

51st Conference Synthesis and Analysis of Drugs (SAD 2023)

Editorial

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The search for new organic and inorganic compounds for the treatment of diverse types of diseases is the subject of extensive research efforts. Pharmaceutical chemistry and analysis plays a fundamental role in the designing of new drug entities and in the evaluation of their mode of action, purity and safety. Besides the enduring mission of development of truly efficient anticancer therapeutics, present-day pharmaceutical chemists face further challenges such as the increasing incidence of antibiotic resistance, discovery of novel drug targets, identification of new active natural products, involvement of genomics and proteomics, as well as rising costs and time consumption of the drug development process and increasing regulatory demands. Over the past decades, a substantial number of new compounds have been synthesised or isolated from various sources. Nonetheless, only a small fraction of them have demonstrated utility in the therapy of disease. Thus, despite the progress in research, the morbidity and mortality of numerous diseases remain an enduring global health issue. The efficacy of currently available drugs is often restricted by their high toxicities, low bioavailability and intrinsic or acquired drug resistance. An international exchange of knowledge is imperative to successfully cope with all these challenges.

For the 51st time now, the conference Synthesis and Analysis of Drugs has provided a platform for the meeting of experts in pharmaceutical chemistry and related disciplines. The conference looks back at a long tradition, starting in 1971 and since then occurring annually, organised alternately at Czech and Slovak pharmaceutical faculties. This year, the event was hosted by the Pharmaceutical Faculty, Comenius University in Bratislava, from 7 to 8 September. The conference was attended by more than 40 participants from Slovakia, the

Czech Republic, Slovenia and Romania. In total, six plenary lectures, 10 short talks and 25 posters were presented. The abstracts of the contributions are listed in this special issue and are divided into plenary lectures, short talks and posters. Within each group, the abstracts are organised in alphabetical order of their first authors. The presenters of the plenary lectures provided insights into the environmental fate of drugs (Assoc. Prof. Radka Opatřilová), the role of aminopeptidase N as a potential drug target (Assoc. Prof. Oldřich Farsa), crystallisation-induced diastereomer transformations (Assoc. Prof. Pavel Bobál), cell death mechanisms in tumours induced by metal-based drugs (Dr. Eva Fischer-Fodor), synthesis, bioactivity and mechanism of action of pyrazinamide derivatives (Assoc. Prof. Jan Zitko) and the utility of natural metabolites in current pharmacotherapy (Prof. Pavel Mučaji). The conference was dedicated to the 80th birthday of Prof. RNDr. Jozef Čižmárik, PhD., an excellent scientist and outstanding university lecturer, as well as one of the founders of pharmaceutical chemistry in Slovakia.

I would like to thank all participants for their valuable contributions. I would also like to express my sincere gratitude to the Faculty of Pharmacy, Comenius University in Bratislava, especially to its dean, Prof. PharmDr. Ján Klimas, PhD., MPH, for providing the meeting venue and for their universal support, and to the Department of Chemical Theory of Drugs and the Department of Pharmaceutical Chemistry for technical and organisational assistance.

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