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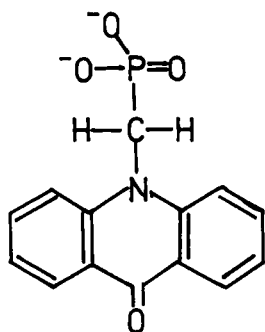
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MAGNETIC AND SPECTROSCOPIC STUDIES ON THE COMPLEXES OF 9-OXO-10-ACRIDINEMETANOPHOSPHONIC ION WITH Cu (II), Co(II) AND Ni (II).

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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



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

are (CuPMA)₂·5H₂O, NiPMA·4H₂O
 and CoPMA·4H₂O. The structure
 of the complexes has been
 investigated by the IR, FIR,
 Raman spectroscopy, UV-VIS
 spectroscopy, magnetic
 measurements and EPR spectro-
 scopy. The physical proper-
 ties of the complexes obta-
 ined 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.