

## Supporting Information for

### Graphene Oxide Based Fluorescent Nanocomposites for Cellular Imaging

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### Calculation of the spacing between graphene oxide sheets

It can be calculated by the Bragg's law:

$$\lambda = 2d \sin(\Theta)$$

where  $\lambda$  is the wavelength of the X-ray beam (0.154nm),  $d$  is the distance between the adjacent GO sheets or layers,  $\Theta$  is the diffraction angle.

As can be seen in Figure 1A inset, the diffraction peak position is at  $2\Theta = 10.2^\circ$ , representing the (001) planes, the spacing between which is the spacing between the graphene oxide sheets.

$$d = \lambda / 2 \sin(\Theta) = 0.154 \text{ nm} / 2 \sin(5.1^\circ)$$

thus  $d = 0.865 \text{ nm}$ .

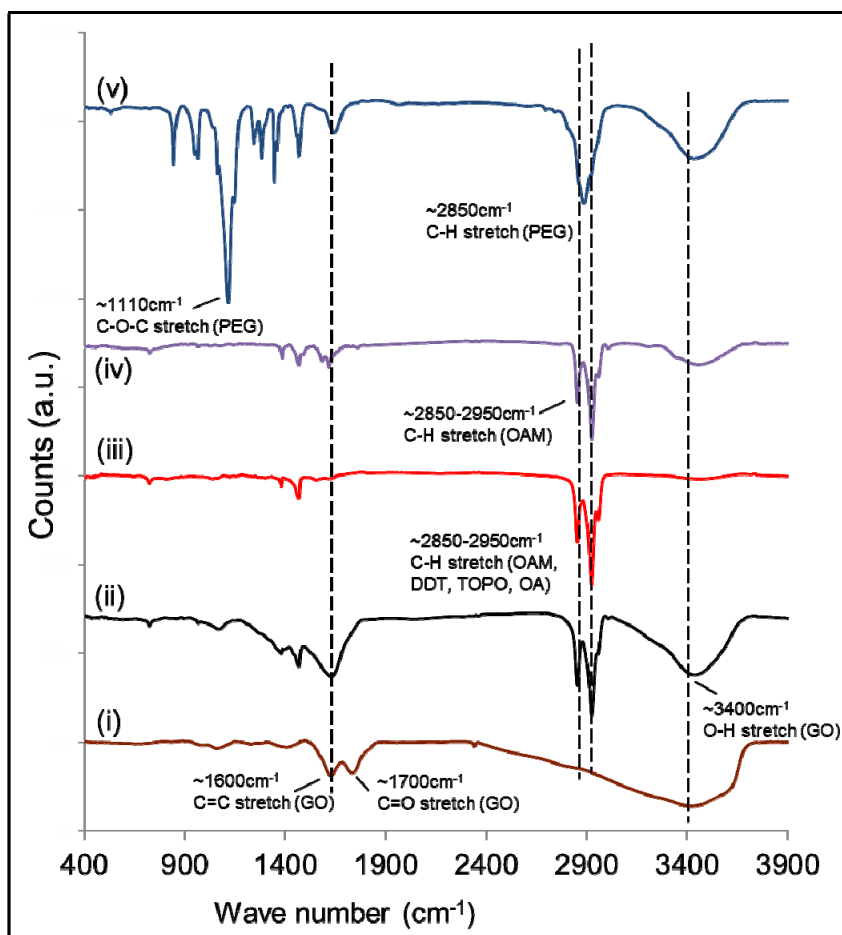


Figure S1. FT-IR spectra for nano-GO (i), OAM-GO (ii), AIZS nanoparticles (iii), AIZS-GO nanocomposites (iv), and AIZS-GO-PEG nanocomposites (v).

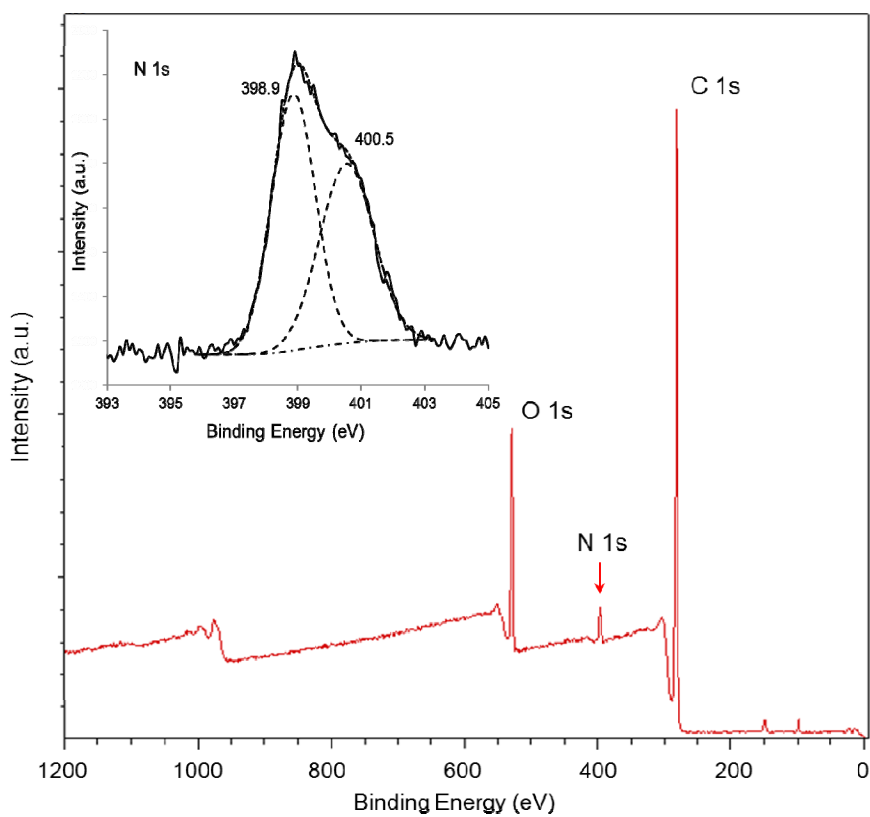


Figure S2 The XPS spectra of OAM-GO sheets. Inset: XPS spectra of N 1s. The N 1s peak at about 400 eV can be deconvoluted to two peaks. The peak at 398.9 eV belongs to C-N bond where N is bonded with  $sp^3$  C and peak at 400.5 eV belongs to C-N bond where N is bonded with  $sp^2$  C.

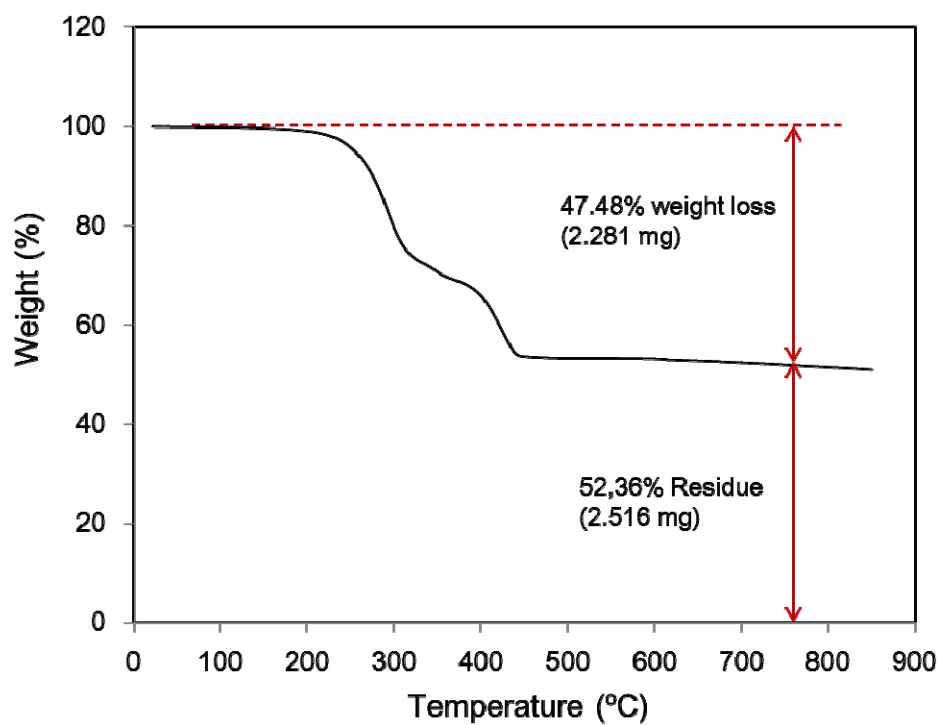


Figure S3 TGA curve for AIZS nanoparticles with red emission. Weight loss is indicated in the diagram.

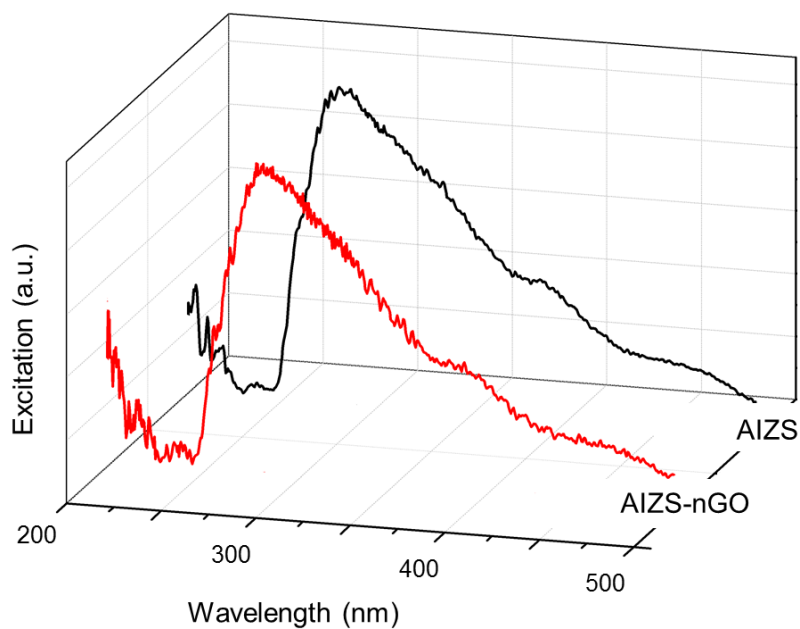


Figure S4 Excitation spectra of AIZS nanoparticles dispersed in hexane (black line) and AIZS-nGO nanocomposites dispersed in H<sub>2</sub>O (red line).

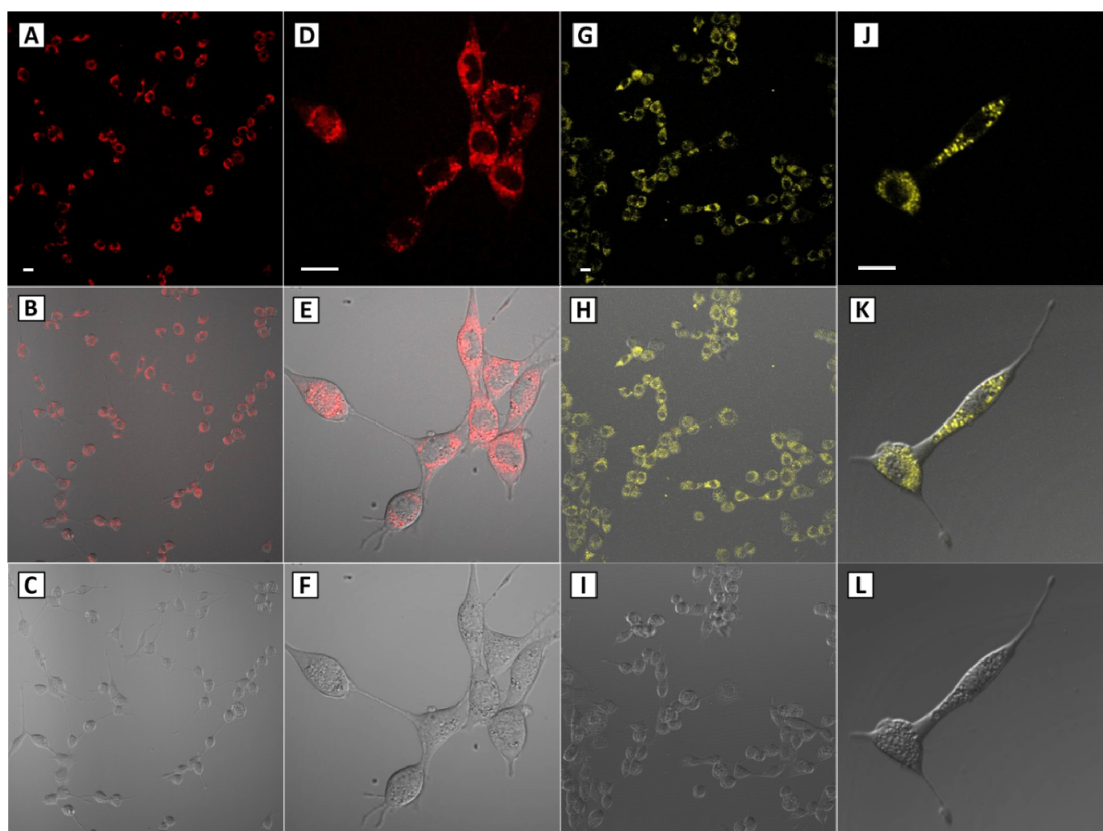


Figure S5 CLSM images (A, D, G, J), bright field images (C, F, I, L) and merged images (B, E, H, K) of NIH/3T3 cells tagged with yellow (G-L) and red (A-F) emitting AIZS-GO-PEG nanocomposites. (scale bars: 20 $\mu$ m).