

## Morphologies and Magnetic Properties of $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> Nanoparticles with Calcined at Different Temperatures

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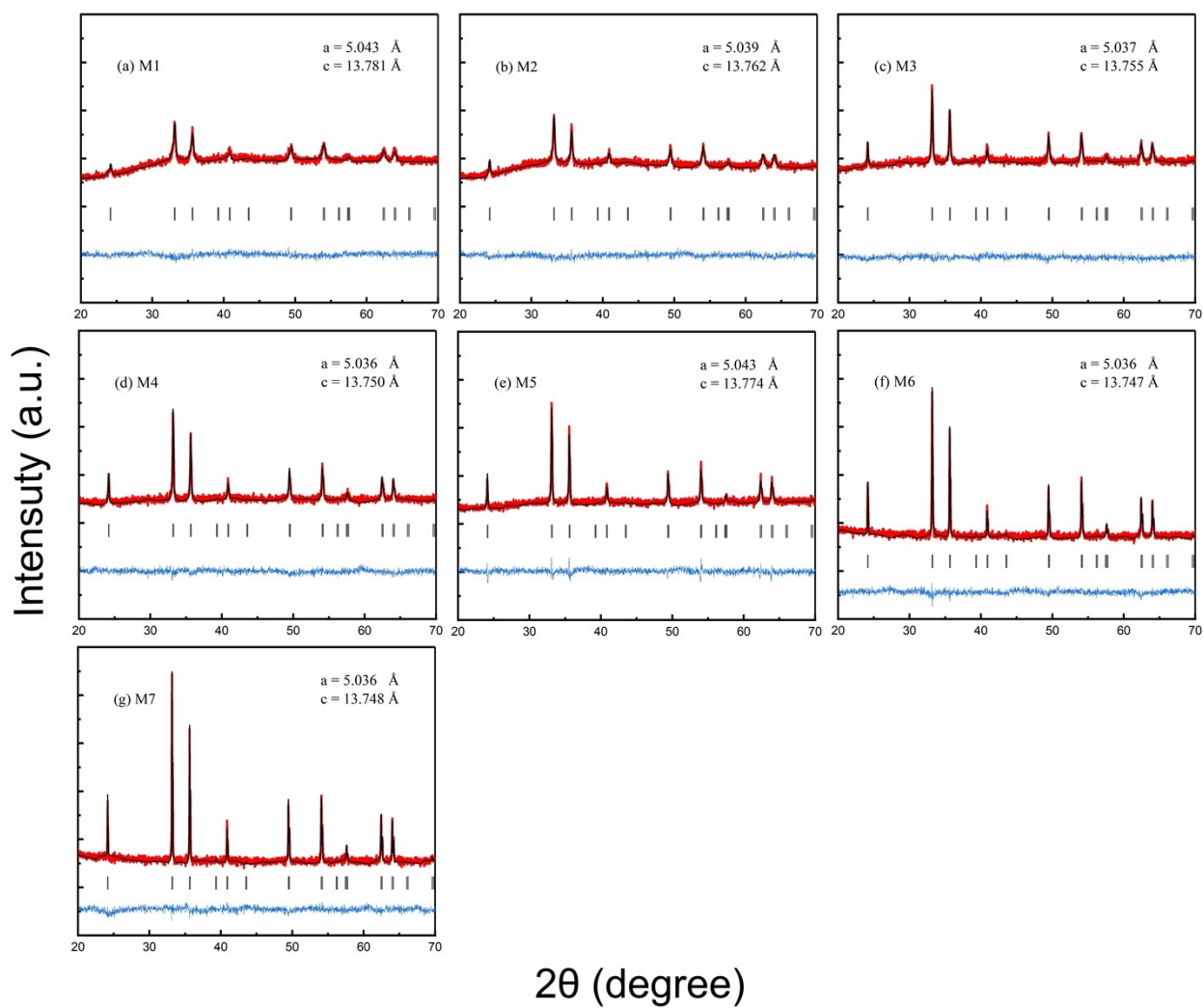
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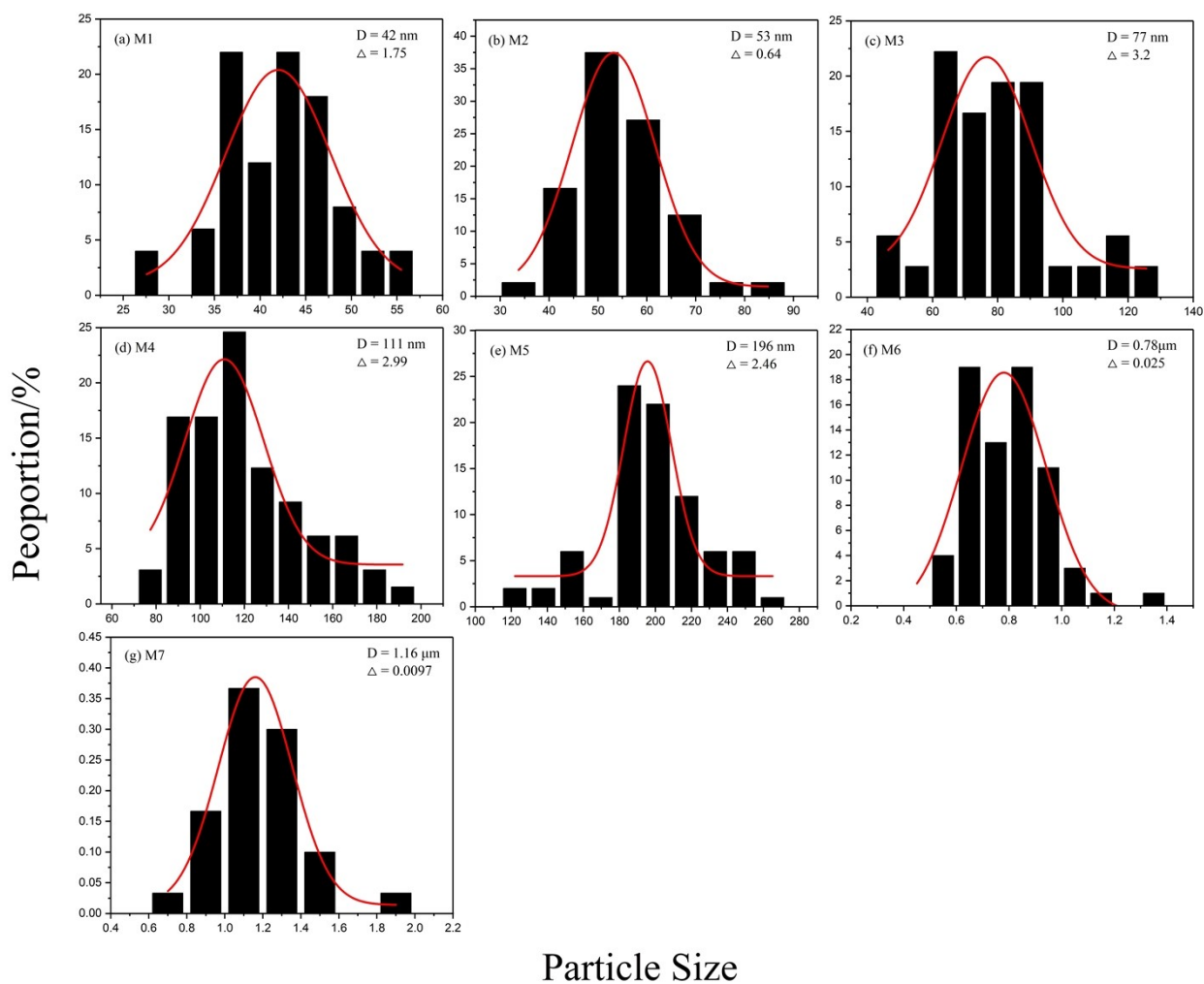
**Figure S1.** XRD refinement results of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> samples prepared at different calcination temperatures: (a) 300°C, (b) 400°C, (c) 500°C, (d) 600°C, (e) 700°C, (f) 800°C, (g) 900°C.

**Figure S2.** Histogram of the size distribution of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> samples prepared at different calcination temperatures: (a) 300°C, (b) 400°C, (c) 500°C, (d) 600°C, (e) 700°C, (f) 800°C, (g) 900°C.

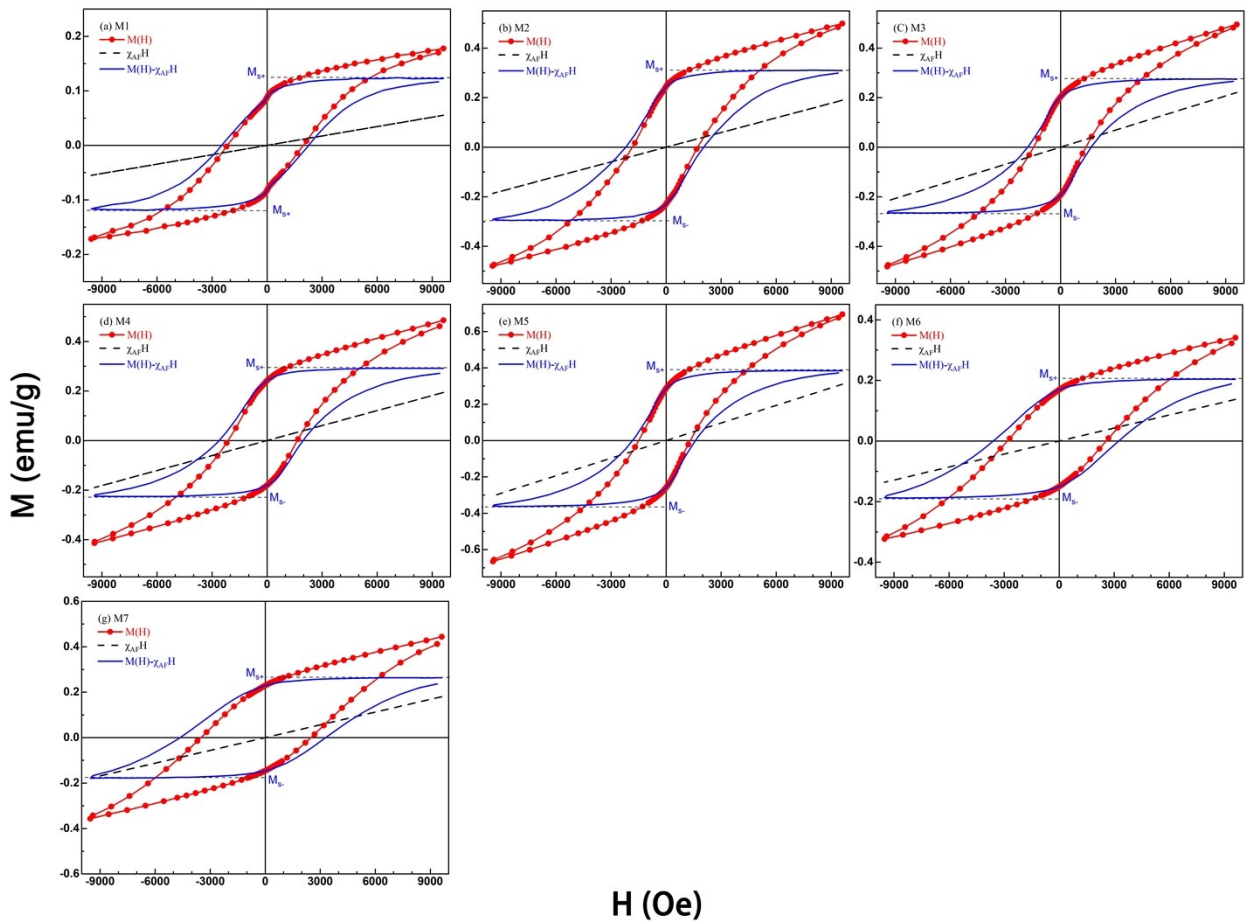
**Figure S3.** Room-temperature hysteresis loops of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> samples prepared at different calcination temperatures after magnetic phase separation: (a) 300°C, (b) 400°C, (c) 500°C, (d) 600°C, (e) 700°C, (f) 800°C, (g) 900°C.



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