Aromatic Isothiocyanatopropenones and Thiourea Derivatives. Synthesis and Biological Properties

Nicanor Barba,[a] Ana Popusoi,[a] Carolina Lozan-Tirsu,[b] Jenny Roy,[c] Donald Poirier[c] and Aurelian Gulea[a*]

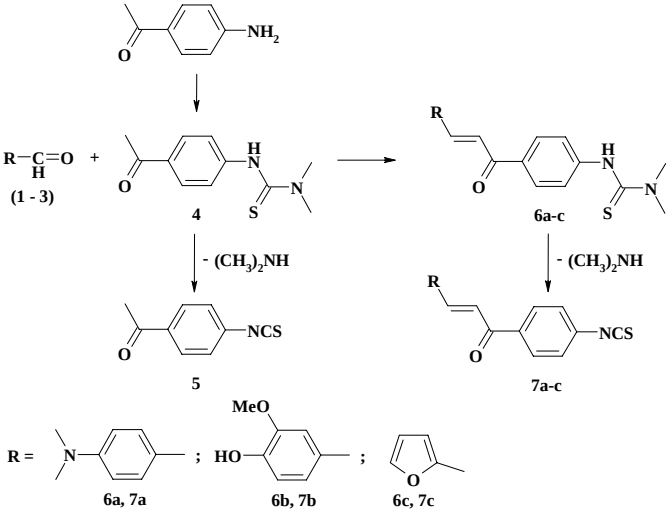
[a]*Moldova State University, Chisinau, 2009, 60 Mateevici Str., Moldova*

[b]*Microbiological Laboratory, Moldova State Medicinal and Pharmacy University, 2009, Stefan cel Mare Str., Moldova*

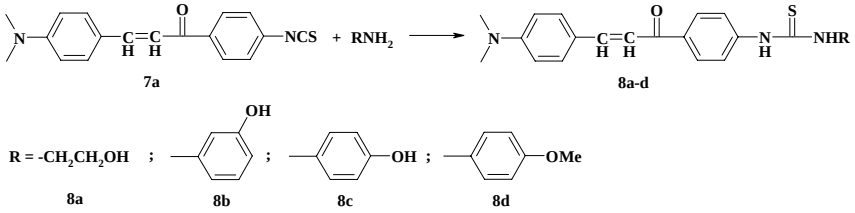
[c]*Laboratory of Medicinal Chemistry, CHUQ (CHUL) - Research Center and Université Laval, 2705 Boulevard Laurier, Québec City, G1V 4G2, Canada*

[*]*e-mail: dociu1946@yahoo.com*

This paper is devoted to methods of obtaining the mentioned compounds with NHCS and NCS groups from 4-(dimethylamino)benzaldehyde (**1)**, 4-hydroxy-3-methoxybenzaldehyde (**2)** and furan-2-carbaldehyde (**3)** by condensing them with 3-(4-acetylphenyl)-1,1-dimethylthiourea (**4)** according to the following scheme:



Propenones with thiourea groups have been obtained by addition of an amine to **7a, 7b, 7c** according to the following scheme:



The structure of new compounds containing sulphur has been confirmed by means of elemental analysis and IR, ^{1}H NMR, ^{13}C NMR and mass

spectra. All compounds were tested as inhibitors of HL-60 leukemia cells proliferation and the most potent of them have been also tested for their *in vitro* antibacterial activity against some gram-positive and gram-negative microorganisms: *Eschrichia coli, Staphylococcus aureus, Shigela Sonnei, Salmanella abony and Bacilius cereus.*