

ROYAL SOCIETY
— OF —
CHEMISTRY

Analytical Proceedings

A monthly journal of analytical news, information and research

Published on 01 January 1989. Downloaded on 4/17/2020 9:16:31 AM.



IUPAC



(192nd year)

Vol.26 No.6 June 1989

Reproduced from *Anal. Proc.*, 1989, **26**, X021,
with permission from The Royal Society of Chemistry.

ANALYTICAL PROCEEDINGS, JUNE 1989, VOL 26

Lecture Theatre *Electroanalytical Chemistry*
6(D)

Chairman: A. K. Covington

- D1 11.00–11.25 “Application of glassy carbon and modified glassy carbon in analytical chemistry,” B. Vucurovic and M. Lausevic (University of Belgrade, Faculty of Technology and Metallurgy), Z. Lausevic (The Institute for Nuclear Science Boris Kidric, Belgrade, Yugoslavia) and M. Rajkovic (University of Belgrade Faculty of Agriculture, Zemun, Czechoslovakia).
- D2 11.30–11.55 “Liver, horseradish and bananas: a diet of enzymes for voltammetry,” Malcolm R. Smyth, Michelle Connor, Jose Maria Fernandez (School of Chemical Sciences, Dublin City University), Pilar Dominguez and Paulino Tunon Blanco (University of Oviedo, Spain), Richard O’Kennedy (School of Biological Sciences, Dublin City University), Joseph Wang (State University of New Mexico, USA).
- D3 12.00–12.25 “Adsorptive stripping voltammetry of some biologically important molecules,” Josino C. Moreira and Arnold G. Fogg



LIVER, HORSERADISH AND BANANAS: A DIET OF ENZYMES FOR VOLTAMMETRY

Malcolm R. Smyth¹, Michelle Connor¹, Pilar Domínguez², José María Fernández Álvarez², Richard O'Kennedy³, Joseph Wang⁴ and Paulino Tuñón Blanco²

¹School of Chemical Sciences, Dublin City University, Glasnevin, Dublin 9, Ireland

²Department of Analytical Chemistry, University of Oviedo, Oviedo, Spain

³School of Biological Sciences, Dublin City University, Glasnevin, Dublin 9, Ireland

⁴Department of Chemistry, State University of New Mexico, Las Cruces, NM 88003, USA

Analytical voltammetry has progressed in recent years mainly as a result of improvements made with respect to important analytical parameters such as sensitivity and selectivity. Improvement in sensitivity have come about through the application of stripping voltammetric techniques, whereas improvements in selectivity have arisen mainly from the development of electrochemical detection systems for use with high performance liquid chromatography.

A mayor area of research in voltammetry is now centred around the use of biological molecules to improve the sensitivity and selectivity of analytical voltammetric methods further. The molecules that have been most used in this regard are immunoglobulins and enzymes. In this paper we will report on recent work that we have carried out involving enzymes such as glutamate dehydrogenase (from liver), peroxidase (from horseradish) and tyrosinase (from banana).