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A straightforward approach for the synthesis of diverse derivatives of a novel selenium containing heterocyclic system [1,3]selenazolo[4,5-d]pyrimidine-5(4*H*)-thione using phenyl isothiocyanates

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In the recent years, selenazoles have been reported to have very unique chemical and biological properties such as inactivation of free radicals,[1] antioxidant,[2] cancer cell proliferation [3] and protein kinase activation [4]. In view of the importance of these heterocyclic cores, many synthetic methodologies have been reported in the literature [5]. Herein, we wish to report a one-pot procedure for the synthesis of various derivatives of [1,3]selenazolo[4,5-*d*]pyrimidine-5(4*H*)-thione as a novel selenium containing heterocyclic system. These potential pharmacologically active derivatives **3 (a-i)** were synthesized via heterocyclization of 4-amino-2-(*sec*-amin substituted)-5-carbonitrile-1,3-selenazoles **1 (a-c)** with various phenyl isothiocyanates **2 (a-c)** in the presence of pyridine in excellent yields. The structural assignments of all the newly synthesized compounds are based upon spectroscopic and microanalytical data.

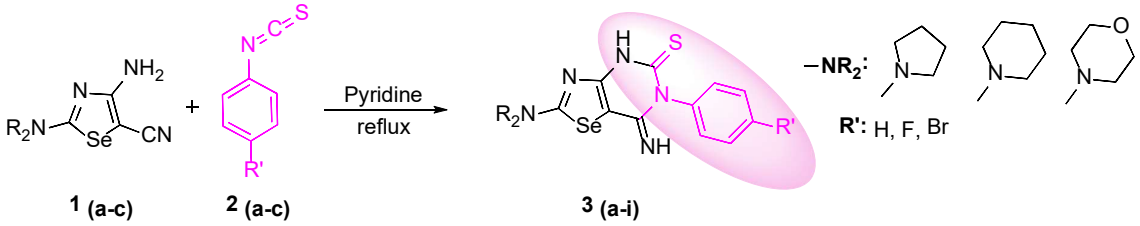

Fig 1. Synthesis of [1,3]selenazolo[4,5-*d*]pyrimidine-5(4*H*)-thione.

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