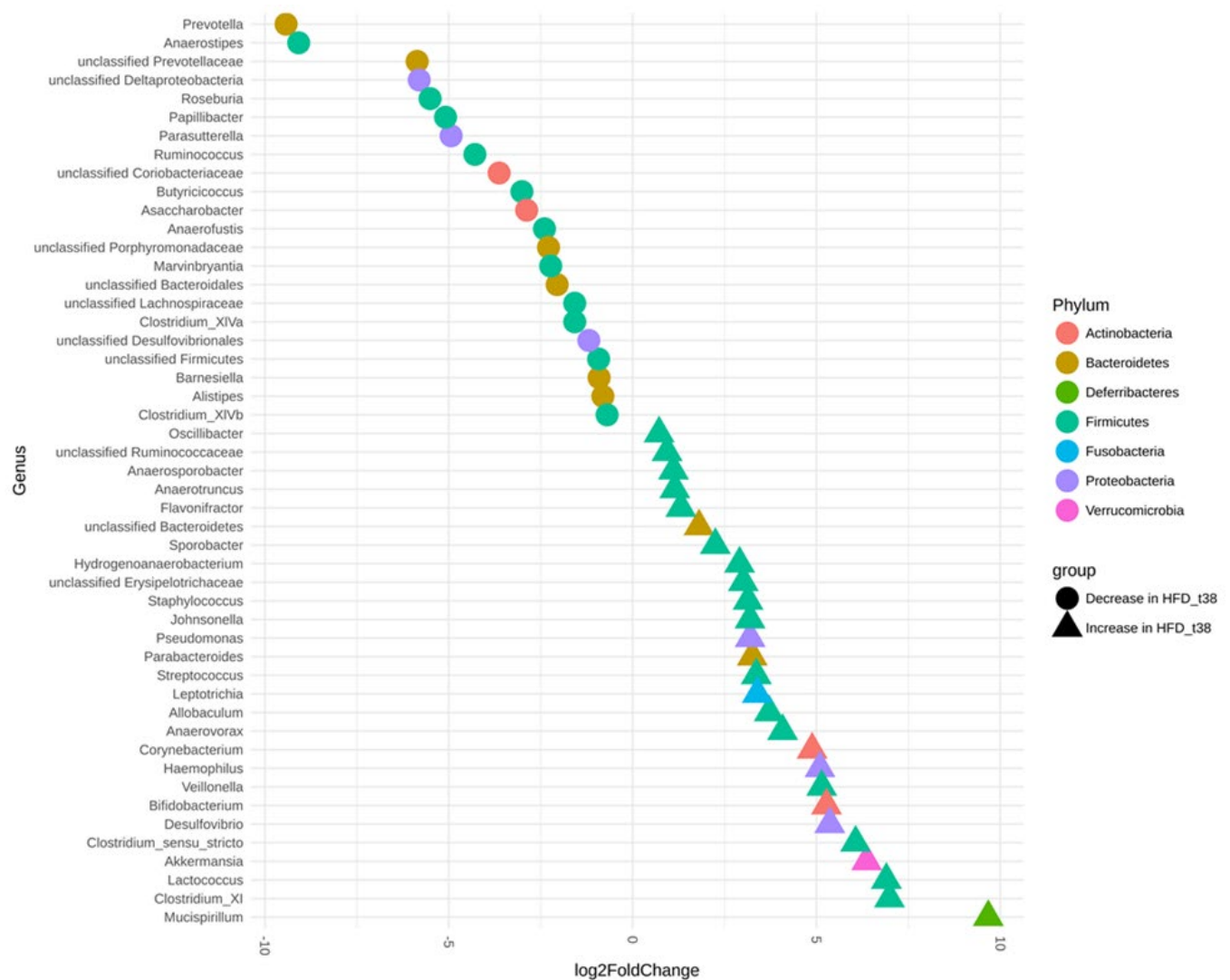
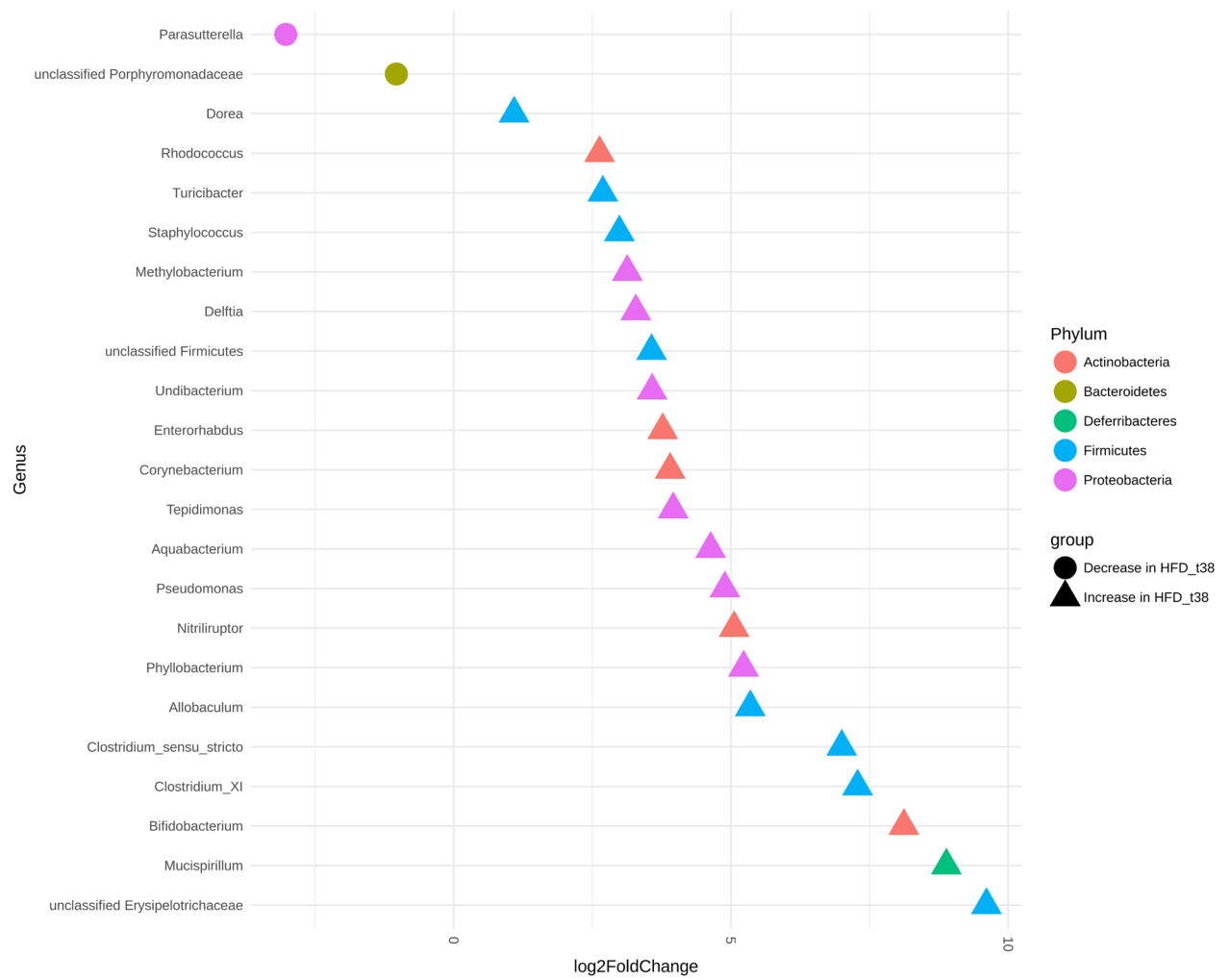


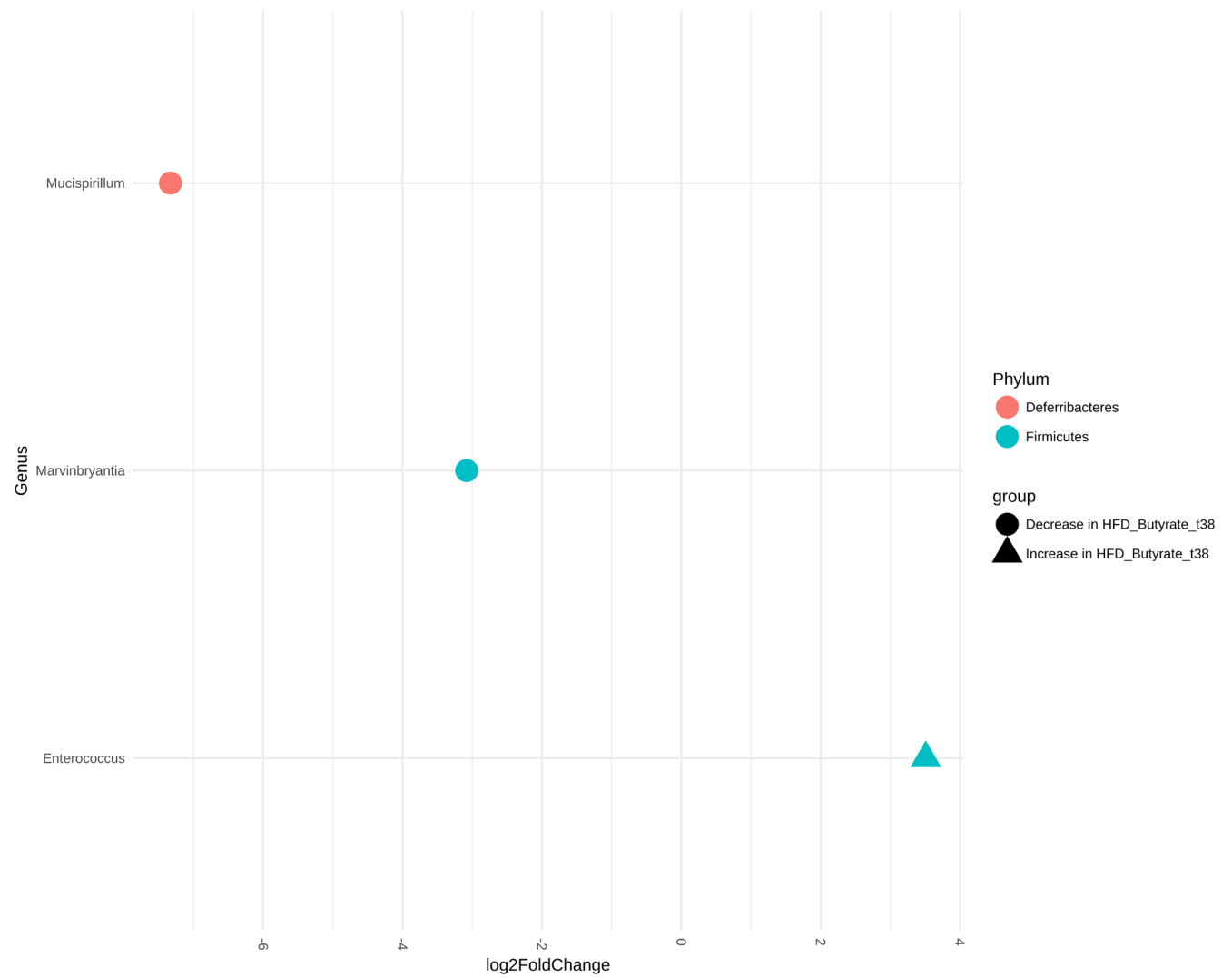
## Supplemental data



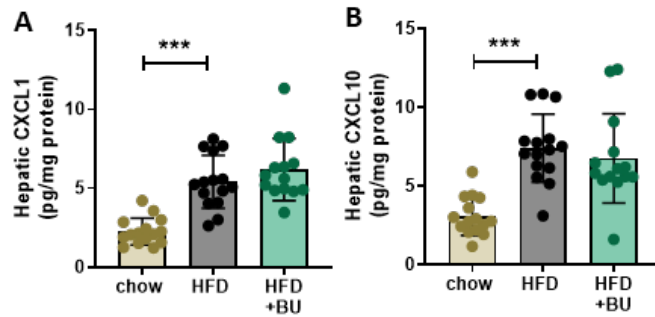
**Supplemental Figure S1: List of genera in the colon mucosa of which the presence was significantly affected upon HFD feeding compared to chow-fed mice and expressed on a log-2fold scale.**



**Supplemental Figure S2: Genera expressed in the mucosal layer of the ileum of which the presence was significantly affected upon HFD feeding compared to chow-fed mice and expressed on a log2fold scale.**



**Supplemental Figure S3: Genera expressed in the mucosal layer of the ileum of which the presence was significantly affected upon BU feeding compared to HFD-fed mice and expressed on a log2fold scale.**

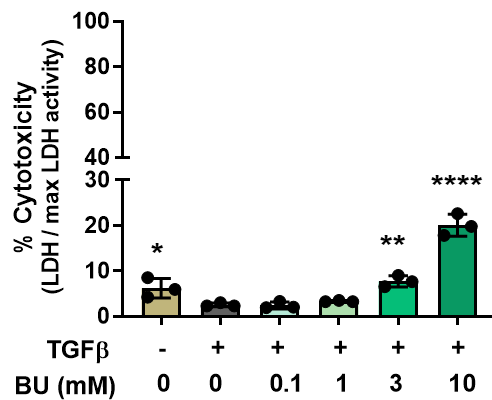


**Supplemental Figure S4: Hepatic chemokine concentrations** A) CXCL1 and B) CXCL10 expressed per mg protein. Data are presented as mean  $\pm$  SD, \* $p$ <0.05, \*\* $p$ <0.01, \*\*\* $p$ <0.001 vs the HFD control group.

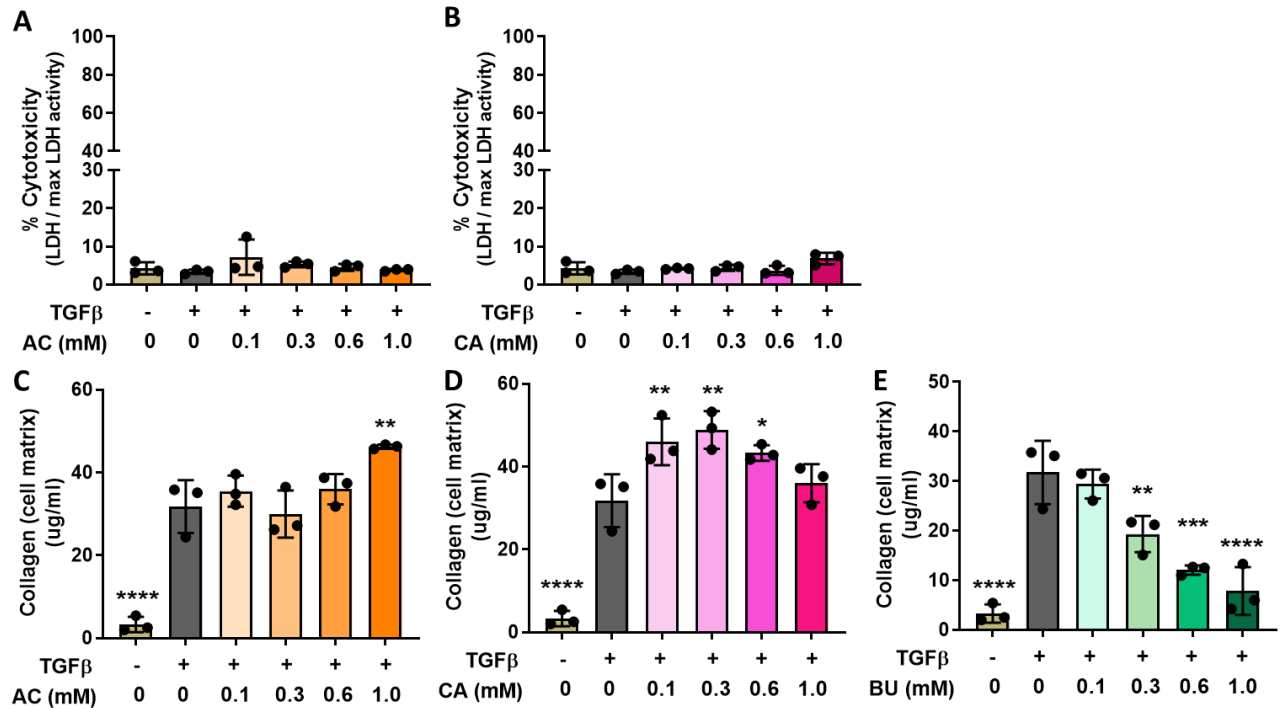
**Supplementary Table S1: Circulating extracellular matrix remodeling markers**

	Chow	HFD	HFD+BU
<b>TIMP1 (ng/ml)</b>	2.6 $\pm$ 1.0***	4.6 $\pm$ 1.2	3.9 $\pm$ 0.6
<b>PRO-C3 (ng/ml)</b>	11.0 $\pm$ 5.0	14.0 $\pm$ 7.2	18.5 $\pm$ 5.3
<b>PRO-C4 (ng/ml)</b>	131.7 $\pm$ 25.2*	200.5 $\pm$ 63.3	192.0 $\pm$ 50.6
<b>C4M (ng/ml)</b>	4.4 $\pm$ 1.3	5.2 $\pm$ 1.4	4.9 $\pm$ 1.0
<b>C6M (ng/ml)</b>	4.0 $\pm$ 1.5*	7.2 $\pm$ 3.3	5.8 $\pm$ 1.9

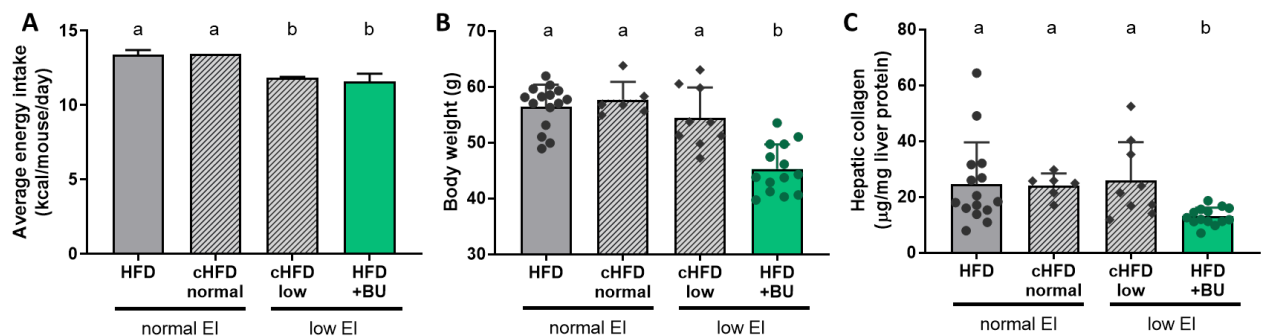
Data are presented as mean  $\pm$  SD, \* $p$ <0.05, \*\* $p$ <0.01, \*\*\* $p$ <0.001 compared to the HFD-control group.



**Supplemental Figure S5: Cytotoxicity of different BU dosages** was calculated as a percentage based on maximum LDH activity in cell supernatant. Data is presented as mean with SD, \* $p$ <0.05, \*\* $p$ <0.01, \*\*\* $p$ <0.001 compared to the TGF-B control group (In grey).



**Supplemental Figure S6: Effect of short chain fatty acids acetate (AC), caproate (CA) and butyrate (BU) on TGF- $\beta$  induced fibrosis in primary human hepatic stellate cells.** Cytotoxicity percentage based on maximum LDH activity in cell supernatant of cells treated with **A)** AC and **B)** CA. Also collagen content in the cell matrix was measured in cells treated with different dosages of **C)** AC, **D)** CA and **E)** BU. Data is presented as mean with SD, \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  compared to the TGF- $\beta$  control group (In grey).



**Supplemental Figure S7: Association between energy intake and liver fibrosis.** Historical data from *Ldr*<sup>-/-</sup>.Leiden mice fed HFD for 38 weeks (the same as in the current study) – grouped according to energy intake: cHFD normal = comparable energy intake to the HFD group in the current experiment; cHFD low = comparable energy intake to HFD+BU in the current experiment. **A)** Average energy intake, **B)** body weight and **C)** hepatic collagen content. Data are presented as mean  $\pm$  SD, a indicates no significant differences, whereas b indicates a significant difference with  $p < 0.05$ .