

BIS (INDOLYL) METHANES: MOLECULES WITH BIOLOGICAL AND PHARMACOLOGICAL PROPERTIES SYNTHESIZED BY A NEW PHOTOCHEMICAL PROTOCOL

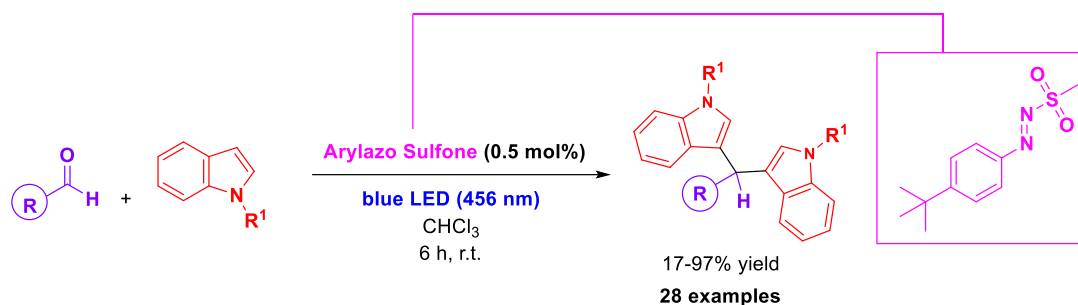
Eirini M. Galathri,^{*} Lorenzo Di Terlizzi,^{**} Maurizio Fagnoni,^{**} Stefano Protti^{**} and Christoforos G. Kokotos^{*}

^{*} Laboratory of Organic Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Panepistimiopolis, Athens 15771, Greece.

^{**} PhotoGreen Lab, Department of Chemistry, University of Pavia, Viale Taramelli 12, Pavia 27100, Italy.

Email: egalathr@chem.uoa.gr

The Indole ring constitutes an important heterocycle found in numerous compounds. The Indole moiety has been widely identified as a privileged structure or pharmacophore, with its presence in over 3000 natural products which are known to possess broad spectrum of biological activities and pharmaceutical applications. Bis (indolyl) methanes are found in cruciferous plants and are known to promote beneficial estrogen metabolism and induce apoptosis in human cancer cells. The synthesis of bis-indolyl methanes (BIMs) and their analogues is considered a significant target, due to their biological and pharmacological properties.[1] In this poster, we demonstrate a mild, inexpensive and sustainable protocol for the preparation of valuable bis-indolyl methanes via visible light-mediated protocol, utilizing arylazo sulfones as non-ionic Photoacid Generators (PAGs). A variety of aliphatic and aromatic aldehydes were converted into diarylmethanes in good to highly satisfactory yields, employing a low-catalyst loading (0.5 mol%) and irradiation at 456 nm.[2].



Acknowledgements



The authors gratefully acknowledge the Hellenic Foundation for Research and Innovation (HFRI) for financial support through a grant, which is financed by 1st Call for H.F.R.I. Research Projects to Support Faculty Members & Researchers and the procurement of high-cost research equipment grant (grant number 655).

References

- [1] P.P. Kaishap, C. Dohutia, D. Chetia, Int. J. Pharm. Sci. Res., 2012, 3, 4247-4253.
- [2] E. M. Galathri, L. Di Terlizzi, M. Fagnoni, S. Protti, C. G. Kokotos, Org. Biomol. Chem, 2023, 21, 365-369.