Electronic Supplementary Material (ESI) for Nanoscale Advances.

-Supporting information-

Ligand-free all-inorganic metal halide nanocubes for fast, ultra-sensitive and self-powered ozone sensors

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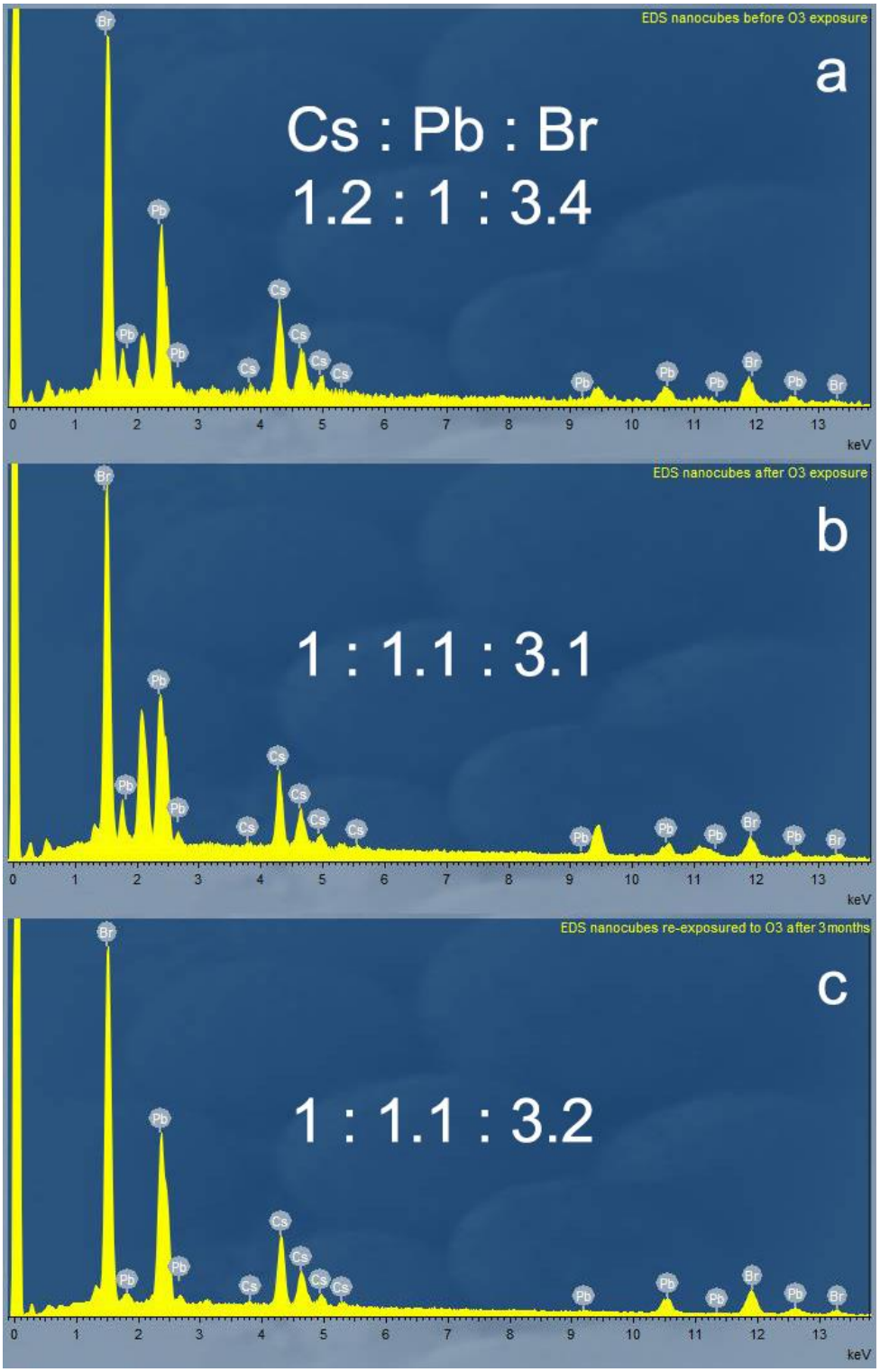

Figure S1. SEM-EDS spectra of the $CsPbBr_3$ nanocubes a) before ozone exposure, b) after ozone exposure and c) re-exposure to ozone after 3 months stored at ambient conditions.

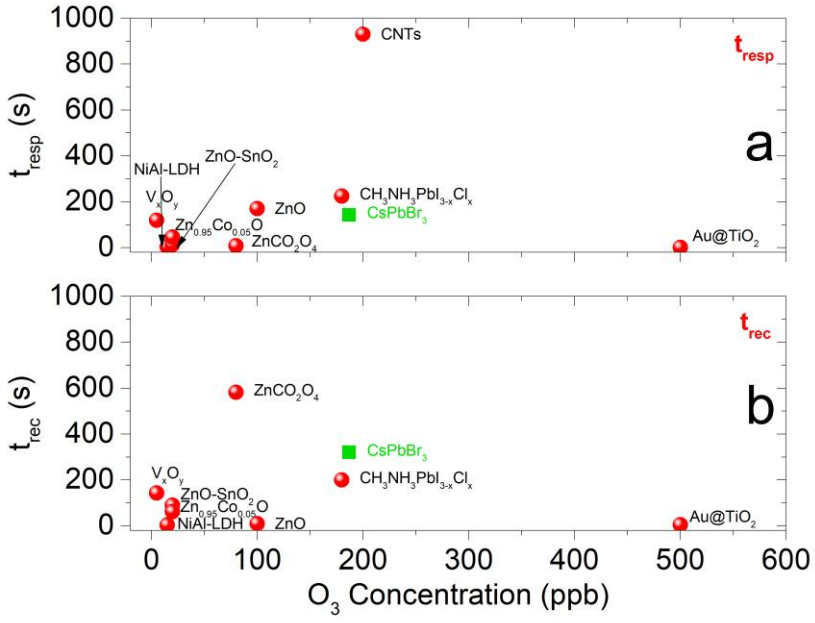

Figure S2. Diagrams of response and recovery times of the $CsPbBr_3$ nanocubes compared to the various reported ozone sensing elements. More information for these data is summarized in the table S1.

Table S1. Summary of the Phase, morphology, preparation methods, working temperature, sensitivity (S), ozone concentration, t-response : t-recovery times for the ozone sensing elements found in the literature.

Material	Morphology	Preparation method	T_{work} (°C)	S	O_3 conc. (ppb)	t_{res}:t_{rec} (s)	Ref.
$CsPbBr_3$	Nanocubes	Solution-based	RT	54	187	143:320	This study
Au@TiO_2	Nanoparticles	Sol-gel	RT	1.1	500	2:5	1
NiAl-LDH	Agglomerated flakes	Hydrothermal	RT	1.2	15	4:4	2
$CH_3NH_3PbI_{3-x}Cl_x$	Nanostructured Film	Solution based	RT	3	180	225:~200	3
V_xO_y	Nanostructured Film	Aerosol Spray Pyrolysis	RT (UV)	29	5	120:143	4
TiO_2-In_2O_3	Film	Impregnation	RT (UV)	56.5	2000	115:145	5
ZnO-SnO_2	Irregular shaped	Hydrothermal	RT (UV)	8	20	13:90	6
Zn_2SnO_4-RGO	Nanoparticles on rGO flakes	Hydrothermal	30	1.9	1000	tens of min	7
CNTs	Porous fibrous CNTs	Solution-based	75	2	200	930:1722	8
$ZnCO_2O_4$	Microspheres	Co-precipitation	200	23.3	80	8.4:582	9
$Zn_{0.95}Co_{0.05}O$	Thin film	Spray pyrolysis	250	0.4	20	46:62	10
ZnO	Porous nanosheets	Hydrothermal	300	90.5	100	~170:s	11

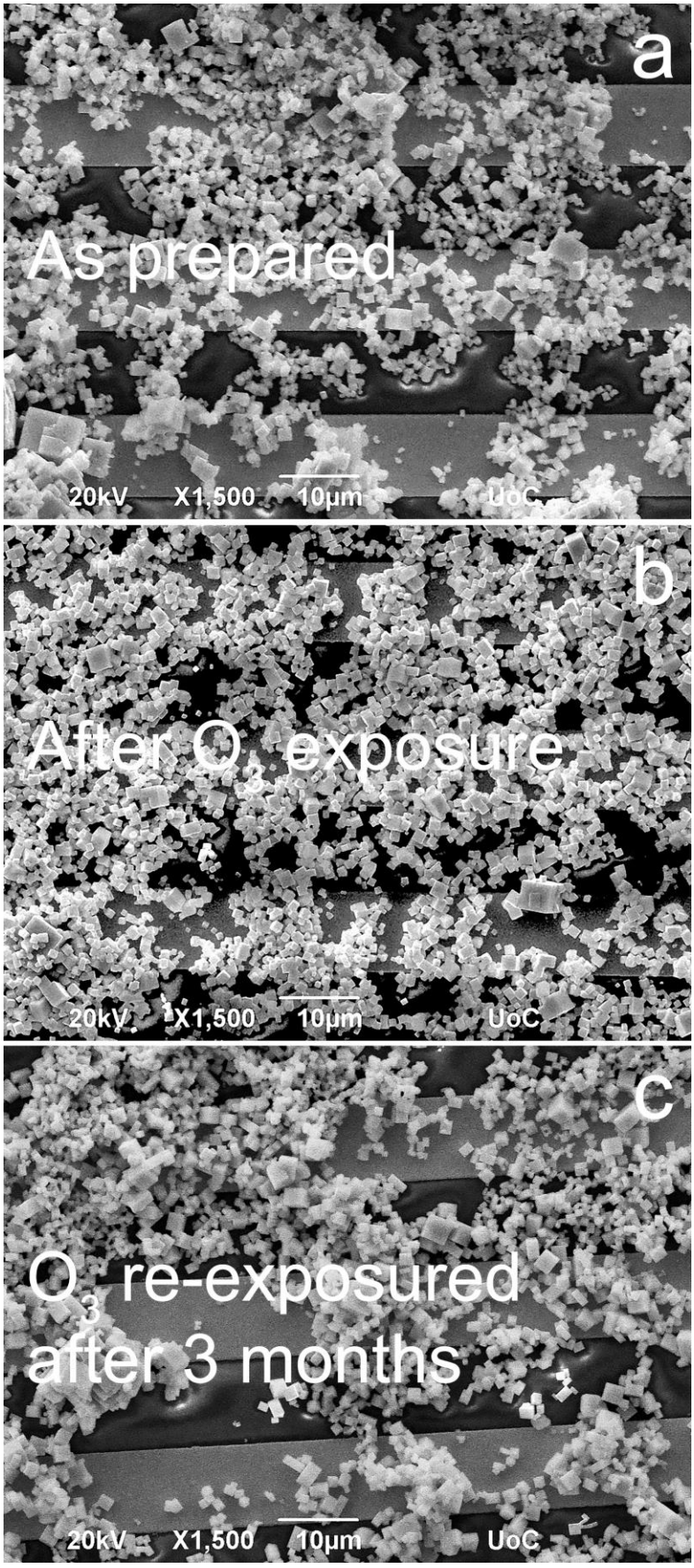

Figure S3. SEM images of $CsPbBr_3$ nanocubes a) as prepared, b) after O_3 exposure, c) after O_3 re-exposure (after 3 months) stored at ambient conditions.

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