ComBIOsites: Reversibly photocrosslinked BIO-based composites with barrier properties from industrial by-products

Original

Availability:
This version is available at: 11583/2800432 since: 2020-03-04T16:02:00Z

Publisher:
nova-Institut GmbH

Published
DOI:

Terms of use:
openAccess
This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)
ComBIOsites
Reversibly photocrosslinked BIO-based composites with barrier properties from industrial by-products

Sara Dalle Vacche, Roberta Bongiovanni
Department of Applied Science and Technology, Politecnico di Torino, Italy

Objectives
Development of recyclable composite materials for packaging, using bio-based raw materials and environmentally friendly processes:
• Microfibrillated cellulose and bio-based prepolymers, both derived from agri-food industry waste, as raw materials.
• Curing by photopolymerization, a green technology with low energy requirements, room temperature operation, and low VOC emissions.
• Reversible photocrosslinking, to ensure the curing of the polymeric matrix upon irradiation at a given wavelength, and to allow its dismantling upon irradiation at a different wavelength.

Results

Work in progress
• Photoreversibility of matrices is currently under investigation
• Permeability of the films is being assessed and a model will be developed

ComBiOsites project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 789454