Nanoparticle Assemblies as Memristors

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*TEM images of size and composition controlled metal ferrite
($M\text{Fe}_2\text{O}_4$, $M = \text{Mn}, \text{Fe}, \text{Co}, \text{Ni}$) nanoparticles*

Figure S1. TEM images of Fe_3O_4 nanoparticles with diameters of 7 nm, 9 nm, 12 nm, and 15 nm with narrow distribution ($\sigma \approx 5\%$).

Figure S2. TEM images of (a) 12 nm MnFe_2O_4 , (b) 7 nm CoFe_2O_4 and (c) 7 nm NiFe_2O_4 nanoparticles with narrow distribution ($\sigma \approx 5\%$).

Reversible switching behaviors of other spinel structured nanoparticles

Figure S3. V-I characteristics of (a) CoFe_2O_4 and (b) NiFe_2O_4 nanoparticle assemblies, respectively. 7 nm sized CoFe_2O_4 and NiFe_2O_4 nanoparticle assemblies show switching behaviors at 265 K and 270 K, respectively.

TEM images of a pellet (Fe_3O_4 nanoparticle assemblies)

Figure S4. (a, b) TEM images of a pellet of 7 nm sized Fe_3O_4 nanoparticle assemblies at low and high magnification, respectively.