Special Issue

Supramolecular Gels: Preparation, Properties and Applications

Message from the Guest Editors

Mimicking the natural phenomenon of molecular self-assembly gives rise to the formation of supramolecular soft hydrogels with a myriad of practical applications. These hydrogels are produced from the supramolecular self-assembly of small molecules leading to anisotropic nano-sized fibers that eventually cross-link by physical bonds entrapping a large number of solvent molecules. Since these hydrogels are made of supramolecular interactions including hydrogen bonding, van der Waals, charge-transfer, dipole–dipole, pi–pi stacking, coordination interactions, etc., they are bestowed with the wonderful property of stimuli-responsiveness. Compared to conventional cross-linked polymeric hydrogels, the properties of supramolecular hydrogels can be easily modulated, and they do not require any additional cross-linking. Moreover, supramolecular hydrogels are free from reagents, such as initiators, enzymes, or catalysts, that may be present in cross-linked polymeric hydrogels and cause cytotoxicity. Due to these advantages, supramolecular hydrogels find wide applications in drug delivery, tissue engineering, pollutant capture, electronics, and so on.

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Deadline for manuscript submissions

closed (30 September 2023)

Gels

an Open Access Journal by MDPI

Impact Factor 5.3
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/160107

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Message from the Editorial Board

Gels (ISSN 2310-2861) is recently established international, open access journal on physical and chemical gel-based materials. The journal aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. General topics include but not limited to synthesis, characterization and applications of new organogels, hydrogels and ionic gels made either from low molecular weight compounds or polymers, composite and hybrid materials where a metal is by some means incorporated into the gel network, and computational studies of these materials in order to provide a better understanding of gelation mechanism. We cordially invite you to consider publishing with us and contribute with your own grain of sand to the advance in this fascinating field.

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