IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 4, March 2022
Impact Factor: 6.252

Synthesis, Characterization and Antibacterial Studies of p-Dimethylaminobenzaldehyde Derivative of α-Benzilmonoximehydrazone ligand and its Zn(II), Cd(II) and Hg(II) Metal Complexes

Gajanan C. Upadhye and Vinay H. Singh
Konkan Gyanpeeth Karjat College of ASC Karjat Raigad Maharashtra

Abstract: *It is difficult to imagine life without biological metal complexes. Human being can't ignore the role of coordination compounds in the various physiological processes taking place inside our body. Hence coordination compounds synthesized compounds can compete with the vital biological reactions taking place in the body. Therefore, the metal complexes can inhibit the life cycle of various microbes and find their application in the medicine world. Here, we report the synthesis of divalent metal ions of Zn, Cd and Hg complexes with derivatives of Benzilmonoximehydrazone as ligand. Synthesized complexes were characterized by using traditional instrumental data and attempt to figure out the geometry of the complexes based on spectroscopic data. Antimicrobial studies were performed to assess the biological properties against the both the gram positive and negative* bacteria using streptomycin as a standard. The results obtained were encouraging.

Keywords: Coordination chemistry, Zinc, Cadmium, Mercury and Antibacterial Activity.

REFERENCES

[1]. Srikanta, N.S. Dixit and C.C. Patel; J. Inorg. Nucl.. Chem. 1980, 42, 483.
[2]. C. Natrajan and A.M. Hussain. Ind. J. Chem. 1981, 20A, 307.
[3]. P.M Dhadke and B.C. Halder
a. J. Ind. Chem. Soc., 1978 55, 18.
b. J. Ind. Chem. Soc., 1979, 56, 461.
[4]. Soleimani, E. J. Chem. Soc. Pak. 2009, 31, 434.
[5]. Soleimani, E. Rev. Chim. 2009, 60, 484.
[6]. Geary, W. J. Coord. Chem. Rev. 1971, 7, 81.
[7]. Badekar R. R.; Lokhande R. S.; Kulkarni S. W. and Patil R. M; *International Journal of Advanced Research;* **(2016),**4, 7.
[8]. Migh Mat, Ahmad H. O., Sharma N. A., Ali A. and Miah S. A.; *Bangladesh J Bot.*; 1990,195
[9]. Singh, M. S.; Narayan, P. Synth. React. Inorg. Met.-Org.Chem. 2001, 31, 149.
[10]. Nakamoto, K. IR and Raman Spectro of Inorg. and Coord Comps,Wiley-Interscience:New York, 1978; p 374.
[11]. Paping, L. R. M.; Rummens, et al Polyhedron 1985, 4723.
[12]. 12.a) R.G. Deshmukh and N. V. Thakkar, Ind. J. Chem. 24A, 1966 (1985)
b) R.G. Deshmukh, M.Sc. Thesis, Univ. of Bombay (1983)
c) R.G. Deshmukh and N. V. Thakkar, Ind. J. Chem. 33A, 224-229 (1994)
d) R.G. Deshmukh, PhD. Thesis, Univ. of Bombay (1992)
[13]. Lotf A.Saghatforoush et al, molecules, 2008. 13, 804-811.
[14]. Akbar Ali, M; Livinstone, S., F.; coord. Chem. Rev. 13, (1974) 101.
[15]. Chakravarty, A.; coord. Chem. Rev. 13,(1974)
[16]. Surendra Babu, M., S.; et al, E. J. Chem. 2011, 8(S1), S309-S317.
[17]. Kukushkin, V., Y.; Pombeiro, A., J., L.; coord. Chem. Rev. 1999, 81, 147.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 4, March 2022
Impact Factor: 6.252

[18]. Ruiz, R.; et al, C. J. Chem. soc. Dalton Trans.1993, 1623.
[19]. Thomas, W., T.; Underhill, A., E.; chem. Soc. Rev. 1972, 1, 99.
[20]. Geary, W., J.; Coord. Chem. Rev, 1972, 7, 81.