

论文

薄层层离法在研究天然化合物中的应用 I. 麦角新碱、麦角胺、麦角毒碱的鉴定

黎莲娘;方起程

中国医学科学院药物研究所,北京

摘要:

本文研究了影响麦角新碱、麦角胺和麦角毒碱的氧化铝薄层层离的各种因素.实验结果表明,酸性、中性和弱碱性氧化铝均能使三种麦角生物碱分离.氧化铝细度以小于200号筛的层离效果最好,荧光点圆而集中.苯-无水乙醇(10:0.5)是较为理想的推进剂,不仅分离效果好,而且其组成简单,容易处理和回收.层离板的斜度对层离效果影响不大,但以8—16°角较合适.层离槽放入溶剂后,必须先密闭放置10分钟,才能进行层离,否则容易产生边缘效应.根据以上研究结果,制订了鉴定麦角中三种主要生物碱的方法.

关键词:

APPLICATION OF THIN LAYER CHROMATOGRAPHY IN THE STUDY OF NATURAL PRODUCTS I. IDENTIFICATION OF ERGOMETRINE ERGOTAMINE AND ERGOTOXINE
LI LIAN-NIANG AND FANG QI-CHENG

Abstract:

The present paper reports investigations of thin layer chromatography for the identification of ergot alkaloids, using alumina without binder. As dictated by the physico-chemical properties of ergot alkaloids and the usual characteristics of thin layer chromatography, studies on factors influencing R_f values and shape of spots of ergometrine, ergotamine, and ergotoxine have been carried out. Good separation was obtained with acidic, neutral as well as weakly basic alumina. Alumina with particle sizes of 120—160, 160—200 and below 200 mesh were compared, the best result being obtained with the last size, producing round and sharp spots. Mixtures with various ratios of petroleum ether-benzene-absolute alcohol and of benzene-chloroform-absolute alcohol were used and mixture of benzene-absolute alcohol (10:0.5) was found to be the best, with R_f values 0.10, 0.33 and 0.50 for ergometrine, ergotamine, and ergotoxine respectively. The composition of this solvent mixture is rather simple and amenable to ready recovery. The angle of inclination made by the plate had no great influence, although the most suitable was found to be between 8—16°. "Edge effect" may be avoided by tightly covering the container for 10 minutes to assure saturation with the solvent vapours before immersing the lower end of the plate. According to these results, a thin layer chromatographic method for the identification of ergot alkaloids has been proposed, which gave identical results as paper chromatography when tested with eight ergot samples.

Keywords:

收稿日期 1963-03-04 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

参考文献:

本刊中的类似文章

文章评论 (请注意:本站实行文责自负, 请不要发表与学术无关的内容!评论内容不代表本站观点.)

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(420KB)
- ▶ [HTML全文]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

本文作者相关文章

- ▶ 黎莲娘
- ▶ 方起程

PubMed

- ▶ Article by
- ▶ Article by

反馈人	<input type="text"/>	邮箱地址	<input type="text"/>
反馈标题	<input type="text"/>	验证码	<input type="text"/> 5976