Supporting Information

Low-temperature processing of optimally polymer-wrapped α -CsPbl₃ for self-powered flexible photo-detector application

Umesh Bansode, Atikur Rahman*, Satishchandra Ogale*

a Department of Physics and Center for Energy Science, Indian Institute of Science Education and Research, Dr.

Homi Bhabha road, Pune, India-411008



Figure S1 (a) Temperature dependent XRD of the PVP-CsPbI₃ (b) XRD of PEO functionalized CsPbbI₃



Figure S2 (a) FE-SEM image of the PVP-CsPbI₃ (at higher resolution) (b) TEM images of the PVP-CsPbI₃ (inset shows the lattice fringes and the diffraction pattern.

 Table S1: Data extracted from the PL decay fitting

Parameter	Value	Relative contribution	
	(ns)		
τ_1	0.67	4.02	
$ au_2$	10.4	31.80	
$ au_3$	33.5	64.19	

Table S2	2: The intensity	of monochromatic	light with	different wave	length used	l as th	e excitation s	source
----------	------------------	------------------	------------	----------------	-------------	---------	----------------	--------

Sr.	Wavelength	Intensity			
No	(nm)	(µW)			
1	400	3.82			
2	450	4.25			
3	500	3.15			
4	550	4.07			
5	600	3.54			
6	650	3.46			
7	700	2.73			



Figure S3: Quantum efficiency as a function of the wavelength of our photo-detector.



Figure S4: XRD's of PVP-CsPbI₃(a) fresh sample (b) after 15 days