Effect of surface functionalization of metal wire on electrophysical properties of inductive elements.

Supporting information

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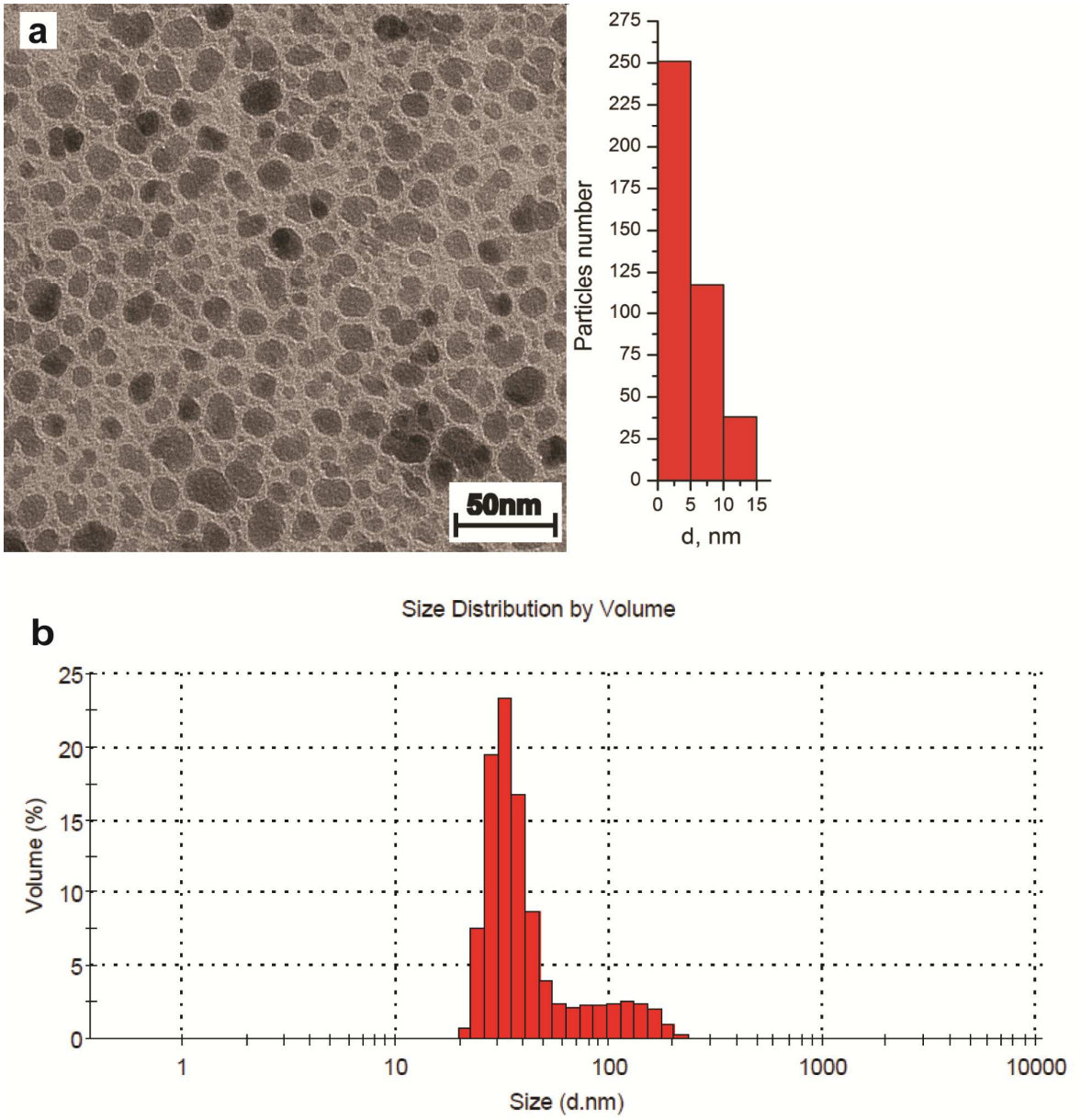

Figure s1. TEM images of the magnetite nanoparticles used in this study and calculated with ImageJ software MNPs size distribution (a) and MNPs size distribution according to DLS analysis (b).

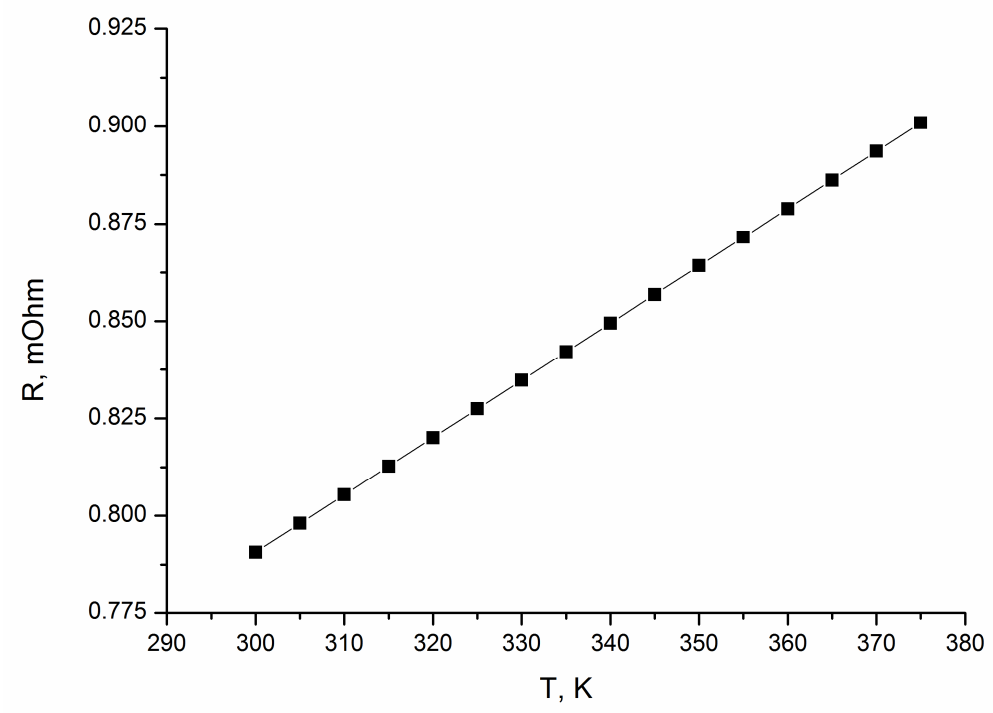

Figure s2. Calculated resistance (R) as a function of samples temperature (T). Here we took the room temperature as a start point.

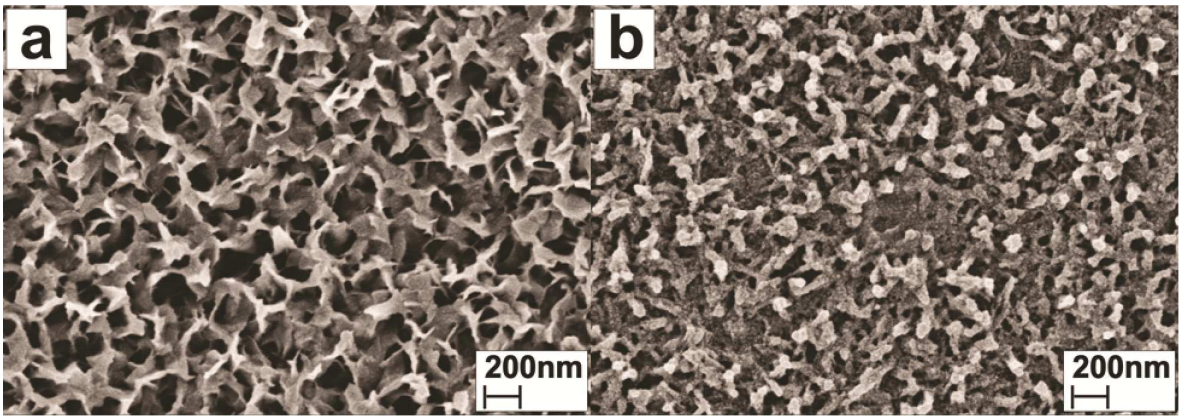

Figure s3. Aluminum mesoporous surface after deposition of one layer of MNPs (a) without prior PEI surface functionalization and (b) after deposition of one PEI layer.

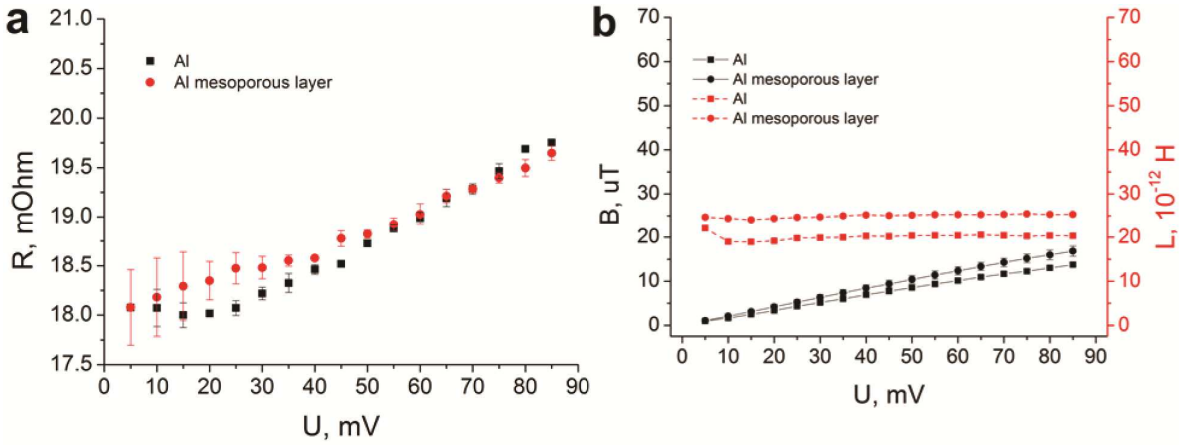

Figure s4. a) Resistance R of unmodified (squares) and sonicated (circles) spirally folded aluminum wires and b) magnetic field, B (black curves) induced by unmodified (squares) and sonicated (circles) spirally folded aluminum wires as well as calculated inductance, L for these samples (red curves) as a function of applied voltage.