

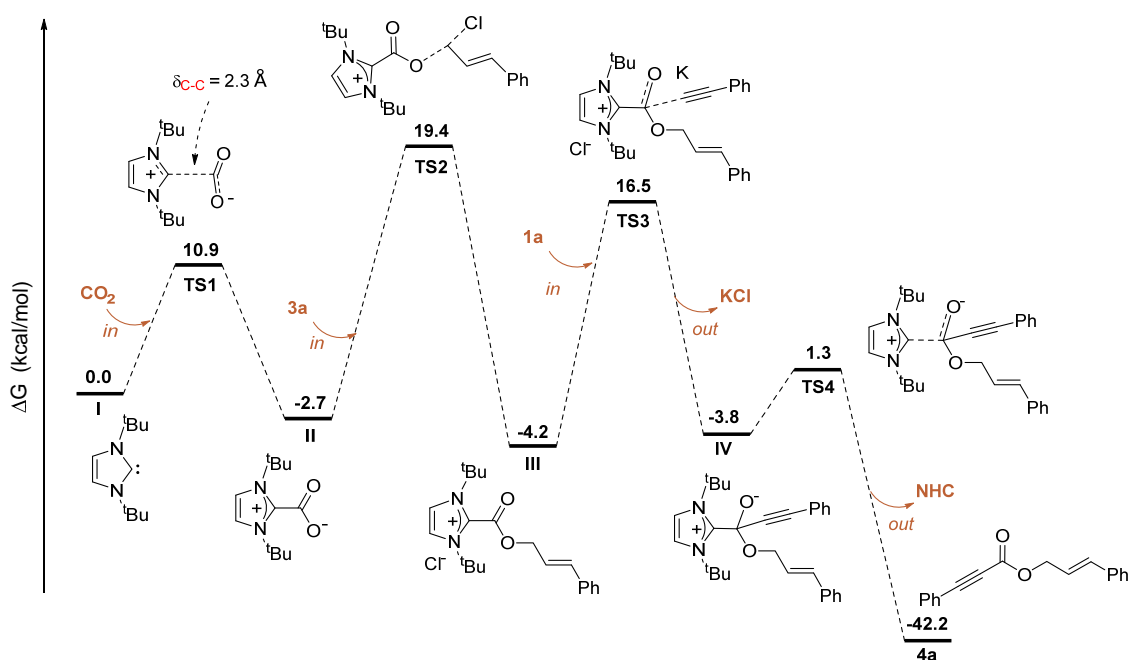
UNPRECEDENTED MULTICOMPONENT ORGANOCATALYTIC SYNTHESIS OF PROPARGYLIC ESTERS VIA CO₂ ACTIVATION

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Valorisation of CO₂ is, in the actual society, a real challenge and any new method is valuable. We report a new method for the synthesis of propargylic ether. This three components method uses CO₂, organochlorides and terminal alkynes. The catalyst, 1,3-Di-tert-butyl-1H-imidazol-3-ium chloride, is widely-available, stable, and usage friendly N-heterocyclic carbene (NHC). The method allows using a wide range of organochloride and terminal alkynes, containing electron-withdrawing or electron-donating substituents, from low to good yields. Mechanism has been investigated by DFT calculations. Starting by the condensation of the NHC and the CO₂ followed by the addition of the organochloride to finish with the attack of the alkyne. More investigation has been done by calculation for explaining the non-reactivity of certain substrates.



This paper: Unprecedented Multicomponent Organocatalytic Synthesis of Propargylic Esters via CO₂ Activation, Argyro T. Papastavrou, Martin Pauze, Enrique Gómez-Bengoá, Georgios C. Vougioukalakis, *ChemCatCham*, 11. (2019)