

Supplementary Information

Ligands modified Cu doped Zn-In-Se quantum dots for flexible laminated luminescent solar concentrators

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Figure S1. Photograph of as-prepared CZISE (left) and CZISE-TOP (right) QDs under UV radiation

Table S1. Detailed PL properties of CZISE and CZISE-TOP QDs

Samples	Peak/nm	FWHM/nm	PL QY/%
CZISE	677	123	22±5%
CZISE-TOP	660	113	67±5%

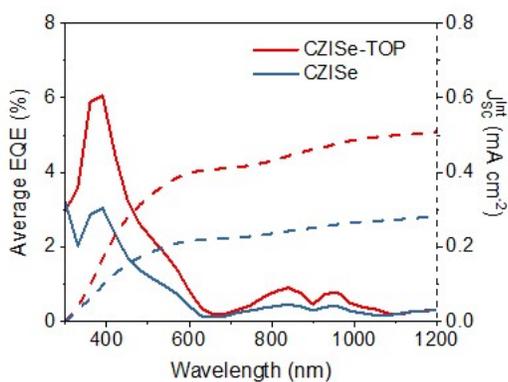


Figure S2. Average EQE spectra coupled with L-LSCs and the corresponding integrated short-circuit current density

Table S1. PL dynamics parameters of as-prepared samples in solution and Polymer

Samples	A ₁	τ_1/ns	A ₂	τ_2/ns	A ₃	τ_3/ns	τ_{ave}/ns
CZiSe-Solution	0.11	35.1	0.88	154.2	0.01	6.0	150.8
CZiSe-Polymer	0.15	37.5	0.83	159.0	0.02	7.0	153.9
CZiSe-TOP-Solution	0.10	38.6	0.89	179.4	0.01	6.5	176.0
CZiSe-TOP-Polymer	0.18	28.7	0.77	157.2	0.05	8.1	151.5

Table S2. Photovoltaic parameters of Si solar cell coupled with different LSCs/L-LSCs/FL-LSCs

Luminesphores	LSC types	J_{sc}/mAcm^{-2}	$J_{sc}^{Int}/\text{mAcm}^{-2}$	V_{oc}/V^*	FF	PCE/%	AVT	$\eta_{opt}/\%$	G
CZiSe	LSC-2mm	0.23±0.02	0.24	0.31	0.42	0.03	83.68	0.78	6.25
	L-LSC	0.28±0.01	0.28	0.32	0.43	0.04	78.65	0.94	2.78
CZiSe-TOP	LSC-2mm	0.43±0.04	0.45	0.36	0.49	0.07	80.70	1.38	6.25
	L-LSC	0.47±0.02	0.51	0.36	0.47	0.08	82.18	1.51	2.78
	FL-LSC	0.30±0.05	0.25	0.35	0.29	0.03	78.81	1.14	3.57

*the error bars for V_{oc} are lower than 0.01 V, which are not shown here.

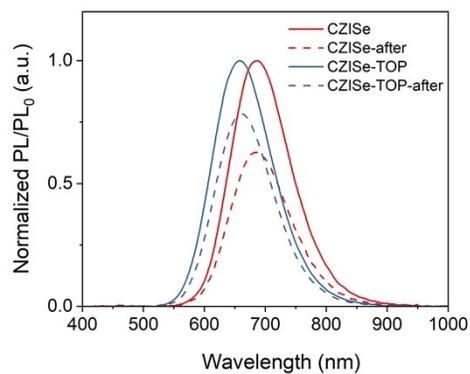


Figure S3 Photostability of CZiSe QDs with/without TOP passivation in polymer. The devices were illuminated under UV radiation for 7 h (400 nm 1 Wcm⁻¹).