

**Title:** Characterization of a Wacker oxidation type reaction using  $\text{Co}(\text{dmgH})_2(\text{Py})\text{Cl}$  and  $\text{Mes-ArcClO}_4$  as photocatalyst on a trisubstituted alkene.

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In modern industrial chemistry, one of the cornerstones on which many reactions revolve is alkenes. As a starting material, they can be transformed into a good number of building blocks of molecules that can be used for the synthesis of more complicated molecules useful in various fields. That is why the oxidation reaction for introducing a heteroatom to an alkene is one of the most important that has been developed. In this context, the Wacker oxidation reaction (Scheme 1) gives us a very useful way (in addition to having a good atomic economy) in order to introduce this heteroatom, and it is also a milestone that opened a new field of research on palladium chemistry.

Accordingly, this paper shows the characterization of a Wacker photo-type reaction catalyzed by a di-catalytic system consisting of  $\text{Mes-AcrClO}_4$  and  $\text{Co}(\text{dmgH})_2(\text{Py})\text{Cl}$ , which substituted the palladium, where an alkene trisubstituted is transformed into an ester by the action of the nucleophilic attack of a carboxylic acid.