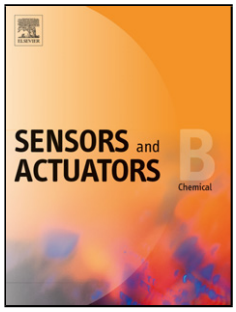

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Annealed gold nanoshells with highly-dense hotspots for large-area efficient Raman scattering substrates

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Highlights

- A simple and facile SERS-active substrate with abundant electromagnetic hotspots was designed and fabricated for Raman measurements.
- The hierarchy of hotspots in such a structure was used to improve the uniformity and reproducibility of SERS.
- The superior SERS substrate showed an ultra-low detection limit of 10^{-12} M.

ABSTRACT: Surface-enhanced Raman scattering (SERS) technique has presented great potential in medical diagnosis, environment monitoring and food detection due to its high sensitivity, rapid response and fingerprint effect. Many efforts have been concentrated on all kinds of strategies to produce efficient SERS substrates. Here,