

Development of Portable Immunosensor for Endocrine Disruptors Based on Surface Plasmon Resonance with Assistance of Sequential Injection Technique.

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Backgrounds and Social Needs

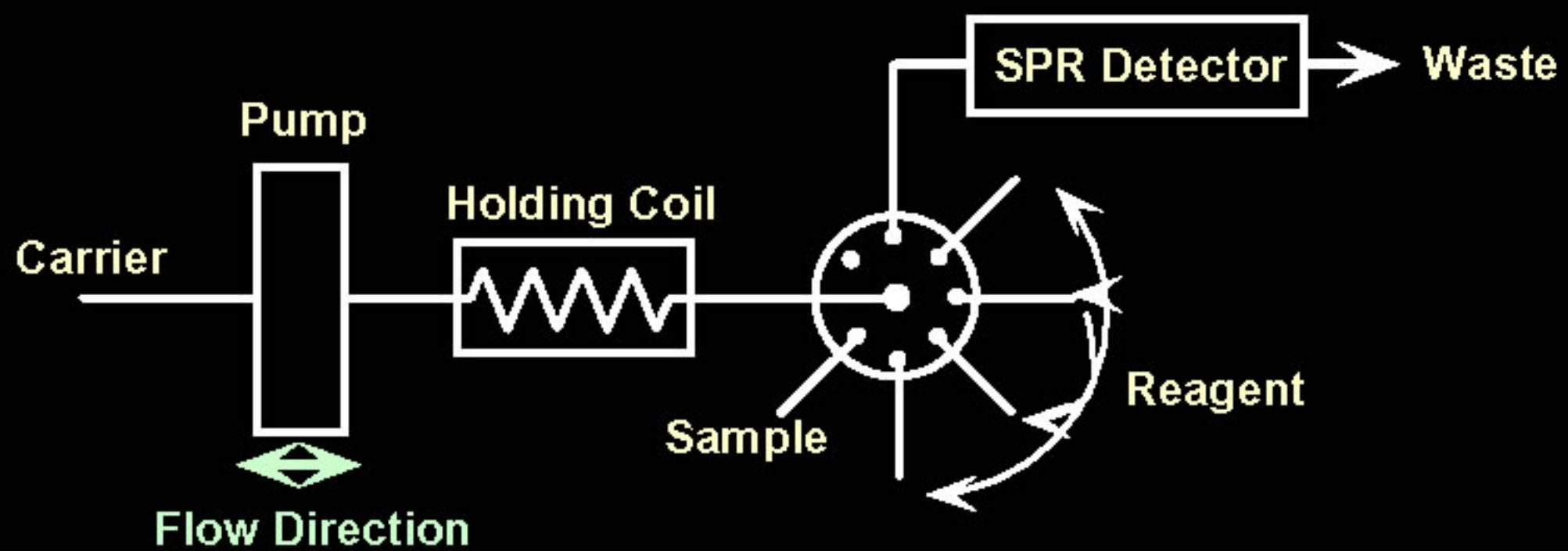
Crisis of destruction of our environment by endocrine disruptors.

Monitoring of our environment for safe and healthy life by highly sensitive analytical method.

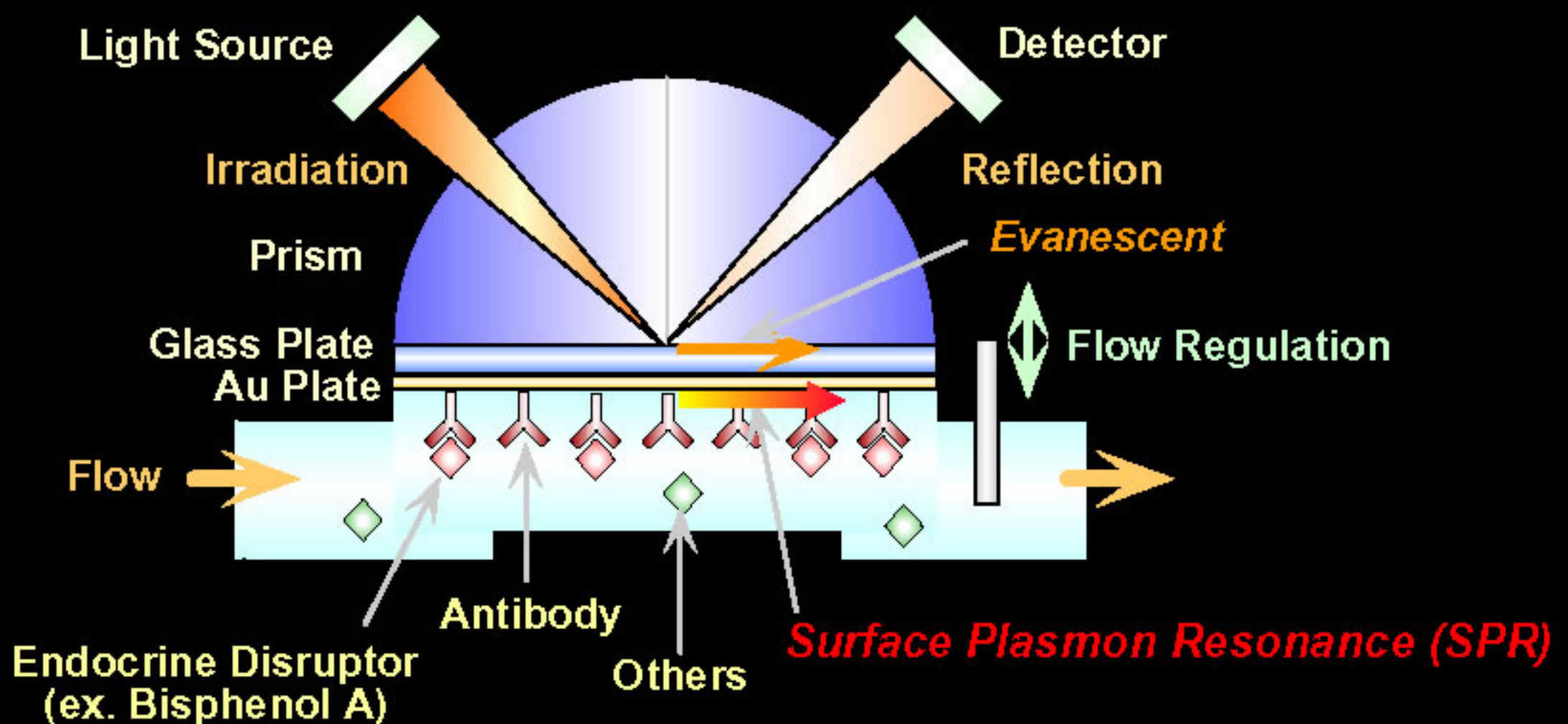
Objectives

Rapid and simple on-site analysis of endocrine disruptors with high sensitivity

Our approach



The diagram of sequential injection system with SPR detector.



Detection mechanism of endocrine disruptor in SPR detector

- (1) Use of immunoassay and surface plasmon resonance phenomenon (SPR) for highly sensitive detection of endocrine disruptors
- (2) Enhancement of sensitivity by use of microbeads and fine gold particles
- (3) Downsizing SPR sensor for on-site analysis (portable size)
- (4) Simple and automatic immunoassay by use of sequential flow injection technique
- (5) Simultaneous assay of endocrine disruptors with use of multi-channel flow system

Ripple effect and Impacts

- (1) Screening prior to gaschrometographic determination
- (2) High-throughput analysis
- (3) Quick action to environmental pollution