

Two-step supercritical fluid extraction of anthocyanins and total polyphenols from *Nitraria tangutorun Bobr*

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Abstract

Nitraria tangutorun Bobr as an economic and sand-fixation plant widely plant in the desert area of northwest China. The anthocyanin and total polyphenols are the main components in *Nitraria tangutorun Bobr*. In this study, two-step optimization approach was conducted for extraction of anthocyanins and total polyphenols with supercritical CO₂ extraction. First, the fat-soluble composition was removed by supercritical CO₂. Secondly, the influences of extraction temperature, pressure, CO₂ flow rate, the type of the co-solvent and its flow rate on the yield and purity of the extracts were investigated to obtain the optimal conditions. The result shows that supercritical fluid extraction is environment-friendly and of excellent performance for the extraction of anthocyanins and total polyphenols from *Nitraria tangutorun Bobr*.