

Title Effects of high pressure extraction on the extraction yield, total phenolic content and antioxidant activity of longan fruit pericarp

Author K. Nagendra Prasad, En Yang, Chun Yi, Mouming Zhao and Yueming Jiang

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Abstract

High pressure extraction (HPE) was carried out to extract phenolic compounds from longan fruit pericarp. The influence of different solvents, solvent concentration (25-100%, v/v), solid to liquid ratio (1:25-1:100, w/v) were individually determined using these optimum extraction conditions. HPE was carried out at various pressures (200-500 MPa), durations (2.5-30 min) and temperatures (30-70 °C). The extraction yield, total phenolic contents and scavenging activities of superoxide anion radical and 1,1-diphenyl 1-2-picrylhydrazyl (DPPH) radical of HPE extract were examined and then compared with those of the conventional extraction (CE). The application of HPE obtained a higher extraction yield and required a less extraction time when compared to CE. Furthermore, the total phenolic contents and the antioxidant activities of HPE extract were higher than CE extract. This study indicated that this new technology can benefit the food and pharmaceutical industries.