

论文

元胡生物碱的化学研究 VI.元胡叔胺生物碱的反相高效液相色谱法测定

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摘要:

用反相高效液相色谱法分离了元胡块茎中6个主要叔胺生物碱即(-)-四氢非洲防己胺(A),(±)-四氢巴马亭(B),(+)-紫堇碱(C),(-)-四氢小檗碱(D),四氢黄连碱(E),(+)-海罂粟碱(F)。并用外标法测定了这些生物碱在元胡生药样品及醋制品中的含量。本法用Nucleosil10 C₁₈层析柱(2.6mm×25 cm),甲醇—水(70:30)为流动相,紫外λ280 nm检测,流速0.8ml/min。方法简便、快速,准确,重现性好。

关键词: 元胡(延胡索) 四氢原小檗碱型生物碱 四氢非洲防己胺 四氢巴马亭 紫堇碱 四氢小檗碱 四氢黄连碱 海罂粟碱 反相高效液相色谱

CHEMICAL STUDIES ON THE ALKALOIDS FROM YUANHU (*CORYDALIS TURTSCHANINOVII* BESS. F. *YANHUSUO* Y. H. CHOU ET C.C. HSU) VI. SEPARATION AND DETERMINATION OF 6 TERTIARY ALKALOIDS IN YUANHU BY RP-HPLC

FU Xiao-Yong; LIANG Wen-Zao and TU Guo-Shi

Abstract:

Six main tertiary alkaloids, (-)-tetrahydrocolumbamine(A), (±)-tetrahydropalmatine (B), (+)-corydaline (C), (-)-tetrahydroberberine (D), tetrahydrocoptisine(E) and(+)-glaucine (F) were separated by HPLC within 25 min on a column (25 cm×2.6mm) of Nucleosil 10₁₈ equipped with a YWG-C₁₈ guard column; elution was effected at 0.8 ml/min with an isocratic mobile phase of 70% MeOH, and the elute was monitored at 280 nm.External standards were used for the determination. The calibration curves for the first five alkaloids are rectilinear in the range of 0~1.7 µg with CV of 0.95~1.24%. In contrast, the calibration curve for the 6th alkaloid is linear in the range of 0.3~1.6 µg with CV up to 3.05%, which does not pass through the origin.The individual alkaloids in 6 Yuanhu samples, cultivated in different localities and processed with different methods were determined. The alkaloid Contents of the samples with vinegar steamed as well as the control samples extracted by boiling water, and percolated with 60% EtOH were also presented. The results of the proposed HPLC method are in good agreement with those of the TLC-densitometry.

Keywords: Tetrahydroprotoberberine type alkaloids (-)-Tetrahydrocolumbamine (±)-Tetrahydropalmatine: (+)-Corydaline (-)-Tetrahydroberberine Tetrahydrocoptisine (+)-Glaucine Yuanhu (*Corydalis turtschaninovii* Bess. f. *yanhusuo* Y.H.Chou et C. C. Hsu)

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