

Table 1 – Synthetic Parameters and outcomes.

Particle	Silane	Buffer (5-30 mM)	pH	Temp (°C)	Time (H)	Outcome
Au nanorod (Citrate)	APTMS (10%)	Carbonate-Bicarbonate (5 mM)	9.1	37 °C	24	Au nanorods coated surfaces were successfully produced.
		carbonate	7.5-11.0	25 - 42 °C	24 – 48	Au nanorods did not adhere to glass coverslips.
		bicarbonate	7.5-11.0	25 - 42 °C	24 – 48	
		phosphate	7.5-11.0	25 - 42 °C	24 – 48	
Au nanorod (CTAB or PVP)	APTMS, MTPMS (10 %)	Carbonate-Bicarbonate (5 mM)	9.1	37 °C	24	Uneven surface density and aggregation of Au nanorods onto glass coverslips
		carbonate	7.5-11.0	25 - 42 °C	24 – 48	Au nanorods did not adhere to glass coverslips.
		bicarbonate	7.5-11.0	25 - 42 °C	24 – 48	
		phosphate	7.5-11.0	25 - 42 °C	24 – 48	
Au nanocage (PVP)	MTPMS (10%)	carbonate-bicarbonate (5 mM)	9.1	37 °C	24	Au nanocage coated surfaces were successfully produced.
		carbonate	7.5-11.0	25 - 42 °C	24 – 48	Au nanocages did not adhere to glass coverslips.
		bicarbonate	7.5-11.0	25 - 42 °C	24 – 48	
		phosphate	7.5-11.0	25 - 42 °C	24 – 48	
Au nanocube (PVP)	APTMS, MPTMS (5-30%)	carbonate-bicarbonate	7.5-11.0	37 - 42 °C	24 – 48	Au nanocubes did not adhere to glass coverslips.
Au nanosphere (PVP)	APTMS (10%)	carbonate-bicarbonate (5mM)	9.1	37 °C	24	Au nanosphere coated surfaces were successfully produced.
	MPTMS (10%)	carbonate-bicarbonate	7.5-11.0	37 °C	24 -48	Au nanospheres did not adhere to glass coverslips.
Ag nanosphere (PVP)	APTMS, MPTMS (5-30%)	carbonate-bicarbonate	7.5-11.0	37 - 42 °C	24 – 48	Ag nanospheres did not adhere to glass coverslips.

APTMS: aminopropyltrimethoxysilane; MPTMS: mercaptopropyltrimethoxysilane