

## **Description of Additional Supplementary Files**

**File Name:** Supplementary Data 1

### **Description:**

Supplementary Table 1: Study cohort description

Supplementary Table 2: Metabolite information

Supplementary Table 3: Top significant SNP-metabolite associations

Supplementary Table 4: GWAS meta-analysis significant SNPs

Supplementary Table 5: GWAS meta-analysis significant eQTLs

Supplementary Table 6: GWAS Catalog results for significant SNPs

Supplementary Table 7: Metabolite predictive model summary

Supplementary Table 8: Metabolite predictive model SNP coefficients

Supplementary Table 9: Neurological and psychiatric GWAS used in BADGERS

Supplementary Table 10: BADGERS association results

Supplementary Table 11: MR analysis results

Supplementary Table 12: Neurological and psychiatric GWAS used in the MR analysis