

【Electronic Supplementary Information】

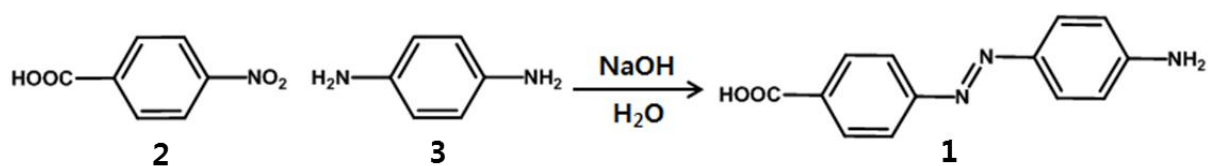
Luminescent Metal-Organic Framework-Functionalized
Graphene Oxide Nanocomposites and Reversible
Detection of High Explosives

Ji Ha Lee,^a Justyn Jaworski^b and Jong Hwa Jung*^a*

^aDepartment of Chemistry and Research Institute of Natural Sciences Gyeongsang National
University, Jinju 660-701, Korea

^bDepartment of Chemistry Chemical Engineering, Hanyang University, Seoul 133-791
(Korea)

E-mail: jonghwa@gnu.ac.kr (J. H. Jung)



Scheme S1 Synthetic route of compound 1.

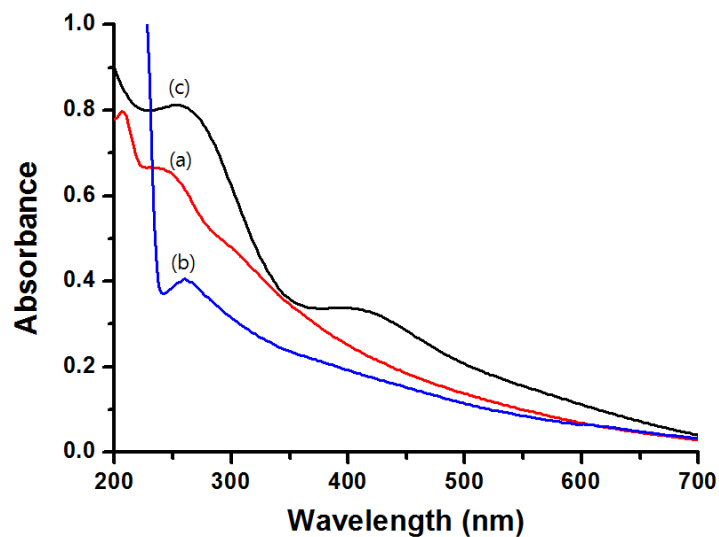


Fig. S1 UV-vis spectra of (a) graphene oxide (GO), (b) reduced graphene oxide (r-GO) and (c) azobenzoic acid-functionalized graphene oxide (A-GO) in water.

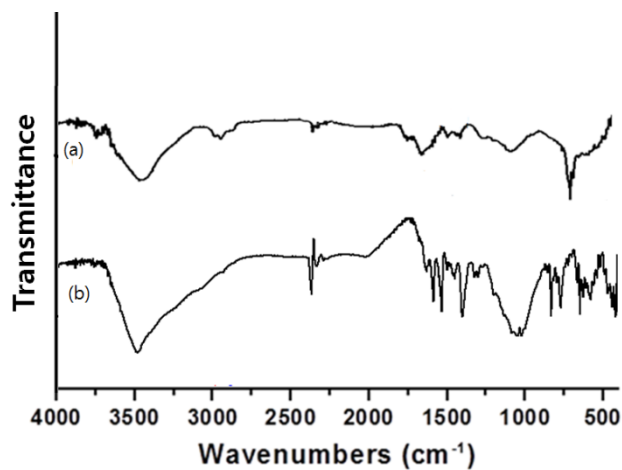


Fig. S2 FT IR spectra of (a) reduced graphene oxide (r-GO) and (b) azobenzoic acid-functionalized graphene oxide (A-GO).

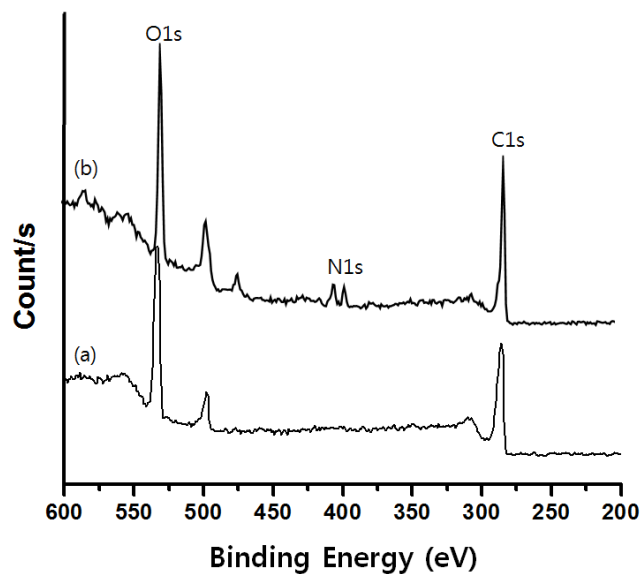


Fig. S3 XPS spectra of (a) reduced graphene oxide (r-GO) and (b) azobenzoic acid-functionalized graphene oxide (A-GO).

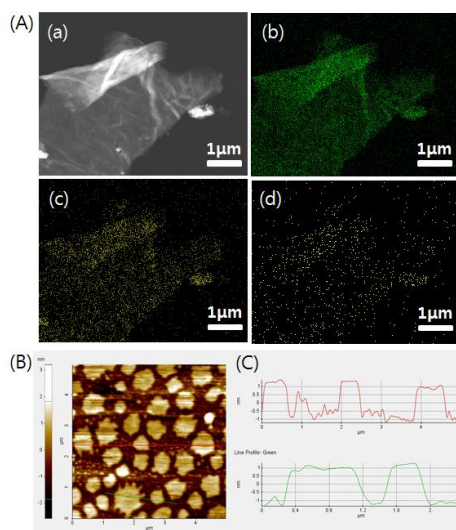


Fig. S4 (A) TEM image with electron energy loss spectroscopy (EELS) of azobenzoic acid-functionalized graphene oxide; (a) zero-loss image, (b) carbon, (c) oxygen, and (d) nitrogen components. (B) AFM image of azobenzoic acid-functionalized graphene oxide and (C) its height profile.

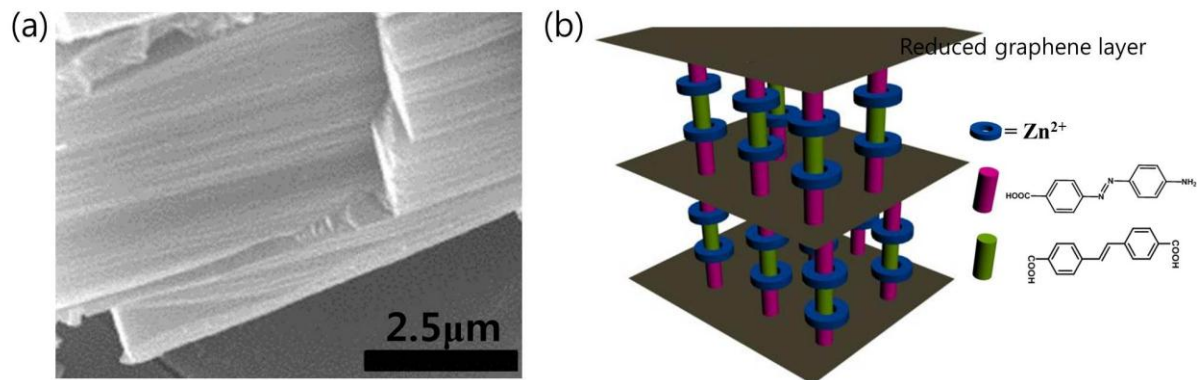


Fig. S5 (a) High magnification SEM image of the multi-layered structure of nanocomposite **1**.
(b) Representation for the multi-layered structure of nanocomposite **1**.

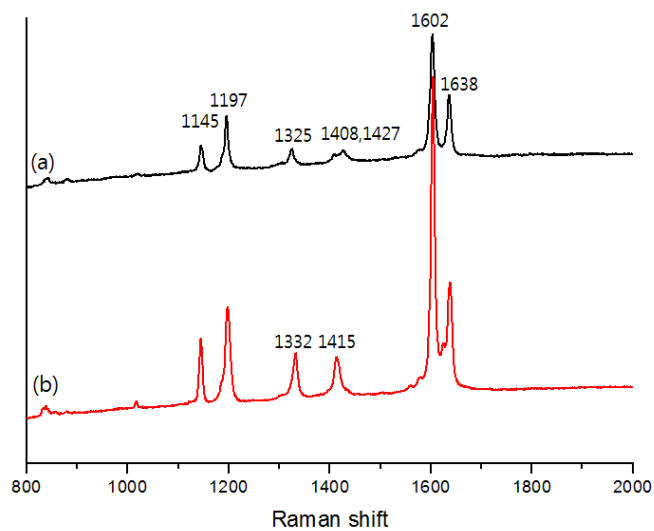


Fig. S6 Micro-Raman spectra of (a) crystal L-Zn²⁺ and (b) nanocomposite of A-GO/L-Zn²⁺.

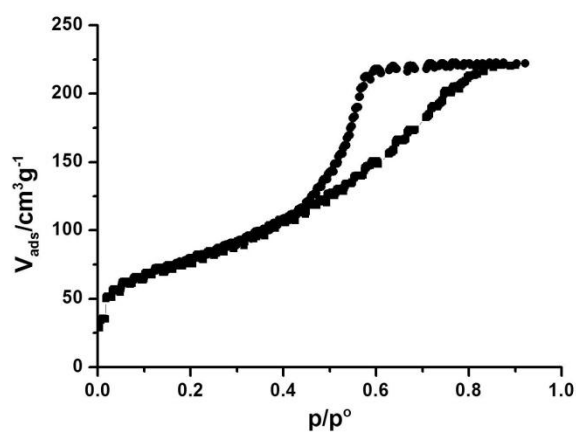


Fig. S7 The N_2 adsorption-desorption isotherm of nanocomposite **1** obtained at 77K.

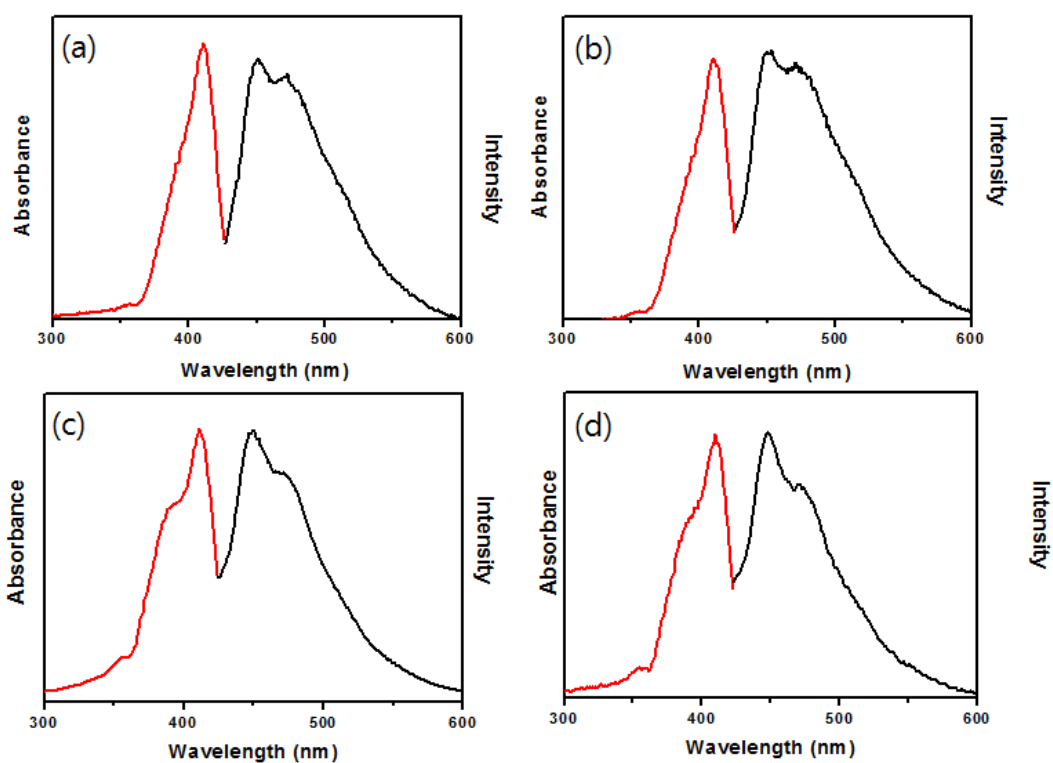


Fig. S8 Excitation (red) and emission (black) spectra of (a) crystal L-Zn^{2+} and the nanocomposites of A-GO/ L-Zn^{2+} (b) 1:5, (c) 1:4, and (d) 1:3 wt% with various ratios in the two components.