Supplementary Material (ESI) for Nanoscale

Supporting Information

Adsorbed Tween 80 is unique in its ability to improve the stability of gold nanoparticles in solutions of biomolecules

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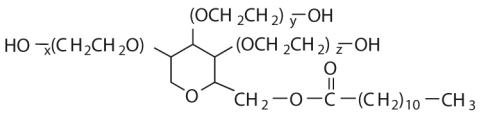
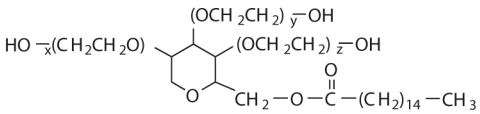
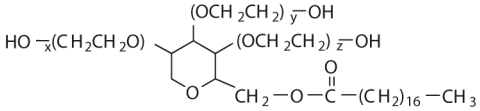
(a) Tween 20 x+y+z = 20



(b) Tween 40



(c) Tween 60



(d) Tween 80

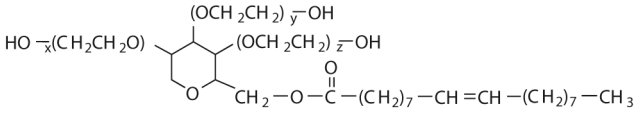


Fig. S1 Chemical structures of the nonionic surfactants.

Table S1 Physicochemical properties of surfactants.

Surfactant	Composition			Physicochemical parameters	
	lipophilic moiety	hydrophilic moiety		HLB[a] value	CMC[b] (μM)
		Ethylene oxide unit	other		
Tween 20	monolaurate	20	sorbitan	16.7	49
Tween 40	monopalmitate	20	sorbitan	15.6	23
Tween 60	monostearate	20	sorbitan	14.9	20
Tween 80	monooleate	20	sorbitan	15.0	13

[a] HLB, hydrophilic lipophilic balance. [b] CMC, critical micellar concentration. *Ref.* G. Guillon, C. Roy and S. Jard, *Eur. J. Biochem.,* 1978, **92**, 341.

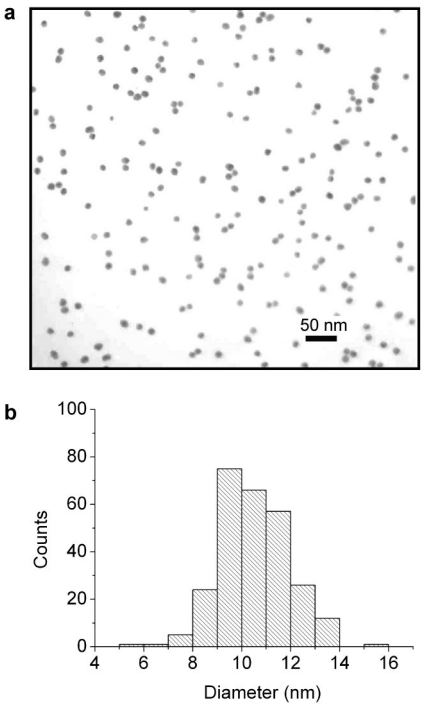


Fig. S2 Transmission electron microscopy of gold NPs stabilized by citrate (a) and the size distribution of NPs in a sample of 280 particles (b). The diameter is 10.2 ± 1.7 nm.

Notes

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