Supporting Information

Rare earth doped indium oxide nanospheres based gas sensor for highly sensitive formaldehyde detection at low temperature

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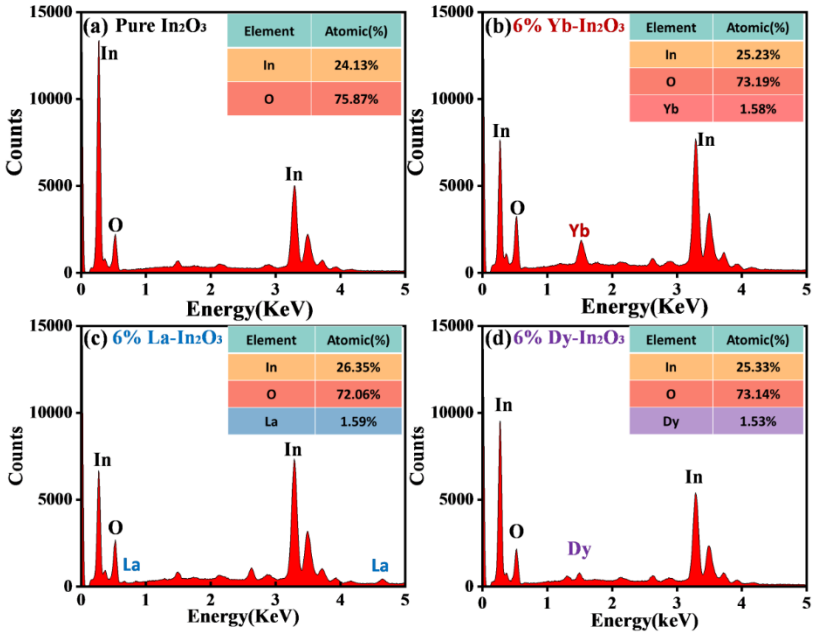

Fig. S1 EDS spectrum of pure-In_2O_3 nanoflowers, Yb-doped In_2O_3, La-doped In_2O_3, and Dy-doped In_2O_3 nanospheres.

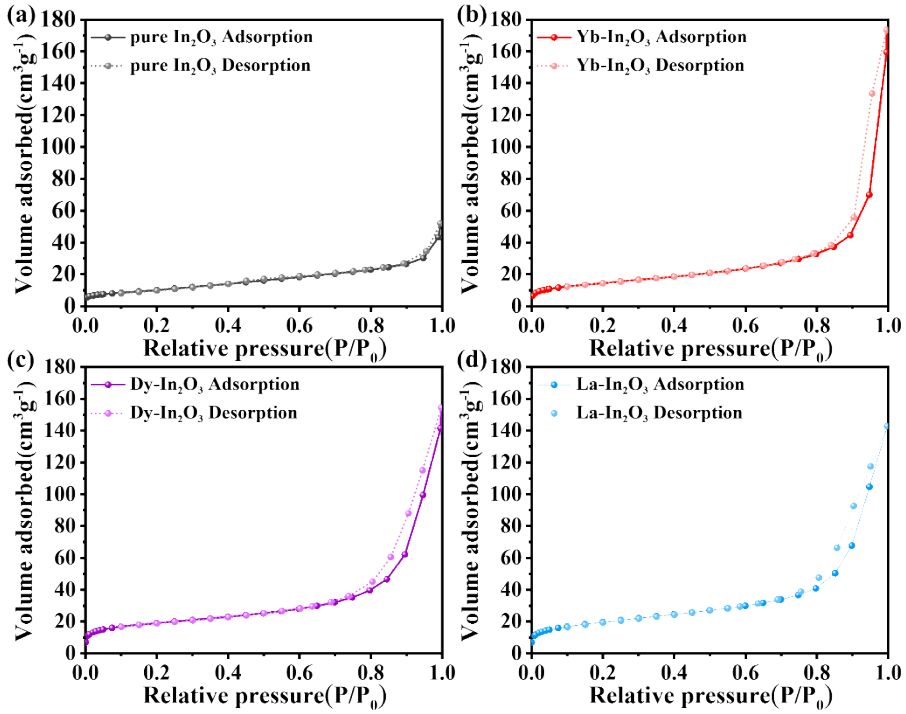

Fig. S2 N_2 adsorption-desorption curves of pure In_2O_3 nanoflowers, Yb-doped In_2O_3, Dy-doped In_2O_3, and La-doped In_2O_3 nanospheres.

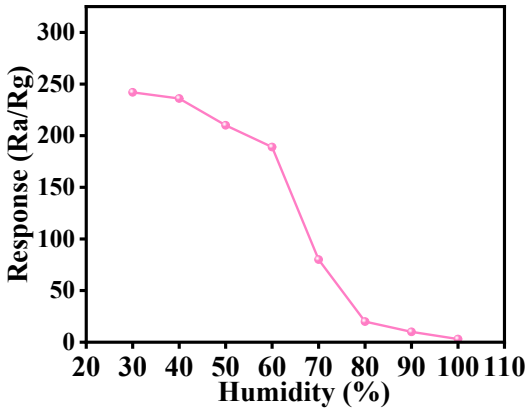

Fig. S3 Responses of 6% La-In_2O_3 sensor under different humidity conditions to 100 ppm of HCHO.

Table S1. Slopes and the R^2 values of correlation linear and TDL calculation for HCHO detection using RE-In_2O_3

Sample	Slop		R^2		TDL (ppb)
	1-100 ppm	100-300 ppm	1-100 ppm	100-300 ppm	
Pure In_2O_3	0.07281	0.03652	0.9868	0.9931	
3% La-In_2O_3	1.23196	1.58725	0.99917	0.9935	18.7
6% La-In_2O_3	2.11012	1.27882	0.9997	0.9973	10.9
9% La-In_2O_3	1.64475	0.8568	0.9971	0.9935	14.0
6% Yb-In_2O_3	0.12654	0.06158	0.9719	0.9628	183
6% Dy-In_2O_3	0.96265	0.50694	0.9855	0.9653	24.0