

Study on Elution Peak Quantitative Method for HPLC

I. Calculate Eluting Curve from Detecting Peak

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There are three processes in HPLC, i.e. flow in tube, separation in column and detection in thru-cell. the influence of detecting process on chromatographic peak is studied and the calculating formulae of retention time, peak area, peak width and peak high of eluting curve from detecting peak are presented, those formulae have been confirmed by experiments, the effect of detailed detecting processes can be eliminated and the standardized eluting curve, which is advantageous to theoretical study, can be obtained. Thus a novel quantitative method —eluting curve method— can be established. The method is time-saving, simpler and more precise. In this paper, the experimental method for correcting the influence of flow process is suggested and a new concept of SHARPNESS is first suggested to characterize the feature of the top of chromatographic peak.

Key words HPLC; Elution peak quantitative method; Eluting curve; Detecting peak; Sharpness of peak

【文摘 015】卡尔曼滤波分光光度法同时测定复方降压片中六种组分的含量 徐建平, 相秉仁, 安登魁. 药学报 1990; 25(1): 77-80

应用卡尔曼滤波法未经分离直接同时测定复方降压片(共 10 组分)中维生素 B₆、维生素 B₁、利眠宁、盐酸异丙嗪、硫酸双胍酞嗪及氢氯噻嗪等 6 组分。各组分的吸收比例常数以非负最小二乘法求算, 方法回收率为 88.8%~102.9%, 变异系数为 2.3%~7.6%。维生素 B₁ 的回收率较差, 可能是所选模型不能完全符合实际情况。

【文摘 016】示波极谱滴定法测定甲硝唑含量 张正行, 程光昕, 应允明. 药物分析杂志 1990; 10(1): 33-5

采用示波极谱滴定法测定甲硝唑及其片剂的含量。原料药的回收率为 99.50%(n=10, CV

0.25%)。结果与其它方法无显著性差异; 片剂测定结果与 BP 法和 USP 法相符。作者将甲硝唑和四苯硼酸钠在缓冲液中形成的沉淀, 用蒸馏水洗涤、干燥, 以氘代丙酮作溶剂, 测定其 NMR 谱, 结果证明甲硝唑与四苯硼酸钠形成沉淀的分子组成为 1:1。

【文摘 017】双波长薄层扫描法测定六神丸中三种主要成分的含量 罗国安, 陈玉英, 王义明, 关秀思.

中草药 1990; 21(3): 9-10, 20

用双波长薄层扫描法定量测定了六神丸中麝香酮、酯蟾毒配基和冰片的含量。采用冷浸、振荡提取方式。用硅胶 GF₂₅₄ 板, 以氯仿-丙酮-环己烷(3:3:4)为展开剂, 用 CS-910 薄层扫描仪测定, 锯齿形扫描方式, 麝香酮 λ , 295 nm, 酯蟾毒配基 λ , 219 nm, 二者 λ_R 为 400 nm, 冰片 λ , 670 nm, λ_R 400 nm。