Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information:

Fabrication of Nitrogen-Doped Graphene Quantum Dot from MOFs-Derived Porous Carbon and its Application for Highly Selective Fluorescent Detection of Fe^{3+}

Hongbo Xu,[ab] Shenghai Zhou,[a] Lili Xiao,[ab] Huanhuan Wang,[a] Shouzhu Li,[a] and Qunhui Yuan*[a]

[a]Laboratory of Environmental Sciences and Technology, Xinjiang Technical Institute of Physics and Chemistry; Key Laboratory of Functional Materials and Devices for Special Environments, Chinese Academy of Sciences, 40-1 Beijing Road, Urumqi, Xinjiang, 830011, China

[b]University of Chinese Academy of Sciences, No.19A Yuquan Road, Beijing, 100049, China

*Author to whom correspondence should be addressed.

Tel: +86-(0)991-3677875; Fax: +86-(0)991-3838957

E-mail: yuanqh@ms.xjb.ac.cn

Table S1. Determination of Fe^{3+} concentration in tap water samples. (n=3)

	Detected (μM)	Added (μM)	Detected (μM)	Recovery (%)	RSD (%)
Sample 1	0	10	10.1 ± 0.8	101.0	7.7
Sample 2	0	30	31.7 ± 1.1	105.7	3.3
Sample 3	0	50	49.3 ± 3.6	98.6	7.3

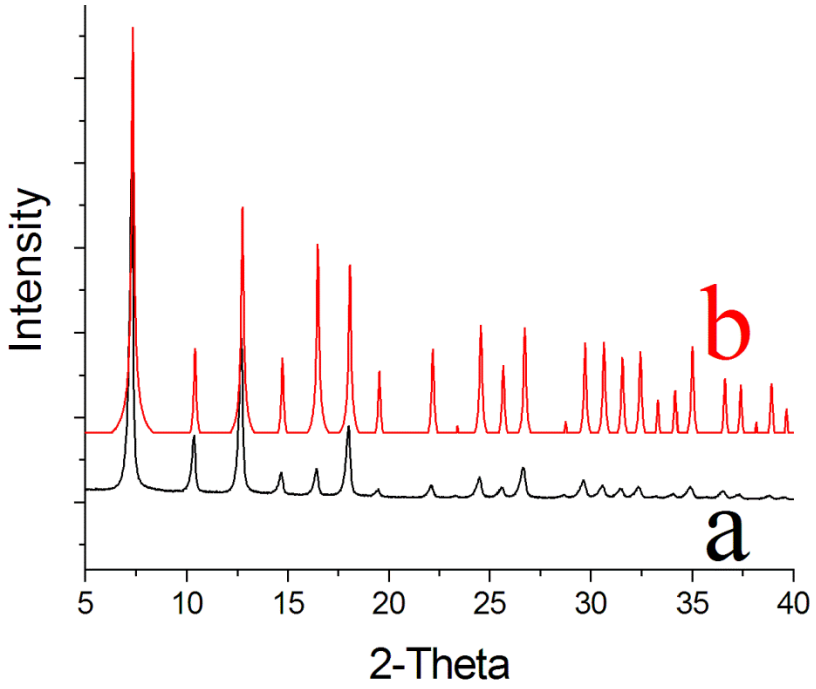

Figure S1. (a) XRD pattern of as-synthesized ZIF-8 nanocrystals. (b) Simulated XRD pattern from the published crystal structure data.[1]

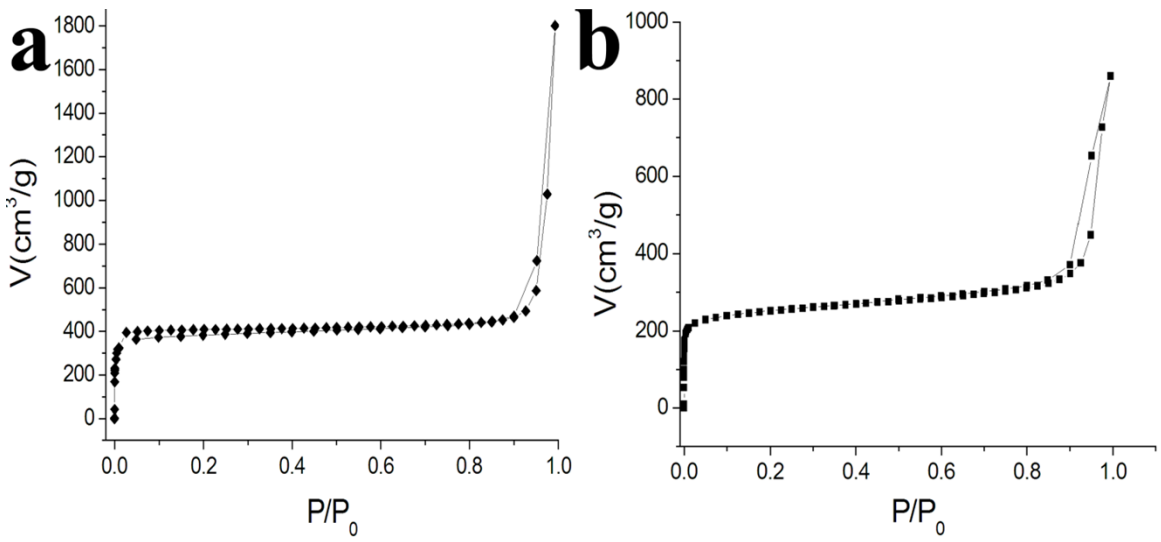

Figure S2. N_2 adsorption-desorption isotherms of (a) ZIF-8 and (b) ZIF-8C.

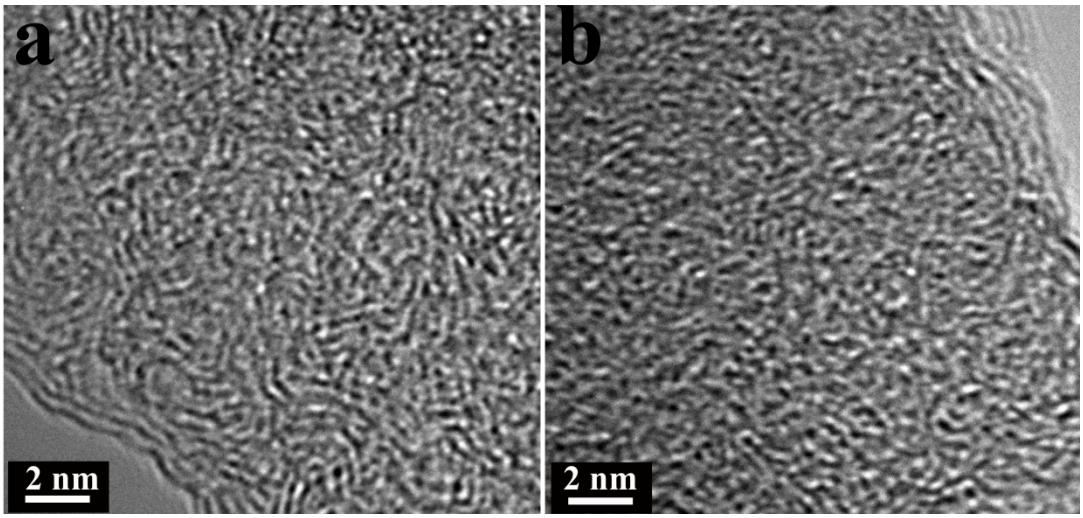

Figure S3. High-resolution TEM images representing the porous structures of (a) ZIF-8 and (b) ZIF-8C.

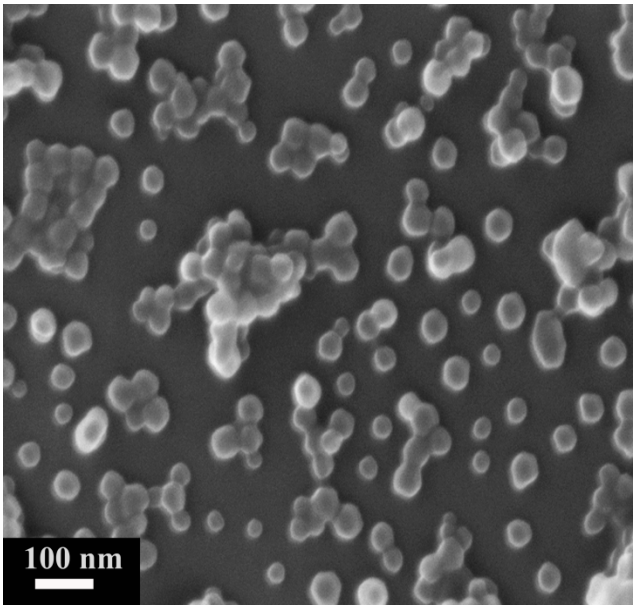

Figure S4. SEM image of the sphere-like ZIF-8C powder obtained after the acid vapor cutting.

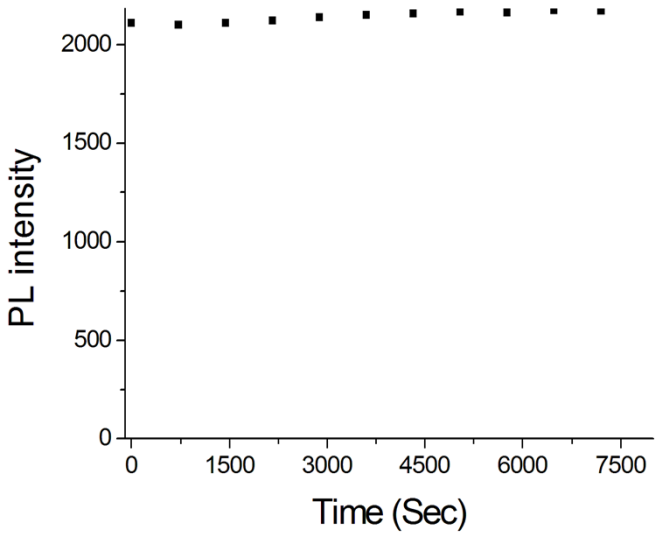

Figure S5. Time-dependent photoluminescence spectrum of a N-GQDs solution under 330 nm excitation at 25°C (Xe lamp, 150W).

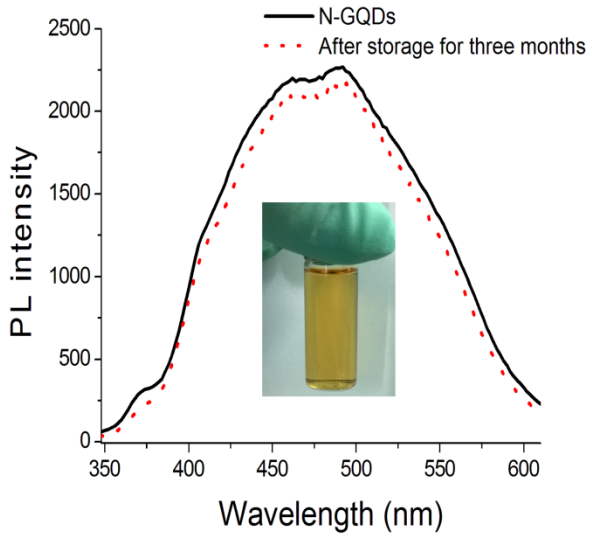

Figure S6. PL emission spectra of the freshly prepared N-GQDs (solid line) and the N-GQDs after storage for three months (dotted line). Inset: A photograph of the N-GQDs solution stored for three months.

Reference

[1] K. S. Park, Z. Ni, A.P. Cô té , J. Y. Choi, R. Huang, F. J. Uribe-Romo, H.K. Chae, M. O'Keeffe, O.M. Yaghi, *Proc. Natl. Acad. Sci. USA*., 2006, **103**,10186.