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## TBA(FeCl<sub>3</sub>Br) complex as photocatalyst in the Csp<sup>3</sup>- bond activation in alcohols for the synthesis of *N*-based heterocycles<sup>†</sup>

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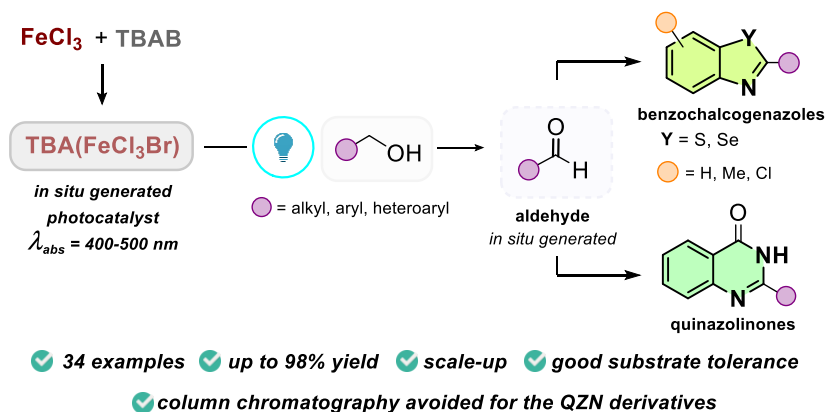
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### ABSTRACT

Green chemistry is a crucial tool for fostering sustainable chemical processes.<sup>1</sup> Additionally, *N*-based heterocycles, including benzochalcogenazoles and quinazolinones, represent an important class of compounds in pharmaceutical industry.<sup>2</sup> Given their significance, the development of efficient and eco-friendly methods to obtain these compounds is essential. In this context, TBA(FeCl<sub>3</sub>Br) complex, formed *in situ* by the mixture of FeCl<sub>3</sub> and tetrabutylammonium bromide (TBAB) in MeCN, has been proven to be an outstanding photocatalyst to promote the selective oxidation of alcohols to aldehydes under blue-light irradiation. Here we describe the synthesis of benzochalcogenazoles and quinazolinones by the reaction of *ortho*-substituted anilines and alcohols under mild conditions following some of the green chemistry principles. Among them, the developed procedure reduces the need of derivatization circumventing the use of aldehydes as substrate and allows the isolation of the quinazolinones by precipitation after washing the crude with ethyl ether, avoiding the need of purification by column chromatography.



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### REFERENCES

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