

# Peeling Back the Curtain on Drug Testing



# Disclosures

- I am not advertising or promoting for any instrument manufacturer or vendor. All the equipment pictured is actual instrumentation that I have used in the labs that I have worked at.



# Forensic Toxicology

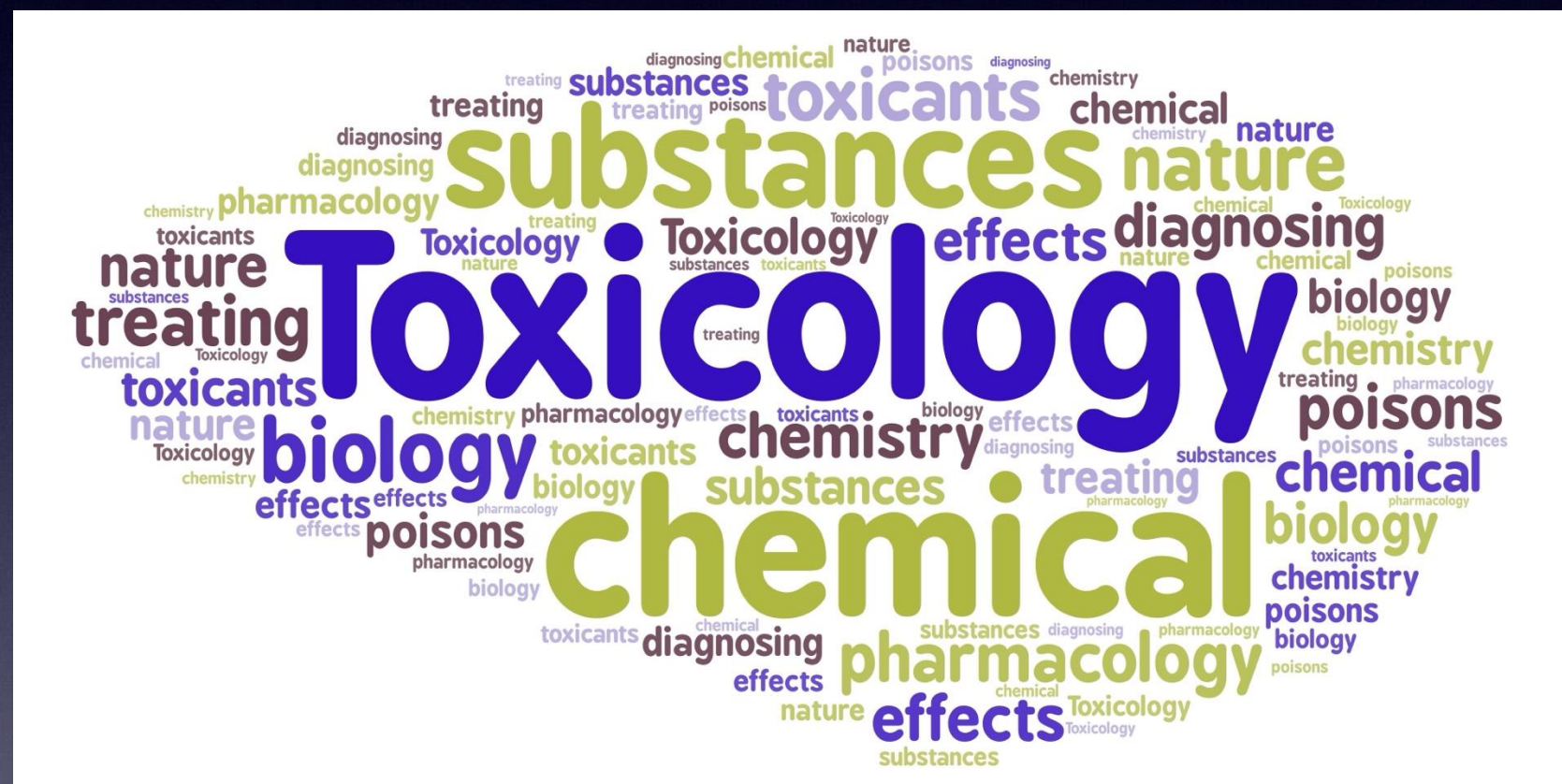
- Toxicology is a science that deals with poisons and their effect.
- Forensic toxicology is the application of toxicology as it applies to law.





# Different Subgroups of Toxicology

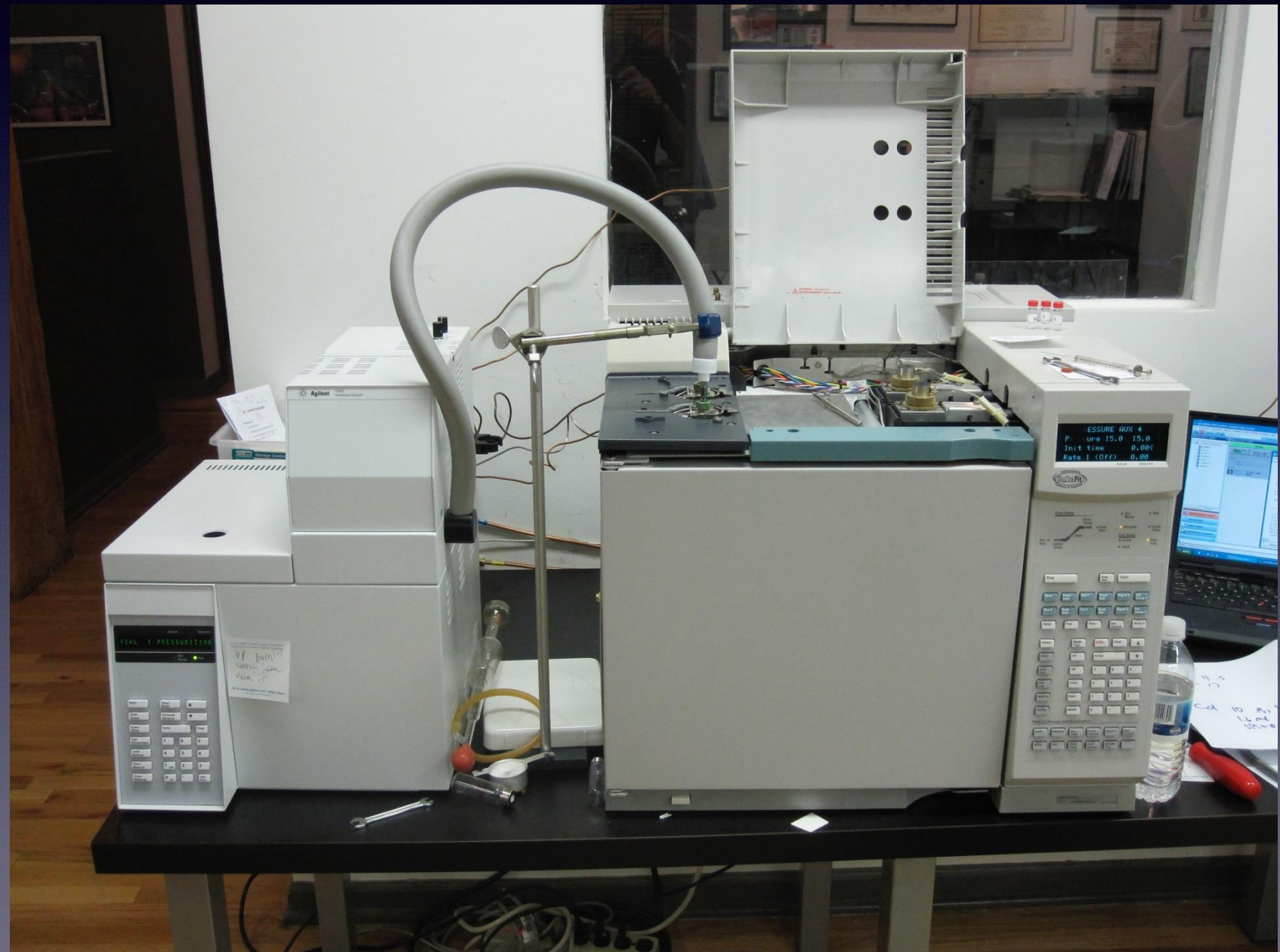
- Postmortem Forensic Toxicology
- Human Performance Toxicology
- Forensic Drug Testing





# First Things First

- Alcohol determination





# Step Two – Screening

- often based on immunoassay technology
- more drug – more binding - less “color” produced – more instrument detector response
- numerous commercial manufacturers
- designed for high throughput instrumentation or on-site devices



# Immunoassay





# Immunoassay

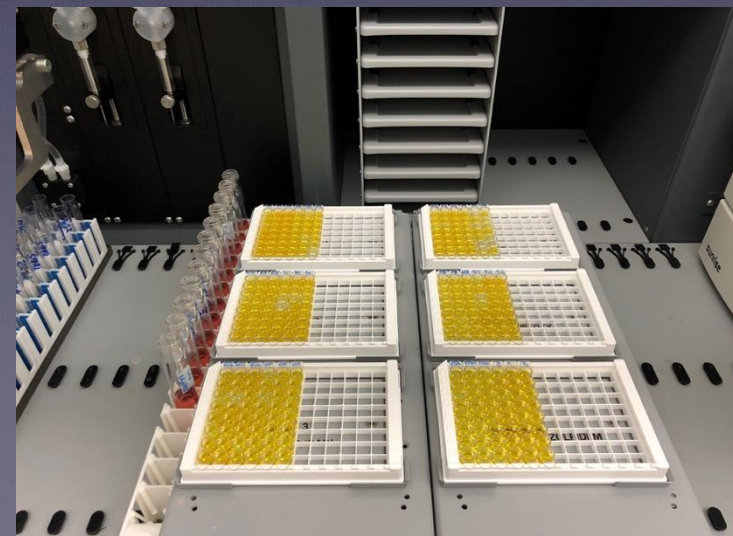
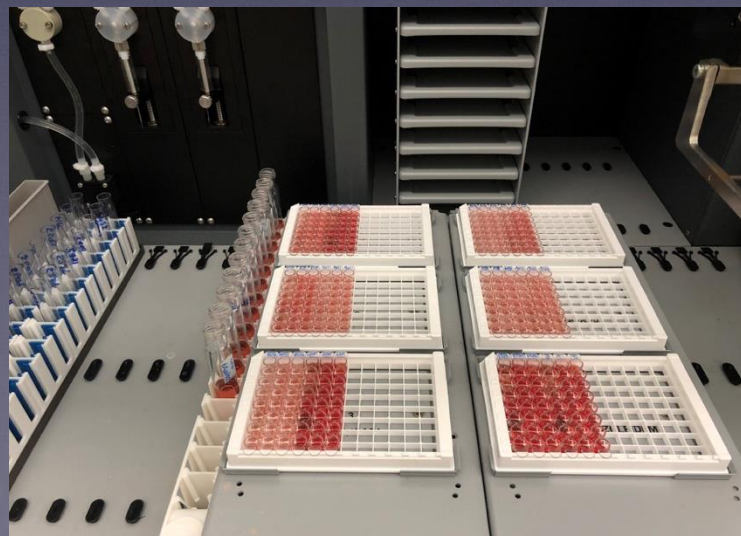
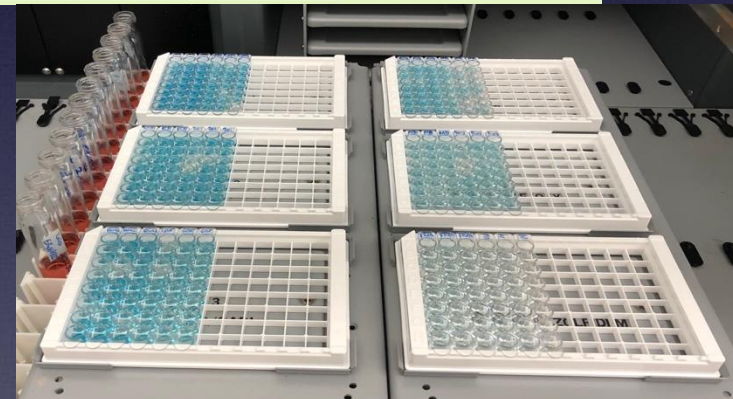
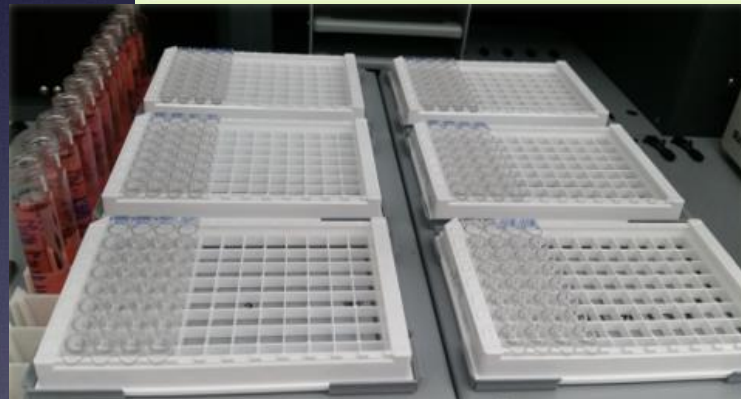
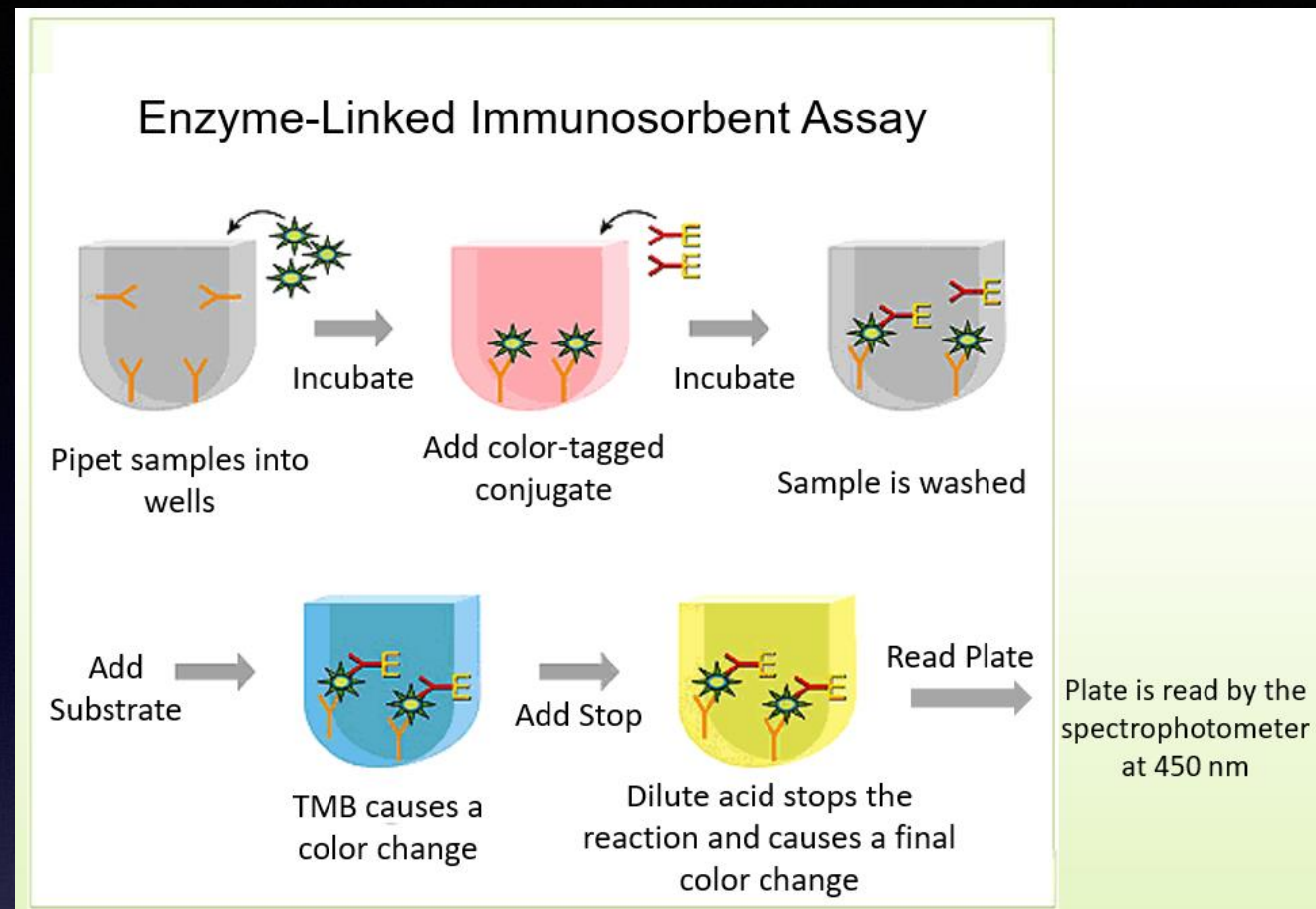
• Presumptive screening for the following drug/drug classes:

- Methamphetamines
- Benzodiazepines
- Barbiturates
- Cannabinoids
- Carisoprodol
- Cocaine
- Opiates
- Phencyclidine
- Zolpidem
- Methadone
- Tramadol
- Oxycodone
- Amphetamine
- Fentanyl





# Screening Methods





# Drug Screening

## Immunoassay Drug Screening Report

Control ID	Barbiturates		Benzodiazepines		Cannabinoids		Carisoprodol		Cocaine/BE		Methamphetamine	
	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0
PC	100ng/ml	51	50ng/ml	51	10ng/ml	65	500ng/ml	26	50ng/ml	37	20ng/ml	37
NC	Blank	100	Blank	100	Blank	100	Blank	100	Blank	100	Blank	100
HPC	200ng/ml	36	200ng/ml	23	50ng/ml	35	1000ng/ml	19	100ng/ml	29	50ng/ml	24
% B/B0	112		75		22		108		111		5	
Result	ND		ND		POSITIVE		ND		ND		POSITIVE	

Control ID	Opiates		PCP		Methadone		Oxyc/M		Tramadol		Zolpidem	
	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0	Conc	% b/b0
PC	10ng/ml	53	5ng/ml	41	50ng/ml	54	10ng/ml	27	50ng/ml	62	10ng/ml	60
NC	Blank	100	Blank	100	Blank	100	Blank	100	Blank	100	Blank	100
HPC	50ng/ml	21	10ng/ml	29	100ng/ml	38	50ng/ml	9	100ng/ml	48	20ng/ml	45
% B/B0	95		108		131		109		109		110	
Result	ND		ND		ND		ND		ND		ND	

None Detected (ND)



# Drug Screening

- **Values??**

**20 What does it mean to “normalize” my results?**

When “normalizing” results, cutoff concentrations for all assays are programmed on your instrument at a single value (either 0 or 100). All values below the cutoff are reported as negative, and all values above the cutoff are reported as positive.

**21 How are the numbers obtained from qualitative analysis interpreted?**

In qualitative analysis, the numerical values from the instrument do not represent the concentration of the drug in the control or specimen. These numbers should be used in a relative manner and not as absolute values.



# Why confirm ?

- Is it really necessary to confirm drugs that tested positive by initial screening tests?
- FALSE POSITIVES





# Cross reactivity

- Screening tests can and do react to “non-target” compounds
  - Phencyclidine (PCP)
  - Benzodiazepines
  - Bupropion
  - Niflumic acid
- Obtain list of interfering compounds from lab or on-site test vendor
- Confirm positive results





# Confirmation

- Gas chromatography-mass spectrometry (GC/MS) or Liquid chromatography-mass spectrometry (LC/MS)
  - drug molecules separated by physical characteristics (mass)
  - identified based on chemical “finger-print”
  - definitive





# Drug Confirmation

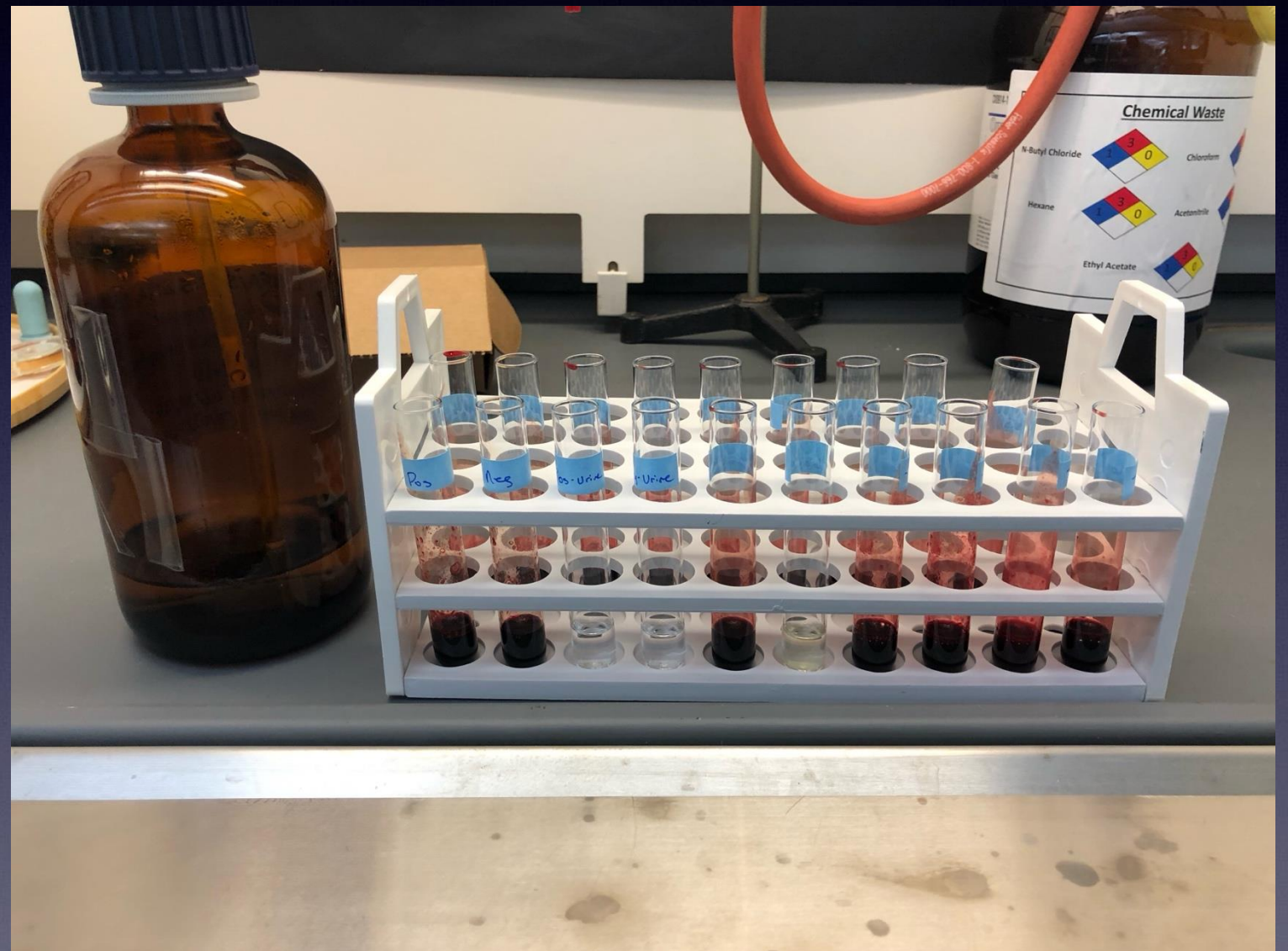
- **Extraction**
- GC/MS and LC/MS
- Separation
- Identification
- Confirmation
- Various drugs classes





# Drug Confirmation

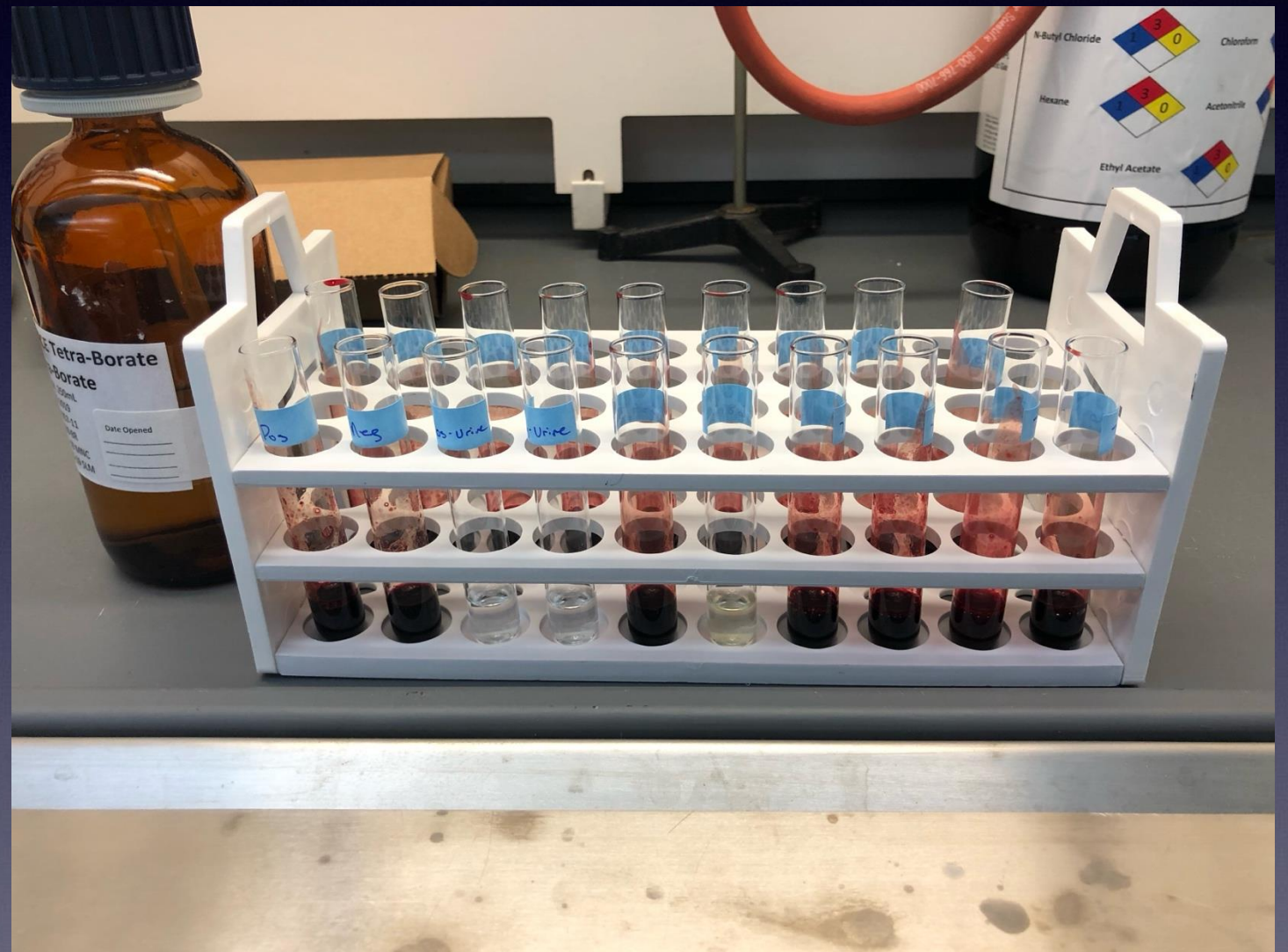
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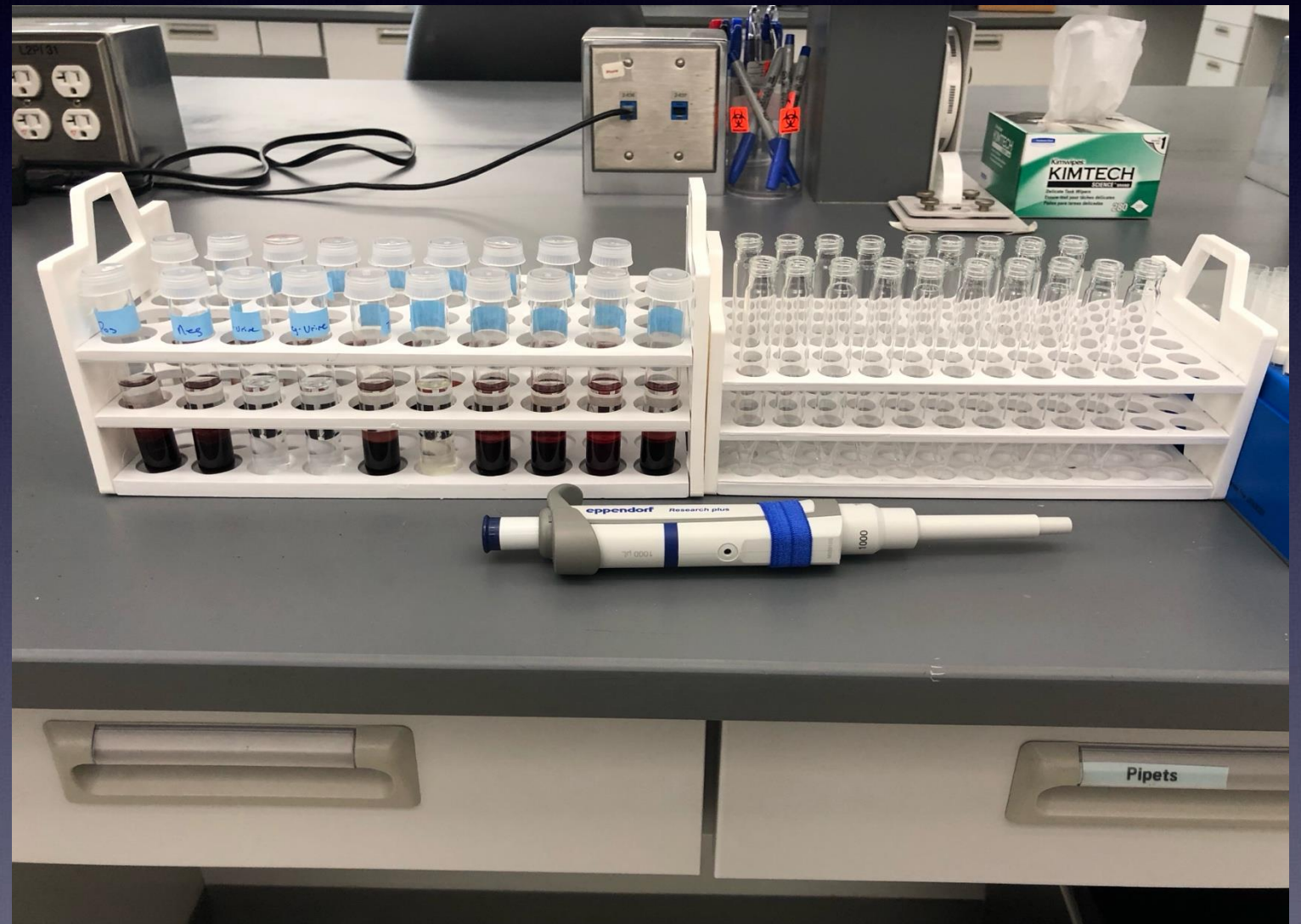
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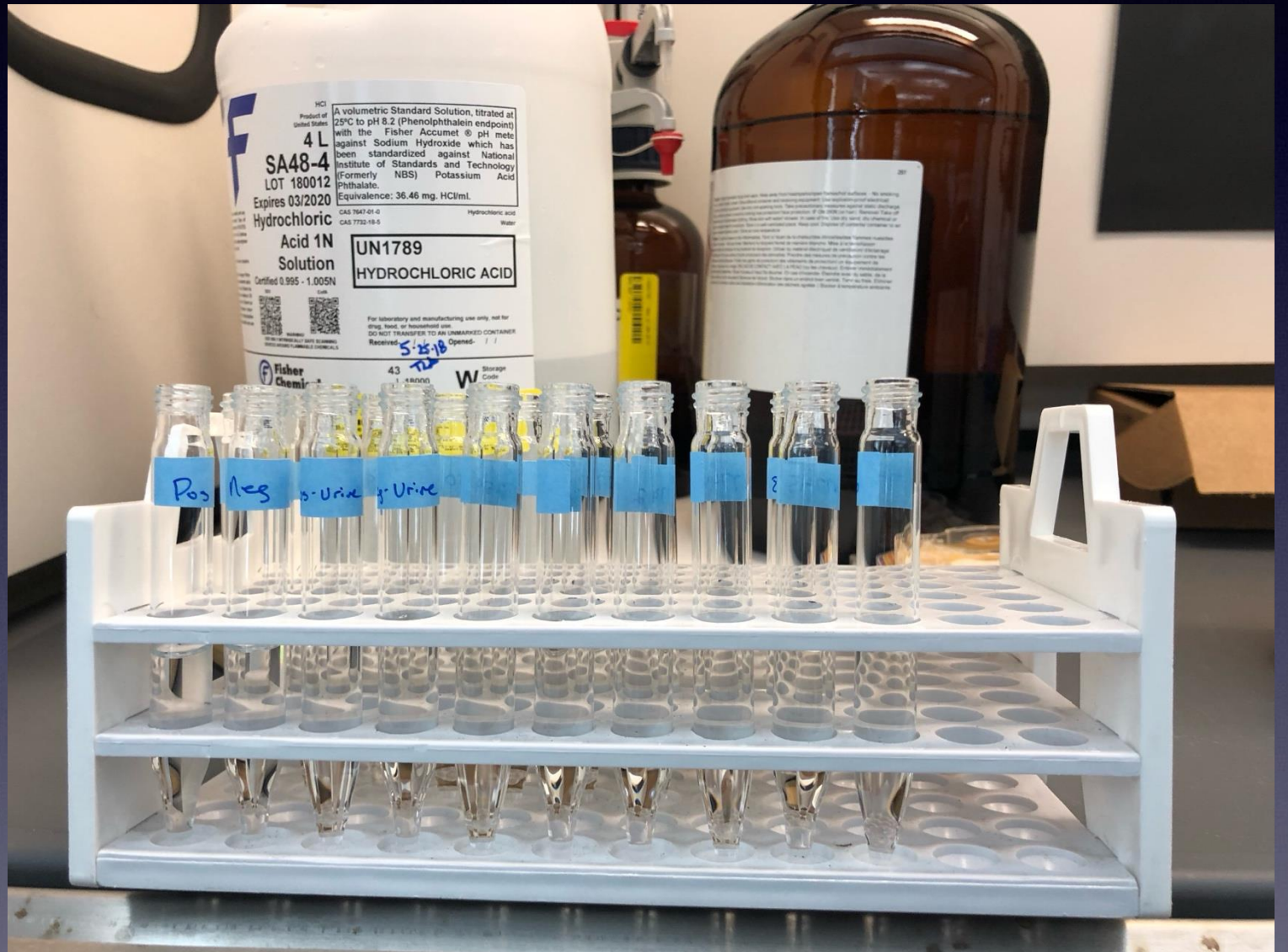
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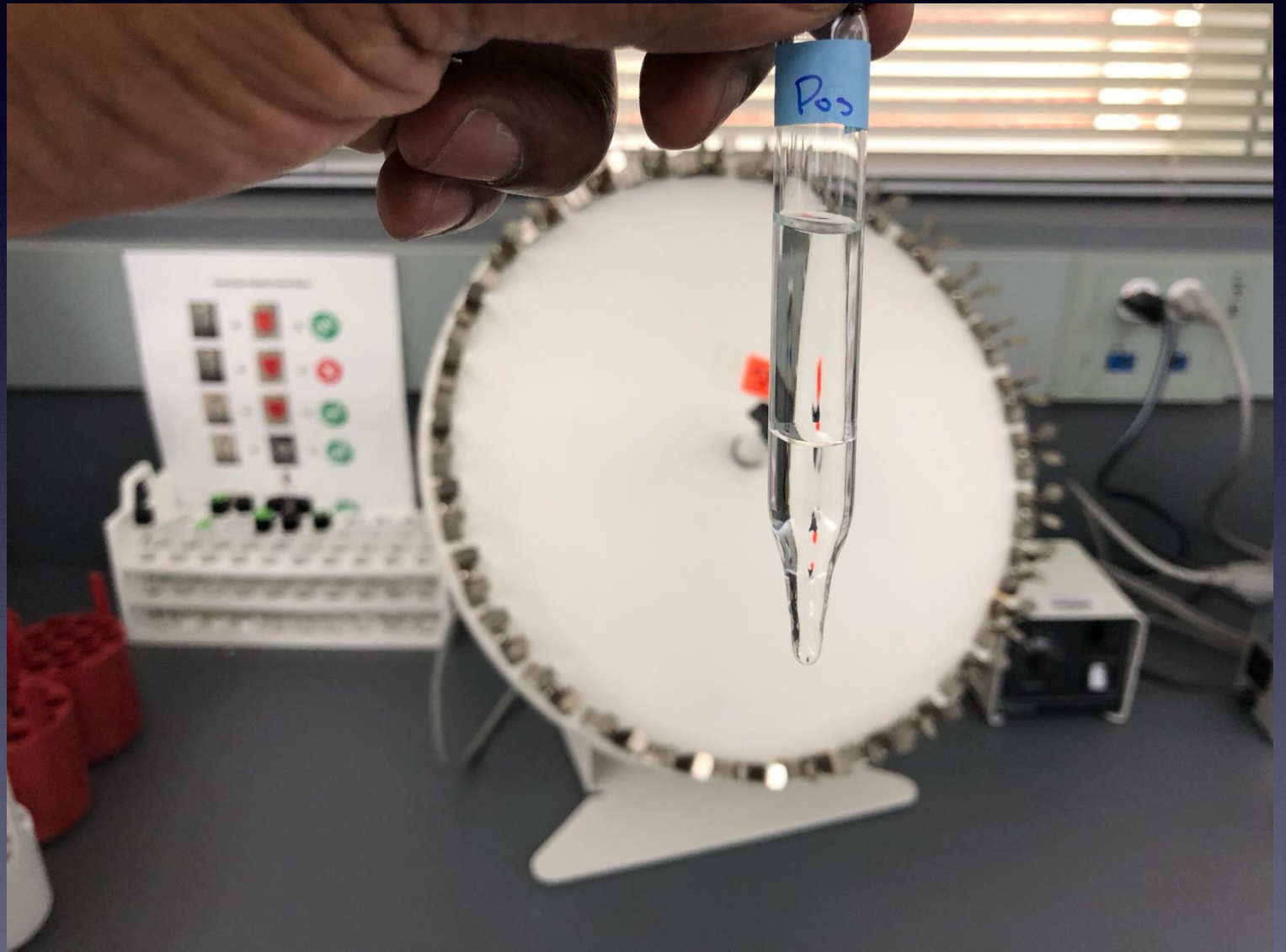
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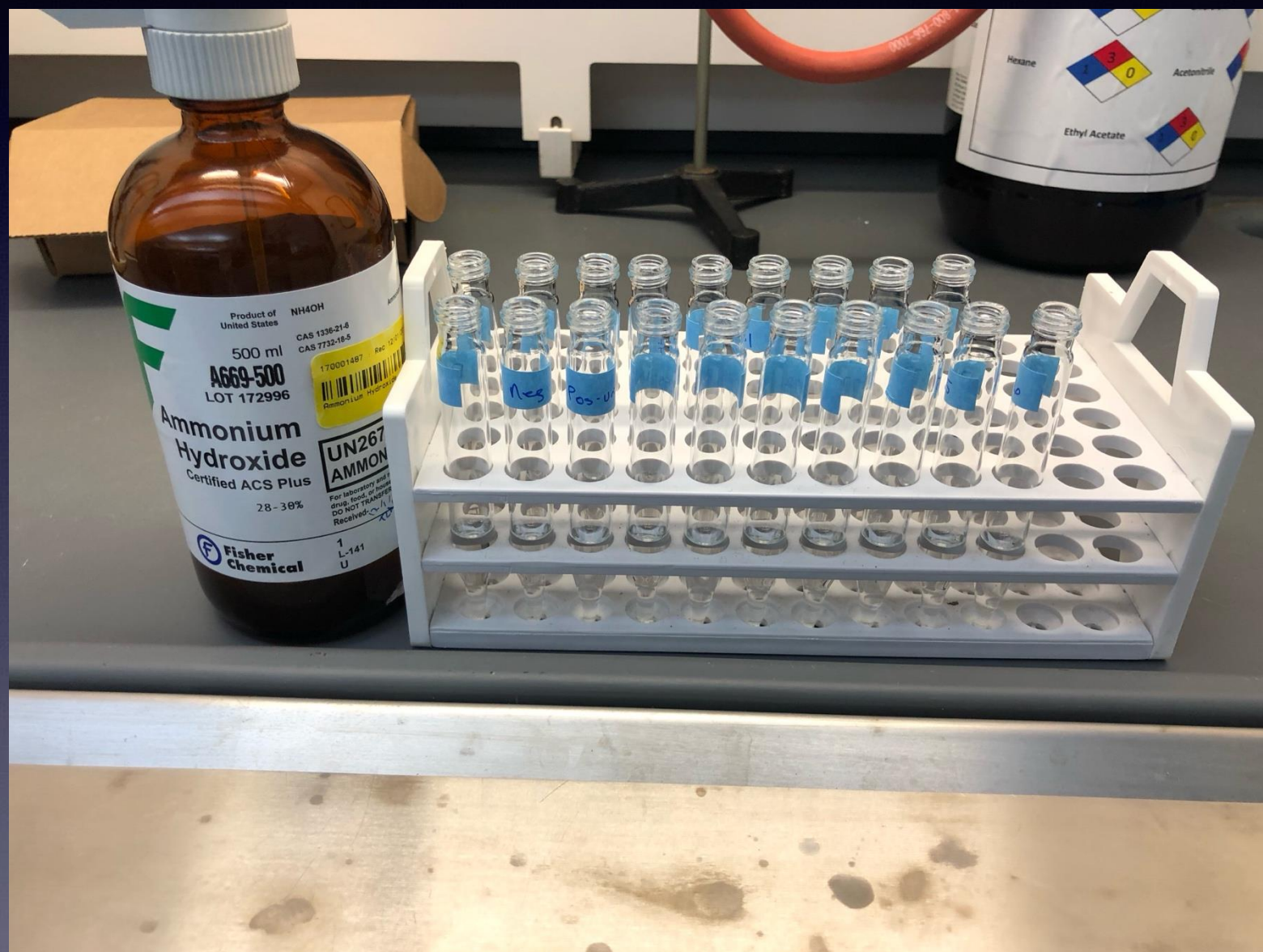
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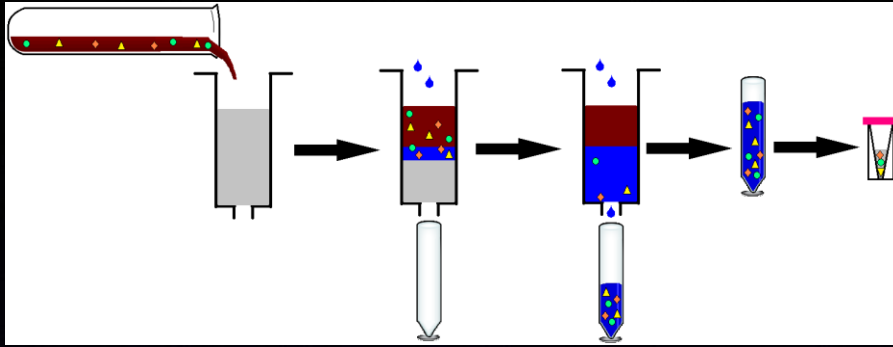




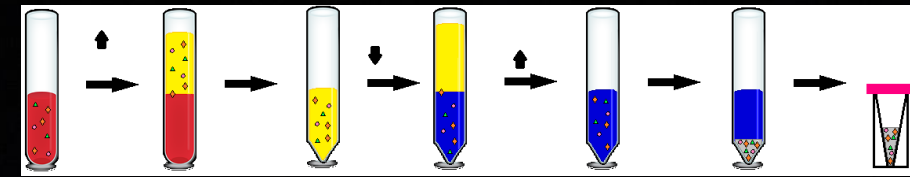


# Confirmation Methods

## Solid Phase Extraction

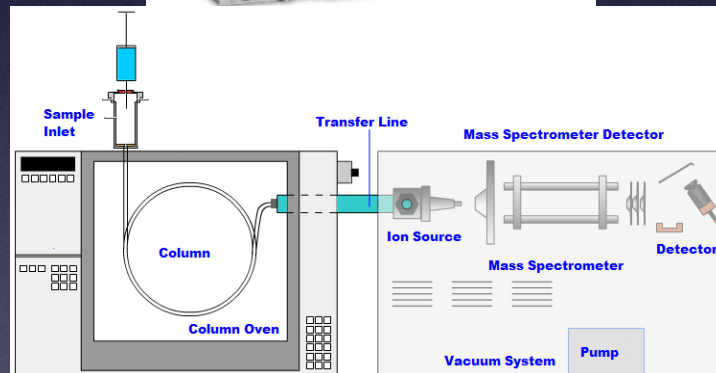


## Liquid-Liquid Extraction

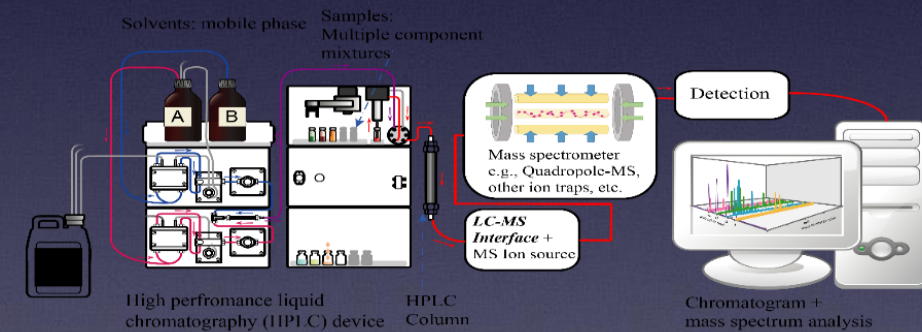


## Step 2. Choose your instrument

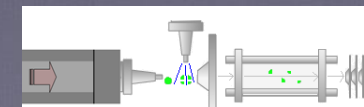
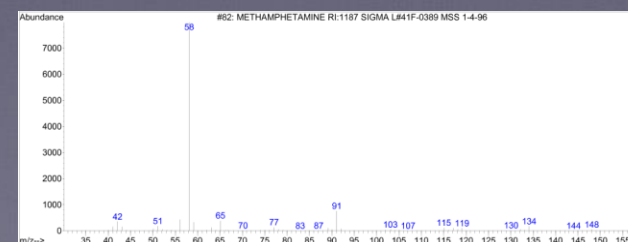
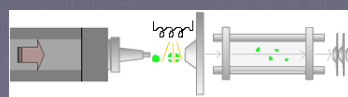
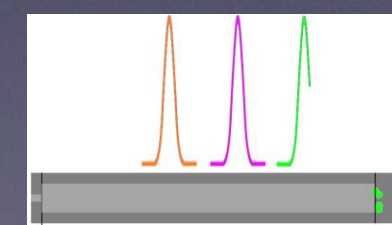
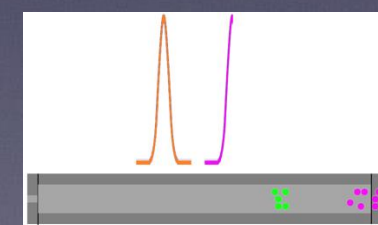
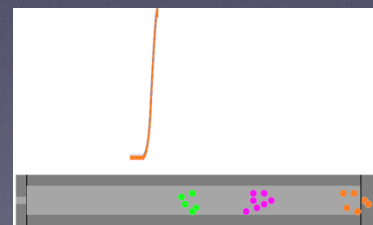
### Gas Chromatography/Mass Spectrometry



### Liquid Chromatography Tandem Mass Spectrometry



## Separation occurs and compounds are identified and confirmed





# Drug Confirmation

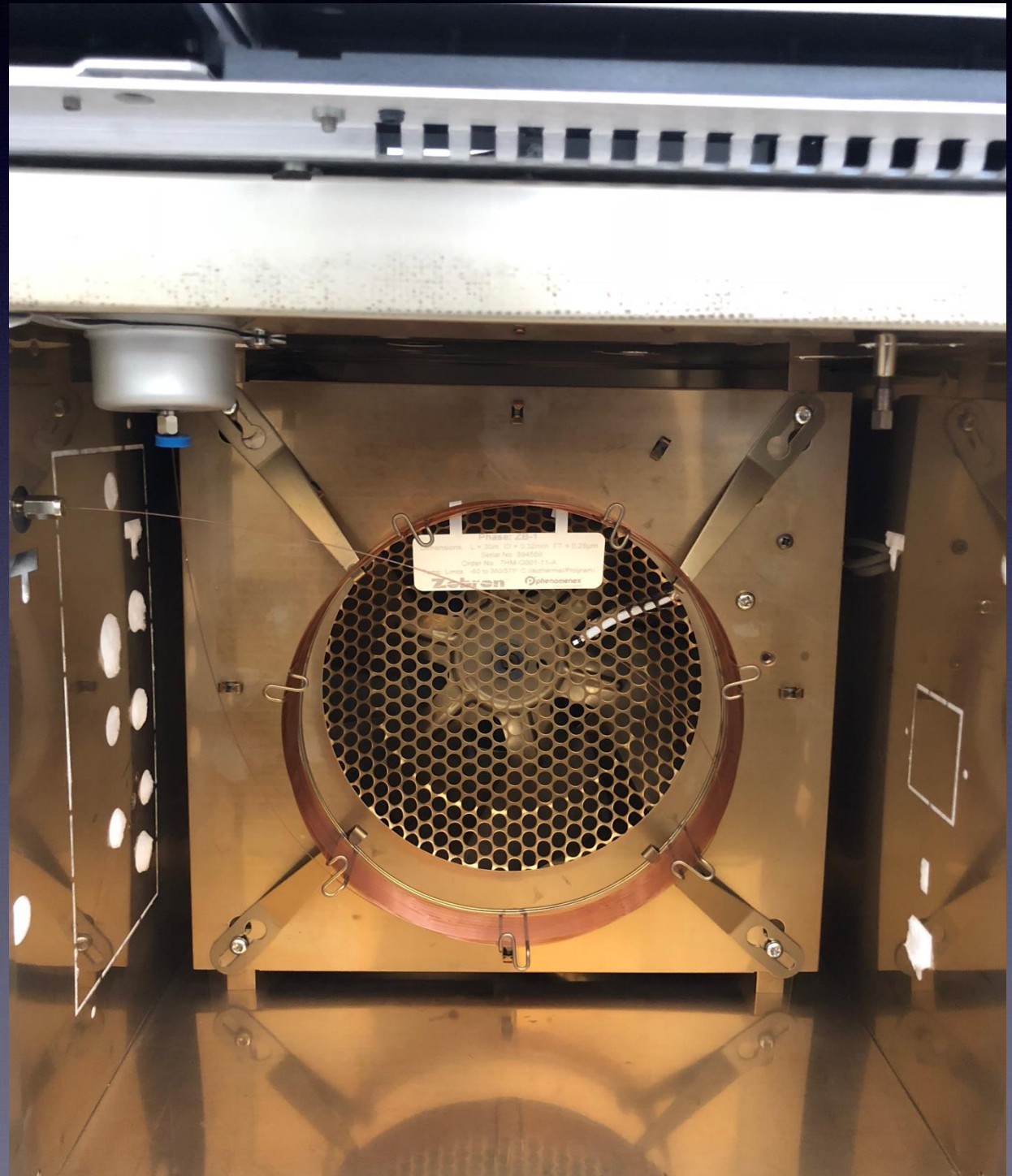
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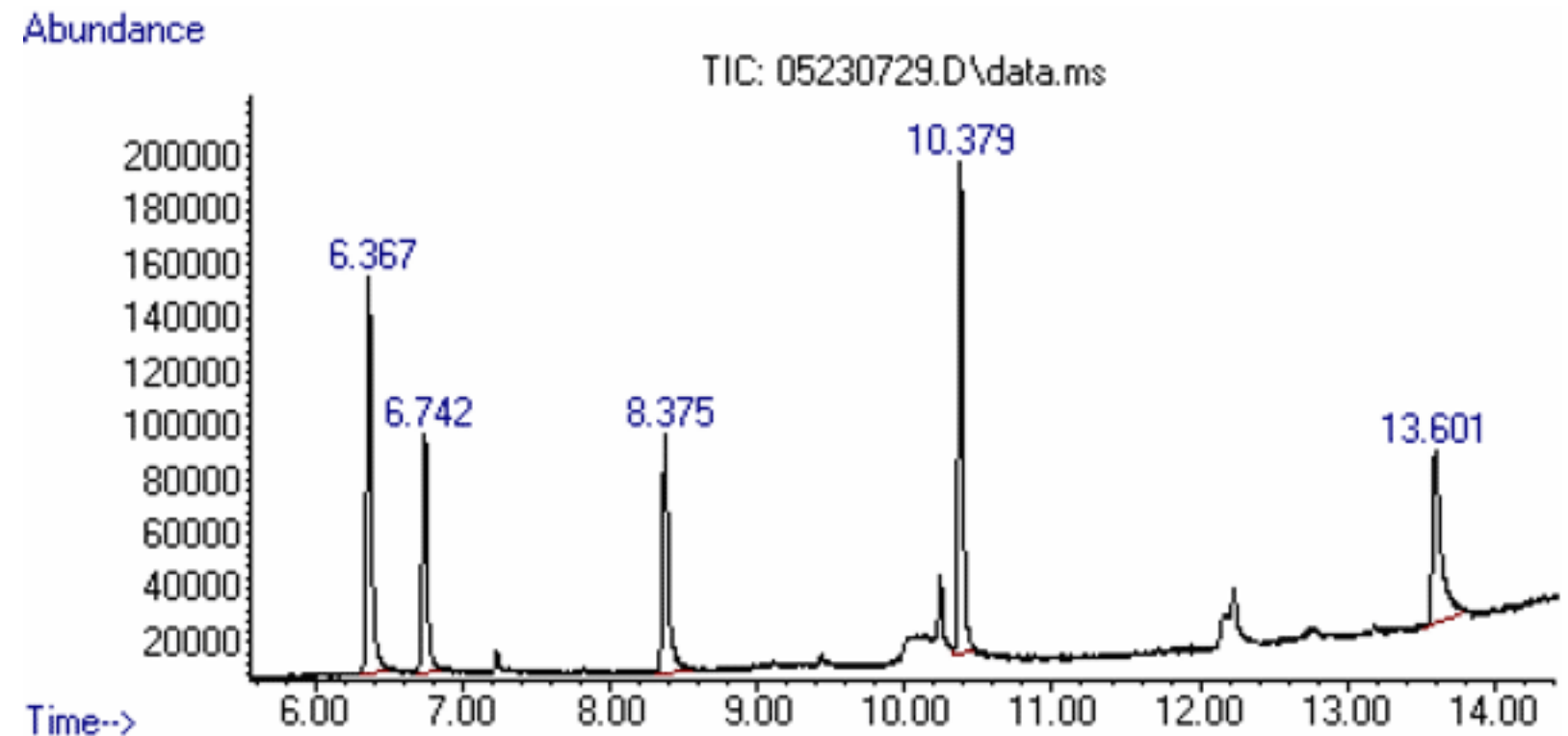
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# Drug Identification

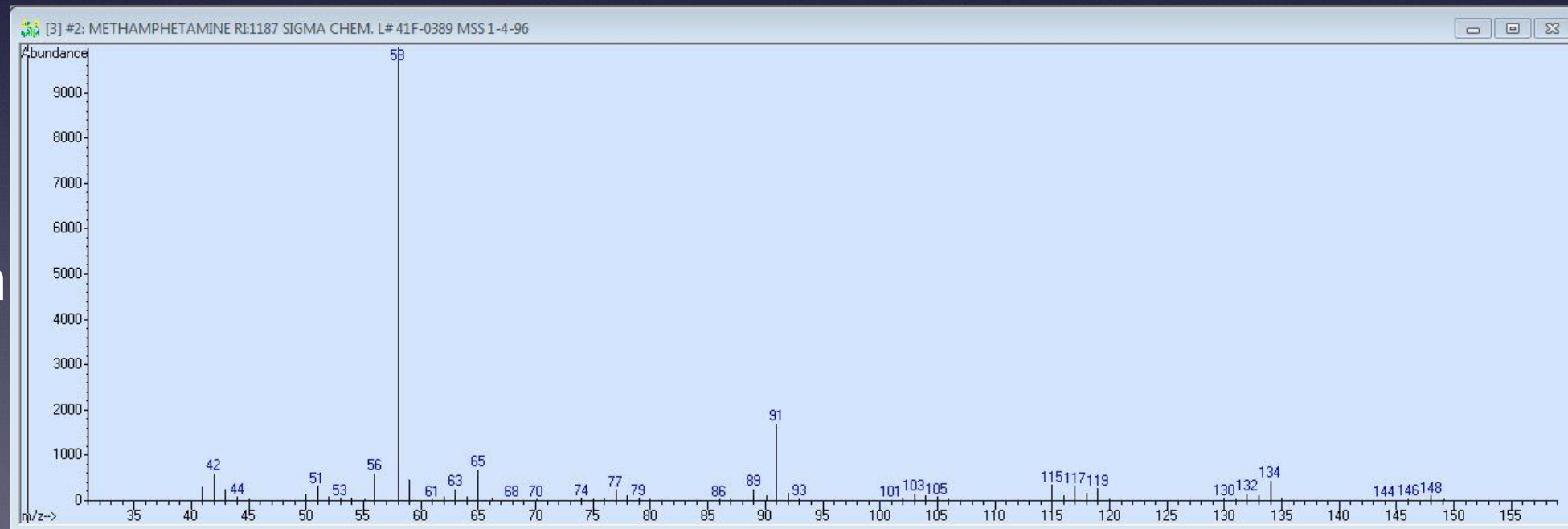
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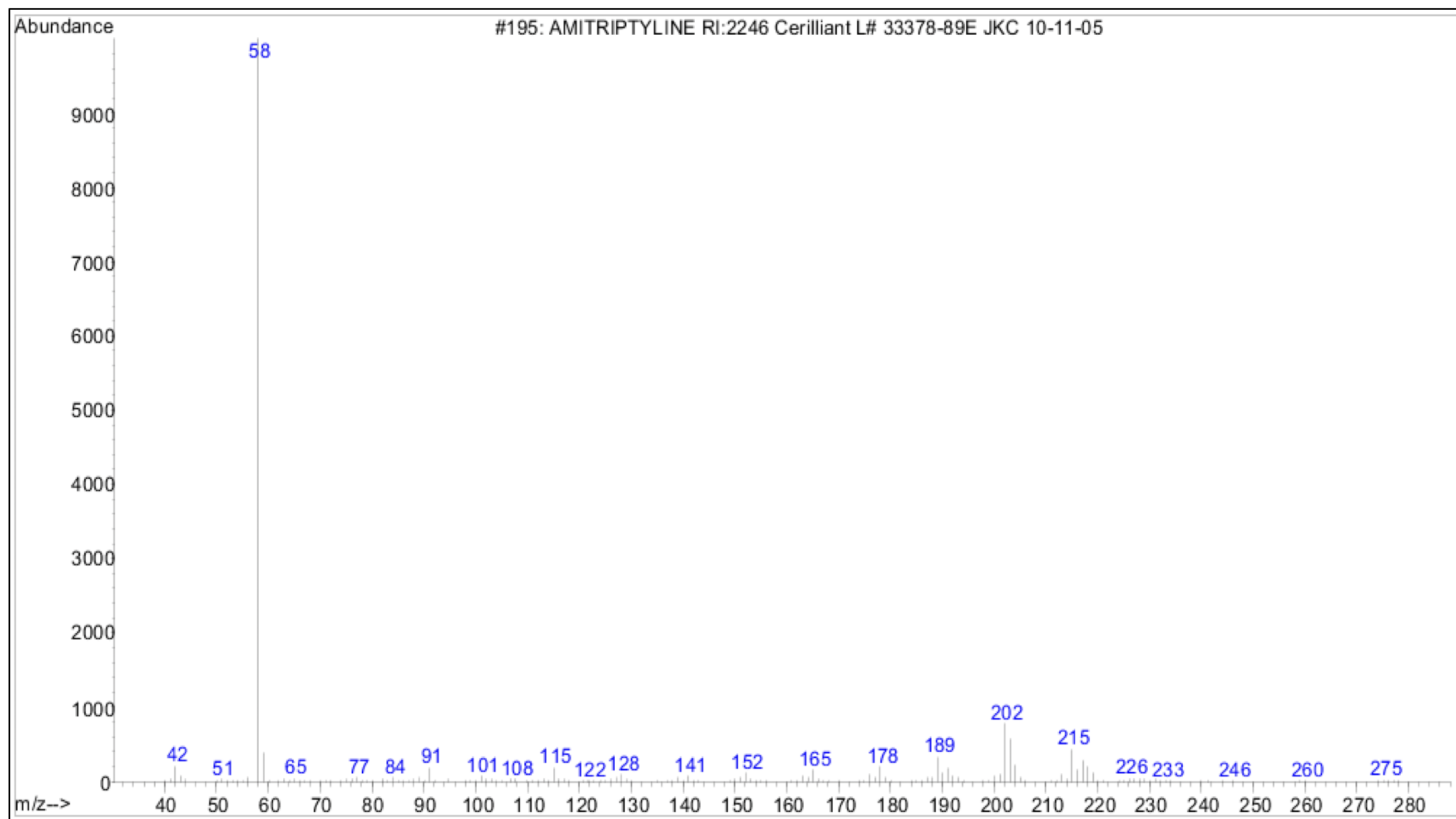


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- Extraction
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- **Identification**
- Confirmation

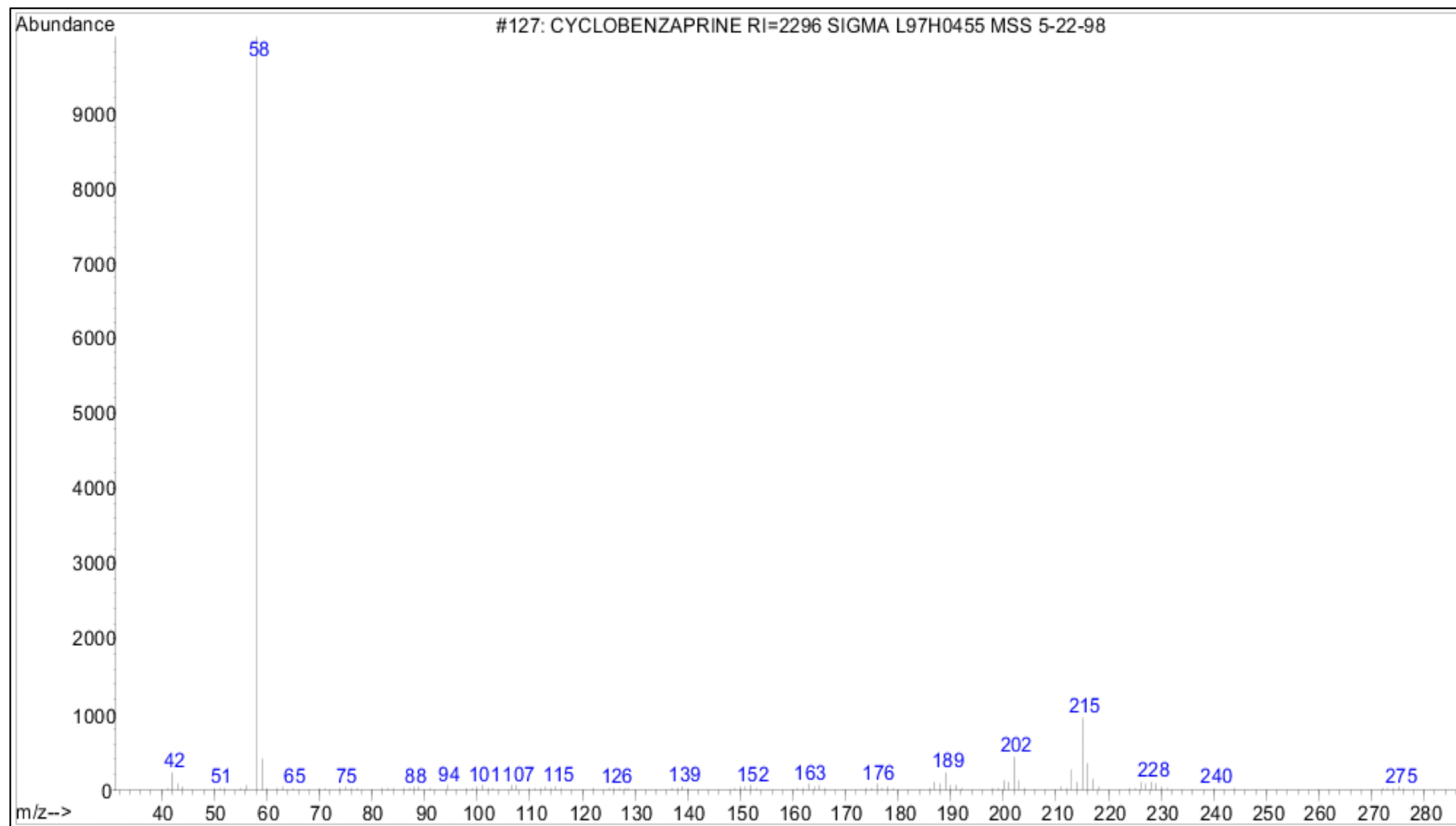






Known #4: Amitriptyline





Known #5 Cyclobenzaprine



# Drug Confirmation

- Extraction
- GC/MS and LC/MS
- Separation
- Identification
- **Confirmation**



# Diazepam Metabolites

- Nordiazepam
- Temazepam
- Oxazepam



# Chlordiazepoxide Metabolites

- Nordiazepam
- Oxazepam



# Codeine Metabolites

- Morphine



# Benefits of ETG/ETS Testing

- Accurate
- Greater sensitivity
- Concurrent with drugs



# ETG/ETS Testing

EtG is a direct metabolite of ethanol.

In addition to EtG, recent scientific studies have identified ethyl sulfate (EtS) as a second specific metabolite or biomarker of ethanol.

The detection of EtG and EtS offers greater sensitivity and accuracy for determination of recent ethanol ingestion, than by detection of either biomarker alone.





# What about us?

- How are you determining your drug testing panel?
  - Self Report
  - Based on previous positive results
- Kratom (Crocodile, Khat, mirtragynine)
  - Hide opiate use
  - Not commonly in presumptive screening
- Ketamine (Horse Tranquilizers)
  - Veterinary use
  - Infusion clinics (PTSD, Suicidal, major depressive disorder)



# What about us? (Continued)

- Medetomidine
  - Originally used to treat barnacles
  - Approved in 2022 as a sedative for dogs
- Phenibut
  - Depressant used in Russia
  - Not commonly in presumptive screening
  - Has benzo like effects





# Nitazenes

- Subclass of opiates
- No legitimate medical use
- Ohio AG warning in April of 2022
- Multiple dose of naloxone
- US News Article



Image courtesy of dea.gov



# Xylazine

- CNS depressant
- Used to sedate large animals
- FDA alert in November of 2022
- Naloxone may not work
- Usually found in combination with fentanyl





# Xylazine

## DEA Reports Widespread Threat of Fentanyl Mixed with Xylazine

WASHINGTON - The U.S. Drug Enforcement Administration is warning the American public of a sharp increase in the trafficking of fentanyl mixed with xylazine. Xylazine, also known as “Tranq,” is a powerful sedative that the U.S. Food and Drug Administration has approved for veterinary use.

***“Xylazine is making the deadliest drug threat our country has ever faced, fentanyl, even deadlier,” said Administrator Milgram. “DEA has seized xylazine and fentanyl mixtures in 48 of 50 States. The DEA Laboratory System is reporting that in 2022 approximately 23% of fentanyl powder and 7% of fentanyl pills seized by the DEA contained xylazine.”***

Xylazine and fentanyl drug mixtures place users at a higher risk of suffering a fatal drug poisoning. Because xylazine is not an opioid, naloxone (Narcan) does not reverse its effects. Still, experts always recommend administering naloxone if someone might be suffering a drug poisoning. People who inject drug mixtures containing xylazine also can develop severe wounds, including necrosis — the rotting of human tissue — that may lead to amputation.

According to the CDC, 107,735 Americans died between August 2021 and August 2022 from drug poisonings, with 66 percent of those deaths involving synthetic opioids like fentanyl. The Sinaloa Cartel and Jalisco Cartel in Mexico, using chemicals largely sourced from China, are primarily responsible for the vast majority of the fentanyl that is being trafficked in communities across the United States.

FDA recently communicated to health care providers about the risks to patients exposed to xylazine in illicit drugs. A copy of the communication can be found here: [FDA alerts healthcare professionals of risks to patients exposed to xylazine in illicit drugs](#)





# Delta 8 THC

- Naturally occurring in the hemp and THC
- Scheduled? 0.3%
- Wisconsin Legislative Council Brief July 2021
- Synthesized from CBD
- Separation issue

<https://www.poison.org/-/media/images/shared/articles/delta-8-products-from-above.jpg?h=1134&w=1512&la=en&hash=0B2EE265B4D94F3B2BC71E19D948DB84>





# Brororphine

- Subclass of opiates
- No legitimate medical use
- First noted in 2018 (purple heroin)
- Schedule I as of 02-21





# Isotonitazene

- Subclass of opiates
- Synthesized in 1959 by Swiss Pharmaceutical
- 20X more potent than morphine
- Reddit mention early 2019
- Suspected death April 2019



# Tianeptine

- Antidepressant
- Developed in the 1980's
- No FDA approval for use
- Opioid like high
- Branded as “Zaza” and “Tianna Red”



# Tianeptine

To Whom it May Concern:

The U.S. Food and Drug Administration (FDA) issued a public safety alert on November 21, 2023, after receiving multiple reports of serious medical injuries related to “Neptune’s Fix.” Neptune’s Fix is labeled to contain the dangerous and addictive ingredient tianeptine. Tianeptine is not approved for any medical use in the United States and is often unlawfully labeled or sold as a dietary supplement. FDA continues to receive reports of consumers who have suffered seizures, loss of consciousness or other adverse health events after ingesting this product. **We are reaching out because most consumers report purchasing this product at local gas stations or convenience stores across the country.**





# THC Diamonds



<https://i.shgcdn.com/7d9e47ff-7f53-40c0-b4a5-fe8fd21c1ba0/-/format/auto/-/preview/3000x3000/-/quality/lighter/>



# Cannabidiol (CBD)

The Farm Bill removed all hemp-derived products, including CBD, from the Controlled Substances Act, which criminalizes the possession of drugs. In essence, this means that CBD is legal if it comes from hemp, but not if it comes from cannabis (marijuana) – even though it is the exact same molecule. Currently, many people obtain CBD online without a medical marijuana license, which is legal in most states.



# Hemp versus Marijuana

What is the difference?  
0.3% THC content



TABLE 2

### Commonly Ordered Drug Tests, Windows of Detection, and Analytes

Test	Window of detection <sup>11-14</sup>	Analytes <sup>13,15,16</sup>
Amphetamines	2 to 3 days	Amphetamine, methamphetamine, methylenedioxyamphetamine, methylenedioxymethamphetamine
Benzodiazepines*		Alpha-hydroxyalprazolam, 7-aminoclonazepam, oxazepam
Short acting	3 to 5 days	
Long acting	Up to 30 days	
Buprenorphine	Up to 11 days	Norbuprenorphine
Cannabis		11-nor-9-carboxy-tetrahydrocannabinol
Single use	2 days	
3 times per week	2 weeks	
Daily use	2 to 4 weeks	
Very heavy use	4 to 6 weeks (up to 12 weeks)	
Cocaine	1 to 5 hours (2 to 4 days for metabolites)	Benzoyllecgonine, ecgonine methyl ester
Codeine	1 to 2 days	Hydromorphone, morphine
Fentanyl	2 to 3 days	Norfentanyl
Heroin and morphine	3 days	Codeine, hydromorphone, 6-monoacetylmorphine, morphine
Hydromorphone (Dilaudid)	1 to 2 days	Hydromorphone
Methadone	3 to 4 days (up to 14 days)	2-ethylidene-1,5-dimethyl-3, 3-diphenylpyrrolidine
Oxycodone		Noroxycodone, noroxymorphone, oxycodone, oxymorphone
Immediate release	1 to 1.5 days	
Controlled release	1.5 to 3 days	
Oxymorphone		Noroxymorphone, oxymorphone
Immediate release	1.5 to 2.5 days	
Controlled release	1 to 4 days	





# Alternative Specimens

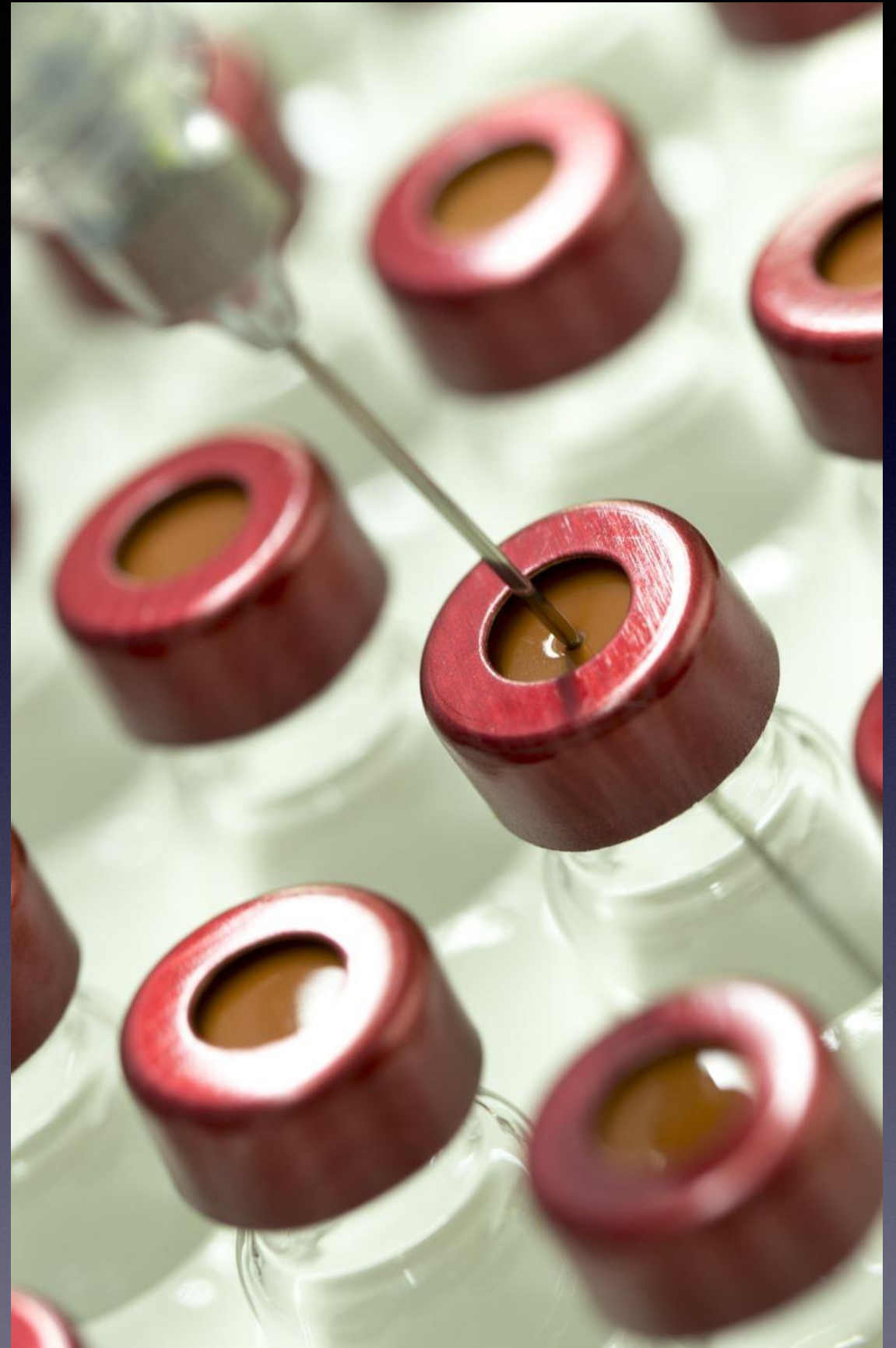
Sweat patch

Oral Fluids

Blood

Breath

Hair





# Challenging Urine Collection Strategies





# Sample Collection

Pre-collection Preparation:

- Privacy
- Prepare Ahead



# Sample Collection

- Wash Hands
- Witness
- Chain of Custody (label)





# Sample Collection

- Accept sample and inspect
- Temperature, color, odor
- Labeled and proper storage
- Proper chain of custody





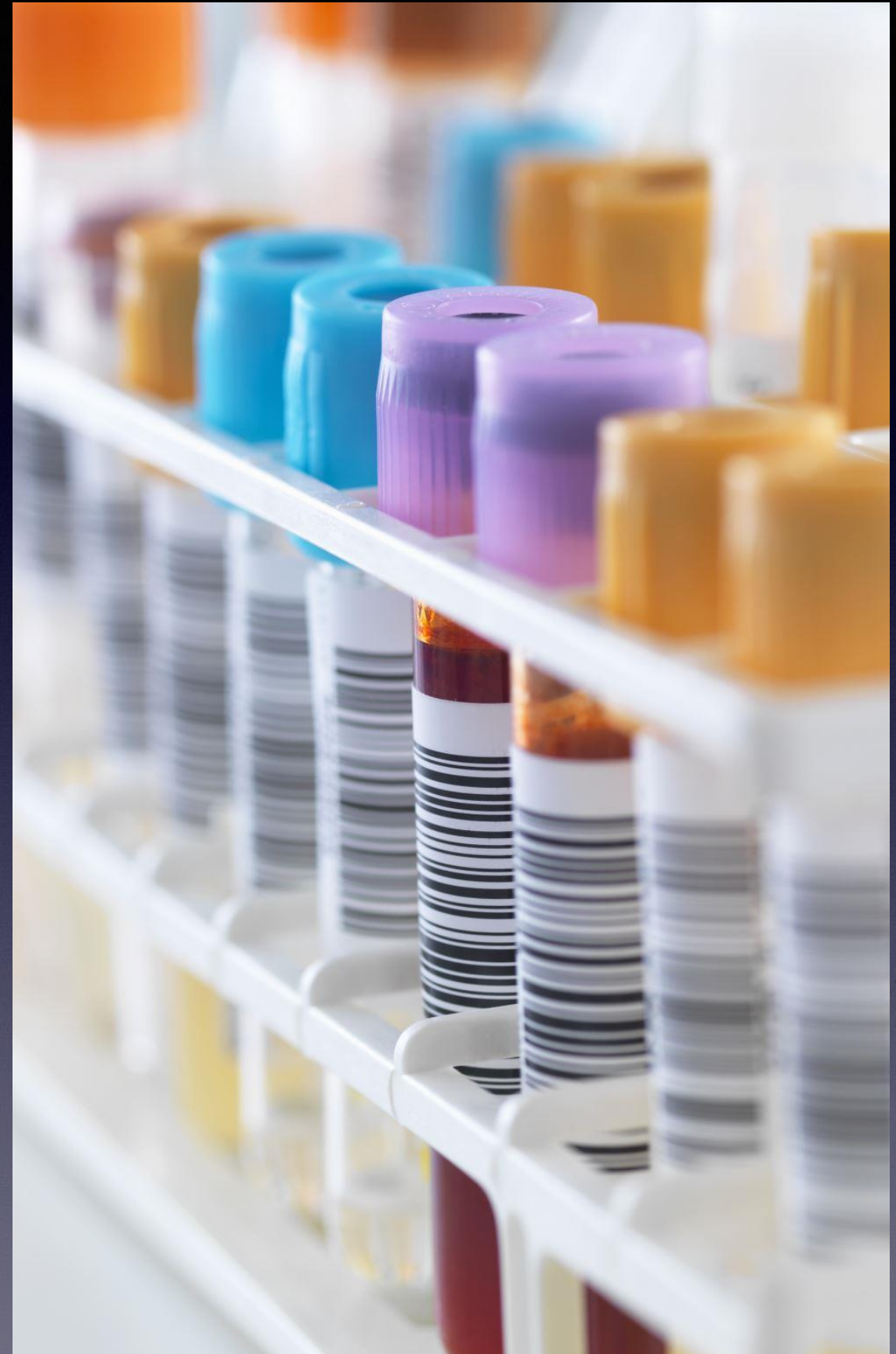
# Thoughts on Tampering

- Developing control strategies to prevent sample tampering is critical.
- Once clients understand that they cannot beat the system, they are more likely to engage in the therapeutic process towards recovery.



# Valid Specimens

The Effective Use of Urine  
Creatinine Measurements in  
Abstinence Monitoring





# Frequency of Testing

- Frequent forensic testing is essential for reducing the rate of unauthorized substance use.
- Forensic testing is administered at least twice per week until participants have achieved early remission of their substance use disorder and is reliably engaged in recovery management activities and preparing for graduation.
- Tests with short detection windows, such as breath and saliva, are generally unsuitable for use as the primary testing method in treatment courts.

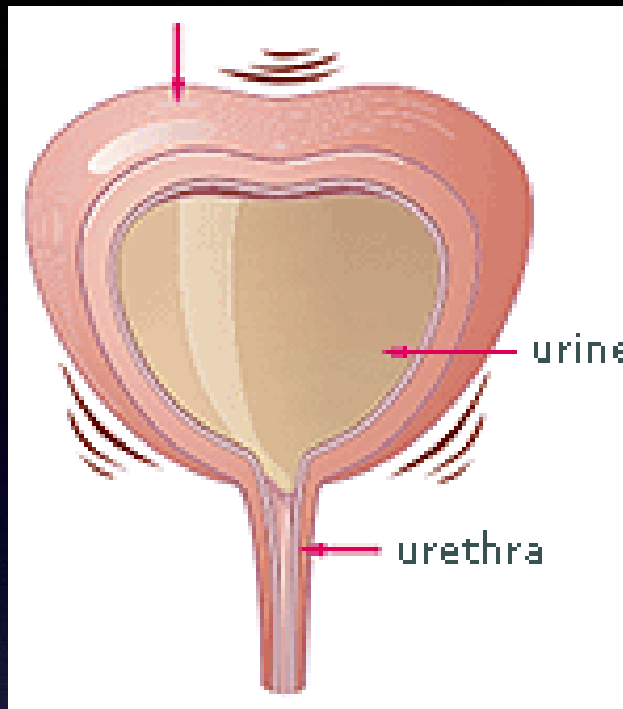


# Creatinine Testing

- EVERY urine sample collected for drug detection should be tested for creatinine







## DILUTION GOAL

Client has a bladder full of urine with a drug concentration that is greater than the cutoff level of the test - thus producing a positive result.



Urine in the bladder is diluted by the consumption of large amounts of non-drug containing fluid; which results in a drug concentration that is less than the cutoff level of the test - thus producing a negative result.



# Water contains no drugs!

- easiest, cheapest, simplest
- urine with a creatinine of less than 20 mg/dL are considered “dilute” and rarely reflect an accurate picture of recent drug use
- dilute samples are more like water than like urine
- incidence of low creatinine in a population undergoing random drug testing is significantly (up to 10 times) greater than a non-drug tested population



# The “Normal” Urine Creatinine

- normal urine creatinine: 2005 study “Urinary Creatinine Concentrations in the U.S. Population” determine the mean (based upon 22,245 participants) was 130 mg/dL
- study was not associated with drug testing
- subjects came from a variety of ethnic groups
- samples were collected AM, mid-day, and PM
- less than 1% below 20 mg/dL
- less than 1% greater than 400 mg/dL





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## Article Contents

### Abstract

Introduction

Methods

Results

Discussion

Conclusion

Acknowledgments

References

[< Previous](#) [Next >](#)

# Urine Creatinine Concentrations in Drug Monitoring Participants and Hospitalized Patients

FREE

Sara A. Love ✉, Jesse C. Seegmiller, Julie Kloss, Fred S. Apple

*Journal of Analytical Toxicology*, Volume 40, Issue 8, October 2016, Pages 659–662,  
<https://doi.org/10.1093/jat/bkw092>

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## Abstract

Urine drug testing is commonly performed in both clinical and forensic arenas for screening, monitoring and compliance purposes. We sought to determine if urine creatinine concentrations in monitoring program participants were significantly different from hospital in-patients and out-patients undergoing urine drug testing. We retrospectively reviewed urine creatinine submitted in June through December 2015 for all specimens undergoing urine drug testing. The 20,479 creatinine results were categorized as hospitalized patients (H) and monitoring/compliance groups for pain management (P), legal (L) or recovery (R). Median creatinine concentrations (interquartile range, mg/dL) were significantly different ( $P < 0.001$ ) between groups: H 126 (122–136); P 138 (137–143); L 147 (144–154); R 95 (92–97). In the two groups subject to on-demand sampling time pressures, median creatinine concentrations were significantly lower in the R vs. L group ( $P < 0.001$ ). In conclusion, recovery (R) participants have more dilute specimens, reflected by significantly lower creatinine concentration and may indicate participants' attempts to tamper with their drug test results through dilution means.

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Screenshot



# More Creatinine Issues

- rapid ingestion (90 minutes) of 2-4 quarts of fluid will almost always produce low creatinine & negative urine drug tests within one hour
- recovery time of urine creatinine and drug concentrations can take up to 10 hours

# More Creatinine Issues

## Identifying New Cannabis Use with Urine Creatinine-Normalized THCCOOH Concentrations and Time Intervals Between Specimen Collections<sup>\*</sup>

[Michael L. Smith](#),<sup>1</sup> [Allan J. Barnes](#),<sup>2</sup> and [Marilyn A. Huestis](#)<sup>2,†</sup>

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### Abstract

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A previously recommended a method for detecting new cannabis use with creatinine-normalized 11-nor-9-carboxy- $\Delta^9$ -tetrahydrocannabinol (THCCOOH) urine concentrations in periodically collected specimens for treatment, workplace and judicial drug testing applications is refined by considering the time interval between urine collections. All urine specimens were collected from six less-than-daily cannabis users who smoked placebo, 1.75%, and 3.55% THC cigarettes in randomized order, each separated by one week. Ratios ( $n = 24,322$ ) were calculated by dividing each creatinine-normalized THCCOOH concentration (U2) by that of a previously collected specimen (U1). Maximum, 95% limit, and median U2/U1 ratios with 15 and 6 ng THCCOOH/mL cutoff concentrations, with and without new use between specimens, were calculated for each 24-h interval after smoking up to 168 h and are included in tables. These ratios decreased with increasing interval between collections providing improved decision values for determining new cannabis use. For example, with a 15 ng THCCOOH/mL cutoff concentration and no new use between specimens, the maximum, 95% limit, and median U2/U1 ratios were 3.05, 1.59, and 0.686, respectively, when the collection interval was  $\leq 24$  h and 0.215, 0.135, and 0.085 when it was 96–119.9 h.



# More Creatinine Issues

## Introduction

Go to: 

There are a number of venues wherein urine drug testing identifies new cannabis use. Examples are drug treatment and parole programs in which individuals are required to be abstinent and are monitored by periodic urine drug testing. Officials detect new use by testing urine specimens collected at known intervals for the  $\Delta^9$ -tetrahydrocannabinol (THC) metabolite, 11-nor-9-carboxy- $\Delta^9$ -tetrahydrocannabinol (THCCOOH). A similar approach is taken in legal settings where authorities may ask if an accused with two positive urine specimens can be charged with more than one cannabis use.

Interpretation of results in monitoring or evidence scenarios is not simple. Part of the complexity is that individuals continue to excrete THCCOOH for days after abstinence and although concentrations generally decrease with time concentrations fluctuate with levels of hydration. Huestis and Cone (1) conducted a controlled THC administration study in occasional users and made recommendations to aid interpretation. They recommended that THCCOOH concentrations be normalized by dividing each by the urine creatinine concentration (1). This technique reduces the variability in concentration due to hydration effects. Using these creatinine-normalized THCCOOH concentrations, a ratio is calculated that is the concentration of any urine specimen (U2) divided by the concentration in a previously collected urine specimen (U1). With the restrictions of THCCOOH  $\geq 15$  ng/mL, separation in collection time  $\geq 24$  h, and evaluation of less than daily cannabis users, new use is indicated by  $U2/U1 \geq 0.5$ . This decision ratio gave maximum accuracy (85.4%) in their study with 5.6% false-positive and 7.4% false-negative rates (1). The ratio seemed well suited for clinical programs where new cannabis use did not involve serious consequences, such as incarceration or loss of child custody. When the consequence of a false-positive result was great, the authors recommended a more conservative decision ratio, previously suggested by Manno et al. (2), of 1.5. Using 1.5 as a decision ratio reduced the false-positive rate to 0.1% and increased the false negative rate to 24% (1).

# More Creatinine Issues

## Methods

Go to: 

Subjects, experimental design, urine testing methods, and human use approval were reported previously (8). The original urine cannabinoid and creatinine data were reanalyzed to include intervals between specimens for this study (8). Briefly, in a National Institute on Drug Abuse Institutional Review Board-approved study, six healthy male subjects who smoked cannabis less than daily provided informed consent and resided on a closed research unit. After a washout period that was at least one week, subjects smoked a single cannabis cigarette (placebo, 1.75%, or 3.55% THC) once a week for three consecutive weeks. Random selection yielded the following administration sequences for two subjects each: placebo, 1.75% THC, 3.55% THC; 1.75% THC, 3.55% THC, placebo; and 3.55% THC, placebo, 1.75% THC. Every individual urine specimen was collected throughout the three-week study. Specimens ( $n = 955$ ) were stored frozen at  $-20^{\circ}\text{C}$  until analyzed for THCCOOH by gas chromatography–mass spectrometry (GC–MS). The GC–MS method included base hydrolysis, ion exchange extraction, and methylation for derivatization. The limit of quantification was 0.5 ng/mL. Urine creatinine was quantified using a modified Jaffe method on an Hitachi 704 automated clinical analyzer (8).

Creatinine-normalized THCCOOH concentrations were determined by dividing the THCCOOH concentration in nanograms per milliliter by the creatinine concentration in milligrams per deciliter, then multiplying by 100 in order to report results in nanograms THCCOOH per milligram of creatinine. For each subject, U2/U1 ratios were calculated by dividing the normalized THCCOOH concentration for each urine specimen by the normalized THCCOOH concentration of each previous specimen. Data were analyzed to address new cannabis use with two methods.



# “Dilute” Result Interpretation:

- negative or none detected results should never be interpreted as indicating no drug use (abstinence), because if, in fact, drugs were present, they probably could not be detected by the test
- positive drug test results from a dilute sample however, are considered valid (donor was not able to dilute the sample sufficiently to deceive the test)

## Two final thoughts about dilute urine samples . . . . .

- a creatinine of less than 20 mg/dL (associated with a drug test) is nearly always an attempt by the donor to avoid drug use detection - REGARDLESS of how much liquid was consumed in order to achieve this result
- place a dilute sample prohibition in your client contract and sanction for repeat dilute samples



# Paint Roadmap for Success

- Upon entering the Drug Court, participants receive a clear and comprehensive explanation of their rights and responsibilities related to drug and alcohol testing
- Outcomes are significantly better when Drug Courts specify their policies and procedures clearly
- Participants significantly more likely to react favorably to an adverse judgment if they are given advance notice about how such judgments are made

# Specimen Tampering



# Basics of Specimen Tampering - The Three Approaches

- dilution
- adulteration
- substitution

# Urine Specimen Adulteration

- addition of foreign substances designed to “mask” drug presence
- post-collection tampering
- low-tech adulterants that disrupt testing chemistry (salt, methanol, detergent)
- “high-tech” adulterants



# Urine Specimen Substitution

- replacing donor urine sample with another drug-free specimen
- biological substitution - someone else's "clean" urine
- non-biological substitution - replacing urine with urine "look-a-like" sample (diet Mountain Dew, water with food coloring)
- non-biologicals can be detected with creatinine testing

# Erowid.com

## Psychoactive Plants and Drugs

ALCOHOL	ALPRAZOLAM	AYAHUASCA	CACTI	CAFFEINE	CANNABIS
COCAINE	D M T	D X M	G H B	KETAMINE	KRATOM
L S D	MDMA (MOLLY)	MDPV	METH	MXE	MUSHROOMS
PEYOTE	SALVIA D.	ZOLPIDEM	25I-NBOMe	2C-B	MORE ...

OPIATE CLASS	FENTANYL	MORPHINE	OXYMORPHONE	BUPRENORPHINE
HEROIN	OPIUM	CODEINE	HYDROMORPHONE	OXYCODONE
POPPIES	TRAMADOL	NALOXONE	METHADONE	HYDROCODONE

<input type="text" value="Common Psychoactives"/>	<input type="button" value="Go"/>	<input type="text" value="Chemicals"/>	<input type="button" value="Go"/>	<input type="text" value="Plants"/>	<input type="button" value="Go"/>
<input type="text" value="Smart Drugs"/>	<input type="button" value="Go"/>	<input type="text" value="Pharmaceuticals"/>	<input type="button" value="Go"/>	<input type="text" value="Herbs"/>	<input type="button" value="Go"/>

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<a href="#">New Reports</a>	<a href="#">By Substance</a>
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You Cannot Deny the Experiences of Others  
(35821 Reports Total)

A

[a-PVP](#) - (alpha-PVP; alpha-Pyrrolidinopentiophenone; flakka)

[General](#)[First Times](#)[Combinations](#)[Retrospective / Summary](#)

[Bad Trips](#)[Health Problems](#)[Train Wrecks & Trip Disasters](#)[Addiction & Habituation](#)

[Glowing Experiences](#)

[11]

[AB-001](#) - (JWH-018 adamantyl analog, see also [Products - Spice-Like Smoking Blends](#))

[Combinations](#)

[1]

[AB-CHMINACA](#) - (N-[(1S)-1-(aminocarbonyl)-2-methylpropyl]-1-(cyclohexylmethyl)-1H-3-carboxamide, see also [Products - Spice-Like Smoking Blends](#))

[General](#)

[Health Problems](#)

[1]

[AB-FUBINACA](#) - (see also [Products - Spice-Like Smoking Blends](#))

[General](#)[First Times](#)

[Health Problems](#)

[4]

[Absinthe](#) - (see also [Wormwood](#))

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## Loperamide Reports (also Imodium) (16 Total)

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Habituation](#)[Glowing  
Experiences](#)

### [General](#)

[6]

<a href="#">WHAT!? a Good Mood in Withdrawals?</a>	DebbyDrugs524	Loperamide (for opiate withdrawal)
<a href="#">Almost All of My Symptoms Have Abated</a>	Vic	Loperamide (for opiate withdrawal)
<a href="#">The Forgotten Opioid</a>	The Monkey Mantra	Loperamide
<a href="#">Recipe for Withdrawals</a>	Sleepdust	Loperamide, Paroxetine & Acetaminophen (for withdrawal from oxycodone)
<a href="#">Actually Helps Tremendously</a>	bran man	Loperamide (for methadone withdrawal)
<a href="#">My New Favorite OTC High</a>	409	Loperamide (for methylphenidate comedown)

### [First Times](#)

[3]

<a href="#">If I Had Only Known</a>	Nicole F	Loperamide
<a href="#">It's True</a>	Nikki	Loperamide
<a href="#">The Sudafed of Opiates</a>	Cryss Curry	Loperamide

### [Combinations](#)

[4]

<a href="#">Incredibly Itchy and Zero Euphoria</a>	Inevitable014	Oxycodone & Loperamide
<a href="#">How I Quit Heroin With Mild Withdrawals</a>	Ford	Loperamide, Cannabis & Alprazolam (for heroin withdrawal)
<a href="#">Wouldn't You That Think Anything Amazing</a>	How Dabber101	Loperamide & Black Pepper



# Erowid Experiences Vault

## Opioid Crisis Leads FDA To Restrict Imodium




FROM THE WEBMD ARCHIVES 

By EJ Mundell

*HealthDay Reporter*

TUESDAY, Jan. 30, 2018 (HealthDay News) -- Increasingly, people addicted to [opioid](#) painkillers are using dangerously high doses of the [diarrhea](#) drug [Imodium](#) ([loperamide](#)), either to get high or to help ease withdrawal.

So, on Tuesday the U.S. Food and Drug Administration said it's putting new restrictions on the packaging of the [medication](#), dubbed by some as "the poor man's [methadone](#)."

"When higher than recommended doses are taken we've received reports of serious [heart](#)  problems and deaths with loperamide, particularly among people who are intentionally misusing or abusing high doses," FDA commissioner Dr. Scott Gottlieb said in an agency news release.

<https://www.madison-health.com/healthdayarticle.php?id=10936>

# Erowid.com

## 9.2 Where to get clean urine.

**9.2.1 Urine from a donor:** You can substitute someone else's urine. Ask your urine donor (hopefully a friend you can trust) what drugs they've taken in the last month. They may have taken a false positive (or a true positive for that matter). Before the test, the examiner will likely ask you to list everything you've taken. If the urine ages beyond 18 hours, deterioration becomes noticeable and the lab may suspect something.

**9.2.2 Powdered urine:** If you don't trust your friend's sample, or don't have any clean friends, you can get powdered urine from Martha Butterfield-Jay Foundation. It's produced by Byrd Labs, and supposedly works perfectly; however, I got MBJF's powdered urine, and it did not specify the age or gender of the original sample. Powdered urine must be prepared ahead of time. If there is a period of time that you are clean, you can make powdered urine from your own supply.


**9.2.2.1 Making your own powdered urine:** Urinate in a glass container. Let it evaporate. Then scrape the inside for the concentrate. Just mix it with water before the test, and the sample will have the correct specific gravity, pH, color, etc.

**9.2.3 Dog urine:** I heard from Dr. Grow that dog urine (of all things) can be substituted, and will pass the test! However, I don't know how an age, gender, pH, or creatinine test would result. Someone was able to use dog urine for several months to pass the test. This subsection assumes you have a clean dog. I know my dog's urine wouldn't pass; he eats more weed than humans do. It would make more sense to use human urine, but dog urine provides a workable substitution in an emergency.

## 10. STEALING URINE

Speaking of stealing, people have been known to get away with stealing their sample from the tray among many other urine samples. In the case that I heard, the person being tested never got the test results, and was hired for the job that he was tested for. They wouldn't dare ask someone to re-test because they "lost" his/her urine sample. Don't expect this method to work if you are being tested for the military or if you're on parole; they have no problem violating your rights repeatedly.


## 11. IF YOU FAIL

If you fail the test, raise hell. Failing the drug test has been known to make a quiet person go ballistic. You will be interviewed by a medical review official (MRO), who would try to find out why you tested positive. MRO's are NOT impartial. An MRO is an employee of the lab, and is there for quality control. They are also there to protect the lab by coercing the court into thinking that the person who failed is a drug abuser.  you say to an MRO can and will be used against you" (RDW). If you fight it, your lawyer "can subpoena the proficiency testing records of the laboratory for review" (anon1).




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Terms and Conditions for joining our community.


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 **Basic Drug Discussion**  
Introductory-level drug and harm reduction advice. Use focus forums for complex queries

Threads  
38.8K


Messages  
396.9K


 **Opioids** Counteracting pinpoint pu...  
28 minutes ago · Lovecraft

 **New Member Introductions**  
New? Introduce yourself here! Been here a while? Welcome them!

Threads  
17.8K


Messages  
105K


 **STICKY** Questions for Bluelight...  
51 minutes ago · alonelyohioan

 **Announcements**  
Announcements from the Bluelight Administration.

Threads  
164


Messages  
2.8K

 A new era of leadership for Bluelig...  
May 28, 2022 · S.J.B.


 **Site Technical Help**  
Do you have a technical question, complaint or suggestion? Discuss here!

Threads  
2.3K

Messages  
24.5K


 The Firefox for Android problem  
Jun 7, 2022 · thegreenhand


### Focus Forums

 **MDMA & Empathogenic Drugs**  
MDMA, MDA and other empathogenic drugs

Threads  
13.4K


Messages  
285.4K


 What is wrong with the MDMA ava...  
5 minutes ago · unodelacosa

 **Pillreports.net - Testing Q&A and Discussion**  
Discussion of testing kit results

Threads  
5.4K


Messages  
39.2K

 **STICKY** Marquis/Mecke/Mand...  
May 30, 2022 · Wiserthanearlier


 **Cannabis Discussion**  
Intelligent discussion of cannabis related topics


Threads  
8.6K

Messages  
187.8K

 **Social** CD social V the future is here  
13 minutes ago · Thomas Davie

ago  
The Lounge

 **Social** PD Social Talk  
Thread 2022 v. Year of the  
Phenethylamine  
Latest: Cosmic Charlie · 8  
minutes ago  
Psychedelic Drugs

 **Venting** Boredom setting in  
again  
Latest: neversickanymore · 9  
minutes ago  
The Dark Side

#### Forum statistics

Threads:	379,611
Messages:	8,272,833
Members:	456,127
Latest member:	alonelyohioan

#### Online statistics

Members online:	35
Guests online:	277
Total visitors:	312


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**Help** Dirty 30s with meth in them?



**OxyGrip87**  
Greenlighter  
Joined: Nov 1, 2020  
Messages: 17

Jan 22, 2022 #1


Just got some dirty 30's from a new person today. They appear to be the same as the ones ive preciously had in my area HOWEVER they smell like meth. I snort them and am aware that anything could be in them. Just wondering if anyone has cone across this before. When i snort it, it doesnt burn like meth, doesnt taste like it, but in the container i keep it in, it smells exactly like it, all metallic and shit is the best way i can describe the smell. Buddy of mine banged one and he said they were good but i noticed he had more energy. Hes at home probably in bed rn so i cant get ahold to ask. Maybe if hes in bed thats a tell sign its not meth, but damn sure smells like it is. Any opinions/experience/reccomendations? Thanks in advance.



**Kev-Head**  
Greenlighter  
Joined: Jan 10, 2022  
Messages: 6

Jan 22, 2022 #2

With my experience with them...no lie... I don't do any drugs but the fake 30s...I took a drug test, knowing I was going to fall of course. I had a hit for every drug that was on the cup. You never know what you're getting with those unless you know who's making them. Stay safe everyone

 arrall, SnooFloofs, Opi\_Kid\_Rock and 1 other person



# Clearchoicebrand.com

🏠 > Quick Luck - Pre-mixed Synthetic Urine Kit



## Quick Luck - Pre-mixed Synthetic Urine Kit

**\$110.00**

Clear Choice® was launched in 1993, 31 years later this brand still thrives as being the best of its class. Quick Luck is a premium quality, 3 oz synthetic urine kit with the most superior formula on the market, based on more than 30 years of research and lab testing.

This is 100% effective, pre-mixed, unisex, 3 oz synthetic urine which is designed to be undetectable and toxin free. Our secret urine formula is made from 11 different chemical compounds including uric acid and urea that mimic real human urine and is balanced for pH, specific gravity and creatinine just to mention a few.

Included with the solution is our patented heat activator formula that raises the urine's temperature to normal body temperature. Also included are two heat pads, each when activated, have a life expectancy of up to 10 hours.

This is the only pre-mixed, synthetic urine of it's kind and it rivals any other product out there on the market.

- 100% effective
- Standard 3oz container
- Toxin and biocide free
- Unisex use
- Safety sealed for your protection
- Includes 2 Clear Choice heat pads
- Includes our Heat Activator Powder – Raises temperature within seconds

# Clearchoicebrand.com

🏠 > Practice Kit



## Practice Kit

**\$65.00**

This amazing product is just used to practice, helping to ease your worries! The intention is for you to get used to it, to practice heating your bottle using the heat activator powder and heat pad!

Thousands of Clear Choice customers each week ask the best way to heat their Synthetic Urine Kit. They wonder how to use the heat activator powder and if they should use the heat pad with or not! Well, the brains at Clear Choice have solved another problem.

Now available, The synthetic urine Practice Kit designed especially for your Sub Solution synthetic urine Kit or Pre-mixed Quick Luck Kit.

First time or a dab hand at using synthetic urine? Either way, each time can be slightly nerve-wracking. **Clear Choice** once again has the perfect solution!!

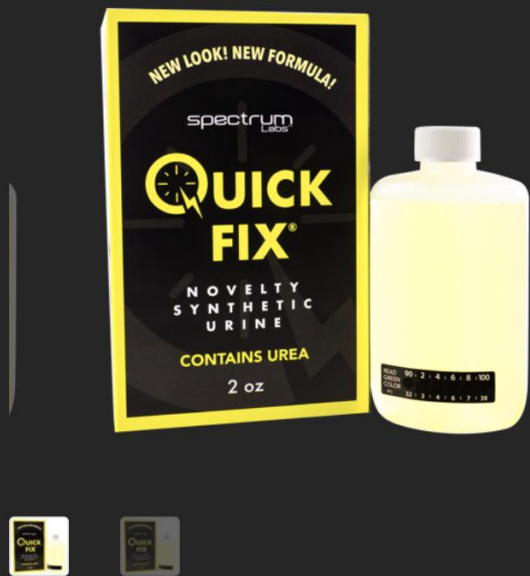
### The practice Kit includes:

- 3oz Mixing Container
- Easy-to-read temperature strip
- Heat Pad
- Heat Activator

Screenshot



# Quickfixurine.com



## Quick Fix Synthetic 2oz

\$29.95

Need accessories? You might also like:

-  **Synthetic Urine Belt**  
\$34.95
-  **The Stash Leg Strap**  
\$19.95
-  **Sticky Hand Warmers**  
\$1.95

 Add to Cart

Place your order in the next  
**4 hours, 10 minutes, 10 seconds** and receive it **Monday**  
if you select **Overnight Shipping!**

Don't forget to check the Stash products to stash you Quick Fix, like our [Stash Undies](#) and [Stash Strap](#). If you need a life like urinating penis, check out the [Piss Perfect](#) Urination Device.

The Quick Fix Synthetic Urine 6.2 formulation is the #1 selling patented synthetic urine kit created for Spectrum Labs 25 years ago. Since its creation, Quick Fix Synthetic urine has stayed ahead of the curve to be the best synthetic urine on the market by keeping its formulations current with testing standards and it's been so effective of a product it's been adopted by the wet sex community as fake urine alternative for real urine and various labs and universities use it since it mimics human urine perfectly.

This laboratory designed synthetic urine creates a toxin free clean urine that can be used by males and females and is balanced for pH, specific gravity, creatinine, urea, and several other urine characteristics.

With this premixed synthetic urine, you don't have to worry about mixing, it's as simple to use in four easy step:

# Myth or Fact

- Drinking vinegar or lemon juice will help you pass a drug test.



# Myth or Fact

- Over-the-counter medications won't show up on a drug test.

# Myth or Fact

- I tested positive because of a poppy seed bagel.



# Myth or Fact

- Vigorous working out will clear drugs from my system.

# Myth or Fact

Sure jell will help you pass a drug test.



# Myth or Fact

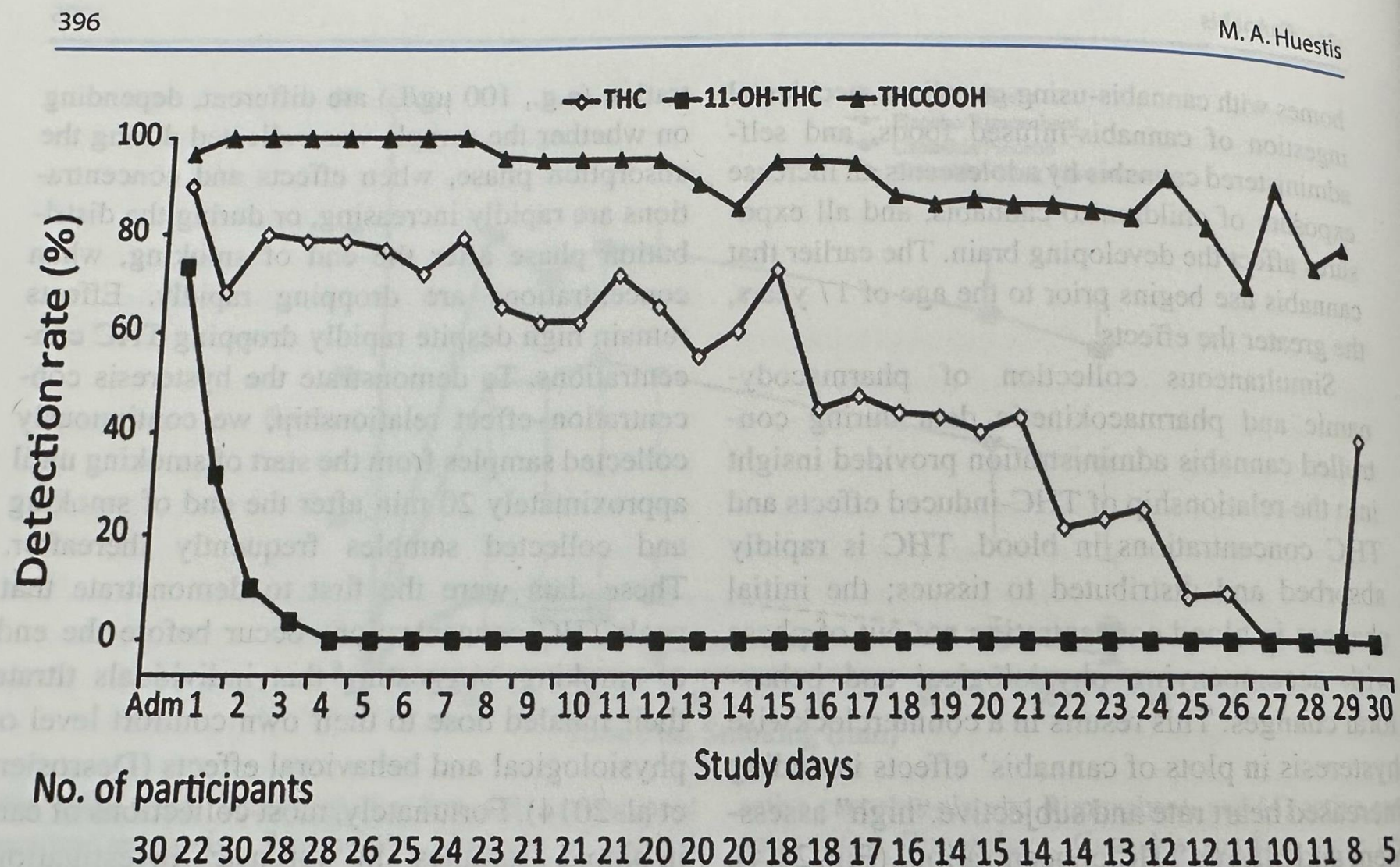
I tested positive for cocaine due to a dental procedure that used lidocaine for numbing.

# Myth or Fact

- THC can stay in your system for a month.

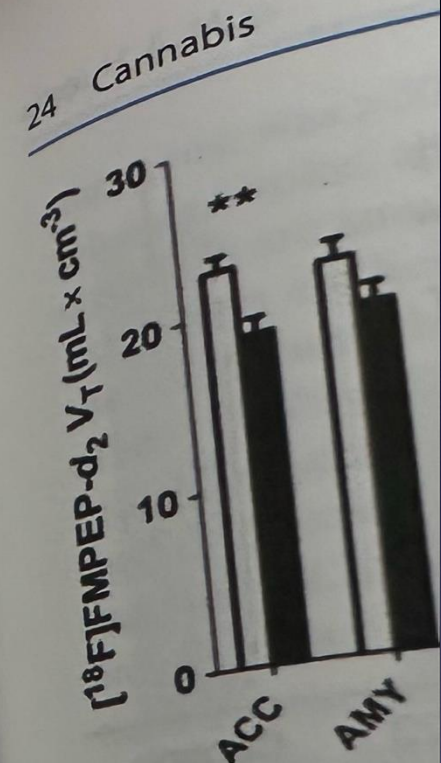


# THC Duration in Blood



**Fig. 24.5** Cannabinoid detection rates in chronic daily cannabis smokers on the basis of the method's limits of quantification, 0.25  $\mu\text{g/L}$  for THC and THCCOOH and 0.5  $\mu\text{g/L}$  for 11-OH-THC, documenting the long-term

detection of cannabinoids in blood in this population. Reprinted from Bergamaschi et al. (2013) with permission from the American Association for Clinical Chemistry



**Fig. 24.6** Distribution of  $[^{18}\text{F}]\text{FMPEP-d}_2$  in control subjects and chronic daily cannabis smokers. Values are adjusted for age and sex. Error bars are s.e. late cortex; AM



# Myth or Fact

- I haven't had any pot. It was secondhand smoke.



# THC

J Anal Toxicol. 2015 Jan; 39(1): 1–12.

Published online 2014 Oct 17. doi: [10.1093/jat/bku116](https://doi.org/10.1093/jat/bku116)

PMCID: PMC4342697

PMID: [25326203](https://pubmed.ncbi.nlm.nih.gov/25326203/)

## Non-Smoker Exposure to Secondhand Cannabis Smoke. I. Urine Screening and Confirmation Results

[Edward J. Cone](#),<sup>1,\*</sup> [George E. Bigelow](#),<sup>1</sup> [Evan S. Herrmann](#),<sup>1</sup> [John M. Mitchell](#),<sup>2</sup> [Charles LoDico](#),<sup>3</sup> [Ronald Flegel](#),<sup>3</sup> and [Ryan Vandrey](#)<sup>1</sup>

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### Abstract

Go to: 


Increased cannabis potency has renewed concerns that secondhand exposure to cannabis smoke can produce positive drug tests. A systematic study was conducted of smoke exposure on drug-free participants. Six experienced cannabis users smoked cannabis cigarettes (5.3% THC in Session 1 and 11.3% THC in Sessions 2 and 3) in a sealed chamber. Six non-smokers were seated with smokers in an alternating manner. Sessions 1 and 2 were conducted with no ventilation and ventilation was employed in Session 3. Non-smoking participant specimens (collected 0–34 h) were analyzed with four immunoassays at different cutoff concentrations (20, 50, 75 and 100 ng/mL) and by GC-MS (LOQ = 0.75 ng/mL). No presumptive positives occurred for non-smokers at 100 and 75 ng/mL; a single positive occurred at 50 ng/mL; and multiple positives occurred at 20 ng/mL. Maximum THCCOOH concentrations by GC-MS for non-smokers ranged from 1.3 to 57.5 ng/mL. THCCOOH concentrations generally increased with THC potency, but room ventilation substantially reduced exposure levels. These results demonstrate that extreme cannabis smoke exposure can produce positive urine tests at commonly utilized cutoff concentrations. However, positive tests are likely to be rare, limited to the hours immediately post-exposure, and occur only under environmental circumstances where exposure is obvious.

### Recent Activity

 [Detection of methamphetamine in sweat by EIA](#)

 [Non-Smoker Exposure to Secondhand Cannabis Urine Screening and Confirm...](#)

 [Case Report: How the use of creatine supplement elevate serum creatinine in...](#)

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# Question Time

[Garry.Metcalfe@me.com](mailto:Garry.Metcalfe@me.com)

