

Electronic Supplementary Information

Abbreviations

IBD	Inflammatory bowel disease
UC	Ulcerative colitis
CD	Crohn disease
cATFP	Crude <i>Allium tenuissimum</i> L. flower polysaccharide
KBr	Potassium bromide
TFA	Trifluoroacetic acid
Fuc	Fucose
Rha	Rhamnose
Ara	Arabinose
Gal	Galactose
Glc	Glucose
Xyl	Xylose
Man	Mannose
GalA	Galacturonic acid
Glca	Glucuronic acid
DSS	Dextran sulfate sodium
SASP	Sulfasalazine
DAI	Disease activity index
SOD	Super oxide dismutase
CAT	Catalase
GSH-PX	Glutathione peroxidase
MDA	Malondialdehyde
MPO	Myeloperoxidase
TNF- α	Tumor necrosis factor- alpha
IL-6	Interleukin-6
IL-1 β	Interleukin-1beta
IL-10	Interleukin-10
TLR	Toll-like receptor
MyD88	Myeloid differentiation factor 88
NF- κ B	Nuclear factor-kappa B
I κ B α	Inhibitor kappa B alpha
GAPDH	Glyceraldehyde-3-phosphate dehydrogenase

Highlights

- ATFP is characterized as an acidic polysaccharide composed mainly of Gal, Xyl and Ara.
- ATFP reduces oxidative stress state and regulates inflammatory cytokine levels in colitis mice.
- ATFP inhibits the overexpression of TLR4/MyD88/NF- κ B signaling pathway.
- ATFP positively regulates gut microbiota.
- ATFP increases the abundance of bacteria that produce short chain fatty acids.

Table 1 Real-time PCR primer sequences

Gene name	Forward (5'-3')	Reverse (3'-5')
GAPDH	5'-GGTTGTCTCCTGCGACTTCA-3'	5'-TGGTCCAGGGTTTCTTACTCC-3'
TLR4	5'-TGGCTGGTTTACACGTCAT-3'	5'-TGCAGAAACATTGCCAAGC-3'
MyD88	5'-ACTGGCCTGAGCAACTAGGA-3'	5'-CGTGCCACTACCTGTAGCAA-3'
NF- κ B p65	5'-CACCGGATTGAAGAGAAGCG-3'	5'-AAGTTGATGGTGCTGAGGGA-3'
I κ B α	5'-GAGGCCAGCGTCTGACATTA-3'	5'-CAGCCGAATCACCCAGTAA-3'

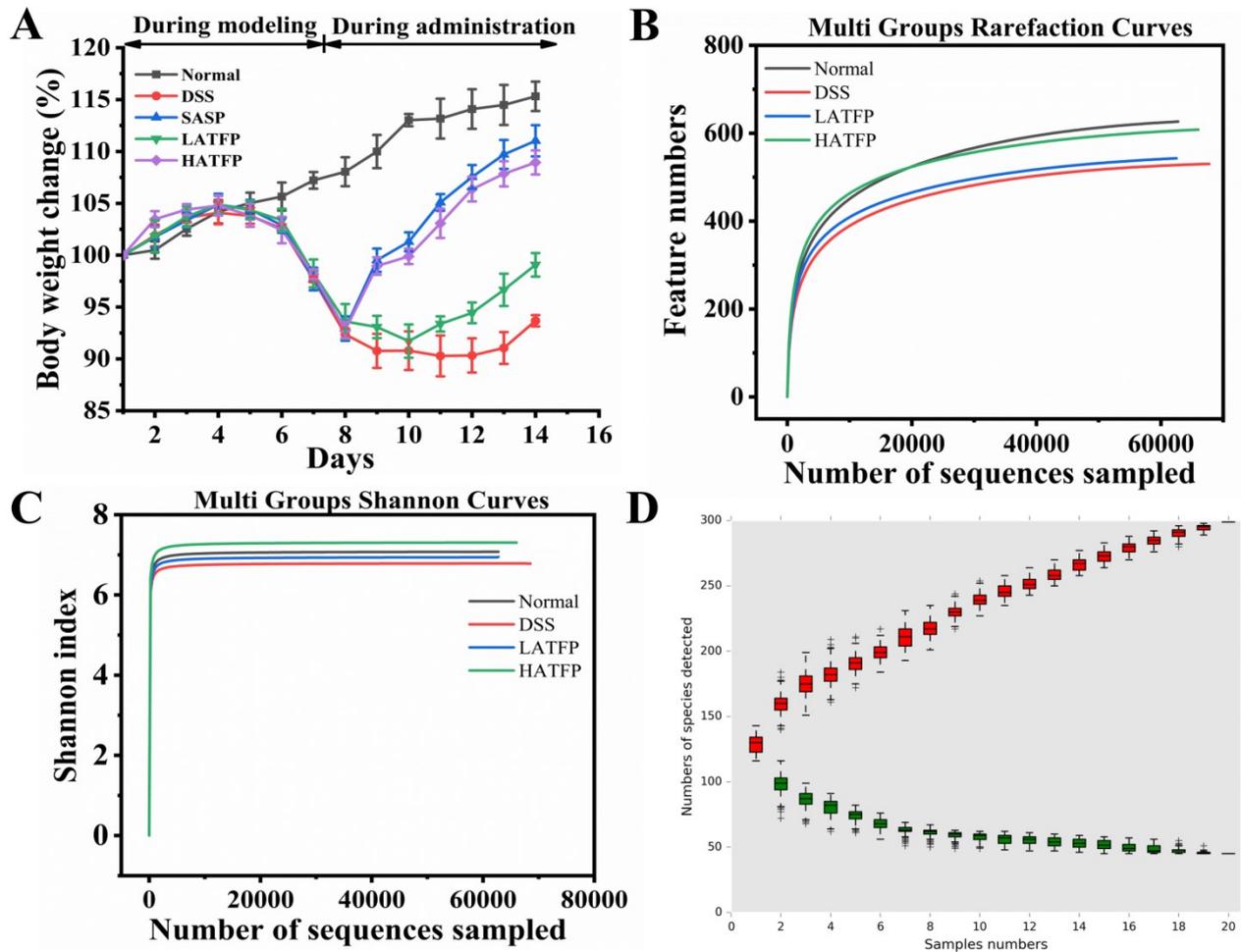


Fig. 1 Effects of ATFP on body weight and diversity of gut microbiota in mice. (A) Changes relative to the initial body weight of the mice. (B) Rarefaction curves. (C) Shannon curves. (D) Species accumulation curve at genus level. The experimental data were obtained from five mice in each group.

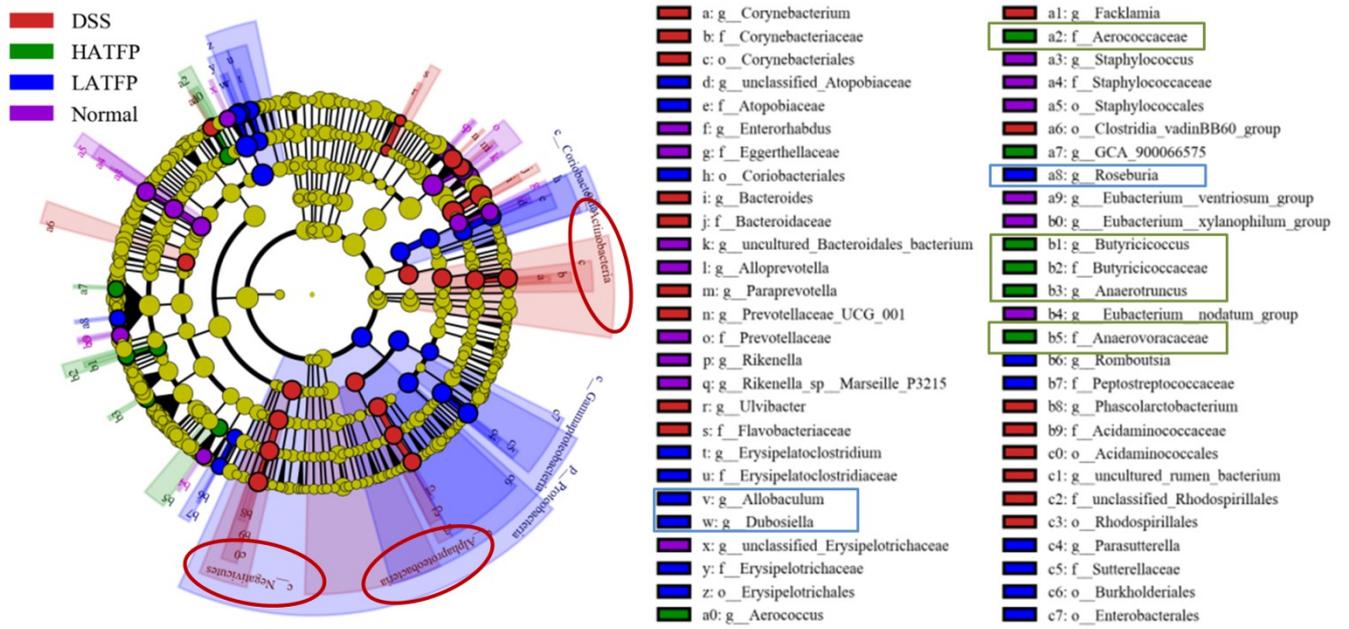


Fig. 2 The LEfSe analysis of cladistic evolution at phylum to genus level. Different colors represent different groups, and nodes of different colors represent the marker species in each group.