



Superhydrophobic Natural Polymers

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Message from the Guest Editors

Natural polymers, such as plant polymers (lignin, cellulose, and other polysaccharides), animal polymers (wool, keratin, etc.), biopolymers (proteins, RNA, DNA), and polymers from sea animals and algae (chitin, chitosan, agar, etc.), are widespread on Earth and have great scientific and practical importance. Unfortunately, these polymers are hydrophilic, which limits their use in such application fields as the creation of waterproof and vaporproof materials and the production of hydrophobic/superhydrophobic fillers and reinforcements that are compatible with hydrophobic composites of polymers and with hydrophobic compositions of coatings, paints, adhesives, and other hydrophobic materials. There are several methods for converting natural hydrophilic polymers into hydrophobic ones and, even better, superhydrophobic ones. The physical methods include coating of hydrophilic polymers with hydrophobic/superhydrophobic melts or latexes. The chemical methods include introduction of hydrophobic/superhydrophobic groups and graft polymerization.





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