Electronic Supplementary Material (ESI) for Nanoscale.
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Electronic Supplementary Information (ESI) for

Cubic mesoporous Ag@CN: a high performance humidity sensor

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Week / %RH	0	1	2	3	4	5	Average Change per week (%)
11	35023.45	33826.78	36763.15	34987.57	33993.3	32765.61	1.32
33	1379.31	1301.42	1386.65	1454.87	1359.96	1476.6	1.02
54	121.57	124.8	116.91	117.53	121.16	126.58	0.12
75	21.6	22.8	20.4	22.2	21.1	20.8	0.54
84	7.7	7.98	7.17	7.9	8.17	7.67	0.84
98	1.5	1.41	1.53	1.59	1.47	1.52	0.22

Table S1: Impedance measured for Ag(3)@mpg-CN sensor for 5 week in 11 – 98 %RH range

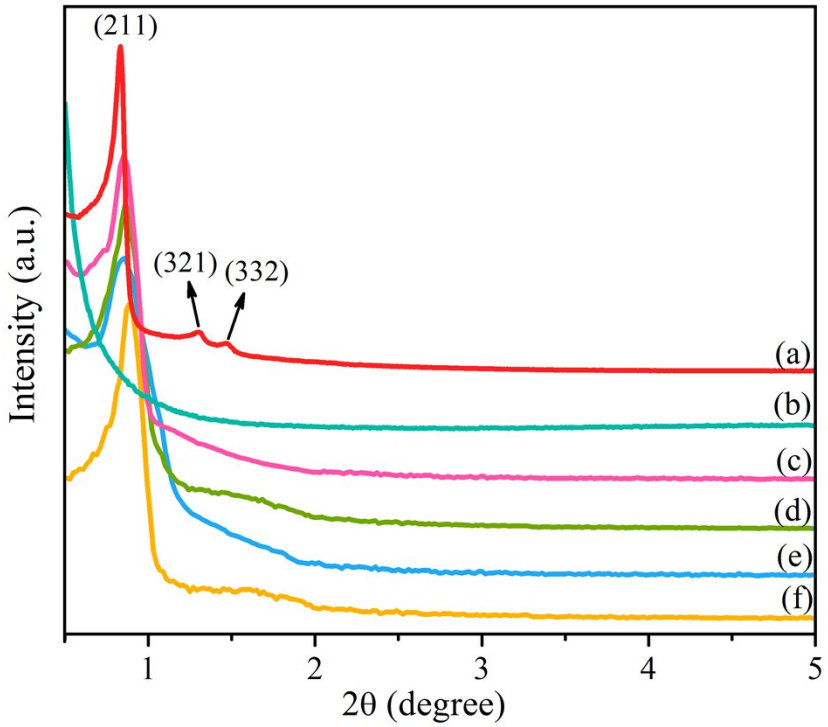

Figure S1: Low-angle (2θ = 0.5° - 5.0°) XRD of (a) KIT-6, (b) g-CN, (c) c-mpg-CN and (d,e,f) Ag(X)@mpg-CN materials, where X=1,3,5.

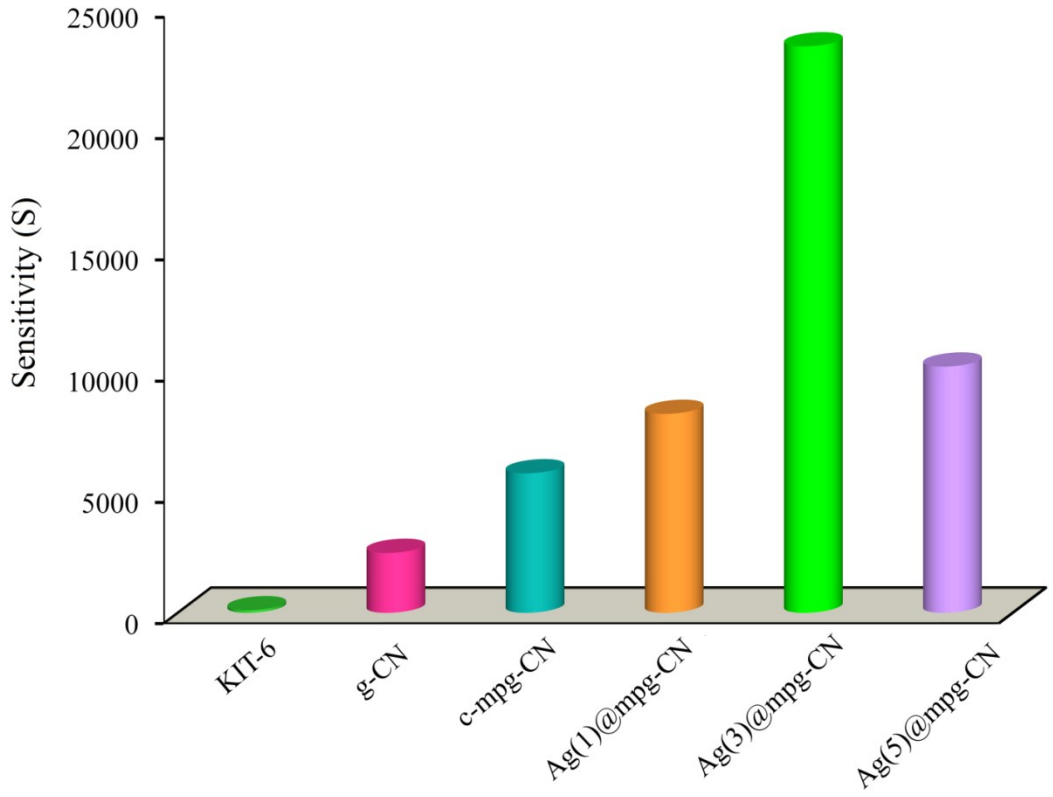

Figure S2: Sensitivity of KIT-6, g-CN, c-mpg-CN and Ag(X)@mpg-CN materials.

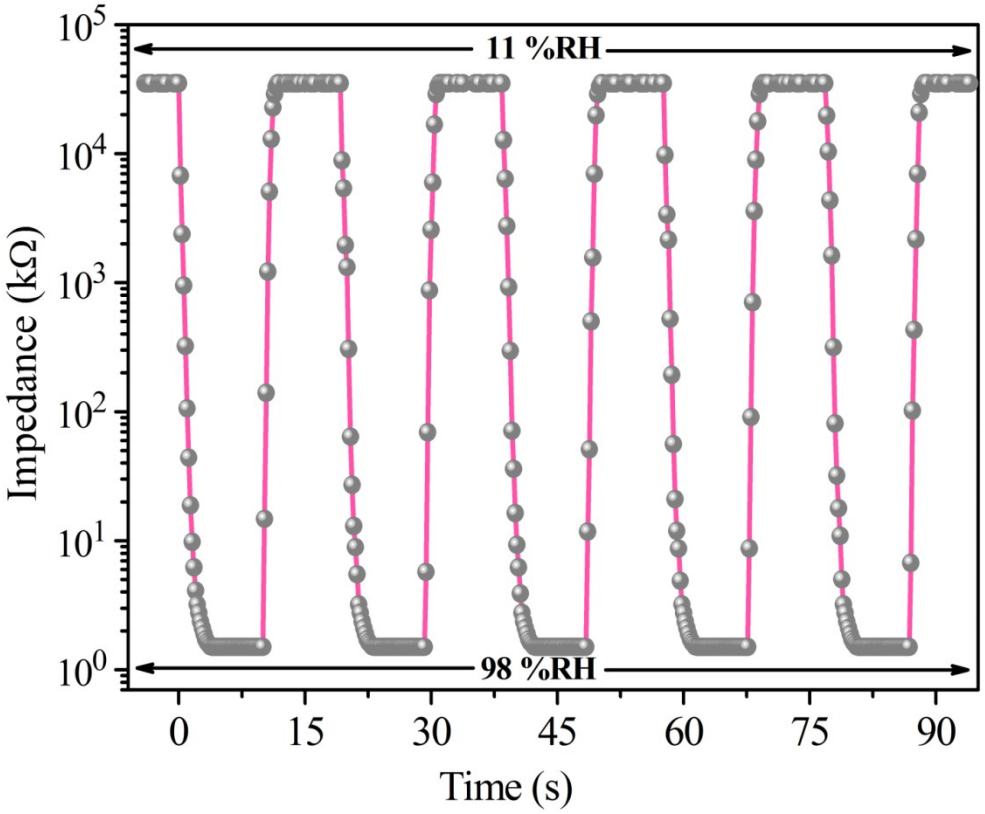

Figure S3: Response/recovery time of the Ag(3)@mpg-CN sensor in 5 loops of continuous variation between 11- 98 %RH.

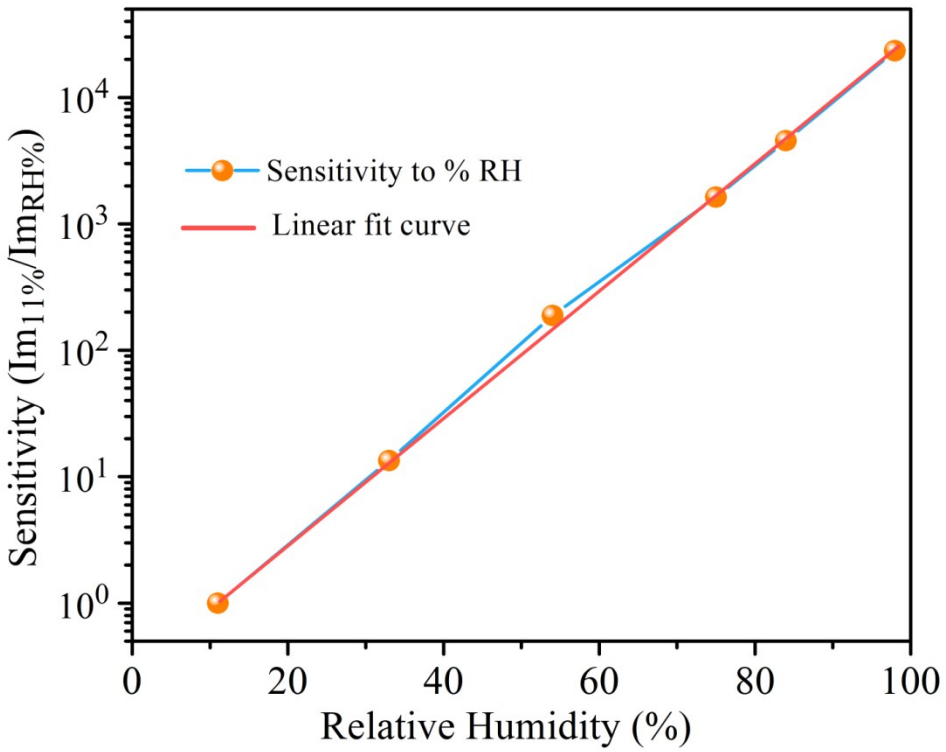

Figure S4: Relative Sensitivity of Ag(3)@mpg-CN measured at each %RH.

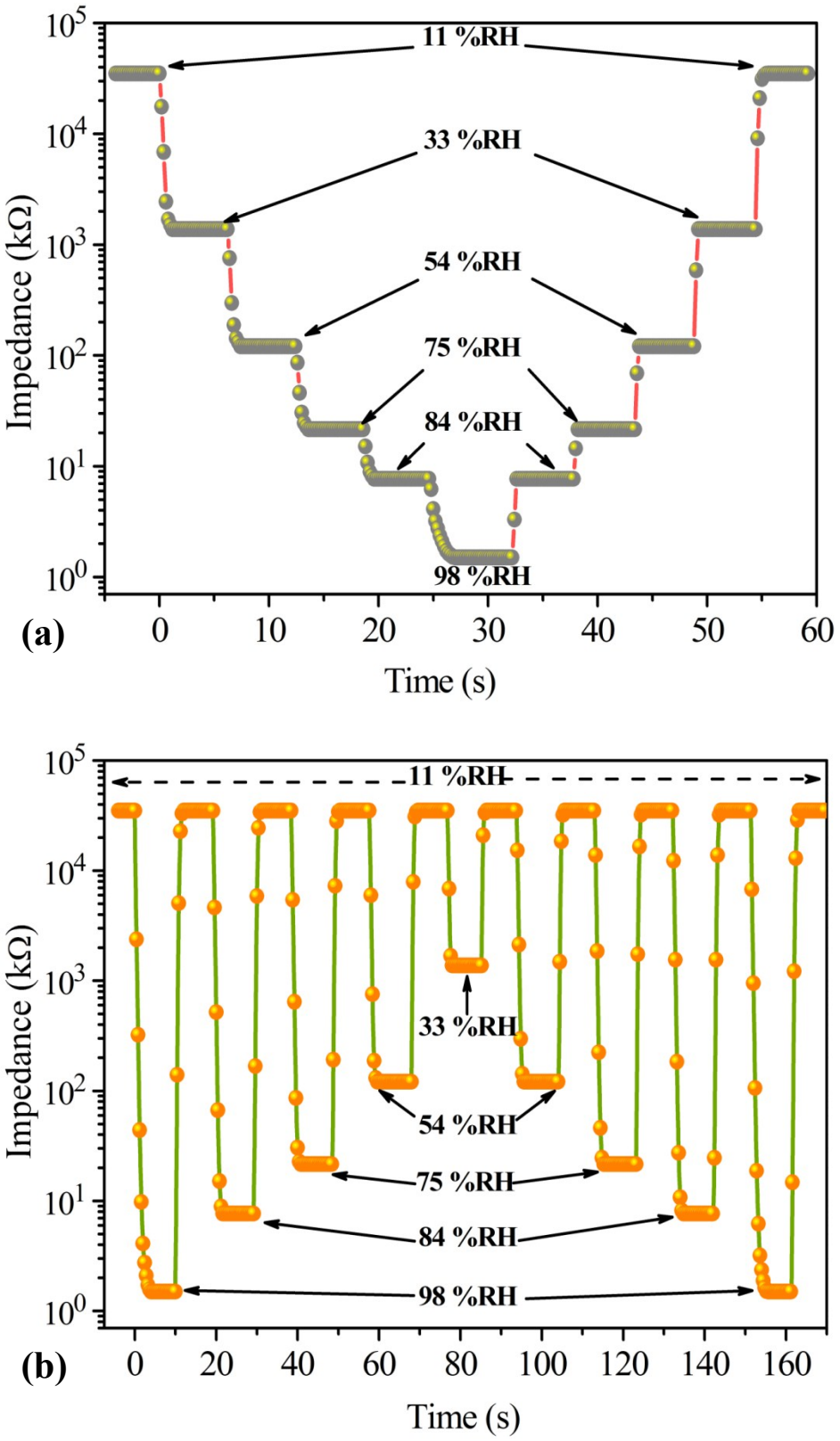

Figure S5 (a, b): Real time response and recovery of sensor based on Ag(3)@mpg-CN.

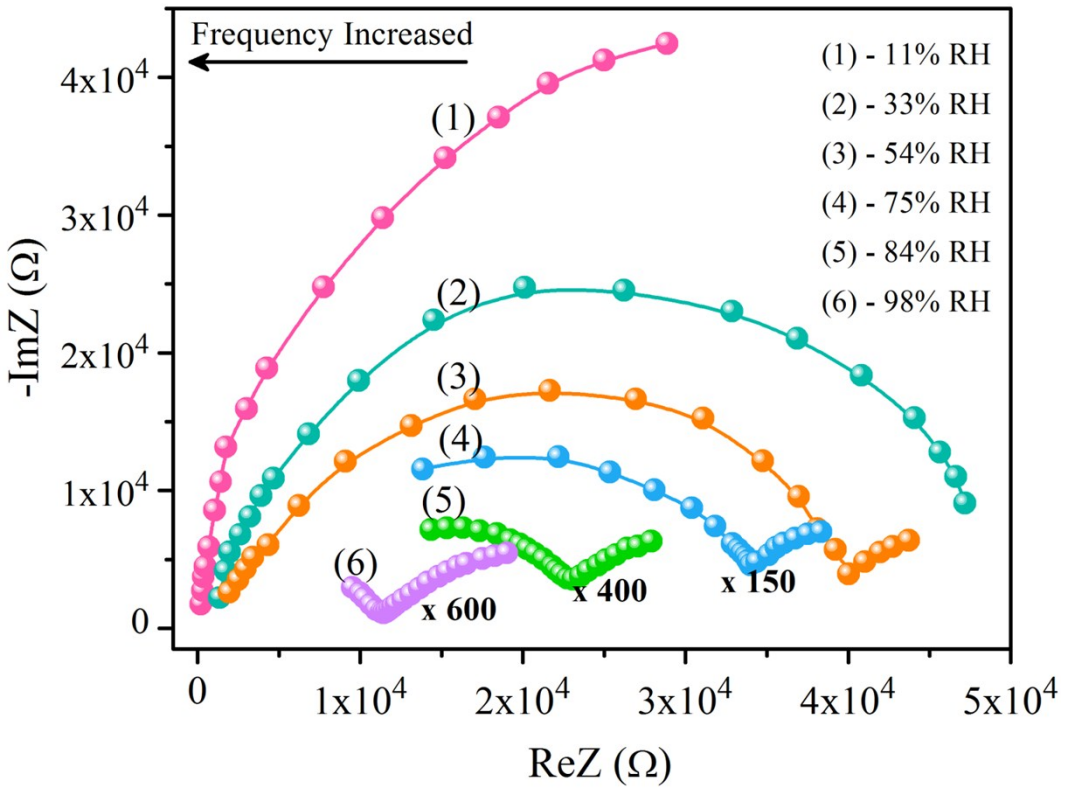

Figure S6: The measured complex impedance modulus spectra (Nyquist plot) based on Ag(3)@mpg-CN sensor, where RH varies from 11% to 98%.