

Tentative Outline

Special Thematic Issue for Combinatorial Chemistry & High Throughput Screening Inhibitors of Monoamine Oxidase and Acetylcholinesterase as a front runner in CNS drug discovery

Guest Editors: *Bijo Mathew, Hoon Kim*

Aims & Scope:

Monoamine oxidase (MAO) catalyzes the oxidative deamination of neurotransmitter monoamines and a variety of xenobiotic and dietary amines. Two types of isoforms of MAO, that is, MAO-A and MAO-B, are localized to the mitochondrial outer membrane. These two enzymes show different substrate specificities; MAO-A prefers serotonin, whereas MAO-B prefers phenylethylamine and benzylamine. Although most marketed MAO drugs are long-lasting irreversible inhibitors, reversible inhibitors have been developed to avoid protracted irreversible effects, for example, moclobemide and safinamide, which are selective for MAO-A and MAO-B, respectively, are used as antidepressants and for the treatment of Parkinson's disease (PD), respectively. Acetylcholinesterase (AChE) is the main target in the palliative therapy of Alzheimer's disease (AD), being present in both central and peripheral nervous system and in muscular motor plaques, and is responsible for the enzymatic cleavage of neurotransmitter acetylcholine (ACh). Another ChE such as butyrylcholinesterase is present in the brain peripheral tissues and in the serum, is up-regulated in advanced AD. Currently approved drugs for AD are the ChE inhibitors rivastigmine, galantamine, and donepezil. A number of reviews have been published on the ChE and MAO inhibitors. The Issue will touch a specific class of synthetic derivatives as well as multi-targeting compounds.

Keywords: Monoamine Oxidase, drug discovery, inhibitors, Acetylcholinesterase.

Subtopics:

The subtopics to be covered within this issue are listed below:

1. Multi-Target MAO and ChE inhibitors
2. An update on MAO inhibitors of natural small molecules
3. An update on ChE inhibitors of natural small molecules
4. Design and synthetic route of various class of MAO and ChE inhibitors
5. Updates of MAO and ChE inhibitors AD and PD.
6. Computational chemistry in MAO and ChE inhibitors
7. Recent development of Patents in MAO and ChE inhibitors
8. Overview of SAR principles various class of MAO and ChE inhibitors

Schedule:

- ✧ Manuscript submission deadline: 8th Sep, 2019
- ✧ Peer Review Due: 18th Dec, 2019
- ✧ Revision Due: 30th Dec, 2019
- ✧ Announcement of acceptance by the Guest Editors: 29th Feb, 2020
- ✧ Final manuscripts due: 8th Apr, 2020

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