Hollow $NiFe_2O_4$ microspindles derived from Ni/Fe bimetallic MOFs for highly sensitive acetone sensing at low operating temperature

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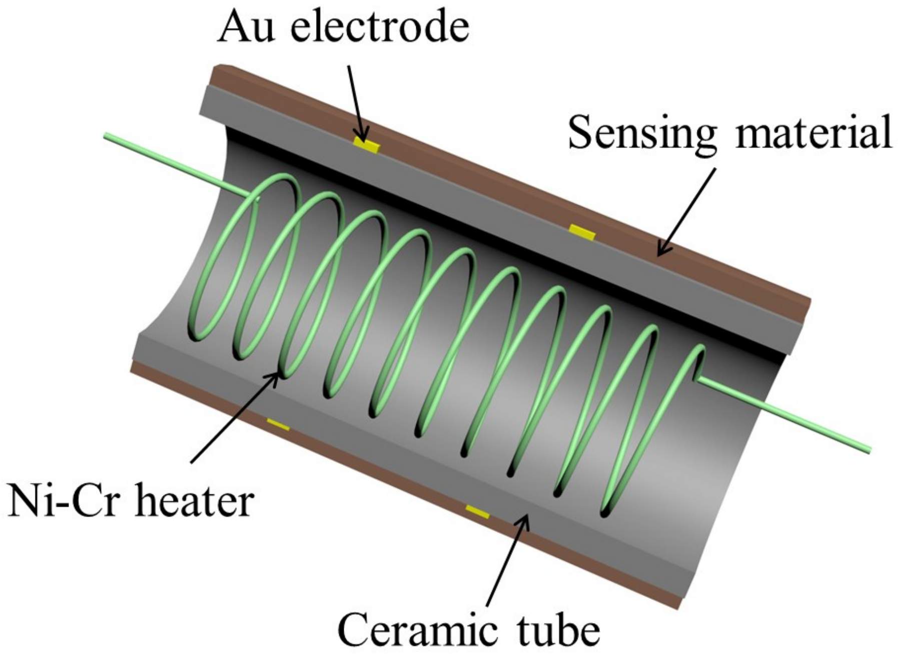

Fig S1. Schematic diagram of the gas sensor device.

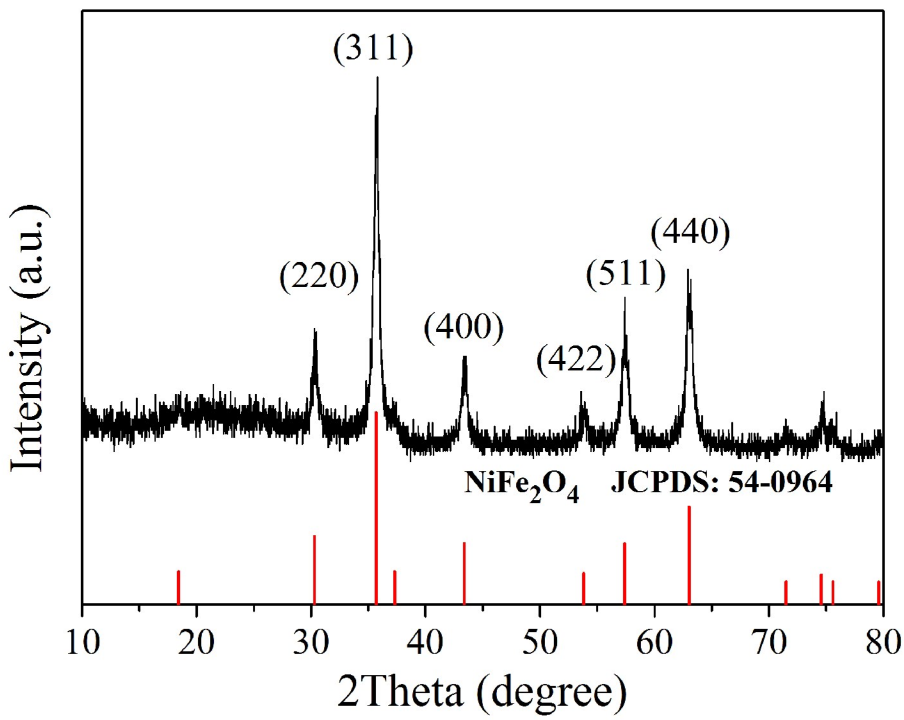

Fig S2. Powder XRD pattern of hollow $NiFe_2O_4$ microspindles.

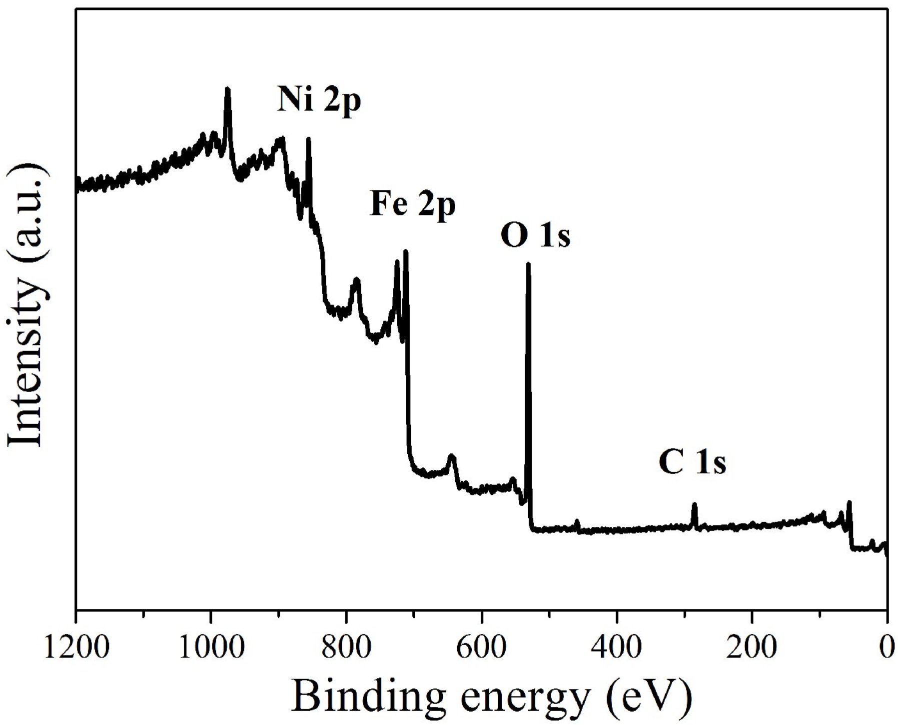

Fig S3. XPS survey spectrum of hollow $NiFe_2O_4$ microspindles.

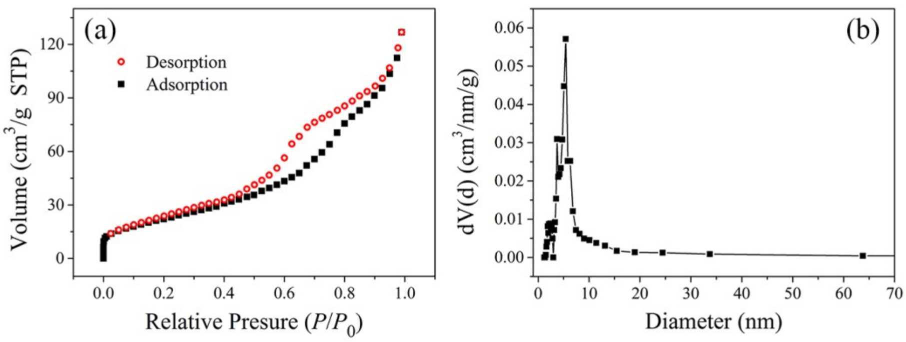

Fig S4. Nitrogen adsorption−desorption isotherm (a) and pore size distribution (b) of hollow $NiFe_2O_4$ microspindles.

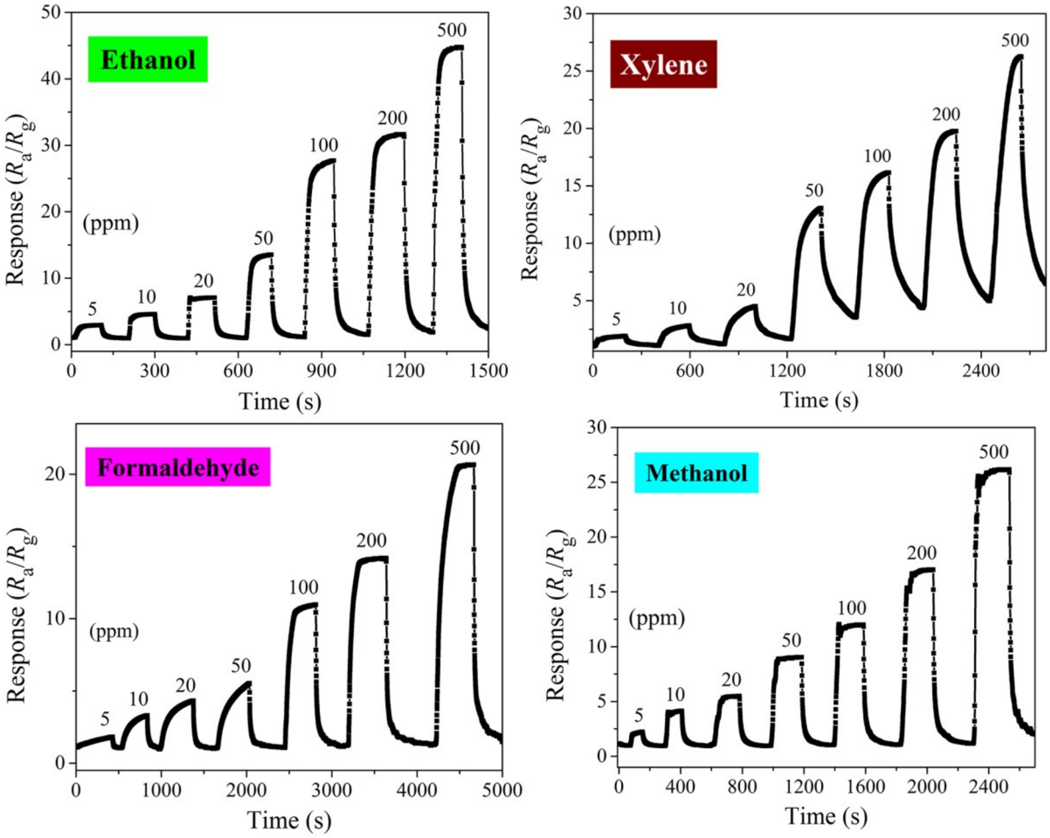

Fig S5. The dynamic response-recovery transients of the sensor to different gases at different concentrations.

Table S1. Comparisons of acetone-sensing performances of various gas sensors.

Material and Morphology	Working Temperature (°C)	Acetone concentration (ppm)	Response	Ref.
$ZnFe_2O_4$ nanosheets on ZnO hollow spheres	250	200	about 25.2	*ACS Appl. Mater. Interfaces,* 2015, **7**, 17811
ZnO/$ZnFe_2O_4$ hollow nanocages	290	200	about 35	*Sens. Actuators B: Chem.,* 2017, **251**, 27
hybrid $ZnFe_2O_4$/ZnO hollow spheres	280	200	6.2	*RSC Adv.*, 2016, **6**, 66738
ZnO/$ZnFe_2O_4$ triple-shelled hollow microspheres	140	200	23.5	*Sens. Actuators B: Chem.,* 2018, **256**, 374
Concave $ZnFe_2O_4$ Hollow Octahedral Nanocages	120	200	64.4	*Inorg. Chem.,* 2017, *56*, 13646
$ZnFe_2O_4$ yolk–shell microspheres	200	100	near 40.5	*Nanoscale,* 2016, **8**, 5446
$NiFe_2O_4$ core-in-hollow-shell nanospheres	280	200	16.0	*Sens. Actuators B: Chem.,* 2018, **255**, 1436