Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

Keywords
Authors

chem@tubitak.gov.tr

Scientific Journals Home Page

Synthesis and in vitro anti-Helicobacter pylori activity of 2-(substituted benzylthio)-5-(5-nitro-2-furyl)-1, 3, 4-thiadiazole derivatives

Negar MOHAMMADHOSSEINI[1], Ali ASADIPOUR[2], Bahram LETAFAT[1], Mohsen VOSOOGHI[3], Farideh SIAVOSHI[4], Abbas SHAFIEE[3], Alireza FOROUMADI[2,3]

[1]Department of Chemistry, Islamshahr Young Researchers Club, Islamic Azad University, Islamshahr-Branch, Tehran-IRAN

[2] Faculty of Pharmacy & Pharmaceutics Research Center and Kerman Neuroscience Research Center, Kerman University of Medical Sciences, Kerman-IRAN
e-mail: aforoumadi@yahoo.com

[3] Department of Medicinal Chemistry, Faculty of Pharmacy & Pharmaceutical Sciences Research Center, Tehran University of Medical Sciences, Tehran-IRAN

[4] Microbiology Department, Faculty of Sciences, University of Tehran, Tehran-IRAN

Abstract: Starting from (5-nitrofuran-2-yl)methylene diacetate, a new series of 2-[(substituted benzyl) thio]-5-(5-nitro-2-furyl)-1,3,4-thiadiazoles (6a-n) were synthesized and the structures of the compounds were determined using spectroscopic methods including mass spectrometry, ^{1}H-nuclear magnetic resonance, infrared spectroscopy, and elemental analysis. The in vitro anti-Helicobacter pylori activity of the synthesized compounds was evaluated by the disk diffusion method against the clinical isolates of Helicobacter pylori. The results indicated that most of the synthesized compounds exhibited significant inhibitory activity against H. pylori with respect to standard drug metronidazole. Compound 6l, containing the 2-chloro-6-fluorobenzylthio moiety, was the most potent compound tested.

Key Words: 1,3,4-Thiadiazole, nitrofuran, anti-Helicobacter pylori activity.

Turk. J. Chem., **33**, (2009), 459-470.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.33,iss.4.