Preparation and characterization of TiO$_2$-graphene@Fe$_3$O$_4$ magnetic composite and its application on the removal of trace microcystin-LR

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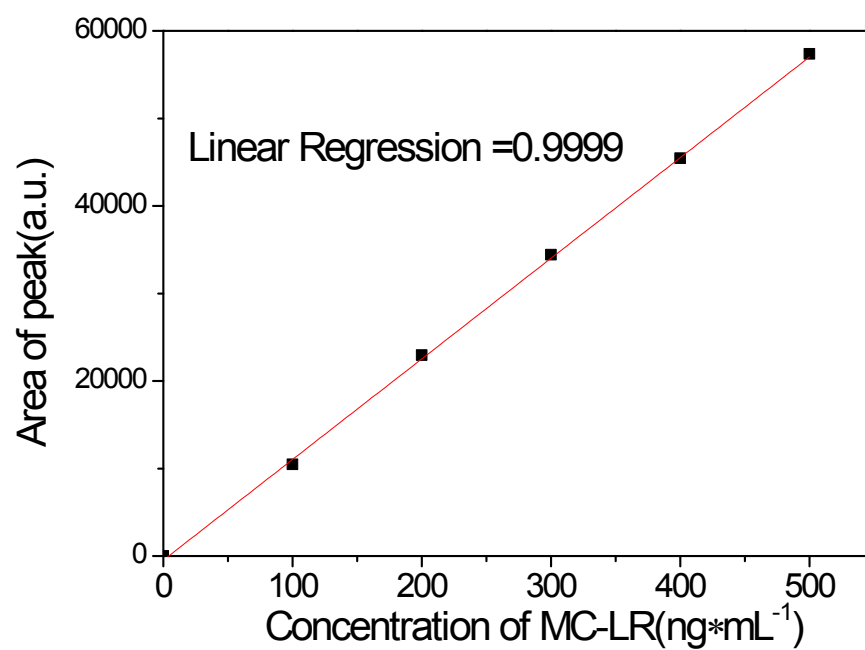*E-mail: ykzhang@dicp.ac.cn; Tel: 0086+411-84379560; Fax:0086+411-84379560*

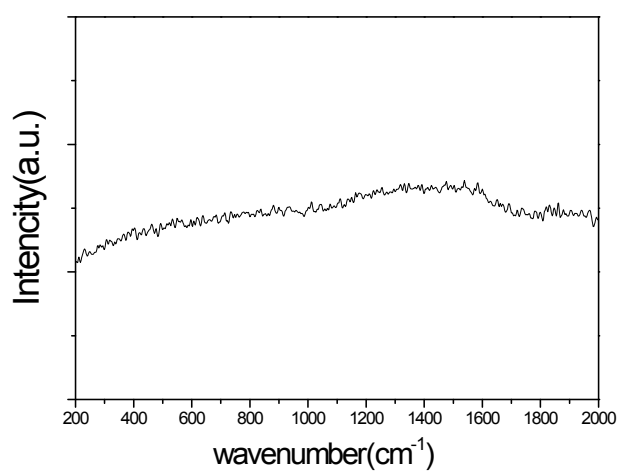**Figure S1** The linear relationship plot of MC-LR concentration and the HPLC peak area.

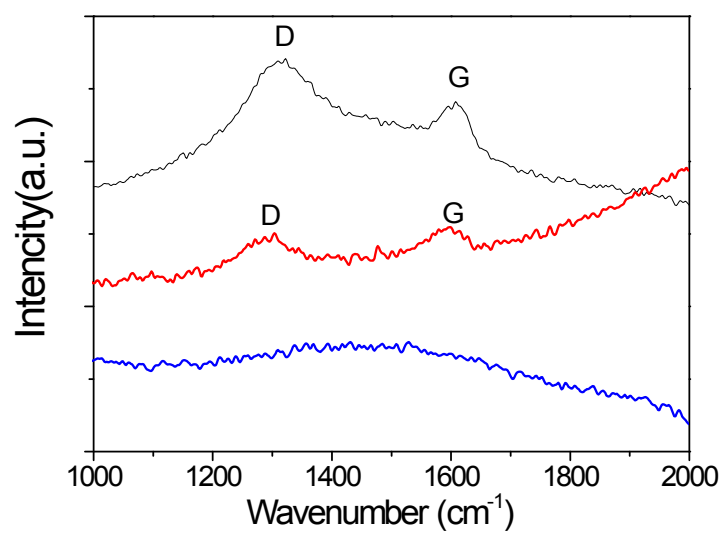**Figure S2** FT-Raman spectra of the Fe_3O_4 nanoparticles.

Figure S3 FT-Raman spectra of the graphene oxide (blue), reduced graphene (red) and graphene@Fe_3O_4 composite (black).
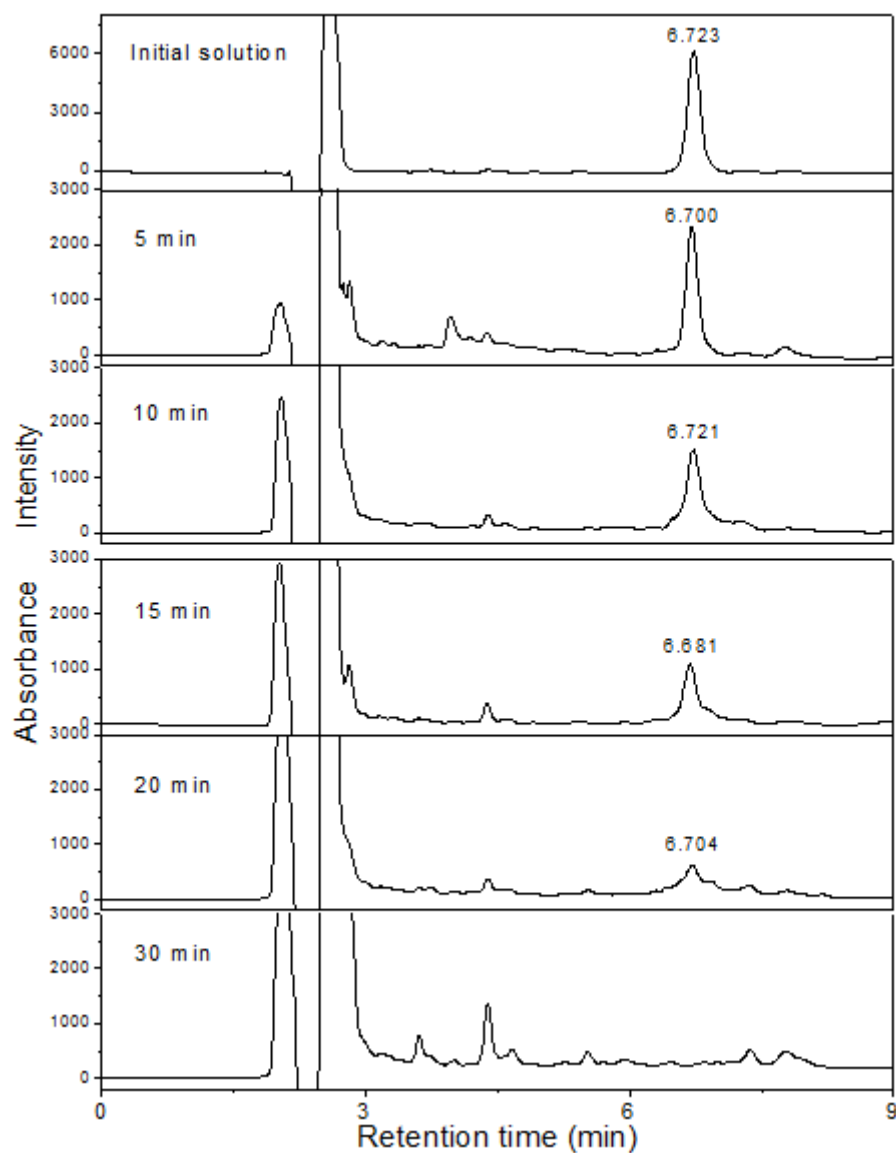
Figure S4 HPLC chromatograms of MC-LR. Initial solution and photocatalytically degraded for 5 min, 10 min, 15min, 20 min and 30 min with the TiO_2-grapheme@Fe_3O_4 nanocomposite, respectively.