sidiary layer lines in *c*-axis photographs varies linearly with chemical composition, as stated by Cole *et al.* Further work in the region An_{20}–An_{50} shows that this intermediate type of structure extends at least to An_{23}, and that the separation of the pairs of subsidiary layer lines which characterize the structure varies linearly with chemical composition over the *whole* range. The subsidiary reflexions are sharp in the range An_{70}–An_{40} and then become progressively more diffuse as the An content decreases. Those observations will be discussed in detail elsewhere (Gay, 1954).

The new observations are in disagreement with the homogeneity found by Laves (1954) for specimens in the region An_{20}–An_{38}.

(3) All specimens in the region An_0–An_{90} may be homogenized into the high-temperature albite-type structure by prolonged heating at elevated temperatures. Homogeneous natural specimens of this kind may sometimes be found.

Further work is in progress to ascertain the relations between the two unmixing regions and the high–low inversion interval. Full details of the work on the intermediate plagioclases will be given shortly by Gay, and details of the work on the albite-oligoclases, together with the mineralogical implications, will be given later.

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Crystallographic properties of phenacaine hydrochloride monohydrate.

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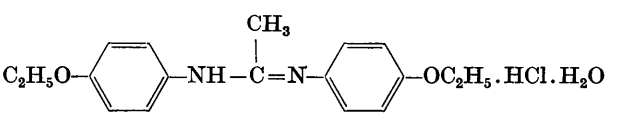
Phenacaine hydrochloride (holocaine hydrochloride), used medicinally as an ocular anesthetic, has the chemical name N^1–N^2–bis(*p*-ethoxyphenyl) acetamidine hydrochloride. A brief mention of the optical properties is made by Winchell (1943), but no X-ray data have appeared. The compound is represented by the structural formula:



Crystallization from water results in 010 blades elongated parallel to *c*. The sample used for this study lost water at about 95° C. and melted 192–5° C. The crystal system is monoclinic with space group C_2^2–$P2_1$ and two molecules per cell.

$$a = 8{\cdot}13,\ b = 23{\cdot}75,\ c = 5{\cdot}44\ \text{Å};\ \beta = 115°.$$

The optical properties are:

$\alpha = 1{\cdot}520$, $\beta = 1{\cdot}600$; $(-)2V$ = about 80°. The optic plane is perpendicular to 010, $\alpha : a = 8°$ in acute β. Winchell (1943) gives $\alpha = 1{\cdot}523$, $\beta = 1{\cdot}600$, $\gamma = 1{\cdot}74$, $(-)2V = 75°$.

The powder data (Table 1) were obtained using a camera 114·6 mm. in diameter with chromium radiation and a vanadium pentoxide filter. A wavelength value of 2·2896 Å was used in the calculations.

Table 1. *X-ray powder diffraction data for phenacaine hydrochloride monohydrate*

d (Å)	I/I_1	*hkl*	*d* calculated from *a*, *b*, *c* and β (Å)
11·78	0·06	020	11·88
7·38	0·25	100	7·37
6·97	0·25	110	7·04
6·24	0·25	120	6·26
5·95	0·25	040	5·94
5·40	0·13	130	5·39
5·25	0·25	$10\bar{1}$	5·25
4·93	0·50	001	4·93
4·83	0·25	011	4·83
4·56	0·13	021	4·55
3·95	0·13	060	3·96
3·77	1·00	$21\bar{1}$	3·78
3·68	0·25	200	3·69
3·64	0·25	$22\bar{1}$	3·64
3·51	0·13	220	3·52
3·43	0·50	—	—
3·19	0·75	—	—
2·967	0·13	—	—
2·623	0·13	—	—
2·477	0·13	—	—
2·451	0·13	—	—

Reference

Winchell, A. N. (1943). *Optical Properties of Organic Compounds*, p. 121. Madison: University of Wisconsin Press.