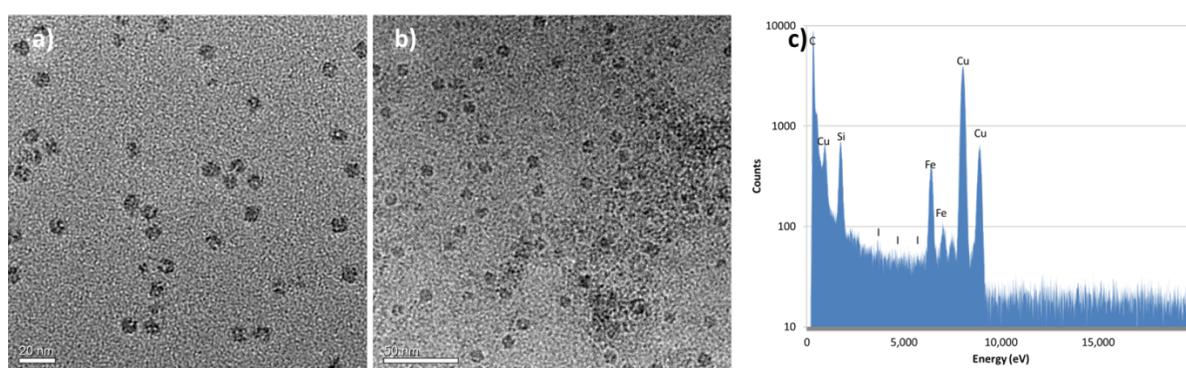
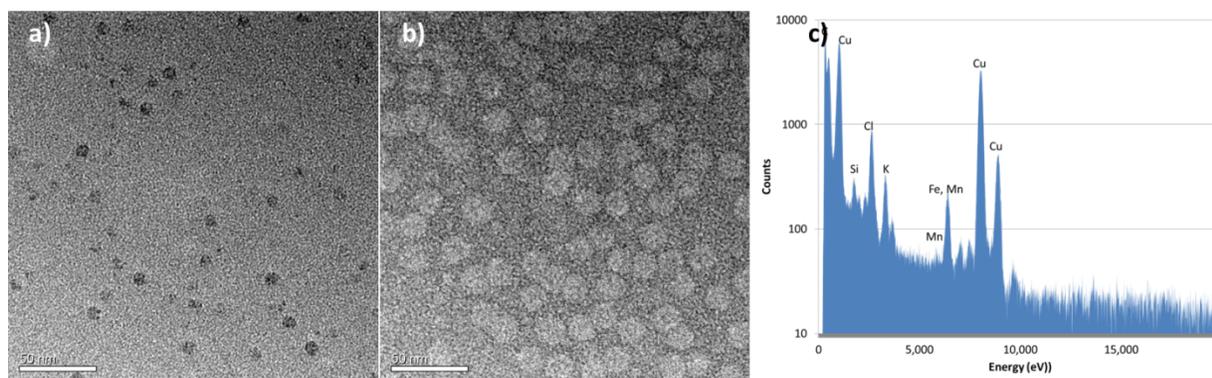


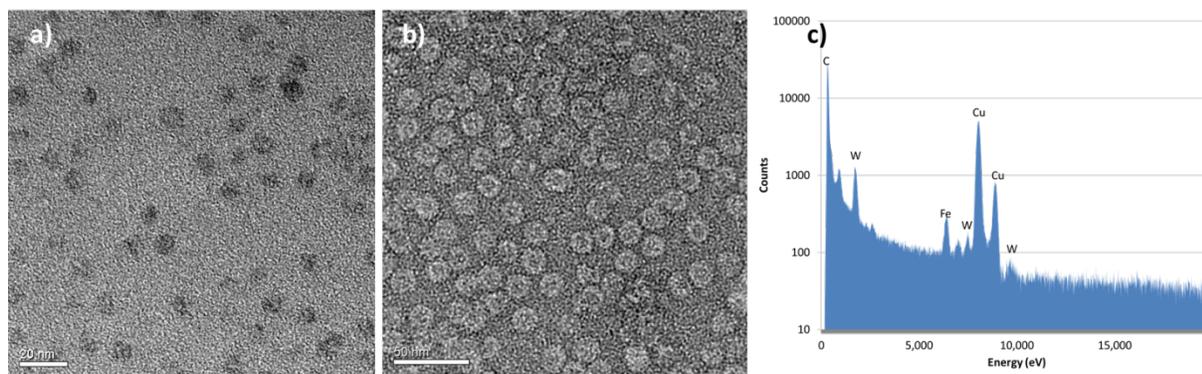
Supplemental Figure 1 – Bromide co-deposited ferritin. a) Unstained TEM image of ferritin cores. b) Stained ferritin samples with uranyl acetate. c) EDX analysis of Br deposited cores.



Supplemental Figure 2 – Iodide co-deposited ferritin. a) Unstained TEM image of ferritin cores. b) Stained ferritin samples with uranyl acetate. c) EDX analysis of I deposited cores.



Supplemental Figure 3 - Manganese co-deposited ferritin. a) Unstained TEM image of ferritin cores. b) Stained ferritin samples with uranyl acetate. c) EDX analysis of Mn deposited cores. Fe and Mn have the same peak at about 6 keV.



Supplemental Figure 4 – Tungstate co-deposited ferritin. a) Unstained TEM image of ferritin cores. b) Stained ferritin samples with uranyl acetate. c) EDX analysis of W deposited cores.

Supplemental Table 1 –Iron content and Band Gap measurements.

Reconstituted FTN (Fe/FTN)	Direct Band Gap (eV)	Indirect Band Gap (eV)
Native FTN - 1100	3.053 ± 0.080	2.140 ± 0.015
200	3.024 ± 0.012	2.112 ± 0.010
500	3.014 ± 0.010	2.124 ± 0.010
600	2.991 ± 0.012	2.103 ± 0.012
900	3.000 ± 0.012	2.094 ± 0.010
1400	2.991 ± 0.012	2.092 ± 0.012
2100	2.979 ± 0.013	2.088 ± 0.012