Special Issue

Water-Soluble Chitosan Derivatives-Based Materials: From Synthesis to Applications

Message from the Guest Editors

Chitosan is classified as a weak cationic polyelectrolyte due to the presence of ionizable primary amino groups with a pKa value of 6.4. The solubility of chitosan in an aqueous environment is dictated by the level of protonated amino groups in the glucosamine unit. Thus, chitosan is insoluble at the physiological pH of ~7.4, which represents a major inherent drawback for using chitosan in applications requiring solubility or polyelectrolyte complex formation in a neutral aqueous environment. In this regard, the chemical modification of the chitosan by introducing new functional groups to its structure can significantly increase the solubility of chitosan in neutral aqueous solutions. In this Special Issue, we call for papers concerning the synthesis and characterization of water-soluble chitosan derivatives, in addition to their potential applications in different areas of technology and sciences, such as pharmaceutical industries, food industries, tissue engineering, delivery systems for macromolecules, wound dressing, cosmetics, agricultural materials, water purification, drug delivery, gene therapy, and treatment of infections.

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Deadline for manuscript submissions

closed (30 September 2022)

Polymers

an Open Access Journal by MDPI

Impact Factor 4.9
CiteScore 9.7
Indexed in PubMed

mdpi.com/si/78975

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Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.9.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

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