Seminars at the Department of Chemistry and Industrial Chemistry

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CV

Dr Matteo Tiecco graduated with full marks at the University of Perugia in October 2004 with the supervision of Prof. Gianfranco Savelli and Prof. Raimondo Germani. He obtained his PhD in February 2008 at the same University of Perugia (Prof. Savelli, XX ciclo).
After his PhD, Dr Matteo Tiecco spent his post-doc activity in different workgroups at University of Perugia, at the University of Chieti-Pescara and at Universitat D'Alacant, Alicante, Spagna. He worked with Prof. Savelli (micellar aggregates, Ionic Liquids); Prof. Raimondo Germani (Ionic liquids, Deep Eutectic Solvents); Prof. Gabriele Cruciani (lipidomics, total synthesis); Prof. Gianluigi Cardinali (spectroscopic toxicity evaluation of surfactants as biocides and of DESs); Dr. Pietro Di Profio (graphene-based materials for gas storage), Diego A. Alonso (DESs in asymmetric organic synthesis). Nowadays he works with Prof. Raimondo Germani at University of Perugia in polymer recycle green procedures.
He wrote two book chapters; his research granted a cover page in EurJOC; he won four projects at the synchrotrons of Oxford and Grenoble for INS spectroscopy study on DESs; he was involved in two financed PRIN projects; he is "Cultore della Materia" at the University of Perugia, Dept. Chemistry, Biology and Biotechnology for the courses of "Interazioni Deboli in Chimica Organica", "Chimica Organica I" and "Laboratorio di Chimica Organica I" (Prof. Raimondo Germani); he organized two national and international conferences; he is Editor of a Special Issue on Deep Eutectic Solvents in the journal "Materials" (MDPI). He is directly involved in over fifteen collaborations with workgroups in Italy, Spain, Portugal and USA. He achieved the "Abilitazione a Professore di II fascia in September 2019.

Thursday February 18th, 2021
online on TEAMS
at 15.00

Deep Eutectic Solvents as Innovative Catalytic Green Media

Abstract

The solvent or the reaction media represent the most abundant part in a chemical transformation as well as in any other chemical application. Therefore, the substitution of a polluting or not-environmentally friendly liquid with a green liquid represent nowadays a great step forward in the realization of greener chemical procedures. Deep Eutectic Solvents (DESs) represent a novel innovative class of green organic solvents that possess the features to forefront the environmental issues that nowadays chemistry is facing. DESs are liquids formed via weak interactions between HBD and HBA molecules and they are not toxic, biocompatible, they have low or absent vapor pressure, they are biodegradable, they are realized without the use of any solvent with a 100% yield. Over these green properties, DESs can have a catalytic role because the properties of these liquids are derived from the properties of the molecules forming them; therefore, their characteristics are truly tunable because of the very large number of molecules available to form a DESs. In this presentation the advances in the DESs chemistry acquired by the workgroup of Dr. Matteo Tiecco will be shown, from the realization of novel DESs, to the studies on their catalytic activity of these liquids (such as acid, reducing and organocatalytic activity with chiral-DESs), to the extraction of relevant compounds (such as poli-phenolic ones) from natural matrixes, to the realization of hydrophobic/water separable liquids and the applications on membranes technology, to CO2 capture, to a series of relevant applications where these innovative class of liquids are currently finding fruitful results.
In the second part of the presentation, the other scientific topics treated by Dr Tiecco will be shown: surfactants and micellar aggregates, surfactants as biocides, surfactants as dispersant of carbon nanotubes for sensing of damage of concrete civil structures, Ionic Liquids in organic synthesis, green procedures for polyamide and PET polymer recycle and realization of novel smart polymers.

To connect to the TEAM, if members of UNIGE, use the following code: lziywqi. If you are not a UNIGE member, please ask in advance Prof. Luca Banfi to add you as a guest to the team. For further informations on this specific seminar or in order to ask for an appointment with the speaker after or before the seminar, contact **Prof. Luca Banfi**, room 811 ☎ +39 010 3566111 e-mail: banfi@chimica.unige.it