

Fig S1 Pathological examination of hepatic tissue slices from experimental BALB/c mice.

The mice were euthanized after a feeding period of four weeks. The liver and kidney were removed immediately and weighed. Then, the left lobes, kidney and small intestine were dehydrated, embedded in paraffin, sliced, hematoxylin–eosin stained and photographed with an optical microscope (Nikon DS-Qi2). A. Liver. B. Kidney.

Fig S2 Rarefaction curves. Rarefaction curves were calculated at 3% distance with pyrosequencing data in microbiota from groups of PLA04 and PBS

Fig. S3 Alpha diversity (ACE, chao1, goods coverage, observed species, PD whole tree, shannon and simpson) of the gut microbiota in the seven groups

Fig. S4 Significant difference of microbiota between PLA04 and other Lactobacilli using Metastats analysis at the family level. BALB/c mice were gavaged with PBS or strains (1×10^9 CFU) for 4 weeks ($n = 6$ in the PBS and PLA04 groups, $n = 4$ in the control, PLA01, BUL, CAS, and LGG groups, respectively): * p value of < 0.05

Fig. S5 Significant difference of microbiota between PLA04 and other Lactobacilli using Metastats analysis at the genus level. BALB/c mice were gavaged with PBS or strains (1×10^9 CFU) for 4 weeks ($n = 6$ in the PBS and PLA04 groups, $n = 4$ in the control, PLA01, BUL, CAS, and LGG groups, respectively): * p value of < 0.05

Fig. S6 Significant difference of microbiota between PLA04 and other Lactobacilli using Metastats analysis at the phylum level. BALB/c mice were gavaged with PBS or strains (1×10^9 CFU) for 4 weeks ($n = 6$ in the PBS and PLA04 groups, $n = 4$ in the control, PLA01, BUL, CAS, and LGG groups, respectively): * p value of < 0.05

Table S1. Serum biochemical parameters in different mouse groups

Table S2. Alpha-diversity indices of bacterial communities of PLA04 and PBS

Fig S1

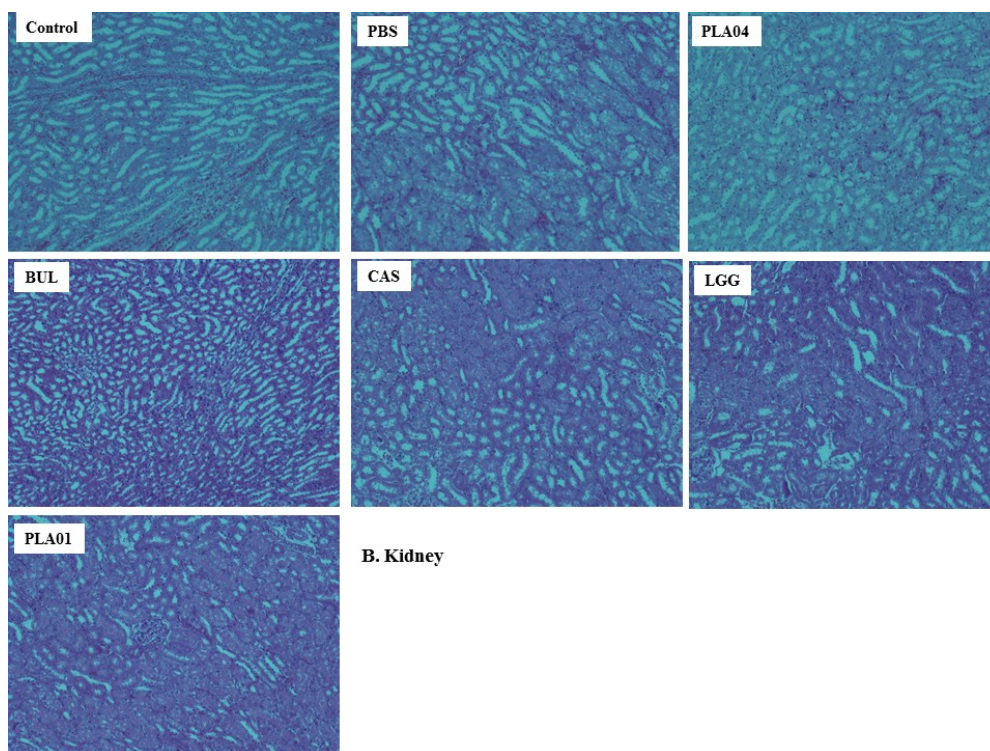
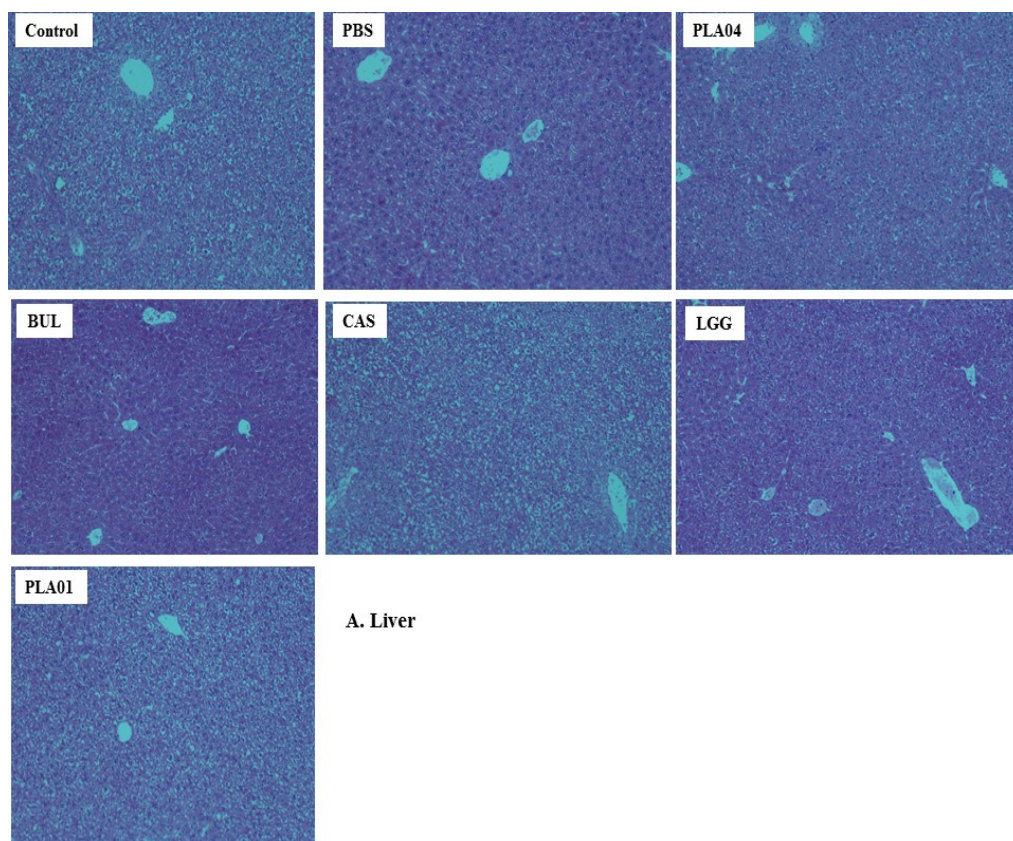


Figure S2

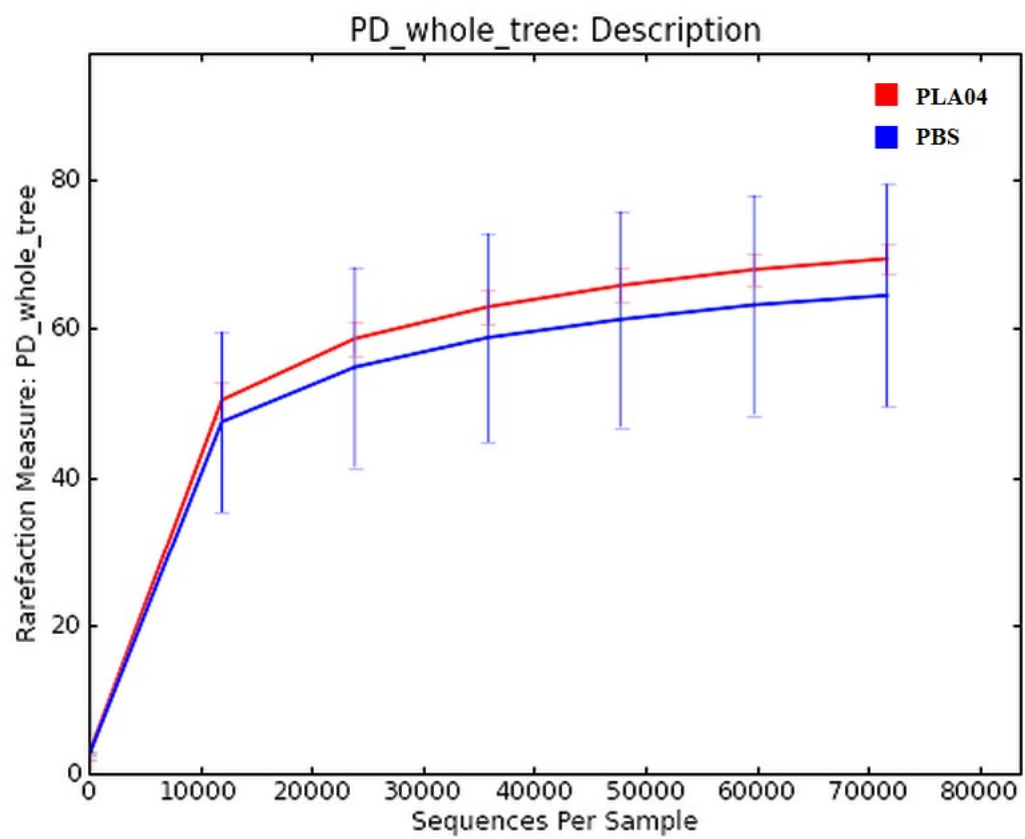


Fig. S3

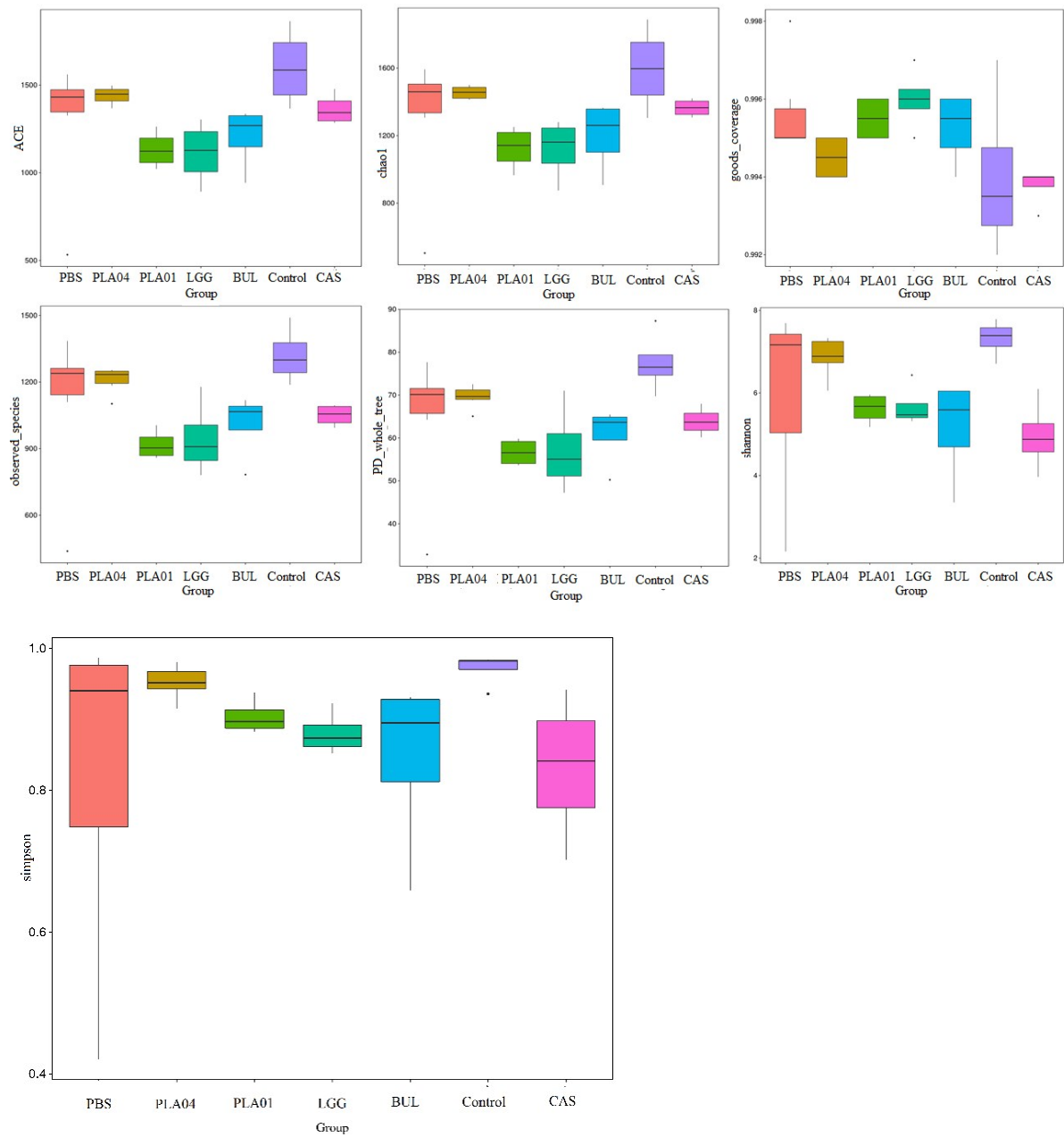


Fig. S4

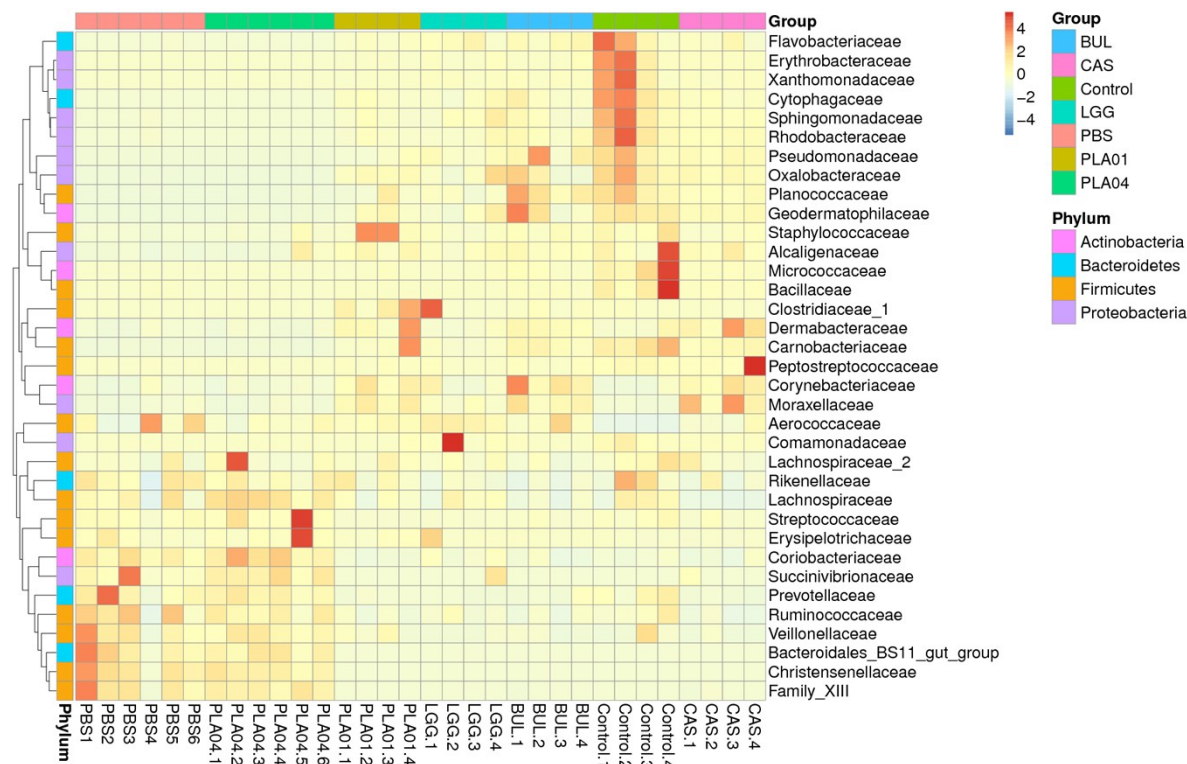


Fig S5

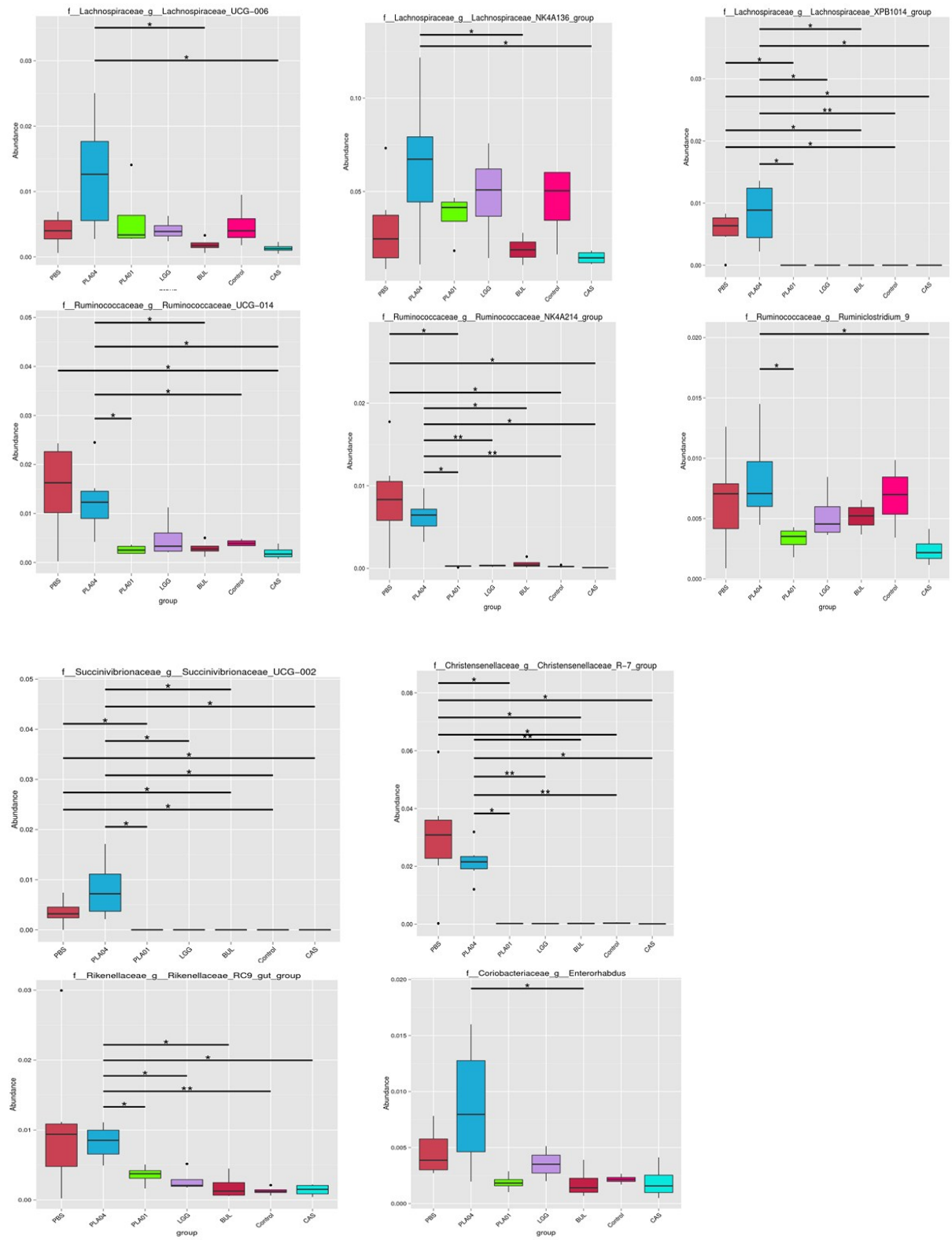


Fig.S6

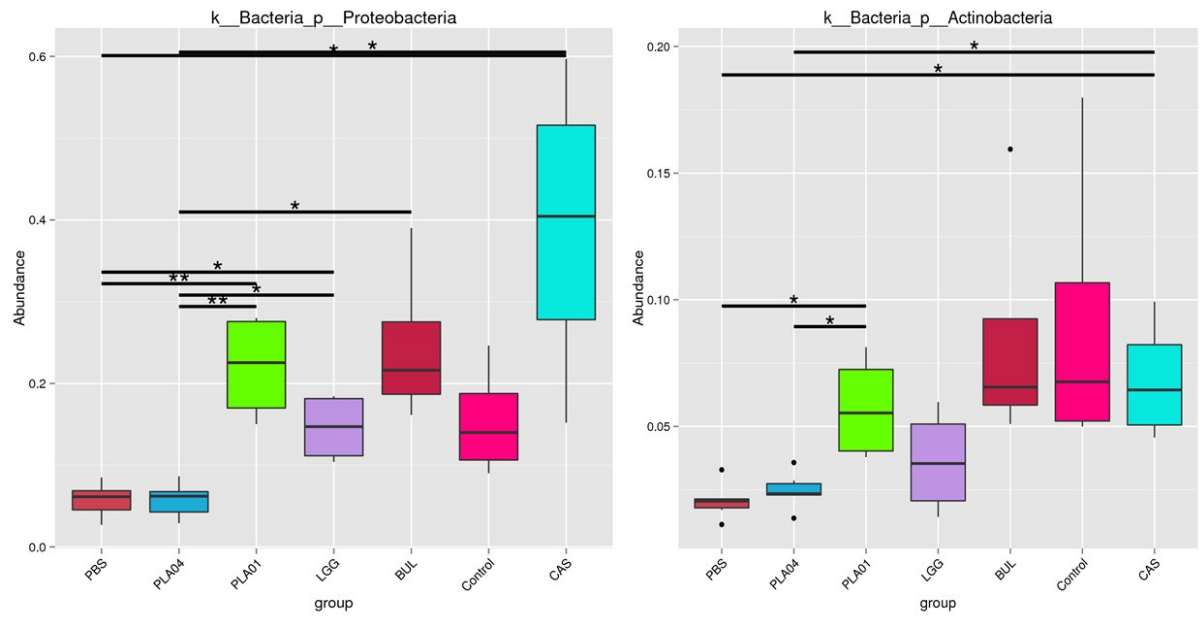


Table S1

	Control		PBS		PLA04		PLA01		CAS		BUL		LGG	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
ALT	55.33333	9.865766	49	3.464102	50.25	21.66987	44.66667	7.505553	51.66667	4.041452	47.33333	7.234178	54.66667	4.932883
AST	170.6667	8.326664	164	19.69772	153.5	26.73948	151.3333	10.2632	163.6667	13.31666	152	7.81025	150.3333	14.0119
AST/ALT	3.143333	0.510523	3.34	0.180831	3.3175	1.00917	3.433333	0.400791	3.190418	0.459359	3.248366	0.364375	2.781198	0.526764
Cr	23	0	20.33333	0.57735	22.25	2.061553	21.66667	0.57735	24.33333	0.57735	20.66667	0.57735	24.33333	4.163332
UN	8.64	0.650231	6.883333	0.785642	5.825	1.23476	5.053333	0.635164	5.676667	0.81224	4.953333	0.407962	7.2	0.577148
TG	1.336667	0.225906	1.1	0.091652	0.8875	0.107199	1.003333	0.150111	1.16	0.180278	1.436667	0.400666	1.07	0.131149
TC	2.133333	0.258134	2.483333	0.025166	2.1425	0.185719	2.443333	0.407717	2.08	0.379868	2.513333	0.453578	1.97	0.115326
HDL-C	1.616667	0.219621	1.903333	0.055076	1.61	0.180185	1.863333	0.332315	1.616667	0.22053	1.916667	0.328075	1.546667	0.205508
LDL-C	0.503333	0.041633	0.543333	0.047258	0.5125	0.022174	0.57	0.112694	0.396667	0.145717	0.586667	0.165025	0.506667	0.100167

Table S2

Sample name	Alpha				Diversity		
	observed_species	shannon	simpson	chao1	ACE	goods_coverage	PD_whole_tree
PBS1	1380	7.023	0.919	1440.321	1449.002	0.998	77.589
PBS2	1245	7.703	0.987	1323.54	1335.205	0.998	71.537
PBS3	1233	7.432	0.98	1314.569	1321.225	0.998	70.944
PBS4	437	2.267	0.444	501.279	506.013	0.999	32.099
PBS5	1214	7.37	0.968	1317.911	1318.989	0.998	70.526
PBS6	1101	4.459	0.705	1219.901	1210.993	0.998	64.221
PLA04-1	1203	7.331	0.971	1281.646	1294.042	0.998	69.473
PLA04-2	1220	7.324	0.981	1314.5	1317.453	0.998	70.264
PLA04-3	1236	6.797	0.946	1316.621	1335.772	0.998	71.315
PLA04-4	1175	7.035	0.962	1265.925	1277.949	0.998	68.806
PLA04-5	1109	6.087	0.946	1243.007	1254.222	0.997	65.244
PLA04-6	1237	6.758	0.918	1331.269	1345.426	0.998	71.403