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Electro-Valorization of CO_2 by Synthetizing Value-added Product Using Environmentally Friendly Strategies

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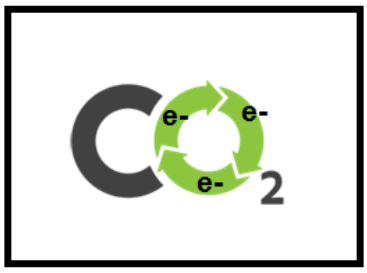
The CO_2 emission is one of the problems with bigger attention in the entire world, since it is related in climate change. Therefore, it has been made big inversions in the development of different strategies to valorize CO_2. [1] One of the most promising approaches for activating, capturing and valorizing CO_2 is the use of electrochemical techniques. [2]



However, the direct electrochemically reduction and activation of CO_2 involves high reduction potentials ($E^oCO_2/CO_2^{\bullet-}$ = -2,2 V vs SCE in aprotic media). [3] In this sense, the mediators should help to catalytic electroreduction of CO_2.

In the current communication, it will be revised all the state of the art related to activation, valorization and storage of CO_2. Furthermore, it will be analyzed the influence of the cathode's nature, the solvent and mediators in order to promote the electrochemical activation of CO_2. The last goal of the current study will be to valorize CO_2 by synthesizing value-added chemical using by Green Chemistry principles [4], in pharmaceutical industry as polymer industry.

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