52nd Conference

Synthesis and Analysis of Drugs 2024

Hradec Králové

BOOK OF ABSTRACTS

Compiled and edited by Andrea Bachtíková and Jan Zitko

Hradec Králové, 2024

Dear colleagues and friends,

The Organizing Committee is pleased to invite you to participate in the 52nd Conference Synthesis and Analysis of Drugs (SAL 2024) that will take place in Hradec Králové (Czech Republic) as an onsite event from September 19th to 20th, 2024. This year's conference will commemorate the 55th anniversary of the foundation of the Faculty of Pharmacy in Hradec Králové.

Synthesis and Analysis of Drugs (Syntéza a analýza léčiv) is an annual conference held alternately in the Czech and the Slovak Republic. It has a long tradition dating back to 1966. The conference covers all aspects of pharmaceutical chemistry and analysis, including adjoining fields such as biochemistry, pharmacology, molecular biology, bioorganic and bioinorganic chemistry, and related disciplines. The conference will be organized under the auspices and on the premises of the Faculty of Pharmacy, Charles University in Hradec Králové.

I believe the conference will be very pleasant and fruitful. There will be many opportunities to make new contacts and discuss current challenges in the fields of medicinal chemistry, pharmaceutical analysis, and other disciplines. Young scientists and PhD students are especially encouraged to present the results of their work. Dear colleagues, I look forward to meeting you at this traditional annual conference for experts from the Czech Republic, the Slovak Republic, and many other countries.

Prof. PharmDr. Martin Doležal, Ph.D.
chairman of the Organising committee
chairman of the Section of Synthetic Drugs, Czech Pharmaceutical Society

Members of the Organising committee:

Prof. PharmDr. Martin Doležal, Ph.D.

chairman of the Organising Committee

chairman of the Section of Synthetic Drugs, Czech Pharmaceutical Society

Assoc. Prof. PharmDr. Radim Kučera, Ph.D.,

chairman of the Section of Pharmaceutical Analysis and Bioanalytics, Czech Pharmaceutical Society

Assoc. Prof. PharmDr. Petr Chocholouš, Ph.D.

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PharmDr. Marta Kučerová, Ph.D.

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Assoc. Prof. PharmDr. Hana Sklenářová, Ph.D.

Assoc. Prof. PharmDr. Petra Štěrbová, Ph.D.

Assoc. Prof. PharmDr. Jan Zitko, Ph.D.

The conference is sponsored by:

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BIOORGANIC AND PHARMACEUTICAL CHEMISTRY

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SYNTHESIS OF FLUOROQUINOLON HYBRIDS AND THEIR PROSPECTS AS NEW ANTIMICROBIALS

HRYHORIV, H.[1], KOVALENKO, S.[2], FILIMONOVA, N.[3], PEREKHODA, L.[4], GEORGIYANTS, V.[1]

[1] Department of Pharmaceutical Chemistry, National University of Pharmacy, Kharkiv, Ukraine;

[2] Department of Organic Chemistry, V.N. Karazin Kharkiv National University, Kharkiv, Ukraine;

[3] Department of Microbiology, Virology and Immunology, National University of Pharmacy, Kharkiv, Ukraine;

[4] Department of Medicinal Chemistry, National University of Pharmacy, Kharkiv, Ukraine

e-mail: galkagrigoriv@gmail.com

Overuse and misuse of antibiotics has been leading to the appearance of numerous resistant strains since the beginning of their utilization in clinical practice. However, it is possible to design new molecules based on the known ones and the aim of our investigation was to synthesize and study antibacterial properties of hybridized fluoroquinolones (FQ).

At first, the docking studies were carried out. Their results helped to identify the promising molecules, mainly among C-7 and C-3 FQ derivatives. Ciprofloxacin and norfloxacin were taken as core structures. Their C-7 position was modified using 1,2,3-triazole moiety through a developed synthetic procedure. Then, we studied introduction of the arylsulfonyl moiety into C-3 position with subsequent hybridization of C-7 and N-1. The ranges of new compounds were obtained with medium yields and their structures were confirmed using ^{1}H NMR, ^{13}C NMR, LC/MS spectroscopy and X-Ray diffraction studies.

FQs hybridized with 1,2,3-triazole moiety revealed moderate antimicrobial and antifungal activities, and new C-3 substituted arylsulfonyl derivatives showed a bit smaller activity, probably due to their lower solubility in common solvents. A few hit compounds were identified and selected for further investigations.

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