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Novel structural elements for drug discovery: Identification, synthesis and application.

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Abstract

It is now commonly accepted that structural diversity of the known drugs is very low. Moreover, it is believed to be one of the reasons, why it is getting more and more difficult to launch the principally novel drugs in the recent years.

In the contemporary paradigm of drug discovery under the pressure of shortening turnaround time in lead optimization projects, medicinal chemists are to use only commercially available building blocks that can quickly be delivered. Under these circumstances even the most conceptually attractive compounds have low chances to find the true practical application if they are not commercialized. For example, being highly accessible conventional laboratory reagents pyrrolidine, piperidine and morpholine, left their deep footprint in drug discovery. These are the most frequently reported secondary amines in medicinal chemistry. We wanted to upgrade this toolkit of primitive cyclic amines. Therefore, we identified and synthesized other family members allowing for a variety of forms.

Biography

Pavel Mykhailiuk completed his PhD in 2008 at Technical University of Karlsruhe (KIT, Germany) after working with Prof. Anne Ulrich. Thereafter, he joined “Enamine LTD” company, where he currently holds a position of Chief Scientific Officer. Pavel is co-author of ca. 50 research manuscripts, 1 patent and 1 book chapter.