

Crystal packing structures and resonance Raman spectra of haem derivatives

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The (*m*-oxo)bis[(octaethylporphyrinato)iron(III)], [Fe(OEP)]₂O, and *m*-oxo)bis(5,10,15,20-tetraphenylporphyrinato)iron(III), [Fe(TPP)]₂O, are high-spin iron-porphyrin were compounds in several studies (e.g. Dolphin *et al.*, 1978; Cheng *et al.*, 1995 for [Fe(OEP)]₂O, and Hoffman *et al.*, 1972; Dolphin *et al.*, 1978; Swepston *et al.*, 1985 for [Fe(TPP)]₂O). Resonance Raman spectroscopy is investigated the enhancement for totally symmetric (A_{1g}) vibrational modes of dimer metalloporphyrin when using near-infrared excitation wavelength lasers. The difference in Raman spectra of [Fe(OEP)]₂O and [Fe(TPP)]₂O are attributed to crystal packing. Specially, the oxidation-state marker line, ν₄, is affected by the different packing interactions in the two compounds.