

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure B-11	Polarized Light Microscopy 50% Acetic Acid and Gold Chloride in 50% Acetic Acid	
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Name of Procedure:

Polarized Light Microscopy
50% Acetic Acid and Gold Chloride in 50% Acetic Acid

Suggested Uses:

Microcrystalline test for determining the optical isomer of propoxyphene.

Apparatus Needed To Perform Procedure Including Preparation of Reagent:

Polarized Microscope
Fume hood
Gloves
Eye protection
Laboratory coat
Spatula
Microscope slides
Weighing paper
Graduated cylinder
Glass stirring rod
Glass beaker
Reagent bottles
Distilled water
Glacial Acetic acid
Gold Chloride

Formula for Preparing Reagent:

For 50% Acetic Acid:

1. Measure out 20 milliliters of distilled water in a graduated cylinder.
2. Add glacial acetic acid to the graduated cylinder until a total volume of 40 milliliters is obtained.
3. Pour solution into a reagent bottle.
4. Properly label reagent bottle.

For Gold Chloride in 50% Acetic Acid:

1. Prepare a second 50% acetic acid solution as above (Steps 1 and 2).
2. Mix the contents of a 1 gram ampule of gold chloride into the 50% acetic acid

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solution.

3. Pour solution into a reagent bottle.
4. Properly label reagent bottle.

Quality Control Check:

Check the reagents with a known standard of d-propoxyphene using the application procedure listed below.

Expiration Date of Chemical Reagent:

The reagents can be used until depletion provided they are stored in airtight reagent bottles.

Application of Procedure on Evidence:

1. Take 2 small samples (approximately 0.1 milligram) of the unknown and place them near each end of a microscope slide.
2. Take a sample of the known standard (approximately 0.1 milligram) and mix with one of the unknown samples on the microscope slide.
3. Place a drop of reagent #1 on each sample on the slide.
4. Place a drop of reagent #2 on each sample on the slide.
5. Observe the resulting mixtures with uncrossed and crossed polars for crystal formation.
6. Record results.

Safety Concerns:

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

Eye protection and a laboratory coat should be worn when using this reagent for the microcrystalline test.

Always dispose of used microscope slides in a broken glass container.

Literature References:

Developed by Chemist J.R. Daniel of the North Carolina State Bureau of Investigation

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Drug Chemistry Laboratory, in use in the laboratory since 1975.

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