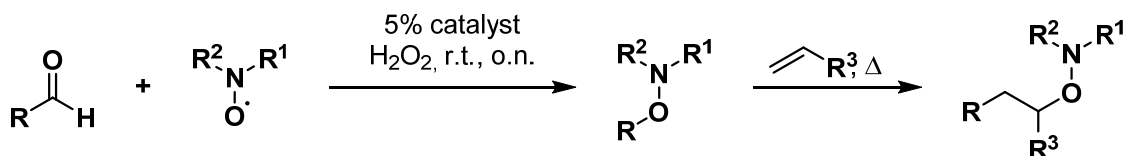


# TRANSITION-METAL-MEDIATED RADICAL DEFORMYLATION OF ALDEHYDES USING VARIOUS AMINOXYL RADICALS

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Alkoxyamines are widely used reagents that are particularly essential in polymer chemistry. Much work has been invested in the development of the nitroxide-mediated polymerization (NMP) for which the structure of the alkoxyamine plays an essential role in controlling the radical processes. The synthesis of alkoxyamines through a radical deformylation of aldehydes using aminoxyl radicals was published by Schöning and co-workers in 2008.<sup>[1]</sup> We further improved the method and extended the methodology to the synthesis of polyketide fragments.<sup>[2]</sup> Here, the use of various alkoxyamines and studies on the verification of the proposed reaction mechanism using a radical clock reaction are presented. In addition, the resulting products can be further utilized for radical C-C bond formations via carboaminoxylation.



Scheme 1: Radical deformylation of aldehydes using aminoxyl radicals and subsequent C-C bond formation via carboaminoxylation.

[1] A. Dichtl, M. Seyfried, K.-U. Schöning, *Synlett* **2008**, 2008, 1877.

[2] A. Kipke, K.-U. Schöning, M. Yusubov, A. Kirschning, *Eur. J. Org. Chem.* **2017**, 2017, 6906.