ABSTRACT

The work undertaken in the present study includes the synthesis of new classes of 5-membered heterocycles. It comprises the synthesis of 4-[4-(4-nitrophenoxy)phenyl]-5-substituted-2H-1,2,4-triazole-3-thiones derived from an anthelmintic drug called nitroscanate. It includes the synthesis of 4-substituted phenyl-5-[1-(4-fluorophenyl)-1,3-dihydroisobenzofuran-5-yl]-2H-1,2,4-triazole-3-thiones derived from 1-(4-fluorophenyl)-1,3-dihydroisobenzofuran-5-carbonitrile, which is an intermediate in the synthesis of the antidepressant drug called citalopram. It consists of the synthesis of a series of N-[4-(4-nitrophenoxy)phenyl]-4-(substituted)-1,3-thiazol-2-amines derived from 4-(4-nitrophen oxy)phenyl thiourea, which is the key intermediate in the synthesis of nitroscanate. Saccharin catalyzed synthesis of a library of 2,5-dimethyl-N-substituted pyrroles is discussed in detail. The thesis also has the synthesis of few sugar hydrazones. Synthesized compounds are characterized by modern analytical techniques and evaluated for their anthelmintic and antimicrobial activities. The compounds showed potent to weak activities.

Key words: Anthelmintic, Antimicrobial, Citalopram, Grinding, Nitroscanate, Pyrrole, Thiazole, Triazole, Saccharin, Sugar hydrazone