

The effect of solvent polarity on emission property of carbon dots and their uses on detection of water

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Carbon dots have many interests because of their properties like non-toxicity, high quantum yield, strong fluorescence, photostability, hydrophilicity. However, the multi color emission is less pronounced compared with traditional semiconducting QDs. This is because the actual mechanism of photoluminescence is still controversial. Herein, our study has an intention of deep understanding how emission properties are changed by polarity of solvents. Carbon dot was synthesized from NTA(nitrilotriacetic acid) and p-PD(p-phenylenediamine) via solvothermal treatment. The synthesized carbon dots exhibit excitation-independent luminescence and red shift in different solvents.