PHOTOCHEMICAL FORMATION OF CUBYL ARYL THIOETHERS AND SYNTHESIS OF CUBYL DERIVATIVE OF DAPSONE

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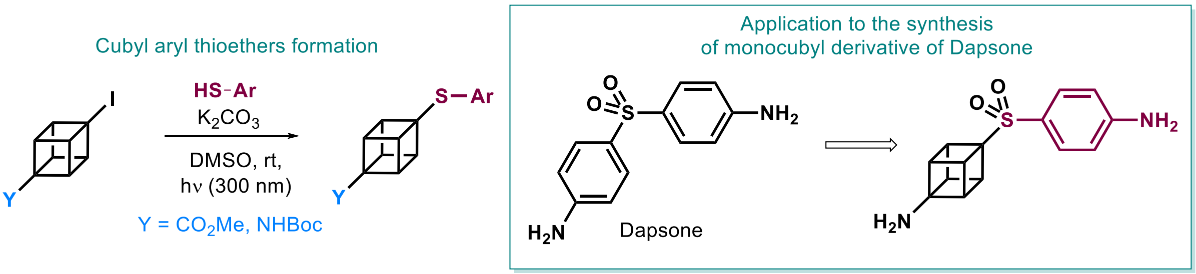
Since its first synthesis by Professor Eaton[1], the cubane molecule is of great interest in the field of organic chemistry and especially in medicinal chemistry. Indeed, the cubane acts as a benzene bioisostere[2]. Innovative methods have been developed through years to functionalise the cubane structure though this task remains challenging regarding this very strained scaffold, preventing S_N2 mechanism. In this context, we described the introduction of sulfur atom on the cubane cage by the means of Substitution Radical Nucleophilic Unimolecular ($S_{RN}1$). Various cubyl aryl thioethers have been therefore synthesized from the corresponding iodocubanes and thioaryl compounds by UV-B irradiation. This methodology has enabled us to find a synthesis route to a monocubyl analogue of Dapsone, an antibiotic, used to cure leprosy and dermatosis[3].



References

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