

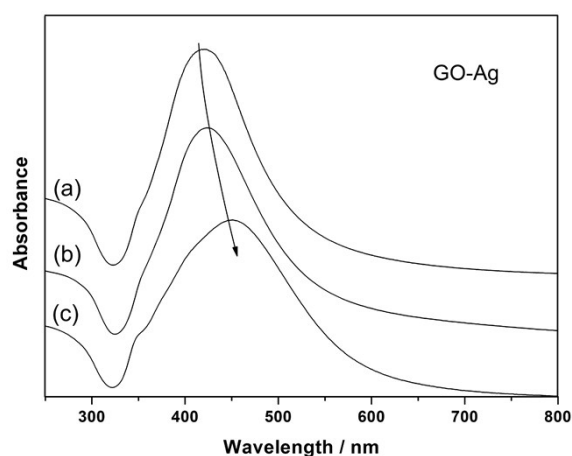
## Controllable synthesis of graphene oxide–silver (gold) nanocomposites and their size-dependences

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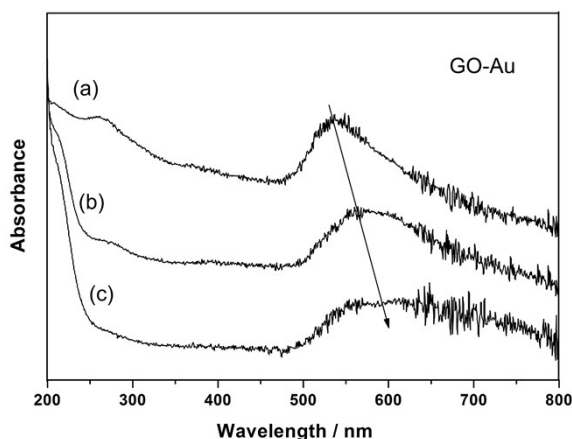
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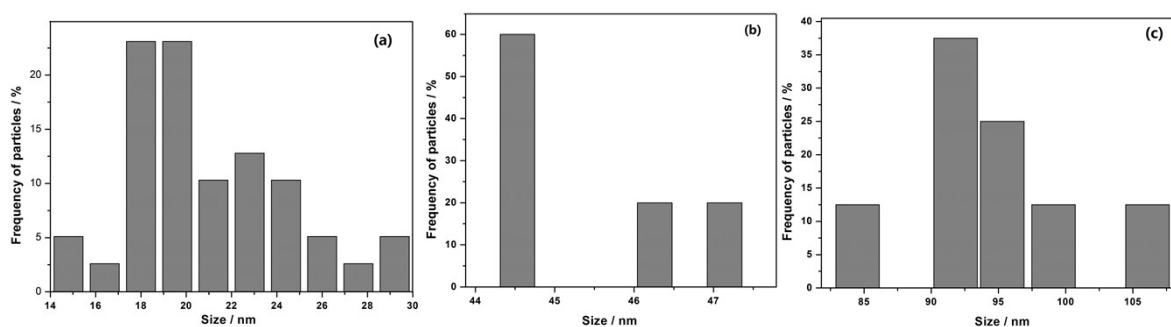
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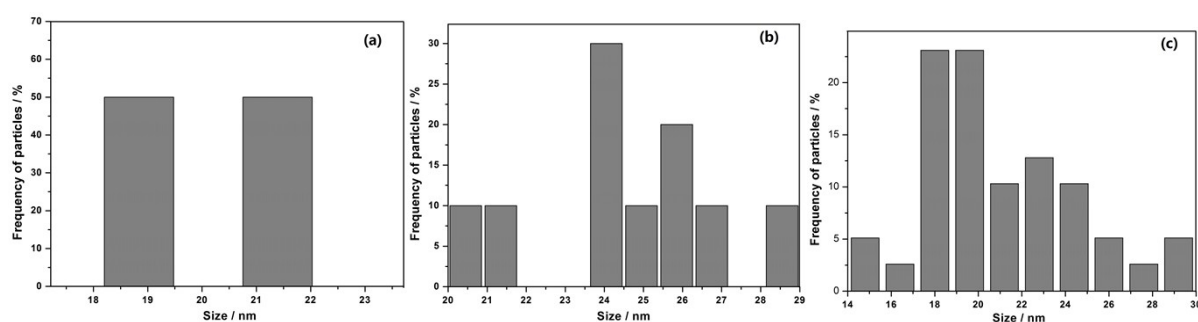
**Fig. S1** UV-Vis absorption spectra of Ag nanoparticles in different sizes: (a) Ag-1; (b) Ag-2; (c) Ag-3. The absorption peak of surface plasmon resonances of Ag nanoparticles shows a red-shift as the size of Ag nanoparticles increase.



**Fig. S2** UV-Vis absorption spectra of Au nanoparticles in different sizes: (a) Au-1; (b) Au-2; (c) Au-3. The absorption peak of surface plasmon resonances of Au nanoparticles shows a red-shift as the size of Au nanoparticles increase.



**Fig. S3** The size distribution of (a) Ag-1 (*ca.* 21.0 nm), (b) Ag-2 (*ca.* 45.5 nm), (c) Ag-3 (*ca.* 94.5 nm) samples was calculated from the TEM images.



**Fig. S4** The size distribution of (a) Au-1 (*ca.* 20.2 nm), (b) Au-2 (*ca.* 24.7 nm), (c) Au-3 (*ca.* 59.4 nm) samples was calculated from the TEM images.

**Table SI** The amount of metal loaded per gram of GO for GO–Ag and GO–Au samples

	The amount of metal loaded per gram of GO	
	fresh sample	after sonication in water for 10 min
GO–Ag-1	0.103 g	0.102 g
GO–Ag-2	0.104 g	0.103 g
GO–Ag-3	0.101 g	0.100 g
	fresh sample	recycled sample
GO–Au-1	0.047 g	0.046 g
GO–Au-2	0.047 g	0.045 g
GO–Au-3	0.044 g	0.043 g