Supplementary Material

Effects of interaction between montmorillonite and *Sphingomonas* sp. GY2B on the physical and chemical properties of montmorillonite in the clay-modulated biodegradation of phenanthrene

Bo Ruan, A Pingxiao Wu, A,B,C,D,E Huimin Wang, A Liping Li, A Langfeng Yu, A Liya Chen, A Xiaolin Lai, A Nengwu Zhu, A,B Zhi Dang A,B,C and Guining LuA,B

^ASchool of Environment and Energy, South China University of Technology, Guangzhou Higher Education Mega Centre, Guangzhou 510006, China.

^BThe Key Lab of Pollution Control and Ecosystem Restoration in Industry Clusters, Ministry of Education, Guangzhou 510006, China.

^CGuangdong Provincial Engineering and Technology Research Center for Environmental Risk Prevention and Emergency Disposal, South China University of Technology, Guangzhou Higher Education Mega Centre, Guangzhou 510006, China.

^DGuangdong Engineering and Technology Research Center for Environmental Nanomaterials, Guangzhou 510006, China.

^ECorresponding author. Email: pppxwu@scut.edu.cn

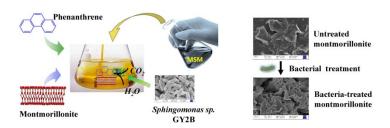


Fig. S1. Schematic diagram of interaction between montmorillonite and *Sphingomonas* sp. GY2B in the biodegradation of phenanthrene.

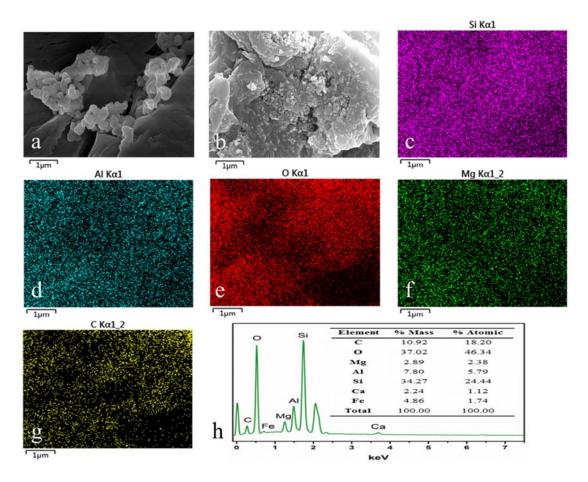


Fig. S2. SEM images of phenanthrene (a), Mt after adsorption of phenanthrene (b); EDS mapping patterns of element distribution in Mt-Phe: Si (c), Al (d), O (e), Mg (f) and C(g); Total EDS pattern of Mt-Phe and Table of element ratios (h). The carbon mapping and EDS patterns indicate that phenanthrene particles absorbed on the surface of Mt (pointed out by white arrows in the SEM image b).