Supporting Information

In situ Preparation, Characterization, Magnetic and Catalytic Studies of Surfactant Free RGO/ Fe_xCo_{100-x} Nanocomposites

Fengjuan Chen,*^{*a*} Pinxian Xi,^{*a*} Cai Ma,^a Changwei Shao,^b Jun Wang,^b Shuai Wang,^a Guozhen Liu^c and ZhengZhi Zeng^{*a*}

^aKey Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu Province, State Key Laboratory of Applied Organic Chemistry and Colleague of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, P. R. China.

E-mail: chenfj@lzu.edu.cn

Fax: +86 931 8912582; *Tel.:* +86 931 8912596;

^bAdvanced Ceramic Fibers & Composites Laboratory, College of Aerospace Science and Engineering, National University of Defense Technology, Changsha, 410073, P. R. China

^cKey Laboratory of Pesticide and Chemical Biology of Ministry of Education, College of Chemistry, Central China Normal University, Wuhan 430079, P. R. China



Figure S1. (A, B) TEM image GO nanosheets. (C) High-resolution TEM iamge of GO. (D) (E)

AFM images and cross-section analysis of GO, (F) XPS spectrum of graphene oxide (GO)



Fig. S2-1 EDX of RGO/Fe nanocomposites.



Fig. S2-2 EDX of RGO/Fe₇₅Co₂₅ nanocomposites.



Fig. S2-3 EDX of RGO/Fe₅₀Co₅₀ nanocomposites.



Fig. S2-4 EDX of RGO/Fe₂₅Co₇₅ nanocomposites.







Fig S3. The catalysts were magnetically separated from the solution.



Fig. S4 TEM image of RGO/FexCo100-x nanocomposites after catalyst reaction of 4-AP: (A) RGO/ Fe, (B) RGO/Fe₂₅Co₇₅, (C) RGO/ Fe₅₀Co₅₀, (D) RGO/ Fe₇₅Co₂₅ and (E) RGO/ Co.