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CRI/8:30/6#f. CRYSTAL STRUCTURE AND MAGNETIC PROPERTIES OF SOME COPPER AMINOACID COMPLEXES. By E.E. Castellano, S.M. Fabiane, Instituto de Física e Química de São Carlos, Univ. de São Paulo, C.P. 13.560 São Carlos (SP), Brasil, O.E. Piro, B.E. Rivero, Depto de Física, FCE, Univ. Nacional de La Plata, C.C.67, 1900 La Plata, Argentina, P.R. Levstein, and R. Calvo, INTEC (CONICET), Güemes 3450, 3000 Santa Fe, Argentina. *1394* *1335*

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To study the effects of small structural changes on the magnetic properties of the title complexes, the molecular architecture of bis(L-2-aminobutyrate) copper(II), Cu(L-but)₂, bis(D,L-alaninato)copper(II) monohydrate, Cu(D,L-ala)2.H₂O, and bis(L-valinato)copper(II) monohydrate, Cu(L-val)2.H₂O, were determined by X-ray diffraction methods. Cu(L-but)₂ crystallizes in the space group P2₁ with a=9.464(3), b=5.060(2), c=11.189(4) Å, β=90.60(3)°, and Z=2; Cu(D,L-ala)2.H₂O in C2/c with a=12.087(3), b=9.583(3), c=8.973(3) Å, β=110.85(2)°, and Z=4; Cu(L-val)2.H₂O in C2 with a=21.314(5), b=9.586(2), c=7.417(2) Å, β=108.89(2)°, and Z=4. The structure of Cu(L-but)₂ is practically isomorphous to racemic Cu(D,L-but)₂. Single crystal EPR data of these complexes show essentially equal gyromagnetic g-tensors hence reflecting their very similar copper coordination. EPR linewidth data allow to estimate the lower limits |J|>0.36K and |J|>0.5K for the isotropic exchange coupling constant between neighbouring Cu(II) ions in the Cu(L-but)₂ and Cu(D,L-but)₂ lattices, respectively. This relatively large difference reflects the sensitivity of J to slight structural modifications in the exchange network. Similar single crystal EPR studies in Cu(D,L-ala)2.H₂O and Cu(L-val)2.H₂O are in progress.

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