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Chemical Compositions of Pu'er Tea fermented by *Eurotium Cristatum* and Their Lipid-lowering Activity

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Abstract: In order to reveal the effect of microorganisms on the chemical composition of tea and their lipid-lowering function, Pu'er raw tea（PR）made from sun-dried leaves of Yunnan large-leaf tea cultivars was processed through a period of flowering fermentation mainly facilitated by *Eurotium cristatum*, and thus converted into flowering Pu'er tea (FP) in the present study. Tea aqueous extracts were successively extracted by chloroform, ethyl acetate and n-butyl alcohol. Afterwards, non-volatile and volatile compounds of PR and FP were identified and compared through high performance liquid chromatography (HPLC) and gas chromatography-mass spectrometer (GC-MS), respectively. Furthermore, high lipid HepG2 cells induced by OA were treated by those extracts of different polar to explore their impact on lipid-lowering. It can be observed that the contents of tea polyphenols (TPs) and amino acids of FP significantly decreased whereas the total amount of flavonoids significantly increased, compared to those of PR. Besides, the ethyl acetate fraction of FP (EAF-FP) was of the most prominent effect on lipid-lowering, and its optium effective concentration was 80 μg/mL.

Key words: Pu'er Raw Tea; Flowering fermentation; Chemical Compositions; Polar Extracts;