ABSTRAK

In the investigation of narcotics, especially marijuana, Indonesian National Police Forensic Laboratory, conduct an examination of the evidence by using instruments such as GC-MS. Of the examination can identify and determine the type of chemical in marijuana evidence of illicit drugs. The sample in this study were drawn at random from the preliminary evidence seized from the suspect dealers, dealer, or marijuana users who get caught in the jurisdiction in East Java Indonesian National Police in the year 2009-2011.

Prior to GC-MS analysis was performed on samples of evidence of illicit drugs, first performed extraction optimization of solvent used. From the results of optimization that can be known that the solvent aceton gives better results compared with other organic solvents. Having obtained the optimal conditions for extraction, then performed the optimization of conditions for GC-MS instrument. Processed data chromatograms obtained by analysis of Principal Component Analysis or PCA using the software by using a Camo-unscramble software version 9.8. From the research results can be known of the clustering results of samples of evidence marijuana illicit drugs into 3 groups.

Keywords: marijuana, drugs, GC-MS, PCA, illicit.