

**Figure S1:** Four selected short chain fatty acid profiles of GC-FID chromatograms. **(a)** Short chain fatty acids standards including acetic, propionic, butyric, valeric and caproic acids. IS refer to the "internal standard", which was methyl-valeric acid; **(b)** Inulin at timepoint 205 h with propionic acid as the most dominant SCFA; **(c)** Barley\_bG at timepoint 205 h with butyric acid as the most dominant SCFA; **(d)** GOS at timepoint 205 h with acetic acid as the most dominant SCFA. Most SCFAs were eluted with a retention time between 7 to 17 min.

