

1. Study on the hot water extraction process of polysaccharide from *Toona sinensis* (A. Juss.) Roem. leaves assisted by microwave pretreatment

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Abstract

Hot water extn. process of polysaccharide from *Toona sinensis* (A. Juss.) Roem. leaves assisted by microwave pretreatment was studied. The effects of the operation parameters such as microwave power, microwave pretreatment time, wetting time and the ratio of solid to wetting liq. on polysaccharides mass extd. from *T. sinensis* (A. Juss.) Roem. leaves were analyzed with mono factor expt. The optimum extn. process was optimized with orthogonal test L9(3⁴) and extg. times were verified and detd. The results showed that: on the condition that 10.0 g *T. sinensis* (A. Juss.) Roem. leaves as the crude drug, extn. temp. 100°C, extn. time 2 h, the ratio of solid to extg. liq. 1:15 (g/mL, mass:vol.), optimum microwave pretreatment conditions were detd. as follows: the ratio of solid to wetting liq. 1:5 (g/mL, mass:vol.), wetting time 1.5 h, microwave power 1,000 W, microwave pretreating time 60 s and extg. times 5. The extg. mass of total polysaccharides from *T. sinensis* (A. Juss.) Roem. leaves was 46.156 mg/g extd. 5 times at the optimum parameters.

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Supplementary Terms

Toona; leaf; polysaccharide; water; extn; microwave;

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