Electronic Supplementary Information

Acid-driven, microwave-assisted production of photoluminescent carbon nitride dots from N,N-dimethylformamide

Sen Liu,[a] Jingqi Tian,[a,b] Lei Wang,[a] Junfeng Zhai,[a] Yonglan Luo,[a] Wenbo Lu,[a] and Xuping Sun*[a]

[a] State Key Lab of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, Jilin, China

[b] Graduate School of the Chinese Academy of Sciences, Beijing 100039, China

*To whom correspondence should be addressed. Phone/Fax: (+86)-431-85262065. E-mail: (X.S.) sunxp@ciac.jl.cn

Quantum Yield Measurements

Quantum yield was measured according to established procedure (Lakowicz, J. R. *rinciples of Fluorescence Spectroscopy*, 2nd Ed., **1999**, Kluwer Academic/Plenum Publishers, New York). The optical densities were measured on UV-vis spectra were obtained on a UV5800 Spectrophotometer. Quinine sulfate in 0.1 M H_2SO_4 (literature quantum yield 0.54 at 360 nm) was chose as a standard. Absolute values are calculated using the standard reference sample that has a fixed and known fluorescence quantum yield value, according to the following equation:

$$\varphi_x = \varphi_{std} \frac{I_x}{A_x} \frac{A_{std}}{I_{std}} \frac{\eta^2{}_x}{\eta^2{}_{std}}$$

Where φ is the quantum yield, I is the measured integrated emission intensity, and A is the optical density, and η is the refractive index. The subscript "std" refers to the reference fluorophore of known quantum yield. In order to minimize re-absorption effects absorbencies in the 10 mm fluorescence cuvette were kept under 0.1 at the excitation wavelength (360 nm).

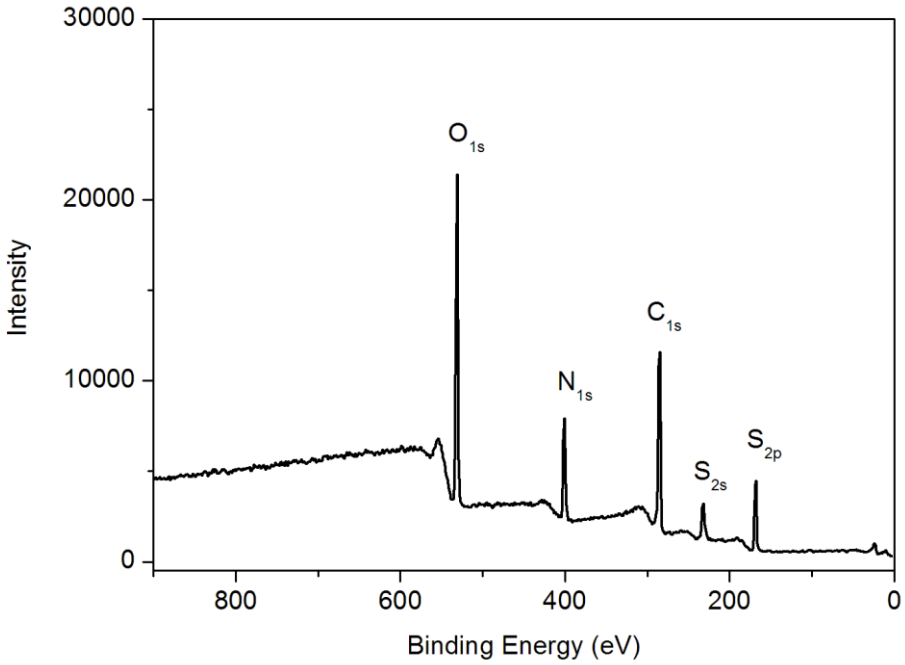

Fig. S1 XPS spectrum of CNDs thus obtained.

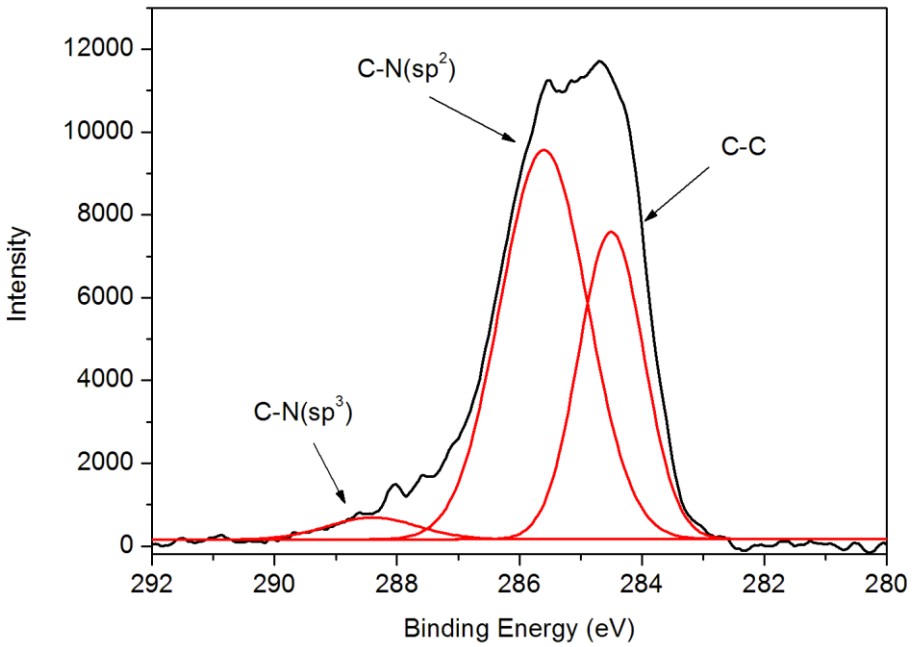

Fig. S2 C_{1s} spectrum of CNDs thus obtained.

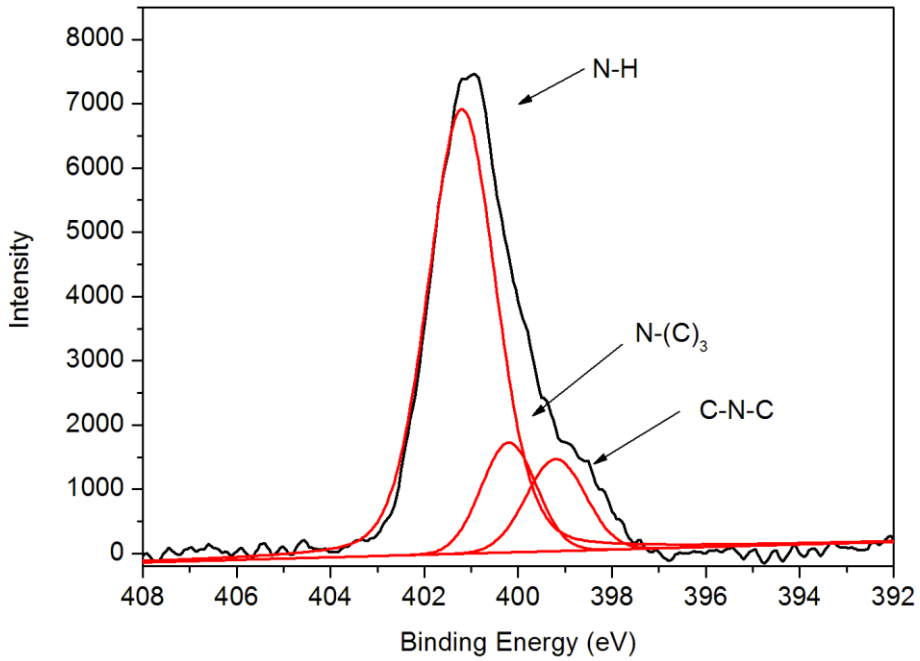

Fig. S3 N_{1s} spectrum of CNDs thus obtained.

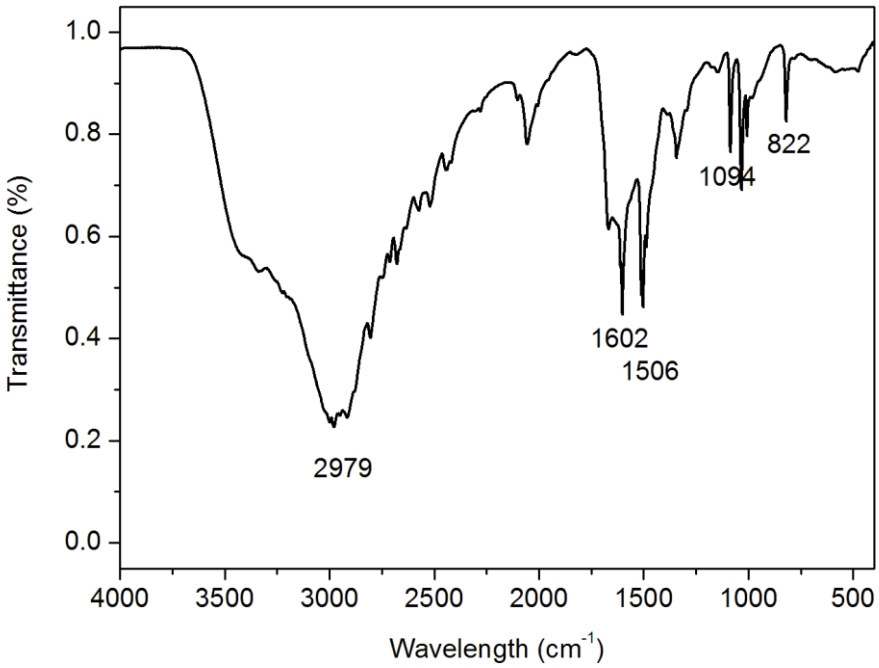

Fig. S4 FT-IR spectrum of CNDs thus obtained.

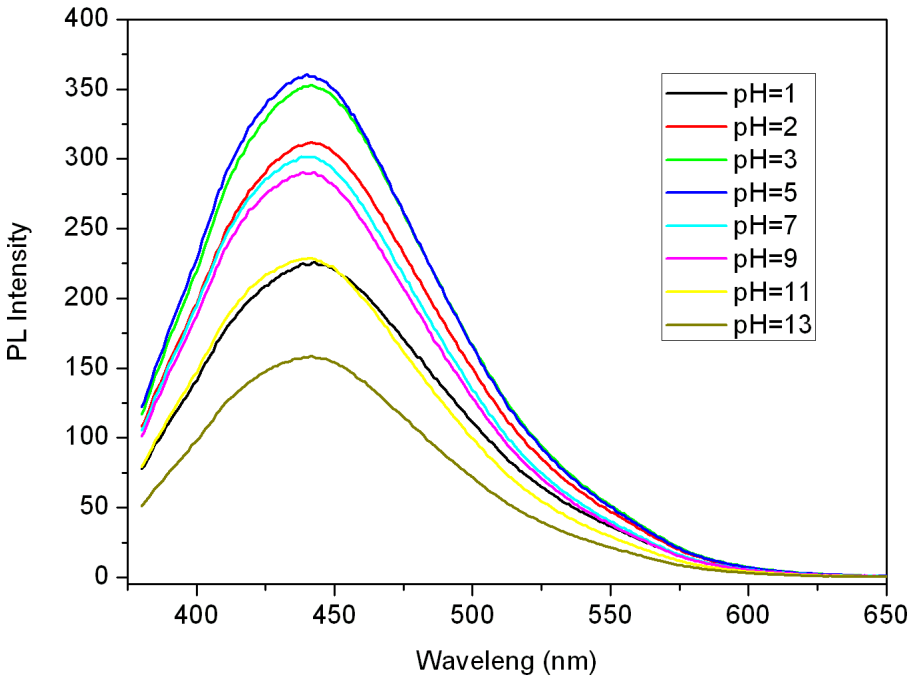

Fig. S5 The effect of the solution pH value on CNDs fluorescence.

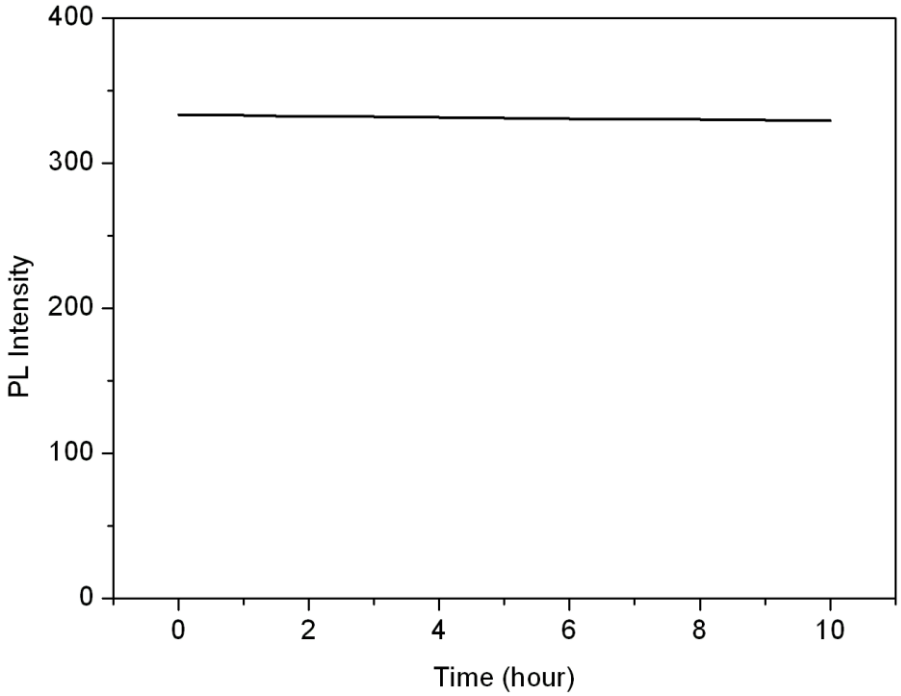

Fig. S6 Emission intensity of CNDs during continuous excitation at 365 nm.

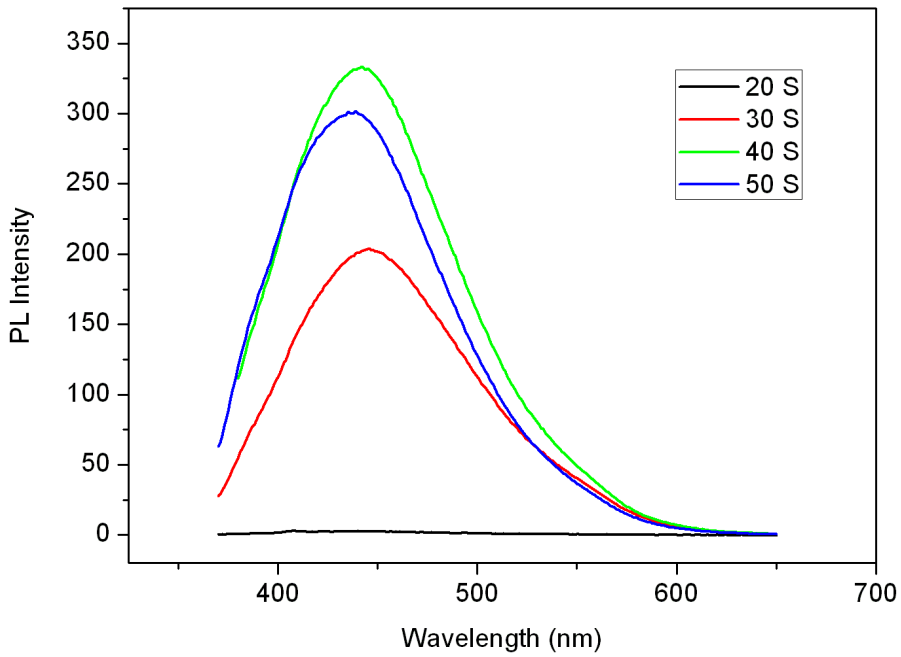

Fig. S7 The effect of microwave irradiation time on the intensity of CNDs.