

Supplementary Materials

Figures

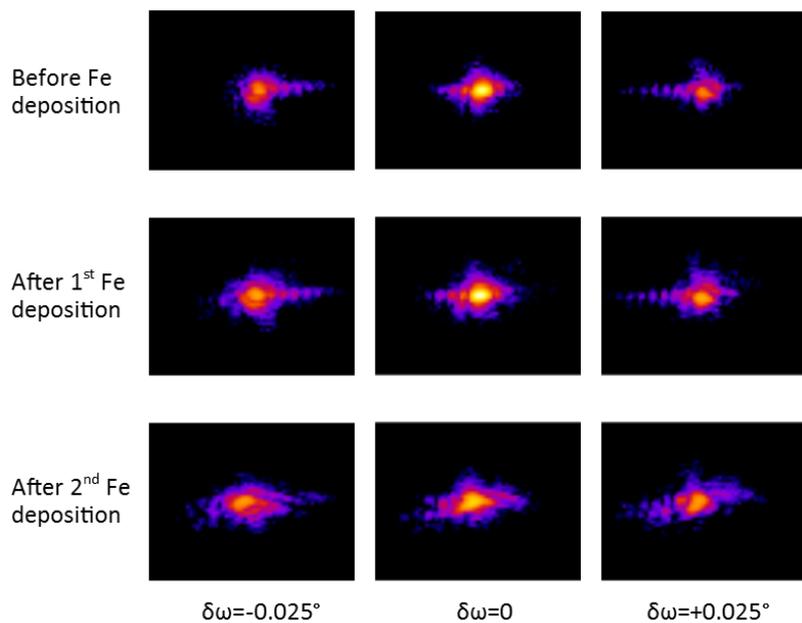


Figure S1. Changes in the diffraction pattern of nanocrystal 2 after iron deposition at a sample temperature of 300°C.

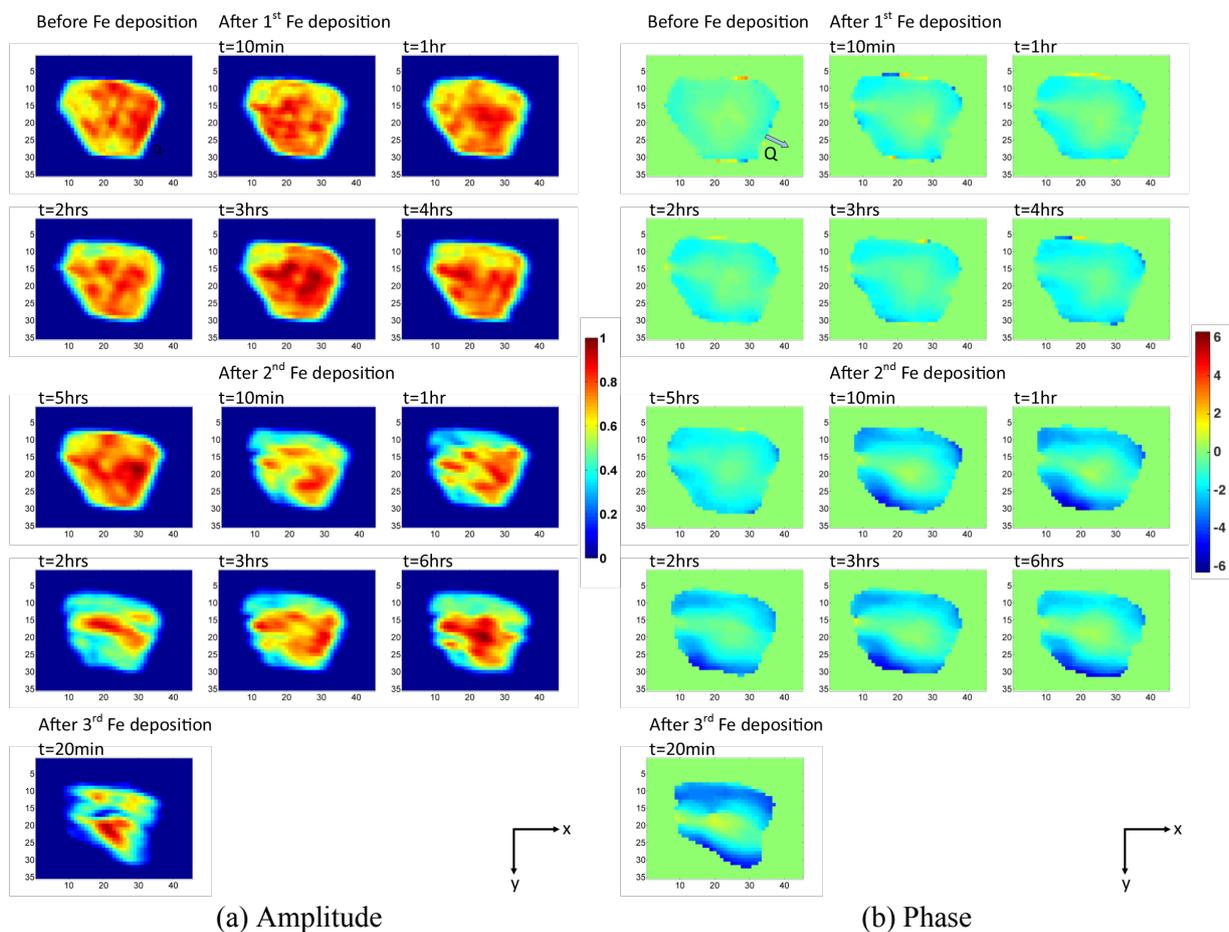


Figure S2. xy-cut planes of the amplitude and phase of nanocrystal 1 taken near the centre of the nanocrystal before and after iron deposition at a sample temperature of 400°C (1 pixel = 16.28 nm).

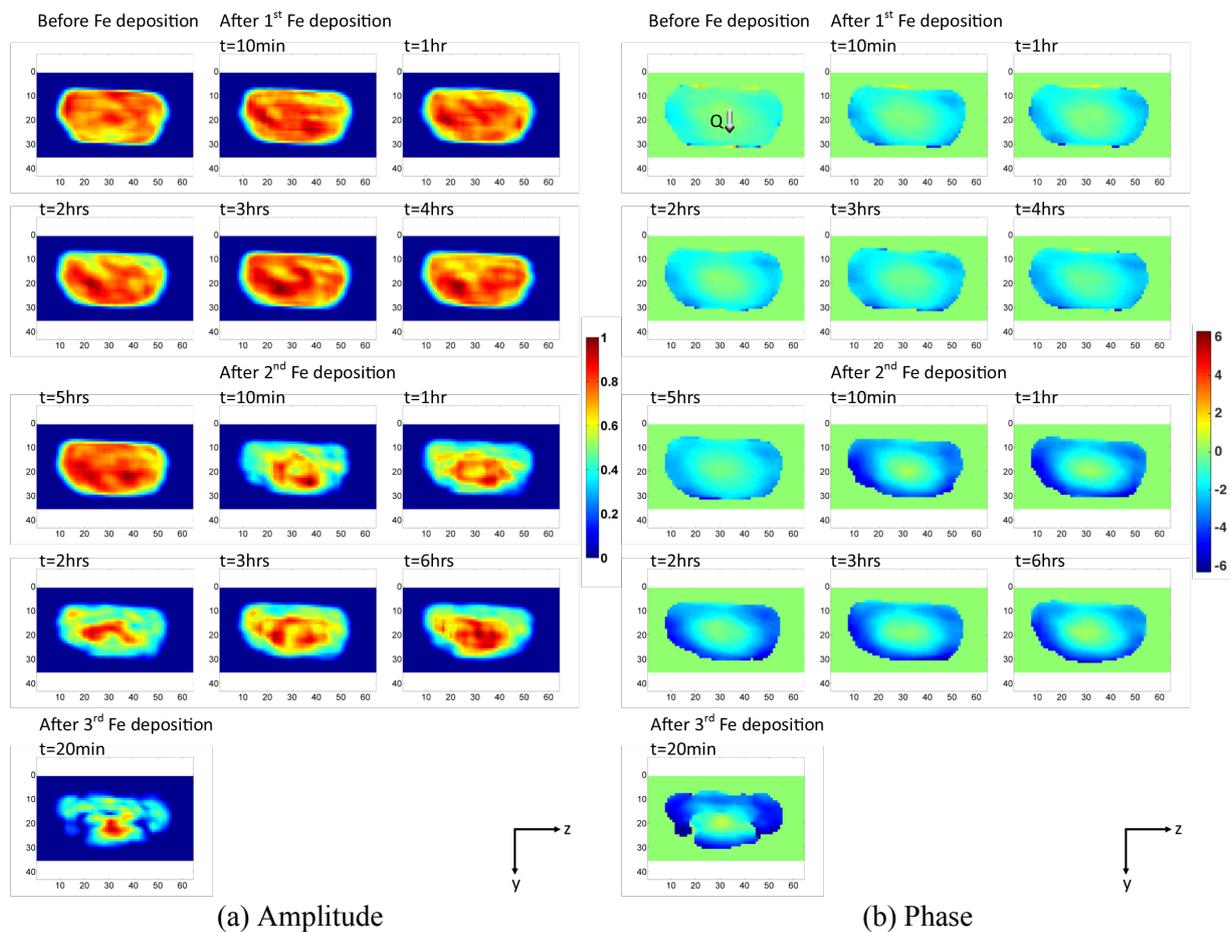
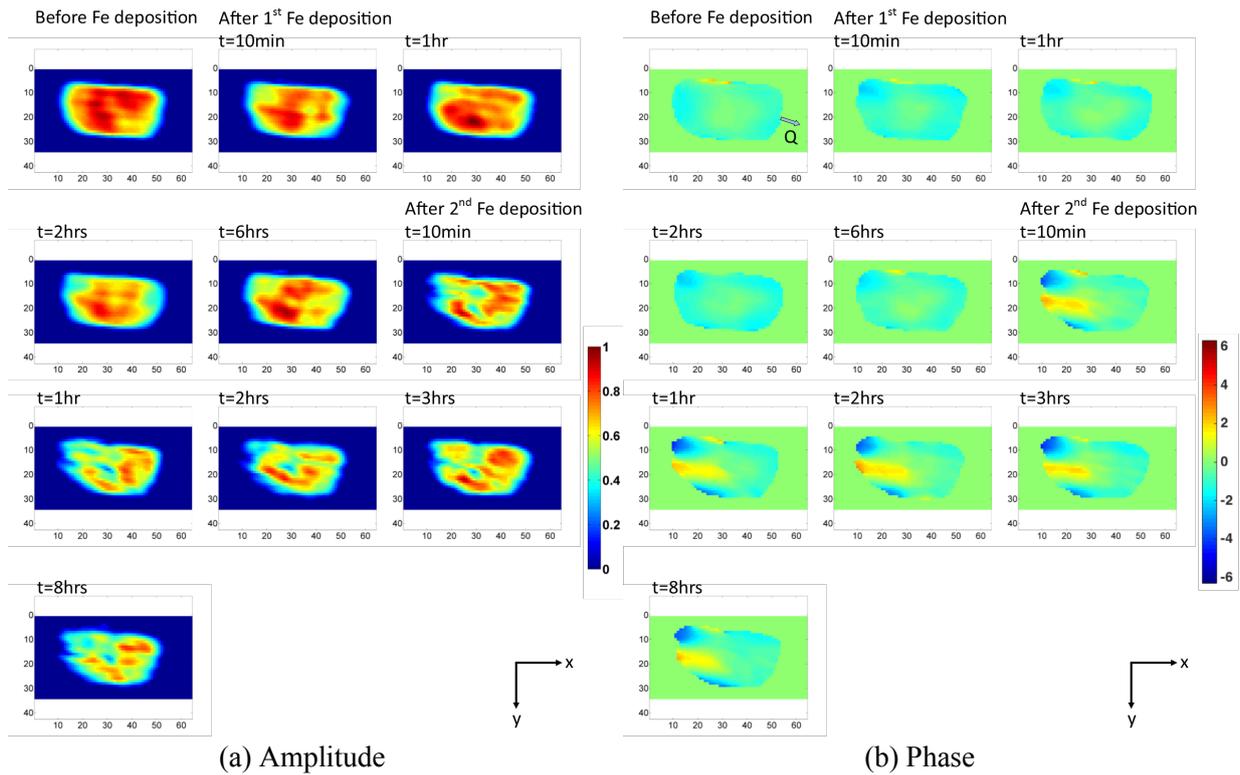


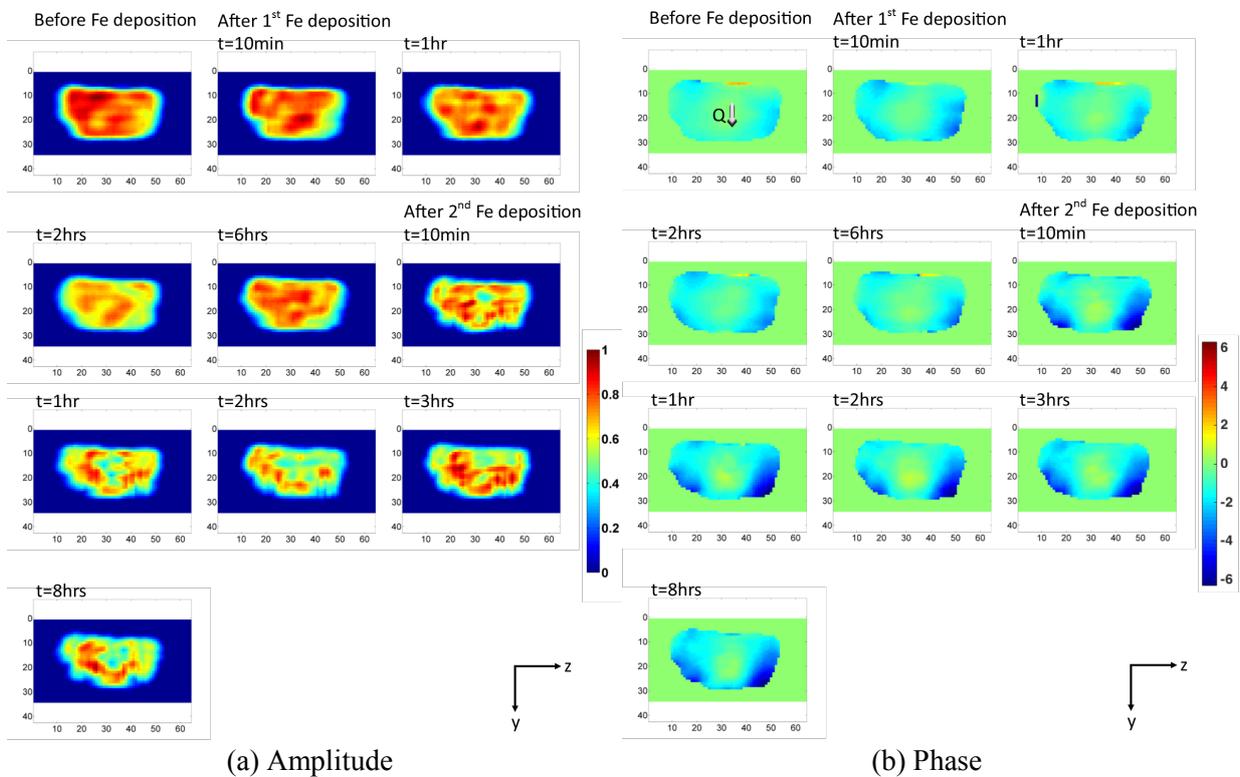
Figure S3. zy-cut planes of the amplitude and phase of nanocrystal 1 taken near the centre of the nanocrystal before and after iron deposition at a sample temperature of 400°C (1 pixel = 16.28 nm).



(a) Amplitude

(b) Phase

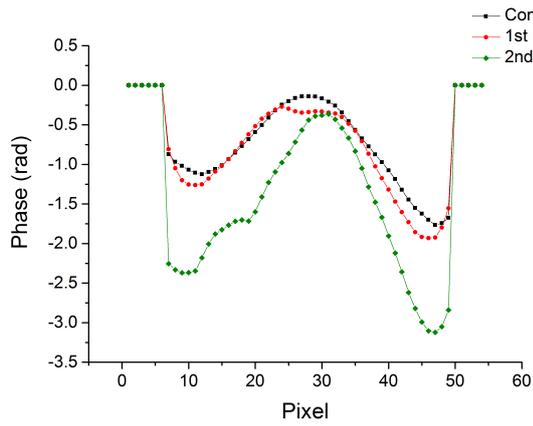
Figure S4. xy-cut planes of the amplitude and phase of nanocrystal 2 taken near the centre of the nanocrystal before and after iron deposition at a sample temperature of 300°C (1 pixel = 16.28 nm).



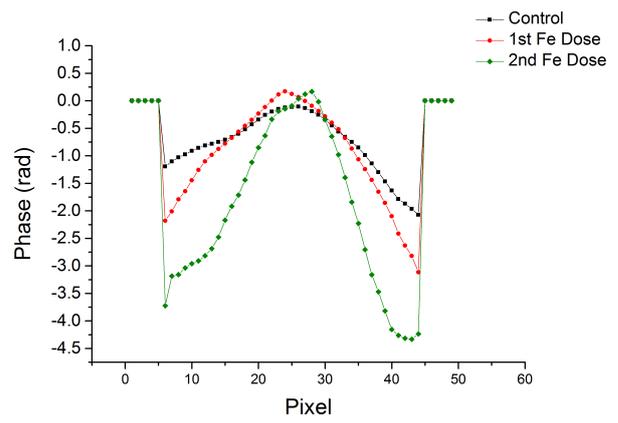
(a) Amplitude

(b) Phase

Figure S5. zy-cut planes of the amplitude and phase of nanocrystal 2 taken near the centre of the nanocrystal before and after iron deposition at a sample temperature of 300°C (1 pixel = 16.28 nm).



(a) Taken near the centre



(b) Taken near the top

Figure S6. Line-out of phase of nanocrystal 2 along the z-axis before and after iron deposition.

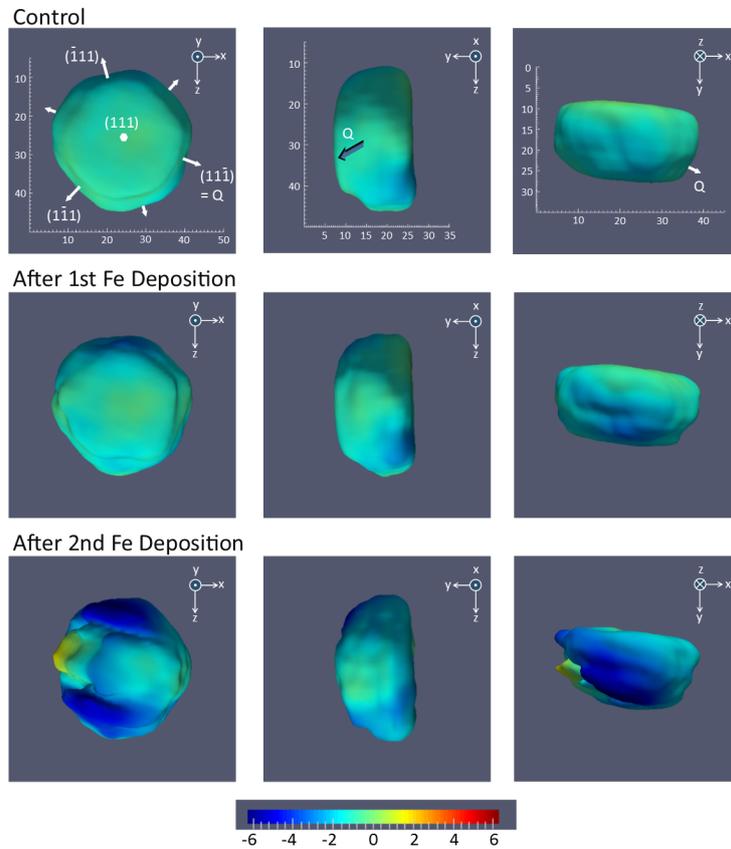


Figure S7. Phase isosurface image of nanocrystal 2 before and after iron deposition at a sample temperature of 300°C. The colour of the isosurface image represents the phase of the complex amplitude.

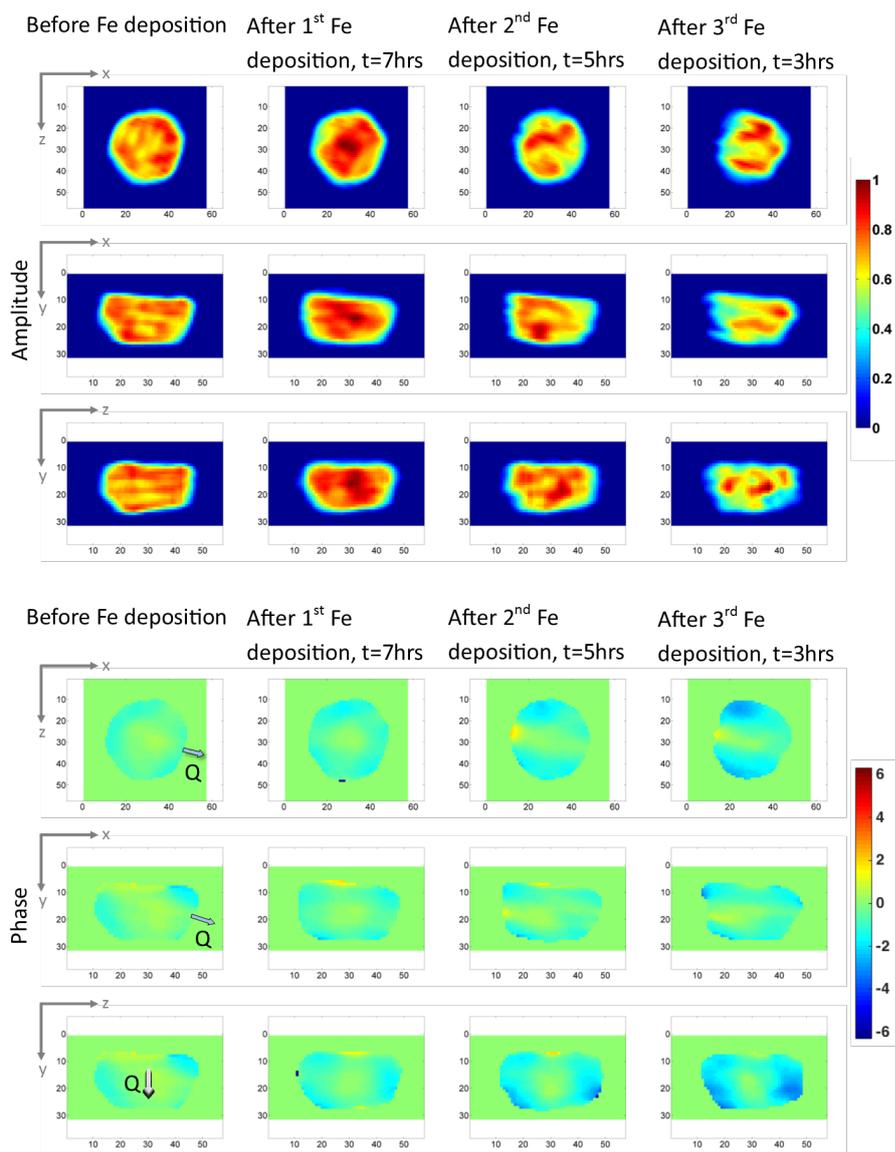


Figure S8. Changes in the amplitude and phase of a nanocrystal after iron deposition at a sample temperature of 400°C (1 pixel = 16.28 nm). The images are xz-, xy-, and zy-cut planes taken near the centre of the nanocrystal. The nanocrystal measures 521 nm x 285 nm x 521 nm (width x height x length).

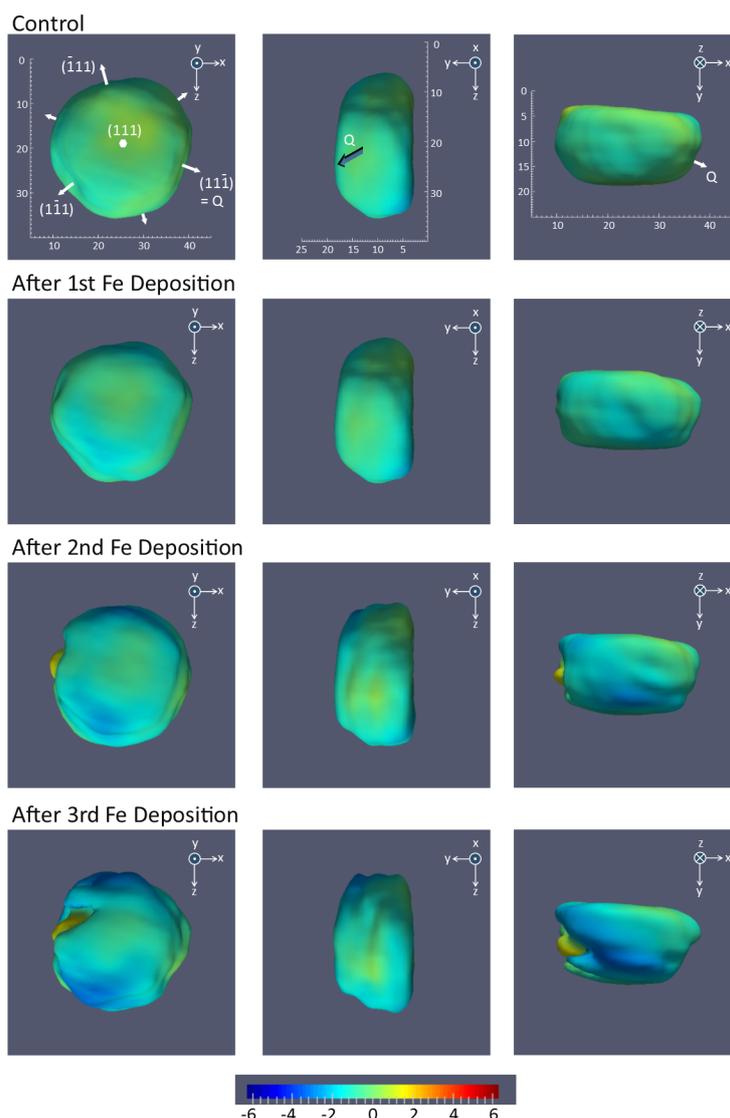


Figure S9. Phase isosurface image of the nanocrystal in Fig. S8 before and after iron deposition at a sample temperature of 400°C (1 pixel = 16.28 nm).

Tables

Table S1. Total amplitude and RMS phase in the nanocrystal in Fig. S8 before and after iron deposition at a sample temperature of 400°C.

Iron dose	Total amplitude	RMS phase, radians
Control	1.00	0.71
1 st iron dose	0.97	0.99
2 nd iron dose	0.86	1.23
3 rd iron dose	0.70	1.65