

P21 The role of ethanol containing lotions on ethylglucuronide in hair.

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Ethyl glucuronide (EtG) in hair, a non-volatile, direct metabolite of ethanol proved to be an interesting marker for the evaluation of social and chronic excessive alcohol consumption. Regarding the influence of cosmetic treatment, only one study has so been published so far showing that bleaching may significantly decrease EtG concentrations in hair. For fatty acid ethyl esters, another hair alcohol marker, it was shown that a regular use of hair lotions with high alcohol content leads to wrong positive results. In this study we investigated if this may also be the case with EtG in hair.

For this preliminary study 3 moderate alcohol drinkers treated the right side of the scalp with a commercial hair lotion (Petrole hahn) containing 243 g/L ethanol during 5 consecutive days whereas the left side was not treated. Hair of both sides was then cut and washed with water and acetone. After extraction by solid phase extraction using Oasis MAX columns and pentafluoropropionic anhydride derivatization, EtG was quantified by GC/MS in negative chemical ionization mode using EtG-d5 as internal standard,

The results of the treated hair showed an increase of EtG for the three subjects: from 6.9 to 16.2 pg/mg, from 5.4 to 9.4 pg/mg and from 6.9 to 16.8 pg/mg respectively (mean of three analyses), whereas the non treated hair did not show a significant increase. In conclusion, preliminary results indicate that an increase of EtG in hair cannot be excluded after treatment of hair by lotions containing ethanol.

P22 Forensisch-chemisches und kriminalistisches Vorgehen mit 3D optischen Messungen bei Verdacht auf Medikamentverfälschungen.

Special testing and 3D optical measurements in cases of supposable counterfeit medications.

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The description of seized illicit or counterfeit tablets and other pressed drug products is an important step in casework. The physical and visual analysis and the description of the characteristics can be employed for intelligence purposes. Besides photography and manual measurements of dimensions, some optical instruments are employed for detailed measurements of physical characteristics. The method of 3D surface digitizing is a suitable tool for high accurate documentation of small objects, especially for pressed drug products. The resulting detailed information about the geometry and the results of an automatic comparison of apparently uniform tablets can support the drug intelligence.

P23 Synthese, Charakterisierung und Analyse von JWH-018-Strukturanalogen

Synthesis, Characterization and Analysis of Structural Analogues of JWH-018

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On January 22nd 2009, the German Health Authorities prohibited several nontraditional cannabinoids that proved to be the active components in popular "Bio-Designer-Drugs" like "Spice" and analogous products [1, 2]. While the regulation included several homologues of CP 47,497 (alkyl side chain C6 to C9), only one representative of the alkylaminoindoles (JWH-018) was banned. However, in-vitro data suggest that JWH-018 analogues possess equal or higher affinity to the CB1 and CB2 receptor than Δ^9 -THC [3]. The same is true for compounds that lack the carbonyl functionality (e.g. compound 2c, JWH-175) [4].

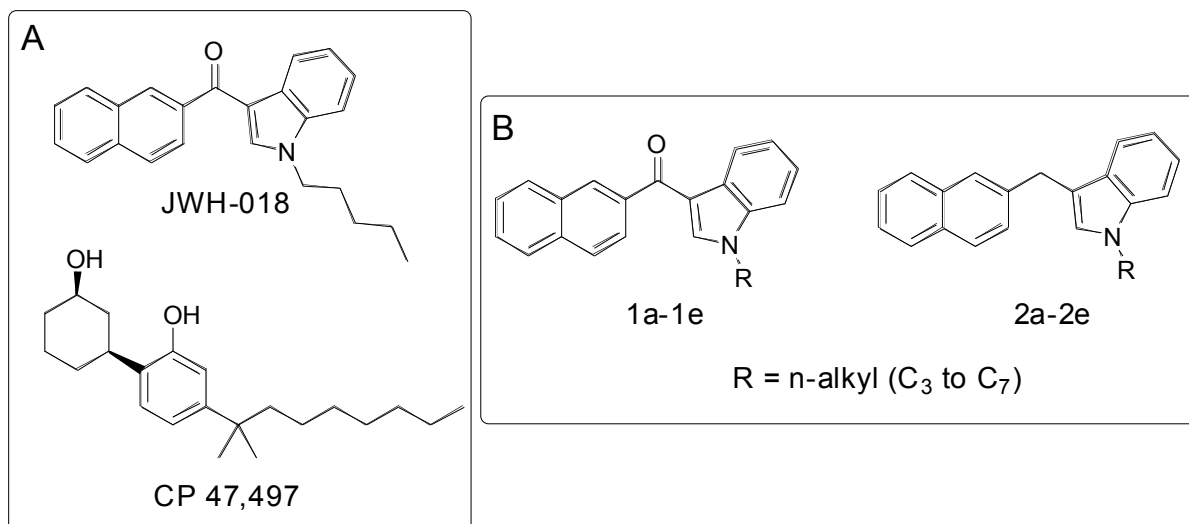


Fig. 1: Structures of compounds prohibited in Germany (A) and structural analogues of JWH-018 (B)

To facilitate the analysis of potentially interesting compounds of “Spice-replacement-products”, we synthesized the compounds 1a-1e and 2a-2e. The compounds were purified and the structures were verified by NMR. High quality mass spectra were recorded under standard GC-EI-MS conditions. The MS-Data (in NIST-format) of all described compounds and synthetic intermediates is available and can be obtained from the authors.

References

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P24 Quantitative Bestimmung des „Spice“-Wirkstoffes JWH-018 im Blut mittels Liquid Chromatography - Tandem Mass Spectrometry.

Quantitative determination of the active ‘Spice’ ingredient JWH-018 in blood by liquid chromatography - tandem mass spectrometry.

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Objectives: The incense ‘Spice’ and similar herbal mixtures receive growing interest in the public. Consumers have reported a hallucinogenic effect from smoking ‘Spice’. Recently, synthetic cannabinoids have been identified as active ingredients of ‘Spice’. The German penal code prosecutes persons who drive a motor vehicle unsafely following consumption of inebriating substances. Therefore the legitimate basis of the sanction is analytical proof of psycho-active substances in the driver’s blood.

Materials and methods: The incense mixtures Spice Arctic Synergy, Spice Silver, Spice Gold, Sence, Smoke Rubin, Genie and Silent Black were screened for their ingredients. Methanolic extractions were analysed on a GC Agilent Technologies 7890 A, MSD HP5975 with phenylmethylsiloxan capillary column. For the detection