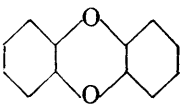
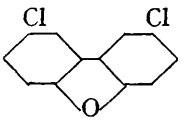
NOTE.

Pyrolysis of Chlorophenols. *By* F. BELL.

WHEN *o*- or *p*-chlorophenol is distilled in quantity, some decomposition occurs. The extent of decomposition in glass apparatus is so slight that there appeared little chance of isolating the products. To increase the decomposition, the chlorophenol was passed several times through pumice in a silica tube heated to dull redness. *o*-Chlorophenol then gave a small yield of compounds, b. p. 180—340°. It was not possible to isolate any pure individual from the phenolic part of this distillate, but diphenylene dioxide (I), m. p. 119°, was readily isolated from the neutral portion. This was characterised by nitration: to 2 g. in acetic acid (20 c.c.) was

(I.) 

 (II.)

added fuming nitric acid (2 c.c.) in acetic acid (4 c.c.); the liquid immediately filled with the *dinitro*-compound, very difficultly soluble in acetic acid but recrystallising from pyridine in needles, m. p. 257° (Found: N, 10·4. $C_{12}H_6O_6N_2$ requires N, 10·2%). *p*-Chlorophenol similarly gave a semi-solid distillate, b. p. 220—250°, and a neutral solid above 250°. The latter was very difficultly soluble in alcohol but recrystallised from acetic acid, benzene, or light petroleum in needles, m. p. 188°, of 3 : 6-dichlorodiphenylene oxide (II) (McCombie, Macmillan, and Scarborough, J., 1931, 535). From the semi-solid distillate was isolated a small quantity of a phenolic *substance* which crystallised from benzene–petroleum in needles, m. p. 83° (Found: C, 65·2; H, 4·1. $C_{12}H_9O_2Cl$ requires C, 65·3; H, 4·1%).—TECHNICAL COLLEGE, BLACKBURN.

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