Electronic Supplementary Information (ESI)

Fluorene-based novel gold(I) complexes with aggregation-induced

emission (AIE) or aggregate fluorescence change characteristics:

from green to white emission

Zhao Chen, Xie Han, Jing Zhang, Di Wu, Guang-Ao Yu*, Jun Yin and Sheng Hua Liu*

Key Laboratory of Pesticide and Chemical Biology, Ministry of Education, College of

Chemistry, Central China Normal University, Wuhan 430079, PR China

Tel: +86-27-67867725 Fax: +86-27-67867725

Corresponding author E-mail: yuguang@mail.ccnu.edu.cn; chshliu@mail.ccnu.edu.cn

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1. Figs. S1-S6



Figure S1 a) The single crystal structure of complex 4. b) Crystal packing diagram of complex 4. It showed weak interactions of intermolecular C-H…F.



Figure S2 UV–Vis absorption spectra of 1 (1.0×10^{-5} mol L⁻¹) in DMF-water mixtures with different volume fractions of water (0-90%).



Figure **S3** The changes in emission maximum peak of **1** $(1.0 \times 10^{-5} \text{ mol } \text{L}^{-1})$ in DMF-water mixtures with different volume fractions of water (0% -30%).



Figure S4 Size distribution curves of complex 1 $(1.0 \times 10^{-5} \text{ mol } \text{L}^{-1})$ in DMF-water mixtures with 90% volume fraction of water.



Figure **S5** a) UV–Vis absorption spectra of **2** $(1.0 \times 10^{-5} \text{ mol } \text{L}^{-1})$ in DMF-water mixtures with different volume fractions of water (0-90%). b) UV–Vis absorption spectra of **3** $(1.0 \times 10^{-5} \text{ mol } \text{L}^{-1})$ in DMF-water mixtures with different volume fractions of water (0-90%).



Figure S6 UV–Vis absorption spectra of 5 $(1.0 \times 10^{-5} \text{ mol } \text{L}^{-1})$ in DMF-water mixtures with different volume fractions of water (0-90%).

2. Copies of NMR spectra and Mass spectra





230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 fl (ppm)















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1.00 1.01 1.02 1.02 1.02 1.02 1.02												4.03						4.00	4.03	8.02 4.05			
1.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5 f	5.0 1 (ppm)	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0	-0.5





1.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 -0.5 fl (ppm)





230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 fl (ppm)













