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Supplemental information

A wearable, flexible sensor for real-time, home monitoring of sleep apnea

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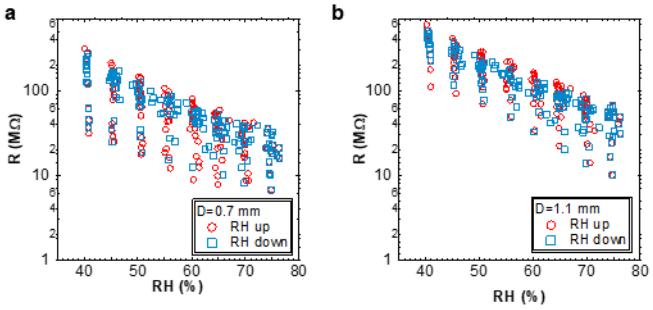

Figure S1. Fundamental characteristics of LIG humidity sensor at different device size, Related to Figure 2. ZIS humidity sensor resistance at (a) *D*=0.7 mm and (b) *D*=1.1 mm of LIG electrode distance under humidity change from RH40 to 75%.

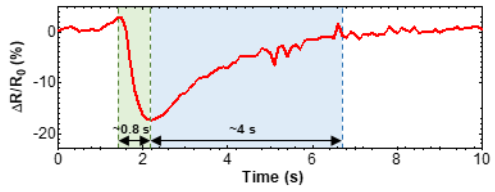

Figure S2. Response time of ZIS humidity sensor by applying breath over the sensor, Related to Figure 3.

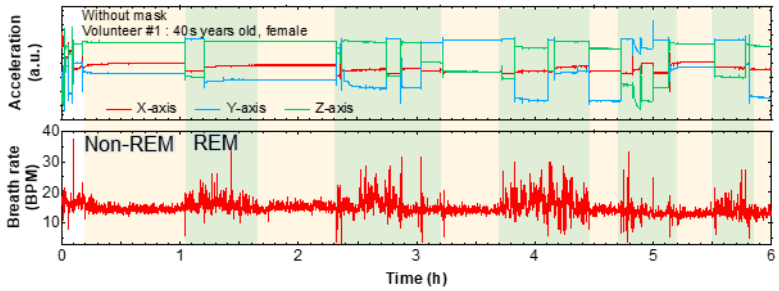

Figure S3. Long-time breath monitoring results during sleep, Related to Figure 5. Real-time monitoring results of (a) three-axis acceleration sensor outputs and (b) BPM calculated from humidity resistance peaks by attaching the sensor directly to volunteer #1's face during sleep.

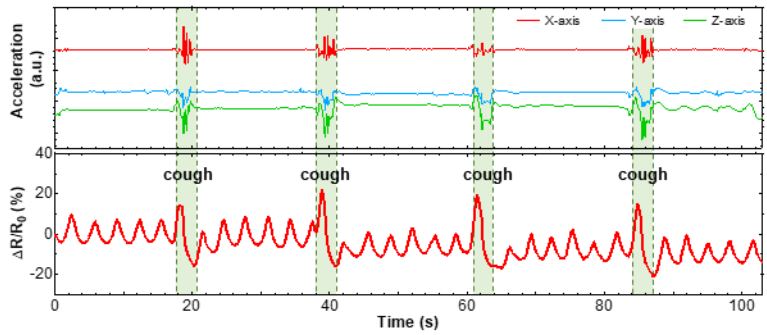

Figure S4. Real-time monitoring of acceleration sensor and humidity sensor with coughs, Related to Figure 5.

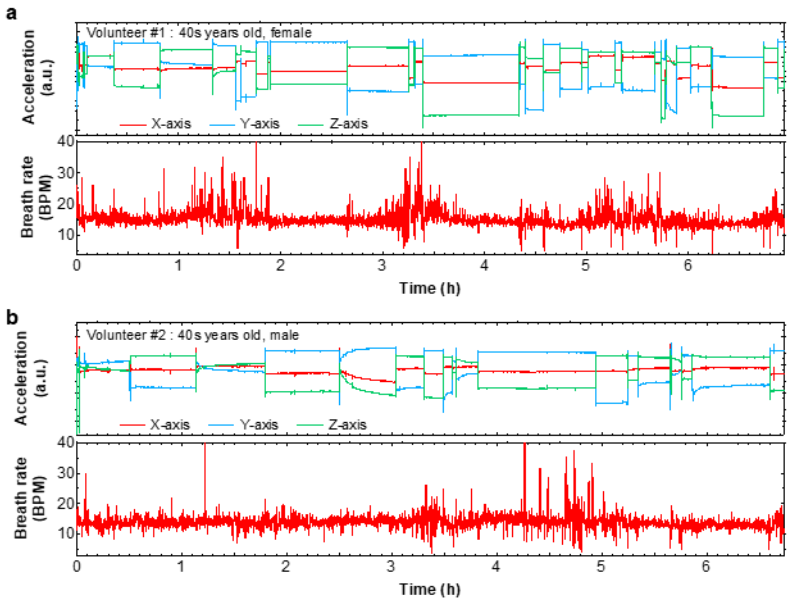

Figure S5. Real-time sleep apnea monitoring, Related to Figure 5. Real-time monitoring results of three-axis acceleration sensor output and BPM from (a) volunteer #1 and (b) volunteer #2.

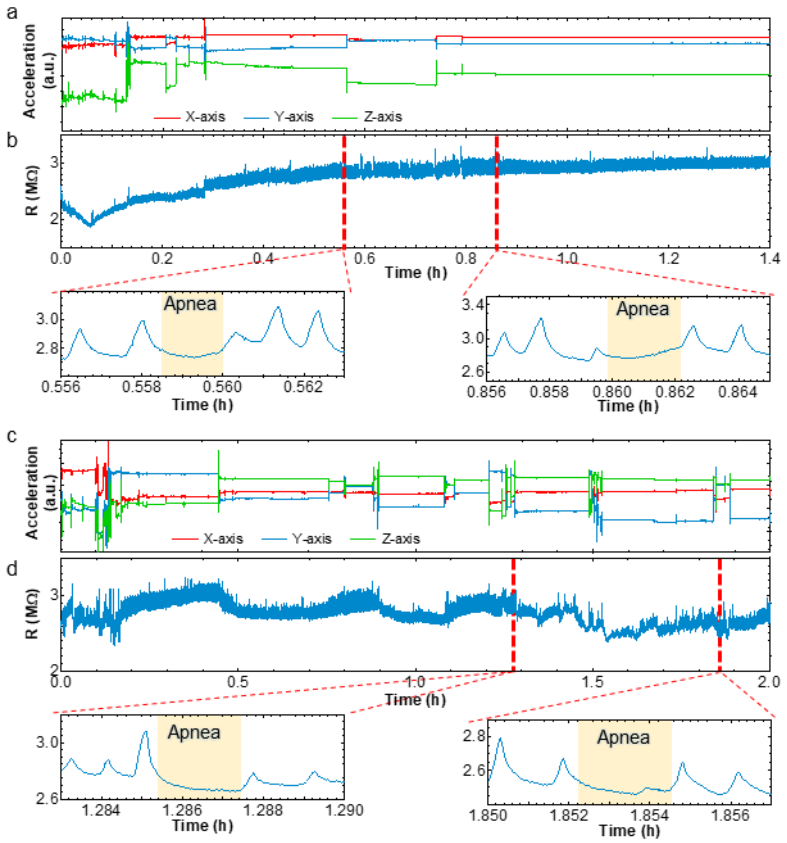

Figure S6. Real-time sleep apnea and specific apnea results, Related to Figure 5. Real-time monitoring results recorded from volunteer #3 of (a and c) three-axis acceleration sensor outputs and (b and d) humidity sensor resistance measured on different nights during sleep.