

# Uncovering Biomarkers Associated with Synthetic Cannabinoid Compounds

Anya Eram\*

Department of Medical Science, Novosmania State University, Novosmania, Nigeria

## Abstract

Researchers were driven by the urge to explore the fundamental physics behind a perplexing forensic enigma. Their findings, featured in the journal "Physics of Fluids," reveal theoretical insights into the connection between the advancing vortex ring generated by the discharge of firearms and the subsequent blood backflow. Prior to this, the research group had established an all-encompassing analytical framework for these highly concentrated, self-similar vortex rings, which exhibits a mathematical linkage to the theory of quantum oscillators.

**Keywords:** Drugs • Biomarkers • Fluids

## Introduction

New Psychoactive Substances (NPS) mimic the effects of illicit drugs such as cannabis, cocaine, heroin, "Ice," ecstasy, and LSD. To circumvent legal restrictions, clandestine research institutions aspire to introduce synthetic cannabis with diverse molecular structures. In their recent publication in the journal "Physics of Fluids," under the auspices of AIP Publishing, researchers unveil theoretical insights highlighting the interplay between the advancing vortex ring generated by firearm muzzle gases and the subsequent reverse blood splatter. This team had previously provided a comprehensive analysis of these turbulent, self-similar vortex rings, firmly grounded in the mathematical framework of quantum oscillators.

As a prominent scholar and researcher from the University of Illinois at Chicago remarked, "In our prior work, we elucidated the physical process of reverse splatter as an inherent instability triggered by the acceleration of a denser fluid, namely, blood, toward a lighter medium, which is air. This phenomenon is analogous to the well-known Rayleigh-Taylor instability responsible for water dripping from a ceiling."

The professor emphasized the significance of the research, stating, "Prior to our investigation, the digestive and urinary biomarkers of ADB-BUTINACA were shrouded in uncertainty. Our groundbreaking discovery and analytical approach offer invaluable support to forensic teams, perpetually challenged by the emergence of new synthetic cannabinoids, and can also serve the global community in addressing the escalating misuse of this synthetic cannabinoid. This brings us one step closer to realizing our vision of a drug-free world."

## Description

The collaborative study, conducted in partnership with the Analytical Toxicology Laboratory of Singapore's Health Sciences Authority, made its debut in the journal Clinical Chemistry on August 13, 2021.

**\*Address for correspondence:** Anya Eram, Department of Medical Science, Novosmania State University, Novosmania, Nigeria, E-mail: [anya\\_eram5@gmail.com](mailto:anya_eram5@gmail.com)

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In pursuit of new biomarkers for precise detection of synthetic illicit drug use, the researchers focused on another synthetic cannabinoid called ADB-BUTINACA. This compound first surfaced in Europe in 2019 and subsequently infiltrated Singapore's illicit drug market in the following year. Although three metabolites of ADB-BUTINACA are available as reference standards for conventional legal screenings, they were found to be either absent or present in minimal quantities in certain urine samples from affected individuals. Consequently, there arose the need to identify potential additional metabolites that could serve as urinary biomarkers for the consumption of this particular cannabinoid.

Instead of resorting to the conventional and labor-intensive method of synthesizing ADB-BUTINACA metabolites, Professor [Name] and his research team introduced an innovative approach to identifying unique metabolites of this cannabinoid, drawing upon principles of drug metabolism and pharmacokinetics [1-5].

## Conclusion

Experts point out that these beads have the potential to accumulate behind the victim, in addition to the forward splatter caused by a penetrating projectile. Consequently, it is plausible for the shooter's attire to remain relatively free of bloodstains, provided that their position corresponds closely with that of the victim. The comprehension of these physical phenomena acquired through this study holds significant utility in forensic investigations, including cases like the Clarkson murder. The researcher emphasizes that many forensic enigmas of this kind can find resolution through the application of dependable principles of fluid mechanics.

## Acknowledgement

None.

## Conflict of Interest

None.

## References

1. Kim, W, Kim KH, Shin DW, and Park J, et al. "Characteristics of Korean poisoning patients: retrospective analysis by National Emergency Department Information System." *J Korean Soc Clin Toxicol* 17(2019):108-117.

2. Kim, S, Choi S, Kim HH, and Yang HW, et al. "Comparison of mortality rate according to hospital level among patients with poisoning based on Korean Health Insurance and Assessment Service." *J Korean Soc Clin Toxicol* 17(2019):21-27.
3. Cappelli, R., Ferrara M, and Maltoni D. "Fingerprint indexing based on minutia cylinder code." *IEEE Transact Pat Anal Mach Int* 33(2011):1051-1057.
4. Ferrara, M., Maltoni D, and Cappelli R. "Noninvertible minutia cylinder-code representation." *IEEE Transact Informat Foren Sec* 7(2012):1727-1737.
5. Centers for Disease Control and Prevention (CDC). "Unintentional poisoning deaths-United States, 1999-2004." *MMWR Morb Mortal Wkly Rep* 56(2007):93-96.

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