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Title: Surface-enhanced Raman scattering (SERS) Biosensing based on Nanoporous Dielectric Waveguide Resonance

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Highlights

1. A measurement of antigen-antibody binding in the porous anodic alumina (PAA) system via waveguide-assisted surface-enhanced Raman spectroscopy (SERS) was demonstrated
2. The SERS was excited under the conditions of waveguide resonance modes, and the SERS signal was amplified due to the enhanced electric field.
3. Silver nanoparticles can further enhance electromagnetic energy due to the coupling of SPs of metal nanoparticles with the waveguide modes.
4. A highly sensitive immuno sensor is provided with the probed concentration as low as 0.1 ng/ml.

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