UNIVERSITI TEKNOLOGI MARA

ANALYSIS OF AMPHETAMINE-TYPE STIMULANTS (ATS) DRUG IN HAIR AND NAIL SAMPLES OF DRUG ABUSERS

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MSc

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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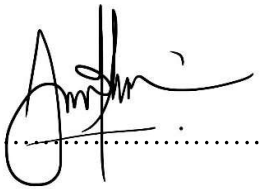
Signature of Student	:	 ……..
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ABSTRACT

Drug analysis on biological samples have been widely used in forensic toxicology. Samples of hair and nail offer several advantages in drug analysis such as longer time-window for drug detection. The objective of this study was to identify the presence of Amphetamine-Type Stimulants (ATS) drugs including amphetamine (AMP), methamphetamine (MAMP), N-methyl-1-(1,3-benzodioxol-5-yl)-2-butanamine (MBDB), methylene-dioxyamphetamine (MDA), methylenedioxyethyl-amphetamine (MDEA), methylenedioxy-methamphetamine (MDMA) from hair and nail samples of drug abusers. In this work, 97 male drug abusers' hair and 88 nail samples of ATS usage history were investigated. The identification of ATS in the samples was analysed by using alkaline digestion method with Gas Chromatography-Flame Ionization Detector (GC-FID). Both methods of hair and nail analysis were successfully analyzed and validated with the assessment of the following parameters: linearity of calibration curve, limit of detection (LOD) and limit of quantification (LOQ). The results revealed that analyte AMP is the highest most detected ATS drug in hair, followed by MAMP, MDEA, MBDB, MDA and MDMA. While for nail drug analysis, the highest content on ATS drug detected was analyte MDA, followed by AMP, MDEA, MBDB, MAMP and MDMA. This method of alkaline digestion was proven to be simple and was successfully applied for the quantification of ATS drug in hair and nail samples of drug abusers.

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