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## 室温电子还原制备金纳米颗粒与琼脂糖复合膜的表征与应用

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### Characterization and Application of Au Nanoparticle/Agarose Composite Film Fabricated by Room Temperature Electron Reduction

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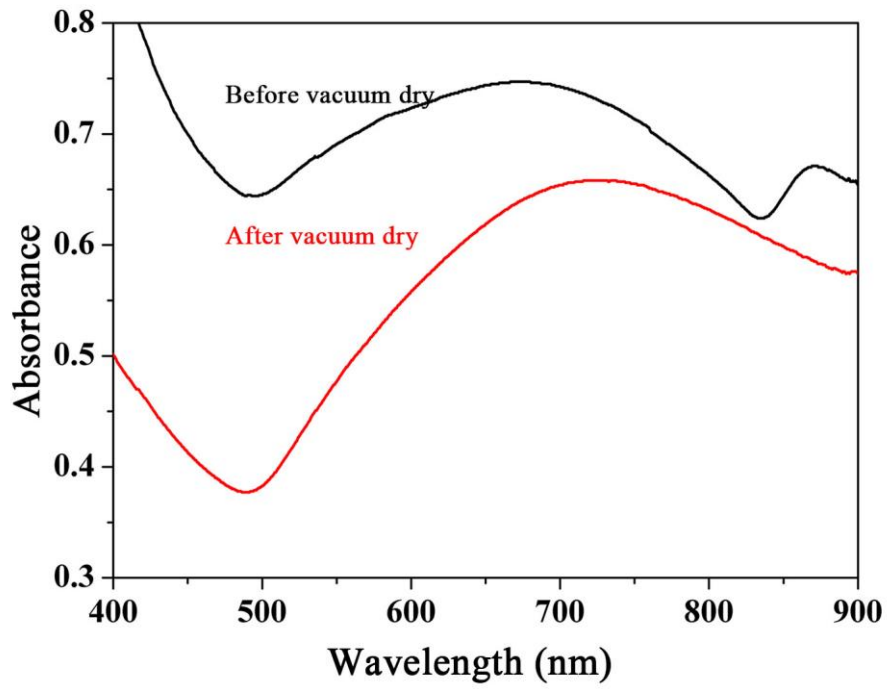


图 S1 真空干燥前后样品的紫外-可见光谱图

Fig.S1 UV-Vis spectra of samples before and after vacuum dry

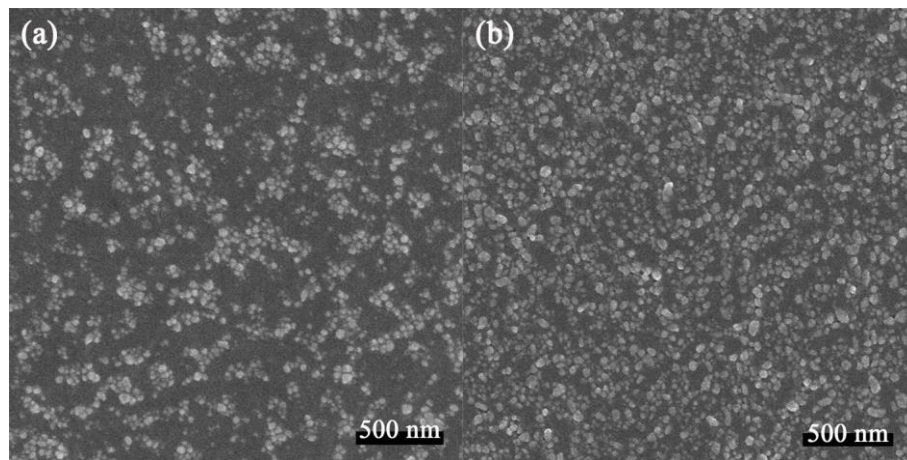


图 S2 不同氯金酸浓度复合膜的 SEM 图

Fig.S2 SEM image of composite film with different concentration of  $\text{HAuCl}_4$

(a)  $8 \text{ mmol} \cdot \text{L}^{-1}$ ; (b)  $16 \text{ mmol} \cdot \text{L}^{-1}$

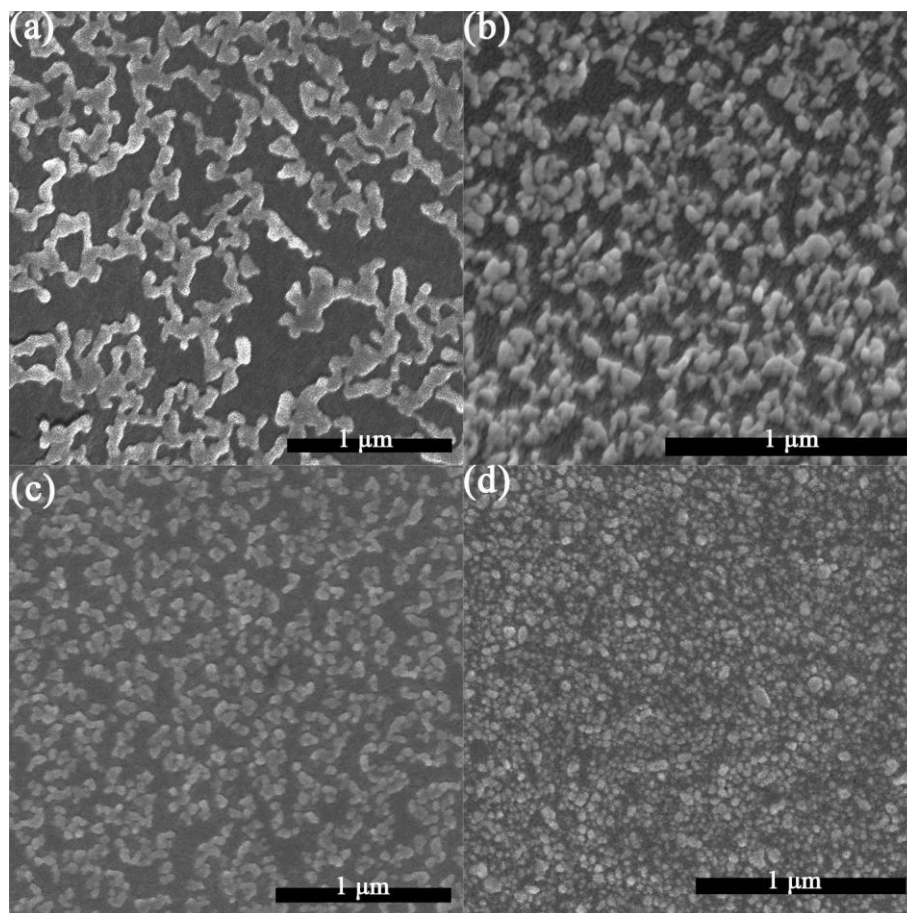
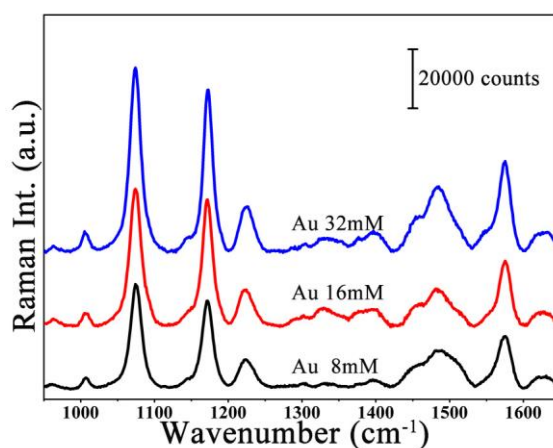


图 S3 不同 PVP 与氯金酸摩尔比的复合膜 SEM 图  
**Fig.S3 SEM image of composite film with different fraction of PVP and HAuCl<sub>4</sub>**

(a) Without PVP; (b) 1:2; (c) 1:1; (d) 2:1



附图 4 不同氯金酸浓度的复合膜的 SERS 图谱  
**Fig. S4 SERS Spectra applied with the composite film with different concentration of HAuCl<sub>4</sub>.**

Au 32mM: HAuCl<sub>4</sub> 32 mmol·L<sup>-1</sup>; Au 16mM: HAuCl<sub>4</sub> 16 mmol·L<sup>-1</sup>; Au 8mM: HAuCl<sub>4</sub> 8 mmol·L<sup>-1</sup>