

## Microwaves for the Utilization of Carbon Dioxide

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Microwave assisted high speed synthesis gained much attention for driving chemical reactions and selective preparation of chemicals of interest after the first report. It saves the reaction time significantly and improves the yield very often. Utilization of carbon dioxide has become an important issue due to the significant and continuous rise in atmosphere CO<sub>2</sub> concentrations. Synthesis of polycarbonate or cyclic carbonate is turned out to be one of the effective routes for the removal of CO<sub>2</sub> by its reaction with epoxides. Formerly a ring opening catalyst for epoxides, Double Metal Cyanide (DMC) complexes found its reputation as a competent catalyst for the copolymerization of CO<sub>2</sub> with epoxides. Even after having good activity, the catalyst gained disapproval by its inferior characteristics of long induction time. By performing the reaction under the influence of microwaves the catalyst showed better activity with no appreciable induction time. Also the effect of ionic liquid as co-catalyst were studied which followed another reaction pathway to produce selectively the cyclo-adduct with epoxide than a copolymer.