

Supplementary Materials

Hydrocortisone Impairs the Activity of Antimicrobial Drugs against Clinical Isolates of *Staphylococcus aureus*

Jefferson Costa¹, Vanderson Silva¹, Aline de Oliveira Peres¹, Rafael Rezende¹, Sarah Ferreira Martins¹, Viviane Braga de Aguiar¹, and Marcus Vinícius Dias-Souza^{2,*}

¹ Faculty of Health Sciences, Antonio Rodrigues Coelho Campus, University Vale do Rio Doce, Governador Valadares 35020-220, MG, Brazil

² Integrated Pharmacology and Drug Interactions Research Group, Anhanguera College, Ipatinga 35160-036, MG, Brazil

* Correspondence: souzamvd@gmail.com

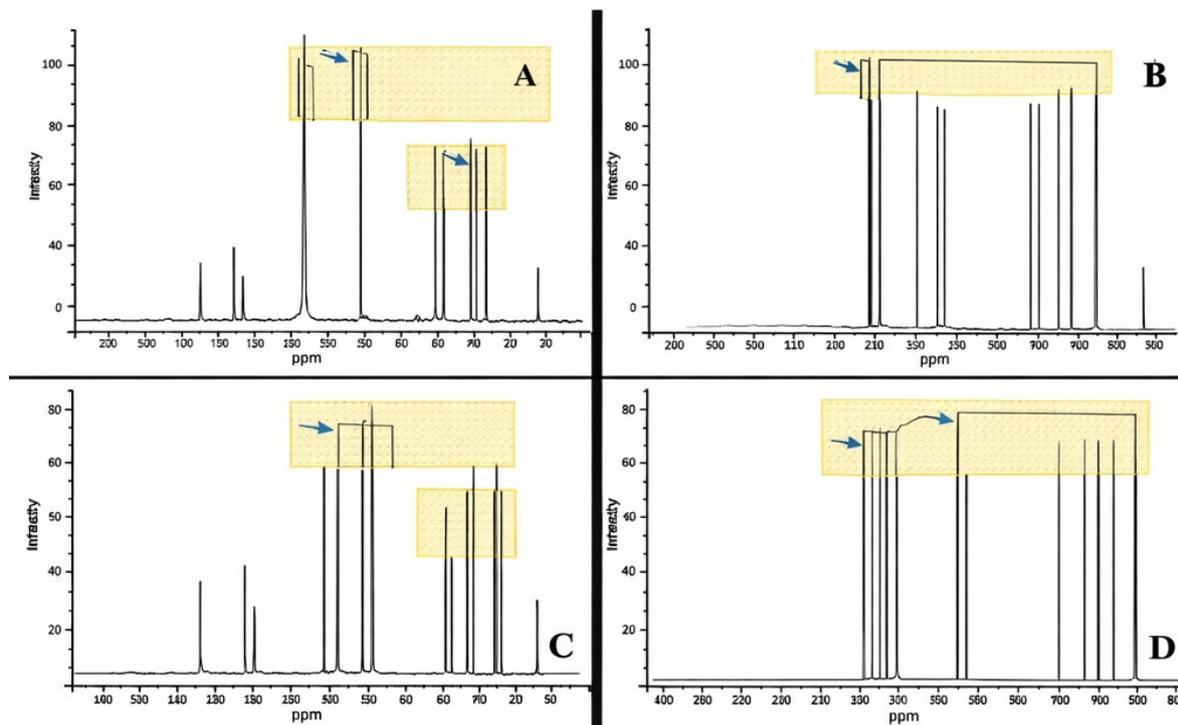


Figure S1. Predicted ¹³C NMR spectra of chloramphenicol (A), gentamicin (B), oxacillin (C), and hydrocortisone (HYDRO) (D). Yellow boxes indicate chemical shift regions where overlapping signals are observed among the compounds, particularly within $\delta 60\text{--}80$ ppm (typically associated with oxygenated aliphatic carbons) and $\delta 120\text{--}140$ ppm (commonly attributed to sp^2 -hybridized carbons in aromatic or unsaturated systems). Blue arrows mark representative overlapping resonances used for comparative analysis.



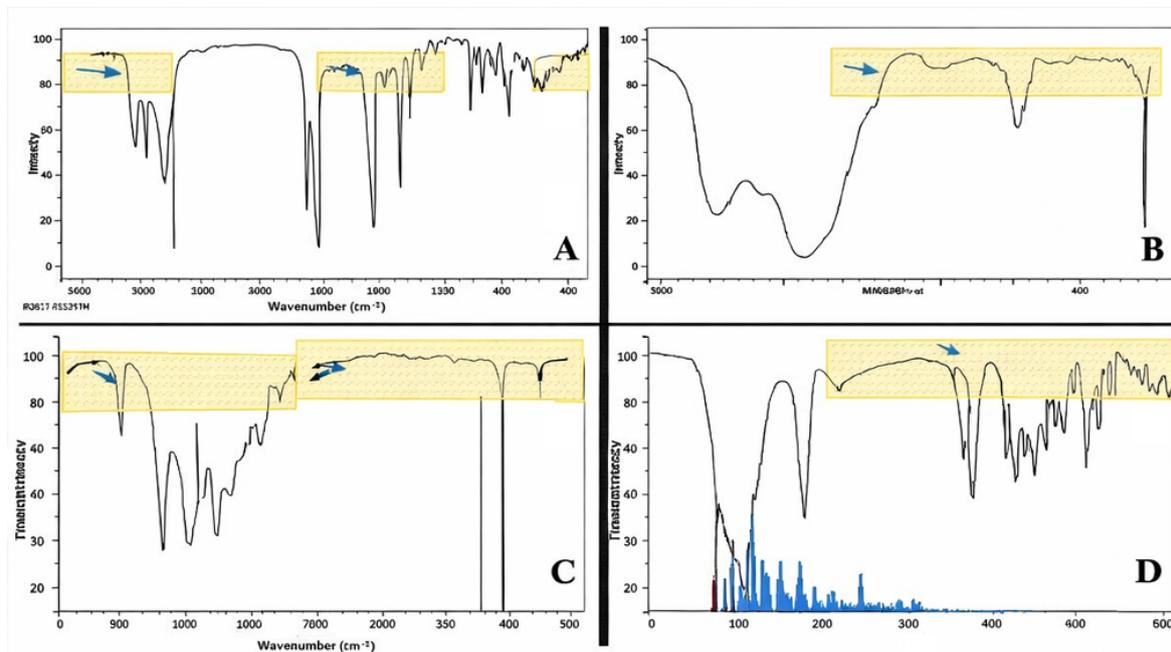


Figure S2. Predicted FTIR spectra of chloramphenicol (A), gentamicin (B), oxacillin (C), and hydrocortisone (HYDRO) (D). Yellow boxes highlight overlapping absorption regions between 1700 and 3000 cm^{-1} , corresponding to shared functional group vibrational modes associated with carbonyl stretching, C–H stretching of aliphatic and aromatic groups and O–H or N–H stretching vibrations. Blue arrows indicate representative absorption maxima within these bands that are shared across multiple spectra, supporting the presence of common functional group features despite differences in molecular structure.

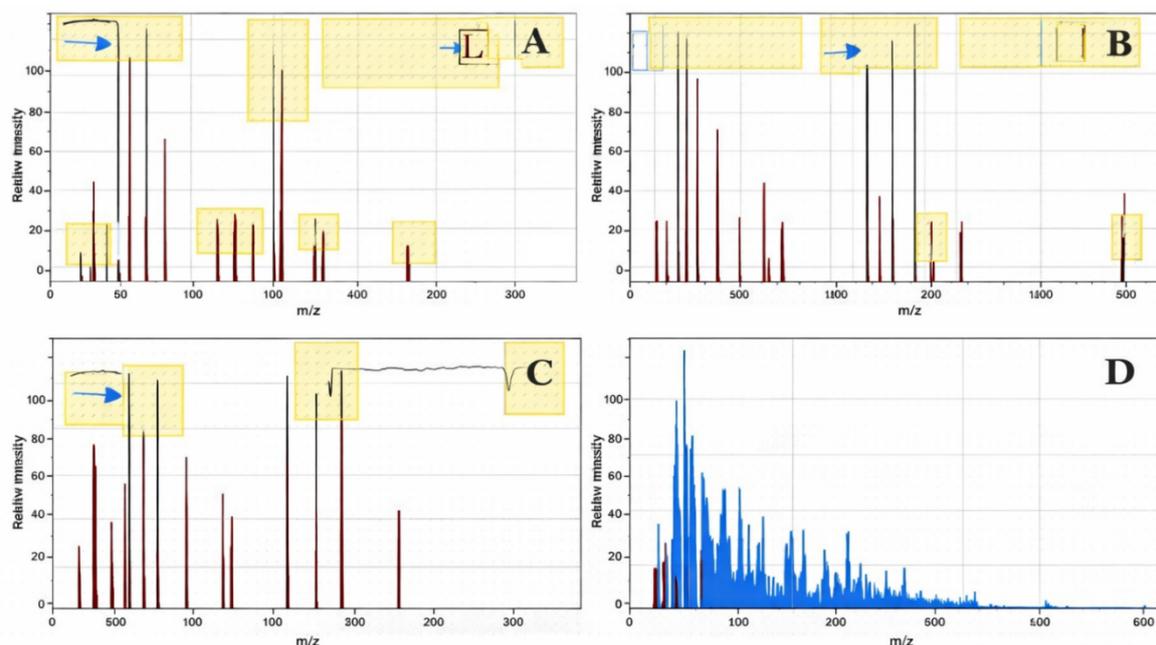


Figure S3. Predicted GC-MS chromatograms of chloramphenicol (A), gentamicin (B), oxacillin (C), and HYDRO (D), obtained from non-derivatized molecules in positive ion mode. Yellow boxes highlight regions containing low-molecular-weight fragment ions ($m/z < 100$ Da) that are common among the antimicrobials. Blue arrows indicate representative shared fragments discussed in the text. In (D), blue-highlighted peaks correspond to fragment ions that had no match in currently available databases.