

**Synthesis of a Nanocomposite Composed of Reduced Graphene Oxide and Gold
Nanoparticles**

Henan Zhang*, Deon Hines, and Daniel L. Akins

Department of Chemistry, The City College of the City University of New York

160 Convent Avenue, 10031, New York, NY, USA

* Author to whom Correspondence should be addressed:

Tel: 1-212-650-5935; Fax: 1-212-650-6848; E-mail: hzhang1@ccny.cuny.edu

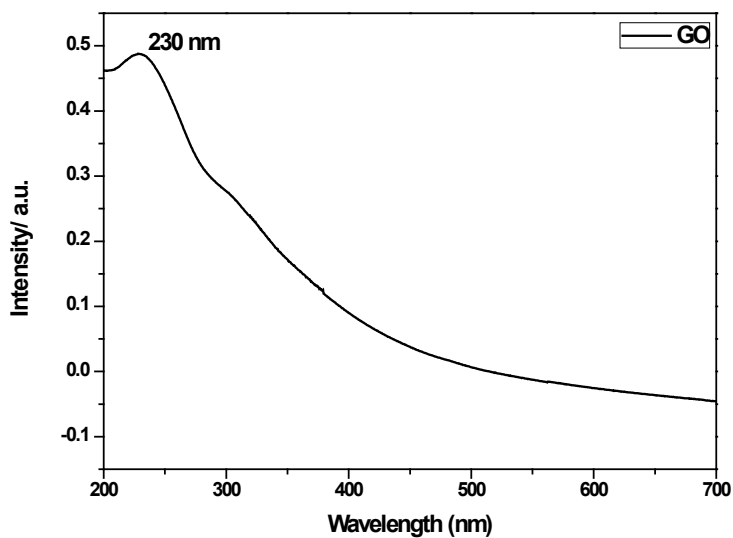


Figure S1. UV-Vis spectra of GO.

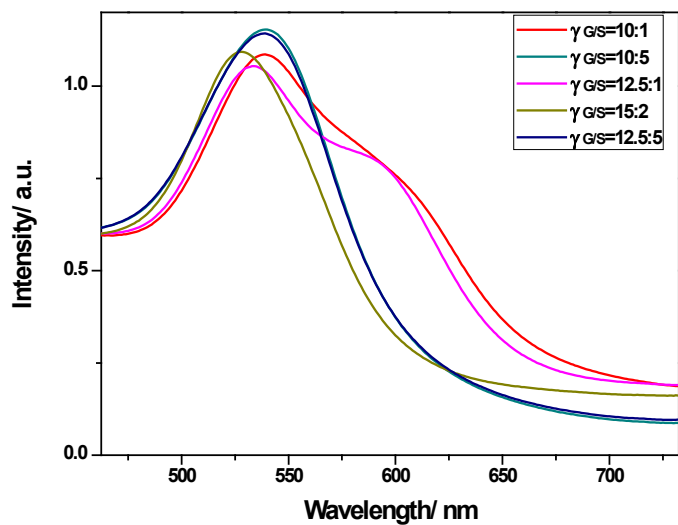


Figure S2. UV-Vis spectra of synthesized Au NPs with different volume ratios of growth to seeds solution without the addition of GO.

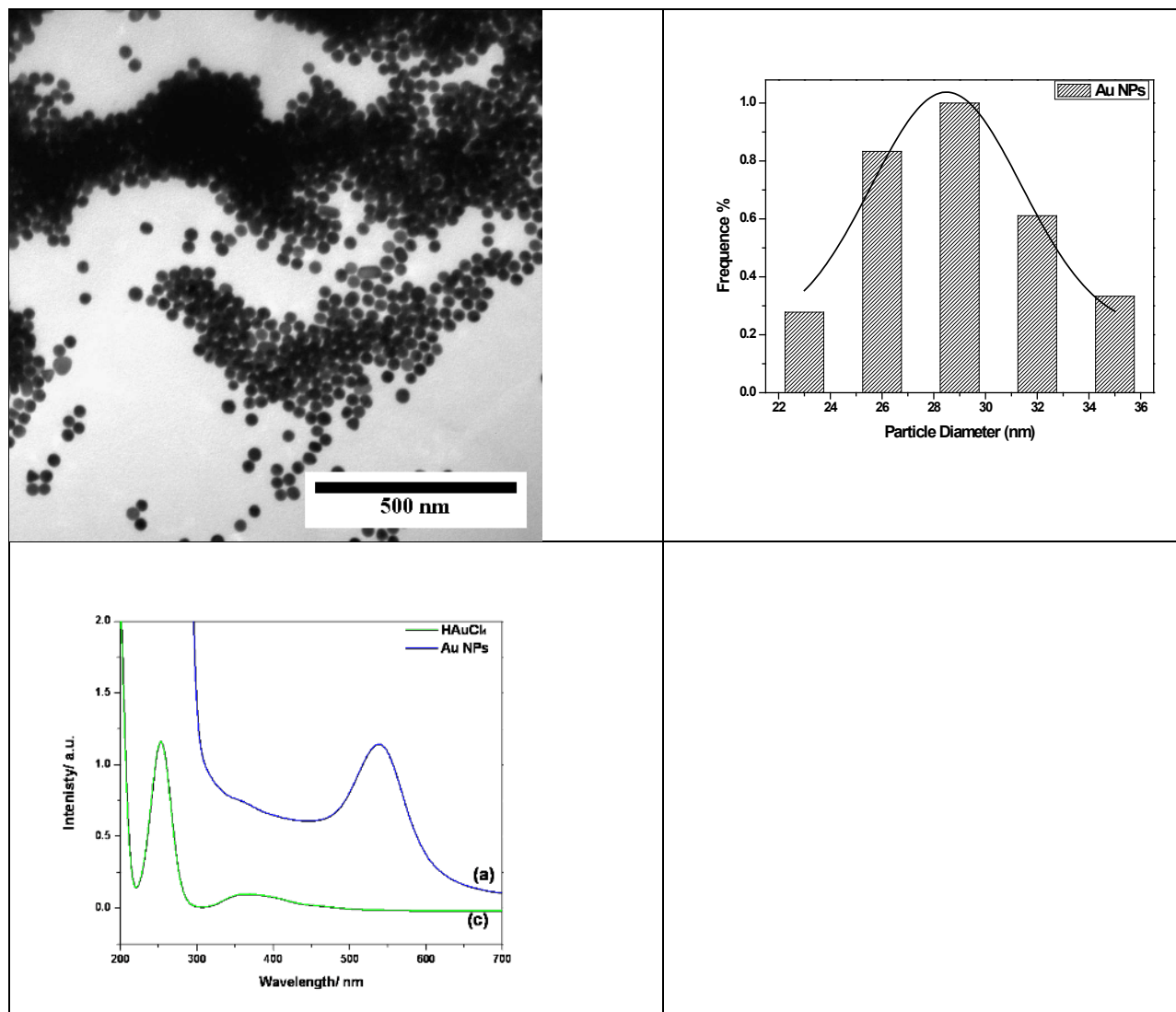


Figure S3. TEM image of seeding-growth approach synthesized Au NPs, the size distribution of Au NPs and UV-vis of Au NPs.

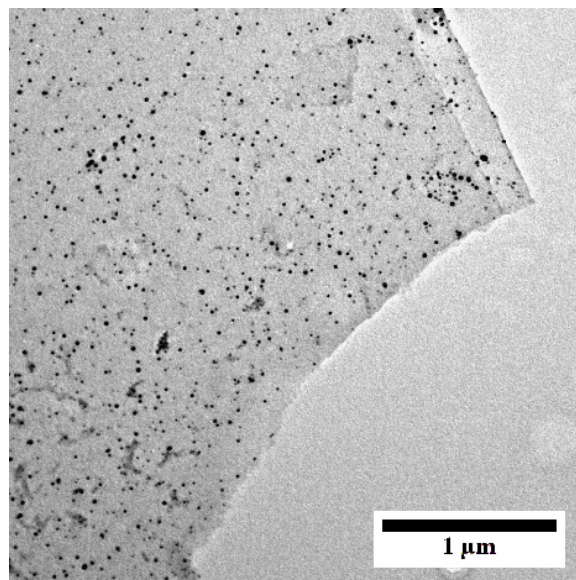
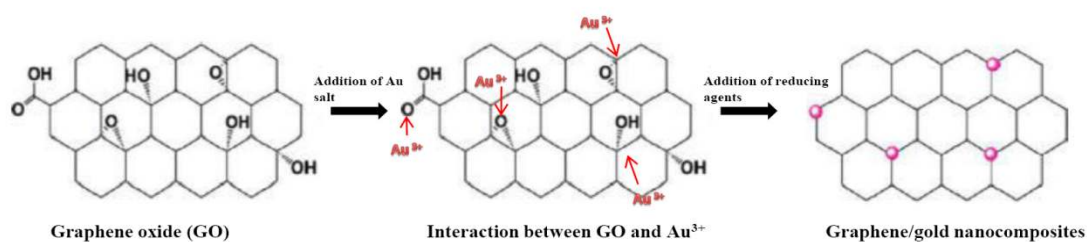


Figure S4. TEM image of rGO-Au composites

Table S1. The size distribution of Au NPs on rGO surface

Sample	$\gamma_{G/S}$	Diam./ nm
L4	8.0/4.0	~12.55
L5	12.0/4.0	~22.36
L6	20.0/4.0	~35.69



Scheme S1. Schematic representation of the mechanism of gold nanoparticles attached onto the oxygen functionalities of exfoliated graphene nanosheets.

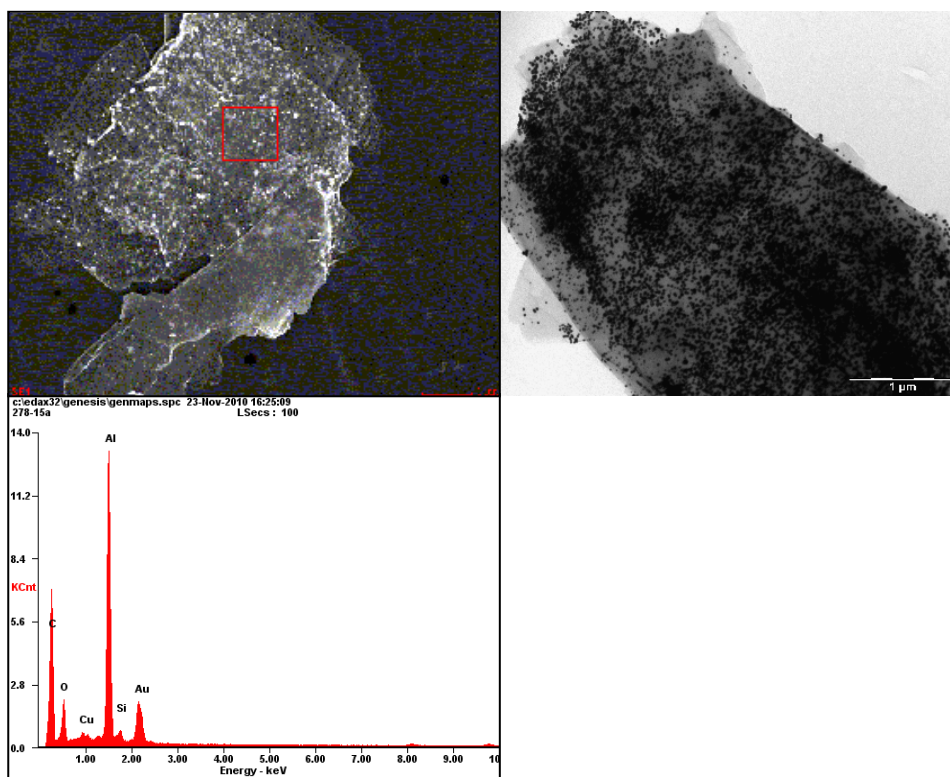


Figure S5. TEM, SEM and EDX images of synthesized high density Au NPs on rGO surface.