Electronic Supplementary Material (ESI) for RSC Advances.

A sensitive fluorescent sensor for the Detection of Trace Water in Organic Solvents Based on Carbon Quantum Dots of Yellow Fluorescence

Jianfei Wei[a,b,=], Haikuo Li [b,=], Ye Yuan[b], Chenying Sun[b], Dan Hao[b], Guo Zheng [a,*], Rui Wang [b,*]

a. School of Material Science and Engineering, Tianjin Polytechnic University, No. 399 BinShuiXi Road, Xiqing District, Tianjin, P.R. of China

b. School of Material Science and Engineering, Beijing Institute of Fashion Technology, No. A2, East Yinghua Street, Chaoyang District, Beijing, P.R. China, E-mail: clywangrui@bift.edu.cn , Tel: 86-10-64288279

† Jianfei Wei and Haikuo Li contribute equally to this work.

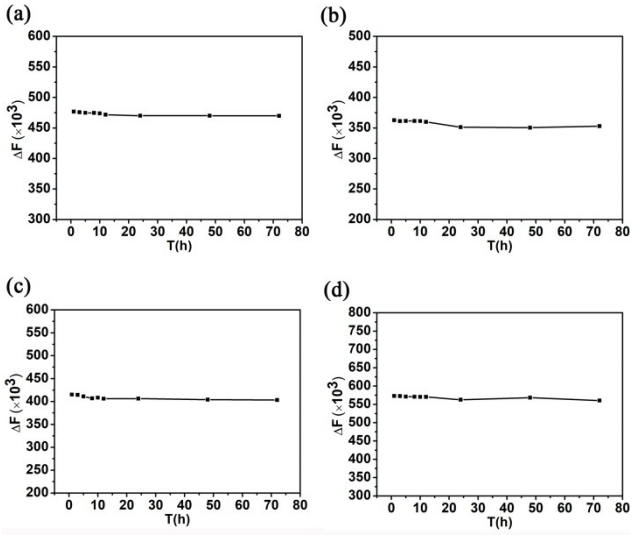

Fig. s1 The stability of CQDs dispersed in (a) toluene, (b) ethanol, (c) 1,4-dioxane, (d) tetrahydrofuran

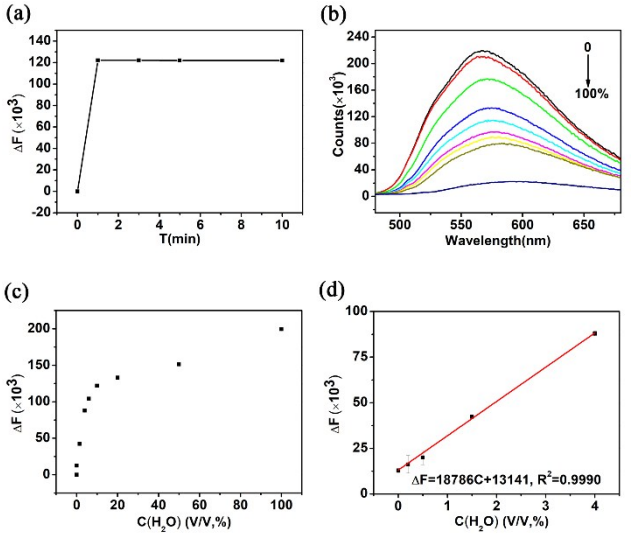

Fig. s2 (a) time-dependent fluorescence quenching of CQDs dispersed in tetrahydrofuran in the presence of H_2O (10%,V/V); (b) the fluorescence emission spectra of CQDs dispersed in tetrahydrofuran with different concentratin of H_2O (0, 0.001, 1.5, 4, 6, 10, 20, 50, 100 V/V, %); (c) the change of fluorescence intensity of CQDs solution versus the concentration of H_2O; (d) a linear relationship between ΔF and concentration of H_2O from 0.001 % to 4 %. Error bars in (c) and (d) represent the standard deviations of five independent measurements.

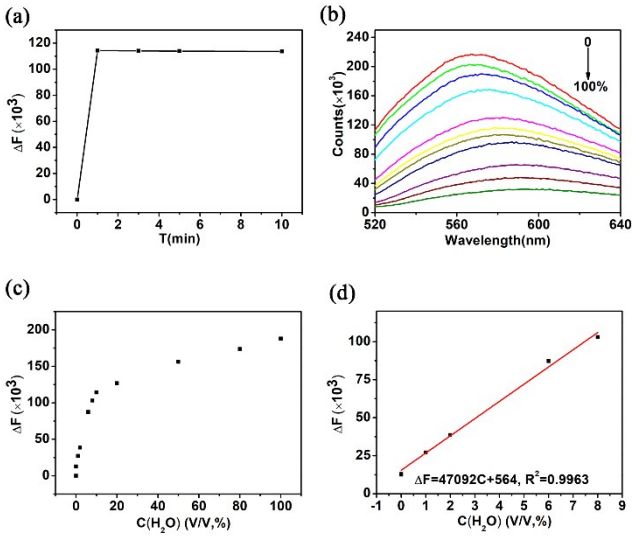

Fig. s3 (a) time-dependent fluorescence quenching of CQDs dispersed in 1,4-Dioxane in the presence of H_2O (10%,V/V); (b) the fluorescence emission spectra of CQDs dispersed in 1,4-Dioxane with different concentratin of H_2O (0, 0.001, 1, 2, 6, 8, 10, 20, 50, 80, 100 V/V, %); (c) the change of fluorescence intensity of CQDs solution versus the concentration of H_2O; (d) a linear relationship between ΔF and concentration of H_2O from 0.001 % to 8 %. Error bars in (c) and (d) represent the standard deviations of five independent measurements.