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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Determination of chlorogenic acids in plants-High-performance
liquid chromatography**

植物中绿原酸类物质的测定 高效液相色谱法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Biochemical Testing Standardization (SAC/TC387).

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Determination of Chlorogenic Acids in Plants High performance liquid chromatography

1 Scope

This document specifies six chlorogenic acid substances in plants (neochlorogenic acid, chlorogenic acid, cryptochlorogenic acid, isochlorogenic acid A, isochlorogenic acid B, isochlorogenic acid C) determination method---high performance liquid chromatography.

This document applies to 6 chlorogenic acid substances (neochlorogenic acid, chlorogenic acid, cryptogenic acid) in samples such as roots, stems, leaves, flowers, fruits, and seeds of plants.

Determination of chlorogenic acid, isochlorogenic acid A, isochlorogenic acid B, isochlorogenic acid C).

2 Normative references

GB/T 6682

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

The samples were extracted with 50% methanol and water solution by ultrasonic method, separated by C18 reverse phase chromatography column, and analyzed by high performance liquid chromatography at a wavelength of 327 nm.

Detection was performed by detector, qualitative analysis was performed by relative retention time, and quantitative analysis was performed by external standard method.

5 Reagents or materials

Unless otherwise specified, water is grade 1 water as specified in GB/T 6682.

5.1 Methanol (CH₃OH). chromatographically pure.

5.2 Acetonitrile (CH₃CN). chromatographic grade.

5.3 Formic acid (HCOOH). chromatographically pure.

5.4 Neochlorogenic acid (C₁₆H₁₈O₉, CAS No.. 906-33-2), purity $\geq$ 95%.

5.5 Chlorogenic acid (C₁₆H₁₈O₉, CAS No.. 327-97-9), purity $\geq$ 95%.

5.6 Chlorogenic acid (C₁₆H₁₈O₉, CAS No.. 905-99-7), purity $\geq$ 95%.

5.7 Isochlorogenic acid A (C₂₅H₂₄O₁₂, CAS No.. 2450-53-5), purity $\geq$ 95%.