Nanoparticle Coatings Matter…or not

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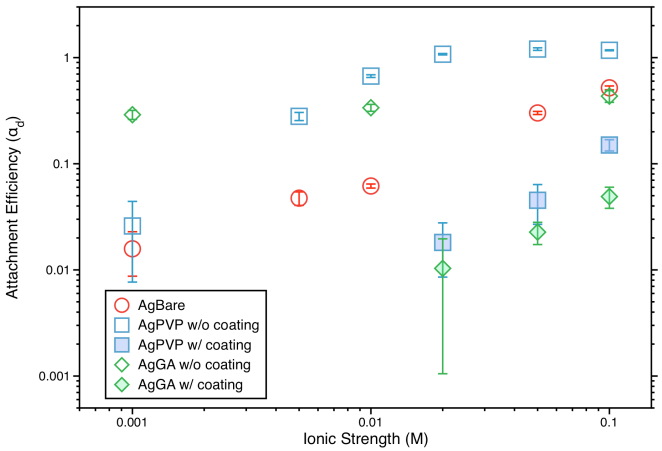
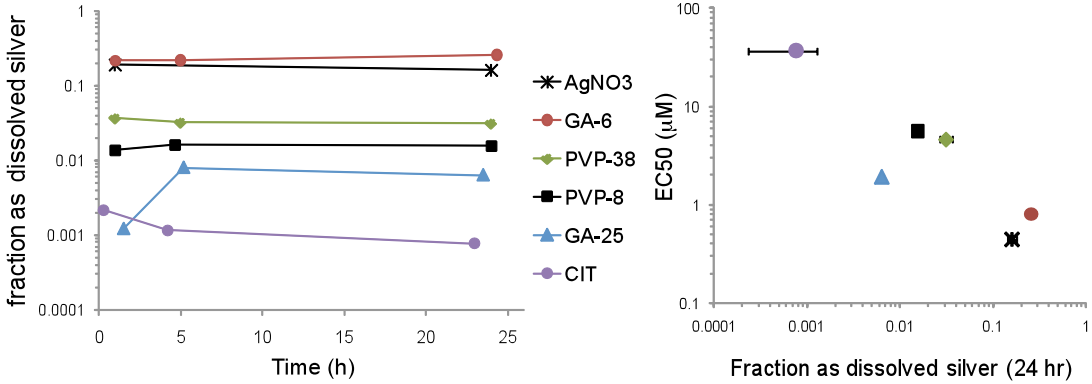


Polymeric surface coating may stabilize AgNPs against deposition only if the coatings are also present in the AgNPs suspension or on the collector surface. Differences between coatings are greater at high ionic strength. In comparison with uncoated AgNPs, coated AgNPs may have a higher affinity for uncoated silica surfaces, contrary to common understanding.



AgNPs order of toxicity to *C. elegans* (by molarity):
$AgNO_3 > GA_6 > GA_{25} > PVP_8 = PVP_{38} > CIT_{10} > PVP_S > PVP_L$

Coating does not predict toxicity, except where they alter dissolution rates. Interplay between coating and particle size affects dissolution and subsequently toxicity.

Strain Sensitivity	N2	mtl-2	pcs-1	mev-1	sod-3
$AgNO_3$	+	++	++	+	+
PVP_8	+	++	++	+	+
PVP_{38}	+	++	++	++	++
CitrateAg	+	++	++	++	++
GA_6	+	++	++	+	+
GA_{25}	+	++	++	++	++

Mutant strain sensitivity in *C. elegans* does not clearly track coating, but does seem to relate to NP size.

NSF EF-0830093

CEINT