Title: Modern Strategies for Synthesis of Functionalized Bio-molecules

Guest Editor: Dr. Subhash Banerjee

Aim & Scope: Syntheses of functionalized biologically active molecules have attracted considerable interest in organic synthesis due to their wide pharmaceutical applications. The synthesis of complex molecules with different active pharmacophores has been achieved by adapting the tailored synthetic approaches. The traditional methods for the synthesis of biologically active molecules have several limitations such as multi-step approach, low isolated yields, longer reaction times, tedious purification procedure, use of toxic catalysts and reagents and harsh reaction conditions. Recently, different modern synthetic strategies have been developed for the construction of bio-active molecules to overcome the limitation of classical methods. Among these one-pot multicomponent reactions, C-H activation reactions, nanocatalysis, reaction under ball milling/microwave conditions/sonication/micro-reactor/visible light etc have been grabbed tremendous attention in terms of clean organic synthesis. This thematic issue intends to highlight the modern progress on the development of various sustainable synthetic strategies for the synthesis of bio-active molecules.

Keywords:
Biomolecules; Heterocyclic Compounds; Fused and annulated heterocyclics; Modern synthetic strategies; C-H functionalization/cyclization; Green synthetic tools; Microwave, Ultra sounds, MCR, Nanocatalysis; Nano-reactors; Micro-reactors

Subtopic along with Contribution authors
• C-H activation-Annulation
• Micro-reactor and Nano-reactor
• Nanotechnology and Green Chemistry
• One-pot Multicomponent Synthesis
• Microwave Assisted Synthesis of Bio-molecules
• Organic Synthesis under Ultra sound
• Nanocatalysis-A Green Approach
• Heterogeneousa and Homogeneous Catalysis
• Photo-catalytic approach
• Synthesis in Green Solvents like Ionic liquid, water, supercritical CO₂ etc.
Title-1: Nanoparticle-Catalyzed One-pot-multicomponent Reaction: A Sustainable Route to Biofunctionalized molecules

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Keywords: MCRs; Nanomaterials; Biomolecules; Heterogeneous Catalysis

Title-2: A Review on the Nanoparticle-Catalyzed Synthesis of Coumarin-Fused BioActive Heterocyclic Molecules

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Keywords: Metal oxide nanoparticles; pyran-fused coumarin; pyrazolyl-fused coumarin; chromeno-chromenes

Title-3: Annulative pi-extension of N-Heterocycles through C-H Activation

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Keywords: Indole; pyrrole; carbazole, C-H activation; Pd-catalyzed; annulation; piextension

Title-4: Microwave a Green Tool for the Synthesis of N-Heterocyclic Compounds

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Keywords: Microwave; Selective Heating; N-Heterocyclic Compounds; Green Synthesis
Title-5: Synthetic Strategies for the Construction of Imidazopyridine Derivatives

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Keywords: Imidazopyridines, Classical methods, Modern Methods, Metal-catalyzed protocols, Metal-free protocols.

Title-6: A Review on Synthesis of Nitrogen-containing Heterocyclic Compounds under Super Critical CO₂.

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Keywords: Green Medium, Super Critical CO2, Green Synthesis, N-based Heterocyclic Compounds.

Title-6: A Brief Review on Synthetic Strategies on 1,2,4,5-Tetrazine Synthesis

Name: Prof. Joseph M. Fox and Dr. Yinzhi Fang
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Keywords: Heterocyclic compounds, 1,2,4,5-Tetrazine, Strain promoted synthesis

Title-6: Recent Developments on Synthesis of Bioactive Molecules via Greener Horizons

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Keywords: Heterocyclic compounds, Green reactions, Multicomponent reactions, One-pot Synthesis

Title-7: Micro-reactor (Flow-reactor): A Modern Approach in Organic Synthesis

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Keywords: Micro reactor (flow reactor), Organic synthesis, Catalysis, Asymmetric synthesis, Pharmaceuticals.

Schedule

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