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Supporting Information

Highly Stable Humidity Sensor Based on Lead-free Cs₃Bi₂Br₉ Perovskite for Breath Monitoring

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Figure S1. XRD patterns of the as-prepared Cs₃Bi₂Br₉ perovskite.



Figure S2. EDX spectroscopy of the $Cs_3Bi_2Br_9$, the inset is the average atom and

weight percentage of Cs/Bi/Br.



Figure S3. The partial density of states (PDOS) of Cs₃Bi₂Br₉.



Figure S4. TG and DTG curves of Cs₃Bi₂Br₉.



Figure S5. The response and the recovery curves of Cs₃Bi₂Br₉ measured at various RH



levels (under 0.1 V bias)

Figure S6. XPS spectra of the untreated and water treated Cs₃Bi₂Br₉.