Supplemental Information.
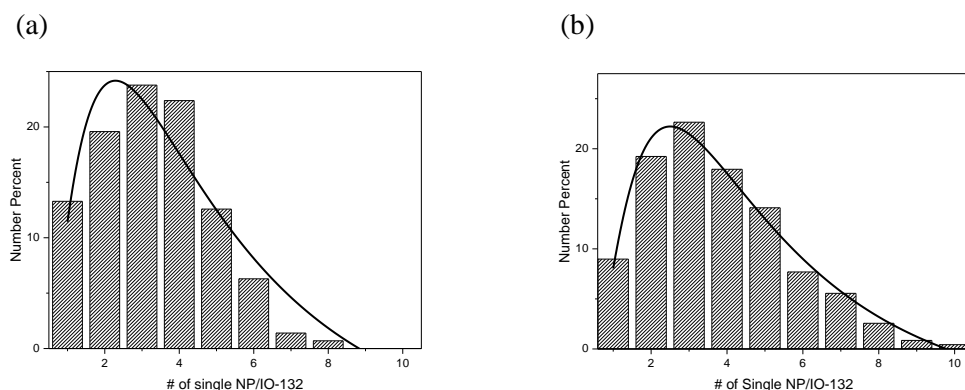
The average number of spherical Fe_3O_4 nanoparticles per cNP (~5, see Figure S1) is constant as

cNP loading increases

(a)

(b)

Figure S1. Distribution of spherical Fe_3O_4 nanoparticles per cNP. The solid line is a fit using a log-normal distribution for cNP loadings: (a) $\phi_{cNP} = 0.005$ and (b) $\phi_{cNP} = 0.01$ having average of 4.7 and 4.6 nanoparticles per cNP, respectively. Compared to the analysis from the pure cNP case ($\phi_{cNP} = 0.024$, see Figure 1) where there are 4.8 nanoparticles per cNP, the average number of nanoparticle per cNP is constant with various cNP loadings.