THE UNIVERSITY OF MELBOURNE
DEPARTMENT OF INFRASTRUCTURE ENGINEERING
UNIVERSITY OF MELBOURNE

Porous media transport of iron nanoparticles

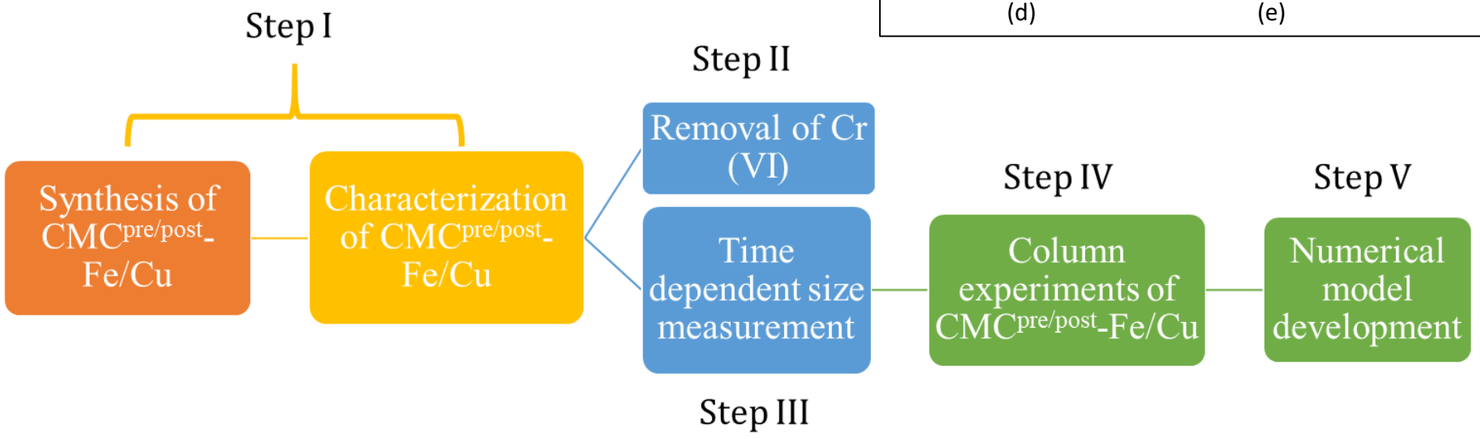
Research Problem

Lack of coherent understanding on transport of bimetallic iron nanoparticles considering concurrent presence of multiple retention mechanisms

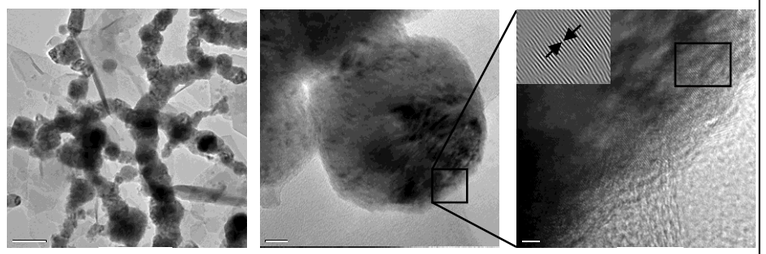
Research Objective

Evaluation of reactivity, stability and mobility of synthesized bimetallic iron nanoparticles pre/post grafted with carboxymethyl cellulose ($CMC^{pre/post}$-Fe/Cu)

Research Methodology



1



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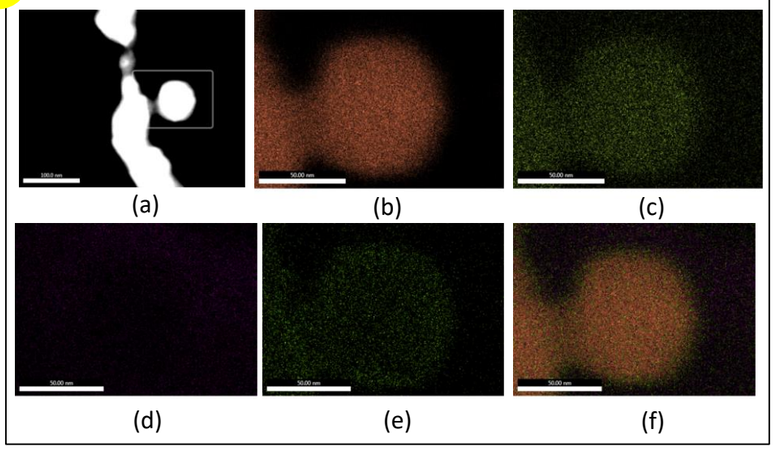

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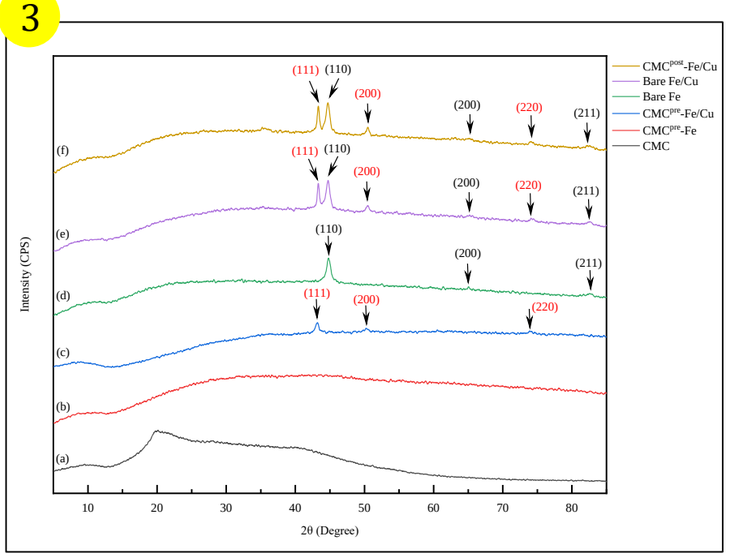

(1) TEM micrograph ((a) chain like interaction, (b) single particle, (c) crystal lattice); (2) STEM-XEDS mapping ((a) image, (b) Fe K_α, (c) Cu K_α, (d) C K_α, (e) O K_α, (f) overlay) and (3) XRD spectra of Fe/Cu nanoparticle (The arrows show the 2θ values corresponding to different lattice planes. The black ones represent the Fe(0) and the red ones represent the Cu(0))

For more Information

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