

**Supporting Information**

**Water- and Alcohol-Soluble Cationic Phenanthroline  
Derivatives as Efficient Cathode Interfacial Layers  
for Bulk-Heterojunction Polymer Solar Cells**

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# Supplementary Figures

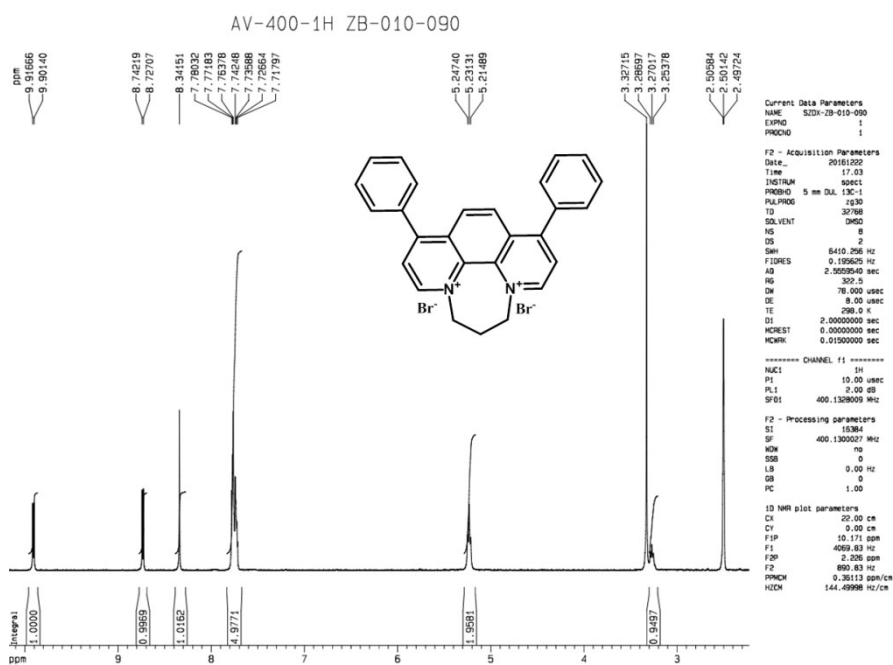
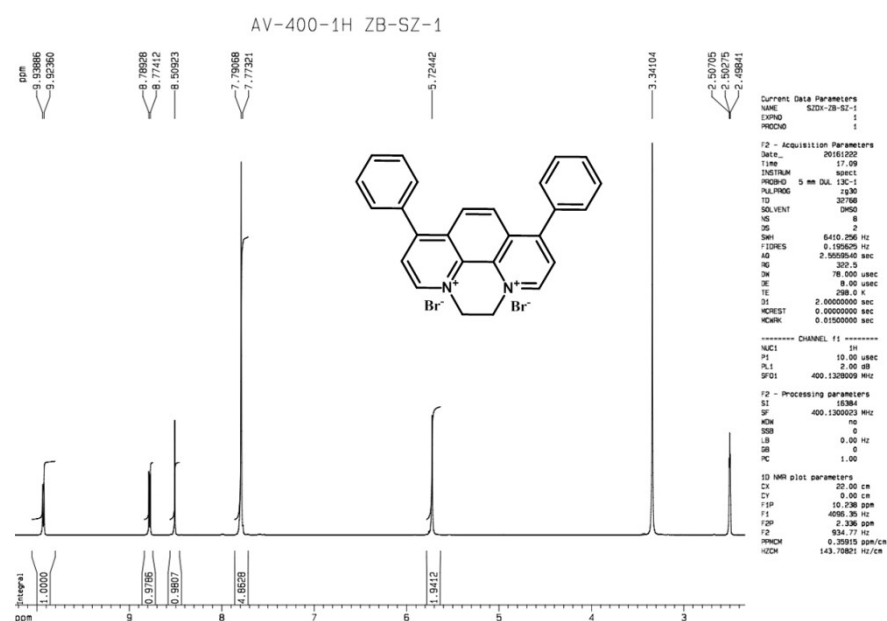


Figure S1. The <sup>1</sup>H NMR spectra of Bphen-Et and Bphen-Pr

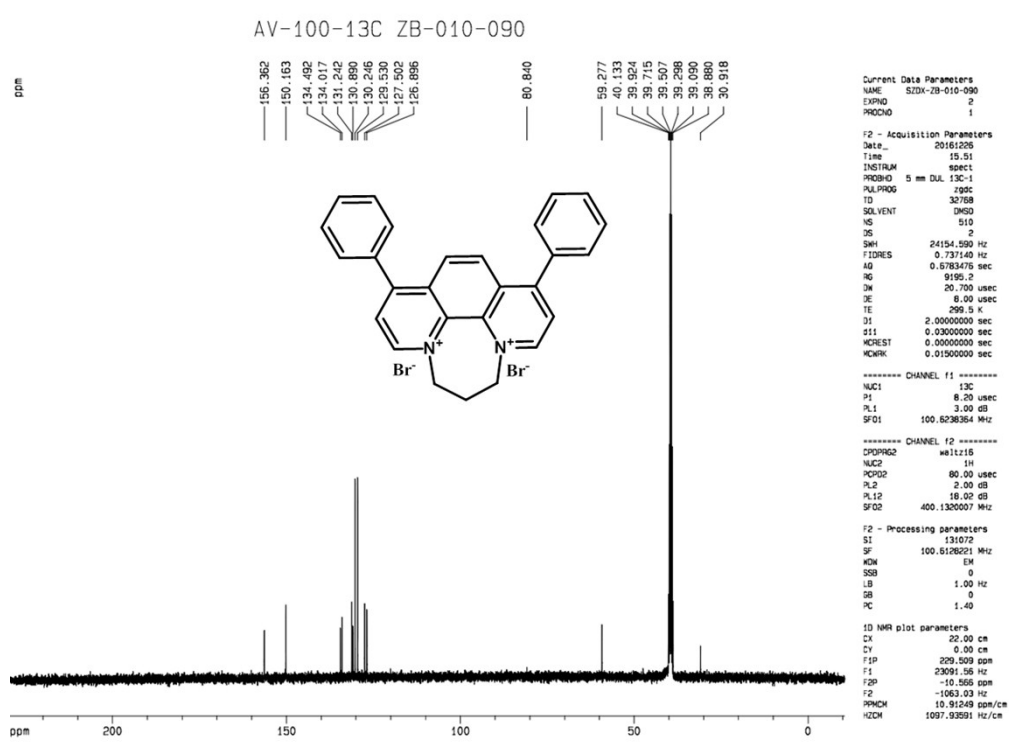
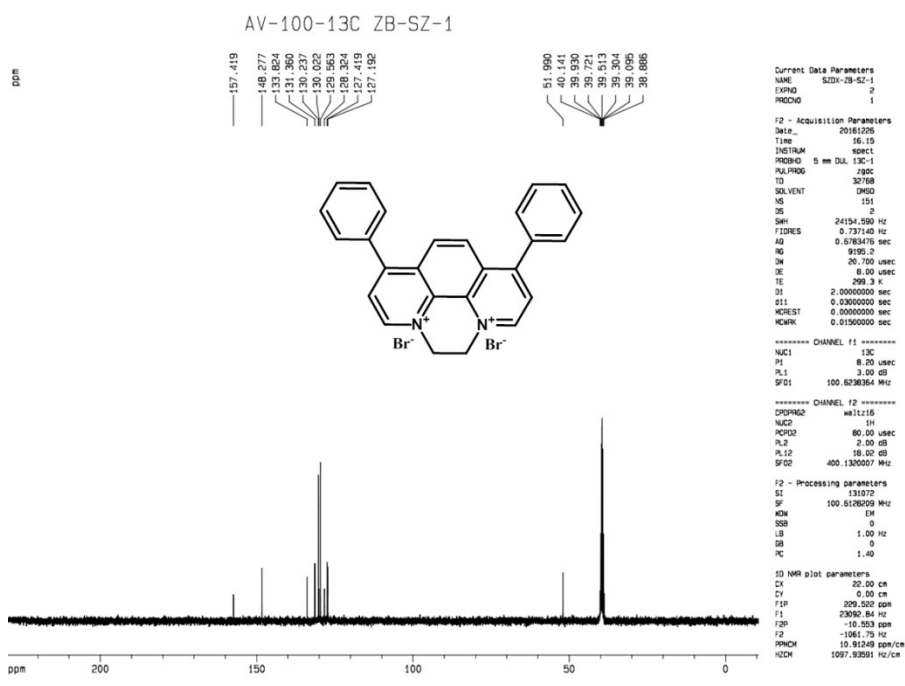
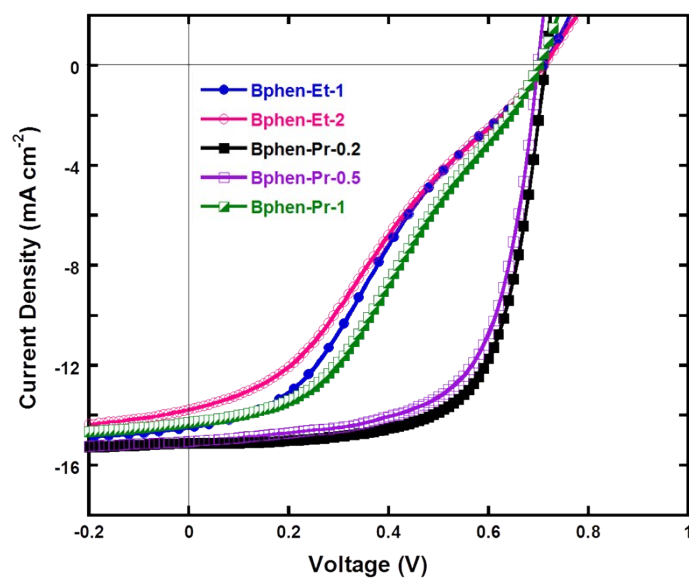


Figure S2. The <sup>13</sup>C NMR spectra of Bphen-Et and Bphen-Pr



**Figure S3.**  $J$ - $V$  characteristics of Bphen-Et and Bphen-Pr CILs with different solution concentration

**Table S1.** Photovoltaic performance of Bphen-Et and Bphen-Pr CILs with different solution concentration

CILs (mg/ml)	Voc (V)	Jsc (mA/cm <sup>2</sup> )	FF (%)	PCE (%)
Bphen-Et (1)	0.71	14.50	31.11	3.20
Bphen-Et (2)	0.71	13.77	29.92	2.93
Bphen-Pr (0.2)	0.71	15.12	67.68	7.27
Bphen-Pr (0.5)	0.71	15.04	64.88	6.93
Bphen-Pr (1)	0.71	14.28	36.52	3.70