

Supplementary Information

Fluorinated graphdiyne as a significantly enhanced fluorescence material

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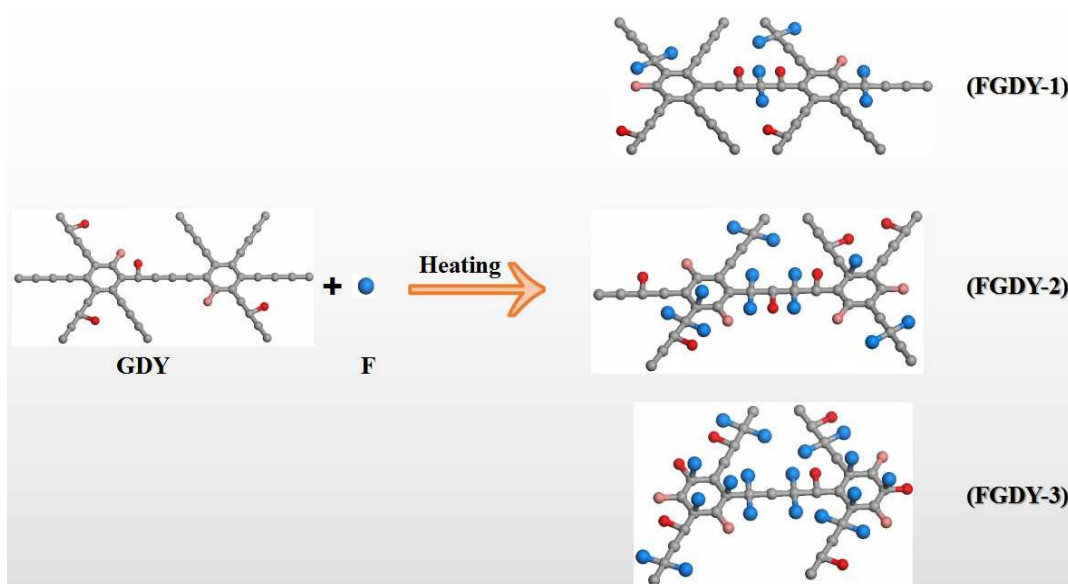


Figure S1. Schematic illustrations of F doping in GDY, in which gray balls represent C atom, blue balls represents F atoms, red balls represent O atoms in C-O bonds and pink balls represent O atoms in C=O bonds.

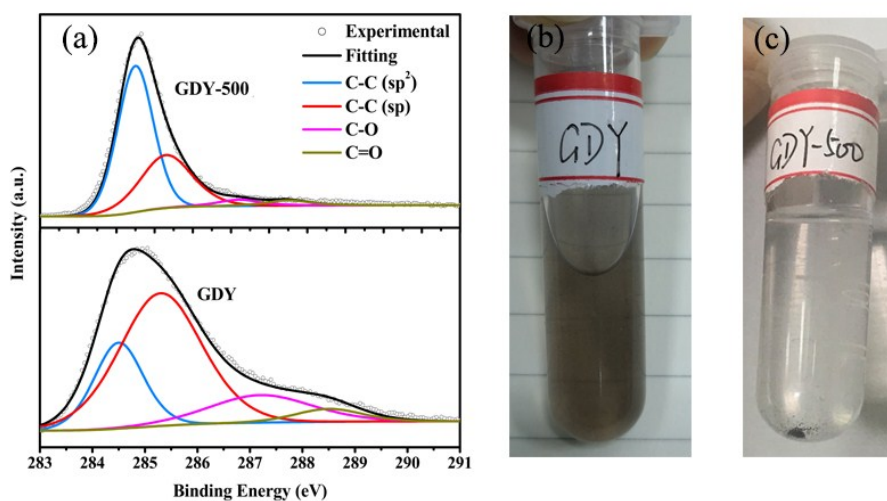


Figure S2. (a) The high resolution XPS spectra of C1s of the prepared GDY and the

annealed sample GDY-500, which is reduced at 500 °C. It is seen that the prepared GDY contains hydrophilic oxygen-containing functional groups (C-O and C=O), and the GDY sample is greatly reduced when it is annealed at 500 °C. (b) & (c) are the photos of the dispersions of GDY and GDY-500, respectively. It is clearly seen that the prepared GDY has good solubility in ethanol. For comparison, GDY-500 was dispersed in ethanol with the same experimental condition, and it is found that the annealed graphdiyne with little oxygen-containing functional groups is difficult to dissolve in ethanol.

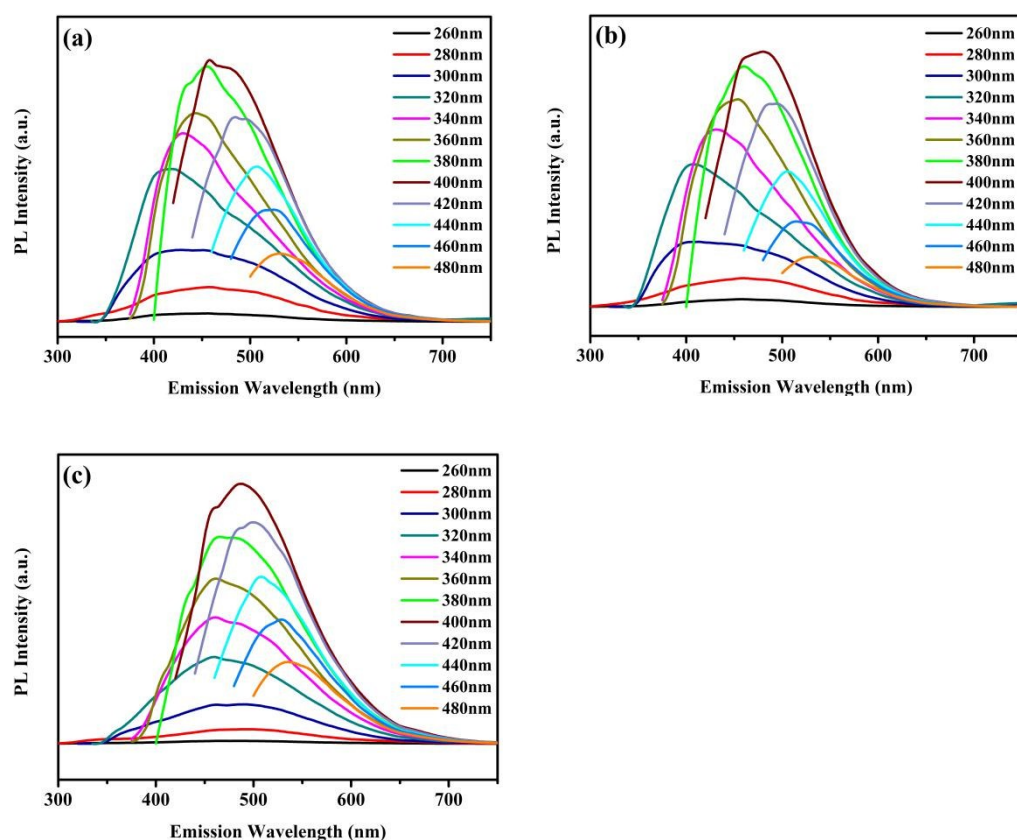


Figure S3. The PL spectra at different excitation wavelengths from 260 to 480 nm of (a) GDY, (b) FGDY-1, (c) FGDY-3.

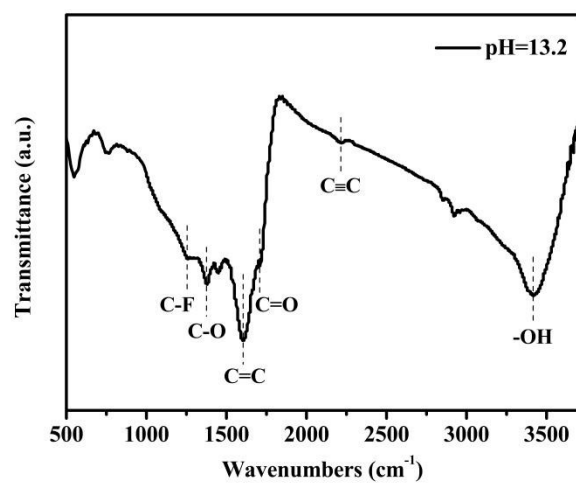


Figure S4. Fourier infrared spectrum of FGDY-2 at alkaline conditions.