Impurity Profiling of Ecstasy Tablets Seized In İzmir

Hasan Durmuş¹, Melek Merdivan²
¹Criminal Laboratory, İstanbul, Turkey, hdurmus1@hotmail.com
²The University of Dokuz Eylul, Faculty of Science & Arts, Chemistry Department, 35160, İzmir, Turkey, melek.merdivan@deu.edu.tr

Ecstasy is the most popular name which is given the tablets that are containing 3,4-methylenedioxymethamphetamine (MDMA), a derivative of amphetamine. Ecstasy is a semi-synthetic psychedelic empathogen [1]. Today these tablets are consumed by mostly young adults and teenagers in night clubs and streets. In synthetic drugs, certain impurities may be route specific. Impurities are likely to be present in illicit seizures as a result of poor chemical handling during synthesis, side reactions of the intermediates formed, inadequate purification procedures and contamination, either in the reagents, the adulterants and diluents added in the reaction vessels or due to packaging and handling of the final tablets [2-3]. This work reports a study on the impurity of profiles of ecstasy tablets from 100 seizures in İzmir from January 2005 - June 2006, starting with detection of the synthesis route and after that trying to find a connection between them in order to help law enforcements. Tablet samples were extracted by diethyl ether under basic condition and then analyzed by gas chromatography-mass spectrometry. It is apparent that the most used method of synthesis is reductive amination in the production of MDMA. The data matrices were examined by hierarchical analysis, and then the ecstasy tablets were classified into different groups. Cluster analysis of ecstasy tablets is shown to be capable of providing intelligence on clandestine laboratory networks.

References