Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2015

## **Supporting Information**

## Accelerating the self-healing of superhydrophobicity through photothermogenesis

Yanhua Liu <sup>a,b</sup>, Xiaowei Pei <sup>b</sup>, Zhilu Liu <sup>b\*</sup>, Bo Yu <sup>b\*</sup>, Pengxun Yan <sup>a,b</sup> and Feng Zhou<sup>b</sup>

<sup>a.</sup> School of Physical Science and Technology, Lanzhou University, Lanzhou

730000, China.

<sup>b.</sup> State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical

Physics, Chinese Academy of Sciences, Lanzhou 730000, China.

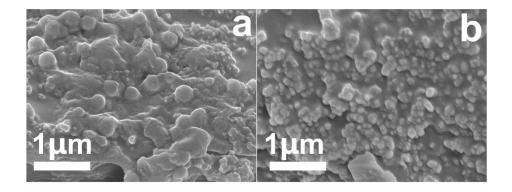


Figure S1. SEM images of cotton fabric coated with PDA@ODA-Fe<sub>3</sub>O<sub>4</sub>

nanocapsules before and after NIR light irradiation.

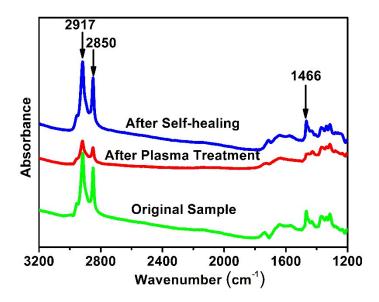


Figure S2. ATR-FTIR spectra of cotton fabric coated with  $PDA@ODA-Fe_3O_4$  nanocapsules, treated with plasma and NIR light irradiation.