



## Supporting Information

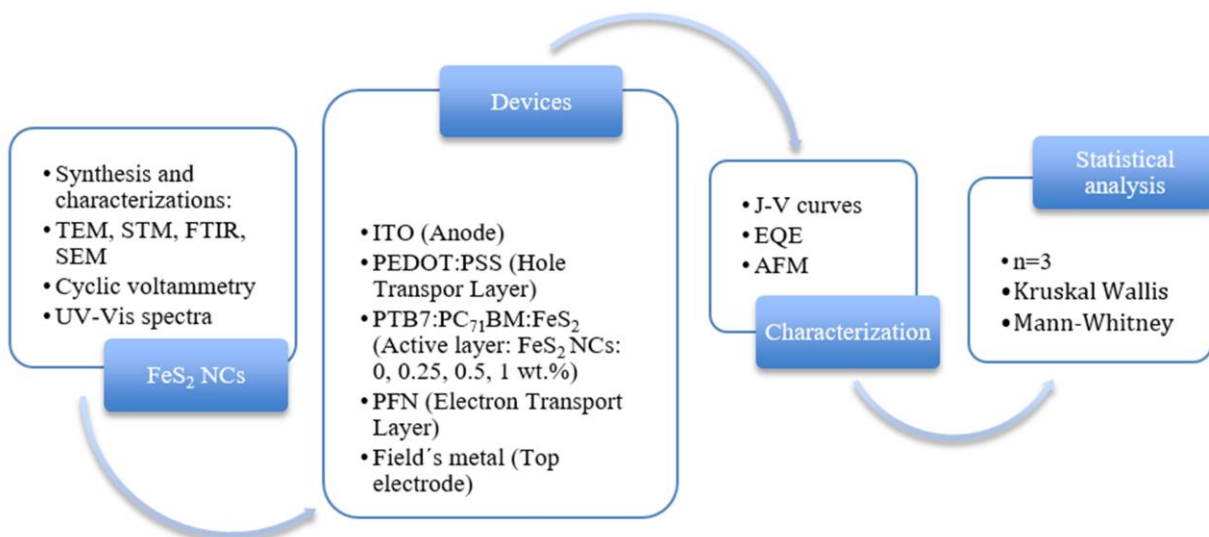
for

### **Nontoxic pyrite iron sulfide nanocrystals as second electron acceptor in PTB7:PC<sub>71</sub>BM-based organic photovoltaic cells**

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*Beilstein J. Nanotechnol.* **2019**, *10*, 2238–2250. doi:10.3762/bjnano.10.216

## Statistical tests and SEM images



**Figure S1:** Chart of the experimental procedure and OPVs fabrication and characterization.

## Statistical tests

**Table S1:** Kruskal-Wallis Test. Significant difference between groups.

	$V_{oc}$	FF	$J_{sc}$	PCE
<b>Z Value</b>	10.362	22.859	10.393	23.707
<b>° 1</b>	3	3	3	3
<b>P value</b>	<b>0.016</b>	<b>&lt;0.0001</b>	<b>0.016</b>	<b>&lt;0.0001</b>

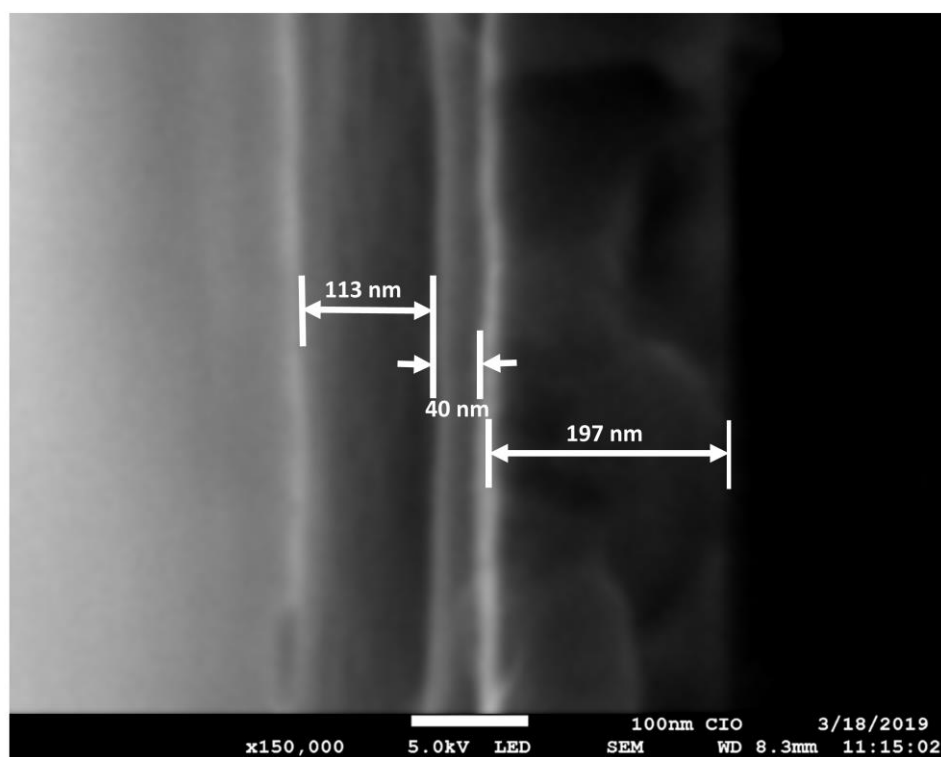
**Table S2:** Mann-Whitney test. Comparison between groups.

Groups based on FeS <sub>2</sub> (wt.%)		$V_{oc}$	FF	$J_{sc}$	PCE
<b>0 vs 0.25</b>	Z	-2.910	-3.909	-.301	-3.907
	p Value	<b>.004</b>	<b>.0001</b>	.764	<b>.0001</b>
<b>0 vs 0.5</b>	Z	-.664	-2.331	-2.296	-2.419
	p Value	.507	<b>.020</b>	<b>.022</b>	<b>.016</b>
<b>0 vs 1.0</b>	Z	-.494	-1.539	-1.668	-2.018
	p Value	.622	.124	.095	<b>.044</b>
<b>0.25 vs 0.5</b>	Z	-2.424	-3.643	-2.939	-3.674
	p Value	<b>.015</b>	<b>.0001</b>	<b>.003</b>	<b>.0001</b>

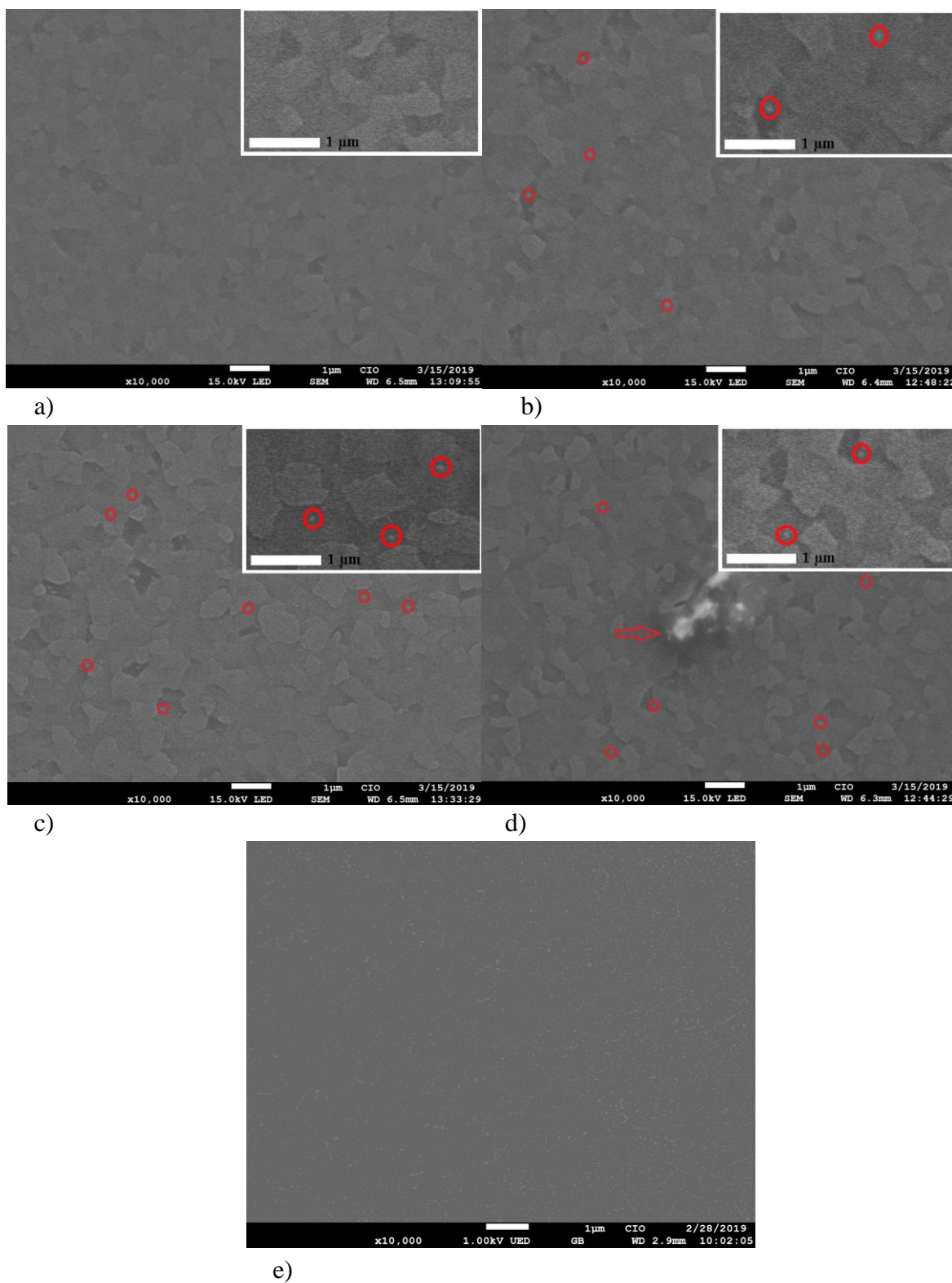
<b>0.25 vs 1.0</b>	Z	-2.370	-2.900	-1.886	-2.831
	p Value	<b>.018</b>	<b>.004</b>	.059	<b>.005</b>
<b>0.5 vs 1.0</b>	Z	-.110	-.219	-.380	-.163
	p Value	.912	.827	.704	.870

Bold letters indicate statistical significance.

## SEM images



**Figure S2:** SEM image of OPVs layers (ITO ~197 nm; PEDOT:PSS ~40 nm; PTB7:PC<sub>71</sub>BM ~113 nm).



**Figure S3:** SEM images (at 15 kV) of OPVs active layer with different concentrations of FeS<sub>2</sub>: a) 0.0 wt %, b) 0.25 wt %, c) 0.5 wt % and d) 1.0 wt %; e) image of PEDOT:PSS at a lower SEM voltage (1 kV). Scale bar = 1 μm.