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# **MoO<sub>3</sub> nanosheet-assisted photochemical reduction synthesis of Au nanoparticles for surface-enhanced Raman scattering substrates**

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## **Highlights:**

- MoO<sub>3</sub> nanosheets are used as electron carriers and sacrificial templates to direct the wet-chemical epitaxial growth of AuNPs under ultraviolet (UV) irradiation without requiring another chemical reducing agent or stabilizer;
- The developed photochemical method for AuNPs preparation is green, simple, rapid, affordable, and repeatable;
- A sensitive surface-enhanced Raman scattering method for malachite green determination was developed based on as-synthesized AuNPs.

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