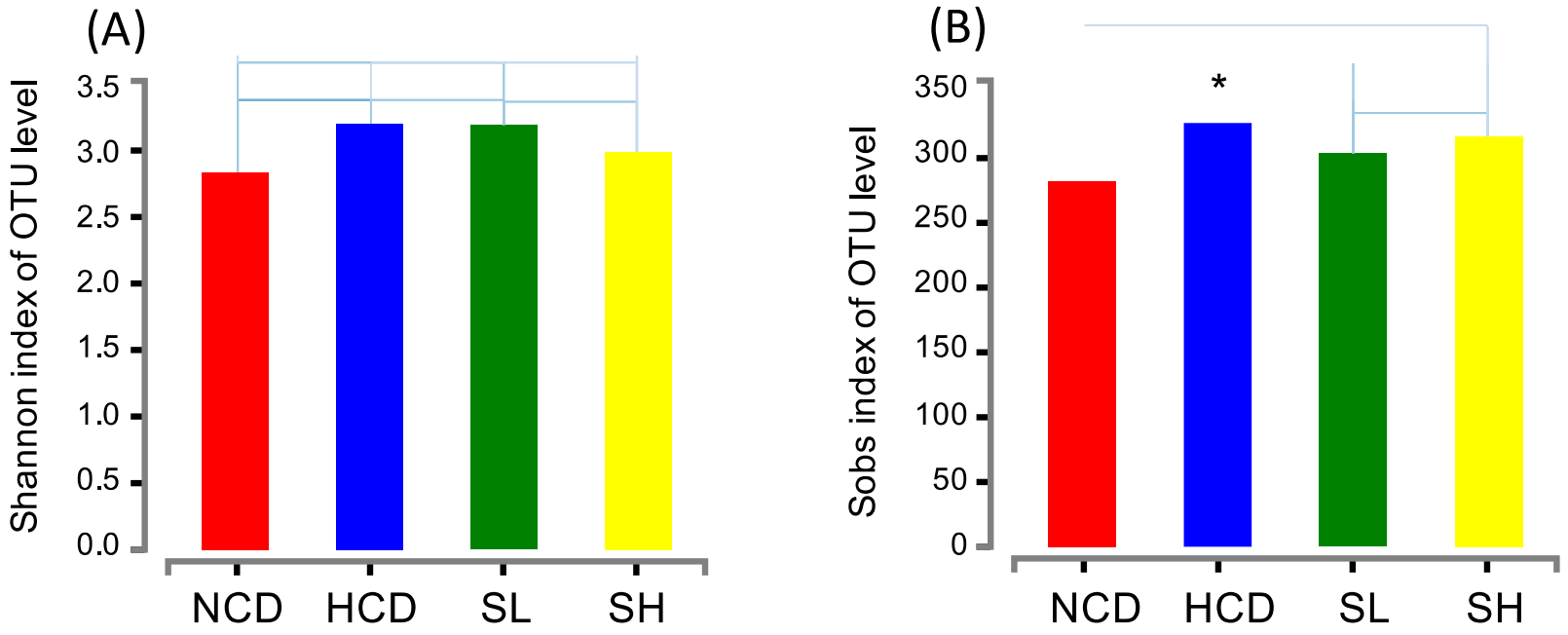
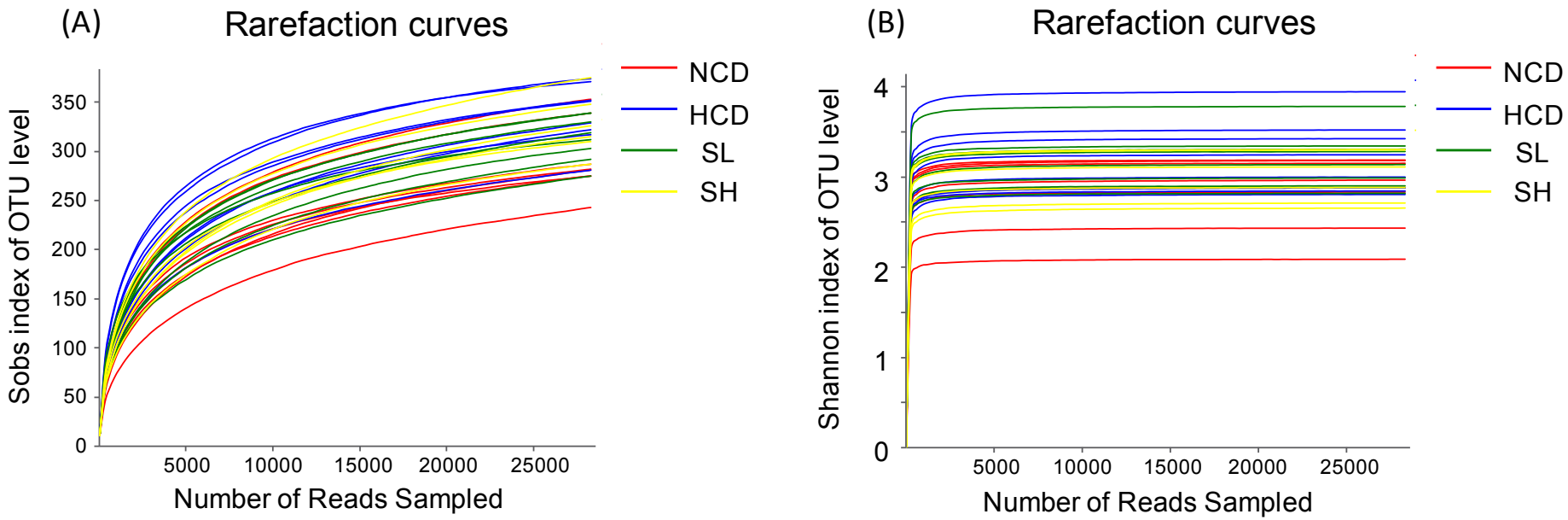
Electronic Supplementary Material (ESI) for Food & Function.

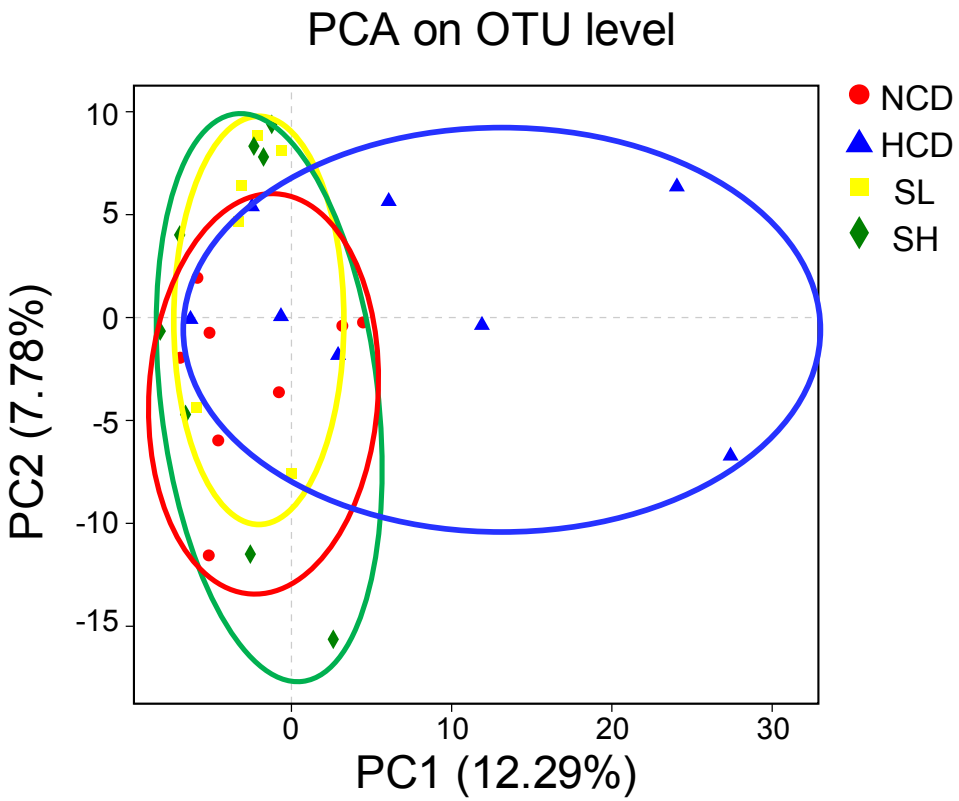
Supplementary Data



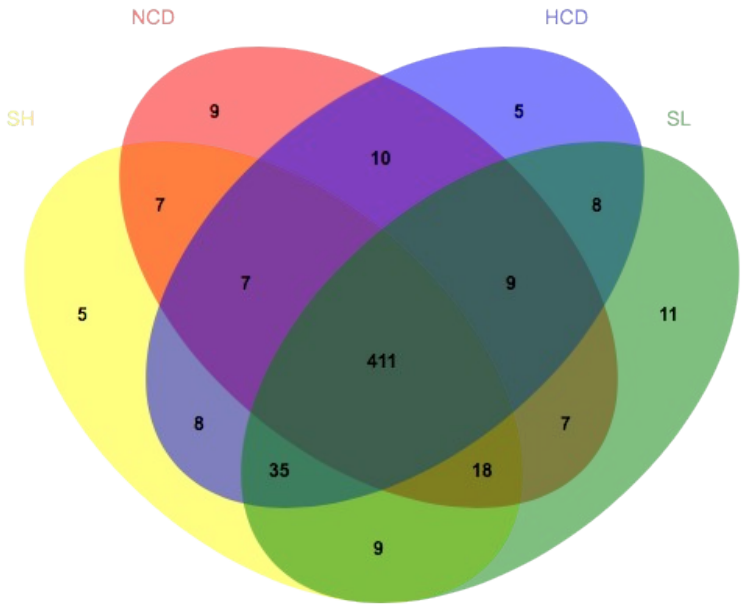
Supplementary Figure 1. Alpha diversity of gut microbiota represented by (A) Shannon index and (B) Sobs index in hamsters fed one of the four diets: NCD, non-cholesterol diet (n=8); HCD, high cholesterol diet (n=8); SL, HCD with sea buckthorn seed oil replacing 50% lard (n=8); SH, HCD with sea buckthorn seed oil replacing 100% lard (n=6). Asterisk (*) indicated the statistical significance compared with NCD group, $p < 0.05$.

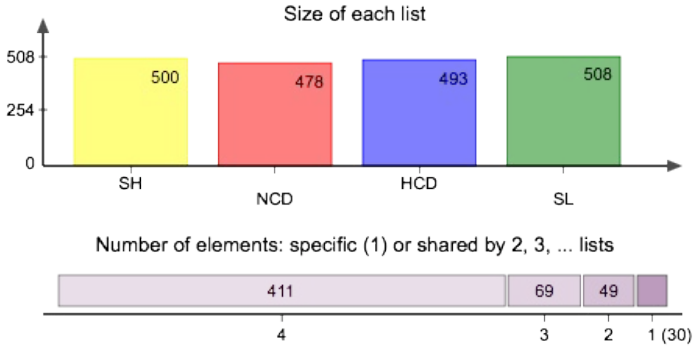


Supplementary Figure 2. Rarefaction curves of (A) Sobs index and (B) Shannon index in hamsters fed one of the four diets: NCD, non-cholesterol diet (n=8); HCD, high cholesterol diet (n=8); SL, HCD with sea buckthorn seed oil replacing 50% lard (n=8); SH, HCD with sea buckthorn seed oil replacing 100% lard (n=6).

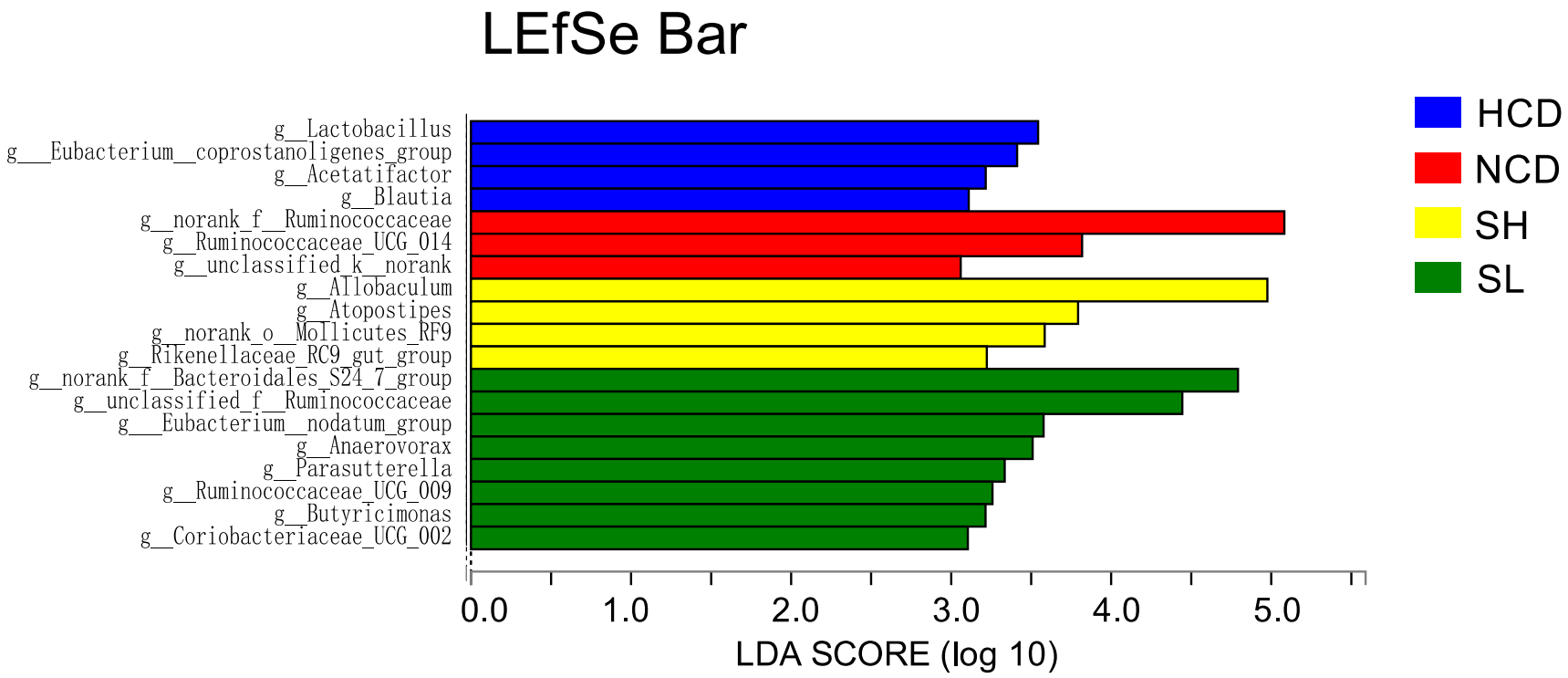


Supplementary Figure 3. Beta diversity of the gut microbiota evaluated by unweighted UniFrac principle coordinate analysis (PCoA) plot based on OTU abundance in hamsters fed one of the four diets: NCD, non-cholesterol diet (n=8); HCD, high cholesterol diet (n=8); SL, HCD with sea buckthorn seed oil replacing 50% lard (n=8); SH, HCD with sea buckthorn seed oil replacing 100% lard (n=6).


NCD
HCD
SH
SL
9
5
10
7
8
7
9
5
11
411
8
7
35
18
9


Size of each list
508
254
0
500
478
493
508
SH
NCD
HCD
SL
Number of elements: specific (1) or shared by 2, 3, ... lists
411
69
49
4
3
2
1 (30)

Supplementary Figure 4. Venne diagram showing the unique and shared OTUs of gut microbiota in hamsters fed one of the four diets: NCD, non-cholesterol diet (n=8); HCD, high cholesterol diet (n=8); SL, HCD with sea buckthorn seed oil replacing 50% lard (n=8); SH, HCD with sea buckthorn seed oil replacing 100% lard (n=6).



Supplementary Figure 5. Linear discriminant analysis Effect Size (LEfSe) analysis in hamsters fed one of the four diets: NCD, non-cholesterol diet (n=8); HCD, high cholesterol diet (n=8); SL, HCD with sea buckthorn seed oil replacing 50% lard (n=8); SH, HCD with sea buckthorn seed oil replacing 100% lard (n=6). The threshold of the logarithmic LDA score was 2.0.

Supplementary Table S1. RT-PCR primer sequences

Gene	Forward primer, 5' to 3'	Reverse primer, 5' to 3'
CYCLO	CAAATGCTGGACCAAACACA	CAGTCTTGGCGGTGCAGAT
NPC1L1	CCTGACCTTTATAGAACTCACCACAGA	GGGCCAAAATGCTCGTCAT
ACAT2	CCGAGATGCTTCGATTTGGA	GTGCGGTAGTAGTTGGAGAAGGA
MTP	GTCAGGAAGCTGTGTCAGAATG	CTCCTTTTTCTCTGGCTTTTCA
ABCG5	TGATTGGCAGCTATAATTTTGGG	GTTGGGCTGCGATGGAAA
ABCG8	TGCTGGCCATCATAGGGAG	TCCTGATTTCATCTTGCCACC
GAPDH	GAACATCATCCCTGCATCCA	CCAGTGAGCTTCCCGTTCA
SREBP2	GGACTTGGTCATGGGAACAGATG	TGTAATCAATGGCCTTCCTCAGAAC
HMG-CoA-R	CGAAGGGTTTGCAGTGATAAAGGA	GCCATAGTCACATGAAGCTTCTGTA
LDL-R	GCCGGGACTGGTCAGATG	ACAGCCACCATTGTTGTCCA
CYP7A1	GGTAGTGTGCTGTTGTATATGGGTTA	ACAGCCCAGGTATGGAATCAAC