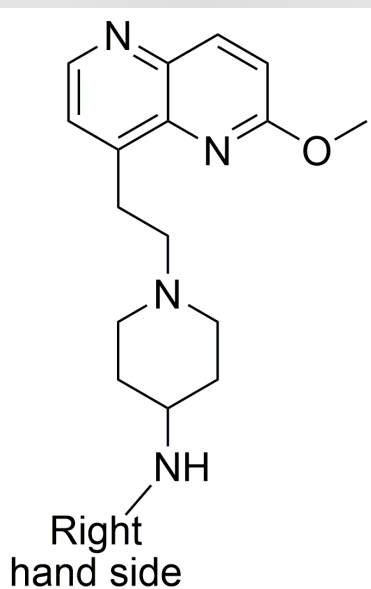


## ANTIBACTERIAL BASED ON MONOCYCLIC FRAGMENTS COUPLED TO AMINOPIPERIDINE NAPHTHYRIDINE SCAFFOLD



Rapidly increasing bacterial resistance is making many antibacterials ineffective, thus threatening the life-saving achievements of modern medicine. Persistent bacterial infections require treatment with more toxic and expensive drugs, while the death arising from treatment failure is continually increasing. The discovery of new effective antibacterial agents is therefore urgently needed to overcome the problem of bacterial resistance. Researchers from the National Institute of Chemistry in collaboration with researchers from the Faculty of Pharmacy in Ljubljana, Slovenia, have developed new antibacterial agents from the class of novel bacterial topoisomerase inhibitors (NBTIs) with innovative right hand side fragments that provide excellent overall antibacterial potency against a wide panel of Gram-positive and Gram-negative bacterial pathogens.

### TYPE OF COOPERATION

R&D cooperation and technology  
licensing opportunity

### INTELLECTUAL PROPERTY

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### DEVELOPED BY

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### MORE INFORMATION ABOUT THE INVENTION



### Technology

Innovative right hand side fragments bind primarily to the bacterial DNA gyrase enzyme, providing excellent antibacterial potencies of the entire NBTI compounds at the enzyme and bacterial-cell level compared to existing NBTI agents. They also exhibit a broad spectrum of antibacterial activity and selectivity for a bacterial enzyme compared to the analogous human enzyme. Despite the undesirable cardiotoxicity, the difference in the strength of the effect on bacterial cells and toxicity indicates the possibility of achieving an appropriate therapeutic window. As a result, these compounds present an extremely high beneficial antibacterials for treatment of persistent bacterial infections.

### Main advantages

- Extremely improved antibacterial potency
- Main effect on Gram-positive bacteria
- Less concentration required to achieve desired effect

### Key words

Novel Bacterial Topoisomerase Inhibitors (NBTIs), Antibacterials, Bacterial DNA gyrase, Bacterial resistance