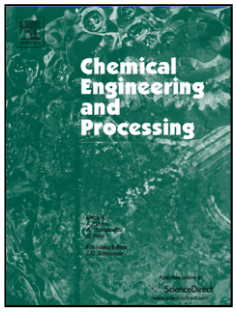

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Optimization of pectin extraction from orange juice waste assisted by ohmic heating

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Highlights

- ✓ The maximum yield of pectin was obtained at the highest voltage gradient (15 V/cm).
- ✓ Ohmic heating increased the yield of pectin more than the conventional heating.
- ✓ The emulsifying activity and the emulsion stability of the pectin were very high.
- ✓ All the extracted pectins had high degree of esterification (High methoxyl pectin).
- ✓ The FTIR spectra of the pectin extracted by ohmic and conventional heating were similar.

ABSTRACT

Ohmic heating is an alternative fast and uniform heating which can extract biomaterials from plant cell walls. Central Composite Design was employed to study the effect of voltage gradient, temperature and time on the yield, galacturonic acid content and degree of esterification of the pectin. Results showed that the highest yield of pectin (14.32 g/100 g d. m.) was obtained at the

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