**Characterization of *Moringa oleifera* exudate polysaccharide**

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**Abstract**

This work reported the characterization of *Moringa oleifera* exudate polysaccharide. The study examined the proximate and elemental compositions,microscopy, diffraction pattern, Fourier Transform Infra-red Spectroscopy and the rheological properties of the exudate polysaccharide. The proximate composition showed the gum contained moisture (12.19 %), ash(3.18 %), protein (1.67%) and acid insoluble fibre (0.29%). The elemental analysis showed sodium (121.69ppm) was most abundant metal, followed by calcium (7.43 ppm), potassium (3.62 ppm) while others were present in trace amounts. The SEM showed irregular shaped particles while X-ray diffraction indicated the gum was amorphous. The FT-IR showed the presence of a peak at 1668 cm-1 (-COO-) which after acid treatment shifted to 1754cm-1 (free C=O). The swelling capacities in acidic,basic and neutral media showed that the gum is ionic in nature.The intrinsic viscosity [Ƞ] of M. oleifera exudate polysaccharide was 2.20 ± 0.09 dl/g. Rheological characterization of the gum showed non-Newtonian and shear thinning behavior. The polysaccharide solution showed increase in surface tension as the gum concentration increased.

**Keywords**: *Moringa oleifera*  gum, physicochemical properties, rheological properties, intrinsic viscosity, elemental composition

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