



## Technical Data Sheet

### ACS Material Aminated Graphene Quantum Dots

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Revision: 070617

## 1. Preparation Method

Hydrothermal method

## 2. Characterizations

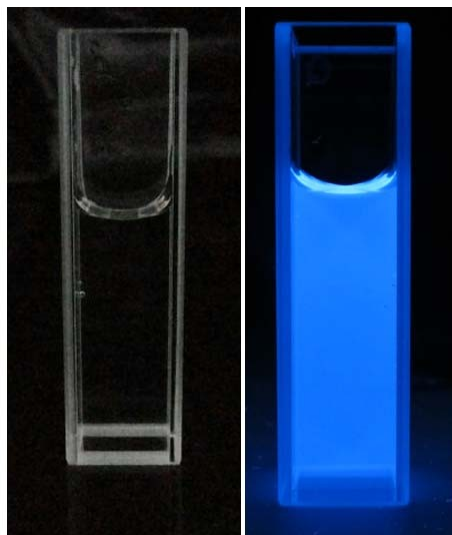
Composition: Aminated Graphene Quantum

Dots Appearance: Colorless solution

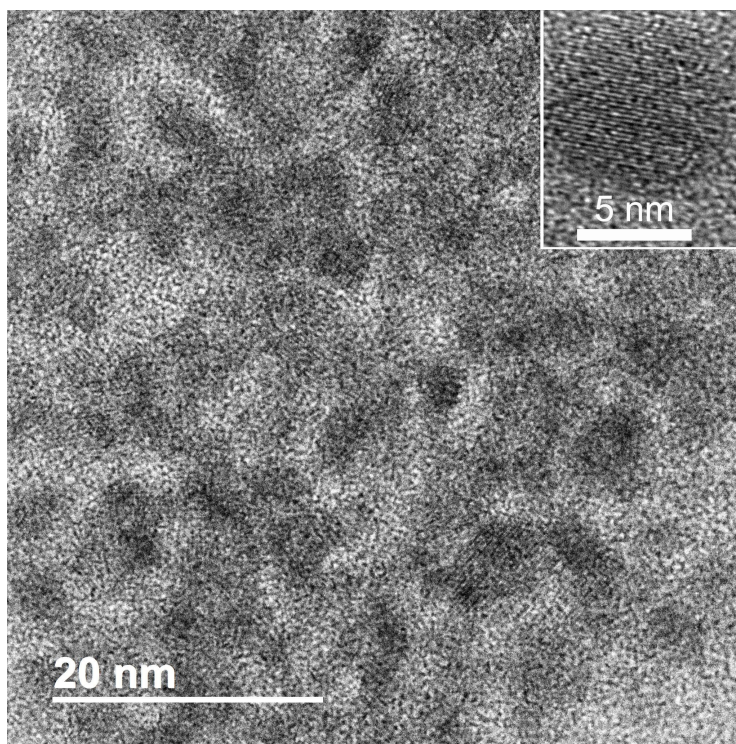
PL peak: 440 nm (reference only, actual value  
may vary) Particle Size: < 5 nm

Concentration: 1

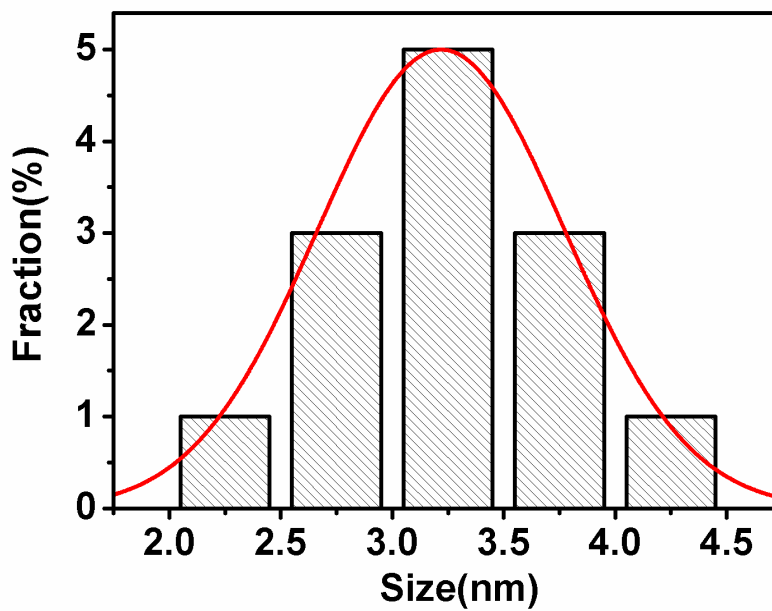
mg/mL Solution: Water



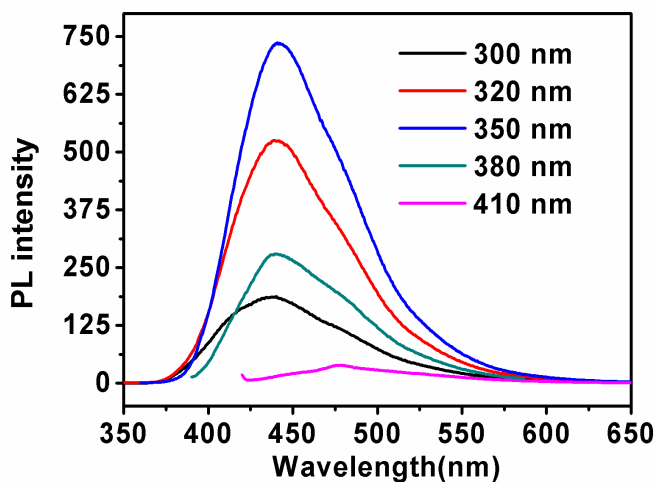
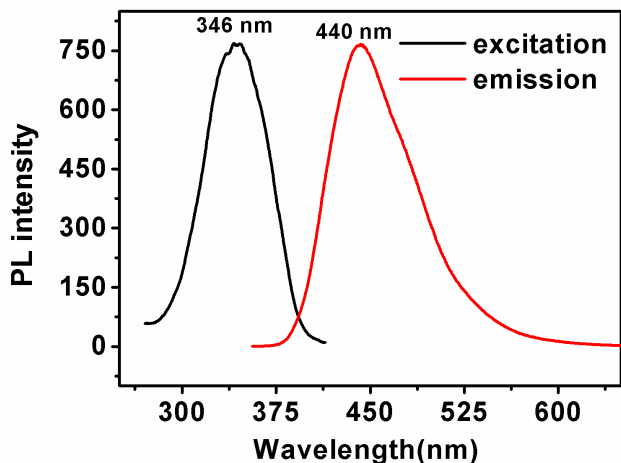
Emission Photos (1) of ACS Material Aminated Graphene Quantum Dots  
Excited by Natural Light (left) and UV Light (right)



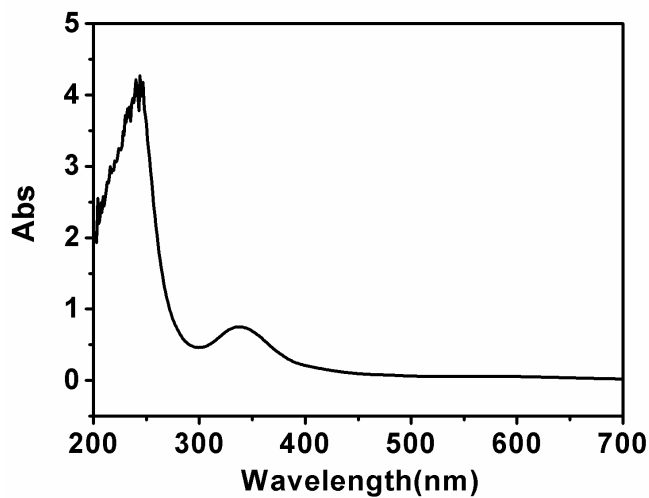
TEM Image (2) of ACS Material Aminated Graphene Quantum Dots



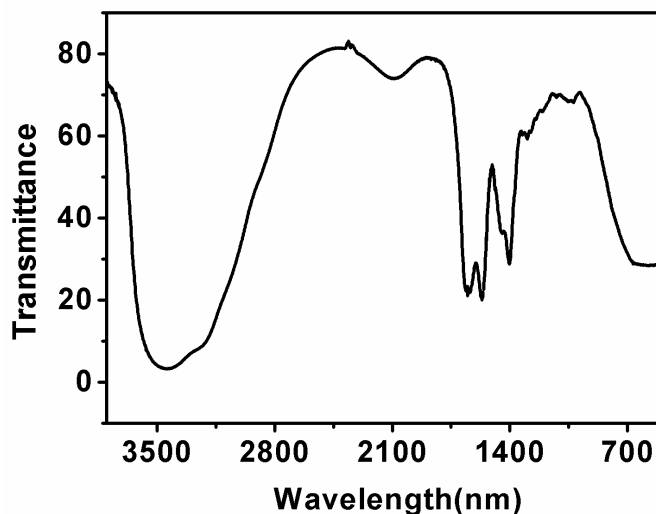
Size Distribution (3) of ACS Material Aminated Graphene Quantum Dots



PL Spectra (4) of ACS Material Aminated Graphene Quantum Dots



Absorption Spectra (5) of ACS Material Aminated Graphene Quantum Dots



IR Spectra (6) of ACS Material Aminated 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 TiO<sub>2</sub> nanocrystals as a composite visible-light photocatalyst.

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