Electronic Supplementary Material (ESI) for Analytical Methods.

Synthesis of novel fluorescent bimetal nanoclusters for aqueous mercury detection based on aggregation-induced quenching

Fangfang Yu[1], Peng Luo[1], Yun Chen[1], Hui Jiang, Xuemei Wang*

State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

*Correspondence and requests for materials should be addressed to:

Xuemei Wang (Email: xuewang@seu.edu.cn)

[1]Fangfang Yu, Peng Luo and Yun Chen contributed equally to this work.

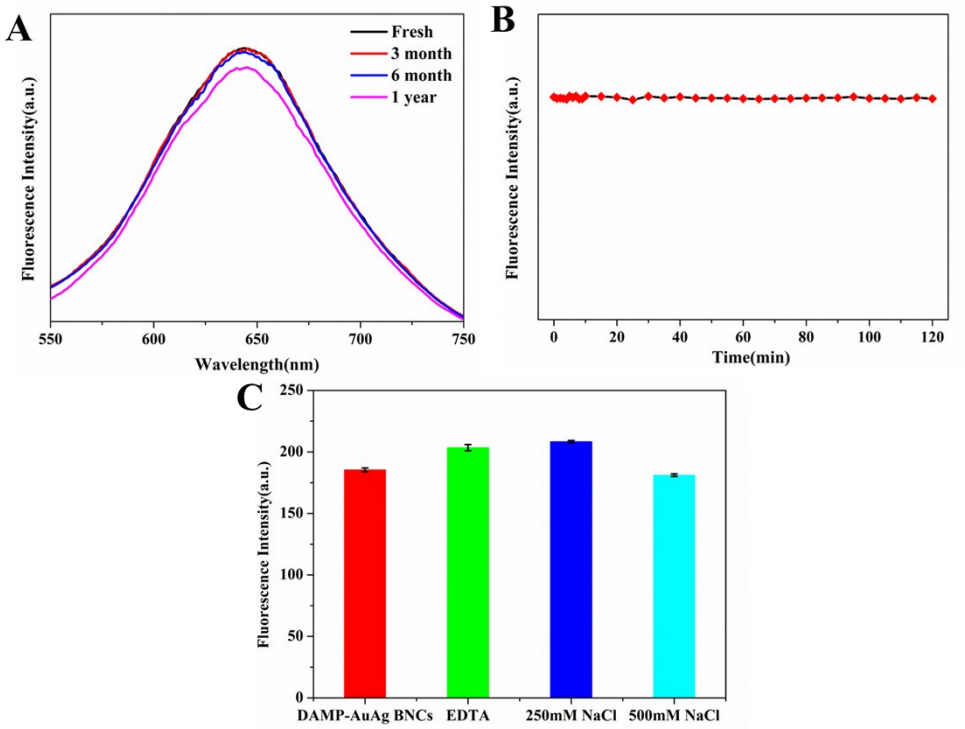

Fig S1. Fluorescence Stability of the as prepared DAMP-AuAg BNCs. (A) The time stability of DAMP-AuAg BNCs. DAMP-AuAg BNCs was incubated in ultrapure water at 4 ◦C; (B) Photostability of the as-prepared DAMP-AuAg BNCs under 473 nm excitation.; (C) The stability of DAMP-AuAg BNCs in the presence of EDTA and NaCl.

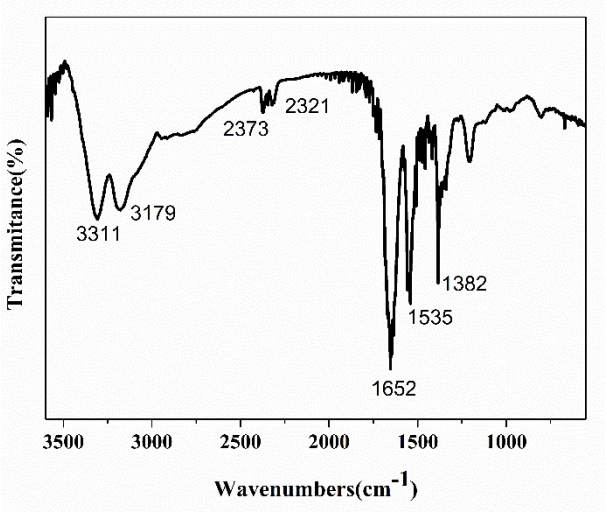

Fig S2. Infrared spectra of DAMP-AuAg BNCs.

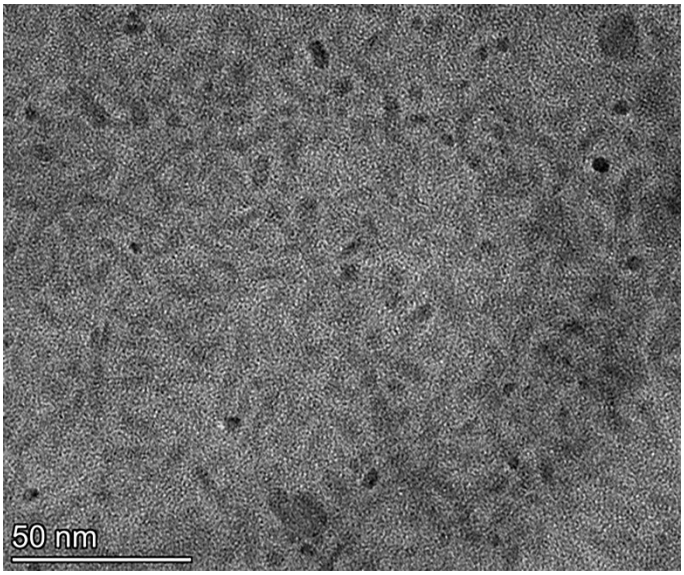

Fig S3. HRTEM image of DAMP-AuAg BNCs after addition of Hg^{2+} (50μM) and sodium borohydride (15μM).

Table 1S. Comparison of fluorescent probes based on Au nanoclusters for Hg^{2+} detection

Nanomaterials	Synthesized conditions	Emission wavelength	Linear range	Limit of detection	Ref.
cytidine@AuAg NCs	80℃ for 1 h	560 nm	0.03-16 μM	30 nM	46
BSA-Au NCs	37℃ for 12 h	640 nm	1-20 nM	0.5 nM	31
AuNCs-Ag@Keratin	37℃ for 12 h + 6 h	725 nm	2.44-2500 nM	2.31 nM	47
BSA-Au@AgNCs	37℃ for 12 h	620 nm	0.20-2500 nM	0.10 nM	35
BSA AuAg BNCs	MW radiation (700 W) for 3 min	577 nm	0.05-6.3 μM	13 nM	36
DAMP-AuAg BNCs	70℃ for 5 h	640 nm	0.85-246 μM	20 nM	This work