

Special Issue

Carbon Dot-Based Drug Delivery Systems for Targeted Therapy

Message from the Guest Editors

This Special Issue focuses on the development and application of Carbon Dot-based drug delivery systems for targeted therapy. Carbon Dots (CDs) have gained increasing attention as multifunctional nanocarriers due to their unique physicochemical properties, including high biocompatibility, tunable surface chemistry, intrinsic fluorescence, and excellent drug-loading capacity. These characteristics make them ideal candidates for controlled and stimuli-responsive drug release, intracellular drug delivery, and gene therapy applications. We invite contributions that explore the following topics:

- Synthesis and functionalization strategies of Carbon Dots for enhanced drug delivery.
- Drug loading and release mechanisms, including stimuli-responsive approaches.
- Targeted therapy applications, such as cancer treatment, antimicrobial agents, and neurological diseases.
- Biological interactions and toxicity assessments in vitro and in vivo.
- Integration of Carbon Dots with imaging modalities for theranostic applications.
- Advancements in pharmacokinetics and biodistribution of CD-based drug carriers.
- Clinical translation potential, regulatory considerations, and scalability challenges.

Guest Editors

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