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Biomass and Bioenergy
Volume 137, June 2020, Article number 105550

## A grand avenue to integrate deep eutectic solvents into biomass processing (Review)

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## Abstract

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Deep eutectic solvents (DESs) are green solvents that are developing rapidly, used in many types of applications as well as fundamental investigations. The physicochemical properties of DESs are one of the most important factors which led to their increased interest in science and technology. DESs are thermally and chemically stable, non-flammable and have a negligible vapor pressure. Furthermore, most of the newly formulated DESs are liquids at room temperature. DESs are more economical and less expensive compared to ionic liquids. DESs are frequently prepared from renewable and non-toxic precursors, in addition, there are wide selections of biocompatible and biodegradable DESs. Hence, DESs have been used in many applications and processes such as biorefinery, lignocellulose dissolution, bioactive compound extraction and electrochemical applications. In this review, an update of the application of DESs in biomass processing as renewable sources is presented. This review aims to cover as much as possible the ongoing research and applications of DES and invite opinions to broaden the applications of DESs, rather than concentrating on the physicochemical fundamentals of new DESs. The future of these solvents is bright but require further investigations and efforts for a better understanding and future for sustainable resources. © 2020 Elsevier Ltd

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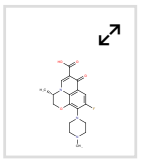
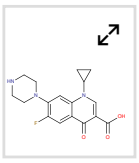
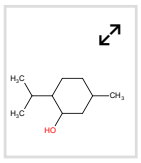
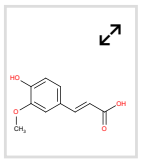
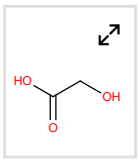
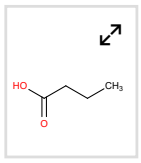

## Author keywords

Dissolution Extraction Green solvent Ionic liquid Recycling Sustainable resource

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Funding text

This research is funded by the Ministry of Education, Malaysia , Grant No. ( FRGS19-027-0635) and University of Malaya , Grant No. ( IIRG010B-2019 ). The authors also extend their appreciation to the University of Malaya Centre for Ionic Liquids (UMCiL) and to the International Institute for Halal Research and Training (INHART), International Islamic University Malaysia. The authors are also grateful to the Faculty of Engineering & Technology, Muscat University, Sultanate of Oman.

**ISSN:** 09619534
**CODEN:** BMSBE
**Source Type:** Journal
**Original language:** English

**DOI:** 10.1016/j.biombioe.2020.105550
**Document Type:** Review
**Publisher:** Elsevier Ltd


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