

## Green Synthesis of Carbon Dots from Natural Carbon Source and Their Application to Metal Ion Sensing Platform

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Carbon dots are carbon-based fluorescent nanoparticles which have been gaining increasing popularity due to their inexpensive and green synthesis method as well as unique properties that include biocompatibility, low toxicity, and photochemical stability. In this study, we represent facile and green synthesis methods for carbon dots from natural carbon source. The preparation of carbon dots has been done using simple mechanical exfoliation technique. The obtained carbon dots were monodispersed and dispersed in the water. Photoluminescence behavior of carbon dots was evaluated, and their potential for metal ion detection sensor was assessed. For example, as  $\text{Fe}^{3+}$  ion concentration was increasing; the fluorescence intensity of carbon dots was reduced. The results of this study clearly demonstrate that inexpensive and green method for fabricating carbon dots. Furthermore, it is obvious that these carbon dots have a great potential as a metal ion detecting sensor.