

Supporting Information

Benzyl Viologen Radical Cation: An Effective *n*-Dopant for Poly(Perylenediimide-Bithiophene)

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General Experimental Methods

UV-Vis-NIR absorption spectra were recorded on a Shimadzu UV-3101PC UV-VIS-NIR Spectrophotometer. Cyclic voltammetry(CV) experiments were performed using Autolab potentiostat (model PGSTAT30) by Echochimie. CV measurements were recorded in dry acetonitrile with 0.1 M tetra-*n*-butylammonium hexafluorophosphate as supporting electrolyte (scan rate of 100 mV•s⁻¹), glassy carbon disk as working electrode, gold disk as counter electrode and Ag/AgCl as reference electrode. Ferrocene was used as external standard (HOMO = oxidation onset = -4.80 eV). Molecular weights of the polymer were determined by Polymer Labs GPC-220 equipped with a refractive index detector using 1,2,4-trichlorobenzene at 150°C as solvent and polystyrenes as standards. Thermal analysis of the polymer was carried out using DSC 3 from Mettler Toledo. The molecular packing of was studied by grazing incidence small and wide angle X-ray diffraction (GISAXS, GIWAXS; Nanoinxider Xenocs). XPS spectra were measured using VG Thermo Escalab 220i-XL X-ray photoelectron spectroscopy system. XPS data is analyzed using Thermo Advantage v4.12.

MW Averages

Mp: 41621

Mn: 21175

Mv: 40622

Mw: 44361

Mz: 73218

Mz+1: 104853

PD: 2.0950

Distribution Plots

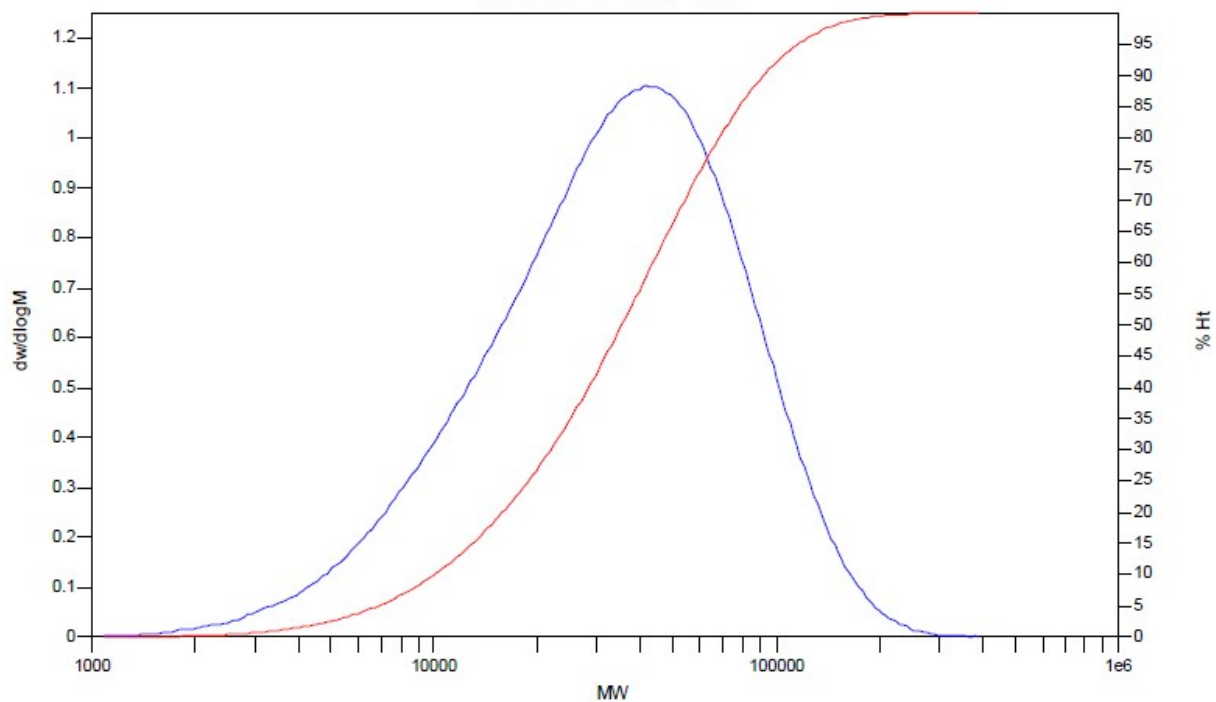


Figure S1. GPC traces of pPDI-2T.

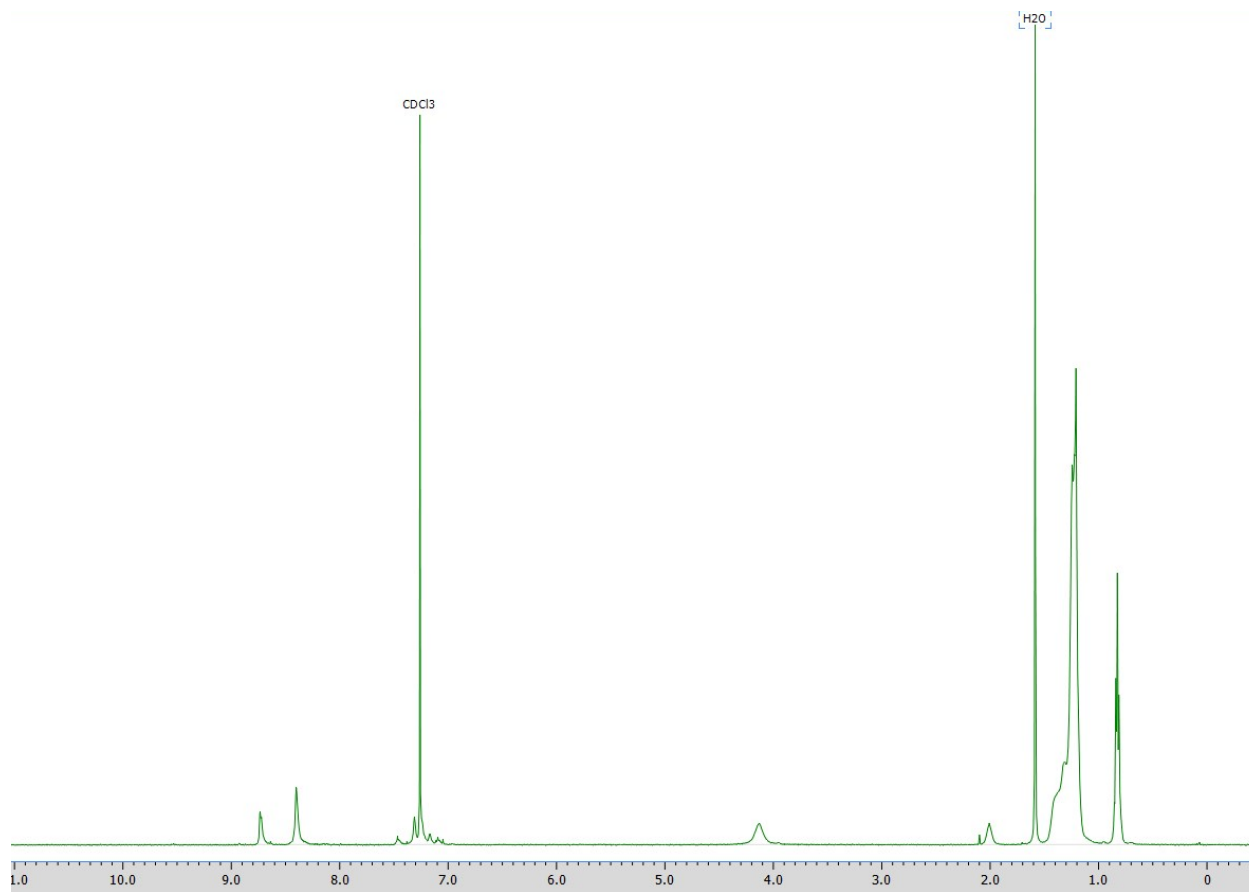


Figure S2. ^1H NMR of pPDI-2T in CDCl_3 .

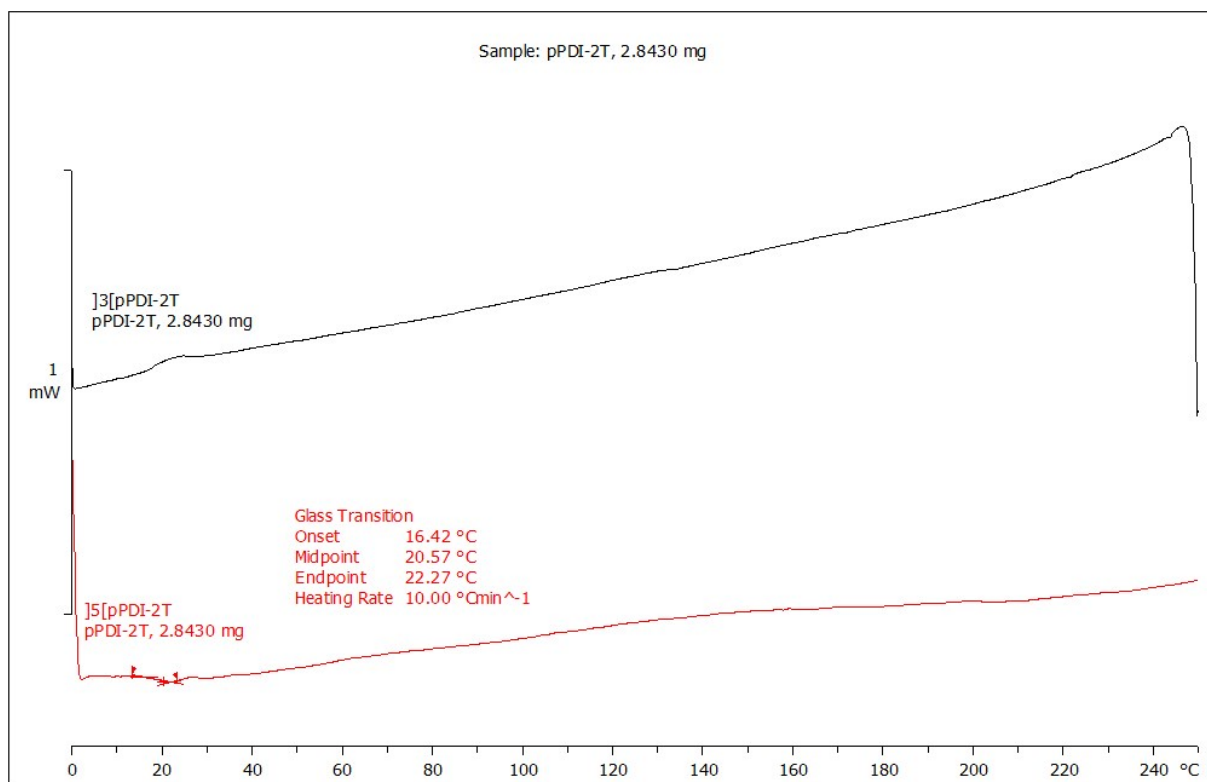


Figure S3. DSC thermogram of pPDI-2T. Red – heating step. Black – cooling step.

	Pristine	30 s	1 min	10 min	1 hr	3 hr	24 hr
Thickness (nm)	93	127	132	136	148	150	150
Percentage increase	-	37 %	42 %	46 %	59 %	61 %	61 %

Table S1. Film thicknesses of pristine and BV^{•+}-doped pPDI-2T films.

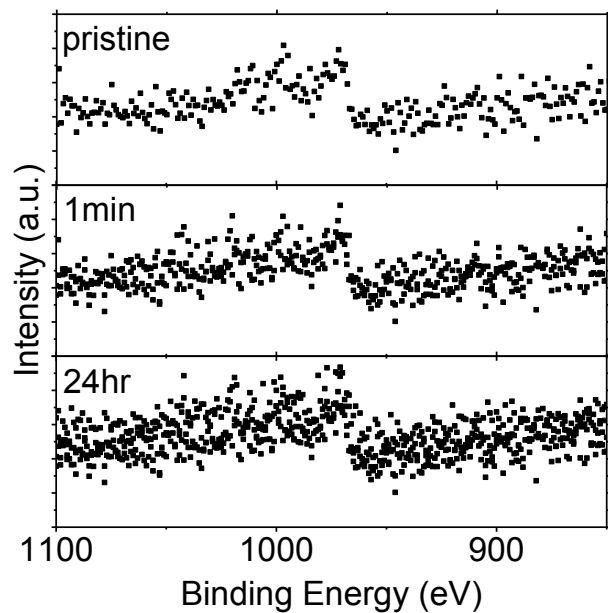


Figure S4. XPS binding energy for pristine (top), $BV^{\bullet+}$ -doped 1min (middle) and $BV^{\bullet+}$ -doped 24hr (bottom) pNDI-2T films in the range of 1100 to 850 eV. No significant zinc species can be detected for the doped films, indicating *n*-doping of pNDI-2T is a result of $BV^{\bullet+}$.

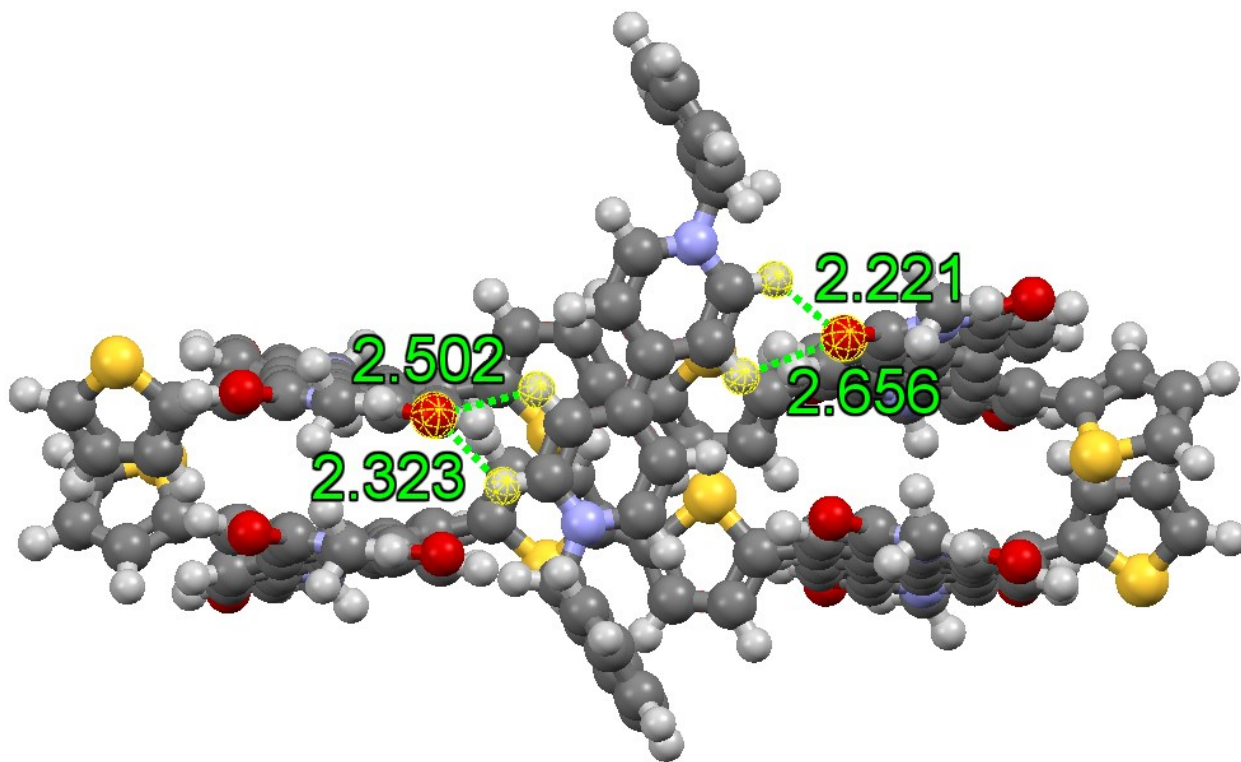


Figure S5. Side view of the dimer of pNDI-2T (2 repeating units) plus $BV^{\bullet+}$ molecule showing pseudo hydrogen-bonding between four pyridinium hydrogens of $BV^{\bullet+}$ molecule and two imide oxygens of two PDI cores.

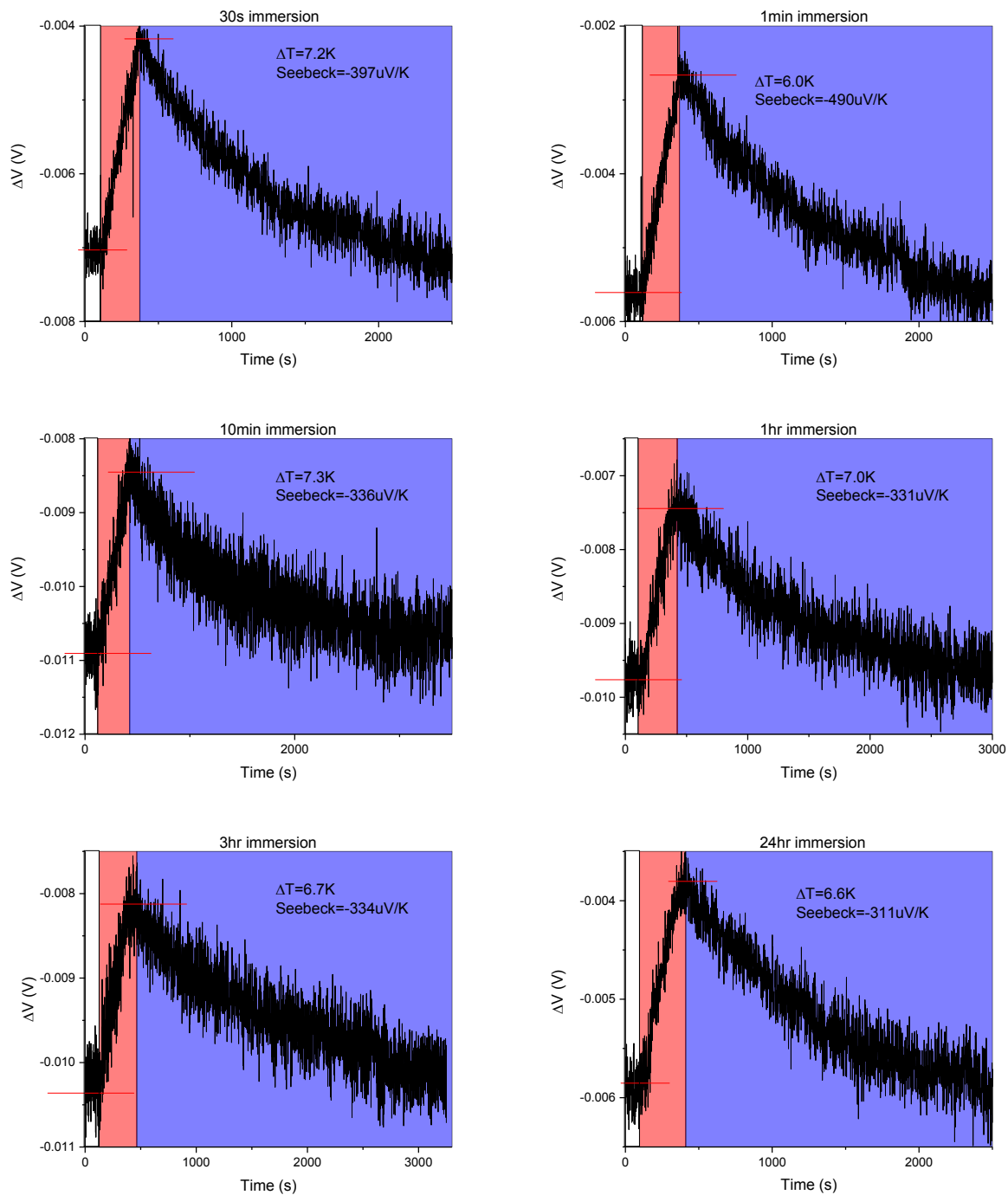


Figure S6. Representative Seebeck coefficient measurements of $\text{BV}^{\bullet+}$ -doped pPDI-2T films for each immersion time. White box: no heating. Red box: heating. Blue box: natural cooling.

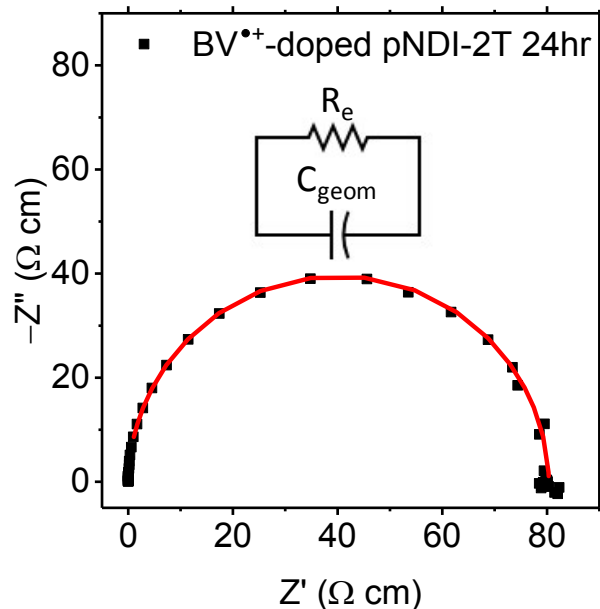


Figure S7. Nyquist plot for the impedance spectroscopy of BV^{•+}-doped pNDI-2T film. An almost perfect semicircle was observed. Red line – Fitting using the equivalent circuit shown.

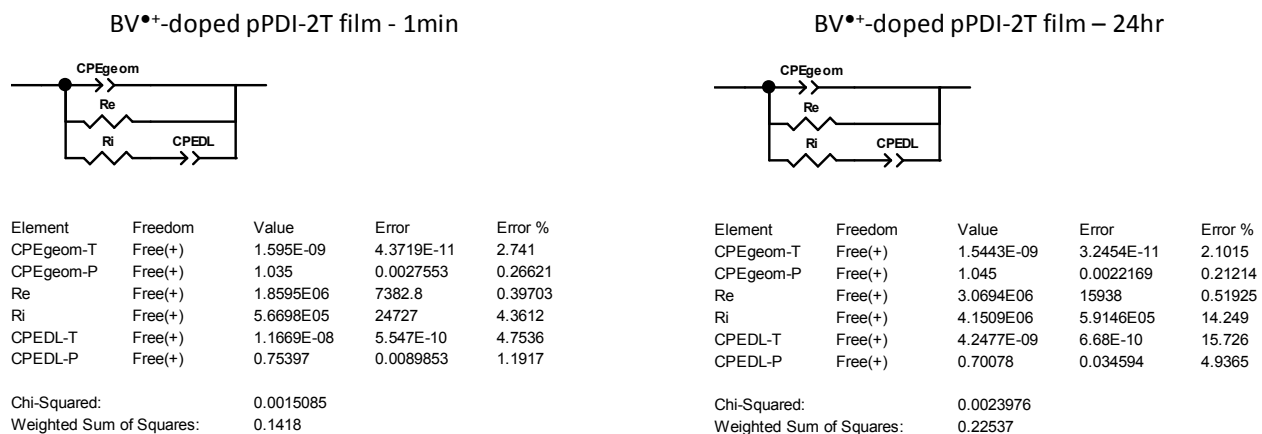


Figure S8. Fitting results for electrochemical impedance spectroscopy. Left – 1min immersion. Right – 24hr immersion.

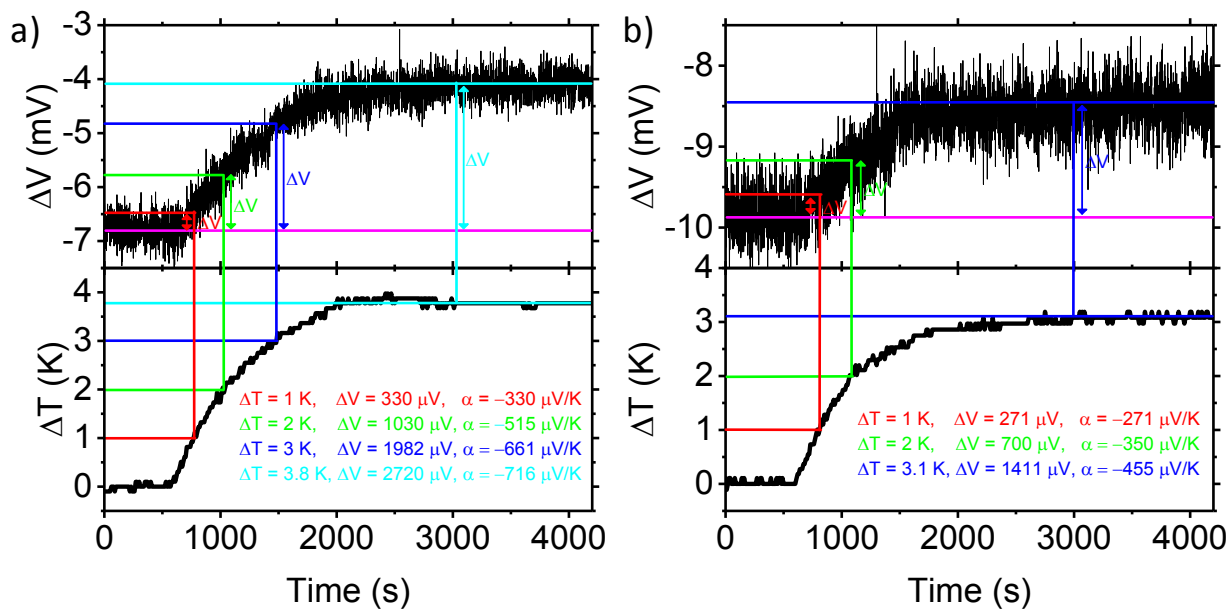


Figure S9. Time-dependent Seebeck coefficient (α) measurements of BV \bullet^+ -doped pPDI-2T films for a) 1 min and b) 24 hr immersion held at constant ΔT after temperature stabilization. The Seebeck coefficients at different ΔT marked by different colors are shown.

Geometry optimized coordinates for dimer of pPDI-2T (2 repeating units)

Center Number	Atomic Number	Atomic Type	Coordinates (Angstroms)		
			X	Y	Z
1	6	0	-3.744097	-6.953900	-0.338254
2	6	0	-3.786550	-5.586242	0.005531
3	6	0	-4.973480	-5.029740	0.505084
4	6	0	-6.151721	-5.843016	0.537089
5	6	0	-6.053618	-7.230052	0.259677
6	6	0	-4.831187	-7.770074	-0.185528
7	6	0	-5.097030	-3.663965	1.058734
8	6	0	-7.434651	-5.307549	0.874804
9	6	0	-7.594322	-3.844981	0.994730
10	6	0	-6.398974	-3.083881	1.197236
11	6	0	-8.829142	-3.179065	0.980300
12	6	0	-8.478663	-6.189713	1.107247
13	6	0	-8.346121	-7.566874	0.902667
14	6	0	-7.162452	-8.083509	0.439780
15	1	0	-9.178111	-8.238430	1.078881
16	1	0	-2.823588	-7.383444	-0.716859
17	6	0	-4.002321	-2.921891	1.475474
18	6	0	-4.116244	-1.588574	1.877360
19	6	0	-5.341608	-0.971025	1.883298
20	6	0	-6.495610	-1.718527	1.569865
21	1	0	-3.239388	-1.019417	2.162913
22	6	0	-8.884027	-1.809751	1.312735
23	1	0	-9.841538	-1.302971	1.320428
24	6	0	-7.759576	-1.099794	1.639292
25	1	0	-9.431935	-5.814064	1.446225
26	1	0	-3.019476	-3.361908	1.475224
27	6	0	-7.063536	-9.536873	0.164145
28	6	0	-4.707408	-9.211607	-0.505402
29	6	0	-5.430089	0.463071	2.232938
30	6	0	-7.886233	0.315359	2.047501
31	7	0	-5.834310	-10.004046	-0.303875
32	7	0	-6.713554	1.010809	2.313482
33	8	0	-3.676308	-9.704252	-0.922775
34	8	0	-4.441818	1.142180	2.447025
35	8	0	-8.966237	0.872100	2.154445
36	6	0	-5.690620	-11.424964	-0.609301
37	6	0	-6.857619	2.409057	2.710303
38	1	0	-4.896689	-11.855929	0.001936
39	1	0	-6.640719	-11.906570	-0.397367
40	1	0	-5.420643	-11.551989	-1.658447
41	1	0	-5.860756	2.818092	2.847554
42	1	0	-7.395022	2.960647	1.938377
43	1	0	-7.428124	2.473475	3.638285
44	8	0	-8.004617	-10.289549	0.332643
45	6	0	-2.514680	-4.849975	-0.174742
46	6	0	-2.203698	-3.825321	-1.019547
47	16	0	-1.148415	-5.278704	0.814336
48	6	0	-0.873633	-3.346924	-0.846281
49	1	0	-2.923382	-3.376991	-1.694264
50	6	0	-0.177617	-4.008397	0.128720
51	1	0	-0.462266	-2.510862	-1.399248
52	6	0	-10.137194	-3.784168	0.637867
53	6	0	-11.237707	-3.862203	1.446351
54	16	0	-10.496430	-4.393674	-0.947351
55	6	0	-12.365116	-4.451728	0.805827
56	1	0	-11.231097	-3.526967	2.476940
57	6	0	-12.105493	-4.794817	-0.485173

58	1	0	-13.321757	-4.608782	1.288088
59	1	0	-12.777048	-5.243490	-1.203289
60	6	0	1.143444	-3.747052	0.679681
61	16	0	2.418925	-3.008097	-0.247989
62	6	0	1.551592	-3.987021	1.963951
63	6	0	3.494479	-3.027502	1.119249
64	6	0	2.882306	-3.566924	2.213640
65	1	0	0.903221	-4.416101	2.717939
66	6	0	4.824159	-2.363688	1.122554
67	1	0	3.375353	-3.654104	3.174322
68	6	0	6.083740	-2.975089	1.012890
69	6	0	4.725262	-0.984314	1.396860
70	6	0	6.312205	-4.412935	0.720109
71	6	0	7.248279	-2.164594	1.248500
72	1	0	3.746117	-0.522876	1.444828
73	6	0	5.821810	-0.219668	1.676774
74	6	0	7.648795	-4.889761	0.496922
75	6	0	5.274661	-5.328624	0.617072
76	6	0	8.576048	-2.691608	1.160546
77	6	0	7.100305	-0.810677	1.655067
78	6	0	5.636668	1.198054	2.054347
79	6	0	8.791807	-4.032929	0.588203
80	6	0	7.835786	-6.253702	0.145137
81	6	0	5.480519	-6.677428	0.314329
82	1	0	4.260481	-5.013387	0.780988
83	6	0	9.624093	-1.941299	1.673685
84	6	0	8.210775	-0.047032	2.069637
85	7	0	6.767047	1.899370	2.448675
86	8	0	4.545341	1.744029	2.039395
87	6	0	10.038463	-4.508881	0.152955
88	6	0	9.126063	-6.734323	-0.156050
89	6	0	6.745320	-7.144729	0.075015
90	1	0	4.644961	-7.364808	0.253465
91	6	0	9.451627	-0.632344	2.124294
92	1	0	10.614435	-2.365672	1.715857
93	6	0	8.056806	1.359722	2.499613
94	6	0	6.567883	3.285476	2.861748
95	6	0	10.184643	-5.870397	-0.181508
96	6	0	11.243896	-3.677913	-0.065972
97	6	0	9.352749	-8.156508	-0.507420
98	6	0	6.934568	-8.576797	-0.261331
99	1	0	10.288958	-0.057066	2.501388
100	8	0	9.000254	2.028201	2.880249
101	1	0	7.531263	3.680556	3.171018
102	1	0	6.164540	3.868094	2.032124
103	1	0	5.855681	3.325589	3.687134
104	1	0	11.153460	-6.249149	-0.486010
105	6	0	11.399276	-2.627156	-0.922929
106	16	0	12.748125	-4.061600	0.724263
107	7	0	8.239574	-8.990879	-0.527418
108	8	0	10.455843	-8.598316	-0.769713
109	8	0	6.001201	-9.355986	-0.303176
110	6	0	12.728681	-2.114424	-0.935274
111	1	0	10.587407	-2.221901	-1.514353
112	6	0	13.563922	-2.783484	-0.095851
113	6	0	8.480680	-10.390626	-0.866980
114	1	0	13.044575	-1.282881	-1.552966
115	1	0	14.613852	-2.605519	0.087060
116	1	0	9.181228	-10.827793	-0.154371
117	1	0	7.526328	-10.907998	-0.832759
118	1	0	8.919244	-10.459629	-1.863436
119	6	0	-4.734964	0.988520	-1.406767
120	6	0	-4.829294	2.368916	-1.135900

121	6	0	-6.086908	2.983438	-1.022087
122	6	0	-7.254770	2.173575	-1.242571
123	6	0	-7.112389	0.817764	-1.644743
124	6	0	-5.834922	0.224945	-1.676182
125	6	0	-6.310862	4.424073	-0.740549
126	6	0	-8.580965	2.702506	-1.142204
127	6	0	-8.788595	4.046461	-0.572590
128	6	0	-7.643769	4.902798	-0.500850
129	6	0	-10.029171	4.526152	-0.124216
130	6	0	-9.635358	1.950822	-1.640170
131	6	0	-9.468845	0.640012	-2.087782
132	6	0	-8.227927	0.053799	-2.044811
133	1	0	-10.310853	0.064011	-2.453205
134	1	0	-3.757054	0.525039	-1.459838
135	6	0	-5.272301	5.341387	-0.667238
136	6	0	-5.473426	6.692689	-0.372372
137	6	0	-6.733615	7.160924	-0.111941
138	6	0	-7.824949	6.269213	-0.156111
139	1	0	-4.637570	7.381333	-0.334098
140	6	0	-10.168934	5.889150	0.206976
141	1	0	-11.133074	6.270318	0.522920
142	6	0	-9.110151	6.752091	0.162147
143	1	0	-10.625915	2.375543	-1.672498
144	1	0	-4.261500	5.025212	-0.849352
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146	6	0	-5.655020	-1.194154	-2.051179
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148	6	0	-9.330769	8.176464	0.508345
149	7	0	-6.789863	-1.894994	-2.433538
150	7	0	-8.217570	9.011099	0.502907
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155	6	0	-8.453076	10.413248	0.836147
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161	1	0	-8.871559	10.489997	1.840564
162	8	0	-9.027858	-2.023487	-2.839638
163	6	0	-3.497242	3.028331	-1.136803
164	6	0	-2.878000	3.548883	-2.236392
165	16	0	-2.427684	3.024726	0.235050
166	6	0	-1.546976	3.968313	-1.986893
167	1	0	-3.366283	3.623285	-3.200558
168	6	0	-1.145548	3.745867	-0.697454
169	1	0	-0.893530	4.383785	-2.744112
170	6	0	-11.234294	3.698695	0.109673
171	6	0	-11.384057	2.650926	0.971210
172	16	0	-12.744769	4.082338	-0.668837
173	6	0	-12.714171	2.140572	0.996959
174	1	0	-10.567916	2.245214	1.556283
175	6	0	-13.555703	2.808700	0.163067
176	1	0	-13.025697	1.311212	1.619807
177	1	0	-14.607610	2.632188	-0.009754
178	6	0	0.174596	4.008912	-0.144853
179	16	0	1.148975	5.274244	-0.834570
180	6	0	0.867604	3.350472	0.834142
181	6	0	2.512726	4.847380	0.158824
182	6	0	2.198351	3.826897	1.007306
183	1	0	0.453625	2.517547	1.389775

184	6	0	3.786290	5.581219	-0.019520
185	1	0	2.916114	3.380163	1.684985
186	6	0	4.974007	5.021428	-0.513442
187	6	0	3.745292	6.949589	0.321637
188	6	0	5.096405	3.655065	-1.065686
189	6	0	6.154179	5.832028	-0.541889
190	1	0	2.824099	7.381776	0.695565
191	6	0	4.834887	7.763083	0.172508
192	6	0	6.397497	3.072137	-1.200489
193	6	0	4.001138	2.915396	-1.485029
194	6	0	7.437200	5.293271	-0.874128
195	6	0	6.058086	7.219622	-0.266443
196	6	0	4.712960	9.205341	0.489835
197	6	0	7.593880	3.830239	-0.993023
198	6	0	6.492302	1.706872	-1.573976
199	6	0	4.113448	1.582296	-1.888097
200	1	0	3.019115	3.357411	-1.486324
201	6	0	8.484120	6.172856	-1.103302
202	6	0	7.169723	8.070265	-0.442432
203	7	0	5.842768	9.994811	0.293007
204	8	0	3.680974	9.700979	0.901458
205	6	0	8.826951	3.161116	-0.973641
206	6	0	7.755043	1.085077	-1.639086
207	6	0	5.337649	0.962332	-1.891846
208	1	0	3.236198	1.015225	-2.176531
209	6	0	8.354082	7.550457	-0.900033
210	1	0	9.437729	5.794784	-1.438673
211	6	0	7.073179	9.524084	-0.168300
212	6	0	5.701042	11.416422	0.596098
213	6	0	8.879802	1.791959	-1.307170
214	6	0	10.134908	3.762300	-0.624307
215	6	0	7.880042	-0.330228	-2.047538
216	6	0	5.424278	-0.471331	-2.243751
217	1	0	9.188381	8.219915	-1.073264
218	8	0	8.017069	10.274191	-0.332543
219	1	0	6.653352	11.895460	0.388293
220	1	0	4.911172	11.848586	-0.019537
221	1	0	5.426235	11.545349	1.643761
222	1	0	9.836014	1.282681	-1.311011
223	6	0	11.239327	3.838448	-1.427492
224	16	0	10.488130	4.369770	0.963105
225	7	0	6.706717	-1.021984	-2.320289
226	8	0	8.958906	-0.890183	-2.149205
227	8	0	4.435253	-1.147857	-2.462673
228	6	0	12.365494	4.423603	-0.780893
229	1	0	11.236474	3.504870	-2.458552
230	6	0	12.101099	4.765092	0.509422
231	6	0	6.848931	-2.419895	-2.719017
232	1	0	13.324756	4.578665	-1.258515
233	1	0	12.770838	5.210124	1.231351
234	1	0	7.390071	-2.971760	-1.950081
235	1	0	5.851533	-2.828711	-2.852221
236	1	0	7.415080	-2.483851	-3.649748

Geometry optimized coordinates for BV^{•+} + dimer of pPDI-2T (2 repeating units)

Center Number	Atomic Number	Atomic Type	Coordinates (Angstroms)		
			X	Y	Z
1	6	0	-2.728581	-8.633002	-0.449865
2	6	0	-2.942030	-7.277896	-0.117723
3	6	0	-4.210623	-6.856503	0.308104
4	6	0	-5.292005	-7.794469	0.272795
5	6	0	-5.026276	-9.161114	0.005014
6	6	0	-3.726981	-9.563150	-0.360274
7	6	0	-4.514658	-5.518265	0.859836
8	6	0	-6.643626	-7.405461	0.532196
9	6	0	-6.969228	-5.971409	0.653547
10	6	0	-5.878931	-5.087966	0.937970
11	6	0	-8.267313	-5.444649	0.570981
12	6	0	-7.597802	-8.397517	0.697473
13	6	0	-7.303730	-9.751069	0.502229
14	6	0	-6.043742	-10.131733	0.116517
15	1	0	-8.066611	-10.510612	0.626080
16	1	0	-1.745958	-8.959167	-0.771091
17	6	0	-3.530976	-4.665917	1.339599
18	6	0	-3.815238	-3.365854	1.762767
19	6	0	-5.103004	-2.890152	1.724882
20	6	0	-6.148507	-3.752151	1.333340
21	1	0	-3.023205	-2.711041	2.106693
22	6	0	-8.493968	-4.101009	0.932625
23	1	0	-9.501611	-3.704777	0.894537
24	6	0	-7.477498	-3.281095	1.345989
25	1	0	-8.605762	-8.130146	0.975930
26	1	0	-2.505477	-4.993247	1.378091
27	6	0	-5.768702	-11.565652	-0.149148
28	6	0	-3.425794	-10.982868	-0.667138
29	6	0	-5.372681	-1.491308	2.115702
30	6	0	-7.786717	-1.906107	1.786686
31	7	0	-4.468398	-11.894591	-0.534608
32	7	0	-6.715384	-1.103882	2.166124
33	8	0	-2.321761	-11.354140	-1.016648
34	8	0	-4.482418	-0.705187	2.391615
35	8	0	-8.923760	-1.465312	1.830971
36	6	0	-4.151115	-13.291238	-0.824806
37	6	0	-7.042255	0.239556	2.632504
38	1	0	-3.346339	-13.629541	-0.171300
39	1	0	-5.050826	-13.876475	-0.658957
40	1	0	-3.816055	-13.387406	-1.858331
41	1	0	-6.107595	0.763620	2.809509
42	1	0	-7.638892	0.758137	1.882709
43	1	0	-7.626996	0.180118	3.552269
44	8	0	-6.632413	-12.414545	-0.039814
45	6	0	-1.751666	-6.406716	-0.245254
46	6	0	-1.521507	-5.357566	-1.086258
47	16	0	-0.371099	-6.703109	0.772694
48	6	0	-0.245894	-4.758407	-0.890414
49	1	0	-2.261486	-4.986277	-1.784716
50	6	0	0.493020	-5.353687	0.096079
51	1	0	0.099116	-3.893408	-1.444317
52	6	0	-9.472316	-6.178905	0.122293
53	6	0	-10.619134	-6.387509	0.837828
54	16	0	-9.635310	-6.798398	-1.491279
55	6	0	-11.621131	-7.083981	0.103097
56	1	0	-10.731329	-6.072723	1.868729
57	6	0	-11.223898	-7.376047	-1.165021

58	1	0	-12.589978	-7.352277	0.505006
59	1	0	-11.782708	-7.883679	-1.938259
60	6	0	1.788992	-4.981741	0.640148
61	16	0	2.944177	-4.051701	-0.273957
62	6	0	2.269615	-5.254847	1.892438
63	6	0	4.064204	-4.032821	1.058052
64	6	0	3.555838	-4.707087	2.130204
65	1	0	1.703476	-5.803517	2.635217
66	6	0	5.307543	-3.221465	1.047029
67	1	0	4.090263	-4.802443	3.067562
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69	6	0	5.052551	-1.846463	1.218933
70	6	0	7.020380	-5.107725	0.770629
71	6	0	7.687569	-2.760960	1.292193
72	1	0	4.029462	-1.490661	1.193123
73	6	0	6.047874	-0.952056	1.495692
74	6	0	8.409879	-5.469077	0.739705
75	6	0	6.090169	-6.103257	0.505761
76	6	0	9.061867	-3.157804	1.349705
77	6	0	7.377226	-1.407715	1.599340
78	6	0	5.698248	0.458277	1.758289
79	6	0	9.454634	-4.504051	0.898182
80	6	0	8.755934	-6.822706	0.481591
81	6	0	6.445789	-7.437167	0.289098
82	1	0	5.042737	-5.866344	0.469398
83	6	0	9.984850	-2.278403	1.898724
84	6	0	8.372218	-0.511957	2.041437
85	7	0	6.718955	1.293308	2.185152
86	8	0	4.562773	0.890544	1.624523
87	6	0	10.777955	-4.880482	0.620196
88	6	0	10.110492	-7.197907	0.376813
89	6	0	7.764481	-7.806285	0.291815
90	1	0	5.688126	-8.190835	0.109681
91	6	0	9.653726	-0.967283	2.236451
92	1	0	11.001123	-2.601773	2.057541
93	6	0	8.052029	0.895010	2.354770
94	6	0	6.358870	2.673518	2.490626
95	6	0	11.084885	-6.240894	0.412423
96	6	0	11.907025	-3.944437	0.426010
97	6	0	10.500995	-8.610909	0.147806
98	6	0	8.116659	-9.230195	0.062080
99	1	0	10.398126	-0.290429	2.639123
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103	1	0	5.521804	2.685643	3.189057
104	1	0	12.112034	-6.542778	0.243200
105	6	0	12.012843	-2.939597	-0.492672
106	16	0	13.385338	-4.117279	1.328939
107	7	0	9.474599	-9.541211	0.019554
108	8	0	11.662958	-8.961412	0.072361
109	8	0	7.263214	-10.084863	-0.079518
110	6	0	13.281851	-2.293532	-0.463108
111	1	0	11.205666	-2.660540	-1.159076
112	6	0	14.121957	-2.817451	0.469961
113	6	0	9.875850	-10.929064	-0.198733
114	1	0	13.554732	-1.476543	-1.119397
115	1	0	15.135044	-2.521380	0.701356
116	1	0	10.503570	-11.264493	0.627411
117	1	0	8.972461	-11.528572	-0.262872
118	1	0	10.453360	-11.007006	-1.120792
119	6	0	-4.446931	-0.850949	-1.533556
120	6	0	-4.715314	0.487760	-1.184480

121	6	0	-6.038696	0.914092	-0.991588
122	6	0	-7.099456	0.019181	-1.352907
123	6	0	-6.787087	-1.280818	-1.833293
124	6	0	-5.449841	-1.724723	-1.844160
125	6	0	-6.417459	2.247885	-0.475129
126	6	0	-8.473357	0.421996	-1.342513
127	6	0	-8.855193	1.716606	-0.744507
128	6	0	-7.798377	2.631326	-0.422575
129	6	0	-10.177851	2.082930	-0.447080
130	6	0	-9.401233	-0.395927	-1.970649
131	6	0	-9.074301	-1.663253	-2.457027
132	6	0	-7.788589	-2.129350	-2.346298
133	1	0	-9.826576	-2.294972	-2.914508
134	1	0	-3.420587	-1.187100	-1.623108
135	6	0	-5.477571	3.126239	0.048083
136	6	0	-5.810618	4.403022	0.497422
137	6	0	-7.116335	4.826218	0.475118
138	6	0	-8.121867	3.930915	0.053628
139	1	0	-5.041851	5.067949	0.872755
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143	1	0	-10.420341	-0.063451	-2.080923
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150	7	0	-8.783792	6.545105	0.949101
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165	16	0	-2.189470	1.204950	-0.122378
166	6	0	-1.948016	2.851352	-2.077189
167	1	0	-3.923398	2.499878	-3.012753
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172	16	0	-12.771198	1.459233	-1.330161
173	6	0	-12.768244	-0.547271	0.258918
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177	1	0	-14.570265	-0.157845	-0.941963
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223	6	0	11.242564	3.489222	-1.396400
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233	1	0	12.349497	5.248299	1.244860
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238	6	0	-1.253442	7.778057	2.461651
239	6	0	-1.718480	7.314766	3.650177
240	6	0	-3.911021	7.221872	2.811174
241	6	0	-3.498320	7.692523	1.603817
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243	1	0	-1.073996	7.159471	4.505862
244	1	0	-4.952223	6.978848	2.981773
245	1	0	-4.269931	7.798985	0.853962
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253	1	0	-2.757856	9.579118	-2.964225
254	1	0	1.174653	9.356401	-1.592132
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257	6	0	-3.495950	6.474866	5.131613
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259	1	0	-4.583640	6.403362	5.069894
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261	1	0	0.776906	10.121481	-3.609361
262	1	0	-0.472996	9.190857	-4.429891
263	6	0	-3.076611	7.307213	6.318150
264	6	0	-3.519452	8.624578	6.449373
265	6	0	-2.254354	6.763163	7.300988
266	6	0	-3.143276	9.383149	7.548029
267	1	0	-4.161853	9.057251	5.687417
268	6	0	-1.879964	7.522131	8.405702
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