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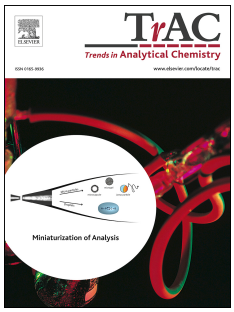

In the pursuit of the holy grail of forensic science - spectroscopic studies on the estimation of time since deposition of bloodstains

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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