

# **Brewing Less- and Enhanced-caffeinated Coffee by Using Cold Brew Method**

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## **Abstract**

**Background:** Caffeine is the most attractive compound in coffee on account of its remarkable pros and cons for human health. In contemporary human diet, coffee is the main source for caffeine intake, so that controlling daily caffeine intake became an issue. The only caffeine control method existing is decaffeination and it needs a lot of starting setup expense so that it is allowed only for a major companies.

**Methods:** A modern coffee brewing method, cold brew method, was used and the coffee was analyzed in chronological order to interpret sequential changes of extracted compounds. Roasted coffee powder 50 g was used for extracting cold brew coffee and samples were collected every 50 mL until 24 samples. HPLC-MS were used for interpreting compounds and UV integration was used for measuring the quantitative data.

**Results:** Total 26 compounds composed of chlorogenic acids of mono- and di-acylated p-coumaric acid derivatives and caffeine in cold brewed coffee were interpreted. The most important content change was caffeine in normalized coffee concentration. Continuous increasing of caffeine content was detected while commercially used cold brewing method; until 10 times of water to the coffee powder used.

**Conclusions:** Without any additional expense, max.  $\pm 25$  % caffeine content control method is developed with cold-brew method. The LeeN-Caffeination (Less and Enhanced caffeination)method would be expected as a standard content ratio control method in many different ways; different compound control other than caffeine, different brewing method research other than dripping cold-brew or different extracting materials other than coffee.

**Keywords:** *LeeN-Caffeination, Coffee, Cold Brew, Caffeine control*

## **Biography**

Seung-Hun Lee is,

As a scientist, he majored in organic chemistry for MSc and Chemistry for PhD.

As a Coffee Expert, he is a certified barista by Korean Coffee Association, Champion for Home Brewers Cup Bremen 2014 and an external coffee columnist for 'Coffee and Tea' in Korea.