Tentative Outline

Special Thematic Issue for Current Organic Chemistry

Title of thematic issue: Amino acids, peptides and peptide mimetics: a way to diseases prevention and treatment

Guest Editors: Javier Eduardo Garcia Castañeda & Zuly Jenny Rivera Monroy

Aims & Scope: Now days we face the great challenge of discover new molecules that allows preventing and treating diseases that affect humanity. The increase of population, higher life expectancy and apparition of pathogens resistant to drugs, forces us to look for new therapeutic options to mitigate the diseases impact in the near future. Is imperious to know our reality about progress in the development of new therapeutically options. The amino acids, peptides and peptide mimetic are an invaluable source of alternatives for designing and developing promissory molecules. Peptides has biomedical applications in diagnostic, monitoring and treatment of pathologies. By other hand, amino acids and peptides are the base of the design of synthetic routes for obtaining molecules with therapeutic properties. Some, analytical methods for diagnostic and monitoring of pathologies are based in peptide mimetics and modified amino acids. Modified amino acids are fundamental in modern medicinal chemistry being the starting materials for synthesis of complex molecules. The modified amino acids could be used as drugs itself, as well as intermediate products in peptide mimetic based drugs synthesis. The structural diversity of non-natural amino acids requires the optimization of multiple synthetic strategies to get a promissory pharm.

During last decade, FDA approved drugs included amino acids and peptides. In 2017 it was reported 484 therapeutic peptides, 68 have been approved and 155 are in clinical phases studies. The Transparency Market Research in 2017 reported that global market of therapeutic peptides will show a Compound Annual Growth Rate of 9.1% between 2016-2024 and peptides market could be US $ 46.6 billons in 2024. The growing of therapeutic application of this kind of molecules is a consequence of the improvement organic synthesis strategies that allows obtaining those molecules with high purity and low cost.

Keywords: Peptides, peptide mimetic, amino acids, non-natural amino acids, Solid phase synthesis, Solution synthesis.

Subtopics along with Contributing authors and abstract

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

1. Modified peptides or amino acids with Ferrocene or Organotin: Searching a new therapeutic and diagnostic tools.
2. Bio-organometallic peptide conjugates: recent advances in their synthesis and prospects for biomedical application.
3. The role of Integrin αvβ6 binding peptides in diagnosis and treatment of cancer.
4. Designing short peptides: The Sisyphus task?
5. Development of strategies for glycopeptides synthesis: An overview on the glycosidic linkage**.**

Schedule:

- ✧ Manuscript submission deadline: 14th Nov, 2019.
- ✧ Peer Review Due: 21st Dec, 2019.
- ✧ Revision Due: 12th January, 2020.
- ✧ Announcement of acceptance by the Guest Editors: 30th January, 2020.
- ✧ Final manuscripts due: 28th February, 2020.

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