Forensic Toxicology Case Study Part II

Printable Version: ANALYTICAL TOXICOLOGY LABORATORY REPORT

Sample Number: #1



Description: Kitchen Scales

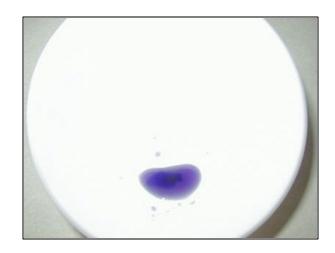
A sample of white powder was recovered from the surface of the kitchen scales.

Weight: N/A

Preliminary Analysis:

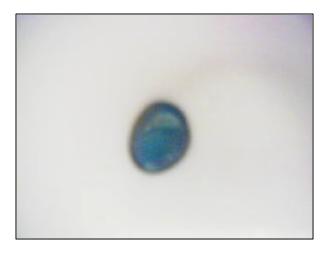
1. Spot Test 1

The sample produced the following response with cobalt thiocyanate reagent.



2. Spot Test 2

The sample produced the following response with marquis reagent.



3. TLC

A sample of the white powder was dissolved in methanol and spotted for TLC.

The following results were obtained:

Running Conditions:

Cell solvent - Davidow (Ethyl Acetate:Methanol:Ammonium Hydroxide 85:10:5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

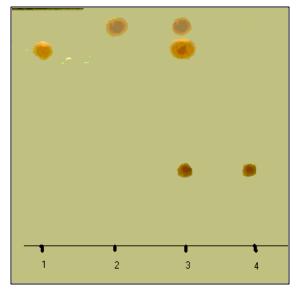
Spot 1. Cocaine standard

Spot 2. Lidocaine Standard

Spot 3. Sample 1

Spot 4. Methylenedioxymethamphetamine

(MDMA) standard



4. No further preliminary tests were conducted.

Confirmation Analysis: N/A

Sample Number: #2



Description: White powder in Ziploc bag – condition dry

Weight: 1500g

Preliminary Analysis:

1. Spot Test

A few milligrams of the powder produced a positive result with cobalt thiocyanate reagent.

2. TLC

A few milligrams of the sample were dissolved in methanol and spotted for TLC. The following results were obtained:

Running Conditions:

Cell solvent - Davidow (Ethyl Acetate:Methanol:Ammonium Hydroxide 85:10:5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

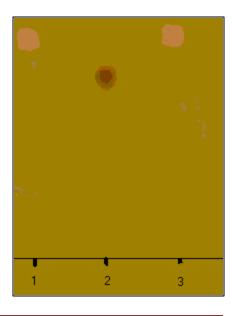
Spot 1. Lidocaine standard

Spot 2. Cocaine standard

Spot 3. Sample 2

3. No further preliminary tests were conducted.

Confirmation Analysis: N/A



Sample Number: #3



Description: \$20 Bills – US currency – 2 rolls each containing 50 Bills

Weight: N/A

Preliminary Analysis:

1. Spot Test

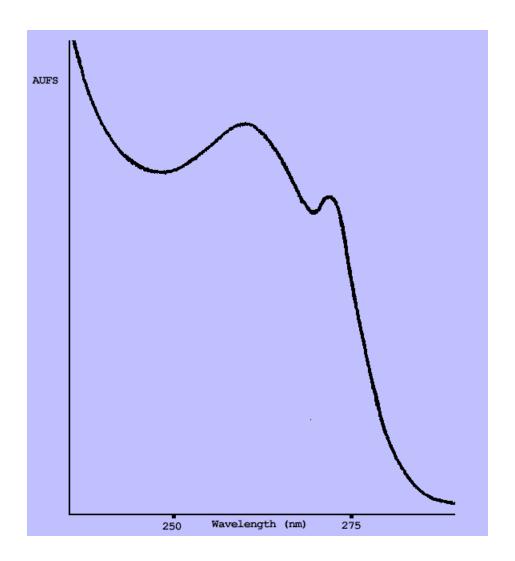
The outer bills from each roll were rinsed with a small quantity of methanol. A drop of solution produced no reaction with cobalt thiocyanate reagent

2. TLC

Insufficient sample for TLC

3. UV Spectroscopy

An aliquot of the sample was monitored between 210-300nm. UV spectrum shown below:



4. No further preliminary tests were conducted.

Confirmation Analysis: N/A

Sample Number: #4



Description: Glass mirror contaminated with white powder

Weight: N/A

Preliminary Analysis:

1. Spot Test

A scraping of powder from the mirror produced a positive reaction with cobalt thiocyanate reagent.

2. TLC

Scrapings of the powder were dissolved in methanol and spotted for TLC. The following results were obtained:

Running Conditions:

Cell solvent was Davidow (Ethyl Acetate:Methanol:Ammonium Hydroxide 85:10:5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

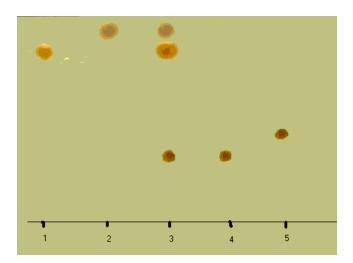
Spot 1. Cocaine standard

Spot 2. Lidocaine standard

Spot 3. Sample 4.

Spot 4. MDMA

Spot 5. Amphetamine



3. No further preliminary tests were conducted.

Confirmation Analysis: N/A

Sample Number: #5



Description: Green herbal material

Weight: 1200g

Preliminary Analysis:

1. Spot Test

Some of the green herbal material was extracted with petroleum –ether and produced a negative reaction with Duquenois Neghms reagent.

2. Microscopy

Some of the herbal material was treated with chloral hydrate and mounted in "Wetmount" mounting reagent and viewed with a coverslip at 100x magnification using a light microscope. Microscopical examination did not show cellular features consistent with the presence of Cannabis sativa.

3. No further preliminary tests were conducted.

Confirmation Analysis: N/A

Sample Number: #6



Description: Suspected drug paraphernalia in the form of a short (3 inch) clear plastic hollow tube with 0.5 cm diameter

Weight: N/A

Preliminary Analysis:

1. Spot Test 1

Methanol washings from the tube produced a negative result with cobalt thiocyanate.

2. Spot Test 2

Methanol washings from the tube produced a negative result with marquis reagent.

3. Spot Test 3

Methanol washings from the tube produced a negative result with Dragendorfs reagent.

4. No further preliminary tests were conducted.

Sample Number: #7



Description: Tequila liquor bottle containing fluid

Weight: Volume 530ml

Preliminary Analysis:

1. Spot Tests

No spot tests were conducted.

2. TLC

A 50 ml aliquot of the bottle contents was made basic with ammonium hydroxide and extracted into chloroform, evaporated, and spotted for TLC. The following results were obtained:

Running Conditions:

Cell solvent - Methanol:Ammonium Hydroxide (100:1.5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

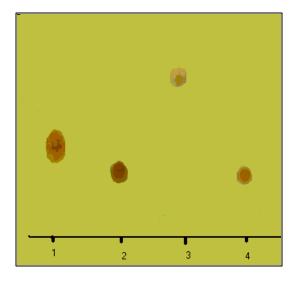
Spot 1. Amphetamine Standard

Spot 2. Methamphetamine standard

Spot 3. Sample

Spot 4. MDMA standard

3. No further preliminary tests were conducted.



Sample Number: #8



Description: Port wine bottle containing some liquid

Weight: Volume 60ml

Preliminary Analysis:

1. Spot Tests

No spot tests were conducted

2. TLC

A 20 ml aliquot of the bottle contents was made basic using ammonium hydroxide, extracted with chloroform, evaporated, and spotted for TLC. The following results were obtained:

Running Conditions:

Cell solvent - Davidow (Ethyl Acetate:Methanol:Ammonium Hydroxide 85:10:5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

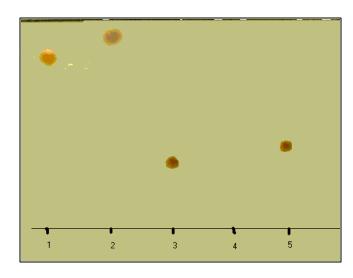
Spot 1. Cocaine

Spot 2. Lidocaine

Spot 3. MDMA

Spot 4. Sample 8

Spot 5. Amphetamine



3. No further preliminary tests were conducted

Sample Number: #9



Description: Rock like substances (6 pieces)

Weight: Each rock weighed approximately 200mg

Preliminary Analysis:

1. Spot Test

A scraping of one rock produced a positive result with cobalt thiocyanate reagent

2. TLC

Scrapings from each of two rocks were dissolved in chloroform and each spotted for TLC. The following results were obtained:

Running Conditions:

Cell solvent - Davidow (Ethyl Acetate:Methanol:Ammonium Hydroxide 85:10:5)

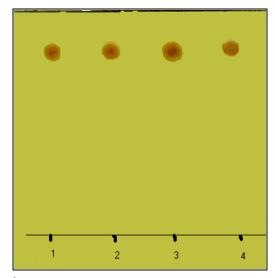
Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

Spot 1. Cocaine Standard

Spot 2. Sample 9

Spot 3. Sample 9

Spot 4. Cocaine Standard



3. No further preliminary tests were conducted.

Sample: #10



Description: Ziploc bag containing white powder: condition – damp

Weight: 790g

Preliminary Analysis:

1. Spot Test

A few milligrams of the powder produced a positive result with cobalt thiocyanate reagent.

2. TLC

A few milligrams of the sample were dissolved in methanol and spotted for TLC: The following results were obtained:

Running Conditions:

Cell solvent - Methanol:Ammonium Hydroxide (100:1.5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

Spot 1. Lidocaine Standard

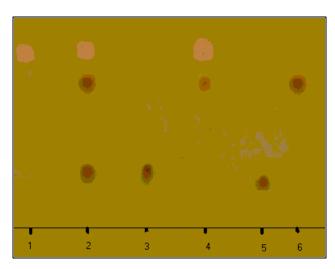
Spot 2. Sample 10

Spot 3. Benzoylecgonine standard

Spot 4. Sample 11

Spot 5. MDMA standard

Spot 6. Cocaine Standard



3. No further preliminary tests were conducted.

Sample: #11



Description: Ziploc bag of white powder: condition - dry

Weight: 825g

Preliminary Analysis:

1. Spot Test

A few milligrams of the powder produced a positive result with cobalt thiocyanate reagent.

2. TLC

A few milligrams of the sample were dissolved in methanol and spotted for TLC: The following results were obtained:

Running Conditions:

Cell solvent - Methanol:Ammonium Hydroxide (100:1.5)

Spray sequence - SW UV, LW UV, Fluram, LW UV, Ludy Tenger, Sodium Nitrite, Cupric Chloride.

Spot 1. Lidocaine Standard

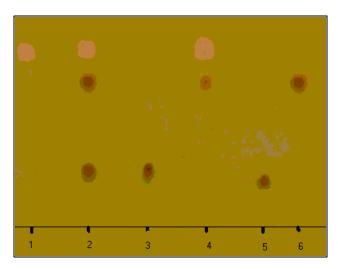
Spot 2. Sample 10

Spot 3. Benzoylecgonine standard

Spot 4. Sample 11.

Spot 5. MDMA standard

Spot 6. Cocaine Standard



3. No further preliminary tests were conducted.

Confirmation Analysis: N/A

NOTES: The spray sequence for all plates was short wave ultraviolet (SW UV), Long wave ultraviolet (LW UV), Fluram with LW UV, Luty Tenger, Sodium Nitrite, Cupric Chloride.