trated sulphuric acid. A suitable sprayer bottle is described by Kirchner *et al.*⁶. The plate is then heated in an oven at 110–115° C. for 2–3 min., sprayed lightly with distilled water and reheated as before for some minutes, until yellow spots of meprobamate appear. Overheating should be avoided to prevent darkening of the chromatoplates. The spots, which disappear in about a day, have R_F 0.30. Exact R_F values are obtained only in the central zone of the chromatograms; at the periphery of the plates R_F values are higher, due to the border effect.

Unidentified impurities migrate with the solvent front (Fig. 1) and become violet under the sulphuric acid treatment.

A quantitative determination can be easily made by cutting out the spot and transferring it to a test tube. 1 ml. of distilled water is added, and then after careful shaking, 1 ml. of a 0.2 per cent hydroquinone in concentrated sulphuric acid⁸. The test tube is then heated in a boiling water bath for 20 min., till a yellow colour is obtained; this has an absorption maximum at 420 m μ and can therefore be determined spectrophotometrically.

Further details will be published elsewhere.

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Synthesis of 3,6-Dideoxy-D-ribo-hexose (3,6-Dideoxy-D-glucose) and its Identification with Paratose

3,6-DIDEOXY-HEXOSES are a new class of natural sugars; five members of this group are known at present: abequose¹, tyvelose^{1,2}, paratose³ and colitose⁴ have been found in specific polysaccharides extracted from various species of *Salmonella*, and ascarylose is obtained by hydrolysis of three glycolipids (the ascarosides A, B and C) extracted from the egg membrane and the cuticle of *Parascaris equorum*⁵. We have shown that all these sugars are 3,6-dideoxy-hexoses^{6,7}.

In a recent paper⁸, we reported the synthesis of 3,6-dideoxy-D-xylo-hexose (3,6-dideoxy-D-galactose) and 3,6-dideoxy-D-arabino-hexose (3,6-dideoxy-D-mannose) and showed that the first is identical with abequose and the second with tyvelose, while colitose is the optical antipode of abequose and ascarylose is the optical antipode of tyvelose.

We now report the synthesis of 3,6-dideoxy-D-ribo-hexose (3,6-dideoxy-D-glucose) (III) and its identification with paratose.

3,6-Dideoxy-D-ribo-hexose (3,6-dideoxy-D-glucose) (III) was synthesized starting from 3-deoxy-D-ribo-hexose (3-deoxy-D-glucose) (I) kindly supplied by Drs. J. W. Pratt and N. K. Richtmyer⁹; the methylglucoside of this compound was tosylated, and after chromatography on magnesium silicate the methyl 3-deoxy-6-tosyl-D-ribo-hexoside (II) was obtained

as a colourless syrup which was reduced by lithium aluminium hydride in a mixture of ether and benzene (1:1). After the usual treatment the methyl 3,6-dideoxy-D-ribo-hexoside was extracted with chloroform, the extract hydrolysed with 0.1 N hydrochloric acid in boiling water, and the free sugar then chromatographed on a column of Whatman cellulose powder. After elution of the sugar (II) with acetone/water (95:5) it was distilled at 0.05 mm. and obtained as a colourless syrup, $[\alpha]_D + 10 \pm 2^\circ$; R_F 0.71 in butanol/pyridine/water (6:4:3); calculated for $C_6H_{12}O_4$: C, 48.64; H, 8.16 per cent; found: C, 48.68; H, 8.23 per cent.

The corresponding hexitol (IV) was prepared by reduction with sodium borohydride in water and obtained as crystals after distillation at 0.05 mm. After recrystallization from acetone, 3,6-dideoxy-D-ribo-hexitol (IV) was obtained as colourless needles, melting at 67–68°; $[\alpha]_D - 18 \pm 2^\circ$; R_F 0.53 in butanol/pyridine/water (6:4:3); calculated for $C_6H_{14}O_4$: C, 47.98; H, 9.40 per cent; found: C, 47.93; H, 9.68 per cent.

Paratose, which has recently been isolated by Davies *et al.*³ from a polysaccharide of *Salmonella paratyphi A*, is a syrup, $[\alpha]_D + 8 \pm 2^\circ$, and the hexitol (paratitol) obtained by reduction with sodium borohydride melts at 66–68° and has $[\alpha]_D - 16 \pm 2^\circ$. (Found: C, 47.61; H, 9.52 per cent.)

The mixed melting point of paratitol and 3,6-dideoxy-D-ribo-hexitol (3,6-dideoxy-D-sorbitol) (IV) gave no depression. R_F values and infra-red spectra of both paratose and the crystalline hexitol are identical with those of the respective synthetic compounds.

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