(البحث رقم 8 في القائمة الرئيسية)

عنوان البحث : (باللغة الأنجليزية)	Spectroscopic, DFT, biological, DNA-binding, and antioxidant studies of some metal chelates with a novel thiazole-derived Schiff base	
المؤلفون: (باللغة الأنجليزية)	**Rania G. Mohamed**, Abdelmoneim A. Makhlouf, Sherin A. Mosad, Ayman A. Abdel Aziz, Samir M. El-Medani and Ramadan M. Ramadan	
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ملخص موجز للبحث :

The thermal reactions of Co(II), Ni(II), Cu(II), Zn(II), Cd(II), and Ru(III) metal ions with a new Schiff base (HL) ligand derived from the condensation of 2-aminothiazole and 2-hydroxy-1-naphthaldehyde led to the formation of a series of metal complexes: [Co(L)2(H2O)2] 2H2O (1), [Ni(L)(CH3COO)(H2O)2] (2), [Cu(L)2(H2O)2] (3), [Zn(L)2] (4), [Cd(L)(CH3COO)] 2H2O (5), and [Ru(L)2(H2O)2]Cl (6). The ligands and complexes were characterized using elemental and thermal analyses, molar conductivity measurements, magnetic moment measurements, and various spectroscopic techniques. The ligand structure was determined by X-ray crystal structure analysis, revealing that it crystallizes in the orthorhombic P21cn space group with a Z value of 4.

DFT calculations based on accurate approximations were also used to verify the ligand and complex structures. Relative reactivity was estimated using chemical descriptor analysis. The biological activities of the compounds were examined. The antioxidant activity against the DPPH radical was evaluated in vitro using spectrophotometric methods; the experiments demonstrated strong antioxidant activity. The interaction of the compounds with calf thymus DNA (CT-DNA) using various techniques revealed the ability of these compounds to bind to CT-DNA via an interfering mode.