

Tentative Outline

Special Thematic Issue for the journal "Current Drug Metabolism"

Title of the Thematic Issue: **Nucleic acid nanomaterials: distributions, biostability and applications.**

Guest Editor: Dr. Yunfeng Lin

- **Scope of the Thematic Issue:**

In this thematic issue, we attempted to comprehensively review the current research status of nucleic acid nanomaterials. In this thematic issue, we first discuss the local and systemic distribution and metabolism nucleic acid nanomaterials. Then we introduce the ways to improve the biostability of nucleic acid nanomaterials. Finally, we review the applications of nucleic acid nanomaterials in tissue engineering, antimicrobial therapy, disease treatment and medicine delivery. In some cases, nucleic acid nanomaterials are treated as one of the most promising drug carriers to deliver therapeutics to the body areas that other delivery systems cannot reach. In this issue, we discuss in detail about nucleic-acids-based delivery system to transport RNA and small molecule drugs and synthesize DNA hydrogel. Therefore, this special issue would help readers to better understand the distribution, biostability and dissever applications of nucleic acid nanomaterials.

Keywords: Nucleic Acid-based Nanomaterials, DNA-based Nanomaterials, Biostability, Drug delivery, Applications, Treatment

Sub-topics:

- Biostability of nucleic acid-based nanomaterials
- Drug delivery system of nucleic acid-based nanomaterials
- Applications of nucleic acid-based nanomaterials

Tentative titles of the articles and list of contributors:

- Application and Prospects of Nucleic Acid Nanomaterials in Tumor Therapy
- The methods to Improve the Stability of Nucleic Acid-based Nanomaterials
- The Application of Nucleic Acid Nanomaterials in the Treatment of Mitochondrial Dysfunction
- Framework Nucleic Acids: a Promising Vehicle for Small Molecular Cargos
- *In situ* Fluorescence Imaging and Biotherapy of Tumor Based on Hybridization Chain Reaction
- The Synthesis and Biomedical Applications of DNA Hydrogel
- Application of Nucleic Acid Nanomaterials in the Treatment of Endocrine and Metabolic Diseases
- DNA-based Nanomaterials in the Immunotherapy
- Nucleic Acid Nanomaterials-based Therapy for Osteoarthritis: Progress and Prospects

Schedule:

- ✧ Thematic issue submission deadline: 31st-Dec-2022

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