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**SINTEZA ȘI CERCETAREA PROPRIETĂȚILOR BIOLOGICE ALE UNOR DERIVAȚI
AI 4-AMINO-5-METIL-4H-1,2,4-TRIAZOLULUI-3-TIOL**

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În prezenta lucrare a fost realizată sinteza 1,1-dimetil-3-(3-metil-5-sulfanil-4H-1,2,4-triazol-4-il)tioureei (**5**) și a 1,1-dimetil-3-[3-metil-5-(metilsulfanil)-4H-1,2,4-triazol-4-il]tioureei (**6**), ale căror structuri au fost stabilite cu ajutorul spectrelor ¹H-RMN și ¹³C-RMN. Pe celule de cancer cervical substanțele iodhidrat de 3-metil-5-(metilsulfanil)-4H-1,2,4-triazol-4-amină (**2**) și **6** au demonstrat o activitate ne semnificativă. Disulfura de tetrametiltiuram (DTMT) a demonstrat rezultate antibacteriene bune CMI 0,0007 mg/mL, iar substanțele **6** și **2** au CMI 0,007 mg/mL și, respectiv, 0,06 mg/mL. Tioureea **6** are proprietăți antioxidante IC₅₀ = 29 μM/L aproximativ egale cu ale troloxului.

A fost realizată sinteza N-[4-(3-metil-7H-[1,2,4]triazolo[3,4-b][1,3,4]-tiadiazin-6-il)fenil]-2-[1-(piridin-2-il)etiliden]hidrazincarbotoamidei (**11**) și a bazei Schiff [3-metil-5-(metilsulfanil)-4H-1,2,4-triazol-4-il]imino}metil]fenol (**3**). La compusul **3** a fost efectuată difracția cu raze X în monocristal.

Cuvinte-cheie: 1,2,4-triazol, antiproliferativ, celule de cancer, bază Schiff, antibacterian.

**SYNTHESIS AND STUDY OF BIOLOGICAL PROPERTIES OF NEW
4-AMINO-5-METHYL-4H-1,2,4-TRIAZOLE-3-THIOL DERIVATIVES**

In the present work the synthesis of 1,1-dimethyl-3-(3-methyl-5-sulfanyl-4H-1,2,4-triazol-4-yl)thiourea (**5**) and 1,1-dimethyl-3-[3-methyl-5-(methylsulfanyl)-4H-1,2,4-triazol-4-yl]thiourea (**6**) was carried out. The structures were determined using ¹H; ¹³C-NMR spectra. For cells HeLa of cervical cancer, substances 3-methyl-5-(methylsulfanyl)-4H-1,2,4-triazol-4-aminohydroiodide (**2**) and **6** have demonstrated not pronounced activity. Tetramethylthiuram disulfide (DTMT) showed good antibacterial activity MIC 0.0007 mg/mL, but substances **6** and **2** have MIC 0.007 mg/mL and 0.06 mg/mL respectively. The thiourea **6** has antioxidant properties IC₅₀ = 29 μM/L approximately equal to trolox.

Synthesis of N-[4-(3-methyl-7H-[1,2,4]triazolo[3,4-b][1,3,4]-thiadiazin-6-yl)phenyl]-2-[1-(pyridin-2-yl)ethylidene]hydrazinecarbothioamide (**11**) and Schiff base: 2-[[3-methyl-5-(methyl-sulfanyl)-4H-1,2,4-triazol-4-yl]imino}methyl]phenol (**3**) was carried out. The compound **3** was studied by conducted single-crystal X-ray diffraction.

Keywords: 1,2,4-triazole, antiproliferative, cancer cells, Schiff base, antibacterial.

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