

Oral Presentations

Single thermolysis of phenanthroline-Metal complexes to nanometal oxides

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Abstract

Several types of transition metal ions complexes-with phen and their derivatives were synthesized and characterized by an elemental analysis, UV-Vis, IR, TG/DTA, NMR, CV and single crystal X-ray diffraction.

Some of these complexes were isolated and crystalized as mono- or di-nuclear complexes as seen in Fig.1

Direct thrombolysis of selective complexes, revealed the formation of MO nanoparticle with several cell units.

The new desired metal oxide-nanoparticle material were characterized by UV-vis spectroscopy, IR, SEM, TEM, XRD analysis and PSA as seen in Fig. 1.

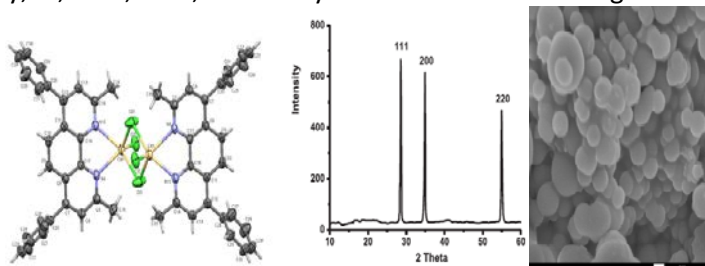


Fig. 1. ORTEP, XRD and SEM of the complex 1 [1].

Keywords: Complexes, XRD, thermolysis, crystal structure.

References

- [1] Synthesis, spectral, electrochemical, crystal structure studies of two novel di-m-halo-bis[halo(2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline)cadmium(II)] dimer complexes and their thermolysis to nanometal oxides, I. Warad, et al. *J. Molec. Struc.* 1099 (2015) 323-329
- [2] One Step Synthesis of NiO Nanoparticles via Solid-State Thermal Decomposition at Low-Temperature of Novel *Aqua*(2,9-dimethyl-1,10-phenanthroline)NiCl₂ Complex, A. Barakat et al. *Int. J. Mol. Sci.*, 14 (2013) 23941-23954.
- [3] Synthesis and Characterization of CdO Nanoparticles Starting from Organometallic Dmphen-CdI₂ complex A.S. Aldwayyan, et al. *Int. J. Electrochem. Sci.*, 8 (2013) 10506-10514.