Special Issue

Multifunctional Polymeric Materials for Drug and Gene Delivery: Design Concepts, Synthesis Strategies and Potential Applications

Message from the Guest Editor

Drug and gene delivery have shown their promise in the treatment of various inherited and acquired diseases, the development of vaccines and tissue regeneration. Safe and efficient drug and gene delivery to target cells and tissues remains a major challenge. The development of clinical realiable drug and gene delivery systems would greatly expidite the translation of drug and gene therapies from bench to bedsides. Compared with other counterparts, multifunctional polymeric materials (such as polymers, liposomes, peptides and inorganic nanoparticles), due to their wide availability of starting materials, flexibility in composition and structure, high safety and non-immunogenicity and scalable synthesis, have attracted significant attention for drug and gene delivery during the last three decades. With the recent progress in chemistry, a series of advanced synthesis strategies have been proposed, many new multifunctional polymeric drug and gene delivery materials have been prepared, and the drug and gene delivery efficiency and safety profiles have been substantially improved. Especially, numerous clinical trials are ongoing.

Guest Editor

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Deadline for manuscript submissions

closed (20 October 2023)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/116272

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