

## Surface Enhanced Raman Spectroscopy Bioanalytical Biomolecular And Medical Applications Biological And Medical Physics Biomedical Engineering

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Covers applications of surface-enhanced Raman scattering technique in the life sciences Presents the instrumentations of SERS for bioanalytical studies and sensing The didactic, comprehensible approach and the many illustrative figures makes the book accessible to students as well

### **Surface-Enhanced Raman Spectroscopy - Bioanalytical ...**

Bioanalytical applications of surface-enhanced Raman spectroscopy: de novo molecular identification Anh H. Nguyen <sup>1</sup>, Emily A. Peters <sup>1</sup>, and Zachary D. Schultz <sup>1</sup> <sup>1</sup> Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, USA

### **Bioanalytical applications of surface-enhanced Raman ...**

Surface-enhanced Raman spectroscopy (SERS) inherits the rich chemical fingerprint information on Raman spectroscopy and gains sensitivity by plasmon-enhanced excitation and scattering. In particular, most Raman peaks have a narrow width suitable for multiplex analysis, and the measurements can be conveniently made under ambient and aqueous conditions.

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Surface-enhanced Raman scattering (SERS) is a powerful technique for analyzing biological samples as it can rapidly and nondestructively provide chemical and, in some cases, structural information about molecules in aqueous environments. In the Raman scattering process, both visible and near-infrared (NIR) wavelengths of light can be used to induce polarization of Raman-active molecules ...

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Surface-Enhanced Raman Spectroscopy: Bioanalytical, Biomolecular and Medical Applications Marek Procházka This book gives an overview of recent developments in RS and SERS for sensing and biosensing considering also limitations, possibilities and prospects of this technique.

### **Surface-Enhanced Raman Spectroscopy: Bioanalytical ...**

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In order to enhance the Raman signals dramatically, surface-enhanced Raman spectroscopy (SERS) can be applied 4-6. Due to the interaction of molecules with rough, nanostructured metallic surface consisting of, for example silver or gold, the Raman signal is enhanced up to seven orders of

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Duncan Graham a and Royston Goodacre b Author affiliations a Centre for ... Surface-enhanced Raman Spectroscopy About. Cited by. Related. Back to tab navigation. Download ...

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Surface-enhanced Raman spectroscopy (SERS) inherits the rich chemical fingerprint information on Raman spectroscopy and gains sensitivity by plasmon-enhanced excitation and scattering. In particular, most Raman peaks have a narrow width suitable for multiplex analysis, and the measurements can be conveniently made under ambient and aqueous conditions. These merits make SERS a very promising ...

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Electrochemical surface-enhanced Raman spectroscopy of nanostructures. De-Yin Wu, Jian-Feng Li, Bin Ren\* and Zhong-Qun Tian\* Received 19th March 2008. First published as an Advance Article on the ...

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Duncan Grahama and Royston Goodacreb DOI: 10.1039/b804297g Raman spectroscopy is a highly versatile physicochemical technique that provides vibrational fingerprints from chemical and biological materials. The Raman spectrum that arises from

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Natalia P. Ivleva, Patrick Kubryk, Reinhard Niessner, Raman microspectroscopy, surface-enhanced Raman scattering microspectroscopy, and stable-isotope Raman microspectroscopy for biofilm characterization, *Analytical and Bioanalytical Chemistry*, 10.1007/s00216-017-0303-0, 409, 18, (4353-4375), (2017).

### **Bioanalytical application of surface- and tip-enhanced ...**

Bioanalytical applications of SERS (surface-enhanced Raman spectroscopy) Bioanalytical applications of SERS (surface-enhanced Raman spectroscopy) Hudson, Stephen; Chumanov, George 2009-04-04 00:00:00 Surface-enhanced Raman scattering (SERS) is a powerful technique for analyzing biological samples as it can rapidly and nondestructively provide chemical and, in some cases, structural information ...

### **Bioanalytical applications of SERS (surface-enhanced Raman ...**

Since its discovery in 1974, surface-enhanced Raman scattering (SERS) has gained momentum as an important tool in analytical chemistry. SERS is used widely for analysis of biological samples, ranging from in vitro cell culture models, to ex vivo tissue and blood samples, and direct in vivo application. New insights have been gained into biochemistry, with an emphasis on biomolecule detection ...

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Bioanalytical applications of surface-enhanced Raman spectroscopy: de novo molecular identification. Anh H Nguyen Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN, 46556.

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Ag nanorod based surface-enhanced Raman spectroscopy applied to bioanalytical sensing. Negri P(1), Dluhy RA. Author information: (1)Department of Chemistry, University of Georgia, Athens, GA 30602, USA.

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