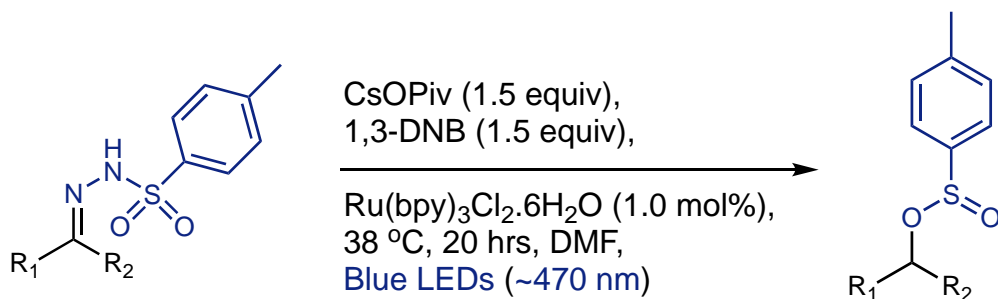


PHOTOREDOX MEDIATED SYNTHESIS OF SULFINATE ESTERS FROM TOSYLHYDRAZONE SUBSTRATES

Jack E. Slater, Alex J. Hamilton, Keith Miller and Daniel M. Allwood*

Biomolecular Sciences Research Centre, Sheffield Hallam University,
S1 1WB Sheffield, UK

One of the main challenges facing modern-day medicinal chemists is the limited number of reliable synthetic approaches that allow access to dimensionally complex molecular building blocks [1]. The development of reactions that facilitate the formation or functionalisation of sp^3 -carbon centres is one particularly notable challenge currently underlying a considerable amount of innovative chemical research [2]. In recent years photoredox catalysis has emerged as a useful approach towards facilitating traditionally difficult carbon–carbon/carbon–heteroatom bond formation, often employing mild reaction conditions, proceeding with high chemoselectivity and displaying good functional group tolerance [3]. Tosylhydrazones are bench-stable reagents capable of undergoing a wide range of practical cross-coupling and cyclisation reactions, and recent reports have detailed the successful employment of hydrazone substrates in visible-light promoted reactions [4-6]. We herein report the photoredox catalysed decomposition of tosylhydrazones to synthetically useful sulfinic acid ester products under exceedingly mild conditions. This novel transformation is proposed to proceed *via* formation of a key carbon-centred π -radical, which to the best of the author's knowledge is a mechanistic aspect not previously reported for this substrate class.



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