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Note

Separation of a 6-deoxyhexose and a hexose by gel filtration

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Fucose is eluted more rapidly than mannose from Bio-Gel P-2 (Fig 1*a*) To determine whether this phenomenon depends on the *C*-methyl group of fucose, the behaviour of rhamnose and xylose was studied Rhamnose and fucose had the same elution volume (Fig 1*b*), as did xylose and the aldohexose The disaccharide fucosylmannose was eluted between mannotriose and mannobiose, and methyl α-D-mannopyranoside was also eluted at a similar position Thus, the separation of a hexose and a 6-deoxyhexose is not related solely to molecular size Grellert and Ballou[1] reported that sugars having different degrees of methylation were well resolved by gel filtration on Bio-Gel P-2 Also, 6-*O*-methyl-D-glucose was eluted between maltose and maltotriose, at a position equivalent to a d p of 2 5 Thus, a single methyl-ether group

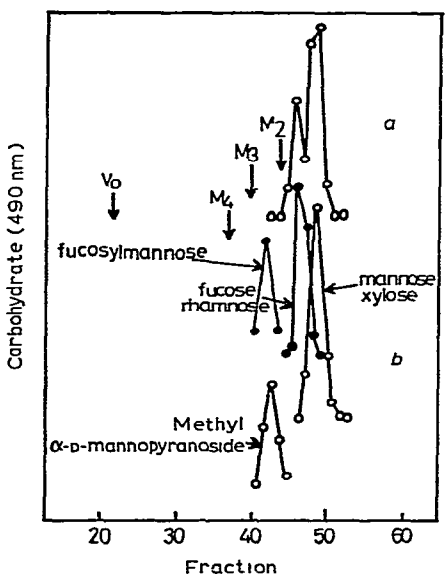

Fig 1 Elution patterns on Bio-Gel P-2 of mixtures of (*a*) L-fucose and D-mannose, and (*b*) D-mannose, D-xylose, L-fucose, L-rhamnose, methyl α-D-mannopyranoside, and fucosylmannose M_2 = mannobiose, M_3 = mannotriose, and M_4 = mannotetraose

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increased the apparent volume of a sugar derivative by ~1 5 sugar unit Our results showed that a 6-deoxyhexose and fucosylmannose were eluted at positions corresponding to d p values of 1 5 and 2 5, respectively The effect of a *C*-methyl group is smaller than that of an *O*-methyl group, and increases the apparent volume by ~0 5 sugar unit This phenomenon should be borne in mind in the analysis of 6-deoxyhexose-containing polysaccharides

EXPERIMENTAL

Gel filtration — A column (1 2 × 142 cm) of Bio-Gel P-2 (200–400 mesh) resin (Bio-Rad Laboratories, Richmond, California, U S A) was prepared according to the manufacturer's directions[2]

Fucosylmannose was isolated *via* acetolysis of the extracellular fucomannan[3] produced by *Absidia cylindrospora* Solutions (3 mg in 0 5 ml of water) of D-mannose, L-fucose, D-xylose, L-rhamnose, methyl α-D-mannopyranoside, and fucosylmannose were applied to the column and eluted with water at 3 0 ml/h Fractions (3 ml) were collected, and analysed by the phenol–sulphuric acid reagent[4] The results are shown in Fig 1

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