

1. The experimental parameters of HPLC

Chromatographic column: Sunfire C<sub>18</sub> 150 mm × 4.6 mm 3.5 μm

Analytical standard: proanthocyanidin (chromatographic purity), procyanidin B2 (chromatographic purity), catechin (chromatographic purity), epicatechin (chromatographic purity), myricetin (chromatographic purity), chlorogenic acid (purity ≥ 98%), protocatechuic acid (purity ≥ 99%), ferulic acid (chemically pure), all for Shanghai Yuanye Biotechnology Co., Ltd., China.

Mobile phase A: 0.1% formic acid solution. Mobile phase B: 100% acetonitrile solution. Table S1 showed the Gradient elution procedures.

**Table S1.** Gradient elution procedures.

Time (min)	Mobile phase A (%)	Mobile phase B (%)
0-5	95	5
5-35	95-75	5-25
35-50	75-60	25-40
50-55	60	40
55-60	60-95	40-5
60-70	95	5

The flow rate of HPLC was 0.7 mL/min, the injection volume was 20 μL, the column temperature was 40°C, and the detection wavelength was 280 nm.