

**SYNTHESIS AND PHYSICOCHEMICAL PROPERTIES OF NOVEL
4-(5-(((5-(ALKYLTHIO)-4-METHYL-4H-1,2,4-TRIAZOLE-3-
YL)METHYL)THIO)-1H-1,2,4-TRIAZOLE-3-S)PYRIDINES**

Yevhen Karpun

Zaporizhzhia State Medical University, 26 Mayakovsky Ave., Zaporizhzhia 69035, Ukraine

Abstract. The aim of the work was to describe the method of combining two 1,2,4-triazole systems in a molecule, the alkylation reaction of the thiol group to obtain the previously undiscovered *S*-derivatives of 1,2,4-triazole and the fragmentation pathway of the substances under hard ionization using gas chromatography-mass spectrometry. The structures of the synthesized compounds were confirmed by elemental analysis, ¹H and ¹³C NMR spectroscopy and GC-MS analysis. The signals in ¹H and ¹³C NMR spectra were shown to be in agreement with the proposed structures. The characteristic signals for *S*-alkyl residues were observed in the region typical for aliphatic compounds. The fragmentation of molecules was represented by the gradual cleavage of radicals and the opening of the second 1,2,4-triazole heterocycle.

Keywords: 1,2,4-triazole, heterocyclic compound, synthesis, fragmentation pathway.