Supporting Information

The correlation between phase transition and photoluminescence properties of $CsPbX_3$ (X= Cl, Br, I) perovskite nanocrystals

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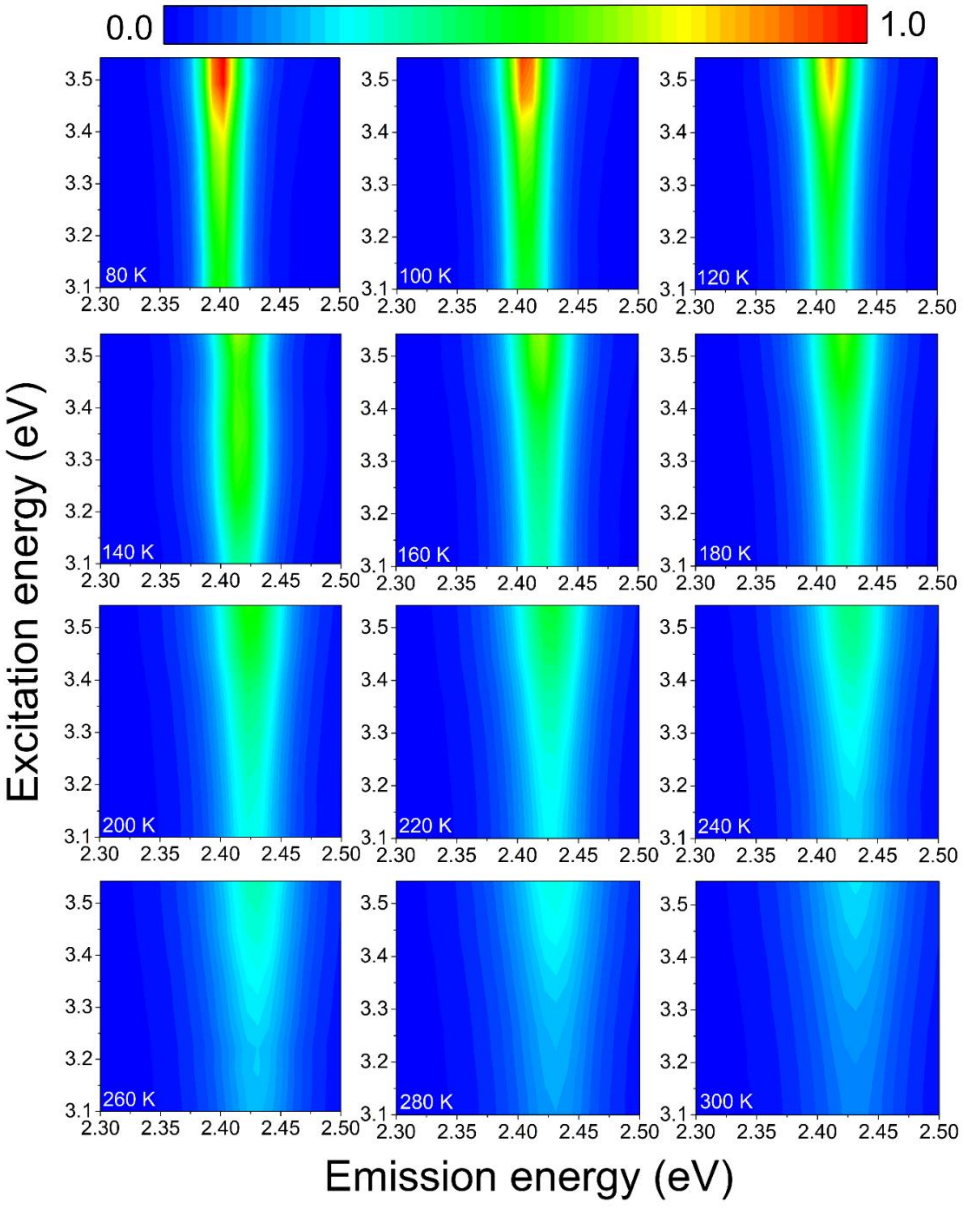

Figure S1. Normalized 3D PLE contour maps of $CsPbBr_3$ from 80 to 300 K

Table S1. Extracted relatively weights A_1 and A_2, time constants $t_1$and t_2, and average lifetime t_{av} of $CsPbI_3$ NCs

Temperature (K)	A_1	t_1 (ns)	A_2	t_2 (ns)	t_{av} (ns)
80	71%	4.33	29%	24.74	10.25
100	64%	4.01	36%	24.19	11.27
120	60%	4.25	40%	25.1	12.59
140	56%	4.41	44%	26.4	14.09
160	52%	4.18	48%	27.2	15.23
180	50%	4.3	50%	27.68	15.99
200	45%	4.2	55%	33.6	20.37
220	44%	3.41	56%	37.3	22.39
240	43%	2.75	57%	38.3	23.01
260	42%	3.95	58%	40.38	25.08
280	27%	4.56	73%	40.1	30.50
300	30%	4.56	70%	40.1	33.60