

1 **Supplementary material**

2 **Figure S1. Effect of PU on β -diversity in HFD-fed mice.**

3 Principal coordinate analysis (PCoA) score plots based on (A) Unweighted Unifrac distance and

4 (B) Weighted Unifrac distance; Comparison with mice in the DM group (n=8 mice per group),

5 * p <0.05, ** p <0.01, *** p <0.001.

6 **Figure S2. SCFAs are negatively correlated with BUN.**

7 (A) Butyric acid; (B) Valeric acid.

8 **Figure S3. Effects of PU on the kidney transcriptome of mice.**

9 (A) Volcano maps showed the DEGs in other groups compared to the DM group. Dot's color

10 indicates genes up-regulated (red), down-regulated (green), or not different (grey); (B) KEGG

11 enrichment analysis of 59 downregulated DEGs; RNA-seq data showed the inflammation-

12 associated genes expression level: (C) CCL5; (D) CCL22; (E) CCL28; (F) CXCL2; (G) CXCL3;

13 (H) NLRP3; (I) IL-1 α ; (J) IL-1RN; (K) SAA3; (L) ACOD1; (M) SERPINB2; (N) NOS2; Data are

14 shown as the means \pm SEM; (n=4) * p <0.05, ** p <0.01, *** p <0.001 vs. DM.