

A

沱茶中茶多酚的分析与鉴定

@回瑞华\$鞍山师范学院化学系!辽宁鞍山 114005 @侯冬岩\$鞍山师范学院化学系!辽宁鞍山 114005 @关崇新\$鞍山师范学院化学系!辽宁鞍山 114005 @刘晓媛\$鞍山师范学院化学系!辽宁鞍山 114005

收稿日期 2002-12-10 修回日期 网络版发布日期:

摘要 用索氏提取器以三氯甲烷为萃取剂,在95 °C下从沱茶中提取茶多酚。用旋转蒸发器将滤液浓缩,有机相中加入三氯甲烷(V(三氯甲烷):V(浓缩液)=3:1)将咖啡因萃取分离、去除。水相中加入乙酸乙酯(V(乙酸乙酯):V(水)=3:1)将沱茶提取物萃取分离。以硅胶G作填充剂,以乙酸乙酯(V(乙酸乙酯):V(乙醚)=4:1)为洗脱剂进行柱层析。用傅里立变换-红外光谱法(FT/IR)测定沱茶提取物待测组分的红外光谱图,提供官能团的有关信息。确定待测组分的可能结构;应用气相色谱-质谱法(GC/MS)对其进行分析与鉴定,由电子电离源质谱(EI/MS)获得待测组分的质谱图和相关数据,进而对子离子裂解途径和特征离子进行辅助解析,确证待测组分为茶多酚。为开发利用沱茶提供了科学依据。

关键词 [质谱学](#) [茶多酚分析](#) [气相色谱-质谱法\(GC/MS\)](#) [沱茶](#) [裂解途径](#)

分类号 [0657. 63](#) [TS272. 54](#)

Identification of Catechin in Tuo Tea

HUI Rui -hua, HOU Dong-yan, GUA

Abstract Catechin was extracted and isolated from Tuo tea using S-extractor with trichloromethane as extractant at temperature of 95 °C. The filtrate was concentrated by circum-evaporator, and caffeine in the filtrate was removed with methenyl chloride (V (methenyl chloride) : V (concentrated solution) = 3 : 1) as extractant. Then, the water phase was extrated further by adding ethyl acetate (V(ethyl acetate) : V(water) = 3 : 1) to get catechin extract. The column chromatography separation was performed with ethyl acetate (V(ethyl acetate):V(ethyle ether) = 4 : 1) as eluent and silica gel G as absorbent. The infrared spectrum of the potential structure of the extract of the Catechin was obtained by fourier transform/infrared spectrometry (FT/IR) with liquid film method, and many functional groups can be assigned by their characteristic vibration frequency. The mass spectrum was obtained by gas chromatography-mass spectrometry (GC/MS) and Catechin was identified by proposal fragmentation patterns of fragment ions m/z 152, m/z 139,m/z 124, m/z 123 and prominent ions. The study can help to offer the scientific basis for developing and utilizing Catechin.

Key words [mass spectrometry](#)[identification of Catechin](#) [gas chromatography-mass spectrometry \(GC/MS\)](#) [Tuo tea](#) [fragmentation pattern](#)

DOI

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(245KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“质谱学”的 相关文章](#)

▶ [本文作者相关文章](#)