



Technical Data Sheet

ACS Material Green Graphene Quantum Dots

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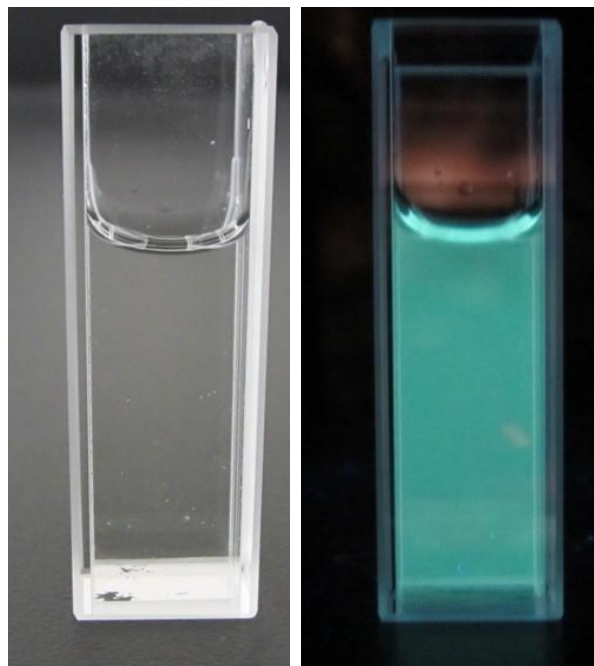
Revision: 071917

1. Preparation Method

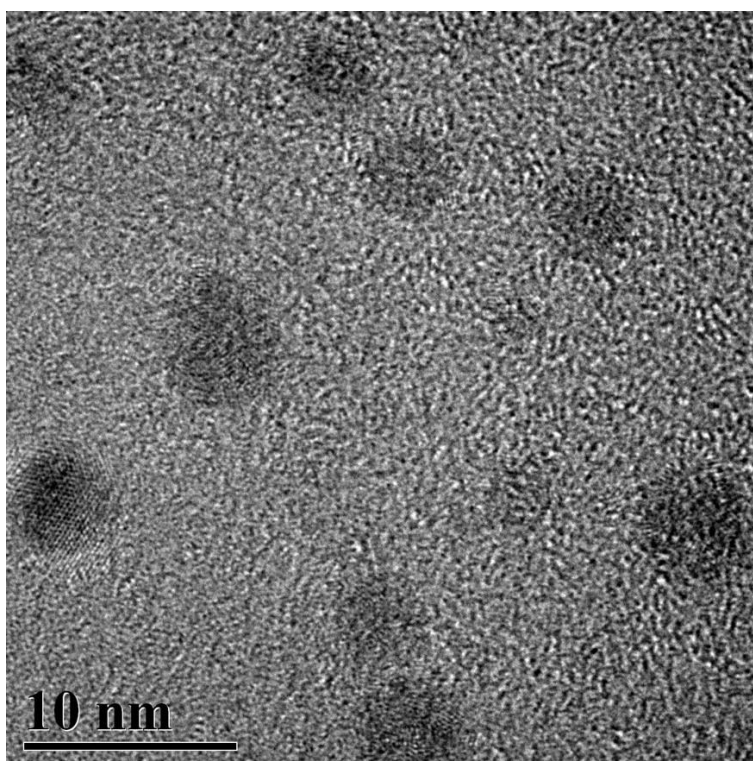
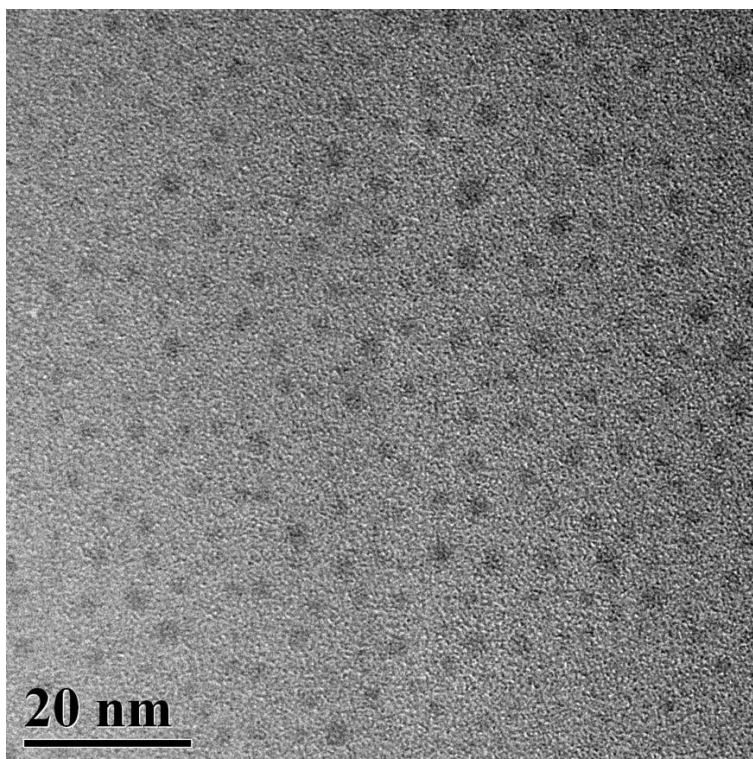
Hydrothermal Method

2. Characterizations

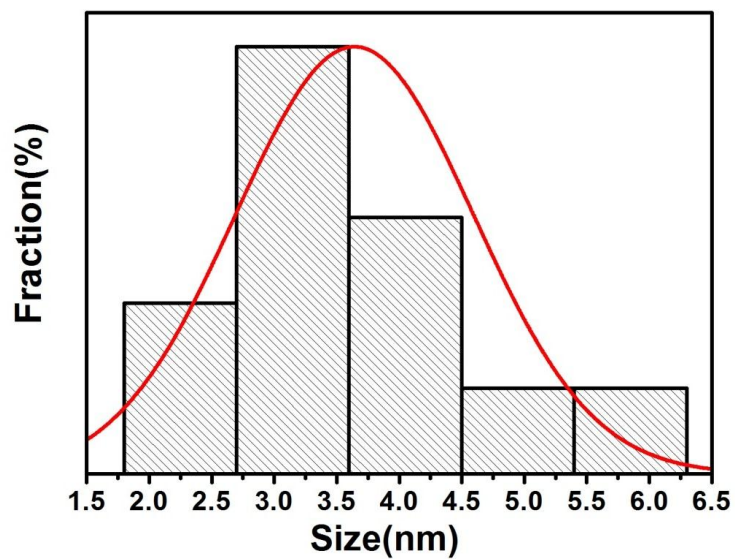
Composition:	Green Graphene Quantum Dots
Appearance:	Colorless solution
PL Peak:	530 nm (reference only, actual value may vary)
Particle Size:	<6 nm
Concentration:	1 mg/mL
Solution:	Water (Containing a little DMF)



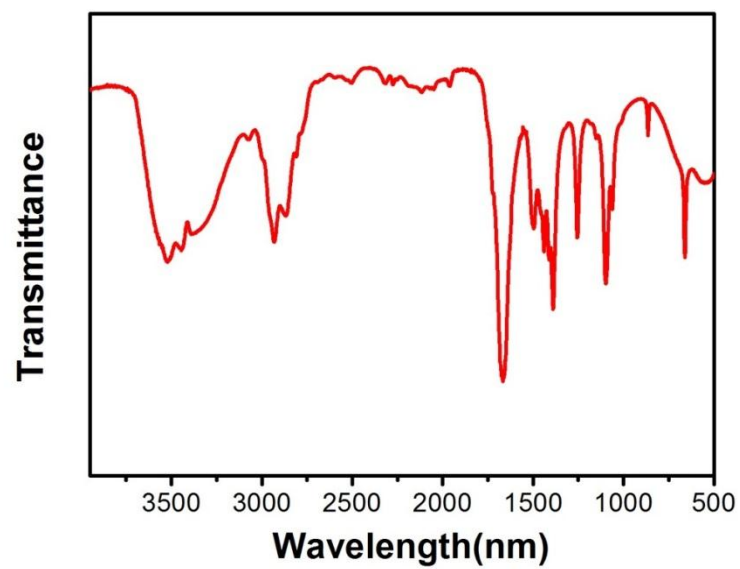
Emission Photos of ACS Material Green Graphene Quantum Dots
Excited by Natural Light (left) and UV Light (right)



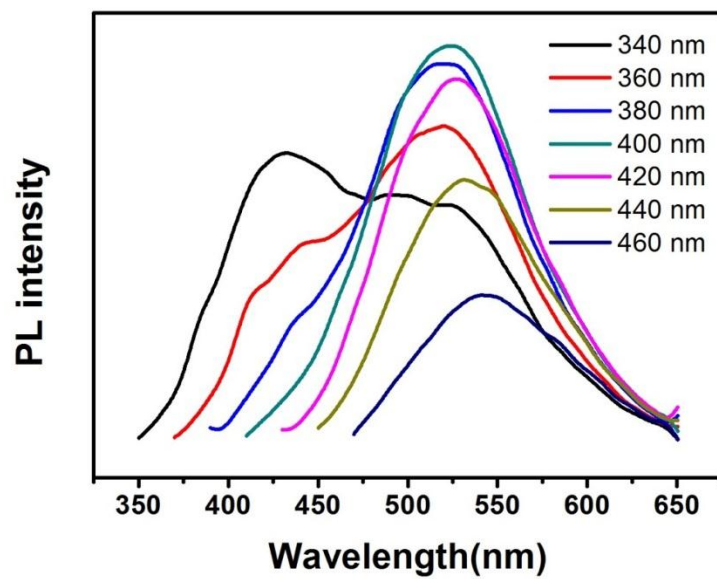
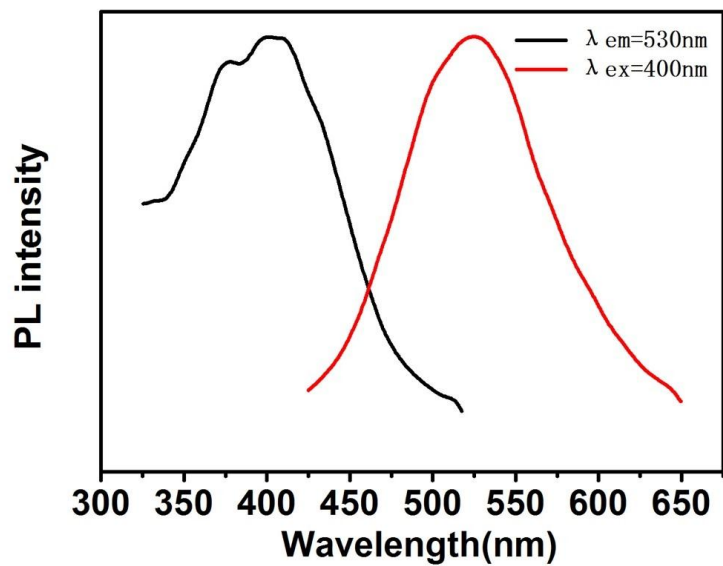
Typical TEM Image of ACS Material Green Graphene Quantum Dots



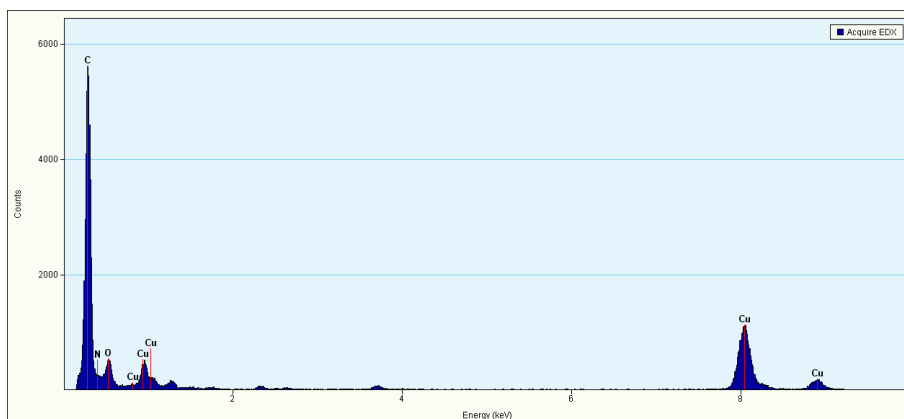
Size Distribution of ACS Material Green Graphene Quantum Dots



IR Spectra of ACS Material Green Graphene Quantum Dots



PL Spectra of ACS Material Chlorine Functionalized Graphene Quantum Dots



	Wt%	At%
C	91.6	93.18
N	4.02	3.51
O	4.33	3.30

EDX Spectra of ACS Material Green Graphene Quantum Dots

3. Application Fields

Graphene quantum dots exhibit unique optical and electronic properties due to their quantum confinement and edge effects, and have a variety of novel applications, such as low-toxicity and photostable fluorescence probes for cell imaging and biosensing, low-cost acceptors for organic photovoltaic cells and light emitting diodes, a metal-free platform for surface-enhanced Raman scattering, and an upconverted sensitizer for modifying rutile TiO₂ nanocrystals as a composite visible-light photocatalyst.

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