

PHENYLGLYOXYLIC ACID AS THE CATALYST FOR PHOTOCHEMICAL TRANSFORMATIONS

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Photocatalysis has provided a plethora of new organic transformations and activation platforms [1]. Usually, transition-metal catalysts are being employed as the catalyst. Recently, organic dyes or small organic molecules (PhotoOrganocatalysis) have tried to provide useful alternatives.

The introduction of PhCOCOOH as a potential photoorganocatalyst will be presented. Initially, its use for the hydroacylation of dialkyl azodicarboxylates [2a], one-pot synthesis of hydroxamic acids [2b], amides [2c] and thiol-ene [2d] will be shown. Application of these procedures in the synthesis of pharmaceuticals (Vorinostat, Moclobemide) will be highlighted. Finally, novel applications will be presented, along with the successful use of sunlight to promote these problematic reactions [2e,f].

[1] For reviews, see: a) C. K. Prier, D. A. Rankic, D. W. C. MacMillan, *Chem. Rev.* **2013**, *113*, 5322; b) K. L. Scubi, T. R. Blum, T. P. Yoon, *Chem. Rev.* **2016**, *116*, 10035; c) N. A. Romero, D. A. Nicewicz, *Chem. Rev.* **2016**, *116*, 10075; d) M. D. Kärkäs, J. A. Porco Jr., C. R. J. Stephenson, *Chem. Rev.* **2016**, *116*, 9683; e) D. Cambie, C. Bottecchia, N. J. W. Straathof, V. Hessel, T. Noel, *Chem. Rev.* **2016**, *116*, 10276.

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