

Continuous Production of Volatile Fatty Acids (VFAs) from Swine Manure: Determination of Process Conditions, VFAs Composition Distribution and Fermentation Broth Availability Analysis

Zhiwei Wang¹, Weiwu Wang¹, Ping Li^{1,2,*}, Yaping Leng¹ and Jinhua Wu^{1,2}

¹ School of Environment and Energy, South China University of Technology,

Guangzhou 510006, China; 201820134601@mail.scut.edu.cn (Z.W.);

202110188948@mail.scut.edu.cn (W.W.); 244360581@qq.com (Y.L.);

jinhuawu@scut.edu.cn (J.W.)

² The Key Laboratory of Pollution Control and Ecosystem Restoration in Industry

Clusters, Ministry of Education, Guangzhou 510006, China

* Correspondence: pli@scut.edu.cn; Tel.: +86-20-39380568

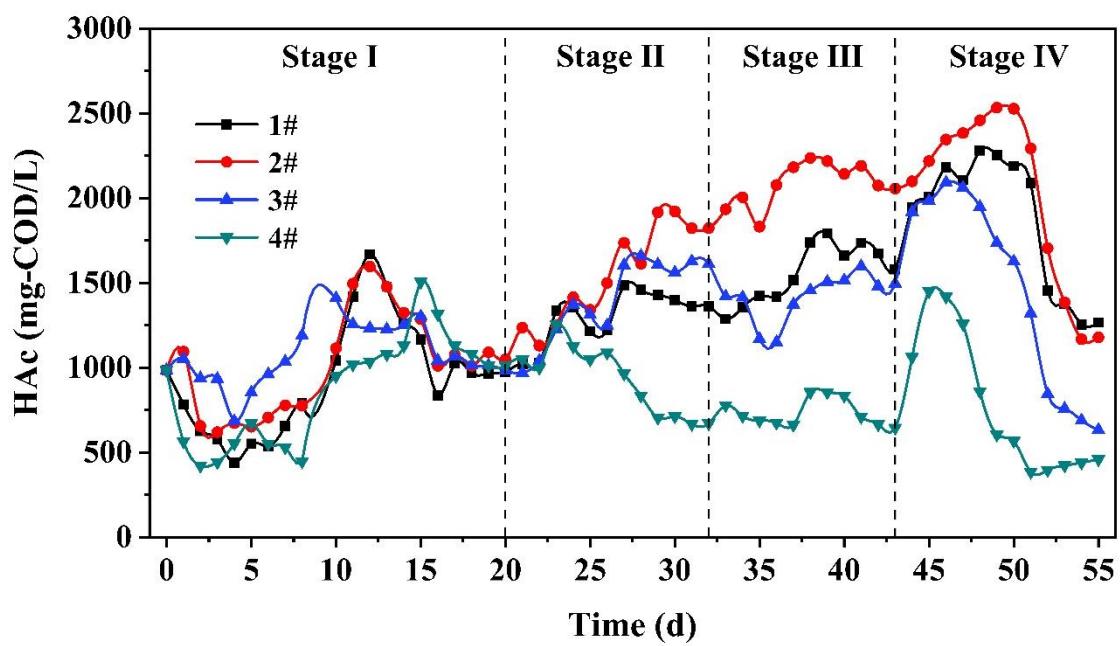


Figure S1. Changes in acetate (HAc) concentration during the operation process.

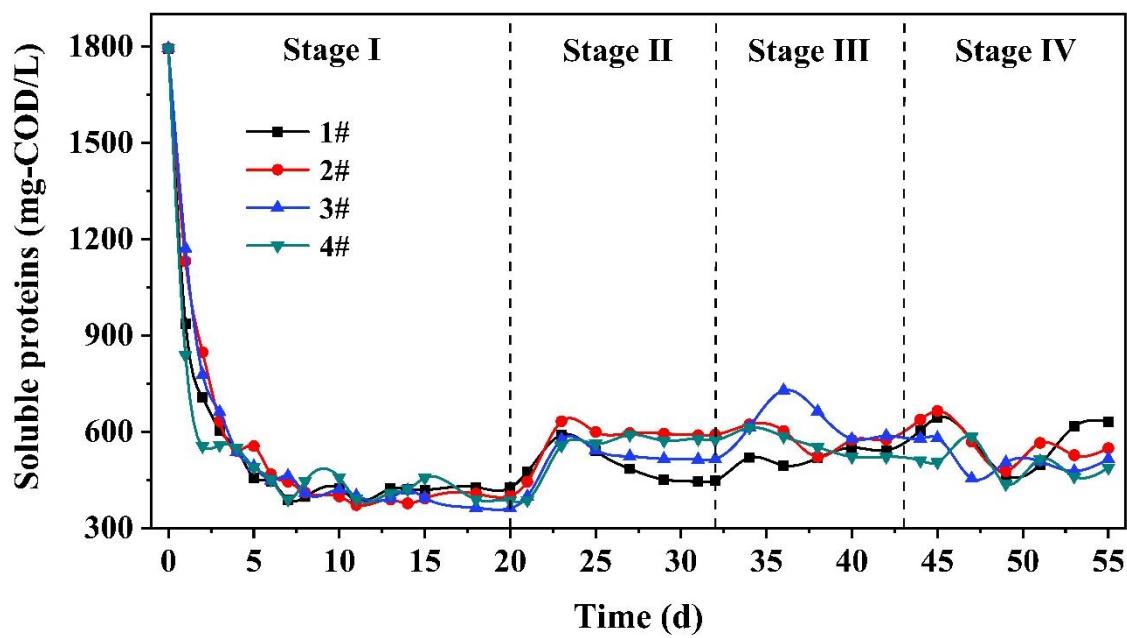


Figure S2. Changes in soluble protein concentration during the operation process.

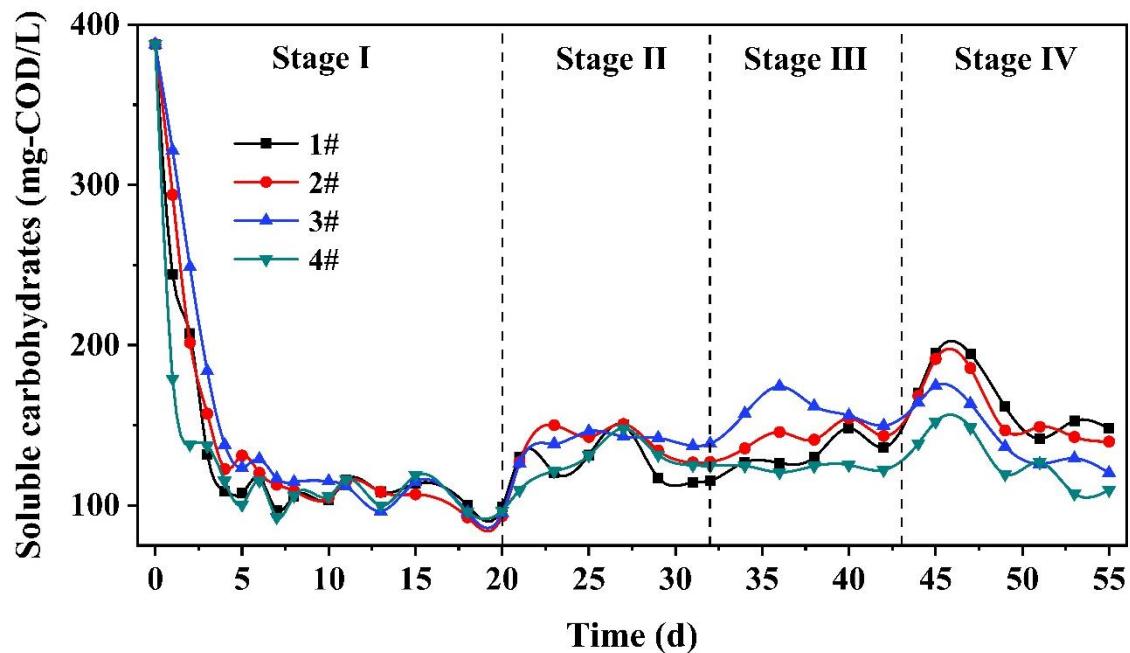


Figure S3. Changes in soluble carbohydrate concentration during the operation process.

Table S1. Operational parameters of the experiment.

Reactor	Stage	HRT (d)	SCOD (mg/L)	TCOD (mg/L)	OLR (kg COD/m ³ /d)
1#	I	1.0	3670 ± 80	7480 ± 180	7.5
	II		5460 ± 140	11200 ± 290	11.2
	III		7660 ± 180	15850 ± 430	15.9
	IV		10130 ± 230	21800 ± 610	21.8
2#	I	1.5	3670 ± 80	7480 ± 180	5.0
	II		5460 ± 140	11200 ± 290	7.5
	III		7660 ± 180	15850 ± 430	10.6
	IV		10130 ± 230	21800 ± 610	14.5
3#	I	2.0	3670 ± 80	7480 ± 180	3.7
	II		5460 ± 140	11200 ± 290	5.6
	III		7660 ± 180	15850 ± 430	7.9
	IV		10130 ± 230	21800 ± 610	10.9
4#	I	2.5	3670 ± 80	7480 ± 180	3.0
	II		5460 ± 140	11200 ± 290	4.5
	III		7660 ± 180	15850 ± 430	6.3
	IV		10130 ± 230	21800 ± 610	8.7

HRT: hydraulic retention time; SCOD: soluble chemical oxygen demand; TCOD: total chemical oxygen demand; OLR: organic loading rate.