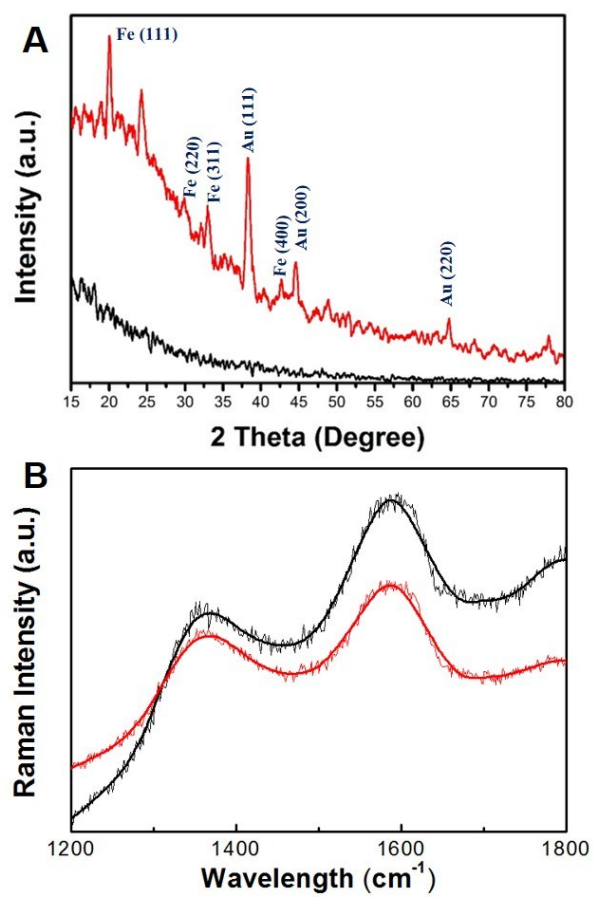


## **Preparation of Fe<sub>3</sub>O<sub>4</sub>-Au-GO Nanocomposite for Simultaneous Treatment of Oil /Water Separation and Dye Decomposition**

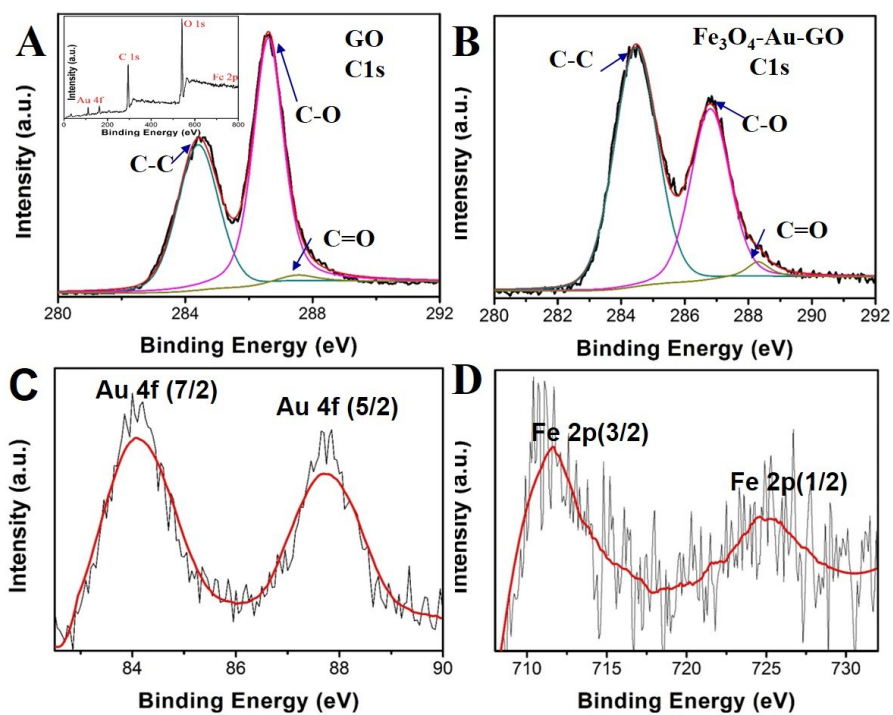
Ying-Shuai Wang,<sup>a</sup> Yan Wang,<sup>a</sup> Hong Xia,<sup>\*,a</sup> Gong Wang,<sup>a</sup> Zhen-Yu Zhang,<sup>a</sup> Dong-Dong Han,<sup>a</sup> Chao Lv,<sup>a</sup> Jing Feng,<sup>a</sup> and Hong-Bo Sun<sup>\*, a</sup>

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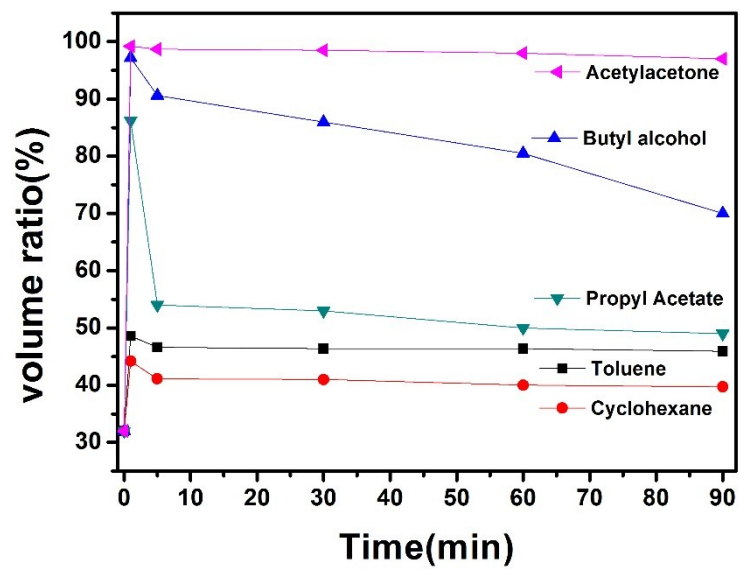
E-mail: [hxia@jlu.edu.cn](mailto:hxia@jlu.edu.cn) [hbsun@jlu.edu.cn](mailto:hbsun@jlu.edu.cn)



**Figure S1** (A) XRD pattern and (B) Raman spectra of GO (Dark) and Fe<sub>3</sub>O<sub>4</sub>-Au-GO nanocomposite (Red)



**Figure S2** High-resolution XPS C 1s spectra of (A) GO, (B) Fe<sub>3</sub>O<sub>4</sub>-Au-GO and (C); high-resolution XPS Au 4f (D) Fe 2p spectrum of Fe<sub>3</sub>O<sub>4</sub>-Au-GO, the inset is XPS spectra of Fe<sub>3</sub>O<sub>4</sub>-Au-GO nanocomposite



**Figure S3** The relationship of assembly volume with time in the reaction