

# Exploitation of Heroin in $WPS_3$ Silica Adsorption as Terrorism Financing

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Heroin, all over the world, and in our country, affecting various aspects of the individual and society, is a global health problem. As one of the most important sources of income of terrorism, heroin becomes an international security issue. Turkey's to be transit and production center, imported intermediate chemical substance, particularly acetic anhydride and other southwest Asian countries, Iran and Afghanistan to be sent to our country to be undergoing therefore also the province of Van, this transit line most of all have made. In this study, operations were performed by police at different times in Van. Seized in operation the major opium alkaloids and pure quantity of different physical properties of heroin samples untreated and  $WPS_3$  treated were analyzed by using GC-MS spectrophotometer and the amount of heroin and other components have been identified. Adsorbed amount of heroin, drug abuse, according to the type of the criminal proceedings availability is evaluated.

*Keywords:* opium, heroin, silica, adsorption, GC-MS spectroscopy

## Introduction

People are known to use some plants which is benefit from drugs and warning effect in various ways since ancient times. This usage has proceeded nowadays.

However, due to rapid development of organic chemistry in the last century has gained a different situation. The abused materials which produced synthetically result in a much more serious problem in terms of usage today than ever before in human history (Meahley & Stromberg, 1981, pp. 17-34). In this case, stop the misusing of abused materials in national and international institutions or at least to restrict and so on individuals has led to efforts to prevent the harmful effects of the circulation of large segments of society.

Initially, in 1874, diacetylmorphine which is obtained by acetylating synthesized morphine in London by Wright began to sell under the name of heroin by German manufactures Friedrich Bayer. Heroin (diacetyl morphine) is synthesized by acetylation of morphine which is one of the main components obtained from opium. Heroin is derived from "Heroic" which means hero in English. It is used for pain relievers and cough suppressants as medicine for a long time. Since the early 1970s, heroin which spread of abusing in the worldwide created physiological and psychological dependence in people who used and it was in the first place in terms of toxic effects among the abusing substances (Meahley & Stromberg, 1981).

The compounds of producing illegal heroin may be very different and complex which depend on using the raw materials, the additives and applying manufacturing process.

Associating the comparison of heroin samples and investigating the research of determination the sources, several analytical methods for this purpose has led to the use of different analysis techniques. The main ones: color and microcrystalline tests, paper and thin layer chromatography (TLC), gas chromatography (GC), liquid chromatography (LC), ultraviolet spectrophotometer (UV), infrared spectrophotometer (IR) mass spectrometer (MS) can be sort. Usually, the gaz chromatographic techniques are used for analysis heroin (Neumann, 1986, pp. 1-24). In the first time, column filled with gas chromatography and components of the main opium poppy in heroin and additives were based on qualitative or quantitative analysis (Curry & patterson, 1970; Sobol & Sperling, 1975; Van Derslooten & Van Derhelm, 1975; Huizer, 1977; Moore, 1978; Vandelloo, Franke, & Zeeuw, 1980).

Since the early 1980s onwards, the uses of capillary columns have been widespread due to their superiority of strength, flexible usability, separation power of sensitivity with respect to filled column. Capillary columns, together with the main components in the samples have been active in analysis of additives and analysis of trace levels of contamination (Neuman & Gloger, 1982; Moore, 1983; Allen, 1984).

Initially do not make thought heroin addiction, which led to addictive as morphine was understood 12 years after the commencement of the sale by medical authorities (Lingeman, 1974). Today, the manufacture and use of heroin are prohibited legally almost non medical use of heroin in any country. However, the production of heroin is made illegal. The use of heroin and other drug issues in our country as well as all over the world can affect the whole community and individual and also which have biological, psychological and social aspects of a health problem. According to data from United Nations Office on Drugs and Crime, drug use increasing everyday all over the world, social and political problems caused by the drug brings distinct economic and social burdens to the countries.

Many countries are affected due to drug negatively with varying amounts of each country. Drugs issues actually are the multisectoral issue which concerning health as well as security and international issues (Akgul & Kaptı, 2009)

Multisectoral issues which are faced with many problems in the fight against drugs. One of the these problems are also given to the types of criminal drug application (Derdiman, 2010).

In New Turkish Penal Code number of 5237-188/4 article was specified given that the penalties much more than the other drugs; in national and international policy and legal issues and working on solution offer which are fought against drugs, with regard to activity like production, trade, import and export, drugs or cordial which are heroin, cocaine, morphine or morphine base. Ozdabakoğlu (2009) emphasized the necessity of relieving Turkish Penal Code, number of 2313 and number of 3298 assumptions in law which are about audit of drugs represents a limited concept.

An important aspect of this sector is terrorism. A report prepared by KOM (2010), like PKK-KONGRAGEL, DHKP/C, TKP-ML, DEVSOL, and ASALA organizations make an enormous profit from drugs are identified; especially since 2003, get followed closely terror organizations financial situation from drugs. At the same report, 142 kg heroin was captured on October 2010 by Kocaeli, İstanbul, Van and Hakkari KOM branch offices which are performed simultaneous operation. Under investigation determined, PKK/KONGRAGEL terror organization members bring drugs to Afghanistan, Iran and Turkey borders themselves.

When associated studies in the literature related to drugs and terrorism, terrorism, poverty, and inequality

concepts of identity crisis appears to be among the most important factors and is quite effective on mass terror grips with this. Especially, Van which come into an immigrant city of our province and also due to the social based unrest, urbanization has brought problems in recent years particularly from Hakkari province and even from nearby states (Iran, Iraq, Afghanistan, and Azerbaijan) with incoming migration. This psychological and socio-economic climate of the region enables smuggling and drug commerce. In this context of the present study, we aimed to contribute to the police and gendarmerie which struggle against the drug first degree.

The study has been examined that silica which heroin and contributions and the amount of physical similarity enhancing agent, after analyzing mixed with heroin in decreasing the amount of heroin and so may be exposed to legal punishment abuse.

## Materials and Methods

### Materials

In this study, heroin in different physical property was obtained by the gendarmerie and the police in seized various operations from Van-Başkale region of Turkey. Analytical instruments used GC-MS (Gas chromatography-Mass Spectrometry compound system), centrifugation (Hermle Z230 to 55,000 rpm), Jammer (Vibrofix Vf 250001/min) automatic pipette, balance, adsorbent as WPS<sub>3</sub> silica and all chemicals used were of analytical reagent grade. All experiments were carried out in the laboratory of gendarmerie criminal.

### Methods

Firstly, each of 2.3 g M<sub>1</sub>, M<sub>2</sub> and M<sub>3</sub> samples was put in the porcelain mortar and homogenized. Then, each of sample was put in the mouth closed of the seven ml glass bottle and samples was dissolved in five ml of chloroform (CHCl<sub>3</sub>). Two hundred µl tetracosane was added to each of three bottles. Agitation was made for two min. Then, the samples were analyzed using GC-MS (Gas chromatography-Mass Spectrometry compound system).

Secondly, 2.3 g of M<sub>1</sub> samples was dissolved in five ml of chloroform (CHCl<sub>3</sub>). Then, silica was added to bottles in 25 mg amount. Agitation was made for 10, 30 and 60 min. At the end of the each experiment, the samples were centrifuged for five min at 2500 rpm. After centrifuged, supernatants were analyzed by GC-MS (Gas chromatography-Mass Spectrometry compound system). This experiments were done for each of other samples.

## Results and Discussion

### Direct Analysis of Samples

Firstly, physical properties of samples was evaluated such as color and particle size. Accordingly M<sub>1</sub> sample, thin powdery and dark beige colored, M<sub>2</sub> sample, coarse-grained, powdery and dark cream colored, and M<sub>3</sub> sample was found to be thin powdered and light cream colored.

In describing the compounds of the samples, electron ionization mass spectra are used. These spectra, Toxicology NBS (National Phrase of standards) and Wiley Library in the computer unit of the GC-MS instrument were using found and Heroin and other compounds were determined.

Results of GC-MS analysis of sample (M<sub>1</sub>) with collective superposition of the chromatograms were made for 10, 30 and 60 min (see Figure 1, Figure 2, Figure 3).

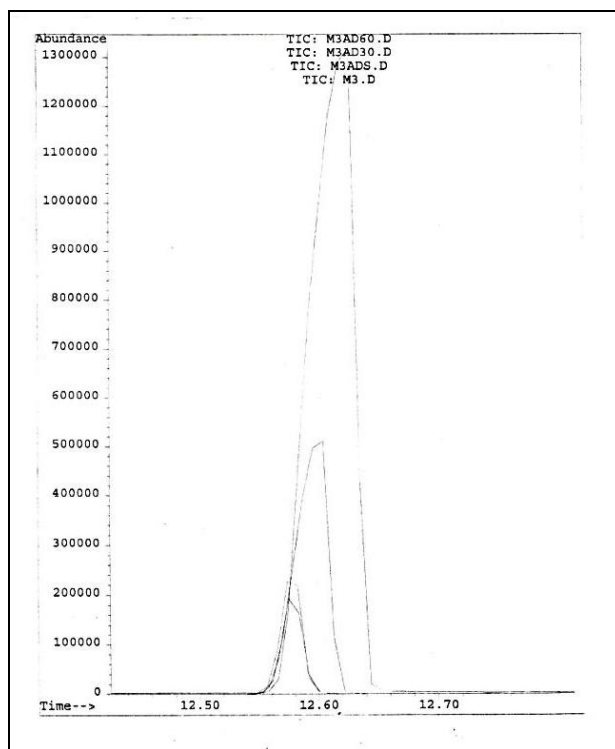


Figure 1. The gas chromatogram of direct analysis result of sample (M<sub>1</sub>).

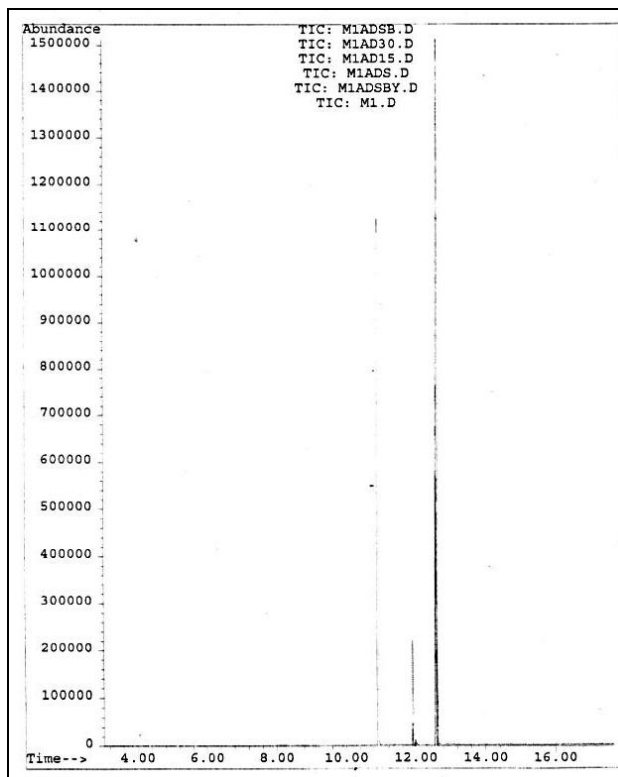


Figure 2. Collective superposition of the chromatograms on the adsorption of sample (M<sub>1</sub>) for 10 min, 30 min and 60 min by silica WPS<sub>3</sub>.

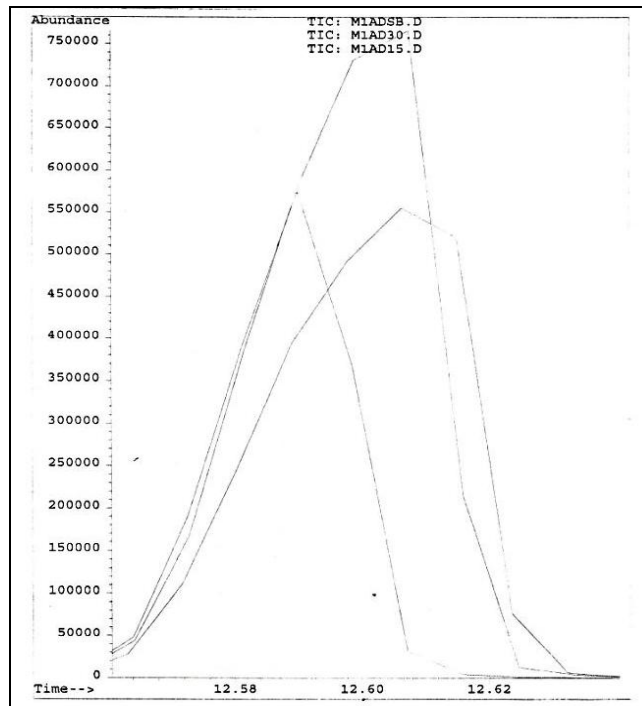


Figure 3. Extended version for heroin of chromatograms on the adsorption of sample (M<sub>1</sub>) by silica WPS<sub>3</sub> for 10 min, 30 min and 60 min.

Direct results of GC-MS analysis of sample (M<sub>2</sub>) with extended of chromatograms on the adsorption of heroin by silica WPS<sub>3</sub> for 10,30 and 60 min. and Collective superposition of the chromatograms (see Figure 4, Figure 5, Figure 6).

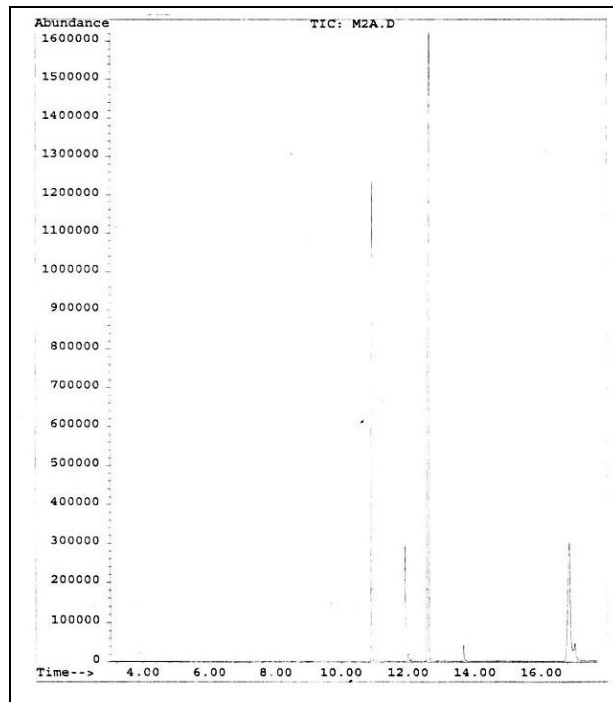


Figure 4. The gas chromatogram of direct analysis result of sample (M<sub>2</sub>).

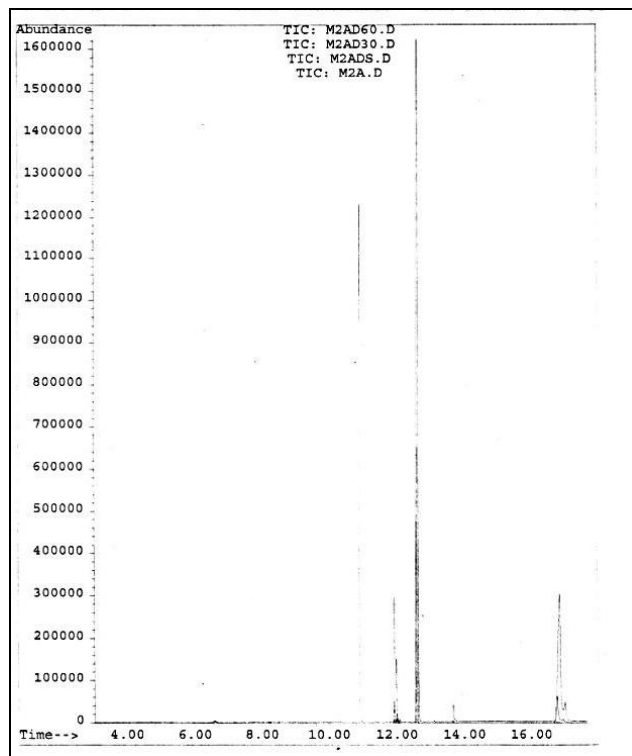


Figure 5. Collective superposition of the chromatograms on the adsorption of sample (M<sub>2</sub>) for 10,30 and 60 min. by silica WPS<sub>3</sub>.

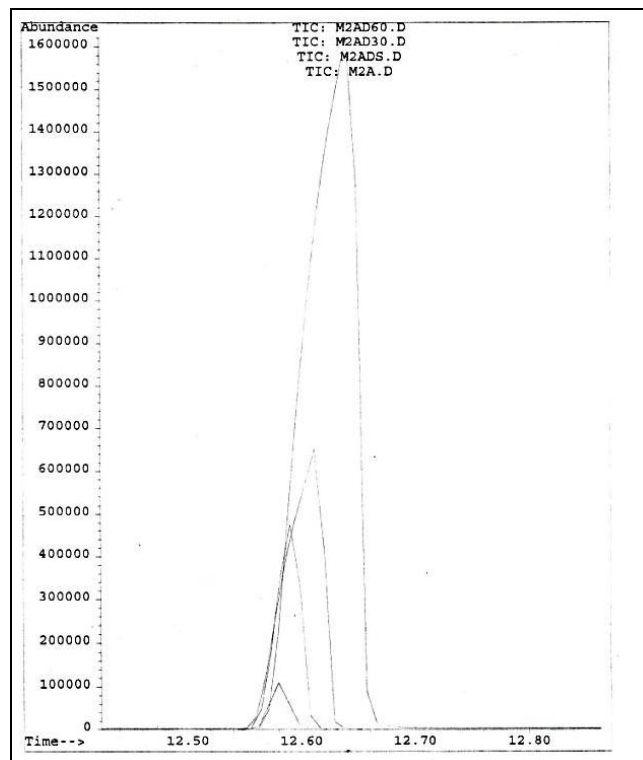


Figure 6. Extended version for heroin of chromatograms on the adsorption of sample (M<sub>2</sub>) by silica WPS<sub>3</sub> for 10 min, 30 min and 60 min.

Direct results of GC-MS analysis of sample (M<sub>3</sub>) with extended of chromatograms on the adsorption of heroin by silica WPS<sub>3</sub> for 10 min, 30 min and 60 min. and Collective superposition of the chromatograms (see Figure 7, Figure 8, Figure 9) (Koyuncu, 1996).

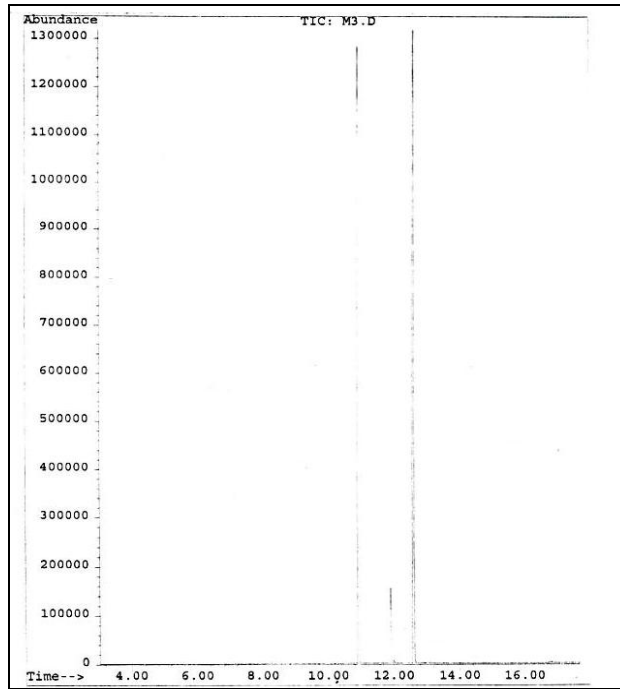


Figure 7. The gas chromatogram of direct analysis result of sample (M<sub>3</sub>).

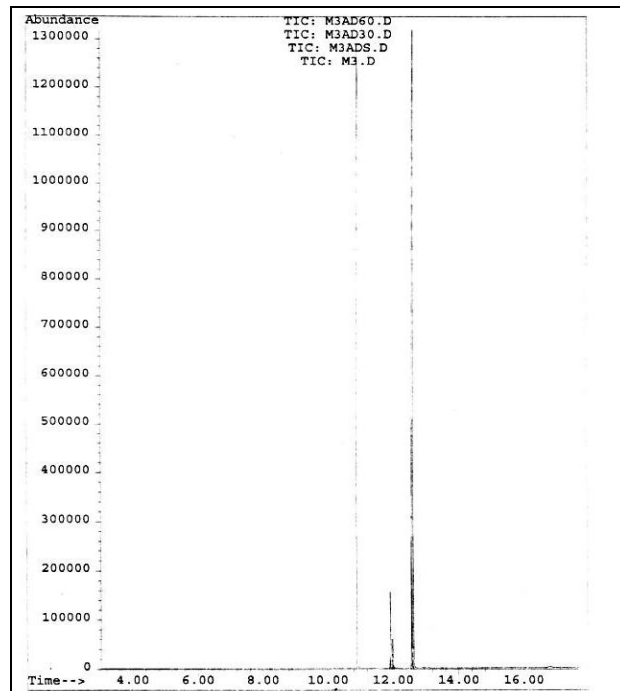


Figure 8. Collective superposition of the chromatograms on the adsorption of sample (M<sub>3</sub>) for 10 min, 30 min and 60 min by silica WPS<sub>3</sub>.

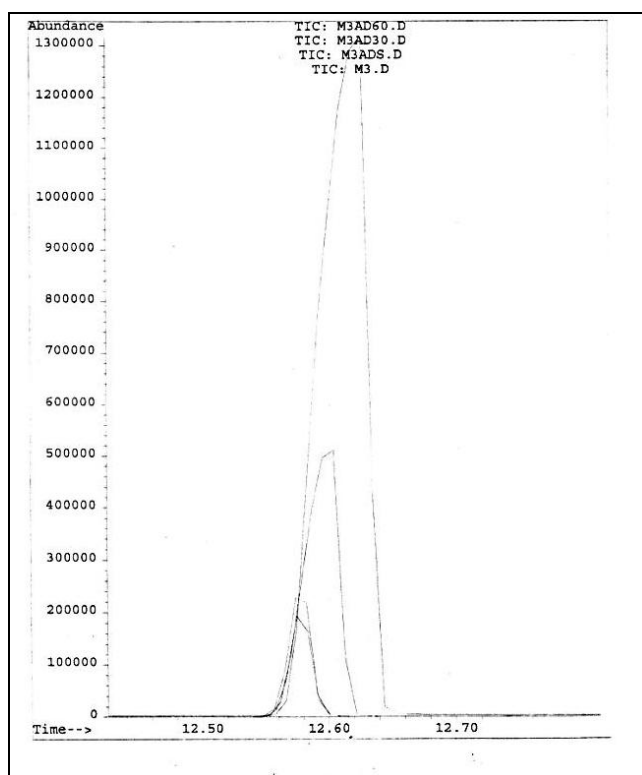


Figure 9. Extended version for heroin of chromatograms on the adsorption of sample (M<sub>3</sub>) by silica WPS<sub>3</sub> for 10 min, 30 min and 60 min.

Table 1

*The Amount of Heroin (%) and Other Components in Heroin Samples*

samples	The amount of heroin (%)	Components of heroin				
		Acetyl codeine	Mono acetyl morphine	Papaverine	Noskapine	Mecoine
M <sub>1</sub>	70.0	Available	Available	Not	Not	Not
M <sub>2</sub>	44.5	Available	Available	Available	Available	Not
M <sub>3</sub>	52.0	Available	Not	Not	Not	Not

**Results of GC-MS Analysis on the Adsorption of Samples by Silica WPS<sub>3</sub>**

Peak area values after adsorption of heroin in the samples are given in Table 5. It is clear from the table that the value of peak area decreases with increasing adsorbent time. It was seen that the required time for maximum adsorption was 10 min.

**Conclusion**

Results of the analysis of the different physical properties of the selected sample. In the sample numbered with M<sub>1</sub> that is dark beige of color and thin dust, which a high percentage of heroin in it and acetyl codeine, mono acetyl morphine was determined. In the sample numbered with M<sub>2</sub> was found that the acetyl codeine, mono acetyl morphine and papaverine. In the sample numbered with M<sub>3</sub> just determined. M<sub>2</sub> sample was found to be different from the other samples. This difference is due to the manufacturing process. This can be explained that the impurities of the raw materials used, and morphine fully purified or may also be caused by



post-added ingredients.

According to the obtained results, it can be said that after the adsorption of the heroin decreases of the peak area, adsorption rate is very high in the first 10 minutes, 30 minutes, and 60 minutes to slow down the decline and that reaches almost equilibrium of the adsorption process.

Table 2

*Peak Area Values after Adsorption of Heroin in the Samples*

Samples	Without adsorbent	Adsorbent	Adsorbent Time	Field Values
M <sub>1</sub>	-	-	-	40.238.745
M <sub>1</sub>		Silica WPS <sub>3</sub>	10	13.407.157
M <sub>1</sub>		Silica WPS <sub>3</sub>	30	8.379.787
M <sub>1</sub>		Silica WPS <sub>3</sub>	60	5.666.812
M <sub>2</sub>	-	-	-	50.055.883
M <sub>2</sub>		Silica WPS <sub>3</sub>	10	15.375.882
M <sub>2</sub>		Silica WPS <sub>3</sub>	30	7.435.016
M <sub>2</sub>		Silica WPS <sub>3</sub>	60	1.380.992
M <sub>3</sub>	-	-	-	34.246.633
M <sub>3</sub>		Silica WPS <sub>3</sub>	10	10.075.056
M <sub>3</sub>		Silica WPS <sub>3</sub>	30	3.146.949
M <sub>3</sub>		Silica WPS <sub>3</sub>	60	2.514.918

The silica used in this study shows similar physical properties with heroin, as its availability provide an good additive and the increasing amount of heroin. In scientific studies, to establish a relationship between heroin samples scientific, heroin samples should be examined whether it contains silica, based on this study may be said that the amount of percentage of heroin in samples containing silica and other components will be less than the actual value. This may be brought about drawbacks listed below.

The law to scramble smuggling of the part which determines the bonuses and the amount of bonuses type of the drug, the unit amount is calculated according to the amount and degree of purity is called by law. If expert or other person will defective error, for example if the data in the analysis of heroin mixed with silica, heroin percentage will be low and they may be lower than necessary jackpot amounts. Results of error of analysis would reduce of the success and reduce the pace of police work in the fight against drugs (Akgül & Kaptı, 2009; KOM Report, 2008; Derdiman, 2010).

Several authors have reported on the legal problems of drug and drugs criminal proceedings they claim that there were misconceptions and the scattered legislation should be combined (Derdime, 2010; Özdabakoğlu, 2009). They have shown that there is no effect of drug under the particular dosage of drugs therefore there is no crime. It will be determined after the analysis of the relevant institutions of the drug substance analysts, if they do analysis of heroin mixed with silica, in the analysis, the amount of heroin will be low. Maybe, that the judges will have conclusion that there is no crime and criminals will be able to punish with a lower penalty. Drug dealers will be able to determine whether the police of the recipient.

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