

Taxon	Group	LDA score (log10)	p
Bacteria.Firmicutes. Clostridia	HFD	5.12685705	0.00394775
Bacteria.Firmicutes.Clostridia.Clostridiales.Clostridiaceae. unknown_spec_	HFD	4.6825023	0.002093
Bacteria.Firmicutes.Clostridia.Clostridiales. Clostridiaceae	HFD	4.66351586	0.00394775
Bacteria.Firmicutes.Clostridia.Clostridiales.Ruminococcaceae. Anaerotruncus_spec_	HFD	4.44262181	0.0131951
Bacteria.Firmicutes.Bacilli.Bacillales.Staphylococcaceae. Staphylococcus_spec_	HFD	4.43452227	0.00280167
Bacteria.Firmicutes.Bacilli.Bacillales. Staphylococcaceae	HFD	4.43451631	0.00280167
Bacteria.Firmicutes.Bacilli. Bacillales	HFD	4.43444953	0.00280167
Bacteria.Firmicutes.Clostridia.Clostridiales._Mogibacteriaceae_. unknown_spec_	HFD	4.29851849	0.00394775
Bacteria.Firmicutes.Clostridia.Clostridiales._ Mogibacteriaceae	HFD	4.29851849	0.00394775
Bacteria.Firmicutes.Clostridia.Clostridiales.Lachnospiraceae._ Ruminococcus_gnavus	HFD	4.27620646	0.03704073
Bacteria.Proteobacteria.Deltaproteobacteria. Desulfovibrionales	HFD	4.12798083	0.00394775
Bacteria.Proteobacteria. Deltaproteobacteria	HFD	4.12798083	0.00394775
Bacteria.Proteobacteria.Deltaproteobacteria.Desulfovibrionales. Desulfovibrionaceae	HFD	4.12798083	0.00394775
Bacteria.Proteobacteria.Deltaproteobacteria.Desulfovibrionales.Desulfovibrionaceae. Desulfovibrio_spec_	HFD	4.12798083	0.00394775
Bacteria.Firmicutes.Clostridia.Clostridiales.Lachnospiraceae. unknown_spec_	HFD	4.11639352	0.00739713
Bacteria.Firmicutes.Erysipelotrichi.Erysipelotrichales.Erysipelotrichaceae. Allobaculum_spec_	HFD	4.05499724	0.01556764
Bacteria.Firmicutes.Bacilli.Lactobacillales. Streptococcaceae	HFD	3.98462481	0.00388491
Bacteria.Firmicutes.Bacilli.Lactobacillales.Streptococcaceae. Streptococcus_spec_	HFD	3.98462481	0.00388491
Bacteria.Firmicutes.Clostridia.Clostridiales. Peptostreptococcaceae	HFD	3.88191846	0.00739713
Bacteria.Firmicutes.Clostridia.Clostridiales.Peptostreptococcaceae. unknown_spec_	HFD	3.88191841	0.00739713
Bacteria.Firmicutes.Clostridia.Clostridiales. Lachnospiraceae	HFD	3.86242255	0.02776836
Bacteria.Firmicutes.Clostridia. Clostridiales	HFD	3.81337633	0.00739713
Bacteria.Firmicutes.Erysipelotrichi.Erysipelotrichales.Erysipelotrichaceae. unknown_spec_	CD	-3.9437408	0.00739713
Bacteria.Actinobacteria.Coriobacteriia.Coriobacteriales.Coriobacteriaceae. Adlercreutzia_spec_	CD	-3.9779805	0.002093
Bacteria.Firmicutes.Clostridia.Clostridiales.Ruminococcaceae. Oscillospira_spec_	CD	-4.1630114	0.00334562

Bacteria.Firmicutes.Clostridia.Clostridiales.Clostridiaceae. Clostridium_spec_	CD	-4.1691042	0.002093
Bacteria.Firmicutes.Clostridia.Clostridiales.Ruminococcaceae. Ruminococcus_spec_	CD	-4.1826426	0.002093
Bacteria.Bacteroidetes.Bacteroidia.Bacteroidales.Bacteroidaceae. Bacteroides_acidifaciens	CD	-4.2055195	0.00394775
Bacteria.Firmicutes.Bacilli.Lactobacillales.Lactobacillaceae. Lactobacillus	CD	-4.6445094	0.00476268
Bacteria.Firmicutes.Bacilli.Lactobacillales. Lactobacillaceae	CD	-4.6485962	0.01630917
Bacteria. Proteobacteria	CD	-5.0615875	0.03737299
Bacteria.Proteobacteria. Betaproteobacteria	CD	-5.0869826	0.01630917
Bacteria.Proteobacteria.Betaproteobacteria. Burkholderiales	CD	-5.0869826	0.01630917
Bacteria.Proteobacteria.Betaproteobacteria.Burkholderiales. Alcaligenaceae	CD	-5.0869826	0.01630917
Bacteria.Proteobacteria.Betaproteobacteria.Burkholderiales.Alcaligenaceae.Sutterella_spec_	CD	-5.0869826	0.01630917

Supplementary Table 1. Differences in microbial taxa between HFD and CD mice, as shown in **Figure 1B**.