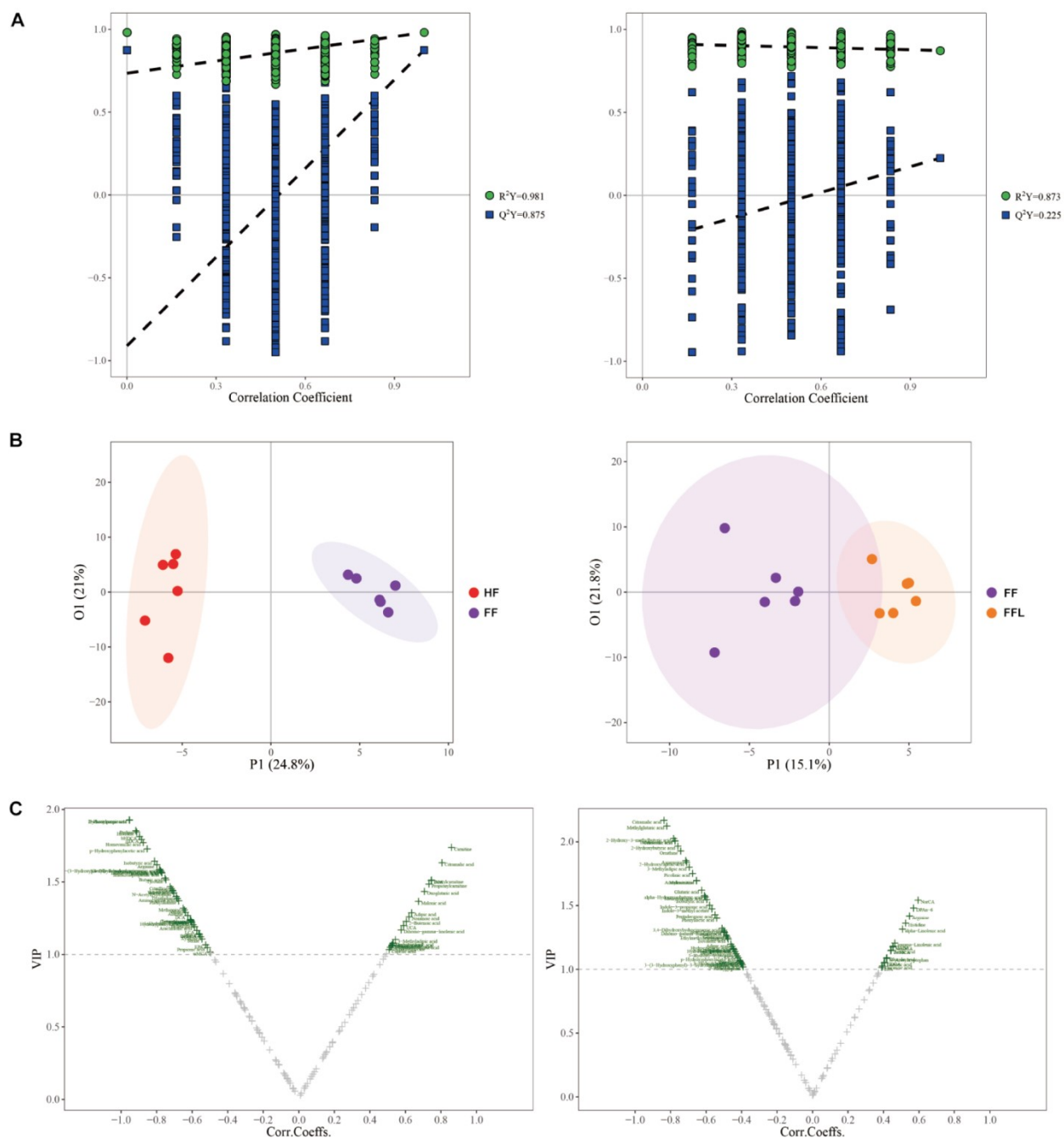
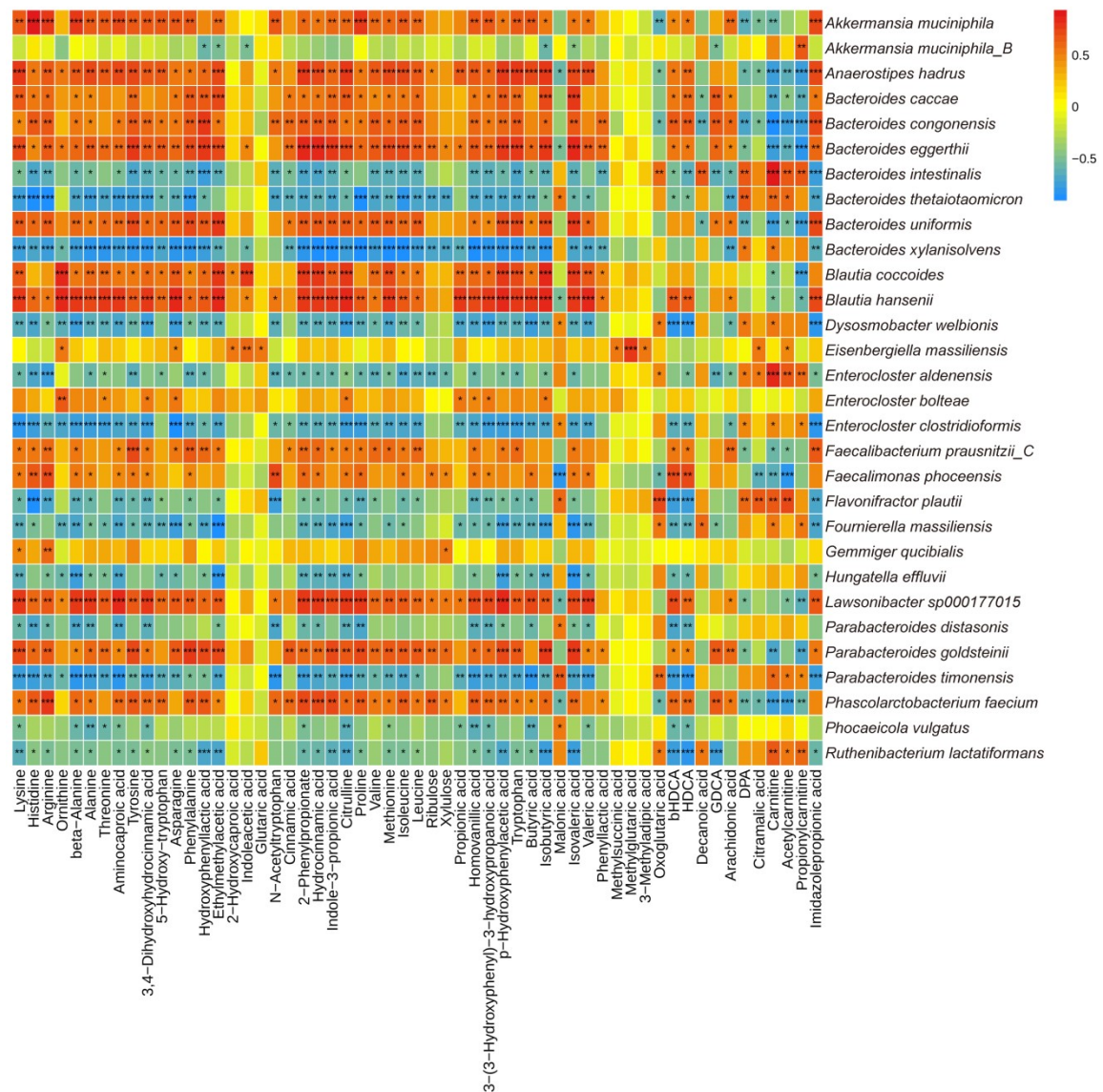


Supplementary Fig. 1



**Supplementary Fig. 2**



**Supplementary Fig. 1** The OPLSDA analysis of microbiota metabolites. (A)The results of OPLSDA permutation test in HF and FF groups (left), and in FF and FFL groups (right). (B)The PCA analysis based on VIP using OPLS-DA model. (C) The Volcano plot combining VIP and Corr.Coeffs. (Abbreviation: variable importance in projection,VIP, correlation Coefficients, Corr.Coeffs).

**Supplementary Fig. 2** The correlational analysis between top 30 abundant species

and metabolites markers.