

Accepted Manuscript

In the pursuit of the holy grail of forensic science - spectroscopic studies on the estimation of time since deposition of bloodstains

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PII: S0165-9936(18)30065-7

DOI: [10.1016/j.trac.2018.04.009](https://doi.org/10.1016/j.trac.2018.04.009)

Reference: TRAC 15137

To appear in: *Trends in Analytical Chemistry*

Received Date: 18 February 2018

Revised Date: 5 April 2018

Accepted Date: 12 April 2018

Please cite this article as: G. Zadora, A. Menżyk, In the pursuit of the holy grail of forensic science - spectroscopic studies on the estimation of time since deposition of bloodstains, *Trends in Analytical Chemistry* (2018), doi: 10.1016/j.trac.2018.04.009.

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In the pursuit of the holy grail of forensic science - spectroscopic studies on the estimation of time since deposition of bloodstains

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Abstract

Bloodstains can serve as a source of high-value information, allowing for the reconstruction of bloodshed events or identification of the sample donor. However, from the forensic perspective, the evidential potential of blood traces is not fully exploited. This is because despite significant research efforts, to date, no reliable method for estimating time elapsed since bloodstain deposition has been established. Nonetheless, over the last few years (2011-2017), some noteworthy advances have been made in the field of bloodstain dating, therefore the objective of the following paper is to provide a critical review of recently developed methods, with a particular emphasis on spectroscopy-based approaches. Finally, impediments to applying established procedures in routine forensic practice, along with perspectives to improve the future developments of bloodstain dating techniques, are also discussed.

Keywords:

Bloodstains; Age estimation; Time since deposition; Spectroscopy; Forensic science

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