A method for the more efficient utilization of thin-layer chromatoplates

A method has been devised for doubling the useful area of the Stahl thin-layer chromatoplates. The plates are coated with adsorbent in the usual manner and allowed to dry at room temperature for about 10 minutes. Then they are inverted and a layer of adsorbent is applied to the reverse side. Contrary to what might be expected such manipulation does not damage the underside. The doubly coated plates are cooked and stored as usual. However, care must be taken to prevent damage to the underside when the test material is spotted. For this purpose the plates may be placed on a frame which holds them slightly elevated from the work bench. The frame which touches the plate only along a thin outer border resembles a picture frame and is easily constructed from wood. The detection of the chromatographed material and the making of permanent records with a common letter copying machine are not hindered by the presence of adsorbent on both sides of a plate. This addition to the thin-layer chromatography technique proved very satisfactory while reducing the space and manipulations customarily required in thin-layer chromatography.

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Thin-layer chromatography of urinary metabolites of chlorpromazine and related psychotropic drugs

Thin-layer chromatography, in spite of manifold successful applications, is not currently applied to metabolic studies of psychotropic drugs.

In the course of further researches on the urinary excretion of chlorpromazine (CPZ) and chemically related compounds (chlorprotixene (CPX), imipramine (IP) and amitriptyline (ATL)), this technique has given better results than the techniques used in our previous, analogous investigations[1,2].

Thin-layer chromatography on Kieselgel-G layers was employed; chromatoplates (18 × 23 cm) were prepared and activated according to STAHL[3,4]. The most suitable solvent was the system *n*-butanol–acetic acid–water (88:5:7 for CPZ and CPX; 65:15:20 for IP and ATL). Ascending chromatographic runs of 12–13 cm were performed at room temperature (26–27° C), in closed vessels. The same procedure was carried out with normal rabbit urine to which the four compounds in appropriate concentrations had been added. Detection was performed by spraying the plates with concentrated H_2SO_4. CPZ and its metabolites exhibit spots of various colours, from red to violet; IP, ATL and related metabolites show green (IP) and brick-red (ATL) fluorescence under short wave U.V. light (250 mμ) after heating (95–100° C); CPX and its metabolites exhibit a clear orange-red fluorescence under Wood's light.