Analisis Pengotor dan Karakterisasi Metamfetamin yang Beredar Ilegal Secara Kromatografi Gas dan Kromatografi Cair Kinerja Tinggi = Analysis of Impurities and Characterization/profiling of Illegal Methamphetamine by Gas Chromatography and High Performance Liquid Chromatography

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Abstrak

Metamfetamin merupakan stimulan yang diproduksi secara sintesis dan termasuk salah satu jenis narkotika yang sering disalahgunakan serta diedarkan secara ilegal di Indonesia. Investigasi kasus peredaran ilegalnya di Indonesia selama ini belum didukung pengotor dan karakteristik/profil metamfetamin tersebut. Penelitian ini dilakukan untuk menganalisis pengotor dan membuat karakterisasi/profil serta mengetahui rute sintesis metamfetamin yang beredar ilegal. Penelitian dilakukan pada 20 sampel metamfetamin sitaan penyidik tahun 2011-2012 dengan menggunakan instrumen kromatografi gas spektroskopi massa, kromatografi gas ionisasi nyala dan kromatografi cair kinerja tinggi. Ekstraksi sampel dilakukan dengan dua cara yaitu ekstraksi dengan dapar fosfat pH 10,5 dan etil asetat, dan ekstraksi langsung dengan etil asetat. Hasil penelitian menunjukkan adanya pengotor berupa 1-fenil-2-propanon, (pseudo)efedrin, Nformilmetametamin, N-asetilmetamfetamin, 1-fenil-2-propanol, naftalen, aziridin, dan oksazolidin. Kiralitas sampel menunjukkan adanya metamfetamin yang berbentuk rasemat, levo dan dekstro. Berdasarkan data penelitian di atas dapat disimpulkan 3 rute sintesis yang digunakan yaitu : reduksi aminasi, Emde dan Nagai. Sebaran kemurnian sampel metamfetamin berkisar antara 10% hingga 71%.

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Abstract

Methamphetamine is a stimulant that is produced in the synthesis and include any type of drug that is often missused and illegally circulated in Indonesia. Investigation of cases of illegal circulatian in Indonesia so far has not been supported by impurities and characteristics/profile of methamphetamine. The study was conducted to analyze impurities and make the characterization/profile and find out an out standing synthesis route of illegal methamphetamine. The study was conducted on 20 samples of seized methamphetamine investigation in 2011-2012 by using gas chromatography mass spectroscopy, gas chromatography flame ionization detector, and high performance liquid chromatography. Extraction of samples done in two ways: extraction with phosphate buffer pH 10.5 and ethyl acetate, and direct extraction with ethyl acetate. The results indicate the presence of impurities in the form of 1-phenyl-2-propanone, (pseudo)ephedrine,

N-formylmethamphetamine, N-acetylmethamphetamine, 1-phenyl-2-propanol, naphthalene, aziridine, and oxazolidine. Chirality of the sample indicate the presence of racemic, levo and dextro. Based on research data can be concluded that the synthesis of 3 routes used are: reductive amination, Emde and Nagai.