

THE USE OF preparative thin-layer chromatography for the separation of lipid classes is becoming increasingly widespread (1, 2). The work of Malins and Mangold (3) on the separation of fatty acid methyl esters suggests that little if any autoxidation occurs during chromatography on the plates. Partial loss of polyunsaturated acids has been shown (4) to occur, however, when iodine vapor is used to locate the lipid spots, imposing a severe limitation to the use of this otherwise highly regarded detection agent of proven sensitivity (5).

Because of similar observations in our laboratory, we now protect our preparative thin-layer plates while exposing a guide strip to iodine vapor. The sample is applied as a row of single spots along the base line, leaving space at one end for a guide strip containing a spot of standard mixture and a spot of sample. To obtain uniform R_F values, we apply essentially the same quantity of sample at all spots. After development and removal of solvent, the portion of the plate to be protected from iodine vapor is carefully covered with Saran Wrap (overlapped onto the back of the plate) and the plate is placed in a jar of iodine vapor for the detection of the guide spots. With this procedure, it is possible to take advantage of the sensitivity of iodine vapor without loss of unsaturated fatty acids due to their reaction with iodine.

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The use of Saran Wrap to protect chromatoplates during their exposure to iodine vapor

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SUMMARY Saran Wrap (a commercially available cellophane sheet) is used to prevent loss of polyunsaturated lipids when using iodine vapor for the detection of lipids on thin-layer chromatographic plates.

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