**Supplementary**

**Supplementary Table**

**Table S1. Characters of SNPs of neuroticism extracted from GWAS**

**Table S2. Characters of SNPs of extraversion extracted from GWAS**

**Table S3. Association information of neuroticism and extraversion SNPs with risk of breast cancer**

**Table S4. Association information of neuroticism and extraversion SNPs with survival of breast cancer**

**Table S5. Mendelian Randomization using different models**

**Supplementary Figure**

**Figure S1. Leave-one-out analysis of neuroticism and breast cancer**

**Figure S2. Leave-one-out analysis for extraversion and breast cancer**

**Figure S3. Funnel plot of neuroticism and breast cancer**

**Figure S4. Funnel plot of extraversion and breast cancer**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S1. Characters of SNPs of neuroticism extracted from GWAS** | | | | | | | | |
| Chr | SNP | β | SE | EA | NEA | EAF | P value | nearest gene |
| 1 | rs4653218 | -0.038068 | 0.0056111 | T | C | 0.57135 | 1.17E-11 | . |
| 1 | rs169235 | 0.033031 | 0.0056122 | A | G | 0.25003 | 3.97E-09 | CACNA1E |
| 2 | rs2042555 | 0.039164 | 0.0055916 | G | A | 0.41045 | 2.49E-12 | . |
| 2 | rs2678897 | 0.032999 | 0.0055896 | G | A | 0.61144 | 3.56E-09 | VRK2 |
| 2 | rs4673866 | 0.032568 | 0.0056941 | A | G | 0.85598 | 1.07E-08 | . |
| 2 | rs7567451 | 0.032477 | 0.0057035 | G | T | 0.72029 | 1.24E-08 | . |
| 2 | rs10497655 | -0.03172 | 0.0055758 | T | C | 0.31434 | 1.28E-08 | ZNF804A |
| 2 | rs78323352 | 0.031446 | 0.0055323 | C | T | 0.095563 | 1.32E-08 | VRK2 |
| 2 | rs7578651 | 0.030648 | 0.0055918 | T | C | 0.49677 | 4.24E-08 | . |
| 3 | rs6791611 | -0.040436 | 0.0056087 | G | C | 0.42412 | 5.62E-13 | STAG1 |
| 3 | rs6773869 | 0.039687 | 0.0055753 | A | G | 0.35855 | 1.09E-12 | NA |
| 3 | rs1542212 | 0.038547 | 0.0055875 | T | G | 0.39305 | 5.25E-12 | ARPP21 |
| 3 | rs1282545 | 0.03487 | 0.0056205 | T | C | 0.43633 | 5.51E-10 | . |
| 3 | rs75976 | -0.033172 | 0.0055909 | G | A | 0.4175 | 2.97E-09 | IL20RB |
| 3 | rs189298483# | 0.030373 | 0.0054128 | G | A | 0.003344 | 2.01E-08 | ENTPD3-AS1 |
| 3 | rs4585149 | 0.030585 | 0.0055495 | T | C | 0.82293 | 3.56E-08 | . |
| 4 | rs7696796 | 0.038673 | 0.0056819 | G | A | 0.25319 | 1.00E-11 | TENM3 |
| 4 | rs59143394 | 0.031861 | 0.0056759 | A | G | 0.30789 | 1.99E-08 | . |
| 5 | rs13163891 | -0.035421 | 0.0056497 | C | A | 0.62103 | 3.63E-10 | . |
| 5 | rs1422192 | 0.034587 | 0.0057392 | G | A | 0.1656 | 1.68E-09 | LINC00461 |
| 5 | rs7723944 | -0.03113 | 0.005638 | G | A | 0.066009 | 3.36E-08 | FAM172A |
| 6 | rs2269426 | 0.037762 | 0.0055953 | G | A | 0.3594 | 1.49E-11 | TNXB |
| 6 | rs17508548 | 0.036185 | 0.0057344 | T | G | 0.12644 | 2.79E-10 | GABBR1 |
| 6 | rs9398586 | 0.03467 | 0.0056479 | A | G | 0.13207 | 8.34E-10 | RP11-436D23.1 |
| 6 | rs240764 | 0.032743 | 0.0056061 | G | A | 0.47527 | 5.21E-09 | ASCC3 |
| 6 | rs6986 | 0.032117 | 0.0056886 | G | C | 0.22334 | 1.65E-08 | RPP21 |
| 6 | rs11759026 | -0.031082 | 0.0056151 | A | G | 0.22914 | 3.11E-08 | . |
| 7 | rs4731328 | 0.03968 | 0.0056119 | T | C | 0.47532 | 1.55E-12 | GRM8 |
| 7 | rs13239186 | 0.035111 | 0.0055773 | C | T | 0.29807 | 3.07E-10 | CTTNBP2 |
| 7 | rs2056477 | -0.034188 | 0.0056382 | G | C | 0.23128 | 1.33E-09 | MAD1L1 |
| 7 | rs76335349 | 0.032205 | 0.0055133 | G | A | 0.091731 | 5.18E-09 | GRM8 |
| 7 | rs802425 | -0.032848 | 0.0056251 | C | T | 0.43998 | 5.24E-09 | GRM3 |
| 7 | rs57506017 | 0.032529 | 0.0055853 | A | T | 0.29304 | 5.75E-09 | TMEM106B |
| 7 | rs2690837 | -0.032297 | 0.0055897 | G | C | 0.55582 | 7.57E-09 | FOXP2 |
| 7 | rs60668206 | 0.030238 | 0.0055416 | C | T | 0.19744 | 4.86E-08 | GTF2IRD1 |
| 8 | rs2921036 | -0.058815 | 0.0055974 | T | C | 0.51254 | 8.04E-26 | . |
| 8 | rs10097870 | -0.057217 | 0.0056141 | G | A | 0.46759 | 2.18E-24 | LINC00208 |
| 8 | rs7005884 | 0.055959 | 0.0056083 | A | G | 0.55167 | 1.92E-23 | XKR6 |
| 8 | rs2953805 | -0.054392 | 0.0056071 | T | C | 0.46939 | 3.02E-22 | U3 |
| 8 | rs6982308 | 0.052542 | 0.0055998 | C | G | 0.51337 | 6.46E-21 | MSRA |
| 8 | rs6601444 | 0.047151 | 0.0058206 | C | T | 0.20003 | 5.48E-16 | MSRA |
| 8 | rs192083738 | 0.038202 | 0.005477 | G | C | 0.081583 | 3.07E-12 | XKR6 |
| 8 | 8:12184258\_A\_G | 0.03835 | 0.0055788 | A | G | 0.29444 | 6.24E-12 | FAM86B1 |
| 8 | rs35169606 | 0.03837 | 0.0055875 | T | G | 0.37454 | 6.56E-12 | TNKS |
| 8 | rs17662402 | 0.035091 | 0.0054659 | T | C | 0.057625 | 1.36E-10 | RP11-115J16.1:ENSG00000254237 |
| 8 | rs79487346 | -0.035302 | 0.0056264 | T | C | 0.090412 | 3.51E-10 | . |
| 8 | rs2407746 | 0.034196 | 0.0055678 | C | G | 0.30179 | 8.17E-10 | ENSG00000253262 |
| 8 | rs73190080 | 0.034064 | 0.0055643 | C | T | 0.12813 | 9.25E-10 | MFHAS1 |
| 8 | rs76333288 | -0.032959 | 0.0054549 | C | A | 0.083404 | 1.52E-09 | TNKS |
| 8 | rs117374667 | 0.032272 | 0.0054643 | T | G | 0.081061 | 3.51E-09 | . |
| 8 | rs17711777 | -0.031865 | 0.0054615 | T | C | 0.069526 | 5.40E-09 | PINX1 |
| 8 | rs4841132 | 0.032205 | 0.0055827 | A | G | 0.9081 | 7.99E-09 | RP11-115J16.1 |
| 8 | rs77156030 | -0.032537 | 0.0056464 | G | A | 0.112 | 8.30E-09 | . |
| 8 | rs7814925 | 0.033033 | 0.0057983 | C | G | 0.14731 | 1.22E-08 | SGCZ |
| 8 | rs80279740 | -0.031386 | 0.0056033 | A | C | 0.063033 | 2.13E-08 | RP11-115J16.1 |
| 9 | rs72700239# | -0.041836 | 0.0055103 | T | C | 0.17676 | 3.15E-14 | . |
| 9 | rs60150206 | 0.038299 | 0.0055872 | G | A | 0.090373 | 7.15E-12 | PTCH1 |
| 9 | rs2380937 | -0.035732 | 0.0055844 | T | C | 0.39916 | 1.57E-10 | GLIS3 |
| 9 | rs2149351 | -0.035437 | 0.0055438 | T | G | 0.76101 | 1.64E-10 | ENSG00000251847 |
| 9 | rs10757410 | -0.035061 | 0.0056377 | T | C | 0.60865 | 5.01E-10 | . |
| 9 | rs1521732 | 0.033271 | 0.0056041 | C | A | 0.62567 | 2.91E-09 | LINGO2 |
| 9 | rs3793577 | 0.032741 | 0.005579 | A | G | 0.53388 | 4.40E-09 | ELAVL2 |
| 9 | rs72694263 | -0.030659 | 0.0054725 | G | C | 0.079736 | 2.12E-08 | . |
| 9 | rs7857183 | 0.032071 | 0.0057674 | A | G | 0.14343 | 2.69E-08 | FAM120A |
| 10 | rs860626 | -0.032304 | 0.0056439 | T | G | 0.29763 | 1.04E-08 | EMX2OS |
| 10 | rs2683653 | -0.031159 | 0.005709 | G | C | 0.11648 | 4.82E-08 | . |
| 11 | rs7111031 | 0.044796 | 0.0055859 | C | A | 0.63974 | 1.06E-15 | . |
| 11 | rs4936277 | -0.040991 | 0.0055839 | A | G | 0.44814 | 2.13E-13 | . |
| 11 | rs34862781 | -0.041242 | 0.0056308 | G | A | 0.56987 | 2.40E-13 | ARNTL |
| 11 | rs7107356 | 0.039555 | 0.0055923 | A | G | 0.50499 | 1.52E-12 | AGBL2 |
| 11 | rs11214589 | -0.038833 | 0.0056321 | G | A | 0.49847 | 5.40E-12 | TTC12 |
| 11 | rs2071754 | -0.038319 | 0.0057154 | C | T | 0.7895 | 2.02E-11 | PAX6 |
| 11 | rs10896636 | 0.034712 | 0.0055673 | C | G | 0.33647 | 4.52E-10 | ZDHHC5 |
| 11 | rs496939 | 0.034727 | 0.0055986 | A | G | 0.45226 | 5.55E-10 | GRM5 |
| 11 | rs10789929 | 0.032289 | 0.0056267 | C | T | 0.39395 | 9.55E-09 | RP11-629G13.1 |
| 11 | rs297346 | -0.031816 | 0.0056023 | A | G | 0.63388 | 1.36E-08 | SOX6 |
| 11 | rs11605020 | 0.031822 | 0.0056048 | G | A | 0.5023 | 1.37E-08 | ENSG00000272981 |
| 11 | rs72995548 | -0.030028 | 0.0054647 | C | T | 0.062183 | 3.91E-08 | NCAM1 |
| 12 | rs6606710 | 0.037417 | 0.0056155 | T | C | 0.41267 | 2.69E-11 | MYO1H |
| 12 | rs3741475 | 0.03397 | 0.0056418 | G | A | 0.20039 | 1.73E-09 | NOS1 |
| 12 | rs11068926 | 0.033664 | 0.00561 | T | A | 0.17661 | 1.97E-09 | TAOK3 |
| 12 | rs10507274 | 0.03071 | 0.0055216 | T | C | 0.06151 | 2.67E-08 | C12orf49 |
| 13 | rs9572015 | 0.033687 | 0.005563 | G | A | 0.31691 | 1.40E-09 | . |
| 13 | rs61361413 | 0.034656 | 0.005806 | C | G | 0.15637 | 2.39E-09 | MIR548X2 |
| 13 | rs4772079 | 0.033216 | 0.0055774 | G | C | 0.37482 | 2.60E-09 | FARP1 |
| 13 | rs9541687 | 0.032044 | 0.0055948 | G | C | 0.62843 | 1.02E-08 | . |
| 14 | rs12896360 | 0.040739 | 0.005607 | A | C | 0.67995 | 3.72E-13 | YLPM1 |
| 14 | rs4140799 | -0.033127 | 0.0056039 | G | A | 0.54415 | 3.39E-09 | SIPA1L1 |
| 14 | rs112850127 | -0.031987 | 0.0054551 | A | G | 0.040313 | 4.53E-09 | . |
| 14 | rs1275411# | -0.03134 | 0.0055702 | T | C | 0.34118 | 1.84E-08 | DCAF5 |
| 15 | rs7175083 | -0.034027 | 0.0055905 | T | C | 0.51843 | 1.16E-09 | LINGO1 |
| 15 | rs4362360 | -0.032966 | 0.0056526 | T | C | 0.48711 | 5.48E-09 | AGBL1 |
| 15 | rs12441402 | 0.031634 | 0.0055772 | G | C | 0.40667 | 1.41E-08 | . |
| 15 | rs8039690 | 0.031502 | 0.0055841 | A | G | 0.7224 | 1.69E-08 | . |
| 15 | rs76064345 | 0.030503 | 0.00549 | T | G | 0.052883 | 2.76E-08 | ZNF609 |
| 15 | rs1563245 | 0.031079 | 0.0055972 | T | G | 0.40275 | 2.82E-08 | SEMA6D |
| 16 | rs1870293 | 0.035635 | 0.0056333 | T | C | 0.62782 | 2.52E-10 | SETD1A |
| 16 | rs3785232 | 0.032548 | 0.0055886 | C | T | 0.67234 | 5.75E-09 | RBFOX1 |
| 16 | rs1050846 | -0.031983 | 0.0056288 | G | A | 0.44187 | 1.33E-08 | ZCCHC14 |
| 16 | rs8063603 | -0.032168 | 0.0057173 | G | A | 0.66465 | 1.84E-08 | ENSG00000260411 |
| 17 | rs77804065\* | 0.057242 | 0.0055267 | C | T | 0.21716 | 3.91E-25 | CRHR1 |
| 17 | rs2532386\* | 0.055118 | 0.0055264 | G | A | 0.21567 | 2.00E-23 | LRRC37A |
| 17 | rs199534\* | 0.051464 | 0.0055195 | T | G | 0.20566 | 1.13E-20 | NSF |
| 17 | rs7502590 | -0.0371 | 0.0055642 | A | G | 0.14738 | 2.61E-11 | BAIAP2 |
| 17 | rs1109451 | -0.031803 | 0.0055939 | G | A | 0.37746 | 1.31E-08 | ENSG00000272911 |
| 17 | rs2244497 | 0.031228 | 0.0056524 | C | T | 0.63868 | 3.30E-08 | PRKCA |
| 18 | rs11082011 | -0.047133 | 0.0056933 | C | T | 0.656 | 1.25E-16 | CELF4 |
| 18 | rs56403421 | 0.03675 | 0.0055758 | A | C | 0.32703 | 4.38E-11 | CTD-2171N6.1 |
| 18 | rs11152363 | 0.034534 | 0.0055872 | G | A | 0.1844 | 6.38E-10 | TCF4 |
| 18 | rs4267411 | -0.031223 | 0.0055797 | C | T | 0.187 | 2.20E-08 | . |
| 18 | rs77484855 | 0.030473 | 0.005491 | T | G | 0.073748 | 2.87E-08 | . |
| 18 | rs72899043 | -0.030541 | 0.005589 | C | T | 0.4221 | 4.64E-08 | . |
| 19 | rs8100891 | -0.032131 | 0.0056485 | C | G | 0.26821 | 1.28E-08 | ZNF507 |
| 19 | rs534666677# | 0.029685 | 0.0053742 | C | T | 0.000564 | 3.33E-08 | PPP5C |
| 20 | rs4911448 | 0.031661 | 0.0056212 | C | T | 0.18144 | 1.78E-08 | ACSS2 |
| 22 | rs11090045 | 0.039957 | 0.0055799 | G | A | 0.30231 | 8.04E-13 | ZC3H7B |
| #: SNPs unavailable in outcome datasets were red colored;  \*:SNPs overlap with outcome were blue colored. | | | | | | | | |
| β, per allele effect on neuroticism levels; SE, standard error; EA, effect allele; NEA, non-effect allele; EAF, effect allele frequency. | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S2. Characters of SNPs of extraversion extracted from GWAS** | | | | | | | | |
| Chromosome | SNP | β | SE | EA | NEA | EAF | P value | nearest gene |
| 3 | rs57590327 | 0.026 | 0.006 | T | G | 0.287 | 1.00E-09 | HSPE1P19 |
| 8 | rs2164273 | 0.024 | 0.006 | G | A | 0.426 | 2.00E-09 | MTMR9 |
| 10 | rs2045147 | 0.018 | 0.005 | A | G | 0.444 | 5.00E-10 | PCDH15 |
| 12 | rs3764002 | 0.022 | 0.006 | C | T | 0.285 | 1.00E-14 | WSCD2 |
| 16 | rs7498702 | 0.026 | 0.006 | T | C | 0.317 | 2.00E-06 | RBFOX1 |
| β, per allele effect on extraversion levels; SE, standard error; EA, effect allele; NEA, non-effect allele; EAF, effect allele frequency. | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S3. Association information of neuroticism and extraversion SNPs with risk of breast cancer** | | | | | | | | | | | | | | | | | | | |
| SNPs | EA | Overall BC | | | luminal A like BC | | | luminal B like BC | | | luminal B HER2- BC | | | HER2 enriched BC | | | Triple negative BC | | |
| β | SE | P | β | SE | P | β | SE | P | β | SE | P | β | SE | P | β | SE | P |
| **Neuroticism** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rs4653218 | C | 0.0006 | 0.0067 | 0.923 | 0.0057 | 0.0089 | 0.519 | -0.0077 | 0.0191 | 0.686 | 0.0314 | 0.0166 | 0.059 | -0.0327 | 0.0279 | 0.242 | -0.0145 | 0.0169 | 0.391 |
| rs169235 | G | -0.0083 | 0.0069 | 0.230 | -0.0029 | 0.0091 | 0.752 | -0.0111 | 0.0203 | 0.584 | -0.0036 | 0.0173 | 0.837 | -0.0274 | 0.0296 | 0.355 | 0.0024 | 0.0175 | 0.892 |
| rs2042555 | A | 0.0156 | 0.0062 | 0.011 | 0.0248 | 0.0081 | 0.002 | -0.0005 | 0.0180 | 0.978 | 0.0048 | 0.0153 | 0.754 | 0.0778 | 0.0258 | 0.003 | -0.0130 | 0.0156 | 0.404 |
| rs2678897 | A | 0.0021 | 0.0062 | 0.733 | 0.0020 | 0.0081 | 0.803 | -0.0196 | 0.0180 | 0.277 | -0.0028 | 0.0154 | 0.853 | 0.0243 | 0.0264 | 0.357 | -0.0049 | 0.0156 | 0.756 |
| rs4673866 | G | -0.0124 | 0.0086 | 0.149 | -0.0231 | 0.0113 | 0.040 | -0.0310 | 0.0247 | 0.210 | 0.0029 | 0.0214 | 0.894 | 0.0347 | 0.0368 | 0.346 | -0.0355 | 0.0214 | 0.098 |
| rs7567451 | T | -0.0039 | 0.0068 | 0.572 | -0.0006 | 0.0090 | 0.946 | 0.0056 | 0.0200 | 0.781 | -0.0356 | 0.0170 | 0.036 | 0.0174 | 0.0293 | 0.554 | -0.0094 | 0.0173 | 0.586 |
| rs10497655 | C | -0.0030 | 0.0066 | 0.649 | -0.0099 | 0.0087 | 0.254 | 0.0181 | 0.0192 | 0.345 | -0.0229 | 0.0165 | 0.166 | 0.0181 | 0.0280 | 0.517 | -0.0003 | 0.0167 | 0.985 |
| rs78323352 | T | 0.0328 | 0.0104 | 0.002 | 0.0133 | 0.0137 | 0.335 | 0.0405 | 0.0303 | 0.181 | 0.0603 | 0.0257 | 0.019 | 0.0824 | 0.0432 | 0.056 | 0.0500 | 0.0261 | 0.055 |
| rs7578651 | C | -0.0067 | 0.0063 | 0.285 | -0.0031 | 0.0083 | 0.707 | 0.0060 | 0.0181 | 0.739 | -0.0165 | 0.0156 | 0.289 | -0.0200 | 0.0265 | 0.451 | 0.0030 | 0.0159 | 0.849 |
| rs6791611 | C | -0.0072 | 0.0061 | 0.238 | -0.0146 | 0.0080 | 0.068 | 0.0087 | 0.0178 | 0.627 | -0.0106 | 0.0152 | 0.486 | 0.0000 | 0.0258 | 1.000 | -0.0034 | 0.0154 | 0.823 |
| rs6773869 | G | -0.0035 | 0.0063 | 0.572 | -0.0020 | 0.0083 | 0.809 | -0.0196 | 0.0184 | 0.288 | 0.0280 | 0.0156 | 0.073 | -0.0278 | 0.0268 | 0.301 | -0.0101 | 0.0159 | 0.525 |
| rs1542212 | G | -0.0083 | 0.0063 | 0.187 | -0.0175 | 0.0083 | 0.035 | -0.0193 | 0.0183 | 0.293 | -0.0027 | 0.0156 | 0.862 | -0.0126 | 0.0266 | 0.635 | 0.0095 | 0.0158 | 0.548 |
| rs1282545 | C | -0.0042 | 0.0061 | 0.494 | -0.0009 | 0.0080 | 0.910 | 0.0118 | 0.0178 | 0.505 | -0.0222 | 0.0152 | 0.146 | 0.0399 | 0.0257 | 0.121 | -0.0438 | 0.0154 | 0.005 |
| rs75976 | A | -0.0090 | 0.0062 | 0.148 | -0.0090 | 0.0082 | 0.273 | -0.0112 | 0.0181 | 0.537 | -0.0235 | 0.0155 | 0.129 | -0.0088 | 0.0263 | 0.738 | -0.0128 | 0.0157 | 0.414 |
| rs4585149 | C | 0.0209 | 0.0078 | 0.008 | 0.0208 | 0.0103 | 0.044 | 0.0130 | 0.0230 | 0.570 | 0.0185 | 0.0197 | 0.347 | 0.0228 | 0.0337 | 0.499 | 0.0236 | 0.0199 | 0.237 |
| rs7696796 | A | -0.0135 | 0.0073 | 0.066 | -0.0293 | 0.0097 | 0.003 | -0.0013 | 0.0210 | 0.952 | 0.0009 | 0.0182 | 0.960 | -0.0290 | 0.0309 | 0.348 | 0.0190 | 0.0184 | 0.302 |
| rs59143394 | G | 0.0172 | 0.0079 | 0.029 | 0.0062 | 0.0103 | 0.550 | 0.0325 | 0.0228 | 0.154 | 0.0260 | 0.0195 | 0.183 | 0.0337 | 0.0331 | 0.307 | -0.0158 | 0.0199 | 0.426 |
| rs13163891 | A | 0.0000 | 0.0062 | 0.996 | 0.0046 | 0.0082 | 0.575 | -0.0380 | 0.0182 | 0.036 | -0.0021 | 0.0156 | 0.892 | 0.0261 | 0.0266 | 0.327 | -0.0078 | 0.0157 | 0.620 |
| rs1422192 | A | -0.0043 | 0.0083 | 0.603 | -0.0076 | 0.0110 | 0.491 | -0.0038 | 0.0242 | 0.875 | 0.0132 | 0.0206 | 0.520 | -0.0429 | 0.0356 | 0.228 | 0.0277 | 0.0207 | 0.182 |
| rs7723944 | A | 0.0000 | 0.0131 | 0.997 | -0.0035 | 0.0170 | 0.837 | -0.0580 | 0.0385 | 0.132 | 0.0143 | 0.0319 | 0.654 | 0.0471 | 0.0535 | 0.378 | 0.0452 | 0.0320 | 0.157 |
| rs2269426 | A | 0.0065 | 0.0062 | 0.294 | 0.0105 | 0.0081 | 0.196 | 0.0083 | 0.0180 | 0.644 | 0.0062 | 0.0153 | 0.686 | 0.0308 | 0.0259 | 0.235 | 0.0057 | 0.0155 | 0.715 |
| rs17508548 | G | 0.0109 | 0.0095 | 0.251 | 0.0009 | 0.0125 | 0.945 | 0.0231 | 0.0272 | 0.396 | -0.0266 | 0.0238 | 0.262 | 0.0379 | 0.0392 | 0.333 | 0.0214 | 0.0236 | 0.365 |
| rs9398586 | G | 0.0019 | 0.0089 | 0.831 | 0.0128 | 0.0143 | 0.369 | -0.0041 | 0.0294 | 0.889 | 0.0131 | 0.0261 | 0.615 | -0.0471 | 0.0446 | 0.291 | -0.0017 | 0.0270 | 0.951 |
| rs240764 | A | -0.0023 | 0.0061 | 0.706 | -0.0115 | 0.0081 | 0.156 | -0.0069 | 0.0179 | 0.702 | -0.0059 | 0.0153 | 0.701 | 0.0185 | 0.0259 | 0.475 | -0.0105 | 0.0155 | 0.498 |
| rs6986 | C | 0.0050 | 0.0071 | 0.484 | 0.0059 | 0.0093 | 0.523 | -0.0187 | 0.0207 | 0.365 | -0.0131 | 0.0176 | 0.456 | -0.0098 | 0.0298 | 0.743 | -0.0056 | 0.0178 | 0.754 |
| rs11759026 | G | 0.0008 | 0.0072 | 0.908 | -0.0107 | 0.0094 | 0.254 | 0.0216 | 0.0206 | 0.295 | 0.0172 | 0.0176 | 0.330 | -0.0583 | 0.0305 | 0.056 | -0.0198 | 0.0180 | 0.271 |
| rs4731328 | C | -0.0029 | 0.0060 | 0.628 | 0.0029 | 0.0080 | 0.719 | -0.0091 | 0.0177 | 0.608 | -0.0084 | 0.0151 | 0.578 | 0.0057 | 0.0258 | 0.825 | -0.0229 | 0.0153 | 0.136 |
| rs13239186 | T | 0.0032 | 0.0065 | 0.624 | 0.0272 | 0.0085 | 0.001 | -0.0039 | 0.0191 | 0.839 | -0.0115 | 0.0163 | 0.480 | -0.0747 | 0.0282 | 0.008 | -0.0181 | 0.0165 | 0.274 |
| rs2056477 | C | -0.0041 | 0.0070 | 0.558 | -0.0040 | 0.0285 | 0.888 | -0.0335 | 0.0644 | 0.603 | -0.0594 | 0.0560 | 0.289 | -0.0889 | 0.0964 | 0.357 | -0.0014 | 0.0544 | 0.979 |
| rs76335349 | A | -0.0092 | 0.0120 | 0.443 | 0.0026 | 0.0157 | 0.869 | -0.0576 | 0.0353 | 0.103 | -0.0216 | 0.0298 | 0.469 | 0.0413 | 0.0495 | 0.404 | -0.0293 | 0.0305 | 0.336 |
| rs802425 | T | 0.0119 | 0.0061 | 0.052 | 0.0052 | 0.0081 | 0.520 | -0.0023 | 0.0179 | 0.896 | 0.0412 | 0.0152 | 0.007 | 0.0047 | 0.0259 | 0.857 | 0.0209 | 0.0154 | 0.175 |
| rs57506017 | T | -0.0033 | 0.0066 | 0.619 | -0.0099 | 0.0088 | 0.256 | 0.0133 | 0.0194 | 0.495 | 0.0035 | 0.0166 | 0.835 | 0.0113 | 0.0283 | 0.691 | -0.0078 | 0.0169 | 0.643 |
| rs2690837 | C | 0.0163 | 0.0063 | 0.009 | 0.0140 | 0.0100 | 0.162 | 0.0359 | 0.0207 | 0.083 | 0.0038 | 0.0184 | 0.836 | 0.0072 | 0.0306 | 0.815 | -0.0156 | 0.0188 | 0.407 |
| rs60668206 | T | -0.0022 | 0.0076 | 0.768 | 0.0060 | 0.0099 | 0.544 | 0.0003 | 0.0222 | 0.989 | -0.0245 | 0.0190 | 0.197 | 0.0064 | 0.0321 | 0.842 | -0.0041 | 0.0191 | 0.832 |
| rs2921036 | C | -0.0169 | 0.0074 | 0.023 | -0.0158 | 0.0099 | 0.111 | -0.0243 | 0.0224 | 0.279 | 0.0263 | 0.0174 | 0.130 | -0.0168 | 0.0292 | 0.566 | 0.0081 | 0.0183 | 0.656 |
| rs10097870 | A | -0.0219 | 0.0077 | 0.005 | -0.0147 | 0.0104 | 0.156 | -0.0174 | 0.0236 | 0.462 | 0.0115 | 0.0179 | 0.519 | -0.0088 | 0.0302 | 0.771 | -0.0106 | 0.0190 | 0.576 |
| rs7005884 | G | 0.0073 | 0.0073 | 0.319 | 0.0036 | 0.0098 | 0.712 | 0.0068 | 0.0219 | 0.758 | -0.0162 | 0.0173 | 0.350 | 0.0201 | 0.0291 | 0.490 | -0.0069 | 0.0181 | 0.705 |
| rs2953805 | C | -0.0194 | 0.0075 | 0.010 | -0.0161 | 0.0101 | 0.110 | -0.0095 | 0.0227 | 0.674 | 0.0126 | 0.0176 | 0.475 | -0.0125 | 0.0298 | 0.673 | -0.0072 | 0.0186 | 0.699 |
| rs6982308 | G | 0.0119 | 0.0075 | 0.110 | 0.0106 | 0.0100 | 0.287 | 0.0277 | 0.0226 | 0.220 | -0.0192 | 0.0174 | 0.269 | 0.0185 | 0.0293 | 0.529 | -0.0079 | 0.0183 | 0.669 |
| rs6601444 | T | 0.0046 | 0.0082 | 0.573 | 0.0055 | 0.0108 | 0.609 | -0.0354 | 0.0241 | 0.141 | -0.0166 | 0.0203 | 0.415 | 0.0483 | 0.0337 | 0.151 | 0.0076 | 0.0205 | 0.712 |
| rs192083738 | C | 0.0019 | 0.0120 | 0.872 | -0.0131 | 0.0159 | 0.408 | 0.0293 | 0.0347 | 0.398 | 0.0250 | 0.0295 | 0.397 | 0.0704 | 0.0491 | 0.151 | 0.0058 | 0.0303 | 0.847 |
| 8:12184258\_A\_G | G | -0.0076 | 0.0104 | 0.464 | 0.0053 | 0.0137 | 0.701 | -0.0196 | 0.0303 | 0.518 | -0.0392 | 0.0255 | 0.124 | 0.0239 | 0.0427 | 0.575 | 0.0085 | 0.0259 | 0.743 |
| rs35169606 | G | 0.0072 | 0.0072 | 0.320 | 0.0003 | 0.0095 | 0.974 | 0.0014 | 0.0211 | 0.947 | -0.0044 | 0.0171 | 0.797 | 0.0400 | 0.0287 | 0.163 | -0.0030 | 0.0178 | 0.866 |
| rs17662402 | C | 0.0095 | 0.0138 | 0.490 | 0.0210 | 0.0181 | 0.245 | -0.0320 | 0.0414 | 0.440 | -0.0176 | 0.0346 | 0.612 | -0.0162 | 0.0591 | 0.783 | 0.0490 | 0.0344 | 0.154 |
| rs79487346 | C | 0.0066 | 0.0111 | 0.552 | 0.0075 | 0.0146 | 0.605 | -0.0572 | 0.0331 | 0.083 | -0.0263 | 0.0278 | 0.344 | 0.0222 | 0.0465 | 0.633 | 0.0353 | 0.0276 | 0.202 |
| rs2407746 | G | 0.0084 | 0.0069 | 0.224 | 0.0203 | 0.0091 | 0.025 | 0.0144 | 0.0198 | 0.467 | -0.0251 | 0.0173 | 0.146 | -0.0434 | 0.0295 | 0.141 | 0.0128 | 0.0174 | 0.463 |
| rs73190080 | T | 0.0215 | 0.0092 | 0.019 | 0.0197 | 0.0121 | 0.103 | 0.0308 | 0.0266 | 0.246 | -0.0098 | 0.0229 | 0.668 | -0.0207 | 0.0393 | 0.598 | 0.0100 | 0.0232 | 0.665 |
| rs76333288 | A | 0.0133 | 0.0115 | 0.247 | 0.0182 | 0.0151 | 0.231 | 0.0014 | 0.0338 | 0.966 | 0.0003 | 0.0288 | 0.991 | 0.0105 | 0.0486 | 0.829 | 0.0322 | 0.0289 | 0.264 |
| rs117374667 | G | 0.0162 | 0.0114 | 0.155 | 0.0308 | 0.0149 | 0.038 | -0.0162 | 0.0336 | 0.629 | 0.0068 | 0.0281 | 0.809 | -0.0346 | 0.0485 | 0.476 | -0.0352 | 0.0290 | 0.224 |
| rs17711777 | C | 0.0067 | 0.0136 | 0.624 | 0.0098 | 0.0175 | 0.576 | -0.0173 | 0.0387 | 0.654 | 0.0529 | 0.0322 | 0.101 | 0.0097 | 0.0558 | 0.862 | 0.0950 | 0.0325 | 0.003 |
| rs4841132 | G | 0.0210 | 0.0108 | 0.053 | 0.0230 | 0.0143 | 0.108 | -0.0141 | 0.0317 | 0.657 | 0.0469 | 0.0275 | 0.088 | 0.0560 | 0.0471 | 0.234 | 0.0008 | 0.0273 | 0.976 |
| rs77156030 | A | -0.0045 | 0.0101 | 0.657 | -0.0086 | 0.0133 | 0.520 | 0.0046 | 0.0291 | 0.875 | -0.0154 | 0.0250 | 0.537 | -0.0225 | 0.0421 | 0.594 | 0.0555 | 0.0248 | 0.025 |
| rs7814925 | G | -0.0011 | 0.0087 | 0.903 | -0.0023 | 0.0115 | 0.843 | -0.0266 | 0.0258 | 0.302 | 0.0227 | 0.0217 | 0.296 | 0.0780 | 0.0361 | 0.031 | -0.0045 | 0.0222 | 0.838 |
| rs80279740 | C | -0.0147 | 0.0145 | 0.312 | -0.0159 | 0.0191 | 0.406 | 0.0143 | 0.0415 | 0.730 | -0.0197 | 0.0359 | 0.582 | -0.0262 | 0.0603 | 0.663 | -0.0375 | 0.0366 | 0.305 |
| rs60150206 | A | 0.0355 | 0.0102 | 0.000 | 0.0488 | 0.0132 | 0.000 | 0.0351 | 0.0295 | 0.234 | 0.0250 | 0.0250 | 0.317 | 0.0217 | 0.0431 | 0.614 | -0.0233 | 0.0260 | 0.370 |
| rs2380937 | C | -0.0081 | 0.0063 | 0.203 | -0.0144 | 0.0083 | 0.084 | -0.0021 | 0.0184 | 0.911 | 0.0183 | 0.0157 | 0.243 | -0.0081 | 0.0267 | 0.763 | -0.0051 | 0.0160 | 0.750 |
| rs2149351 | G | -0.0063 | 0.0073 | 0.393 | -0.0208 | 0.0096 | 0.031 | -0.0045 | 0.0213 | 0.831 | -0.0025 | 0.0183 | 0.892 | 0.0416 | 0.0315 | 0.187 | 0.0153 | 0.0187 | 0.412 |
| rs10757410 | C | 0.0107 | 0.0063 | 0.090 | 0.0033 | 0.0083 | 0.693 | 0.0120 | 0.0185 | 0.519 | 0.0206 | 0.0158 | 0.193 | 0.0086 | 0.0269 | 0.749 | 0.0080 | 0.0160 | 0.615 |
| rs1521732 | A | -0.0075 | 0.0064 | 0.240 | -0.0103 | 0.0084 | 0.219 | -0.0032 | 0.0185 | 0.863 | -0.0120 | 0.0158 | 0.450 | -0.0100 | 0.0270 | 0.711 | 0.0092 | 0.0161 | 0.566 |
| rs3793577 | G | 0.0046 | 0.0066 | 0.479 | -0.0019 | 0.0087 | 0.829 | -0.0219 | 0.0191 | 0.250 | 0.0342 | 0.0165 | 0.038 | 0.0052 | 0.0277 | 0.851 | 0.0012 | 0.0166 | 0.941 |
| rs72694263 | C | -0.0022 | 0.0116 | 0.849 | 0.0092 | 0.0152 | 0.545 | -0.0194 | 0.0335 | 0.563 | -0.0268 | 0.0290 | 0.355 | -0.1123 | 0.0512 | 0.028 | 0.0121 | 0.0290 | 0.678 |
| rs7857183 | G | 0.0078 | 0.0088 | 0.374 | 0.0095 | 0.0116 | 0.413 | 0.0213 | 0.0256 | 0.406 | 0.0302 | 0.0218 | 0.167 | -0.0192 | 0.0379 | 0.612 | 0.0074 | 0.0222 | 0.739 |
| rs860626 | G | -0.0083 | 0.0067 | 0.214 | 0.0008 | 0.0088 | 0.925 | 0.0049 | 0.0195 | 0.800 | -0.0289 | 0.0168 | 0.085 | 0.0162 | 0.0282 | 0.564 | 0.0030 | 0.0168 | 0.858 |
| rs2683653 | C | 0.0102 | 0.0095 | 0.280 | 0.0049 | 0.0124 | 0.695 | 0.0517 | 0.0270 | 0.056 | -0.0039 | 0.0237 | 0.868 | -0.0378 | 0.0407 | 0.352 | 0.0232 | 0.0236 | 0.326 |
| rs7111031 | A | 0.0018 | 0.0064 | 0.781 | 0.0123 | 0.0085 | 0.147 | -0.0033 | 0.0186 | 0.858 | -0.0147 | 0.0159 | 0.355 | -0.0151 | 0.0270 | 0.576 | -0.0202 | 0.0161 | 0.211 |
| rs4936277 | G | -0.0066 | 0.0063 | 0.290 | -0.0154 | 0.0082 | 0.063 | -0.0302 | 0.0182 | 0.097 | 0.0049 | 0.0155 | 0.752 | 0.0288 | 0.0263 | 0.275 | 0.0255 | 0.0157 | 0.105 |
| rs34862781 | A | -0.0026 | 0.0061 | 0.664 | -0.0032 | 0.0080 | 0.686 | -0.0211 | 0.0177 | 0.235 | 0.0003 | 0.0152 | 0.982 | 0.0056 | 0.0259 | 0.830 | 0.0005 | 0.0154 | 0.974 |
| rs7107356 | G | -0.0093 | 0.0060 | 0.123 | -0.0018 | 0.0079 | 0.825 | -0.0117 | 0.0175 | 0.504 | -0.0035 | 0.0150 | 0.817 | -0.0447 | 0.0256 | 0.080 | 0.0166 | 0.0152 | 0.275 |
| rs11214589 | A | -0.0038 | 0.0061 | 0.530 | -0.0002 | 0.0081 | 0.976 | -0.0280 | 0.0180 | 0.120 | 0.0062 | 0.0153 | 0.684 | -0.0078 | 0.0260 | 0.765 | 0.0092 | 0.0155 | 0.552 |
| rs2071754 | T | -0.0044 | 0.0078 | 0.568 | -0.0132 | 0.0102 | 0.197 | -0.0066 | 0.0225 | 0.771 | -0.0042 | 0.0194 | 0.830 | 0.0299 | 0.0332 | 0.367 | -0.0276 | 0.0194 | 0.156 |
| rs10896636 | G | 0.0159 | 0.0065 | 0.014 | 0.0202 | 0.0086 | 0.018 | -0.0129 | 0.0190 | 0.497 | 0.0346 | 0.0161 | 0.032 | 0.0080 | 0.0276 | 0.772 | 0.0218 | 0.0164 | 0.185 |
| rs496939 | G | 0.0014 | 0.0061 | 0.818 | -0.0006 | 0.0080 | 0.942 | 0.0152 | 0.0177 | 0.390 | -0.0054 | 0.0151 | 0.719 | -0.0165 | 0.0258 | 0.521 | 0.0014 | 0.0153 | 0.929 |
| rs10789929 | T | -0.0013 | 0.0063 | 0.839 | 0.0014 | 0.0083 | 0.867 | -0.0010 | 0.0184 | 0.958 | -0.0139 | 0.0156 | 0.374 | 0.0492 | 0.0264 | 0.063 | -0.0282 | 0.0159 | 0.075 |
| rs297346 | G | -0.0021 | 0.0064 | 0.740 | -0.0027 | 0.0084 | 0.745 | 0.0135 | 0.0185 | 0.465 | -0.0074 | 0.0158 | 0.638 | -0.0162 | 0.0269 | 0.546 | 0.0136 | 0.0161 | 0.397 |
| rs11605020 | A | -0.0024 | 0.0060 | 0.688 | -0.0095 | 0.0079 | 0.233 | 0.0186 | 0.0176 | 0.292 | -0.0061 | 0.0151 | 0.686 | 0.0173 | 0.0258 | 0.502 | 0.0032 | 0.0153 | 0.833 |
| rs72995548 | T | -0.0201 | 0.0160 | 0.208 | -0.0391 | 0.0213 | 0.067 | 0.0386 | 0.0468 | 0.409 | 0.0052 | 0.0404 | 0.897 | -0.0218 | 0.0706 | 0.758 | 0.0114 | 0.0407 | 0.779 |
| rs6606710 | C | -0.0171 | 0.0066 | 0.009 | -0.0094 | 0.0086 | 0.275 | -0.0128 | 0.0190 | 0.503 | -0.0326 | 0.0163 | 0.046 | -0.0744 | 0.0277 | 0.007 | -0.0141 | 0.0165 | 0.394 |
| rs3741475 | A | -0.0045 | 0.0075 | 0.553 | -0.0001 | 0.0121 | 0.992 | 0.0254 | 0.0248 | 0.306 | 0.0284 | 0.0220 | 0.196 | 0.0052 | 0.0368 | 0.887 | 0.0036 | 0.0227 | 0.874 |
| rs11068926 | A | -0.0093 | 0.0078 | 0.235 | -0.0058 | 0.0126 | 0.647 | -0.0073 | 0.0260 | 0.780 | -0.0093 | 0.0231 | 0.688 | -0.0867 | 0.0398 | 0.029 | -0.0170 | 0.0238 | 0.475 |
| rs10507274 | C | -0.0114 | 0.0162 | 0.481 | -0.0623 | 0.0256 | 0.015 | -0.0236 | 0.0525 | 0.653 | 0.0498 | 0.0454 | 0.273 | -0.0659 | 0.0788 | 0.403 | -0.0815 | 0.0487 | 0.094 |
| rs9572015 | A | 0.0037 | 0.0064 | 0.561 | 0.0047 | 0.0084 | 0.574 | 0.0123 | 0.0188 | 0.512 | -0.0141 | 0.0161 | 0.379 | -0.0340 | 0.0274 | 0.215 | 0.0018 | 0.0162 | 0.912 |
| rs61361413 | G | -0.0072 | 0.0086 | 0.397 | 0.0050 | 0.0112 | 0.658 | 0.0056 | 0.0249 | 0.822 | -0.0302 | 0.0216 | 0.162 | 0.0111 | 0.0362 | 0.758 | -0.0417 | 0.0219 | 0.057 |
| rs4772079 | C | -0.0061 | 0.0065 | 0.345 | -0.0005 | 0.0085 | 0.954 | -0.0202 | 0.0189 | 0.286 | 0.0136 | 0.0161 | 0.398 | 0.0243 | 0.0275 | 0.376 | 0.0064 | 0.0164 | 0.698 |
| rs9541687 | C | 0.0073 | 0.0063 | 0.243 | 0.0080 | 0.0082 | 0.331 | -0.0078 | 0.0183 | 0.672 | 0.0168 | 0.0158 | 0.286 | 0.0025 | 0.0266 | 0.926 | -0.0092 | 0.0158 | 0.559 |
| rs12896360 | C | 0.0015 | 0.0064 | 0.820 | -0.0072 | 0.0084 | 0.393 | 0.0265 | 0.0188 | 0.160 | 0.0020 | 0.0160 | 0.901 | 0.0024 | 0.0272 | 0.930 | 0.0173 | 0.0162 | 0.286 |
| rs4140799 | A | 0.0007 | 0.0061 | 0.912 | 0.0035 | 0.0079 | 0.659 | 0.0025 | 0.0177 | 0.887 | -0.0179 | 0.0150 | 0.234 | 0.0031 | 0.0256 | 0.904 | 0.0105 | 0.0152 | 0.490 |
| rs112850127 | G | 0.0070 | 0.0167 | 0.677 | -0.0064 | 0.0221 | 0.771 | 0.0152 | 0.0488 | 0.755 | 0.0391 | 0.0411 | 0.341 | -0.0403 | 0.0735 | 0.584 | 0.0394 | 0.0420 | 0.348 |
| rs7175083 | C | 0.0022 | 0.0061 | 0.722 | -0.0003 | 0.0080 | 0.969 | -0.0282 | 0.0177 | 0.111 | 0.0467 | 0.0152 | 0.002 | 0.0026 | 0.0256 | 0.919 | -0.0102 | 0.0153 | 0.505 |
| rs4362360 | C | -0.0087 | 0.0060 | 0.149 | -0.0146 | 0.0079 | 0.064 | -0.0169 | 0.0177 | 0.338 | -0.0014 | 0.0150 | 0.924 | 0.0023 | 0.0255 | 0.928 | -0.0195 | 0.0152 | 0.199 |
| rs12441402 | C | 0.0061 | 0.0062 | 0.324 | 0.0002 | 0.0081 | 0.979 | 0.0191 | 0.0180 | 0.289 | 0.0091 | 0.0154 | 0.553 | 0.0343 | 0.0261 | 0.188 | -0.0168 | 0.0156 | 0.282 |
| rs8039690 | G | -0.0064 | 0.0070 | 0.357 | -0.0158 | 0.0091 | 0.084 | 0.0096 | 0.0202 | 0.634 | -0.0155 | 0.0172 | 0.369 | 0.0102 | 0.0295 | 0.730 | -0.0376 | 0.0174 | 0.031 |
| rs76064345 | G | 0.0016 | 0.0138 | 0.910 | -0.0025 | 0.0178 | 0.887 | -0.0580 | 0.0395 | 0.142 | 0.0728 | 0.0325 | 0.025 | 0.0020 | 0.0556 | 0.972 | 0.0301 | 0.0333 | 0.367 |
| rs1563245 | G | 0.0090 | 0.0065 | 0.167 | 0.0048 | 0.0086 | 0.579 | 0.0149 | 0.0188 | 0.427 | 0.0410 | 0.0161 | 0.011 | -0.0084 | 0.0275 | 0.758 | 0.0064 | 0.0164 | 0.697 |
| rs1870293 | C | 0.0108 | 0.0064 | 0.090 | 0.0111 | 0.0082 | 0.179 | -0.0030 | 0.0183 | 0.870 | 0.0074 | 0.0156 | 0.633 | 0.0534 | 0.0268 | 0.046 | 0.0151 | 0.0158 | 0.339 |
| rs3785232 | T | 0.0039 | 0.0064 | 0.540 | 0.0177 | 0.0084 | 0.035 | -0.0108 | 0.0186 | 0.562 | 0.0216 | 0.0160 | 0.177 | -0.0048 | 0.0272 | 0.859 | -0.0278 | 0.0161 | 0.084 |
| rs1050846 | A | 0.0075 | 0.0065 | 0.246 | 0.0117 | 0.0085 | 0.167 | -0.0150 | 0.0188 | 0.424 | 0.0066 | 0.0160 | 0.683 | -0.0149 | 0.0273 | 0.586 | 0.0216 | 0.0163 | 0.185 |
| rs8063603 | A | -0.0035 | 0.0067 | 0.602 | -0.0033 | 0.0088 | 0.707 | -0.0253 | 0.0191 | 0.185 | 0.0115 | 0.0165 | 0.485 | -0.0180 | 0.0278 | 0.518 | 0.0146 | 0.0168 | 0.383 |
| rs7502590 | G | -0.0049 | 0.0088 | 0.580 | 0.0055 | 0.0116 | 0.636 | 0.0160 | 0.0257 | 0.532 | 0.0199 | 0.0219 | 0.364 | -0.0145 | 0.0378 | 0.701 | -0.0289 | 0.0225 | 0.200 |
| rs1109451 | A | 0.0212 | 0.0065 | 0.001 | 0.0188 | 0.0084 | 0.026 | 0.0049 | 0.0187 | 0.793 | 0.0378 | 0.0159 | 0.018 | 0.0321 | 0.0272 | 0.237 | 0.0310 | 0.0162 | 0.056 |
| rs2244497 | T | -0.0046 | 0.0063 | 0.470 | -0.0061 | 0.0083 | 0.465 | 0.0118 | 0.0185 | 0.523 | 0.0026 | 0.0157 | 0.870 | 0.0079 | 0.0268 | 0.767 | 0.0015 | 0.0159 | 0.924 |
| rs11082011 | T | -0.0071 | 0.0067 | 0.286 | -0.0069 | 0.0088 | 0.429 | -0.0274 | 0.0192 | 0.155 | 0.0043 | 0.0166 | 0.794 | 0.0426 | 0.0284 | 0.133 | -0.0107 | 0.0168 | 0.525 |
| rs56403421 | C | 0.0041 | 0.0064 | 0.526 | -0.0076 | 0.0084 | 0.368 | -0.0024 | 0.0188 | 0.897 | -0.0150 | 0.0160 | 0.351 | -0.0082 | 0.0273 | 0.765 | 0.0162 | 0.0162 | 0.316 |
| rs11152363 | A | -0.0026 | 0.0078 | 0.738 | -0.0107 | 0.0103 | 0.298 | -0.0071 | 0.0228 | 0.754 | -0.0205 | 0.0196 | 0.296 | 0.0168 | 0.0331 | 0.611 | 0.0087 | 0.0197 | 0.660 |
| rs4267411 | T | 0.0024 | 0.0077 | 0.755 | -0.0041 | 0.0101 | 0.683 | 0.0481 | 0.0220 | 0.028 | 0.0134 | 0.0190 | 0.481 | -0.0207 | 0.0328 | 0.529 | -0.0090 | 0.0194 | 0.641 |
| rs77484855 | G | 0.0001 | 0.0119 | 0.991 | -0.0057 | 0.0157 | 0.718 | -0.0076 | 0.0352 | 0.829 | 0.0384 | 0.0294 | 0.191 | 0.0063 | 0.0510 | 0.901 | 0.0032 | 0.0302 | 0.917 |
| rs72899043 | T | -0.0049 | 0.0063 | 0.435 | -0.0052 | 0.0083 | 0.534 | -0.0215 | 0.0183 | 0.240 | 0.0031 | 0.0157 | 0.842 | 0.0522 | 0.0265 | 0.049 | -0.0010 | 0.0159 | 0.949 |
| rs8100891 | G | -0.0034 | 0.0072 | 0.638 | -0.0144 | 0.0095 | 0.130 | -0.0150 | 0.0207 | 0.466 | -0.0404 | 0.0180 | 0.025 | 0.0351 | 0.0299 | 0.241 | 0.0065 | 0.0181 | 0.719 |
| rs4911448 | T | 0.0280 | 0.0083 | 0.001 | 0.0283 | 0.0108 | 0.009 | 0.0485 | 0.0238 | 0.042 | 0.0437 | 0.0203 | 0.031 | -0.0048 | 0.0354 | 0.893 | 0.0503 | 0.0206 | 0.015 |
| rs11090045 | A | -0.0001 | 0.0068 | 0.984 | 0.0112 | 0.0090 | 0.213 | 0.0125 | 0.0199 | 0.530 | -0.0293 | 0.0172 | 0.088 | -0.0035 | 0.0289 | 0.904 | -0.0135 | 0.0173 | 0.435 |
| **Extraversion** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rs57590327 | T | 0.0373 | 0.0201 | 0.063 | 0.0139 | 0.0092 | 0.133 | -0.0218 | 0.0206 | 0.291 | -0.0157 | 0.0176 | 0.371 | 0.0404 | 0.0296 | 0.173 | 0.0168 | 0.0177 | 0.344 |
| rs2164273 | G | -0.0127 | 0.0179 | 0.476 | -0.0093 | 0.0097 | 0.337 | -0.0277 | 0.0218 | 0.204 | 0.0111 | 0.0172 | 0.520 | -0.0331 | 0.0292 | 0.256 | 0.0025 | 0.0180 | 0.889 |
| rs2045147 | A | 0.009 | 0.0175 | 0.607 | -0.0016 | 0.0080 | 0.846 | 0.0228 | 0.0177 | 0.198 | 0.0324 | 0.0151 | 0.032 | 0.0448 | 0.0257 | 0.082 | 0.0006 | 0.0153 | 0.967 |
| rs3764002 | T | -0.0112 | 0.0199 | 0.573 | -0.0027 | 0.0124 | 0.831 | 0.0015 | 0.0257 | 0.953 | -0.0202 | 0.0229 | 0.378 | 0.0340 | 0.0379 | 0.369 | -0.0068 | 0.0235 | 0.773 |
| rs7498702 | T | -0.0096 | 0.0195 | 0.621 | -0.0056 | 0.0088 | 0.524 | 0.0030 | 0.0195 | 0.880 | -0.0023 | 0.0167 | 0.889 | 0.0318 | 0.0282 | 0.259 | 0.0203 | 0.0168 | 0.228 |
| BC, breast cancer; β, per allele effect on outcomes; SE, standard error; EA, effect allele; P, *P* *value*. | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |

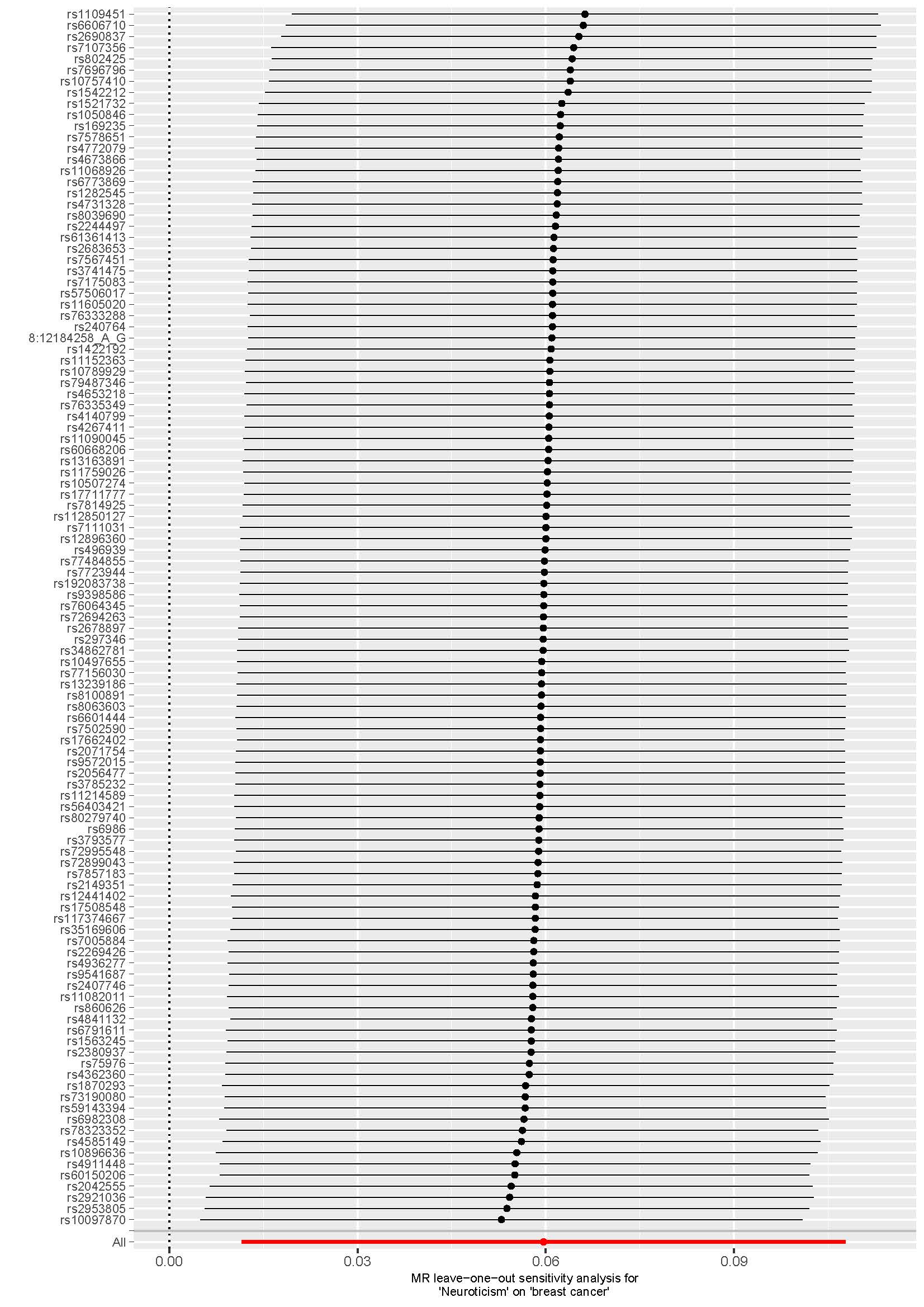
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S4. Association information of neuroticism and extraversion SNPs with survival of breast cancer** | | | | | | | | | | |
| SNPs | EA | Overall BC survival | | | ER+ BC survival | | | ER- BC survival | | |
| β | SE | P value | β | SE | P value | β | SE | P value |
| **Neuroticism** | |  |  |  |  |  |  |  |  |  |
| rs4653218 | C | 0.0156 | 0.0182 | 0.391 | 0.0076 | 0.0251 | 0.761 | 0.0396 | 0.0342 | 0.247 |
| rs169235 | G | 0.0172 | 0.0187 | 0.892 | 0.0386 | 0.0256 | 0.131 | -0.0084 | 0.0359 | 0.816 |
| rs2042555 | A | -0.0166 | 0.0166 | 0.404 | -0.0352 | 0.0227 | 0.122 | 0.0409 | 0.0317 | 0.197 |
| rs2678897 | A | -0.0283 | 0.0166 | 0.756 | -0.0379 | 0.0227 | 0.095 | 0.0186 | 0.0319 | 0.560 |
| rs4673866 | G | -0.0440 | 0.0231 | 0.098 | -0.0502 | 0.0316 | 0.112 | -0.0526 | 0.0443 | 0.235 |
| rs7567451 | T | 0.0118 | 0.0185 | 0.586 | -0.0102 | 0.0253 | 0.686 | 0.0309 | 0.0354 | 0.384 |
| rs10497655 | C | -0.0161 | 0.0178 | 0.985 | -0.0294 | 0.0243 | 0.227 | 0.0448 | 0.0337 | 0.184 |
| rs78323352 | T | -0.0322 | 0.0281 | 0.055 | -0.0472 | 0.0387 | 0.223 | 0.0110 | 0.0535 | 0.837 |
| rs7578651 | C | -0.0149 | 0.0169 | 0.849 | -0.0175 | 0.0232 | 0.451 | 0.0074 | 0.0321 | 0.818 |
| rs6791611 | C | -0.0375 | 0.0166 | 0.823 | -0.0386 | 0.0226 | 0.088 | -0.0192 | 0.0316 | 0.542 |
| rs6773869 | G | -0.0029 | 0.0170 | 0.525 | -0.0005 | 0.0232 | 0.982 | -0.0318 | 0.0325 | 0.328 |
| rs1542212 | G | -0.0227 | 0.0170 | 0.548 | -0.0226 | 0.0234 | 0.333 | -0.0343 | 0.0323 | 0.289 |
| rs1282545 | C | 0.0153 | 0.0165 | 0.005 | 0.0209 | 0.0224 | 0.351 | 0.0373 | 0.0317 | 0.240 |
| rs75976 | A | -0.0357 | 0.0168 | 0.414 | -0.0348 | 0.0231 | 0.131 | -0.0268 | 0.0321 | 0.404 |
| rs4585149 | C | 0.0028 | 0.0212 | 0.237 | 0.0174 | 0.0290 | 0.549 | -0.0307 | 0.0399 | 0.442 |
| rs7696796 | A | -0.0151 | 0.0199 | 0.302 | -0.0260 | 0.0273 | 0.340 | -0.0599 | 0.0376 | 0.111 |
| rs59143394 | G | 0.0177 | 0.0209 | 0.426 | 0.0314 | 0.0285 | 0.271 | 0.0578 | 0.0401 | 0.149 |
| rs13163891 | A | -0.0294 | 0.0169 | 0.620 | -0.0154 | 0.0231 | 0.503 | -0.0100 | 0.0323 | 0.756 |
| rs1422192 | A | -0.0023 | 0.0227 | 0.182 | 0.0237 | 0.0311 | 0.446 | -0.0136 | 0.0431 | 0.753 |
| rs7723944 | A | -0.0487 | 0.0358 | 0.157 | -0.0699 | 0.0500 | 0.162 | -0.0786 | 0.0690 | 0.255 |
| rs2269426 | A | -0.0050 | 0.0167 | 0.715 | 0.0085 | 0.0228 | 0.711 | -0.0381 | 0.0321 | 0.235 |
| rs17508548 | G | -0.0466 | 0.0262 | 0.365 | 0.0028 | 0.0357 | 0.938 | -0.0935 | 0.0501 | 0.062 |
| rs9398586 | G | -0.0235 | 0.0242 | 0.951 | -0.0464 | 0.0331 | 0.162 | -0.0110 | 0.0462 | 0.812 |
| rs240764 | A | 0.0033 | 0.0165 | 0.498 | 0.0200 | 0.0226 | 0.376 | -0.0220 | 0.0316 | 0.486 |
| rs6986 | C | -0.0039 | 0.0193 | 0.754 | 0.0209 | 0.0263 | 0.426 | 0.0045 | 0.0371 | 0.903 |
| rs11759026 | G | 0.0218 | 0.0191 | 0.271 | 0.0115 | 0.0261 | 0.660 | 0.0864 | 0.0364 | 0.018 |
| rs4731328 | C | 0.0234 | 0.0164 | 0.136 | 0.0307 | 0.0224 | 0.170 | 0.0262 | 0.0313 | 0.403 |
| rs13239186 | T | -0.0060 | 0.0176 | 0.274 | 0.0185 | 0.0240 | 0.442 | -0.0111 | 0.0342 | 0.745 |
| rs2056477 | C | 0.0133 | 0.0190 | 0.979 | 0.0501 | 0.0258 | 0.053 | -0.0353 | 0.0370 | 0.341 |
| rs76335349 | A | 0.0135 | 0.0327 | 0.336 | 0.0138 | 0.0449 | 0.758 | -0.0194 | 0.0622 | 0.755 |
| rs802425 | T | -0.0183 | 0.0166 | 0.175 | 0.0222 | 0.0225 | 0.323 | -0.0660 | 0.0319 | 0.038 |
| rs57506017 | T | 0.0215 | 0.0180 | 0.643 | -0.0116 | 0.0248 | 0.640 | 0.0478 | 0.0341 | 0.162 |
| rs2690837 | C | 0.0076 | 0.0170 | 0.407 | -0.0167 | 0.0232 | 0.472 | 0.0319 | 0.0326 | 0.328 |
| rs60668206 | T | -0.0107 | 0.0207 | 0.832 | 0.0120 | 0.0283 | 0.672 | -0.0523 | 0.0402 | 0.194 |
| rs2921036 | C | -0.0137 | 0.0192 | 0.656 | -0.0369 | 0.0270 | 0.172 | -0.0137 | 0.0371 | 0.712 |
| rs10097870 | A | 0.0046 | 0.0197 | 0.576 | 0.0094 | 0.0276 | 0.734 | 0.0058 | 0.0380 | 0.878 |
| rs7005884 | G | -0.0032 | 0.0190 | 0.705 | 0.0159 | 0.0266 | 0.549 | -0.0151 | 0.0363 | 0.677 |
| rs2953805 | C | 0.0019 | 0.0194 | 0.699 | -0.0463 | 0.0272 | 0.089 | 0.0471 | 0.0374 | 0.208 |
| rs6982308 | G | 0.0011 | 0.0193 | 0.669 | 0.0279 | 0.0270 | 0.302 | -0.0029 | 0.0371 | 0.937 |
| rs6601444 | T | 0.0336 | 0.0219 | 0.712 | 0.0252 | 0.0300 | 0.400 | 0.0316 | 0.0414 | 0.446 |
| rs192083738 | C | 0.0283 | 0.0323 | 0.847 | -0.0313 | 0.0455 | 0.491 | 0.1486 | 0.0601 | 0.013 |
| 8:12184258\_A\_G | G | 0.0063 | 0.0275 | 0.743 | -0.0157 | 0.0384 | 0.683 | 0.0983 | 0.0551 | 0.074 |
| rs35169606 | G | -0.0001 | 0.0189 | 0.866 | 0.0028 | 0.0262 | 0.914 | 0.0109 | 0.0368 | 0.766 |
| rs17662402 | C | -0.0220 | 0.0374 | 0.154 | 0.0441 | 0.0508 | 0.385 | -0.0431 | 0.0715 | 0.547 |
| rs79487346 | C | 0.0315 | 0.0298 | 0.202 | 0.0234 | 0.0414 | 0.571 | 0.0121 | 0.0564 | 0.831 |
| rs2407746 | G | -0.0125 | 0.0189 | 0.463 | -0.0247 | 0.0258 | 0.339 | 0.0298 | 0.0359 | 0.406 |
| rs73190080 | T | -0.0075 | 0.0250 | 0.665 | -0.0038 | 0.0343 | 0.911 | -0.0103 | 0.0479 | 0.830 |
| rs76333288 | A | 0.0321 | 0.0304 | 0.264 | 0.0551 | 0.0416 | 0.184 | -0.0077 | 0.0573 | 0.893 |
| rs117374667 | G | 0.0051 | 0.0309 | 0.224 | -0.0203 | 0.0425 | 0.633 | 0.1393 | 0.0588 | 0.018 |
| rs17711777 | C | -0.0151 | 0.0370 | 0.003 | -0.0190 | 0.0502 | 0.706 | -0.1130 | 0.0701 | 0.107 |
| rs4841132 | G | -0.0029 | 0.0288 | 0.976 | 0.0224 | 0.0396 | 0.571 | -0.0043 | 0.0548 | 0.937 |
| rs77156030 | A | 0.0015 | 0.0269 | 0.025 | 0.0039 | 0.0369 | 0.916 | 0.0347 | 0.0499 | 0.488 |
| rs7814925 | G | 0.0038 | 0.0234 | 0.838 | 0.0077 | 0.0320 | 0.809 | 0.0120 | 0.0444 | 0.788 |
| rs80279740 | C | 0.0048 | 0.0390 | 0.305 | 0.0002 | 0.0532 | 0.997 | 0.0105 | 0.0741 | 0.887 |
| rs60150206 | A | 0.0343 | 0.0271 | 0.370 | 0.0917 | 0.0364 | 0.012 | -0.0191 | 0.0528 | 0.717 |
| rs2380937 | C | -0.0045 | 0.0172 | 0.750 | -0.0217 | 0.0235 | 0.355 | 0.0476 | 0.0327 | 0.145 |
| rs2149351 | G | -0.0085 | 0.0198 | 0.412 | -0.0131 | 0.0272 | 0.629 | -0.0106 | 0.0379 | 0.779 |
| rs10757410 | C | 0.0063 | 0.0170 | 0.615 | 0.0106 | 0.0233 | 0.648 | -0.0241 | 0.0322 | 0.454 |
| rs1521732 | A | 0.0280 | 0.0172 | 0.566 | 0.0660 | 0.0236 | 0.005 | -0.0357 | 0.0327 | 0.274 |
| rs3793577 | G | 0.0153 | 0.0177 | 0.941 | 0.0424 | 0.0243 | 0.080 | -0.0337 | 0.0339 | 0.319 |
| rs72694263 | C | -0.0201 | 0.0319 | 0.678 | 0.0054 | 0.0435 | 0.902 | 0.0329 | 0.0600 | 0.583 |
| rs7857183 | G | -0.0075 | 0.0239 | 0.739 | -0.0015 | 0.0327 | 0.965 | 0.0097 | 0.0456 | 0.832 |
| rs860626 | G | -0.0208 | 0.0180 | 0.858 | -0.0161 | 0.0246 | 0.513 | -0.0220 | 0.0348 | 0.528 |
| rs2683653 | C | -0.0020 | 0.0257 | 0.326 | 0.0063 | 0.0350 | 0.857 | 0.0140 | 0.0490 | 0.775 |
| rs7111031 | A | 0.0061 | 0.0174 | 0.211 | -0.0191 | 0.0239 | 0.424 | 0.0467 | 0.0331 | 0.159 |
| rs4936277 | G | -0.0018 | 0.0170 | 0.105 | 0.0499 | 0.0234 | 0.033 | -0.0824 | 0.0325 | 0.011 |
| rs34862781 | A | -0.0014 | 0.0165 | 0.974 | 0.0136 | 0.0225 | 0.546 | -0.0094 | 0.0315 | 0.765 |
| rs7107356 | G | -0.0425 | 0.0164 | 0.275 | -0.0339 | 0.0223 | 0.129 | -0.0581 | 0.0313 | 0.064 |
| rs11214589 | A | 0.0120 | 0.0165 | 0.552 | 0.0136 | 0.0226 | 0.546 | -0.0052 | 0.0318 | 0.869 |
| rs2071754 | T | -0.0035 | 0.0208 | 0.156 | -0.0104 | 0.0285 | 0.716 | -0.0069 | 0.0392 | 0.860 |
| rs10896636 | G | 0.0228 | 0.0175 | 0.185 | 0.0295 | 0.0238 | 0.215 | 0.0041 | 0.0337 | 0.904 |
| rs496939 | G | 0.0088 | 0.0164 | 0.929 | 0.0176 | 0.0225 | 0.433 | 0.0008 | 0.0315 | 0.979 |
| rs10789929 | T | -0.0109 | 0.0170 | 0.075 | -0.0159 | 0.0232 | 0.494 | 0.0205 | 0.0327 | 0.531 |
| rs297346 | G | -0.0237 | 0.0172 | 0.397 | -0.0052 | 0.0237 | 0.826 | -0.0937 | 0.0327 | 0.004 |
| rs11605020 | A | -0.0261 | 0.0163 | 0.833 | -0.0390 | 0.0224 | 0.082 | 0.0302 | 0.0310 | 0.330 |
| rs72995548 | T | -0.0221 | 0.0429 | 0.779 | 0.0936 | 0.0576 | 0.104 | -0.2090 | 0.0853 | 0.014 |
| rs6606710 | C | -0.0275 | 0.0178 | 0.394 | -0.0261 | 0.0244 | 0.284 | -0.0472 | 0.0343 | 0.168 |
| rs3741475 | A | 0.0087 | 0.0205 | 0.874 | 0.0193 | 0.0280 | 0.490 | 0.0112 | 0.0391 | 0.775 |
| rs11068926 | A | -0.0385 | 0.0213 | 0.475 | -0.0531 | 0.0291 | 0.068 | -0.0131 | 0.0404 | 0.746 |
| rs10507274 | C | -0.0141 | 0.0437 | 0.094 | -0.0766 | 0.0601 | 0.203 | 0.0383 | 0.0822 | 0.641 |
| rs9572015 | A | -0.0055 | 0.0174 | 0.912 | -0.0117 | 0.0237 | 0.623 | 0.0005 | 0.0335 | 0.989 |
| rs61361413 | G | 0.0422 | 0.0228 | 0.057 | 0.0111 | 0.0313 | 0.723 | 0.0431 | 0.0436 | 0.323 |
| rs4772079 | C | -0.0117 | 0.0175 | 0.698 | 0.0009 | 0.0239 | 0.970 | 0.0019 | 0.0334 | 0.954 |
| rs9541687 | C | 0.0059 | 0.0169 | 0.559 | -0.0098 | 0.0230 | 0.670 | 0.0037 | 0.0321 | 0.909 |
| rs12896360 | C | 0.0045 | 0.0174 | 0.286 | -0.0165 | 0.0238 | 0.487 | 0.0558 | 0.0335 | 0.096 |
| rs4140799 | A | 0.0042 | 0.0163 | 0.490 | -0.0229 | 0.0223 | 0.305 | 0.0395 | 0.0312 | 0.206 |
| rs112850127 | G | -0.0288 | 0.0452 | 0.348 | -0.0411 | 0.0622 | 0.508 | 0.0213 | 0.0858 | 0.804 |
| rs7175083 | C | 0.0171 | 0.0164 | 0.505 | 0.0243 | 0.0224 | 0.276 | 0.0237 | 0.0314 | 0.451 |
| rs4362360 | C | -0.0064 | 0.0163 | 0.199 | -0.0231 | 0.0222 | 0.299 | 0.0013 | 0.0312 | 0.967 |
| rs12441402 | C | 0.0240 | 0.0166 | 0.282 | 0.0361 | 0.0227 | 0.112 | -0.0064 | 0.0321 | 0.843 |
| rs8039690 | G | -0.0224 | 0.0188 | 0.031 | -0.0044 | 0.0257 | 0.864 | -0.0454 | 0.0357 | 0.203 |
| rs76064345 | G | -0.0303 | 0.0379 | 0.367 | 0.0000 | 0.0502 | 1.000 | -0.0604 | 0.0732 | 0.410 |
| rs1563245 | G | 0.0202 | 0.0175 | 0.697 | 0.0295 | 0.0240 | 0.220 | -0.0055 | 0.0332 | 0.868 |
| rs1870293 | C | 0.0086 | 0.0170 | 0.339 | -0.0203 | 0.0232 | 0.382 | 0.0206 | 0.0325 | 0.526 |
| rs3785232 | T | 0.0102 | 0.0174 | 0.084 | -0.0077 | 0.0239 | 0.746 | 0.0333 | 0.0333 | 0.317 |
| rs1050846 | A | 0.0189 | 0.0175 | 0.185 | 0.0079 | 0.0239 | 0.740 | 0.0335 | 0.0333 | 0.315 |
| rs8063603 | A | 0.0110 | 0.0180 | 0.383 | 0.0101 | 0.0246 | 0.683 | 0.0452 | 0.0340 | 0.184 |
| rs7502590 | G | -0.0314 | 0.0237 | 0.200 | -0.0018 | 0.0321 | 0.955 | -0.1445 | 0.0465 | 0.002 |
| rs1109451 | A | -0.0265 | 0.0173 | 0.056 | -0.0122 | 0.0236 | 0.605 | -0.0179 | 0.0329 | 0.585 |
| rs2244497 | T | -0.0191 | 0.0170 | 0.924 | 0.0055 | 0.0234 | 0.815 | -0.0458 | 0.0325 | 0.159 |
| rs11082011 | T | -0.0158 | 0.0180 | 0.525 | 0.0120 | 0.0247 | 0.627 | -0.0332 | 0.0343 | 0.333 |
| rs56403421 | C | -0.0034 | 0.0173 | 0.316 | 0.0135 | 0.0236 | 0.568 | 0.0095 | 0.0326 | 0.772 |
| rs11152363 | A | -0.0104 | 0.0211 | 0.660 | -0.0300 | 0.0290 | 0.300 | 0.0062 | 0.0398 | 0.876 |
| rs4267411 | T | -0.0125 | 0.0207 | 0.641 | -0.0202 | 0.0284 | 0.476 | -0.0288 | 0.0400 | 0.472 |
| rs77484855 | G | -0.0163 | 0.0318 | 0.917 | -0.0505 | 0.0434 | 0.245 | -0.0010 | 0.0612 | 0.987 |
| rs72899043 | T | -0.0324 | 0.0171 | 0.949 | -0.0424 | 0.0234 | 0.070 | -0.0028 | 0.0327 | 0.933 |
| rs8100891 | G | 0.0289 | 0.0194 | 0.719 | 0.0101 | 0.0266 | 0.703 | 0.0690 | 0.0366 | 0.059 |
| rs4911448 | T | -0.0286 | 0.0221 | 0.015 | 0.0113 | 0.0302 | 0.709 | -0.0639 | 0.0426 | 0.134 |
| rs11090045 | A | 0.0115 | 0.0185 | 0.435 | 0.0041 | 0.0253 | 0.871 | 0.0221 | 0.0353 | 0.531 |
| **Extraversion** |  |  |  |  |  |  |  |  |  |  |
| rs57590327 | T | 0.0239 | 0.0188 | 0.205 | 0.0312 | 0.0257 | 0.224 | 0.0255 | 0.0360 | 0.479 |
| rs2164273 | G | -0.0110 | 0.0189 | 0.560 | -0.0135 | 0.0264 | 0.610 | -0.0116 | 0.0365 | 0.751 |
| rs2045147 | A | 0.0156 | 0.0164 | 0.341 | 0.0374 | 0.0223 | 0.094 | -0.0262 | 0.0314 | 0.404 |
| rs3764002 | T | -0.0173 | 0.0211 | 0.411 | -0.0130 | 0.0290 | 0.653 | -0.0104 | 0.0397 | 0.794 |
| rs7498702 | T | -0.0302 | 0.0180 | 0.094 | -0.0419 | 0.0246 | 0.089 | 0.0003 | 0.0348 | 0.994 |
| BC, breast cancer; β, per allele effect on outcomes; SE, standard error; EA, effect allele; ER, estrogen receptor. | | | | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S5. Mendelian Randomization using different models** | | | | | |
| Exposure | Outcome | method | β | SE | P value |
| neuroticism | risk of BC | Maximum likelihood | 0.0611 | 0.0197 | 0.002 |
|  | MR Egger | 0.4568 | 0.1553 | 0.004 |
|  | IVW | 0.0597 | 0.0245 | 0.015 |
|  | Weighted median | 0.0789 | 0.0297 | 0.008 |
|  | MR RAPS | 0.0604 | 0.0250 | 0.016 |
|  | risk of luminal A like BC | Maximum likelihood | 0.0921 | 0.0261 | 0.0004 |
|  | MR Egger | 0.4118 | 0.2032 | 0.045 |
|  | IVW | 0.0901 | 0.0315 | 0.004 |
|  | Weighted median | 0.0742 | 0.0403 | 0.066 |
|  | MR RAPS | 0.0936 | 0.0329 | 0.004 |
|  | risk of luminal B like BC | Maximum likelihood | 0.0896 | 0.0573 | 0.118 |
|  | MR Egger | 0.5653 | 0.3721 | 0.132 |
|  | IVW | 0.0886 | 0.0515 | 0.085 |
|  | Weighted median | 0.1079 | 0.0828 | 0.192 |
|  | MR RAPS | 0.0954 | 0.0599 | 0.111 |
|  | risk of luminal B HER2- BC | Maximum likelihood | -0.0725 | 0.0488 | 0.138 |
|  | MR Egger | -0.8266 | 0.3417 | 0.017 |
|  | IVW | -0.0725 | 0.0556 | 0.192 |
|  | Weighted median | -0.1342 | 0.0750 | 0.074 |
|  | MR RAPS | -0.0794 | 0.0583 | 0.174 |
|  | risk of HER2 enriched BC | Maximum likelihood | 0.0580 | 0.0826 | 0.483 |
|  | MR Egger | 0.0673 | 0.5205 | 0.897 |
|  | IVW | 0.0565 | 0.0832 | 0.497 |
|  | Weighted median | 0.1522 | 0.1163 | 0.191 |
|  | MR RAPS | 0.0628 | 0.0859 | 0.464 |
|  | risk of Triple negative BC | Maximum likelihood | -0.0725 | 0.0494 | 0.143 |
|  | MR Egger | 0.2420 | 0.3178 | 0.448 |
|  | IVW | -0.0725 | 0.0499 | 0.146 |
|  | Weighted median | 0.0041 | 0.0724 | 0.955 |
|  | MR RAPS | -0.0570 | 0.0514 | 0.268 |
| neuroticism | survival of BC | Maximum likelihood | 0.0287 | 0.0525 | 0.585 |
|  | MR Egger | 0.1389 | 0.3288 | 0.674 |
|  | IVW | 0.0282 | 0.0512 | 0.581 |
|  | Weighted median | 0.0260 | 0.0773 | 0.737 |
|  | MR RAPS | 0.0319 | 0.0573 | 0.578 |
|  | survival of ER+ BC | Maximum likelihood | 0.0563 | 0.0720 | 0.434 |
|  | MR Egger | 0.2280 | 0.4614 | 0.622 |
|  | IVW | 0.0551 | 0.0715 | 0.441 |
|  | Weighted median | 0.0697 | 0.1072 | 0.515 |
|  | MR RAPS | 0.0584 | 0.0784 | 0.457 |
|  | survival of ER- BC | Maximum likelihood | 0.0616 | 0.1004 | 0.539 |
|  | MR Egger | 0.4286 | 0.6941 | 0.538 |
|  | IVW | 0.0607 | 0.1086 | 0.577 |
|  | Weighted median | 0.1172 | 0.1474 | 0.427 |
|  | MR RAPS | 0.0177 | 0.1116 | 0.874 |
| extraversion | risk of BC | Maximum likelihood | 0.0987 | 0.3761 | 0.793 |
|  | MR Egger | 0.3287 | 3.4287 | 0.930 |
|  | IVW | 0.0929 | 0.3953 | 0.814 |
|  | Weighted median | 0.0929 | 0.3644 | 0.799 |
|  | MR RAPS | -0.3923 | 0.4909 | 0.424 |
|  | risk of luminal A like BC | Maximum likelihood | -0.0285 | 0.1841 | 0.877 |
|  | MR Egger | 0.4928 | 1.3542 | 0.740 |
|  | IVW | -0.0271 | 0.1715 | 0.874 |
|  | Weighted median | -0.0271 | 0.1795 | 0.880 |
|  | MR RAPS | -0.1383 | 0.2367 | 0.559 |
|  | risk of luminal B like BC | Maximum likelihood | -0.1948 | 0.4090 | 0.634 |
|  | MR Egger | -4.3381 | 2.7954 | 0.219 |
|  | IVW | -0.1848 | 0.4069 | 0.650 |
|  | Weighted median | -0.1848 | 0.3974 | 0.642 |
|  | MR RAPS | 0.0706 | 0.5058 | 0.889 |
|  | risk of luminal B HER2- BC | Maximum likelihood | 0.1287 | 0.3487 | 0.712 |
|  | MR Egger | -4.6020 | 2.3835 | 0.149 |
|  | IVW | 0.1187 | 0.4261 | 0.781 |
|  | Weighted median | 0.1187 | 0.3351 | 0.723 |
|  | MR RAPS | -0.0925 | 0.4678 | 0.843 |
|  | risk of HER2 enriched BC | Maximum likelihood | 1.0420 | 0.6015 | 0.083 |
|  | MR Egger | -2.3858 | 5.0021 | 0.666 |
|  | IVW | 0.9731 | 0.6512 | 0.135 |
|  | Weighted median | 0.9731 | 0.5658 | 0.085 |
|  | MR RAPS | 1.4515 | 0.7685 | 0.059 |
|  | risk of Triple negative BC | Maximum likelihood | 0.3795 | 0.3455 | 0.272 |
|  | MR Egger | 2.2177 | 2.4140 | 0.426 |
|  | IVW | 0.3749 | 0.1908 | 0.050 |
|  | Weighted median | 0.3749 | 0.3417 | 0.273 |
|  | MR RAPS | 0.3896 | 0.4175 | 0.351 |
| extraversion | survival of BC | Maximum likelihood | -0.1675 | 0.3713 | 0.652 |
|  | MR Egger | -2.3864 | 3.4432 | 0.538 |
|  | IVW | -0.1543 | 0.4417 | 0.727 |
|  | Weighted median | -0.1543 | 0.3561 | 0.665 |
|  | MR RAPS | -0.4416 | 0.5229 | 0.398 |
|  | survival of ER+ BC | Maximum likelihood | -0.0058 | 0.5145 | 0.991 |
|  | MR Egger | -5.4551 | 4.6051 | 0.322 |
|  | IVW | -0.0053 | 0.6746 | 0.994 |
|  | Weighted median | -0.0053 | 0.4884 | 0.991 |
|  | MR RAPS | -0.5625 | 0.7460 | 0.451 |
|  | survival of ER- BC | Maximum likelihood | -0.1483 | 0.6888 | 0.830 |
|  | MR Egger | 4.6188 | 4.9374 | 0.419 |
|  | IVW | -0.1459 | 0.3924 | 0.710 |
|  | Weighted median | -0.1459 | 0.6827 | 0.831 |
|  | MR RAPS | -0.2892 | 0.8789 | 0.742 |
| BC, breast cancer; ER+, estrogen receptor positive; ER-, estrogen receptor negative; β, per allele effect on outcomes; SE, standard error; IVW, Inverse variance weighted; MR RAPS, Mendelian Randomization Robust adjusted profile score | | | | | |

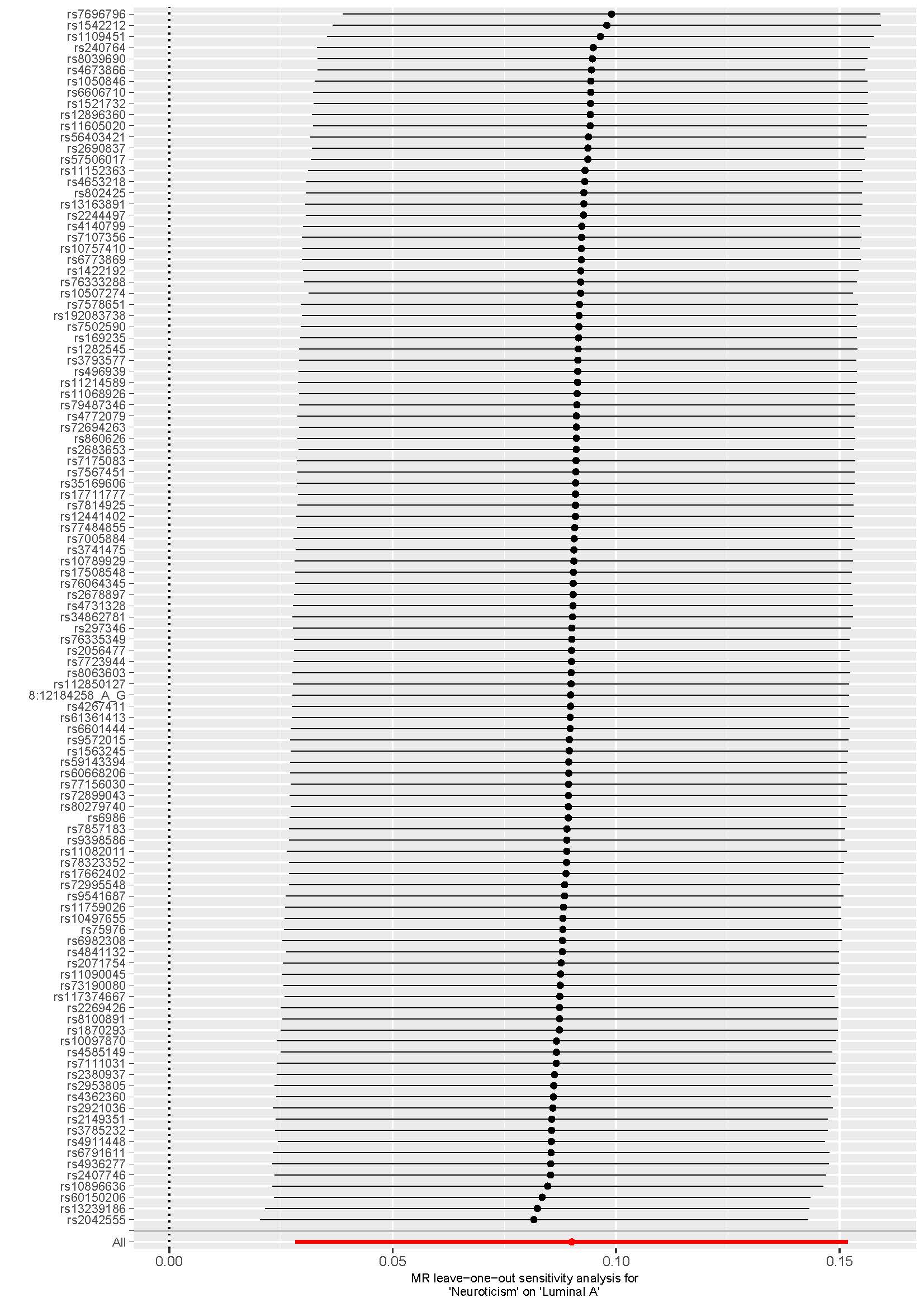
**Supplementary Figure**

**Figure S1. Leave-one-out analysis of neuroticism and breast cancer**

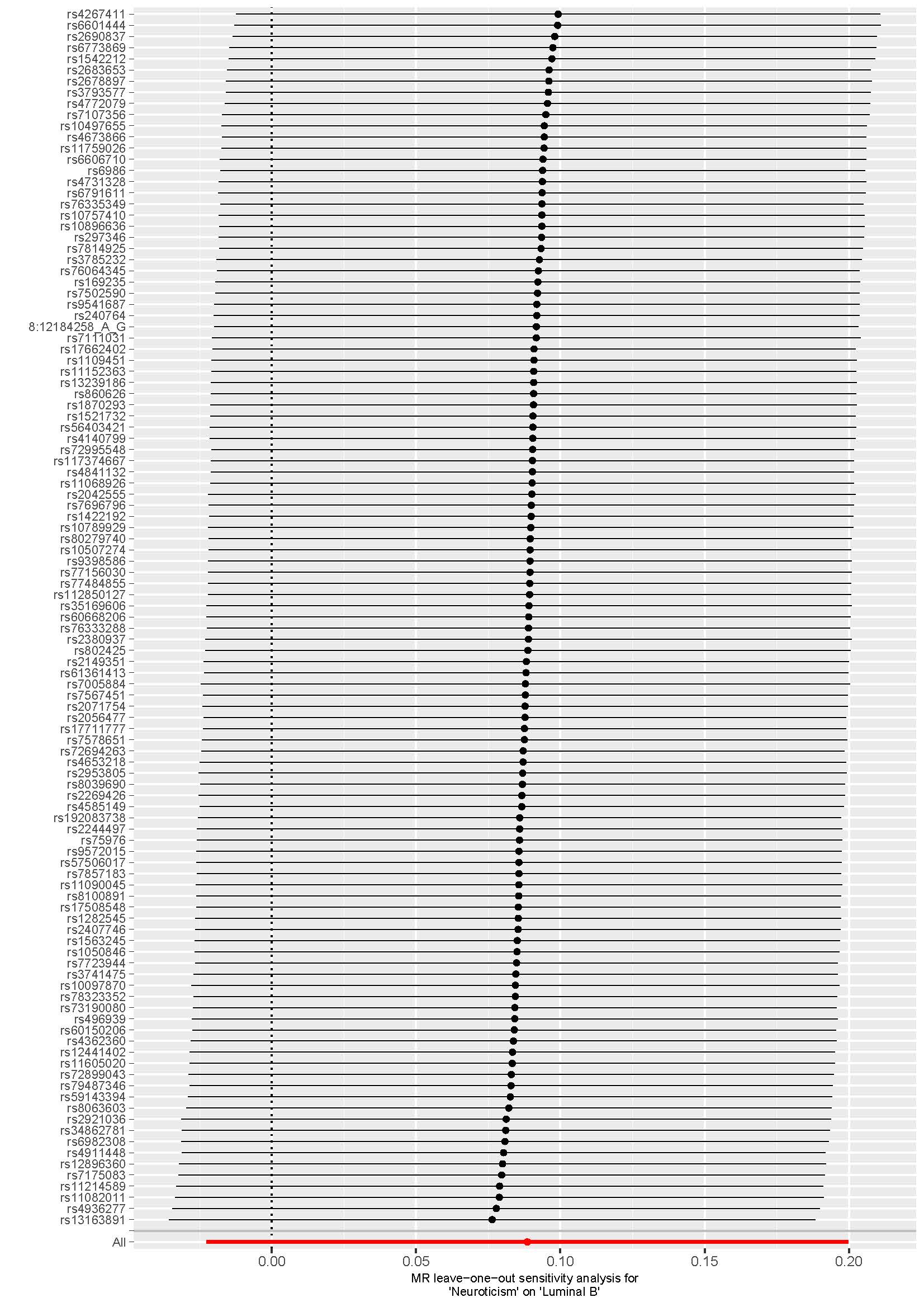
S1-A neuroticism and risk of breast cancer



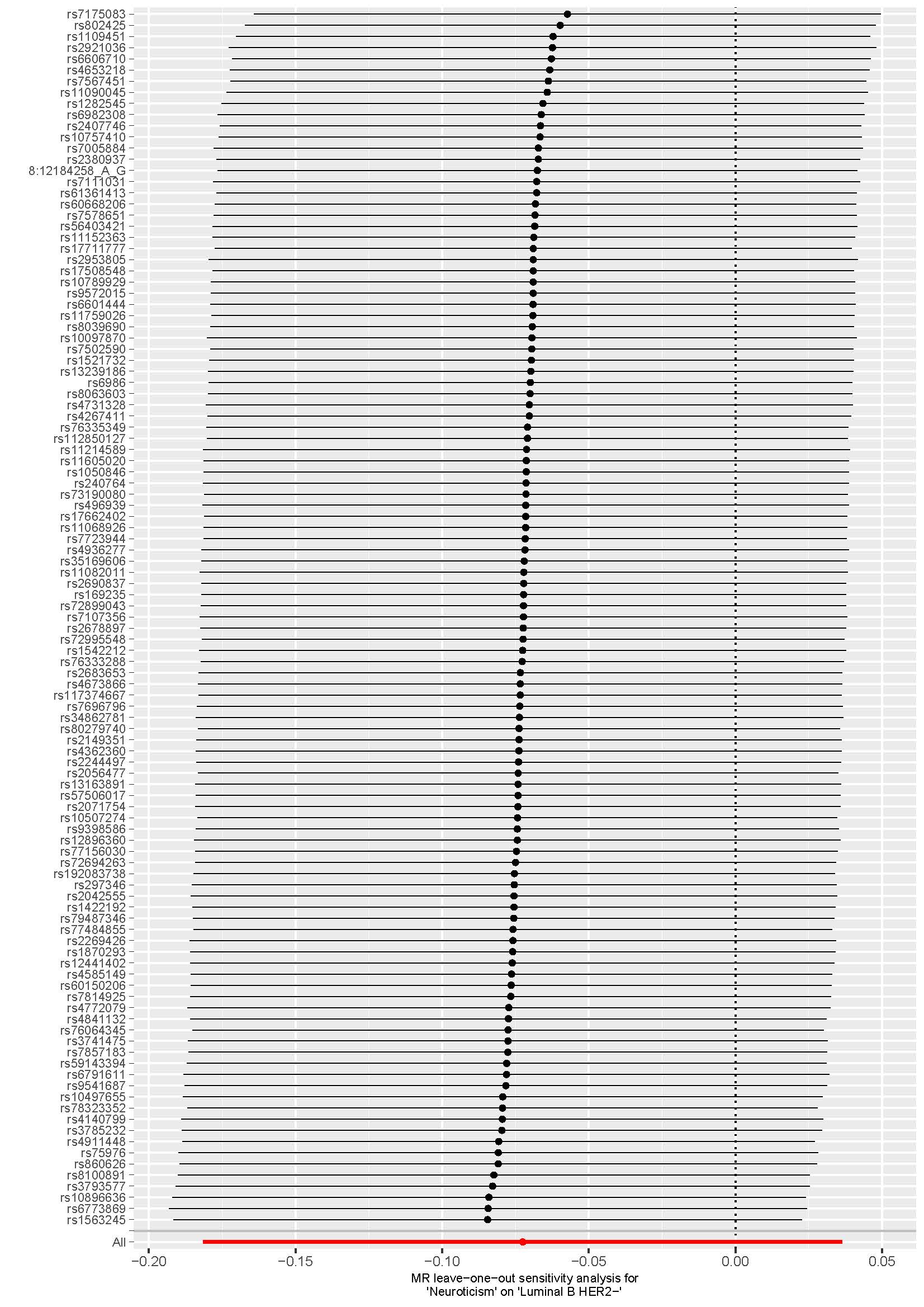
S1-B neuroticism and risk of luminal A like breast cancer



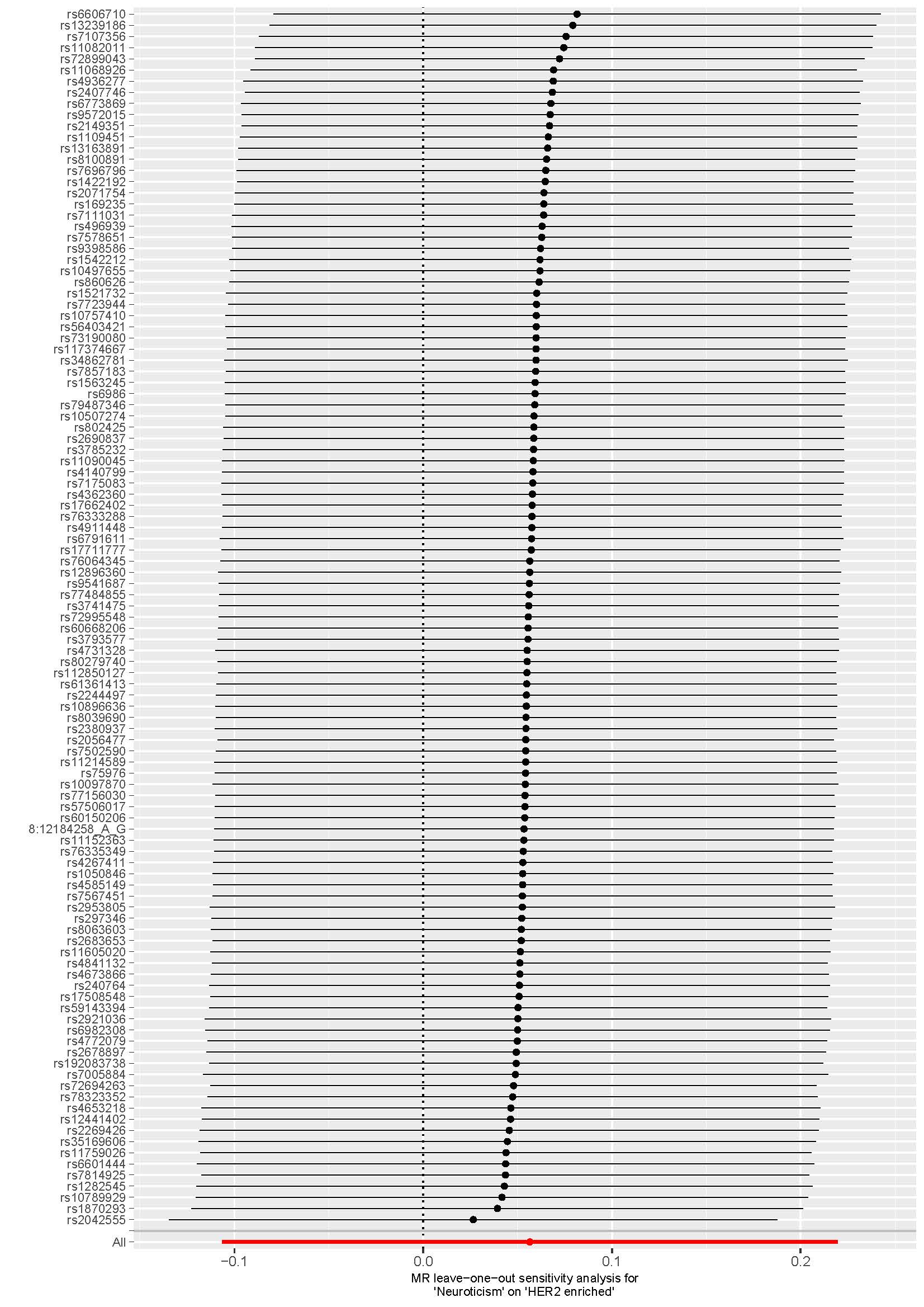
S1-C neuroticism and risk of luminal B like breast cancer



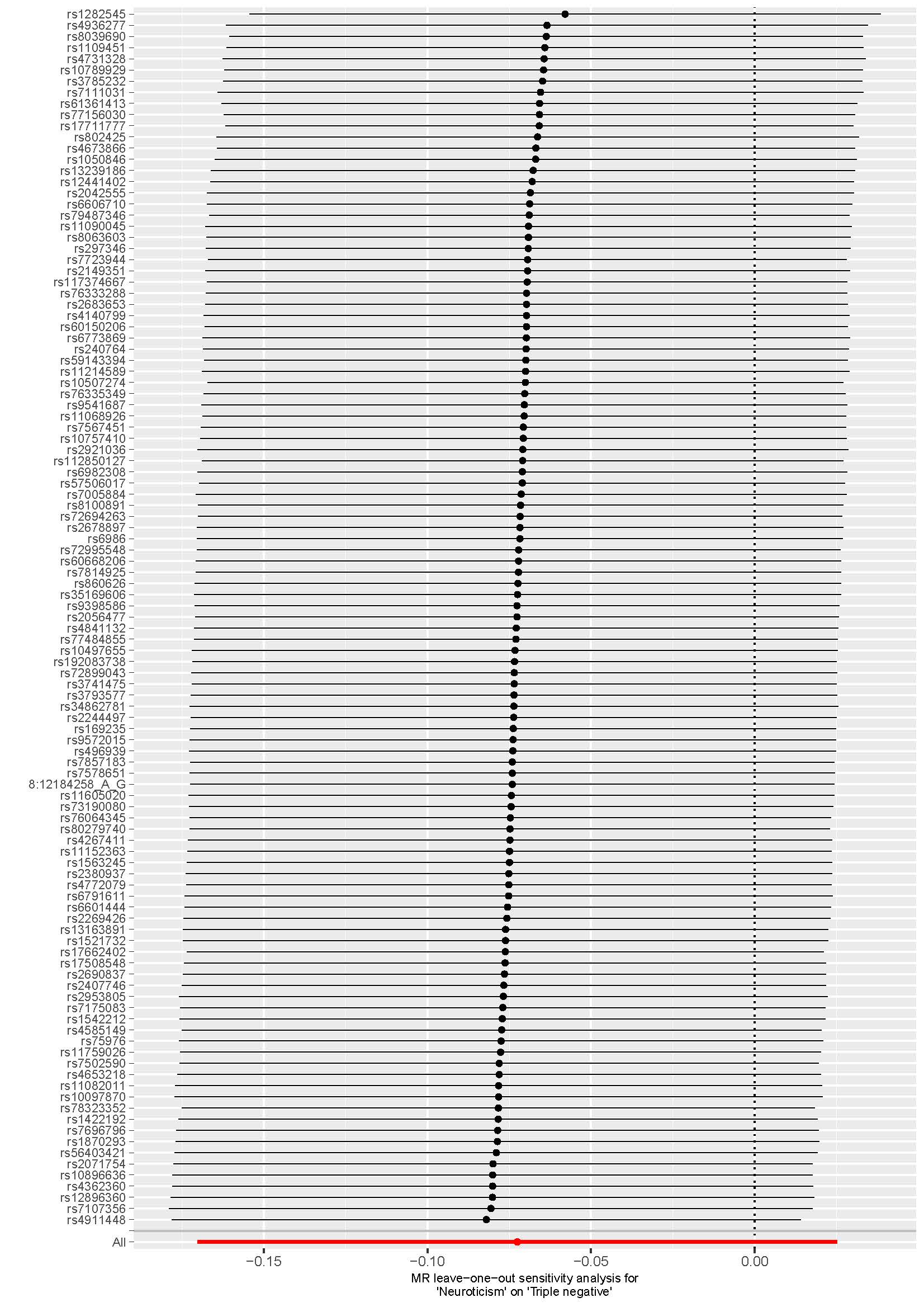
S1-D neuroticism and risk of luminal B HER2- breast cancer



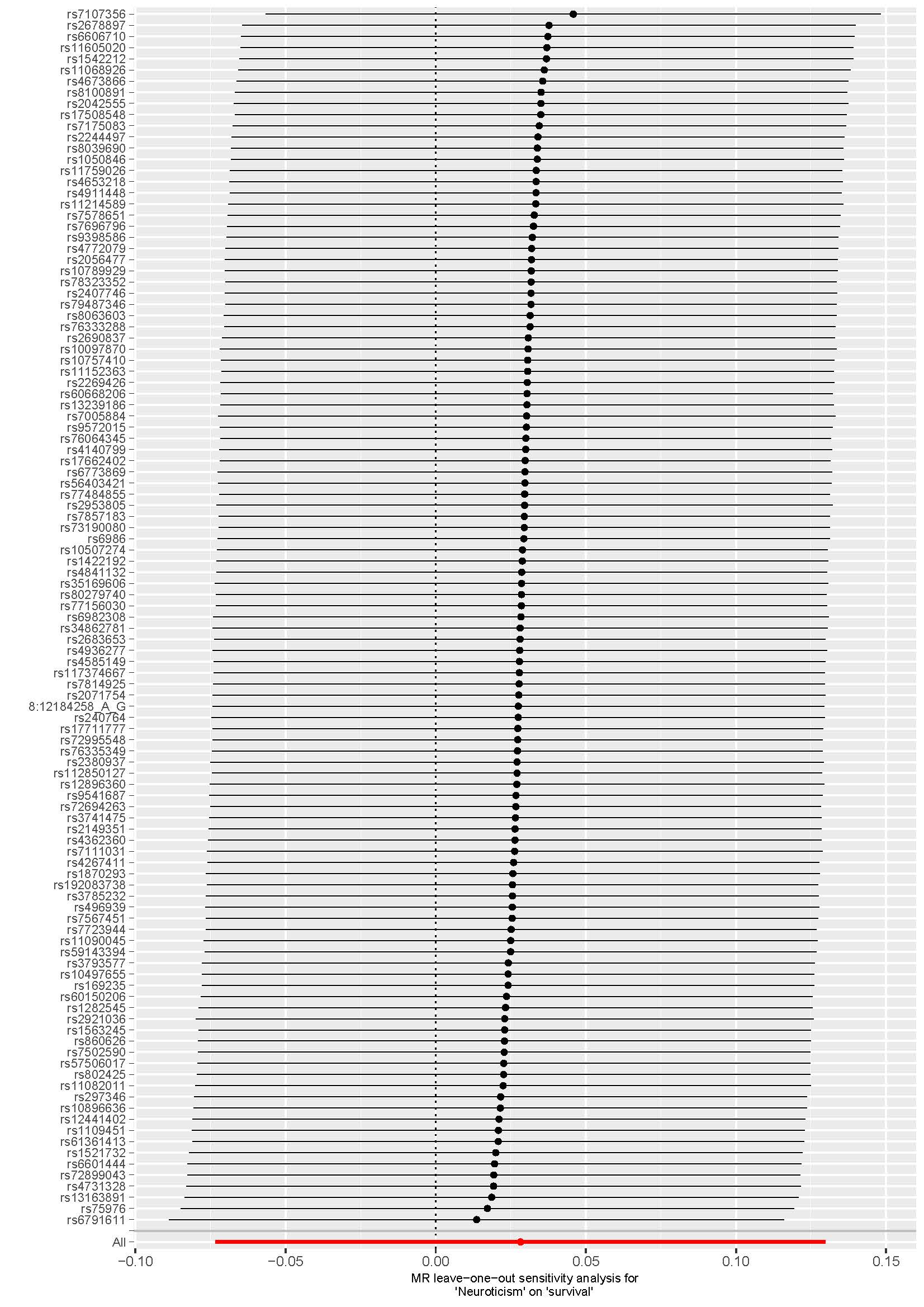
S1-E neuroticism and risk of HER2 enriched breast cancer



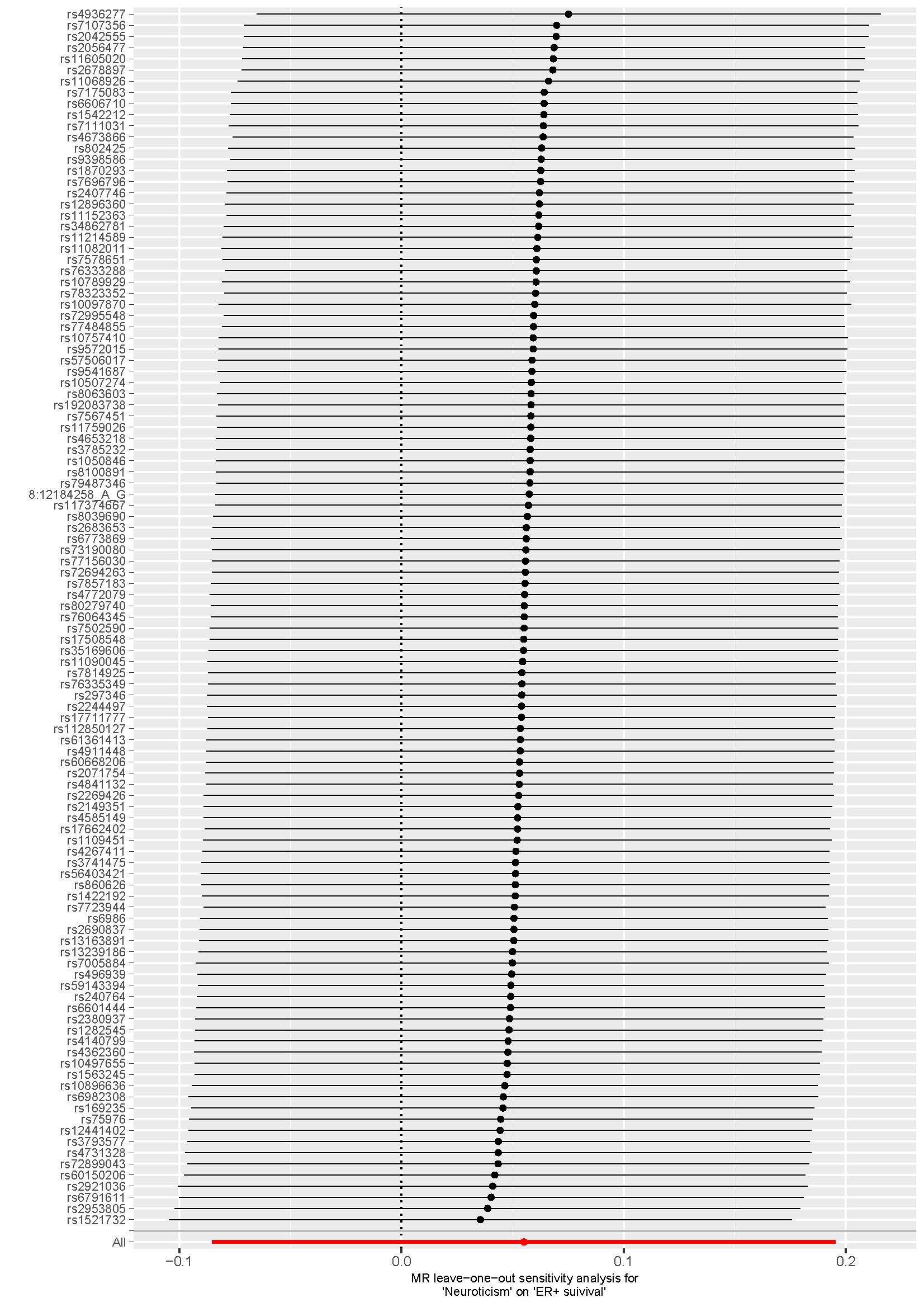
S1-F neuroticism and risk of Triple negative breast cancer



S1-G neuroticism and survival of breast cancer



S1-H neuroticism and survival of ER+ breast cancer



S1-I neuroticism and survival of ER- breast cancer

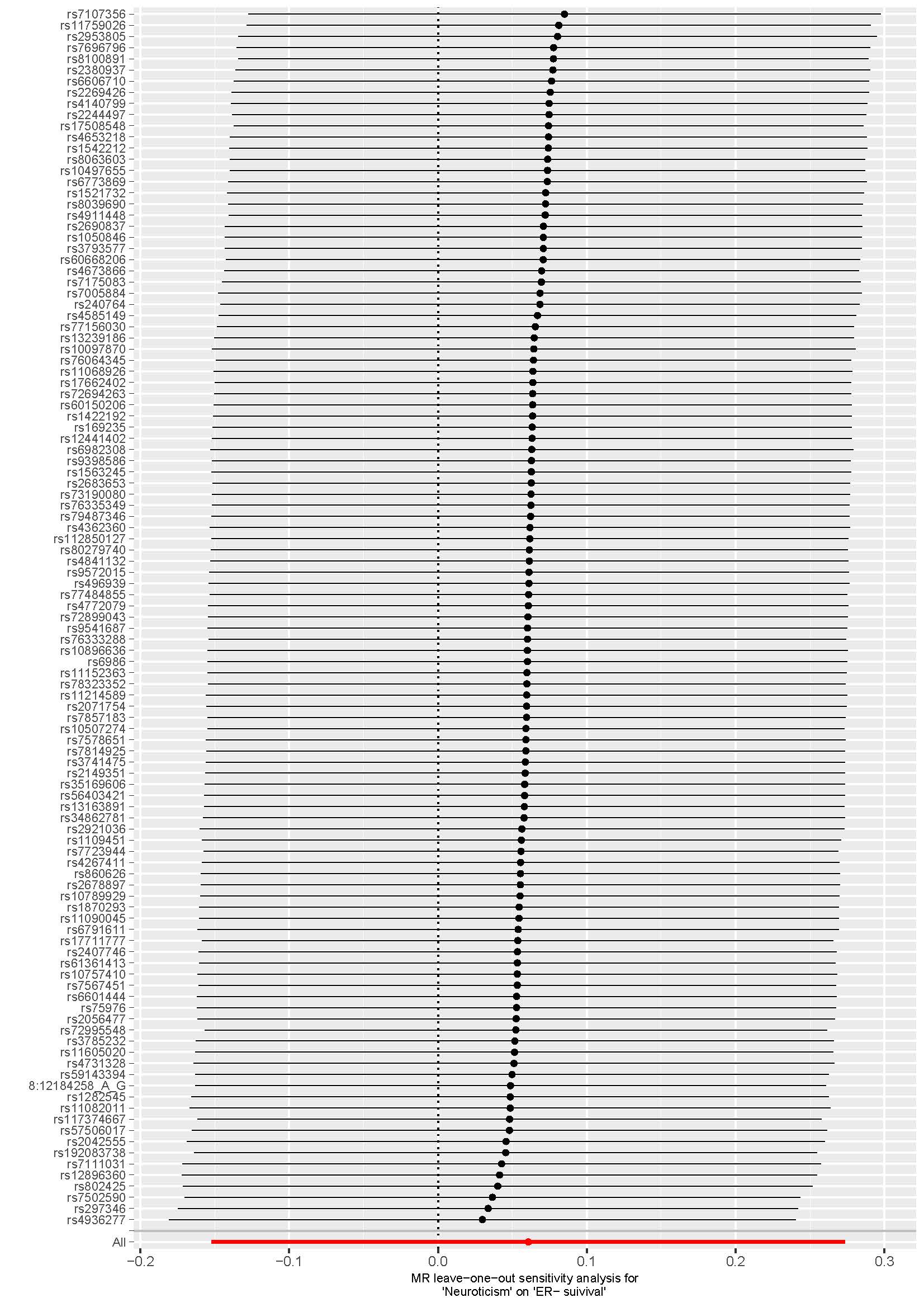
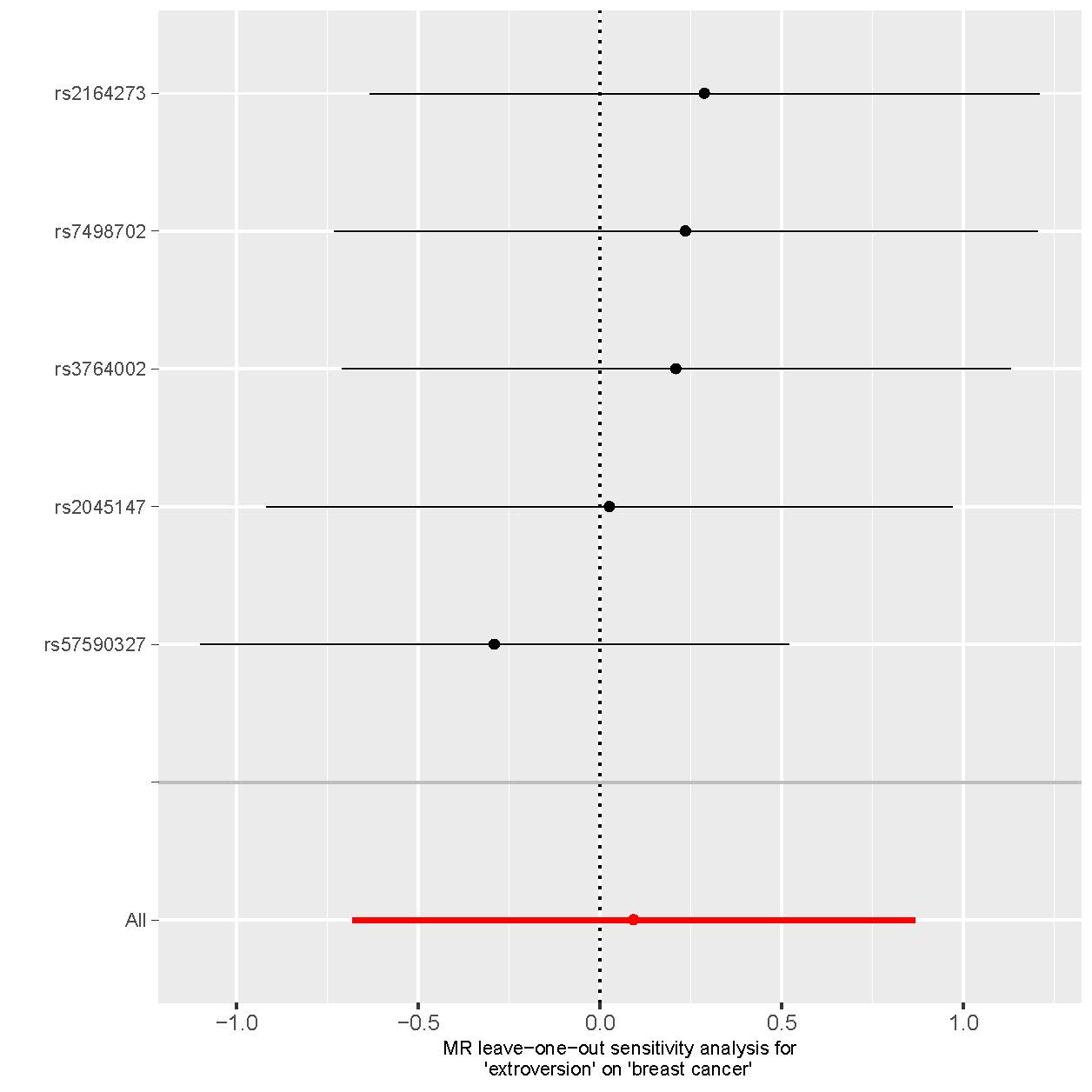
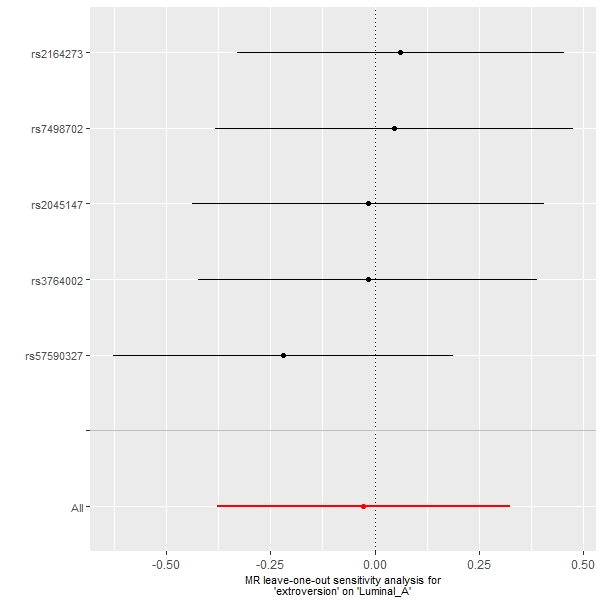


Figure S2. Leave-one-out analysis for extraversion and breast cancer

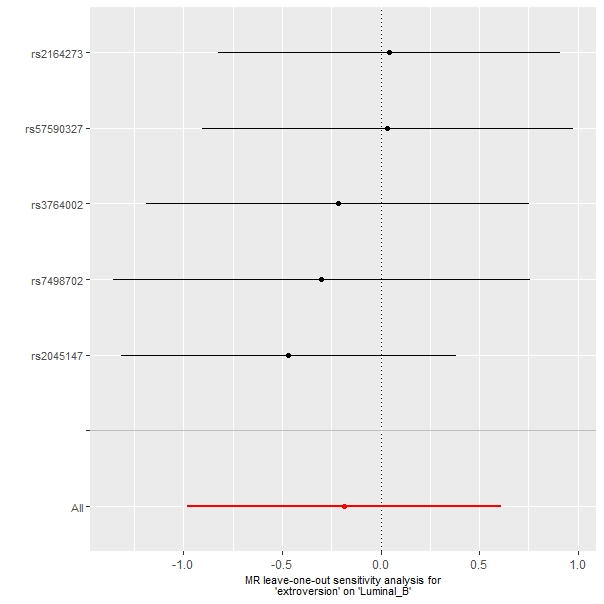
S2-A extraversion and risk of breast cancer



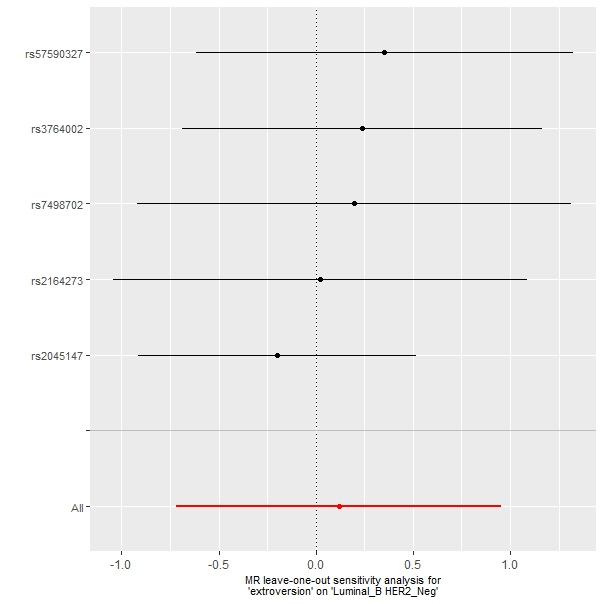
S2-B extraversion and risk of luminal A like breast cancer



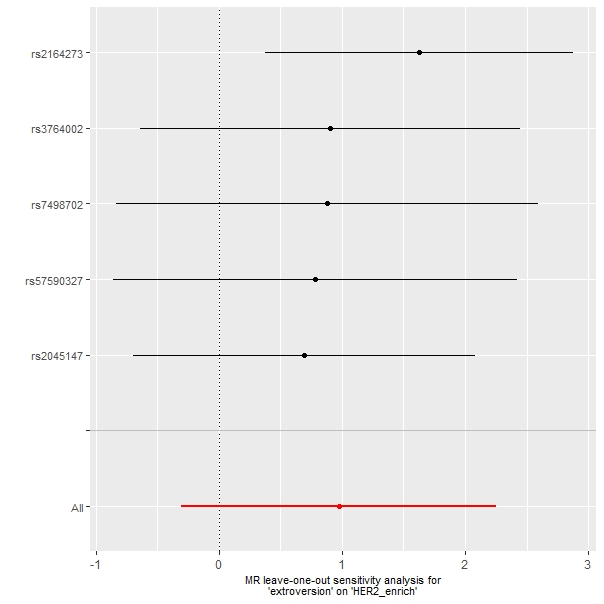
S2-C extraversion and risk of luminal B like breast cancer



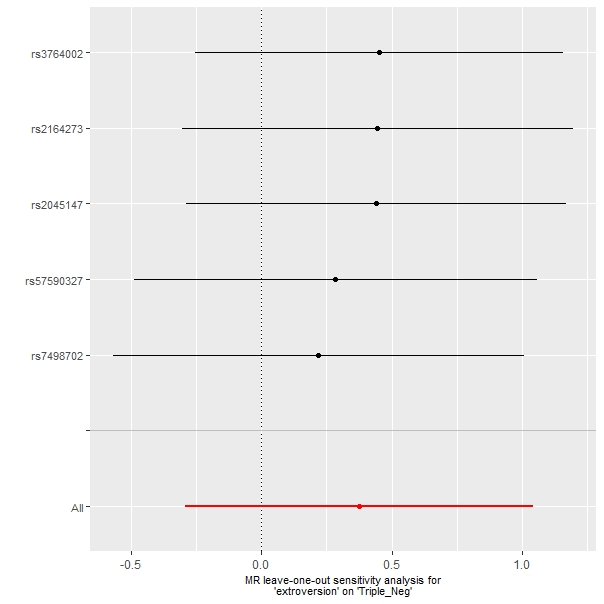
S2-D extraversion and risk of luminal B HER2- breast cancer



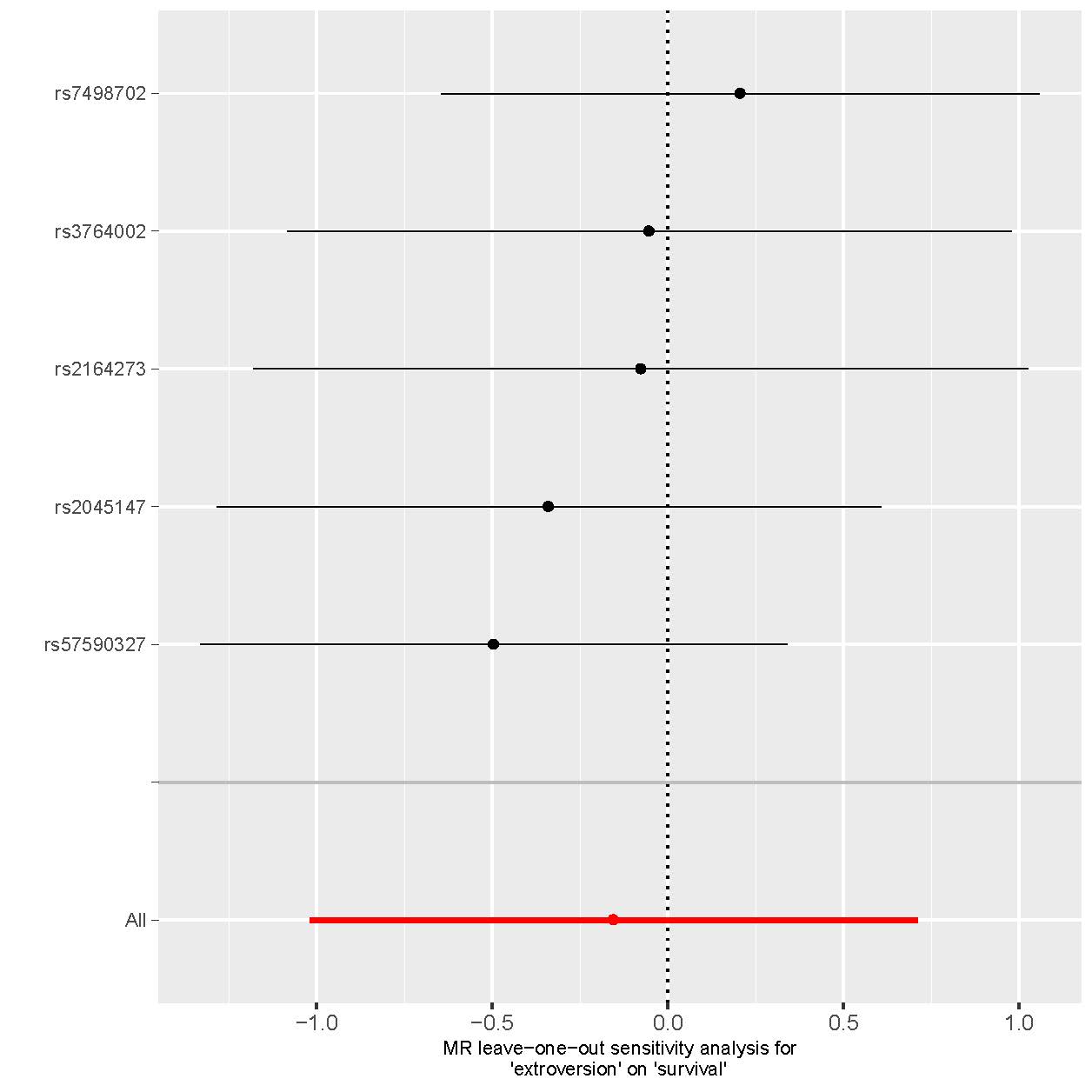
S2-E extraversion and risk of HER2 enriched breast cancer



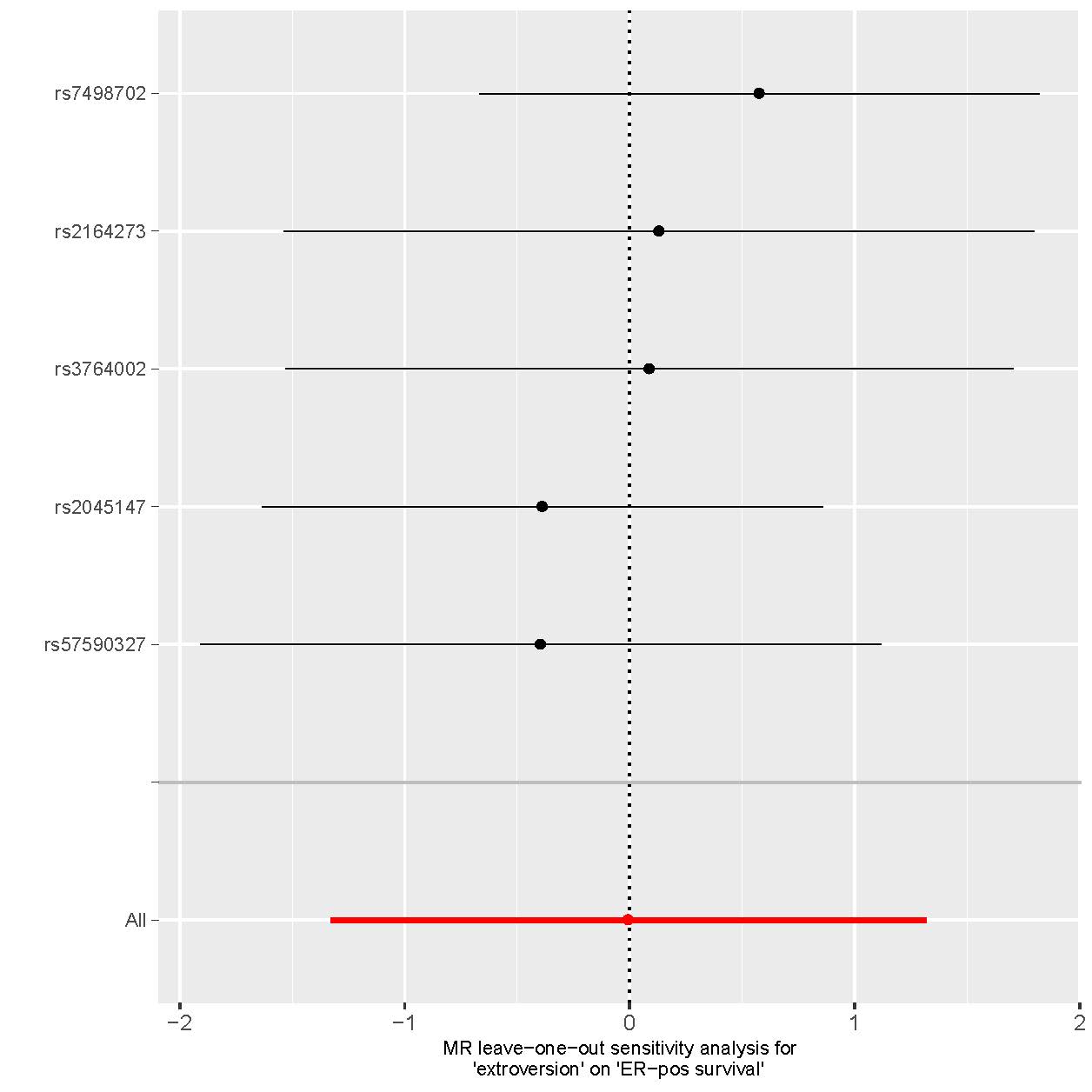
S2-F extraversion and risk of Triple negative breast cancer



S2-G extraversion and survival of breast cancer



S2-H extraversion and survival of ER+ breast cancer



S2-I extraversion and survival of ER- breast cancer

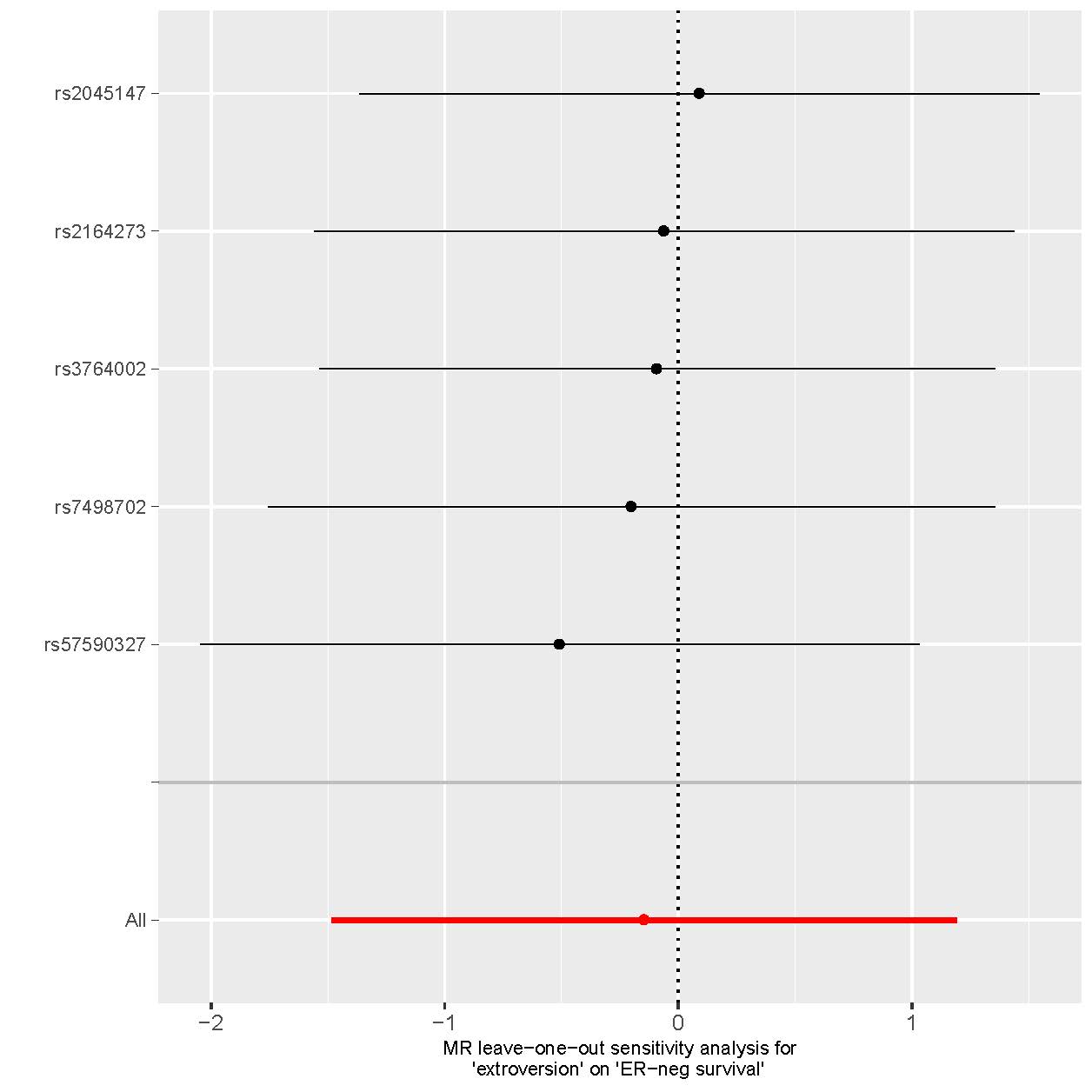
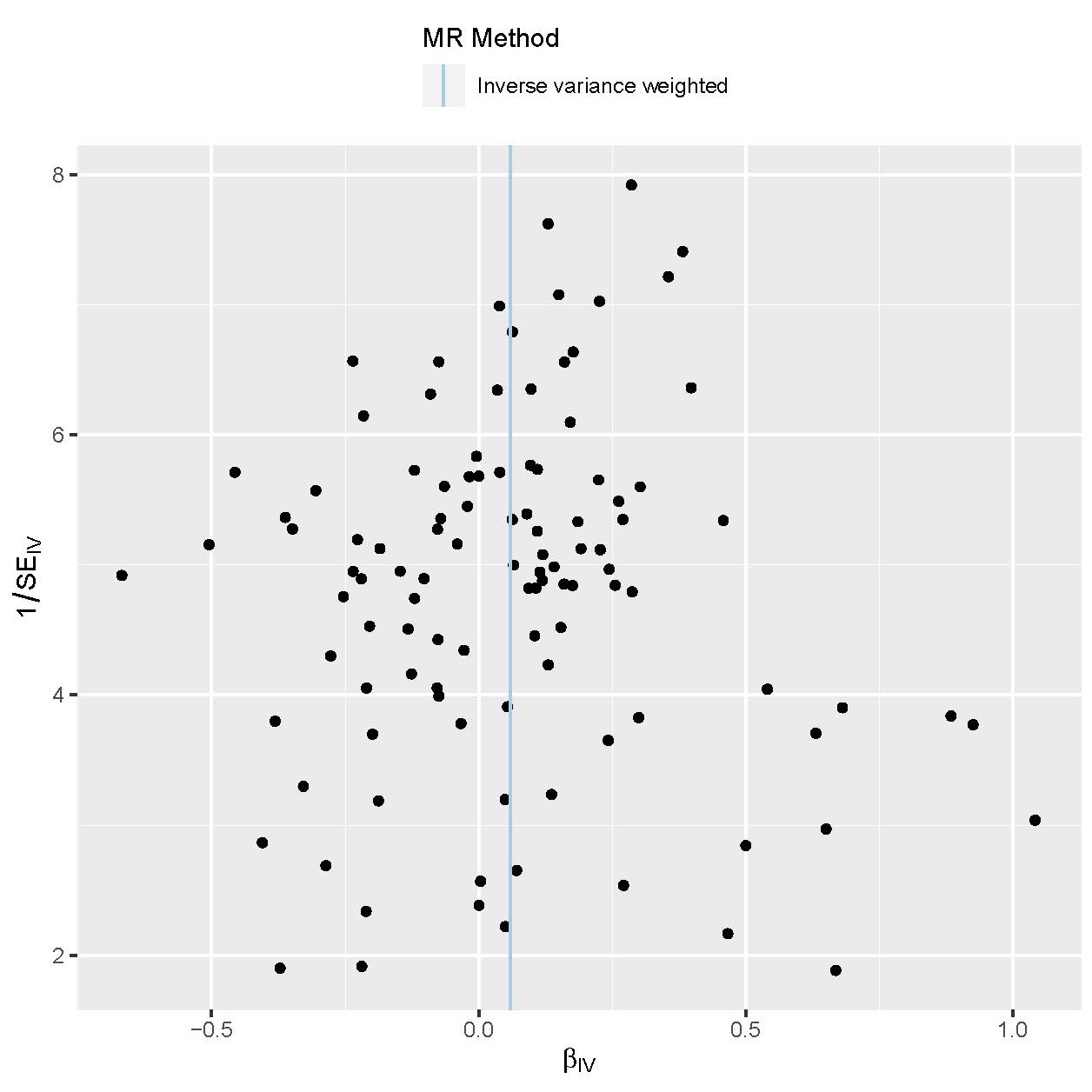
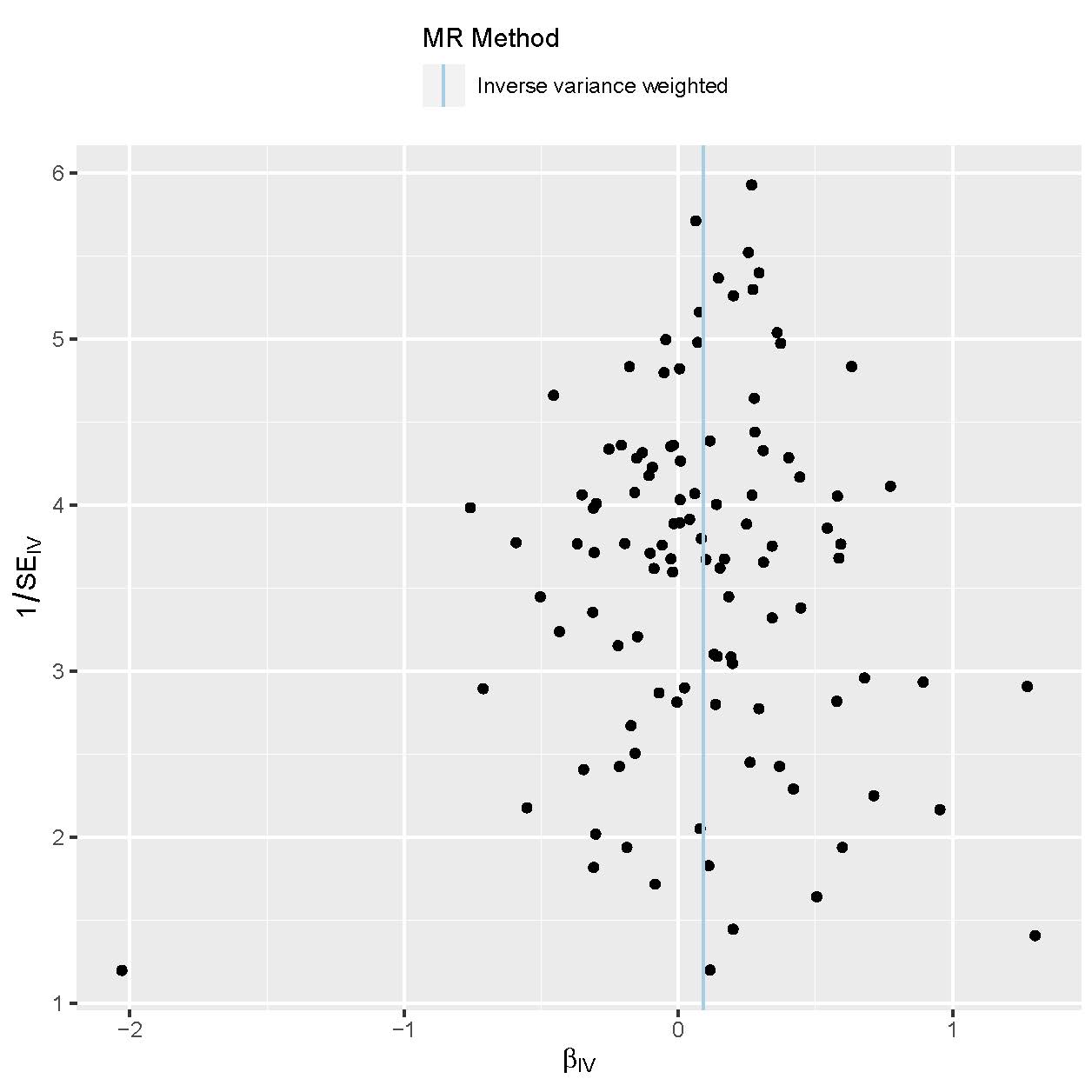


Figure S3. Funnel plot of neuroticism and breast cancer

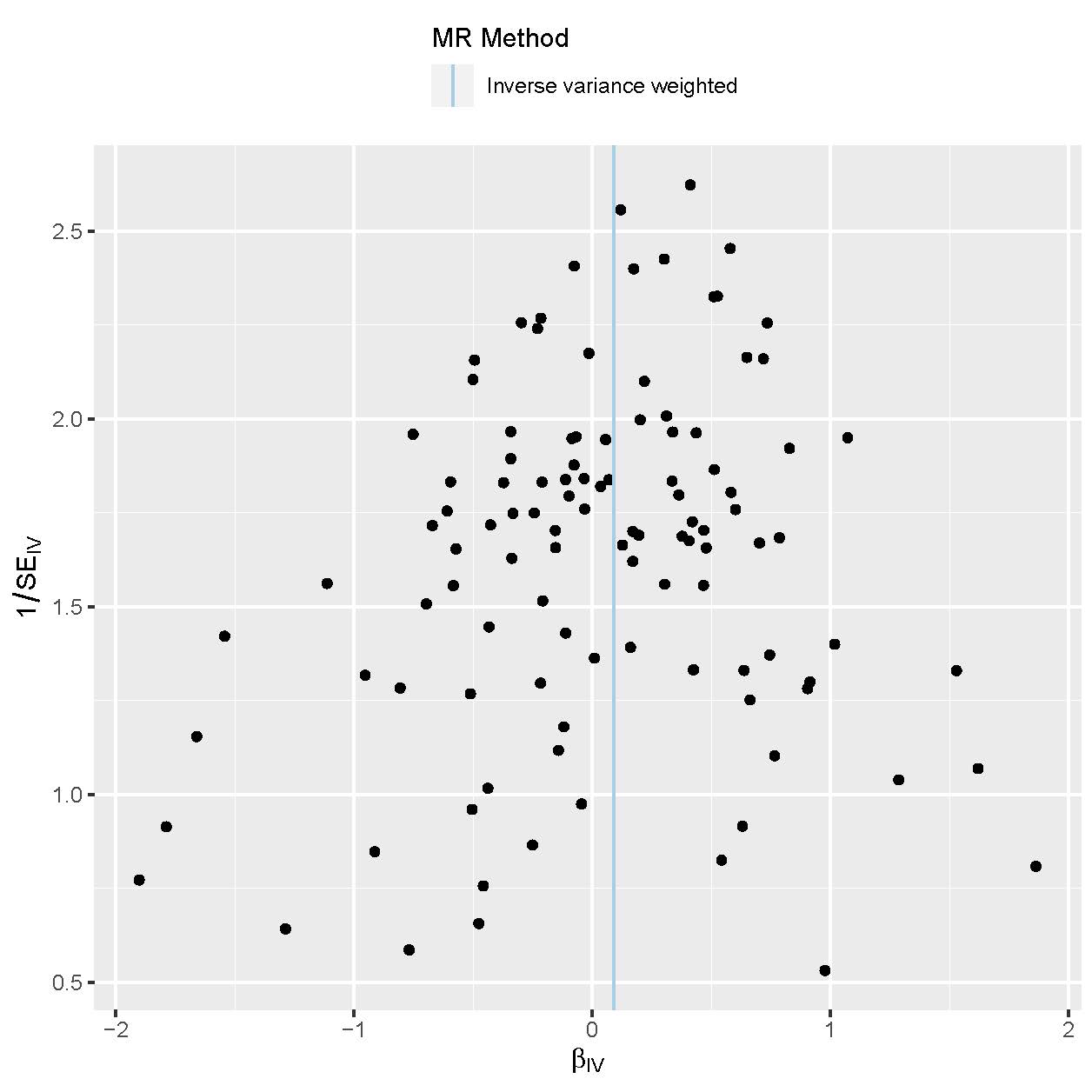
S3-A neuroticism and risk of breast cancer



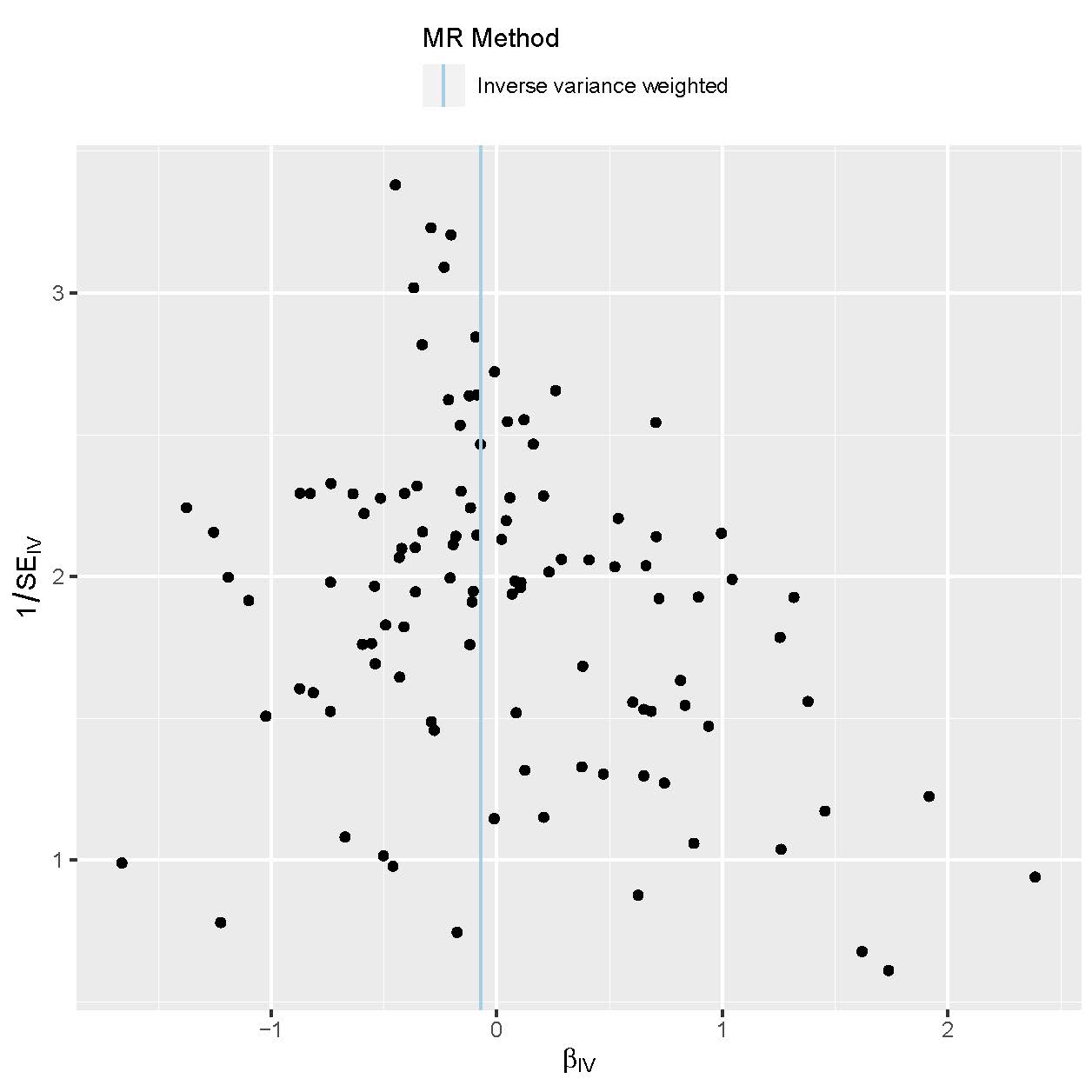
S3-B neuroticism and risk of luminal A like breast cancer



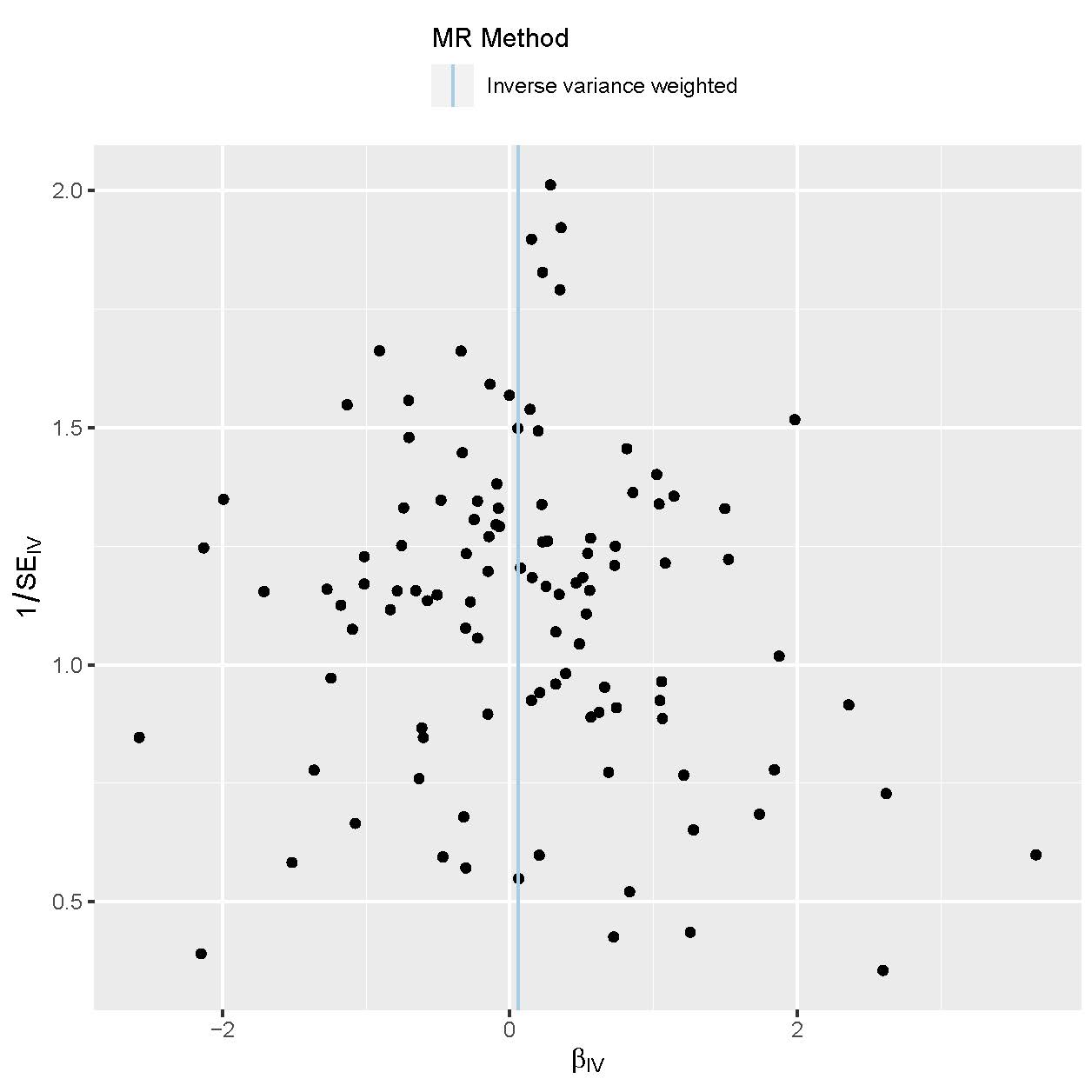
S3-C neuroticism and risk of luminal B like breast cancer



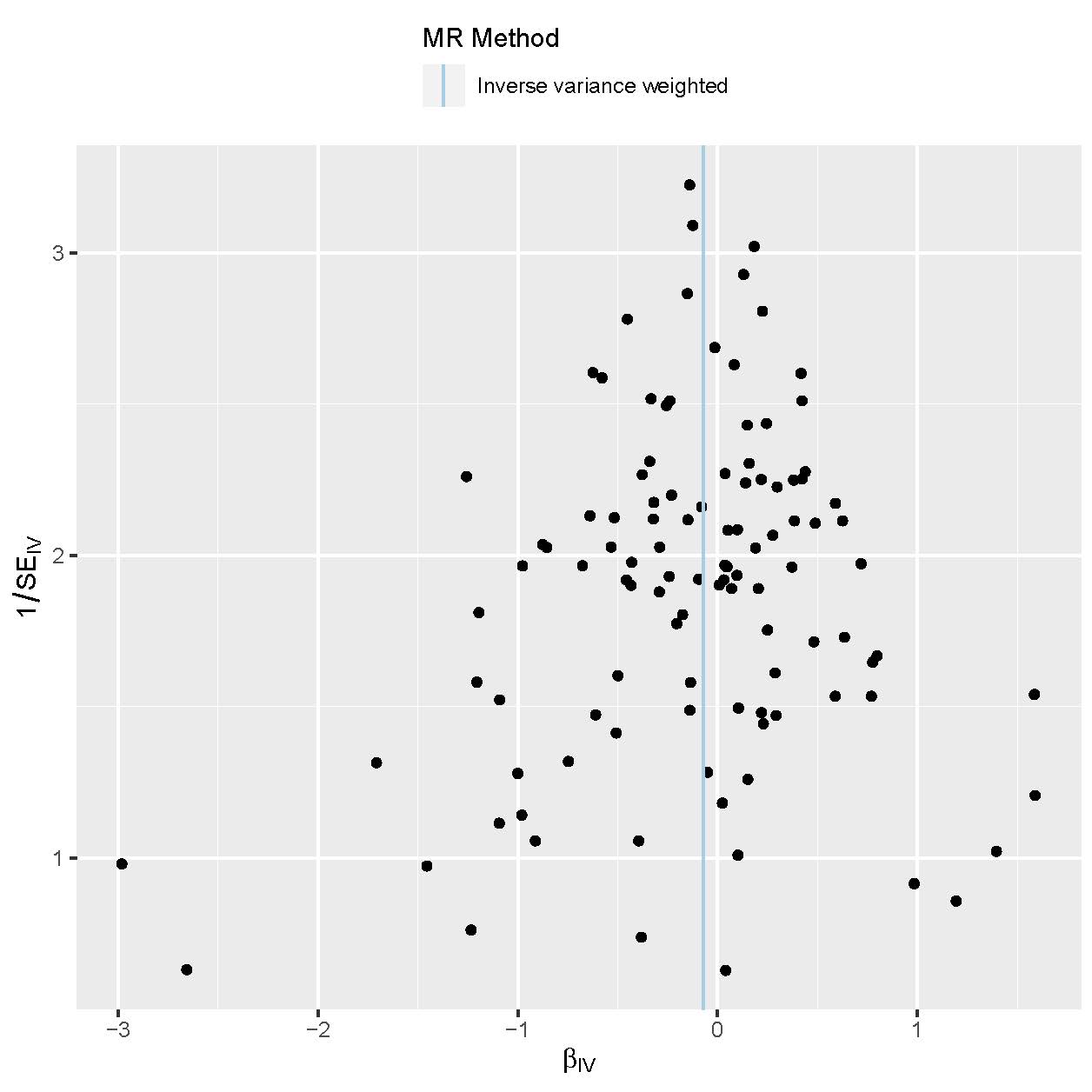
S3-D neuroticism and risk of luminal B HER2- breast cancer



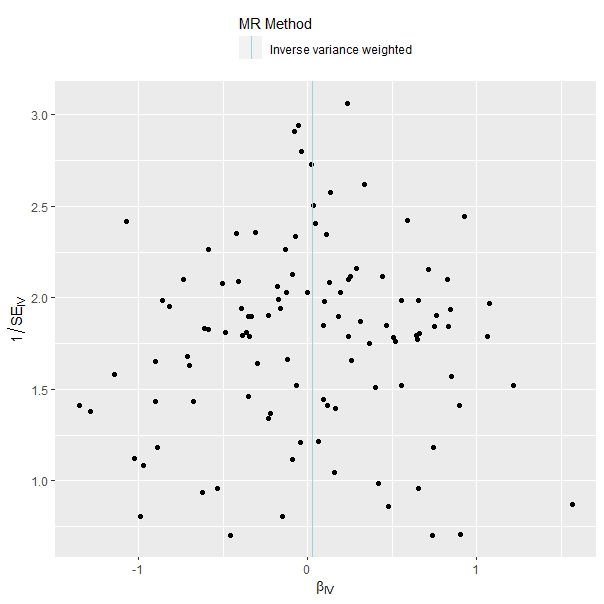
S3-E neuroticism and risk of HER2 enriched breast cancer



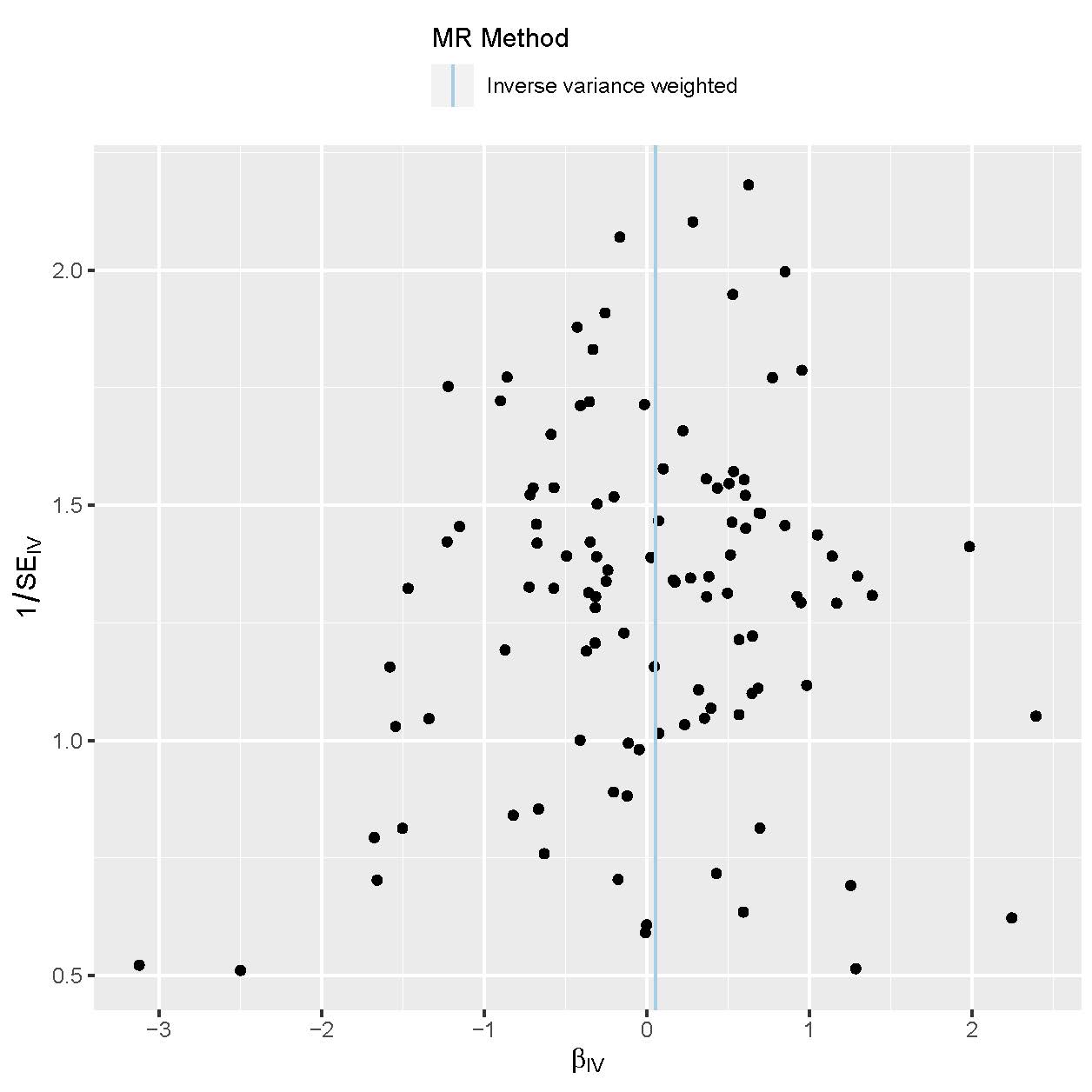
S3-F neuroticism and risk of Triple negative breast cancer



S3-G neuroticism and survival of breast cancer



S3-H neuroticism and survival of ER+ breast cancer



S3-I neuroticism and survival of ER- breast cancer

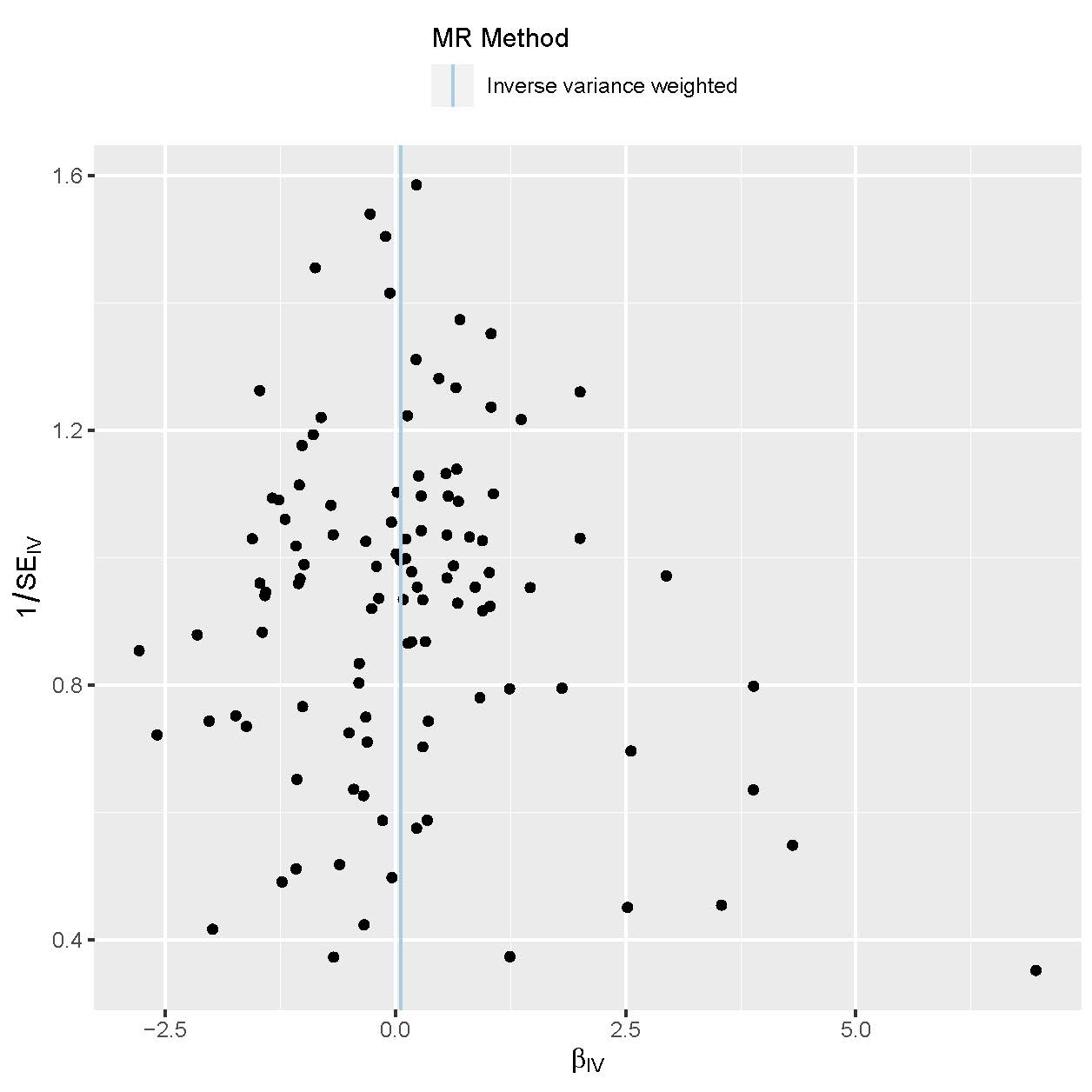
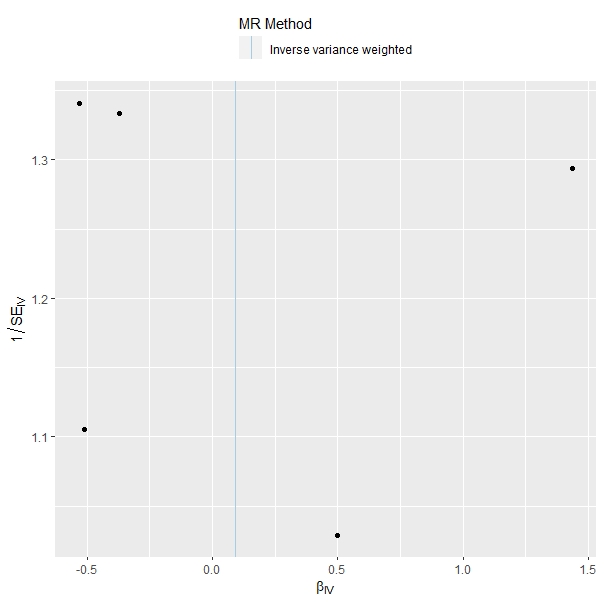
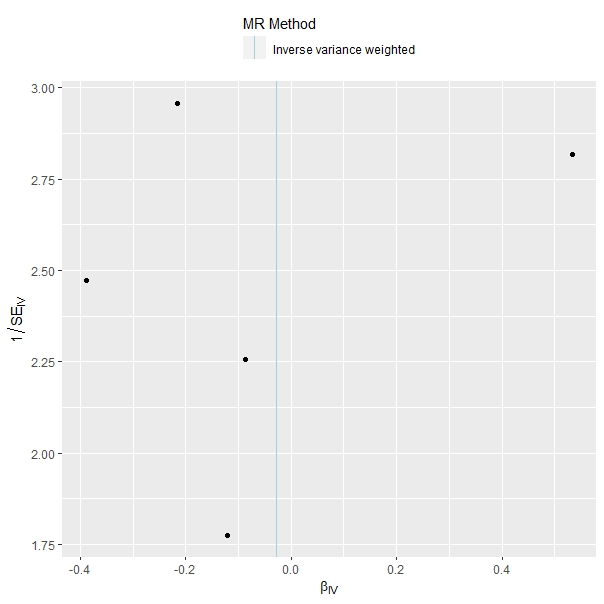


Figure S4. Funnel plot of extraversion and breast cancer

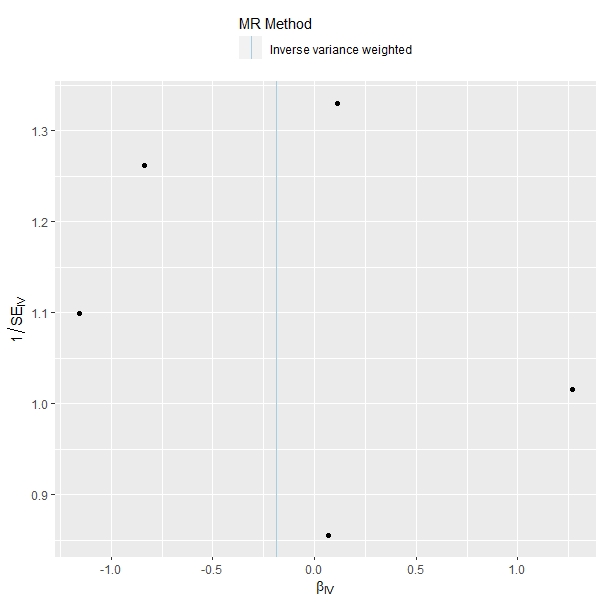
S4-A extraversion and risk of breast cancer



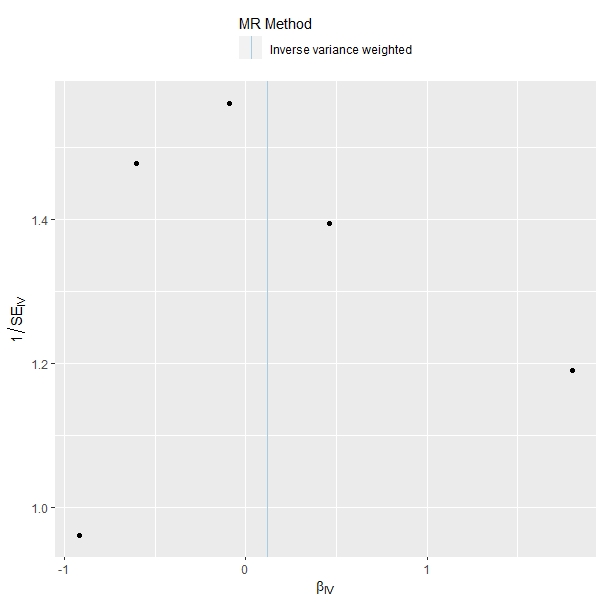
S4-B extraversion and risk of luminal A like breast cancer



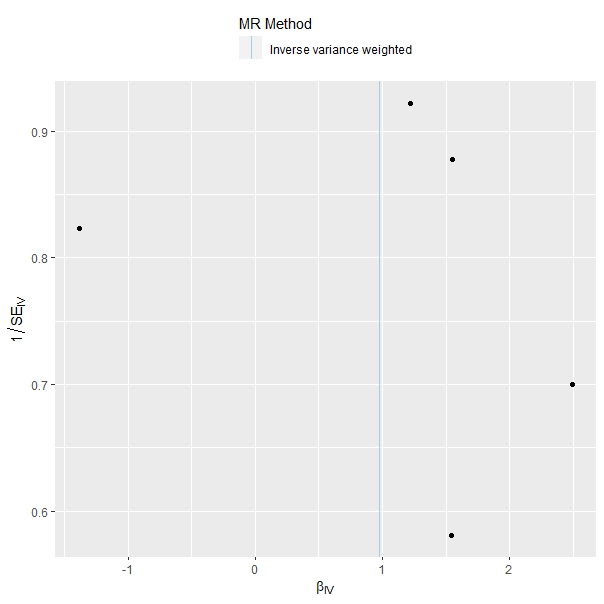
S4-C extraversion and risk of luminal B like breast cancer



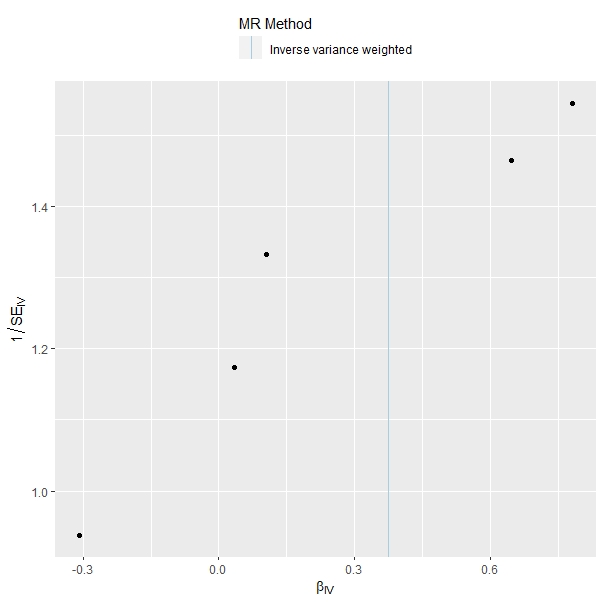
S4-D extraversion and risk of lumina B HER2- breast cancer



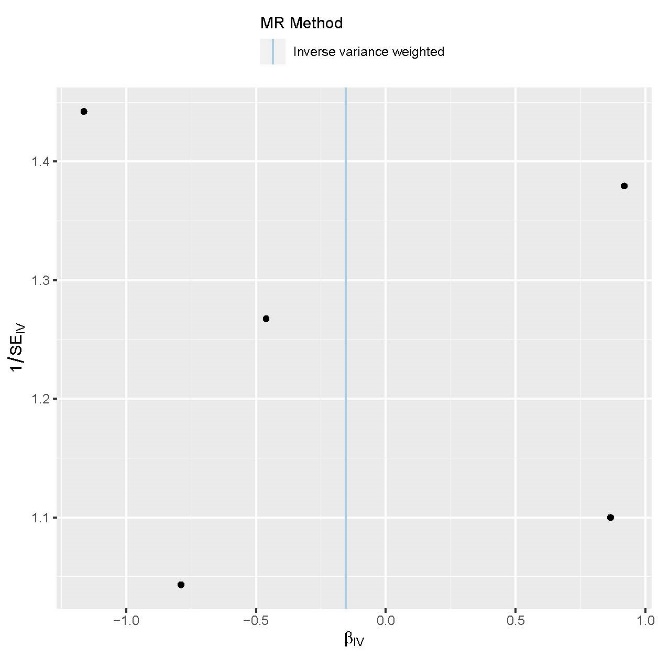
S4-E extraversion and risk of HER2 enriched breast cancer



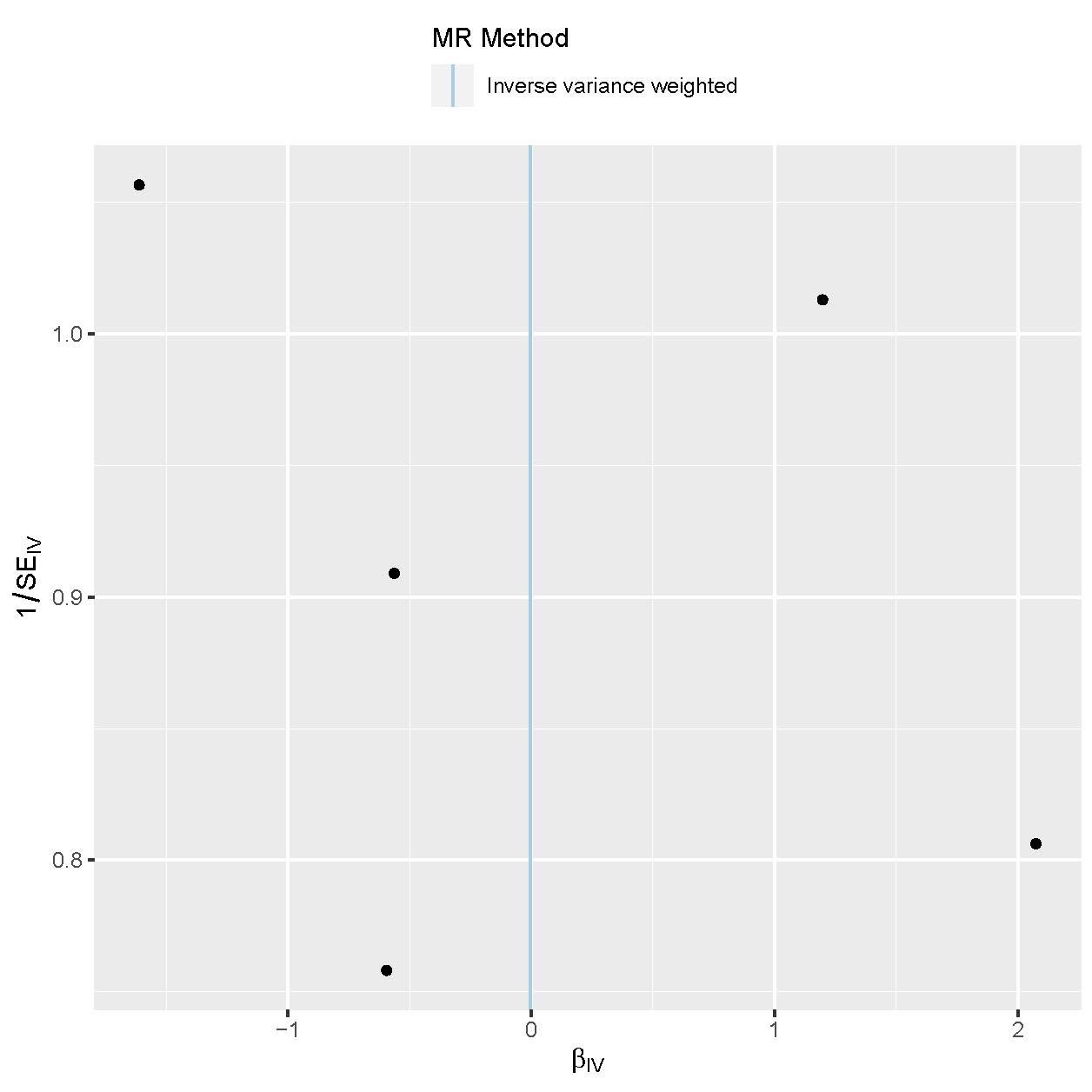
S4-F extraversion and risk of Triple negative breast cancer



S4-G extraversion and survival risk of breast cancer



S4-H extraversion and survival risk of ER+ breast cancer



S4-I extraversion and survival risk of ER- breast cancer

