

[Electronic Supplementary Information]

Electrochemical Exfoliation of Carbon Dots with the Narrowest Full Width at Half Maximum of Fluorescent Spectra in Ultraviolet Region Using Only Water as Electrolyte

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Experimental

The synthesis of CDs was electrochemical exfoliation of graphite rods in a two-electrode configuration. Two graphite rods were vertically inserted in distilled water with the parallel distance of 2 cm. The static potentials of 60 V, provided by a direct current power supply, were applied to two graphite rods and a magnetic stirrer was continuously working during the reaction. As the progress of the reaction, yellow solution slowly appeared in the reactor (about three days) and then gradually turned into dark brown (nearly a week). The resultant solution was firstly centrifuged at 1000 rpm for 30 min and then filtered to obtain solution containing CDs. Transmission electron microscopy (TEM) and high-resolution TEM (HRTEM) images were observed using a JEM-2100 transmission electron microscope. The measurement of FL and FL excitation was carried out on a Fluoromax-4 fluorescence spectrophotometer (Horiba). Fourier transform infrared spectroscopy (FTIR) was conducted on a Nicolet 5700 FTIR spectrophotometer (Nicolet). X-ray photoelectron spectroscopy (XPS) was carried out with Electron spectrometer (PHI5000 Versaprobe). Light absorption properties were obtained using ultraviolet-visible (UV-vis) spectrophotometer (UV-3600, Shimadzu, Japan). ¹³C NMR spectrum of the CDs

was recorded on a Bruker EMX-10/12 instrument.

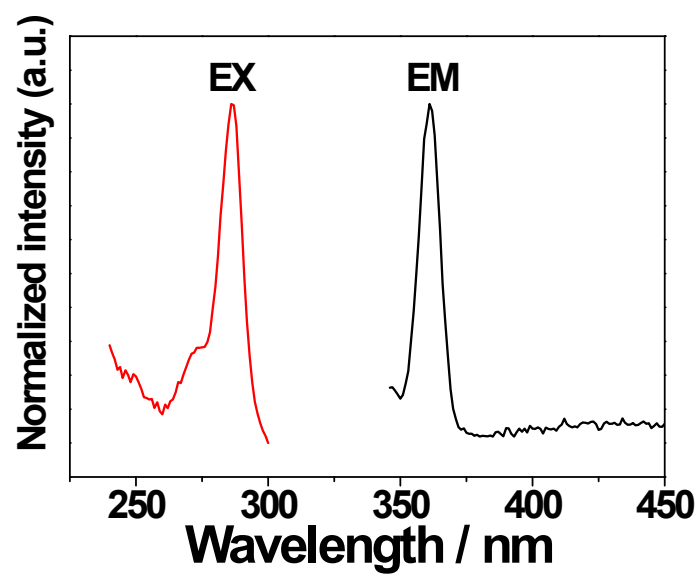


Fig S1. PL excitation spectrum and PL spectrum

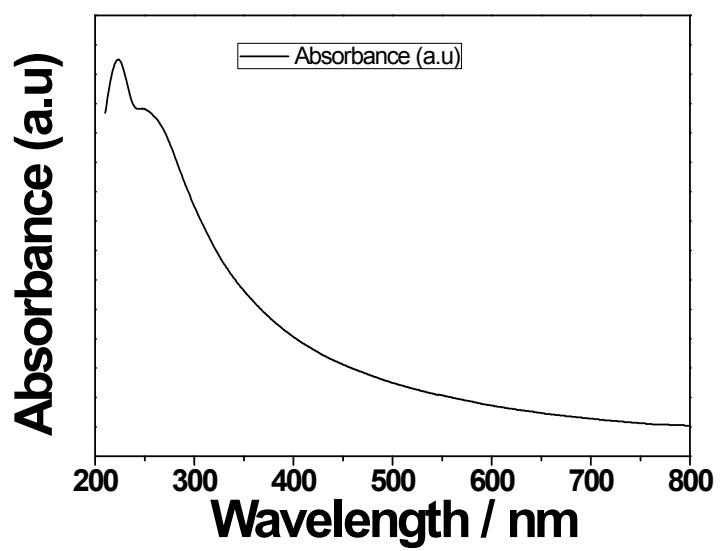


Fig S2 The UV-vis absorption spectrum of the CDs

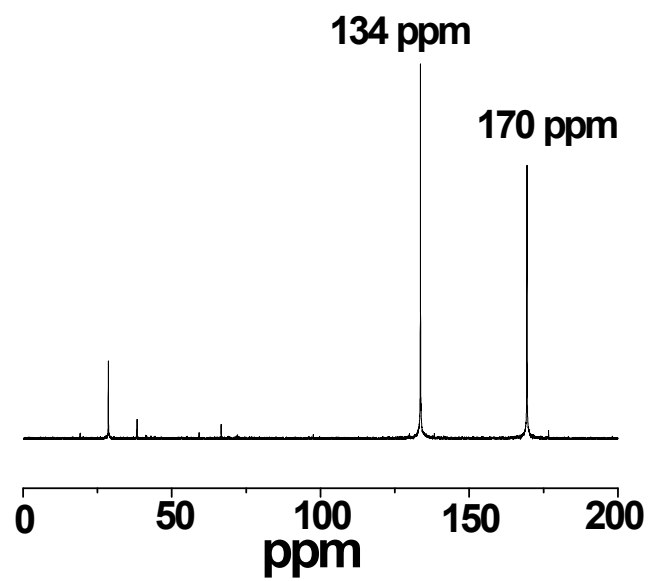


Fig S3 ^{13}C NMR spectrum of the CDs