Supplementary Materials

Laser Ablation of $NiFe_2O_4$ and $CoFe_2O_4$ Nanoparticles

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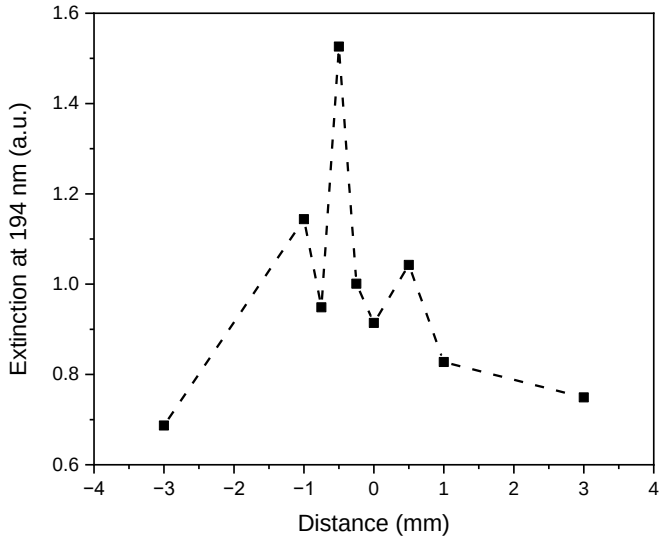

Figure S1. Variation of the target surface distance from the focal position of the laser beam for the determination of the optimal distance in LAL process.

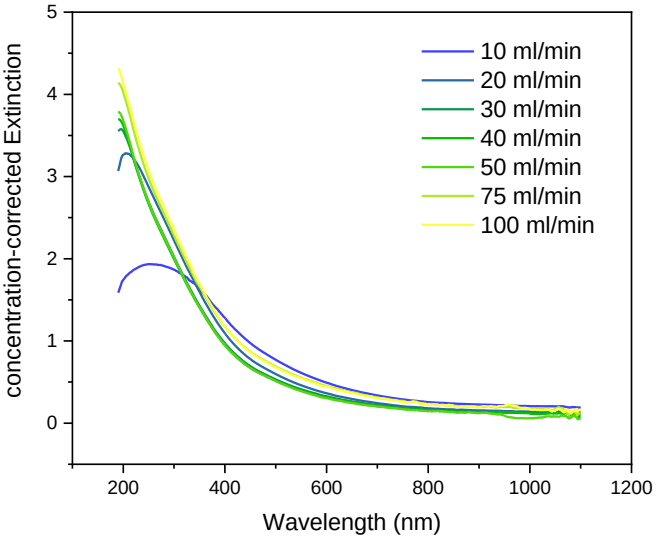

Figure S2. Variation of the colloid volume flow to determine the best nanoparticles productivity. Best volume flow at 40 ml/min, which shows high particle concentration with a curve maxima that is still in the measured range.

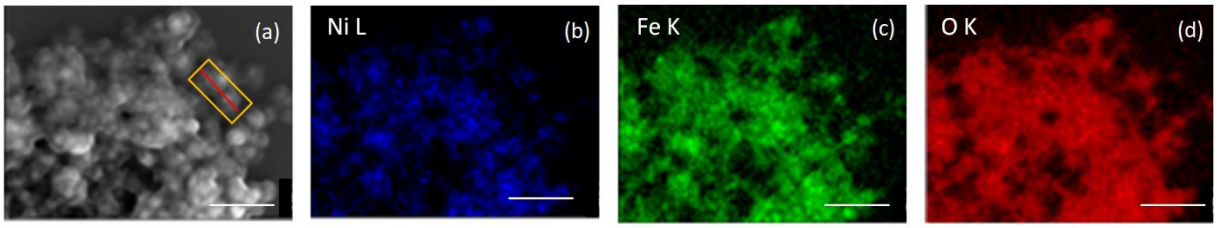

Figure S3. SEM Image of NFO NPs (**a**) and corresponding element mapping (**b,c,d**). Red marked line in (**a**) represent EDX scanned area to determine the Ni:Fe:O molar ratio. Obtained atom% values: 14.1 ± 0.1 for Ni, 27.5 ± 0.3 for Fe and 58.3 ± 0.3 for O. Bar represents 500nm.

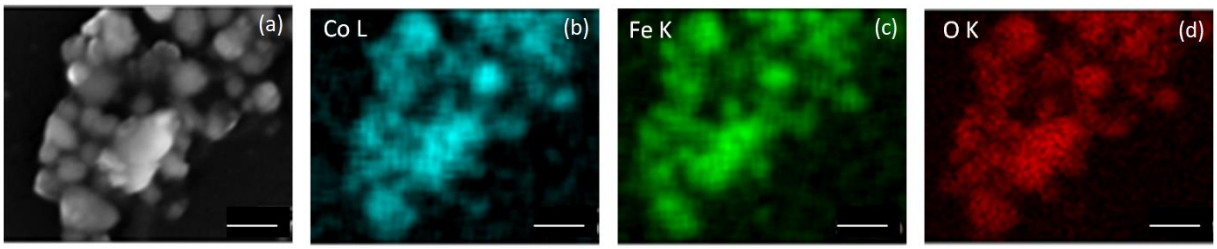

Figure S4. SEM image of CFO NPs (**a**) and corresponding element mapping (**b,c,d**). Bar represents 250nm.

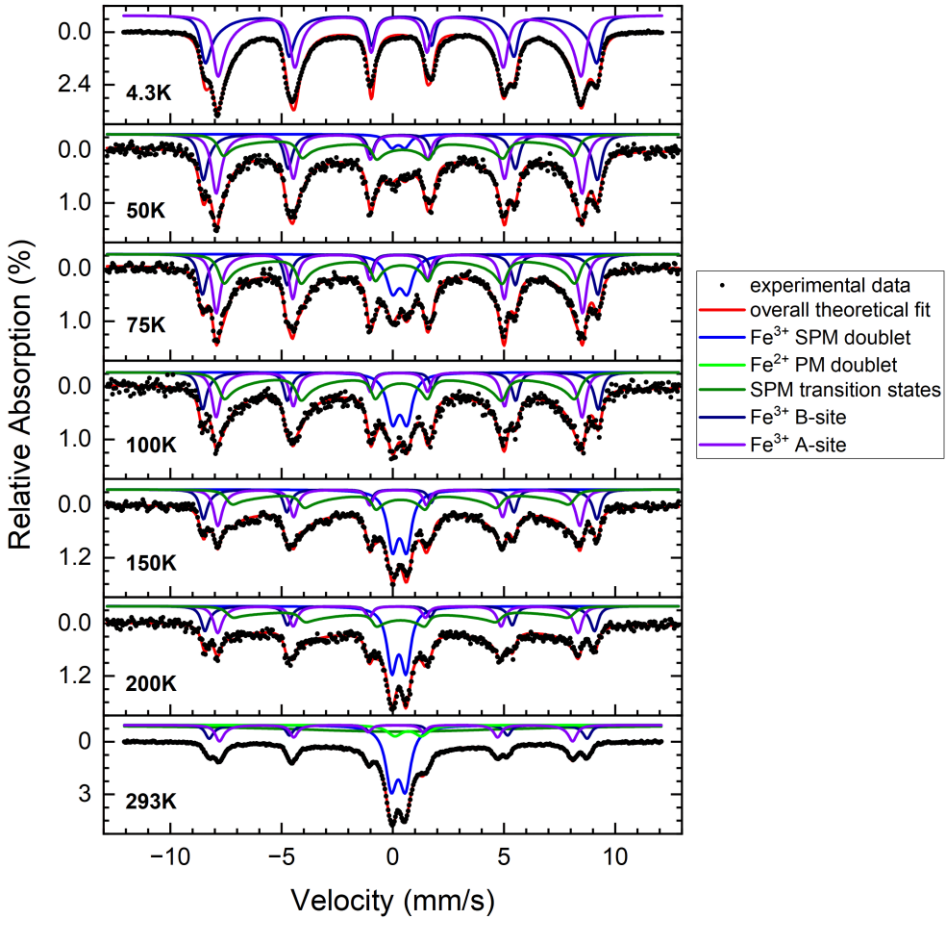

Figure S5. Mössbauer spectra of NFO recorded at temperatures between 4.3 K and 293 K in order to discern the temperature dependent evolution of Fe^{2+} contribution.

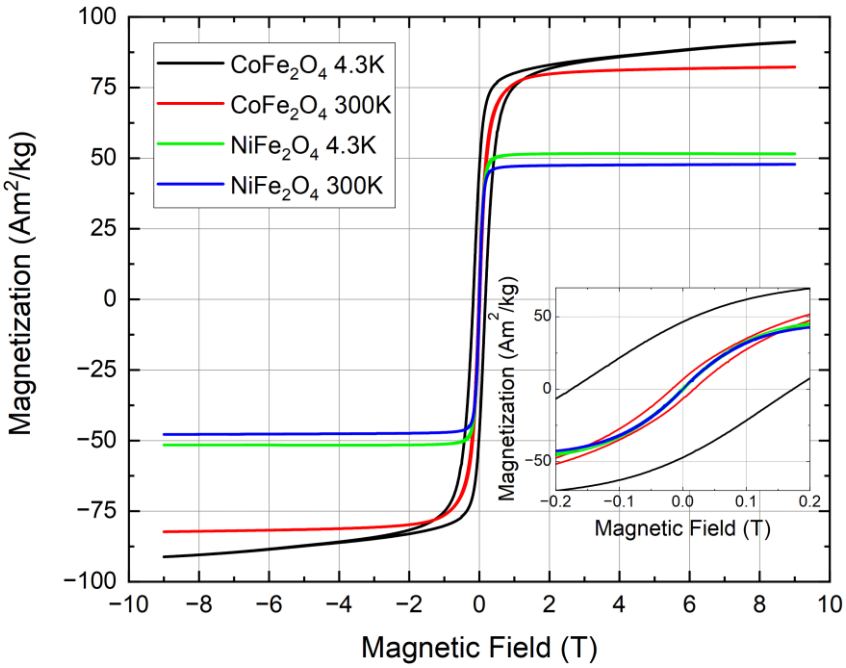

Figure S6. Magnetic measurements of NFO- and CFO ceramic targets at 4.3 K and 300 K.