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Synthesis, biological screening and molecular docking stydy of some coumarin derivatives

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In this study, 3-nitrocoumarin derivatives bearing heteroaryl moiety in the C-4 position(**S1**-**S7**), 4-[(2-hydroxyethyl)amino]-3-nitro-2H-chromen-2-one S1, 3-nitro-4-[(4-nitrophenyl)amino]-2H-chromen-2-one S2, 4-[(3-nitro-2-oxo-2H-chromen-4-yl)amino]benzoicacid S3, 4-[(1H-1,3-benzodiazol-2-yl)amino]-3-nitro-2H-chromen-2-one S4, 4-[(5-chloropyridin-2-yl) amino]-3-nitro-2H-chromen-2-one S5, 3-nitro-4-[(pyridine-2-yl)amino]-2H-chromen-2-one S6, 6H-chromen-[4`,3`:4,5] imidazol[1,2a]pyridin-6-one S7, were synthesized and evaluated for antimicrobial activities. Their structure was confirmed by elemental analysis and spectral data (IR, , ^{1}H-NMR). Antimicrobial activity was tested *in vitro* against *Staphylococcus aureus, Enterococcus faecalis, Enterobacter aerogenes, Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumonia.* The binding mode of the active compounds was interpreted by a molecular docking study. The obtained results revealed that the all synthetized compounds may be consider as a good inhibitor of GlcN-6 .

Key words: Coumarin derivatives, Antimicrobial activity, Molecular Docking Stydy

Biography:

Sevdije Govori Odai has completed her master study at University of Zagreb, Republic of Croatia and PhD at the University of Prishtina. She is currently working as a professor in Chemistry of Natural Products and Heterocyclic Chemistry at University of Prishtina, Republic of Kosovo. She has published many papers in Journal of Heterocyclic Chemistry, Heterocyclic Communications, Synthetic Communications, Toxicological and Environmental Chemistry etc.
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