Electronic supplementary information

High-performance humidity sensors from $Ni(SO_4)_{0.3}(OH)_{1.4}$ nanobelts

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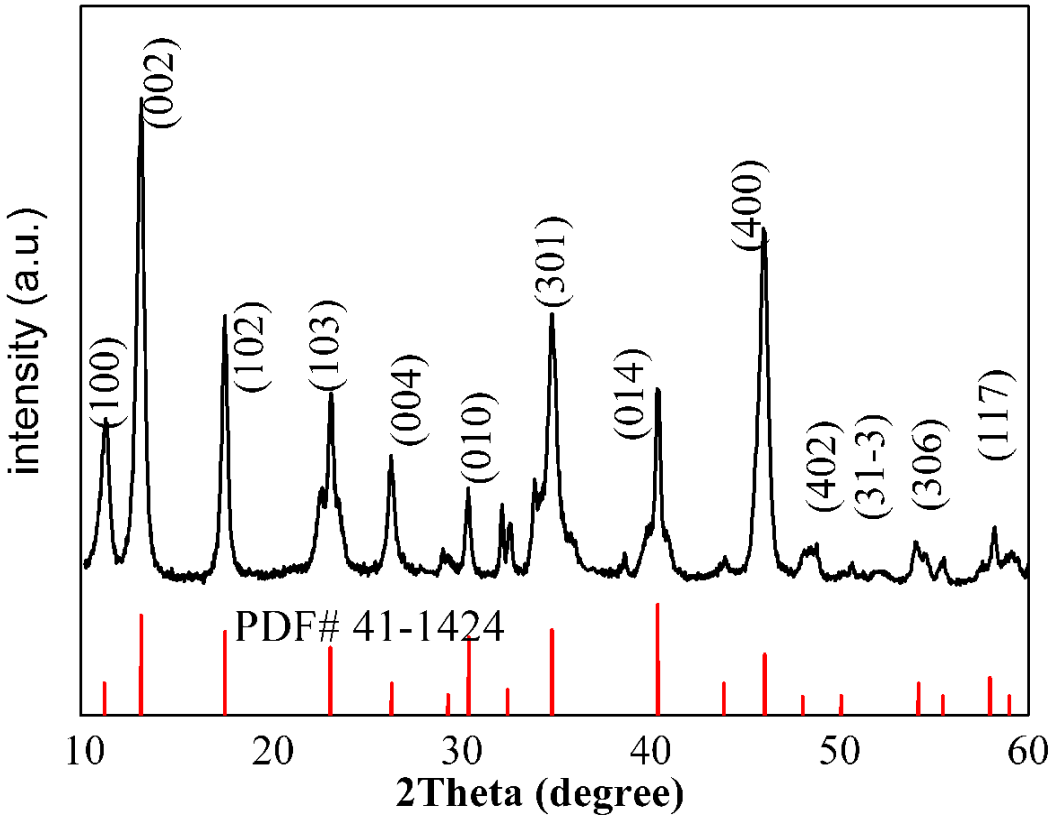

Fig. S1. The XRD pattern of the sample has been kept in air for about one year. It shows little change after storing in air ambient, shows good stability.

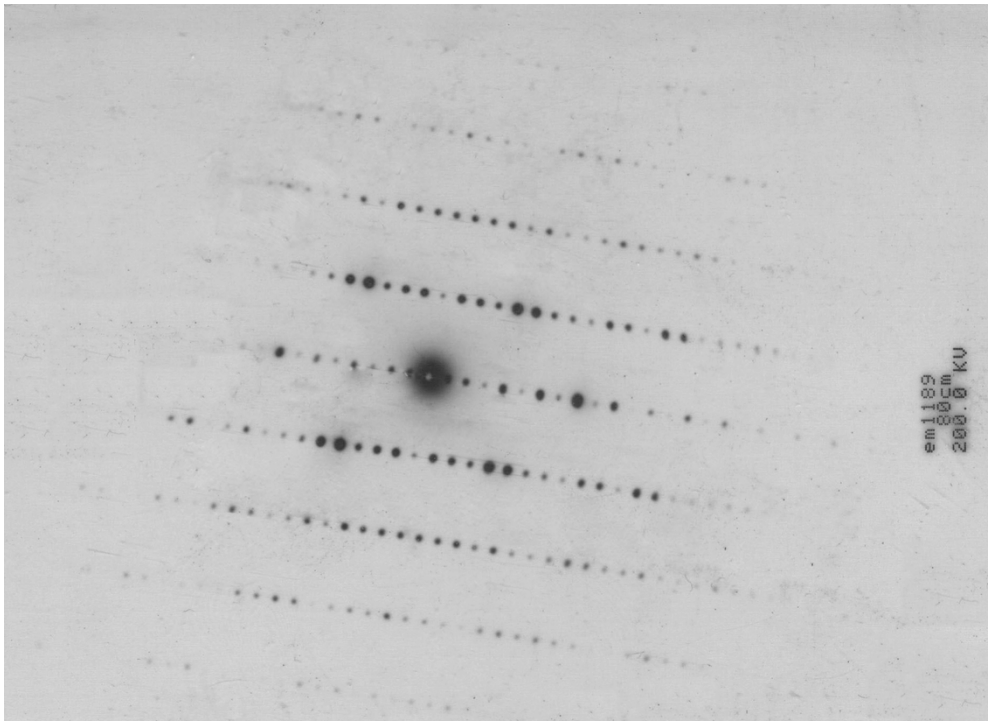

Fig. S2. The SAED pattern of the same nanobelt shown in Fig .1(d). It is a developed photo rather than an electronic form.

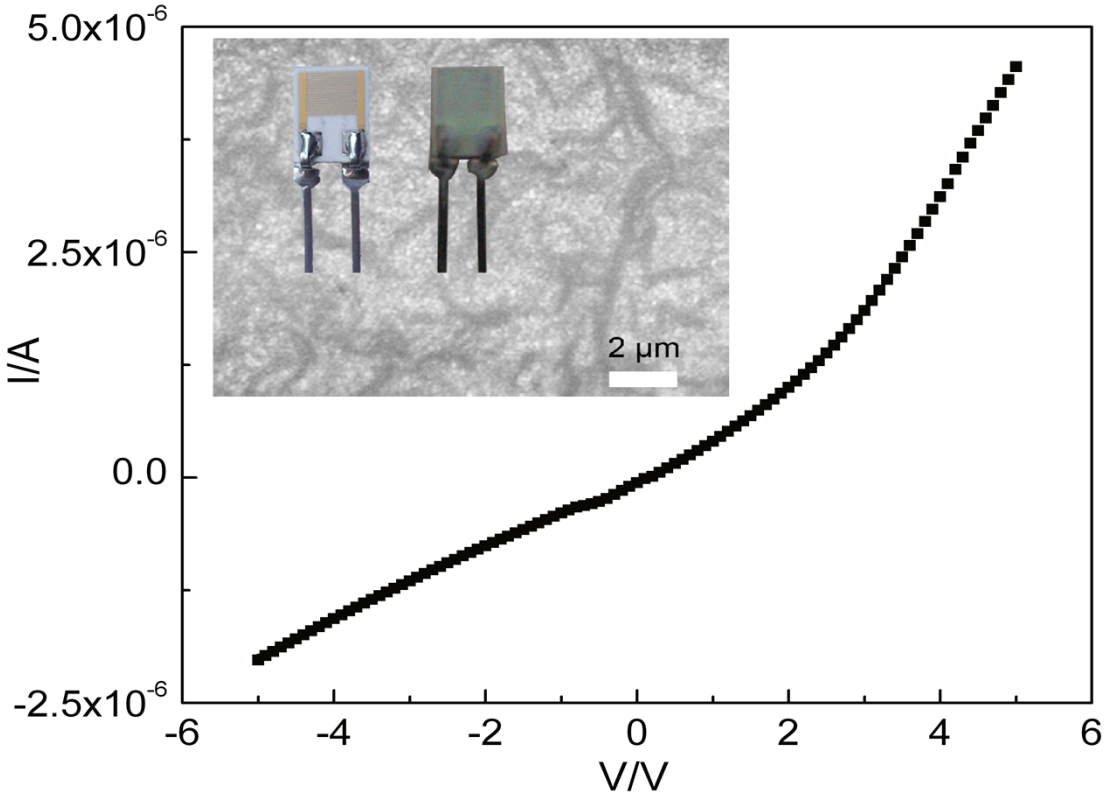

Fig. S3 *I-V* curve of the nanobelts film, and the humidity sensor without and with covering the film (left and right).

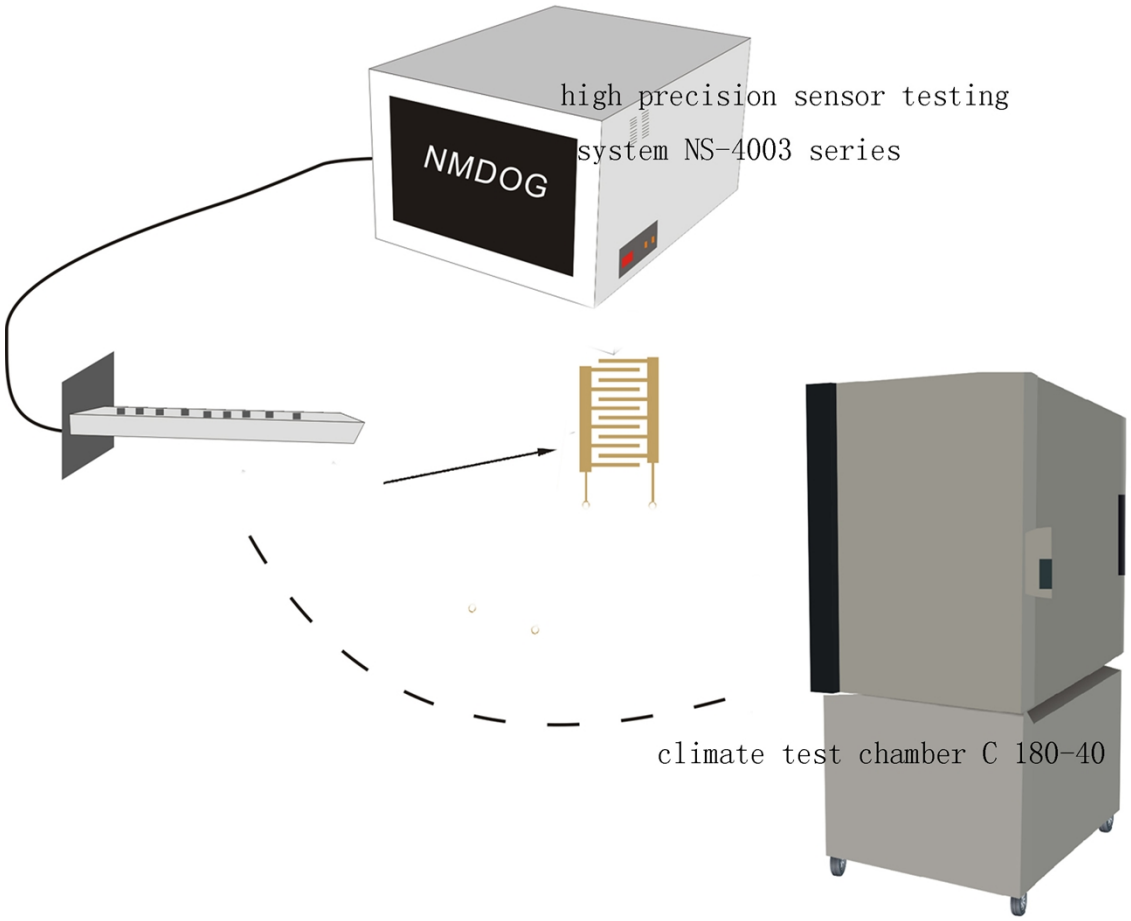

Fig. S4. The humidity sensor test system.

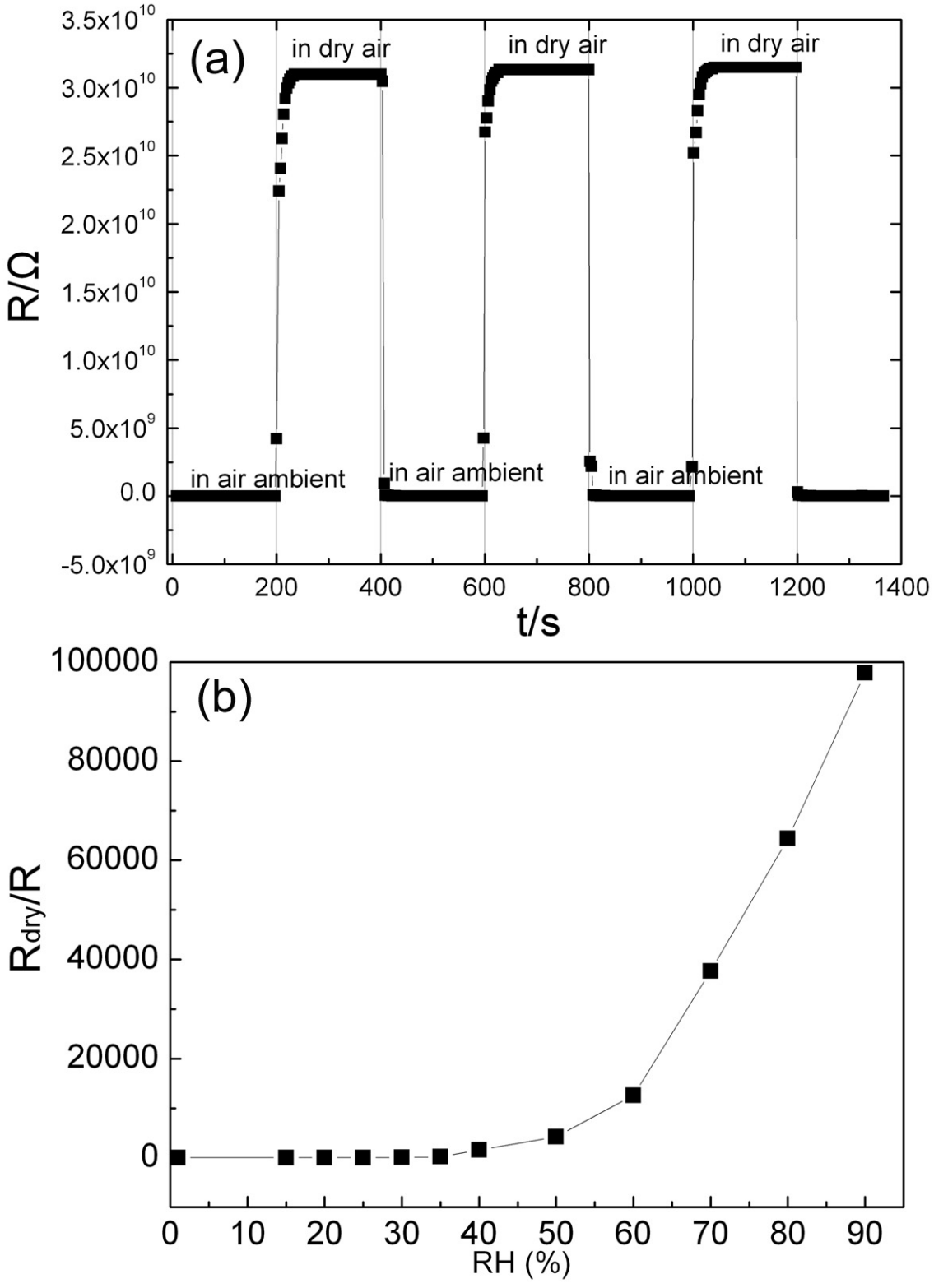

Fig. S5. (a) the real-time response of the sensor from air ambient to total dry air condition. (b). the corresponding sensitivity based on resistance in dry air. That is calculated to be 3.77, 14.93, 41.93, 59.68, 192.13, 1551.03, 4249.30, 12560.07, 37636.02, 64383.86 and 97830.36 respectively.

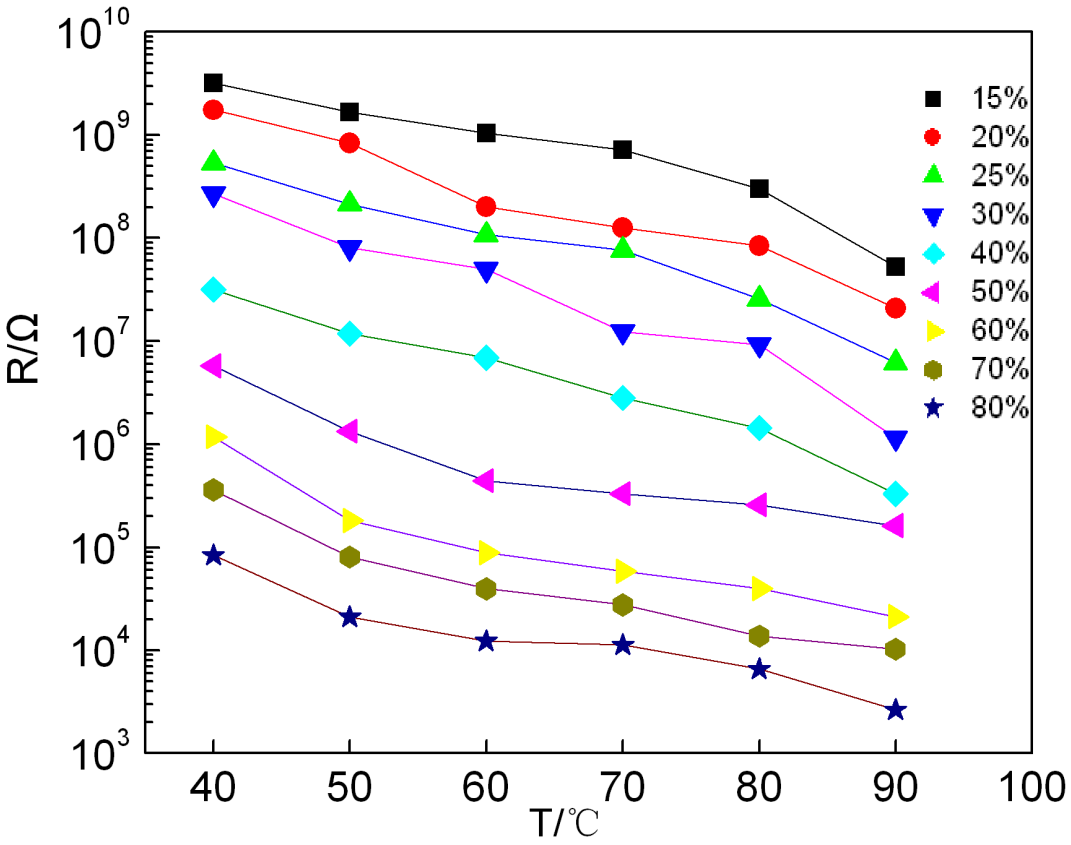

Fig. S6. It was extracted from Fig .3. The resistance decreased with increasing temperature under different RHs.

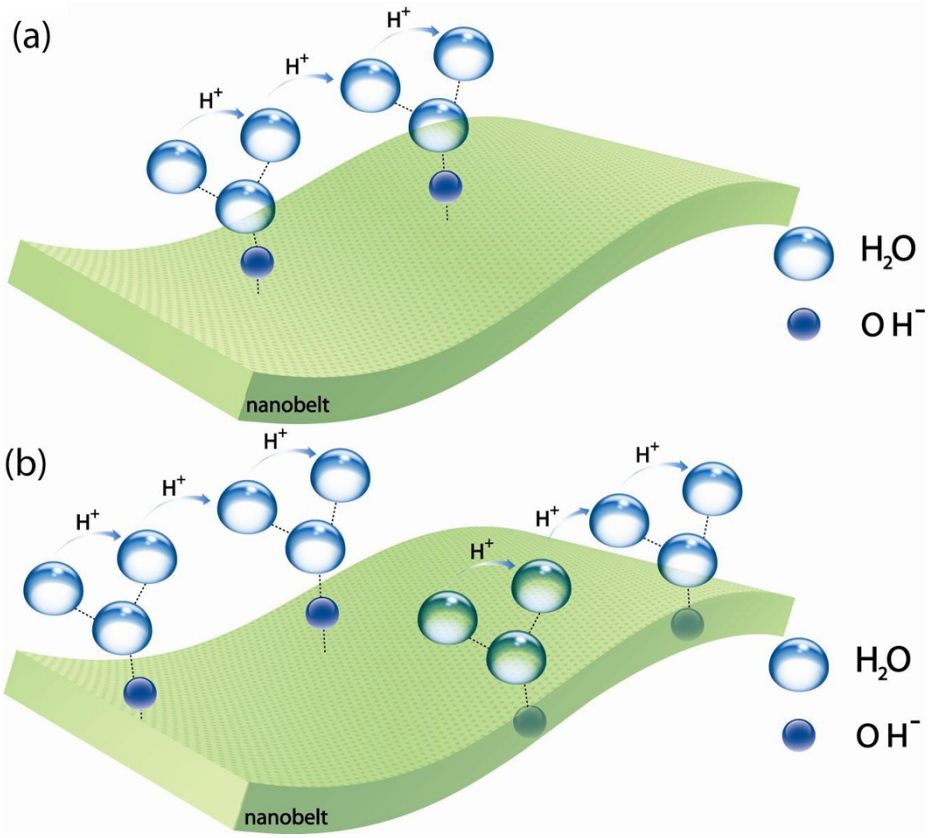

Fig. S7. The nanobelt with the chemical composition (a) not containing and (b) containing hydroxyl groups.