Special Issue

Carbon Dots: From Lab Syntheses to Unique Applications

Message from the Guest Editors

In the past 20 years, CDs have witnessed an unprecedented prosperous development from lab synthesis to natural acquisition. A few of the varied synthesis strategies can be grouped into top-down (breaking of large remnants) and bottom-up (small molecule bond breaking/forming). Considering their small size, high water dispersity, excellent biocompatibility, photoluminescence, surface tunability, abundant electron donors and acceptors, and nontoxic nature, CDs and their covalently conjugated derivatives have been widely applied in bioimaging, sensing, security and 3D printing, photocatalysis, thermoelectricity, hybrid fuels and targeted drug/gene delivery to treat various cancers and neurodegenerative diseases such as Alzheimer's. However, each type of CD is unique with its own properties and potential applications. Therefore, this Special Issue aims to collect information on different CD species in terms of their synthetic approaches, purification and separation strategies, surface modification techniques, characterization of their optical, structural, morphological, and other physicochemical properties, and aforementioned applications.

Guest Editors

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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