

**Name of Procedure:**

Thin-Layer Chromatography  
Iodine Visualizing Reagent

**Suggested Uses:**

A visualizing reagent or detection reagent must be used in Thin-Layer Chromatography if the compound or compounds are not distinguishable by their own color. Benzodiazepines and other unsaturated compounds can be visualized in an iodine chamber.

**Apparatus Needed to Perform Procedure Including Preparation of Reagent:**

Fume hood  
Graduated cylinder  
Eye protection  
Laboratory coat  
Gloves  
Funnel  
Spatula  
Iodine chamber  
Iodine

**Formula for Preparing Reagent:**

1. Iodine is the only chemical needed.
2. To prepare the iodine chamber, place several iodine crystals in the airtight chamber.

**Expiration Date of Chemical Reagent:**

The iodine chamber will be active until all the iodine crystals have vaporized.

**Application of Procedure on Evidence:**

1. Place well-dried TLC plate in the iodine chamber.
2. Remove the TLC plate from the iodine chamber after the known standard has reacted with the iodine and a brown spot appears.

**Application of Procedure on Evidence (continued):**

3. Compare the known standard and the compound in question for their size, shape, color and position on the TLC plate.
4. Record the results of your observation.

**Safety Concerns:**

Always wear eye protection, gloves, and a laboratory coat when preparing this reagent for use.

Eye protection and laboratory coat should be worn when visualizing the TLC plate.

**Literature References:**

Randerath, Kurt, **Thin Layer Chromatography**, New York, Academic Press, 1968.

Moffat, A.C., **Clarke's Isolation and Identification of Drugs**, 2nd Ed., The Pharmaceutical Press, 1986.

Suzuki, Edward and Gresham, William R., "Isolation and Identification of Clorazepate," **Microgram**, Vol. XVII, No. 4, 1984.