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Synthesis, properties and biological activity of a novel phosphines ligand derived from ciprofloxacin.

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Streszczenie

Novel potential antibacterial agents derived from ciprofloxacin (**HCp**) were synthesized in the reaction of this antibiotic with hydroxymethyldiphenylphosphine. Detailed analysis by the NMR, IR and MS techniques attested to the identity and structure of the obtained compounds. In addition, the structure of phosphine PPh_2CH_2-Cp was unambiguously confirmed by X-ray crystal structural analysis. PPh_2CH_2-Cp exhibited an antibacterial activity comparable to that of the original drug. Cytotoxicity studies revealed that this compound was characterized by lower toxicity against mammalian cells than **HCp**. Besides, it did not induce a morphological change in cells after its action and was unable to degrade plasmid DNA, as well as parent antibiotic. Our results open up new possibilities in designing novel, less toxic and comparably effective antibiotics drugs.

Słowa kluczowe

Fluoroquinolone, antibiotic, Ciprofloxacin, Diphenylphosphine, Microbial resistance, cytotoxicity

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