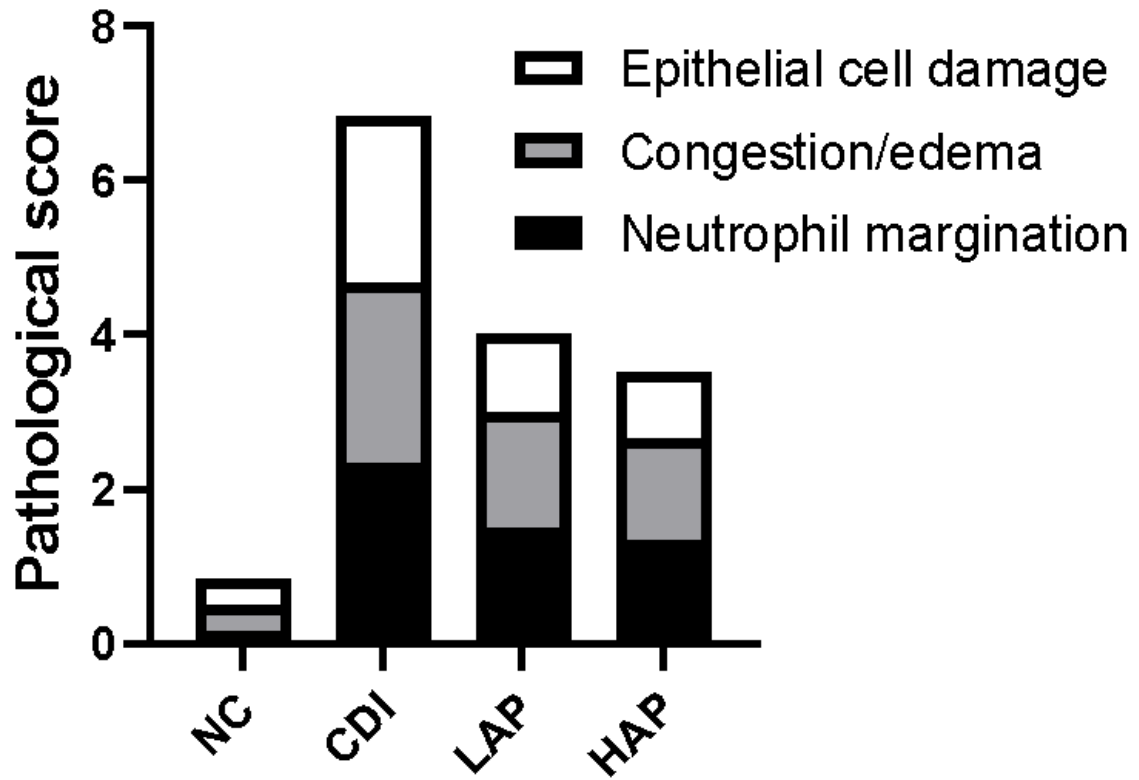


## Supplemental Material

**Supplementary Table. S1. PCR primers.**

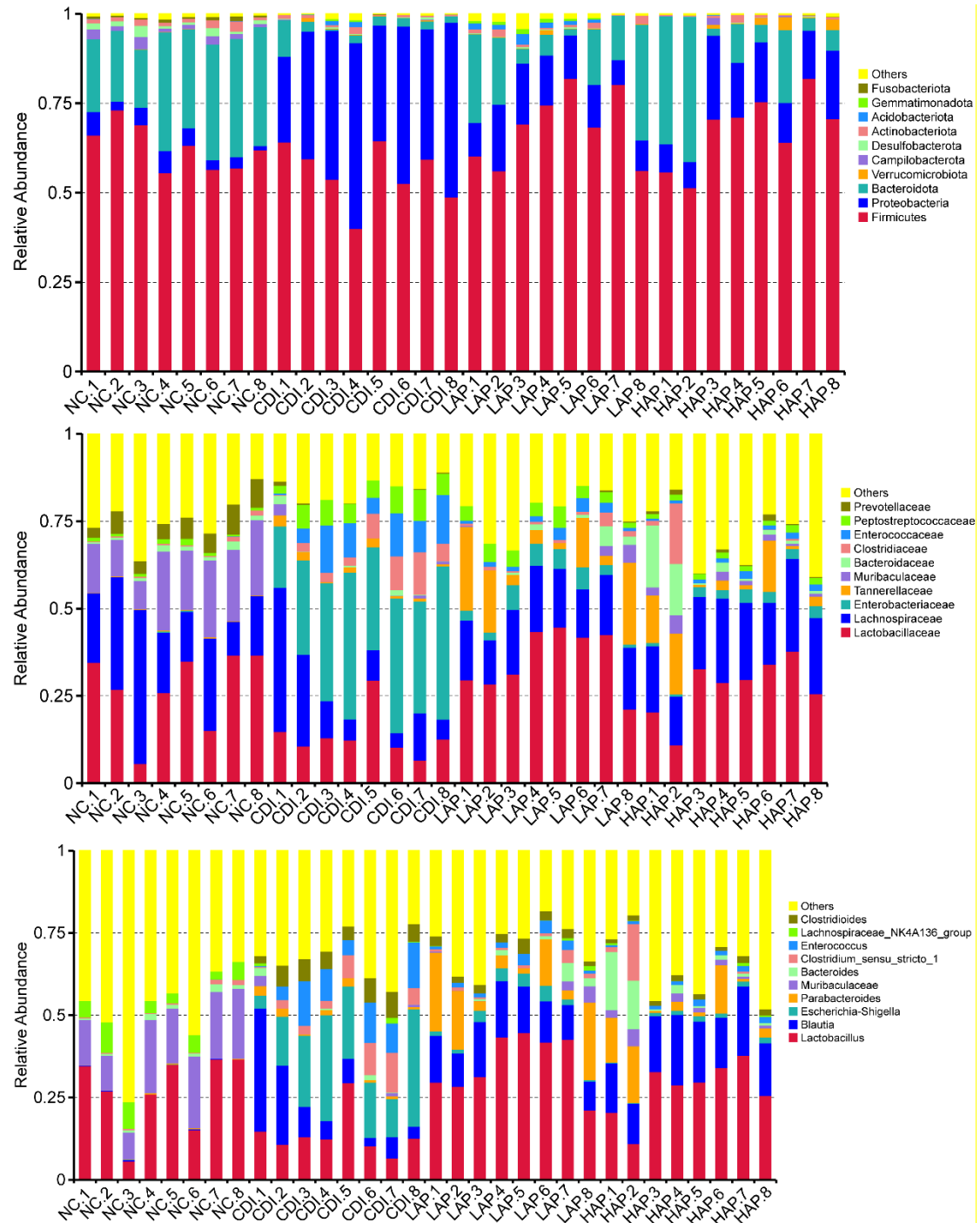
Gene	Forward Sequence (5'-3')	Reverse Sequence (5'-3')
Bacteria16S rRNA V3V4	TACGGRAGGCAGCAG	AGGGTATCTAATCCT
<i>β-actin</i>	AGTGTGACGTTGACATCCGT	GCAGCTCAGTAACAGTCCGC
<i>Occludin</i>	TTCTCTGACCTTGAGTGTGG	CTCTTGCCCTTTCTGCTTT
<i>ZO-1</i>	GCCGCTAAGAGCACAGCAA	GCCCTCCTTTTAACACATCAGA

Supplementary Figure S1. H&E scores of colonic tissues of mice in each group.

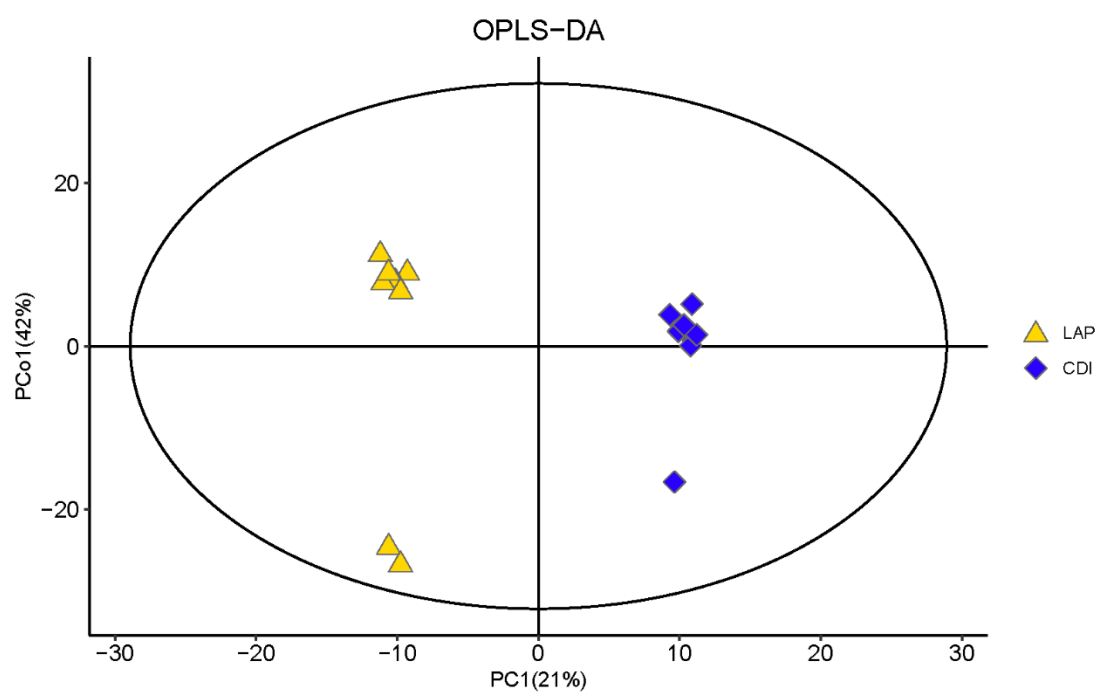




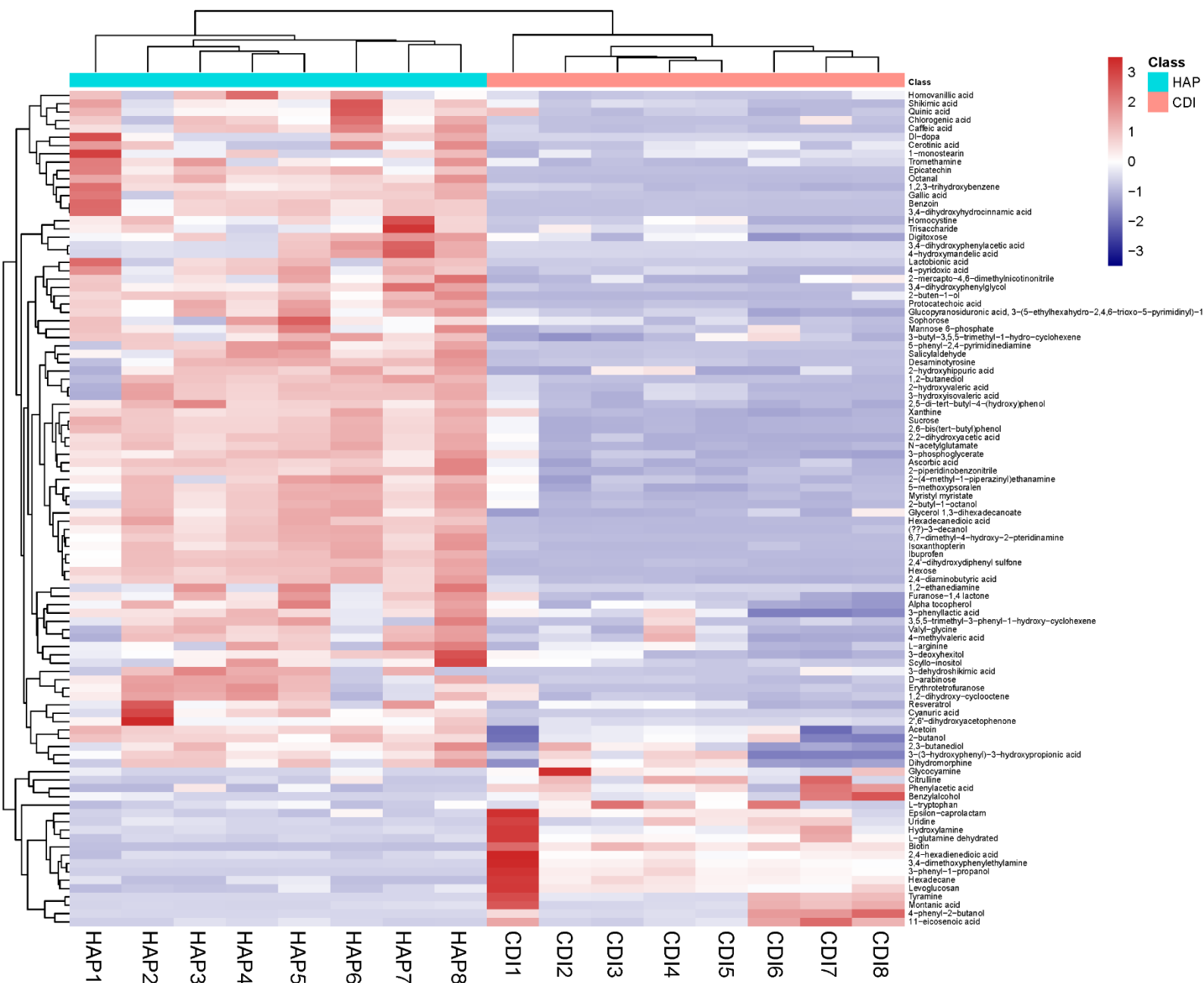
**Supplementary Figure S3. Relative abundance of abundant taxa at phylum, family, and genus level.**



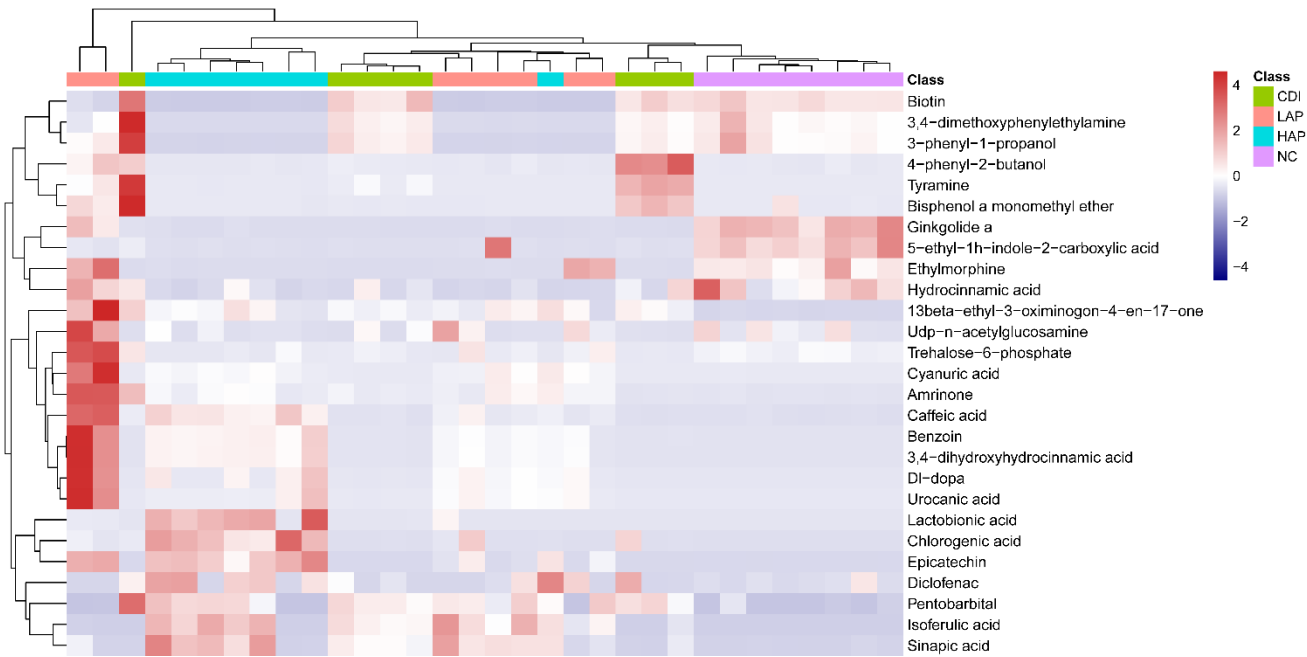
**Supplementary Figure S4. OPLS-DA plot showing the metabolic profiles of the CDI and LAP groups.**



Supplementary Figure S5. Heatmap of differential metabolites between the HAP and CDI groups.



Supplementary Figure S6. Heatmap of differential metabolites between groups.



**Supplementary Figure S7. The levels of SCFAs between different groups.** The data are expressed as the mean  $\pm$  SEM. \*,  $P < 0.05$ ; \*\*,  $P < 0.01$ ; \*\*\*,  $P < 0.001$ ; and \*\*\*\*,  $P < 0.0001$ .

