Conventional and Microwave-Assisted Extraction of Mucilage from *Opuntia ficus-indica* Cladodes: Physico-Chemical and Rheological Properties

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Description
Cactus pear cladodes processing has potential value for mainstream industries and is equally important for marginal rural communities in arid regions. This work is focused on physico-chemical and rheological properties of *Opuntia ficus-indica* (*OFI*) peeled cladodes extracted by conventional method “CE” and using microwave-assisted extraction “MAE.” MAE gave the highest yield extraction (8.13 %, w/w) within the lowest extraction time (500 W/7 min) and provided more protein (×1.03) and carbohydrates (×1.51) than CE. The monosaccharides detected by gas chromatography were arabinose, galactose, rhamnose, xylose, and galacturonic acid. The dialyzed mucilage solution characterized by SEC/MALS/VD/DRI (size-exclusion chromatography coupled with online multi-angle light scattering, viscometer detectors, and differential refractive index) revealed fractions with molecular weight