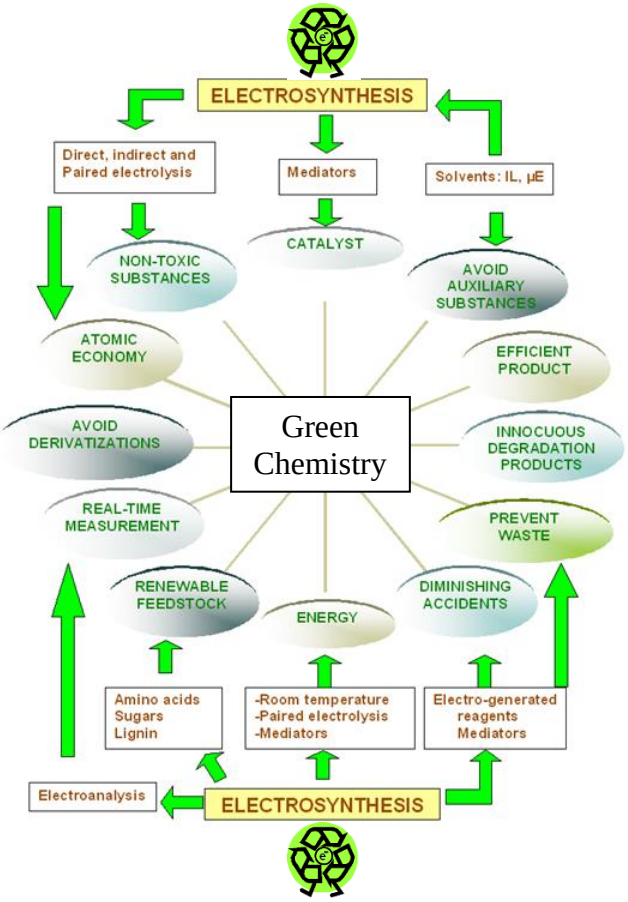
Organic Electrosynthesis as an excellent tool in Green Chemistry; towards sustainable chemical transformation of raw biomaterials

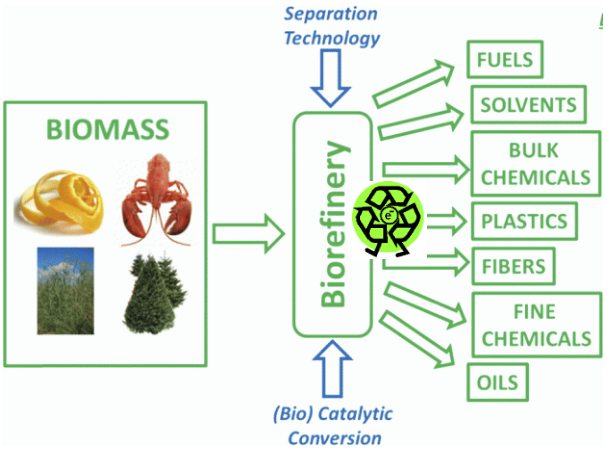
Prof. Dr. Bernardo A. Frontana-Uribe

Instituto de Química-UNAM; Centro Conjunto de Investigación en Química Sustentable UAEMéx-UNAM
(http://www.cciqs.unam.mx)
Carretera Toluca- Ixtlahuaca Km 14.5, CP.50200, Toluca Estado de México, Mexico
Email: bafrontu@unam.mx

In this talk, the main aspects that make organic electrosynthesis a promising method in green organic synthesis will be discussed. Cost, advantages, and disadvantages, as well as some representative examples from literature and my research group will demonstrate that organic electrosynthesis is in a renaissance period. The organic electrosynthesis principles and benefits can also be used in the sustainable biorefineries, where environmentally friendly methodologies are required to obtain valuable chemicals from renewable biomaterials like lignin, fatty acids and glycerol.



Sustainable biorefineries concept



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References:

[1] B. A. Frontana-Uribe, R. D Little, et-al., *Green Chemistry*, **2010**, *12*, 2099-2119.
[3] E.J. Horn, B. R. Rosen, P. S. Baran *ACS Cent. Sci.* **2016**, *2*, 302−308.
[6] E. E López-López, F. Sartillo-Piscil, B. A. Frontana-Uribe et-al. *Beilstein J. Org. Chem.* **2018,** *14*, 547–552.
[7] S. Lips, B. A. Frontana-Uribe, S. R. Waldvogel et-al., *Chem. Euro. J.*, **2018**, *24*, 6057–6061
[8] J.M. Ramos-Villaseñor, J. Sotelo-Gil, B. A. Frontana Uribe *Faraday Discussions*, **2023**, *247*, 179–191.
[9] D. C. Ruíz-Flores, B. A. Frontana-Uribe, *ECS Transactions*, **2021**, *101*, 121-130.