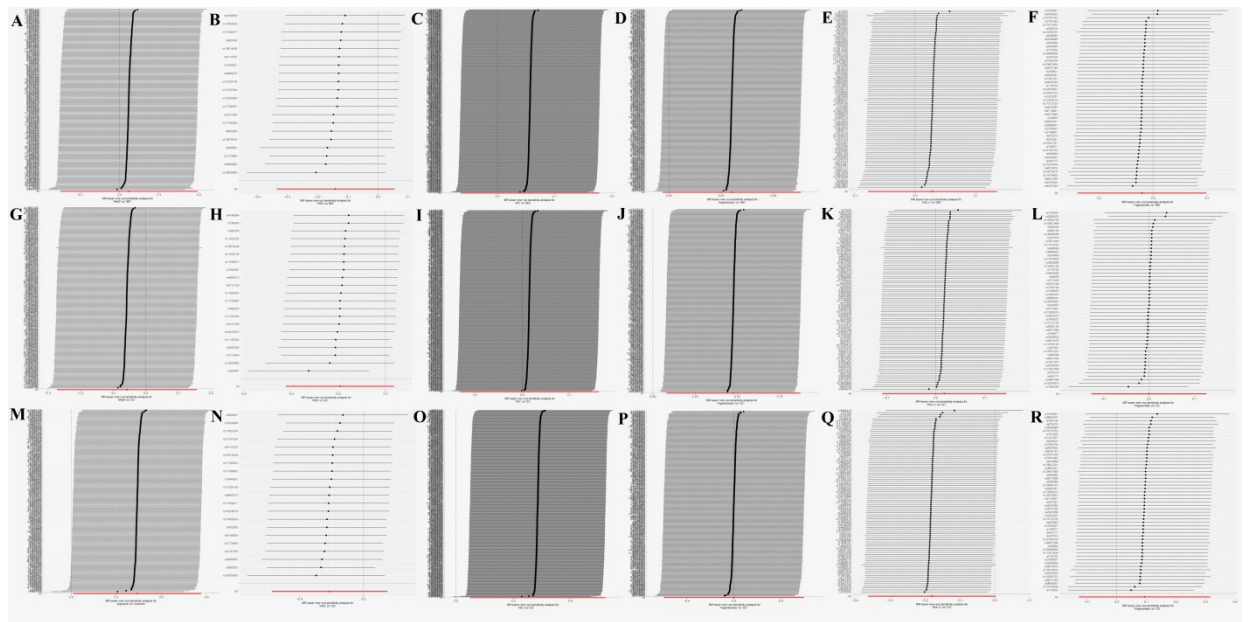
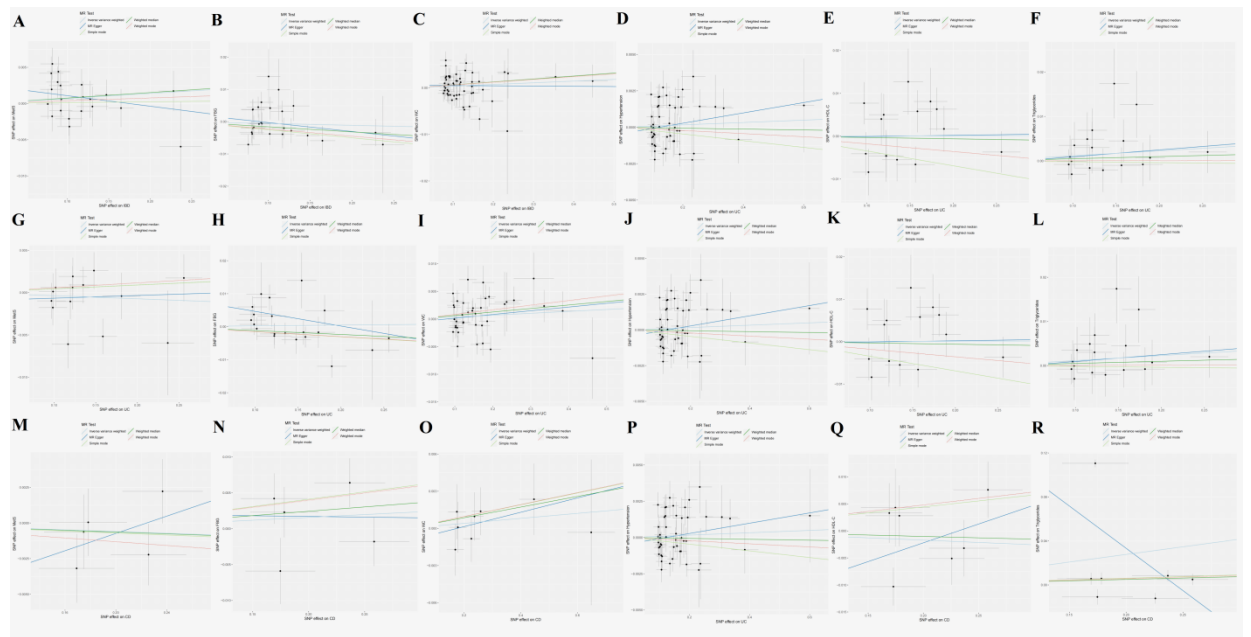


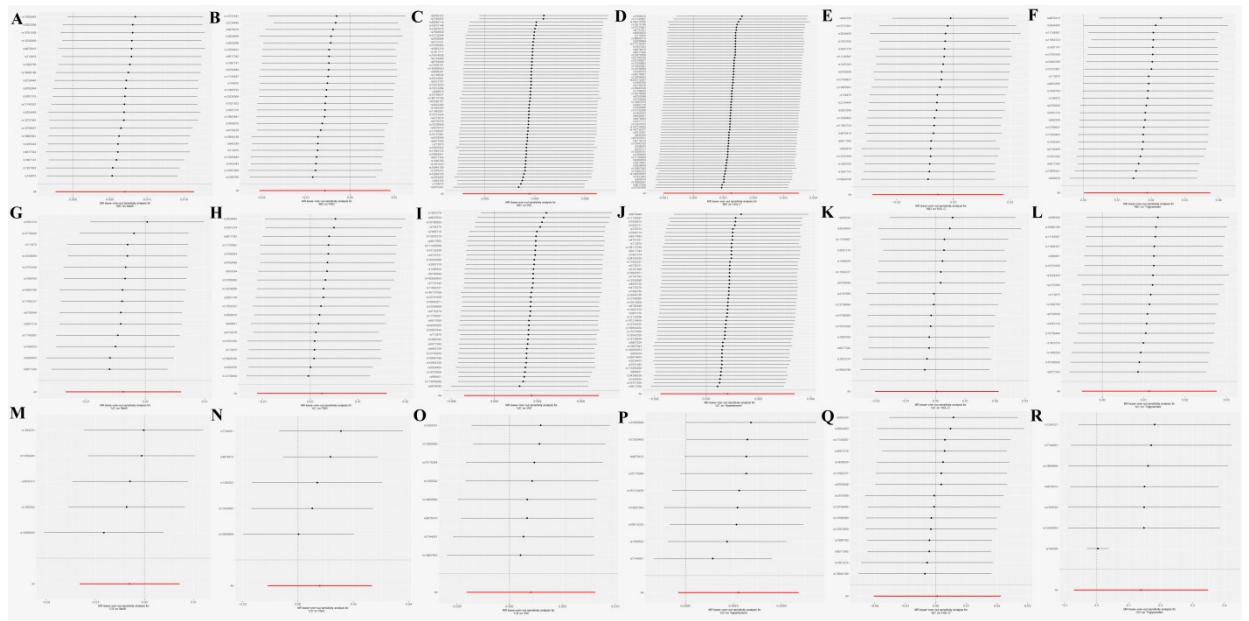
**Supplementary Figure S1.** Forward MR analyses: Scatter plot of the association between metabolic syndrome and inflammatory bowel disease. Metabolic syndrome and components (FBG, WC, hypertension, HDL-C and triglycerides) in (A–F) inflammatory bowel disease, (G–L) ulcerative colitis, and (M–R) Crohn's disease. **Abbreviations:** IVW: Inverse variance weighting, SNPs: Single nucleotide polymorphisms.



**Supplementary Figure S2.** The forward MR analyses: Plots of “leave-one-out” analyses for MR analyses of the causal effect of metabolic syndrome with the risk of inflammatory bowel disease. Metabolic syndrome and components (FBG, WC, hypertension, HDL-C and triglycerides) in (A–F) inflammatory bowel disease, (G–L) ulcerative colitis, and (M–R) Crohn's disease. The horizontal lines in the figure represents beta value and its 95% confidence interval [CI] of causal inference, which indicates the genetic effect of the SNP on inflammatory bowel disease.



**Supplementary Figure S3.** Reverse MR analyses: Scatter plot of the association between inflammatory bowel disease and metabolic syndrome. (A–F) inflammatory bowel disease, (G–L) ulcerative colitis, and (M–R) Crohn's disease in Metabolic syndrome and components. **Abbreviations:** IVW: Inverse variance weighting, SNPs: Single nucleotide polymorphisms.



**Supplementary Figure S4.** The reverse MR analyses: Plots of “leave-one-out” analyses for MR analyses of the causal effect of inflammatory bowel disease with the risk of metabolic syndrome. (A–F) inflammatory bowel disease, (G–L) ulcerative colitis, and (M–R) Crohn's disease in metabolic syndrome and components. The horizontal lines in the figure represents beta value and its 95% confidence interval [CI] of causal inference, which indicates the genetic effect of the SNP on metabolic syndrome.