



Supplementary Materials

Table S1. Alpha Diversity Analysis Index for Each Reaction Stage

Type	Q1	Q2	H8	H6	H4
Chao	148.6454	145.9372	155.7502	47.1553	59.3333
Simpson	0.702879	0.885486	0.915568	0.130203	0.08922
Shannon	2.808364	3.94563	4.20635	2.449459	2.896952
Coverage	0.999161	0.999385	0.999452	0.999717	0.999924

Table S2. Pearson Correlation Coefficient Method – Correlation Analysis Results

Type	TVFAs—Soluble polysaccharide	TVFAs—Soluble protein	ECFA—Soluble polysaccharide	ECFA—Soluble protein
Q1	-0.809**	-0.171	-0.776**	-0.161
Q2	-0.676*	-0.885**	-0.677*	-0.859**
H8	0.349	0.470	0.436	0.612*
H6	0.885**	-0.549*	0.866**	-0.607
H4	0.549	-0.356	0.648*	-0.420

Note: Extremely significant correlation marked as **($P < 0.01$), Significant correlation marked as *($P < 0.05$).