

TOXTALK



PRESIDENT'S MESSAGE



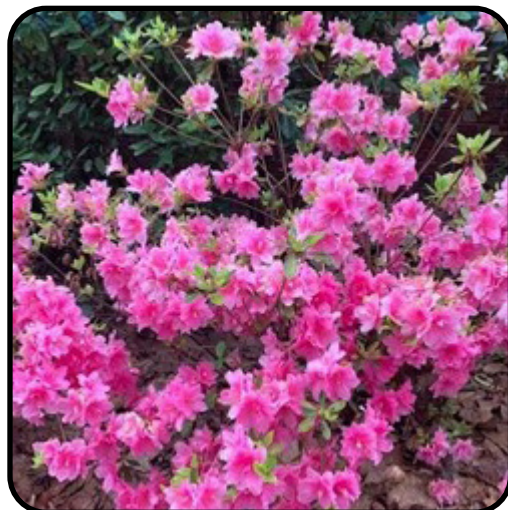
ROBERT SEARS, M.S., F-ABFT
SOFT PRESIDENT
rsears@sled.sc.gov

Welcome to my President's message for issue two of our 2022 ToxTalk. Spring is officially upon us in the sunny south with the azaleas in full bloom and seasonal allergies taking over. It is a welcome change from the cool (we think cold) dreary days of winter.

To better connect with our membership, our SOFT committees are offering virtual committee meetings that are open to all SOFT members. If you are able to attend and would like to learn more about various committees and the work they are doing I strongly encourage your participation. If you are looking for ways to increase your involvement in SOFT, I suggest looking at committee involvement. Watch your email for additional information

related to upcoming virtual committee meetings.

For those that may have missed it, Beth has been working on an application to have SOFT reclassified as a 501c3 tax exempt corporation. I am happy to announce that Beth's hard work has paid off as we recently received notification from the IRS that they have accepted our request and that SOFT is now recognized as a 501c3 tax exempt nonprofit. This is very exciting news. Because of our new status, SOFT can apply for a waiver of state sales tax in many states (not all states allow this waiver). Where the sales tax exemption is allowed, this will help to reduce the cost



TOXTALK

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PRESIDENT'S MESSAGE CONTINUED

of our annual meeting.

Speaking of the annual meeting, planning for our 2022 meeting in Cleveland is well underway. Co-hosts Doug Rohde and Shelly Crosby have assembled a tremendous group to help plan and

carry out the meeting. I can't wait to see what is in store for our group as we gather in Cleveland for what is sure to be a wonderful time to learn a little, laugh a little and enjoy time together as professional colleagues.

I hope you all get some time to spend enjoying the coming of spring.



FROM THE EXECUTIVE DIRECTOR'S DESK



BETH OLSON
SOFT EXECUTIVE DIRECTOR
beth@soft-tox.org

One of my favorite aspects of my quarterly column in ToxTalk, is being able to share news with our SOFT membership, and this issue's column is FULL of news!

As Robert Sears and Tate Yeatman mentioned in their columns, SOFT has gone through the process of reincorporating as a 501c3 tax-exempt organization. What does this mean for SOFT? The Internal Revenue Service has determined that SOFT is a public charity, and therefore donors are able to deduct contributions made to SOFT. Please look for more information at the end of the year about how you can make a tax-deductible donation to SOFT, if you choose to do so. Contributions to the ERA Fund will also be tax-deductible.

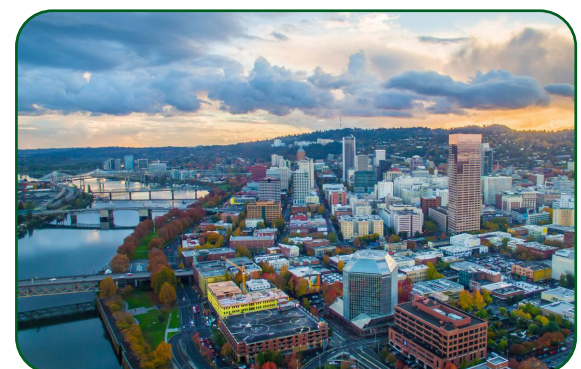
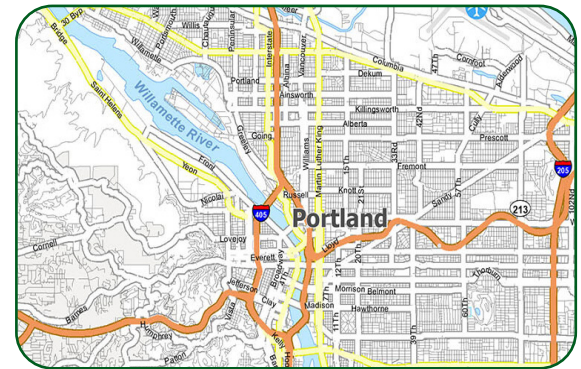
In addition, SOFT will now be exempt from paying sales tax in some states, including Ohio. Applications for the sales tax exemption have been submitted to our venues for the 2022 Annual Meeting in Cleveland. If all of our applications are approved, SOFT could save up to \$50,000 on this year's Annual Meet-

ing alone, with more savings possible on other operating expenses and future meetings.

In other exciting news, SOFT is in the process of selecting Association Management System (AMS) software. We will be rolling out a brand-new website near the end of 2022. This will include a database and members-only area with many more features and additional functionality from our current site. Please look to the next issue of ToxTalk for a more detailed timeline on the rollout of our new system.

SOFT has also selected a location for our 2025 Annual Meeting. We will be welcomed by the Oregon Convention Center in Portland. Several people have mentioned to me that they prefer when our program is "all under one roof," where both our hotel rooms and our meeting space are in one hotel. However, in order to hold the meeting in different regions of the country, it is necessary to branch out to convention centers. Hotels with conference centers large enough to hold our program are limited to just a few US cities. The Portland meeting will be preceded by Denver (2023), with hosts Dan Anderson and Vanessa Beall; and St. Louis (2024), with hosts Sarah Riley and Justin Poklis.

If you every have any questions about the operations of the organization, please don't hesitate to reach out!



2022 TREASURER REPORT



TATE YEATMAN M.S., F-ABFT
SOFT TREASURER
YeatmanD@pbso.org

It's hard to believe we are already in the 2nd quarter of 2022. I am happy to report that the Finance Committee consisting of myself, Robert Sears, Amy Miles, Russell (Rusty) Lewis, Steven Fleming, Chris Heartsill, and Ayana Chan-Hosokawa hit the ground running in 2022. The committee helps provide financial oversight for the organization and provides guidance and recommendations to the Board on financial matters.

The Committee entered the year with the goal of bringing a number of initiatives to completion including the conversion of SOFT to 501c3 nonprofit status positioning us for significant tax exemptions in the future and growth of SOFT's reserve accounts through the development of low-risk investment strategies. If you read Beth's Executive Director Report, you know that the conversion of the organization to 501c3 status has been finalized!

As we begin the second quarter of 2022,

	Account	Sub-Account	2019 Actual	2020 Actual	2021 Budget	2021 Actual	2022 Budget
Revenue							
	Membership		\$140,055	\$143,859	\$144,000	\$143,985	\$144,000
	Annual Meeting		\$1,170,971	\$13,375	\$828,339	\$820,109	\$1,172,655
	SOFTember		\$0	\$434,175	\$0	\$0	\$0
	Merchandise Sales		\$1,292	\$0	\$0	\$536	\$0
	Advertising		\$0	\$500	\$0	\$0	\$0
	Continuing Education		\$12,585	\$9,345	\$10,000	\$14,895	\$30,000
	Contributions		\$3,527	\$3,372	\$3,000	\$3,347	\$3,500
	Interest		\$1,428	\$138	\$750	\$680	\$750
	Rebates/Credits		\$0	\$0	\$0	\$0	\$2,500
Total Revenue			\$1,329,858	\$604,764	\$986,089	\$983,552	\$1,353,405
Expense							
	Payroll		\$139,198	\$149,384	\$157,088	\$147,203	\$156,790
	Occupancy		\$23,177	\$2,109	\$4,000	\$3,155	\$3,806
	Office		\$1,941	\$876	\$1,800	\$686	\$1,350
	Administrative Expenses		\$53,731	\$69,001	\$81,000	\$22,062	\$96,354
	Insurance		\$7,812	\$9,179	\$11,073	\$10,469	\$12,000
	Annual Meeting		\$985,531	(\$6)	\$776,865	\$824,533	\$963,003
	SOFTember		\$0	\$45,447	\$0	\$0	\$0
	Board and Committees		\$47,776	\$8,433	\$48,000	\$33,572	\$59,000
	Legal and Professional Services		\$6,330	\$17,682	\$10,850	\$9,147	\$25,850
	Membership		\$15,000	\$7,500	\$7,500	\$10,500	\$10,500
	Awards		\$10,000	\$8,000	\$12,000	\$8,000	\$12,000
	Meals and Entertainment		\$35	\$67	\$500	\$143	\$500
	Appreciation Gifts		\$326	\$458	\$1,000	\$1,211	\$2,000
	Bank Charges		\$5,981	\$6,169	\$7,500	\$7,056	\$7,500
Total Expense			\$1,296,838	\$324,299	\$1,119,176	\$1,077,737	\$1,350,653
Net Income/(Loss)			\$33,020	\$280,465	(\$133,087)	(\$94,185)	\$2,752

SOFT remains in a strong financial position. As of April 13, 2021, SOFT's bank account balances totaled \$1,428,022.00

At the interim board meeting held during the AAFS meeting, the board unanimously approved the 2022 budget. The Finance Committee will continue to work diligently in conjunction with Executive Director Beth Olson to ensure SOFT remains in a

strong financial position.

I encourage you to review the included budget spreadsheet which includes budget vs actuals since 2019 and the approved budget for 2022. If you have any questions, please don't hesitate to contact me. Thank you again for the opportunity to serve SOFT.

PUBLISHING CORRECTION

Please note a correction to Volume 46, Issue 1:

Business Meeting Minutes: Christine Moore is continuing on with the Oral Fluid Committee as a member of the committee.

Signs of spring are happening in Cleveland. Whether it be the hint of warmer weather, beautiful Lake Erie sunsets, enjoyable parks and outdoor activities, Cleveland is vibrant. For the forensic toxicologist, it means the annual SOFT meeting is less than 6 months away from October 30 to November 4.

We are fortunate to work with planning committee members that are utilizing their unique talents and devotion to the field to put together a fantastic program and JAT Special Issue. They are striving to deliver the quality of continuing education and scientific content that has been a hallmark of past SOFT meetings. It is exciting to see the different parts of the meeting come together to meet the needs of our SOFT family.

The deadline for abstracts is June 10th and is rapidly approaching. Please consider submitting one soon! We encourage abstract submissions related to any one of the forensic toxicology specialties including postmortem, human performance, drug-facilitated crime and forensic drug testing.

For some, this may be your first time attending a SOFT meeting. How exciting! We welcome you

and want you to learn from the many educational opportunities, participate in the social events, and most importantly, meet fellow toxicologists. SOFT members believe strongly in mentoring the next generation of toxicologists and the annual meeting is a great place for this to happen.

The off site social event will be held at the **Rock and Roll Hall of Fame and Museum** on Wednesday evening. The Rock Hall, set on the shore of Lake Erie, celebrates the history and cultural significance of rock music. Architect I.M. Pei designed the museum's striking 150,000 square-foot glass-dominated geometric building. The museum includes a wide variety of exhibits that draw on the museum's extensive holdings of rock music artifacts. The exhibit for 2022 is The Beatles - Get Back to Let It Be.

Registration and hotel room reservations will open on June 1, so be on the lookout for email blasts and updated information on the SOFT website. Please contact the hosts or other members of the planning committee if you have any questions or concerns. We will enjoy meeting you in Cleveland!

Doug and Shelly

2022 HOSTS



SHELLY CROSBY



DOUG ROHDE

SCIENTIFIC PROGRAM COORDINATORS
MICHELE GLINN
KIM TOMLINSON

WORKSHOP PROGRAM COORDINATORS
JAYNE THATCHER
NATHALIE DESROSIERS

EXHIBITOR LIAISON
LIZ KIELY

FOOD AND BEVERAGE
ANN MARIE GORDON
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MOBILE APPLICATION
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ROXANE RITTER
SUNDAY SAENZ

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VOLUNTEER COORDINATORS
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JAT SPECIAL ISSUE EDITOR
REBECCA HARTMAN

SOFT STAFF
EXECUTIVE DIRECTOR
BETH OLSON
OPERATIONS MANAGER
CC WATSON

2022 PLANNING COMMITTEE MEMBERS

IMPORTANT DATES AND DEADLINES

- Registration and Hotel Room Block Open: June 1, 2022
- Abstract Submission Deadline: June 10, 2022
- Registration Deadline to Avoid Late Fee: August 31, 2022
- Registration Deadline to Avoid On-Site Registration Fee: October 10, 2022
- SOFT 2022: October 30-November 4, 2022

SUBMIT AN ABSTRACT HERE

OCTOBER 30-NOVEMBER 4, 2022
HUNTINGTON CONVENTION CENTER



ANNUAL MEETING UPDATE - CLEVELAND, OH



2022 HOSTS



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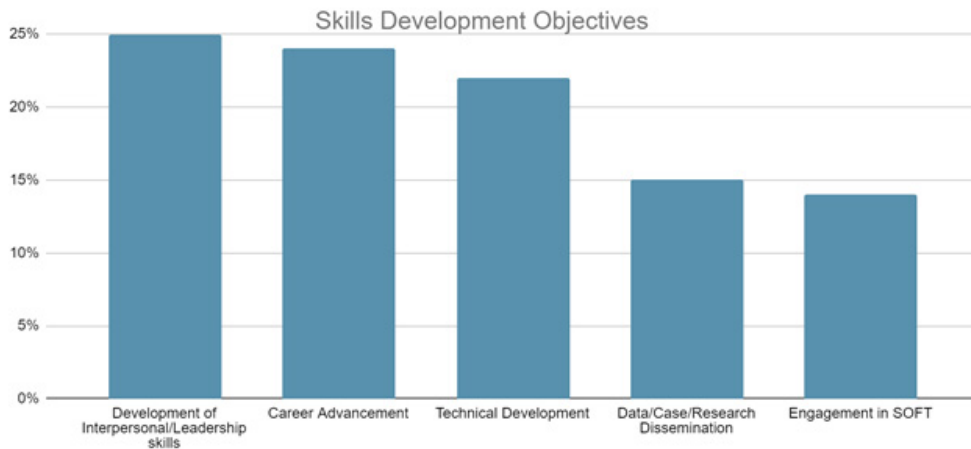
2022 PLANNING COMMITTEE MEMBERS

OCTOBER 30-NOVEMBER 4, 2022
HUNTINGTON CONVENTION CENTER



MENTORING COMMITTEE

At the start of the Professional Mentoring Program, each matched pair submits a mentoring agreement to discuss and assess goals they would like to tackle throughout the program year. The agreements between mentors and mentees provide a framework for focused efforts. Responses to the agreements also give the Professional Mentoring Program insight in how to aid and provide resources throughout the year.



The goals of the Professional Mentoring Program are to:

1. Develop and nurture future leaders of the organization
2. Provide a forum for one-on-one career advice
3. Provide a forum for mutually beneficial knowledge transfer for the purpose of supporting and advancing the organization and the forensic toxicology practice.

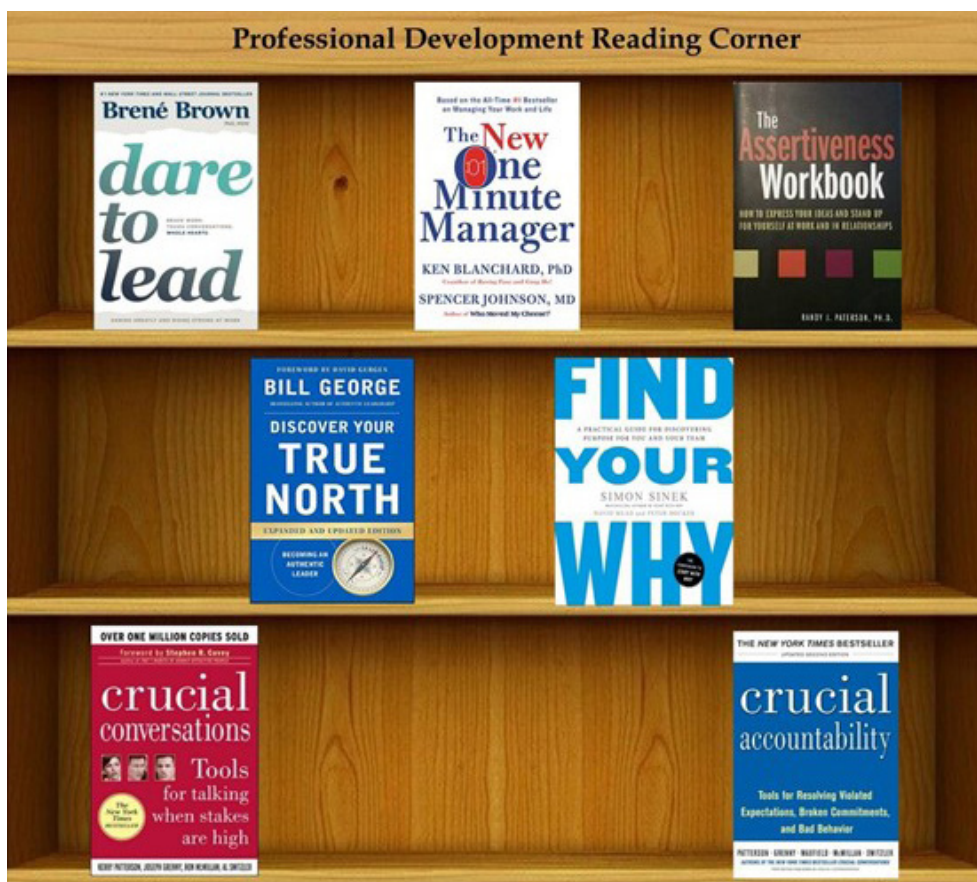
For 2022, there are 51 signed mentoring agreements. Below is the representation of the most common objectives mentees/mentors are seeking to achieve.

Frequently mentioned goals are listed below, in no particular order of importance:

- Prepare a presentation for SOFT’s annual meeting
- Provide guidance for mentee to be more involved in SOFT
- Work on management/leadership skills
- Prepare for ABFT exam
- Work on method development/testimony/accreditation
- Review OSAC/ANAB/ISO guidelines
- Read leadership/management/communication books for self-improvement

Common communication platforms:

- Phone calls
- Zoom calls
- Microsoft Teams
- In-person meet up in Cleveland for SOFT 2022



YOUNG FORENSIC TOXICOLOGISTS (YFT)

Hello fellow SOFT members!

The Young Forensic Toxicologists (YFT) committee is excited to introduce this year's Chair, Amanda Rausch! Amanda is a Toxicologist II at the Dallas County Southwestern Institute of Forensic Science in Dallas, TX. We also welcome Lauren Wolfe and Lindsay Glicksberg as new members to the committee! Lauren will be joining the Awards subcommittee and Lindsay will oversee YFT ToxTalk submissions and any social media updates.

The members of the YFT committee are actively preparing for this year's annual meeting in Cleveland, Ohio. At the SOFT annual meeting, YFT hosts the Young Forensic Toxicologist (YFT) Symposium, the Professional Development Fair (PDF), the Student Enrichment Program (SEP), and presents the Leo Dal Cortivo Award to the best poster and platform presentations by a young forensic toxicologist.

YFT SYMPOSIUM

The Symposium kicks off SOFT for younger forensic toxicologists on Sunday, October 30th! Young forensic toxicologists (*under 41 years of age*) are invited to partake in a social hour where dinner is provided and there is ample opportunity to network. After everyone has had time to meet and greet, the YFT committee will welcome everyone and present the evening's speakers (past award winners and a keynote speaker) and end with an open forum. It's a great way to start off the annual meeting!

PROFESSIONAL DEVELOPMENT FAIR

The PDF is held during the YFT Symposium and allows attendees to meet with representatives from organizations that provide information about higher education programs, board certification, and opportunities regarding continuing education, professional training, and open career positions. If you would like to showcase your academic program or have open job positions around the time of the meeting, please reach out to the YFT committee at YFT@soft-tox.org.

STUDENT ENRICHMENT PROGRAM

The YFT committee hosts a day-long program the Monday of the annual meeting for undergraduate and graduate students who are interested in the field of forensic toxicology or forensic science.

If you would be interested in sharing your experience in the field of forensic toxicology to prospective toxicologists, please reach out to the YFT committee at YFT@soft-tox.org.

Leo Dal Cortivo Award

The Leo Dal Cortivo Award is presented to the best poster and platform presentations by a young forensic toxicologist. To be considered for the award, the applicant should indicate their interest when submitting their abstract (Deadline: June 10). To be eligible for the award, you must meet the following:

- Be the first author (only the first author is eligible and must also be the presenting author)
- Register for the meeting
- Be less than 41 years old on the first day of the meeting
- Be a member of SOFT or a co-author must be a member of SOFT

Reminder, you may only submit one entry. If you submit multiple, you will be asked which submission you would like to have judged.

We followed up with last year's winners to see how their work has progressed over the last few months. Sara Walton, who won the Award for Best Platform Presentation for her presentation titled "A Forward-Thinking Approach to Tackling New Synthetic Opioid "Nitazene" Analogues by Liquid Chromatography Mass Spectrometry", has graduated from Thomas Jefferson University with her Master's in Forensic Toxicology. She continues working at the Center for Forensic Science Research and Education (CFSRE) where she monitors novel psychoactive substances (NPS) and NPS confirmation, as well as participates in projects with clinical collaborators and drug-checking collaborators. She plans to attend this year's meeting in Cleveland and will be speaking at the YFT Symposium!

Stay tuned for more updates regarding YFT activities in Cleveland! Submit your abstracts!



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Alex Krotulski

Kayla Neuman

Elisa Shoff

Lauren Wolfe

SOFT MEMBERSHIP

ARE YOU INTERESTED IN MEMBERSHIP? ARE YOU READY TO PROMOTE YOUR MEMBERSHIP?

SOFT is always accepting applications for membership. We offer five membership types; Associate, Full, Student, Emeritus, and Retired. All membership requirements and applications can be found on the SOFT Membership Page below.

MEMBERSHIP BENEFITS

- A mailed print subscription of the Journal of Analytical Toxicology (JAT).
- Reduced registration fees for SOFT's Annual Meeting.
- Reduced registration fees for SOFT webinars.
- FREE participation in the SOFTopics discussion group.
- Eligible for SOFT committee membership.
- Eligible for participation in SOFT's Professional Mentoring Program.
- Free participation in JAT Editor's Choice continuing education opportunity.

FEE TO APPLY

Your application fee will be transferred to your first annual dues payment once you are approved by the membership committee.

- \$100 for Full and Associate Membership
- \$15 for Student Membership
- \$0 for Retired and Emeritus Membership
- \$0 for Promotion

PROMOTION

If you are currently a member of SOFT and would like to promote to the next membership level, you can do so by completing the Promotion Application [HERE](#). There is no fee to promote your membership, but you will still be responsible for your annual dues payment if you have not already completed it.

MEMBERSHIP COMMITTEE MEMBERS

CHRIS HEARTSILL - CHAIR
KARI MIDTHUN
HEIDI CHRISTENSEN
KATHERINE DOZIER

[LEARN MORE HERE](#)

A warm welcome to our new members and congratulations to our members that have promoted their membership! We look forward to a wonderful 2022 with you all.

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REGIONAL TOXICOLOGY LIAISON DEMONSTRATION PROJECT



REGIONAL TOXICOLOGY LIAISONS

Over the last few decades, there has been a sharp increase in drug-impaired driving across the country. A recent [National Highway Traffic Safety Administration report on 2020 Traffic Fatality Data](#) found 38,824 people died on US roadways, with a 6.8% increase in fatal crashes. Of that, 45% of fatal crashes involve risky behavior such as driving impaired by alcohol, speeding, or not wearing a seatbelt. Alarming, alcohol-impaired fatalities were up by 14% compared to 2019 data, even with an 11% decline in vehicle miles traveled. The National Safety Council recently [published](#) that the traffic death rates in 2021 exceeded the rate of 2019 by 19%.

In response to the concerns related to drug-impaired driving, the Regional Toxicology Liaison (RTL) Demonstration Project aims to benefit state toxicology programs through increased support, communications, resources, criminal justice system coordination, decreased processing time of toxicology samples, and improved data reporting. Earlier this year, the RTL Project established Toxicology Liaisons that support states in [NHTSA regions 5, 7, and 9](#) (<https://www.nhtsa.gov/about-nhtsa>), to assist with training, collaboration, and the standardization of testing across state labs and the reporting of data to better understand the scope of the drug-impaired driving problem.

The Regional Toxicology Liaisons, Sabra Jones (Region 5), Chris Heart-sill (Region 7), Kristen Burke (Region 9), and have already begun engaging in their respective regions through identification of stakeholders within each state, as well as laboratory engagement, collaboration, and evaluation of training requests. After April 1, 2022, all three RTLs will be fully engaged in the Project. The RTLs hold weekly meetings to ensure consistency within the program and share information and resources. Additionally, the Project will provide a quarterly report to the SOFT Board of Directors and periodic updates in ToxTalk regarding activities, progress, and needs assessments.

Through SOFT, Regional Toxicology Liaisons will be involved in various committees to understand current trends in drugged driving, laboratory testing, and laboratory needs. In each state, the RTLs will be engaged in meetings with stakeholders, including NHTSA regional offices, State Impaired Driving Task Forces, State Traffic Safety Resource Prosecutors, and other region liaisons, including Judicial Outreach Liaisons and Law Enforcement Liaisons.

Immediate upcoming events consist of a mix of in-person and virtual meetings, including:

- Arkansas Impaired Driving Task Force
- Indiana Highway Traffic Safety Conferences
- Iowa Impaired Driving Assessment
- National Advanced Driving Simulator
- Prosecuting the Drugged Driver-Michigan
- Recommendations for Toxicological Investigation of Drug-Impaired Driving

If you have questions, comments, or ideas, feel free to reach out to a liaison!

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Kristen@soft-tox.org

Chris@soft-tox.org

NEW DRUGS ON THE BLOCK: SPRING 2022 LINE-UP

Kayla Ellefsen¹ PhD, Elisa Shoff², MS, D-ABFT-FT, Donna Papsun³ MS, D-ABFT-FT – SOFT NPS Committee

¹Travis County Medical Examiner, Austin TX

²Miami-Dade Medical Examiner Dept, Miami FL

³NMS Labs, Horsham PA

Akin to popular music, the novel psychoactive substances (NPS) drug landscape continuously evolves over time. This continuous evolution challenges forensic toxicology laboratories in first trying to identify the compound before implementing validated testing. The various resources dedicated to identification, investigation, and implementation of toxicological testing for new drugs all can take longer than the actual lifespan of a NPS. Another challenge with NPS is the regional trends associated with emergence and proliferation of a substance; different parts of the country have different experiences with NPS, and therefore laboratories must take their regional drug scene into consideration when determining scopes of testing. Below, three emerging substances with different characteristics, including mechanism of action, distribution, and proliferation, are discussed in detail; all three substances are listed in the Q4 2021 NPS Scope Recommendations established by the Center for Forensic Science Research & Education (CFSRE) and the Society of Forensic Toxicologists NPS Committee (1).

Bromazolam

NPS benzodiazepines (also known as designer benzodiazepines) continue to pose problems for forensic toxicologists, law enforcement, military, and public health and safety officials as their use and misuse have continued to increase over the past several years. From October 2020 through April 2021, the United Nations Office on Drugs and Crime Early Warning Advisory

(UNODC EWA) identified benzodiazepine-type NPS in over 69% of toxicological cases (2). Oftentimes, drug users are unaware they are taking NPS benzodiazepines as they are frequently found in counterfeit tablets marketed as traditional benzodiazepines. Bromazolam is one of the most recent NPS benzodiazepines whose prevalence in toxicological casework is increasing (3). It is a triazolobenzodiazepine-based NPS that is a derivative of flubromazolam and was initially detected in Sweden in 2016 (4). NPS Discovery first started identifying bromazolam in toxicological samples from the United States (US) in Q2 of 2020 (N=2) (5). Through retrospective data-mining, an additional 15 positive identifications were discovered, with the first detection in September 2019.

Bromazolam was initially synthesized in 1979 but was never approved for medicinal use (6). It is currently not explicitly scheduled in the US. Limited information exists regarding the pharmacology of bromazolam, however, one would expect bromazolam to behave similarly to other benzodiazepines, with most of the expected pharmacological effects resulting from binding with GABA_A receptors (7, 8). The most predominant metabolic pathways identified in an in vitro and in vivo bromazolam metabolism study included hydroxylation, glucuronidation, and combinations thereof (8). Suggested urinary biomarkers included α -hydroxy bromazolam glucuronide, bromazolam N-glucuronide, and bromazolam

and its α -hydroxy metabolite if the conjugate is cleaved. The parent compound and α -hydroxy bromazolam were also identified in human plasma, with reported bromazolam plasma concentrations of 6 and 29 ng/mL (8).

There are few published analytical methods for the quantification and detection of bromazolam in blood and urine; however, bromazolam can be extracted successfully under alkaline conditions and via protein precipitation (9). Cross-reactivity (200%) to the Immunoanalysis Benzodiazepine ELISA kit was also demonstrated for bromazolam at a 50 ng/mL cutoff (10).

Bromazolam was identified in 30 postmortem cases from the Travis County Medical Examiner (Austin, TX) from March 2021 through March 2022. Over two-thirds of these identifications were from September 2021 and onwards, highlighting the accelerating positivity (N=21). Bromazolam's emergence, along with the increased prevalence of clonazepam/8-aminoclonazepam, has coincided with a decrease in flualprazolam and etizolam positivity over the past year in this postmortem population. The most frequently identified drugs found in combination with bromazolam included fentanyl and/or fluorofentanyl (57%), alprazolam (47%), and methamphetamine (43%). Other findings included cocaine and other NPS benzodiazepines. In several positive bromazolam cases, suspected counterfeit Xanax[®] was also found on scene.

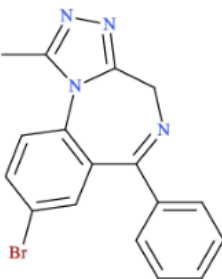
Between 2021 and Q1 2022, NMS Labs quantitatively reported bromazepam in 152 postmortem cases and nine driving under the influence of drugs (DUID) cases. The earliest reported bromazepam identification was from a DUID case dating back to September 2020. Bromazepam use is widespread across the US, with submitted cases from 34 different US states, in addition to two Canadian provinces (British Columbia and Quebec) and the United Kingdom (UK). Quantitative DUID blood concentrations for bromazepam ranged from 4.3-130 ng/mL, with mean and median values of 50 ± 40 ng/mL and 40 ng/mL, respectively. Similar mean (76 ± 89 ng/mL) and median (42 ng/mL) bromazepam blood concentrations were observed in the postmortem population compared to the DUID population, albeit with a greater range in blood concentrations (2.2 to 670 ng/mL). Additionally, 12 cases with unknown case origins reported bromazepam between 47 and 610 ng/mL in blood.

The overlap between recreational and fatal concentrations, combined with the propensity for polysubstance use, highlights the potential risks bromazepam poses to public health and safety. Additionally, the concentrations observed underlines the need for sensitive analytical methods for the detection of bromazepam and its biomarkers. Furthermore, the continued emergence of new NPS, like bromazepam, warrants the need for laboratories to continue to adapt and improve their current methodologies to detect these compounds and keep pace with the changing landscape.

Formal Name: 8-bromo-1-methyl-6-phenyl-1H-[1,2,4]triazolo-[4,3-a][1,4]benzodiazepine

Synonyms: XLI-268

Structure of Bromazepam:



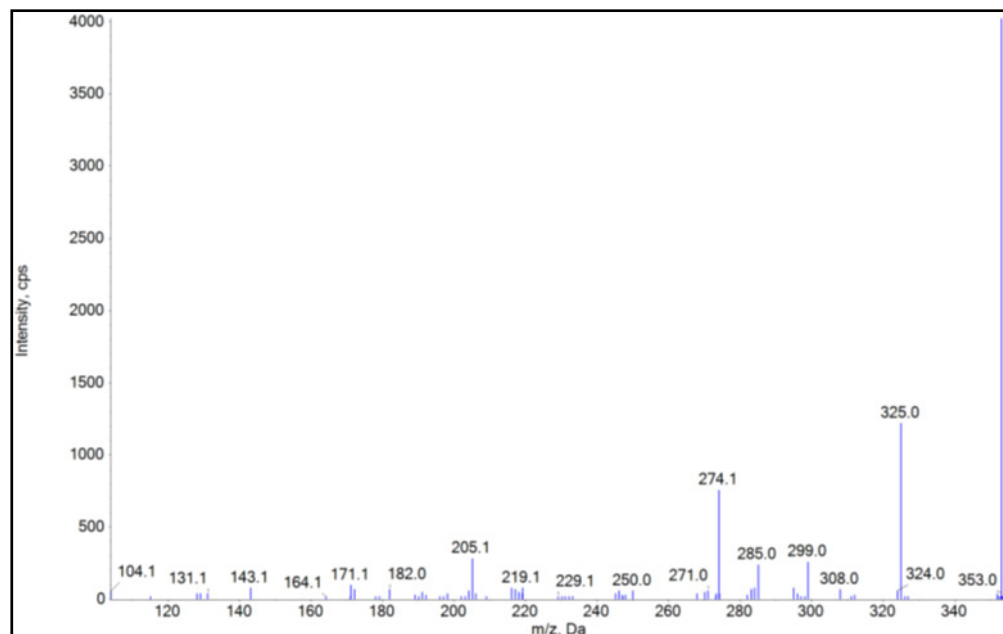
Molecular Weight (Nominal Mass): 353.2

[M+H]⁺: 353.0396

Pharmacological Drug Class: NPS
Benzodiazepine, Central Nervous System Depressant

Suggested LOD: 1-10 ng/mL

LC-QTOF-MS/MS Spectrum:



[Source: Sciex X500R, Travis County Medical Examiner, Texas, USA]

N,N-Dimethylpentylone

Substituted cathinones are one of the earliest known classes of NPS, having been detected in forensic toxicology casework internationally since the mid 2000's. This class of NPS are known stimulants, with pharmacological and psychoactive effects similar to phenethylamines such as methamphetamine and MDMA. Substituted cathinones are classified as Schedule I substances by the US Drug Enforcement Administration (DEA) but internationally, only a handful of cathinone derivatives are controlled under the 1971 Convention on Psychotropic Substances. Since 2011, the Miami-Dade Medical Examiner Department (MDME) has detected eleven different substituted cathinones in at least 700 postmortem cases, making it one of the most prominent classes of NPS identified in Miami, FL.

According to NPS Discovery, the most identified substituted cathinone in biological samples in 2021 was eutylone (11). However, in December 2021, a report was issued on the identification of N,N-dimethylpentylone in a toxicology sample, indicating a predictable shift in the national NPS drug supply, likely precipitated by a October 2021 recommendation for international control of eutylone (12, 13). N,N-Dimethylpentylone is a structural isomer of N-ethyl pentylone, the prominent substituted cathinone identified in reported forensic casework between 2018-2019. Potency of N,N-dimethylpentylone is currently unknown, but NPS Discovery and the SOFT NPS Committee have issued a recommended cut-off concentration/reporting limit of greater than 10 ng/mL (1). Early studies have identified pentylone as a primary metabolite

of N,N-dimethylpentylone, and recommendations have been made to monitor both substances in forensic casework. Due to the high isomeric content of substituted cathinones, it is imperative to have confirmatory methods in place that can discern these compounds for accurate identification.

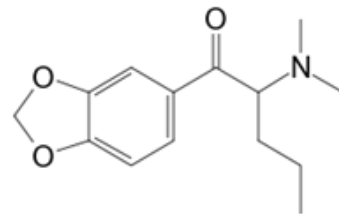
Reports on N,N-dimethylpentylone are scarce, with NPS Discovery reporting 13 and 14 identifications in 2021 Q4 and 2022 Q1, respectively, and 7 and 12 pentylone identifications in 2021 Q4 and 2022 Q1, respectively (11, 14). In addition, 5 postmortem blood samples (n=3 FL, n=1 NY, n=1 NJ) have been quantified by the CFSRE with concentrations ranging from 33 to 970 ng/mL, with average and median values of 269 ± 354 , and 87 ng/mL (15). Pentylone was also reported in all cases at concentrations less than that of N,N-dimethylpentylone.

N,N-Dimethylpentylone was first identified in casework at the MDME in August 2021. To date, it has been identified in 48 postmortem cases. Among those cases, only 6 of them contained N,N-dimethylpentylone by itself, while the other 42 cases identified a secondary or tertiary cathinone, most prominently eutylone and pentylone. Pentylone has not been reported in any cases at the MDME without the presence of N,N-dimethylpentylone, further supporting the evidence of pentylone being the primary metabolite. Eutylone was last identified at the MDME in January 2022 while the rate of identification of N,N-dimethylpentylone continues to increase.

Formal Name: 1-(1,3-benzodioxol-5-yl)-2-(dimethylamino)-1-pentanone

Synonyms: Dipentylone, bk-DMBDP

Structure of N,N-Dimethylpentylone:



Molecular Weight (Nominal Mass): 249.3

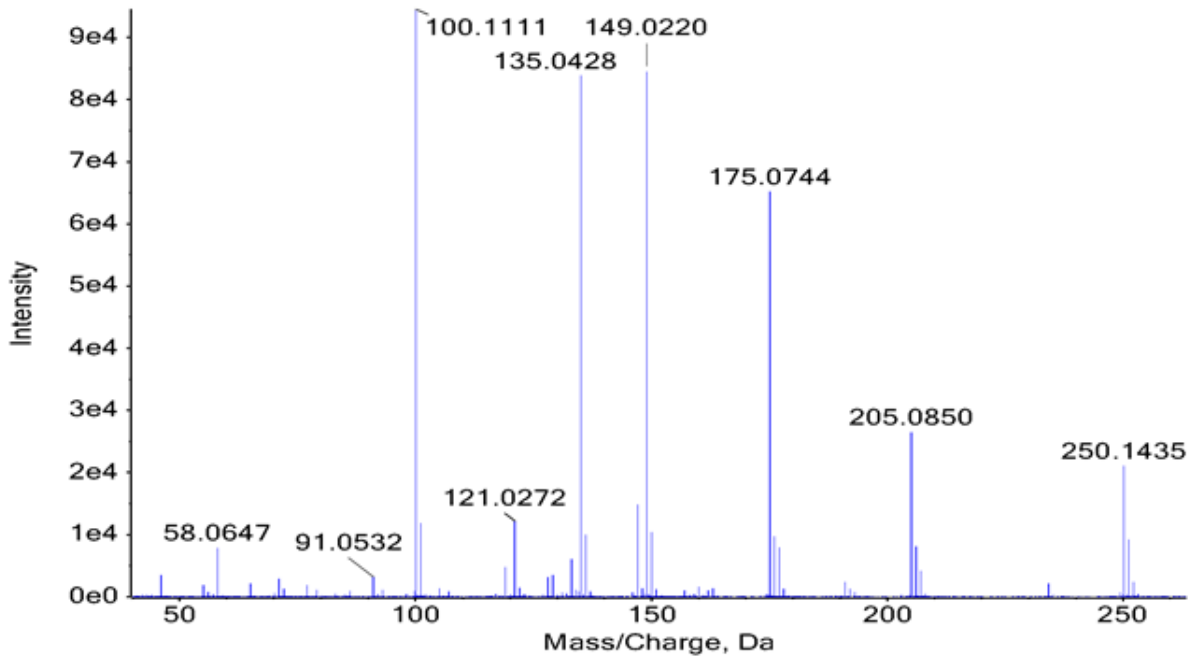
[M+H]⁺: 250.1438

Pharmacological Drug Class: Central Nervous System Stimulant

Suggested LOD: 10 ng/mL

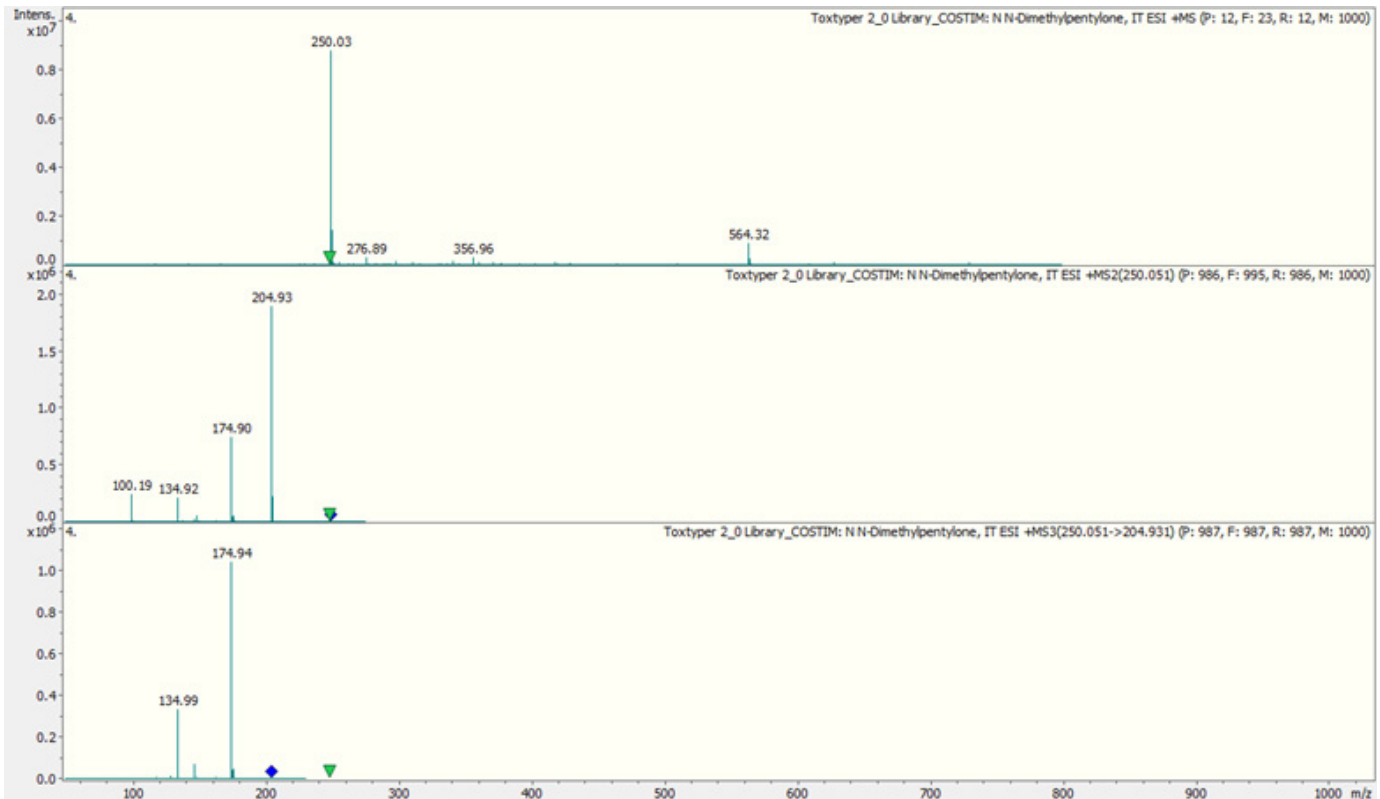
NEW DRUGS ON THE BLOCK: SPRING 2022 LINE-UP

LC-QTOF-MS/MS Spectrum:



[Source: Sciex TripleTOF[®] 5600+, NPS Discovery, Center for Forensic Science Research & Education, PA] (12)

LC-Ion Trap-MSn Spectrum:



[Source: Bruker AmaZon Speed Ion Trap with ToxTyper[®], Miami-Dade Medical Examiner Department, Florida USA]

N-Pyrrolidino Etonitazene

The “nitazene” subclass of novel synthetic opioid agonists, a group of substances with a core 2-benzyl-benzimidazole structure, emerged and proliferated after domestic and international controls stemmed the flow of fentanyl analogues. Iso-tonitazene was the first member of this group to emerge in 2019, with detections reported in Europe, Canada and the US (16–21). Metonitazene followed suit in late 2020 after isotonitazene was scheduled by the US Drug Enforcement Administration (DEA) (22–24). N-pyrrolidino etonitazene, also known as etonitazepyne, subsequently followed in 2021, and continues to be confirmed in drug-related fatalities (25).

N-pyrrolidino etonitazene is structurally similar to etonitazene, the prototypical member of this subclass that was initially investigated for its analgesic properties back in the 1950s. However, N-pyrrolidino etonitazene was never investigated for potential medicinal value and appears to be the latest attempt for clandestine chemists to create new variants through slight chemical modifications while still retaining potent receptor activation. Most of the nitazene analogs are reported to exhibit analgesic potency in animal models comparable to or greater than fentanyl, with N-pyrrolidino etonitazene being the most potent studied thus far (26) isotonitazene, has been identified in multiple fatalities since its appearance in 2019. Although recent scheduling efforts targeted isotonitazene, many other analogues remain unregulated. Being structurally unrelated to fentanyl, little is known about the harm potential of these

compounds. In this study, ten nitazenes and four metabolites were synthesized, analytically characterized via four different techniques, and pharmacologically evaluated using two cell-based β -arrestin2/mini-Gi recruitment assays monitoring μ -opioid receptor (MOR).

N-pyrrolidino etonitazene was first chemically characterized in 2020 but was not reported in the US until May 2021 through NPS Discovery (27, 28). The CFSRE issued a public alert in June 2021 reporting the detection of N-pyrrolidino etonitazene in drug-related fatalities; the involved cases were collected between January and April 2021 (25). A non-fatal intoxication involving N-pyrrolidino etonitazene, along with flualprazolam, flubromazepam, and methadone was reported from the UK; the patient reported purchasing oxycodone tablets off the DarkWeb (29). A postmortem case series was recently reported by Vandeputte et al (n=20), with blood concentrations averaging 2.5 ng/mL (30). Toxicological testing for the nitazene compounds is not routine, but a published method for detection of this class of compounds has been previously described (31).

Between 2021 and Q1 2022, NMS Labs has quantitatively reported N-pyrrolidino etonitazene in 44 postmortem cases. The earliest reported case was a postmortem case submitted from Colorado in June 2021, and positivity has increased since then. West Virginia accounts for the highest number of reported cases to date (n=14), followed by Florida (n=12), and British Columbia (n=6). Two additional states, Colorado and Georgia, reported two instances while an

additional 8 states reported one case each (MN, NJ, KY, HI, LA, VA, NY and MO). Quantitative blood concentrations for N-pyrrolidino etonitazene in this postmortem population ranged from 0.64 to 27 ng/mL, with average and median values of 5.8 ± 6.9 and 3.35 ng/mL. The majority of the reported blood concentrations (86%) were less than 10 ng/mL, underscoring the need for sensitive methodology to be able to detect and report N-pyrrolidino etonitazene.

The DEA specifically listed N-pyrrolidino etonitazene in their December 2021 scheduling notice for temporary placement in Schedule I of 7 different nitazene compounds to combat the spread of this novel group of opioids; metonitazene, protonitazene, metodesnitazene, etodesnitazene, flunitazene and butonitazene were also included (32). It is too soon to determine the impact of that scheduling notice and if it will deter the proliferation of N-pyrrolidino etonitazene and other related nitazene compounds. For now, N-pyrrolidino etonitazene (in addition to other compounds of the same class) pose a significant threat to public health and safety due to the risk from severe respiratory depression that can progress to death; therefore, these substances should be considered for inclusion in toxicological workflows, especially when routine toxicology testing covering routinely encountered opioids is negative in suspected opioid-related deaths.

Molecular Weight (Nominal Mass):
394.5

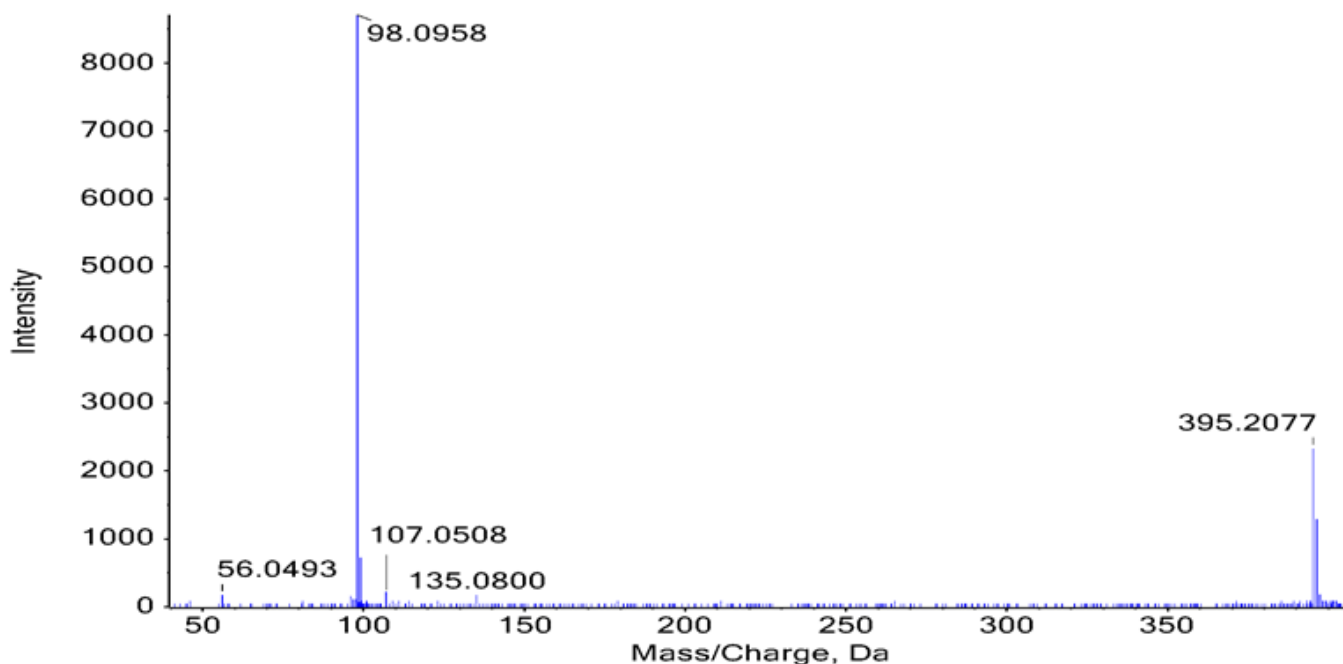
[M+H]⁺: 395.2078

Pharmacological Drug Class: NPS

Opioid, Narcotic Analgesic

Suggested LOD: <1 ng/mL

LC-QTOF-MS/MS Spectrum:



[Source: Sciex TripleTOF[®] 5600+, NPS Discovery, Center for Forensic Science Research & Education, PA] (28)

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2022 SOFT/AAFS DRUGS AND DRIVING COMMITTEE AAFS SPECIAL SESSION

SUBMITTED BY SARA DEMPSEY AND NICK TISCIONE

The SOFT/AAFS Drugs and Driving Committee sponsored a special session during the 2022 AAFS Meeting in Seattle, Washington. Six oral presentations were given in a mixed virtual and in-person format. Highlights of the presentations prepared by the authors are included below. The email address is listed for the author that can be contacted if there are additional questions or requests for more information.

K34 The Rise of the “Cannabisomers”

Tiara Evans, MS; Joshua Seither, PhD; Jessica Knittel, MS; Erin Karschner, PhD; Jeff Walterscheid, PhD*, Armed Forces Medical Examiner System, Dover Air Force Base, DE

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- Delta 8- and delta 9-THC can be synthesized from acidic cyclization of CBD.
- The rising prevalence of delta 8-THC in casework makes it difficult to distinguish and confirm the presence of delta 9-THC.
- Our method was redeveloped with modified chromatography conditions to separate delta 8- from delta 9-THC.
- This method shows no interferences with other types of potential THC isomers.
- More THC isomers and variants may be on the way, so we recommend upgrading THC confirmation methods to avoid collecting inconclusive data.

K35 Impaired Driving Cases with Clonazepam

Nicholas B. Tiscione, MS*, Palm Beach County Sheriff's Office, West Palm Beach, FL

TiscioneN@pbso.org

- It is important to monitor regional seized drug trends. In 2021 clonazepam was routinely identified in seized drug testing of counterfeit alprazolam tablets in Palm Beach County, FL.
- In the first 4 months of 2021, 24% of blood and urine immunoassay benzodiazepine positives were not able to be confirmed.
- The limit of detection of clonazepam in blood was lowered to 1 ng/mL and the metabolite, 8-amino-clonazepam (8-AMC) was added to blood and urine confirmation procedures. Immunoassay benzodiazepine unconfirmed positives dropped to 2% in the last six months of 2021.
- In the last 6 months of 2021, clonazepam/8-AMC was the 3rd most prevalent drug in drug-impaired driving blood cases, tied with alprazolam, and the 2nd most prevalent drug in urine drug-impaired driving cases.
- For blood drug-impaired driving cases involving designer benzodiazepines from 2019-2021 ($n = 38$), 97% involved polypharmacy and 82% of those involved a combination of 3 or more drugs. Opioids (76%, fentanyl 71%), cannabinoids (47%), other benzodiazepines (34%), cocaine / metabolite (26%), and ethanol (11%) were the most common.
- In a single impaired driving case where 8-AMC was the only compound identified in blood, the driver crashed into a line of stopped cars at an intersection and CNS depressant effects were observed including: slow, thick, slurred speech, difficulty understanding and following instructions, and some problems main-

taining balance.

K36 Gabapentin in Driving Under the Influence of Drugs (DUID): An Update

Jolene J. Bierly, MSFS*; Ayako Chan-Hosokawa, MS, NMS Labs, Horsham, PA

jolene.bierly@nmslabs.com

- The number of gabapentin prescriptions is increasing, and it is commonly being prescribed with CNS depressants.
- The number of gabapentin tests performed in DUID cases increased from 58 in 2019 via directed analysis to 163 in 2020 and 124 in 2021 after being included in routine testing. Percent of cases positive were 8.2% in 2020 and 6.8% in 2021. That is the highest positivity for any prescription drug in the Tier II panel.
- Mean concentrations ranged from 7.6 to 9.9 mcg/mL over the past 7 years while median concentrations have remained below 10 mcg/mL.
- 94% of gabapentin results reported between Jan 1, 2020 - Sept 1, 2021 ($n = 254$) included gabapentin in combination with other drugs. The top 5 drug combinations include opioids, stimulants, benzodiazepines, cannabinoids, and antidepressants.
- Observations from three gabapentin only DUID case studies included CNS depressant effects such as slurred speech, poor coordination, drowsiness, HGN, and slow pupillary reaction to light.

2022 SOFT/AAFS DRUGS AND DRIVING COMMITTEE AAFS SPECIAL SESSION

SUBMITTED BY SARA DEMPSEY AND NICK TISCIONE

K37 An Assessment of the National Safety Council's Tier 1 and Tier 2 Scope Recommendations in Authentic Driving Under the Influence of Drugs (DUID) Cases

Grace Cieri, BS*; Amanda Mohr, MSFS; Melissa Fogarty, MSFS, CFSRE, Willow Grove, PA

Barry Logan, PhD, CFSRE, Willow Grove, PA and NMS Labs, Horsham, PA

Grace.cieri@students.Jefferson.edu

- Authentic DUID samples from January 2020 to December 2021 were processed against a comprehensive scope to assess tier I and tier II findings.
- THC (48.6%), Methamphetamine (17.5%), Amphetamine (15.3%), and Fentanyl (14.5%) were the most common tier I compounds detected (n=1,324).
- Overall, 32% of cases contained only tier I drugs, 26% contained tier 1 and tier II drugs only and 15% only contained ethanol.
- The most common poly drug combination detected was ethanol and THC together in 181 cases.
- Some of the most frequently seen NPS were 8-aminoclonazepam (3.3%), fluorofentanyl (2.7%) and etizolam (1.5%). For comparison, alprazolam was observed in 3.8% of cases.
- Testing for the scope recommended Tier I compounds, and ethanol captures 97% of cases with an impairing substance.
- The National Safety Council's recommendations for tier I and tier II drugs are supported, and it is recommended to add novel benzodiazepines to DUID testing scope.

K38 The Use of Statistical Models to Evaluate Signs of Cannabis Impairment During Drug Recognition Expert (DRE) Evaluations

Karen Woodall, PhD; Rachel Ram, BSc*, University of Toronto, Mississauga, Ontario, Canada;

Reed Holland, York Regional Police Service, Aurora, Ontario, Canada

rachel.ram@mail.utoronto.ca

- This study evaluated Drug Recognition Expert (DRE) evaluations to determine which observed indicators can be used to accurately predict recent cannabis use and if observations resulting from cannabis only cases can be distinguished from polydrug-cannabis use.
- DRE Evaluations were confirmed as cannabis-only, polydrug-cannabis and cannabis negative using urine analysis which is the main toxicological sample collected by DREs in Ontario, Canada. Models were created using two statistical analyses that were cross validated to ensure reliability and accuracy.
- Eyelid tremors was identified as the most reliable indicator that can distinguish cannabis positive from cannabis negative cases. The presence of eyelid tremors significantly increased the odds of cases being classified as cannabis positive more than any other indicator. Rebound dilation was also indicative of cannabis positive cases. Of the two models, this classification system yielded the highest accuracy (79.6%).
- There were no significant differences between cannabis-only and polydrug-cannabis cases.

Therefore, DREs can still use eyelid tremors and rebound dilation to reliably determine if an impaired driver is under the influence of cannabis even if polysubstance use is suspected.

- This study is the first to provide real world validity using urine analysis and DRE evaluations to identify a statistically supported classification model that is reflective of recent cannabis use.

K39 Evaluating Cannabinoid Interference and Drug Stability in Oral Fluid for Driving Under the Influence of Drugs (DUID) Testing

Jasmine Maxwell, MSFS*; Elizabeth Gardner, PhD, University of Alabama at Birmingham, Birmingham, AL

Curt E. Harper, PhD, University of Alabama at Birmingham, Birmingham, AL and Alabama Department of Forensic Sciences, Hoover, AL

jasmine.maxwell@adfs.alabama.gov

- Baseline resolution between delta 8-THC, delta 9-THC, and delta 10-THC in oral fluid can be achieved by LC/MS/MS.
- Based on our data, it appears that delta 9-THC is more stable in oral fluid than delta 8- and delta 10-THC with good stability up to 90 days when stored at 4 °C.
- Previously analyzed delta 9-THC oral fluid samples had a median decrease of 20% (Range: 8%-96%) over a 2.5 year time period.
- Due to instability at room temperature, officers should be encouraged to ship oral fluid samples in timely fashion and/or store temporarily in refrigerator during interim.

If you have a new article that you'd like to see in FTTL, please send them to kshanks@axisfortox.com

Here are five new published manuscripts which you may find interesting and helpful to your toxicological investigations.

Fatal Intoxication by the Novel Cathinone 4-Fluoro-3-Methyl- α -PVP

Journal of Analytical Toxicology

DOI: <https://doi.org/10.1093/jat/bkac003>

Hobbs et al. reported the case of a 30 year old male with a history of research chemical and synthetic cannabinoid use, who was found unresponsive in cardiac arrest while at work. After admission to the hospital and attempted resuscitation, he was pronounced deceased. Pulmonary and cerebral edema, cardiomegaly, and dilated ventricles were observed at autopsy. Postmortem femoral blood was screened by ELISA, GC-MS, GC-FID, and LC-MS/MS for drugs of abuse, therapeutic medications, volatile substances, and novel opioids/fentanyl. It was negative for those compounds. Review of the GC-MS full scan data revealed an unknown peak in both the blood and urine samples, which was further identified by a GC-MS selected ion monitoring method as the novel cathinone, 4-fluoro-3-methyl- α -PVP (femoral blood, 26 ng/mL; heart blood, 30 ng/mL). The analyte was also detected in the vitreous humor and urine, but not detected in the liver tissue. Cause of death was certified as fluoro-methyl-PVP toxicity and manner of death was accident. This case is the first published report of a fatality due solely to this substance.

A Cluster of 25B-NBOH Poisonings Following Exposure to Powder Sold as Lysergic Acid Diethylamide (LSD)

Clinical Toxicology

DOI: <https://doi.org/10.1080/15563650.2022.2053150>

Ivory et al. reported the circumstance where five people (ages 22-24) were admitted to the hospital after being exposed to a powder thought to be LSD while at a party. Observed effects from the ingestion included mydriasis, tachycardia, hypertension, agitation, hallucinations, status epilepticus, acute kidney injury, and rhabdomyolysis. Blood toxicology testing revealed the presence of the novel hallucinogen 25B-NBOH. Interestingly, hyperthermia, a common observed effect from 25-NBOX substances, was not seen in any of the patients. All toxicity was resolved in the patients within twelve hours while in the hospital.

A Case of Fatal Multidrug Intoxication Involving Flualprazolam: Distribution in Body Fluids and Solid Tissues

Forensic Toxicology

DOI: <https://doi.org/10.1007/s11419-021-00591-w>

Giorgetti et al. reported the case of a 21 year old male found unresponsive while in bed. He was found in the same room as two other men who stated they had used "speed" that night. The man was transported to the hospital where resuscitative attempts were unsuccessful and he was pronounced deceased. Findings at autopsy included atherosclero-

sis, mild dilatation of the right heart chambers, noncritical stenosis of the left descending coronary artery, aspiration of stomach gastric contents, pulmonary and cerebral edema, visceral congestion, and hepatic steatosis. Postmortem blood and blood serum from the hospital admission were used for toxicological analyses. Antemortem serum was positive for flualprazolam (37 ng/mL), hydroxyflualprazolam, bromazepam (9.4 ng/mL), GHB (<2.5 mcg/mL), THC-COOH (<5 ng/mL), amphetamine (28 ng/mL), tilidine (86 ng/mL), nortilidine (250 ng/mL), naloxone (4.9 ng/mL), flumazenil, and ethanol (0.94 g/L). The postmortem femoral blood was positive for flualprazolam (21.9 ng/mL), hydroxyflualprazolam, bromazepam, tilidine, nortilidine, flumazenil, and ethanol (0.95 g/L). Flualprazolam was also detected in brain, liver, kidney, stomach contents, and urine. Cause of death was determined to be central nervous system and respiratory depression with agonal aspiration of stomach contents in the setting of multiple drug intake.

Phenibut, a GABAB Agonist, Detected in a Fatality

Journal of Analytical Toxicology

DOI: <https://doi.org/10.1093/jat/bkab099>

Amdt and Gray reported the case of a 26 year old male who was found dead in his apartment. The individual had a history of drug use, anxiety and depression, and suicidal ideation. During survey of the scene, the apartment had multiple broken alcohol bottles and broken glass, along with containers for various medications including buspirone,

hydroxyzine, quetiapine, oxcarbazepine, naltrexone, sertraline, propranolol, and doxylamine. Containers labeled as phenibut were also observed. At autopsy, cutaneous injuries to the body were observed along with an enlarged heart, epicardial hemorrhages, concentric left ventricular hypertrophy, and cardiac chamber dilation, hepatic steatosis, and arterionephrosclerosis. Postmortem heart blood screened positive for sertraline, desmethylsertraline, and phenibut. Sertraline and desmethylsertraline were determined to be at therapeutic levels and not confirmed quantitatively. Phenibut was confirmed by LC-MS/MS in the femoral blood with an approximate blood concentration 2.5-5 mg/L. Cause and manner of death were certified by the medical examiner as undetermined.

A Systematic Study of the In Vitro Pharmacokinetics and Estimated Human In Vivo Clearance of Indole and Indazole-3-Carboxamide Synthetic Cannabinoid Receptor Agonists Detected on the Illicit Drug Market

Molecules

DOI: <https://doi.org/10.3390/molecules26051396>

Brandon et al. reported an in vitro study on the pharmacokinetics of twelve new synthetic cannabinoids from the indole/indazole-3-carboxamide family, which included MDMB-4en-PINACA, AMB-CHMICA, MDMB-FUBINACA, 5F-MDMB-PINACA, MDMB-4en-PICA, AMB-FUBINACA, 4F-MDMB-BINACA, 5F-AMB-PINACA, 5F-MDMB-PICA, AMB-4en-PICA, AB-CHMINACA, and

AB-FUBINACA. The authors observed that due to high protein binding (88.9-99.5%) and potential accumulation of parent drug in lipid-rich tissues, longer detection windows of these substances and their associated metabolites may occur in both blood, and urine. Parent compounds may be present in urine at small proportions compared to their respective metabolites. For the most part, S-enantiomers were cleared more rapidly in vitro than R-enantiomers and compounds with valine methyl ester moieties (the AMB- subclass) were cleared the fastest, with tert-leucine methyl ester compounds (the MDMB- subclass) in the middle, and valinamide compounds (the AB- subclass) cleared at the slowest rate. Specific data for each compound can be found within the manuscript.

We Monitor Trending Drugs

Flubromazepam and Benzodiazepines



OPEN COMMITTEE MEETINGS

Please join us for Open Committee Meetings! This is an opportunity for members to gain awareness of the ongoing committee activities, special projects, and hear from the committee chairs and members.

Drug Facilitated Crimes Open Committee Meeting

June 3, 2022, 2:00 PM EST

Register here: <https://us02web.zoom.us/meeting/register/tZwrdu2trjlvHdMBk7tZpZc6XC2UihNOxvdh>

Drugs and Driving Open Committee Meeting

June 10, 2022, 2:00 PM EST

Register here: <https://us02web.zoom.us/meeting/register/tZAocmuqT0jGNAcgJlcC1Wx4OG6r4a0HKoO>

Toxicology Resource Committee Open Meeting

June 16, 2022, 2:00 PM EST

Register here: https://us02web.zoom.us/meeting/register/tZwtc-2gq-DorH9ezFf_qd9C3UZTUH9Sb11ZL

Oral Fluid Committee Open Meeting

June 27, 2022, 12:00 PM EST

<https://us02web.zoom.us/meeting/register/tZMrd-GprDgpGtTuABYfyU-l2UuPOzQWv467g>

IN MEMORIAM



RONALD R. BELL, B.S., F-ABFT

Ronald Reed Bell, 67, passed away peacefully on December 29, 2021 with his wife by his side.

Ron was a brilliant and well known highly respected Forensic Toxicologist. He graduated from the University of Miami & had an undergraduate degree in pharmacology before

accepting a position as Chief Toxicologist for the Pinellas/Pasco County Medical Examiner's Office where he worked for 25 years before retiring in 2004. Ron had continued on as a consultant in his field until just a few months ago.

Ron was an avid sailor & was married to his wife Louise on May 10, 1997 on their sailboat. Ron also enjoyed cruising and photography after following in the footsteps of his parents who were professional photographers. Traveling was a passion of his and with his wife was very blessed to travel the world. Music was another and he enjoyed many artists including Jimmy Buffet & The

Alan Parson's Project.

Ron is survived by his wife of 24 1/2 years Louise and preceded in death by his loving parents, Jesse and Alice.

Ron requested no service and that his ashes be scattered in the Gulf of Mexico. There will be a celebration of his life at O'Keefes Tavern in Clearwater. The date has not been set yet but will be shared on Facebook by his wife of the date and time.

Ron was a loving husband and wonderful friend to so many people. He will be missed so very much.

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Thank you to our 2022 ERA Donors! We appreciate your continued support of SOFT and our younger members.

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Thank you!

AAFS UPDATE & NEWS

SUBMITTED BY MADELEINE J. SWORTWOOD, PHD - SAM HOUSTON STATE UNIVERSITY

First, on behalf of the AAFS Toxicology Section, I would like to thank everyone who joined us in Seattle both in-person and virtually! It was an excellent meeting, and we look forward to seeing you all next year in Orlando. Thanks to all of the sponsors who supported top-notch workshops and receptions, and of course, tons of appreciation for our workshop chairs, presenters, program chairs, moderators, abstract reviewers, and everyone who helped facilitate a hybrid meeting – we know it was a huge lift and we couldn't have done it without you!

We have a big year ahead, so I wanted to get things rolling. As Section Chair, I am pleased to announce that Toxicology Section leadership will include *Mandi Mohr* (Secretary), *Diane Boland* (Program Chair), and *Dayong Lee* (Program Co-Chair). While we await scientific program deadlines, now is the time to get your

workshop proposals and abstract ideas together. If you are thinking of a workshop, please reach out to Diane Boland diane.boland@miamidade.gov to let us know your plans. We would also like to start gathering abstract reviewers now. If you are willing to help out (and get service that counts towards your membership promotion application), then **please email Diane to serve as an abstract reviewer** diane.boland@miamidade.gov

Now is also a great time to think about nominating some of our colleagues for AAFS Toxicology Section awards and scholarships. Nominations and supporting documents are due August 1, 2022 to the Awards & Scholarships Committee Chair Tate Yeatman yeatmand@pbs.org. A full list of awards and descriptions are linked [here](#).

Are you thinking about promoting your membership status or applying to

become a member? AAFS membership is a great way to serve on committees, network, join mentorship programs, apply for grants/scholarships/awards, and serve on Toxicology Section Leadership. You can read about our membership categories and promotion requirements [here](#). If you are looking to promote, there are Academy and Section requirements which include attendance at business meetings, conference attendance, and service to the field. Some ways to advance within the Section for promotion include presenting abstracts, moderating, workshop presenter, abstract reviewer, etc.

Stay tuned for more information on the 75th Annual AAFS meeting in Orlando, FL, February 13-18, 2023 where we will celebrate the Diamond Jubilee year with the theme of "Science Works"!

INTERNSHIP OPPORTUNITIES

CALLING ALL STUDENTS AND PROSPECTIVE INTERNS!!

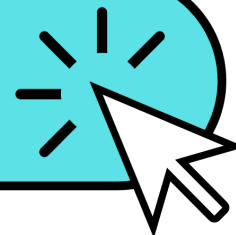
SOFT is pleased to announce the Internship Opportunities page of the SOFT website is now LIVE!!! Our hope is that the information presented on this page can be used by aspiring forensic toxicologists to grow in the field through hands on experience in

a forensic toxicology laboratory, as well as fulfill the internship requirements commonly found in many graduate and undergraduate programs. It is our desire that the information contained here remain fluid with additional internship opportunities being added and current ones updated consistently. Please enjoy the latest addition to the SOFT website, and we

hope this page offers students and other prospective interns some guidance during their internship search!

For any questions regarding this page, please contact Marissa Finkelstein at Marissa.Finkelstein@miamidade.gov

CLICK HERE



TO LEARN MORE!

CONTINUING EDUCATION

SOFT offers several Continuing Education opportunities to members and non-members. All SOFT webinars are available for purchase as a live webinar or a recording. The cost to participate in a SOFT webinar is \$25 for SOFT members and \$35 for non-mem-

bers. The cost to participate in a joint webinar is free to SOFT/TIAFT members and \$50 for non-members. SOFT membership is required to participate in the JAT offering and is free.

You may claim credit for your partici-

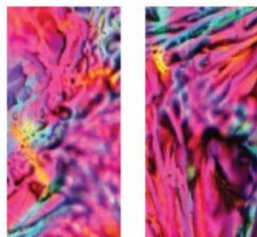
pation in SOFT Continuing Education opportunities. Accreditation is provided by American Association for Clinical Chemistry (AACC).

Please click the images below to view more information and to register.



Journal of Analytical Toxicology

<https://academic.oup.com/jat>



IN THIS ISSUE:

An Enhanced LC-MS-MS Technique for Distinguishing Δ^8 - and Δ^9 -Tetrahydrocannabinol Isomers in Blood and Urine Specimens

Phenethyl-4-ANPP: A Marginally Active Byproduct Suggesting a Switch in Illicit Fentanyl Synthesis Routes

Concentrations of para-Fluorofentanyl in Paired Central and Peripheral Blood Collected during Postmortem Death Investigations

Systematic Studies on Temperature-Dependent *In Vitro* Stability during Storage and Smoking of the Synthetic Cannabinoid SF-MDMB-F7A/CA

Simultaneous Quantification of 17 Cannabinoids by LC-MS-MS in Human Plasma

Safety: Pharmacokinetics and Pharmacokinetics of Spacem Yellow Oil in Healthy Participants



INTERPRETATION OF FORENSIC TOXICOLOGY RESULTS AROUND THE GLOBE AND INTO THE FUTURE



NOVEL PSYCHOACTIVE SUBSTANCES: ANALYTICAL METHODS AND ENCOUNTERED CHALLENGES (PART I)

CONTINUING EDUCATION



**OK, YOU'RE AN
EXPERT - NOW WHAT?**

**AN INTRODUCTION TO
EXPERT WITNESS
TESTIMONY WEBINAR**

**NPS IN
COMBINATION
WITH
EVERYTHING!**



**STATE OF DRUG
FACILITATED
CRIMES TESTING**



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FUTURE SOFT MEETINGS

2022

HUNTINGTON CONVENTION CENTER, CLEVELAND, OH
OCTOBER 30-NOVEMBER 4, 2022
DOUG ROHDE AND SHELLY CROSBY

2023

GAYLORD ROCKIES, DENVER, CO
OCTOBER 29-NOVEMBER 3, 2023
DAN ANDERSON AND VANESSA BEALL

2024

UNION STATION, ST. LOUIS, MO
OCT 27-NOV 2
SARAH RILEY AND JUSTIN POKLIS

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DEADLINES FOR CONTRIBUTIONS:

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SUBMISSION DUE BY **AUG 15**

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ISSUE 4:

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PUBLISHING **DEC 9**

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