

# Correlating magnetic hyperthermia and magnetic resonance imaging contrast performance of cubic iron oxide nanoparticles with crystal structural integrity

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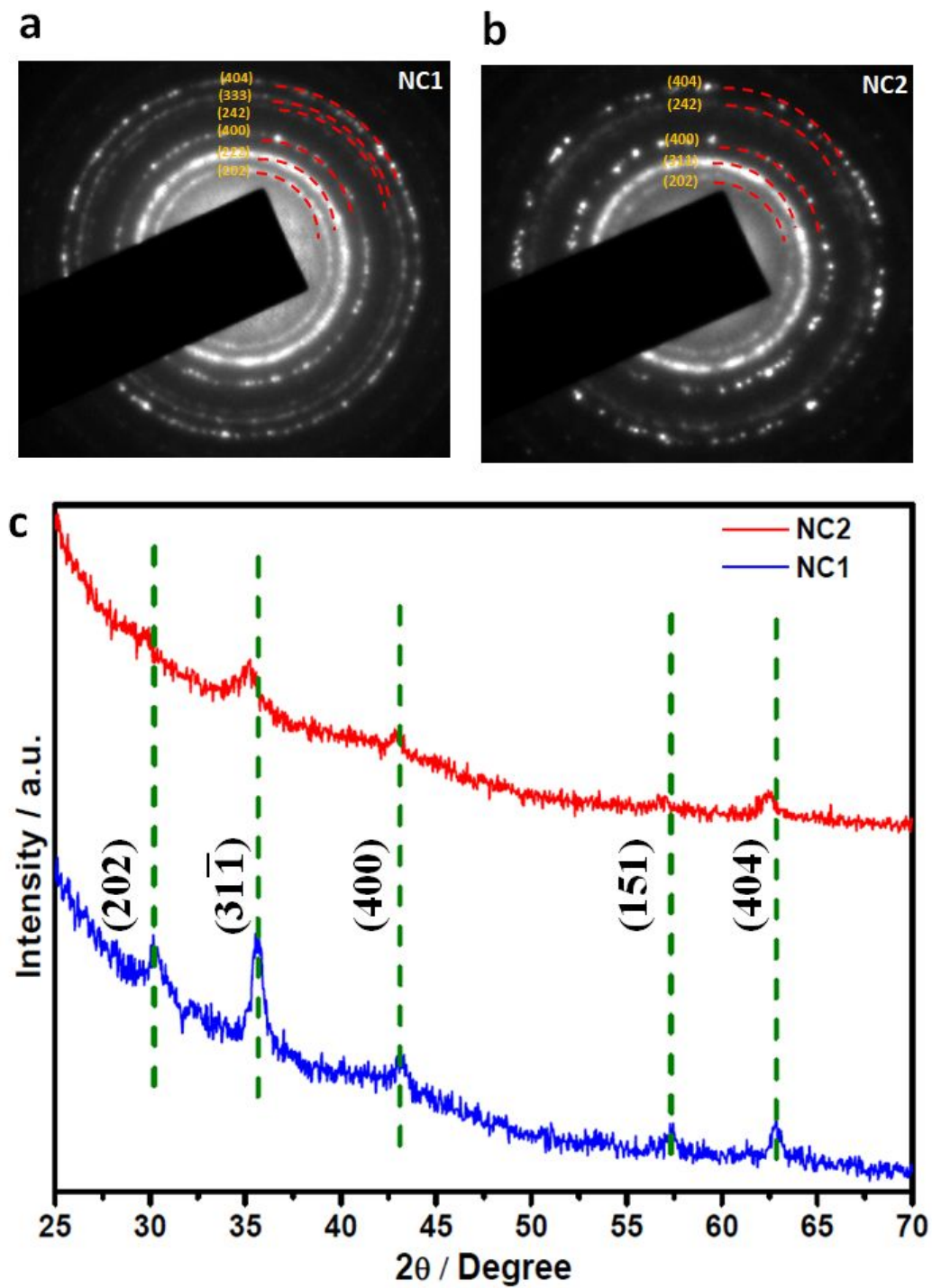
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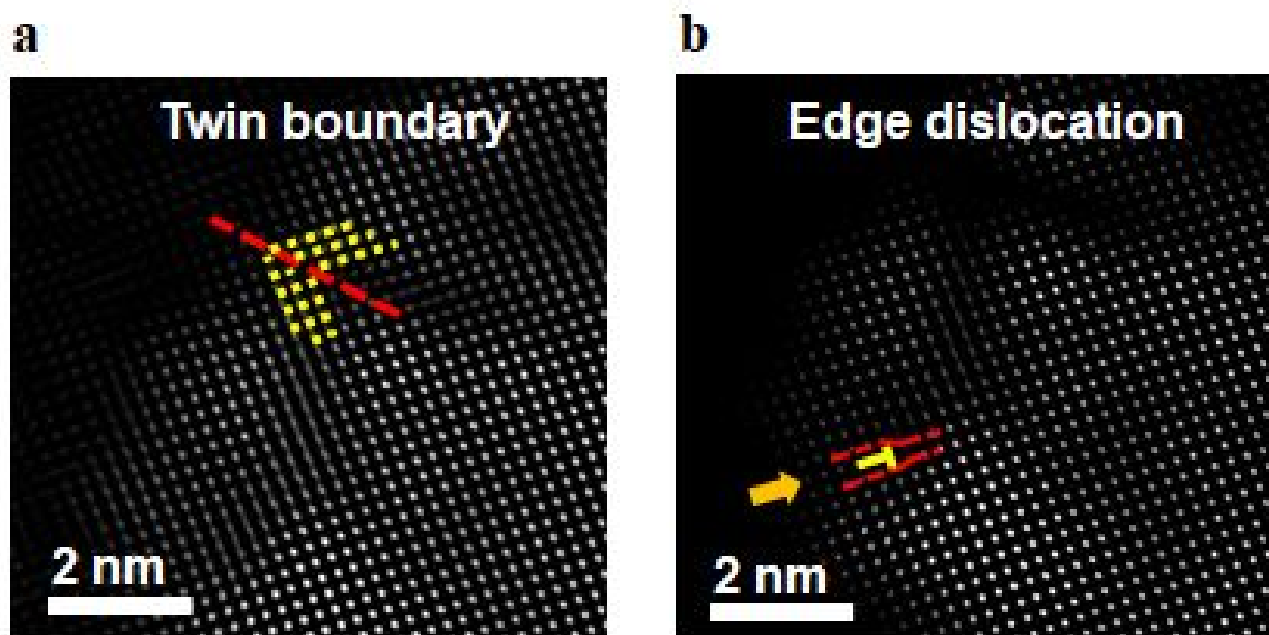
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## SUPPORTING INFORMATION



**Figure S1.** Crystal structure analysis. (a) SAED pattern of cubic MNPs from NC1 indicating the presence of the  $\text{Fe}_3\text{O}_4$  spinel phase. (b) SAED pattern of cubic MNPs from NC2 indicating the presence of  $\text{Fe}_3\text{O}_4$

spinel phase with poor crystallinity. (c) XRD analysis of cubic iron oxide MNPs from NC1 and NC2 highlighting the peak-shifts and differences in crystallinity.



**Figure S2.** Additional high-resolution TEM analysis of cubic MNPs from NC2. (a) A twin boundary defect shown in IFFT acquired from a representative NC2 crystal. (b) An edge dislocation defect shown in IFFT acquired from the same representative NC2 crystal.