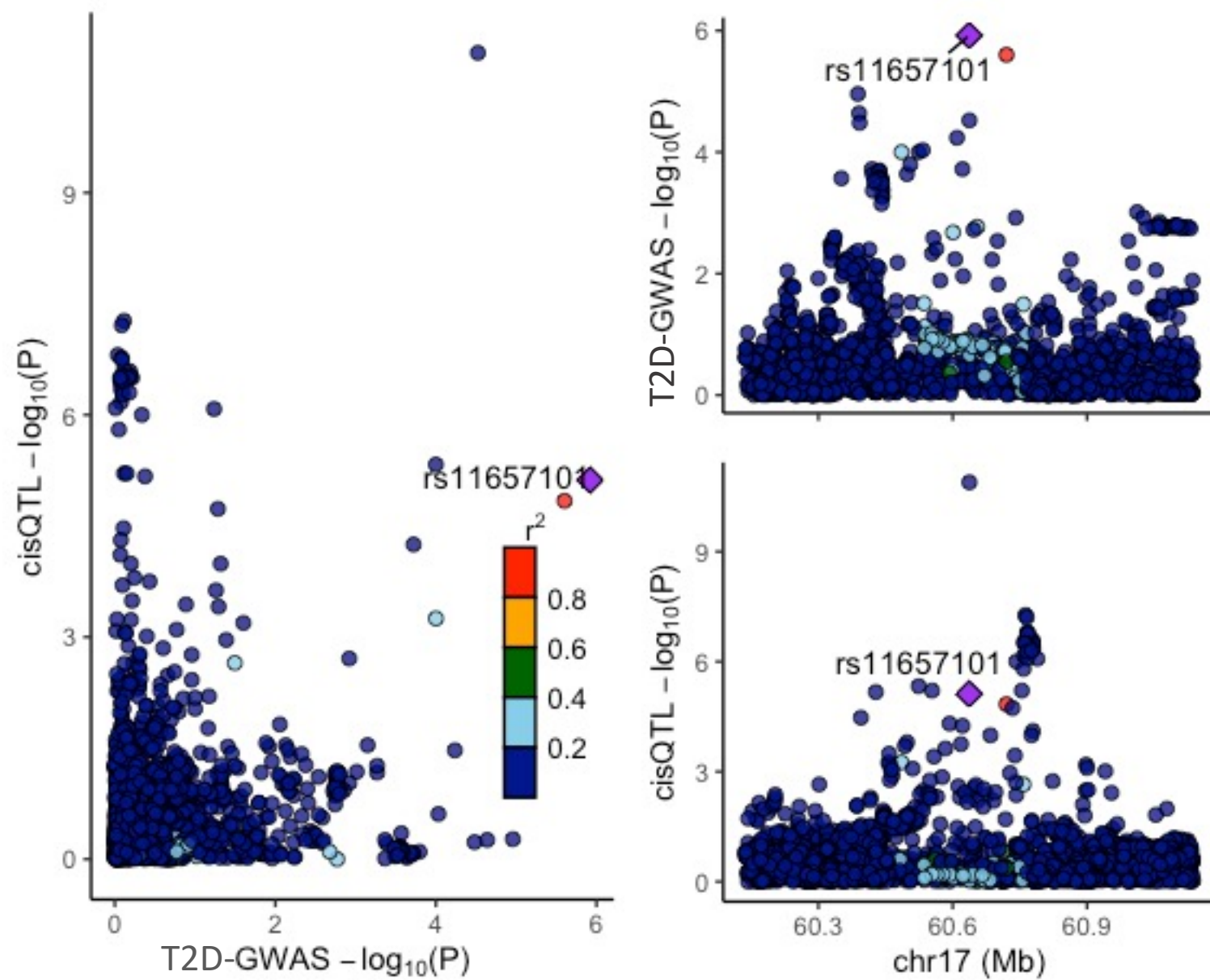


**Figure S1.** Co-localization analyses support a causal role of proteins in BMI-unadjusted adult type 2 diabetes (**A-F, H&I**), BMI-adjusted adult type 2 diabetes (**G**), and youth-onset type 2 diabetes (**J-L**). The *cis*-pQTLs of each protein is displayed as a purple diamond. The P-values of the SNPs were extracted from the adult type 2 diabetes GWAS by Mahajan et al (**A-I**), and from youth-onset type 2 diabetes by Srinivasan et al (**J-L**), and from the protein GWAS by Sun et al. The dots in the scatter plots represent SNPs and are colored according to their linkage disequilibrium (LD) to the colocalization lead variant (*cis*-pQTL). LD is calculated based on the 1000 Genomes phase 3 European reference.

**A.** Co-localization analysis of the *cis*-pQTL for MRC2 (rs11657101) **B.** Co-localization analysis of the *cis*-pQTL for ATP1B2 (rs rs858518) **C.** Co-localization analysis of the *cis*-pQTL for SPATA20 (rs8077755) **D.** Co-localization analysis of the *cis*-pQTL for HP (rs8051717) **E.** Co-localization analysis of the *cis*-pQTL for ABO (rs505922) **F.** Co-localization analysis of the *cis*-pQTL for MANSC4 (rs10842994). **G.** Co-localization analysis of the *cis*-pQTL for ERO1LB (rs2463185) with BMI-adjusted type 2 diabetes. **H.** Co-localization analysis of the *cis*-pQTL for PAM (rs115505614). **I.** Co-localization analysis of the *cis*-pQTL for MANBA (rs7674212). **J.** Co-localization analysis of the *cis*-pQTL for GDF15 (rs10577640) with youth-onset type 2 diabetes. **K.** Co-localization analysis of the *cis*-pQTL for SVEP1 (rs61751937) with youth-onset type 2 diabetes. **L.** Co-localization analysis of the *cis*-pQTL for ABO (rs505922) with youth-onset type 2 diabetes.

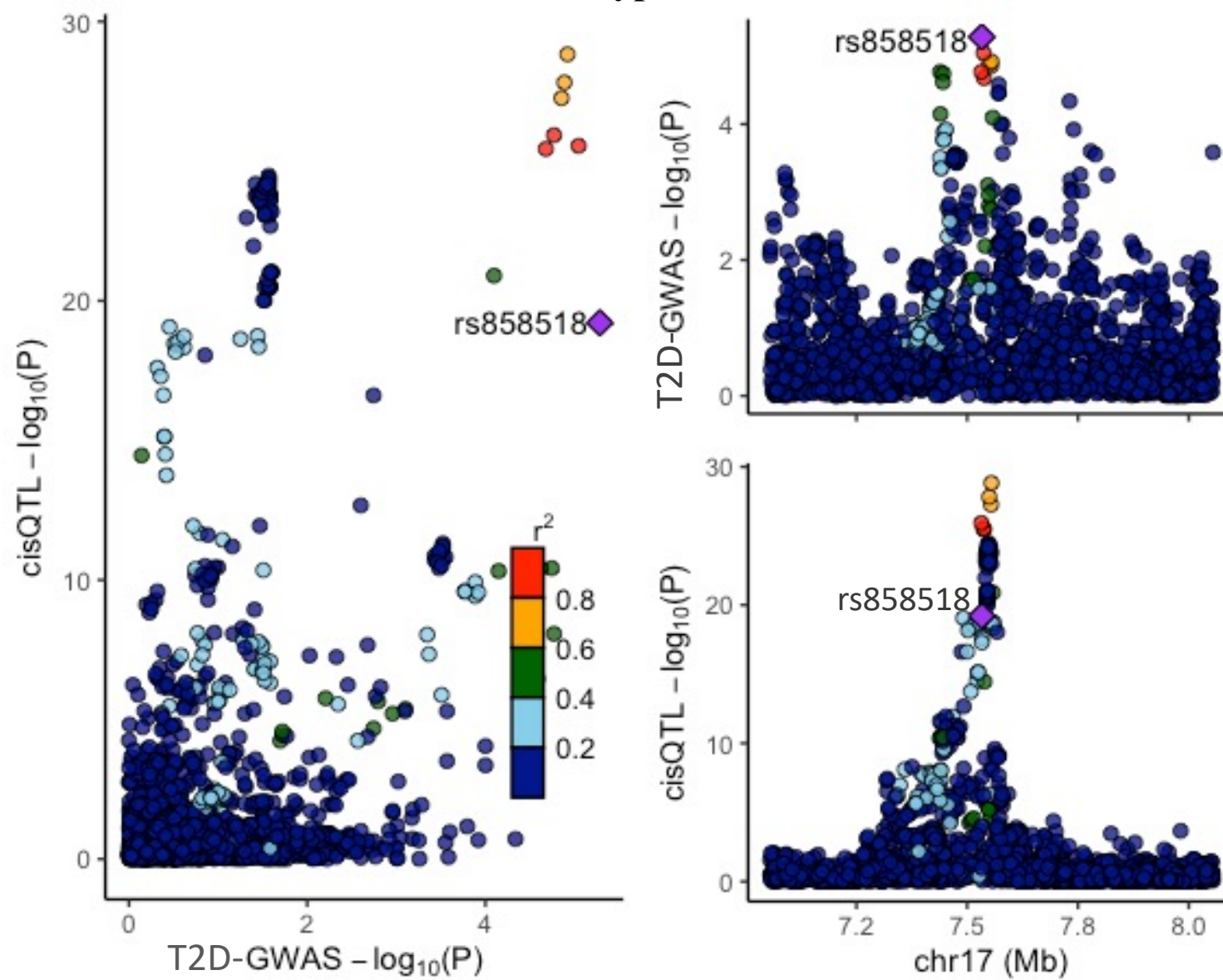
A)

# MRC2-adult type 2 diabetes



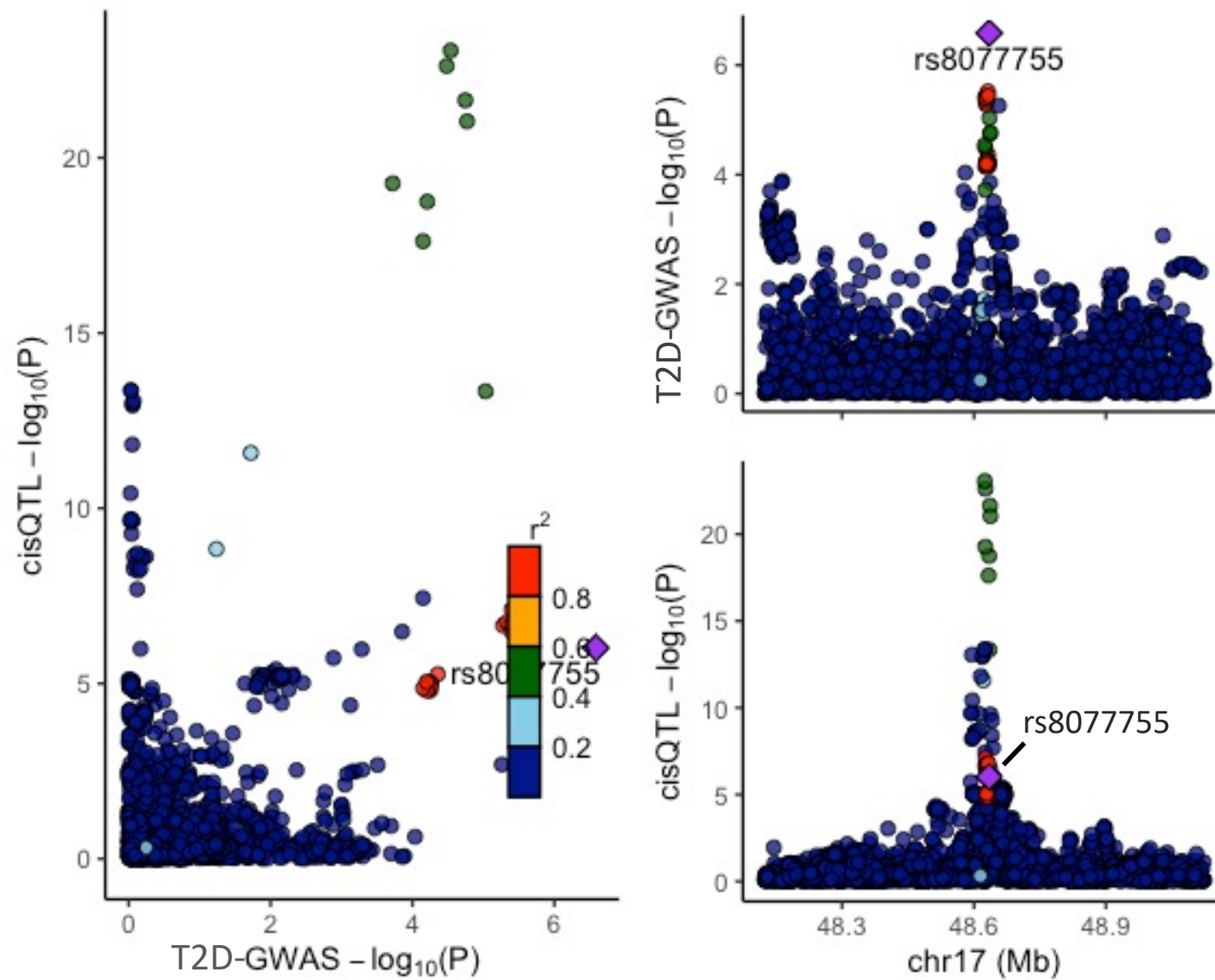
B)

# ATP1B2-adult type 2 diabetes



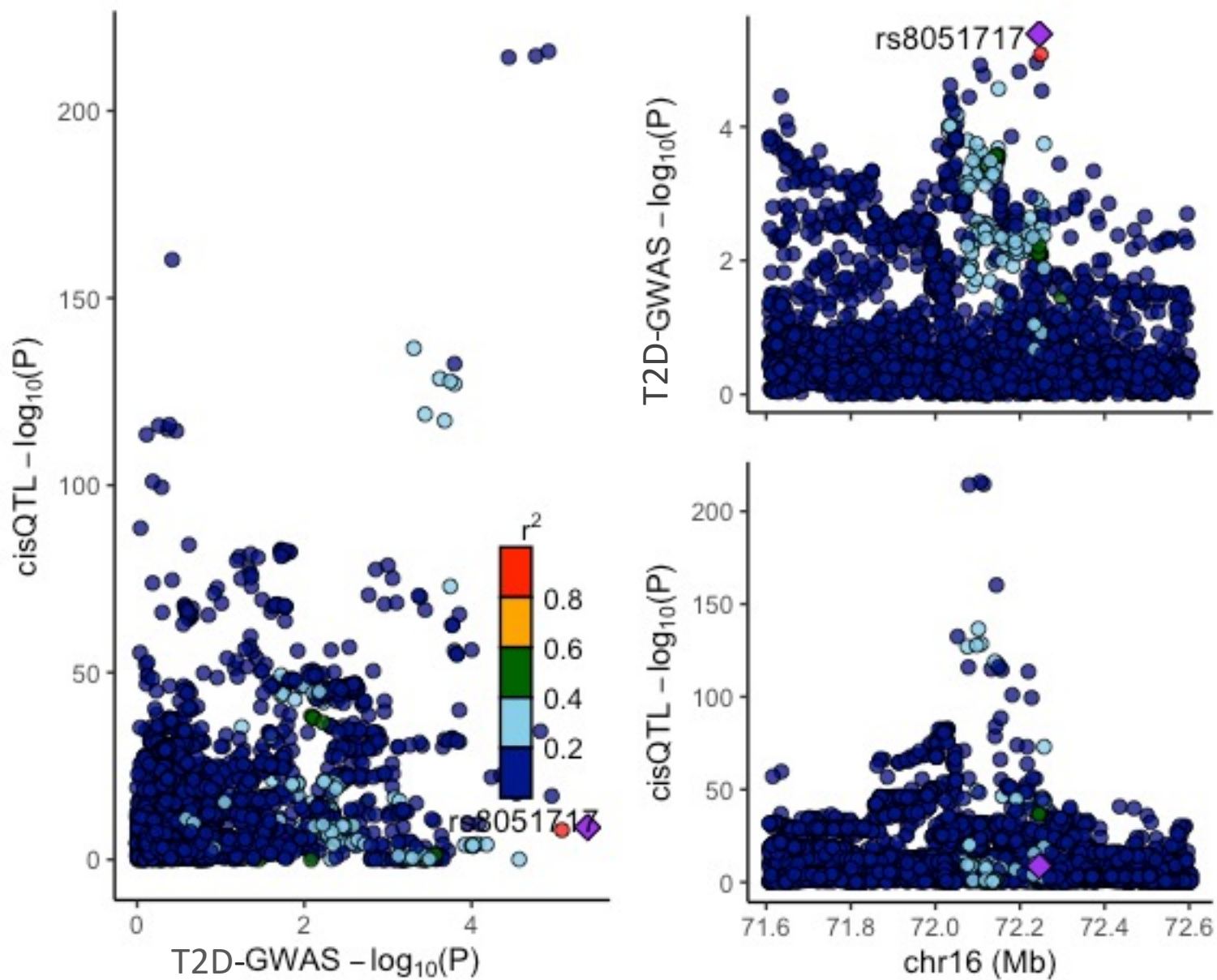
C)

# SPATA20-adult type 2 diabetes



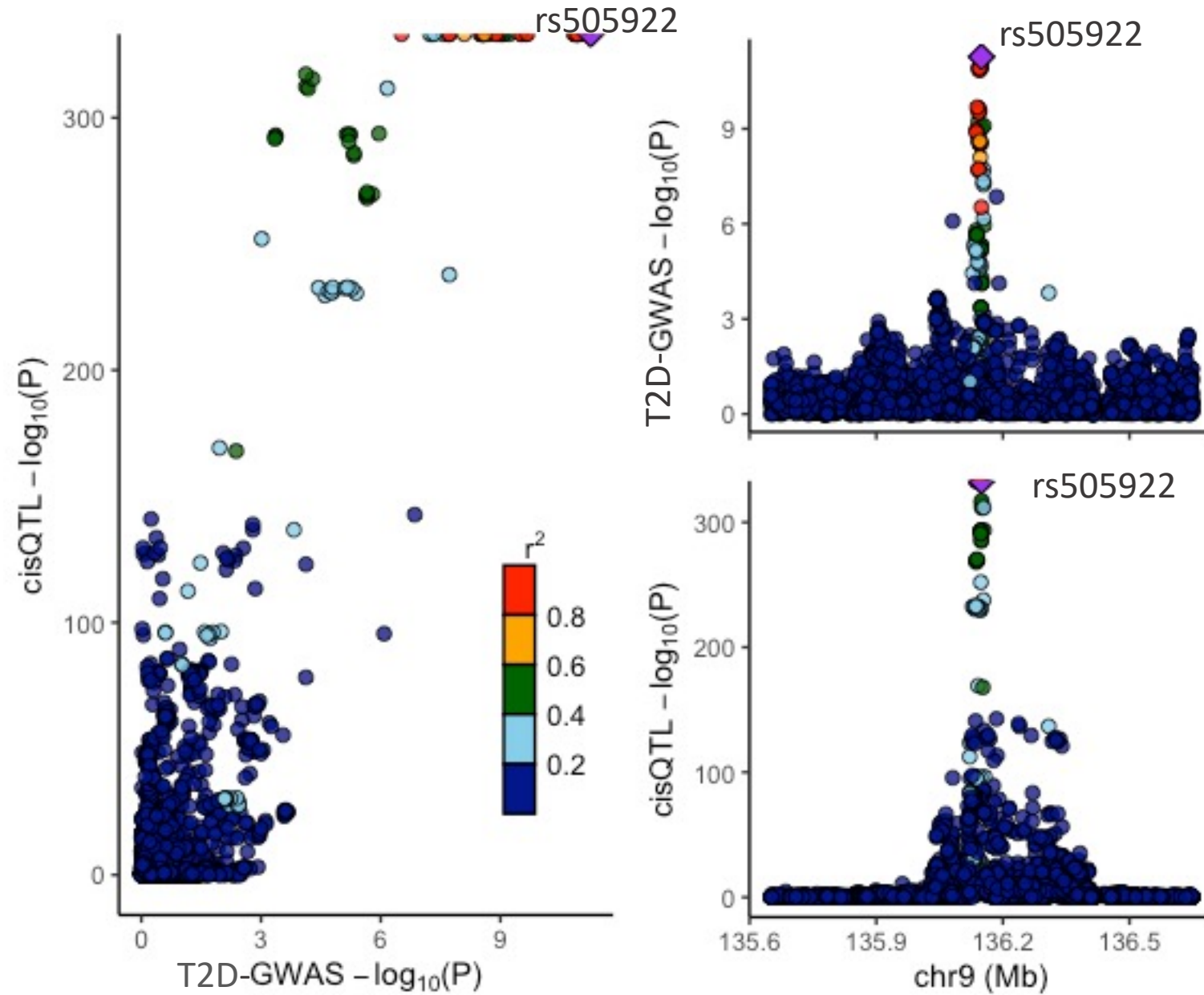
D)

# HP-adult type 2 diabetes



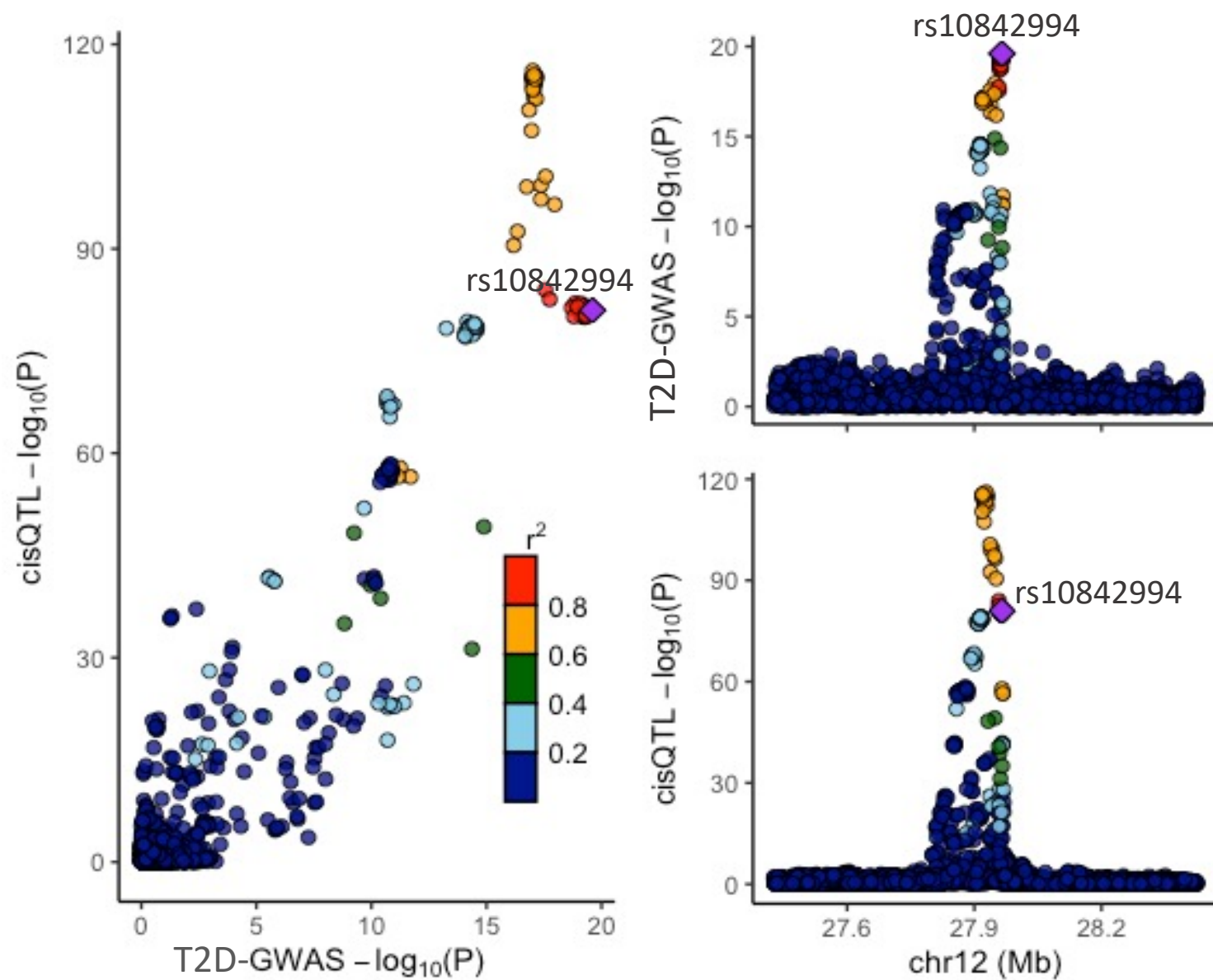
E)

ABO-adult type 2 diabetes



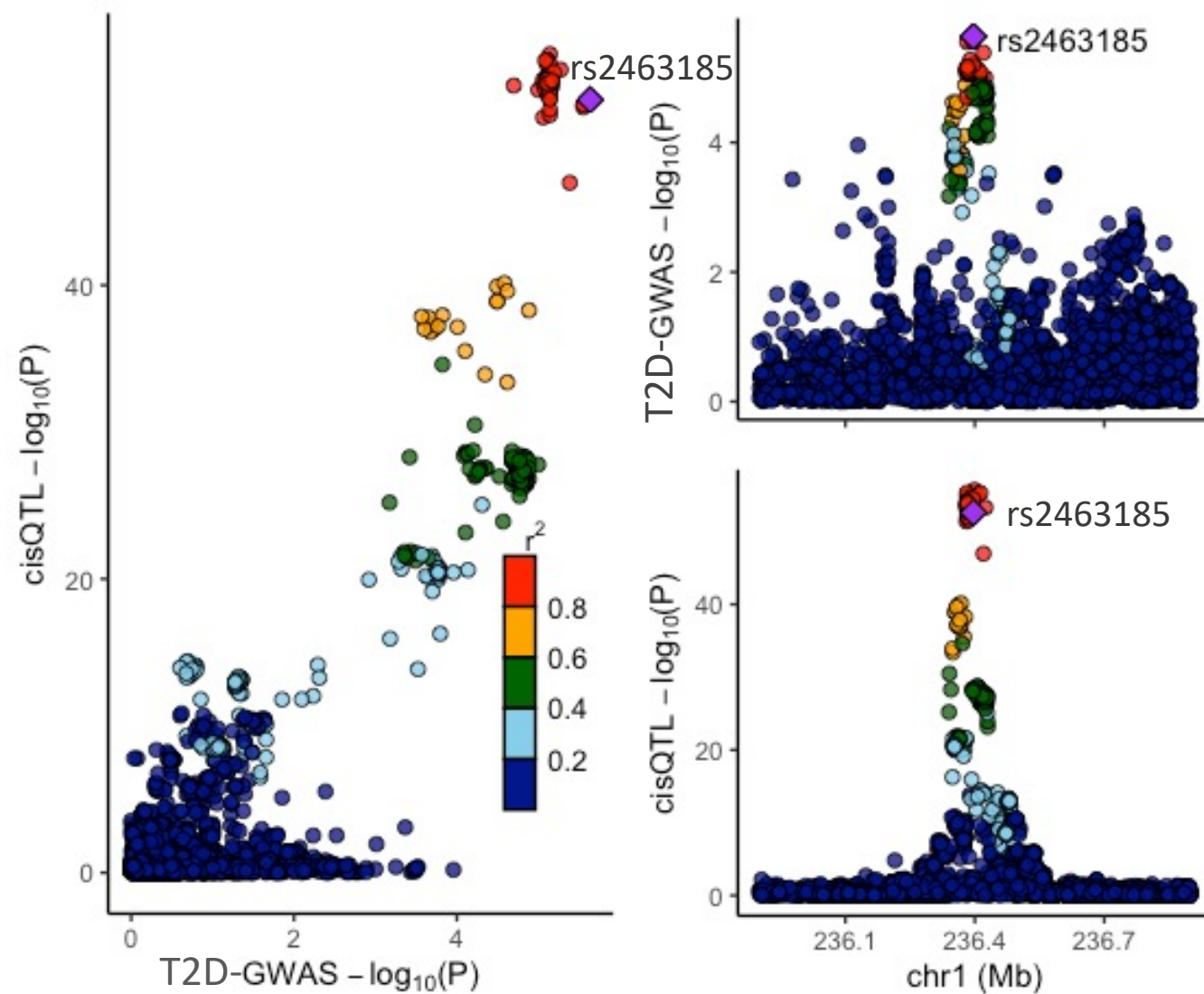
**F)**

**MANSC4-adult type 2 diabetes**



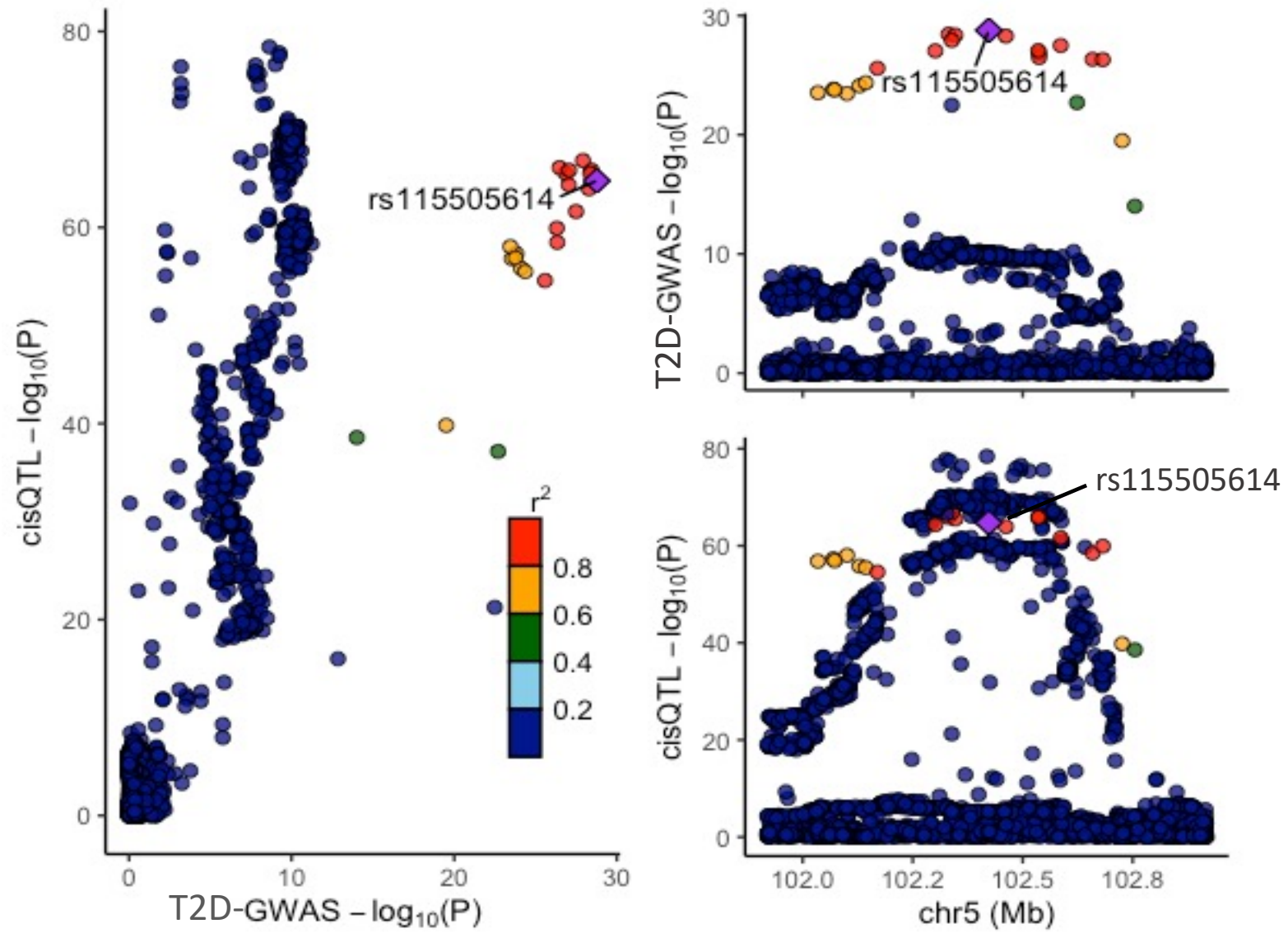
G)

# ERO1LB-adult type 2 diabetes



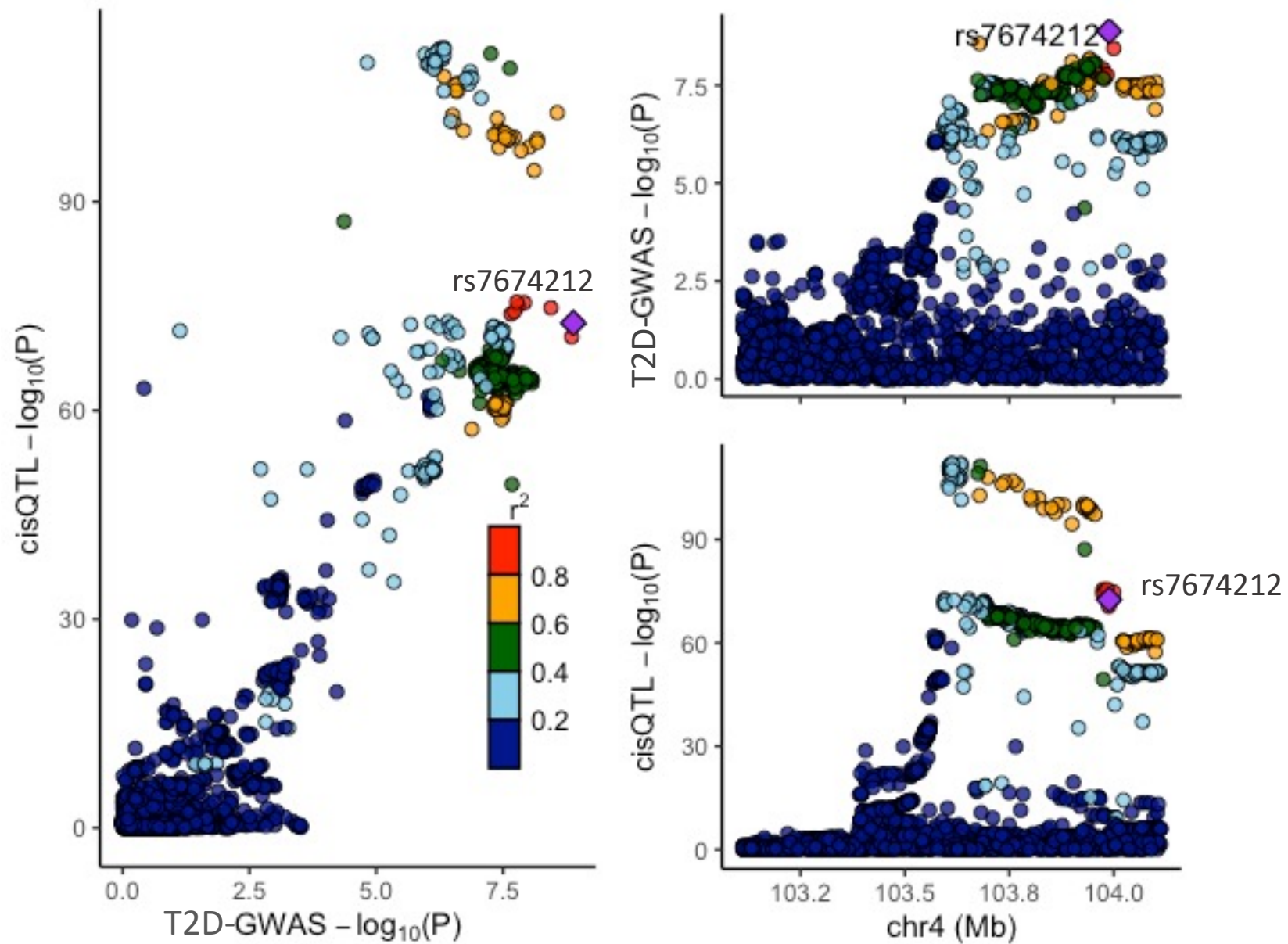
H)

PAM-adult type 2 diabetes



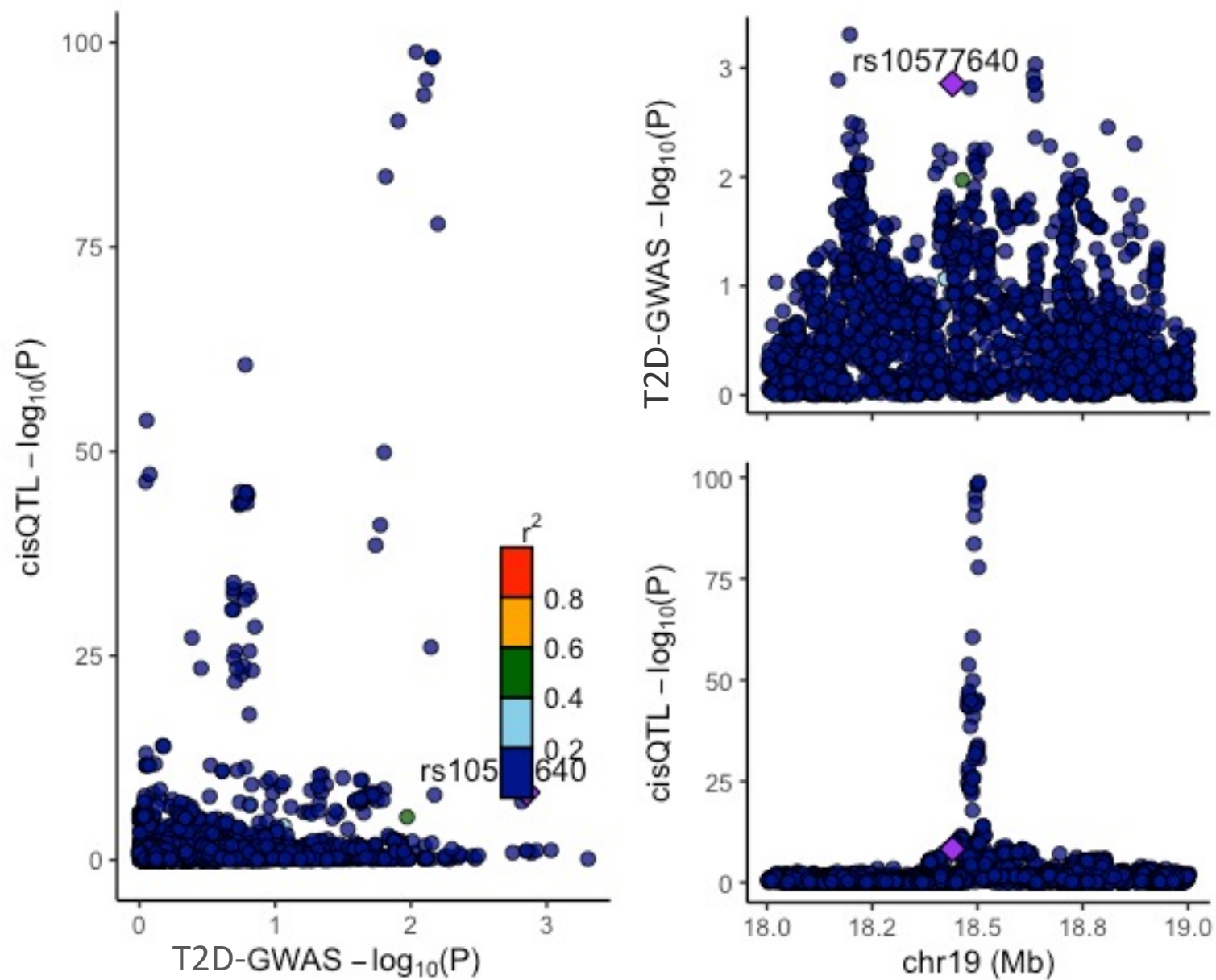
I)

# MANBA-adult type 2 diabetes



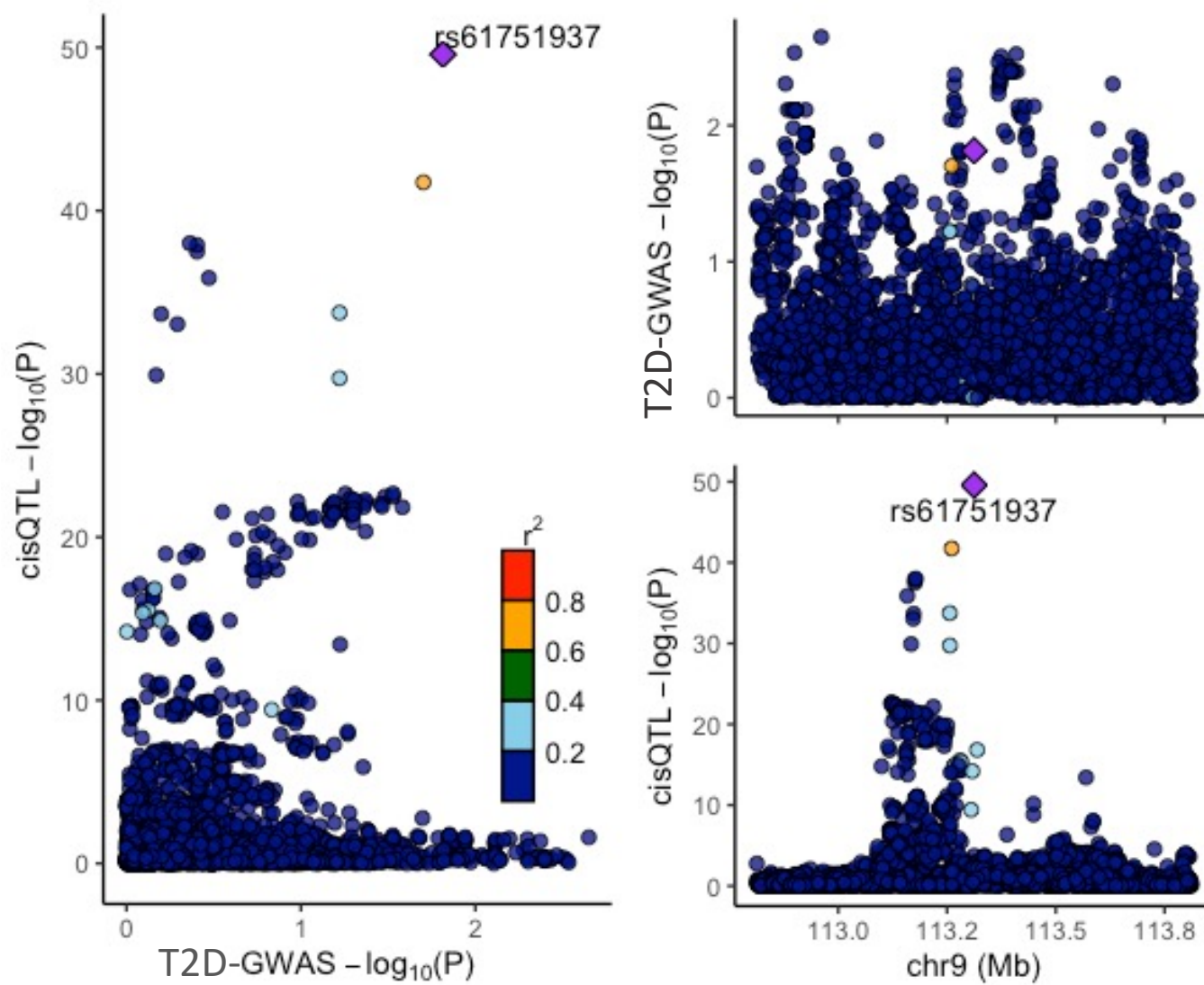
**J)**

**GDF15-youth onset-type 2 diabetes**



K)

SVEP1-youth onset -type 2 diabetes



L)

# ABO-youth onset -type 2 diabetes

