

Special Issue on Metal-Based Compounds in Diagnosis and Therapy

CALL FOR PAPERS

Metals have a long history of use in diagnosis and therapy. Metal complexes with their tunable coordination geometry, versatile redox, and spectral and photophysical properties can be exploited as potential therapeutic agents. In a metal-based drug, the ligands play important roles in modulating the membrane permeability and tuning the redox properties of the system, which can be used for directional delivery of the complex to specific subcellular organelles. Under certain instances, the metal ion may stabilize the drug ligand and act as a carrier until it reaches the target site. Therefore, the overall effect of metal ion and ligand in a complex may result in enhanced selectivity and efficacy of the complex while imitating new mechanism of drug action. Today, there are many metal-based compounds that are routinely used for diagnostic and therapeutic purposes in clinic. Particularly cogent examples are the use of ^{99m}Tc as radiopharmaceutical, gadolinium complexes as magnetic resonance imaging (MRI) contrast agents in radiology, and gallium nitrate and platinum complexes as anticancer drugs in clinic. Similarly, gold complex (Auranofin) as antiarthritis drug and iron-bleomycin complex as natural antitumor antibiotic are also in clinical use. Likewise, simple metals salts such as LiCO_3 are approved by FDA for treating manic depression while LaCO_3 is approved for treating hyperphosphatemia. Currently, a number of metal complexes are undergoing clinical evaluations for treating various diseases. Some examples are the ruthenium complexes such as NAMI-A as antimetastasis agent, palladium based PDT agent (TOOKAD), and vanadium-maltolate as insulin mimetic. Photoactivated chemotherapy (PACT) is another emerging area of research. These examples highlight the growing and promising field of medicinal inorganic chemistry.

In this special issue, we invite original research articles related to the medicinal (both diagnostic and therapeutic) applications of metal containing species, particularly metal complexes.

Potential topics include but are not limited to the following:

- ▶ Metal complexes for bioimaging applications
- ▶ Metal complexes as anticancer agents, anti-infective, antimalarial, antiviral, and antidiabetic agents
- ▶ Metal complexes for the treatment of Alzheimer's disease
- ▶ Mechanism of drug action
- ▶ Interaction of metal complexes with DNA and proteins
- ▶ DNA cleavage by metal complexes and its mechanism
- ▶ Small molecule targeted therapy
- ▶ NO-releasing metal complexes
- ▶ Photoactivated chemotherapy (PACT)
- ▶ Pharmacological aspects of metal complexes

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/bca/mcdt/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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