



**Synthesis, Spectral Characterization and Photoluminescence Properties of Europium(III) and Terbium(III) Complexes with Schiff bases Derived from 5-(phenyl/substituted phenyl)-2-hydrazino-1,3,4-thiadiazoles and Benzyl/Diacetyl**

**Ananya Vishwakarma, S.K. Sengupta and O. P. Pandey\***

Department of Chemistry, DDU Gorakhpur University, Gorakhpur-273009, **INDIA**

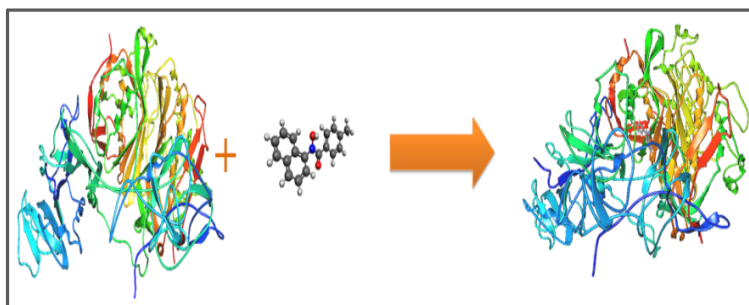
Email: [oppandey1658@yahoo.com](mailto:oppandey1658@yahoo.com)

Acceptance 21<sup>st</sup> August, 2018

**ABSTRACT**

*A novel class of europium(III) and terbium(III) complexes with Schiff bases derived by the condensation of 5-(phenyl/substituted phenyl)-2-hydrazino-1,3,4-thiadiazoles and benzyl/ diacetyl have been prepared in ethanol. The structures of the complexes have been proposed on the basis of elemental analysis, electrical conductance, magnetic moment, spectroscopic measurements (IR, UV spectra), X-ray diffraction studies and photoluminescence properties such as emission spectra of the complexes were investigated. Emission spectra of the europium(III) and terbium(III) complexes exhibit strong characteristic emission in red and green regions, respectively.*

**Graphical Abstract**



**Highlights**

- Molecular docking studies of hydroxamic acid derivatives with PfDHFR-TS have been done.
- Ascore method from Argus Lab 4.0.1 was used.
- The receptor structure was obtained from Protein Data Bank (PDB No. 1J3I).
- N-1-naphthyl-p-methylbenzohydroxamic acid, N-p-MBHA shows the highest binding energy with the receptor.

**Keywords:** Europium(III), Terbium(III), IR, Luminescence.