Name of Procedure:

Preliminary Tests
Duquenois-Levine Reagent (Modified)

Suggested Uses:

The Duquenois-Levine reagent is used in the identification of marijuana. If cannabinoids are present, an intense violet blue color develops. When shaken with chloroform, the color is transferred to the chloroform phase.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Gloves
Eye protection
Laboratory coat
Pipet with bulb
Graduated cylinder
(2) 30ml reagent bottles
Glass stirring rod
6 X 50mm culture tubes
250ml beaker
Acetaldehyde
Vanillin
Ethanol
Chloroform
Hydrochloric acid
Funnel
Reagent bottle with dropper
Spatula
Porcelain spot plate

Formula for Preparing Reagent:

1. Measure out 2.5 milliliters acetaldehyde

2. Measure out 2.0 grams vanillin.

3. Measure out 100 milliliters of ethanol.

Formula for Preparing Reagent (continued):

4. Dissolve vanillin and acetaldehyde in ethanol in 250 milliliter beaker.

5. Pour into reagent bottle.

6. Properly label reagent bottle.

7. Store in dark place.

8. Fill separate reagent bottle with chloroform and properly label.

Quality Control Check:

A quality control check of this reagent will be performed using a known standard of marijuana and following the application procedure listed below.

Expiration Date of Chemical Reagent:

This reagent may be stored in a refrigerator for several months.

Application of Procedure on Evidence:

1. Place approximately 1 milligram of sample material in a culture tube or spot plate.

2. Add 2-3 drops of the Duquenois reagent.

3. Add 4-5 drops of concentrated hydrochloric acid and observe the color changes.

4. Add 2-3 drops of chloroform and agitate.

5. Allow phases to separate and observe the color in the bottom chloroform layer. A blue to violet color with the acid addition, a violet color transfer to the chloroform layer is indicative of a positive test.

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 color tests.

Literature References:

Clinical Toxicology, June 1971, pp. 287-289.

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