In this issue

Chao Wang and Chenxu Yu
Detection of chemical pollutants in water using gold nanoparticles as sensors: a review
DOI 10.1515/revac-2012-0023

Review: This review summarizes the application of gold nanoparticles (AuNP) as highly-sensitive sensors for the detection of waterborne chemical pollutants.

Keywords: chemical pollutants; detection; gold nanoparticle.

Ana M. Botana, Paz Otero, Paula Rodríguez, Amparo Alfonso and Luis M. Botana
Current situation on analysis of marine toxins
DOI 10.1515/revac-2012-0020

Review: Marine toxins are a challenging analytical problem.

Keywords: analytical standards; chromatography; marine toxins; mass spectrometry.

Jeremy L. Dahmen, Gary Stacey and Heather K. Hunt
Current and emerging analytical technologies for analyzing chitin-protein binding interactions
DOI 10.1515/revac-2012-0030

Review: This review provides an in-depth examination of current and emerging analytical methods used to better understand chitin-chitin binding protein interactions.

Keywords: biosensors; N-acetylchitooligosaccharides; pathogen-associated molecular patterns.

Pedro H.B. Aoki, Leonardo N. Furini, Priscila Alessio, Alvaro E. Aliaga and Carlos J.L. Constantino
Surface-enhanced Raman scattering (SERS) applied to cancer diagnosis and detection of pesticides, explosives, and drugs
DOI 10.1515/revac-2012-0019

Review: SERS, which is achieved by metal nanoparticles, is applied to distinct systems.

Keywords: analyte detection; Raman; SERS.
Po-Jung Jimmy Huang, Minchuan Liu and Juewen Liu

**Functional nucleic acids for detecting bacteria**

DOI 10.1515/revac-2012-0027

**Review:** Recent progresses on functional nucleic acid based biosensors for bacterial detection are reviewed and future challenges are outlined.

**Keywords:** aptamers; biosensors; bacteria; fluorescence.