

Pyrimido[5,4-g]pteridine *N*-Oxides in Photoinduced Oxygenation Reactions

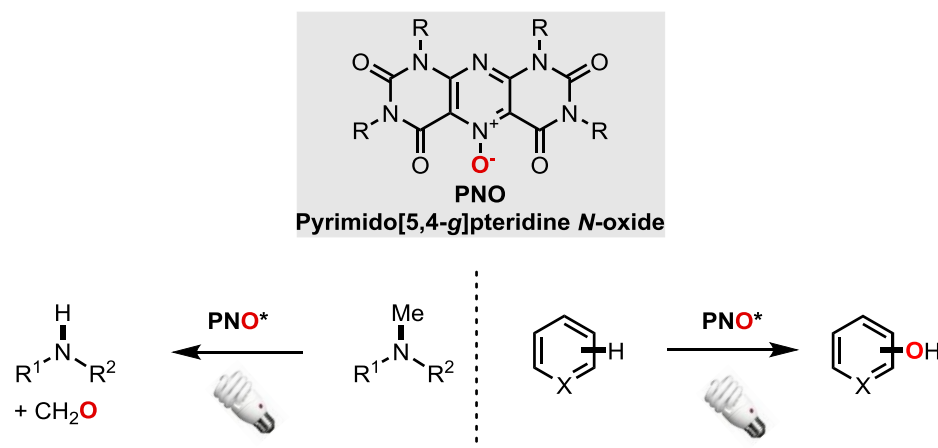
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The research on the oxidation of unreactive C–H bonds is currently of a great interest, since it grants access to a wide variety of valuable products. To date, most of catalytic methods for C–H oxidations include transition metal catalysts.^[1] Nonetheless, metal-free alternatives like peracids and dioxiranes are available too. The major problem in this context is that superstoichiometric quantities are required, along with an intrinsic elevated hazard potential of the oxidizing agents.

The set objective of our research is the development of a general methodology for the direct oxygenation of C–H bonds through photoinduced oxygen atom transfer using mild oxidants. Many heteroarene *N*-oxides are bench stable, nontoxic and can be used in transferoxygenation reactions in combination with a suitable light source.^[2] Pyrimido[5,4-*g*]pteridine *N*-oxides^[3] are particularly interesting in this regard as they serve both as organo photocatalysts and transferoxygenation reagents.

Subject of this contribution is the gram-scale synthesis of pyrimido[5,4-*g*]pteridine *N*-oxides, investigation of their photophysical properties as well as application in transferoxygenation reactions.



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