NEW DIRECTIONS IN THE HETARENE *N*-OXIDES CHEMISTRY

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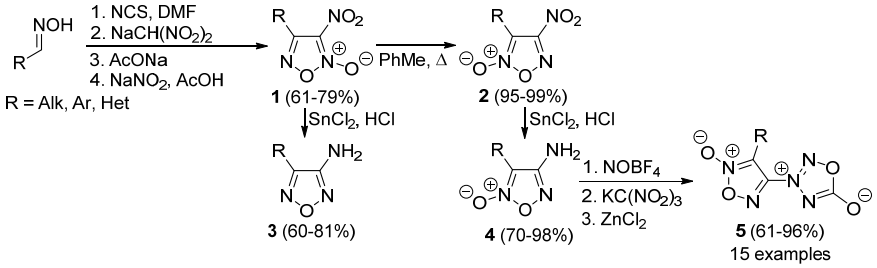
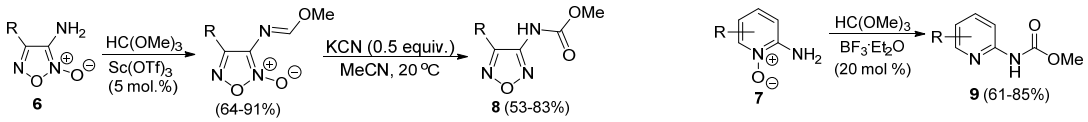
Hetarene *N*-oxides are a versatile class of organic compounds that are of great interest in medicine, agriculture, and materials science. In recent years, furoxans (1,2,5-oxadiazole 2-oxides) attract attention due to their application as pharmacologically active compounds or as components of high-energy formulations [1,2]. Herein, we present our results on the regioselective construction of 3- and 4-nitrofuroxans via cascade transformations of aldoximes [3]. Nitrofuroxans **1** and **2** underwent *N*-oxide-controlled chemoselective reduction to aminofurazans **3** and 4-aminofuroxans **4** [4]. Diazotization of aminofuroxans **4** followed by azo coupling/double rearrangement sequence resulted in NO-donor (furoxanyl)azasydnones **5** with excellent yields.



In addition, we developed a new, tandem catalytic condensation/rearrangement reaction of 2-aminohetarene *N*-oxides **6** and **7** into hetaryl carbamates **8**, **9** *via* an intramolecular *N*-oxide oxygen transfer [5].



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