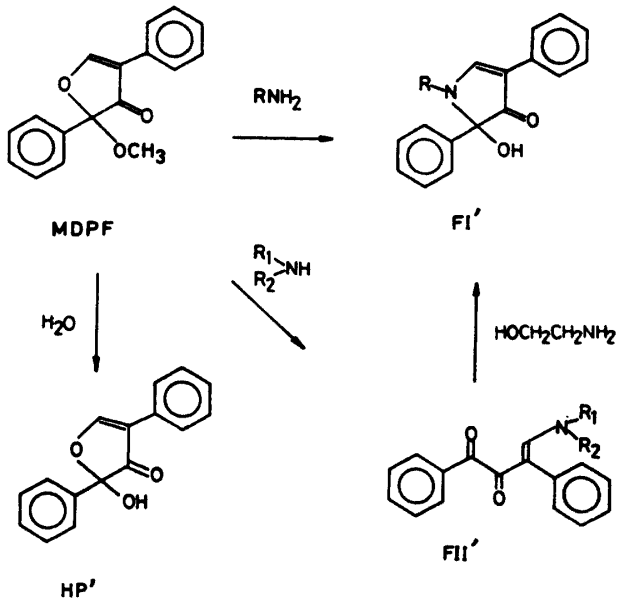
Title	Stepwise fluorometric determination of primary and secondary amines by liquid chromatography after derivatization with 2-methoxy-2, 4-diphenyl-3(2H)-furanone
Sub Title	
Author	中村, 洋(Nakamura, Hiroshi) 高木, 和子(Takagi, Kazuko) 田村, 善蔵(Tamura, Zenzo) 与田, 玲子(Yoda, Reiko) 山本, 有一(Yamamoto, Yuichi)
Publisher	共立薬科大学
Publication year	1984
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.29 (1984.) ,p.47- 48
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000029-0047

Stepwise Fluorometric Determination of Primary and Secondary Amines by Liquid Chromatography after Derivatization With 2-Methoxy-2,4-diphenyl-3(2 H)-furanone*

Hiroshi NAKAMURA**, Kazuko TAKAGI, Zenzo TAMURA***,
Reiko YODA and Yuichi YAMAMOTO

中村　洋**, 高木和子, 田村善蔵***,
与田玲子, (故)山本有一

A high-performance liquid chromatographic (HPLC) method was developed for the stepwise fluorometric determination of primary and secondary amines. Amines were reacted with 2-methoxy-2,4-diphenyl-3(2*H*)-furanone (MDPF) at pH 9.6 and 20°C for 30 min to produce fluorescent pyrrolinones (FI′) from primary amines and nonfluorescent aminodienones (FII′) from secondary amines. The MDPF-adducts of amines were separated on a reversed-phase C_{18} (TSK LS-410 K) column with a mixture of methanol and 50 mM phosphate buffer (pH 7.0) (70 : 30). After the detection of FI′ with the first fluorescence monitor (λ_{ex} 360 mn, λ_{em}>405 nm), the eluate was mixed with 12 M ethanolamine hydrochloride (pH 10.5) to convert FII′ to fluorescent MDPF-ethanolamine which was detected with the second fluorescence monitor (λ_{ex} 390 nm, λ_{em} 480 nm).



* 本報告は *Anal. Chem.*, **56**, 919 (1984) に発表
** 東京大学薬学部
*** 慶応大学医学部

The present method permits the determination of 3 pmol of lower *n*-alkylamines and 50 pmol of lower di-*n*-alkylamines. The relative standard deviations were 2.3—2.7% for 50 pmol of the *n*-alkylamines and 2.9—3.4% for 1 nmol of the di-*n*-alkylamines.