

**Supporting Information**

**Combination of chemical etching of gold nanoclusters with  
aggregation-induced emission for preparation of new phosphors for  
development of UV-driven phosphor-converted white light-emitting  
diodes**

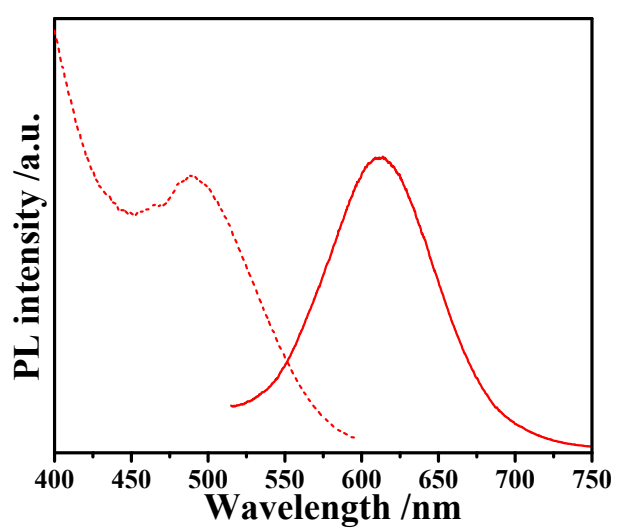
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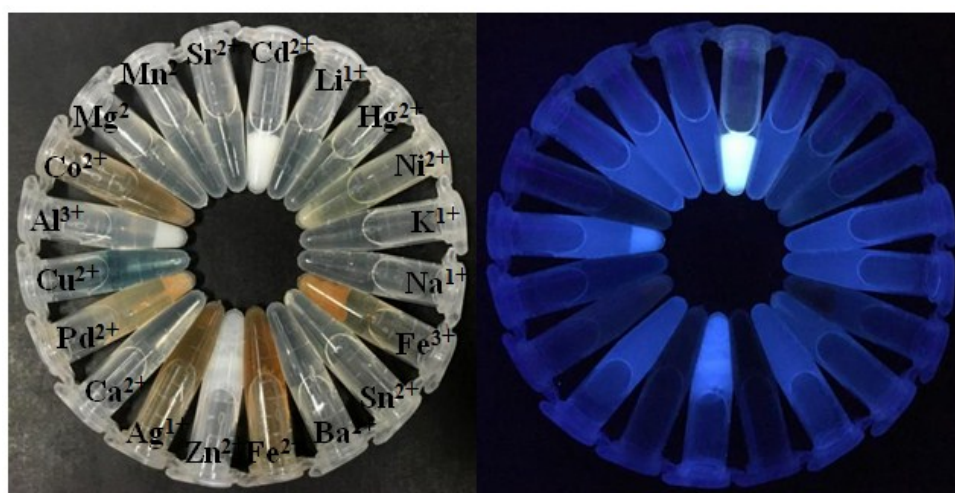
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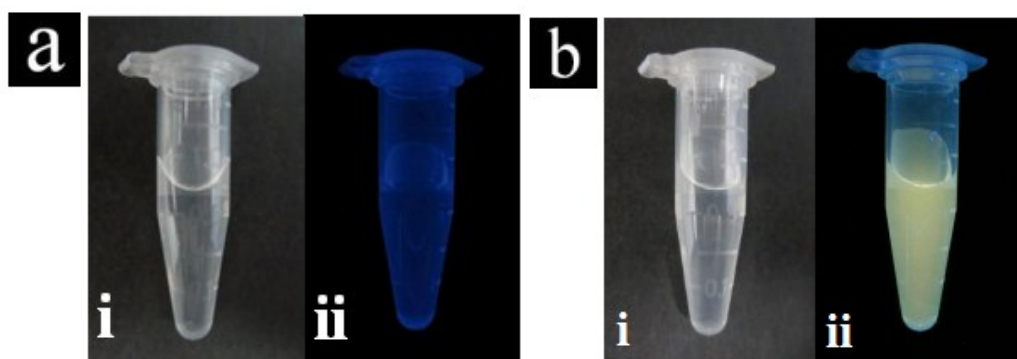
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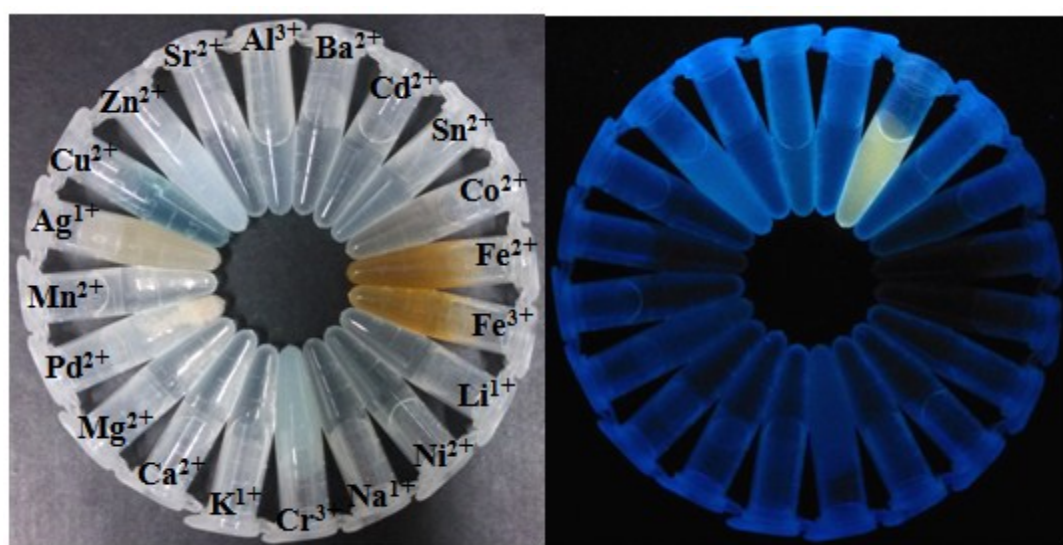
**Fig. S1** Photoluminescent excitation (dash line) and emission (solid line) spectra of the GNCs@BSA ( $\lambda_{\text{Ex}}$ : 490 nm).



**Fig. S2** Photographs of the TCEP-Au(I)-BSA solutions in the presence of 5 mM cadmium ion and 19 kinds of other metal ions under visible light (left) and 365 nm UV light (right), respectively.



**Fig. S3** Photographs of the filtrate of the ultrafiltrated TCEP-Au(I)-BSA solution in the absence (a) and presence (b) of 5 mM cadmium ion under visible light (i) and 365 nm UV light (ii), respectively.



**Fig. S4** Photographs of the TCEP-Au(I) solutions in the presence of 5 mM cadmium ion and 19 kinds of other metal ions under visible light (left) and 365 nm UV light (right), respectively.