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Supplementary Materials

Development of $Co(OH)_xF_{2-x}$ Nanosheets for Acetone Gas Sensor Applications: Material Characterization and Sensor Performance Evaluation

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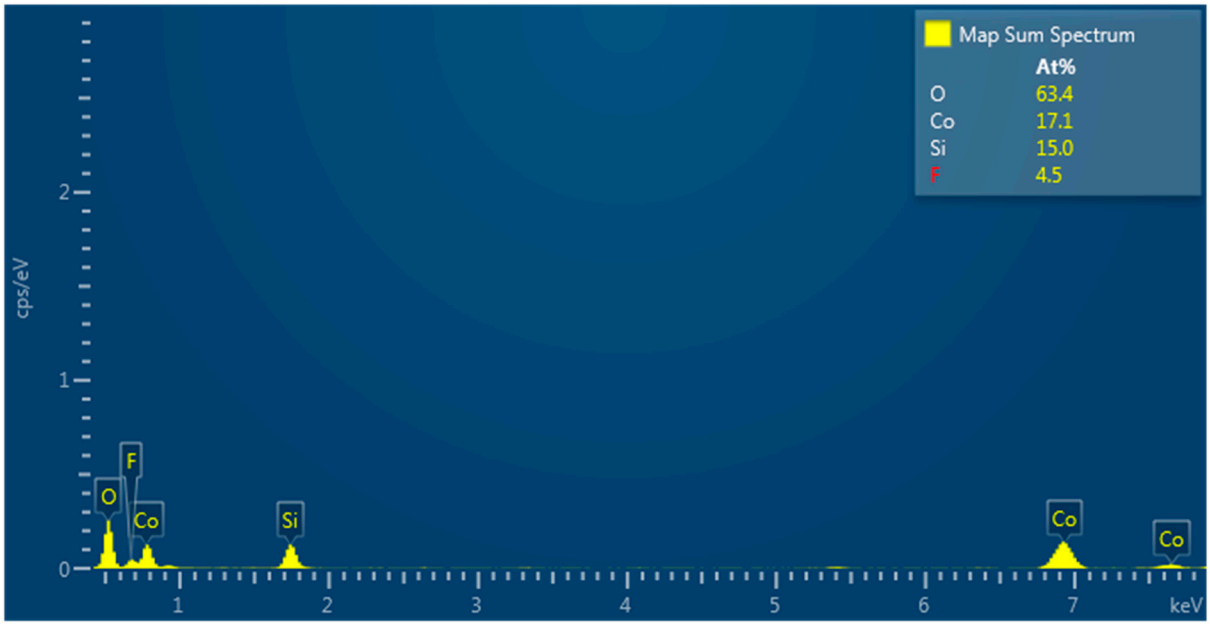

Figure S1. EDS spectrum of $Co(OH)_xF_{2-x}$ nanosheets with atomic percentages of each element.

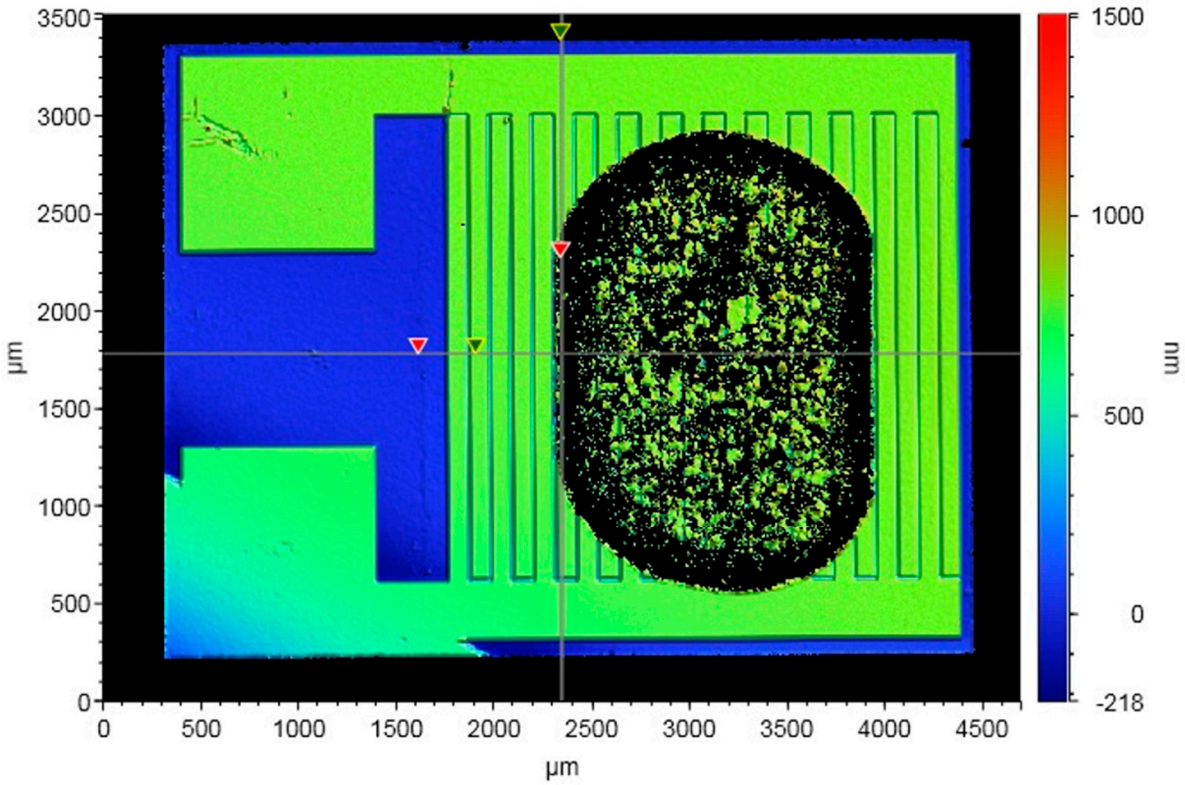

Figure S2. Profile image of the interdigitated sensor device with coated $Co(OH)_xF_{2-x}$ nanosheets powders.

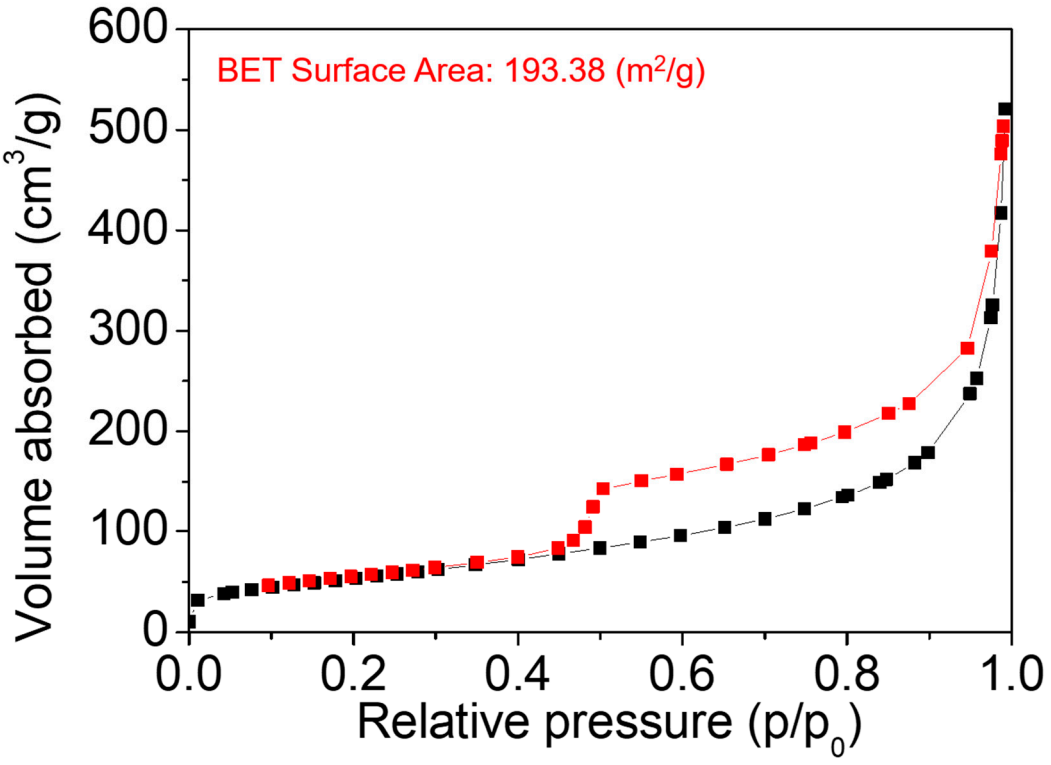

Figure S3. N_2 adsorption-desorption isotherm with calculated BET surface area (193.38 m^2/g).

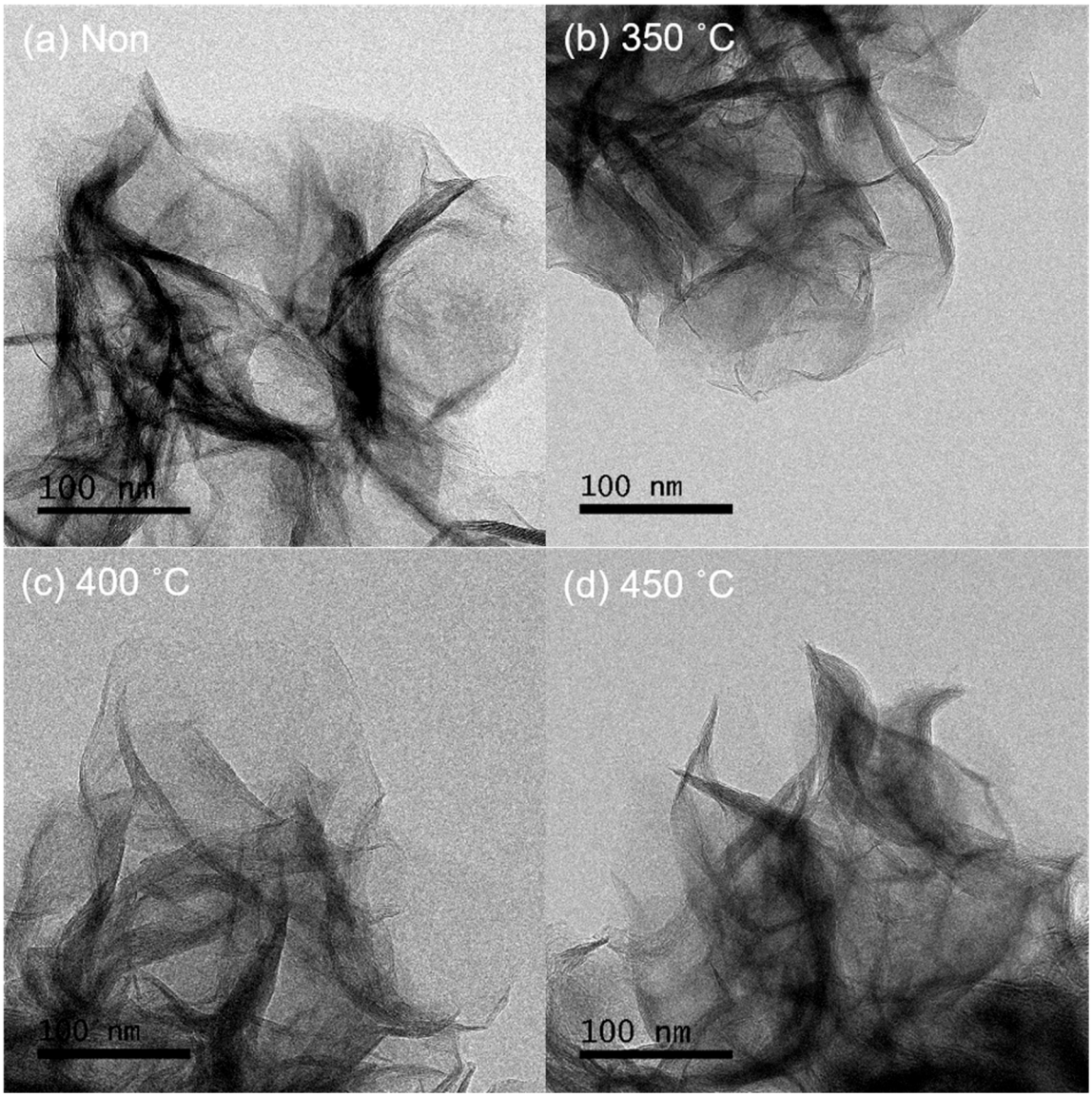

Figure S4. TEM bright-field images of the $Co(OH)_xF_{2-x}$ nanosheets (a) before and after annealing at (b) 350, (c) 400, and (d) 450 °C for 2 h.

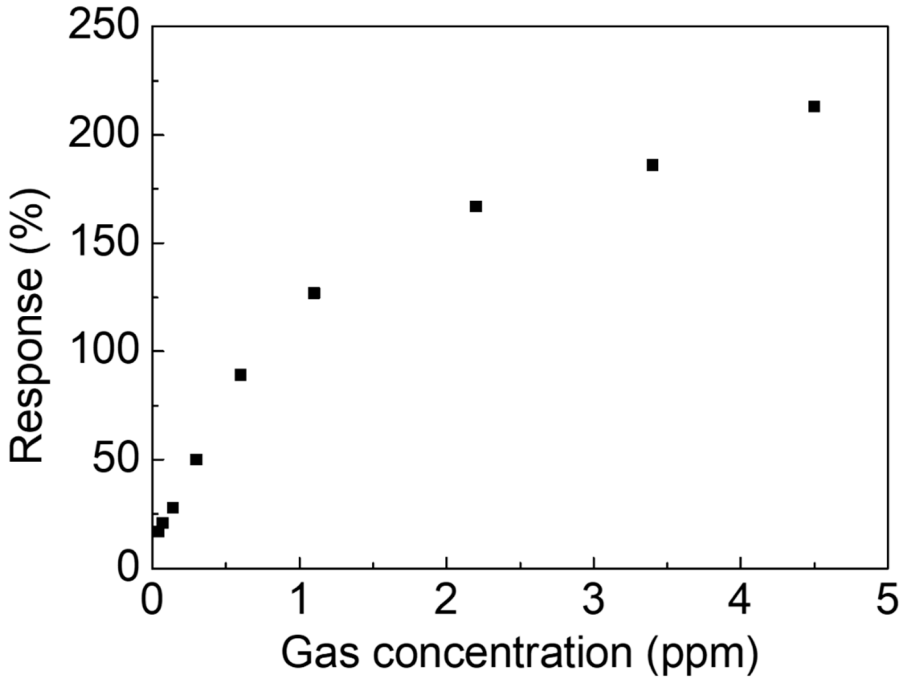

Figure S5. Responses of $Co(OH)_xF_{2-x}$ nanosheets-based sensor toward acetone gas of various concentrations at 200 °C.

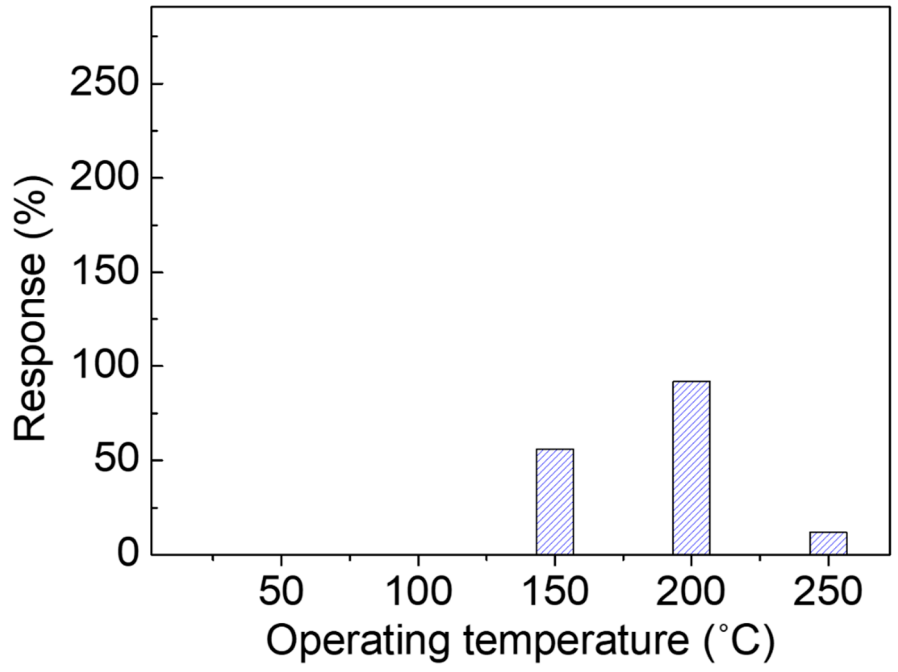

Figure S6. Responses of a material synthesized without NH_4F (other synthesis procedures were same with the $Co(OH)_xF_{2-x}$ nanosheets) at various temperatures toward 4.5 ppm of acetone (Responses of this material at temperatures lower than 150 °C were immeasurable because of high resistance).

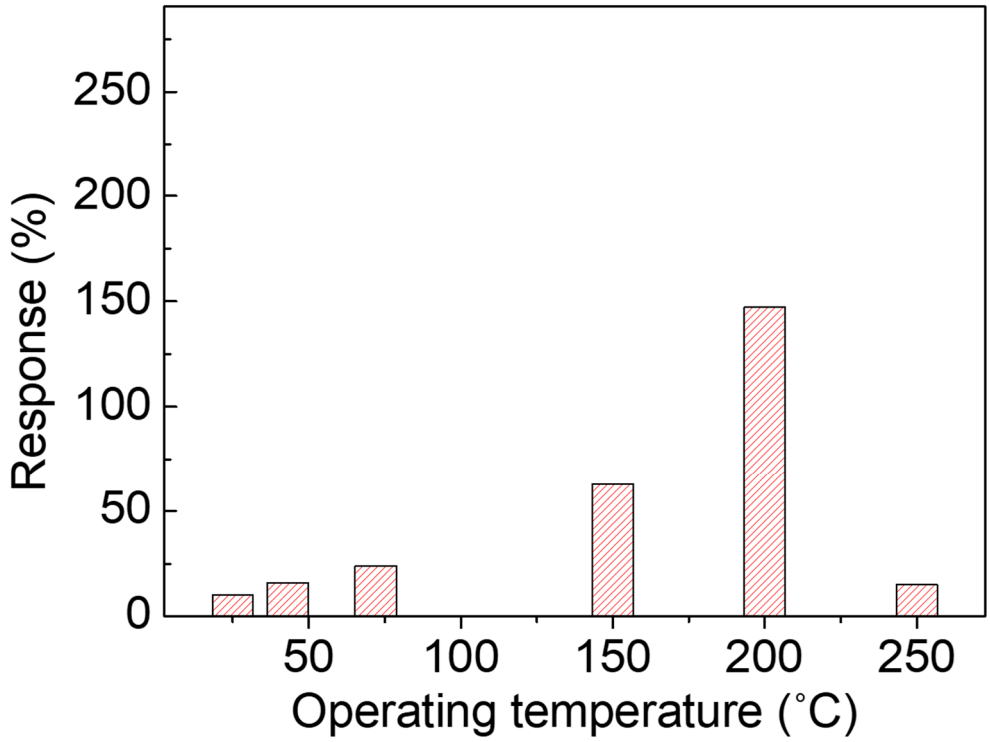

Figure S7. Responses of $Co(OH)_xF_{2-x}$ without SiO_2 templates at various temperatures toward 4.5 ppm of acetone.