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Synthesis of various derivatives of [1,3]selenazolo[4,5-*d*]pyrimidine as a novel selenazolocondenced heterocyclic system

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Selenium used to be considered as an essential nutrient, constituent of selenoproteins involved in self-defense mechanism against oxidative stress,[1] in reducing certain inflammatory processes and in detoxification processes [2]. Based on the benefits associated to the presence of selenium, the synthesis of many heterocyclic systems characterized by a large variety of biological activities was developed. Among them, amino-1,3-selenazole ring systems have received much attention from medicinal chemists worldwide because of their wide range of biological activity, such as antimicrobial, anti-HIV, antioxidant and anticancer, among others.[3,4] Due to widespread biological activities of 1,3-selenazols and our interest for the synthesis of selenazolocondenced heterocyclic systems, in the present protocol, concentrated sulfuric acid mediated hydrolysis of compounds **1 (a-c)** gave the corresponding 4-amino-1,3-selenazole-5-carboxamides **2 (a-c)** which subsequently underwent the heterocyclization reaction with some triethylorthoesters to yield various derivatives of a novel heterocyclic system of [1,3]selenazolo[4,5-*d*]pyrimidine **3 (a-i)** in excellent yields with potential biological activities.

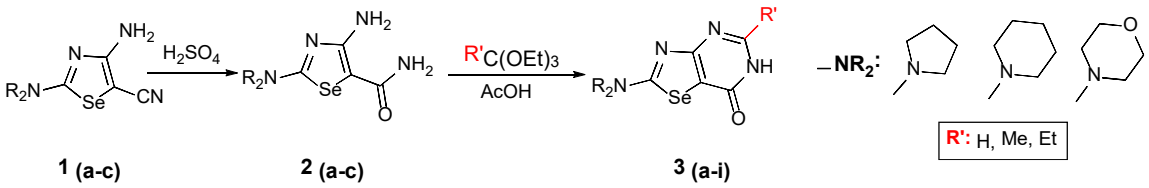

Fig. 1 Synthesis of [1,3]Selenazolo[4,5-*d*]pyrimidin.

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