Flavor Characterization of Coffee Brewed by Various Dripper

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Outline

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Abstract

Coffee aroma is one of the most crucial attribute of consumer preference. As pour over coffee gets popular, more people are fascinated to brew coffee by themselves. Thus, suppliers sell numerous coffee drippers claimed with various functions such as balanced, sweeter, and abundant flavor. There were lots of studies concerned chemical compositions in coffee beans and beverages, but only few focused on coffee extraction tools or accessories in the perspective of brewed coffee flavor. The purpose of the study was to characterize coffee flavor brewed by various coffee dripper based on non-volatile and volatile compounds in the beverage. The results showed that the extraction time of V60 and flannel coffee was shorter, but Kalita coffee was longer and featured average flow rate. The extraction yields of Kalita brewed coffee reach the standard established by Specialty Coffee Association of America. In chemical compositions, non-volatile compounds such as trigonelline, chlorogenic acids and caffeine were the most representative compounds. Kalita coffee obtained the highest amount of chlorogenic acids than other drippers. For volatile compounds, 2-furanmethanol acetate, 1H-indol-5-ol and mequinol showed statistically significant differences among samples. The volatile profile of aroma compounds in V60, Kalita, metal filter and flannel coffee were similar. However, orthogonal partial least squares-discriminant analysis was able to separate each data set into individual cluster. Therefore, coffee flavor extracted by various types of coffee dripper can be distinguished by its chemical compositions.

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