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Project	The molecular basis of chemical hair evidence
Fields of interest	Hair analysis, ambient mass spectrometry
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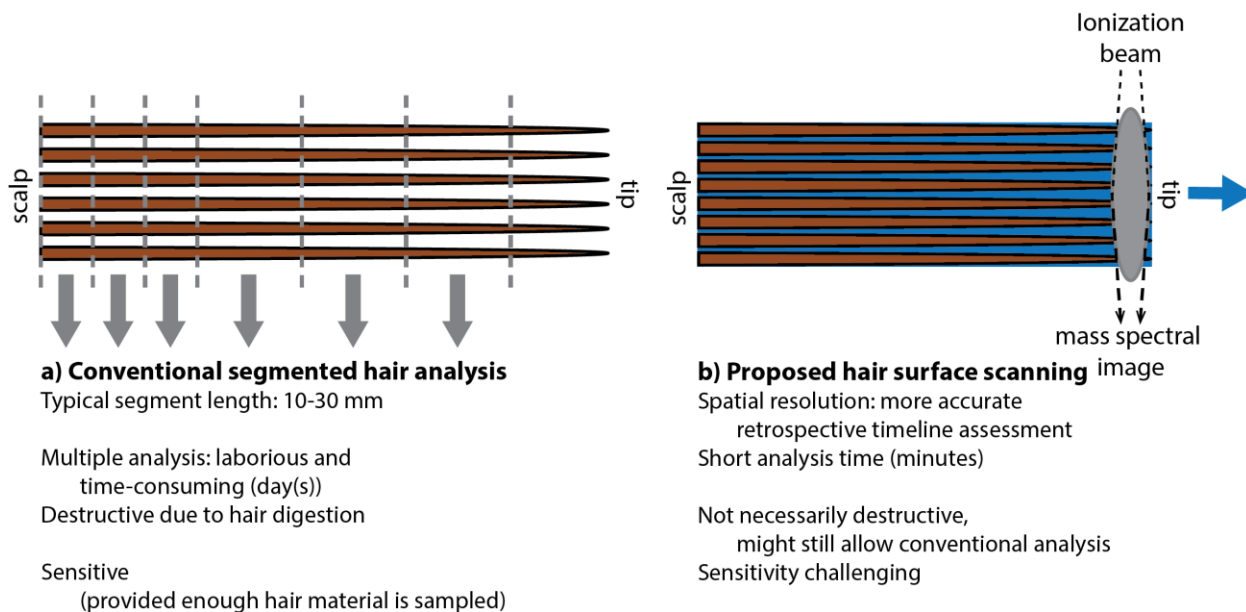


Introduction

Current forensic hair analysis methods are laborious, time-consuming and provide only a rough retrospective estimate of the time of drug intake. Recent developments on single hair analysis using matrix-assisted laser desorption ionization mass spectrometry (MALDI-MS) are promising, but analysis of individual hairs may lead to misinterpretation due to different hair growth phases. Ambient ionization of intact locks of hair would solve this issue, minimize the sample preparation time and could enhance the obtained information by longitudinal scanning. Direct analysis in real time (DART), coupled to different MS instruments, has been explored as a fast screening technique for drugs of abuse in hair samples.

Goal

The aim of this project is to study new analysis methods for drugs of abuse in hair by ambient ionization using DART-MS. The focus will be on widely used drugs of abuse, like cocaine and cannabis. Next to this, decontamination strategies will be investigated to avoid false positive results caused by external contamination.



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