NEW METHOD FOR THE SYNTHESIS OF (*N*-FUROXANYL)HYDRAZONES

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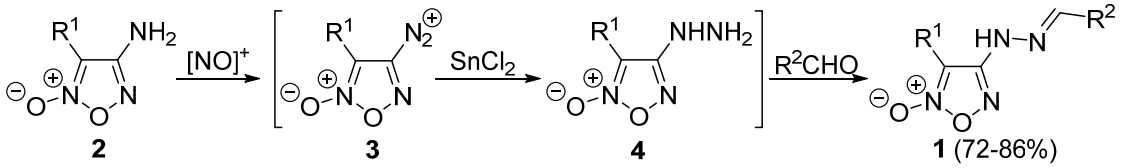
In recent years, enhanced efforts were directed to the synthesis of pharmacologically oriented structures comprising a framework capable of nitric oxide (NO) release, including 1,2,5-oxadiazole 2-oxides (furoxans), which are prone to the exogenous NO release in the presence of thiol cofactors [1]. Furoxan scaffold has attracted considerable attention due to high stability of the furoxan cycle under ambient conditions and absence of nitrate tolerance under continuous therapy [2]. The incorporation of the furoxan motif as potential NO donor into drug candidates with known pharmacological activity became now an efficient tool in the design of novel drug candidates and, as a result, new hybrid structures with various pharmacological activities were revealed [3].

In present work, a novel *one-pot* approach for the construction of previously unknown (*N*-furoxanyl)hydrazones **1** was developed. This method is based on a cascade of one-pot reactions including diazotization of initial aminofuroxans **2**, *in situ* reduction of generated diazonium salts **3** and condensation of formed furoxanylhydrazines **4** with corresponding aldehydes. It is important to note that initial aminofuroxans are readily available compounds which can be easily synthesized on gram-scale according to our recently developed procedure [4].



R^1 = Alk, Ar; R^2 = Ar, Het

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