

Supplement table-1.Chromatographic column
mobile phase gradient condition T3

Time (min)	Velocity (mL/min)	A(%)	B(%)
0	0.40	95	5
11.0	0.40	10	90
12.0	0.40	10	90
12.1	0.40	95	5
14.0	0.40	95	5

Supplement table-2. Conditions of positive and negative ion mode mass spectrometry agilent.

Parameter	ESI ⁺	ESI ⁻
Voltage	250	1500
Gas Flow	8	8
Fragmator	135	135
Gas Temperature	325	325
Sheath Temperature	325	325
Sheath Flow	11	11
Nebulizer	40	40

Quality control samples (QC) were prepared by mixing sample extracts to analyze the repeatability of samples under the same processing method. In the process of instrumental analysis, a quality control sample was inserted into every 15 testing and analysis samples to monitor the repeatability of the analysis process.