

Synthesis, Yield Optimization, and Characterizations of Pectin Extracted from Citrus Fruits Solid Waste under Microwave Irradiation †

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Abstract: Citrus fruits like oranges, lemons, grapes, peaches, strawberries, and apples deserve special attention for the remarkable production of pectin. In the present work, we have extracted pectin first time from these citrus fruits solid waste obtained from greengrocery dustbin. An optimization study for extraction of pectin from these citrus fruit solid waste using variables like pH, microwave irradiation time (sec.), and microwave power (W) was performed, and optimal conditions (1.5 pH, 120 s irradiation time, 300 W microwave power) were determined with maximum pectin yield of 34.55%. The structure of the extracted product was confirmed through structural characterizations like FT-IR and elemental analysis.

Keywords: citrus fruits solid waste; pectin extraction; microwave irradiation.

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Conflicts of Interest

The authors declare no conflict of interest.