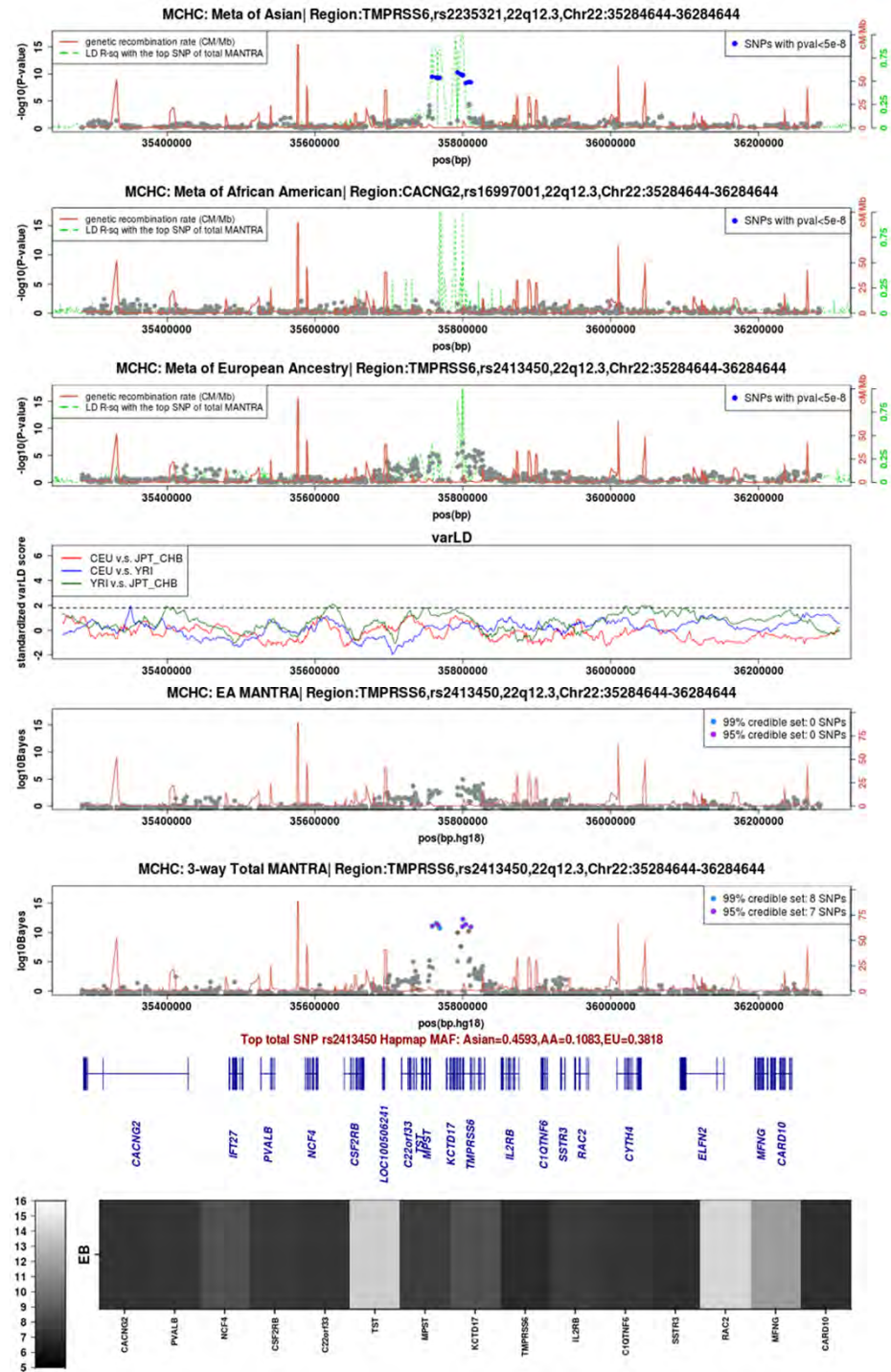




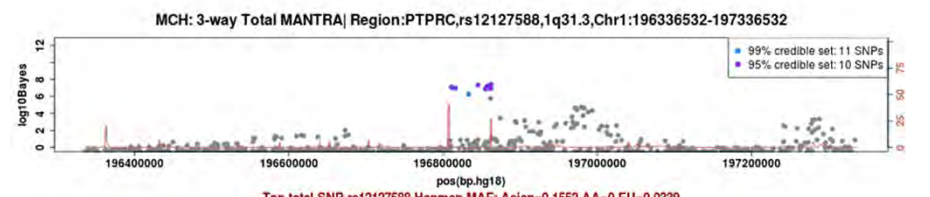
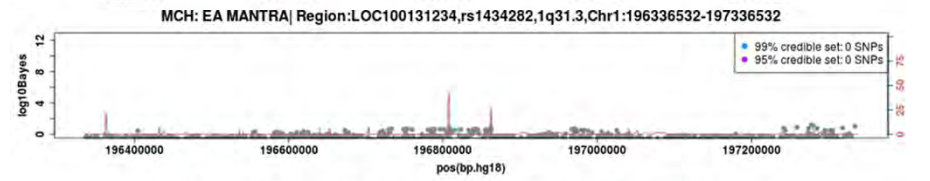
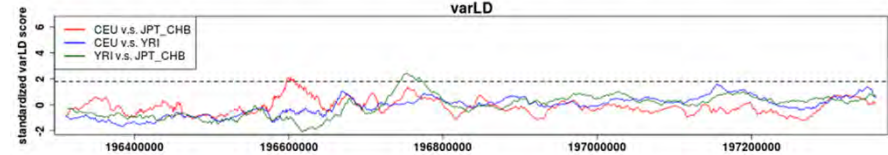
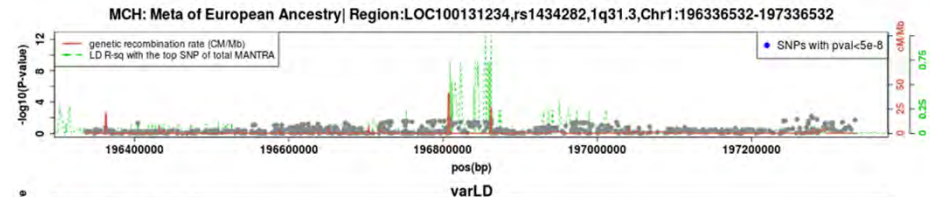
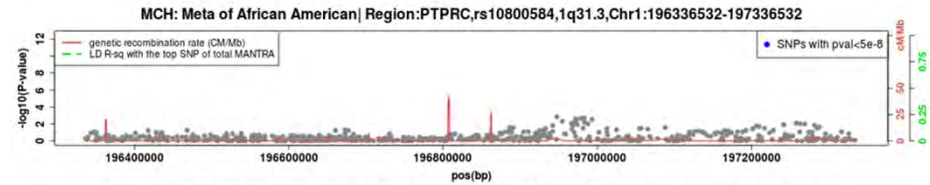
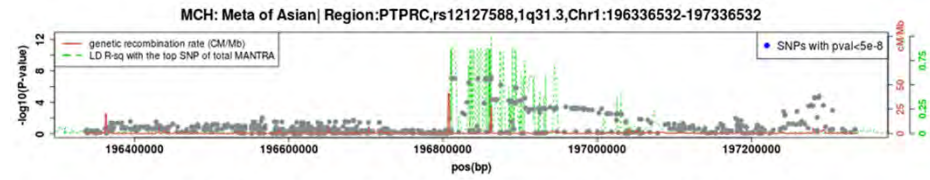


Top total SNP rs2608604 Hapmap MAF: Asian=0.382,AA=0.2667,EU=0.3583

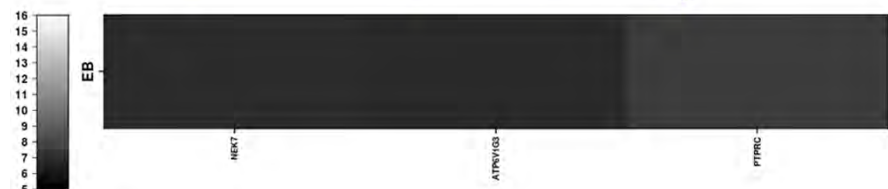


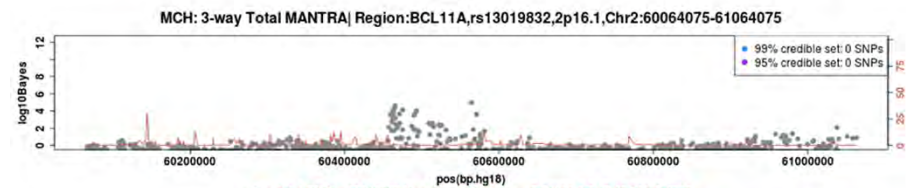
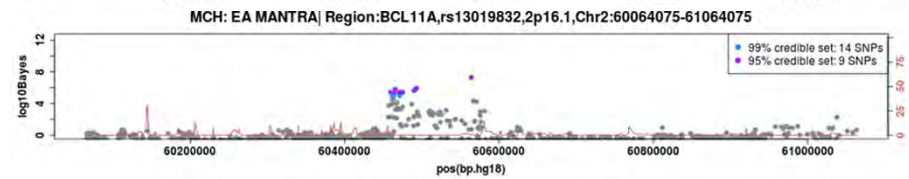
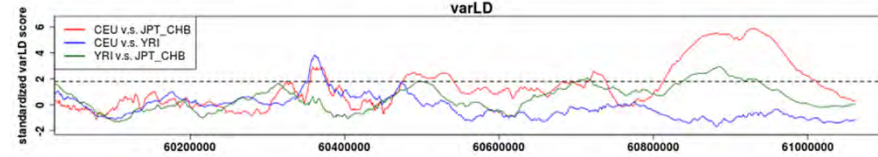
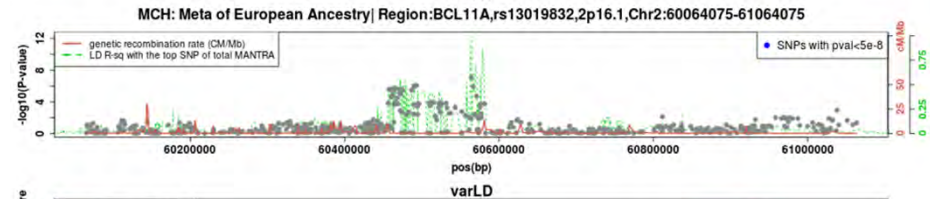
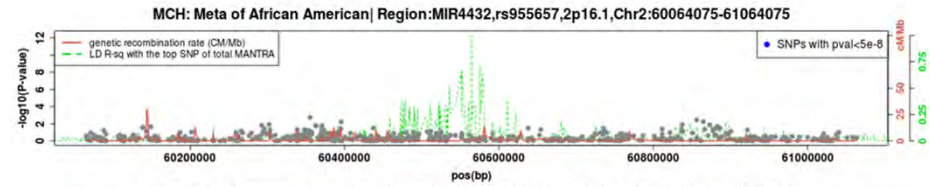
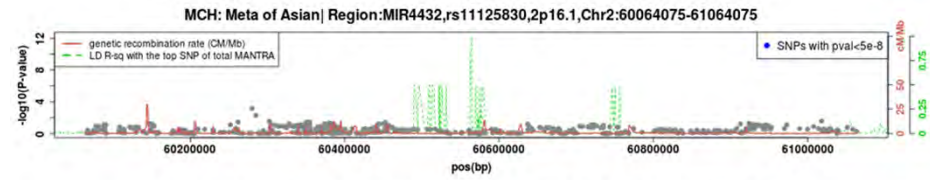


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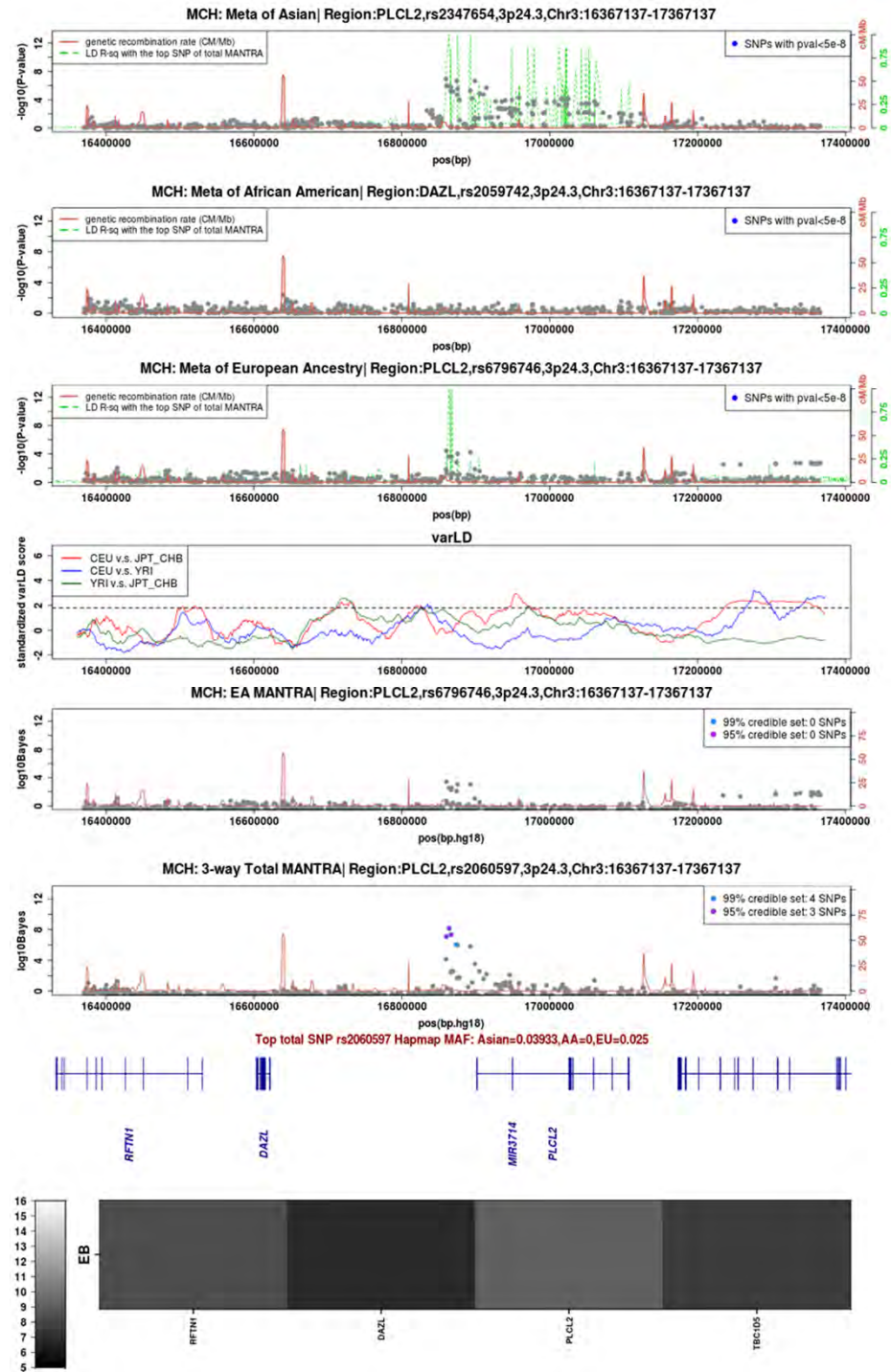
Top total SNP rs12127588 Hapmap MAF: Asian=0.1552, AA=0, EU=0.0339

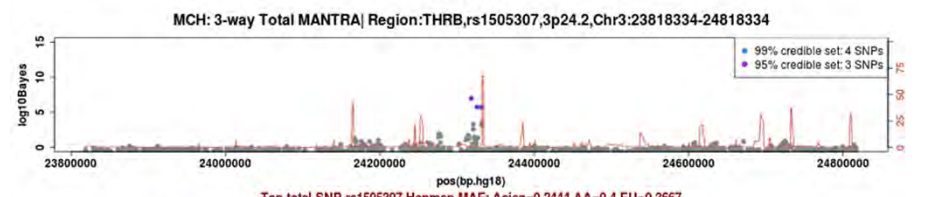
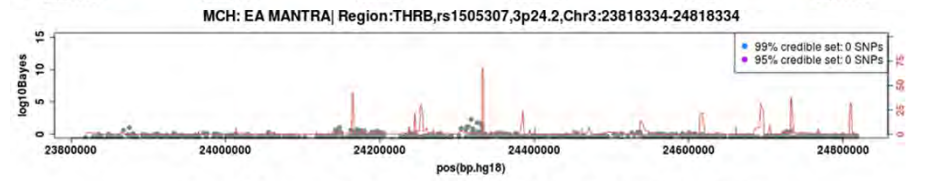
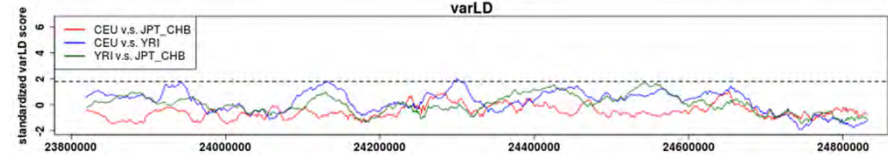
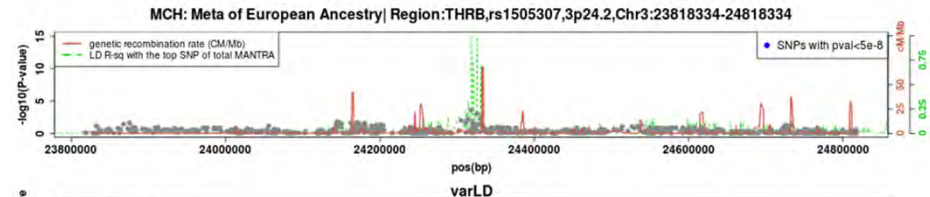
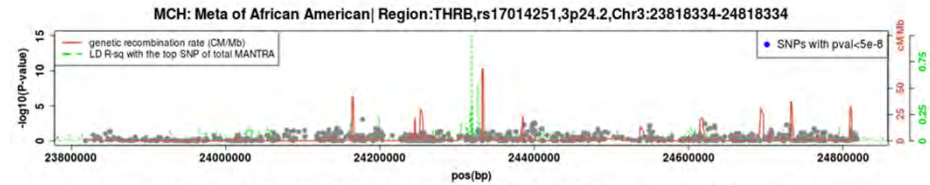
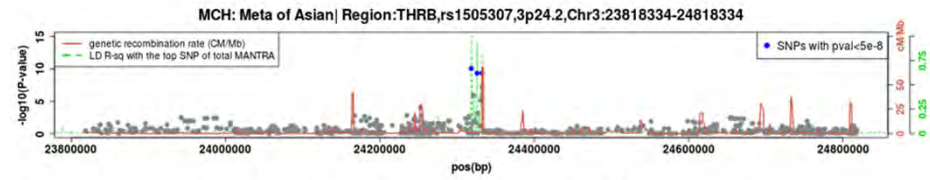




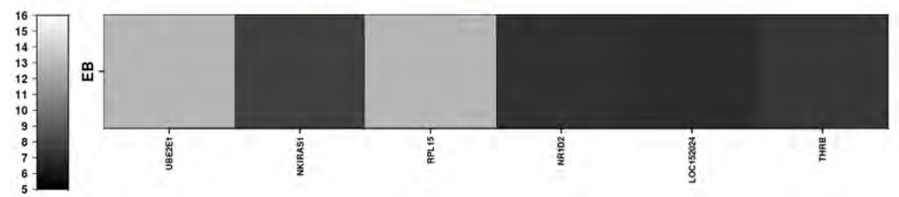
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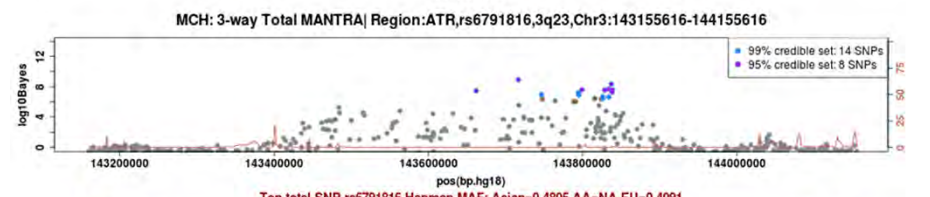
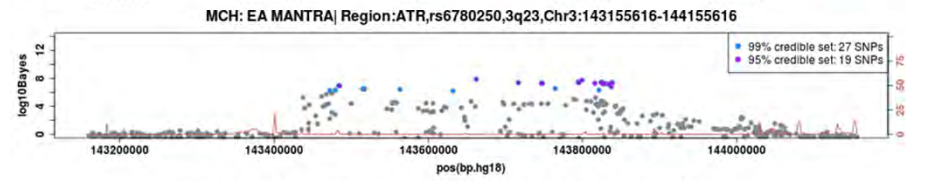
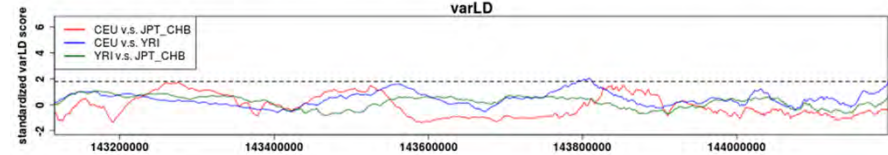
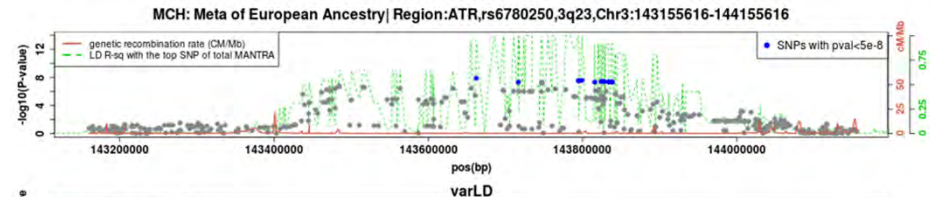
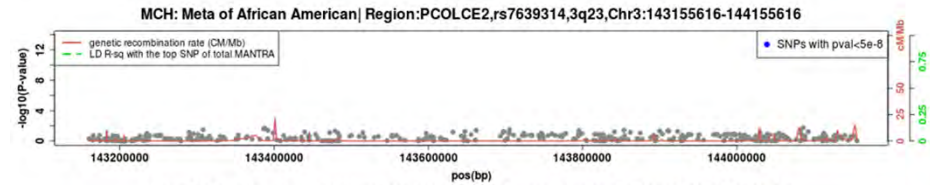
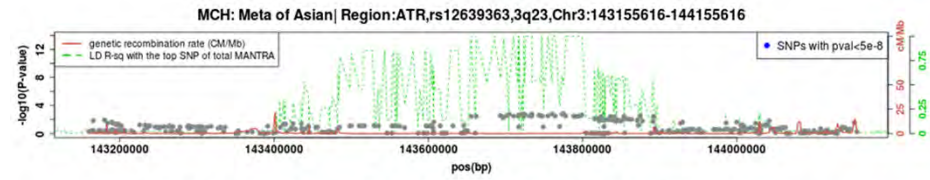




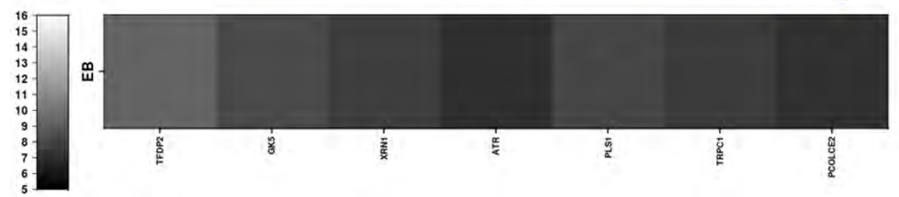
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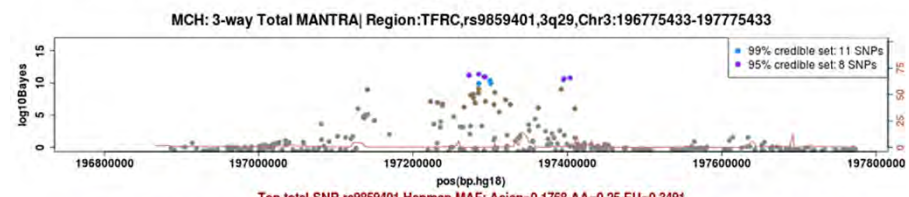
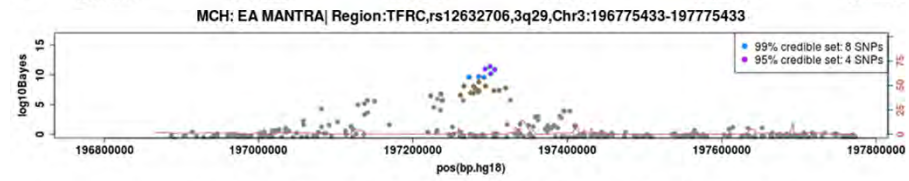
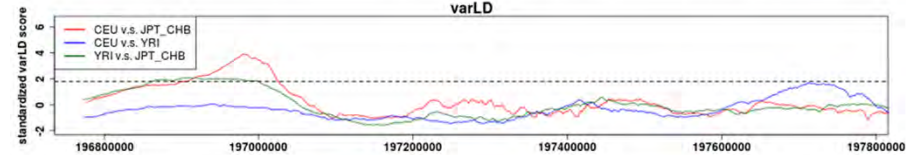
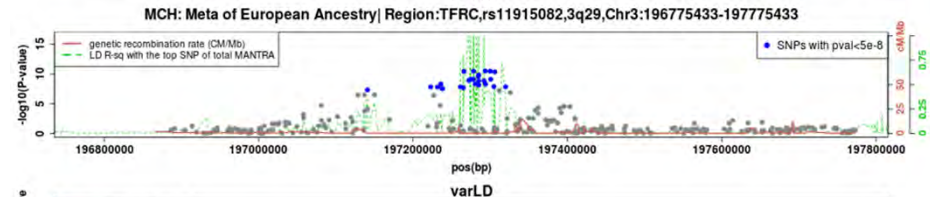
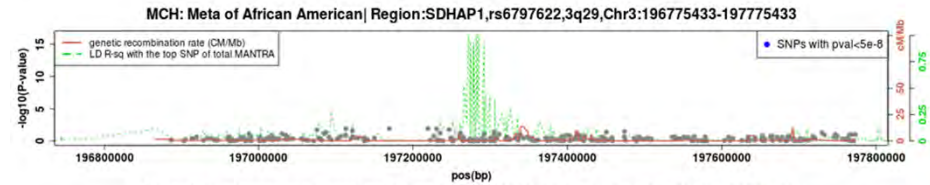
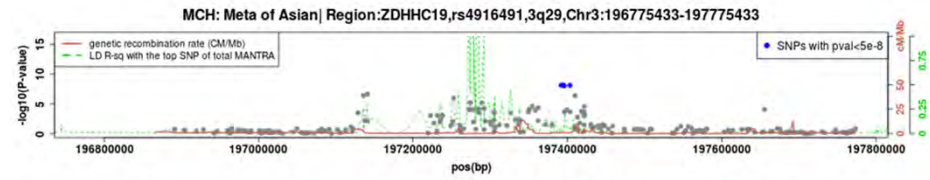




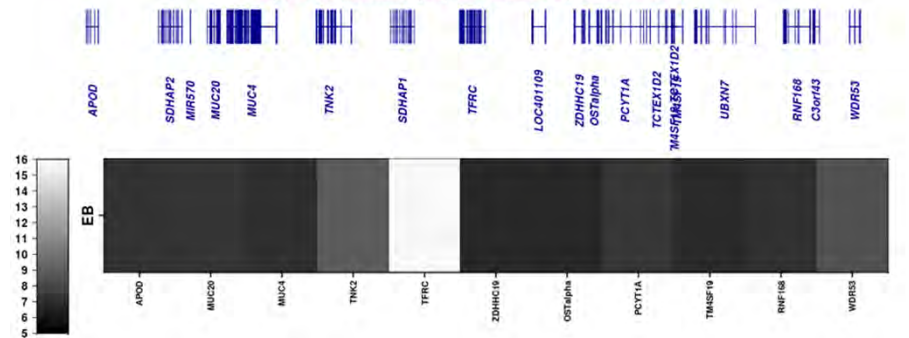


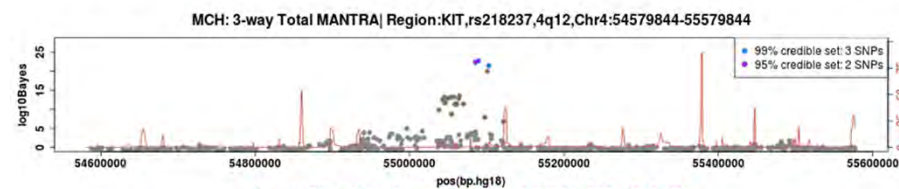
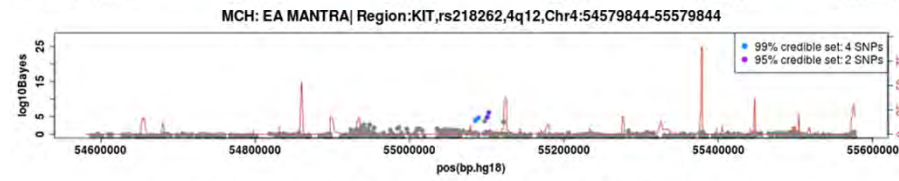
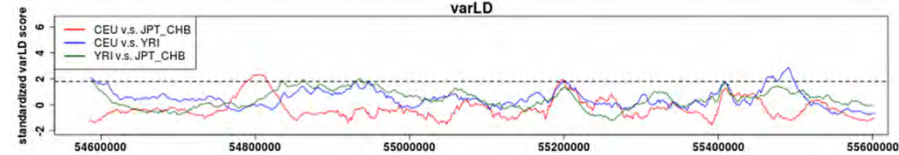
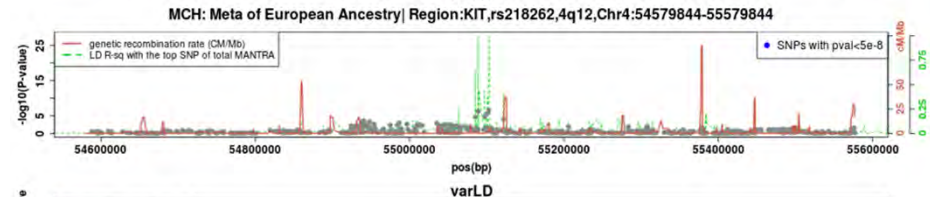
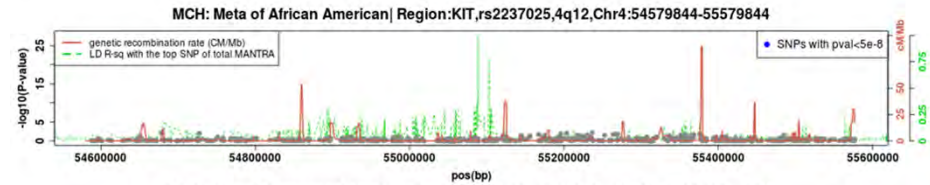
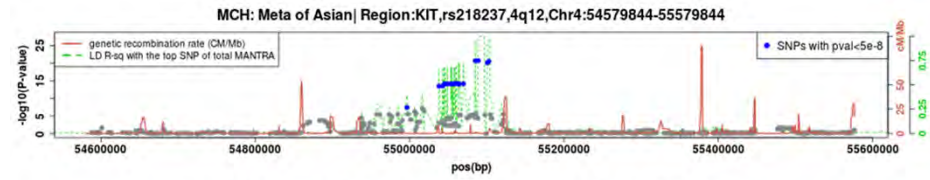
Top total SNP rs6791816 Hapmap MAF: Asian=0.4805, AA=NA, EU=0.4091



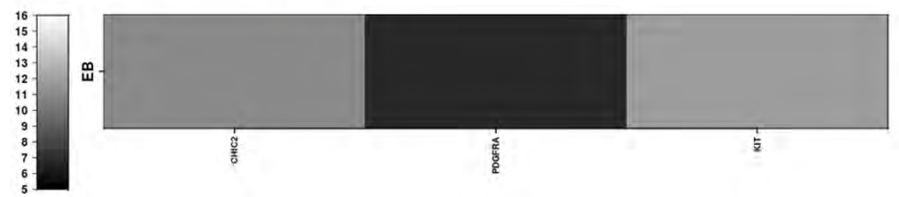


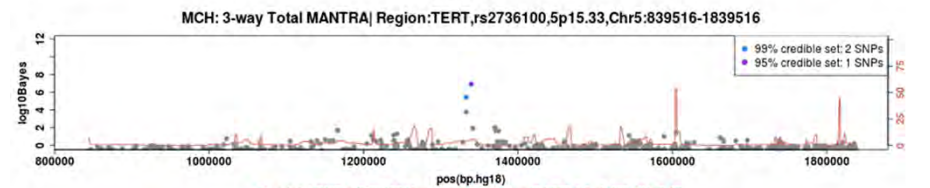
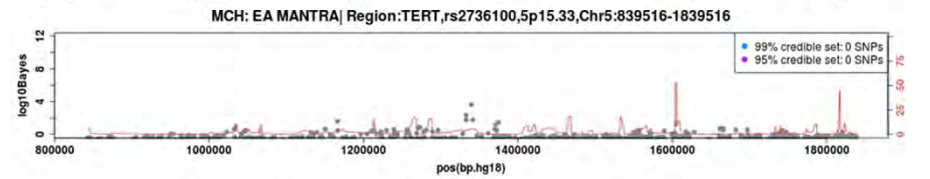
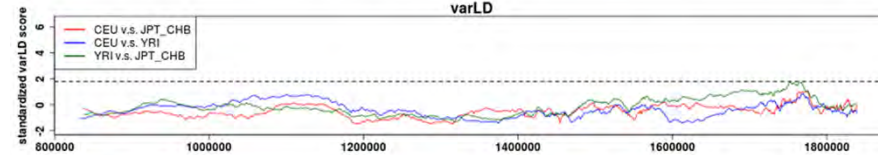
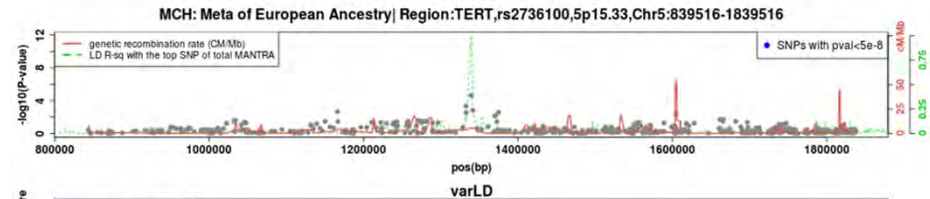
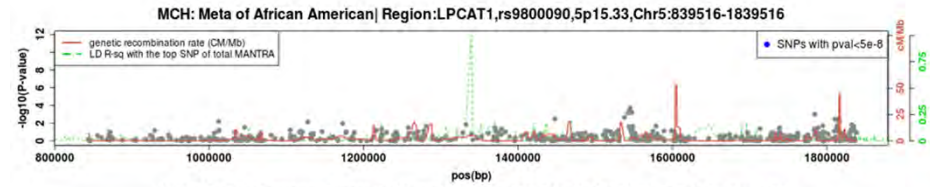
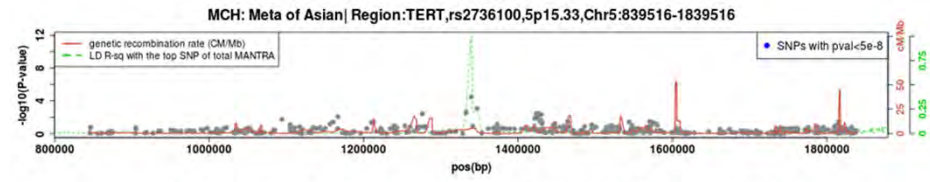
Top total SNP rs9859401 Hapmap MAF: Asian=0.1768, AA=0.25, EU=0.3491



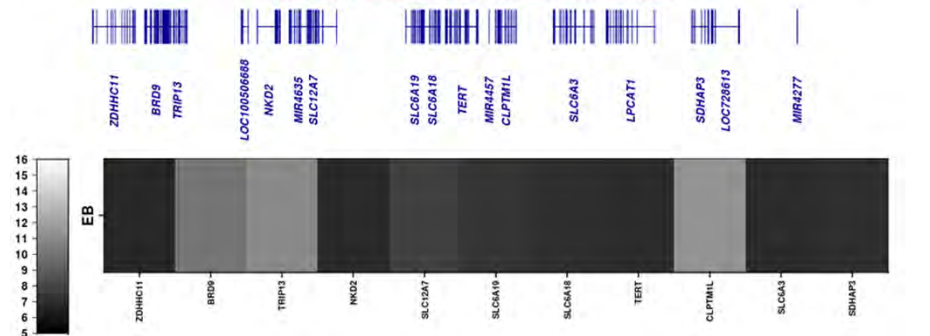


Top total SNP rs218237 Hapmap MAF: Asian=0.3258, AA=0.2712, EU=0.1102

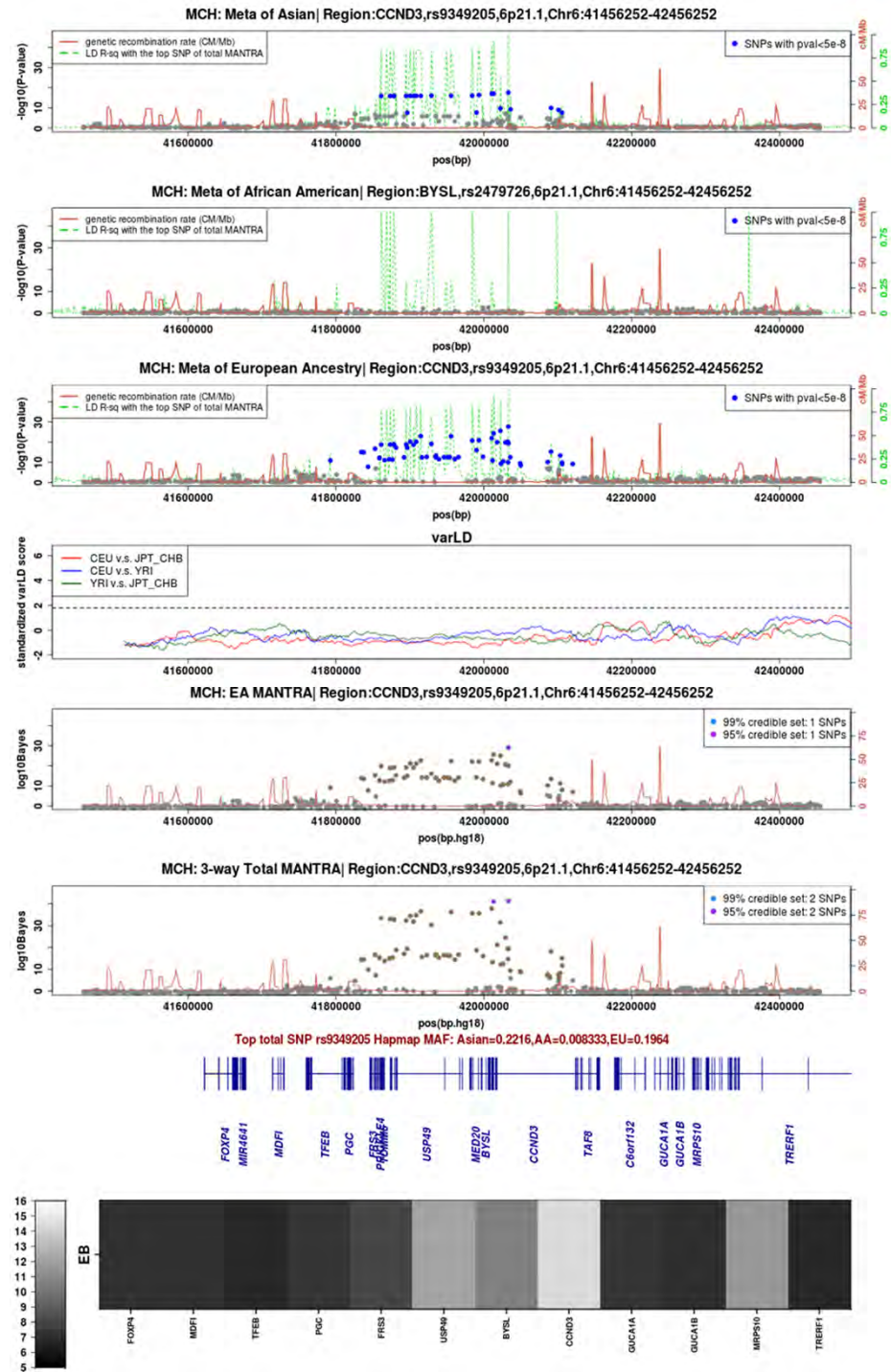


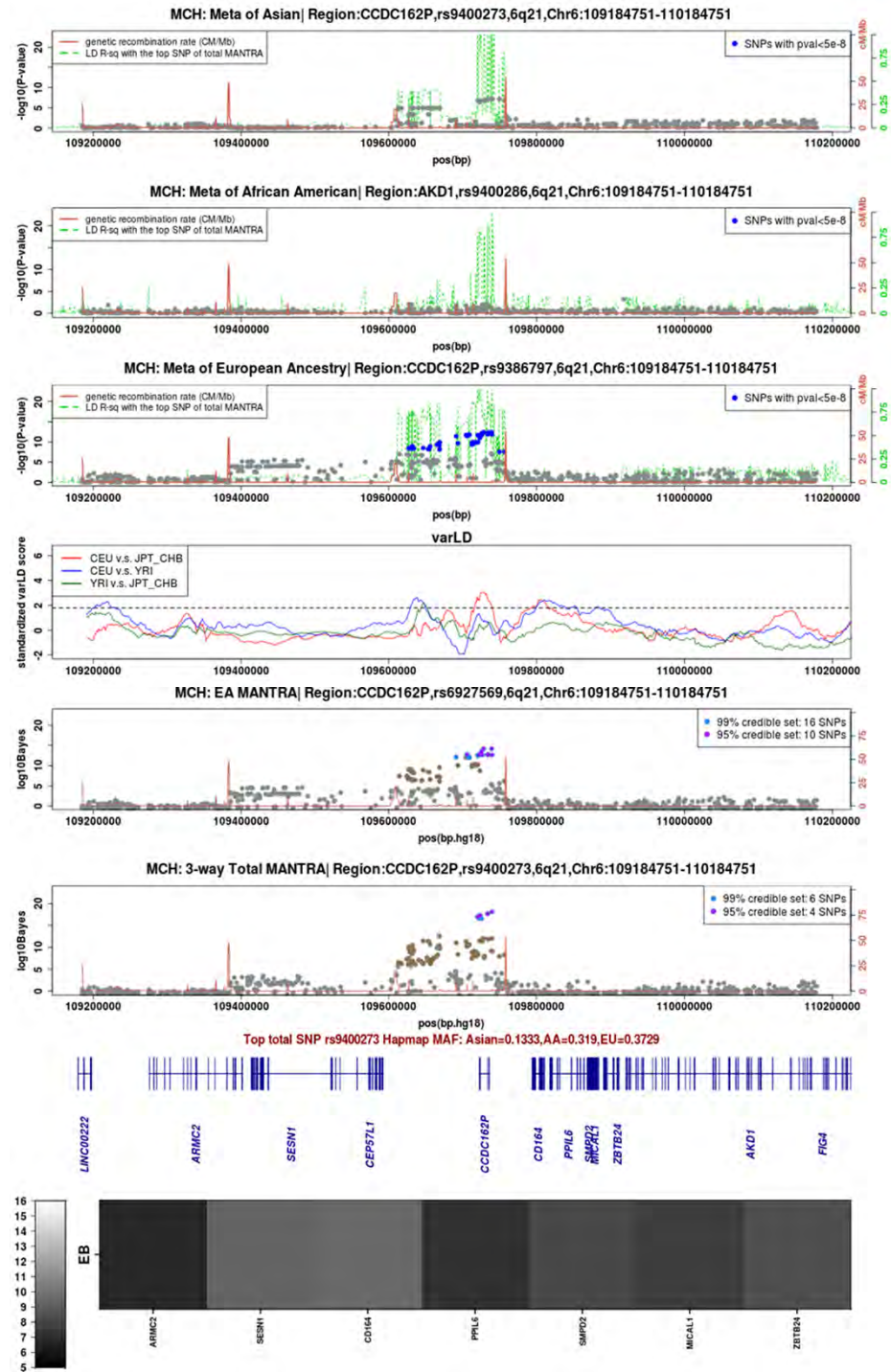


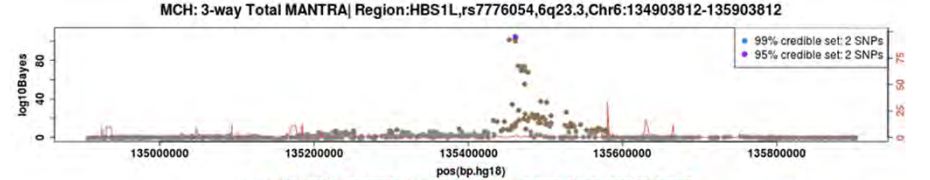
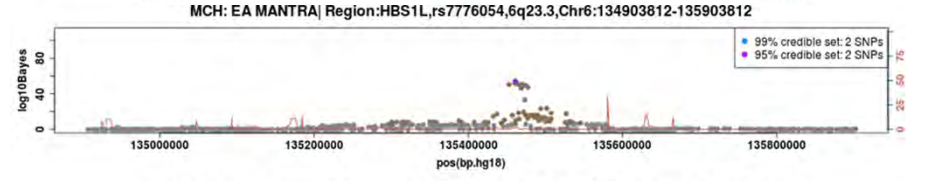
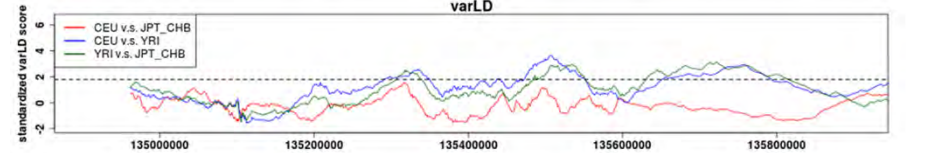
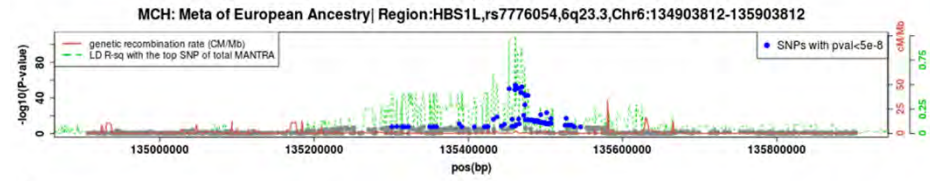
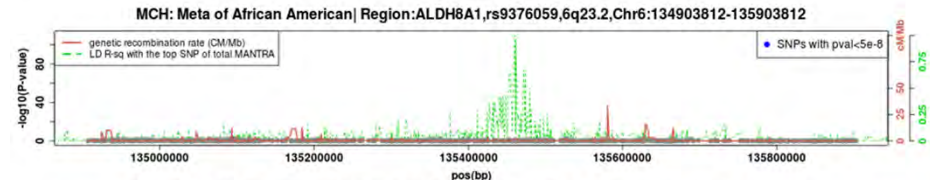
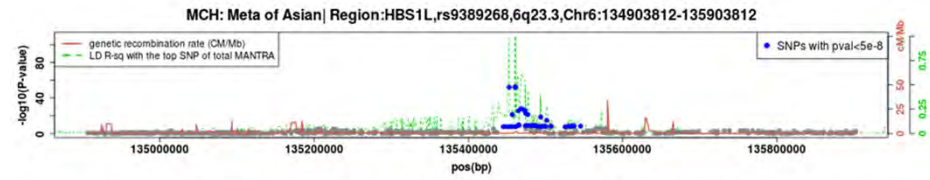
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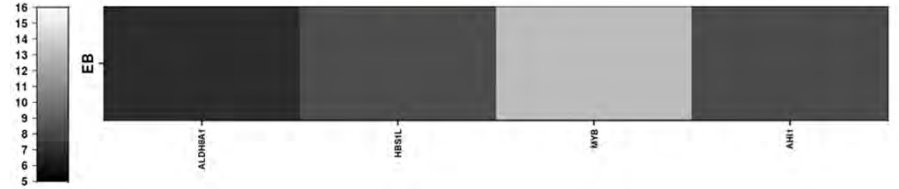




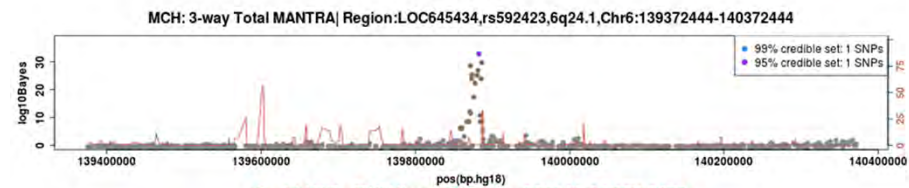
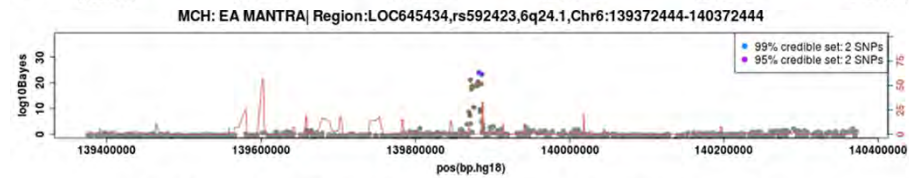
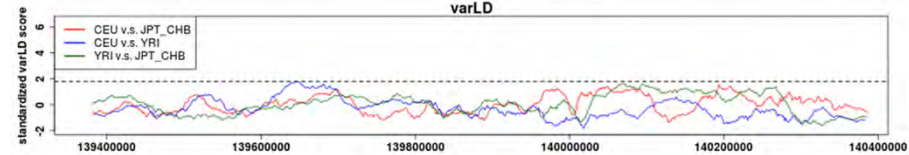
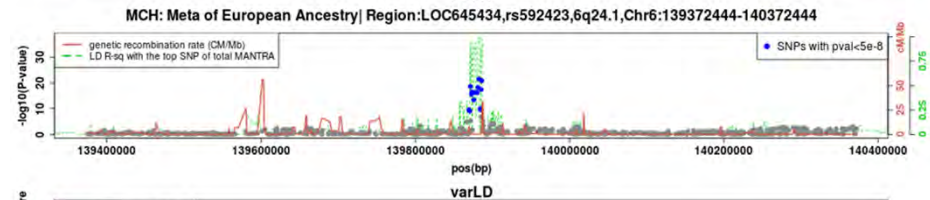
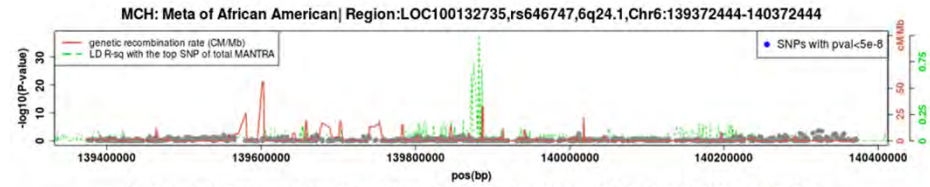
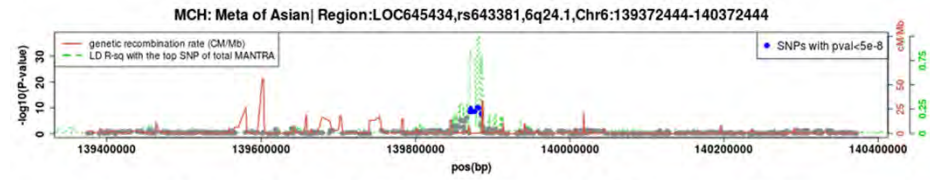




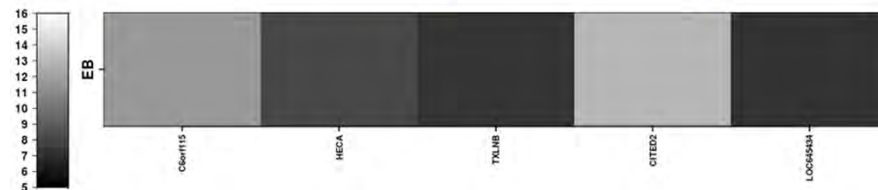
Top total SNP rs7776054 Hapmap MAF: Asian=0.3222,AA=0.2417,EU=0.2203

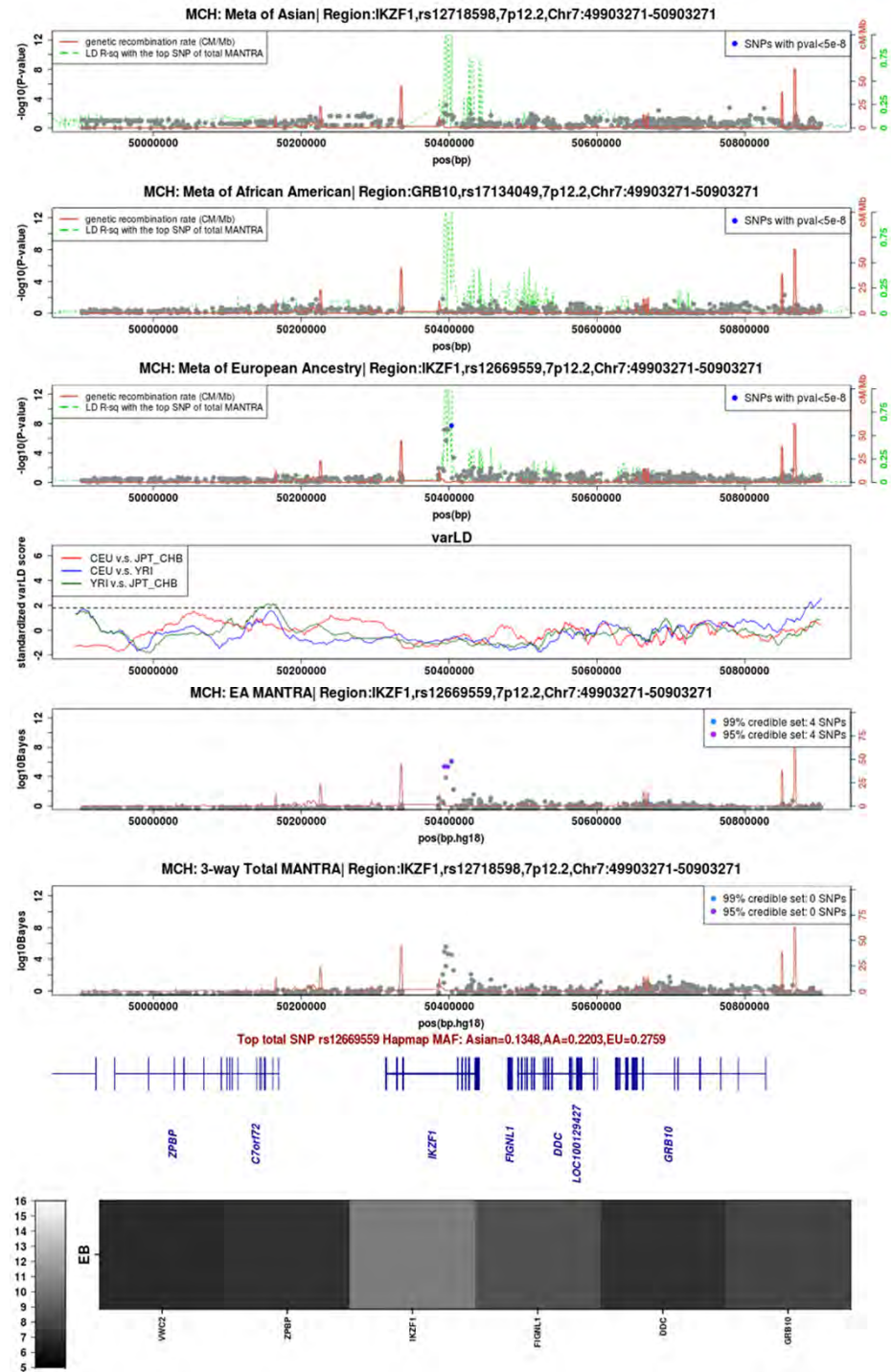


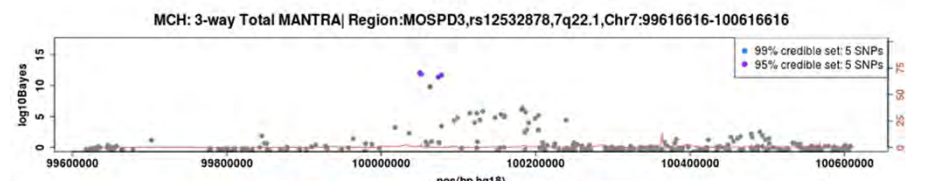
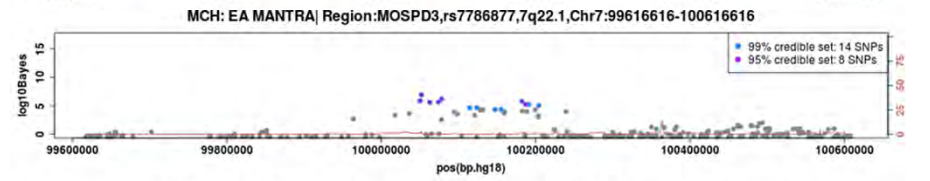
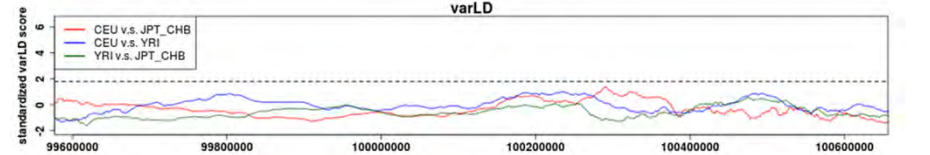
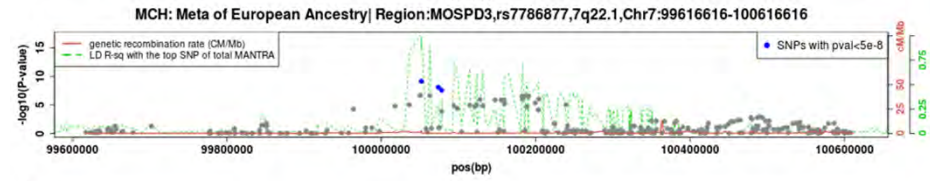
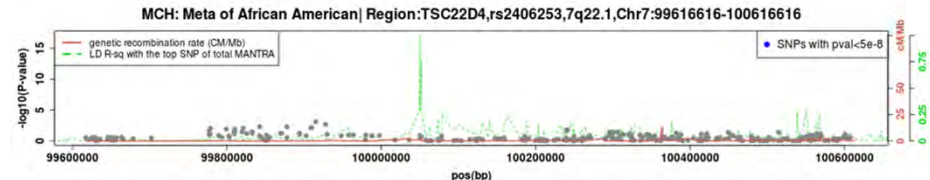
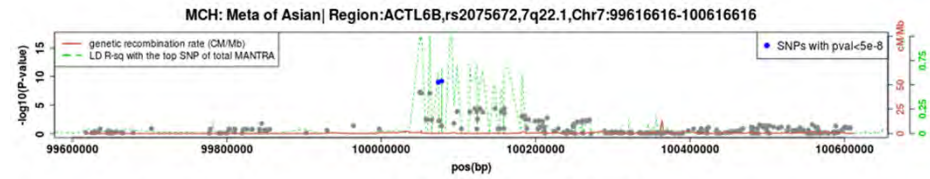




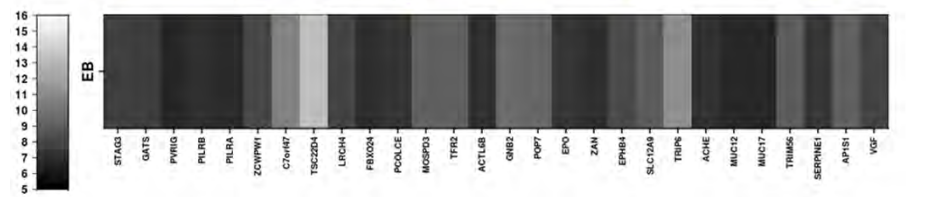
Top total SNP rs592423 Hapmap MAF: Asian=0.2722, AA=0.475, EU=0.4583

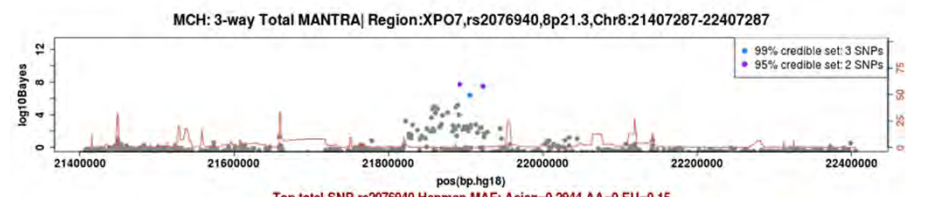
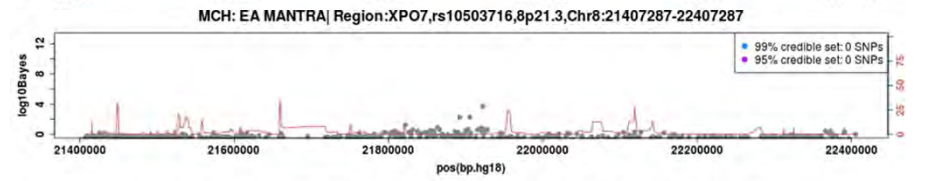
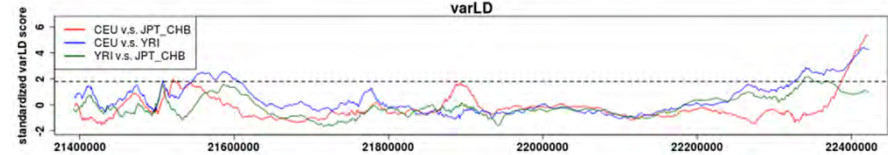
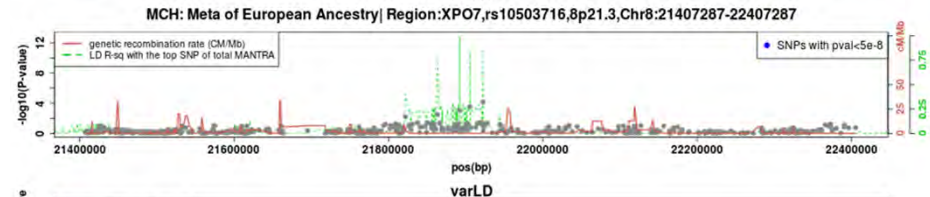
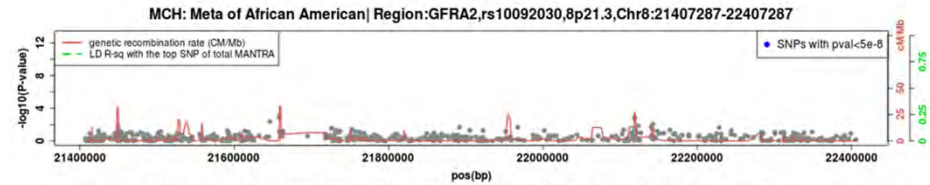
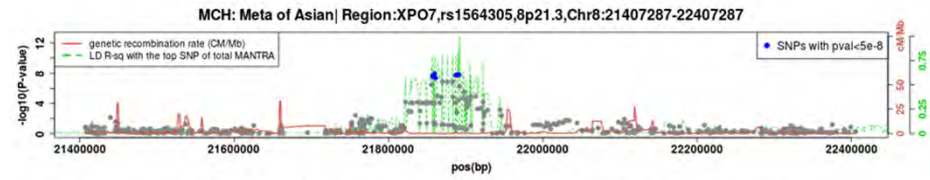




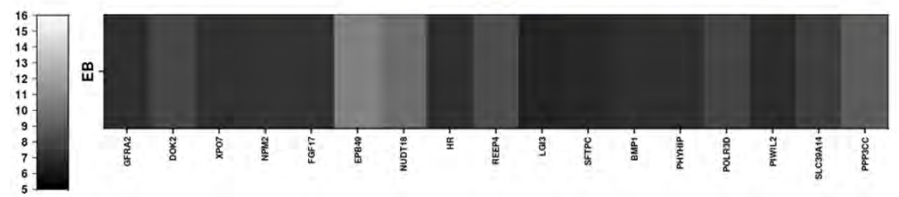


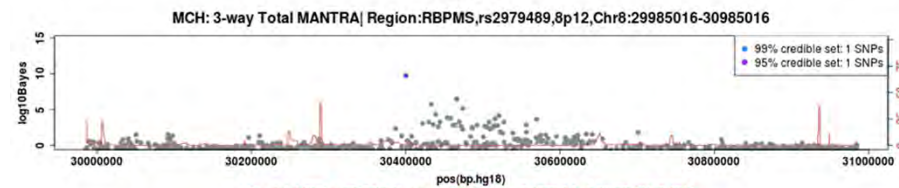
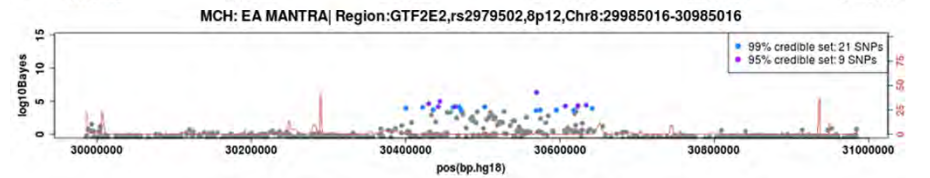
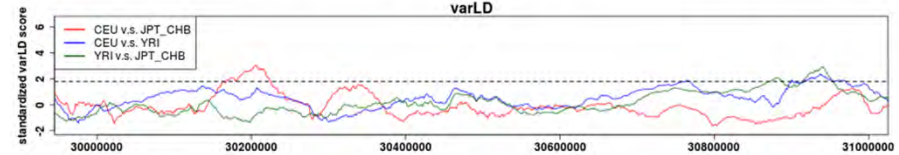
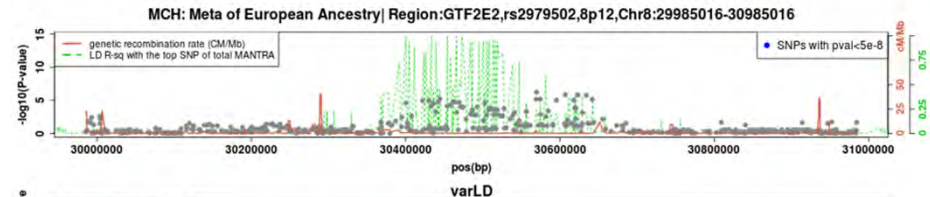
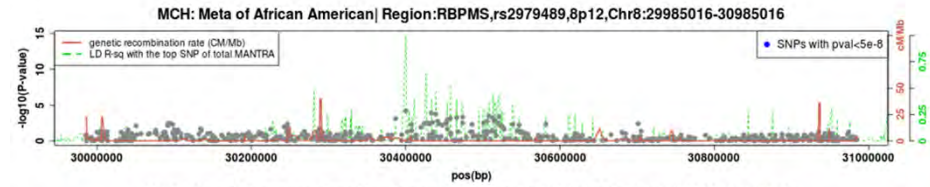
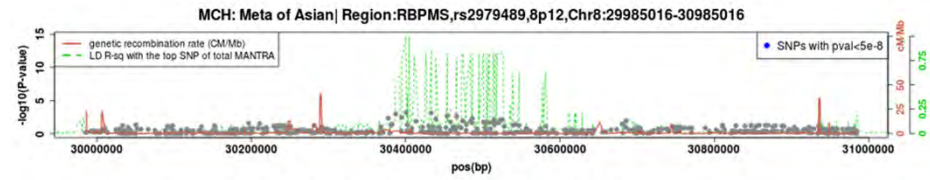
Top total SNP rs12532878 Hapmap MAF: Asian=0.09551,AA=0.1695,EU=0.1833



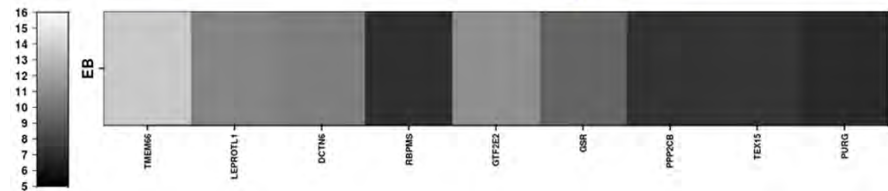


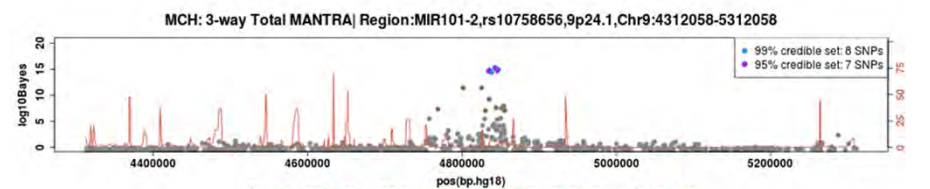
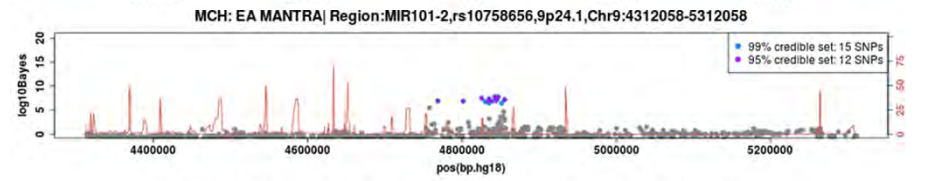
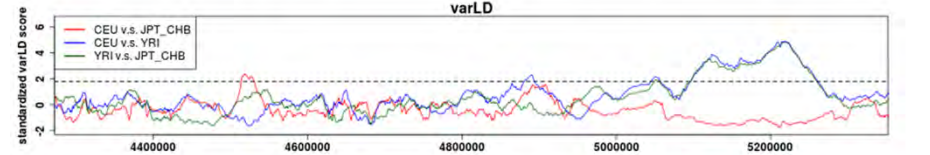
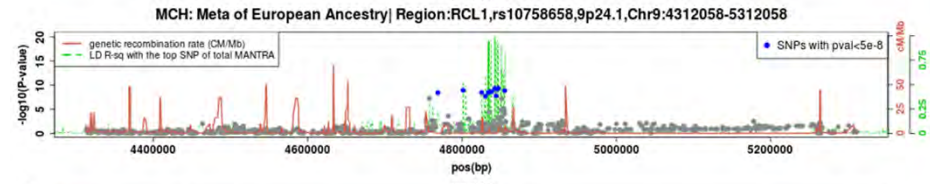
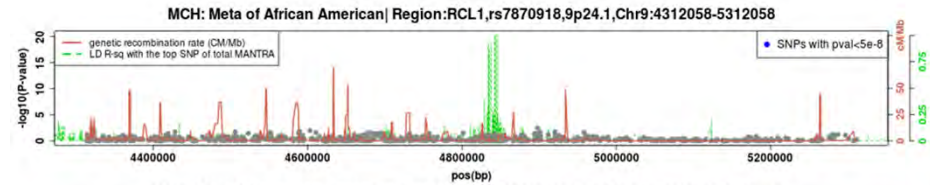
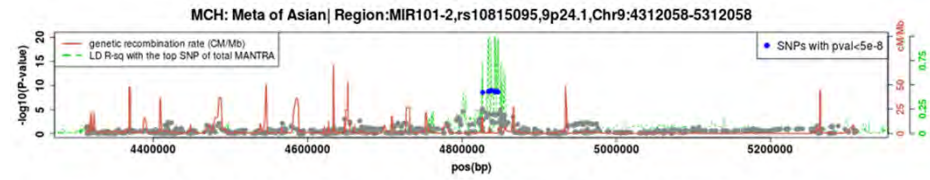
Top total SNP rs2076940 Hapmap MAF: Asian=0.2944,AA=0,EU=0.15



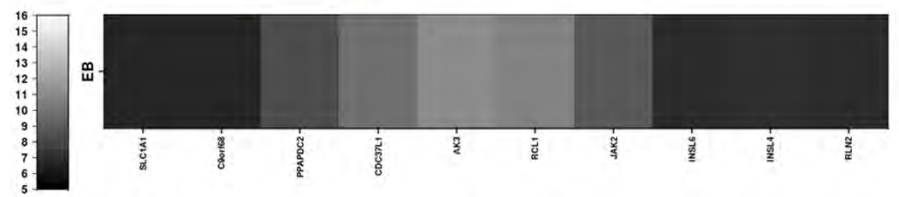


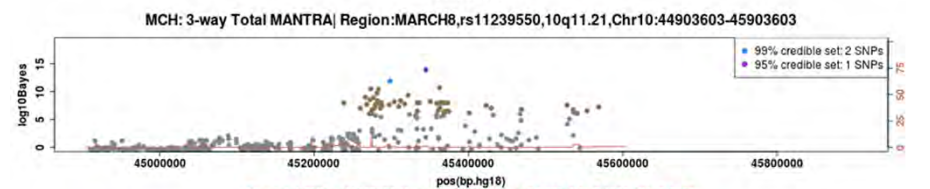
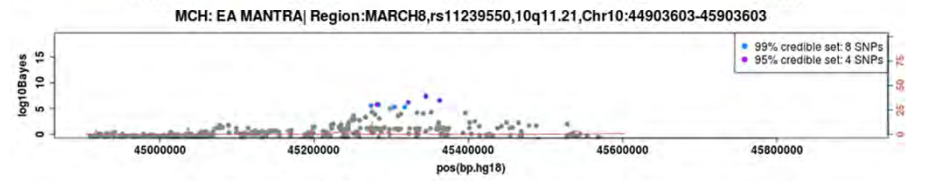
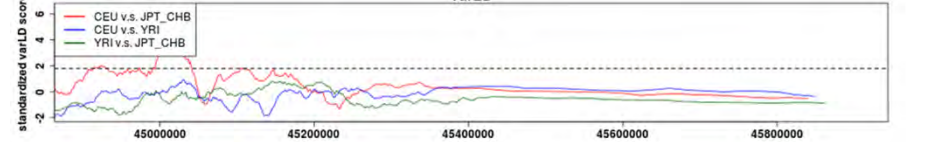
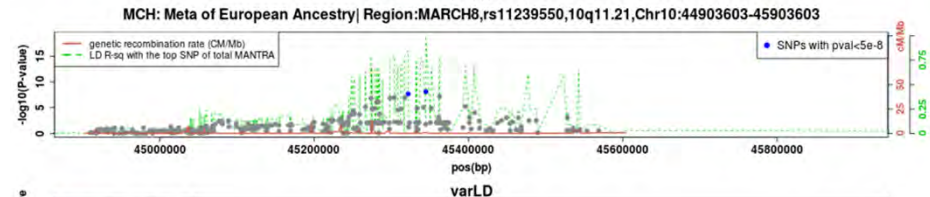
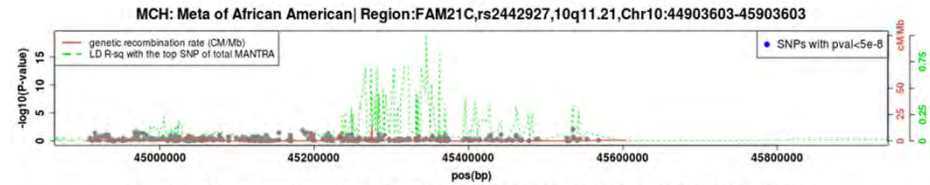
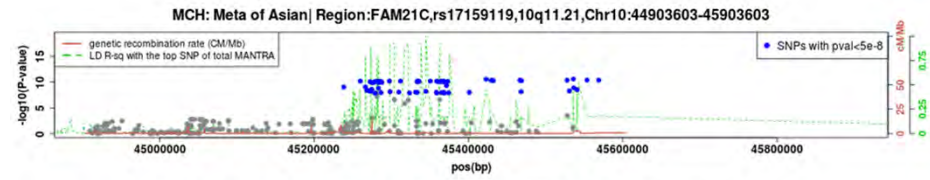
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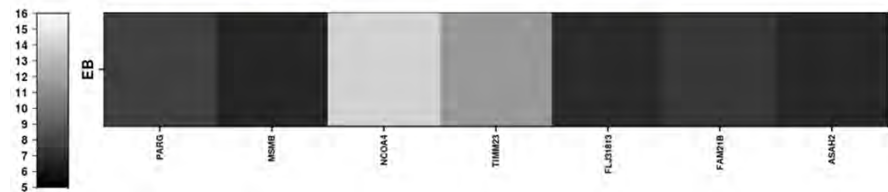
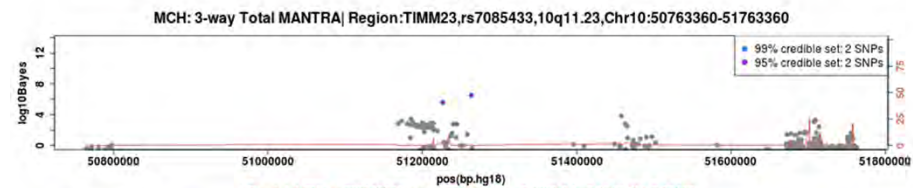
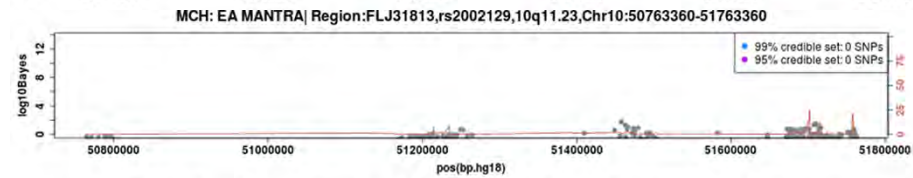
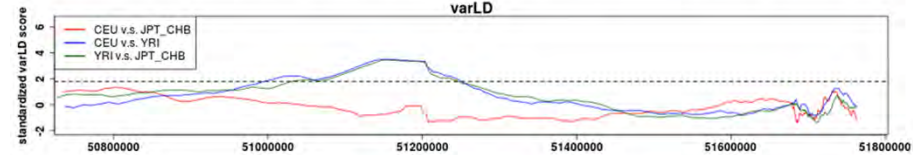
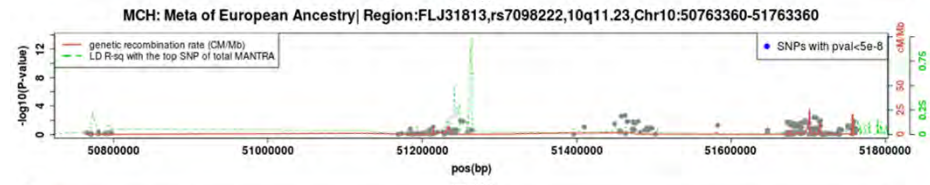
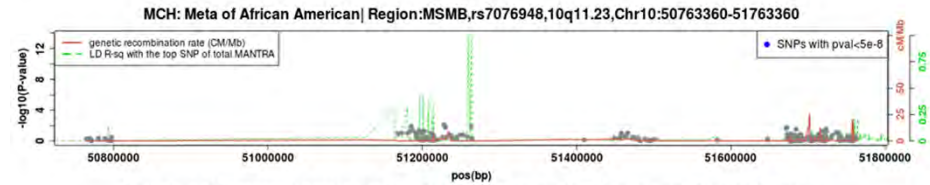
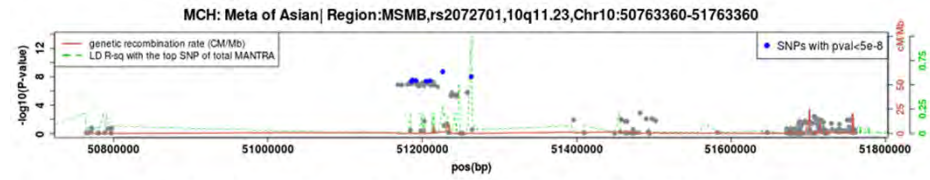
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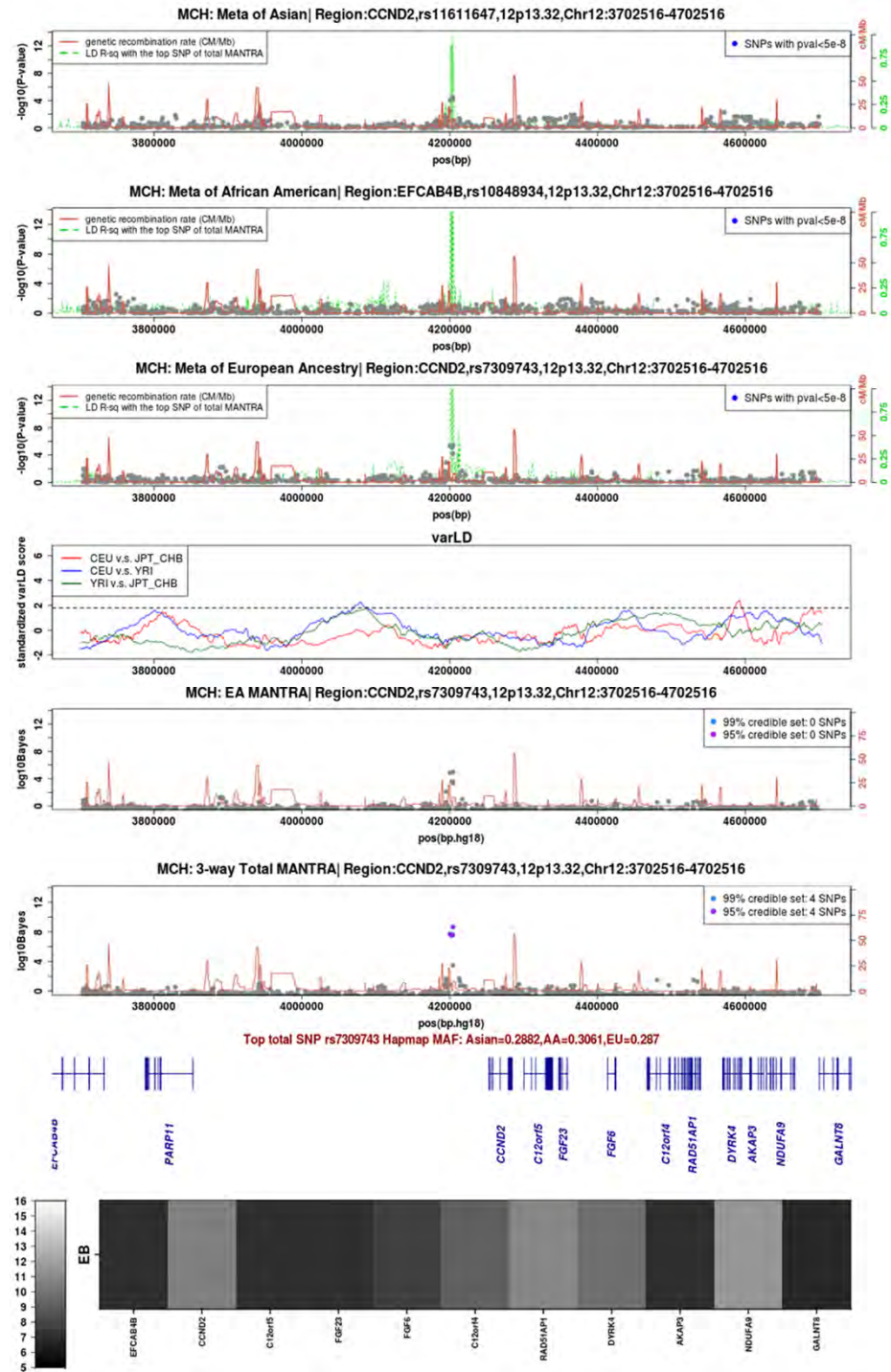


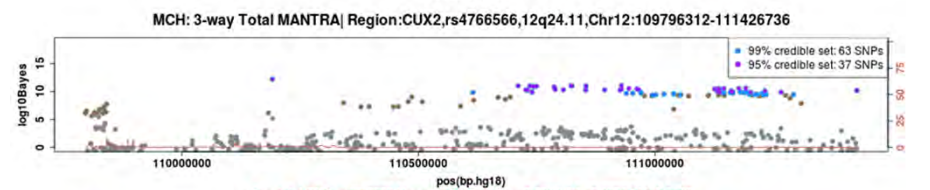
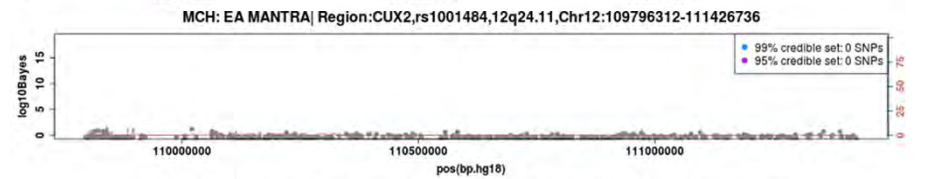
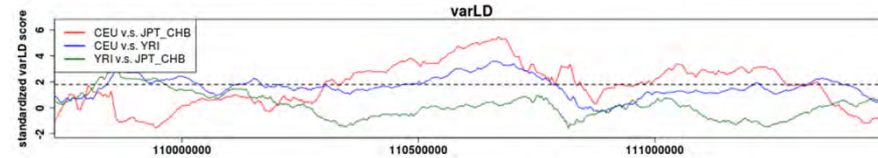
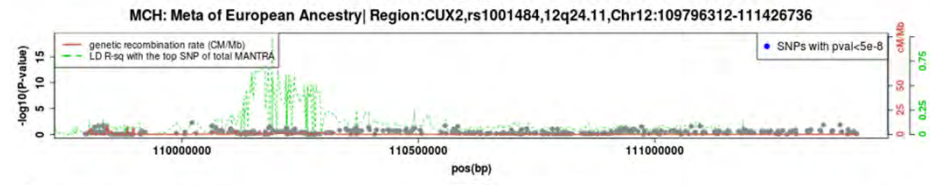
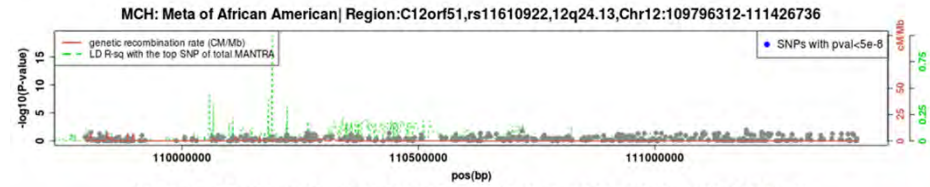
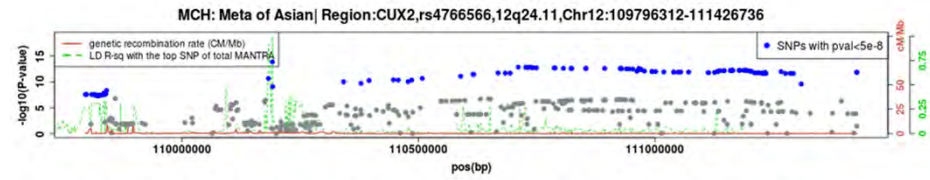
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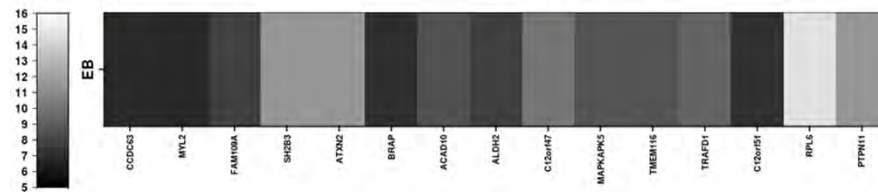


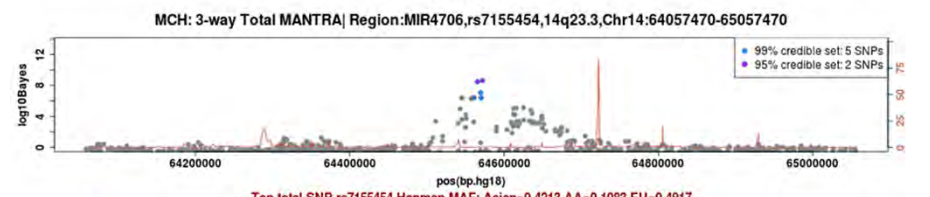
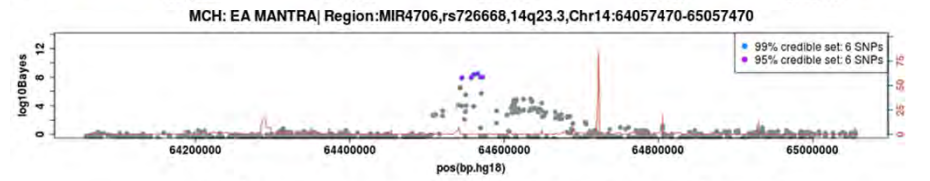
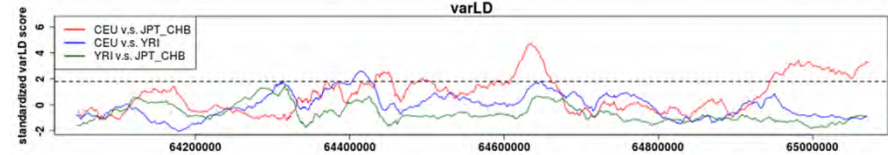
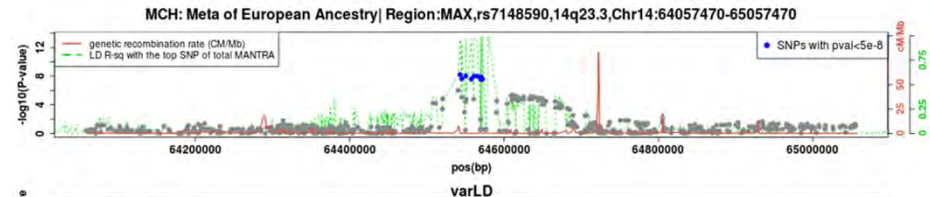
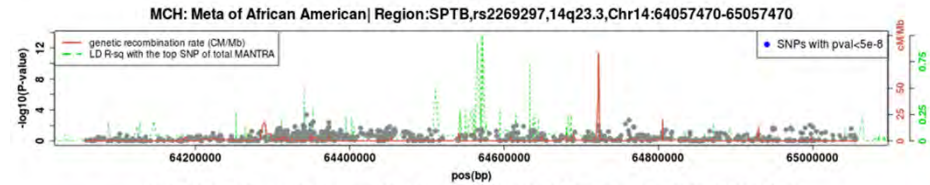
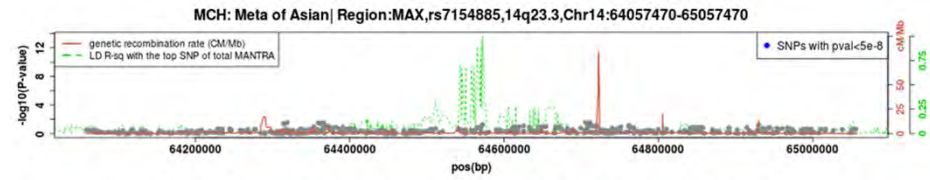




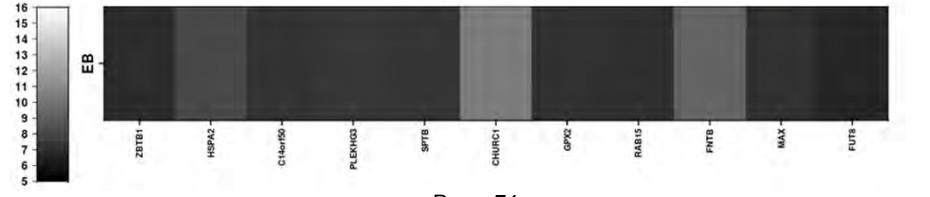


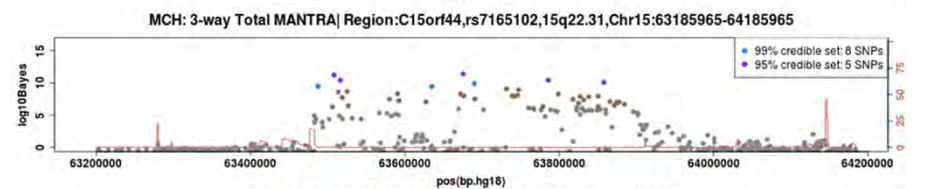
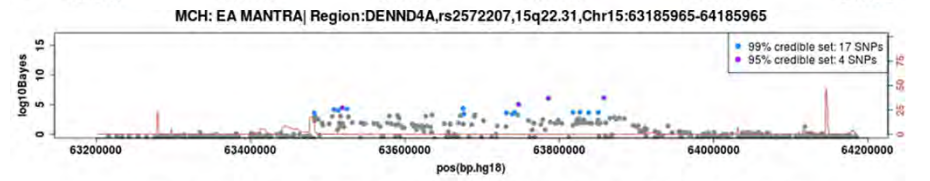
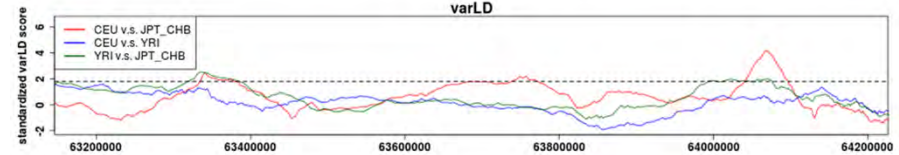
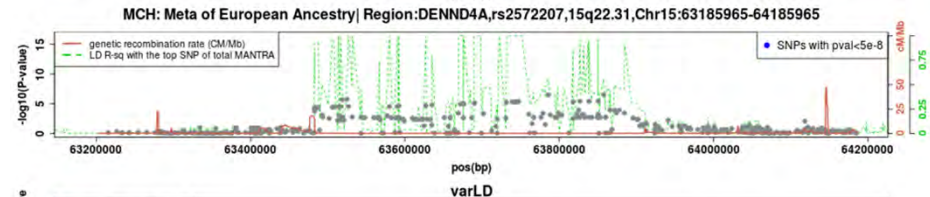
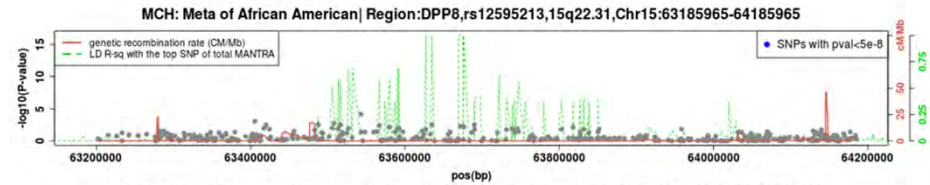
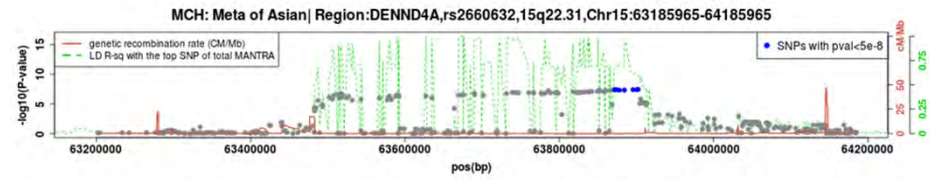
Top total SNP rs4766566 Hapmap MAF: Asian=0.3038, AA=0.1604, EU=0.2596



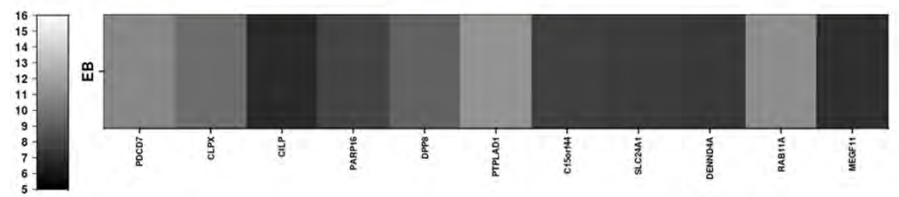


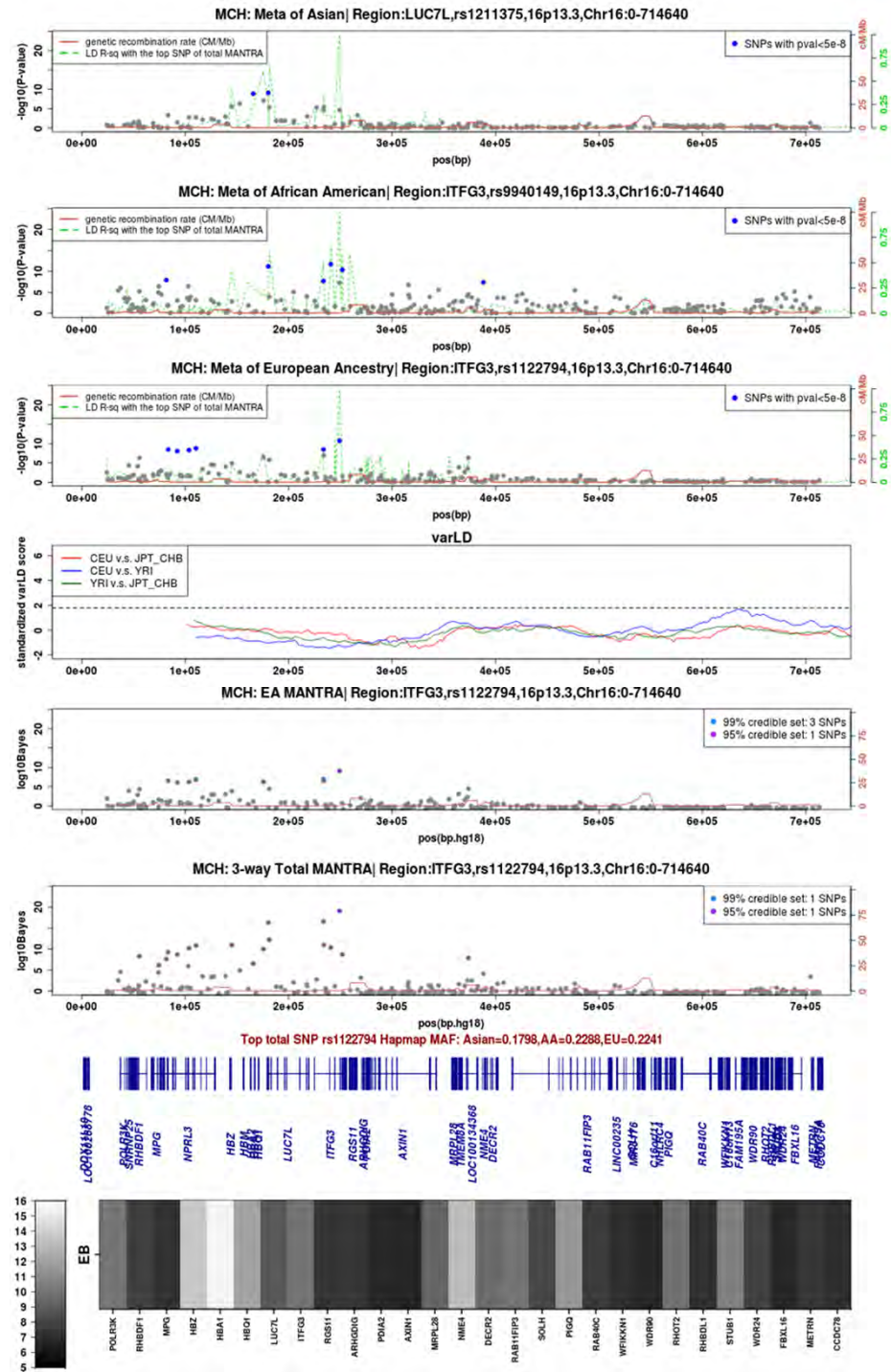
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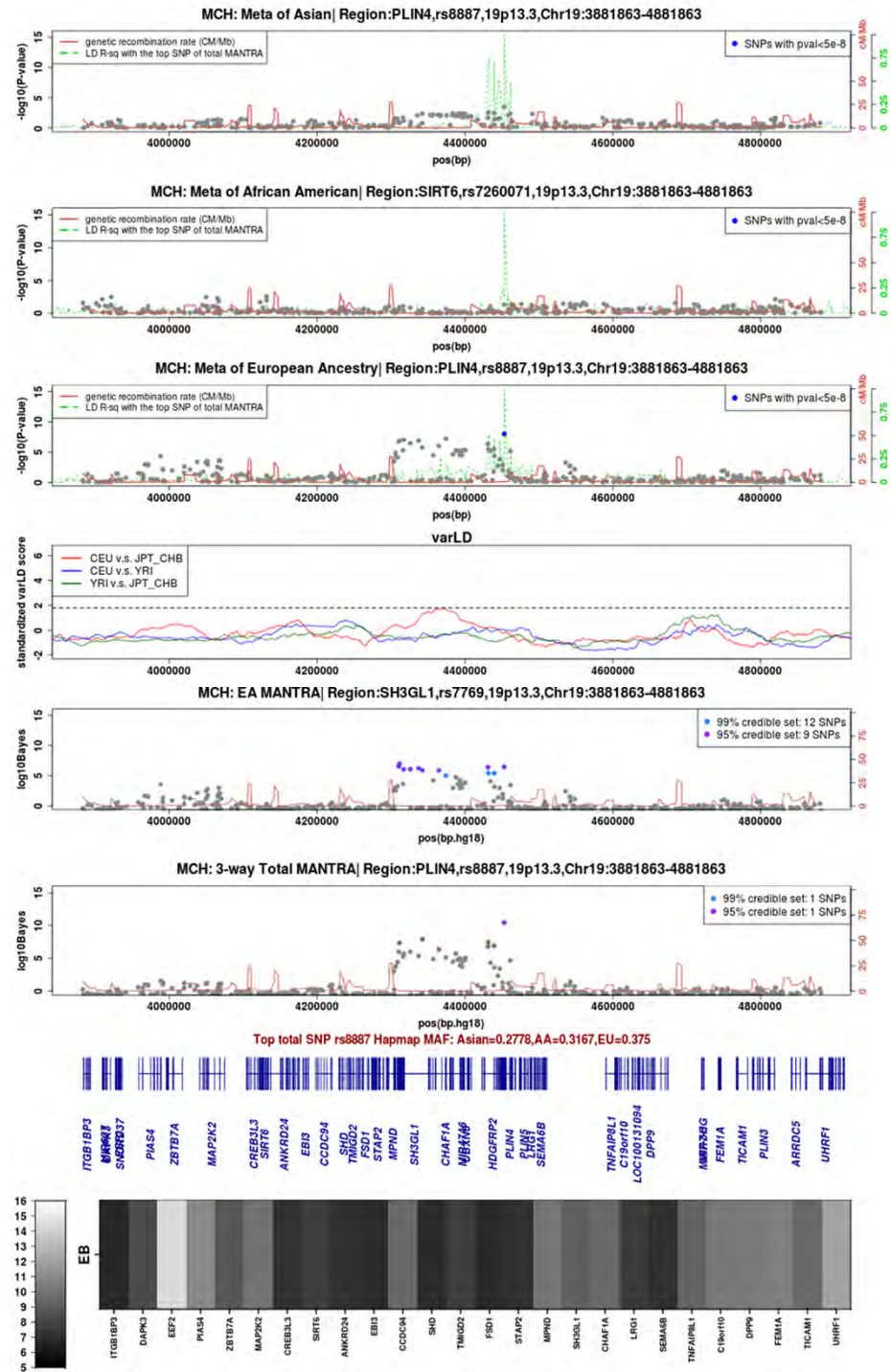


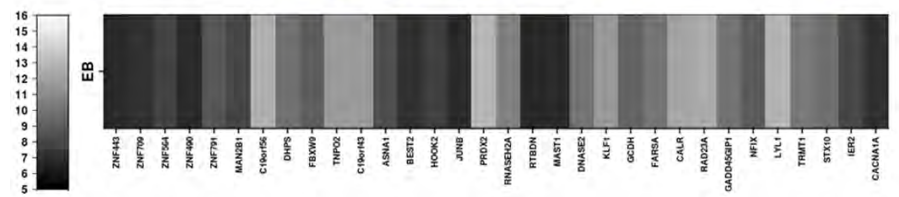
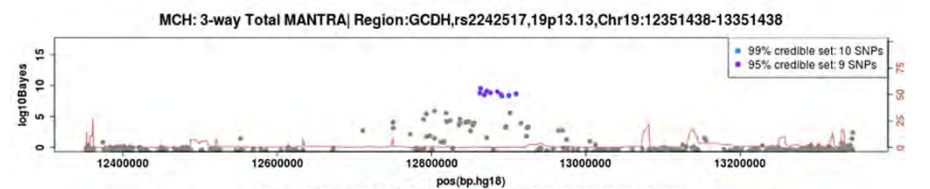
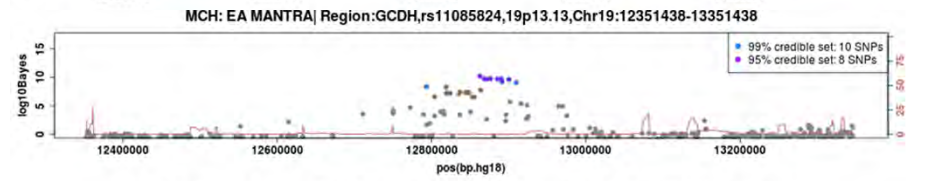
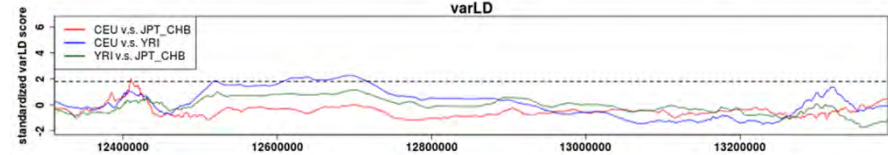
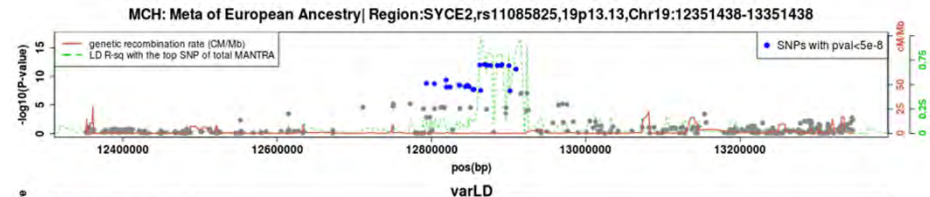
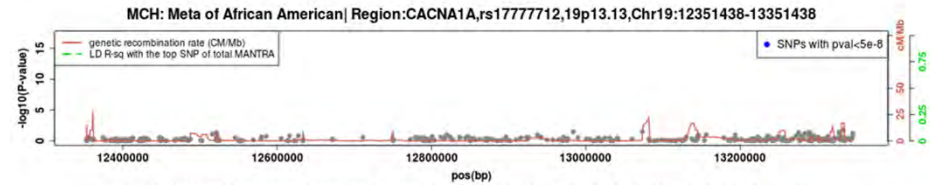
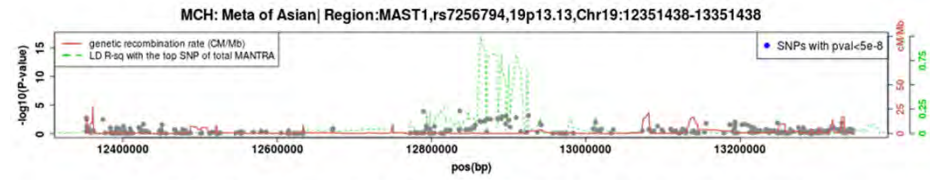
Top total SNP rs7165102 Hapmap MAF: Asian=0.2303, AA=0.04237, EU=0.3879



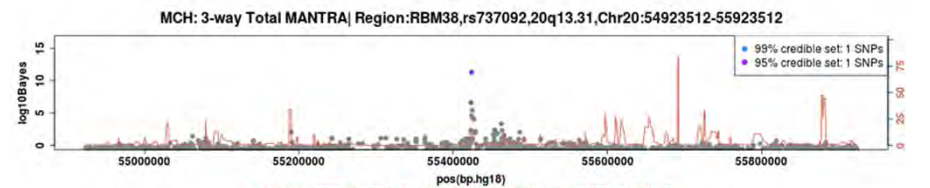
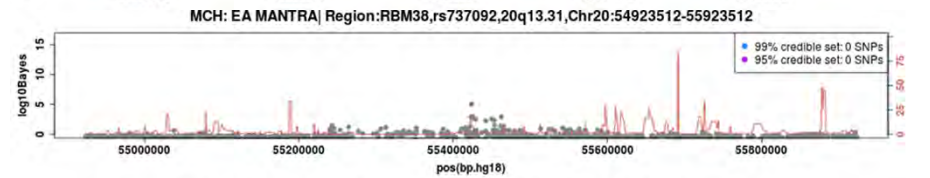
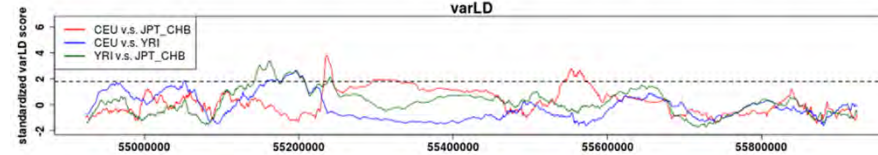
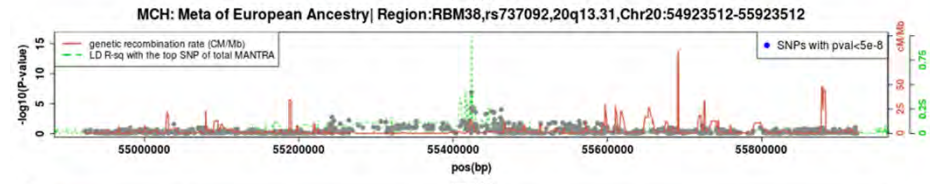
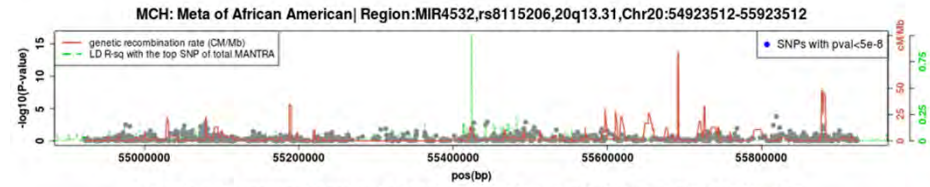
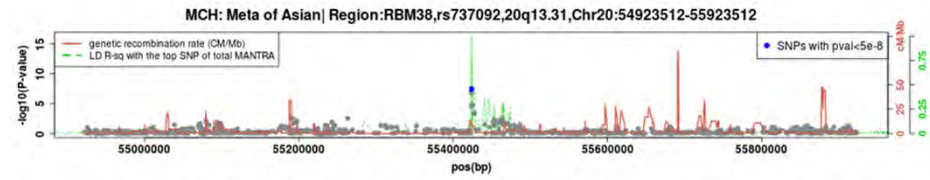




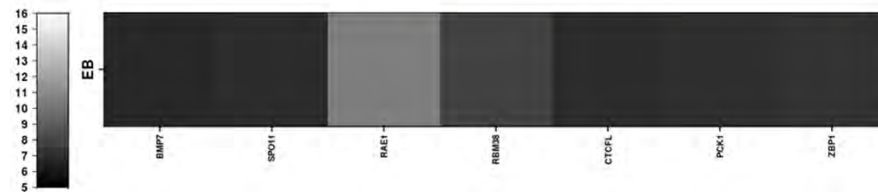


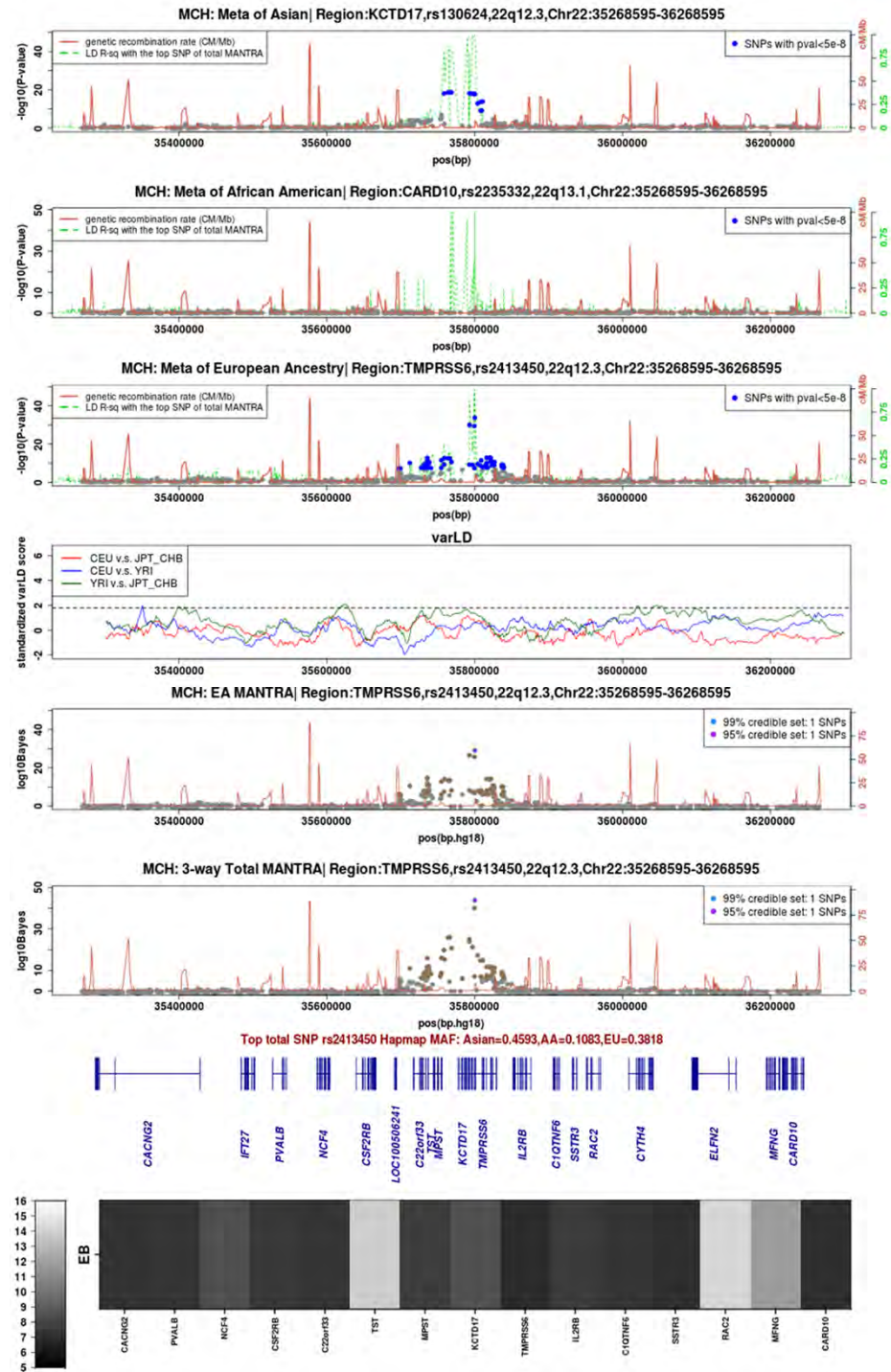




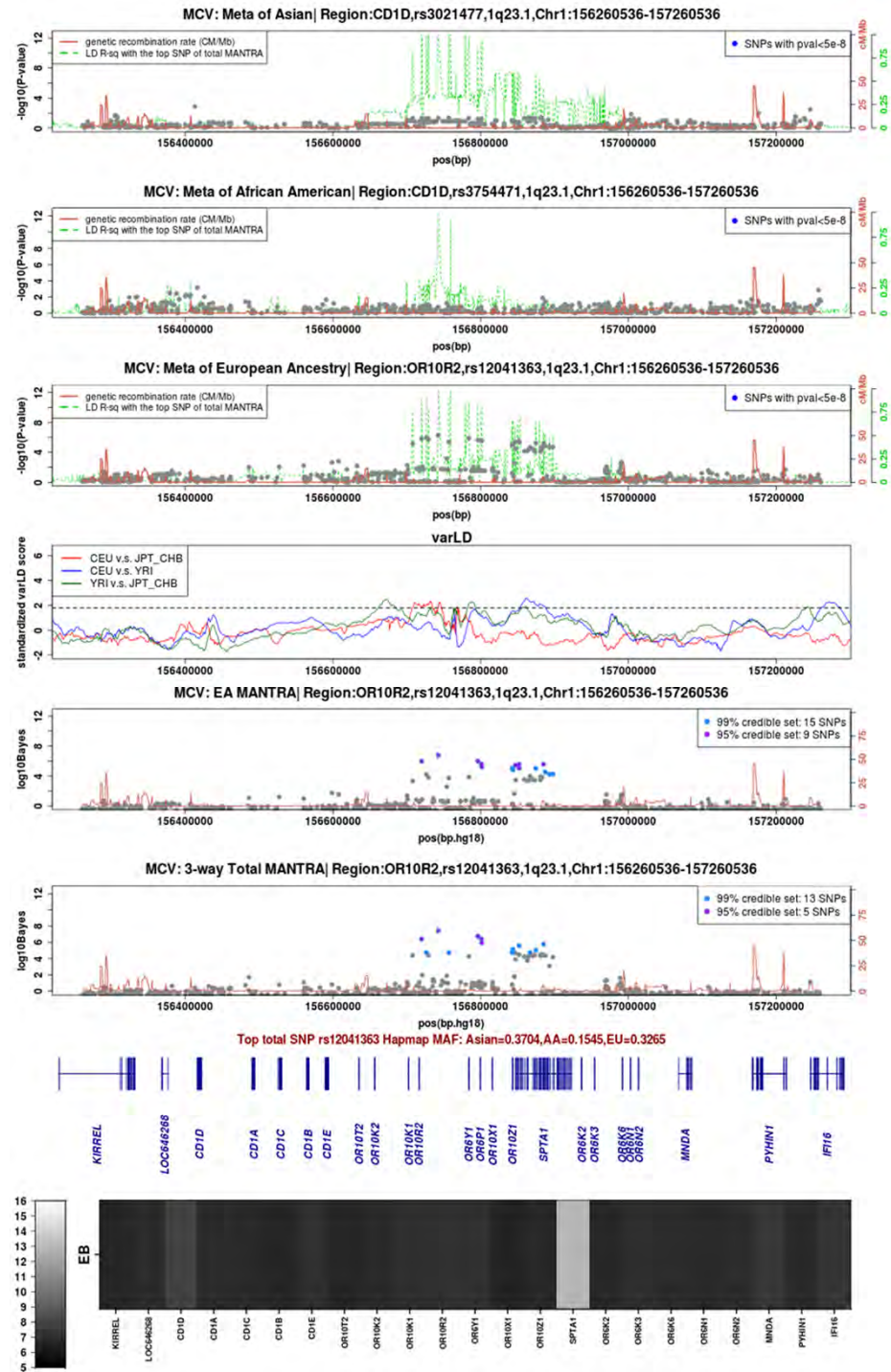


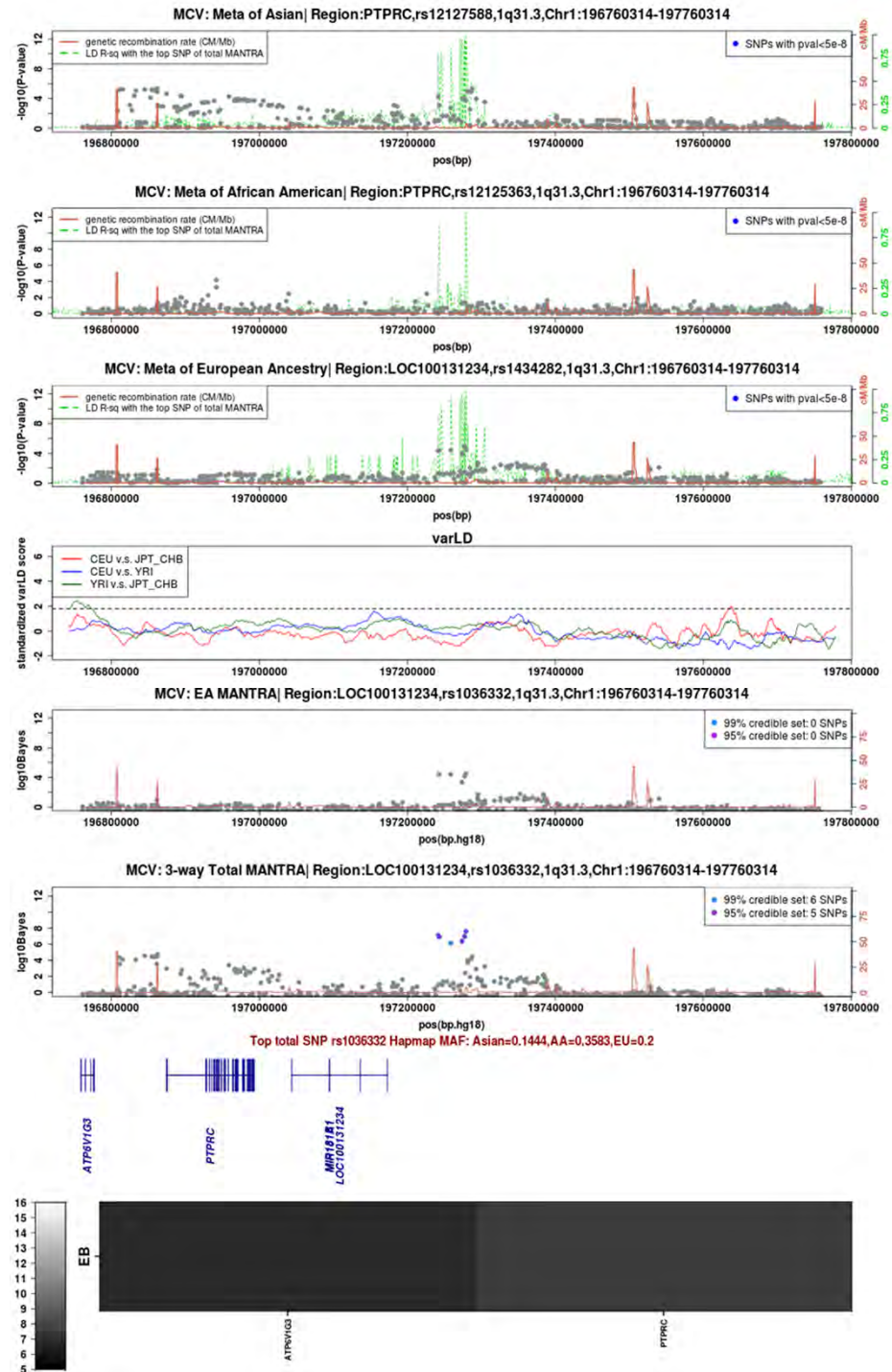
Top total SNP rs737092 Hapmap MAF: Asian=0.45, AA=0.2167, EU=0.4583

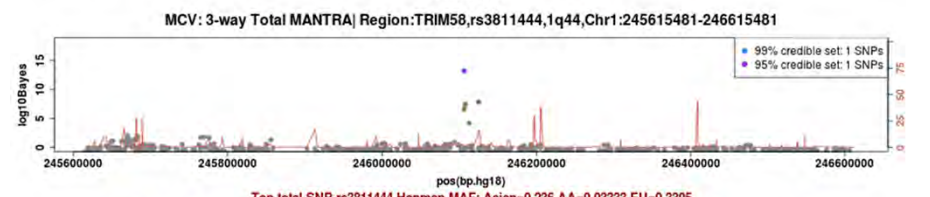
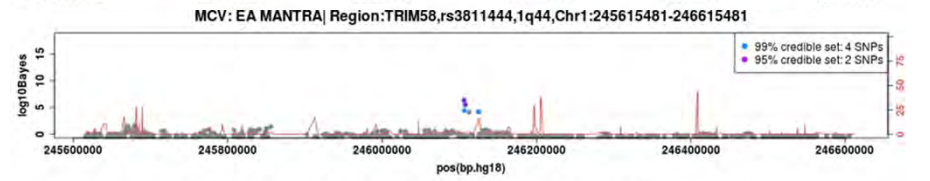
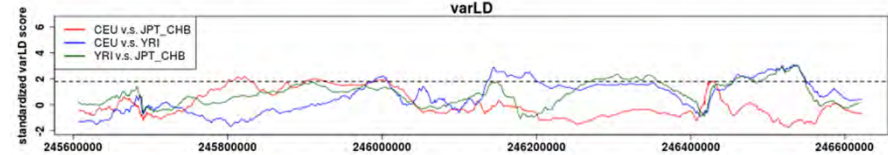
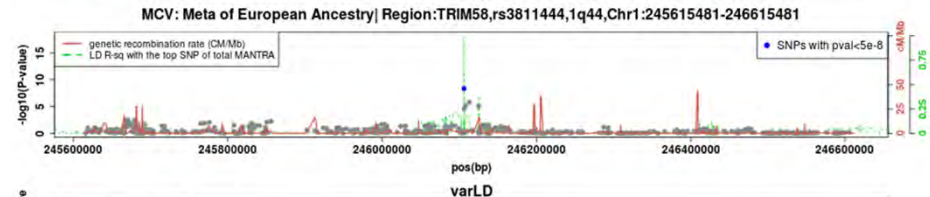
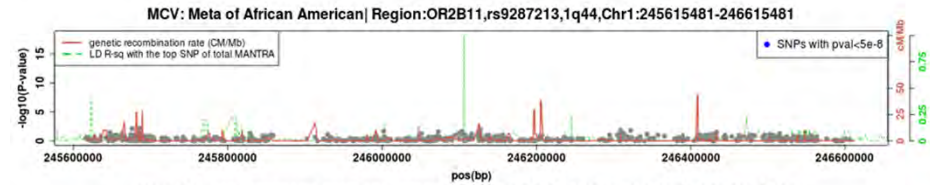
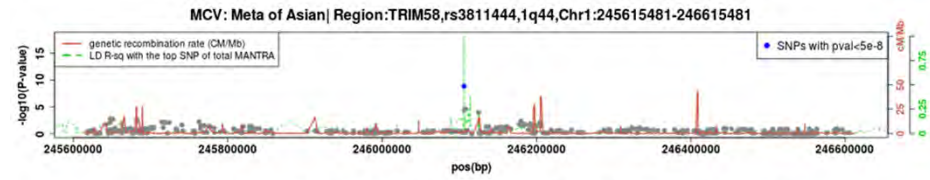




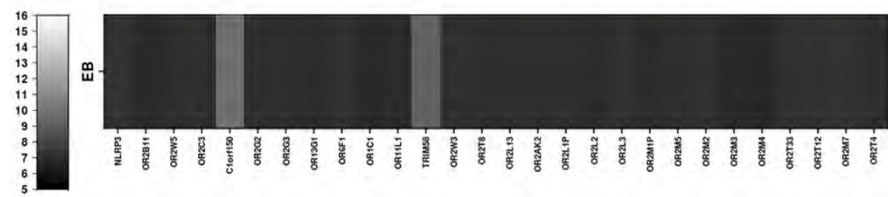
**MCV**

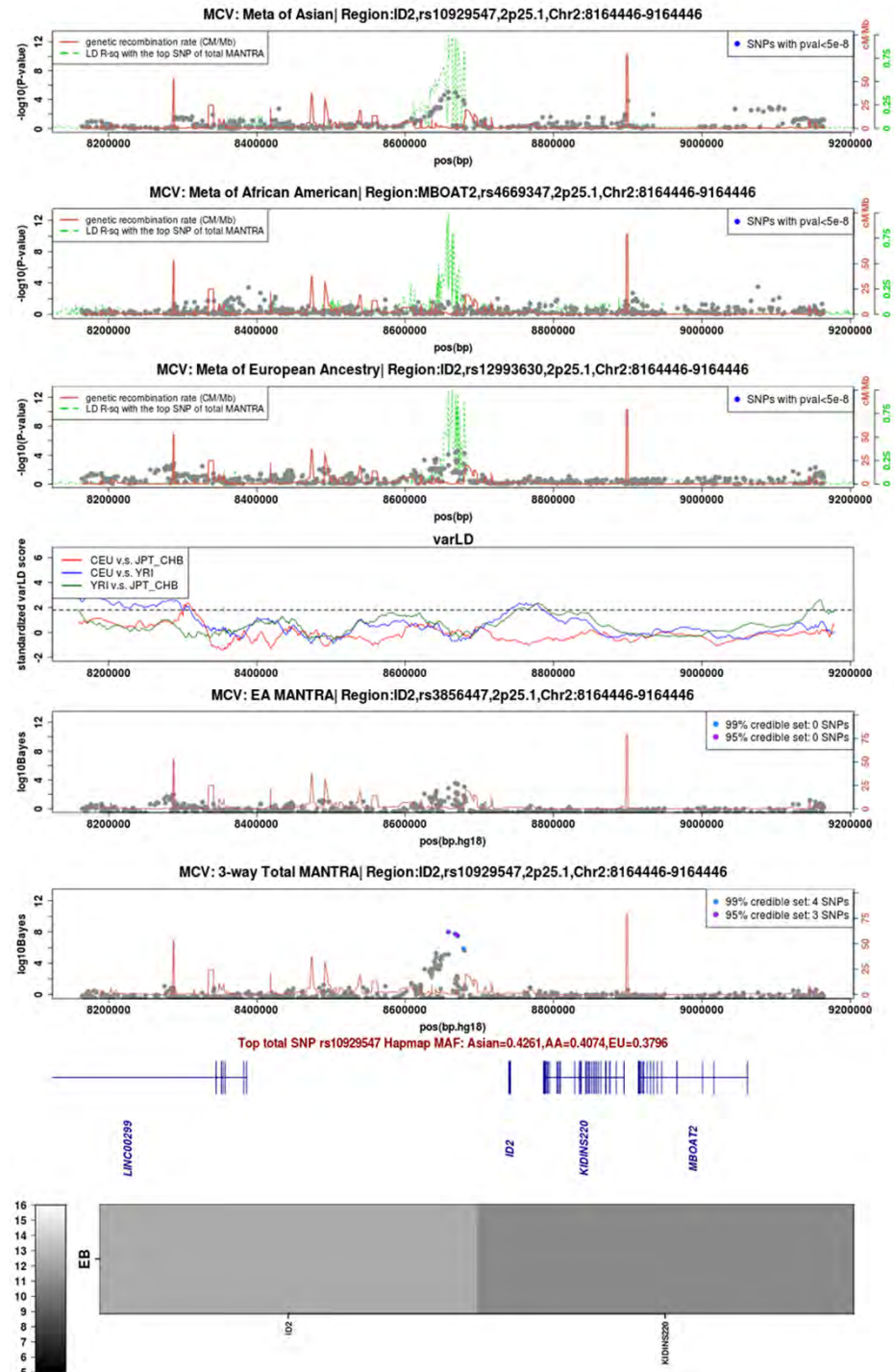


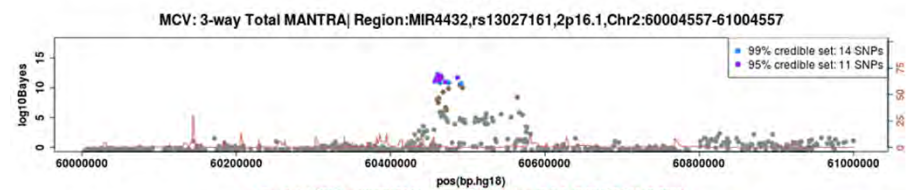
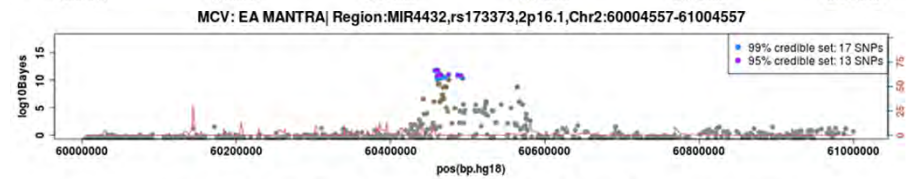
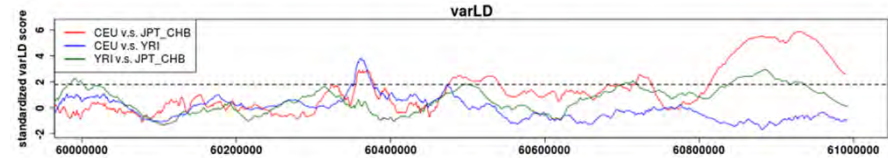
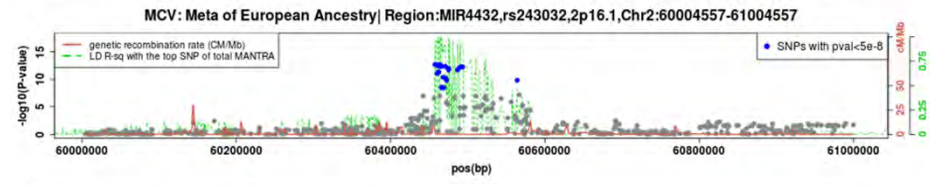
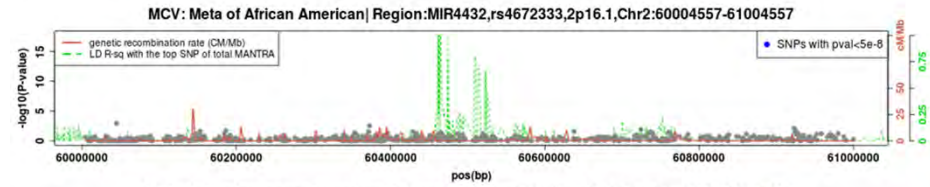
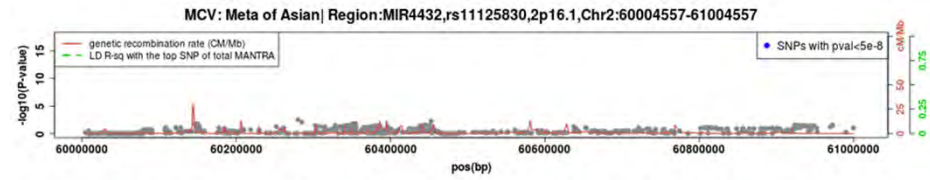




Top total SNP rs3811444 Hapmap MAF: Asian=0.236,AA=0.03333,EU=0.3305



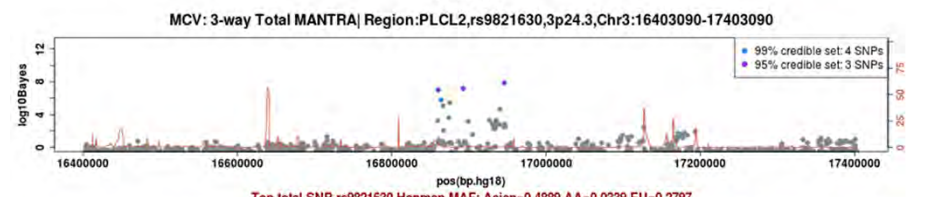
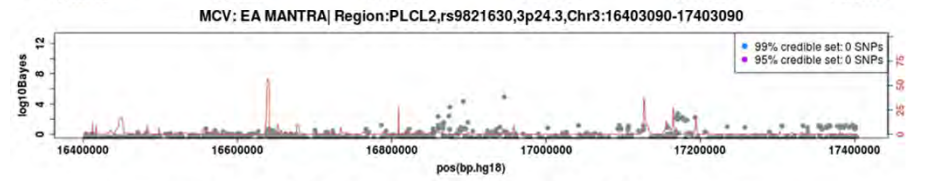
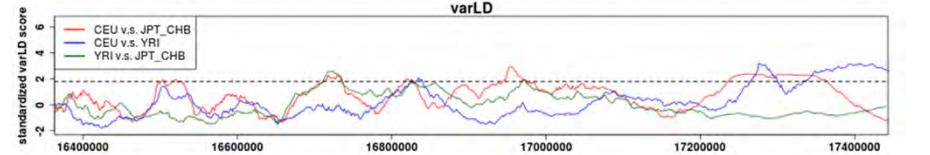
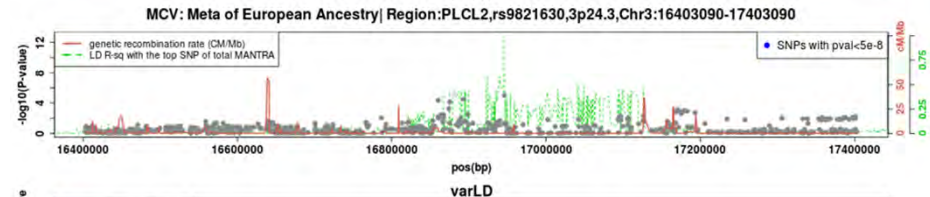
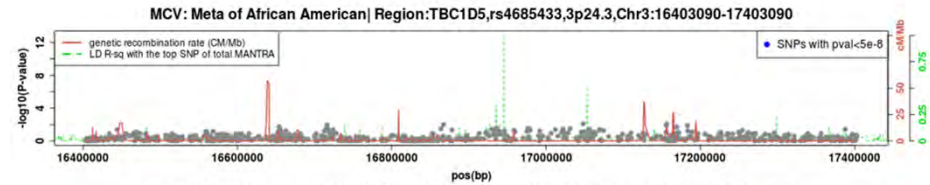
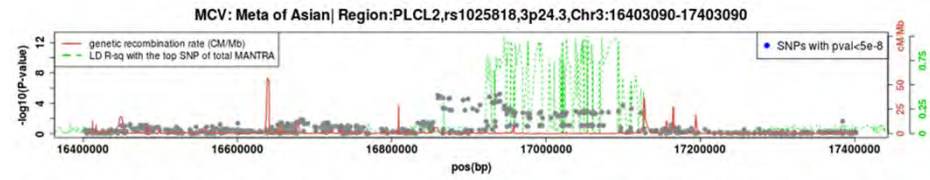




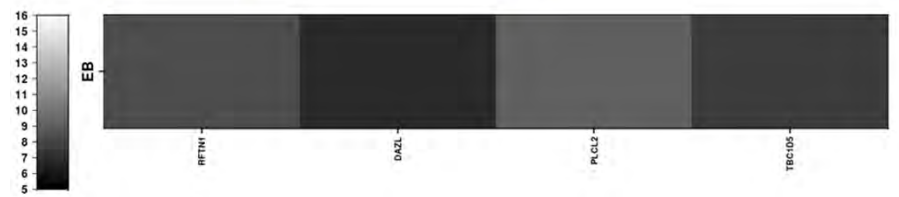
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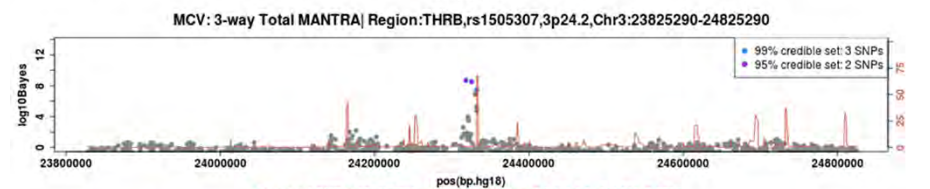
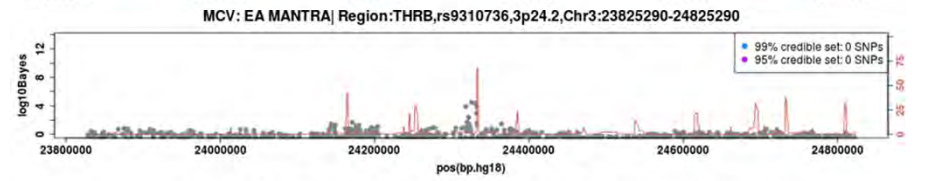
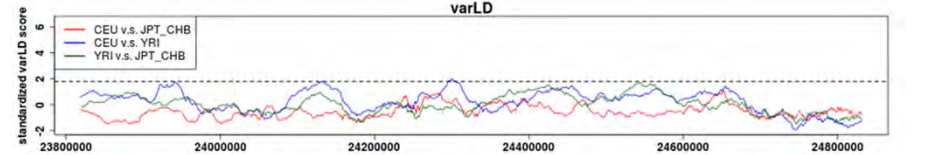
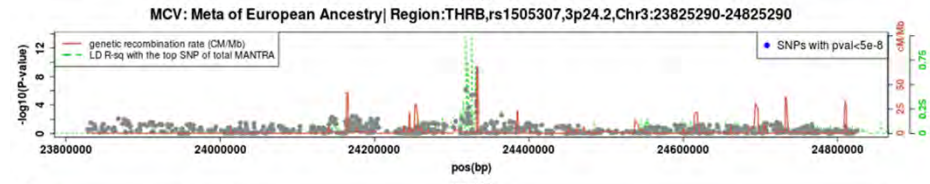
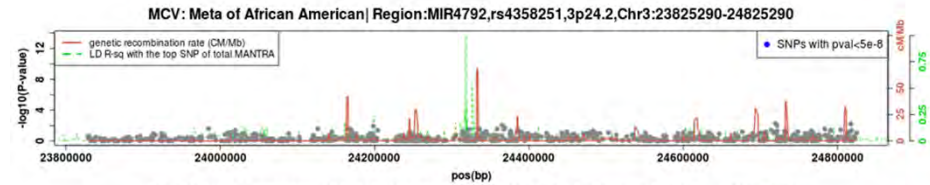
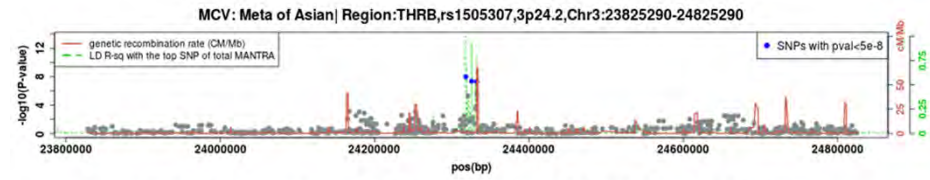




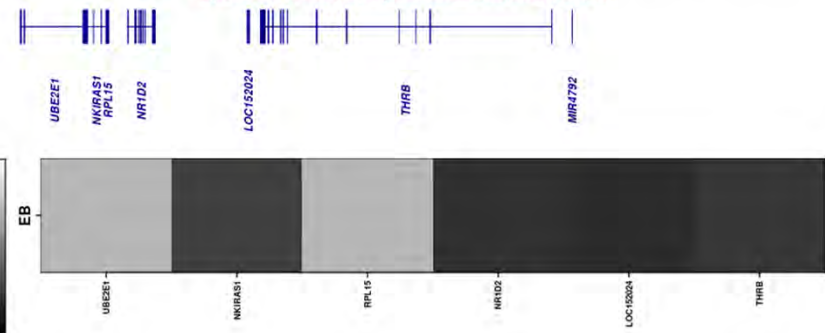


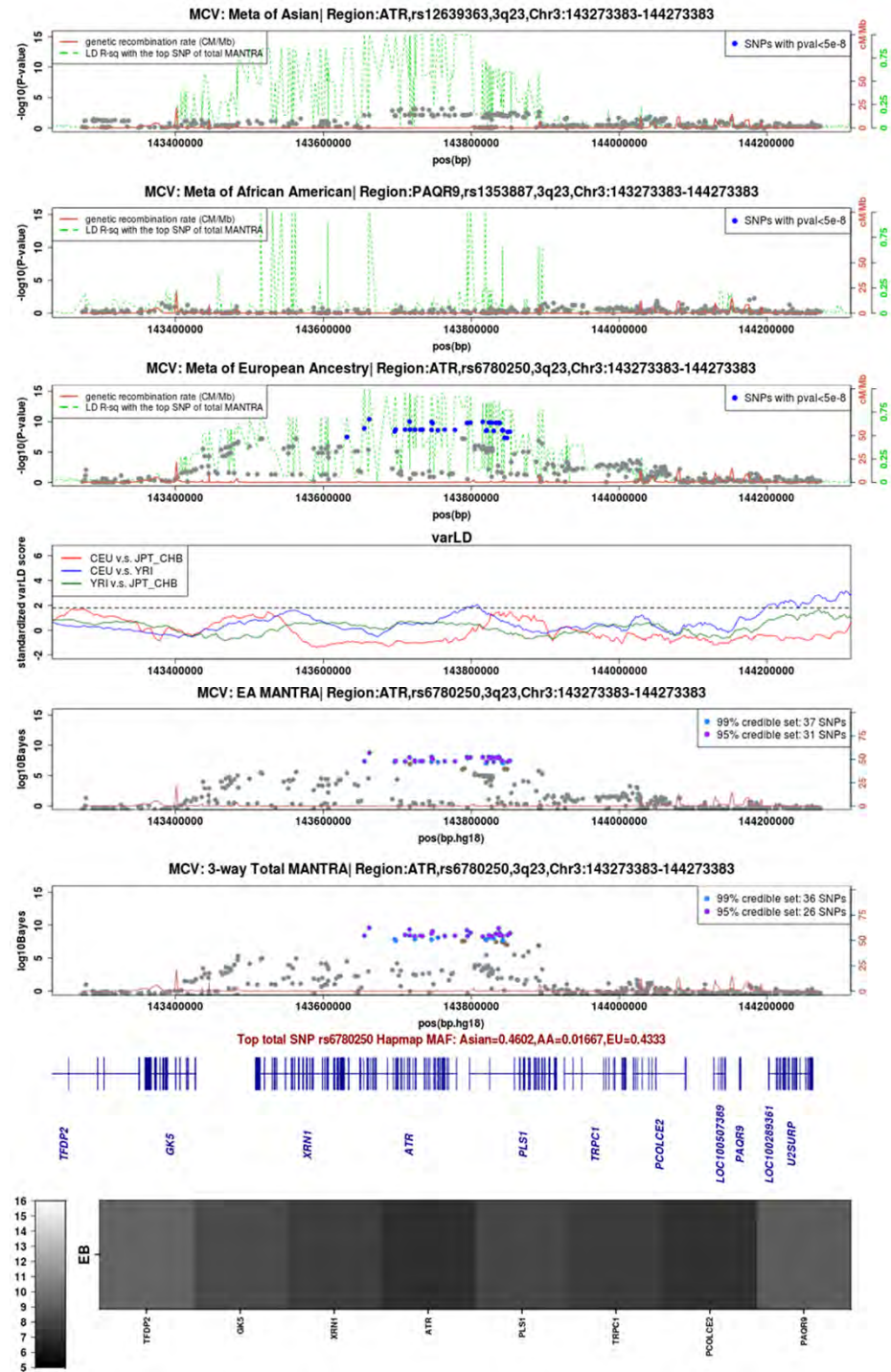
Top total SNP rs9821630 Hapmap MAF: Asian=0.4889, AA=0.0339, EU=0.2797

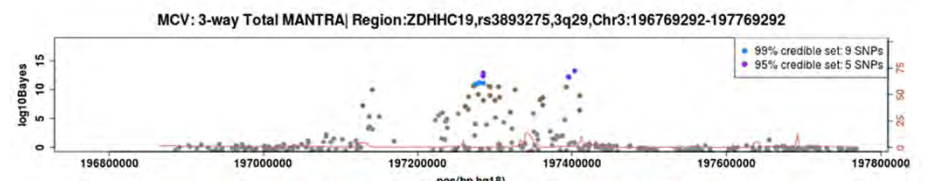
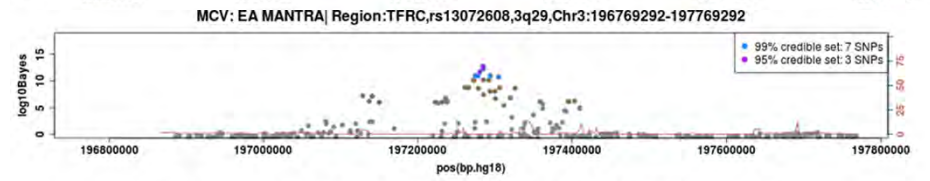
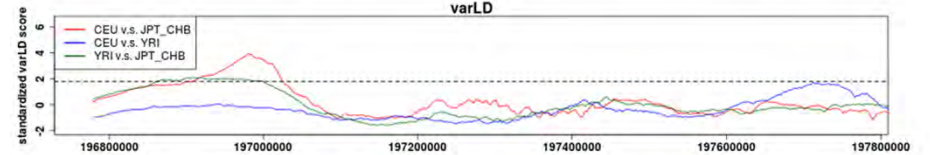
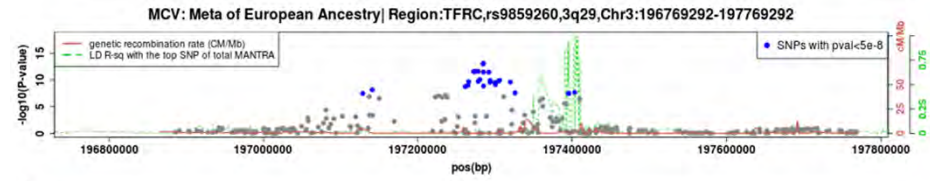
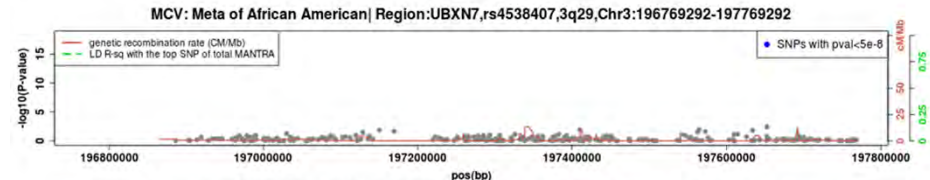
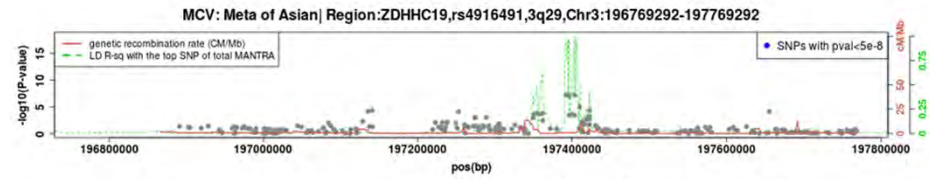




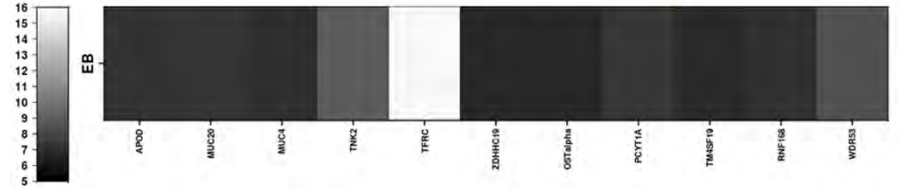
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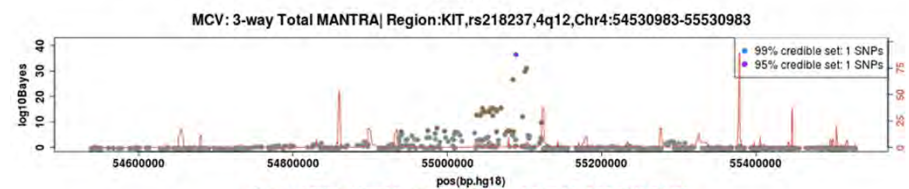
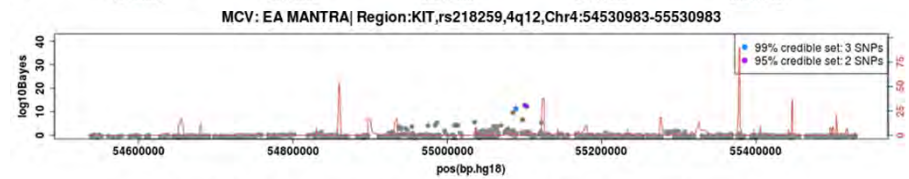
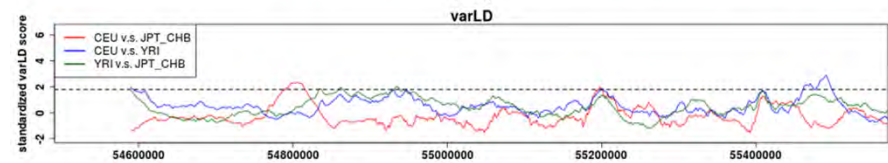
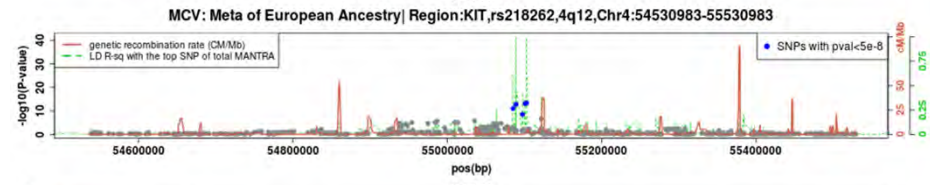
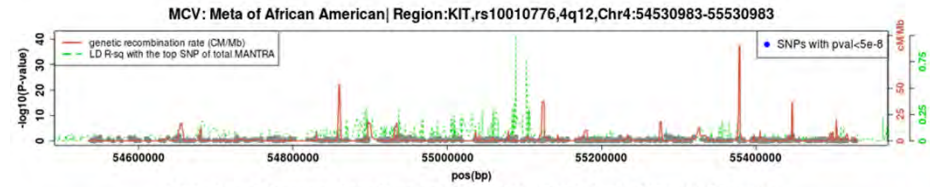
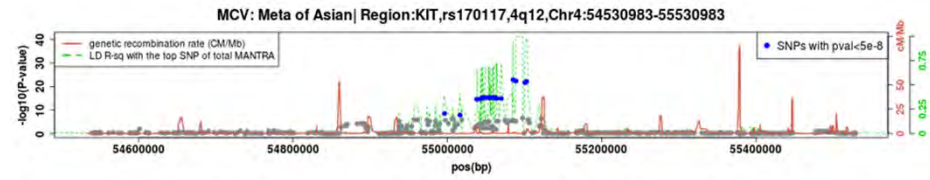




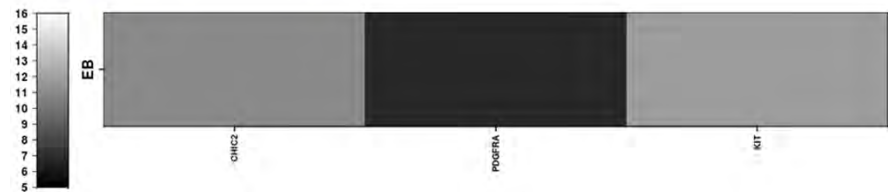


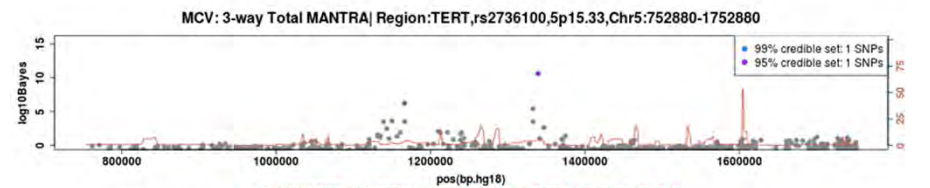
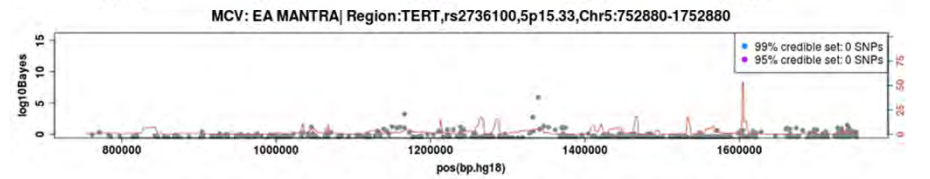
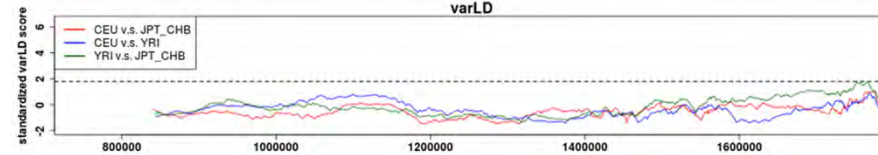
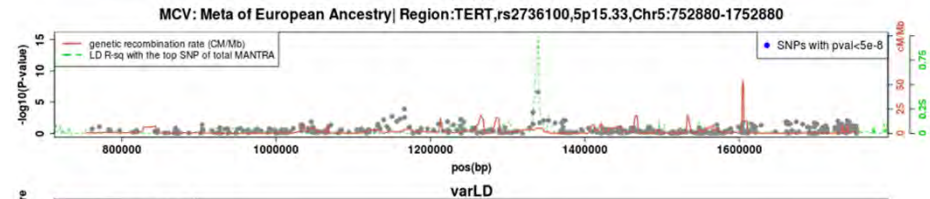
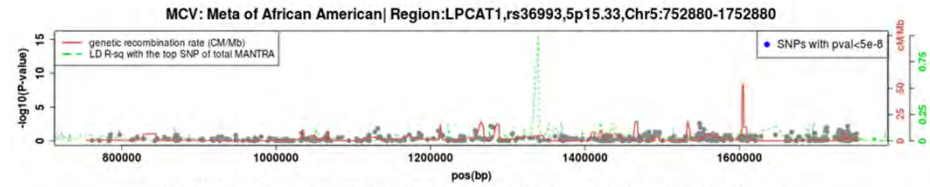
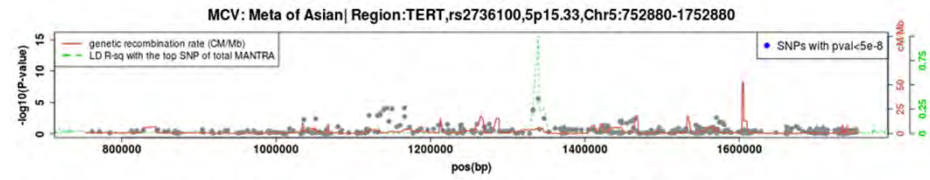
Top total SNP rs3893275 Hapmap MAF: Asian=0.4101,AA=0,EU=0.1695



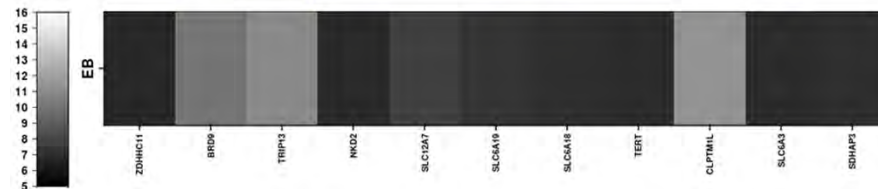


Top total SNP rs218237 Hapmap MAF: Asian=0.3258, AA=0.2712, EU=0.1102

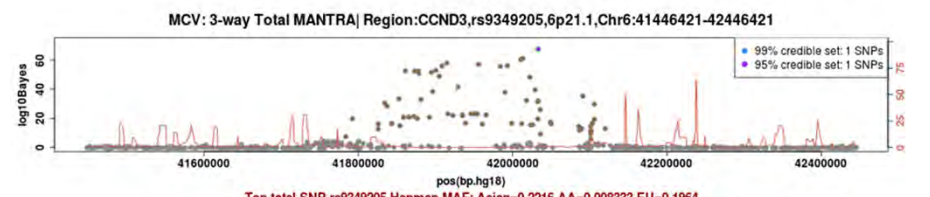
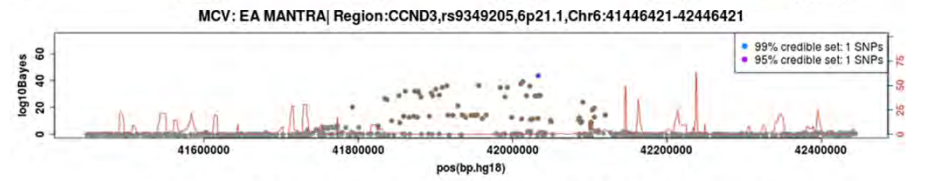
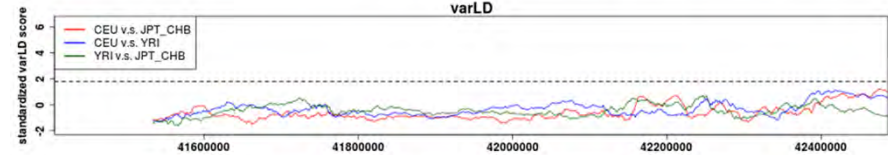
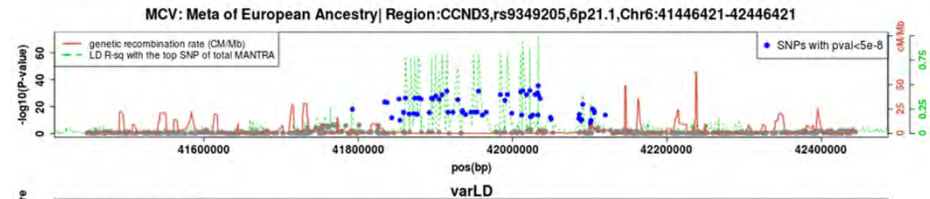
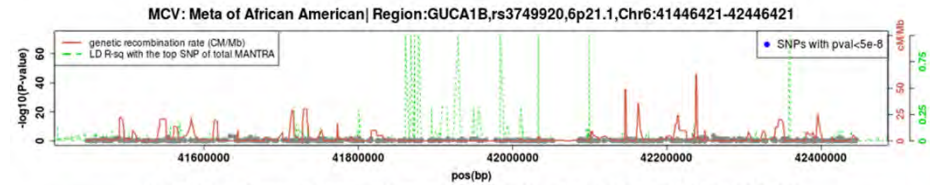
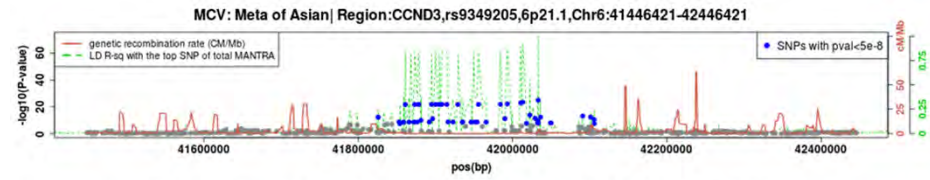




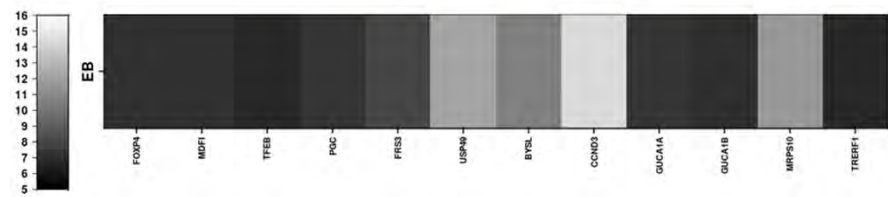
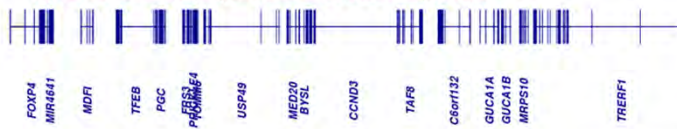
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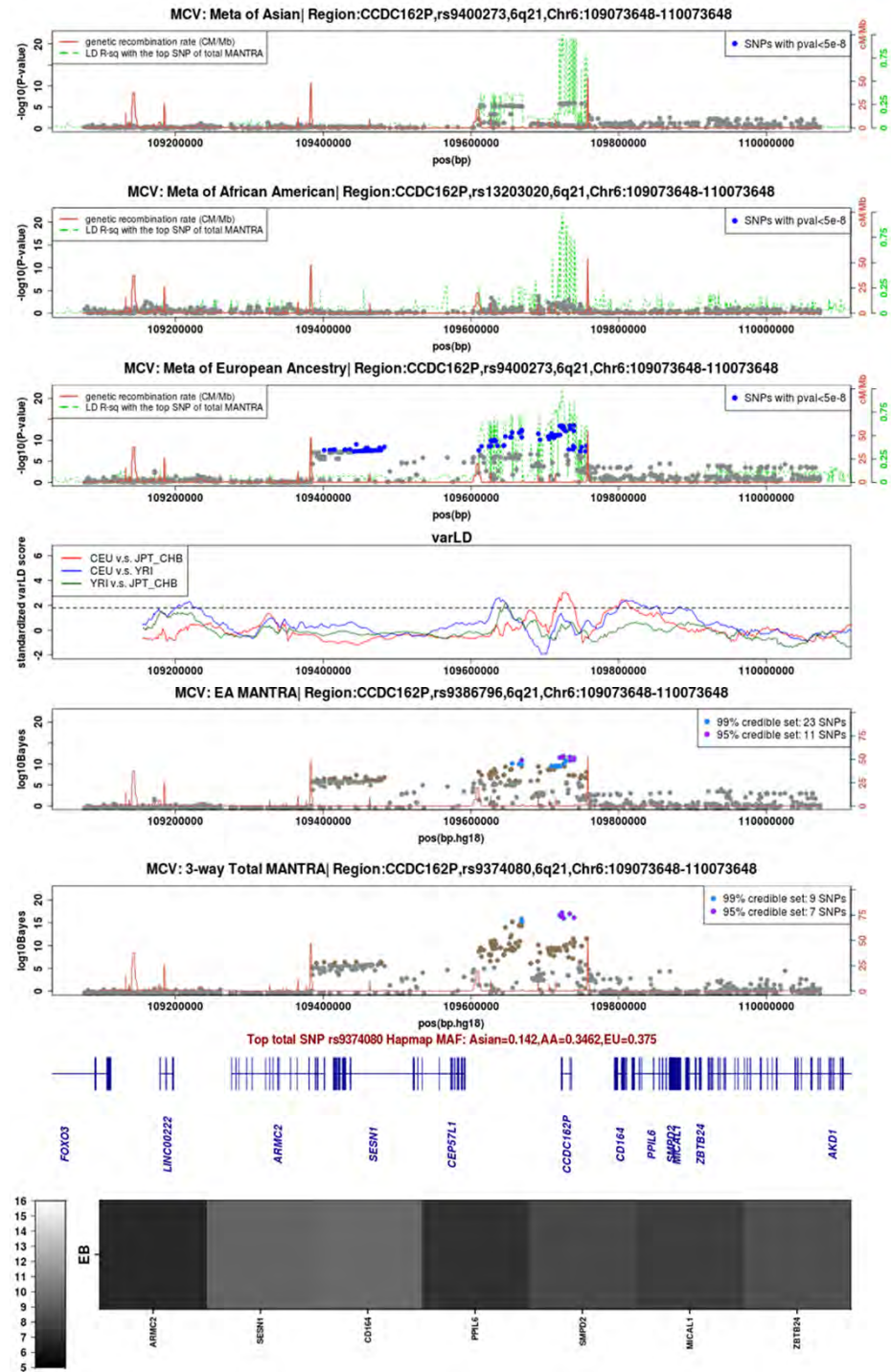


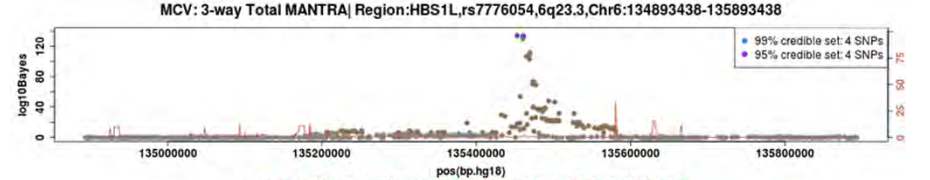
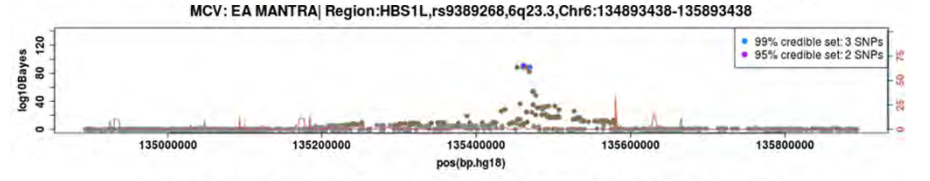
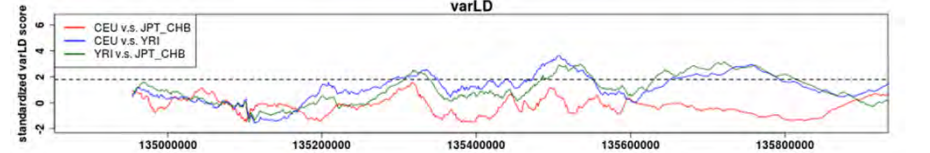
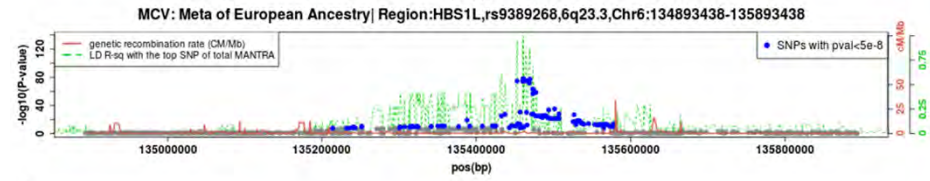
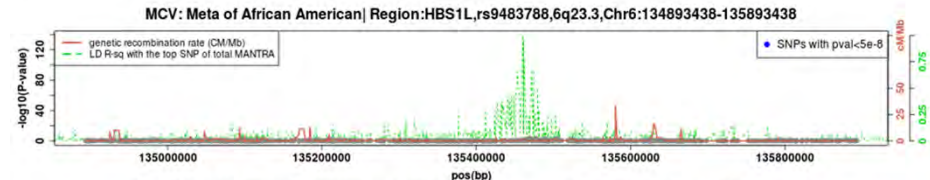
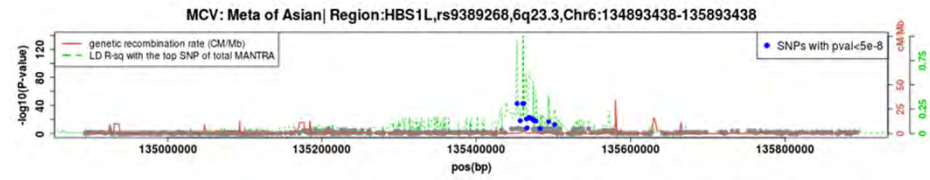


Top total SNP rs9349205 Hapmap MAF: Asian=0.2216, AA=0.008333, EU=0.1964

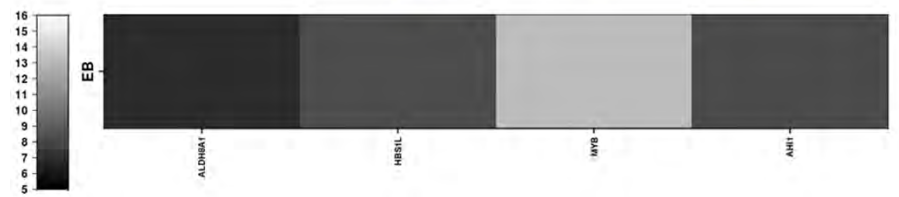


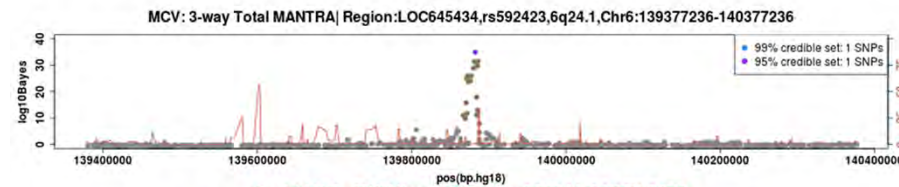
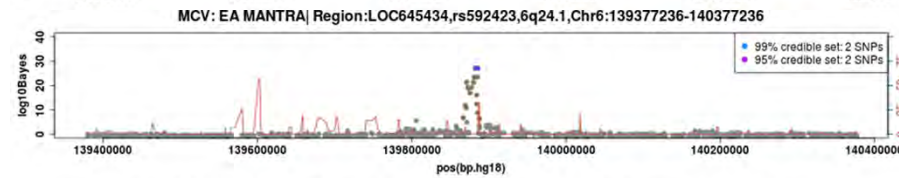
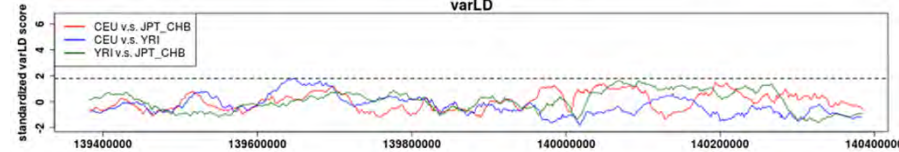
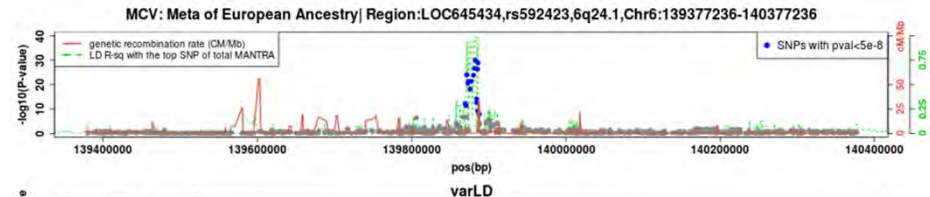
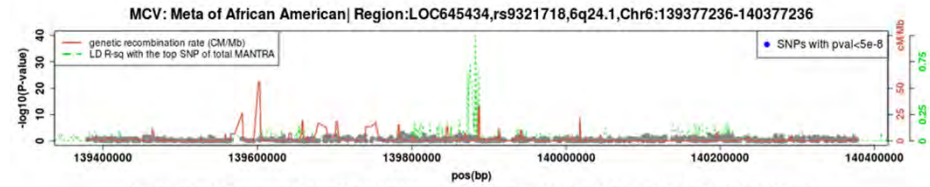
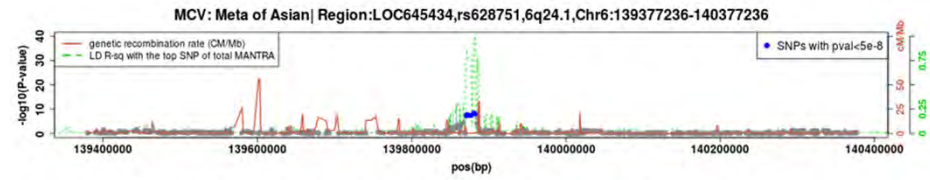




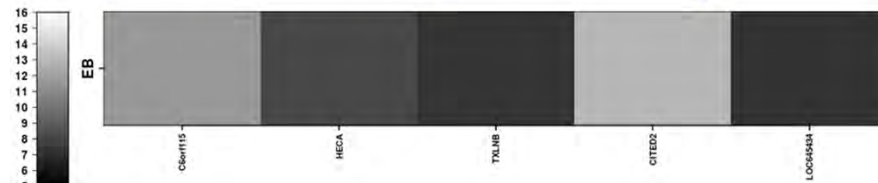


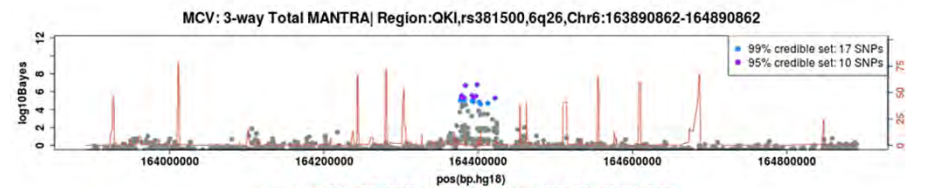
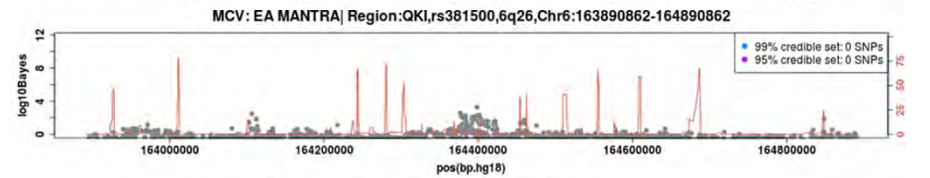
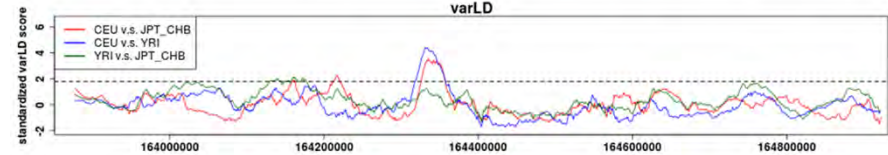
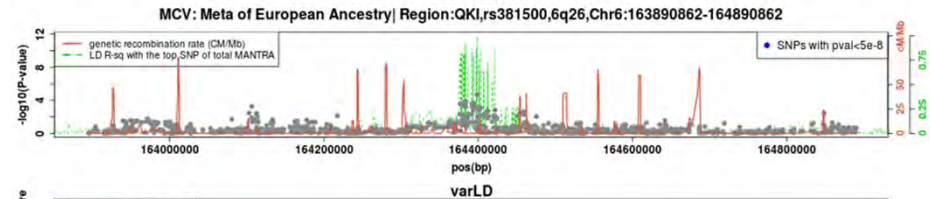
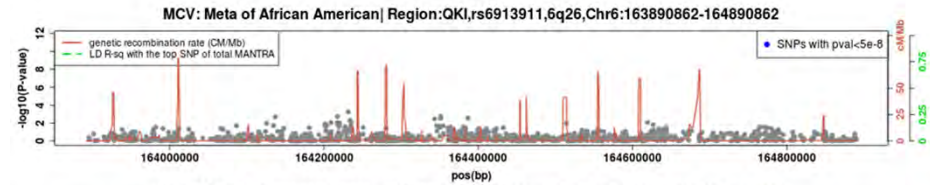
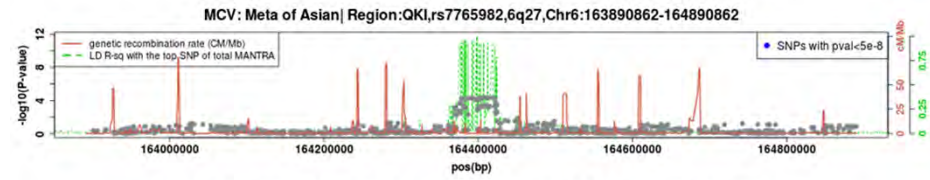
Top total SNP rs7776054 Hapmap MAF: Asian=0.3222,AA=0.2417,EU=0.2203



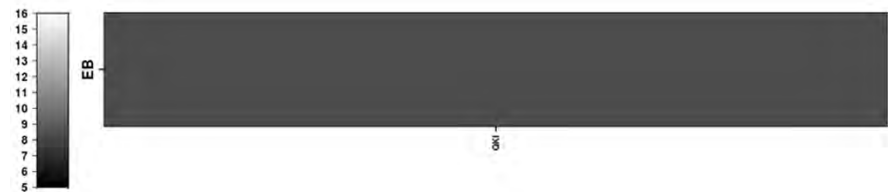


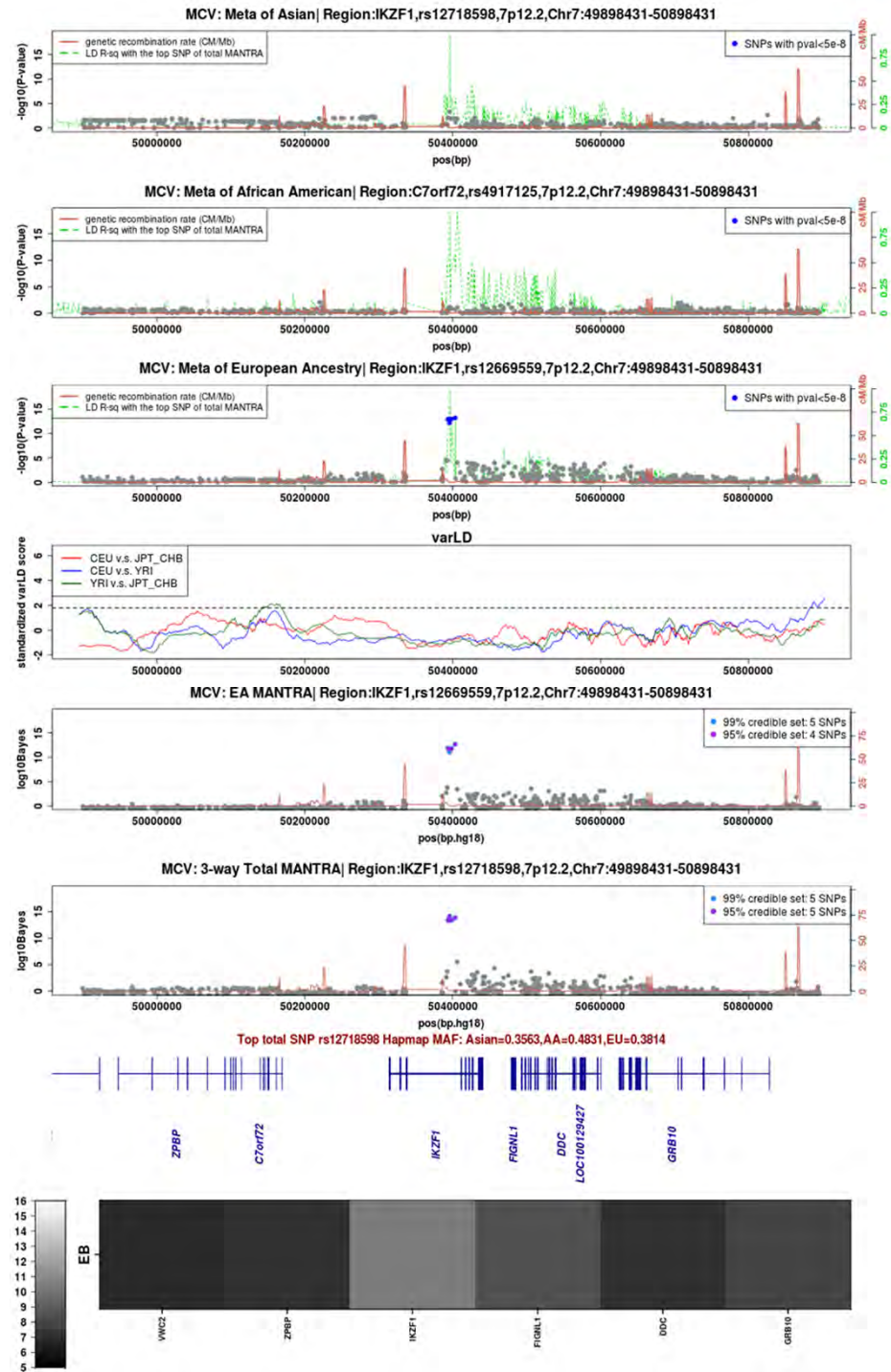
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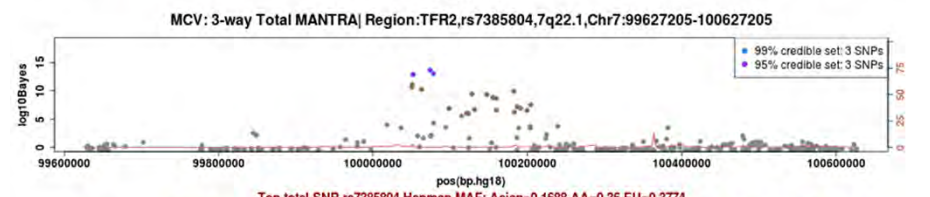
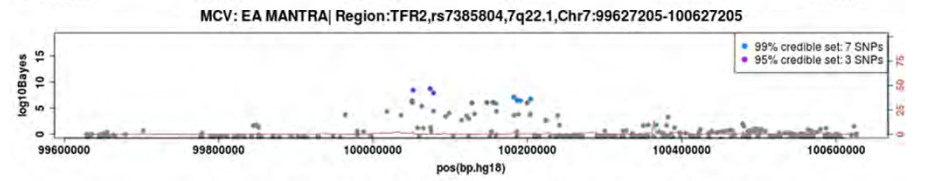
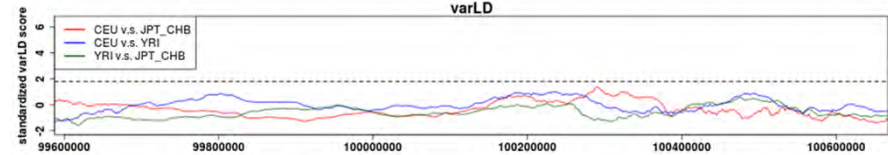
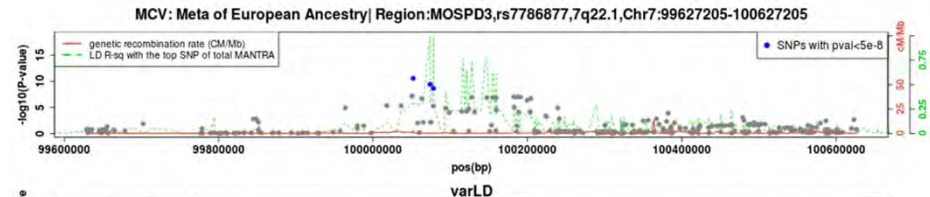
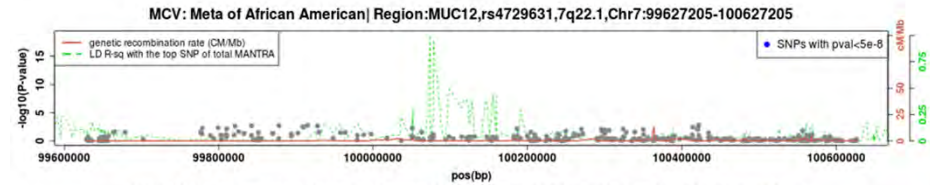
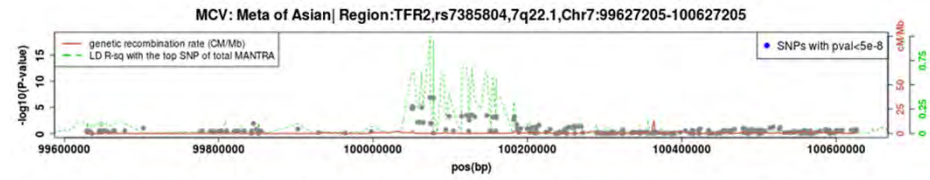




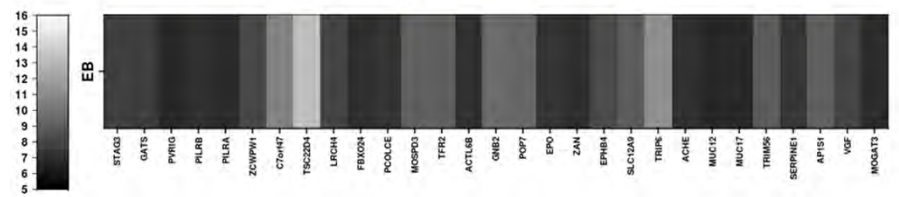
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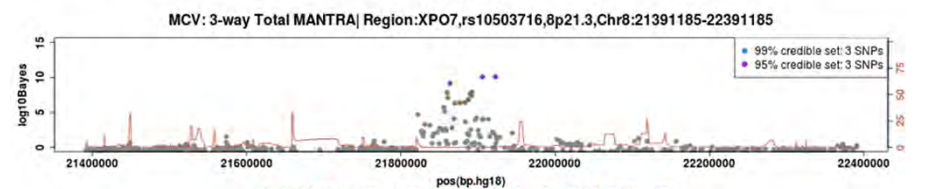
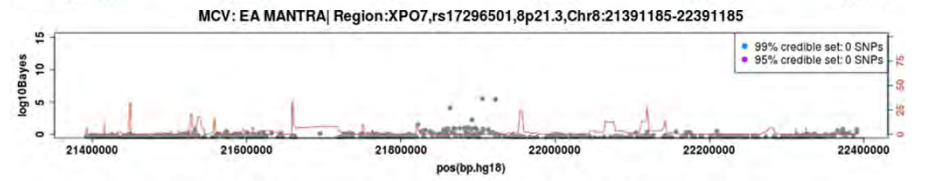
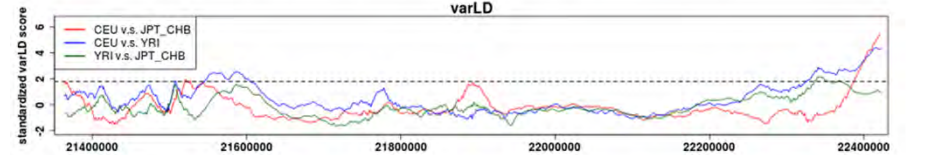
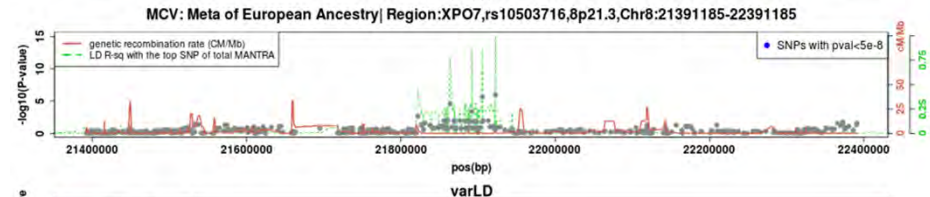
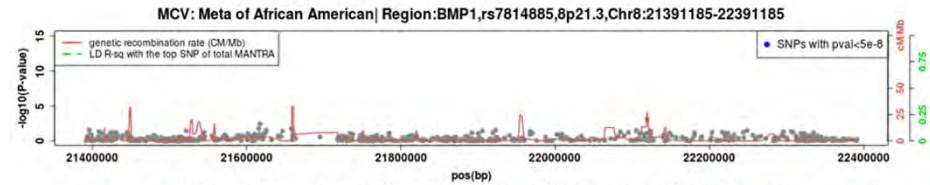
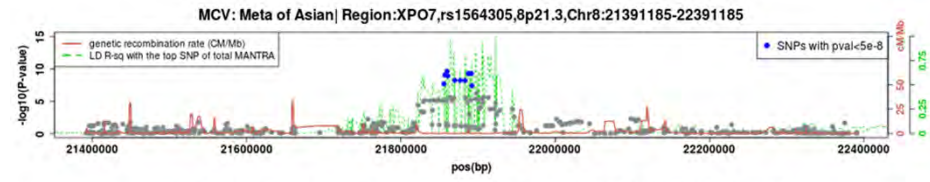




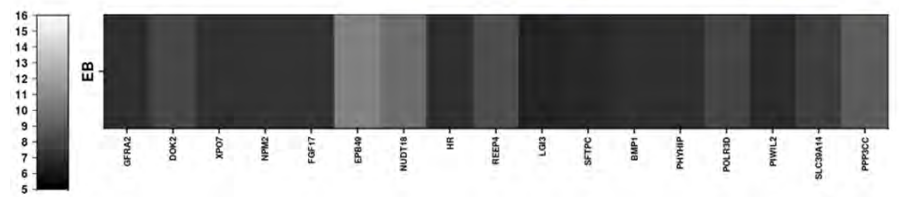


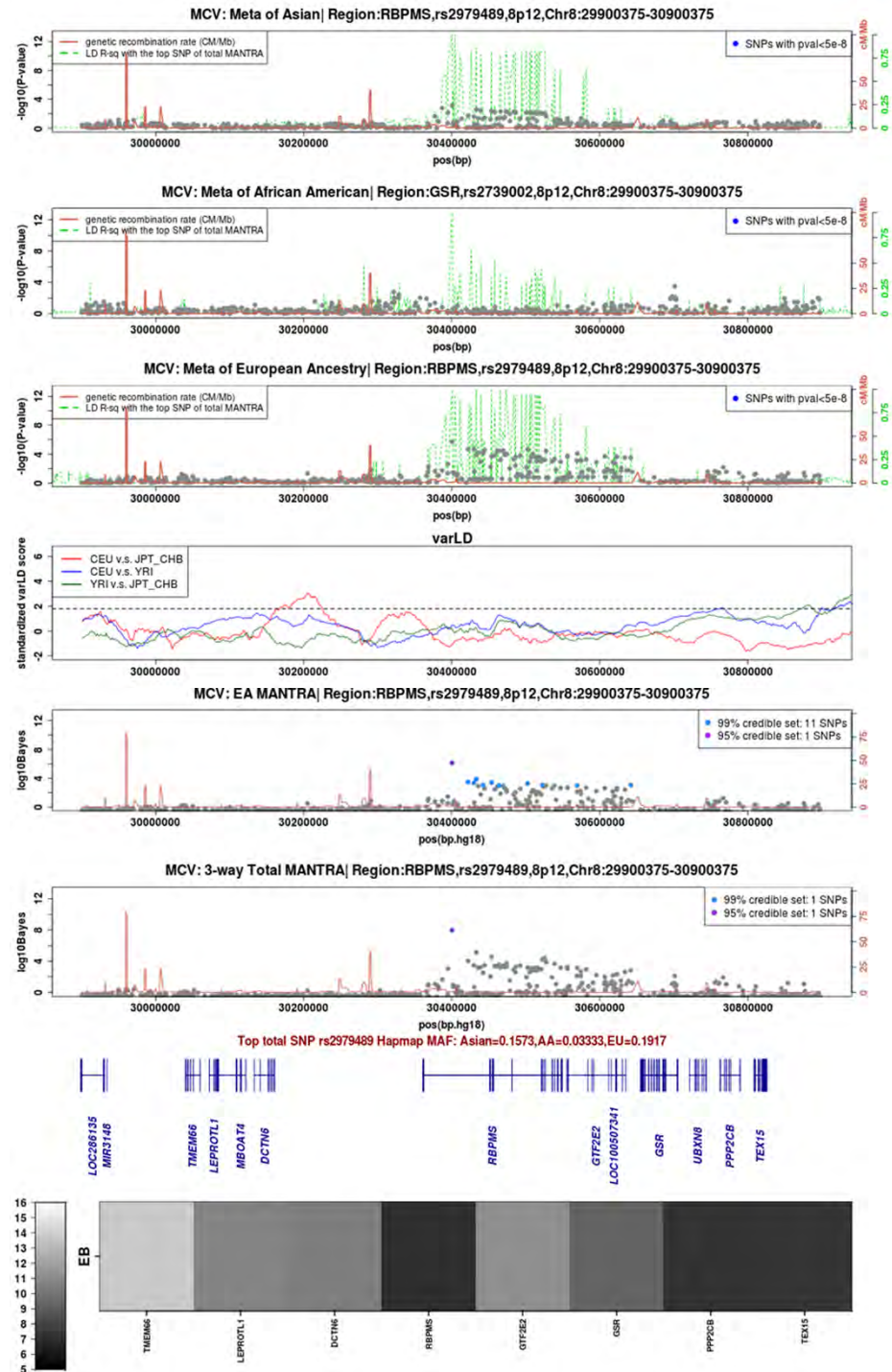
Top total SNP rs7385804 Hapmap MAF: Asian=0.1688, AA=0.36, EU=0.3774



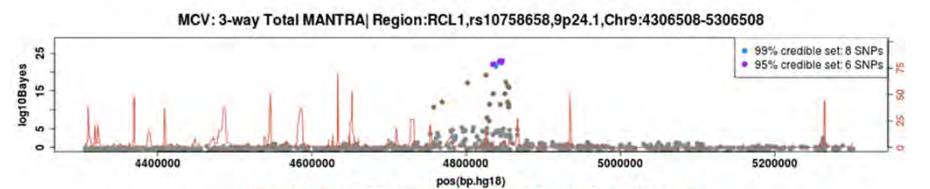
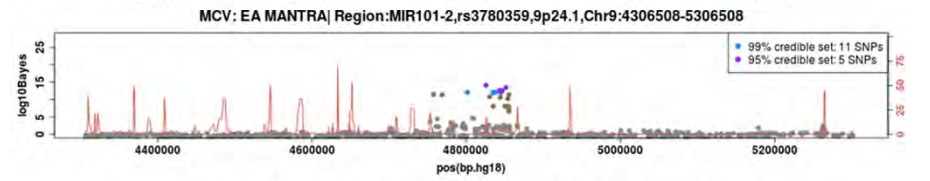
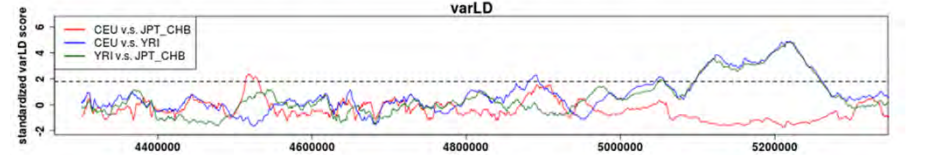
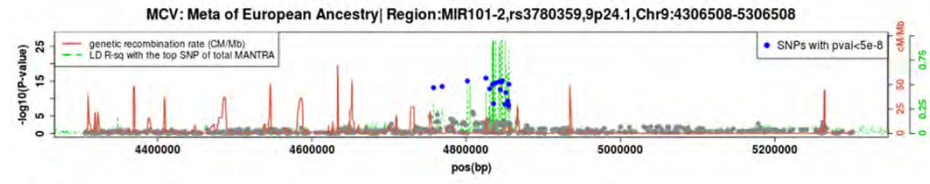
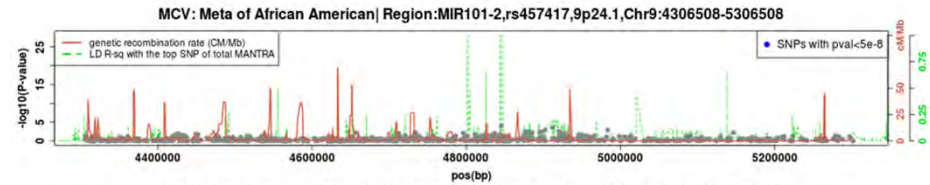
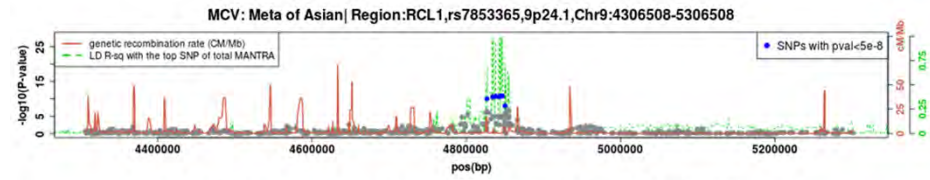


Top total SNP rs10503716 Hapmap MAF: Asian=0.3333,AA=0,EU=0.1667

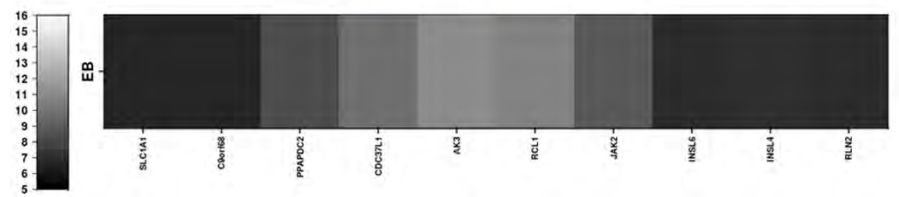


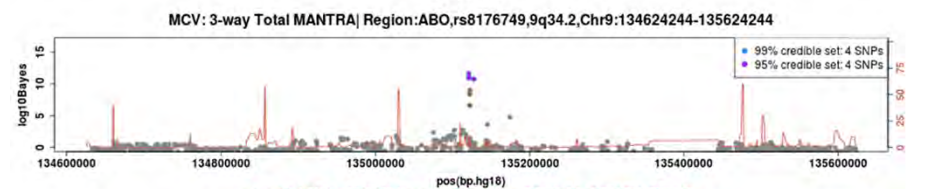
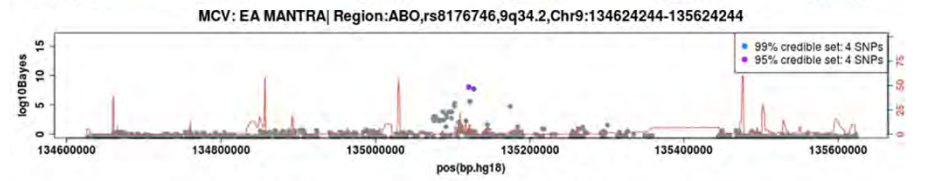
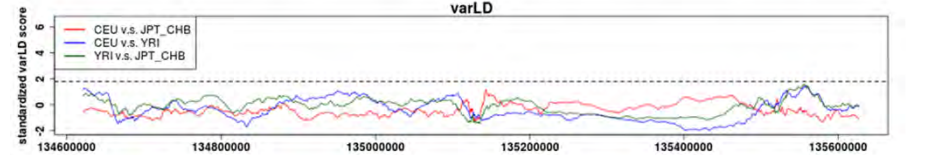
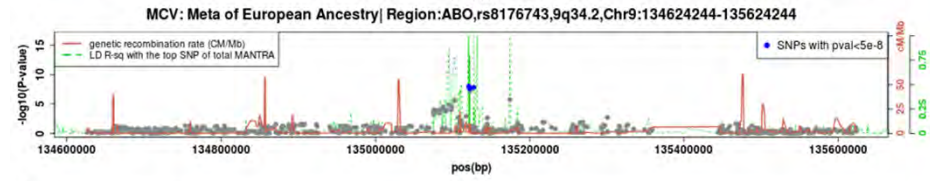
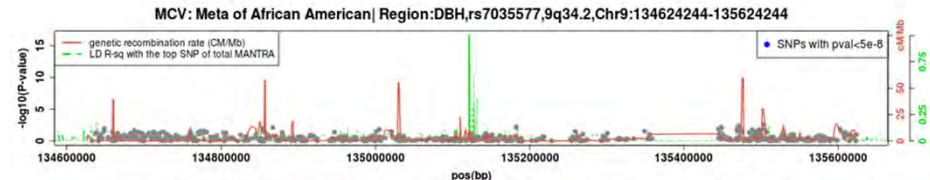
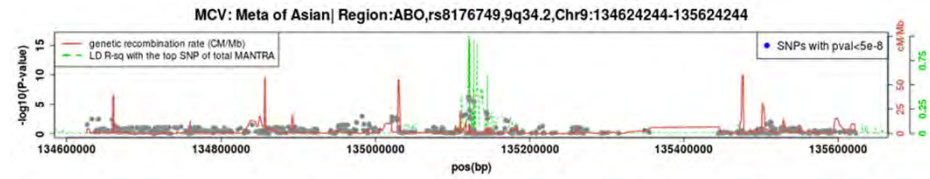




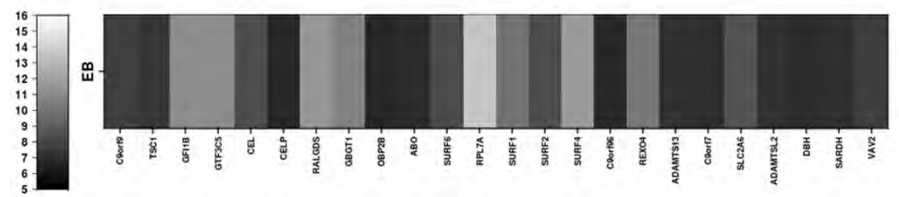


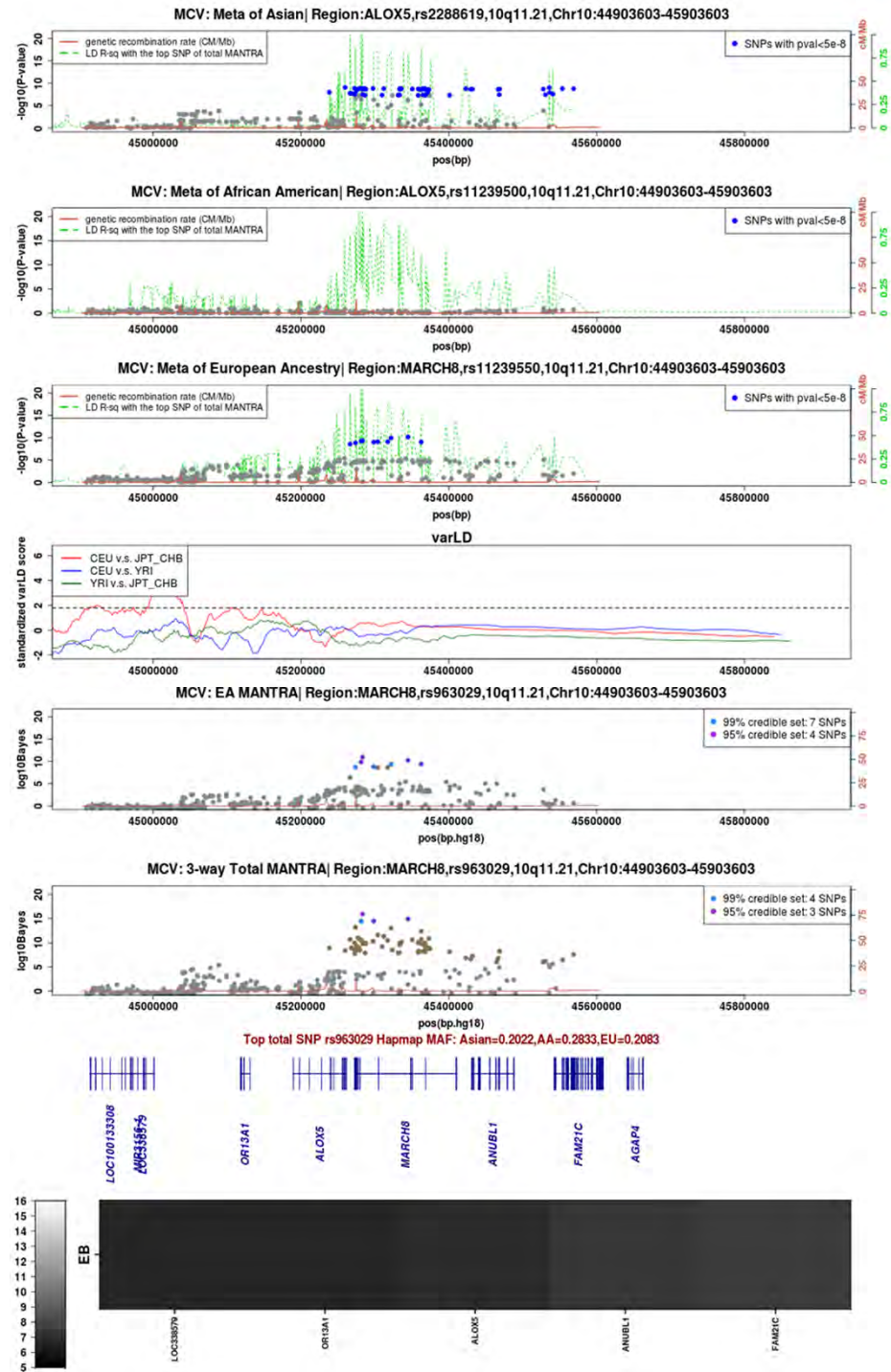
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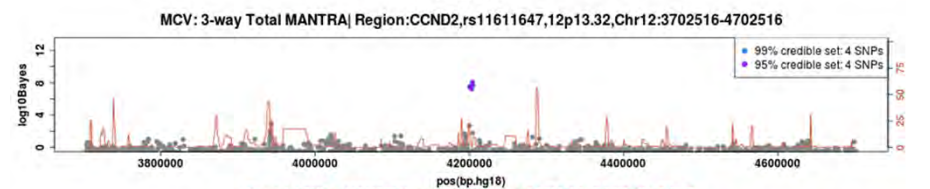
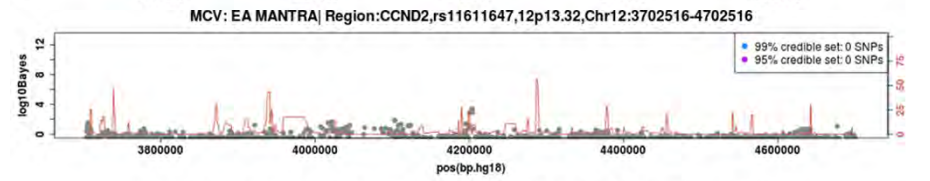
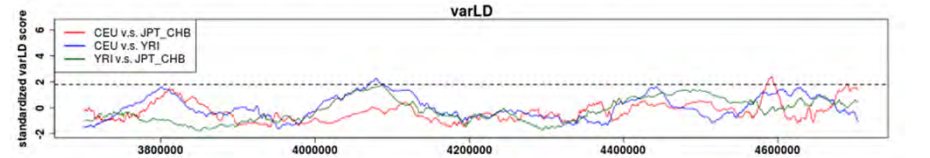
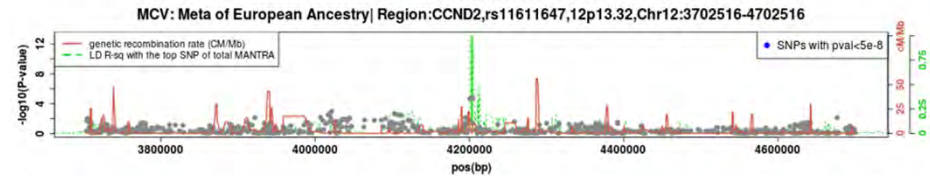
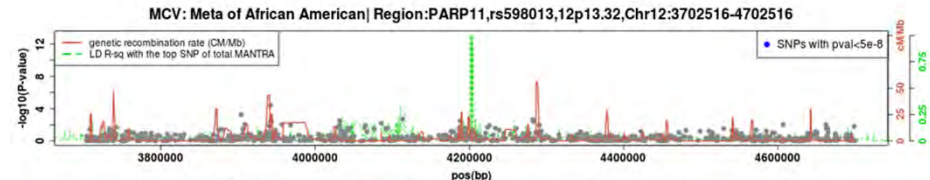
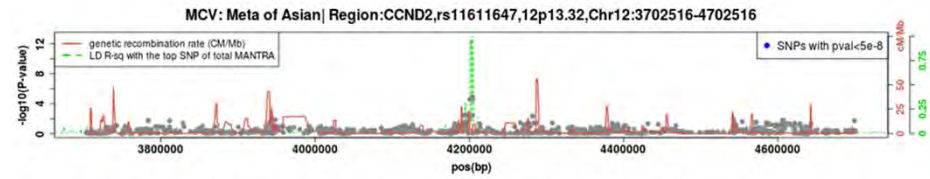




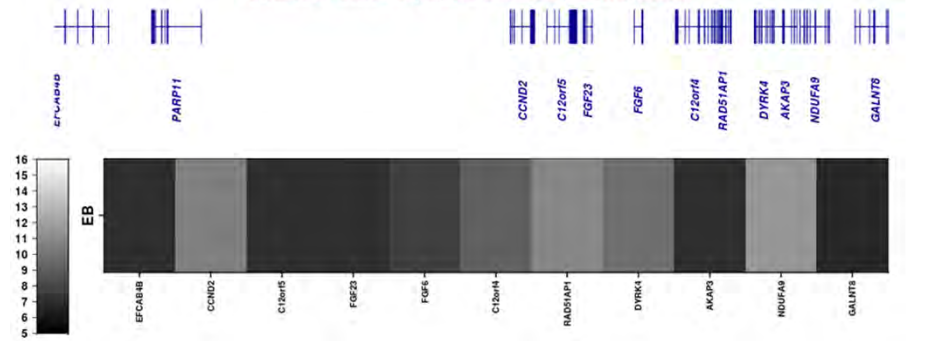
Top total SNP rs8176749 Hapmap MAF: Asian=0.2079, AA=0.275, EU=0.08333

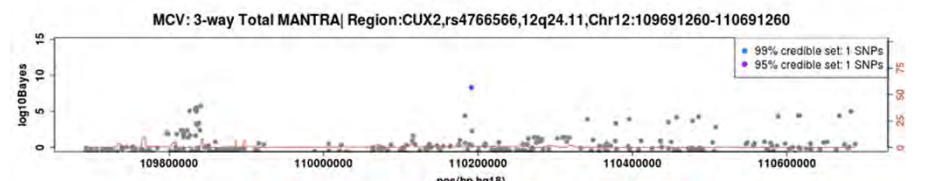
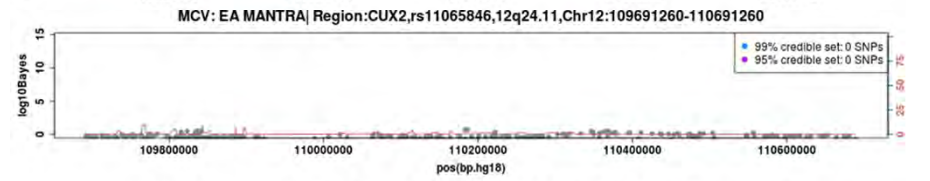
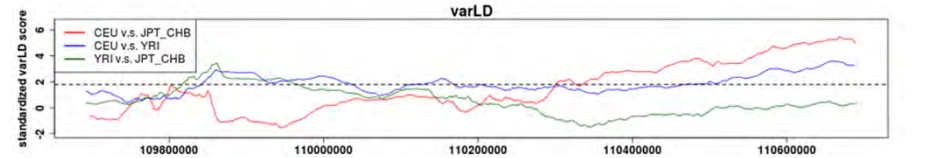
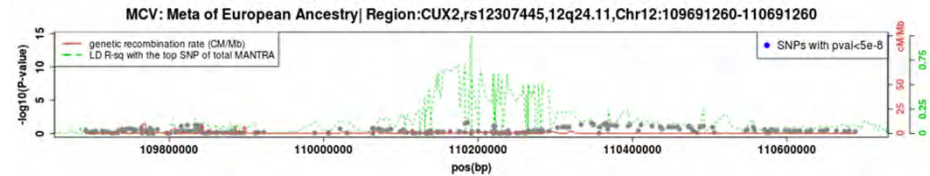
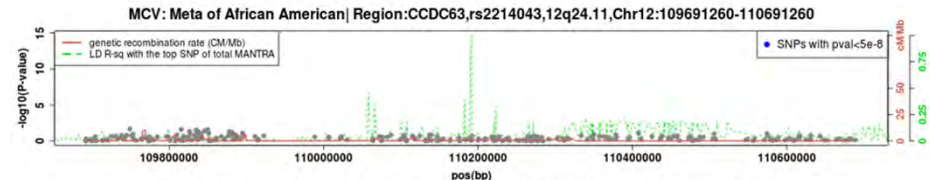
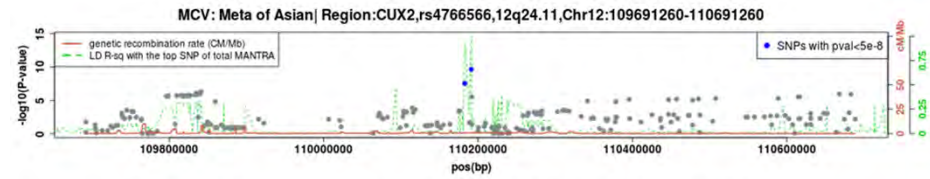




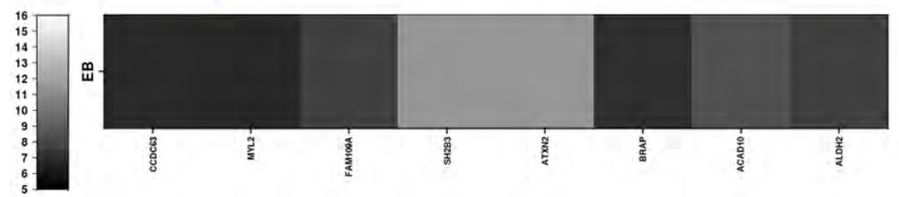


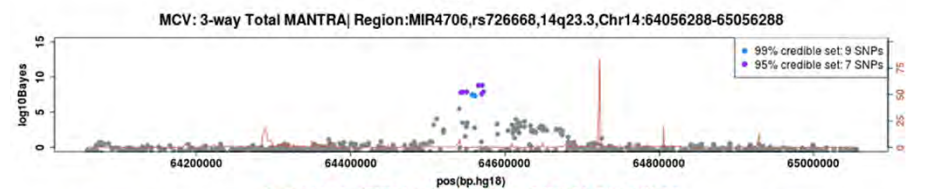
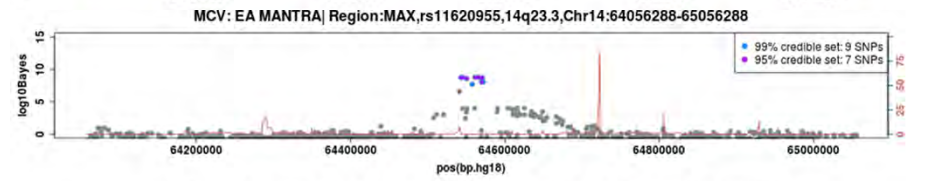
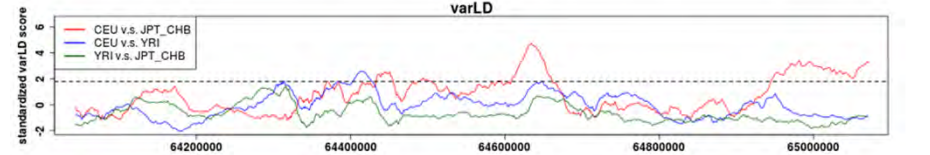
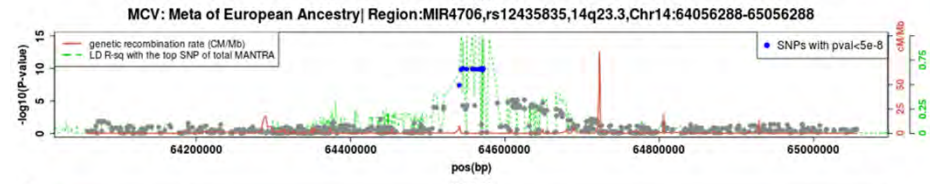
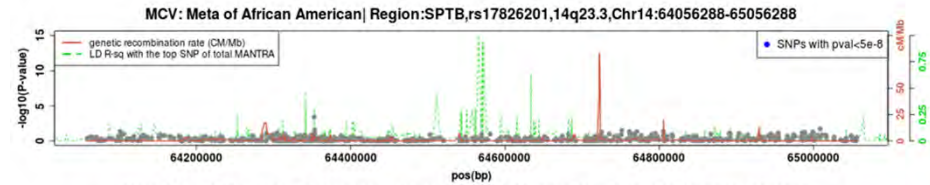
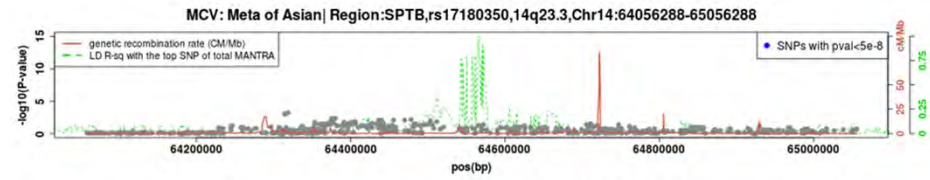
Top total SNP rs11611647 Hapmap MAF: Asian=0.2556,AA=0.2719,EU=0.2583



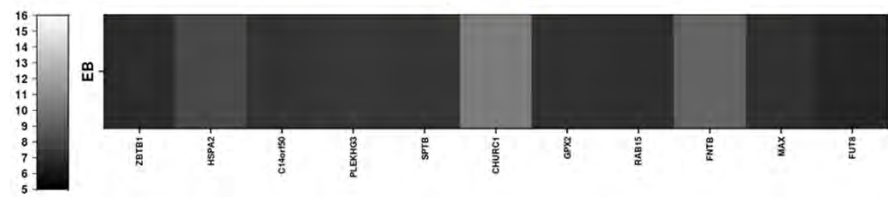


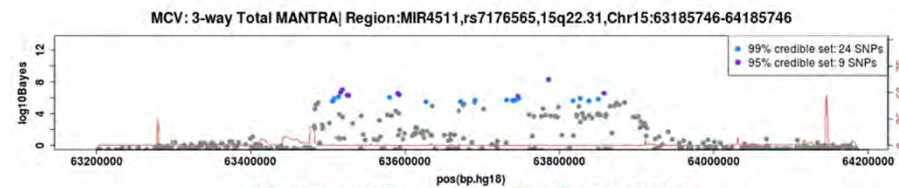
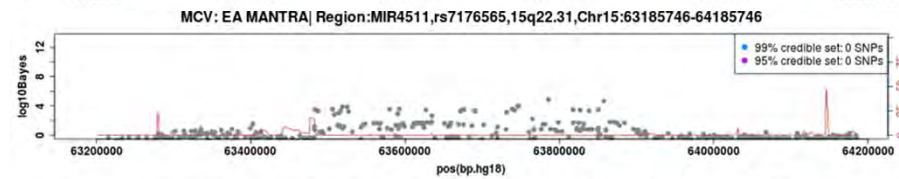
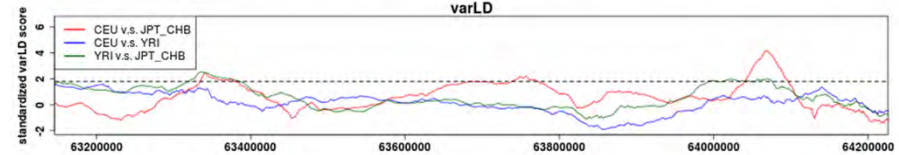
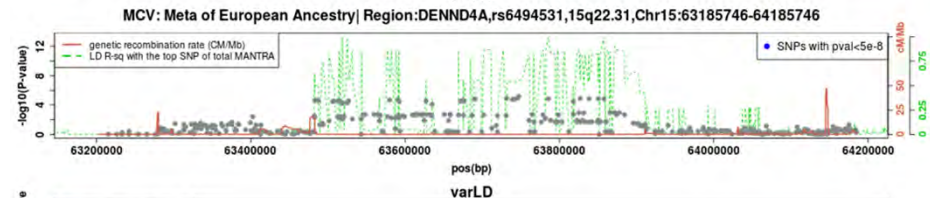
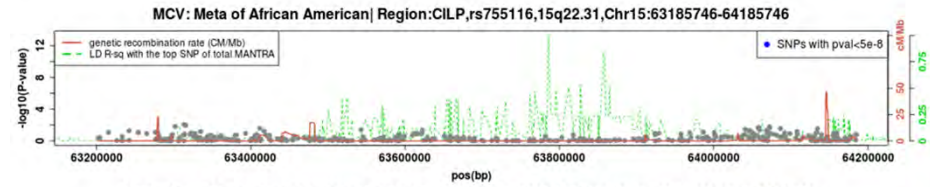
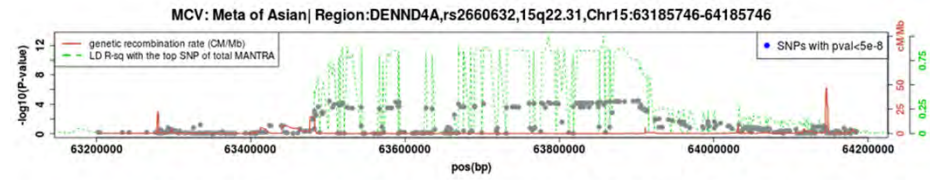
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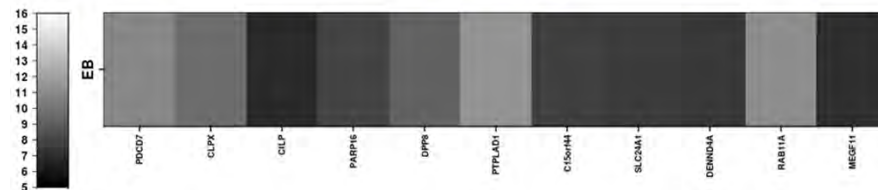


Top total SNP rs726668 Hapmap MAF: Asian=0.4045,AA=0.1167,EU=0.5



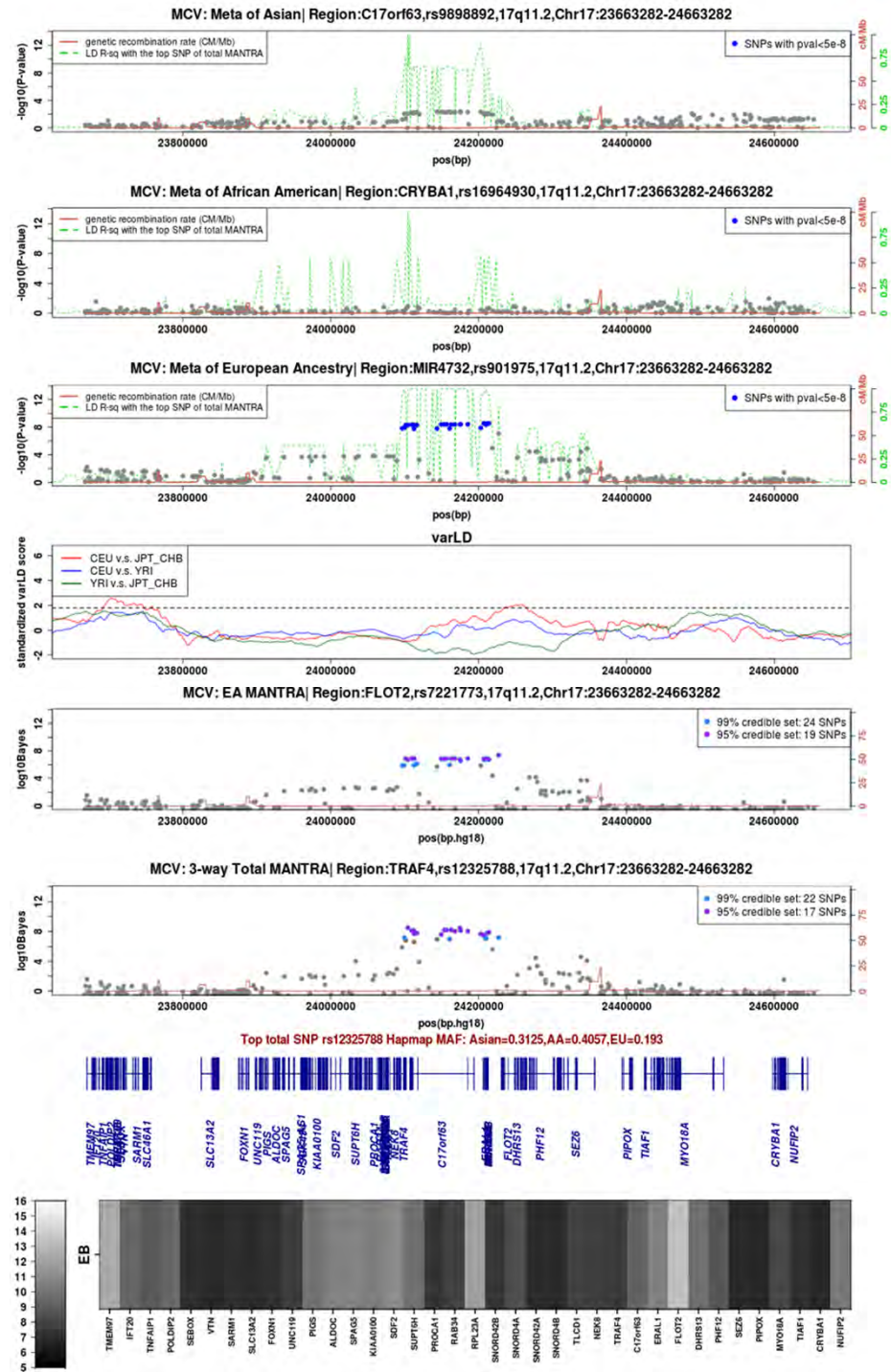


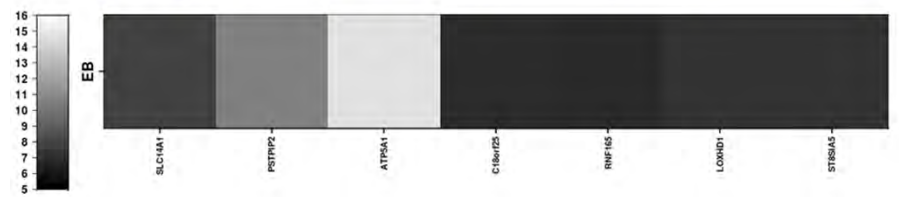
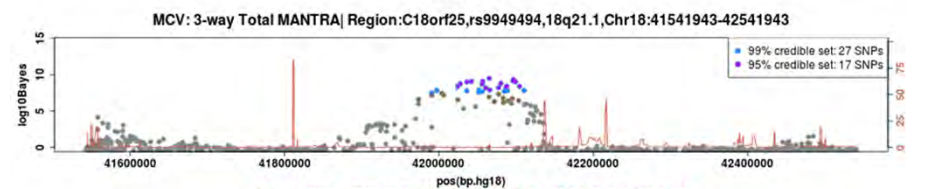
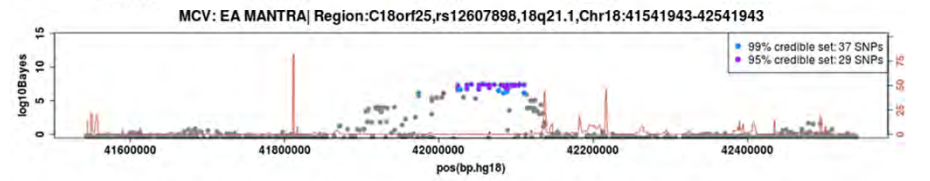
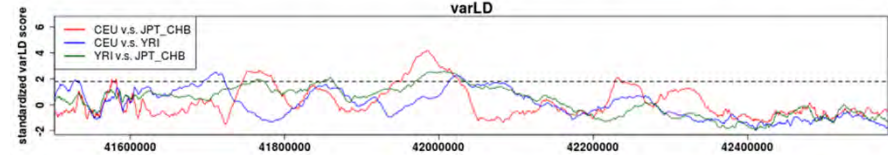
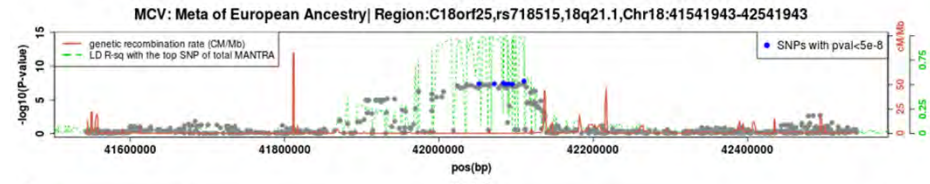
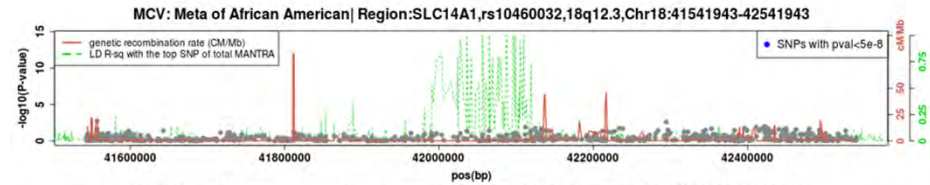
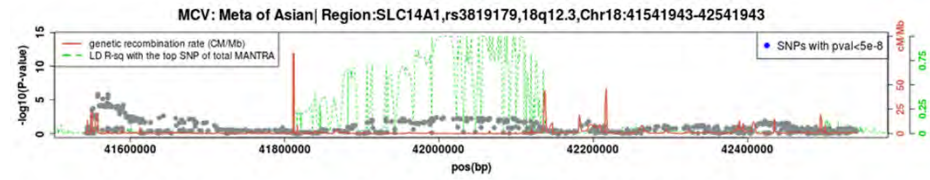
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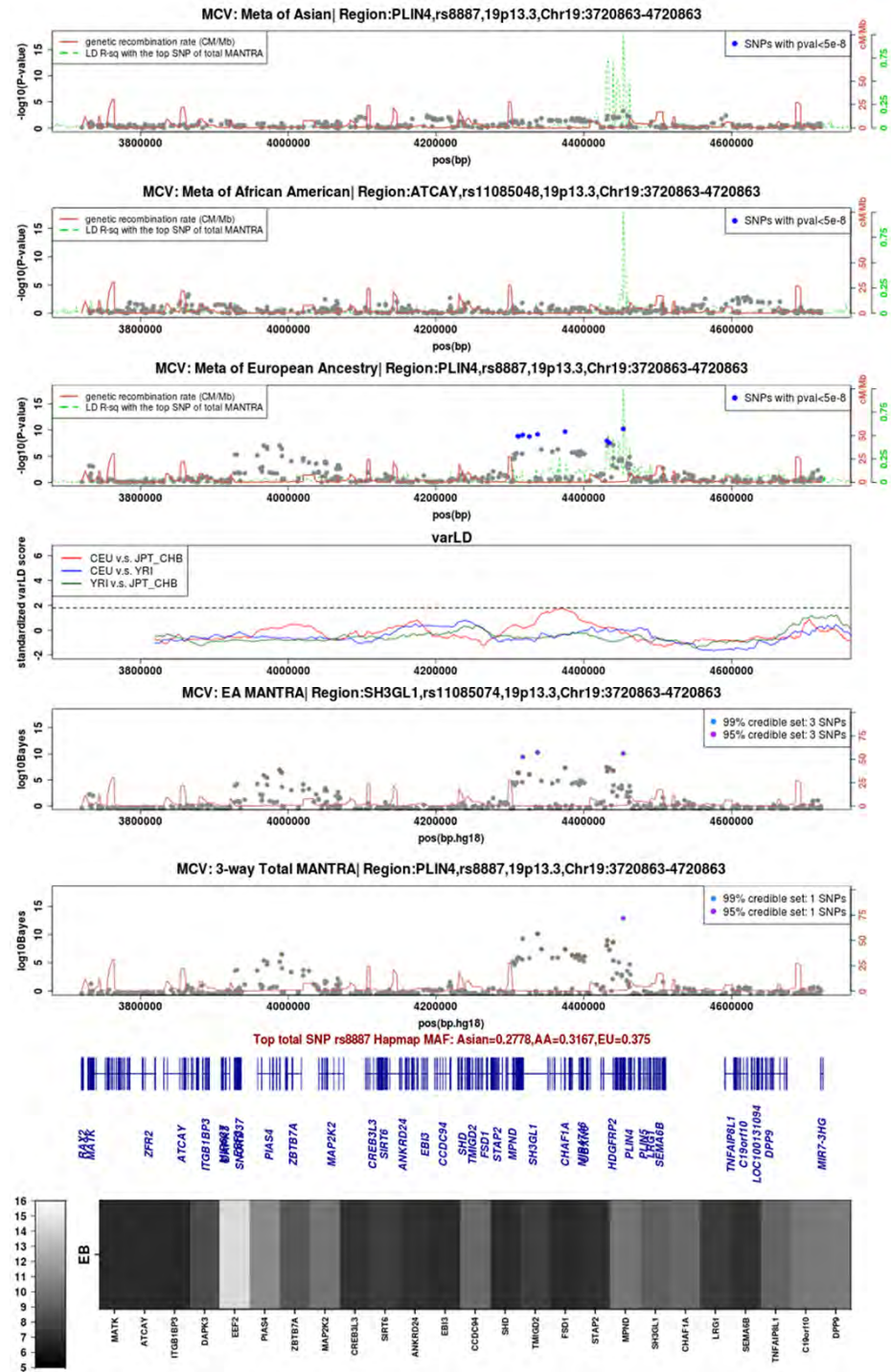




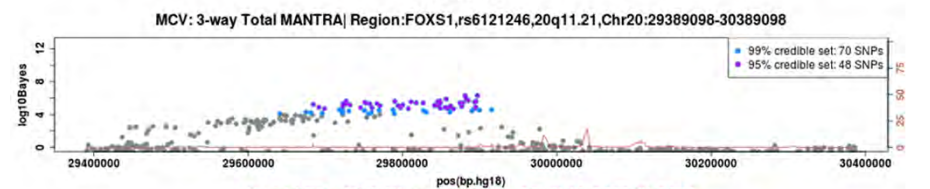
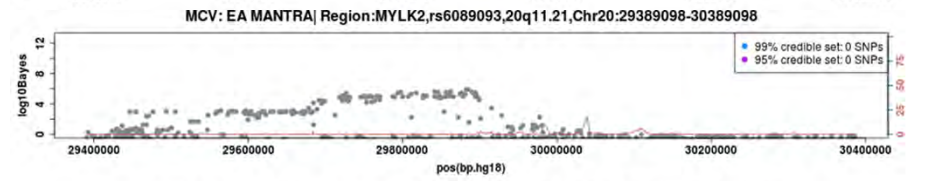
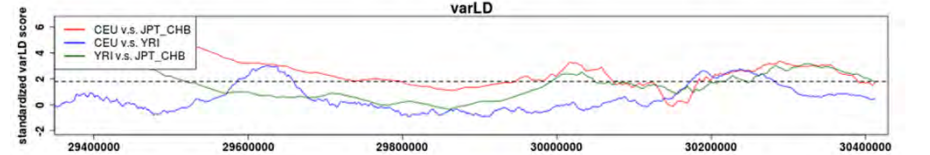
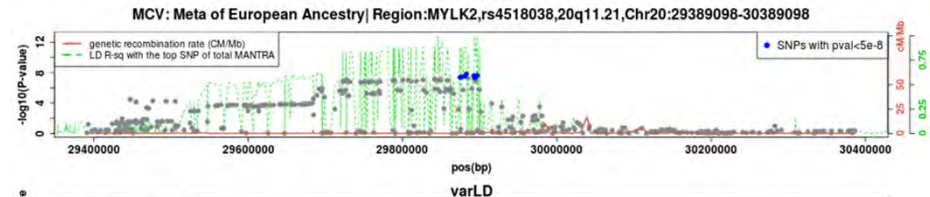
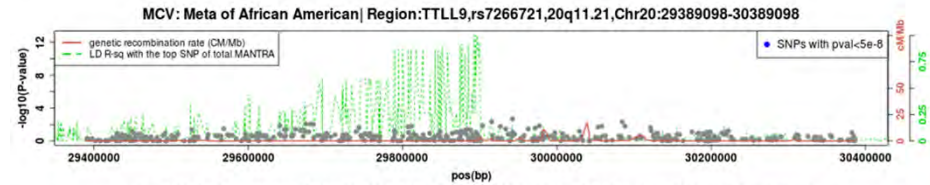
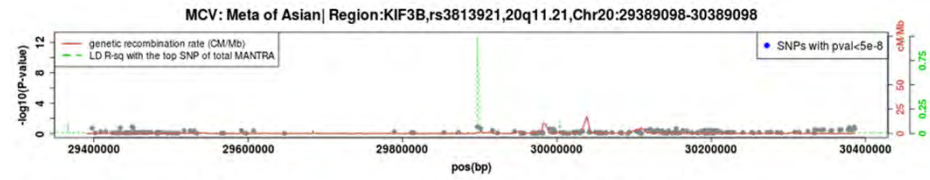




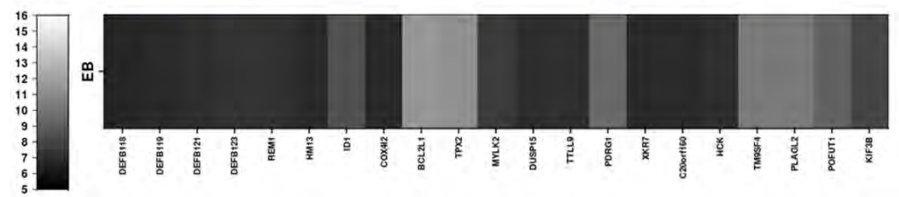


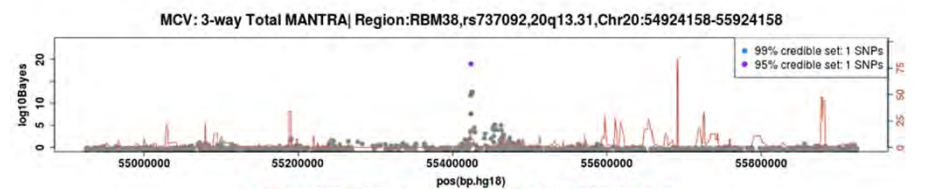
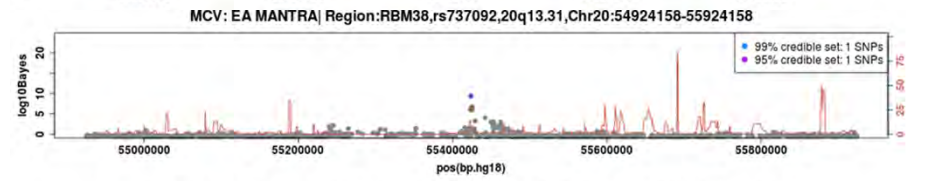
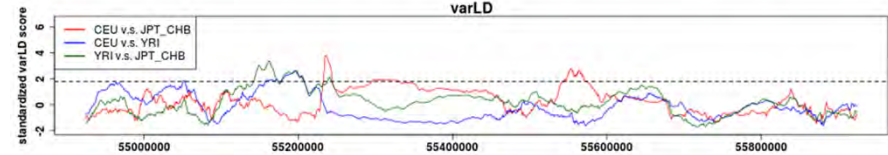
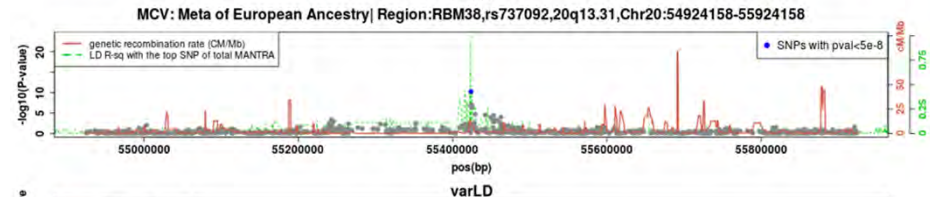
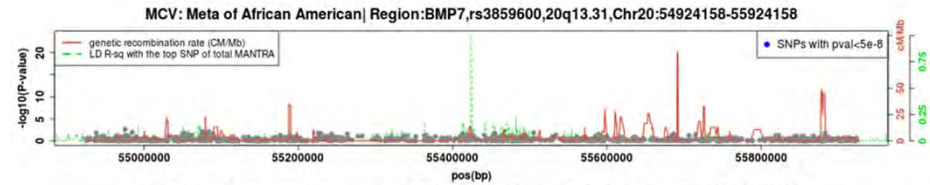
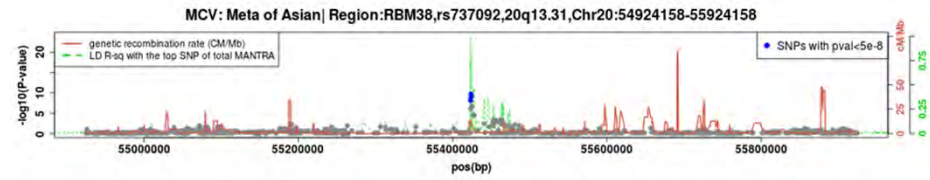




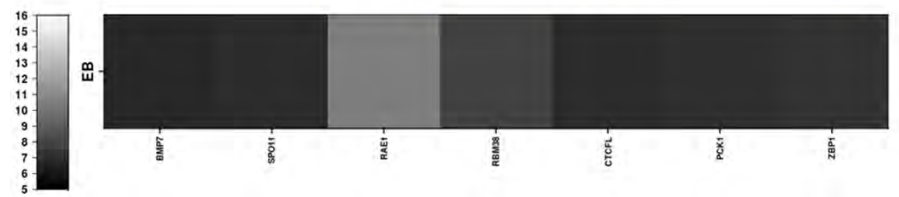


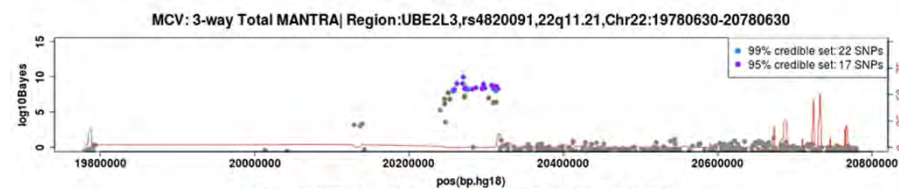
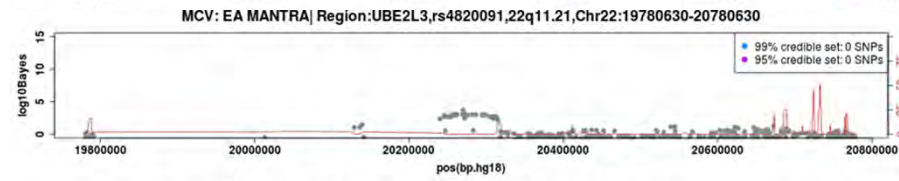
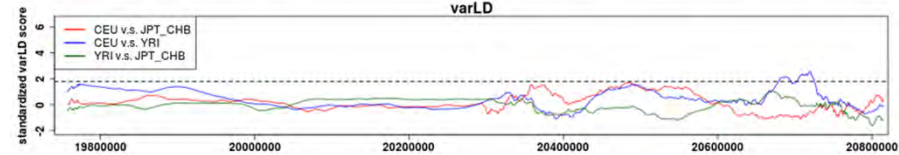
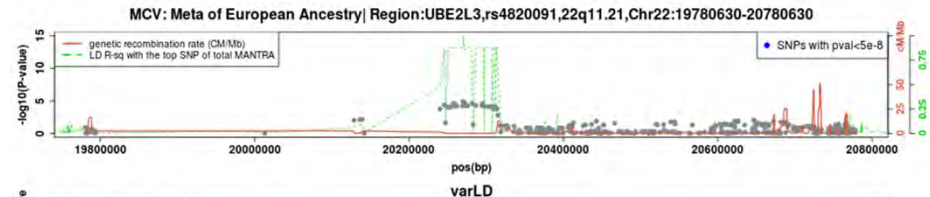
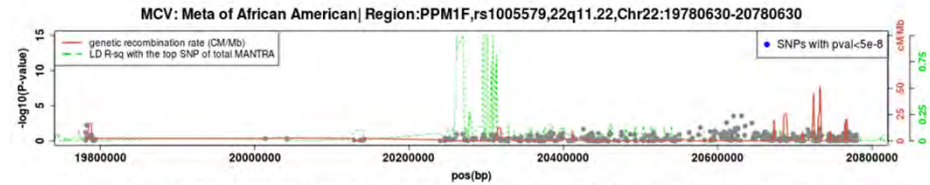
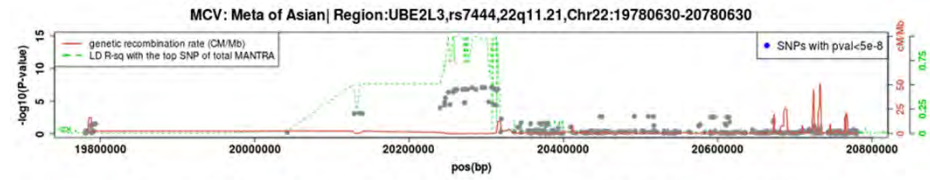
Top total SNP rs6121246 Hapmap MAF: Asian=0.00641,AA=0.4746,EU=0.2708



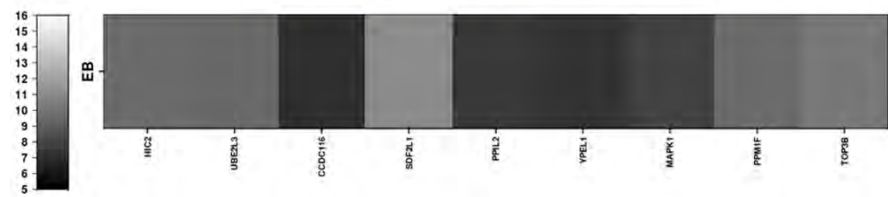


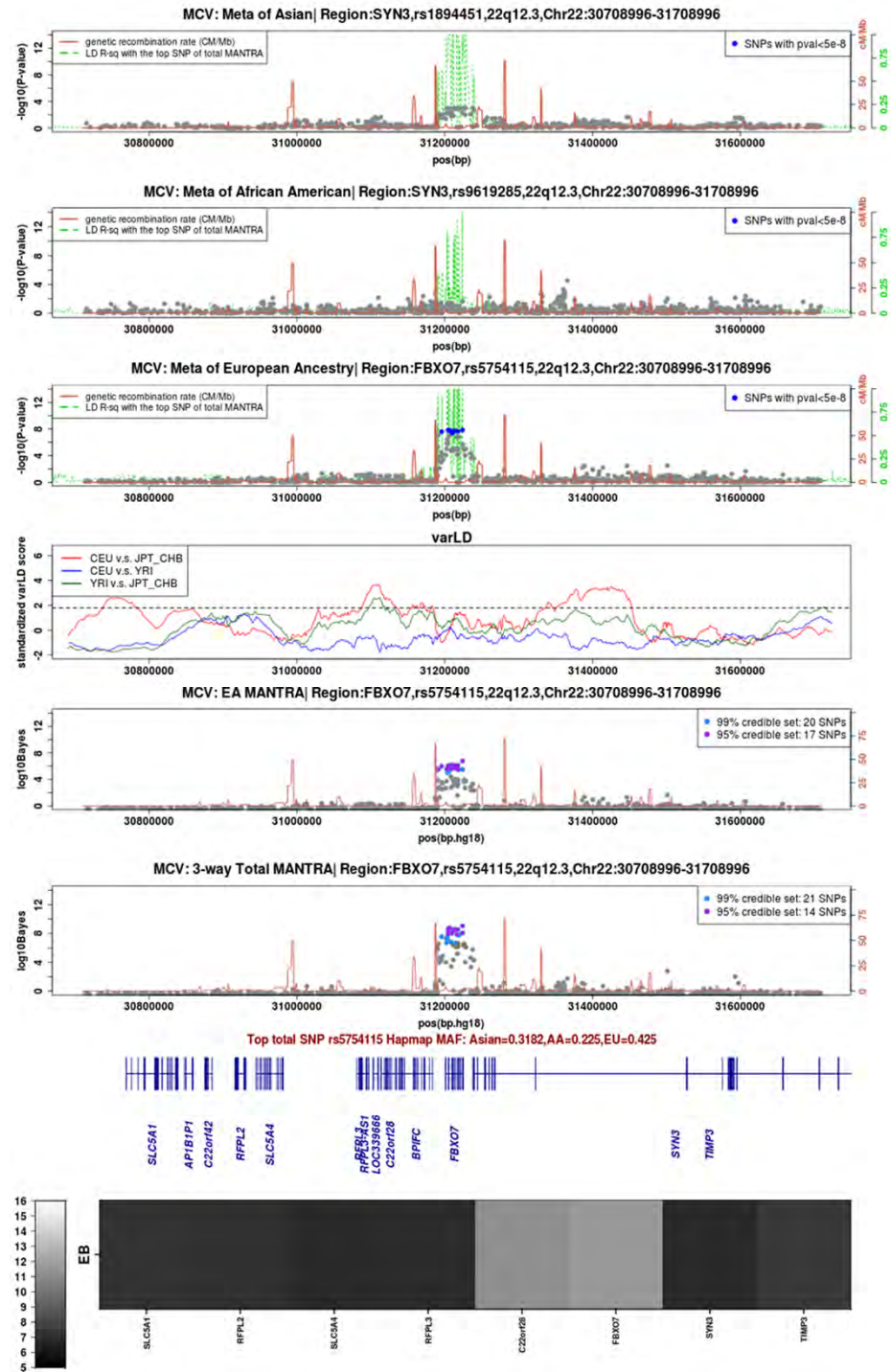
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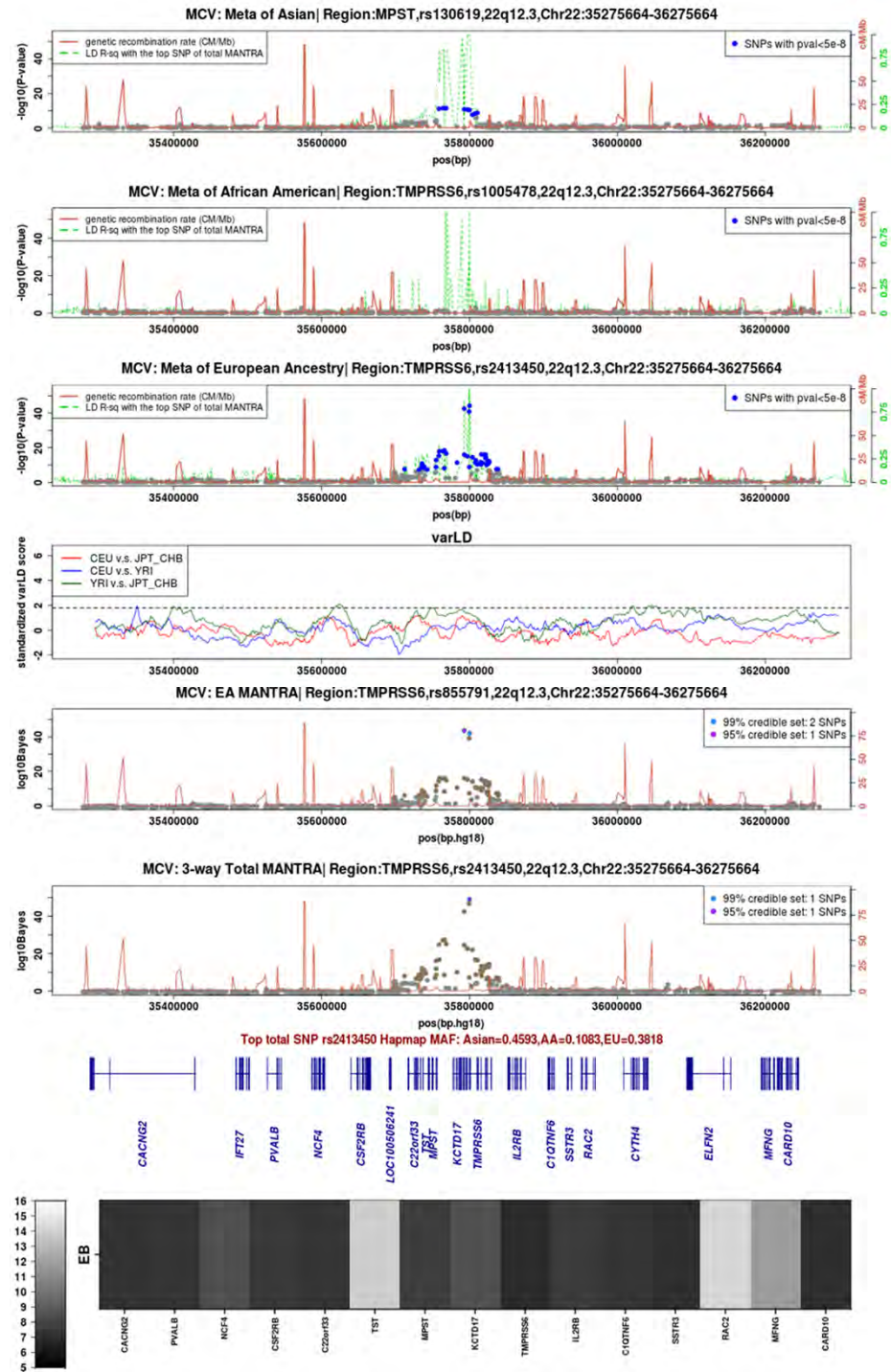


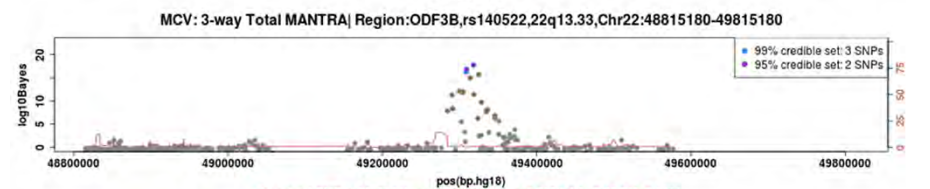
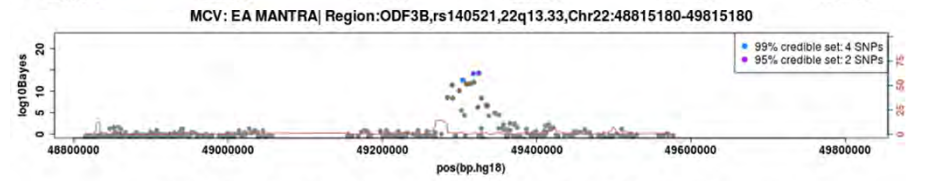
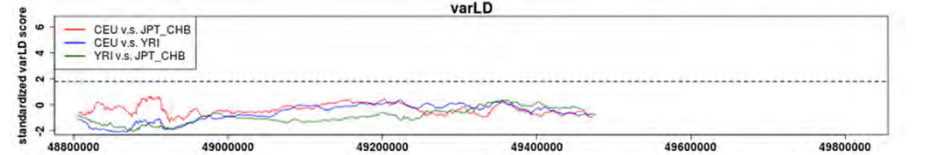
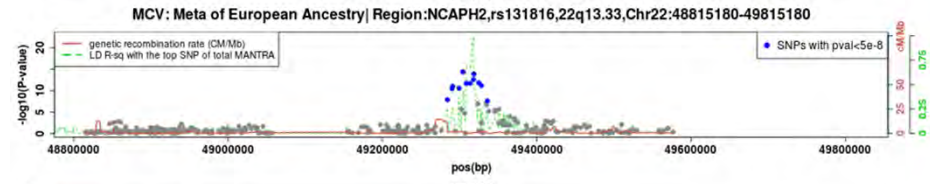
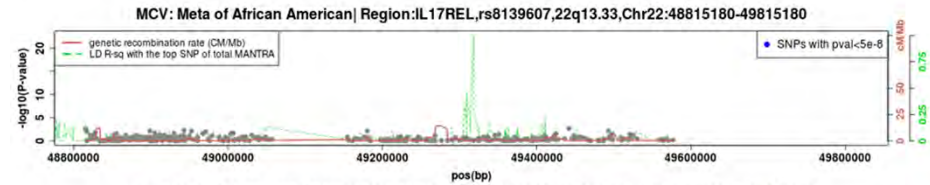
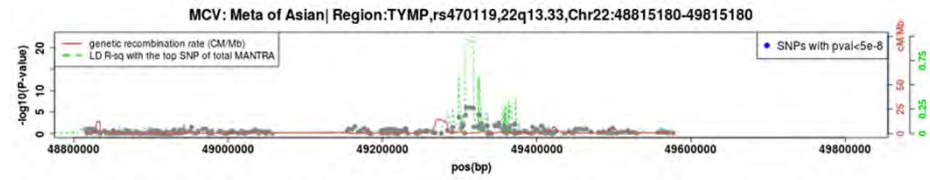
Top total SNP rs4820091 Hapmap MAF: Asian=0.4663, AA=0.45, EU=0.125



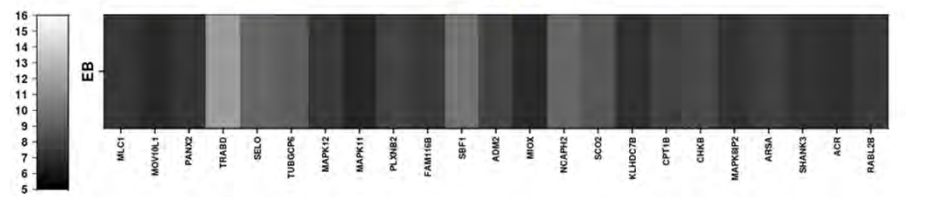




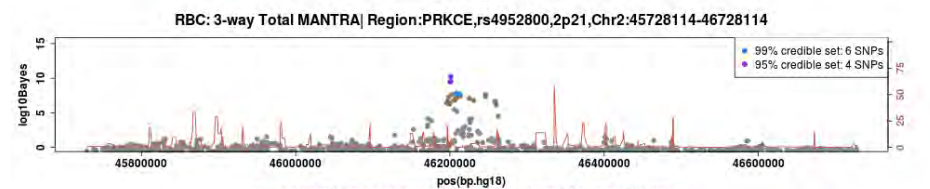
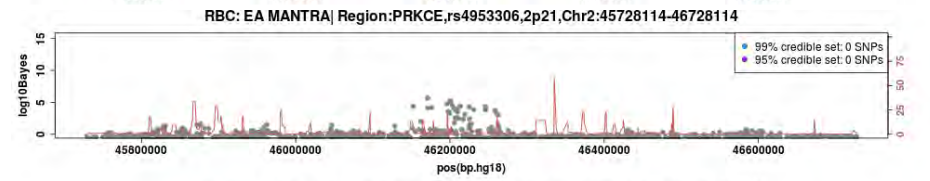
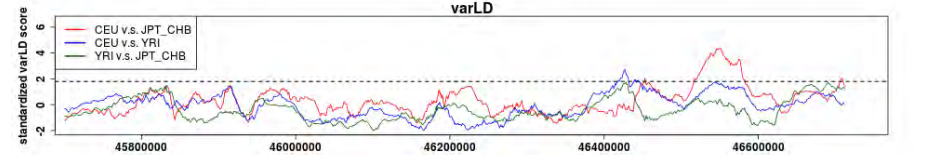
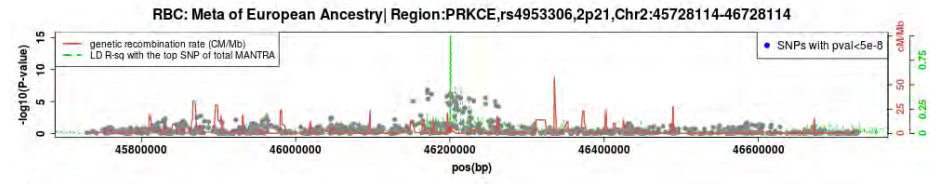
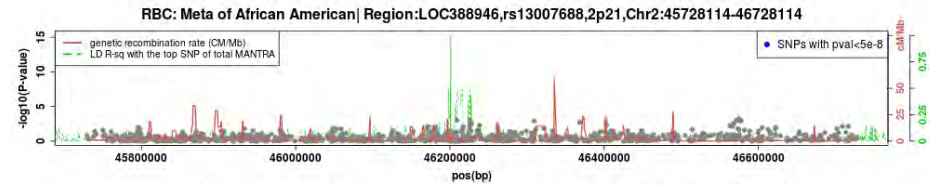
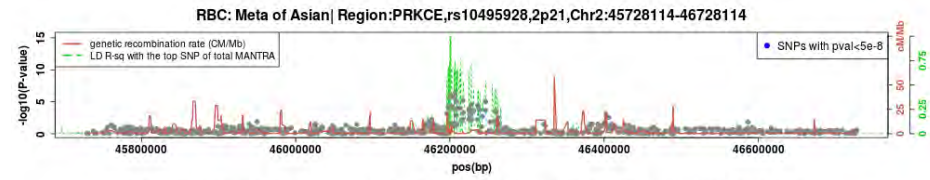




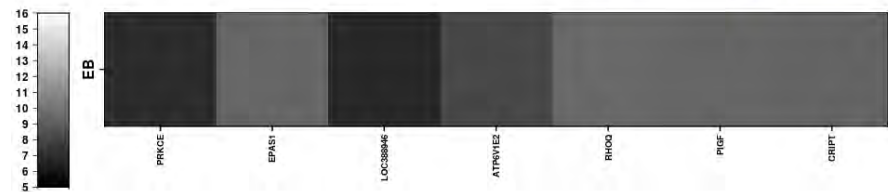
Top total SNP rs140522 Hapmap MAF: Asian=0.2584, AA=0.45, EU=0.2833

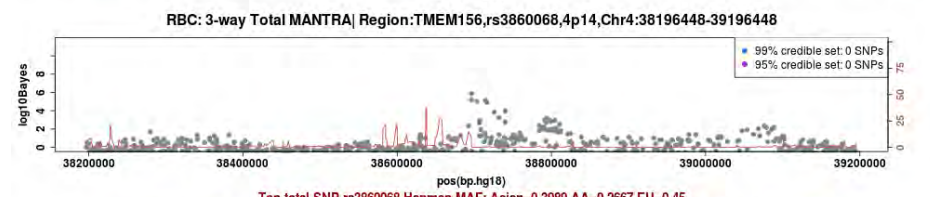
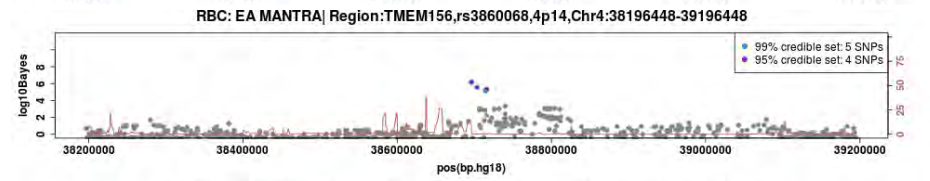
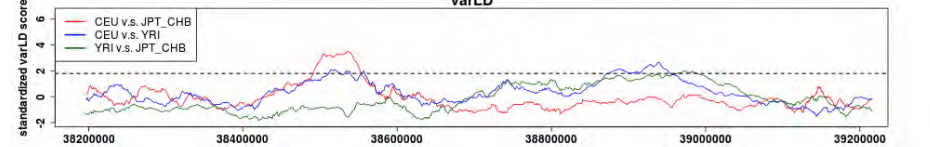
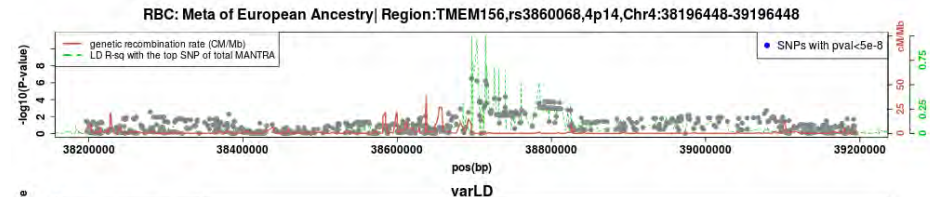
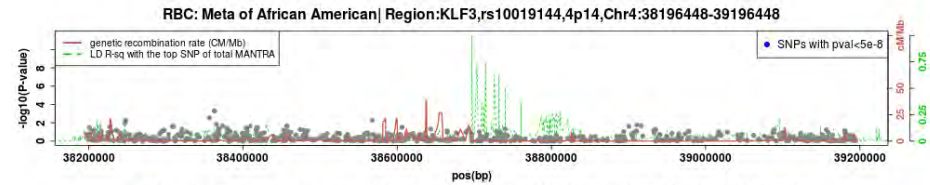
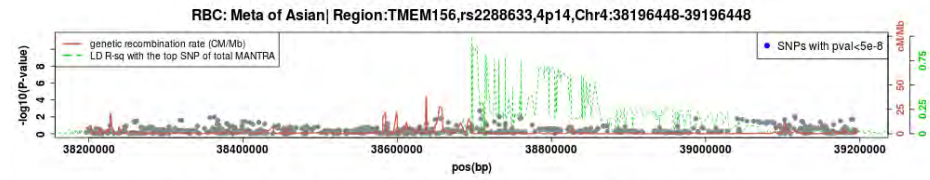


**RBC**

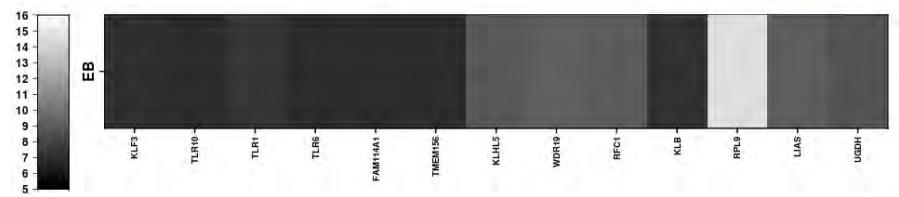


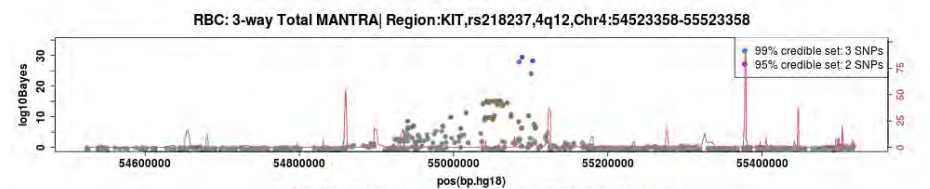
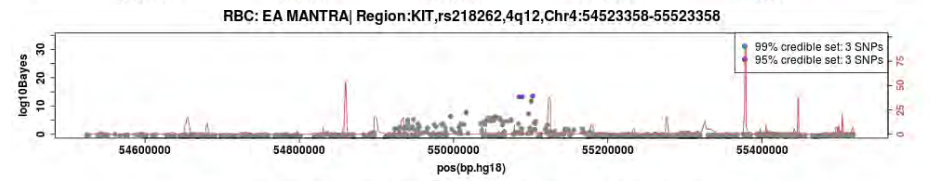
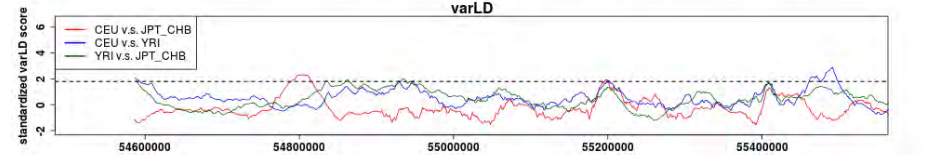
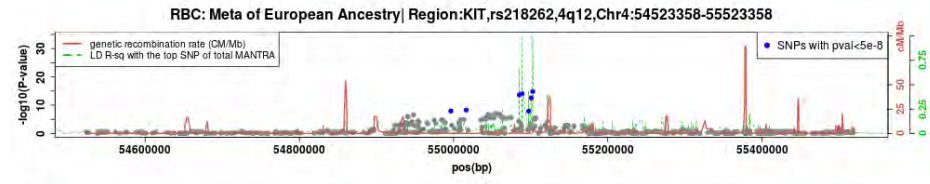
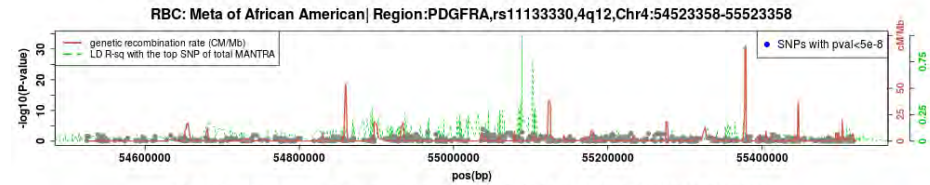
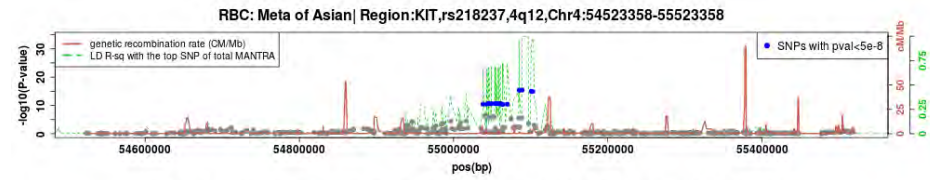
Top total SNP rs4952800 Hapmap MAF: Asian=0.1667, AA=0.325, EU=0.3333



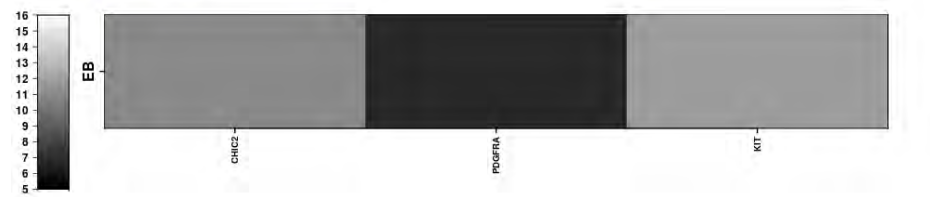


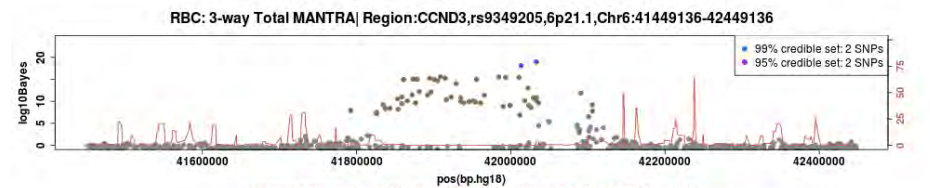
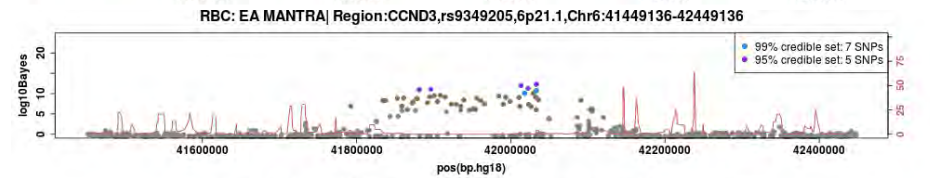
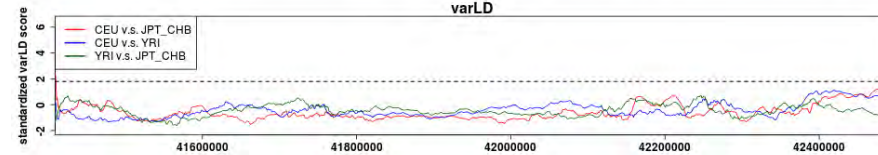
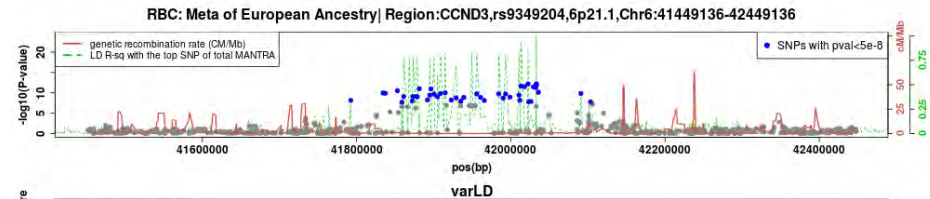
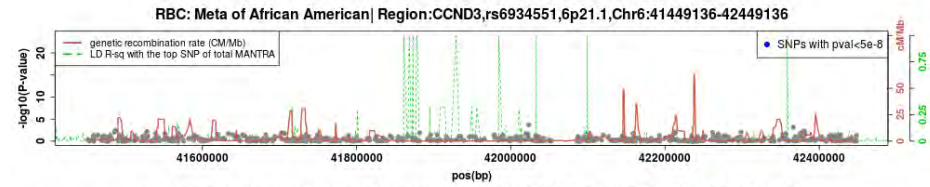
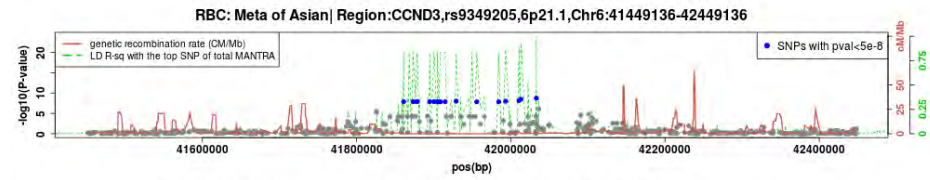
Top total SNP rs3860068 Hapmap MAF: Asian=0.3989, AA=0.2667, EU=0.45



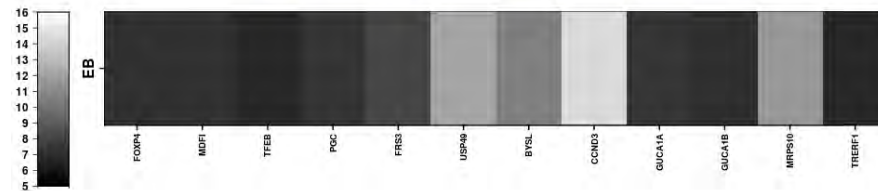


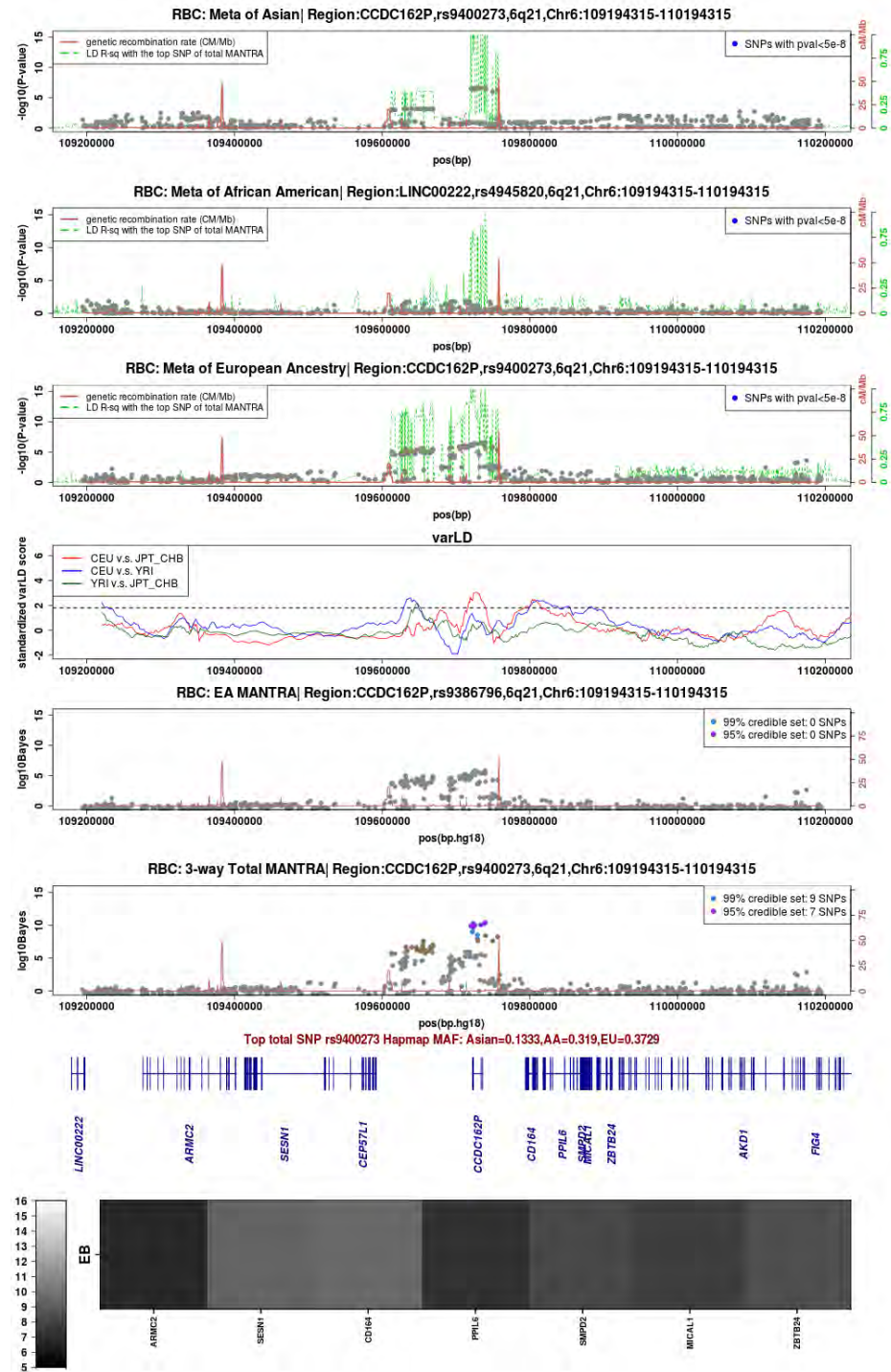
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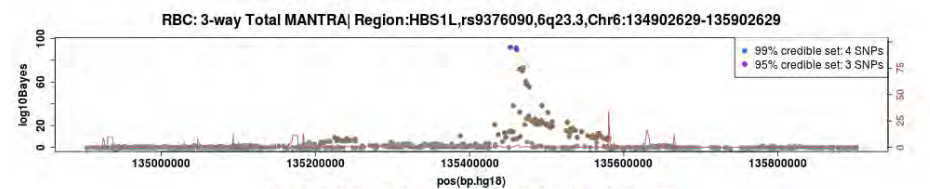
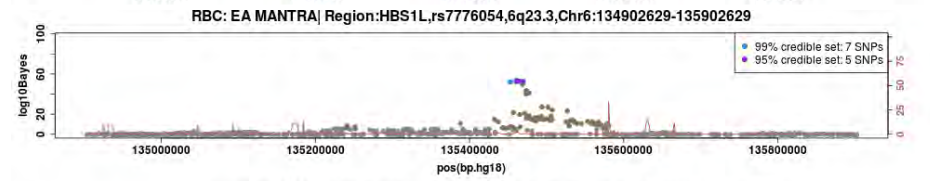
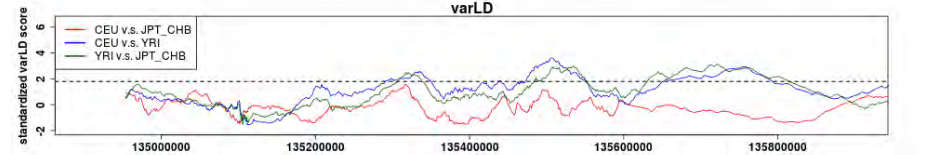
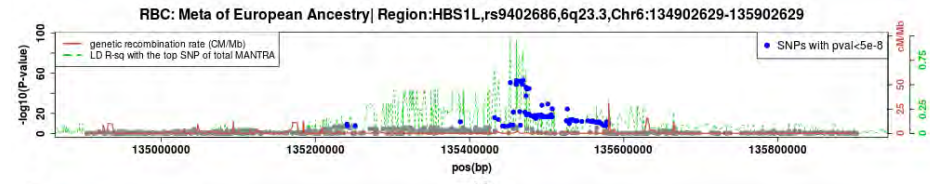
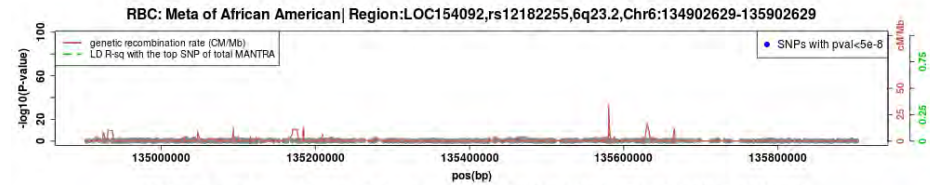
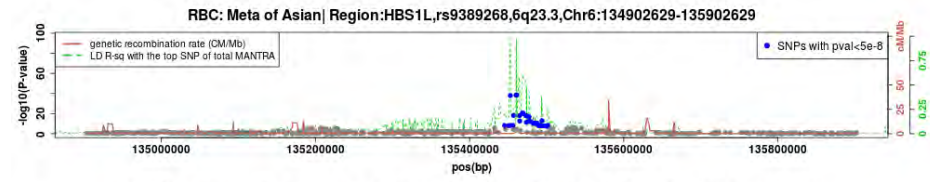


Top total SNP rs9349205 Hapmap MAF: Asian=0.2216, AA=0.00833, EU=0.1964

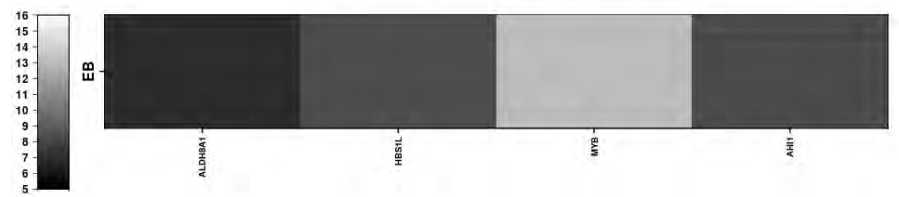


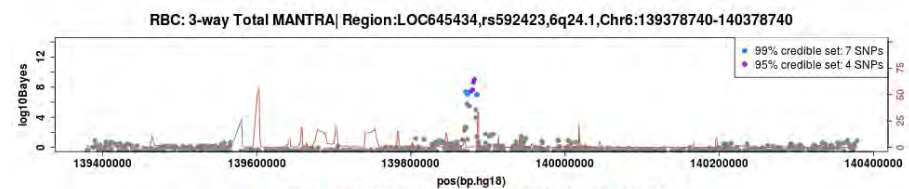
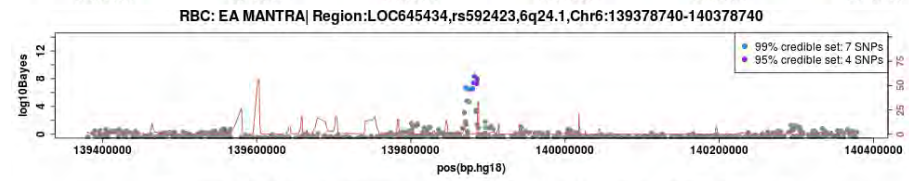
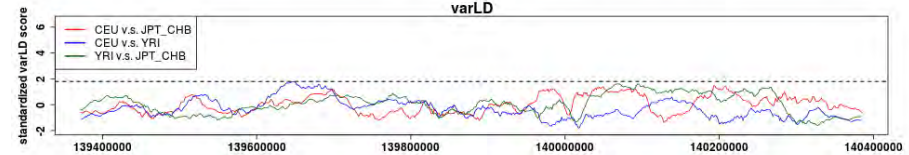
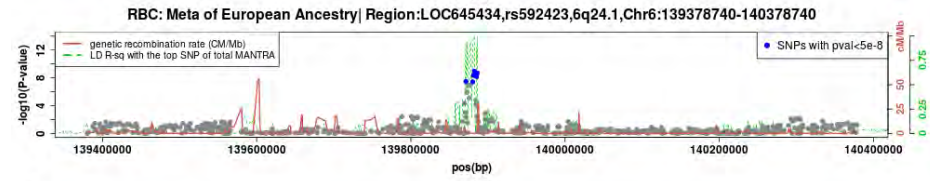
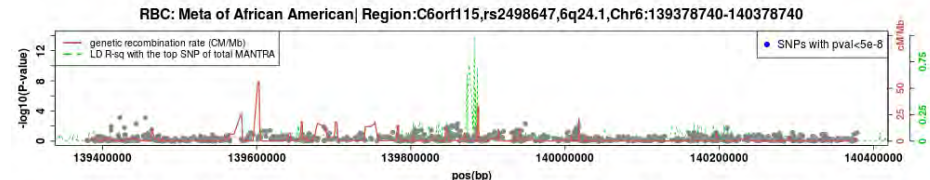
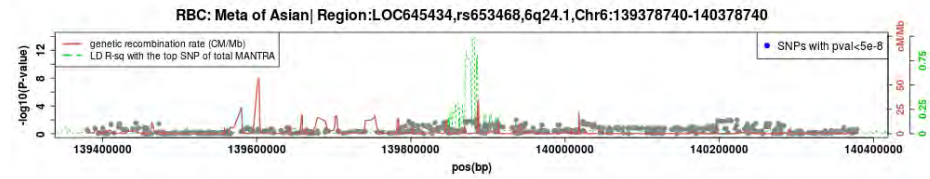




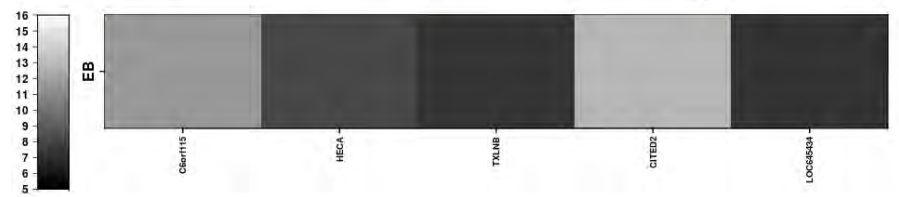


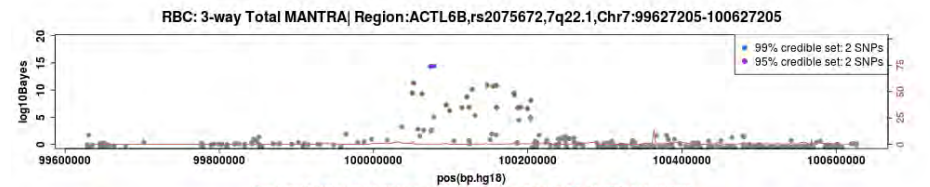
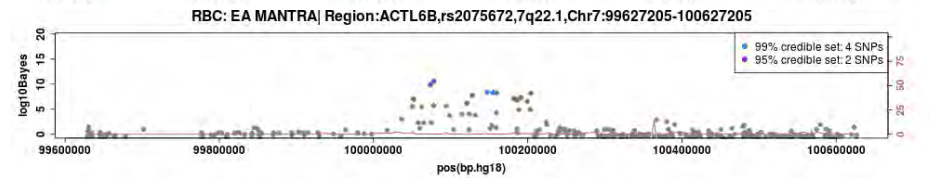
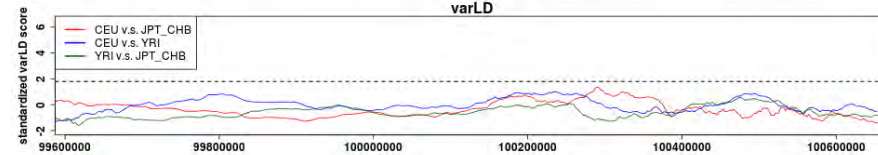
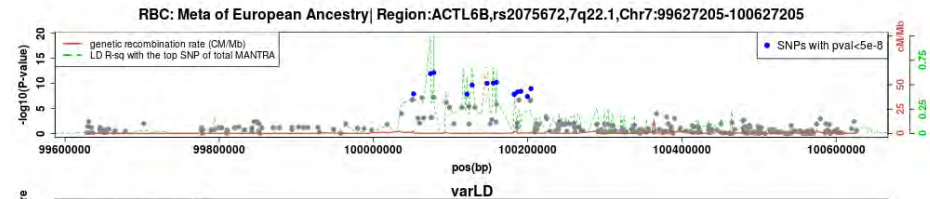
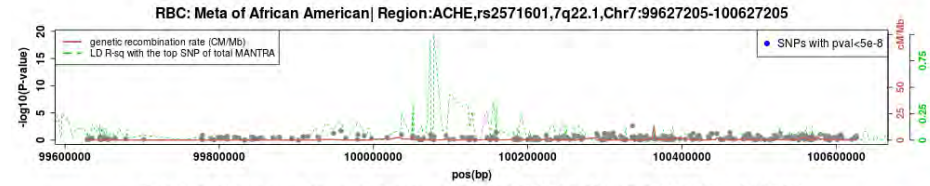
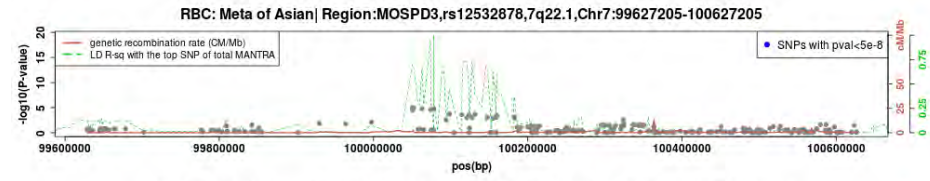
Top total SNP rs9376090 Hapmap MAF: Asian=0.3167, AA=0, EU=0.2203



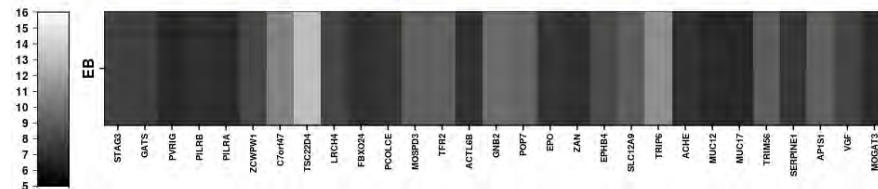


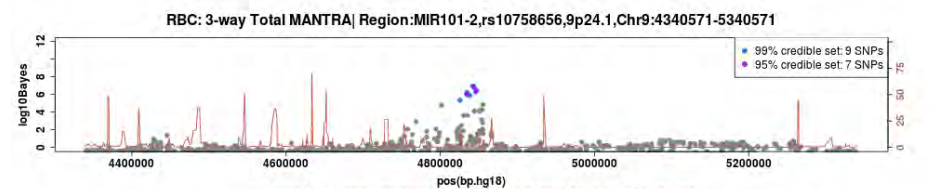
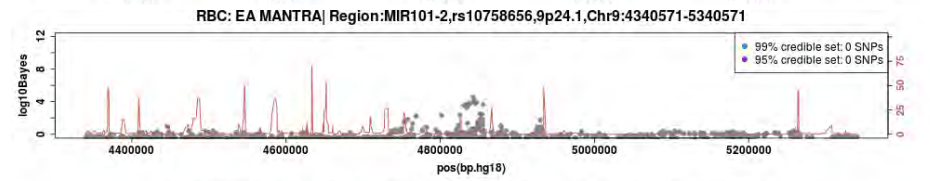
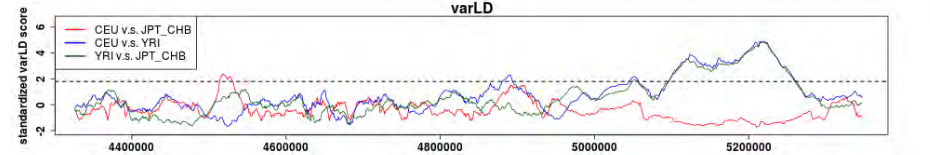
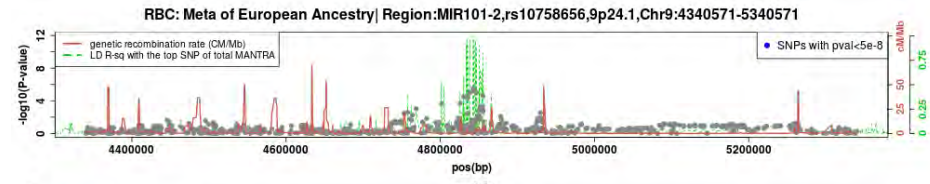
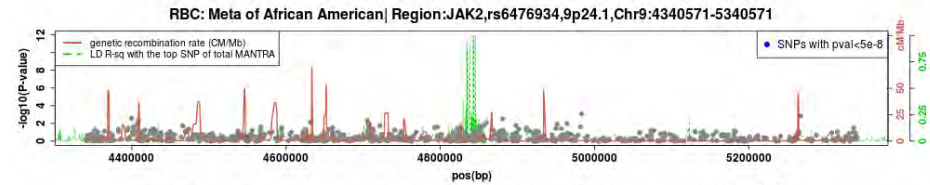
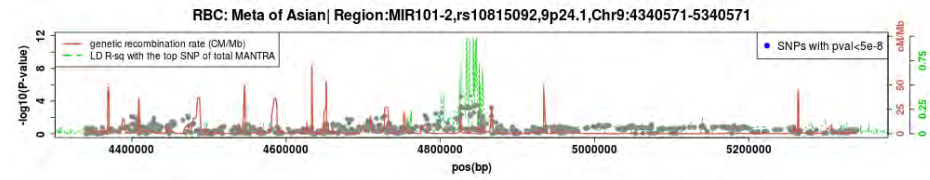
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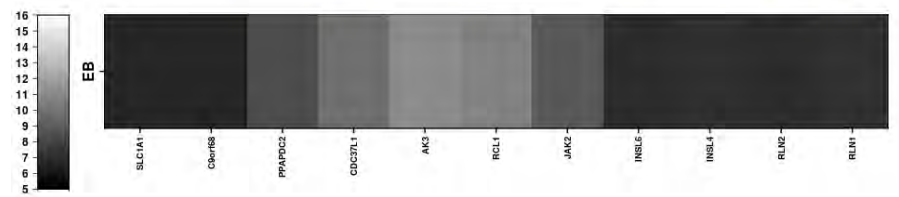


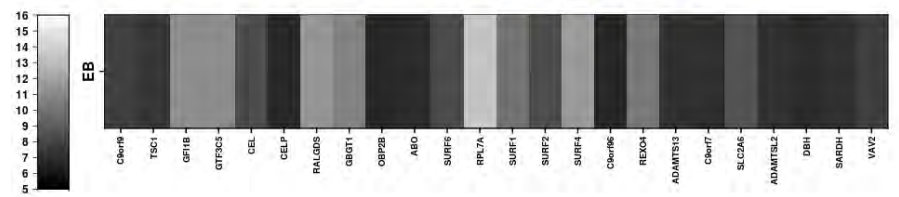
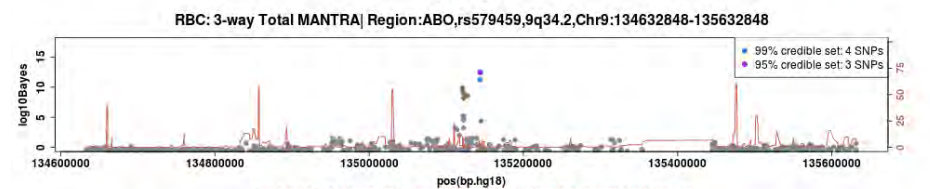
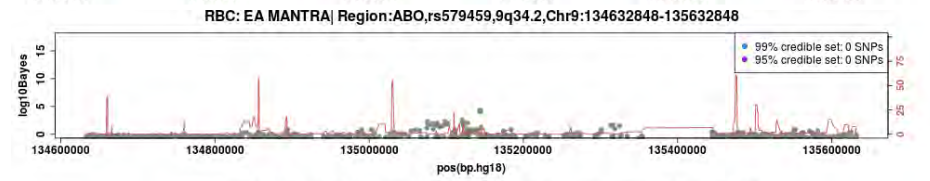
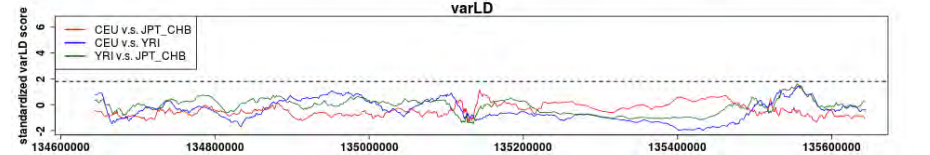
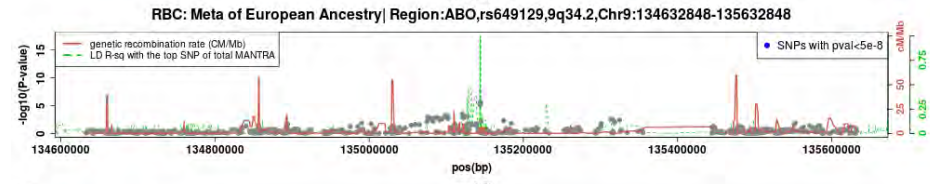
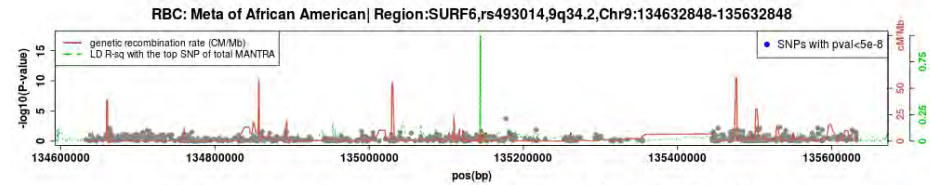
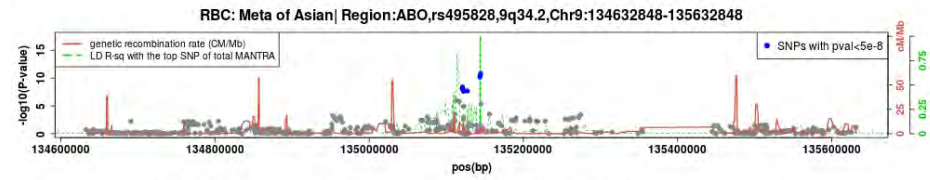
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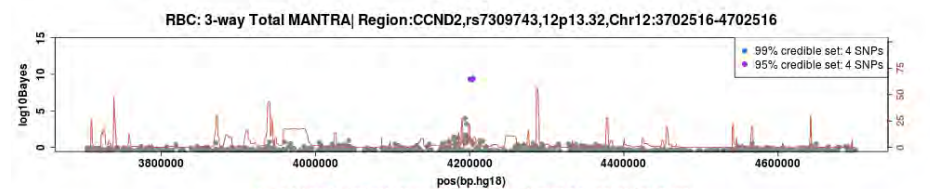
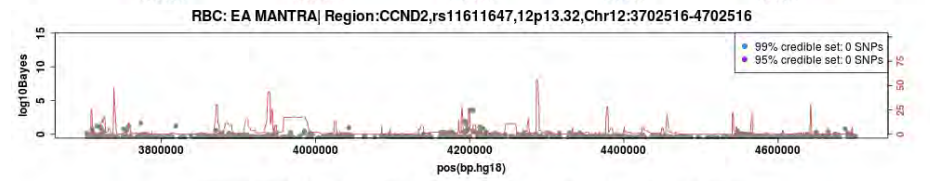
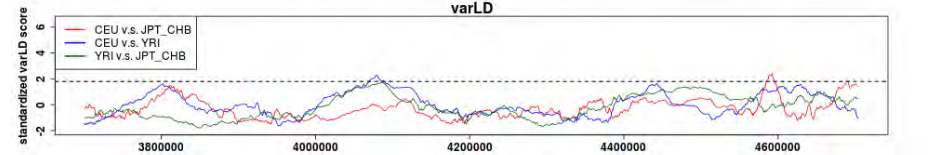
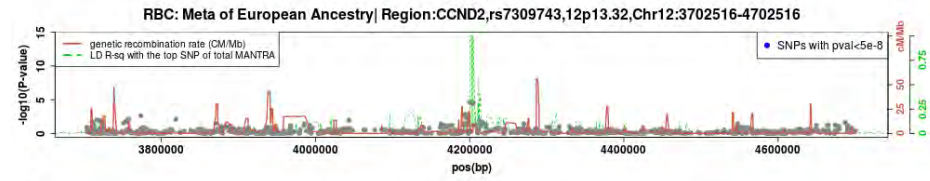
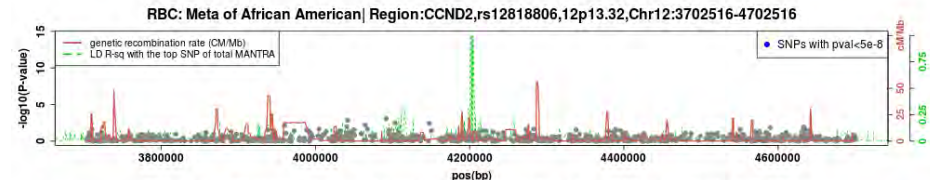
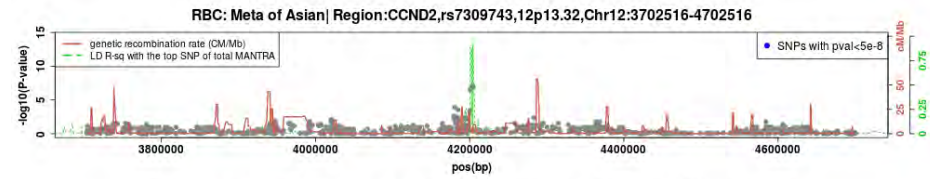




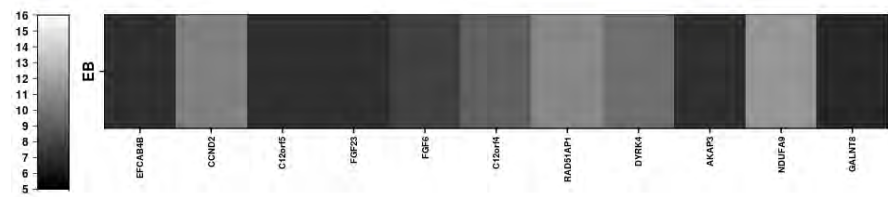
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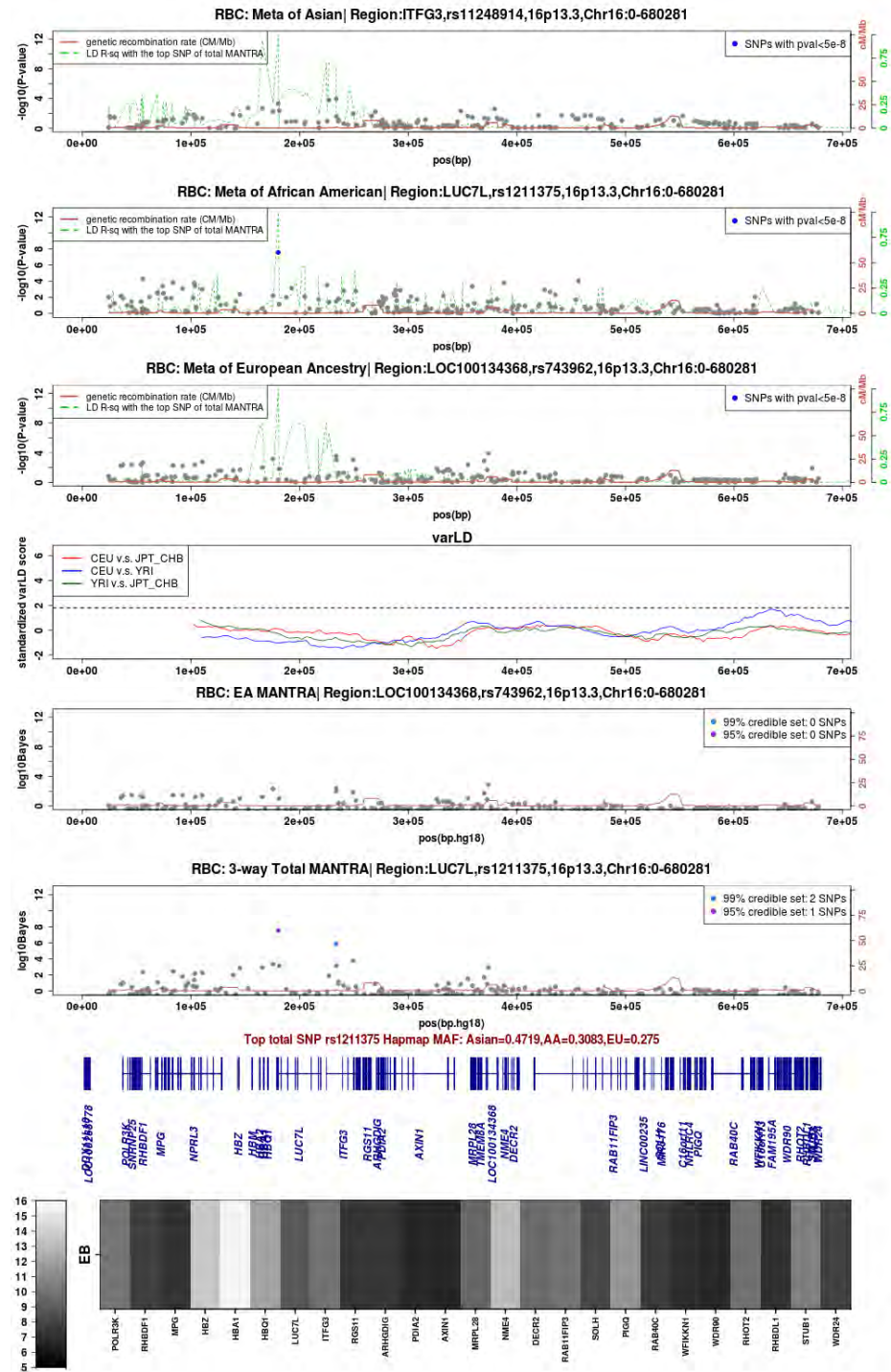


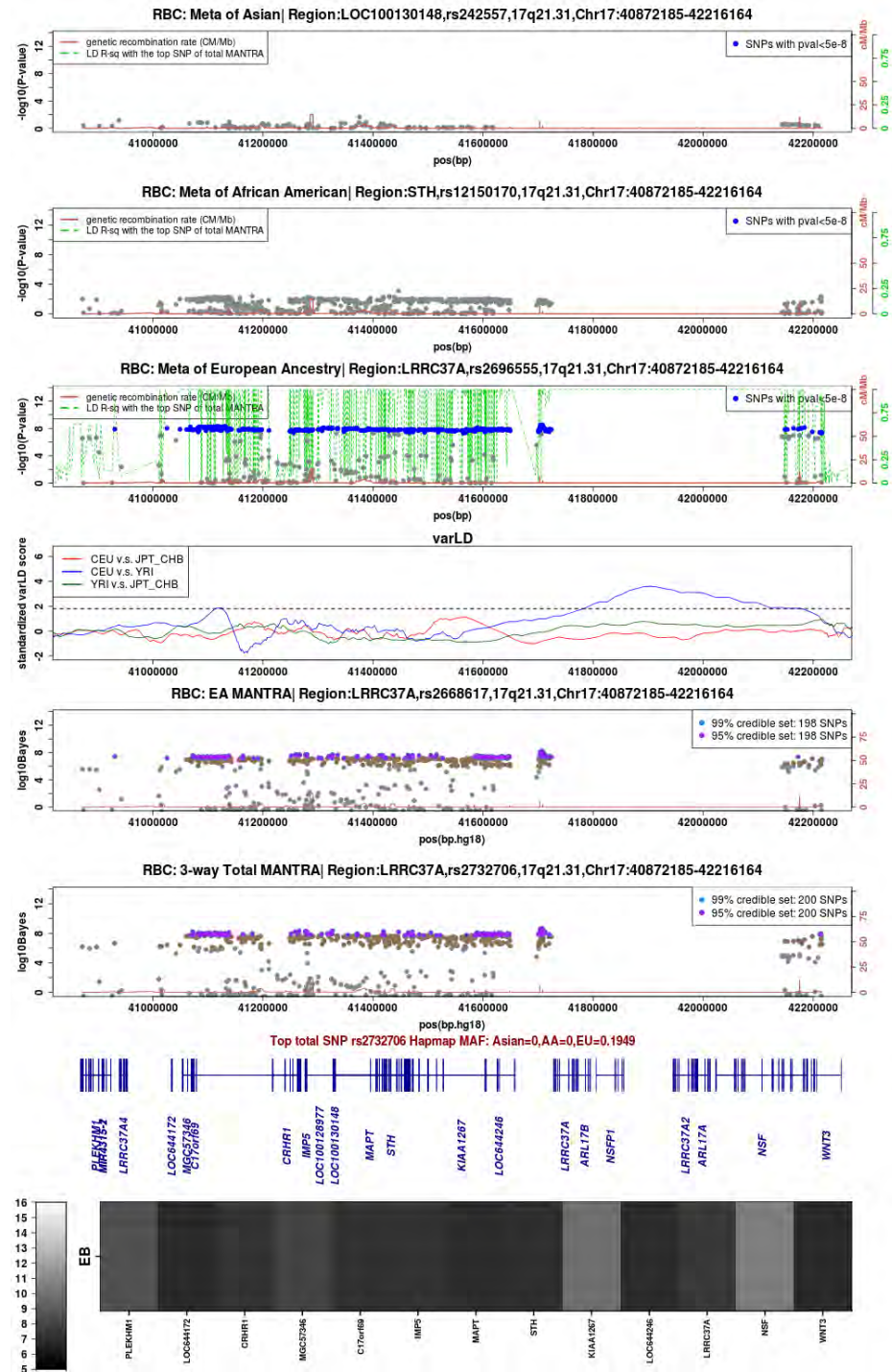




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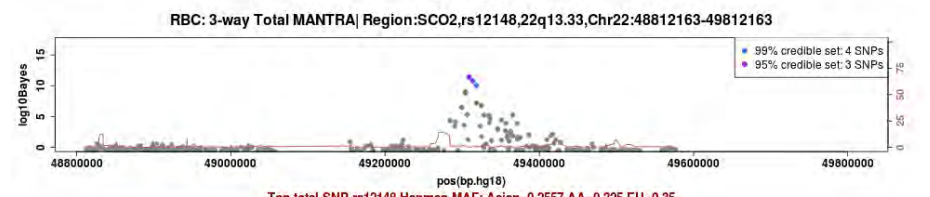
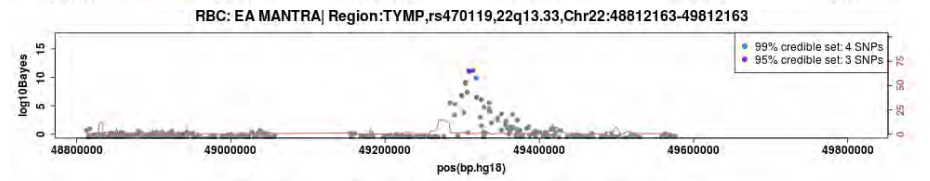
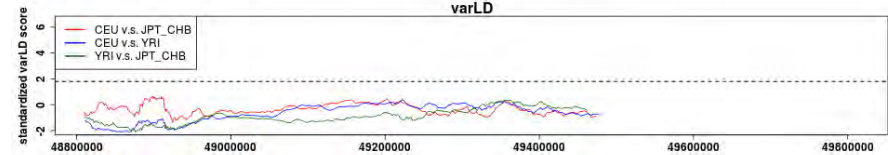
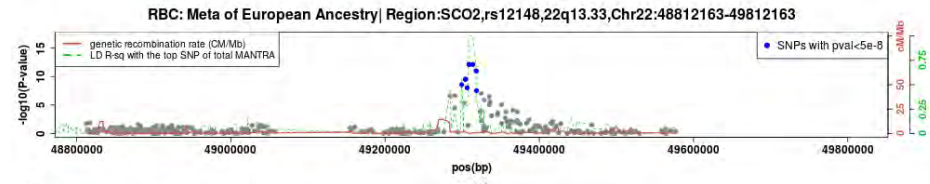
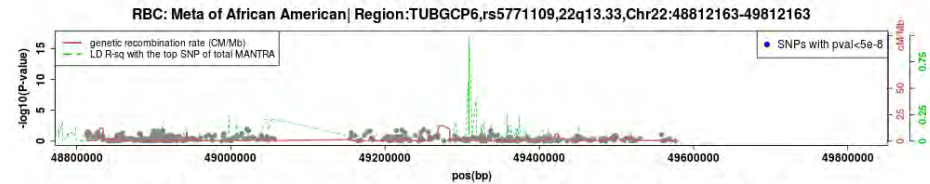
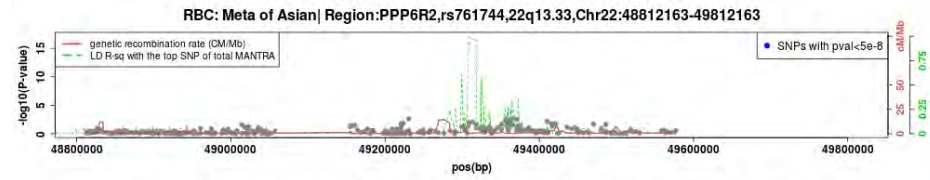




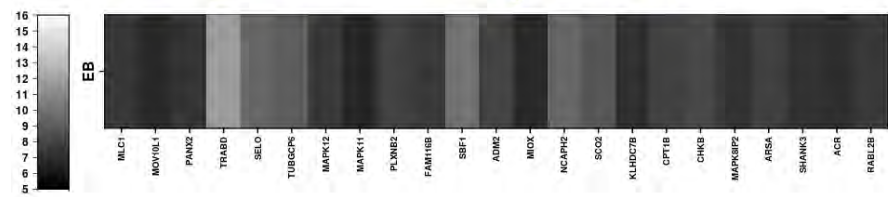








Top total SNP rs12148 Hapmap MAF: Asian=0.2557, AA=0.325, EU=0.35



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