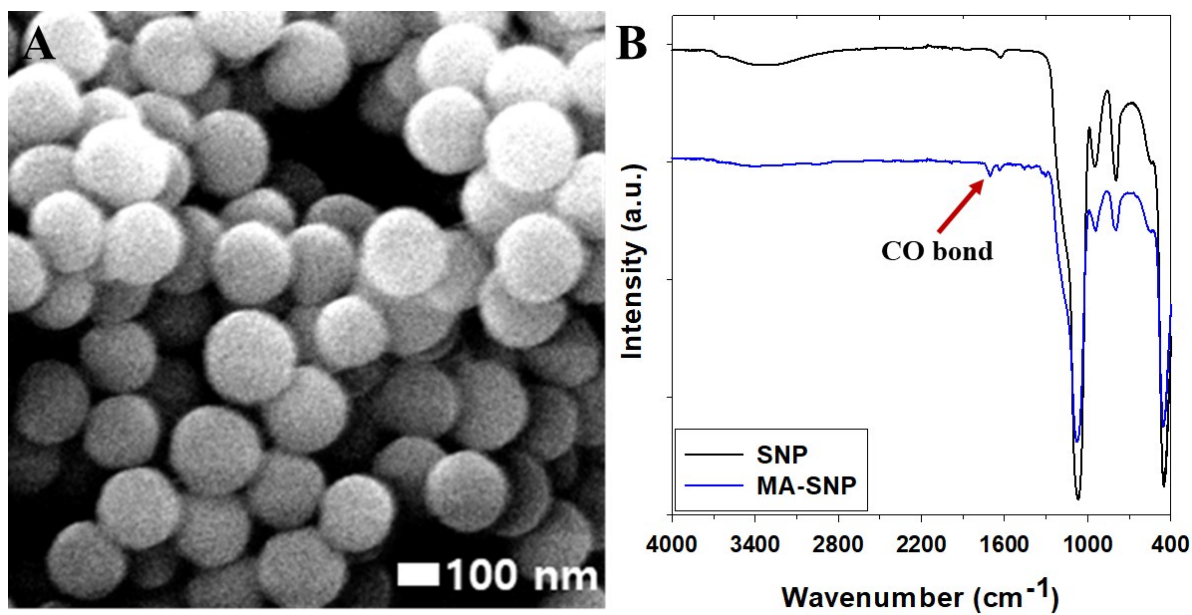


### Supporting Information



**Supporting figure 1.** A) SEM image of SNPs created by the Stöber process, and B) Comparative FT-IR data of unmodified SNPs (SNP) and modified SNPs (MA-SNP)

	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
<b>Avidin</b>	<b>200 µl</b>	<b>200 µl</b>	<b>0 µl</b>
<b>Fluorescein biotin</b>	<b>100 µl</b>	<b>100 µl</b>	<b>100 µl</b>
<b>Elution buffer</b>	<b>0 µl</b>	<b>200 µl</b>	<b>200 µl</b>
<b>PBS</b>	<b>200 µl</b>	<b>0 µl</b>	<b>200 µl</b>
<b>Eluted ratio</b>	<b>7 %</b>	<b>77 %</b>	<b>78 %</b>

**Supporting table 1.** Various types of samples used to verify avidin-biotin complex separation.

	AM:0.844 M				AM: 1.688 M			
	PEGDAAm: 0.973 mM		PEGDAAm: 1.946 mM		PEGDAAm: 0.973 mM		PEGDAAm: 1.946 mM	
Biotin Concentration $1.0 \times 10^{-6}$ M	Shrinkage	-2.42 % ( $\pm 1.31$ )	Shrinkage	-1.15 % ( $\pm 1.23$ )	Shrinkage	-2.24 % ( $\pm 3.06$ )	Shrinkage	-1.45 % ( $\pm 2.86$ )
Biotin Concentration $1.0 \times 10^{-5}$ M	Shrinkage	-4.45 % ( $\pm 2.07$ )	Shrinkage	-0.31 % ( $\pm 3.00$ )	Shrinkage	-1.06 % ( $\pm 0.80$ )	Shrinkage	-2.41 % ( $\pm 0.84$ )
Biotin Concentration $1.0 \times 10^{-4}$ M	Shrinkage	-6.12 % ( $\pm 2.52$ )	Shrinkage	2.40 % ( $\pm 0.97$ )	Shrinkage	-4.60 % ( $\pm 2.23$ )	Shrinkage	-1.02 % ( $\pm 2.85$ )

**Supporting table 2.** Results of various experimental conditions used to maximize the degree of volume change by changing the concentrations of the monomer, the linker, and the targeting moiety, compared to control samples