

Figure S1 *eIF6* deficiency reduced serum lipid metabolism. (A) Serum total cholesterol (TC), (B) Serum high-density lipoprotein cholesterol (HDL-C). Datas are shown as the mean \pm SEM, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.01$ by one way ANOVA and Tukey post hoc. (NCD_A, NCD_ *ApoE*^{-/-}, NCD_A+E, NCD_ *ApoE*^{-/-}/*eIF6*^{+/-}, HFD_A, HFD_ *ApoE*^{-/-}, HFD_A+E, HFD_ *ApoE*^{-/-}/*eIF6*^{+/-}).

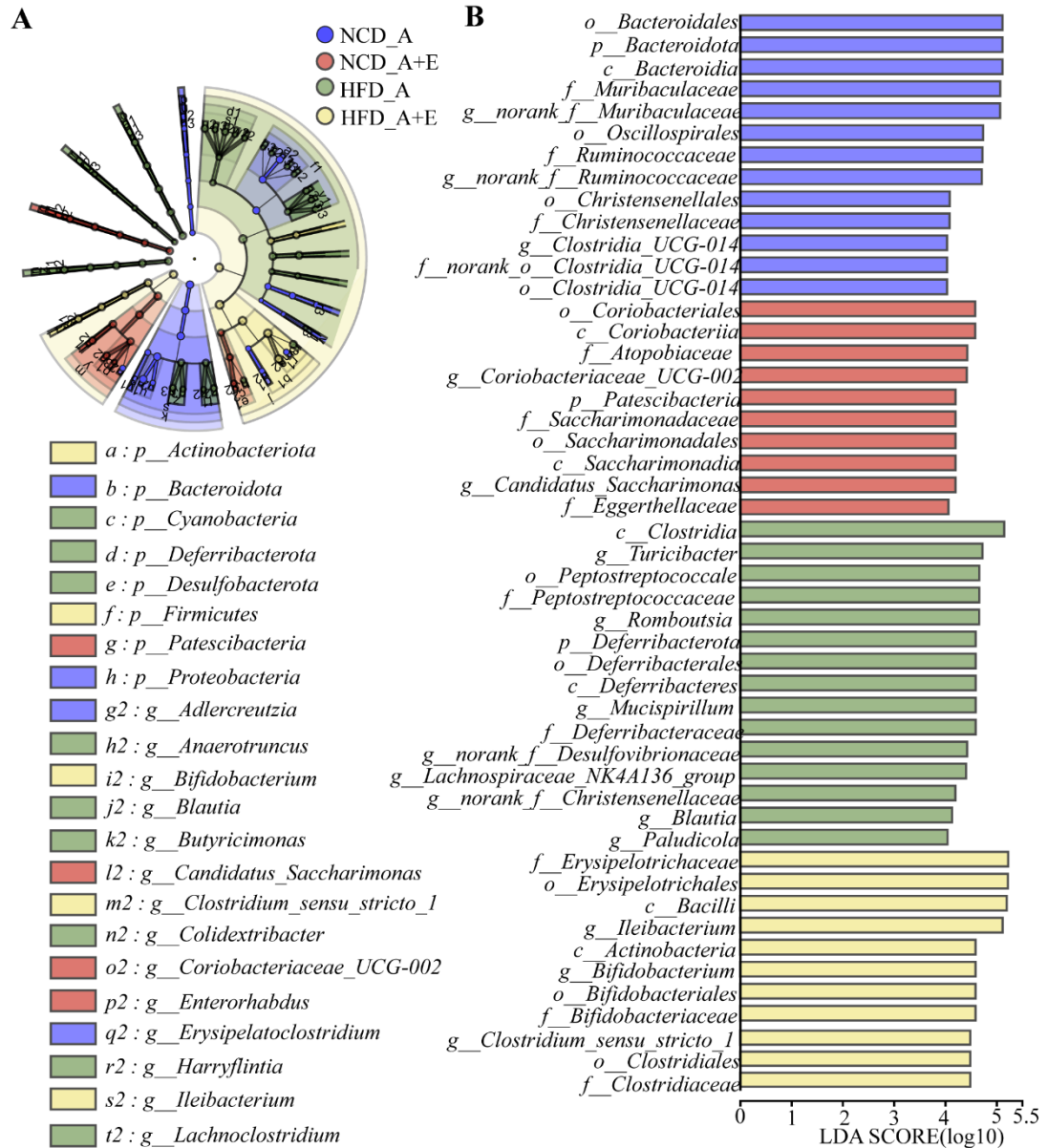


Figure S2 Taxonomic cladogram obtained using LefSe analysis of the 16S rRNA sequences. (A) Cladogram generated from linear discriminant analysis effect size (LefSe) showing the most differentially enriched bacterial taxa in the fecal microbiota of NCD_A (blue), NCD_A+E (red), HFD_A (green), or HFD_A+E (yellow) mice (LDA value= 4; P value< 0.05). (B) Computed LDA scores of the relative abundance difference among the NCD_A (blue), NCD_A+E (red), HFD_A (green), or HFD_A+E (yellow) mice.