Supplementary Material for

Near Unity PLQY and High Stability of Barium Thiocyanate based All-Inorganic Perovskites and their Applications in White Light-Emitting Diodes

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Table S1. FWHM of diffraction peak (β), dislocation density (δ), and micro-strain (ϵ) of $CsPbBr_3$ NCs with addition of different molar concentrations of $Ba(SCN)_2$.

$Ba(SCN)_2$ (%)	FWHM of diffraction peak β (radians)	Dislocation density δ x 10^{-3} (nm^{-2})	Micro-strain ϵ x 10^{-4}
0	0.0217	22.95	14.73
5	0.0198	18.92	13.38
15	0.0177	15.17	11.98
20	0.0156	11.76	10.59
30	0.0153	11.29	10.37
40	0.0151	11.03	10.26
50	0.0158	12.24	10.80

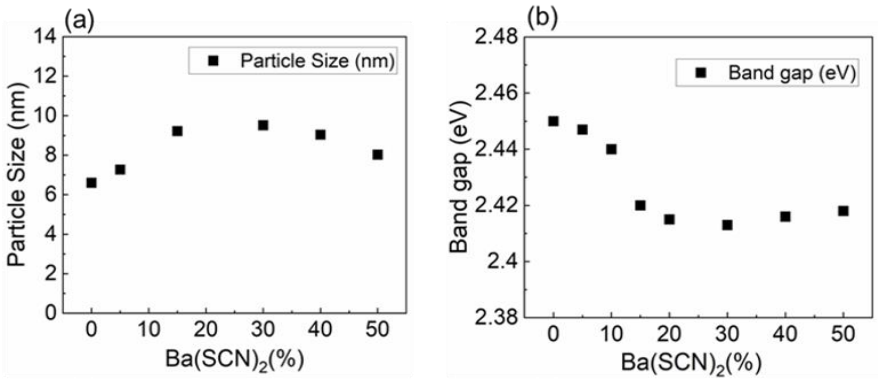

Figure S1. The variation of (**a**) particle size and (**b**) band gap of $CsPbBr_3$ NCs with addition of different molar concentrations of $Ba(SCN)_2$.

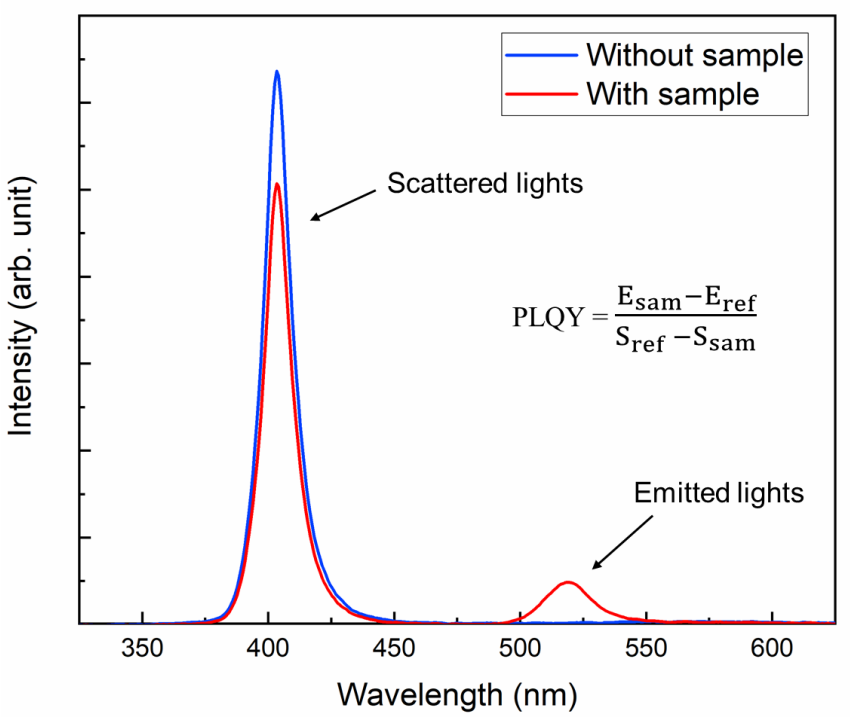

Figure S2. Scattering and emission spectra with and without samples. The absolute PLQY is calculated using the formula demonstrated in the inset of the Figure S2. S_{ref} and E_{ref} are area covered by scattering and emission spectra of reference liquid on the X-axis, and S_{sam} and E_{sam} are area covered by scattering and emission spectra of sample in reference liquid (toluene).

Table S2. Time variation of PLQY of $CsPbBr_3$ NCs with addition of different molar concentrations of $Ba(SCN)_2$.

$Ba(SCN)_2$ (%)	PLQY (%) Fresh Sample	PLQY (%) After 30 days	PLQY (%) After 60 days	PLQY (%) After 176 days
0	72	15	13	10
5	75	73	72	53
15	75	73	73	72
20	74	71	71	69
30	83	80	79	78
40	88	84	83	81
50	98	95	94	90

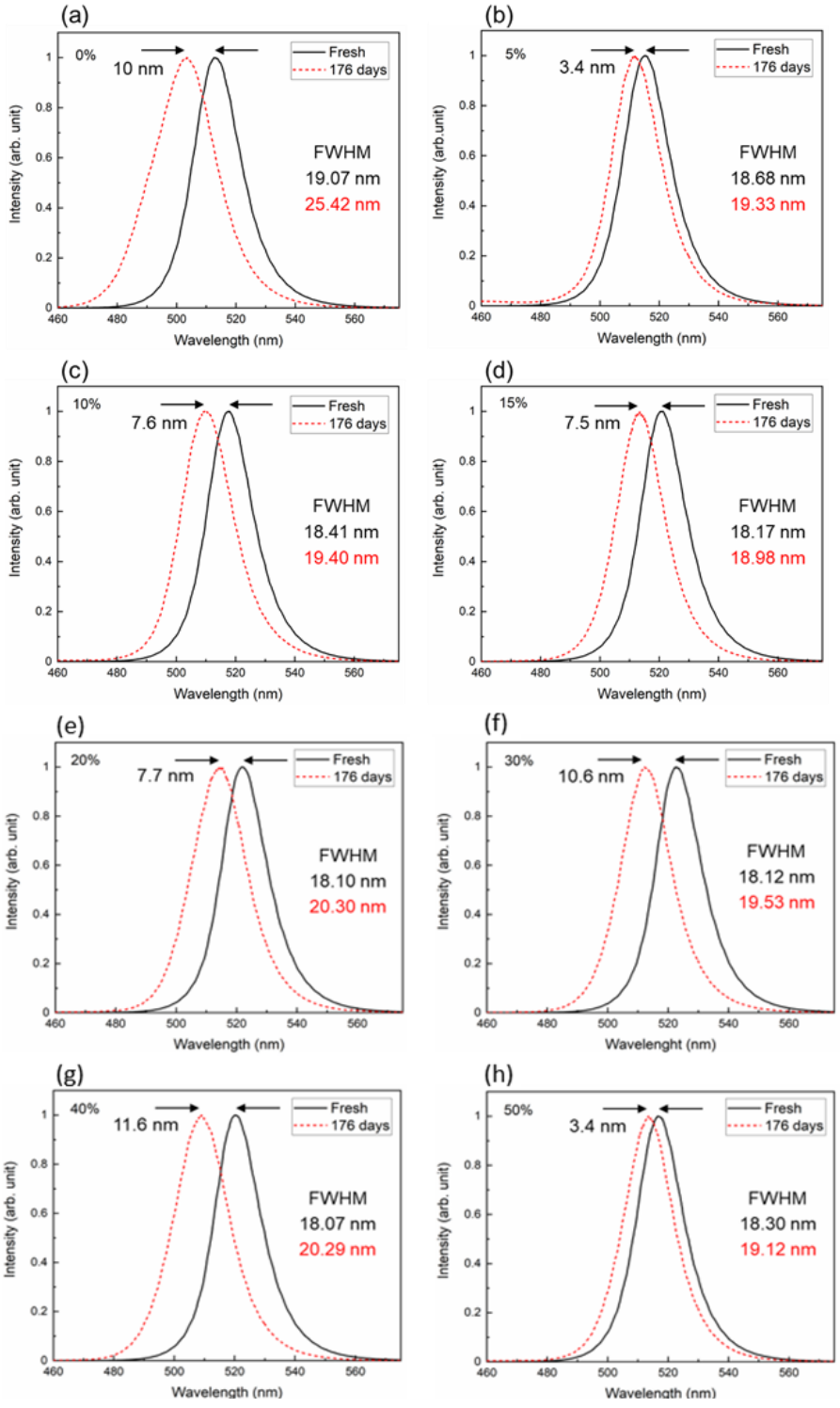

Figure S3. Normalized PL emission spectra of fresh and aged (+ 176 days in an ambient atmosphere) $CsPbBr_3$ NCs with different molar concentrations of $Ba(SCN)_2$ as indicated. The graph illustrates a blue-shift in PL emission peak position with an increasing storage time.

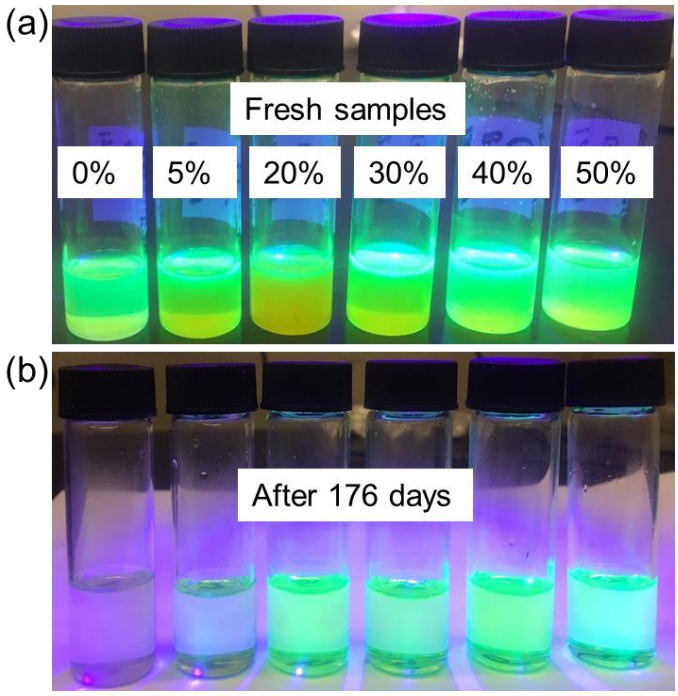

Figure S4. Digital photographs (under the UV light) of the colloidal solution of $CsPbBr_3$ NCs at different molar concentrations of $Ba(SCN)_2$. (**a**) Fresh samples and (**b**) 176 days aged samples in an ambient atmosphere.

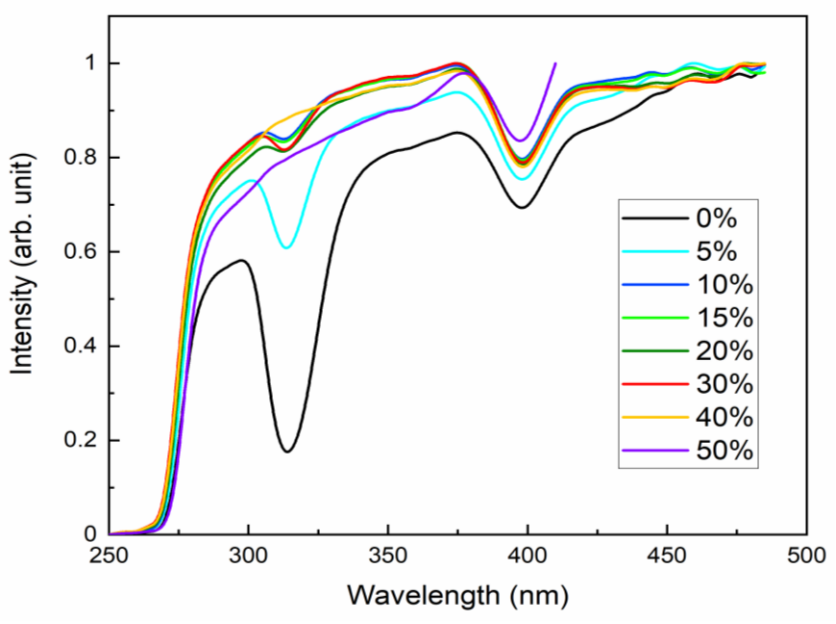

Figure S5. Normalized excitation spectra of $CsPbBr_3$ NCs at different molar concentrations of $Ba(SCN)_2$.