

Wet chemical synthesis of surfactant-capped quasi-spherical silver nanoparticles with enhanced antibacterial activity

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Supplementary Information

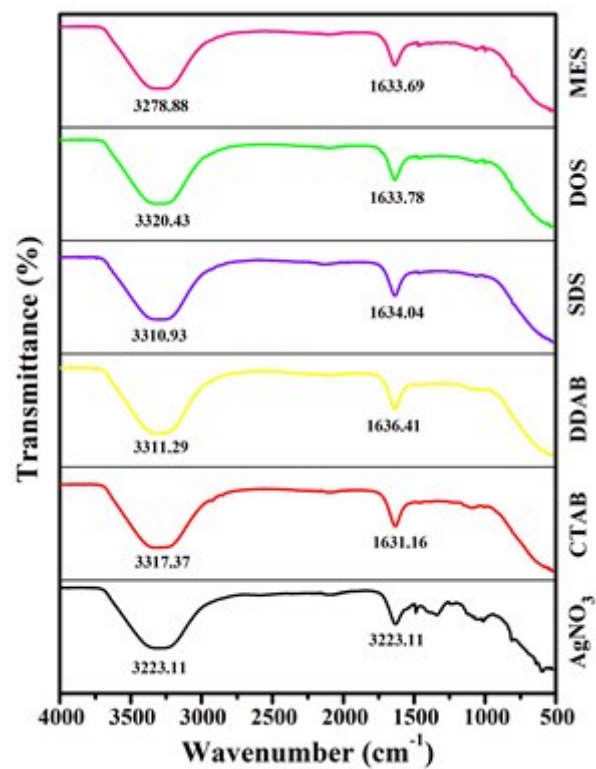


Fig. S1 FTIR results of aqueous solution of pure surfactants.

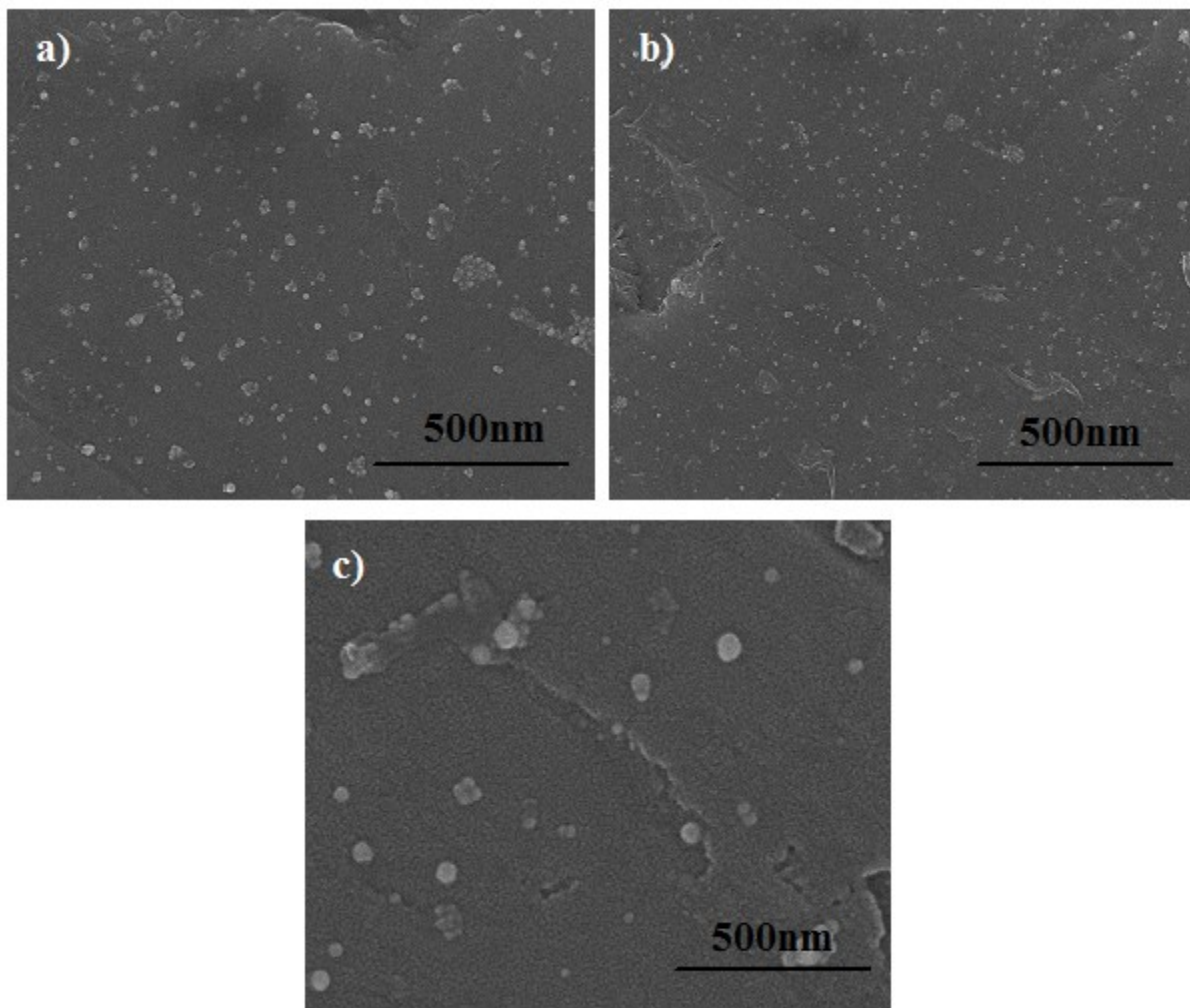


Fig. S2 SEM Micrographs of DDAB-AgNPs (a), DOSS-AgNPs (b) and MES-AgNPs.

Table S1 Basic molecular structures of capping agents

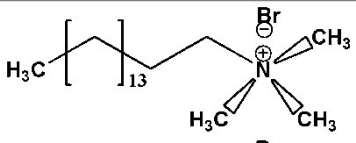
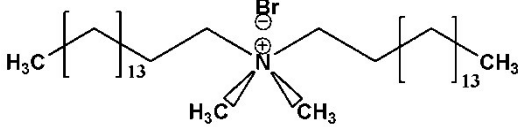
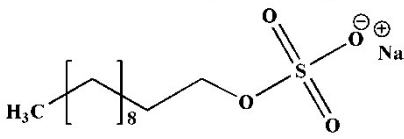
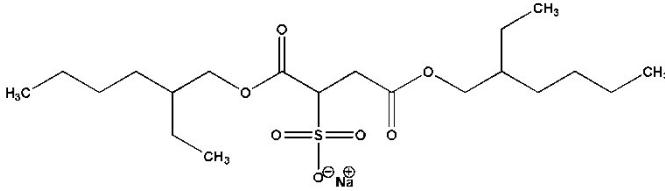
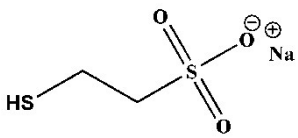
Surfactant	Molecular Structure
Cetyl trimethyl ammonium bromide (CTAB)	
Di-n-dodecyl dimethyl ammonium bromide (DDAB)	
Sodium dodecyl sulphate (SDS)	
Dioctyl sulfosuccinate sodium salt (DOSS)	
2-Mercaptoethane sulfonic acid sodium salt (MES)	

Table S2 The results of antibacterial activity of standard and synthesized capped AgNPs

Group	Bacterial strains	Zone of Inhibition					
		Standard	A1	A2	A3	A4	A5
Gram Positive	<i>Staphylococcus aureus</i>	29mm	18.5mm	n.z	19.5mm	n.z	n.z
	<i>Bacillus subtilis</i>	16.5mm	17.5mm	n.z	18.5mm	n.z	n.z
Gram Negative	<i>Klebsiellapneumoniae</i>	29mm	8.75	n.z	6.25	n.z	n.z
	<i>Neisseria gonorrhoeae</i>	16.5mm	8mm	n.z	10.25mm	n.z	n.z
	<i>Halomonashalophila</i>	31mm	13.5mm	n.z	10mm	n.z	n.z
	<i>Halomonassalina</i>	32.5mm	23mm	n.z	10mm	n.z	n.z
	<i>Chromohalobacter aureus</i>	10mm	16mm	n.z	23.5mm	n.z	n.z
	<i>Shigellasonnei</i>	22mm	n.z	n.z	n.z	n.z	n.z
	<i>Escherichia coli</i>	22mm	n.z	n.z	n.z	n.z	n.z

n.z – no zone of inhibition.