HIGH-PRESSURE PHASE OF PTFE



Fig. 3. X-Ray diffraction photograph of PTFE (as Fig. 2) at 4.5 kbar.



Fig. 4. X-Ray diffraction photograph of PTFE (as Fig. 2) but at 12 kbar.

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Fig. 5. X-Ray diffraction photograph of PTFE (as Fig. 2) but at 1 bar and after excursion to high pressure.

of the crystal structure onto (001) is shown in Figure 7 (the molecular axis and the monoclinic unique axis lie parallel to c). The molecule lies along one of the twofold screw axes, and the atoms are situated on mirror planes of symmetry at z = 1/4 (Z = 4 special position *i* Wyckoff notation¹¹). Atomic fractional coordinates are given in Table II. In Table III values of *d* observed, *d* calculated, |F| calculated, and intensity observed are given for all reflections appearing on Figure 4. The observed intensities have been estimated very roughly by eye and have not been corrected for the Lorentz polarization, absorption, multiplicity, or preferred orientation effects. The x-ray density is 2.74 g/cc, and that derived from the data of Beecroft and Swenson¹ at 11 kbar is 2.70 g/cc. The distance of nearest approach

TABLE IValues of $hkl, \Delta v/v$, and Pressure for Sodium Chloride Lines Used in
Pressure Determinations

hkl	$\Delta v/v imes 10^2$	Pressure, kbar	Mean pressure, kbar
200	1.2	3.5	$\Big\}4.5\pm1$
$2\ 2\ 0$	2.1	5.5	
200	4.5	11.0	$\Big\}$ 12 ± 1
$2\ 2\ 0$	5.6	13.0	

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