**Characterization of the molecular properties of scleroglucan as an alternative rigid rod molecule to xanthan gum**

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A commercially available high molecular weight scleroglucan preparation has been studied with regards to its molecular heterogeneity and conformation. Scleroglucan, a neutral β (1-3) glucan with β (1-6) branched based glucan produced by fermentation of the filamentous fungus *Sclerotium rolfsii*, was provided by Carbosynth (Compton UK) and analysed in water using the techniques of sedimentation velocity and sedimentation equilibrium analytical ultracentrifugation together with SEC-MALS and viscometry. The scleroglucan preparation was shown to be bimodal with partial reversibility between the components and showed a transition between a rod-shape at lower molar masses to a more flexible structure at higher masses. In the presence of DMSO the lower molecular weight component appeared to dissociate further, similar to what has been observed previously by Yanaki & Norisuye (1983). The properties are compared to those of another high molecular weight microbial rod-shaped polysaccharide xanthan.

Yanaki, T & Norisuye, T. (1983) Triple helix and random coil of scleroglucan in dilute solution. Polymer Journal 15, 389-386