

## Selective growth of pure magnetite thin films and/or nanowires grown *in situ* at a low temperature by pulsed laser deposition

### Supplementary Information

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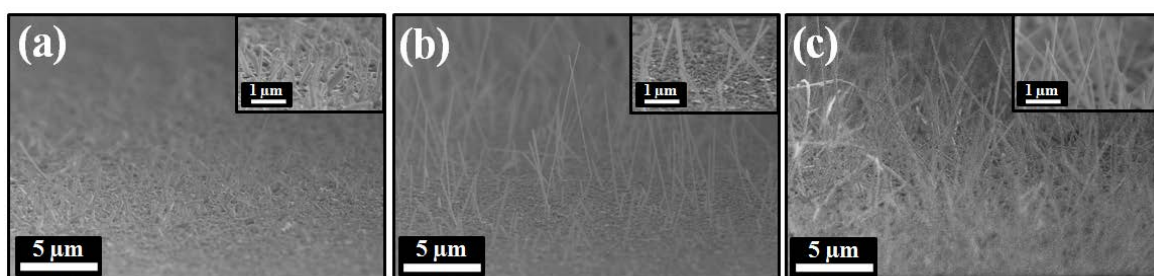
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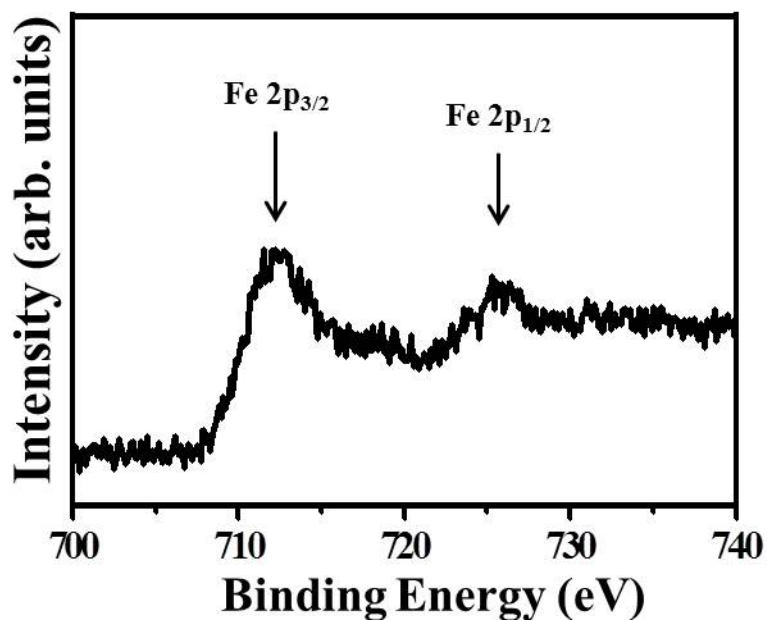
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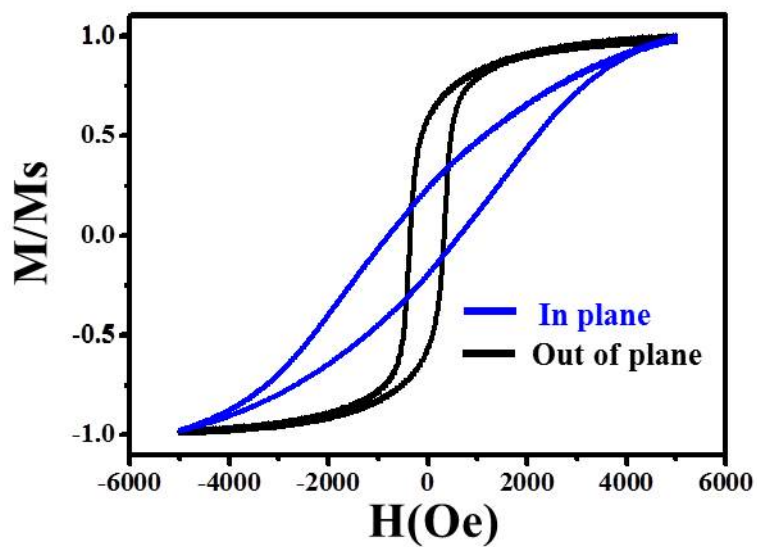
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**Fig. S1** SEM tilted images (at low magnification) exhibiting the nanowires grown during the cooling over the films grown at (a) 610, (b) 620 and (c) 630 °C. Each insets showed the tilted images observed at high magnification.



**Fig. S2** Fe 2p XPS measurement of the 110 nm-thick films.



**Fig. S3** Magnetization-magnetic field ( $M-H$ ) curves of the films grown at 300 °C.