

Utilization of phenyl isothiocyanate for the synthesis of multi-functionalized derivatives of 4-imino-7-cyano-3-phenyl-6-(pyrrolidin-1-yl)-2-thioxo-1,2,3,4-tetrahydroselenopheno[3,2-*d*]pyrimidine

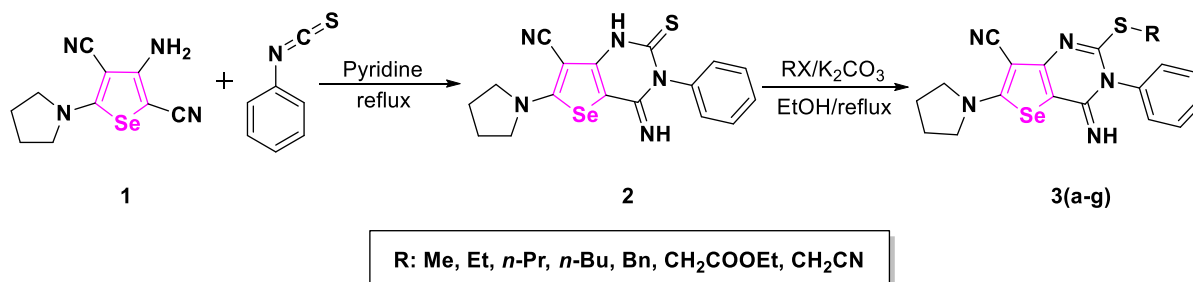
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Selenophene is a 5-membered cyclic compound containing one Se atom and two double bonds. Among chalcogenophenes, selenophene plays an important role in organic synthesis because of its electrical property and stability. Selenophene has drawn the attention of researchers in view of its interesting biological activities such as anti-inflammatory ^[1], anti-convulsant and anti-oxidant ^[2], hepatoprotective ^[3], antihyperalgesic and anti-nociceptive and anticancer effects^[4]. Herein, we wish to report a facile procedure for the synthesis of potential pharmacologically active derivatives **3(a-g)** of a novel selenopheno-condensed heterocyclic system. The heterocyclization of 3-amino-2,4-dicyano-5-(pyrrolidin-1-yl)selenophene **1** with phenyl isothiocyanate in the presence of pyridine under reflux condition afforded selenophenopyrimidine **2**. In the following step, compound **2** treated with several alkylhalides in K₂CO₃/EtOH to obtain 2-(alkylthio)-7-carbonitrile-4-imino-3-phenyl-6-(pyrrolidin-1-yl)-3,4-dihydroselenopheno[3,2-*d*]pyrimidines **3(a-g)** in good to excellent yields. The structural assignments of all newly synthesized compounds are based upon spectroscopic and microanalytical data.

Keywords: Selenophenopyrimidine, Phenyl isothiocyanate, Selenium-containing compounds



References

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