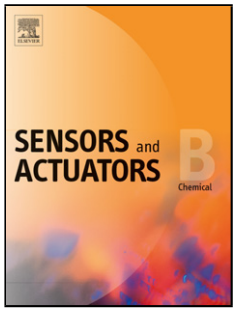

Title: SERS BASED ULTRAFAST AND SENSITIVE DETECTION OF LUTEINIZING HORMONE IN HUMAN SERUM USING A PASSIVE CHANNEL MICROCHIP

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SERS BASED ULTRAFAST AND SENSITIVE DETECTION OF LUTEINIZING HORMONE IN HUMAN SERUM USING A PASSIVE CHANNEL MICROCHIP

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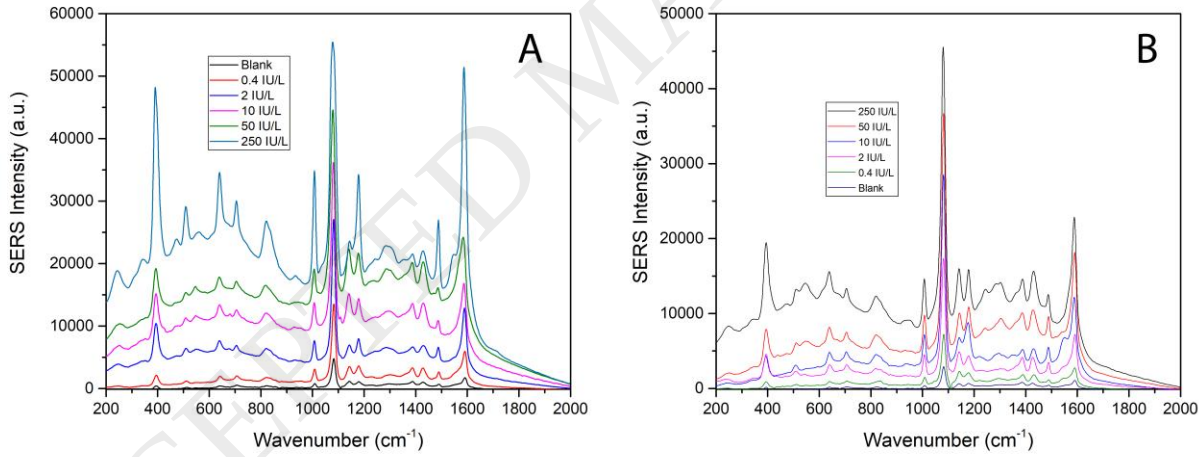
Graphical abstract



Highlights

- Antibody modified gold nanoparticles enable the capture human luteinizing hormone (LH)..
- The gold nanoparticles are also modified as a Raman reporter.
- Sandwich immunoassay for detection of the analyte.
- A passive channel microchip is designed for fast analysis of LH with small amount of reagents.
- Surface-enhanced Raman spectroscopy lowers the limit of detection.
- Successful recovery of LH spiked in serum samples via the microchip.