

purity samples is based on the possibility of modification of breakdown field in the presence of strong scattering. This effect of modification of breakdown field in the presence of strong scattering has been investigated recently⁷ in Zn based alloys and it has been concluded that the presence of strong scattering appreciably modifies the magnitude of the breakdown field. In view of this we believe that the dependence of the shape of the curves on the purity of the samples may be due to different values of $\omega_0\tau$. A more detailed theory of MR of ferromagnetic metals which includes the effect of scattering on MB is being worked out. On the experimental side more experiments on single crystals of ferromagnetic metals containing controlled concentrations of different kinds of impurities is necessary. Then the deviations from Kohler's rule may well yield useful information on the role of electron scattering processes and MB in transport properties.

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**PRELIMINARY X-RAY STUDIES ON
N-ACETYLGLYCYL-L-LYSINE METHYL ESTER
ACETATE, L-ARGININE L-ASPARTATE
AND L-ORNITHINE L-ASPARTATE**

ONE approach to the study, at the atomic resolution, of the geometrical features of the non-covalent interactions important in the structure, assembly and function of proteins is through the preparation and x-ray analysis of crystalline complexes involving amino acids and short peptides among themselves as well as with other molecules. As a part of a programme of structural investigations on such complexes^{1,2},

we report here the preliminary x-ray studies on the crystals of N-acetyl-glycyl-L-lysine methyl ester acetate (NAGLA), L-arginine L-aspartate and L-ornithine L-aspartate.

Samples of the three complexes were commercially available from Sigma Chemicals, U.S.A. NAGLA was crystallized by the slow evaporation of a solution in methanol whereas the crystals of arginine aspartate and ornithine aspartate were grown by liquid diffusion with water as the solvent and *n*-propanol as the precipitant. The space group and the unit cell dimensions were determined from x-ray diffraction photographs and subsequently refined on a four-circle CAD-4 diffractometer. The densities of the crystals were determined by flotation in a mixture of benzene and carbon tetrachloride. The crystal data and the densities are given in Table I.

TABLE I
Crystal data

	NAGLA	L-arginine L-aspartate	L-ornithine L-aspartate
Space group	P2 ₁ 2 ₁ 2 ₁	P2 ₁	P1
<i>a</i> in Å	5.511 (2)	5.510 (2)	4.718 (1)
<i>b</i> in Å	14.558 (4)	8.438 (4)	11.181 (2)
<i>c</i> in Å	21.109 (4)	15.265 (9)	12.653 (2)
<i>a</i> in degrees	102.8 (1)
<i>β</i> in degrees	..	97.9 (1)	100.7 (1)
<i>γ</i> in degrees	77.8 (1)
No. of formula wts. in the unit cell	4	2	2
Measured density in gm/cc	1.246 (8)	1.467 (8)	1.446 (8)
No. of solvent (water) molecules in the unit cell	1
Calculated density in gm/cc	1.252	1.452	1.450

The structure analysis of the complexes is in progress.

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