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Poster 13

A Single Crystal ESR Analysis of Cu(II) doped the Simplest Amino Acid

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The host crystal, NH2CH2COOH (abbreviated as Gly), Crystallizes in the monoclinic system. Single crystal of Gly doped with Cu(II) in the range of weight ratio 0.05% was easily grown from aqueous solution. The ESR data from Cu(II) doped Gly was virtually temperature independent in the range of 77K~300K. The spectra were therefore collected at room temperature with a x-band ESR spectrometer with 100kHz field modulation. From the angular variation of the ESR spectra, two new Cu(II) centers in addition to two centers, being previous reported by windsch et al, have been determined. For the four centers the hyperfine lines of Cu(II) and Ligand hyperfine lines from the interaction between Cu(II) and Nitrogen nuclei have been resolved in all experimental planes. For each center the principal values and principal axis orientation of g, Acu, and AN tensors have been identified. From our overall results the substitutional sites of Cu(II) and the symmetry of the local structure around Cu(II) have been suggested.