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Synthesis of maghemite nanoparticles, biodiesel and hydrogen:

One pot sequential reactions

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Highlights:

- Maghemite nanoparticles, Hydrogen, biodiesel and glycerol were simultaneously synthesized
- Dehydrogenation by methanolysis, reduction and transesterification reactions were sequentially performed in a single reactor
- *In situ* formed maghemite nanoparticles were acted as catalyst for biodiesel production
- High yield of *Pongamia pinnata* biodiesel and hydrogen was achieved
- The properties of resulting biodiesel agreed well with the ASTM standards

ABSTRACT:

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