

Supporting Information

for

Distinguishing magnetic and electrostatic interactions by a Kelvin probe force microscopy–magnetic force microscopy combination

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MFM images

Variable Field MFM images of a single “L-shaped” nanostructure. During the magnetic imaging process the electrostatic force is compensated by Kelvin Probe Force Microscopy (inset images). The magnetic field is continuously applied in plane direction (see arrows): (a) as-prepared under 0 Oe; (b) -6 Oe; (c) -60 Oe; (d) +100 Oe; (e) +180 Oe and (f) 0 Oe. Image parameters: $A = 8.5$ nm, $\omega_0 = 73.83$ Hz and a scan rate of 0.74 Hz. The color scale of the images is 5 Hz for the MFM and 0.7 V for the surface potential. Notice that we can follow the magnetization process of this structure from a complex domain configuration (a) to a single domain state (c and f).

