

Organic reactions in water: a green avenue to added-value chemicals

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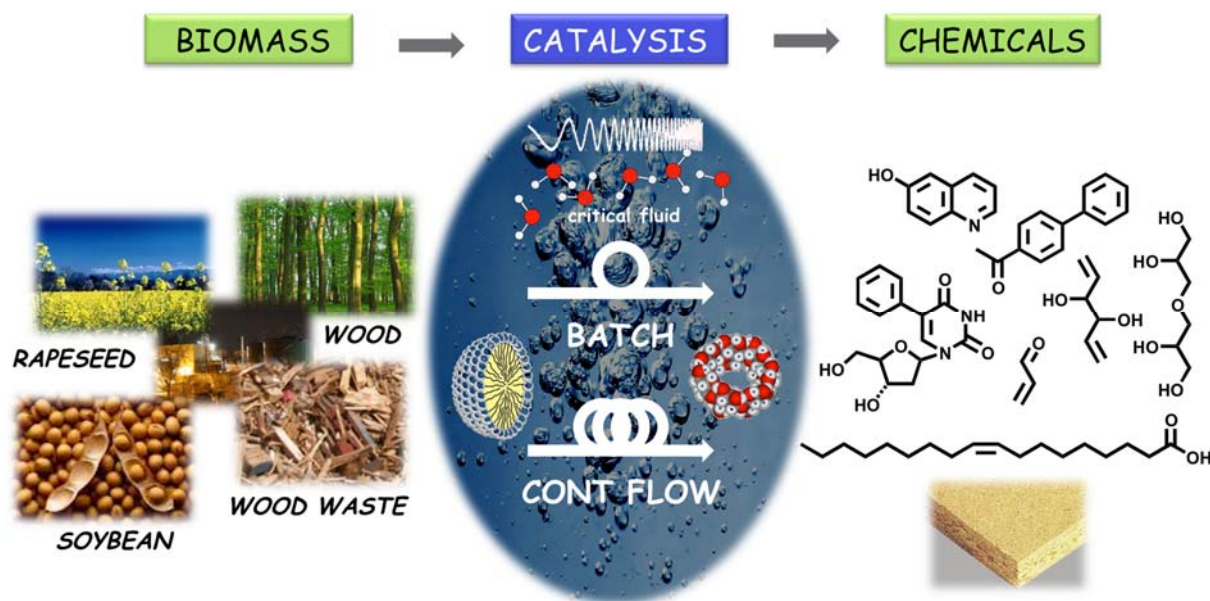
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The design of environmentally friendly methodologies has been the driving force of scientists in recent years. In particular, the use of biomass-derived materials, green solvents and alternatives techniques has been investigated.

In this conference, several green chemistry approaches that target advanced synthesis and processes will be presented. These approaches include: (i) green synthesis of quinoline and phenanthroline derivatives in sole water using microwave irradiation and high temperature/pressure; [1] (ii) production of furfural from D-xylose, xylane and hemicellulose using microwave irradiation and high temperature/pressure; (iii) conventional micellar catalysis and magic photochromic micellar catalysis [2] such as reductive pinacol coupling affording 1,2-diols via C-C bond creation between two carbonyl compounds; Pd-catalyzed Tsuji-Trost reaction affording allylic analogues via C-C, C-N, C-S bond creations; Barton decarboxylation affording new carboxylic acid or diacid via radical homologation.

Conception, synthesis and physico-chemical properties will be detailed.



References

- [1] (a) H. Saggadi, D. Luart, N. Thiebault, I. Polaert, L. Estel, C. Len, *Catal. Commun.* **2014**, *44*, 15 ; (b) H. Saggadi, D. Luart, N. Thiebault, I. Polaert, L. Estel, C. Len, *RSC Adv.* **2014**, *4*, 21456.
- [2] (a) N. Drillaud, E. Banaszak-Leonard, I. Pezron, C. Len, *J. Org. Chem.* **2012**, *77*, 9553; (b) M. Billamboz, F. Mangin, E. Banaszak-Leonard, C. Chevrin Villette, N. Drillaud, C. Len, *J. Org. Chem.* **2014**, *79*, 493; (c) M. Billamboz, C. Len, *ChemSusChem* **2015**, *8*, 1664.