VIDEO ARTICLE

Vid. Proc. Adv. Mater., Volume 3, Article ID 2208305 **(2022)**

Nucleic Acid Based Biomaterials from Supramolecular Systems to Therapeutic Applications

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DOI: 10.5185/vpoam.2022.08305

Abstract

Amphiphilic biomolecules are emerging as promising supramolecular materials for biomedical and technological applications. In this presentation we will highlight the recent progresses in the field of nucleic acid-based lipids with an emphasis on their molecular design, supramolecular properties, physicochemical behaviors, and applications in the field of health science. In a first part we will focus on the design and the study of nucleolipids and the glyconucleolipid family. Also, recent contributions of responsive materials involving nucleolipids and their use as smart drug delivery systems will be discussed. The supramolecular materials generated by nucleic acid-based lipids open new challenges for biomedical applications, [**1**] including the fields of medicinal chemistry, biosensors, biomaterials for tissue engineering, drug delivery, and the decontamination.

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Citation of Video Article

Vid. Proc. Adv. Mater., Volume 3, Article ID 2208305 **(2022)**

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