notes on methodology

Blueprint records of thin-layer chromatograms

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SUMMARY Permanent records of thin-layer chromatograms are obtained by a simple method employing blueprint paper and not requiring special equipment.

MOST PAPERS appearing in the literature show thin-layer chromatograms as photographs. Eisenberg has described the use of a dry-process blueprint paper for recording thin-layer chromatograms (1). The following modification is a simple, rapid method for the routine recording of thin-layer plates using a high-speed blue print paper (Driazo 1200 SS, Driazo Corporation, Pasadena, California). Excellent photographs for publishing purposes can be obtained from these blueprints.

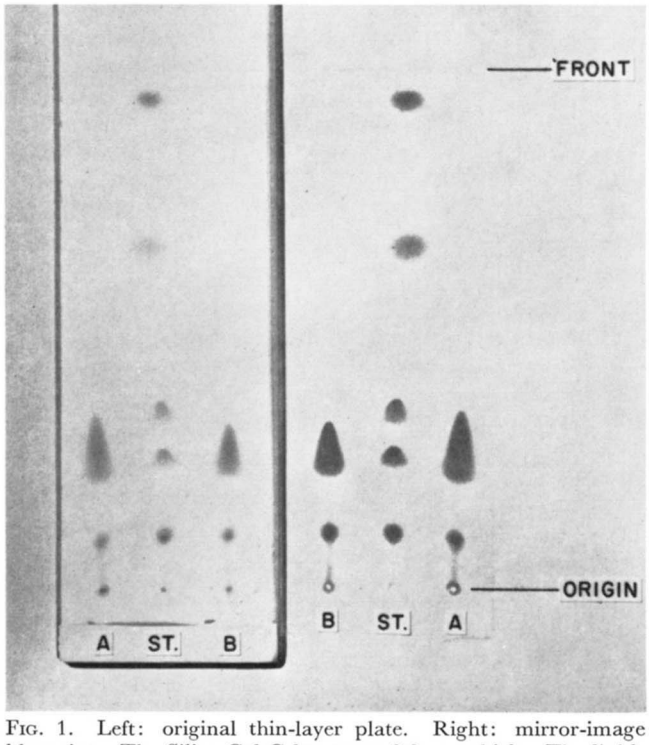

FIG. 1. Left: original thin-layer plate. Right: mirror-image blueprint. The Silica Gel G layer was 0.2 mm thick. The lipids were charred with H_2SO_4. Driazo 1200 SS, exposed 8 min. *ST.* is a standard neutral lipid mixture, *A* and *B* are saponified lipid samples.

The thin-layer plate is placed on an x-ray viewing screen. The sensitive side of the blueprint paper is placed down on the thin-layer plate in a manner similar to that used in making a photographic contact print. Time of exposure will vary with the density of the plate and the shelf life of the paper. Exposure times of 3–8 min have been used for Silica Gel G plates of lipids charred with H_2SO_4. The exposed paper is developed by placing it along the inside wall of a 2 liter beaker. The beaker is then placed on a hot plate at 50° and 1 ml of concentrated NH_4OH is placed on the bottom of the beaker. Care is taken to avoid direct wetting of the blueprint with NH_4OH. A watch glass is placed over the beaker and the blueprint develops within 20 sec. The whole procedure can be done in a lighted laboratory if the sensitive side of the paper is held away from strong light.

This method enables one to make rapid, permanent records of thin-layer chromatograms without special photographic equipment. Pencil or pen notes may be conveniently written on the blueprint. This method also works with chromatograms sprayed with ninhydrin or other indicators. The use of these blueprints for densitometric scanning may be possible; however, it was not investigated. In Fig. 1, a photograph of the original thin-layer plate is compared with one of its blueprint; improved contrast is apparent.

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REFERENCE

1. Eisenberg, Frank, Jr. *J. Chromatog.* **9:** 390, 1962.