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# Space group of diglycine barium chloride monohydrate

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Diglycine barium chloride monohydrate crystallizes in the orthorhombic system with a tetra-molecular unit cell, the dimensions of which, determined from rotation and equi-inclination Weissenberg photographs, are

$$a = 8.302 \pm 0.015 \text{ Å}, \quad b = 14.801 \pm 0.025 \text{ Å}, \quad c = 9.324 \pm 0.015 \text{ Å}; \quad Z = 4.$$

The density was measured by the flotation method using $\alpha$ bromoform and carbon tetrachloride. $\varrho$ measured = 2.2 g/cm$^3$, $\varrho$ calculated = = 2.182 g/cm$^3$.

The extinctions are:

| | |
|---|---|
| $hk0$ with $h+k = 2n+1$ | $h00$ with $h = 2n+1$ |
| $0kl$ with $k = 2n+1$ | $00l$ with $l = 2n+1$ |
| $h0l$ with $l = 2n+1$. | |

Hence the space group could be uniquely fixed to be the centrosymmetric space group $Pbcn$ ($V_h^{14}$).

The principal refractive indices of the crystals were measured for $\lambda = 589$ m$\mu$ at 32 °C with immersion media of nitrobenzene and $\alpha$ bromonaphthalene. The crystals are biaxial and optically negative with $n_\alpha = 1.53990$, $n_\beta = 1.59554$, $n_\gamma = 1.60225$, $2V = 47°$.

*Note added in proof.* The crystal structure has now been solved by the heavy-atom method. Refinement of the coordinates from three-dimensional data is under progress.