



Additional file 1. The annotation results of gut metagenomic of seagulls.

a. The KEGG pathway annotation results

b. The heatmap of top 25 of relative abundance for pathway

c. The eggNOG function classification results

d. The CARD annotation results between HG and HXQ group

e. The top 10 distributed virulence factors between HG and HXQ group

f. The PHI annotation results