

# Response Surface Methodology Optimization of Microwave-Assisted Polysaccharide Extraction from Algerian Jujube (*Zizyphus lotus* L.) Pulp and Peel

Auteurs

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Description:

Purpose

The active ingredient recovery from the vegetable is a very attractive research field for the development of a sustainable economy; to revalue the jujube fruit (*Zizyphus lotus*) polysaccharide (ZLPS), an optimized green microwave-assisted method was used for the recovery and enrichment of the antioxidants present in a distilled water extract.

Methods

A series of 17 experiments including microwave power, irradiation time, and liquid-to-solid ratio independent parameters was designed by the response surface methodology to optimize the recovery of the polysaccharide extract.

Results

The optimal conditions were as follows: 600 W, 40 min, and 26.69 mL/g. Under these conditions, the experimental extraction yield was  $13.98 \pm 1.55\%$  which is very close with the predicted value (14.08%), and this demonstrated the validation of the extraction model proposed. The polysaccharide extract exhibited a ...

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