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Photochemically-promoted C-H insertions of N-heterocycles with aryldiazoacetates

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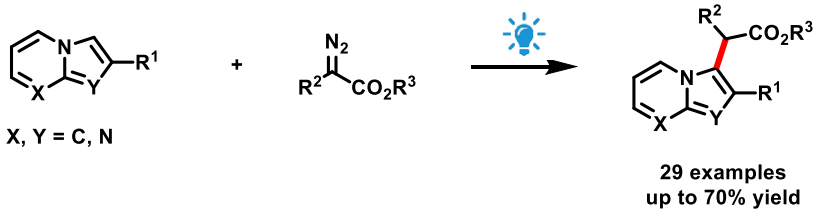
ABSTRACT

Electro-rich nitrogen-containing heterocycles play a crucial role in organic and biological chemistry due to their presence in various natural products and synthetically useful building blocks.[1]
In this context, we developed a functionalization strategy for the formal C-H insertion of such heterocycles into aryldiazoacetates via a visible light-mediated process, which involves the generation of free carbenes as key reactive intermediates.[2,3]



In this work, 29 examples were prepared in synthetically useful yields (up to 70%), thus illustrating this new reactivity found for a number of electron-rich *aza*-heterocycles.

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REFERENCES

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[2] For a seminal work in this field from our group, see: Jurberg, I. D.; Davies, H. M. L.; *Chem. Sci.*, **2018**, *9*, 5112.
[3] For a selection of recent reviews, see: a) Zhang, Z.; Gevorgyan, V.; *Chem. Rev.*, **2024**, *124*, 7214. b) Gallo, R. D. C.; Cariello, G.; Goulart, T. A. C.; Jurberg, I. D.; *Chem. Commun.*, **2023**, *59*, 7346. c) Yang, Z.; Stivanin, M. L.; Jurberg, I. D.; Koenigs, R. M.; *Chem. Soc. Rev.*, **2020**, *49*, 6833.