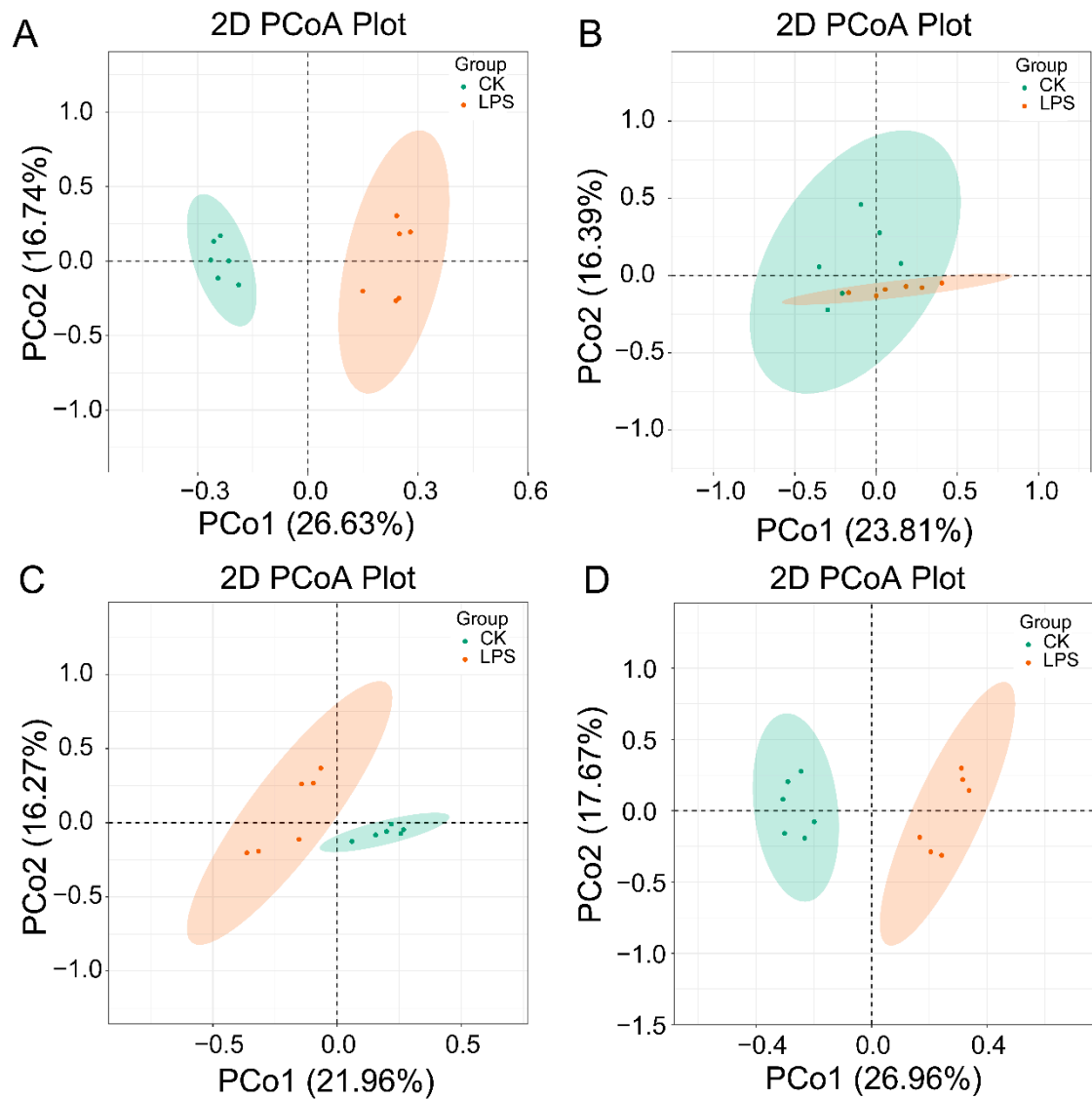
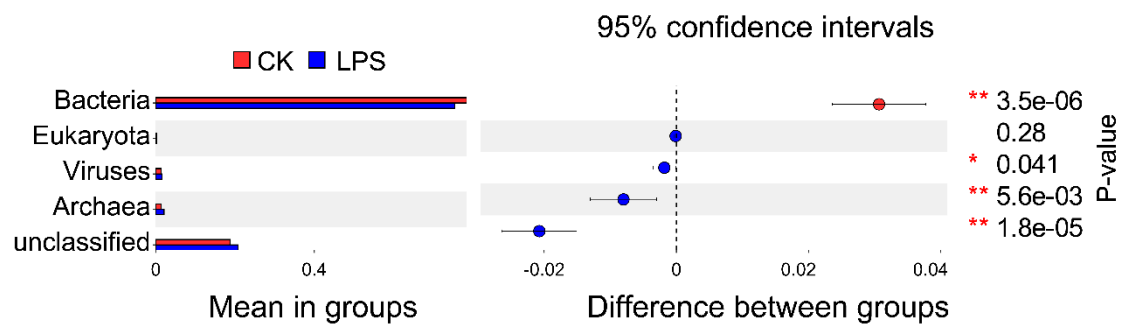


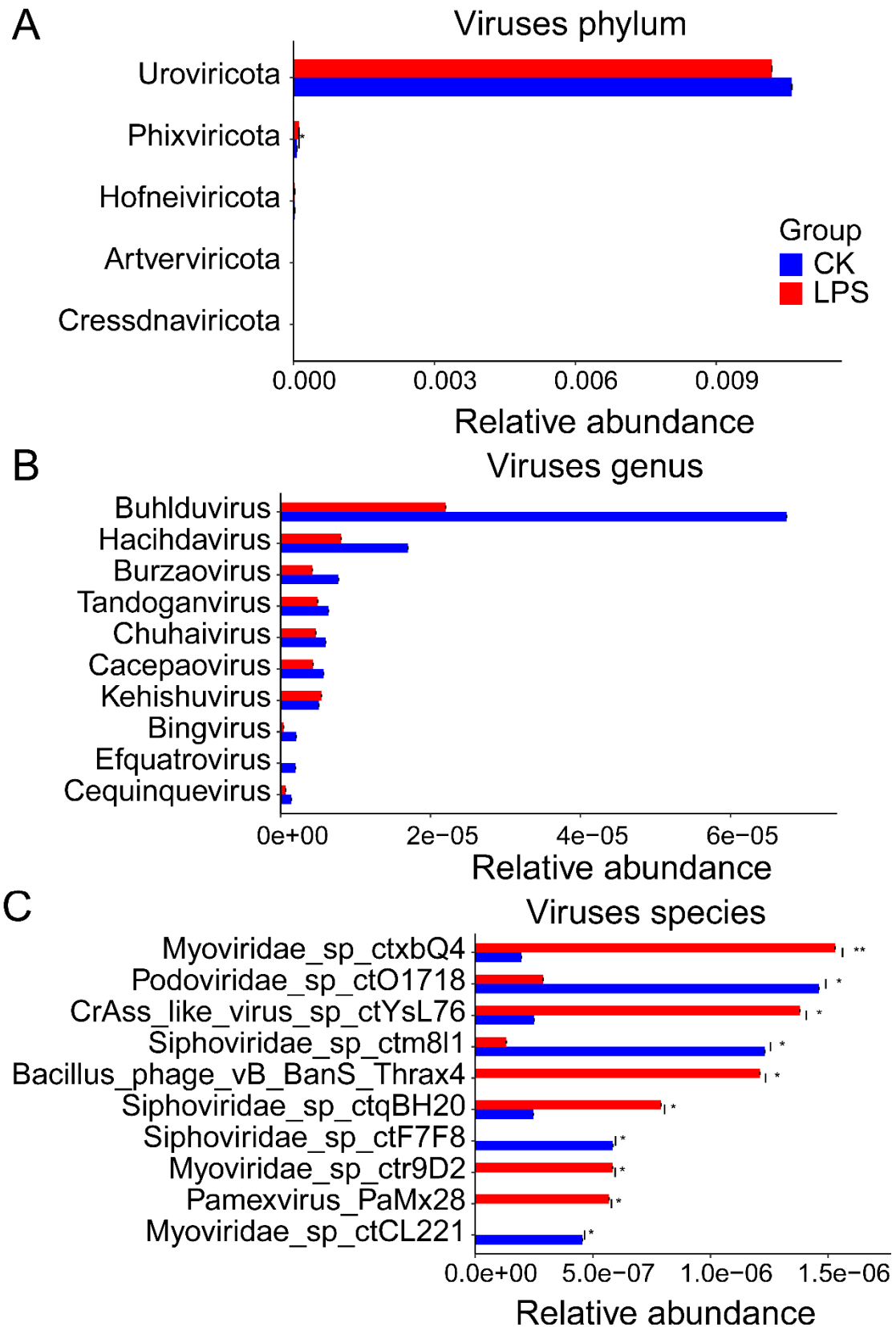
**Figure S1. Classification of bioactive substances in Prickly ash seed**



**Figure S2. PcoA analysis.** (A) 2D PcoA plot of bacteria. (B) 2D PcoA plot of archaea. (C) 2D PcoA plot of eukaryota. (D) 2D PcoA plot of viruses.

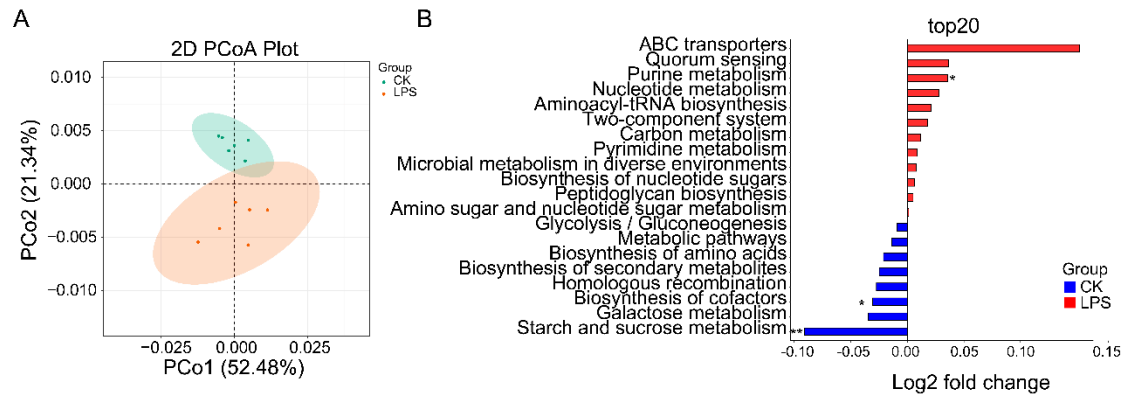


**Figure S3. Microbial compositional profiles of CK and LPS sheep.**



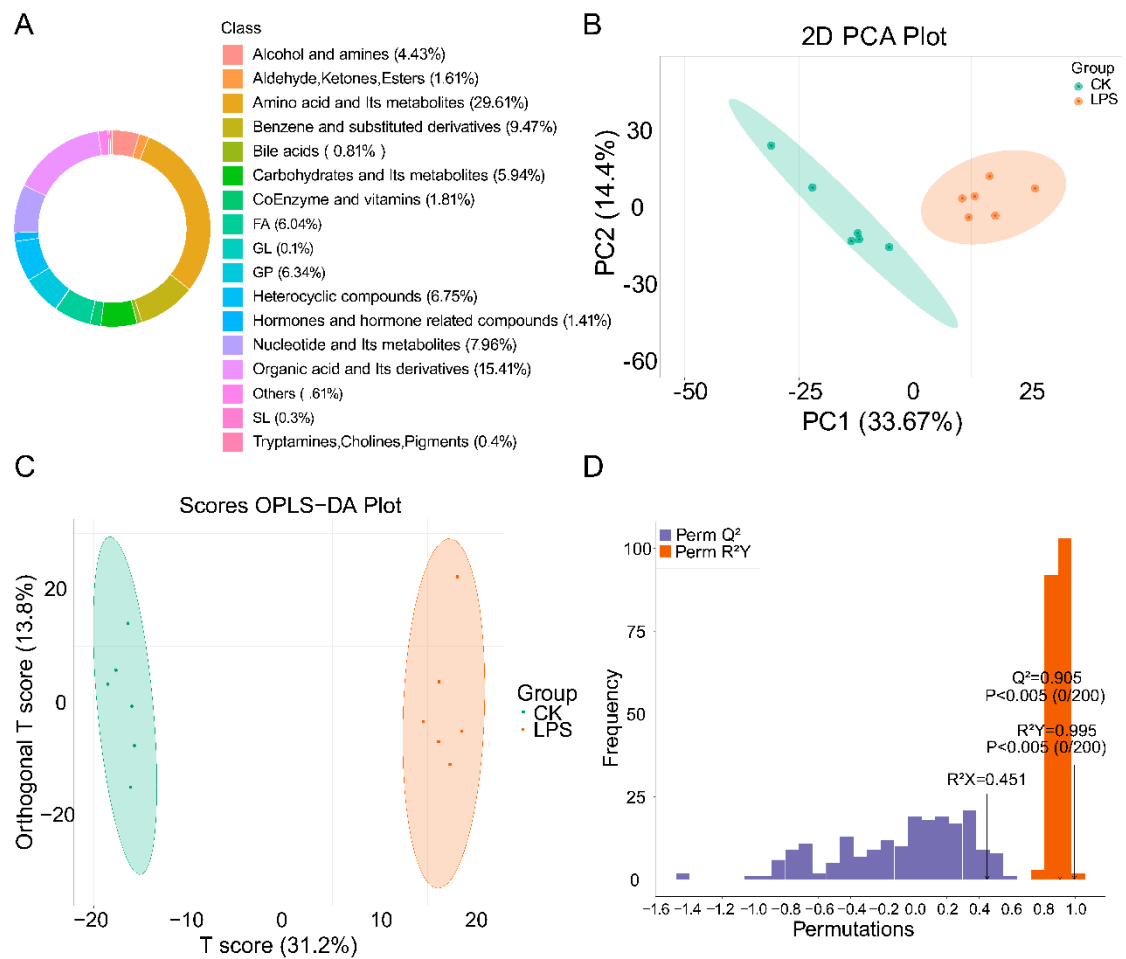
**Figure S4. Comparison of viruses phylum, genus, and species.**

(A) Viruses phylum were tested by Metastats analysis. (B) Viruses genus were tested by Metastats analysis. (C) Viruses species were tested by Metastats analysis.



**Figure S5. Functional analysis of rumen flora.**

(A) PCoA diagram of KEGG functional units. (B) The abundance of KEGG function in the CK and LPS.



**Figure S6. Multivariate analyses of rumen metabolites.**

(A) Metabolite classification. (B) PCA score plot. (C) OPLS-DA analysis of metabolites in rumen. (D) Permutation testing of OPLS-DA in CK vs. LPS group.