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Abstract	:	Waste coffee ground (WCG), the major waste product from the coffee industry, is a potential source for oil recovery as it contains approximately 15 wt% of oil. In this paper, a novel method with the combination of ultrasonic-assisted extraction and autoclaving pre-treatment for oil extraction from WCG was investigated. The oil recovery was compared with the conventional Soxhlet extraction method, followed by the effect studies based on temperature, extraction time and liquid-to-solid (v/w) ratio. In addition, the kinetic studies of ultrasonic extraction were also attempted by using pseudo-first-order and pseudo-second-order models for comparison. The autoclaving pre-treatment was found to increase the WCG oil recovery by 2.4% compared to the ultrasonic extraction without autoclaving. The optimum conditions of the ultrasonic-assisted oil extraction with autoclaving were 35°C, liquid-to-solid ratio of 10:1 and 20 minutes of extraction time in order to achieve 24.4% of WCG oil recovery. Meanwhile, the kinetics of oil extraction from WCG using ultrasonic extraction with autoclaving pre-treatment was well-fitted to the pseudo-second-order model. Results indicated that the application of autoclaving pre-treatment in combination with ultrasonic-assisted extraction has shown advantages in enhancing oil recovery from WCG.