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Sommario/riassunto

Plants are the most important renewable source of feedstock for polymeric materials. They are a resource of monomers and macromolecules after the appropriate chemical treatment. By analogy with the petrochemistry industry, plant macromolecules are depolymerized into simpler units which are generally chemically modified and re-bound to produce new polymers. The properties of these polymers are usually tailored by small chemical changes in their molecular structure, or by the polymerization of plant monomers with other molecules. Another interesting strategy for the formation of polymeric materials is the direct use of plant macromolecules in the form of blends, composites, grafted polymers, multilayer systems, etc. The interactions and assemblies of the different components allow the control of the final features of such materials. Traditionally, polysaccharides, with cellulose as the main protagonist, have been the most used substances. However, as consequence of a growing demand of functional plastics, other plant macromolecules, habitually considered wastes, have started to become valuable raw materials. Lignin and plant proteins (mainly, soy protein, wheat gluten, and zein) are classical examples. Also, suberin has been highlighted in this field. Other plant polymers such as the cutin and the sporopollenin are promising alternatives. Furthermore, other minority plant polymers, e. g. cutan or algaenan, could be potential sources of materials. The different chemistry, structure, intrinsic properties and functions of

these macromolecules in the plants are a strong inspiration for the development of novel and interesting polymeric materials. Here, in this Research Topic, we welcome the submission of manuscripts related to the production, extraction, processability, synthesis, characterization and applications of non-polysaccharides plant materials.