

## Electronic Supplementary Information

### Carbon-dot targeting to lead(II)-adsorbed plant cell walls for in-situ multi-color fluorescence imaging

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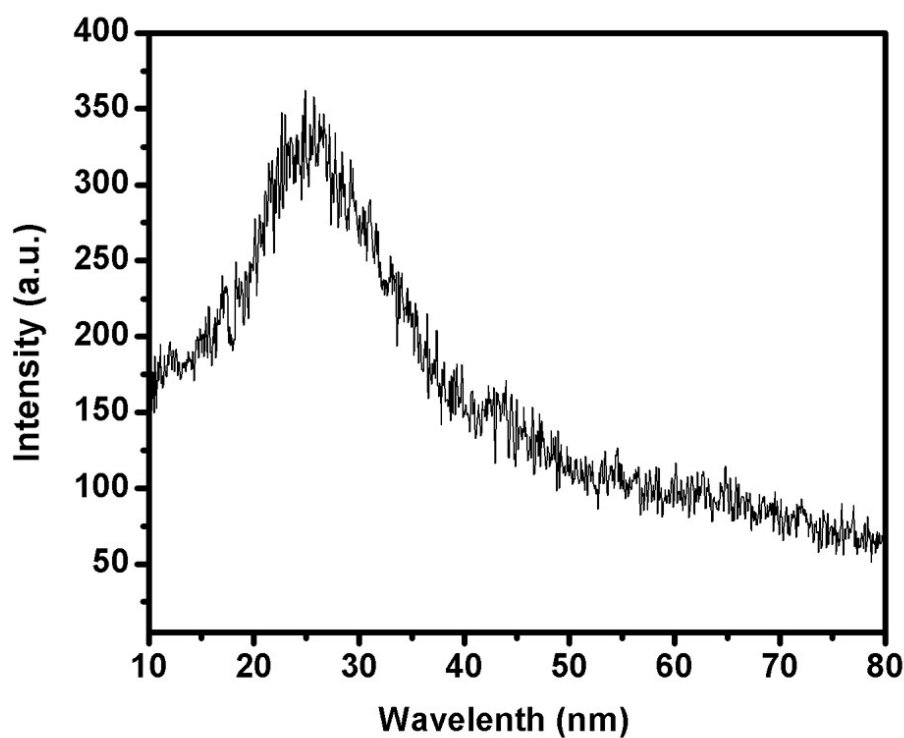


Fig. S1 The XRD spectrum of the F-CDs

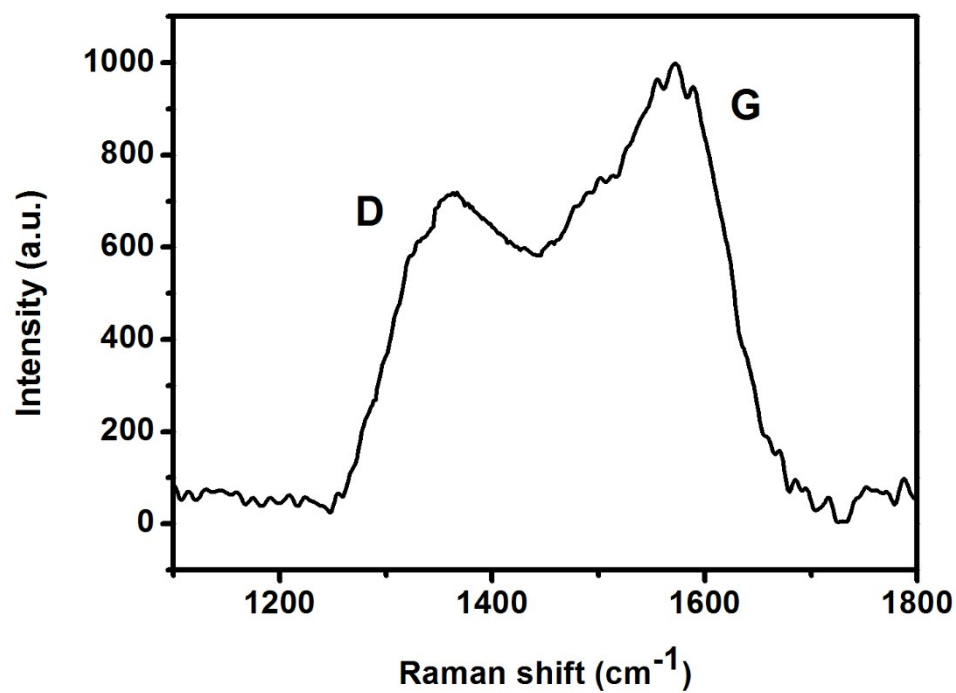


Fig. S2 Raman spectrum of the F-CDs

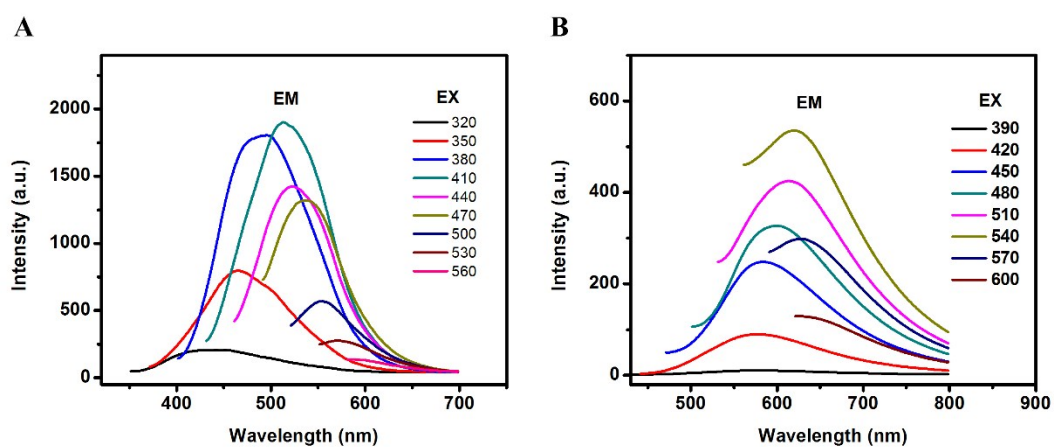


Fig. S3 Fluorescence spectrum of carbon dots prepared by (A) L-tryptophan and (B) luminol, respectively

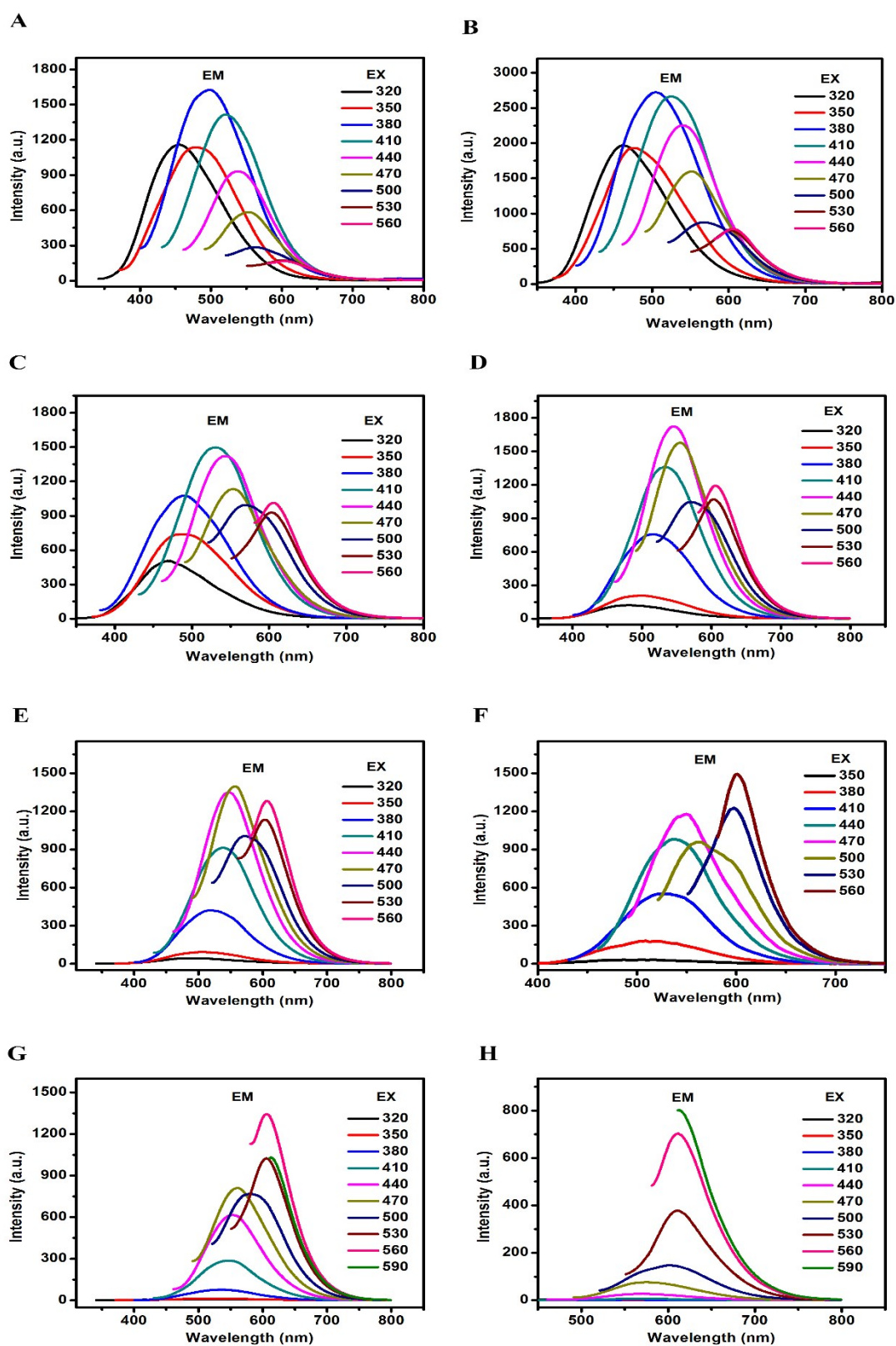


Fig. S4 Fluorescence spectra of F-CDs with different concentrations from (A) 0.020, (B) 0.10, (C) 0.15, (D) 0.20, (E) 0.25, (F) 0.30, (G) 0.40 to (H) 0.50 mg/mL under different excitation wavelengths

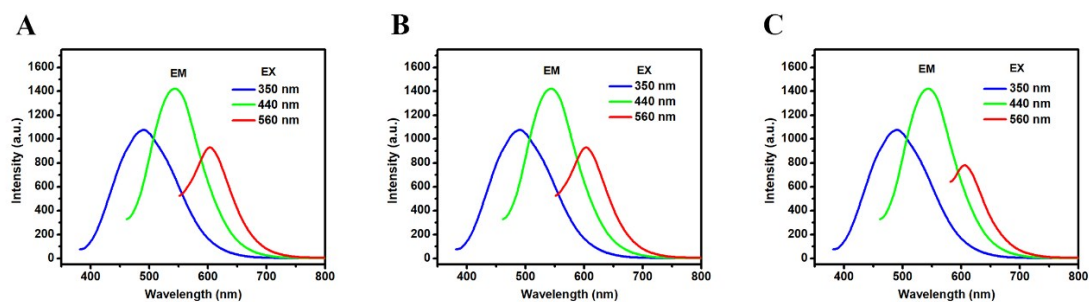


Fig. S5 Fluorescence intensity comparison between (A) 0.15mg/mL F-CDs (B) 0.15mg/mL L-cysteine modified F-CDs and (C) B treated with 0.1mM  $\text{Pb}^{2+}$  ions

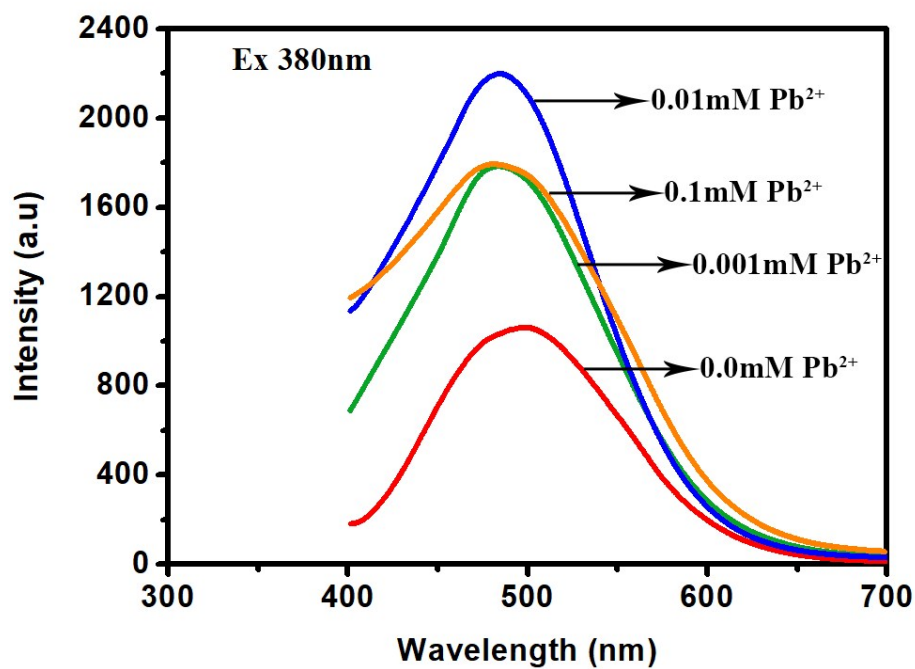


Fig. S6 Fluorescence spectra of thiolated F-CDs-treated cells under 0.0mM (red), 0.001mM (green), 0.01mM (blue) and 0.1mM (orange)  $\text{Pb}(\text{II})$ -ion treatment