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Preparation and Theoretical Study of some Transition Metal Complexes with Acetylenic Amine and Study of its Biological Activity

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Abstract Twelve new complexes were synthesized and characterized by reaction salts of with (Cr+5 , Mo+3 and W+6) with bidentate ligands (acetylenic amine), these: L1 = (N,N-Dimethyl Propargyl amine) ,L2 = (N,N- Propargyl Piperidine), L3 = (N,N- Propargyl Morpholine),L4 = (N,N- Methyl -N- Propargyl benzyl amine). Studying of complexes by using suitable methods have been diagnosed in Uv-Visible, IR, Magnetic susceptibility , atomic absorption ,electric conductivity measurement , all result obtained from different techniques above which were found that their corresponding with the proposed structures for the prepared complexes has octahedral structure . A theoretical treatment of the formation of complexes was studied, this was done using the HYPERCHEM-6 program for the Molecular mechanics and Semi-empirical calculations. The free ligand and its complexes have been tested for their antibacterial activities against Two type of human pathogenic bacteria:(Staphylococcus aureus) ,(Escherichia coli) . the first group are Gram positive while the second group are Gram negative (by using agar well diffusion method). Finally ,it was found that

compounds show different activity of inhibition on growth of the bacteria.