



Recent Advances in Polysaccharides and Their Derivatives for Wastewater Treatment and Drug Delivery Applications

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Message from the Guest Editors

Polysaccharides are considered the most essential natural polymers which have gained remarkable attention for various applications, particularly in wastewater treatment and drug delivery fields. Improving the drinking water quality is a crucial topic for global governments and industrial and social sectors. Water is contaminated with various pollution sources including heavy metal ions, organic pollutants (such as synthetic dyes, pesticides, and residual antibiotics), and pathogens that threaten human health and ecosystems. On the other hand, drug delivery systems have fascinated interest in biomedical and pharmaceutical applications in recent years to deliver the therapeutic agents to the target site through systemic circulation to eliminate overdosing drugs and increased patient compliance. Owing to the outstanding physicochemical properties of polysaccharides such as their abundance in nature, low-cost processing, biocompatibility, biodegradability, non-toxicity, water solubility, and bioactivity, they play an important role in the development of high-efficient adsorbents as pollutants' removal and targeted vesicle for various therapeutic drugs.





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