Supporting Information

Synthesis of short-chain-length and medium-chain-length polyhydroxyalkanoate blends from activated sludge by manipulating octanoic acid and nonanoic acid as carbon sources

Zheng Chen[1,2,3,4], Chuanpan Zhang[1], Liang Shen[1], Heng Li[2], Yajuan Peng[1], Haitao Wang[1], Ning He[1], Qingbiao Li[1,5], Yuanpeng Wang[1,*]

[1]Department of Chemical and Biochemical Engineering, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361001, People's Republic of China

[2]Department of Environmental Science, School of Environmental Science and Engineering, Tan Kah Kee College, Xiamen University, Zhangzhou 363105, People's Republic of China

[3]Zhejiang Provincial Key Laboratory of Watershed Science and Health, Wenzhou Medical University, Wenzhou 325035, People's Republic of China

[4]Key Laboratory of Measurement and Control System for Coastal Environment, Fuqing Branch of Fujian Normal University, Fuqing 350300, People's Republic of China

[5]College of Food and Biological Engineering, Jimei University, Xiamen 361021, People's Republic of China

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*Corresponding author:
Department of Chemical and Biochemical Engineering, College of Chemistry and Chemical Engineering, Xiamen University, No. 422, Southern Siming Road, Xiamen 361005, China.
E-mail address: wypp@xmu.edu.cn (Y. Wang)

Table S1 ^{13}C NMR chemical shifts of 3-hydroxyalkanoate (ppm).

Carbon	scl-PHAs		mcl-PHAs			
site	3HB	3HV	3HHx	3HHp	3HO	3HN
C1	169.1	169.36	169.36	169.36	169.36	169.36
C2	40.74	–	39.05	39.05	39.05	39.05
C3	67.56	71.83	70.54	70.79	70.79	70.79
C4	19.72	–	35.85	33.44	33.71	33.71
C5		9.26	18.27	27.11	24.66	24.96
C6			13.75	22.37	31.47	28.98
C7				13.87	22.44	31.64
C8					13.92	22.51
C9						13.99

Note: The symbols of "–" indicate that no signal peaks responding to the C2 and C4 in ^{13}C NMR spectrum are detected because very low content of 3HV has been extracted from active sludge.

Table S2 GC-MS analysis of methyl esterified samples PHAs produced from active sludge under aerobic condition at 30 ^{o}C.

Peak	Retention time (min)	m/z	Molecular weight	Methyl esterified PHA monomer structure	Similarity index (%)
P1	2.725	25, 29, 43, 59, 74, 87, 103, 119, 133, 149, 179	118	Methyl ester of 3HB	95
P2	3.833	26, 31, 43, 59, 71, 85, 103, 114, 131	132	Methyl ester of 3HV	91
P3	5.183	26, 41, 43, 61, 71, 97, 103, 113, 128, 145	146	Methyl ester of 3HHx	84
P4	6.752	27, 41, 43, 61, 74, 85, 103, 113, 127, 142, 159	160	Methyl ester of 3HHp	88
P5	8.283	27, 41, 43, 61, 74, 96, 103, 125, 141, 156, 173	174	Methyl ester of 3HO	89
P6	9.725	27, 41, 43, 61, 74, 96, 103, 113, 139, 155,170, 187	188	Methyl ester of 3HN	90