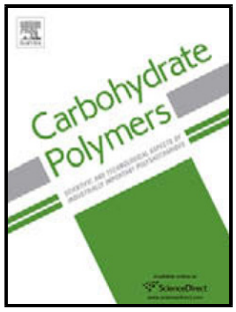

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Pectin from Husk Tomato (*Physalis ixocarpa* Brot.): Rheological behavior at different extraction conditions

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HIGHLIGHTS

- Rheological behavior of a novel pectin from husk tomato (*Physalis ixocarpa* Brot) is presented
- Pectin husk tomato dispersions showed shear-thinning behavior and a good fit to Cross Model
- Pectin gels extracted with HCl were more elastic than those obtained with citric acid
- Husk tomato Pectin gels exhibited thermal stability in the temperature range studied
- HCl extracted pectin gels, showed stronger structure than citric acid gels

Abstract

A rheological study was carried out to evaluate formulations of test dispersions and gels of high methoxyl pectins (HTHMP) obtained at different conditions from husk tomato waste (*Physalis ixocarpa* Brot.). The effect of extraction agent (hydrochloric acid or citric acid), blanching time (10 or 15 min) and extraction time (15, 20 or 25 min) on the rheology of the tested samples was evaluated. Flow behavior and activation energy were evaluated on the test dispersions, while (E_a) frequency sweeps, temperature sweep, creep-recovery test and penetration test were performed on the gels. HTHMP dispersions showed shear thinning flow behavior, while showing a good fit to Cross model. Extraction agent, blanching time and extraction time did not have effect on Cross parameters (η_z, $\eta\infty$, C, and m). E_a decreased as blanching time and extraction time increased. Frequency sweeps revealed high dependence on frequency for both G' and G'', while temperature