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

Significance of the ZnO Nanorod Array Morphology for Low-bandgap Polymer Solar Cells in Inverted Structures

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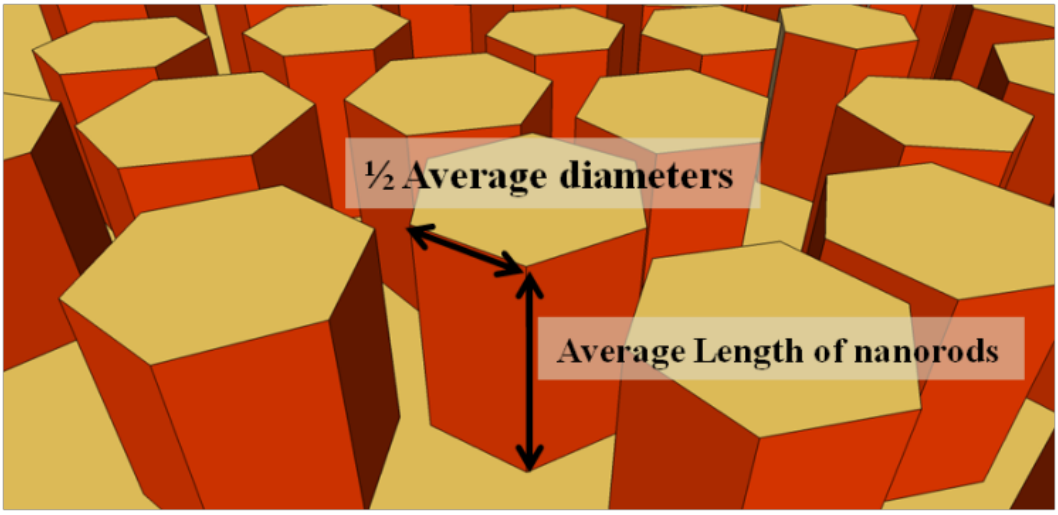

Figure S1. The schematic model of the ZnO Nanorod Array.

$$\left(\frac{\mathbf{A}}{\mathbf{2}}\right) \times \mathbf{B} \times \mathbf{6} \times \mathbf{C} = \textbf{ZnO Nanorods increased in unit area}$$

A. Average Diameter of ZnO nanorods

B. Average Length of ZnO nanorods

C. Density of ZnO nanorods (per um^2)

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Table S1 ZnO nanorod array parameters measured by ImageJ software.

		Ave. D[a]	Ave. L[b]	#[c] (per um^2)	Ave. S[d]
Zinc nitrate: HMT=1.0:0.4	**average**	24.6	77.5	912	34.3
	Standard Deviation (σ)	0.49	1.4	15	0.82
Zinc nitrate: HMT=1.0:0.5	**average**	25.0	90.2	900	27.1
	Standard Deviation (σ)	0.60	1.9	19	0.57
Zinc nitrate: HMT=1.0:0.6	**average**	25.8	103	944	22.7
	Standard Deviation (σ)	0.46	1.8	17	0.53
Zinc nitrate: HMT=1.0:0.7	**average**	29.9	114	720	19.5
	Standard Deviation (σ)	0.63	2.1	16	0.47
Zinc nitrate: HMT=1.0:0.8	**average**	34.1	125	580	16.1
	Standard Deviation (σ)	0.73	2.0	13	0.52
Zinc nitrate: HMT=1.0:1.0	**average**	50.2	138	304	13.4
	Standard Deviation (σ)	1.00	2.3	7.7	0.33
Zinc nitrate: HMT=1.0:1.2	**average**	60.9	178	152	7.20
	Standard Deviation (σ)	1.83	5.9	5.5	0.22

a. Average Diameters of ZnO nanorods (nm)
b. Average Length of ZnO nanorods (nm)
c. Number of ZnO nanorods (per um^2)
d. Average Spacing between ZnO nanorods (nm)