< ACS Meetings & Expos (/meetings/acs-meetings.html)

Past Meetings

View technical program abstracts from past ACS Meetings.

Technical Programming Archive (2011 - Present)

View technical program abstracts (https://scimeetings.acs.org/home) from past ACS Meetings.

2024

ACS Spring 2024

March 17-21 | New Orleans, Louisiana & Virtual

Theme: Many Flavors of Chemistry

- Opening Session (/meetings/acs-meetings/past-meetings/opening-session/many-flavors-of-chemistry.html)
- Kavli Lecture Series (/meetings/acs-meetings/past-meetings/kavli-lecture-series.html#spring2024)
- Technical Program (https://scimeetings.acs.org/search?query=&eventName=ACS+Spring+2024&sort=Recently+Added&start=1)

ACS Fall 2024

August 18-22 | Denver, Colorado & Virtual

Theme: Elevating Chemistry

- Opening Session (/meetings/acs-meetings/past-meetings/opening-session/elevating-chemistry.html)
- Kavli Lecture Series (/meetings/acs-meetings/past-meetings/kavli-lecture-series.html#fall2024)
- Technical Program (https://scimeetings.acs.org/search?query=&eventName=ACS+Fall+2024&sort=Recently+Added&start=1)

2023

ACS Spring 2023

March 26-30 | Indianapolis, IN & Virtual

Theme: Crossroads of Chemistry

- Opening Session (/meetings/acs-meetings/past-meetings/opening-session/crossroads-of-chemistry.html)
- Kavli Lecture Series (/meetings/acs-meetings/past-meetings/kavli-lecture-series.html#spring2023)
- Technical Program (https://scimeetings.acs.org/search?query=&eventName=ACS+Spring+2023&sort=Recently+Added&start=1)

ACS Fall 2023

August 13-17 | San Francisco, CA & Virtual

Theme: Harnessing the Power of Data

- Opening Session (/meetings/acs-meetings/past-meetings/opening-session/harnessing-the-power-of-data.html)
- Kavli Lecture Series (/meetings/acs-meetings/past-meetings/kavli-lecture-series.html#fall2023)
- Technical Program (https://scimeetings.acs.org/search?query=&eventName=ACS+Fall+2023&sort=Recently+Added&start=1)

2022

ACS Spring 2022

March 20-24 | San Diego, CA & Virtual

Theme: Bonding Through Chemistry

Elisabete Frollini

Abstract

Lignocellulosic biomass, widely abundant worldwide, is an essential raw material for sustainable materials. Its main components, cellulose, hemicelluloses, and lignin, have a chemical structure rich in functional groups, making them reagents for various syntheses. They have polar and nonpolar domains, allowing for favorable interactions with other macromolecules in blends and with additives. Different sustainable materials can be produced from lignocellulosic biomass and other renewable raw materials, such as those from oleaginous biomass and citrus fruits, through synthesis or mixtures. However, there are still challenges to successful conversion into marketable products. One of the barriers that must be overcome is the use of clean bench-scale methodologies that can be scaled, thus contributing to the path to commercialization. In this context, hydrogels have been formed by deconstructing lignocellulosic fibers, releasing their primary components into the solvent medium (employing recoverable solvents), and then chemically crosslinking them with citric acid. The objective is the sorption of heavy metals, with subsequent desorption to recover the metals and reuse the hydrogel. Hydrogels have been formed as beads or cylindrical species, and preliminary results are promising. In addition, cellulose combined with ricinoleic acid triglyceride has been used as reagents to synthesize bio-based polyurethanes, simultaneously forming films or composites using the appropriate methodology. Polyesters have been synthesized by combining cellulose with epoxidized soybean oil and citric acid. During the process, composites or films are formed. Nanocelluloses have been added as additives to the films to enhance their barrier properties, while nanoparticles have been incorporated to provide antiviral properties. Lignocellulosic fibers, such as short fibers or mats, have been used as reinforcement in composites. The processes that led to films or composites took place without solvent or catalyst. The investigations aim to partner with developing sustainable materials using methods that have the potential to scale. 2020/13703-3, São Paulo Research Foundation

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