**Rheological properties of a new polysaccharide isolated from *Treculia africana* fruit pulp**

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Abstract

A water soluble polysaccharide was isolated from the *Treculia africana* fruit pulp. It has an intrinsic viscosity of 183±0.14 mL/g, weight average molar mass of 1.62 x 106 g/mol and polydispersity index of 3.8. The log- log plot of RMS radius (Rg) versus molar mass (Mw) has an exponent of 0.54 indicating the polysaccharide solution contained random coil polymers. The shear viscosity-shear rate profiles show the polymer solutions are characterized by low viscosity. The mechanical spectra show the polysaccharide concentration at 32% is purely viscous with G″ >> G′ and both moduli showing strong dependence on frequency. The activation energy of viscous flow determined at polymer concentrations 25% (17.67 kJ/mol) and 32% (18.48 kJ/mol) show concentration dependence.

**Key words**: African breadfruit, fruit pulp, mucilage, molar mass, intrinsic viscosity