

Tentative Outline

Special Issue for Current Medicinal Chemistry

Guest Editor: Dr. Raffaele SALADINO

Synthetic and biological procedures in antiviral strategy: the present and the future

Aims & Scope:

The issue is focused on the description of current advances in the synthetic methodology and biological evaluation of novel antiviral compounds.

Chemical space exploration and scaffold morphing analysis are pivotal concepts for the design of leader antiviral compounds. In the last years, organometallic and biocatalytic procedures, associated to the modernization of multi component chemistry (MCC) by innovative technologies (e.g. microwave-assisted synthesis, catalysis and photochemistry) furnished potent synthetic tools to force and speed-up impressive high chemical diversity, encompassing the empirical visualization of the pharmacologically active space around the original hits and the phenotypic screening for the identification of novel chemotypes. Also, the high variability in the viral infections and the continuous appearance of resistance processes creates the urgency to identify novel and specific molecular targets, as well as the inventory of novel bioanalytical procedures for the evaluation of the antiviral activity. The aim of this special issue is to summarize recent advances in the synthetic methodologies for the preparation of broad-spectrum and targeted-type antiviral compounds, focusing on innovative procedures able to improve the chemical space exploration and scaffold morphing analysis. Likewise, the identification of specific molecular targets and inhibition mechanisms, and the development of novel in vitro and in vivo methodologies for the evaluation of the antiviral activity will also be reported.

Subtopics:

1. Advanced methodologies in the synthesis of broad-spectrum and targeted-type antiviral compounds
2. Novel molecular targets and mechanism of inhibition of virus replication
3. Advanced methodologies for the in vitro and in vivo screening of the antiviral activity
4. Future perspective in chemical space exploration and scaffold morphing analysis applied to antiviral compounds.

Keywords: antiviral compounds, antiviral activity, advanced methodologies, catalytic procedures, multicomponent chemistry, cellular line models, mechanism of virus inhibition.

Schedule:

Tentative Date of Issue Submission: 30th December 2020