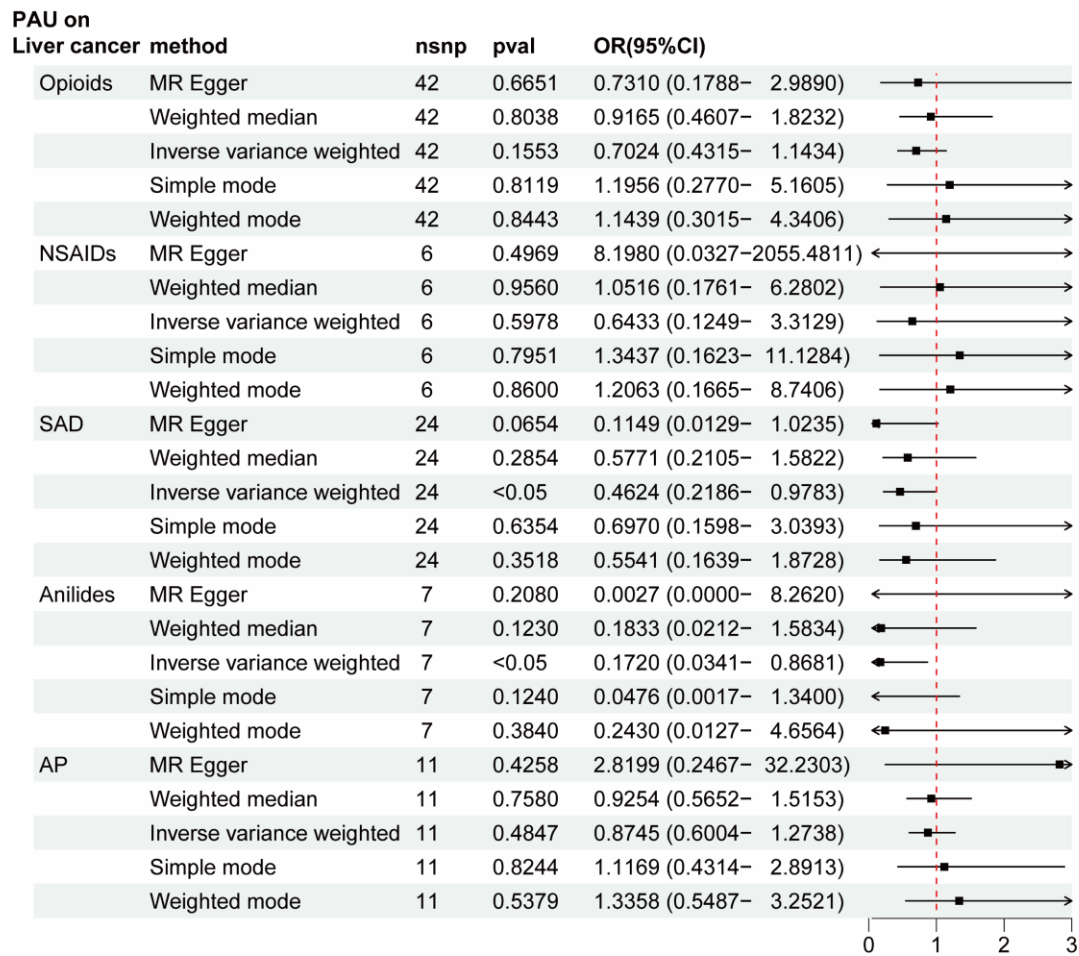
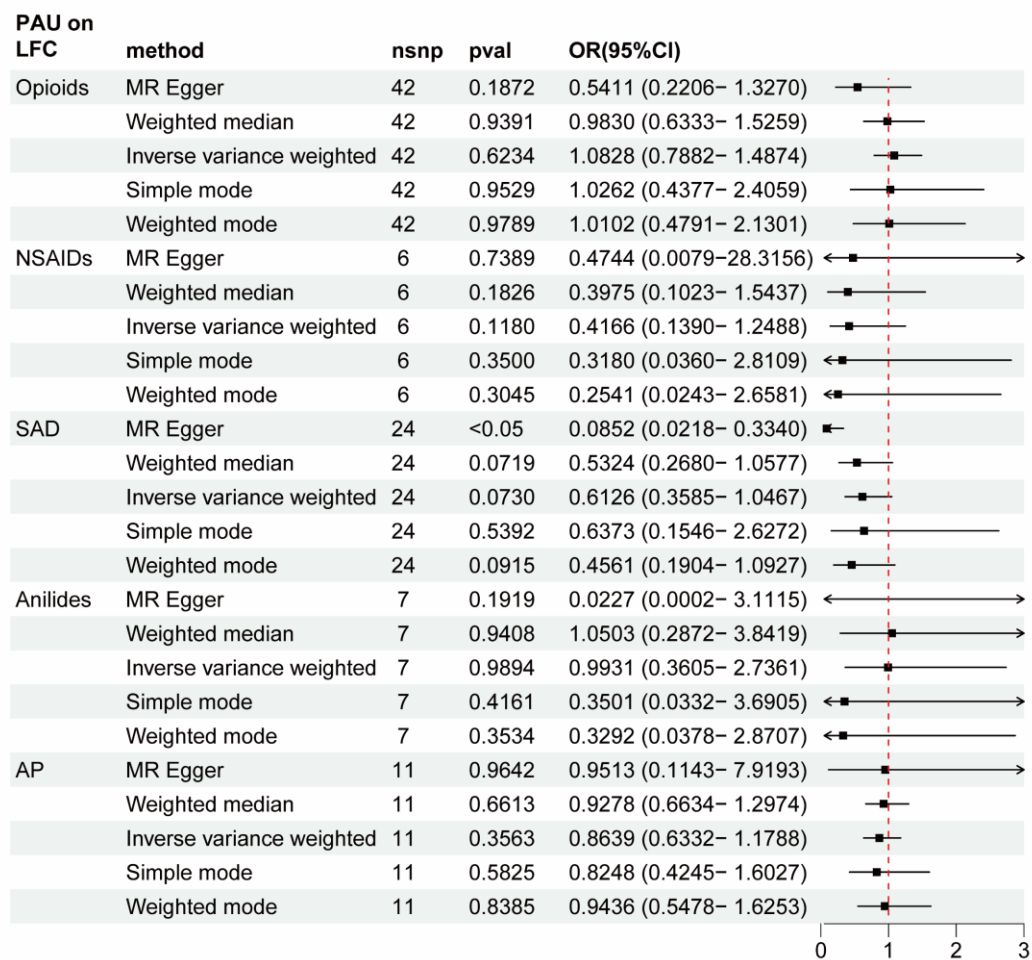


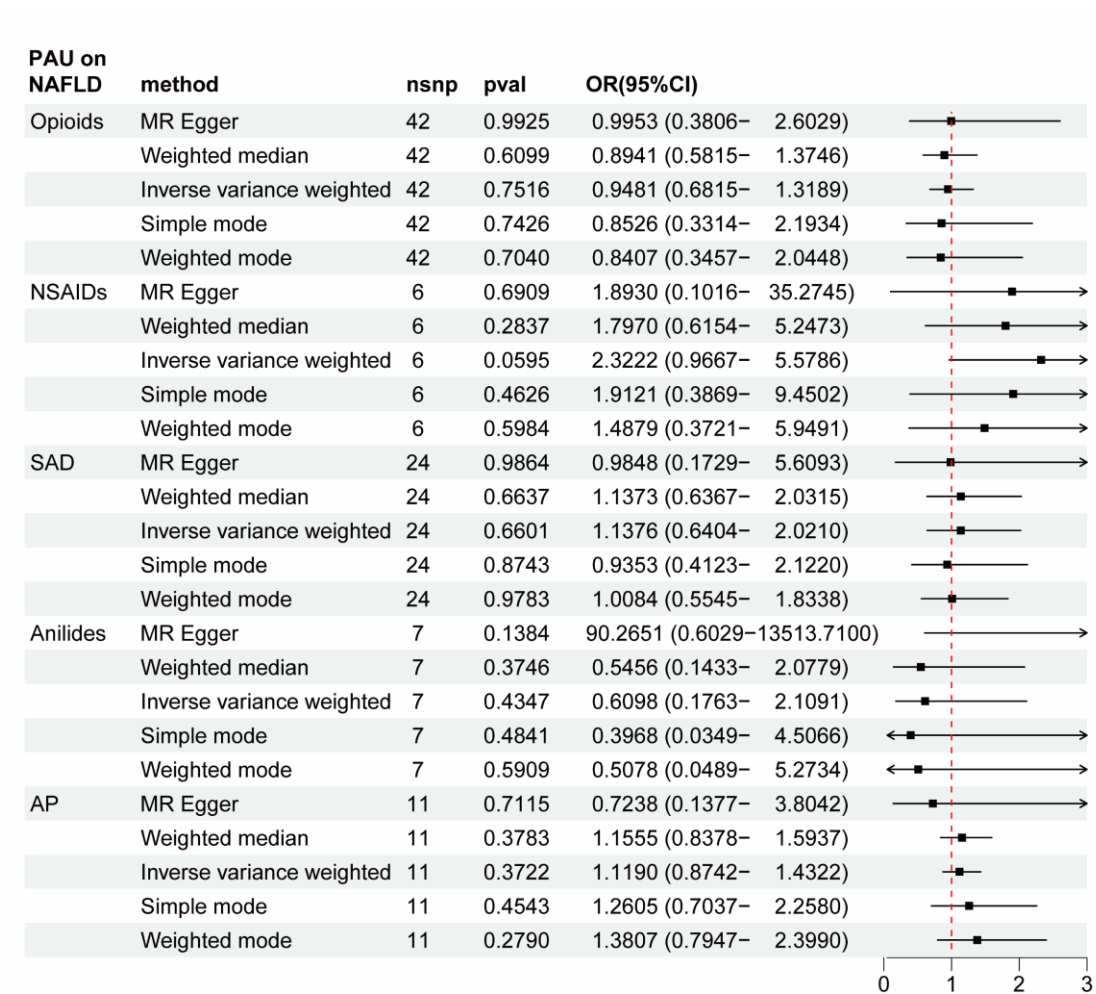
Supplementary Figures:



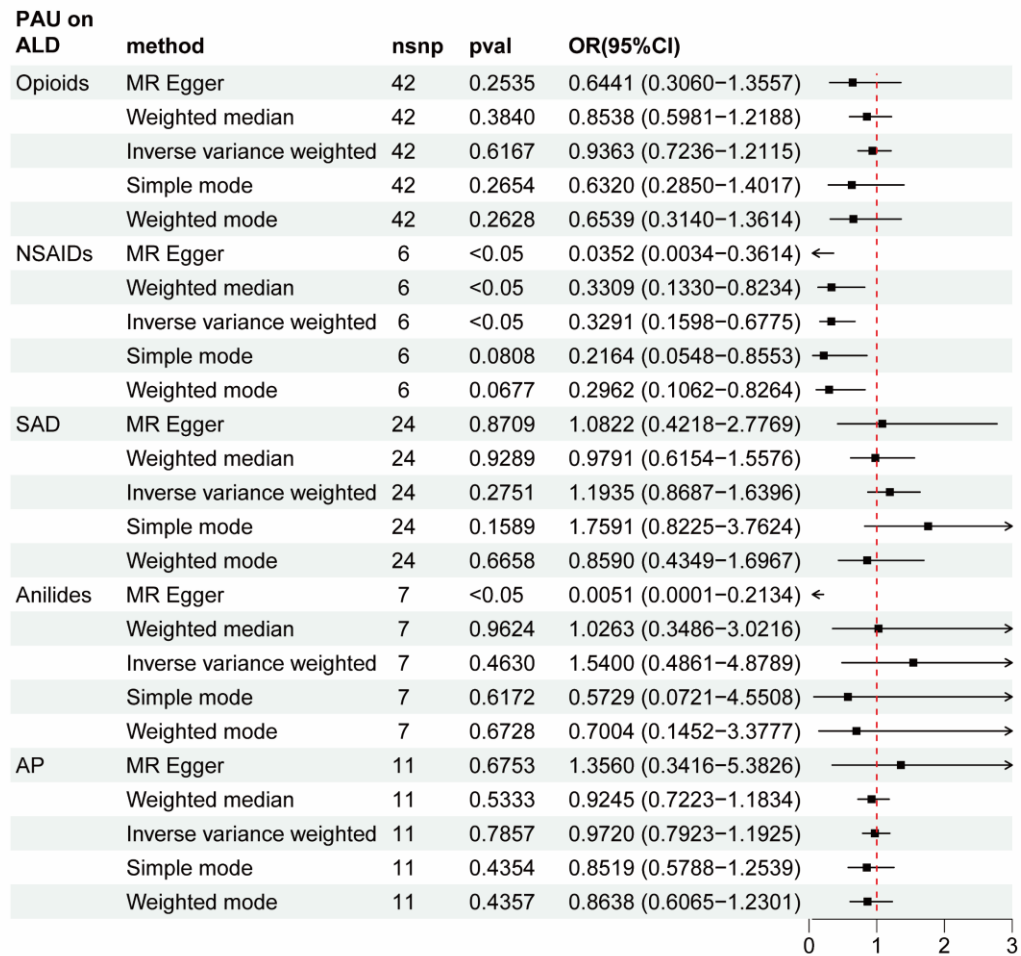
Supplementary Figure. S1 Summary of forest plots showing significantly causal effect of PAU on liver cancer. OR, odds ratio; CI, confidence interval; nsnp, number of single-nucleotide polymorphisms.



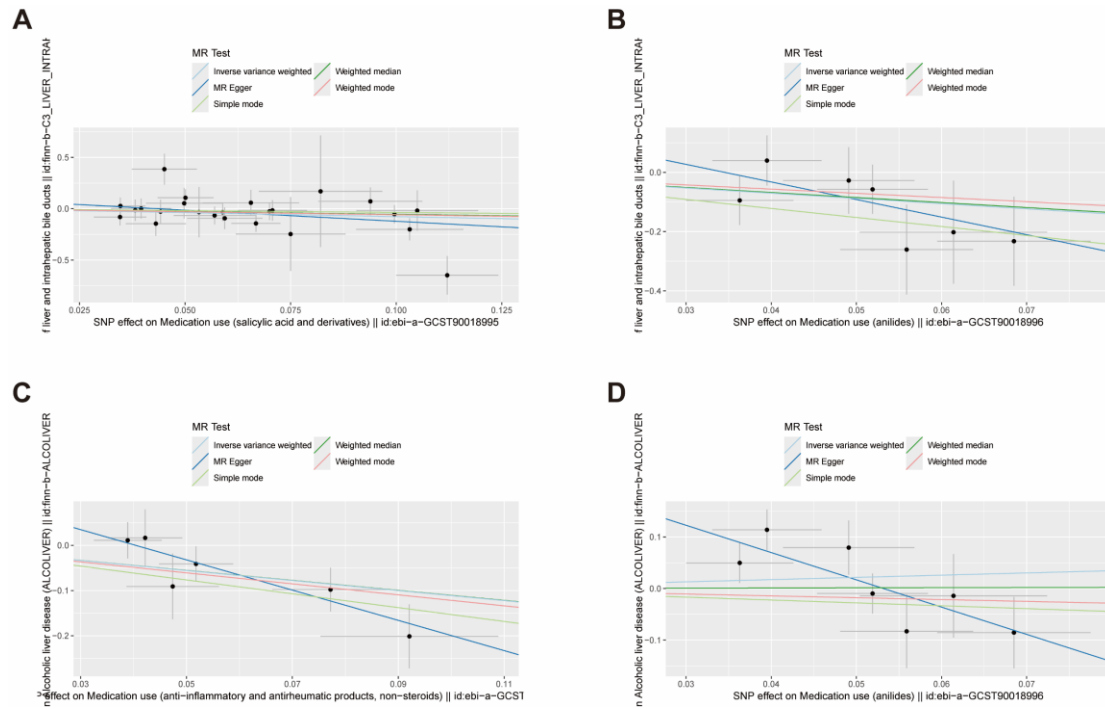
Supplementary Figure. S2 Summary of forest plots showing significantly causal effect of PAU on LFC. OR, odds ratio; CI, confidence interval; nsnp, number of single-nucleotide polymorphism; LFC, Liver fibrosis and cirrhosis.



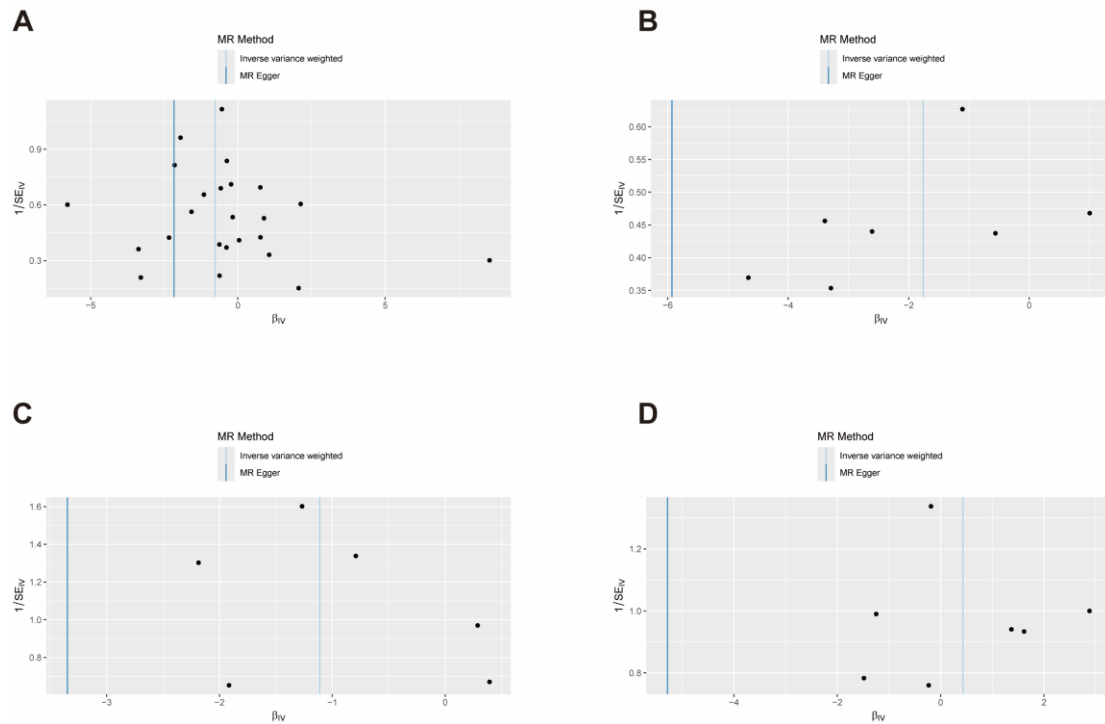
Supplementary Figure. S3 Summary of forest plots showing significantly causal effect of PAU on NAFLD. OR, odds ratio; CI, confidence interval; nsnp, number of single-nucleotide polymorphism; NAFLD, Nonalcoholic fatty liver disease.



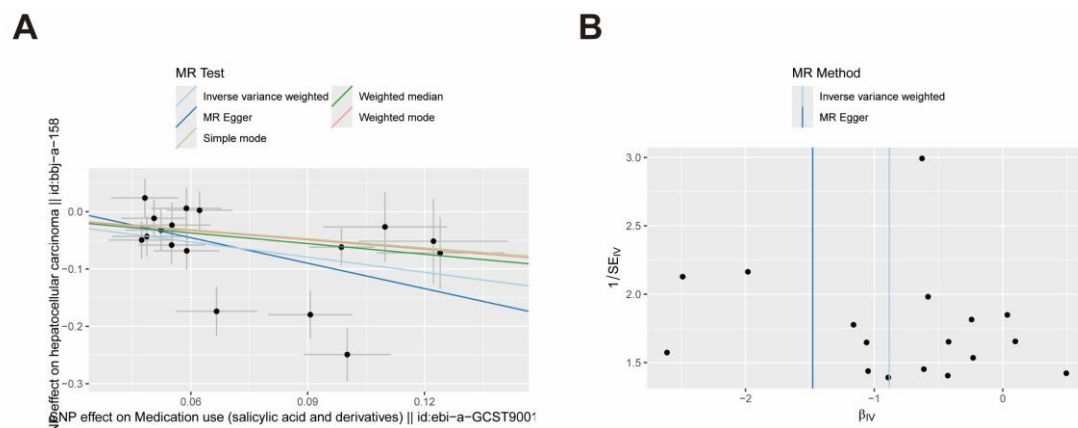
Supplementary Figure. S4 Summary of forest plots showing significantly causal effect of PAU on ALD. OR, odds ratio; CI, confidence interval; nsnp, number of single-nucleotide polymorphism; ALD, Alcoholic liver disease.



Supplementary Figure. S5 Scatter plots of PAU with the risk of liver cancer and precancerosis. (A) Causal effect of SAD on Liver cancer. (B) Causal effect of Anilides on Liver cancer. (C) Causal effect of NSAIDs on ALD. (D) Causal effect of Anilides on ALD. The effect of the same SNP on exposure is placed on the horizontal axis and the effect on outcome is placed on the vertical axis. The slopes of each line represent the causal association. Abbreviation: PAU: Prescription analgesic use; MR, Mendelian randomization; SNP, single-nucleotide polymorphism; ALD, Alcoholic liver disease.



Supplementary Figure. S6 Funnel plots to visualize the overall heterogeneity of MR estimates for the effect of PAU on liver cancer and precancerosis. (A) Causal effect of SAD on Liver cancer. (B) Causal effect of Anilides on Liver cancer. (C) Causal effect of NSAIDs on ALD. (D) Causal effect of Anilides on ALD. The effect of the same SNP on exposure is placed on the horizontal axis and the effect on outcome is placed on the vertical axis. The slopes of each line represent the causal association. Abbreviation: PAU: Prescription analgesic use; MR, Mendelian randomization; SNP, single-nucleotide polymorphism; ALD, Alcoholic liver disease.



Supplementary Figure. S7 (A) Scatter plots of SAD with the risk of liver cancer in East Asian populations. The effect of the same SNP on exposure is placed on the horizontal axis and the effect on outcome is placed on the vertical axis. The slopes of each line represent the causal association. (B) Funnel plots to visualize the overall heterogeneity of MR estimates for the effect of SAD on liver cancer in East Asian populations. Abbreviation: SAD: salicylic acid derivatives; MR, Mendelian randomization; SNP, single-nucleotide polymorphism;