

Tentative Outline
Special Issue for Current Organic Chemistry
Guest Editor(s): Elena Fortunati and Deepak Verma

TITLE: Biopolymeric based formulations for industrial and biomedical applications

Aims & Scope:

Biopolymer means the polymers which are produced in a natural way by living species. In general their molecular structures are composed of the units of saccharides, nucleic acids and also different additional chemical side chains contributing to their consequences. The utilization of the biopolymers by Humans comes under the category of food, clothing and furniture. On the other side if we talk about the industrial applications of biopolymers, then it is found that fossil fuels are the substantial origin for the manufacture of the commercial products for example, plastics which is presently used at very high scale. Some of the biopolymers examples are such as Proteins, Carbohydrates, Lipids, DNA, RNA, Nucleic acids, Peptides, Polysaccharides (glycogen, starch, cellulose etc.). There are basically four main classifications of biopolymers available considering both natural and synthetic polymers carbohydrate based biopolymer, starch based biopolymer, biopolymers based on synthetic materials and cellulose based biopolymers. In this issue we are mainly focusing on the history and origination of the biopolymers, their classifications and biopolymer based formulations such as Biocomposites etc.. We will also discuss about the various applications of these biopolymer formulations in the field of biomedical engineering and industrial fields. Sugar based polymers, such as polylactides, naturally degenerate in the human body without producing any harmful side effects. Polylactides are generally used as surgical implants. Starch based biopolymers can be used for creating conventional plastic by extruding and injection molding. Biopolymers based on synthetic are used to manufacture substrate mats. Cellulose based biopolymers, such as cellophane, are used as a packaging material.

Subtopics:

- Biobased composites a potential replacement for structural materials used in the construction industry.
- Biobased Composite Materials: A prospective utilization in Biomedical applications
- Polylactide based composite for tissue engineering
- Biopolymer based composites: A potential application in food packaging industries.
- Natural polymers/chitosan or starch based formulations for food packaging sectors
- Multifunctional antimicrobial bionanocomposites for food packaging applications.
- Lignocellulosic based bionanocomposites for different industrial applications.
- Cellulose nanocrystals from different natural sources or wastes and their applications in nanocomposites based systems

Approximate Schedule:

Manuscript Submission Deadline: 10/20/2016

Peer Review Due: 11/20/16

Revision Due: 12/10/16

Notification of Acceptance by the Guest Editor: 12/25/16

Final Manuscript Due: 12/31/16