

GRAPHICAL ABSTRACTS

Carbohydr. Res. **1997**, 300, 3

Solution conformation and dynamics

of a tetrasaccharide related to the Lewis^x antigen deduced by ¹H NMR NOESY, ROESY, and T-ROESY measurements

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The conformational and dynamical features of a tetrasaccharide, GalNac(α1-3)Gal(β1-4)[Fuc(α1-3)]Glc(βOMe) **1** are analysed *via* ¹H NMR relaxation measurements.

Carbohydr. Res. **1997**, 300, 11

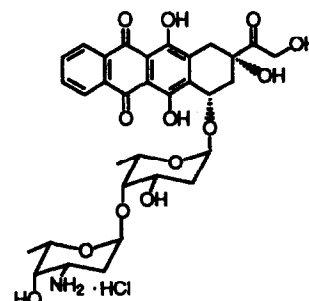
Conformational analysis of 4-demethoxy-7-*O*-

[2,6-dideoxy-4-*O*-(2,3,6-trideoxy-3-amino-α-*L*-lyxo-hexopyranosyl)-α-*L*-lyxo-hexopyranosyl]adriamicinone, the first doxorubicin disaccharide analogue to be reported

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The conformation of the disaccharide was analysed using NMR data and molecular mechanics calculations. The possibility of conformational averaging was considered using the NAMFIS programme.



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An NMR study of the dynamic single-stranded conformation of sodium pectate

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A model for dilute aqueous sodium pectate under low salt conditions has been determined from ¹³C relaxation data.

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Structural characterization of organized systems of polysaccharides and phospholipids by light scattering spectroscopy and electron microscopy

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Biovectors are recently developed nanoparticles intended to be used as drug carriers and in the formulation of vaccines. The Biovectors are composed of a polysaccharide core to which phospholipids and cholesterol can be added. The cores are prepared by disruption of a gel of cross-linked maltodextrins. Static and dynamic light scattering measurements were combined to characterize the structure of these Biovectors. The present work points towards a microgel like structure to the polysaccharide fragments of these Biovectors and a spherical geometry with radius ≈ 50 nm. The use of transmission electron microscopy gives first evidence for a structure consisting of several phospholipid bilayers surrounding a polysaccharide core.

X-Ray study of beijeran sodium salts, a new galacturonic acid-containing exo-polysaccharide

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The X-ray fiber diagram of a sodium salt of beijeran, poly [$\rightarrow 3\text{-}\alpha\text{-D-GalUA-(1}\rightarrow 3\text{)-}\beta\text{-L-Rham-(1}\rightarrow 3\text{)-}\alpha\text{-D-Glc-O6Ac-(1}\rightarrow$], indicated that the conformation was made up of two trisaccharide residues, in an extended two-fold helix.

¹H NMR relaxation study of a chitosan-cyclodextrin network

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Longitudinal and transverse proton relaxation times of water contained in chitosan-cyclodextrin network has been studied as a function of water content and temperature. A "two component" transverse relaxation mechanism is reported and interpreted as relative to two structurally different domains of the saccharidic network. Temperature dependence of T_2 components evidences the presence of a proton exchange between the matrix and water. The energetics of such transfer is studied.