

## Electronic Supplementary Information (ESI)

### Surface-dependent magnetic behavior of $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> quasi-cubes induced by Mg<sup>2+</sup> ions

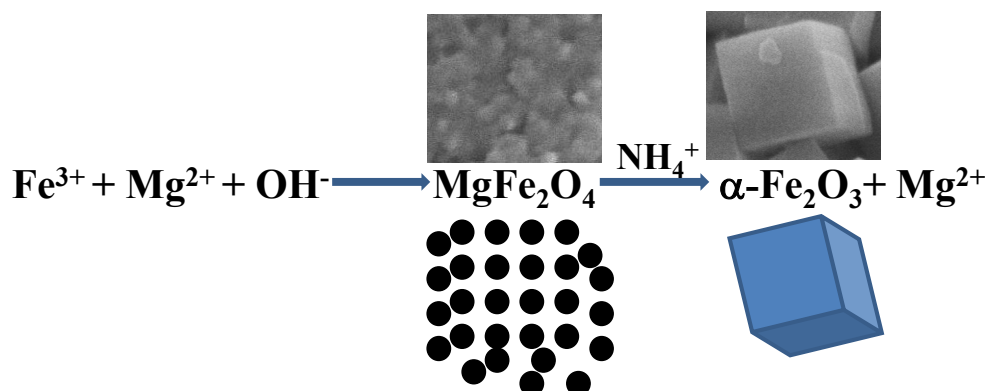
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**Scheme 1:** Schematic illustration of the formation of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> quasi-cubes.