



>>Entry Name: Levan

CAS Registry Number: 9013-95-0

Biological Source: A large variety of bacterial strains (*Aerobacter levanicum*, *Pseudomonas prunicula*, *Cornyebacterium* sp., and a strain of *Bacillus subtilis*), produce levans when grown on sucrose in a suitable nutrient medium. Also a constit. of grasses

Use/Importance: Has a number of developing industrial uses

Optical Rotation: $[\alpha]_{\text{D}}^{20} -43$

Other Data: Levans in grasses contain essentially linear chains of =20-30 2,6-linked β -D-fructofuranose units terminated in most cases by a nonreducing glucopyranose residue. Some grass levans may contain a single branch point. In contrast, the levans elaborated by bacteria are of much higher molecular weight. Although the major linkage is of the 2,6-type, the polysaccharides are branched and contain unit chains =10-12 residues joined at the branching points by 2,1-linkages

Sigma: L8647

References:

Bell, D.J. *et al.*, *J.C.S.*, 1952, 3763; 1954, 2866, (*isol*)

Avigad, G., *Methods Carbohydr. Chem.*, 1965, **5**, 161

Rodd's Chem. Carbon Compd. (2nd edn.), 1967, **1F**, 687

Jarrell, H.C. *et al.*, *Carbohydr. Res.*, 1979, **76**, 45-57, (*cmr*)

Han, Y.W., *Adv. Appl. Microbiol.*, 1990, **35**, 171, (*rev, use*)