

Supplementary

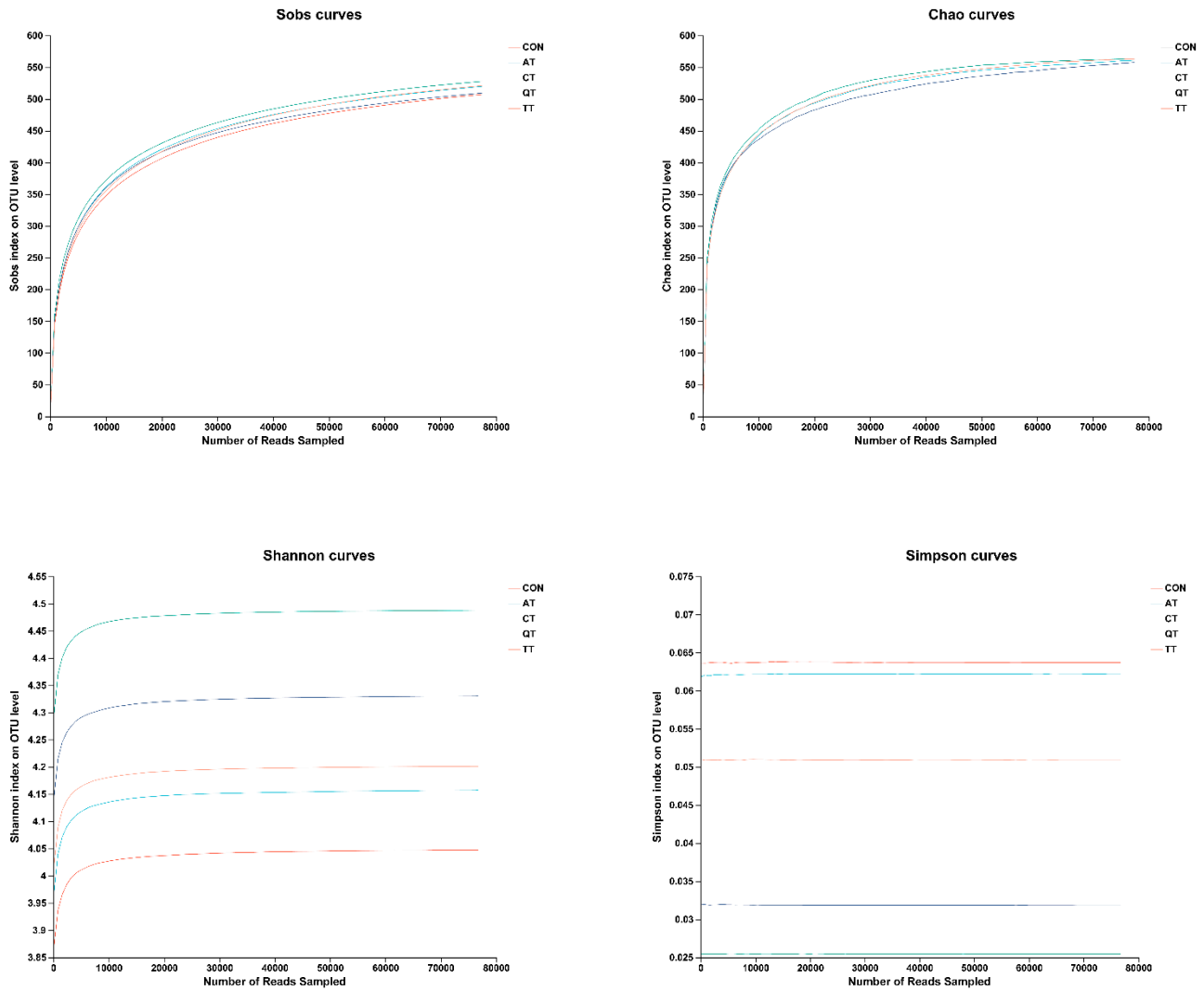


Figure S1. Alpha-diversity index curves of microbiota in different groups. (A)Sobs index, (B)Chao index, (C)Shannon index, (D)Simpson index. CON, control; AT, *Acacia mearnsii* tannin; CT, *Castanea sativa* tannin; QT, *Schinopsis lorenzii* tannin; TT, *Caesalpinia spinosa* tannin.

Table S1. Effects of adding different tannins to the diet on diversity indices (mean + SD).

Parameters	CON	AT	CT	QT	TT
Sobs	506.83 ± 10.72 ^b	520.83 ± 20.28 ^{ab}	524.50 ± 16.81 ^a	508.17 ± 27.46 ^{ab}	517.50 ± 22.33 ^{ab}
Chao	549.24 ± 24.29	561.38 ± 30.27	563.47 ± 15.87	556.79 ± 31.76	563.48 ± 41.65
Shannon	4.05 ± 0.31 ^b	4.16 ± 0.45 ^{ab}	4.48 ± 0.17 ^a	4.33 ± 0.23 ^{ab}	4.20 ± 0.31 ^{ab}
Simpson	0.064 ± 0.044 ^a	0.062 ± 0.061 ^{ab}	0.026 ± 0.009 ^b	0.032 ± 0.011 ^{ab}	0.051 ± 0.028 ^{ab}

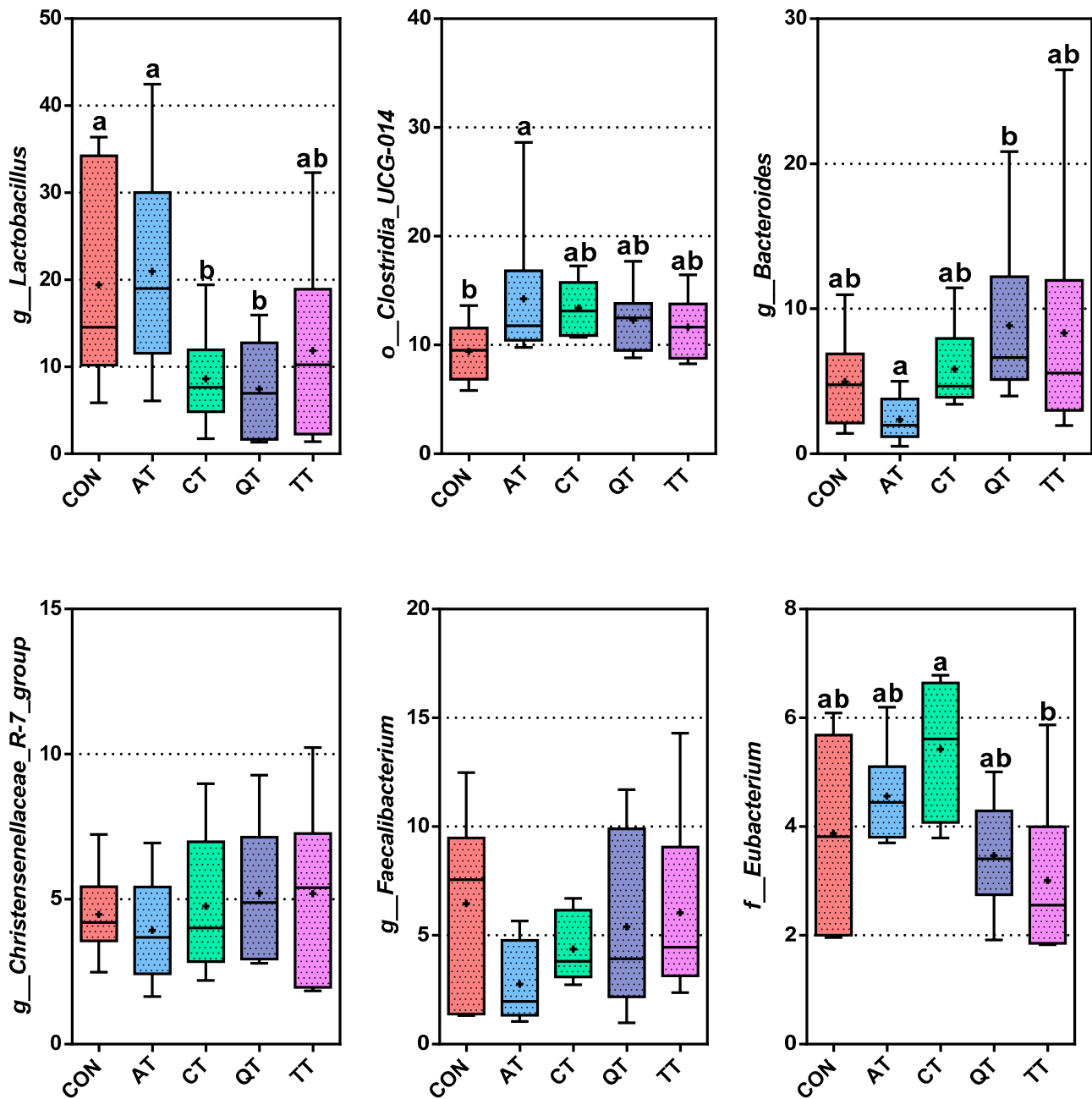
Values in the same row with different small letter (a, b) superscripts indicate significant differences ($p < 0.05$). CON, control; AT, *Acacia mearnsii* tannin; CT, *Castanea sativa* tannin; QT, *Schinopsis lorenzii* tannin; TT, *Caesalpinia spinosa* tannin.

Table S2. Proportion of various bacterial communities at the phylum level (%).

Community type	CON	AT	CT	QT	TT
Firmicutes	92.29 ± 1.36 ^{ab}	94.20 ± 1.15 ^a	91.37 ± 1.48 ^{ab}	85.14 ± 4.05 ^b	88.26 ± 3.73 ^{ab}

Bacteroidota	6.37±1.37 ^{ab}	4.57±1.05 ^b	7.07±1.36 ^{ab}	13.80±4.04 ^a	8.74±1.18 ^{ab}
Actinobacteriota	0.95±0.05 ^{ab}	0.77±0.09 ^b	0.91±0.15 ^{ab}	0.71±0.10 ^b	0.99±0.20 ^{ab}
Others	0.39±0.08	0.46±0.13	0.65±0.28	0.35±0.04	0.54±0.16

Values in the same row with different small letter (a, b) superscripts indicate significant differences ($p < 0.05$). CON, control; AT, *Acacia mearnsii* tannin; CT, *Castanea sativa* tannin; QT, *Schinopsis lorenzii* tannin; TT, *Caesalpinia spinosa* tannin.



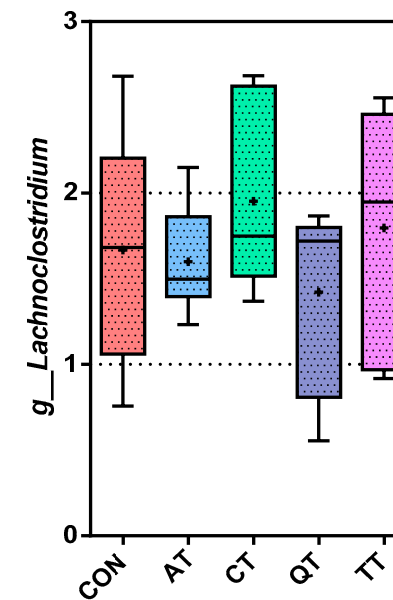
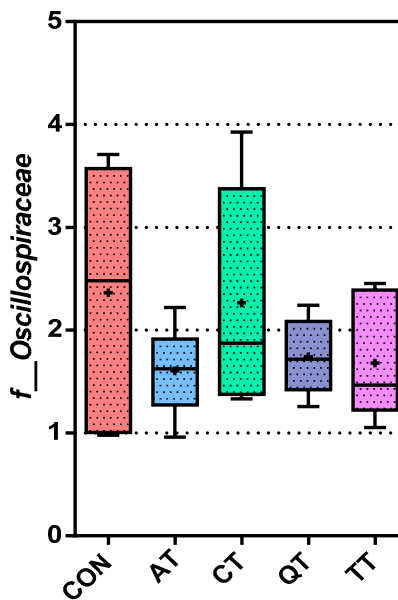
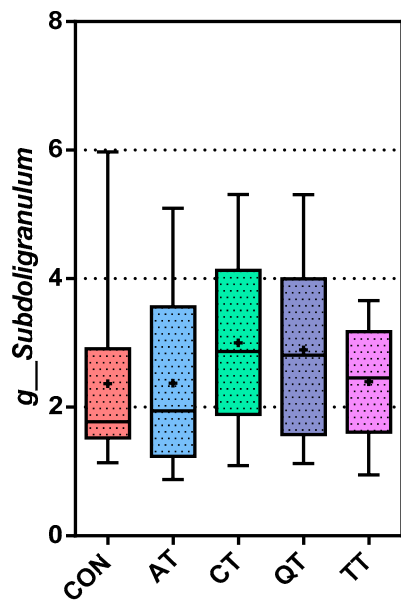
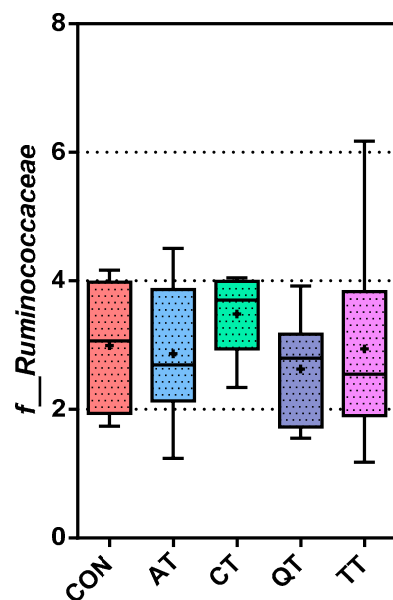
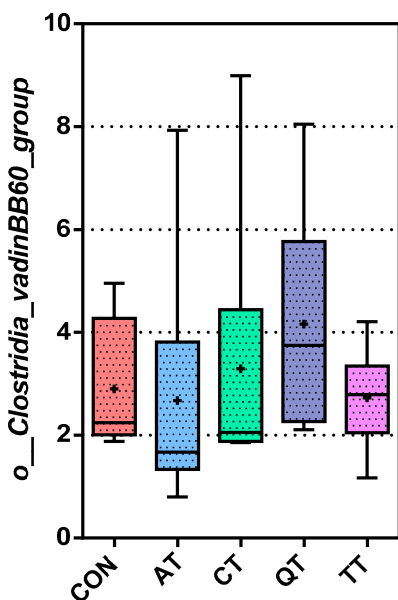
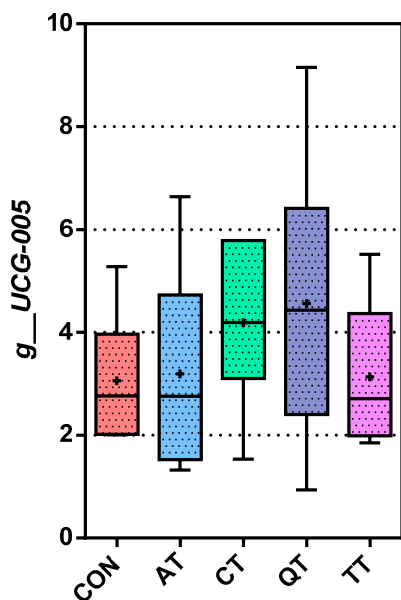
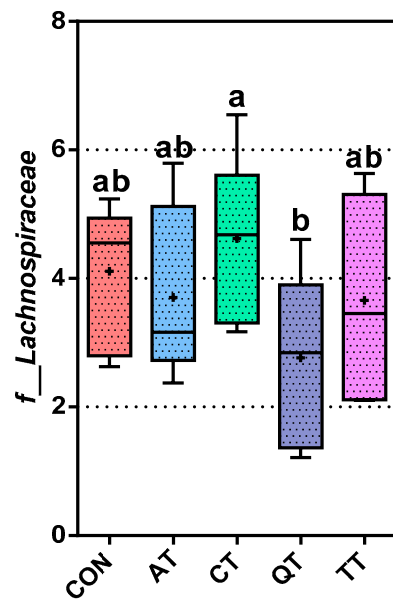
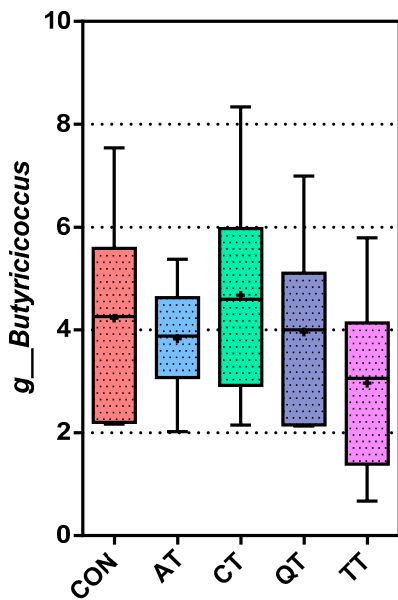
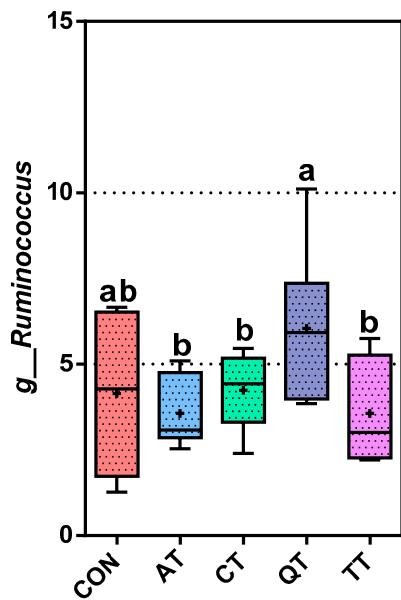
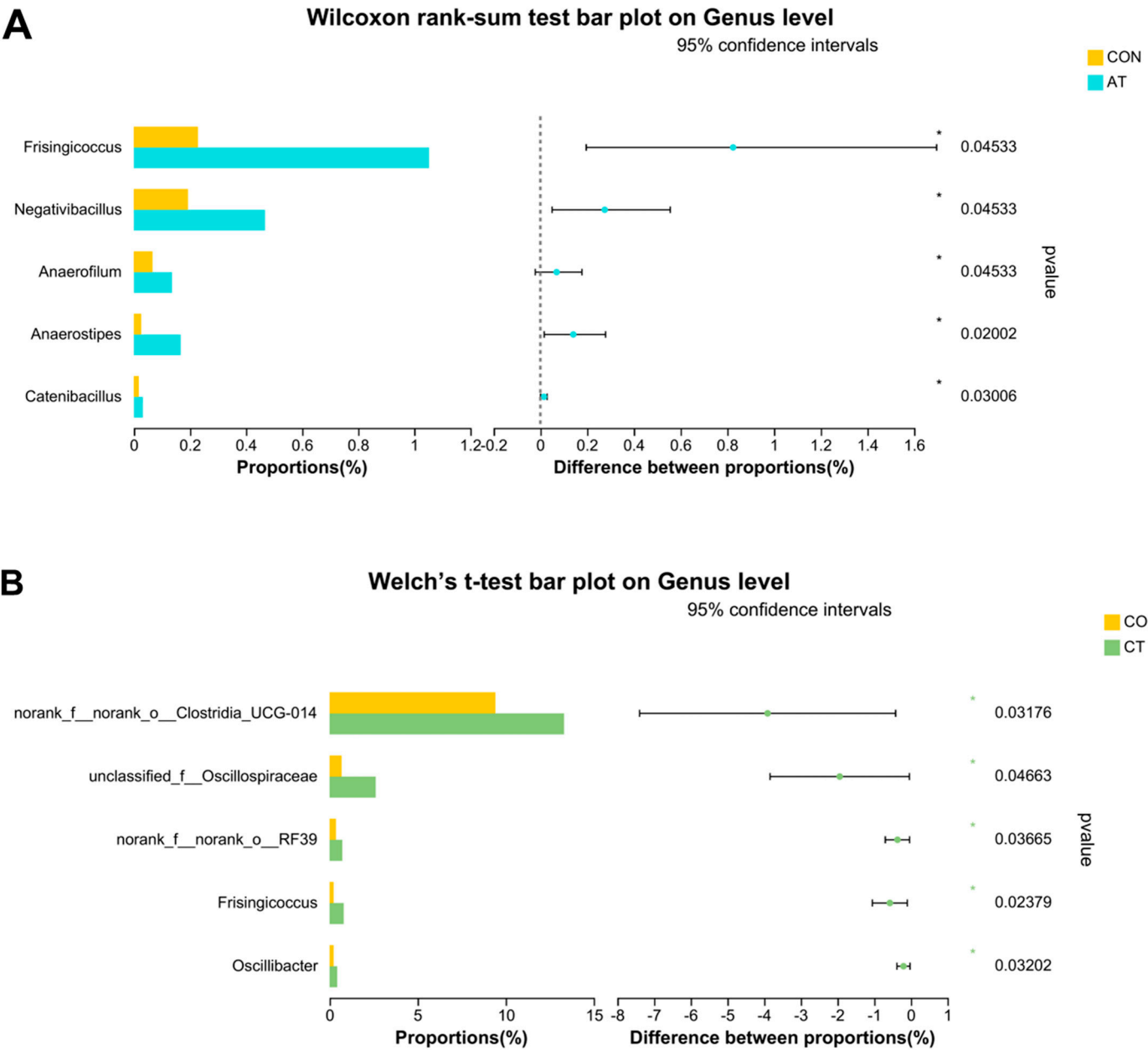
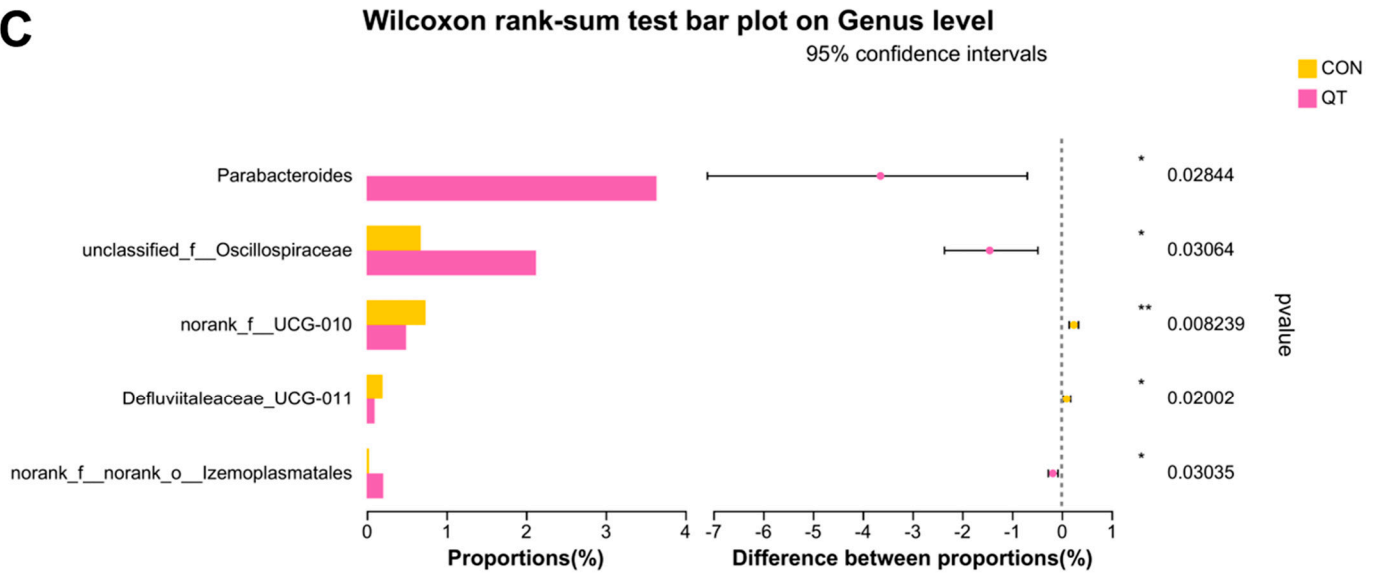


Figure S2. The abundance of the top 15 species at the genus level. Different small letter (a, b) superscripts indicate significant differences ($p < 0.05$). CON, control; AT, *Acacia mearnsii* tannin; CT, *Castanea sativa* tannin; QT, *Schinopsis lorenzii* tannin; TT, *Caesalpinia spinosa* tannin.



C



D

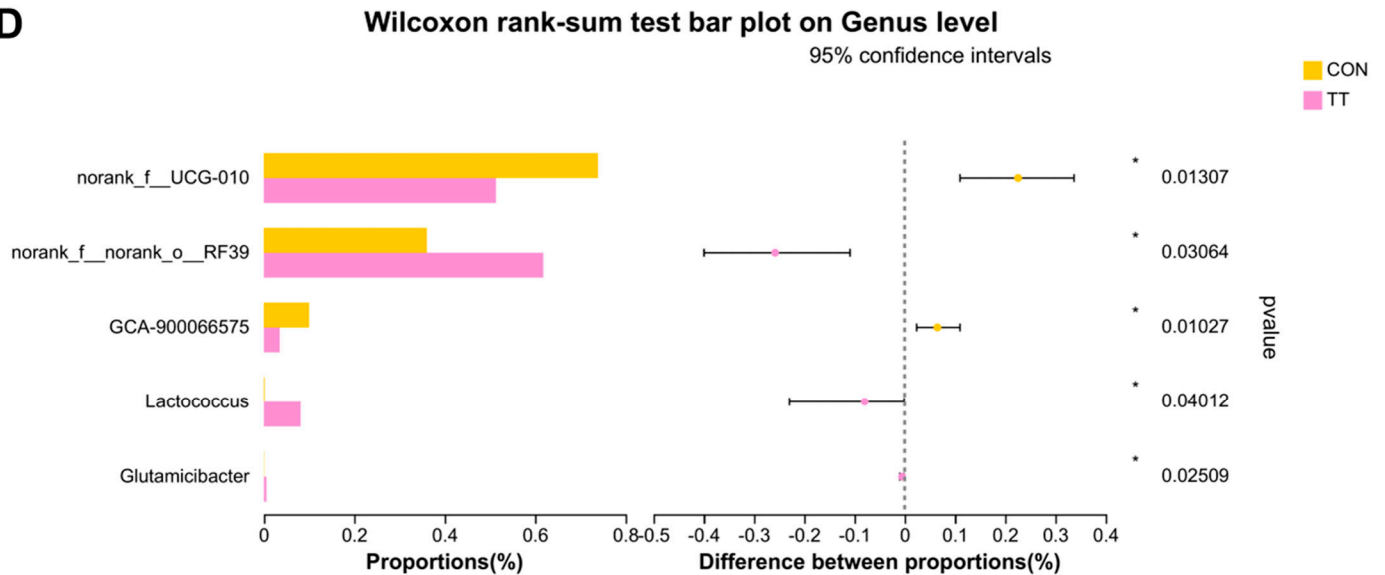


Figure S3. The relative abundance of genera with significant difference compared with control group in each tannin group. Statistical significance was determined by Wilcoxon rank-sum test for two groups comparisons. *, compared with control group. *, $p < 0.05$; **, $p < 0.01$. (n = 6/group). (A)CON-AT, (B)CON-CT, (C)CON-QT, (D)CON-TT. CON, control; AT, *Acacia mearnsii* tannin; CT, *Castanea sativa* tannin; QT, *Schinopsis lorenzii* tannin; TT, *Caesalpinia spinosa* tannin.