The Discovery of Promising Macrolide Antibiotic Molecules Through Nucleophilic Substitution Reactions With H NMR Verification

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This research was a two-part experiment to discover new antibiotics. The first part was reacting erythromycin with morpholine and propyl amine to see if a reaction occurred. Erythromycin and the two reactions were verified by H NMR spectroscopy to be three different molecules in which, according to published information, the two reactions with erythromycin synthesized molecules that have not been made before. Part two consists of comparing the antibiotic activity of erythromycin (positive control), the two new molecules, and dimethyl sulfoxide (negative control). The results stated that the two new molecules were better or just as good in antibacterial activity in 4 of the 6 bacteria cultures compared to erythromycin.

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