

Abstract

Synthesis, characterization of new organo-mineral hybrid compounds and organometallic complexes

This work was carried out at the Laboratory of Analytical Physicochemistry and Crystallochemistry of Organometallic and Biomolecular Materials of the Department of Chemistry at the University brothers Mentouri-Constantine-1; as part of the synthesis and characterization of new hybrid and complex compounds and the study of some properties.

During this work we have synthesized by wet process and characterized by X-ray diffraction three new hybrid compounds based on EDTA, as an organic acid in interaction with perchloric acid and hydrochloric acid.

These compounds are very rich in intermolecular interactions via hydrogen bonds between cationic and anionic entities which can be used as mimes to explain certain biological mechanisms.

The second part is devoted to the synthesis of two new complexes with two transition metals: Cu(II), Pd(II). Using azo compounds. These compounds are characterized by X-ray diffraction and by other different spectral methods such as Infra-red (IR), EA, and Ultraviolet Visible (UV-Vis) analysis.

Key words:

- EDTA.
- Hybrid compounds
- Complex.
- Crystal structure.
- Hirshfeld surface (HS).