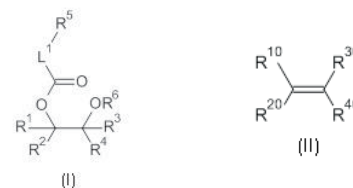




Green process for functionalization of unsaturated compounds and resulting products

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 Field : **Green chemistry - Polymers - Coatings**



KEYWORDS

Functionalization of unsaturated ;
 compounds (like vegetable oils)
 Production of specific monomers
 Production of specific (bio) polymers

Description :

- 1) A process for synthesis of a multifunctional unsaturated compound (formula (I) or isomers) which comprises reacting an unsaturated compound of formula (II) with atmospheric or molecular oxygen, in the presence of at least one catalyst.
- 2) The use of these compounds as monomers for preparing polymers or biopolymers like polyurethanes or specific polyesters.

Benefits / Advantages :

The benefits of the process are:

Atmospheric oxygen as reactant; Low energy process (catalysis); Solvent free technology, Atom economy (atomic efficiency : 100 %), no waste, no by-products, Recycling of catalyst, Polymers with reactive organic functions

The benefits of the products: Flexibility of the process allows to obtain a wide variety of monomers and therefore a large variety of polymers or biopolymers (when starting from vegetable oil) which can themselves be functionalized for specific properties (like anti-bacteria, adhesive, ...)

Application Sectors

Development / Production of monomers
Development / Production of (bio) polymers with specific properties.

For applications like: Oleo-chemical industries; Paint and Ink formulators (coatings); Adhesives; Polyurethane foam applications (building, automotive, ...); Polyesters, ...

Intellectual Properties	TRL	Type of Partnership Sought
Patent N° EP 2632886 CA2813286 US 9018409	4. Laboratory validated prototype	Academic collaboration and/or industrial collaboration for further developments