**Supplementary material – protocol of the high-performance liquid-chromatography analysis for the analysis of test drink content**

***Material***

Standards of caffeine, 3-, 4-, and 5-caffeoylquinic acid (CQA) were purchased from Sigma-Aldrich (St. Louis, MO, USA). Cafestol standards were purchased from ChromaDex (Los Angeles, CA, USA). Diethyl ether were purchased from Anaqua (Wilmington, DE, USA). Potassium hydroxide, formic acid, acetonitrile, and methanol were purchased from Merck (Kenilworth, NJ, USA). All solutions used for high-performance liquid-chromatography (HPLC) were of analytical grade and the rest were of laboratory reagent grade.

***Sample preparation for caffeine and CQA quantification***

Coffee brew samples were diluted 2-fold by Milli-Q water and centrifuged at 1500 g for 5 minutes. The supernatant was collected and filtered using Whatmann filter papers with pore sizes of 0.45 µm. The filtrate was collected and stored in -40oC for analysis within 3 days.

***Sample preparation for cafestol quantification***

Immediately after preparation, the coffee brew was freeze-dried using a Virtis freeze dryer (SP Scientific, Gardiner, NY, USA) for 72 hours. Saponification was done by mixing 2 ml 2M aqueous potassium hydroxide and 0.2g freeze-dried coffee sample at 80oC for 1 hour. After saponification, 2ml water was added and the mixture was extracted using 2 ml diethyl ether. The mixture was then centrifuged at 3000 rpm for 5 minutes and the organic phase was collected. The extraction was done 3 times and the organic phase was pooled and evaporated at 70oC for 10 min. The tubes with the residue were stored in -40oC and resuspended in 2 ml mobile phase immediately before analysis, which was done within 3 days of extraction.

***Quantification of caffeine and CQA***

Quantitative analysis was carried out using the Agilent 1260 model HPLC system equipped with an Alltech Prevail C-18 reverse phase column (internal diameter: 4.6 x 250 mm, 5-µm particle size). The mobile phase was 1% formic acid/methanol (75:25, v/v). All regents were filtered using Whatmann filter papers with pore sizes of 0.45 µm and degassed in an ultrasonic water bath for 15 mins before use. Injection volume was 10 µl and the flow rate was 0.8 ml/min. Detection wavelength for caffeine was set at 276 nm and CGA was set at 325 nm. Quantification was done using a six-point calibration and the samples were prepared and analysed in triplicate.

***Quantification of cafestol***

Quantitative analysis was carried out using the Agilent 1260 model HPLC system equipped with an Alltech Prevail C-18 reverse phase column (internal diameter: 4.6 x 250 mm, 5-µm particle size). The mobile phase was acetonitrile/water (65:35, v/v). All regents were filtered using Whatmann filter papers with pore sizes of 0.45 µm and degassed in an ultrasonic water bath for 15 mins before use. Injection volume was 10 µl and the flow rate was 0.9 ml/min. Detection wavelength was set at 230 nm. Quantification was done using a six-point calibration and the samples were prepared and analysed in triplicate.