Enhancement of Extraction Efficiency by Various Machinecal energy

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Recently, the demand for green tea, oolong tea and black tea has increased due to human health concerns and preference. Green tea and fermented products(black tea), both contain caffeine(1-5%) with small amounts of other xanthine alkaloids. In this work, the extraction and separation of caffeine from Korean green tea was performed by various mechanical and chemical extraction methods. They included solvent extraction, stirring, ultrasonic and supercritical CO2 extraction. The extracted sample was analyzed by reversed-phase high performance liquid chromatography (RP-HPLC). From the experimental results of the variation of solvent extraction by change in composition, the increase in extraction of a specific compound by stirring or ultrasonic energy, and the application of supercritical CO2 with superior solvating power over solvents, the supercritical CO2was the most desirable extraction method in extracting caffeine from Korean green tea.