supporting material

Magnetically reusable and well-dispersed nanoparticles for oxygen detection in water

Huahua Cuia, Shanshan Wua,b\*, Lei Wanga, Xiangzhong Suna, He Zhanga, Mengyu Denga\*, and Yanqing Tian

a Department of Materials Science and Engineering, Southern University of Science and Technology, Xili, Nanshan District, Shenzhen 518055, China.

b Guangdong Industry Polytechnic, Foshan Municipality Anti-counterfeiting Engineering Research Center, Guangzhou, Guangdong 510300, China.

*\** *Corresponding authors:*

[2018090123@gdip.edu.cn](mailto:2018090123@gdip.edu.cn) (S.W.), +86-755-8801-8997; [dengmengyu\_88@163.com](mailto:dengmengyu_88@163.com) (D.M.)

*Other authors:*

[cuihh3@mail.sustech.edu.cn](mailto:cuihh3@mail.sustech.edu.cn) (H.C.); [11712935@mail.sustech.edu.cn](mailto:11712935@mail.sustech.edu.cn) (L.W.); [sunxz@sustech.edu.cn](mailto:sunxz@sustech.edu.cn) (X.S.); [19B909123@stu.hit.edu.cn](mailto:19B909123@stu.hit.edu.cn) (H.Z.); [tianyq@sustech.edu.cn](mailto:tianyq@sustech.edu.cn) (Y.T.)

图片包含 图形用户界面

描述已自动生成

**Figure S1** Fe3O4 characteristics analyzed via A) TEM and B) vibrating sample magnetometer

图片包含 形状

描述已自动生成

**Figure S2** A simple schematic drawing for the preparation of Fe3O4@Os1-PMMA nanosensors.

图形用户界面

低可信度描述已自动生成

**Figure S3** The dynamic lighting scattering of A) Fe3O4@Os1-PS and B) Fe3O4@Os1-PMMA.

图片包含 图形用户界面

描述已自动生成

**Figure S4** Fluorescence stabiity ofA**)** Fe3O4@Os1-PS and B) Fe3O4@Os1-PMMA at the emission of 660 nm excited by 405 nm.

图表, 直方图

描述已自动生成

**Figure S5** The dissolved oxygen sensing responses ofFe3O4@Os1-PS A）one month ago; B) one month later; C) Stern–Volmer plots of gaseous dissolved oxygen sensing for Fe3O4@Os1-PS.