Chemical and Physical Properties of Oxide Nanoparticles

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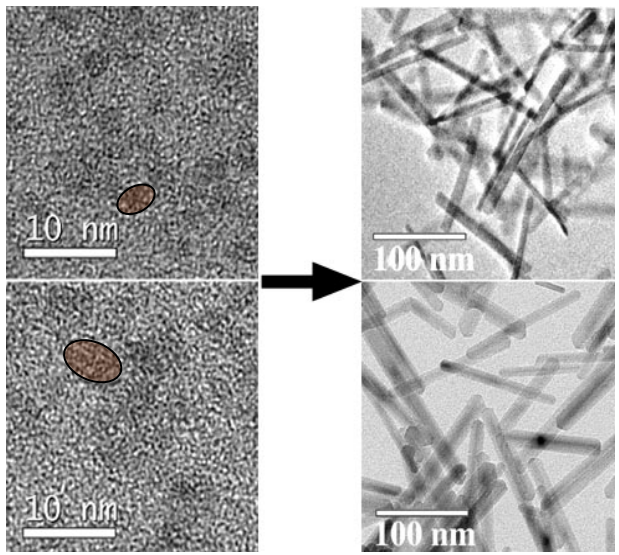
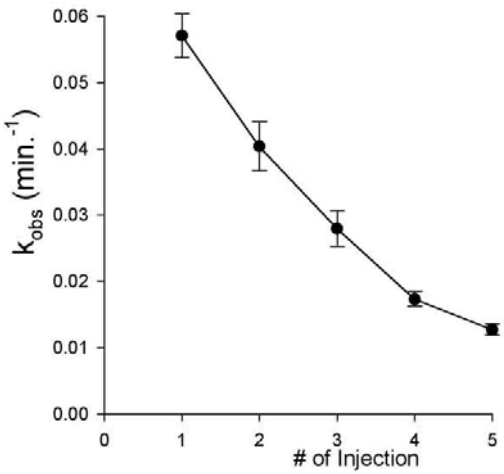
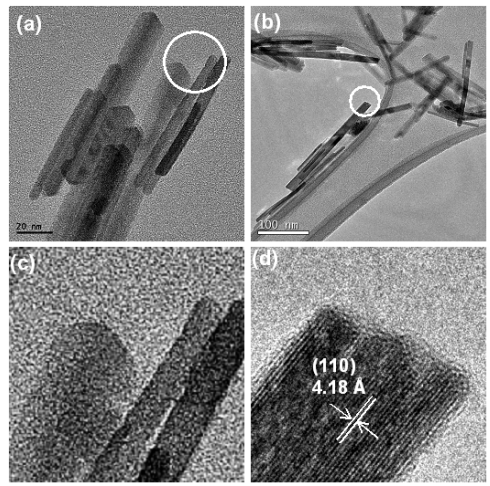
- We investigate the nanoparticle growth mechanisms and nanoparticle reactivity
  - GROWTH: Oriented aggregation (metal oxides, zeolites)
  - GROWTH: Coarsening (metal oxides, zeolites)
  - REACTIVITY: reductive dissolution
  - REACTIVITY: reductive degradation of organic contaminants



IRON OXIDES: size control by way of oriented aggregation

- Reductive degradation of of 4-chloronitrobenzene
  - occurs only on a-FeOOH (021) surfaces
  - Reactivity drops as the reaction is cycled





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