## **Supporting Information**

## Aqueous Phase Synthesis of Cu<sub>2-x</sub>S Nanostructures and their Photothermal Generation Study

Zhourui Xu,  $^{\dagger}$  Nanxi Rao,  $^{\dagger}$  Chak-Yin Tang,  $^{\dagger}$  Ching-Hsiang Cheng  $^{\dagger \ddagger}$  and Wing-Cheung Law\*  $^{\dagger}$ 

<sup>†</sup> Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR, P. R. China.

‡ School of Automotive Engineering, Wuhan University of Technology, Hubei, 430070, P. R. China

Email: roy.law@polyu.edu.hk

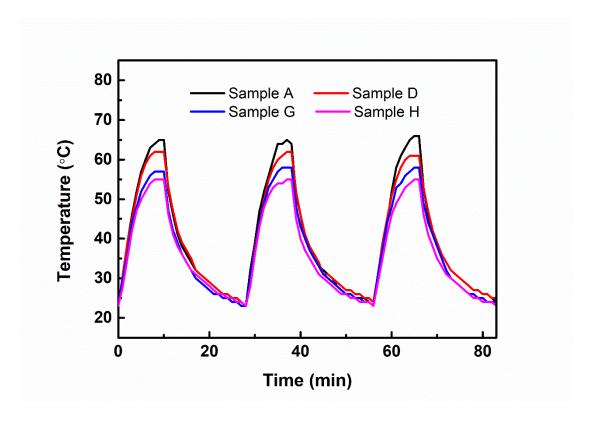


Figure S1. The photothermal stability test of  $Cu_{2-x}S$  nanostructures over three cycles. Sample A denoted as  $Cu_9S_8$  dots; Sample D denoted as the mixture of  $Cu_9S_8$  dots and short rods; Sample G denoted as CuS nanorods with length of 36 nm; Sample H denoted as CuS nanorods with length of 44.5 nm.