

Transition metal complexes with a novel guanine-based 2-hydrazido-4(3H)-quinazolinone derivative: Synthesis and characterization

George Psomas*¹, **Alketa Tarushi**¹, **Marialena Lazou**¹, **Panagiotis Gritzapis**²

¹*Department of General and Inorganic Chemistry, Faculty of Chemistry, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece (gepsomas@chem.auth.gr , +30+2310997790)*

²*Laboratory of Organic, Bioorganic and Natural Product Chemistry, Molecular Biology and Genetics Department, Democritus University of Thrace, University Campus, Dragana, 68100, Alexandroupolis, GREECE*

Quinazolinone is considered a privileged scaffold since its moieties which may serve as substrate for more than one enzymic target [1]. Quinazolinone derivatives have shown noteworthy biological properties including antimicrobial, antifungal, herbicidal, anti-inflammatory, antiviral, cytotoxic and antiangiogenic activities [2].

In the literature, diverse quinazolinone derivatives have been coordinated to metal ions such as Cu(II), Co(II), Ni(II), Mn(II), Zn(II), Cd(II), Ru(II), Sn(IV) and Pd(II) [3,4] resulting to compounds showing pronounced biological activity [5].

In the current contribution, we present the synthesis and the characterization of a novel pyridine-hydrazido derivative of guanine-based quinazolinone (HL). In addition, we have synthesized the Cu(II), Ni(II) and Zn(II) complexes with HL and the characterization of the resultant complexes by diverse spectroscopic techniques and single-crystal X-ray crystallography.

Acknowledgment

This research is carried out/funded in the context of the project “Novel guanine-based derivatives of 2-hydrazido-4(3H)-quinazolinone and their transition metal complexes: Synthesis, structure and biological activity” (MIS 5004526) under the call for proposals “Supporting researchers with emphasis on new researchers” (EDULLL 34). The project is co-financed by Greece and the European Union (European Social Fund- ESF) by the Operational Programme Human Resources Development, Education and Lifelong Learning 2014-2020.

References

- [1] H. Zhao, J. Dietrich, *Expert Opin. Drug Discov.* 10 (2015) 781
- [2] B.K. Tiwary, K. Pradhan, A.K. Nanda, R. Chakraborty, *J. Chem. Biol. Ther.* 104 (2015) 1.
- [3] S. Thota, M. Imran , M. Udugula, S.S. Karki, N. Kanjarla, R. Yerra, J. Balzarini, E. De Clercq, *J. Coord. Chem.* 65 (2012) 823.
- [4] K.S. Prasad, L.S. Kumar, S. Chandan, B. Jayalakshmi, H.D. Revanasiddappa, *Spectrochim. Acta Part A* 81 (2011) 276.
- [5] P. Kumar, B. Shrivastava, S.N. Pandeya, J. Stables, *Eur. J. Med. Chem.* 46 (2011) 1006.