Electronic Supplementary Material (ESI) for Materials Chemistry Frontiers. This journal is © the Partner Organisations 2018

Supporting Information

pH-Responsive Aggregation-Induced Emission of Au Nanoclusters and Crystallization of the Au(I)-Thiolate Shell

Jianxing Wang,^a Nirmal Goswami,^b Tong Shu,*,^a Lei Su*,^a and Xueji Zhang*,^a

^a·Beijing Advanced Innovation Center of Materials Genome Engineering, Beijing Key Laboratory for Bioengineering and Sensing Technology, Research Center for Bioengineering and Sensing Technology, University of Science and Technology Beijing, Beijing 100083, P. R. China. * E-mail: sulei@ustb.edu.cn; zhangxueji@ustb.edu.cn.

^b·Department of Chemical and Biomolecular Engineering, National University of Singapore, 10 Kent Ridge Crescent, Singapore119260.

Table of Contents

- Figure S1. The Au 4f XPS spectra of the Au NCs.
- **Figure S2.** TEM image of the Au(I) membranous substances after electron beam irradiation for 10 min.
- **Figure S3.** Photoemission spectra of the Au NC solution when adjusting pH from pH 2.0 (black line) to pH 11.0 (blue line), then back to pH 2.0 (red line).
- Figure S4. PL lifetime decay profiles of the Au NCs at pH 2.0 (a) and pH 11.0 (b).
- Figure S5. The Au 4f XPS spectra of the Au NCs sample (pH 12.8).
- Figure S6. Size distribution of the Au NCs shown in Fig. 3b.
- Figure S7. Size distribution of the Au NCs shown in Fig. 4b.
- **Figure S8.** TEM images of the Au NCs at different magnifications at pH 8.0. The pH value of the Au NC solution was adjusted from 2.0 to 11.0, then back to pH 8.0.

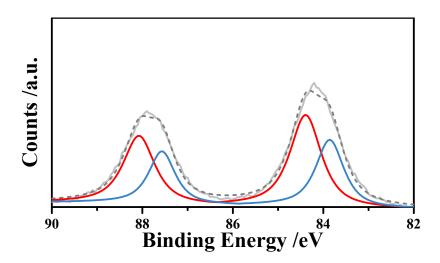


Figure S1. The Au 4f XPS spectra of the Au NCs.

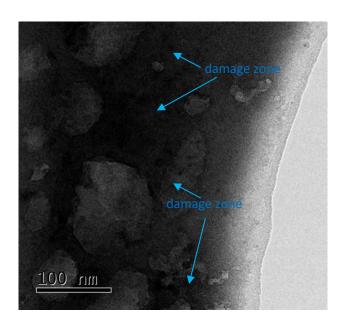


Figure S2. TEM image of the Au(I) membranous substances after electron beam irradiation for 10 min.

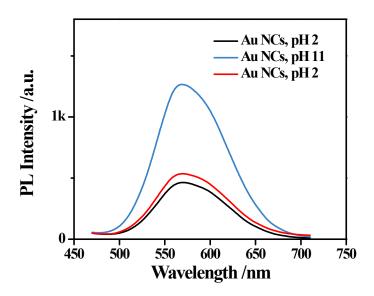


Figure S3. Photoemission spectra of the Au NC solution when adjusting pH from pH 2.0 (black line) to pH 11.0 (blue line), then back to pH 2.0 (red line).

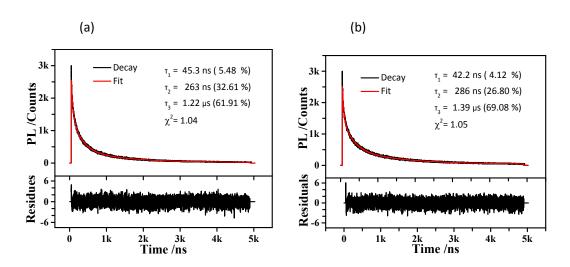


Figure S4. PL lifetime decay profiles of the Au NCs at pH 2.0 (a) and pH 11.0 (b).

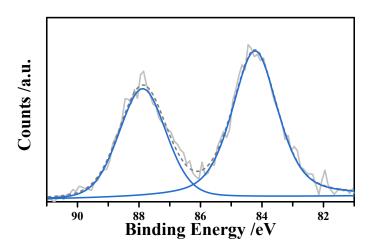


Figure S5. The Au 4f XPS spectra of the Au NCs sample (pH 12.8).

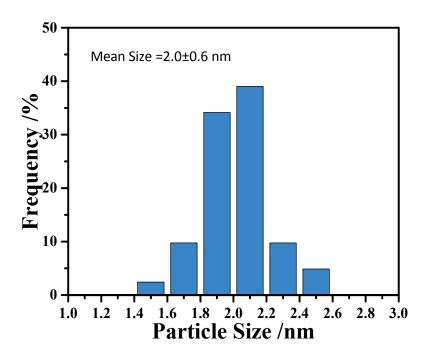


Figure S6. Size distribution of the Au NCs shown in Fig. 3b.

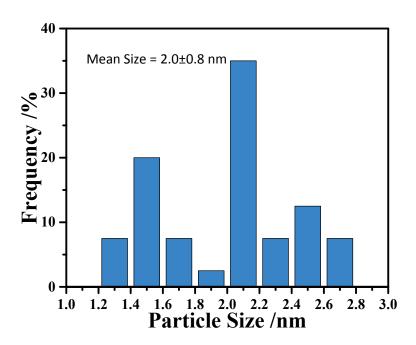


Figure S7. Size distribution of the Au NCs shown in Fig. 4b.

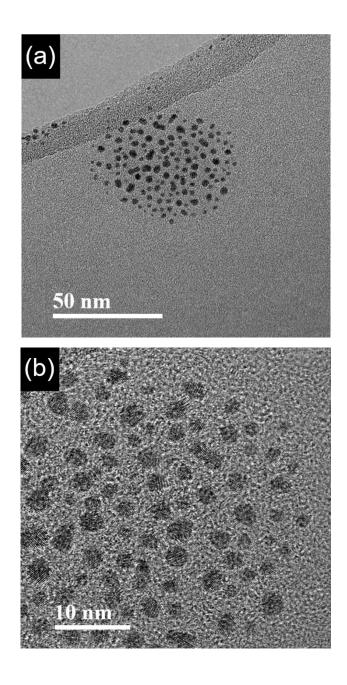


Figure S8. TEM images of the Au NCs at different magnifications at pH 8.0. The pH value of the Au NC solution was adjusted from 2.0 to 11.0, then back to pH 8.0.