Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information for

Highly sensitive flexible NO_2 sensor composed of vertically aligned 2D SnS_2 operating at room temperature

Jung Joon Pyeon,[†,a,b] In-Hwan Baek,[†,a,c] Young Geun Song,[a] Gwang Su Kim,[a,b] Ah-Jin Cho,[a] Ga-Yeon Lee,[d] Jeong Hwan Han,[e] Taek-Mo Chung,[d] Cheol Seong Hwang,[c] Chong-Yun Kang,[a,b,*], and Seong Keun Kim[a,*]

[a]*Center for Electronic Materials, Korea Institute of Science and Technology, Seoul 02792, Korea.*

[b]*KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul 02841, Korea*

[c]*Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, Seoul 08826, Korea*

[d]*Division of Advanced Materials, Korea Research Institute of Chemical Technology, Daejeon 34114, Korea*

[e]*Department of Materials Science and Engineering, Seoul National University of Science and Technology, Seoul 01811, Korea*

† These two authors equally contributed to this work.

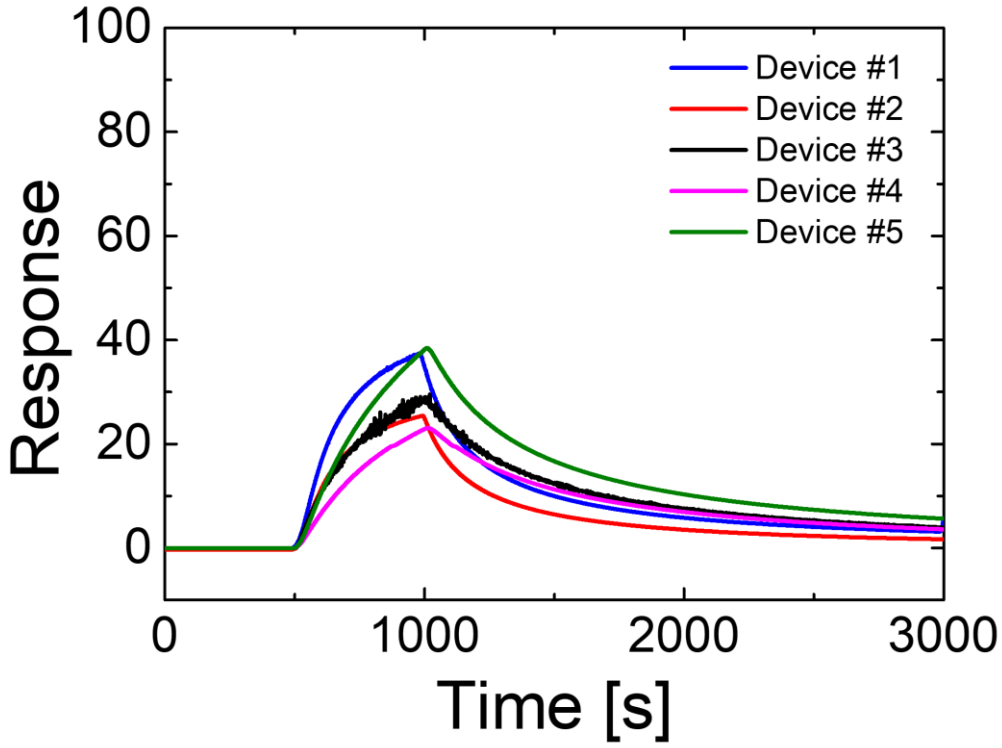

Figure S1. Variation in the response of five different SnS_2 gas sensors towards 100 ppb NO_2 at room temperature.

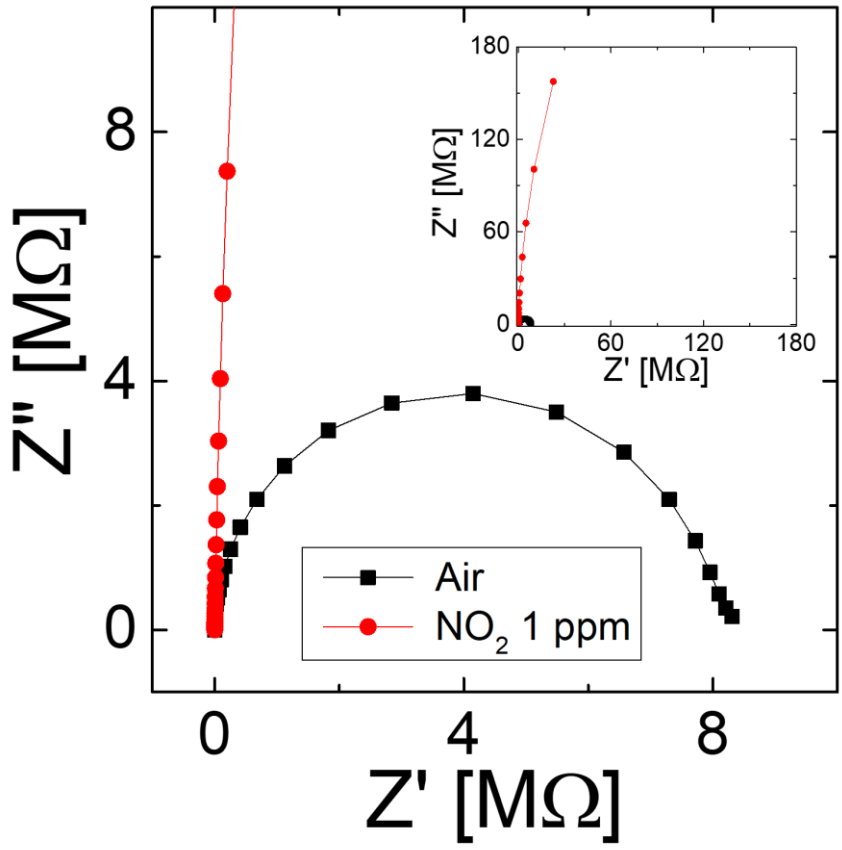

Figure S2. Nyquist plots of the SnS_2 sensors with and without exposure of 1 ppm NO_2. The AC impedance analysis was performed at a frequency range from 0.1 Hz to 1 MHz at room temperature.

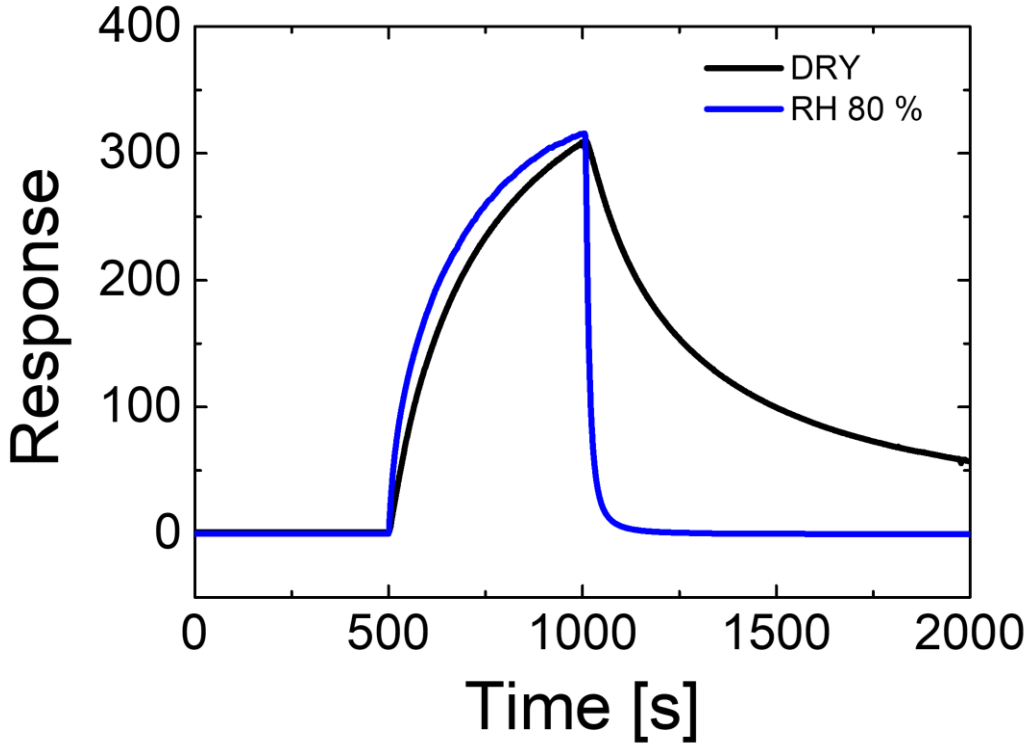

Figure S3. Variation in the response of the SnS_2 sensor towards 1 ppm NO_2 gas in atmosphere with relative humidity of 0 and 80 %, respectively.