




## Application Bulletin UVP-AB-206

### ULTRA-VIOLET PRODUCTS

Corporate Headquarters: UVP, Inc.  
2066 W. 11<sup>th</sup> Street, Upland, CA 91786  
Telephone: (800)452-6788 or (909)946-3197  
E-Mail: [uvp@uvp.com](mailto:uvp@uvp.com)

Internet: <http://www.uvp.com>

European Operations: Ultra-Violet Products Ltd.  
Unit 1, Trinity Hall Farm Estate, Nuffield Rd.  
Cambridge CB4 1TG UK \* Tel: +44(0)1223-420022  
E-Mail: [uvpuk@uvp.com](mailto:uvpuk@uvp.com)

- APPLICATION:** Thin-layer Chromatography (TLC)
- WAVELENGTHS/  
LAMPS USED:** Shortwave (254nm) or longwave (365nm) depending upon the type of TLC plate used (Silica coated = 254nm, Cellulose coated = 365nm)/UVG-11, UVG-54\*, UVGL-25, UVGL-58, UVL-21, UVL-56\*, CC10\*.
- FIELD OF USE:** Chemistry
- BACKGROUND:** Chromatography enables the chemist to separate a mixture of compounds into its constituents by measuring  solubilities of unknown compounds in a given solvent against other known standards. Thin-layer Chromatography (TLC) is done on a TLC plate consisting of a solid support, i.e., glass, plastic, or aluminum, coated with a thin layer of absorbent material, such as silica or cellulose. TLC plates are divided into "lanes" where known and unknown samples are deposited and migrate along the absorbent material by capillary action when one end of the plate is placed in solvent. Identical compounds will migrate similar distances and exhibit equal concentrations.
- PROCEDURE:** Known and unknown samples are "spotted" on to lanes of the TLC plate and migrated with appropriate solvent. The plate is fixed by removing it from the solvent and evaporating solvent from the lanes with the hair dryer. The dissolved compounds will be left behind in the adsorbent material of the lanes. The plate is then developed by spraying it with a solution that induces fluorescence of the compounds present and read under ultraviolet light in a UVP CC10 cabinet. Unknown compounds are considered to be identical to known standards if they migrate the same distance and exhibit the same degree of fluorescence as standards.
- PRIMARY ADVANTAGES  
OF THIS METHOD:** Thin-layer chromatography is a simple, versatile, effective and economical test that is relevant to a wide range of separation problems.

\*Recommended lamp/cabinet