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Seaweed Polysaccharides: Innovations in Isolation, Characterization, Chemical Modification and Processing

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Message from the Guest Editor

Seaweed biomass has been used for centuries, primarily in the food sector. These seaweed polysaccharides (SWPSs) are uniquely different from plant-based polysaccharides like cellulose and starch. They are highly diverse in both their molecular structure and range of applications, spanning from compounds with high pharmaceutical activities and nutritional value to the preparation of innovative biomaterials and bioplastics.

This Special Issue is dedicated to innovations in the area of SWPSs, with a special focus on the following aspects: (i) new methods for the extraction of SWPSs from algae biomass, (ii) advanced fractionation and characterization of SWPSs as well as structure–property–relationship studies, (iii) chemical modification of SWPSs into functional derivatives, (iv) conversion of SWPS biomass into low-molecular-weight building block chemicals, (v) fabrication of SWPS-based biomaterials, and (vi) application studies focused on SWPSs and SWPS-based derivatives and materials. Researchers are invited to submit original work and review articles that illustrate recent advances in SWPS research.

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Message from the Editor-in-Chief

Polysaccharides and their derivatives are ubiquitous biopolymers, and therefore in recent years their potential use has increasingly been explored. *Polysaccharides* are still the biggest class of biopolymers used in classical industries such as the paper and textile industry. The progress and fundamental aspects of the new synthesis pathways and derivatization routes, characterization, properties, as well as processing of polysaccharides is important for their possible application in modern sustainable functional materials and future green technologies.

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