

## 2. Purification

La purification s'opère en deux stades:

(a) *Elimination du Ni par chromatographie descendante sur papier.* Une bande de papier Whatman No. 1 d'environ 2 cm de large et 40 cm de long, est préalablement lavée avec du butanol saturé de HCl N. A environ 3 cm d'une des extrémités de la bande, est alors déposée la solution A.

En milieu butanol-HCl N, les  $R_F$  du Ni, Pb, Ra E et Po sont respectivement de 0.08, 0.15, 0.5 et 0.8<sup>3, 4</sup>. En raison de la présence d'une trop grande quantité de Ni, il n'est pas possible d'obtenir la séparation sélective de ces corps. Il est donc indispensable d'extraire ce Ni. Pour cela, on l'élue par NH<sub>4</sub>OH 10 N, suivant la méthode de chromatographie descendante, la tache se trouvant à la partie inférieure. Lors de cette opération, on élimine la presque totalité du Ni sans modifier sensiblement le comportement ultérieur du Ra E.

(b) *Chromatographie ascendante sur papier.* Après avoir séché le papier, on procède à une chromatographie ascendante en milieu butanol-HCl N pendant une nuit. La partie de la bande Whatman contenant le Ra E, s'étalant depuis le  $R_F$  0.45 jusqu'au  $R_F$  0.55, est découpée et éluee avec de l'HCl N.

A l'aide de cette méthode, nous avons ainsi préparé des solutions de Ra E ne laissant pas de dépôt visible après évaporation.

Le rendement total de l'opération, compte tenu de la décroissance du Ra E pendant la purification, oscille entre 85 et 95 %.

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## A modified Ehrlich benzaldehyde reagent for detection of indoles on paper chromatograms\*

Many modifications of the Ehrlich benzaldehyde reagent (EBR) for the detection of indoles on paper chromatograms are in current use<sup>1, 2</sup>. Most of these suffer from the same limitations, namely (1) the time required for color development and (2) rapid fading of color.

We have found that these limitations can be markedly reduced by using the

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Ehrlich benzaldehyde reagent followed by a nitrite spray. Our procedure is as follows:

1. The chromatogram is first sprayed with a 2% solution (w/v) of *p*-dimethylaminobenzaldehyde dissolved in conc. hydrochloric acid (12.1 N).

2. After an interval of 2–3 min, the chromatogram is sprayed with a 1% solution (w/v) of NaNO<sub>2</sub> in distilled H<sub>2</sub>O.

Immediately, after the nitrite spray, indole compounds generally appear as deep blue spots with the exception of indican which appears as an orange brown spot. Urea appears as a large deep yellow spot. Colors developed with this reagent often persist for a month or more with little fading.

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#### BOOK REVIEWS

*Protides of the Biological Fluids*, Proceedings of the Fifth Colloquium, Bruges, 1957.  
Edited by Dr. H. PEETERS, published by Elsevier Publ. Co., Amsterdam, 1958,  
260 pages, price 45 s.

The importance of electrophoretical techniques in the analysis of fluids containing proteins, *e.g.*, in the analytical study of biological fluids, both normal and pathological, can be well estimated from this book, edited by Dr. H. PEETERS, which contains all the papers presented at the Fifth Colloquium on Biological Fluids held in Bruges in 1957.

Some of these communications have already been published in *Clinica Chimica Acta*, but in this book all the communications to the colloquium have been collected in one volume. The volume will therefore be extremely useful for all those who in their daily work are confronted with the task of making a diagnosis with the help of chemical analysis.

The book contains 40 papers, some of which deal with general topics, while others are concerned with new methods and techniques of analysis. Of the contributors Prof. A. TISELIUS, Dr. K. HANNIG and Dr. C. WUNDERLY may be mentioned,

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