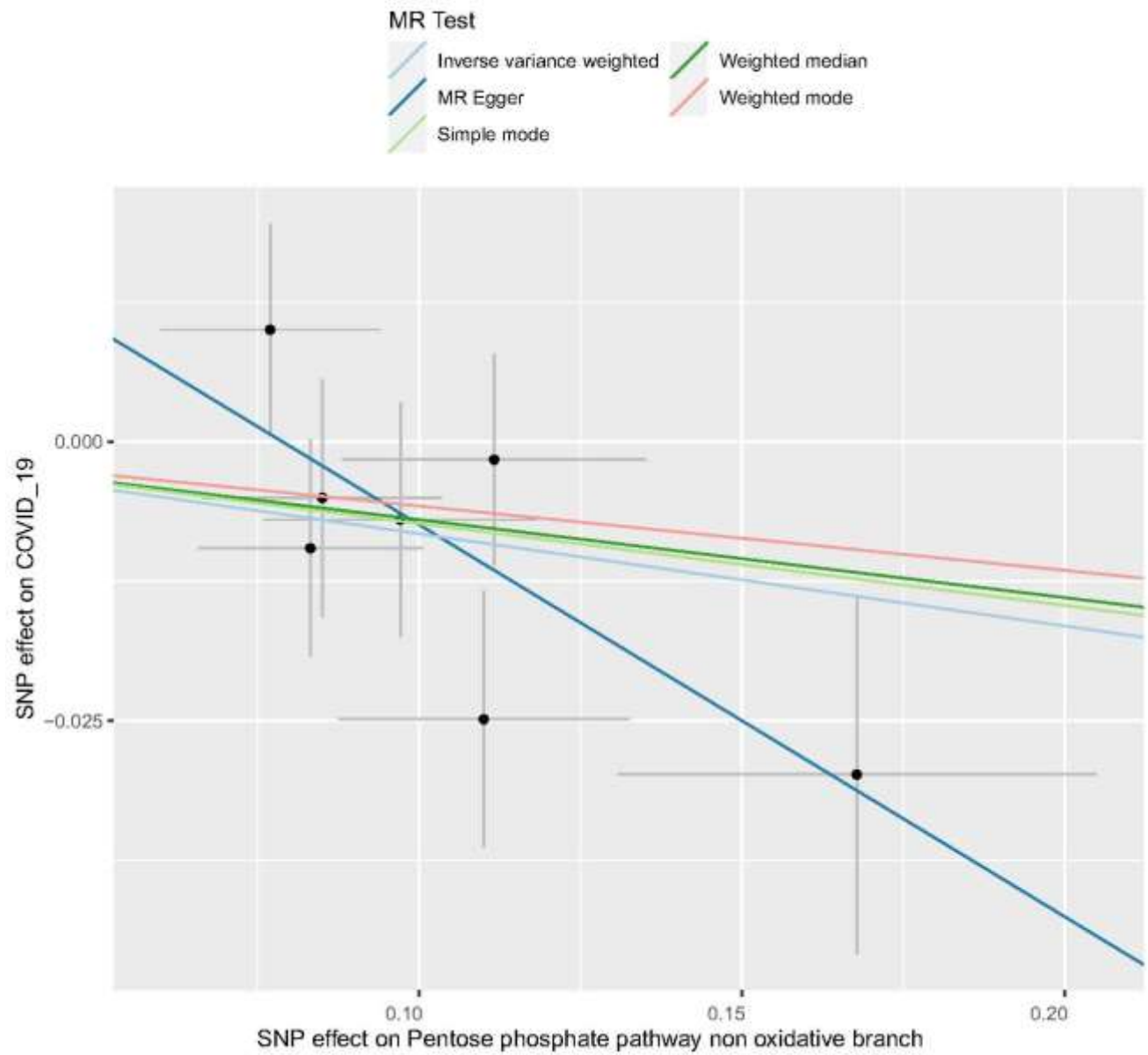
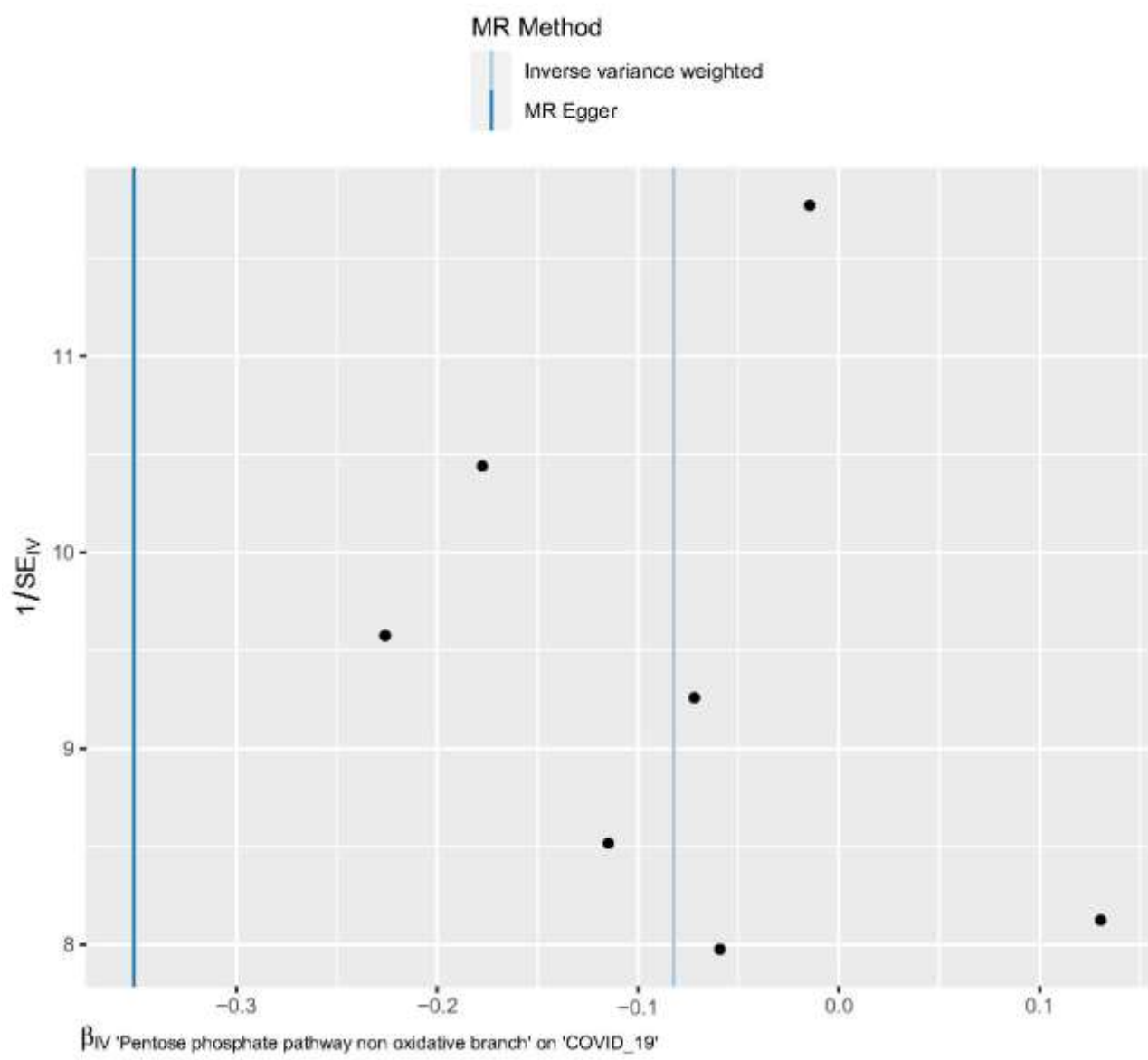


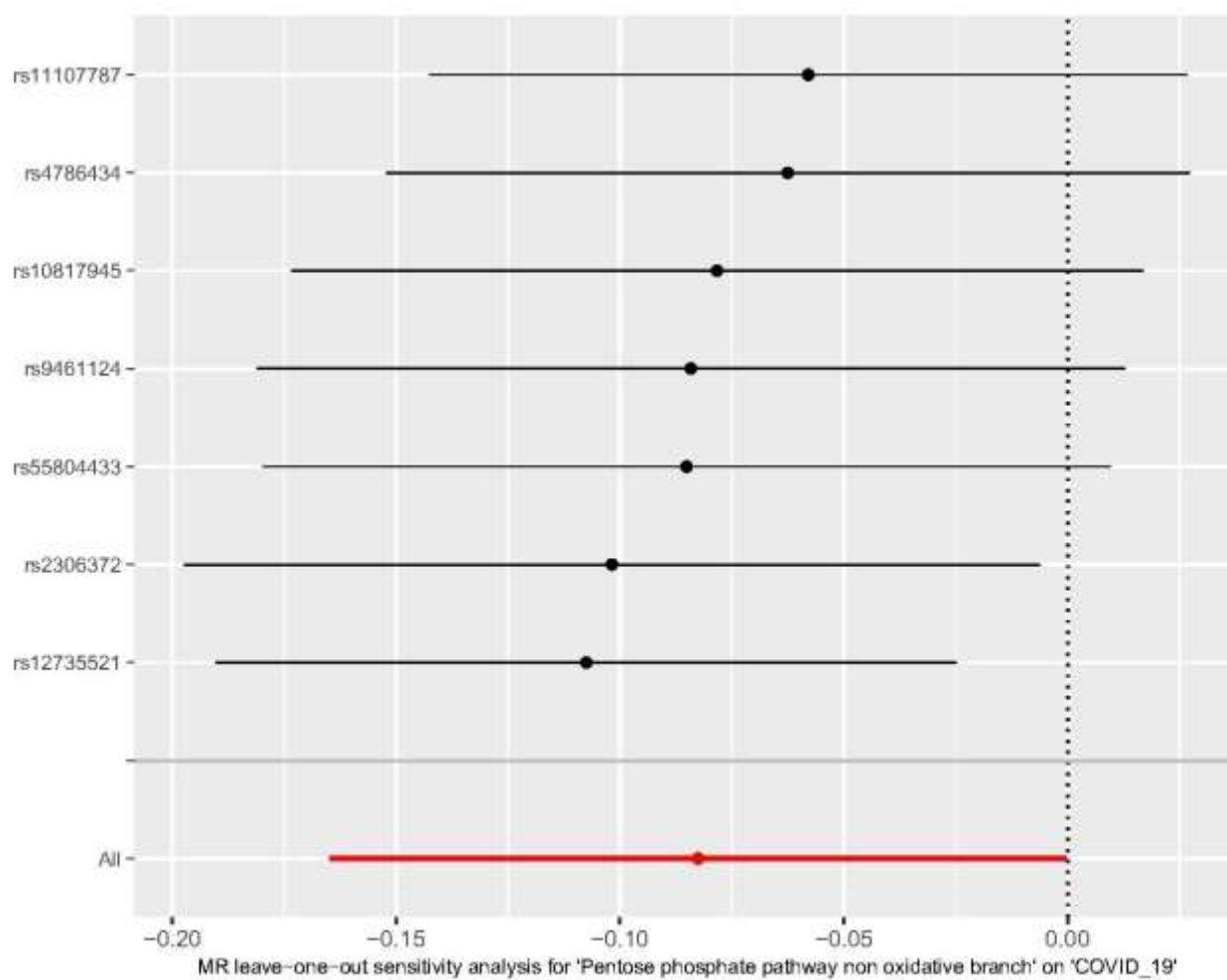
Supplemental Figure 1 that illustrates the Scatter plots of the SNP- gut microbiotas and SNP-COVID-19 association estimates for three gut microbiotas.



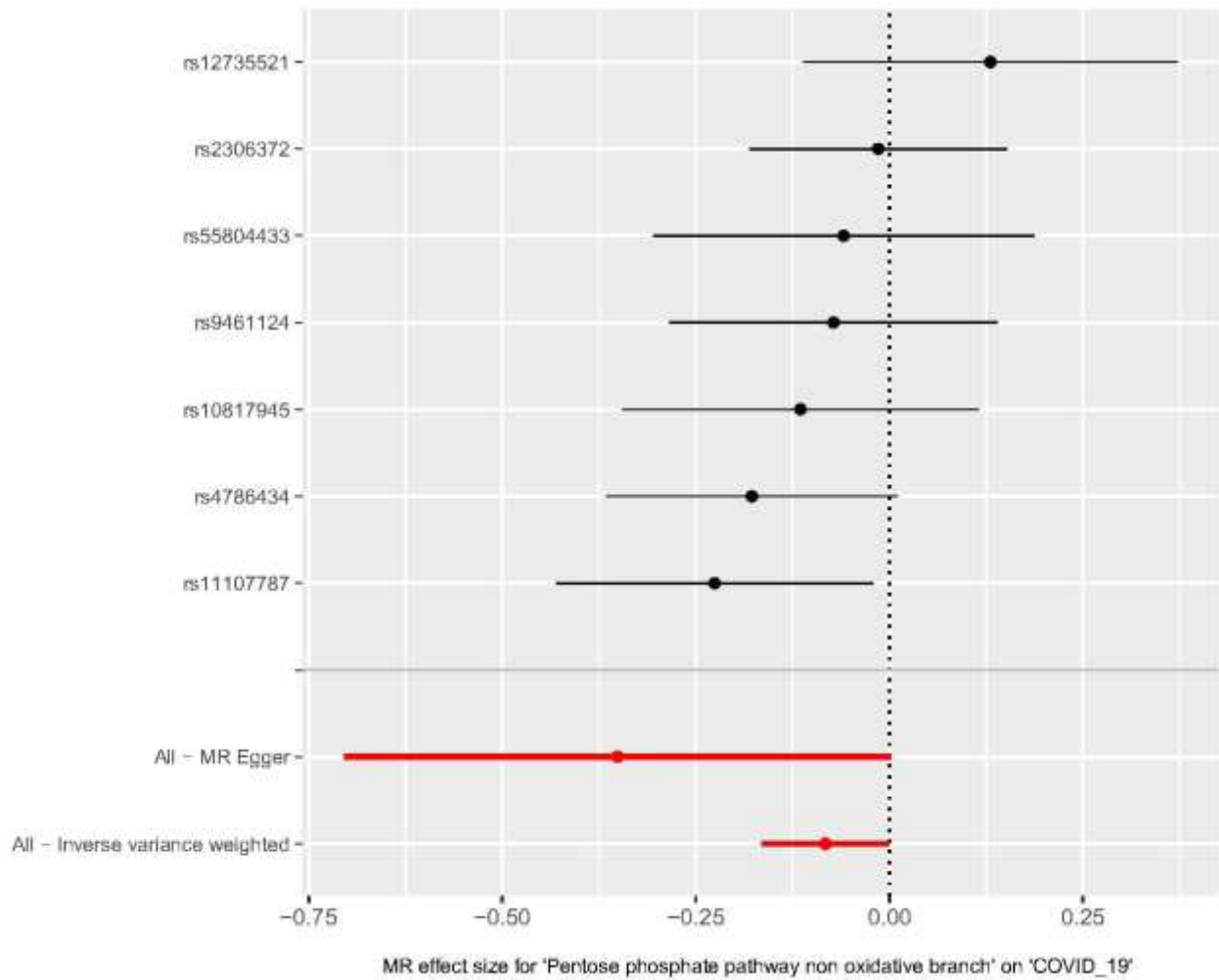
Supplemental Figure 2 that illustrates the Funnel plots between three gut microbiota and COVID_19 risk estimates.



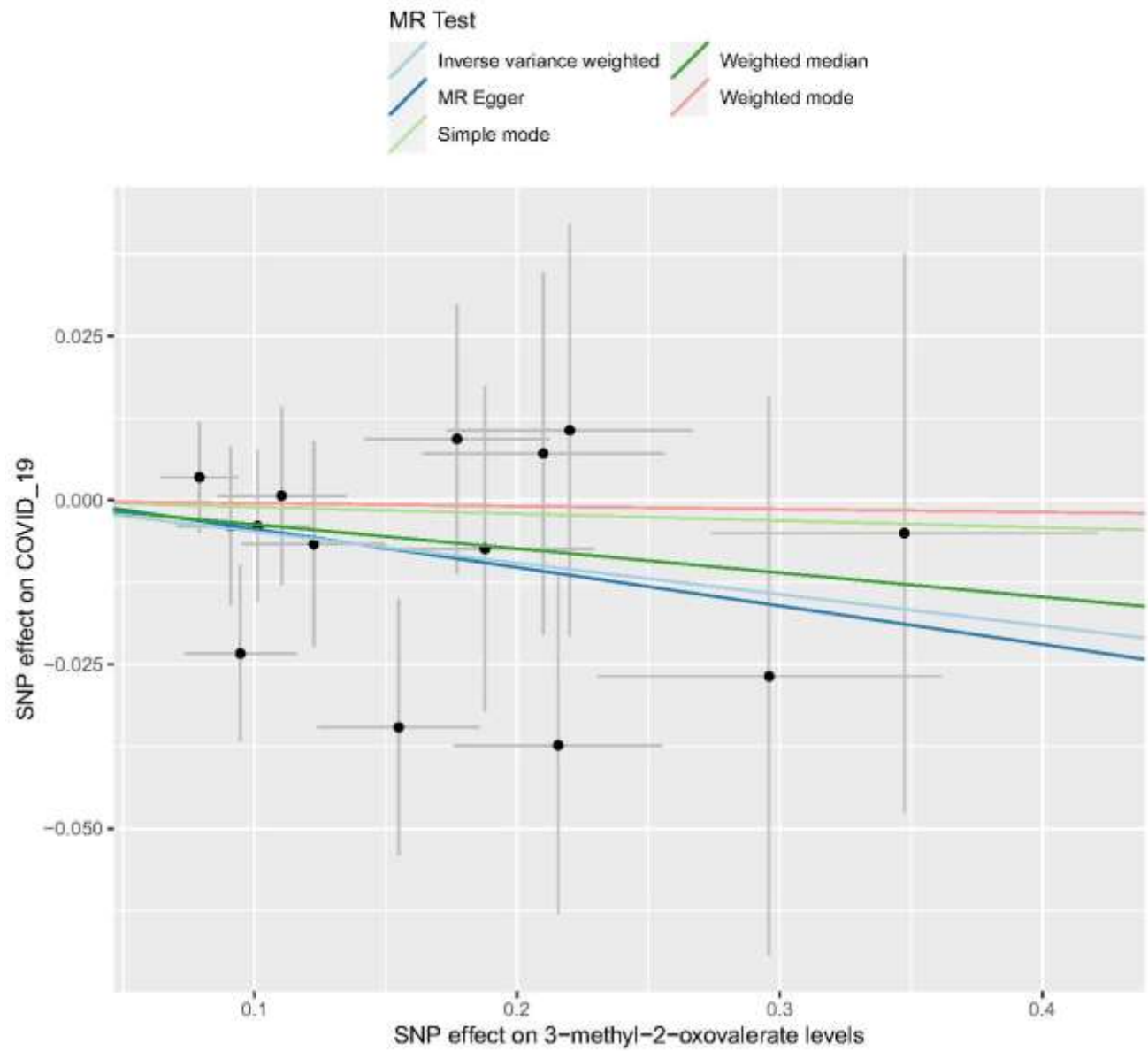
Supplemental Figure 3 that illustrates the Leave-one-out plots showed sensitivity analysis results between three gut microbiotas and COVID-19 risk estimates.



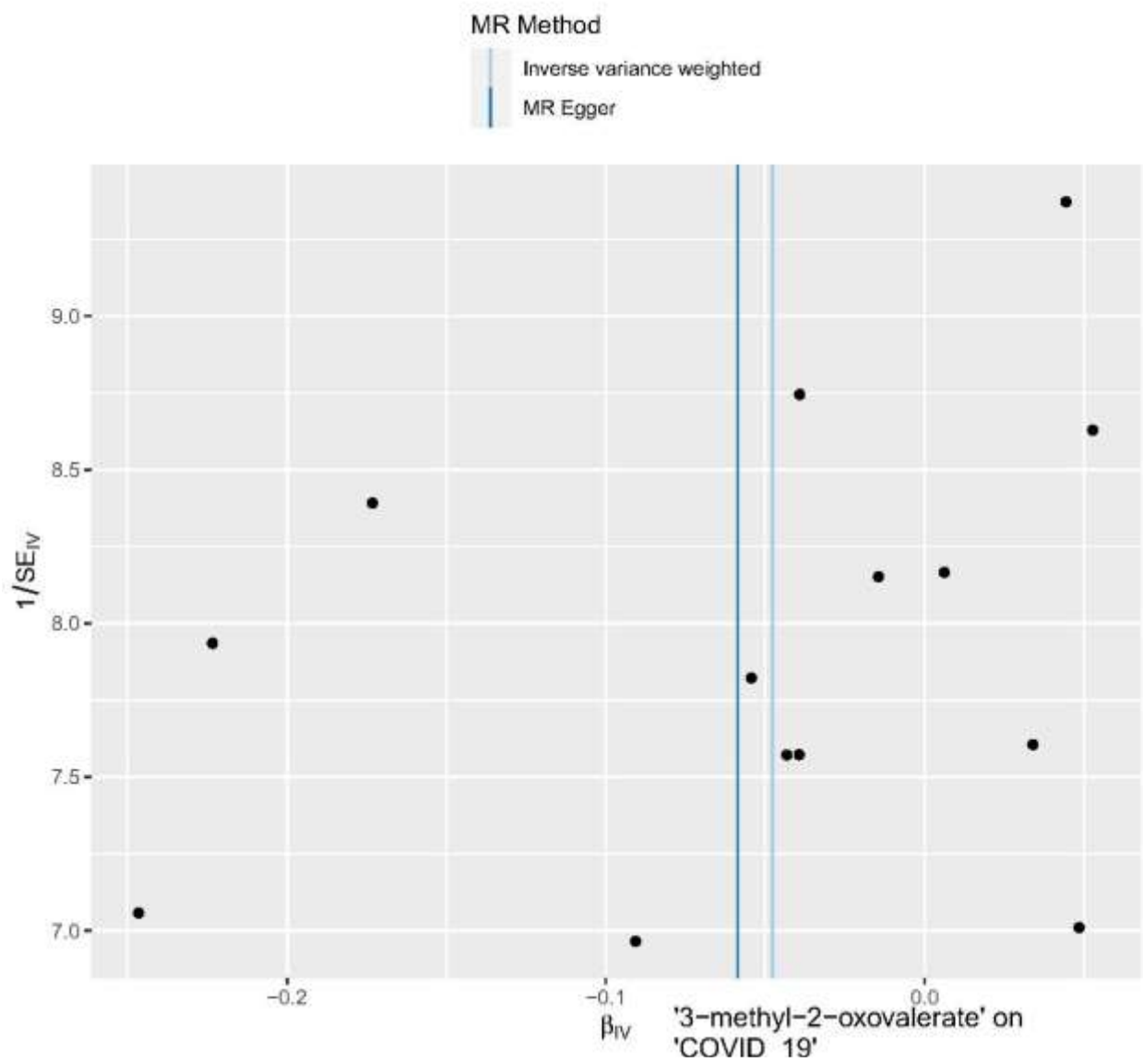
Supplemental Figure 4 that illustrates the Forest plots showed the association between three gut microbiotas and COVID-19 risk under the IVW method.



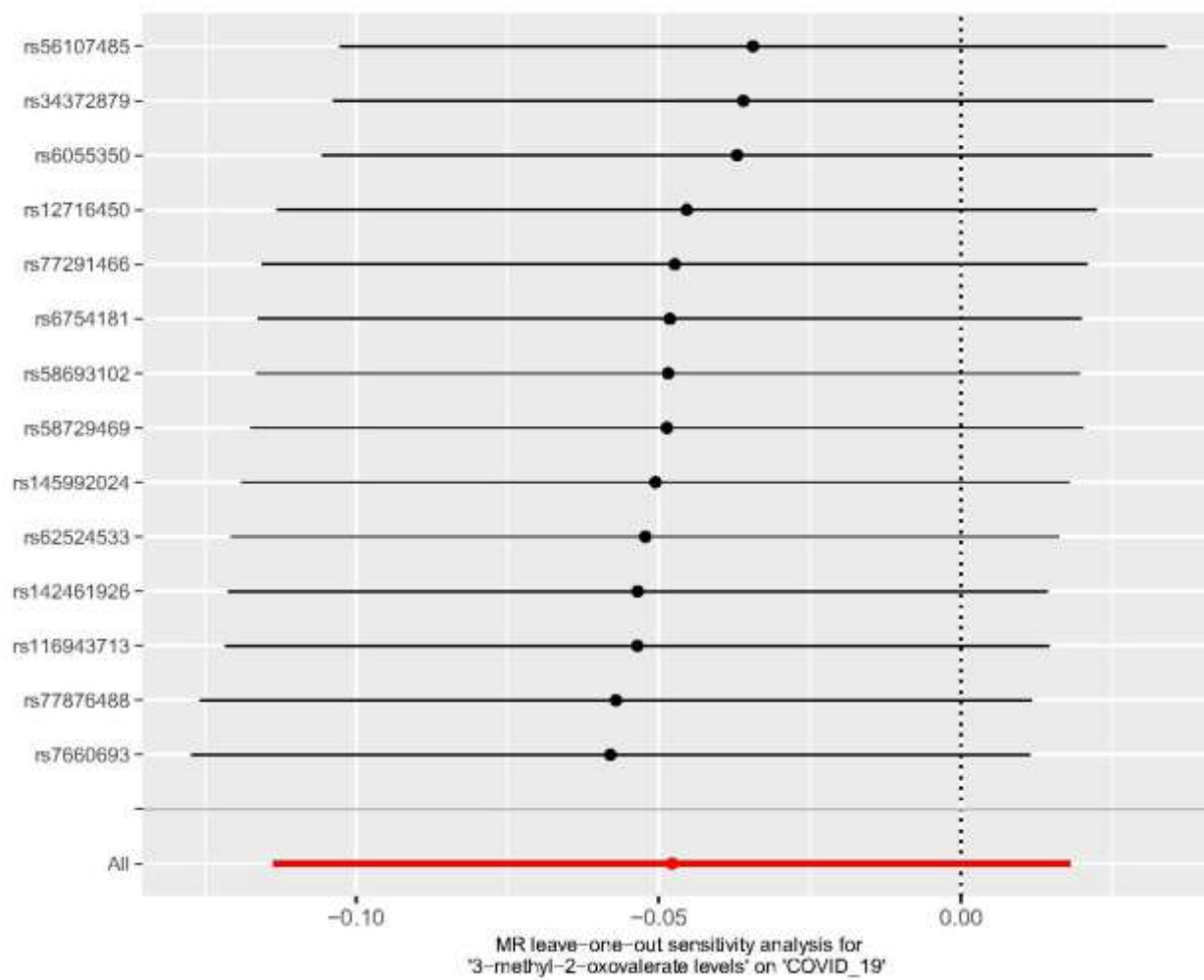
Supplemental Figure 5 that illustrates the Scatter plots of the SNP- blood metabolites and SNP-COVID-19 association estimates for eighteen blood metabolites.



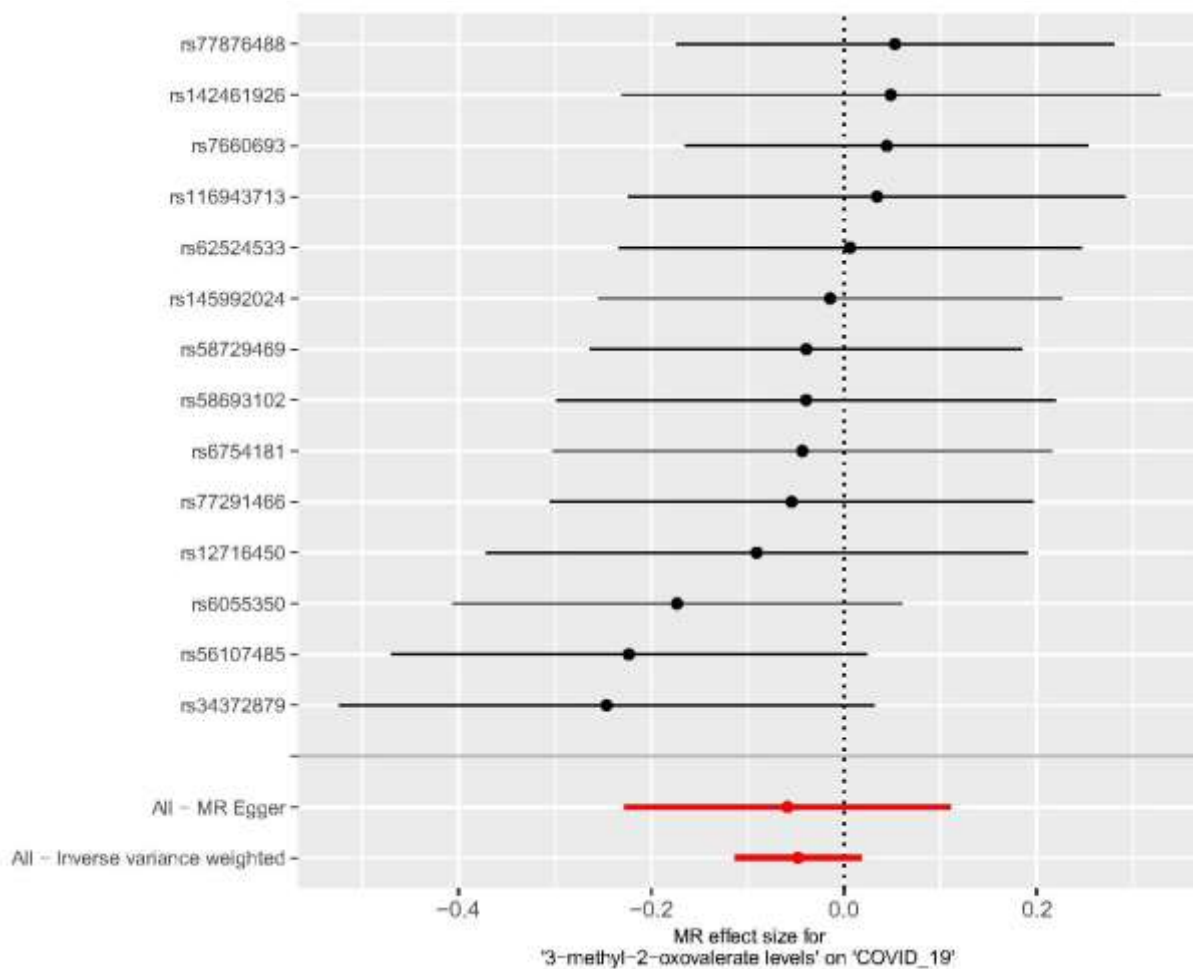
Supplemental Figure 6 that illustrates the Funnel plots between eighteen blood metabolites and COVID-19 risk estimates.



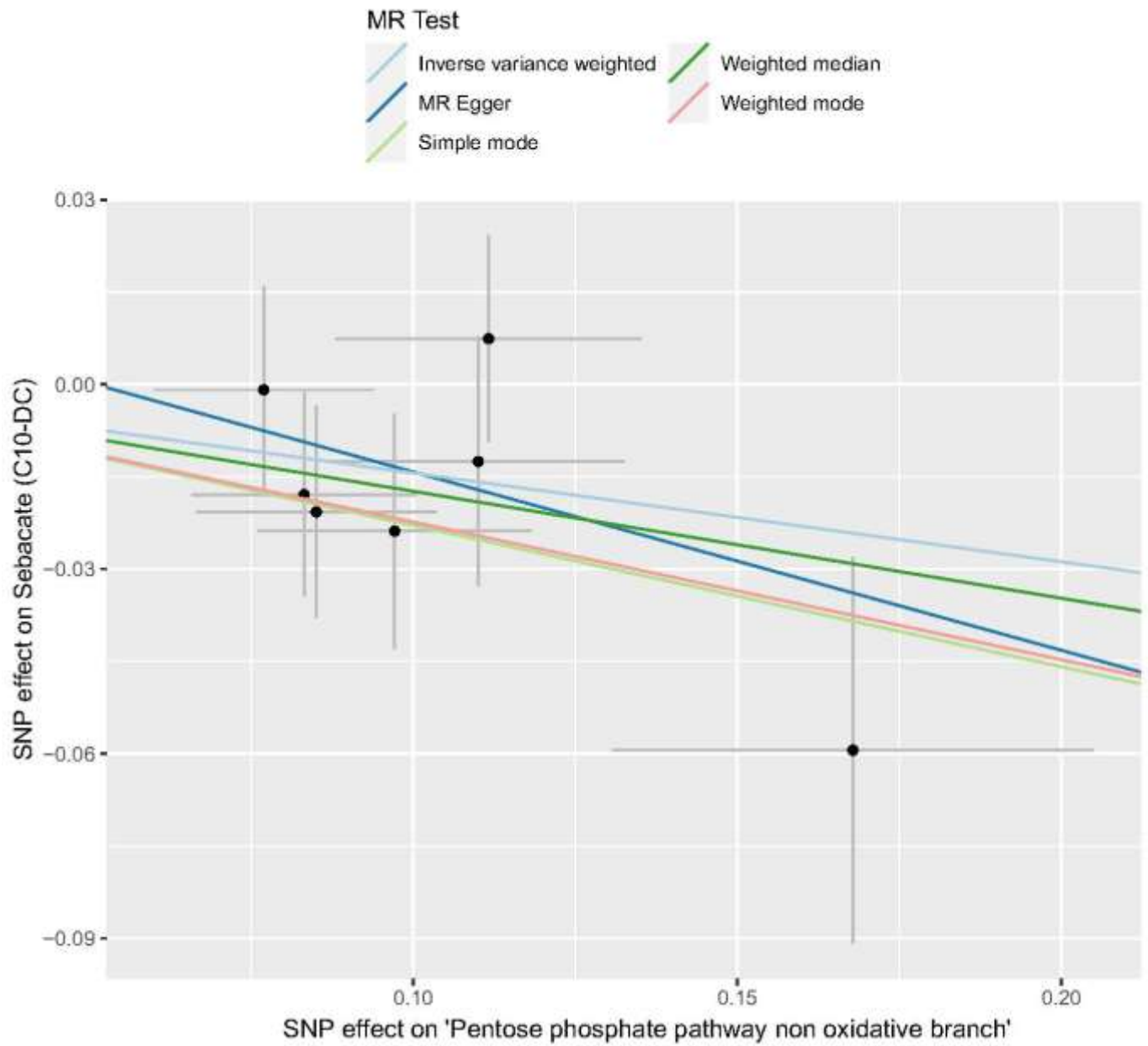
Supplemental Figure 7 that illustrates the Leave-one-out plots showed sensitivity analysis results between eighteen blood metabolites on COVID-19 risk.



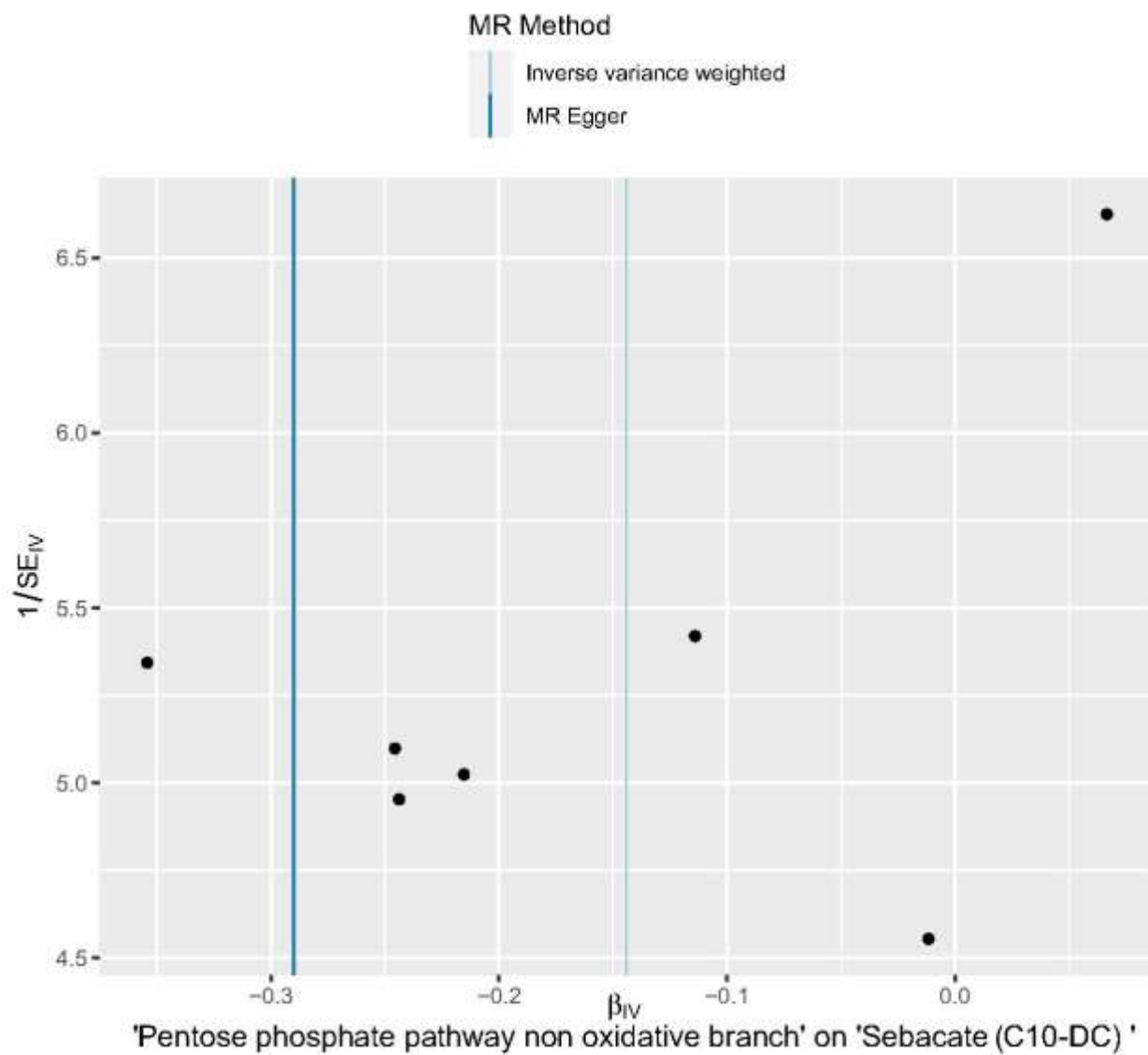
Supplemental Figure 8 that illustrates the Forest plots showed the association between eighteen blood metabolites and COVID-19 risk under the IVW method.



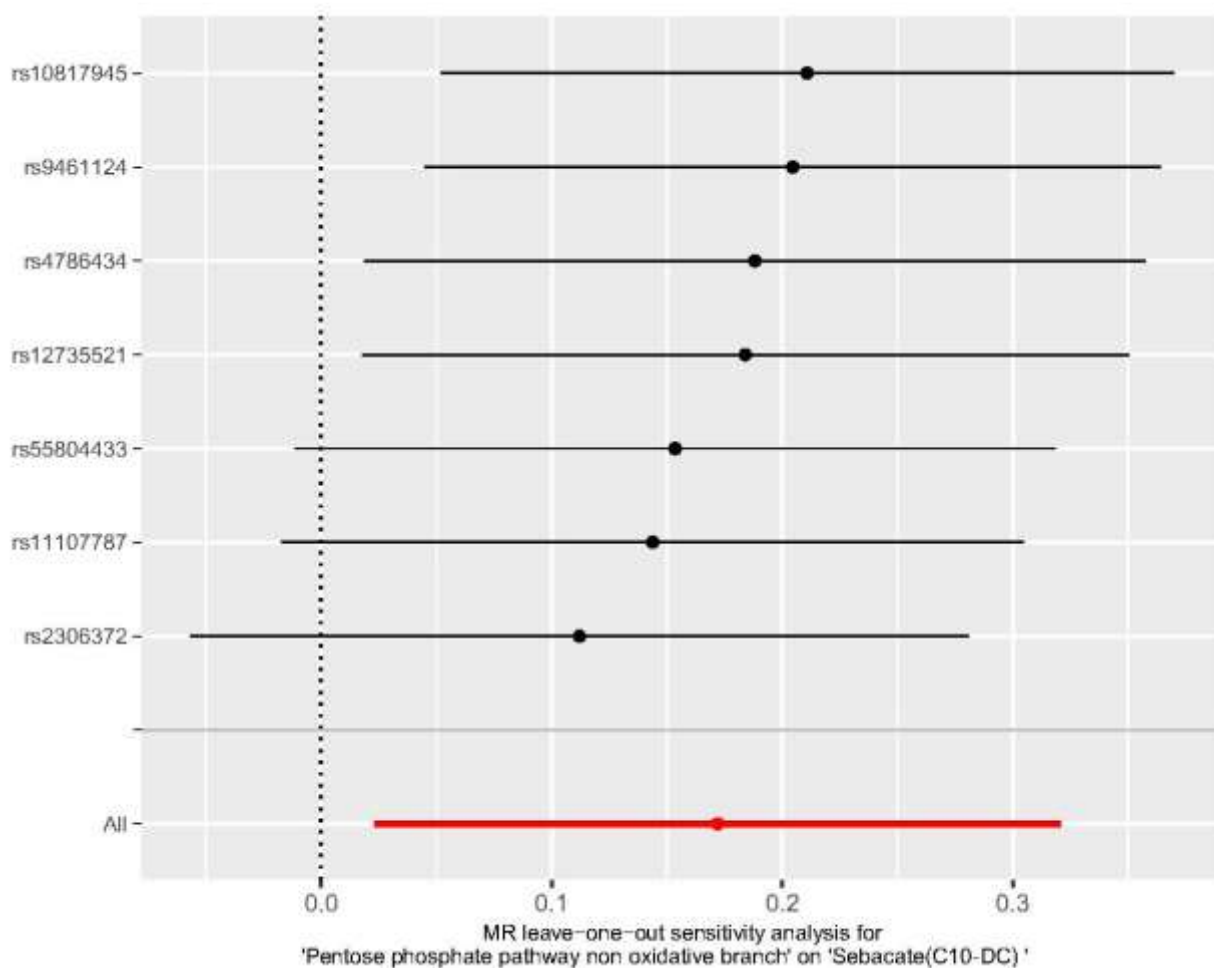
Supplemental Figure 9 that illustrates the TSMR Scatter plots showed SNP- gut microbiotas, SNP- blood metabolites and SNP- COVID-19 risk association estimates.



Supplemental Figure 10 that illustrates the TSMR Funnel plots between gut microbiotas, blood metabolites, COVID-19 risk estimates.



Supplemental Figure 11 that illustrates the TSMR Leave-one-out plots showed sensitivity analysis results between gut microbiotas, blood metabolites and COVID-19 risk.



Supplemental Figure 12 that illustrates the TSMR Forest plots showed the association between gut microbiotas, blood metabolites, COVID_19 risk estimates under the IVW method.

