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Introduction

Piero Paoletti

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Introduction



Piero Paoletti

Piero Paoletti was born in Sesto Fiorentino (Florence) on June 15th 1931. He received his doctorate in Chemistry in 1954 under the direction of Prof. Luigi Sacconi.

He began his scientific activity with the synthesis and characterisation of paramagnetic complexes of nickel(II) with salicylaldimines. Then, in 1960, he started determining the heats of complex formation in solution and with the calorimetric data so obtained he made important experimental contributions to crystal field theory.

Paoletti has been one of the pioneers of macrocyclic chemistry. In the early 70's Cabiness and Margerum first established that the red isomer of $[\text{Cu-tet } a]^{2+}$ was some 10^4 fold more thermodynamically stable than the red isomer of the open chain analogue $[\text{Cu}(2,3,2\text{-tet})]^{2+}$. The thermodynamic origin of this so-called "Macrocyclic Effect" (a term coined by Margerum) has commanded considerable attention from Paoletti. Early determinations of the enthalpic and entropic contribution to the macrocyclic effect were based on the temperature dependence of the equilibrium constants and led to conflicting results. Paoletti employed direct solution calorimetry in his measurements with open chain and cyclic ligands and developed different microcalorimetric methods to study these equilibria.

Since that time Paoletti has made major contributions to many aspects of the field, including the macrocyclic effect itself, ring size effects, spin-state equilibria, di- and polytopic macrocyclic complexes, internal clusters, anion coordination, ATP binding and catalysis, cryptates and cryptate

mimics, CO₂ fixation and O₂ transport and activation. At the present time Paoletti's research is focussed on the thermodynamics of supramolecular systems.

To quote Professor Daryle H. Busch, "*Paoletti stands at center-stage when the thermodynamics of almost any conceivable macrocyclic process is involved*".

A. Bianchi