Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

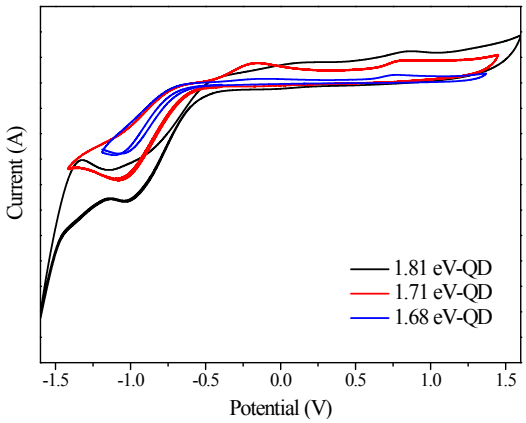


Figure S1 Cyclic voltammetry curves of $CuInS_2$/ZnS QDs the corresponding parameters are shown in Table S1.

Table S1 The LUMO, HOMO and bandgap of different $CuInS_2$/ZnS QDs.

QDs	LUMO (eV)	HOMO (eV)	Bandgap (eV)
1.81 eV	-3.42	-5.23	1.81
1.71 eV	-3.46	-5.17	1.71
1.68 eV	-3.44	-5.12	1.68

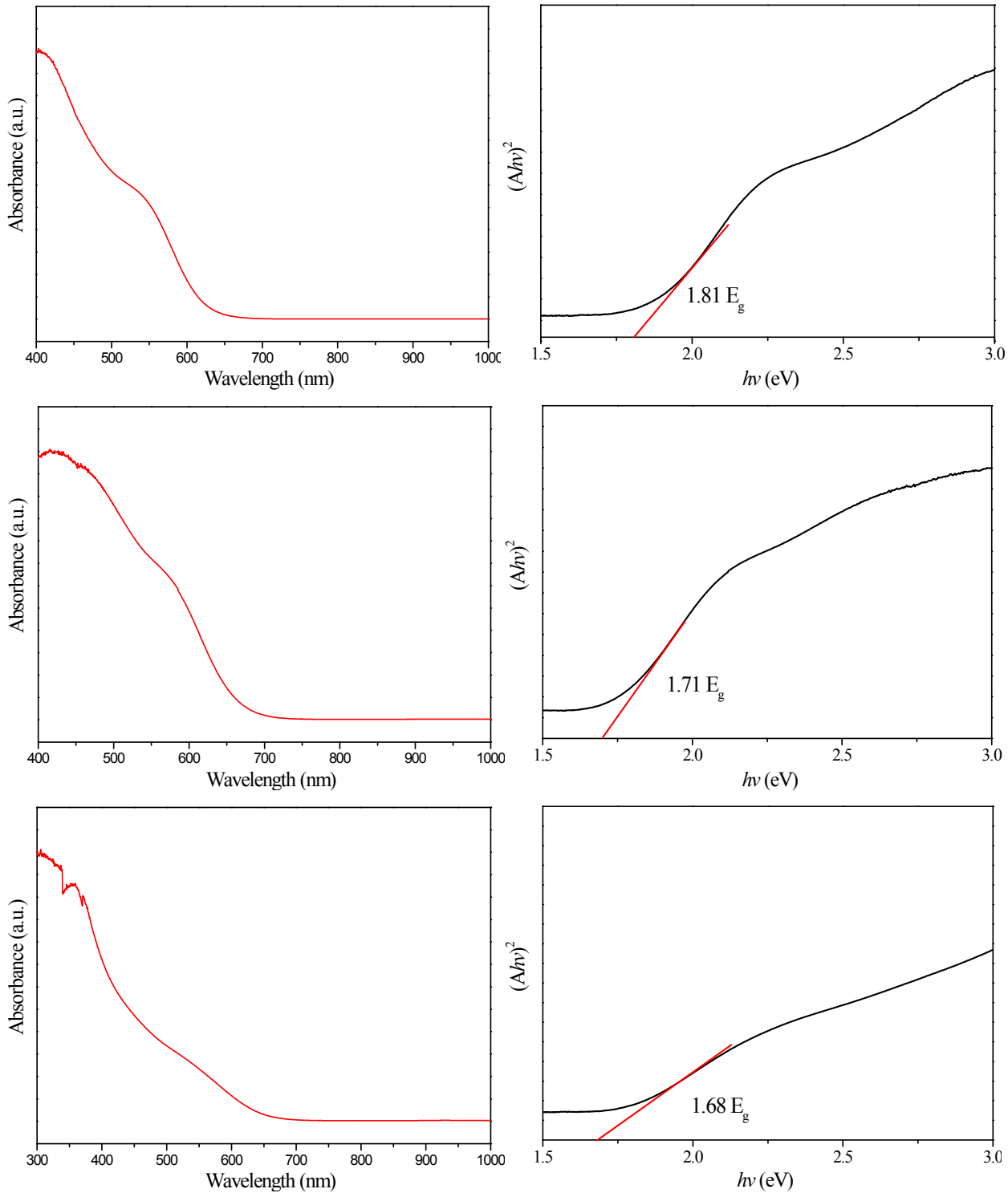


Figure S2 Absorption spectra and corresponding $(Ahv)^2$ vs energy (hv) curves of $CuInS_2$/ZnS QDs.

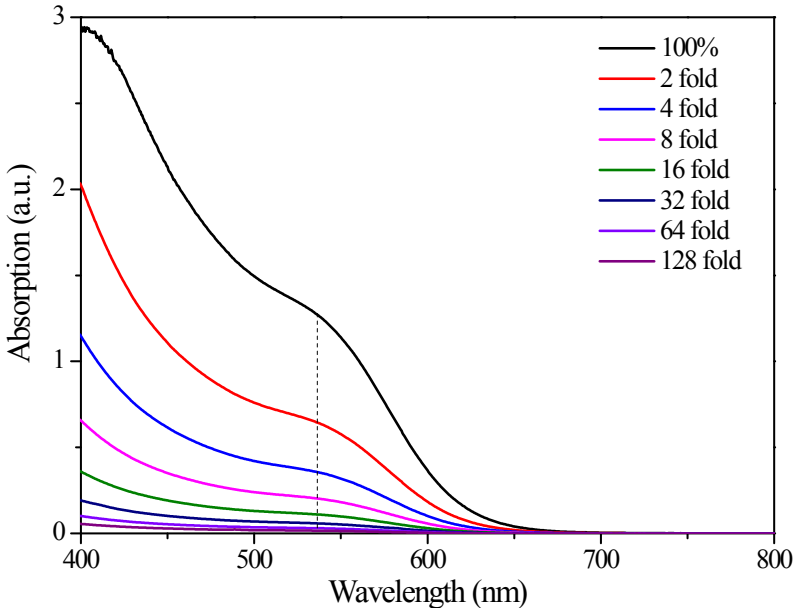


Figure S3 UV-vis absorption spectra of $CuInS_2$/ZnS QDs in diluted solutions.

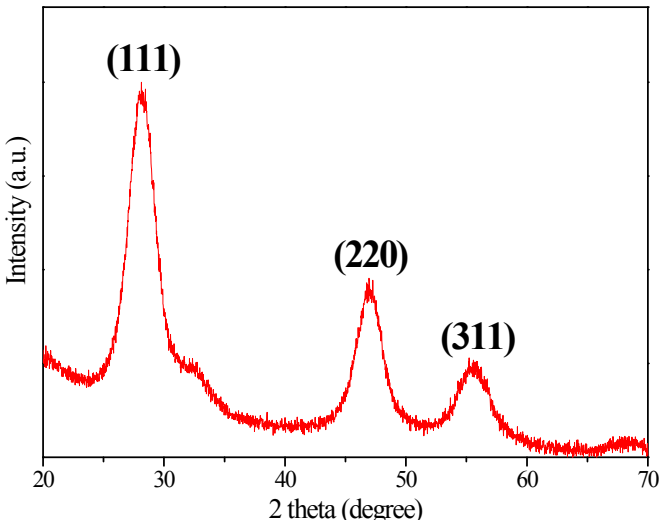
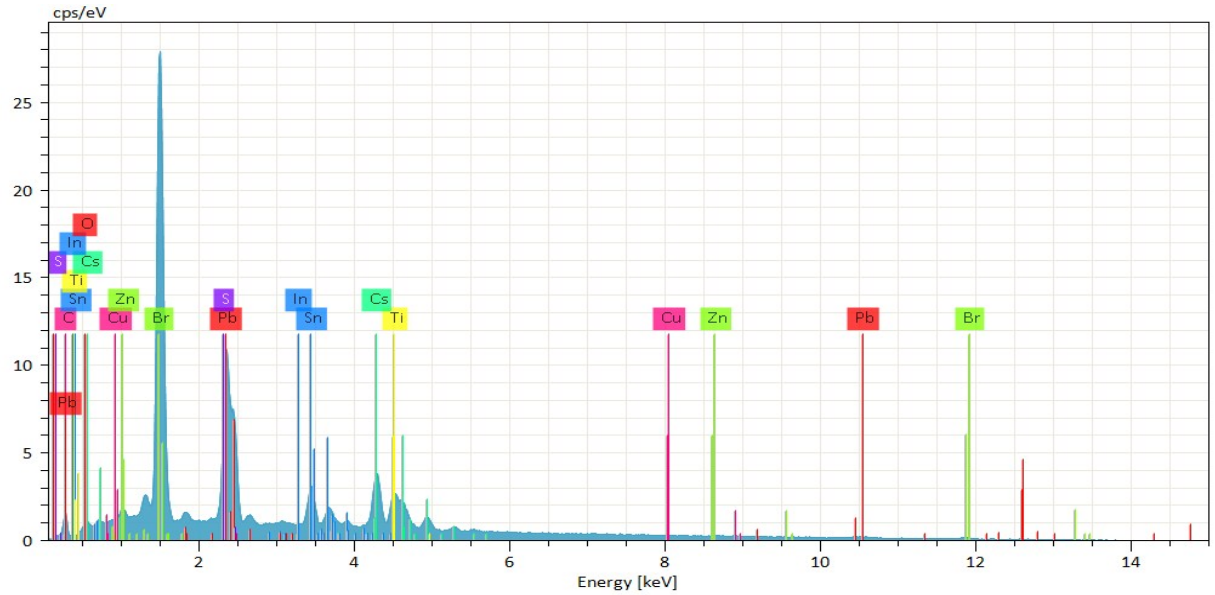


Figure S4 XRD patterns of $CuInS_2$/ZnS QDs.



Name	Date	Time	HV [kV]	Real time [s]	Dead time [%]	Pulses [kcps]
3.xlsx	26/08/2016	14:54:18	15.0	52.699	7	13.579

3.xlsx

Element	At. No.	Line s.	Netto	Mass [%]	Mass Norm. [%]	Atom [%]	abs. error [%] (1 sigma)	abs. error [%] (2 sigma)	abs. error [%] (3 sigma)	rel. error [%] (1 sigma)	rel. error [%] (2 sigma)	rel. error [%] (3 sigma)
Bromine	35	L-Serie	141386	32.30	36.63	34.06	1.53	3.06	4.59	4.74	9.47	14.21
Lead	82	M-Serie	80614	24.81	28.14	10.09	0.90	1.81	2.71	3.64	7.29	10.93
Cesium	55	L-Serie	35763	14.60	16.56	9.26	0.45	0.91	1.36	3.11	6.23	9.34
Tin	50	L-Serie	21304	6.65	7.54	4.72	0.23	0.46	0.69	3.47	6.95	10.42
Titanium	22	K-Serie	13325	4.38	4.96	7.70	0.16	0.32	0.48	3.63	7.25	10.88
Carbon	6	K-Serie	3471	4.30	4.88	30.16	0.75	1.49	2.24	17.37	34.74	52.11
Oxygen	8	K-Serie	862	0.60	0.69	3.18	0.17	0.34	0.50	27.76	55.52	83.28
Zinc	30	K-Serie	285	0.42	0.48	0.54	0.06	0.11	0.17	13.49	26.98	40.47
Sulfur	16	K-Serie	684	0.10	0.12	0.27	0.03	0.06	0.09	30.12	60.24	90.37
Copper	29	K-Serie	5	0.01	0.01	0.01	0.00	0.01	0.01	47.40	94.81	142.21
Indium	49	L-Serie	0	0.00	0.00	0.00	0.00	0.00	0.00	1.02	2.04	3.07
			Sum	**88.17**	**100.00**	**100.00**						

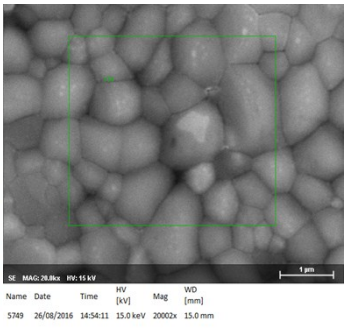


Figure S5 The SEM mappings data of Cu, Zn, In, and S elements on the $CsPbBr_3$ film.

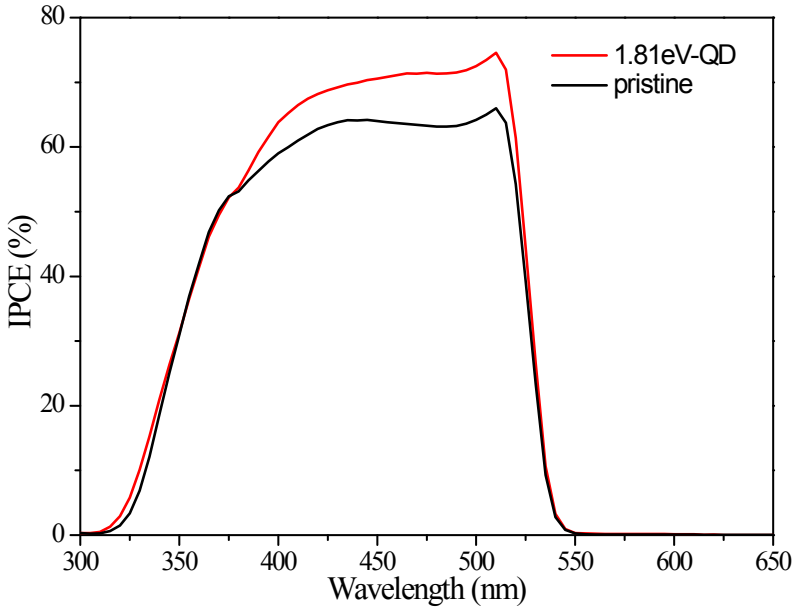


Figure S6 IPCE spectra of all-inorganic PSCs.

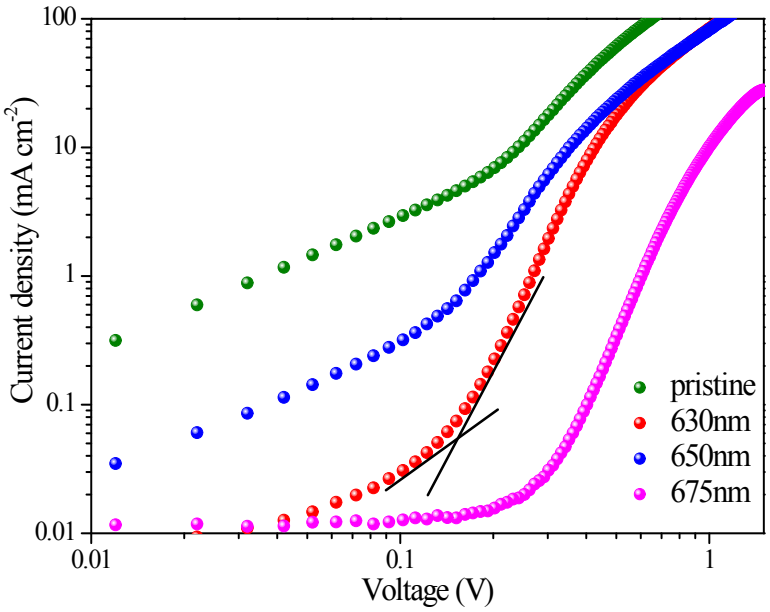


Figure S7 *J*−*V* curves of inorganic PSC devices under dark conditions.

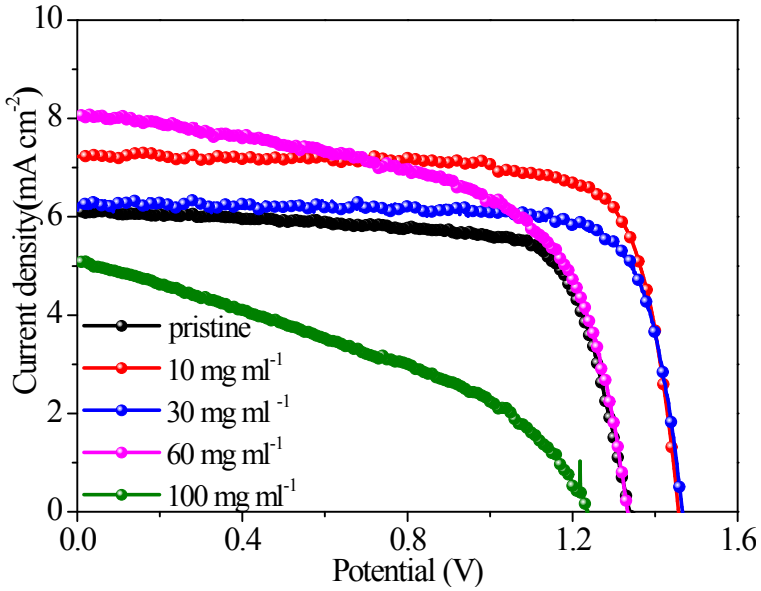


Figure S8 *J-V* curves of inorganic PSCs with various concentration of the $CuInS_2$/ZnS QDs under air mass 1.5 global (AM1.5G, 100 mW cm^{-2}) illumination.