# **Accepted Manuscript**

Surface enhanced Raman spectroscopy: A review of recent applications in forensic science

Marisia A. Fikiet, Shelby R. Khandasammy, Ewelina Mistek, Yasmine Ahmed, Lenka Halámková, Justin Bueno, Igor K. Lednev



PII: S1386-1425(18)30163-X

DOI: doi:10.1016/j.saa.2018.02.046

Reference: SAA 15850

To appear in: Spectrochimica Acta Part A: Molecular and Biomolecular

Spectroscopy

Received date: 16 January 2018 Revised date: 13 February 2018

Accepted

14 February 2018

date:

Please cite this article as: Marisia A. Fikiet, Shelby R. Khandasammy, Ewelina Mistek, Yasmine Ahmed, Lenka Halámková, Justin Bueno, Igor K. Lednev, Surface enhanced Raman spectroscopy: A review of recent applications in forensic science. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Saa(2017), doi:10.1016/j.saa.2018.02.046

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# ACCEPTED MANUSCRIPT

# Surface enhanced Raman spectroscopy: A review of recent applications in forensic science

Marisia A. Fikiet, Shelby R. Khandasammy, Ewelina Mistek, Yasmine Ahmed, Lenka Halámková, Justin Bueno, and Igor K. Lednev\*

Department of Chemistry, University at Albany, SUNY, 1400 Washington Avenue, Albany, NY 12222, United States

## \*Corresponding Author

Keywords: SERS, Forensics, SERS substrates, Criminalistics

Dedication: The authors would like to dedicate this review to Professor Yukihiro Ozaki and his considerable contributions to the field.

#### Abstract:

Surface enhanced Raman spectroscopy has many advantages over its parent technique of Raman spectroscopy. Some of these advantages such as an increase sensitivity and selectivity and therefore the possibility of extremely small sample sizes and detection of incredible small concentrations are invaluable in the field of forensics. A variety of new SERS surfaces and novel approaches are presented here on a wide range of forensically relevant topics.

### Contents

1	Introduction	2
2	Biological Samples	2
3	Controlled Substances and Toxicology	4
4	Explosives and Gunshot Residue	6
5	Questioned Documents	7
6	Trace Analysis	7
	6.1 Paint	7
	6.2 Fibers	8
7	Discussion and Conclusions	9
A	.cknowledgements	10
R	References	

## Download English Version:

# https://daneshyari.com/en/article/7669312

Download Persian Version:

https://daneshyari.com/article/7669312

<u>Daneshyari.com</u>