conferenceseries.com

Med chem 2016, 6:7(Suppl)
http://dx.doi.org/10.4172/2161-0444.C1.022

International Conference on
Stereochemistry
August 18-19, 2016 Sao Paulo, Brazil

Recent advances in asymmetric organocatalytic Staudinger synthesis of β-lactams

Plato A Magriotis
University of Patras, Greece

In recent years, organocatalysts have dominated the field of asymmetric organic synthesis due to their ability to catalyze a variety of fundamentally important transformations. One example is the Staudinger synthesis of β-lactams which continue to provide unique opportunities for the design and synthesis of new derivatives with unprecedented biological profiles other than antibacterial activity. In fact, during the last two decades medicinal chemists have convincingly demonstrated that structural modifications of monocyclic β-lactams (monobactams) is an effective protocol for the discovery of new derivatives with novel pharmacological profiles. This lecture will cover recent progress that has been made in asymmetric organocatalytic Staudinger synthesis of β-lactams since the inaugural and pioneering investigations by Lectka and coworkers around the turn of the century, as well as our own efforts toward the development of a novel Gilman-Speeter process for the catalytic enantioselective synthesis of β-lactams.

pmagriotis@upatras.gr

An efficient way to determine the chromatic number of a graph directly from its input realizable sequence

Prantik Biswas[1] and **Paritosh Bhattacharya**[2]
[1]Jaypee Institute of Information Technology, India
[2]National Institute of Technology, India

Spectral graph theory is a popular topic in modern day applied mathematics. Spectral graph theoretic techniques are widely used to extract a large variety of information about different properties of a graph from its adjacency matrix. A well known physical property of a graph is its chromatic number. In this paper, we have proposed an efficient approach to determine chromatic number of a graph directly from a realizable sequence. The method involves construction of adjacency matrix corresponding to an input sequence followed by calculation of eigen values to determine the bounds of chromatic number and consequently its chromatic number. One of the most common properties of a square matrix is its eigen value. The study of graph eigen values realizes increasingly rich connections with many other frontiers of mathematics. The spectrum of a graph when analysed with eigen values, yields a good resemblance with most of the major invariants of a graph, linking one extremal property to another. In our work, we have proposed a methodology to predict the chromatic number directly from an input graphic sequence. The proposed algorithm first checks whether an input non-increasing sequence is realizable through the construction of adjacency matrix. If the sequence turns out to be graphic, it then computes the eigen value from the already constructed adjacency matrix of the input degree sequence. Next we use the well known interrelationships between eigen values and chromatic number of a graph to predict the bounds of chromatic number for the given realizable input sequence. Finally we compute chromatic number by applying a trial and error method.

pranmasterbi@gmail.com
prantik.biswas@jiit.ac.in