



Figure 1. Detection of higher oligosaccharides on paper using amylase adsorption.

dissolved in 10 ml of distilled water was added and the reaction was carried out at room temperature in a total volume of 50 ml. Samples were withdrawn at various times for chromatography.

A chromatographic paper of about 21 cm × 23 cm was divided into two sections 'A' and 'B' (Figure 1). Section 'A' was used for control and section B for treatment with sanzyme. Samples of sugars were applied on a baseline 2.5 cm above the edge of the paper.

In both sections 'A' and 'B', about 10 μ l each of 2% soluble starch and enzyme hydrolysates at 1 and 20 min were spotted on the paper. Standard glucose was also spotted as a reference compound. Ascending chromatography was carried out using 95% ethanol as a developing solvent. The chromatogram was dried and subjected to a second ascending chromatography to ensure finer resolution of higher oligosaccharides. The chromatogram was then dried and cut into 'A' and 'B' strips. Strip 'B' was briskly dipped in 0.1% Sanzyme solution dispersed in 80% acetone. (One hundred mg of Sanzyme was dissolved in 20 ml distilled water and

mixed with 80 ml of distilled cold acetone.) The enzyme-treated paper was placed at room temperature for about 5 min to drive away the acetone vapours and then incubated in a moist chamber for about 6 h to allow the enzyme to act on the separated sugars. Finally, the high-molecular-weight sugars were identified by silver nitrate test. Control strip 'A' was also subjected to silver nitrate test to identify the reducing sugars.

Chromatogram 'B' shows the presence of higher oligosaccharides in both 1 and 20 min hydrolysates (Figure 1). These were not spotted in control 'A'. Chromatogram 'B' is slightly darker than 'A'. However, with slight purification of the enzyme, Sanzyme could be effectively used in identification of higher oligosaccharides on paper.

1. French, D., Mancusi, J. L., Abdullah, M. and Brammer, G. L., *J. Chromatogr.*, 1965, 19, 445.

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Correction

Purification and some properties of a virus causing chlorotic mottle disease in carnations (*Dianthus caryophyllus* L.) S. K. Raj, M. Aslam and B. P. Singh, *Curr. Sci.*, 1990, 59, 997.

Read 'potyvirus' for 'polyvirus' in lines 2, 6, 7 and 10 of last paragraph of paper (pages 998 and 999).