Determination of phenolic acids in botanical drugs by capillary electrophoresis with chemiluminescence detection

Xin Chen, Jingxiu Mao, Fuyu Wen, and Xueqin Xu\*

Key Laboratory for analytical science of food safety and biology, MOE，Fujian Provincial Key Laboratory of Analysis and Detection for Food Safety, College of Chemistry, Fuzhou University, Fuzhou, Fujian 350116, China

\*Correspondence author: Xueqin Xu

Tel&Fax: 86-591-22866135; E-mail: xxq@fzu.edu.cn

Address: College of Chemistry, Fuzhou University, Fuzhou, Fujian, 350116, China

Figure S1.The resolution of the three phenolic acids in the optimization of CE conditions. The resolution was calculated from the following equation expressed as: R = 2 (t2 - t1) / (W1 + W2), Where t2 and t1 are the retention times of adjacent peak 1 and peak 2, respectively, and W1 and W2 are the peak base width of adjacent peak 1 and peak 2, respectively. R1 represented the resolution between ferulic acid and chlorogenic acid, R2 represented the resolution between chlorogenic acid and salicylic acid.

Figure S2. The electropherograms of (A) intra-day and (B) inter-day for phenolic acids. Running buffer: 20 mmol/L borate buffer (pH 9.1). Other conditions as in Figure 2A. Peak names: 1: ferulic acid, 2: chlorogenic acid, 3: salicylic acid. The concentrations of ferulic acid, chlorogenic acid, salicylic acid are 269, 258 and 258 μg/mL, respectively.

Figure S3. (A) The electrophoretograms of different sample concentration. Running buffer: 20 mmol/L borate buffer (pH 9.1). Other conditions as in Figure 2A. Peak names: 1: ferulic acid, 2: chlorogenic acid, 3: salicylic acid. (B) The linear relationship between chemiluminescence intensity and analytes concentration. Running buffer: 20 mmol/L borate buffer (pH 9.1). Other conditions as in Figure 2A.