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Structural evolution of α -Fe₂O₃ nanowires during lithiation and delithiation

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Highlights

- Fe_3O_4 nanocrystals form as intermediate products during lithiation;
- Size of nanocrystals evolve at various lithiation and delithiation stages
- Fe_2O_3 is regained in the form of nanocrystals after delithiation;
- Li diffuses into the nanowire with Fe and O remain within the nanowire boundary;
- Nanowires geometrically persistent over multiple cycles.

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