Triflic anhydride mediated tandem synthesis of stabilized enamine functionalized Benzothiophenes

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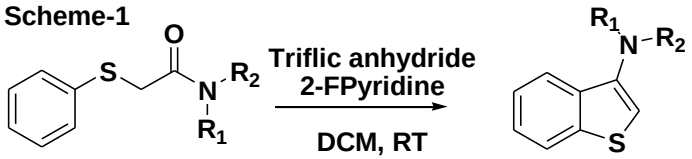
Abstract

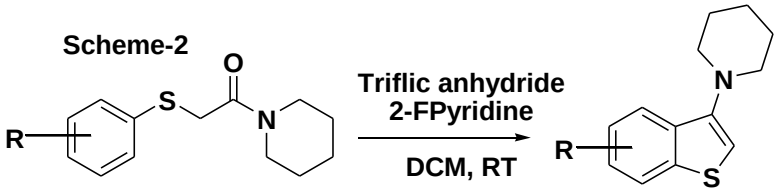
Benzothiophene shows a wide spectrum of biological activities [1] and its derivatives find use in pharmaceuticals, pesticides and in general organic synthesis [2]. A new series of enamine functionalized Benzothiophenes were achieved by using N,N-substituted-2-phenylthioacetamides with Triflic Anhydride and 2-Fpyridine is used as a catalyst and cocatalyst at room temperature in good yields. The remarkable advantage of this method is to synthesize the stable enamine functionalized Benzothiophenes in analytically pure form. Operational simplicity, less energy consumption, make this protocol cost-effective and environmentally more benign. All the synthesized compounds were characterized by ^{1}H NMR, Mass and ^{13}C NMR spectral analysis. The work is in progress to analyze the Antitubersulosis activity of the synthesized compounds.

Keywords: Triflic anhydride, Tandem Reaction, enamine functionalized Benzothiophenes

Scheme-1



Scheme-2



References:

1. Raga M, Palacin C, Castello JM, Ortiz JA, Cuberes MR (1986) New imidazole antifungal agents derived from benzo[b]thiophene. Euro. J. Med. Chem -Chim Ther 21: 329-332
2. Quin LD, Tyrell JA (2010) Common ring system and the naming of heterocyclic compounds. In Fundamentals of Heterocyclic Chemistry. John Wiley and Sons, Hoboken, NJ, USA, pp: 6-8.