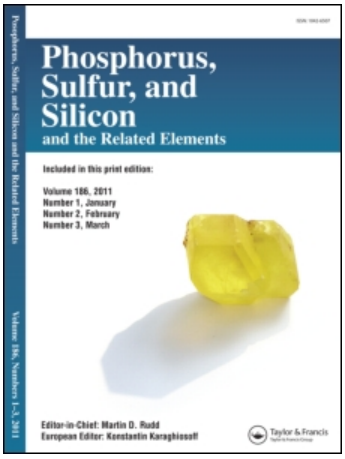

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Magnetic and Spectroscopic Studies on the Complexes of 9-Oxo-10-Acridinemetanophosphonic Ion with Cu (II) Co (II)and Ni (II)

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MAGNETIC AND SPECTROSCOPIC STUDIES ON THE COMPLEXES OF 9-OXO-10-ACRIDINEMETANOPHOSPHONIC ION WITH Cu(II), Co(II) AND Ni(II).

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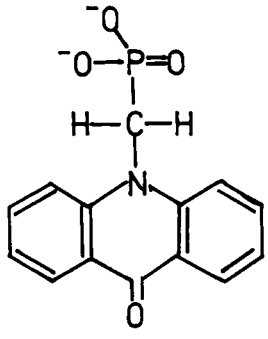
Three complexes of 9-oxo-10-acridinemetanophosphonic ion ($PMA^{=}$ see figure) have been synthesised. The metal:ligand ratio in the complexes is equal 1:1 and their formulas are $(CuPMA)_2 x 5H_2O$, $NiPMA x 4H_2O$ and $CoPMA x 4H_2O$. The structure of the complexes has been investigated by the IR, FIR, Raman spectroscopy, UV-VIS spectroscopy, magnetic measurements and EPR spectroscopy. The physical properties of the complexes obtained are characteristic for inorganic polymers. The lowering of the ν(P-O) stretching frequency by about 30 cm^{-1}, in the spectra of the complexes as compared to that of the free ligand suggests that the phosphonic group takes part in coordination. Data from the EPR spectrum indicate that Cu(II) may form the dimeric, water bridged or even more complicated polymeric structures.



The 9-oxo-10-acridine-metanophosphonic ion.