Tentative Outline

Special Thematic Issue for the journal *Current Nanomedicine*

Title of the Thematic Issue: Pharmaceutical Applications of Advanced Bio Nanomaterials and Coordination Compounds

Guest Editor: Dr. Shashanka Rajendrachari

Co-Guest Editor: Prof. Vinayak Adimule

- **Scope of the Thematic Issue:**

During the last two decades, nanocomposites and coordination compounds attracted much interest in pharmaceutical applications due to their potential usability in antimicrobial and anticancer therapy. Coordination compounds which essentially consist of central metal atom (prudentially transition elements) surrounded by organic ligands. Nanocomposites dispersed with nanoparticles such as Au, Ag etc. and coordination compounds bearing intercalated transition metal complexes such as MOFs has been synthesized and developed as a new class of antimicrobial and anticancer agents. A fascinating aspect of the nanocomposites and coordination compounds is that it is rapidly and continuously developing. In this regard, special attention will be given for the diversified applications of these class of materials. In addition, bio nanomaterials which consist of organic molecules dispersed with inorganic nanomaterials with different morphologies and sizes create improved antimicrobial and anticancer related properties due to synergy between surface reactivity and area. Currently various inorganic nanocomposites have been widely used in the therapeutic areas such as antimicrobial, anticancer, hypnotics etc.

This special issue deals with highlighting most recent advances in the antimicrobial and anticancer properties of coordination compounds and bio nanomaterials. We welcome contributions to all aspects of the topic covering the synthesis, characterization, DNA binding, fluorescence imaging, antimicrobial, anticancer, MTT assay covering broader aspects of the pharmaceutical importance of bio nanomaterials and coordination compounds showcasing versatility and varieties of these compounds achieved till date.

Keywords: Bio nanomaterials; Antimicrobial activity; Anticancer properties; DNA-binding; Target Drug Discovery; Fluorescence Imaging; Clinical Applications; Coordination Compounds

Sub-topics:

- Synthesis, characterization and antimicrobial properties of bio nanomaterials
- DNA binding activities of nanocomposites, nanomaterials
- Synthesis, characterization and anticancer properties of nanomaterials, coordination compounds of biological significance
- Structural property relation and docking studies on bio nanomaterials and coordination compounds
- Anti-diabetic, antimicrobial and anticancer properties of nanocomposites doped coordination compounds
- Clinical pharmacology of the nanocomposites and coordination compounds
- Fluorescence imaging using bio nanocomposites and metal organic frameworks
- Synthesis, characterization and antibacterial properties of metal organic frameworks and bio-Nano hybrids
- Synthesis, characterization and MTT assay properties of nanocomposites and metal organic polymers/coordination compounds

Tentative titles of the articles:

- Synthesis, Characterization and antimicrobial properties of Ag2O doped MOFs containing coordination compounds as ligands

- Synthesis, antimicrobial and DNA binding activities of novel RIT doped C nano sphere MOFs compounds.
- Synthesis, Characterization and MTT assay and DNA binding properties of metal organic frameworks containing Zr+2 as central metal atom.
- Antimicrobial, Anticancer and Antioxidant Properties of Novel series of Zr+2 doped TGSA MOFs containing amine functional groups.
- Antimicrobial properties and therapeutic applications of hybrid metal organic frameworks: A comprehensive review.
- Synthesis of Co 2+ doped Oxaborole derivatives and their potential antimicrobial and antidepressant activity.
- Synthesis, DNA binding studies of novel 3D Zr+2 doped 4-{[(1E)-1-Hydroxy-3-Oxoprop-1-en-2-yl] Sulfanyl}Benzoic Acid Metal Organic Frameworks and their antimicrobial properties.
- Synthesis of 3D Carbon Nano sphere doped Co^{+2}linked4-{[(1*E*)-1-Hydroxy-3-Oxoprop-1-En-2-yl] Sulfanyl} Benzoic Acid Metal Organic Frameworks and their antioxidant and antimicrobial activity.
- Effective synthesis of novel class of coordination compounds bearing iso oxazole moiety and their potential applications towards inhibition of CaCO2 cell lines.
- Characterization and antimicrobial properties of novel series of Pd (OAC)2 doped Co-MOFS and their crystal studies.
- Enzymatic investigation of CuO nanoparticles prepared by leaves of Aslan Pencisi.
- Synthesis of fluorinated pyridazinone derivatives by solvent free method and study of their antibacterial and docking properties.
- Biological Activity and Molecular Docking Study of Bicyclic Structures: Antidiabetic and Anticholinergic Potentials.
- Acetylcholinesterase-based inhibition screening through in situ synthesis of gold nanoparticles: Application for detection of nerve agent simulant.

Schedule:

- Thematic issue submission deadline: 31st October, 2022.

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