

Applications of N,O-donor Based Organic Ligands and their Complexes as Biomaterials

Bidyut Kumar Kundu, *Chittaranjan Routray, * Pragti[†]

*Assistant Professor, School of Applied Sciences, **Centurion University of Technology and Management, Bhubaneswar-752050, Odisha, India**

Ph.D. Scholar, Discipline of Chemistry, School of Basic Sciences, Indian Institute of Technology Indore, Simrol, Khandwa Road, Indore 453552, India

Abstract

Science is a pyramidal endeavour, each layer of discovery and invention arising out of the previous ideas and research. In this continuous process, coordination chemistry belongs to the division of inorganic chemistry, which mainly deals with coordination complexes and their formation, structure and reactivity. 'Coordination complex' in inorganic chemistry consists of a central metal atom connected to the surrounding atoms. The source of these surrounding atoms is basically from some kind of coordinating or chelating molecule(s)/ compound(s), termed as 'ligands'. Ligands possess variation in denticity to satisfy the overall coordination sphere around central metal atom. Moreover, N, O-donor ligands are well known for availing better coordination to form thermodynamically stable metal complexes, most of which possess superior applicability in different areas. Thus, the use of synthesized complexes *via* N, O-donor ligands can be potent towards various chemical, biological as well as material applications as depicted below.