

New
Product



Graphene Quantum Dot

Properties

Solvent : DIW

Concentration : 0.5g/L

Flake size : <10nm

Thickness : 1 atomic layer
- at least 60%

Color : Brown

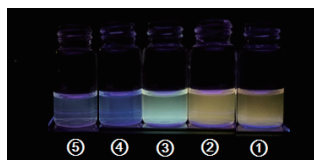
Production Method

Top-down method (by Carbon fiber)

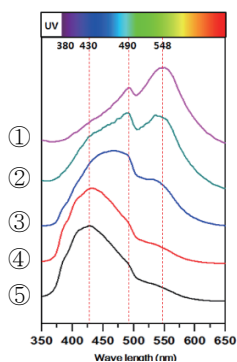
Applications

- Nanocomposite materials
- Graphene based field effect transistor (GFET)
- Energy conversion & storage
- Chemical reaction catalyst
- Drug delivery carrier
- Tissue engineering

Measurement data



Photograph under UV light



Photoluminescence (PL) spectra

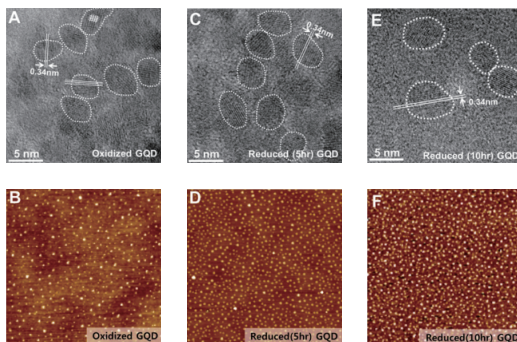
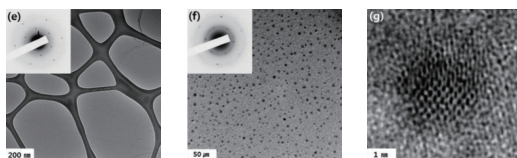


Figure 3. TEM and AFM images of GOQDs (A, B), 5 h reduced GOQDs (C, D), and 10 h reduced GOQDs (E, F), respectively. The AFM scan ranges are $3\mu\text{m} \times 3\mu\text{m}$.



(e) TEM image of monolayer graphene supported by holey carbon grids. (f, g) Low and high-resolution TEM images of N-GQDs on a graphene-supported grid.

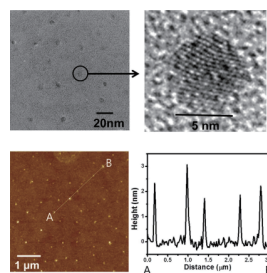
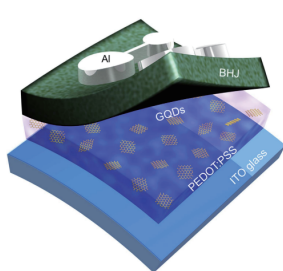


Figure 1. Schematic of device, and TEM and AFM images of GQDs. Schematic of OPV device with a GQD-incorporated PEDOT:PSS layer, and TEM images of the GQDs. The scale bar is 20nm on the TEM image, and 5nm on the inset image. AFM image of GQDs ($5\mu\text{m}$ by $5\mu\text{m}$) and height distribution from A to B.

Reference

- (1) J. Moon et al. One-Step Synthesis of N-Doped Graphene Quantum Sheets from Monolayer Graphene by Nitrogen Plasma. Adv. Mater. 26, 3501–3505 (2014).
- (2) Jung Kyu Kim*, Sangjin Kim* et al. Graphene Quantum Dots Incorporated Hole Extraction Layer for Efficient Organic Photovoltaics. Sci. Rep. 5, 14276



GRAPHENE SQUARE

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