

Electronic supplementary information (ESI):

Highly luminescent monolayer protected $\text{Ag}_{56}\text{Se}_{13}\text{S}_{15}$ clusters

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Supporting information 1

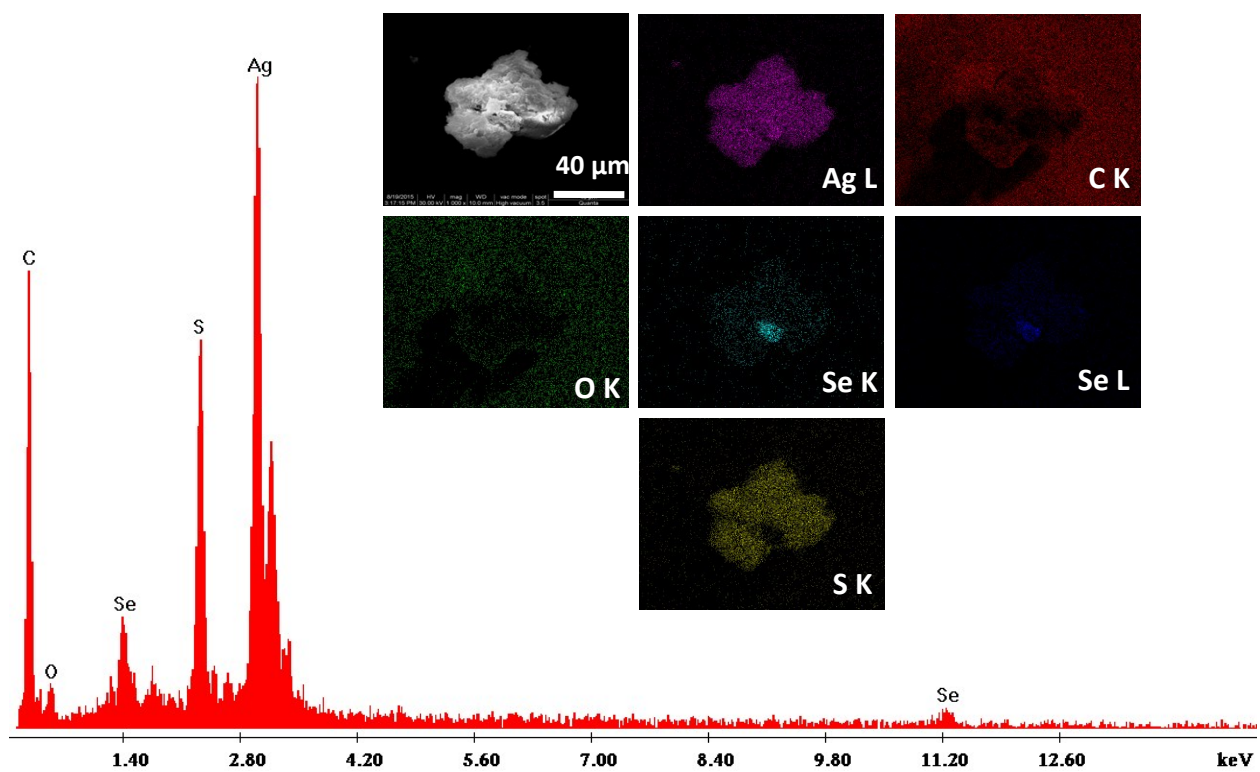


Fig. S1 SEM EDAX spectrum and elemental mapping of purified cluster. The Ag:Se:S ratio is 1:0.24:0.70.

Supporting information 2

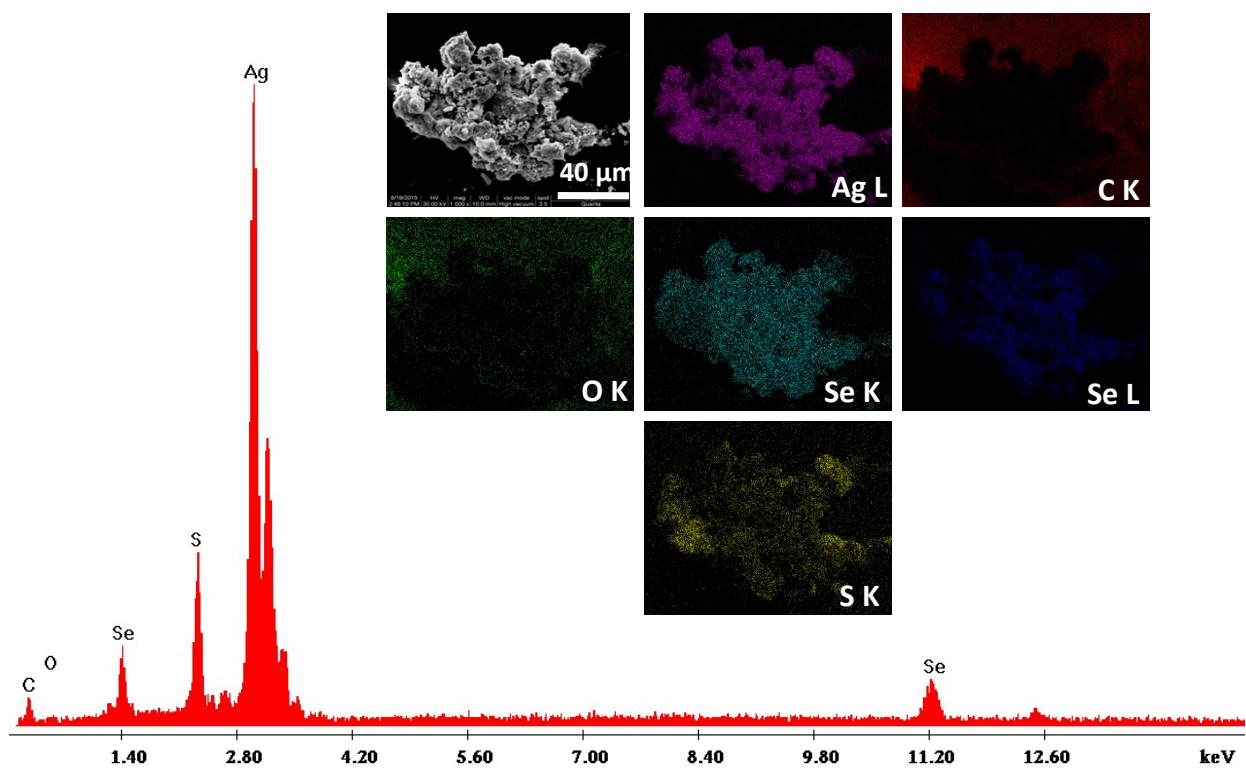


Fig. S2 SEM EDAX spectrum and elemental mapping of annealed cluster. The Ag:Se:S ratio is 1:0.24:0.30.

Supporting information 3

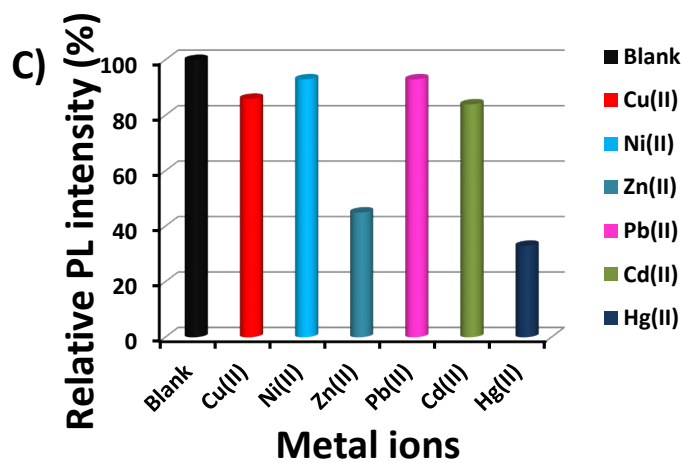
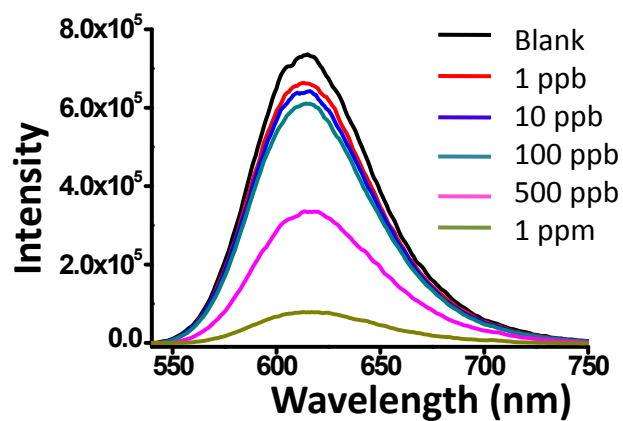
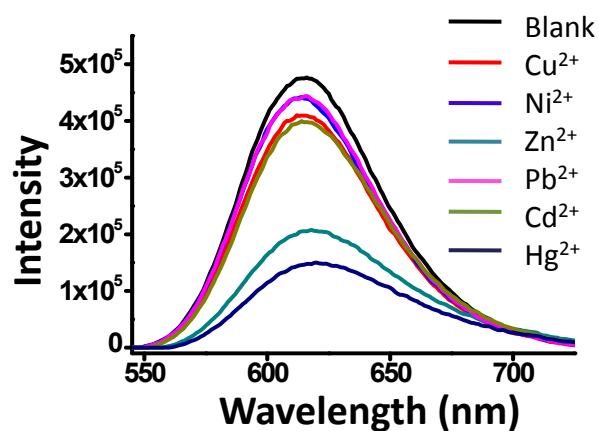


Fig. S3 Effect of different metal ions on the emission intensity of the cluster (A). Hg(II) concentration effect on cluster emission (B). (C) Bar diagram of different metal ion sensitivity. Hg(II) shows maximum quenching.

Supporting information 4

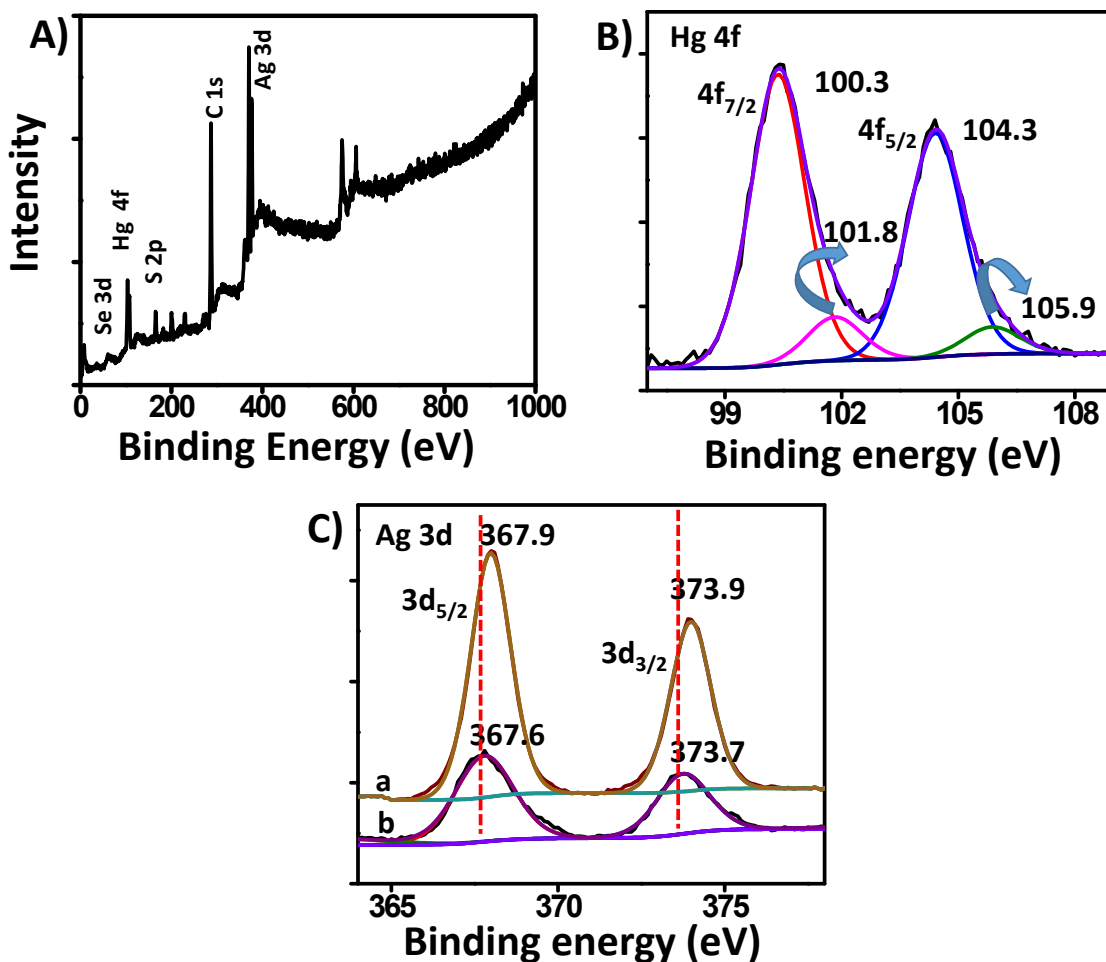


Fig. S4 XPS survey spectrum of cluster after the addition of Hg^{2+} (A). Specific region for Hg is expanded in (B), where most of the Hg^{2+} ions are reduced to elemental mercury. Figure (C) shows the XPS spectra of silver before (a) and after (b) mercury quenching.

Supporting information 5

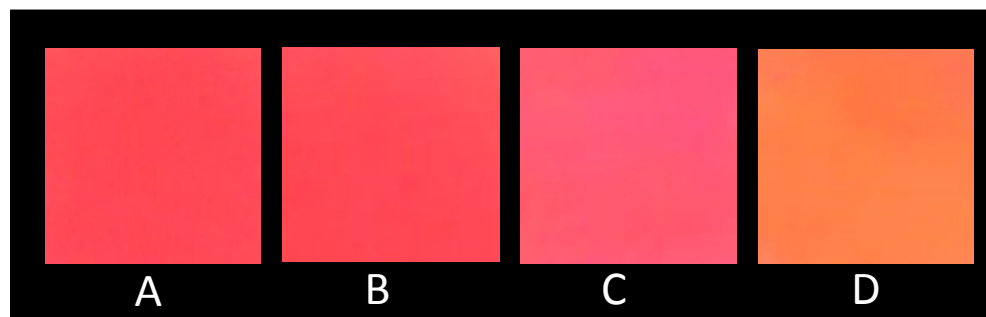


Fig. S5 (A) Cluster coated TLC plate under UV light. (B) Same TLC plate after the addition of well water. (C) After the addition of 1 ppb Hg^{2+} ion contacting well water. (D) Photograph of the quenching experiment performed on FITC pre coated TLC plate.