



Synthesis and Antimicrobial Testing of some Quinazolinone Compounds

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SUMMARY. Since tens of years, the design and discovery of new antimicrobial drugs to overcome the present microbial resistance to different drugs is a medical and pharmaceutical priority. In this research, we designed and synthesized new 4(3H) quinazolinone compounds and tested them against different microorganisms. Two microbiological testing methods were used for exact results. The in vitro antimicrobial estimations of the synthesized compounds were tested against three strains; the different types of pathogenic microorganisms were Gram-positive and Gram-negative bacteria. Some of these candidates, *i.e.* **19, 20, 21, 29, 30, 31** and **35** showed inhibition zone with *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*. The MIC values of the extreme active compounds versus the test organisms *S. aureus* as Gram-positive as well as *E. coli*, and *P. aeruginosa* as Gram-negative was evaluated. It could be concluded that the proposed molecular structural countenances for these compounds appeared considerable for prospectively investigable new antimicrobial agents.

RESUMEN. Desde hace decenas de años, el diseño y descubrimiento de nuevos medicamentos antimicrobianos para superar la actual resistencia microbiana a diferentes medicamentos es una prioridad médica y farmacéutica. En esta investigación, diseñamos y sintetizamos nuevos compuestos de quinazolinona 4 (3H) y los probamos contra diferentes microorganismos. Se utilizaron dos métodos de prueba microbiológica para obtener resultados exactos. Las estimaciones antimicrobianas in vitro de los compuestos sintetizados se probaron contra tres cepas; los diferentes tipos de microorganismos patógenos fueron bacterias Gram-positivas y Gram-negativas. Algunos de estos candidatos, es decir, **19, 20, 21, 29, 30, 31** y **35** mostraron zona de inhibición con *Staphylococcus aureus*, *Escherichia coli* y *Pseudomonas aeruginosa*. Se evaluaron los valores de CIM de los compuestos activos extremos frente a los organismos de prueba *S. aureus* como Gram-positivos, así como *E. coli* y *P. aeruginosa* como Gram-negativos. Se podría concluir que los aspectos estructurales moleculares propuestos para estos compuestos parecían considerables para los nuevos agentes antimicrobianos investigables prospectivamente.

KEY WORDS: antifungal, antimicrobial, microbiological test, quinazolines.

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