

In the urine of rabbits treated with CPZ, CPX, IP and ATL (100 mg/kg p.o.), 9, 12, 12 and 12 fractions respectively, were detected (Figs. 1-4).

Preliminary experiments indicated the feasibility of performing on the plates some particular chemical reactions designed to establish the nature of the main biotransformation products. This technique can also be applied to other biological fluids or tissue extracts, as well as to other chemically related psychotropic drugs.

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Received April 10th, 1962

J. Chromatog., 9 (1962) 388-390

Rapid method for permanent recording of thin-layer chromatograms

One of the most important recent advances in microanalytical technique has been the development of thin-layer chromatography¹. The inconvenience of handling and storing finished thin-layer chromatograms, however, has made desirable a means of permanently recording the information obtained. Manual tracing on paper, the simplest method in use, yields at best only an approximate reproduction. Shadow-graphing on photographic paper produces an exact negative replica but requires darkroom facilities unavailable in many laboratories. Moreover, photographic processing is time consuming. In this communication a method of duplication is described which eliminates the undesirable features of wet processing through the use of dry process Diazo* paper. By this method positive replicas of thin-layer chromatograms can be made quickly and cheaply under ordinary laboratory conditions with no special equipment or chemicals.

In Fig. 1 are shown a thin-layer chromatogram and its DRIPRINT replica prepared in the following manner. The chromatogram was placed horizontally over a desk lamp equipped with two cylindrical 15 W fluorescent bulbs, the inverted shade serving as a support for the glass plate. A piece of cellophane laid over the coated surface of the chromatogram protected the surface from abrasion by the paper, the paper from chemical attack by residual spray, and functioned as a negative (Fig. 1) for recording such information as the location of the origin and labels identifying the substances applied. A sheet of DRIPRINT paper was then placed over the cellophane followed by a glass plate to hold the various layers stationary. After exposure of the paper to the light for 10 min it was placed in a covered glass jar containing an open

* Diazo paper is a direct positive blueprinting paper. The brand used was DRIPRINT HC 241B (F speed) supplied by Eugene Dietzgen Co., 407 10th St., N. W., Washington, D. C. A sheet 8 in. × 10 in. costs about 1/2 cent. The paper can be handled freely in ordinary laboratory light.

beaker of conc. NH_4OH . In the presence of ammonia gas unexposed areas, corresponding to spots on the chromatogram, appeared immediately as bright blue spots on a white background. After 10 to 15 sec the permanent mirror image of the chromatogram was removed from the jar. (The mirror image is superior in definition to the real image, produced when the paper is placed on the uncoated side of the plate and illuminated from the coated side.).

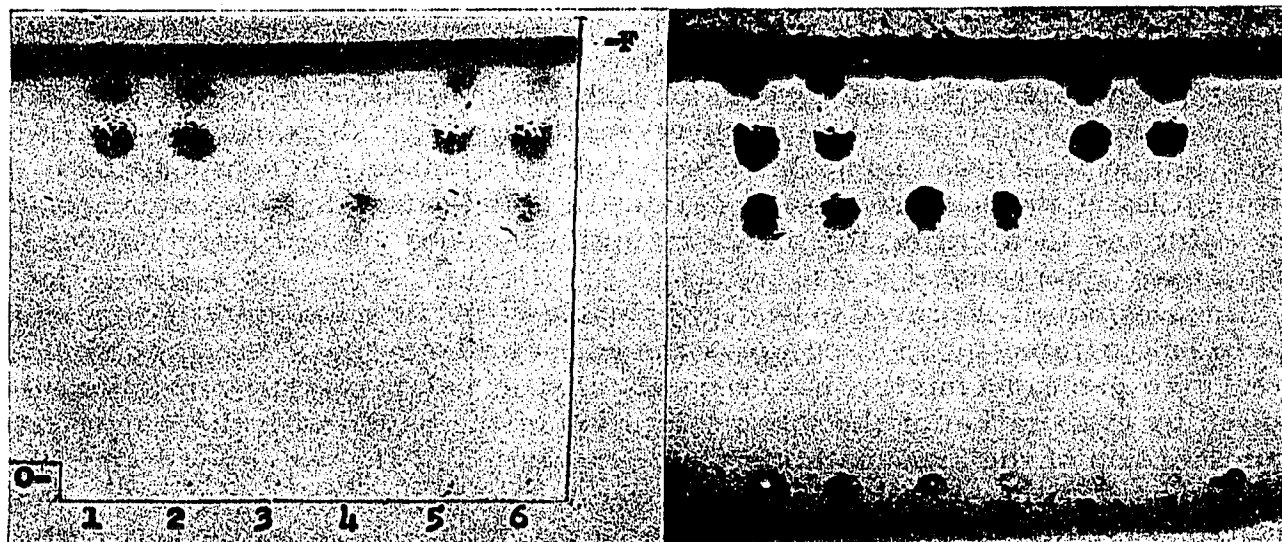


Fig. 1. Left. Thin-layer chromatogram. Adsorbent Silica Gel-G (STAHL). Fifty micrograms of crude dibenzal derivatives of D- and L-idonic acid and D- and L-idosaccharic acid were spotted at 1 cm intervals on line O at 1, 2, 3, and 4 resp.; 5 and 6 are mixtures of 1 + 3 and 2 + 4 resp. Solvent abs. methanol, 6.5 cm ascent to line F. Sprayed with conc. H_2SO_4 and heated 15 min at 150° . Characters typed on paper mask and superimposed at time photograph was taken. Right. DRIPRINT replica. Characters typed in descending numerical order on cellophane sheet, reversed at time of exposure.

It can be seen from Fig. 1 that contrast in the replica is actually better than in the original; this effect is especially noticeable in spots remaining at the origin which are only faintly discernible in the chromatogram but clearly visible in the copy.

GORDON has described the recording of U.V. absorbing spots from paper chromatograms on ferric ferricyanide blueprint paper². Although in this application Diazo paper was inferior to iron-treated paper, a dry process because of its simplicity is in general to be preferred to a wet one.

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Received February 1st, 1962