Multifunctional hierarchical mesoporous silica and black phosphorus nanohybrids as chemophotothermal synergistic agents for enhanced cancer therapy

Xiaoning Ren<sup>a†</sup>, Lisi Shi<sup>a†</sup>, Xiaofeng Yu<sup>a</sup>, Wenliang Liu<sup>a</sup>, Jianyong Sheng<sup>a</sup>, Jiangling Wan<sup>a</sup>, Yu Li<sup>b</sup>, Ying Wan<sup>a\*</sup>, Zhiqiang Luo<sup>a\*</sup>, Xiangliang Yang<sup>a</sup>

a National Engineering Research Center for Nanomedicine, College of Life Science and Technology, Huazhong University of Science and Technology, 430074, Wuhan, Hubei, China

b Laboratory of Living Materials at the State Key Laboratory of Advanced

Technology for Materials Synthesis and Processing, Wuhan University of Technology,

430070, Wuhan, Hubei, China

† The authors equally contribute to this work.

\* To whom correspondence should be addressed.

Email: zhiqiangluo@hust.edu.cn, ying wan@hust.edu.cn

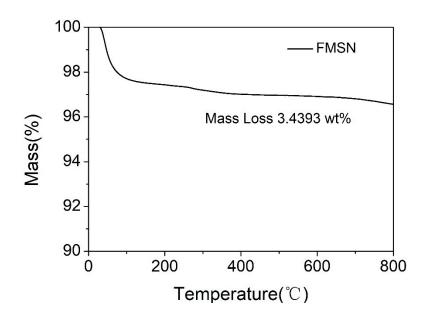
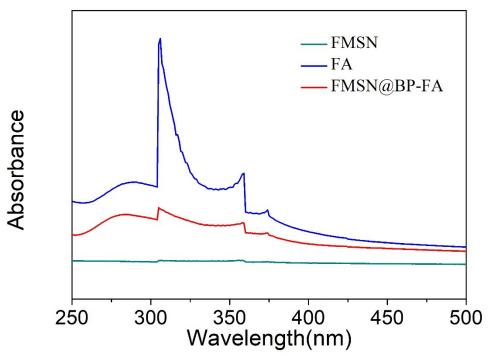


Figure S1. TG analysis of the as prepared FMSN.



**Figure S2**. UV-vis absorption spectra of the as fabricated FMSN, FA and FMSN@BP-FA.

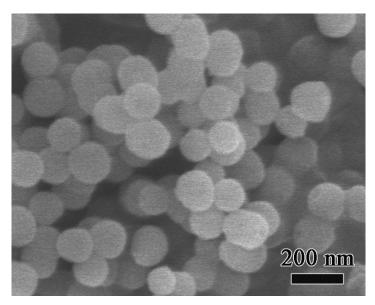
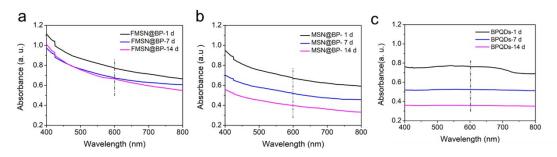
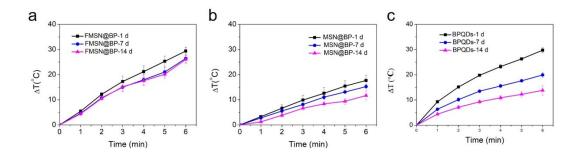


Figure S3. SEM image of the as prepared MSN.



**Figure S4**. Comparison of the degradation of the as-fabricated FMSN@BP, MSN@BP and BPQDs.



**Figure S5**. Photothermal stability of the as-fabricated FMSN@BP, MSN@BP and BPQDs.