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Appendix Ⅰ

The Determination of α-Arbutin Content

Theory

The α-Arbutin content of the sample was determined by HPLC

Instrument

SHIMADZU High Performance Liquid Chromatography, including: LC-20AT, SPD-20A, column oven, Shim-pack VP-ODS (250 × 4.6 mm) and so on.

Operation Steps

Operating Parameters:

Mobile phase: water: methanol(chromatographically pure): phosphoric acid=950:50:1 (new secondary distilled water, in-house production, filtered by using a 0.22μm filter membrane; prepared mobile phase is filtered through 0.45μm organic filter membrane; well dispersed by vibration and ultrasonic degassed for 30min)

Flow rate: 1.0 ml/min

Column temperature: 25℃

Injection volume: 10μL

Detection wavelength: 280 nm

Sample Determination:

Sample solution:

Dissolve about 0.1g, accurately weighed, each of the samples in 100mL.

Evaluation of the content of α-Arbutin:

Inject 5μL sample solution and determine the peak area for the sample solutions according to <SHIMADZU HPLC Operating Rules (Q/CZBE-SOP209A-2007)>

The content of α-Arbutin is determined by area normalization method.

Always calculate the result as the mean value from at least two injections.