# Evaluation of New Deep Eutectic Solvents Based on Natural Carboxylic Acids as Solvents for Separation Processes

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One of the critical issues in optimization and design of new separation processes lies on the selection of a suitable solvent that improves process efficiency and cost, but also minimizes environmental damages. Over the past years, ionic liquids (ILs) appear as promising candidates mainly due to their properties tunability and low vapor pressure [1]. More recently, deep eutectic solvents formed by combination of a quaternary salt and a hydrogen-bond donor showed analogue solvent characteristics with promising advantages regarding low cost preparation, no need for purification, no water incompatibility, tunable phase behavior and solubility, low toxicity and biodegradability [2]. A new family of DES based on organic salts and natural carboxylic acids is introduced and characterized here as a cheaper and greener alternative to ILs as solvents for some separation technologies.

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[2] Abbott, A.; Boothby, D.; Capperand,G.; Davies,D.; Rasheed, R.; Deep eutectic solvents formed between choline chloride and carboxylic acids: Versatile alternatives to ionic liquids, J. Am. Chem. Soc. 2004, 127, 9142–9147.