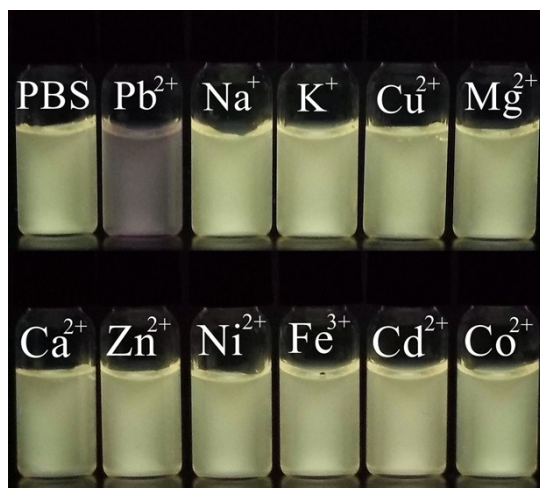


**Figure S1** The photographs of S-GQDs (left), S-control sample (middle) and S-free sample (right) at 365 nm UV irradiation.



**Figure S2** The photographs of S-GQDs aqueous solution in the range of pH 2-11 at 365 nm UV irradiation.



**Figure S3** Photographs of S-GQD aqueous solutions with different metal ions at the concentration of 140  $\mu\text{M}$  under 365 nm UV irradiation.



**Figure S4** The photographs of S-free GQDs aqueous solution at the absence (left) and presence (right) of 140.0  $\mu\text{M}$  Pb<sup>2+</sup> at 365 nm UV irradiation.