

February 19-20, 2019
Prague, Czech Republic

J Org Inorg Chem 2019, Volume: 5
DOI: 10.21767/2472-1123-C1-021

ANTIBACTERIAL NAPHTHALENE-BASED AGENTS

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Although naphthalene can be considered as the simplest compound from the group of arenes, it is one of the most interesting arenes. Naphthalene-based drugs include not only clinically used anti-infective chemotherapeutics, but also other agents with significant antimicrobial properties. The naphthalene scaffold can be found in several other therapeutic classes such as antidepressants, nonsteroidal anti-inflammatory drugs, α 1-adrenomimetics, α 1-adrenolytics, β 1-adrenolytics and peroral anti-diabetics. Thus, it can be stated that this scaffold can be considered as a privileged structure. The naphthalene scaffold can be easily and rapidly functionalized, which provides a possibility of a great number of targeted modifications as well as modification/optimization of physicochemical properties. This contribution is focused especially on the investigation of ring-substituted hydroxyl naphthalene carboxamide derivatives that expressed promising biological activities as antibacterial agents against a number of human pathogens. Structure-activity relationships and the supposed mechanism of action are discussed.

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