

# Supporting Information

## Isopropanol gas sensor based on Au nanoparticles

### compounded with $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanomaterials

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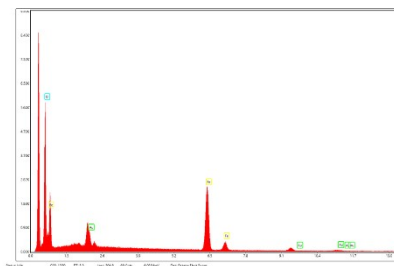
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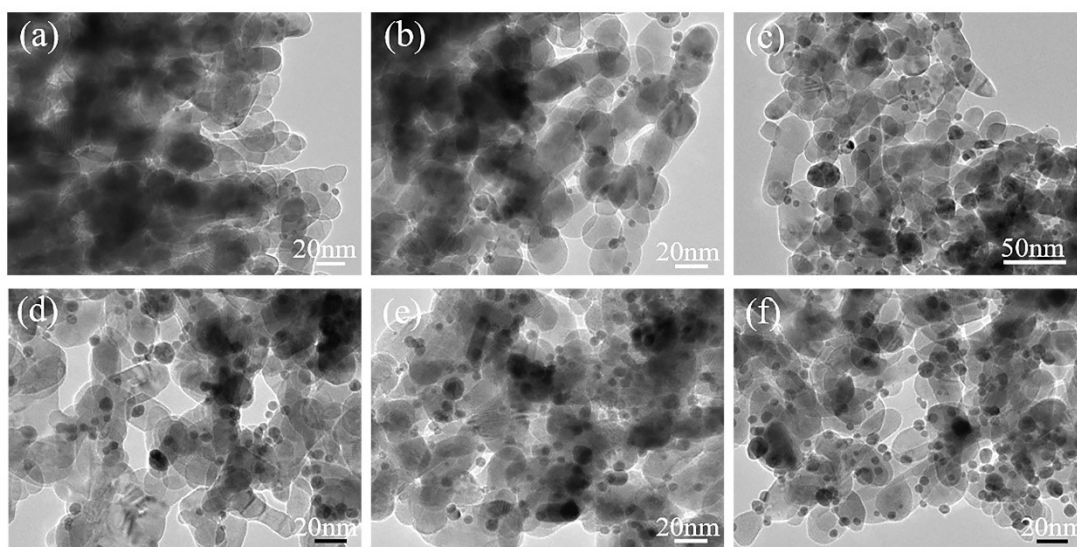
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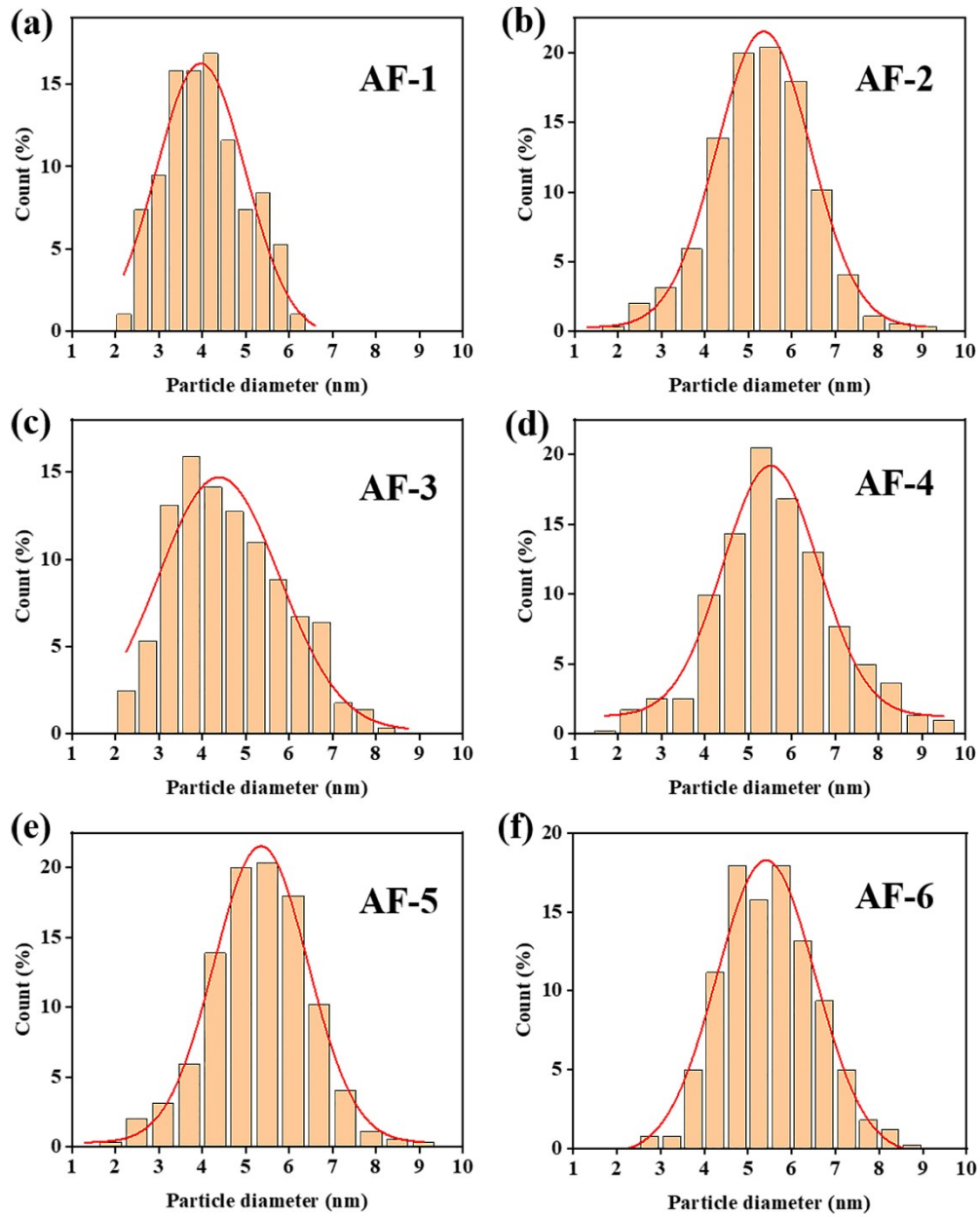
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**Fig. S1** EDS spectrum of AF-4 composite materials.



**Fig. S2** TEM images of (a) AF-1, (b) AF-2, (c) AF-3, (d) AF-4, (e) AF-5 and (f) AF-6 composite materials.



**Fig. S3** The statistics histogram of (a) AF-1, (b) AF-2, (c) AF-3, (d) AF-4, (e) AF-5 and (f) AF-6 composite materials.