Electronic Supplementary Material (ESI) for Environmental Science: Nano.

Supporting Information

Testing the bioaccumulation of manufactured nanomaterials in the freshwater bivalve *Corbicula fluminea* using a new test method

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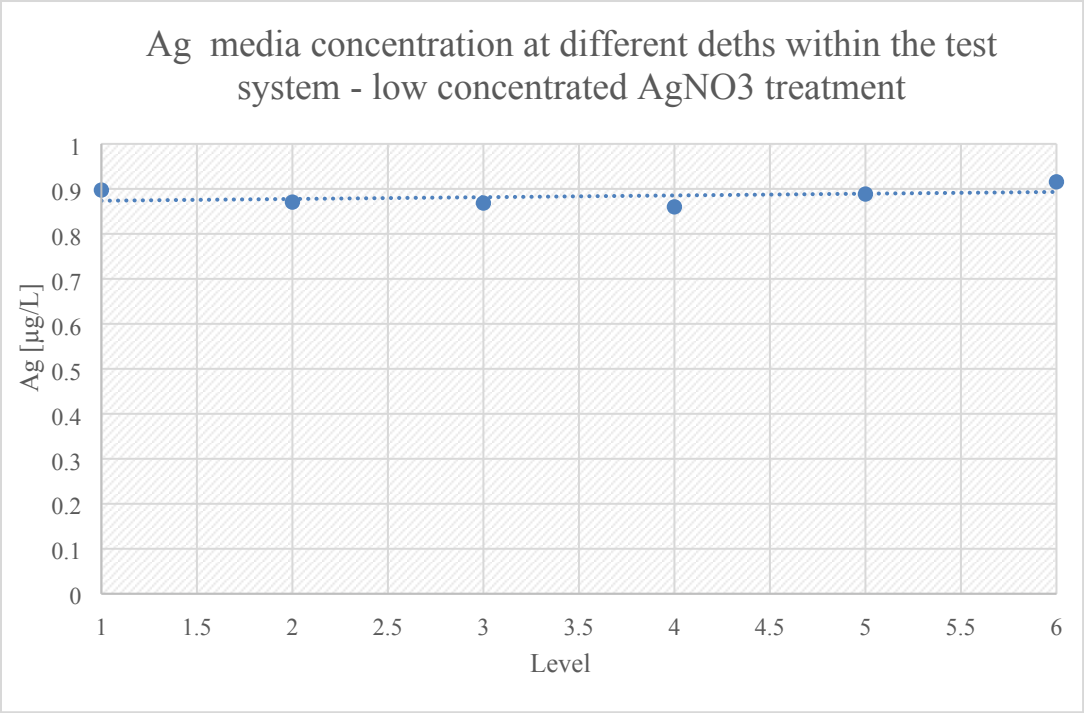

Fig. S1. Ag media concentration at different depths within the test system of the low concentrated AgNO3 treatment at 144h of uptake phase.

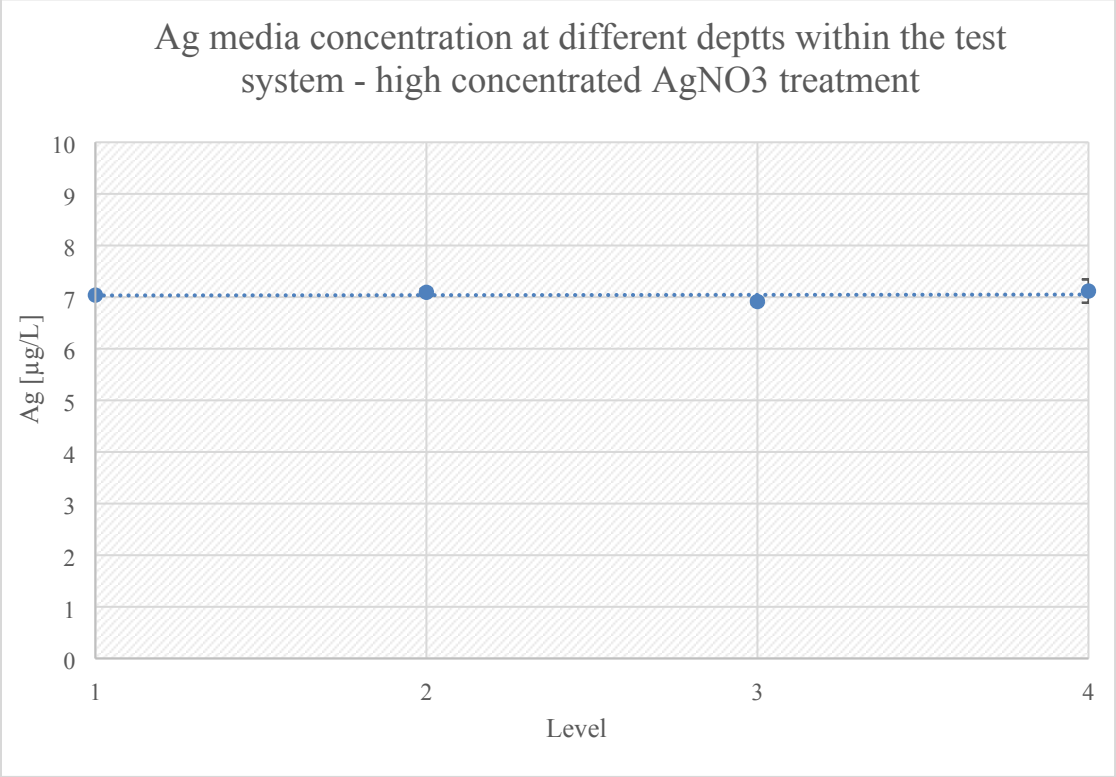

Fig. S2. Ag media concentration at different depths within the test system of the high concentrated $AgNO_3$ treatment at 144h of uptake phase.

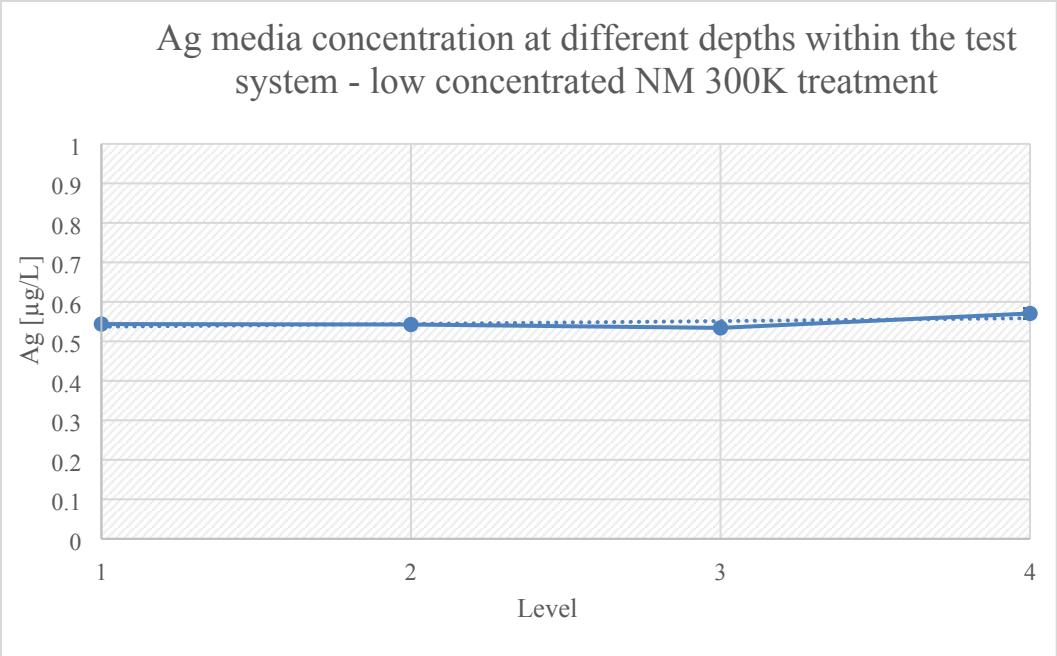

Fig. S3. Ag media concentration at different depths within the test system of the low concentrated NM 300K treatment at 144h of uptake phase.

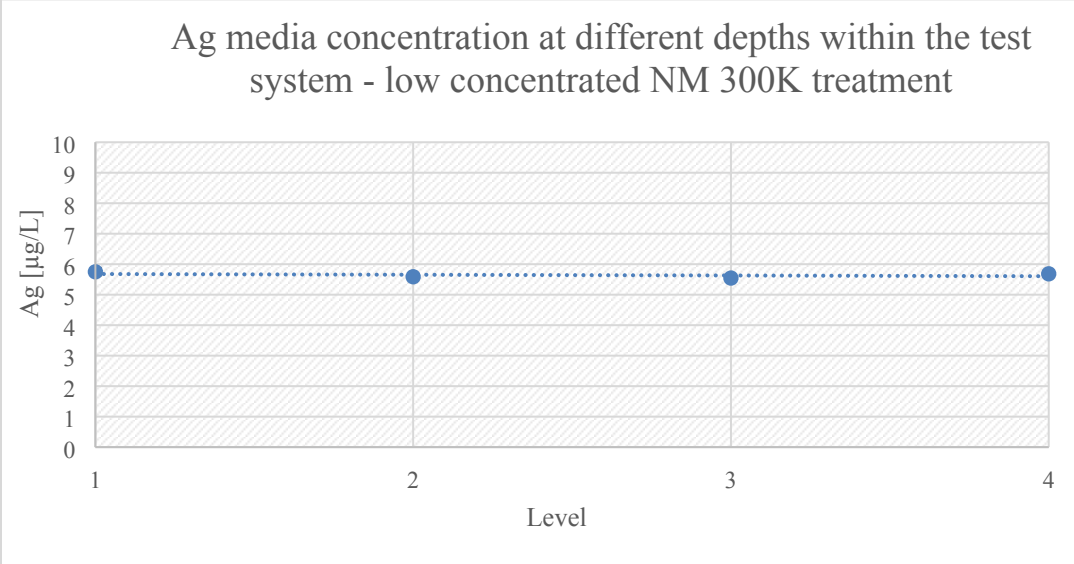

Fig. S4. Ag media concentration at different depths within the test system of the high concentrated NM 300K treatment at 144h of uptake phase.

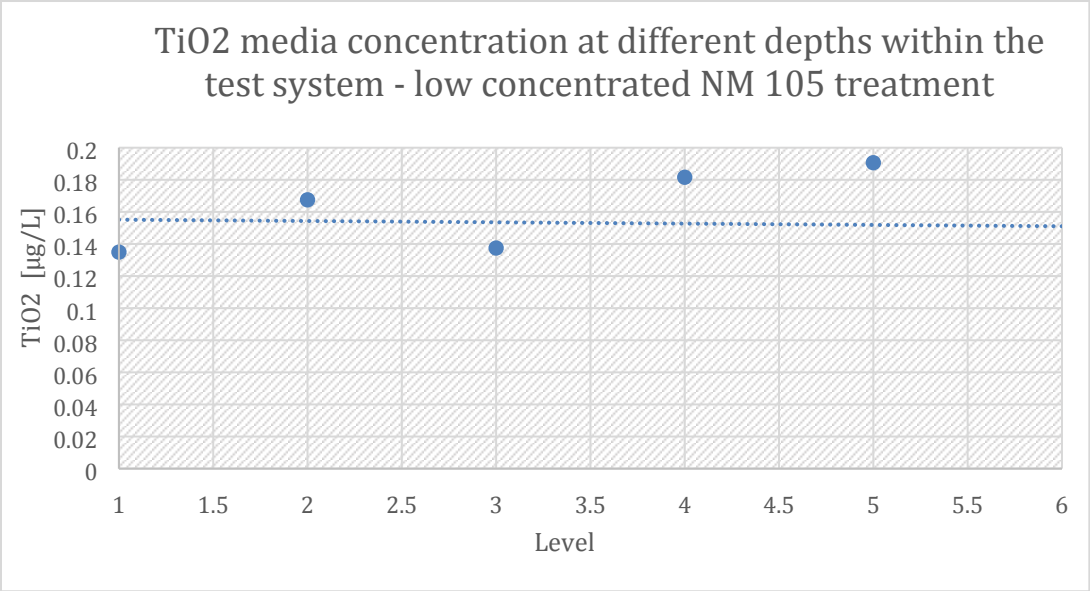

Fig. S5. TiO_2 media concentration at different depths within the test system of the low concentrated NM 105 treatment at 120h of uptake phase.

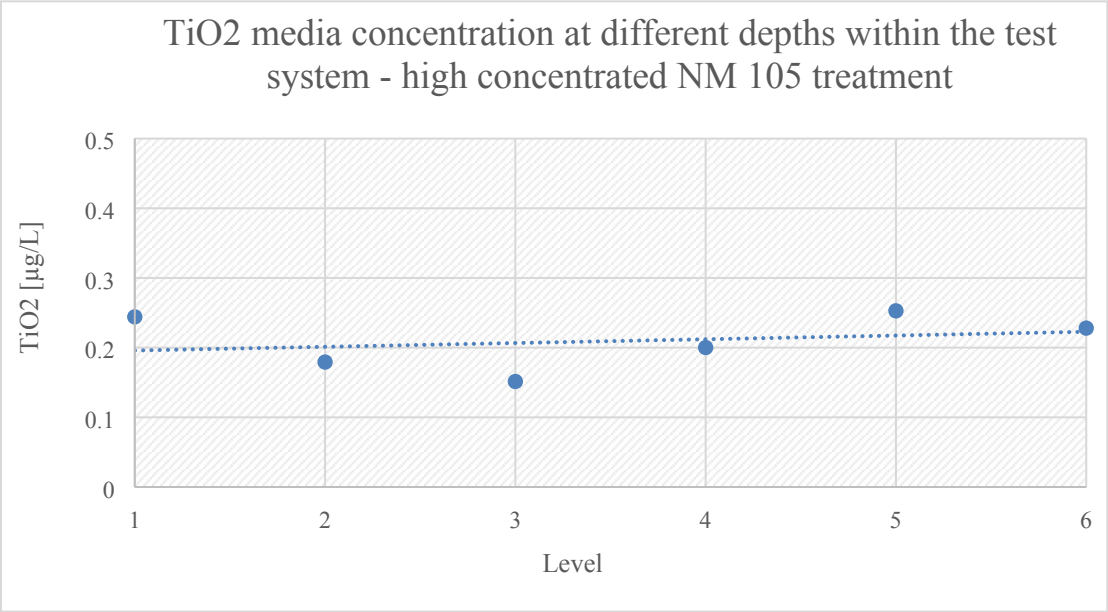

Fig. S6. TiO_2 media concentration at different depths within the test system of the low concentrated NM 105 treatment at 120h of uptake phase.

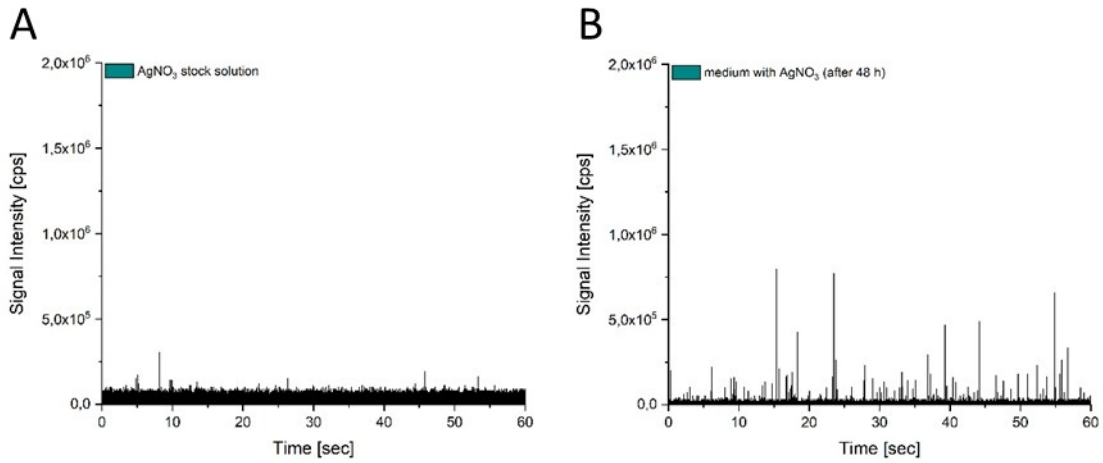

Fig. S7. Transient signals for dissolved Ag from freshly prepared $AgNO_3$ stock solution (A) and aged test medium containing $AgNO_3$ (B).

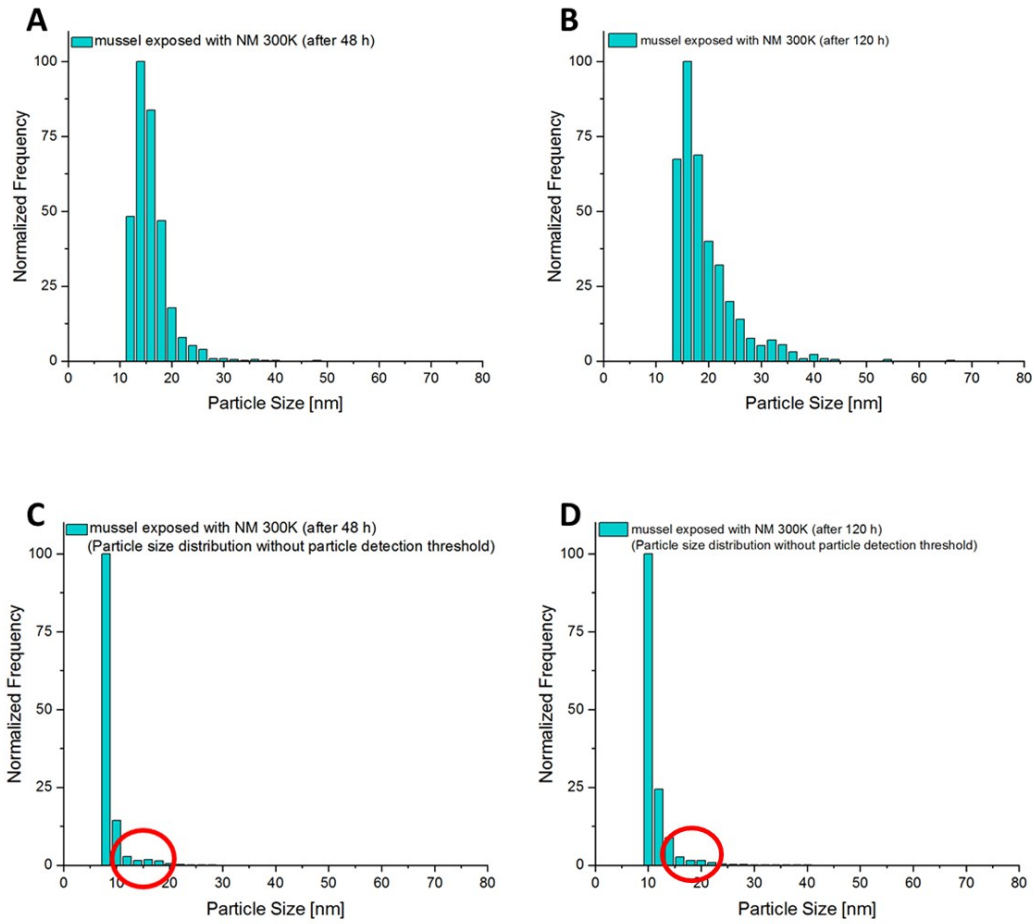

Fig. S8. A-B. Comparison of size distributions shown in Figure 5. C-D. Size distribution of A-B calculated without application of a particle detection threshold (with complete background signal). Red circles mark particle size range shown in A-B.

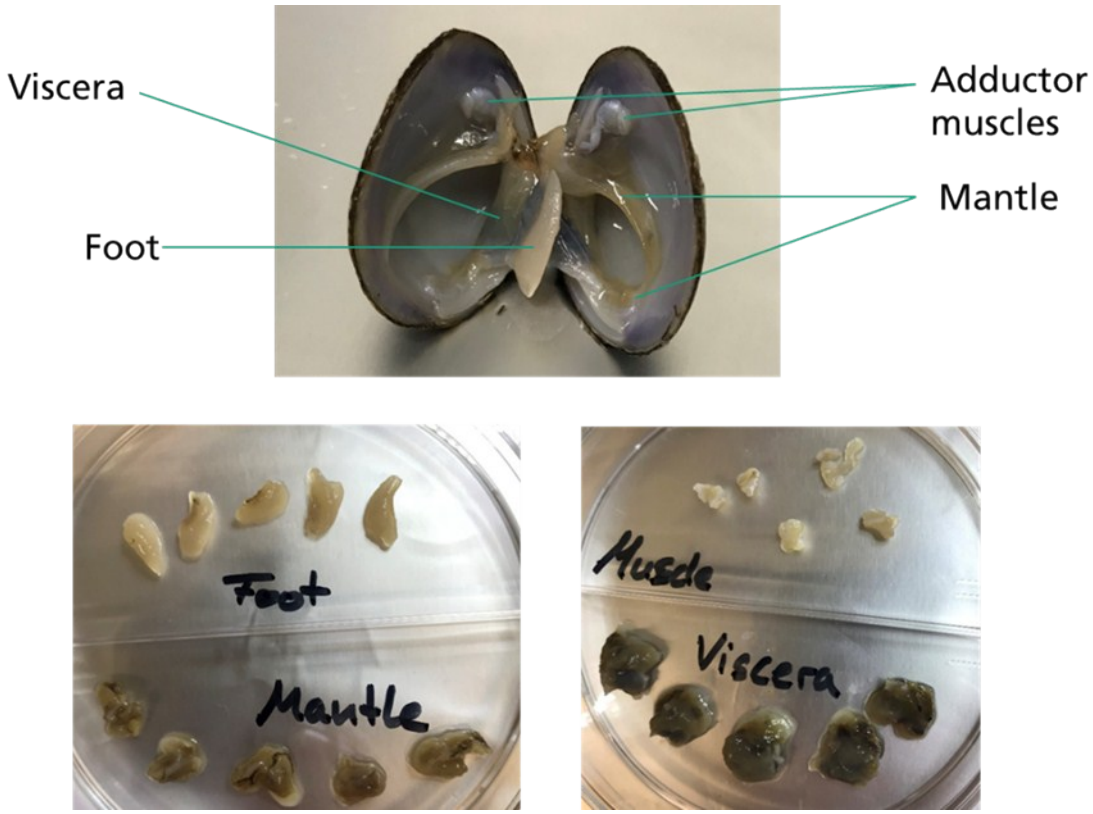

Fig. S9. Soft tissue compartments of *Corbicula fluminea* that were dissected for investigations on the tissue distribution.

Transmission electron microscopy

The NM-300K stock dispersion were characterized by TEM. The feed stock dispersion (NM-300K) was diluted 1:10^6 in deionized water 20mg of NM 105 were suspended in 100 mL 0.2% Novachem and sonicated for 10 min before diluted 1:20. 1 mL of the diluted suspensions was directly centrifuged (1h, ~14000 x g) on TEM grids. As the AgNPs carried a negative surface charge, the TEM grids were functionalized with Poly-L-Lysine (PLL, 0.1% (w/v) in H_2O, Sigma Aldrich) to enhance NP deposition on the TEM grids. The preparation of the TEM grids is described in more detail in Uusimaeki et al. (2019). A dedicated scanning transmission electron microscope (STEM, HD2700Cs, Hitachi, Japan), operated at an acceleration voltage of 200 kV was used to investigate the TEM grid. For image formation the HAADF signal was used.

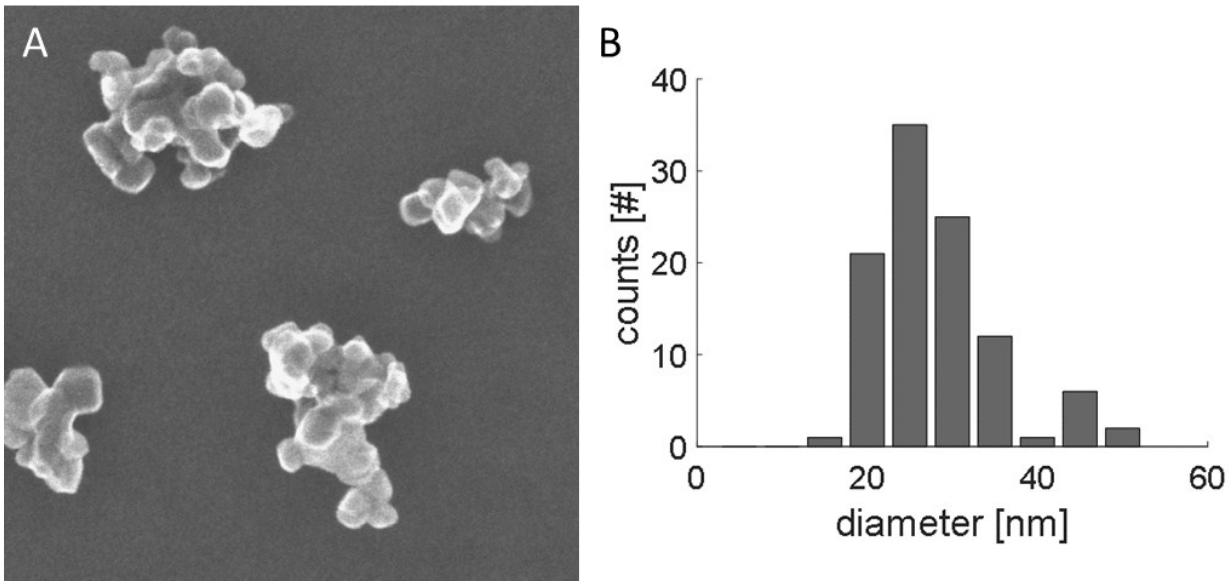

Fig. S10. TEM/ ZCM Image of feedstock material of NM 105 (A) and histogram of the grain size distribution of the NM 105 feed stock material (B).

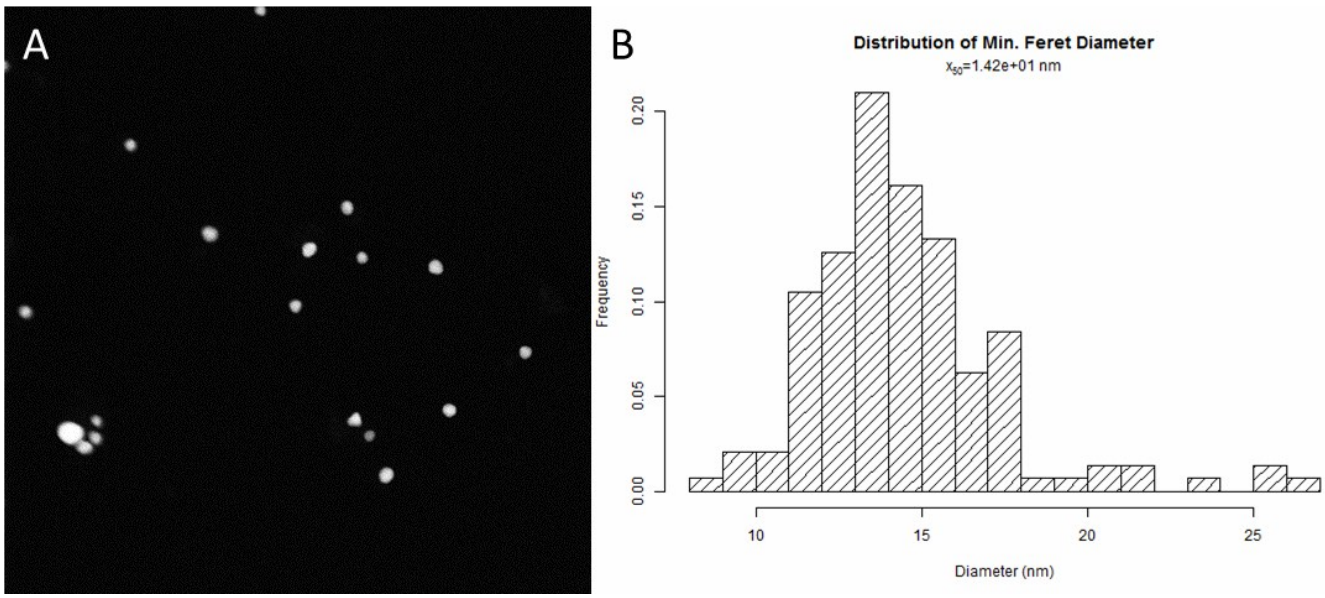

Fig. S11. TEM/ ZCM Image of feedstock material of NM 300K (A) and histogram of the grain size distribution of the NM 300K feed stock material (B).