Tentative Outline

Special/Thematic Issue for the
“Current Pharmaceutical Design”

Title of the Thematic Issue: Organic ligands coated metal oxide nanoparticles for biomedical Applications

Guest Editor: Dr. Muhammad Atif
Co-Guest Editor: Dr. Muhammad Fakhar-e-Alam

Scope of the Thematic Issue:
Present issue enclosed the multiple factors

1. Synthesis and characterization of Organic ligands coated metal oxide NPs
2. In vitro and In vivo analysis for anticancer activity
3. Anti-bacterial and Anti-fungal activities

Details:

- **Organic Ligands coated metal oxide NPs:**
  Two types of nanoparticles are focused that can be used for biomedical applications for instance, pure and organic ligands coated NPs. The pure NPs preferred for the external organs of the human or animal body. These particles are directly injected inside the tumor through injection. Moreover, the pure nanoparticles are used for the treatment of carcinoma and other biomedical applications. Here it is important to mention that coated nanoparticles mostly used for internal organs of human and animal body. The coating agent used to stabilize the nanoparticles and the agents used to smooth flow of nanoparticle inside the blood otherwise nanoparticles react with hemoglobin and cannot flow inside the blood. According to these conditions the nanoparticles are coated with different organic ligands for biomedical applications.

Biomedical Applications: In the early history, the cure of cancer was only possible with radiation therapy. But it is dangerous for other internal organs of human body. However, the advancement in medical sciences provided alternatives to cure this disease more efficiently. And the use of nanoparticles is one the most reliable treatment method. Moreover, coated nanoparticles use in many fields of biological science like targeted drug delivery, magnetic hyperthermia therapy, MRI as a contrast agent, controlled drug release process, photodynamic therapy, photothermal therapy, biosensor technology, drugs delivery and X-ray imaging process. All these techniques are more suitable for organic ligands coated nanoparticles and these coated-NPs are nontoxic for human cells. Presently, organic ligands coated NPs were played the central role to improve the anti-fungal and antibacterial activity.
Research in novel nano-materials for biomedical applications requires the dissemination of new and exciting research, and we therefore welcome contributions from many different fields linked with biomedical science.

Keywords: Organic ligands, anticancer, Anti-fungal, nanoparticles, Biomedical, MRI, tumor.

Sub-topics:

Topics of interest include but are not limited to the following:

- Organic Ligands

- Pure and Polymer coated Nanoparticles
- Magnetic properties
- Anti-bacterial activity
- Anti-cancer activity
- Anti- fungal activity
- Drug Delivery
- MRI contrast agents

Schedule:

- Thematic issue submission deadline: **31 December, 2023**

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