

Table S1 The species composition of the gut microbiota at the phylum level

Taxon	CK	PC	ZJP	α _ZJP
p_Firmicutes	$0.44 \pm 0.00b$	$0.51 \pm 0.02a$	$0.46 \pm 0.01b$	$0.52 \pm 0.00a$
p_Proteobacteria	$0.45 \pm 0.00a$	$0.20 \pm 0.02c$	$0.34 \pm 0.01b$	$0.34 \pm 0.02b$
p_Actinobacteria	$0.05 \pm 0.00d$	$0.26 \pm 0.02a$	$0.12 \pm 0.01b$	$0.10 \pm 0.01c$
p_Bacteroidetes	$0.06 \pm 0.00b$	$0.03 \pm 0.01c$	$0.08 \pm 0.01a$	$0.04 \pm 0.00c$

Table S2 Firmicutes/Bacteroidetes ratio in different in vitro fermentation groups

	CK	PC	ZJP	α _ZJP
Firmicutes/Bacteroidetes	$7.29 \pm 0.24b$	$16.57 \pm 4.05a$	$6.02 \pm 0.65b$	$13.26 \pm 0.58a$

Table S3 The species composition of the gut microbiota at the family level

Taxon	CK	PC	ZJP	α _ZJP
f_Enterobacteriaceae	$0.43 \pm 0.00a$	$0.19 \pm 0.02c$	$0.34 \pm 0.01b$	$0.33 \pm 0.02b$
f_Veillonellaceae	$0.16 \pm 0.01c$	$0.48 \pm 0.03a$	$0.25 \pm 0.01b$	$0.26 \pm 0.00b$
f_Lachnospiraceae	$0.15 \pm 0.01b$	$0.01 \pm 0.01c$	$0.14 \pm 0.01b$	$0.19 \pm 0.00a$
f_Bifidobacteriaceae	$0.01 \pm 0.00b$	$0.22 \pm 0.02a$	$0.03 \pm 0.00b$	$0.03 \pm 0.00b$
f_Coriobacteriaceae	$0.03 \pm 0.00c$	$0.04 \pm 0.00c$	$0.10 \pm 0.02a$	$0.07 \pm 0.01b$
f_Bacteroidaceae	$0.05 \pm 0.00a$	$0.03 \pm 0.01b$	$0.06 \pm 0.01a$	$0.03 \pm 0.00b$
f_Ruminococcaceae	$0.05 \pm 0.00a$	$0.00 \pm 0.00c$	$0.02 \pm 0.00b$	$0.05 \pm 0.00a$
f_Clostridiaceae	$0.00 \pm 0.00c$	$0.00 \pm 0.00c$	$0.03 \pm 0.00a$	$0.01 \pm 0.00b$
f_Alcaligenaceae	$0.01 \pm 0.00a$	$0.01 \pm 0.00a$	$0.00 \pm 0.00b$	$0.01 \pm 0.00a$
f_Fusobacteriaceae	$0.01 \pm 0.01a$	$0.00 \pm 0.00b$	$0.00 \pm 0.00b$	$0.01 \pm 0.01ab$
Others	$0.09 \pm 0.00a$	$0.02 \pm 0.00c$	$0.03 \pm 0.01b$	$0.03 \pm 0.00bc$