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# Development of a screening kit for detecting synthetic cathinones

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In recent years, abuse of illicit drug has been a very important problem. Signi cant amount of unknown illicit substances are sized by enforcement and boarder protection agencies. Synthetic cannabinoids cathinones have a psychoactive e ect on our bodies. e identi cation these drugs is important not only for the proof of the crime, but also human health. Generally, to identify the illicit drugs, we use the techniques such as gas chromatography-mass spectrometry (GC-MS) and high performance liquid chromatography-mass spectrometry (HPLC-MS). ese instruments however, are not always convenient owing to their high cost of running, the need for trained personnel, lengthy analysis times, etc. Screening kits for detecting drugs, therefore, are required at the scene crime and the development of them is desired. In this study, we have designed the screening kit for cathinones to provide easi an indication of the presence or absence of cathinones in a test sample. is kit consists of a glass tube enclosed reagents whic react with them (named “cathinone detector tube”). is kit utilizes the reaction of cathinons with neocuproine and copper(II) to give a colored copper(I)-neocuproine complex. e presumptive color test method for the detection of synthetic cathinones by Morgan Philip, et al. is applied to the development of this screening kit. ey describe that nepcuproine color test displays good selectivity to cathinone analogs. To improve operativity and preservation of our kit, three aqueous solutions were coated on silica gel particle and then the powders have been enclosed in a single glass tube. e reagent in the tube colored orang from light blue in the presence of cathinones. In consequence, this kit had very high sensitivity for detecting cathinones. e limit of detection of -PVP, for example, was 5 µg (absolute amount, 100 µL of 50 µg/mL solution).

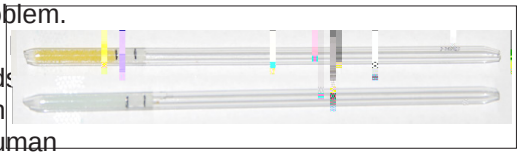

Figure-1: Cathinone detector tube. Approximately 100 uL of a test solution is sucked into the detector tube. Upper one is positive control. Orange color appeared in the presence of cathinones.

References

1. Morgan Philip, Ronald Shimmon, Mark Tahtouh, Shanlin Fu (2016) Development and validation of a presumptive color test method for the detection synthetic cathinones in seized illicit materials. Forensic Chem 1: 39-50.

## Biography

<XNL 0XNDL LV FXUUHQWO\ D 0DVWHUV VWXGHQW DW 8QLYHUVLW\ RI 7VXNXED -DSDQ 6KH EHORQJV WR SUREOHP LQ WKH ZRUOG HVSHFLDOO\ LQ V\QWKHWLF FDQQDELQRLGV DQG FDWKLQRQHV 6KH KDV UHF V #X WVXNXED DF MS

## Notes: