Supporting Information

Benzyl Viologen Radical Cation as *n*-Dopant for Poly(Naphthalenediimide-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 polymers 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. 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 Avantage v4.12. EPR spectra were measured using JEOL FA200 ESR spectrometer.

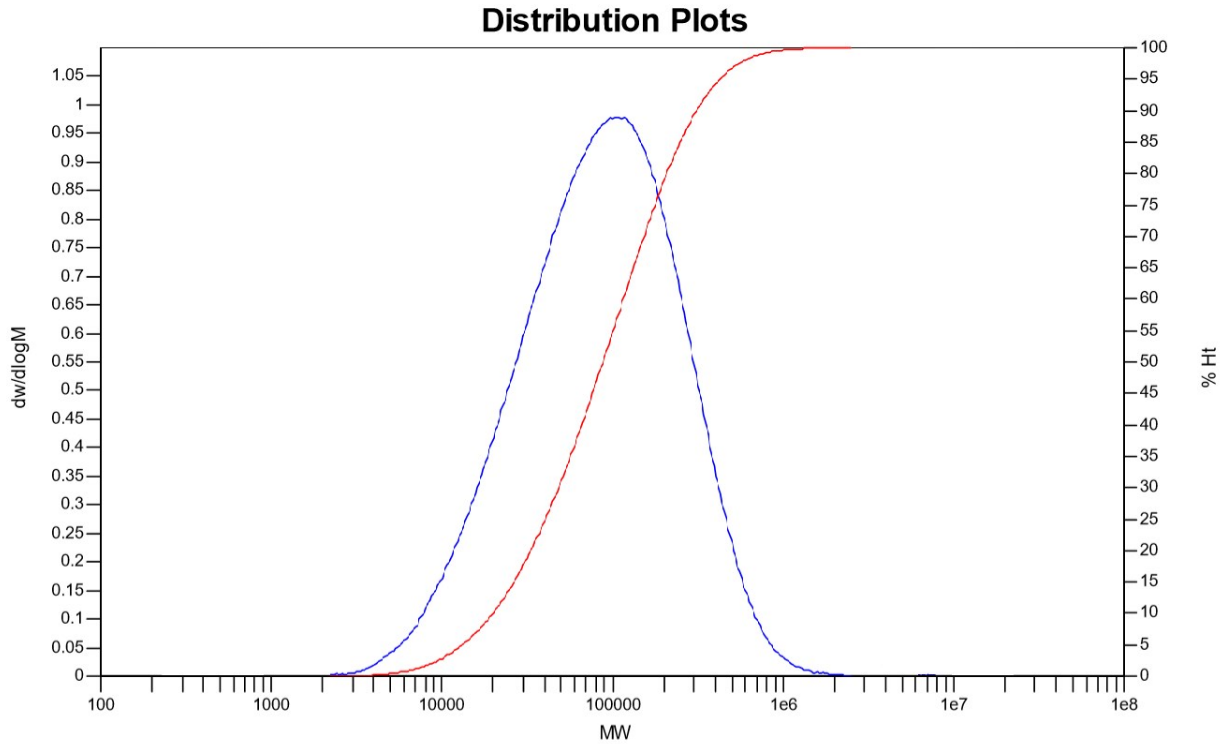

Figure S1. GPC traces of pNDI-2T.

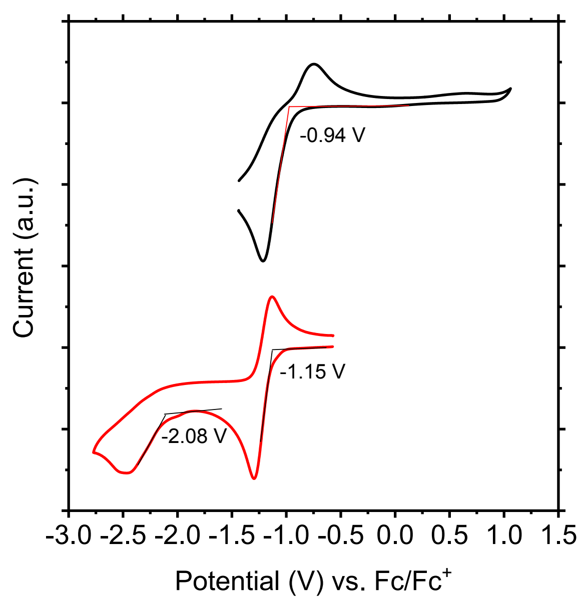

Figure S2. Cyclic voltammograms of pNDI-2T film (black) and solution benzyl viologen dichloride (red) in 0.1M tetrabutylammonium hexafluorophosphate in acetonitrile.

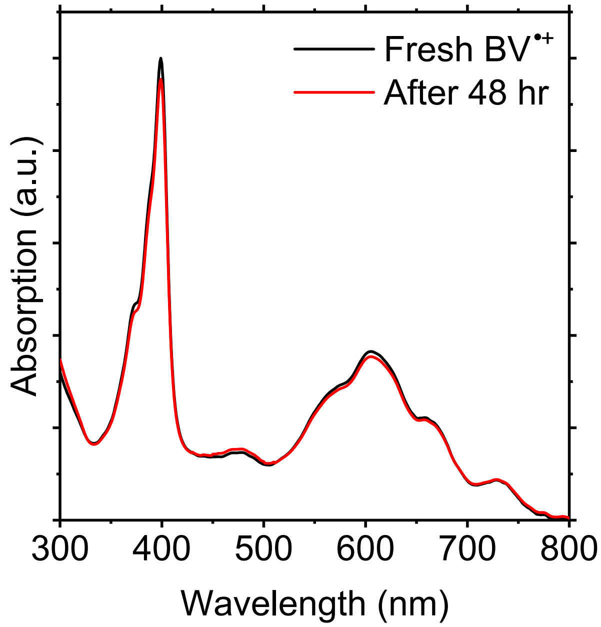

Figure S3. Stability of zinc reduced $BV^{\bullet +}$ solution with excess zinc removed.

Peak	Pristine $q_{x,y}$ (Å)	Doped $q_{x,y}$ (Å)	Pristine q_z (Å)	Doped q_z (Å)	Literature (Å)
(100)	24.7	23.7	24.3	24.3	25.5
(001)	14.3	14.6	not observed	not observed	13.9
(001’)	7.3	7.3	7.1	7.1	7.1
(010)	3.91	3.91	3.95	4.16	3.9

Table S1. Peak position of the first order peaks in the pristine and doped pNDI-2T films, as well as those reported in literature (Adv. Mater., 2010, 22, 4359-4363).

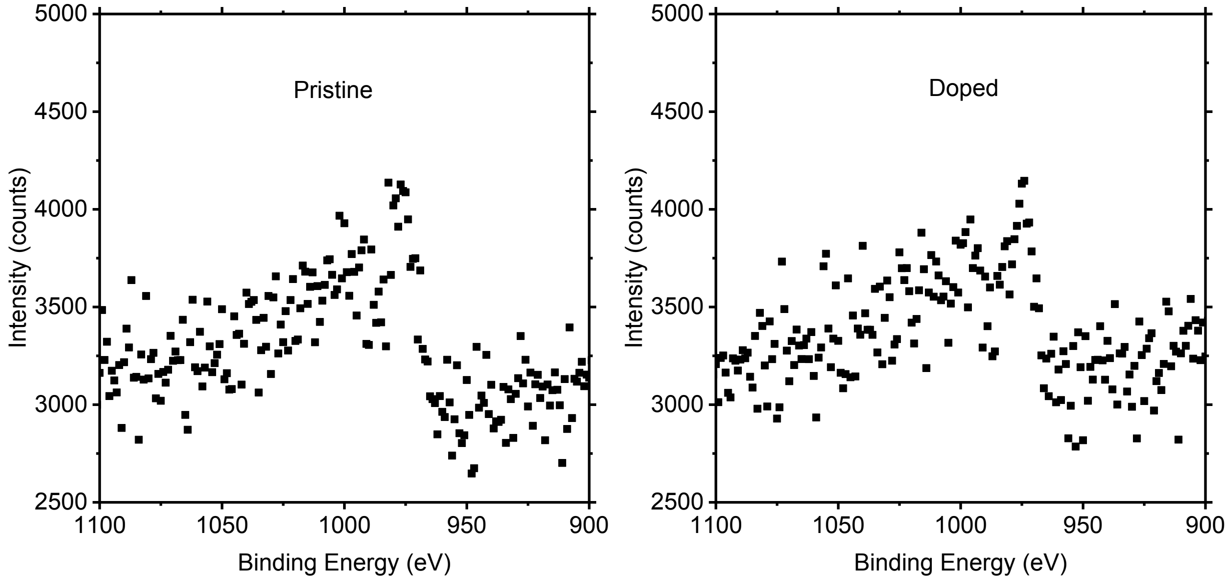

Figure S4. XPS binding energy spectra in the region on 1100-900 eV. No significant zinc species were observed in the doped sample.

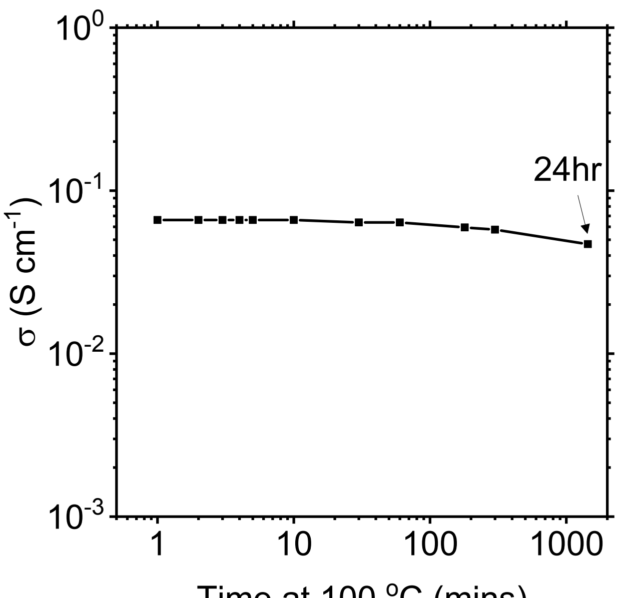

Fig. S5. Electrical conductivity stability of $BV^{\bullet+}$-doped pNDI-2T film (24 hr immersion) at 100 °C against time.

pNDI-2T	Total Energy (Hartree)	pNDI-2T + BV$^{\bullet+}$	Total Energy (Hartree)
$(pNDI-2T)_{0}^{0}$	-8514.36515600	$(pNDI-2T/BV)_{+1}^{+1}$	-9550.93303040
$(pNDI-2T)_{0}^{-1}$	-8514.44701725	$(pNDI-2T/BV)_{+1}^{0}$	-9551.07535708
$(pNDI-2T)_{-1}^{-1}$	-8514.45523186	$(pNDI-2T/BV)_{0}^{0}$	-9551.06985843
$(pNDI-2T)_{-1}^{0}$	-8514.35731448	$(pNDI-2T/BV)_{0}^{+1}$	-9550.91845293
λ_e	437 meV	λ_e	247 meV

Table S2. Tabulation of the total energies of the systems and the calculated reorganization energies. pNDI-2T denotes pair of pNDI-2T dimer. BV denotes benzyl viologen. Superscript denotes the charge of the system at which the calculation was carried out. Subscript denotes the charge of the system at which the geometry was optimized.

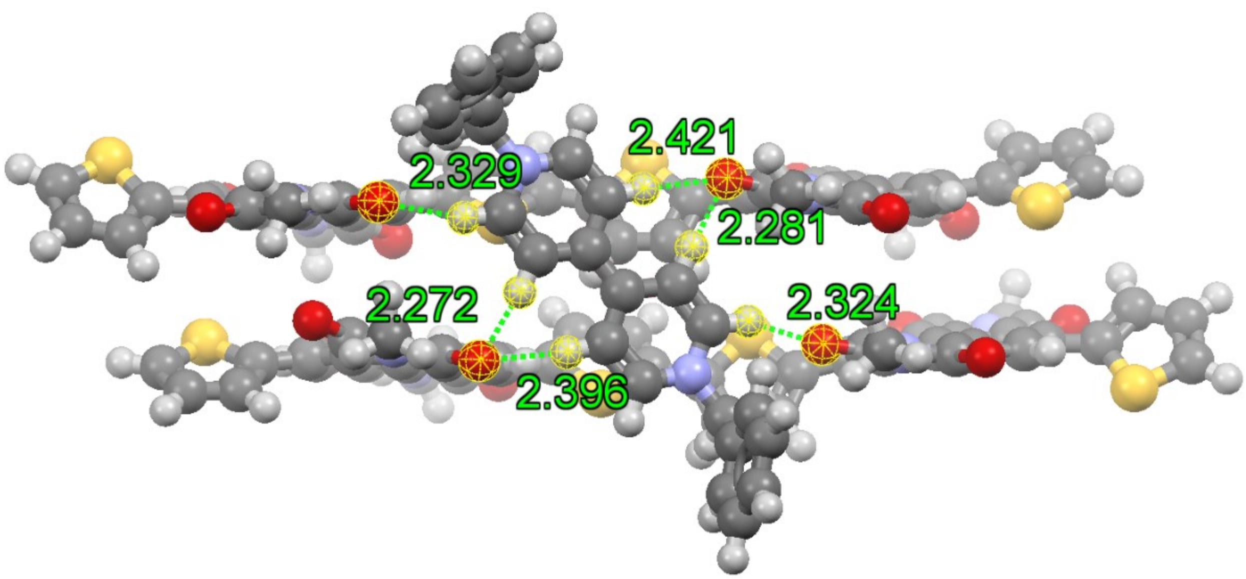

Figure S6. Side view of the pair of pNDI-2T with a BV$^{\bullet+}$ molecule showing the pseudo-hydrogen bonds between six hydrogens from the bipyridinium of BV$^{\bullet+}$ and four oxygens from the NDI moieties.

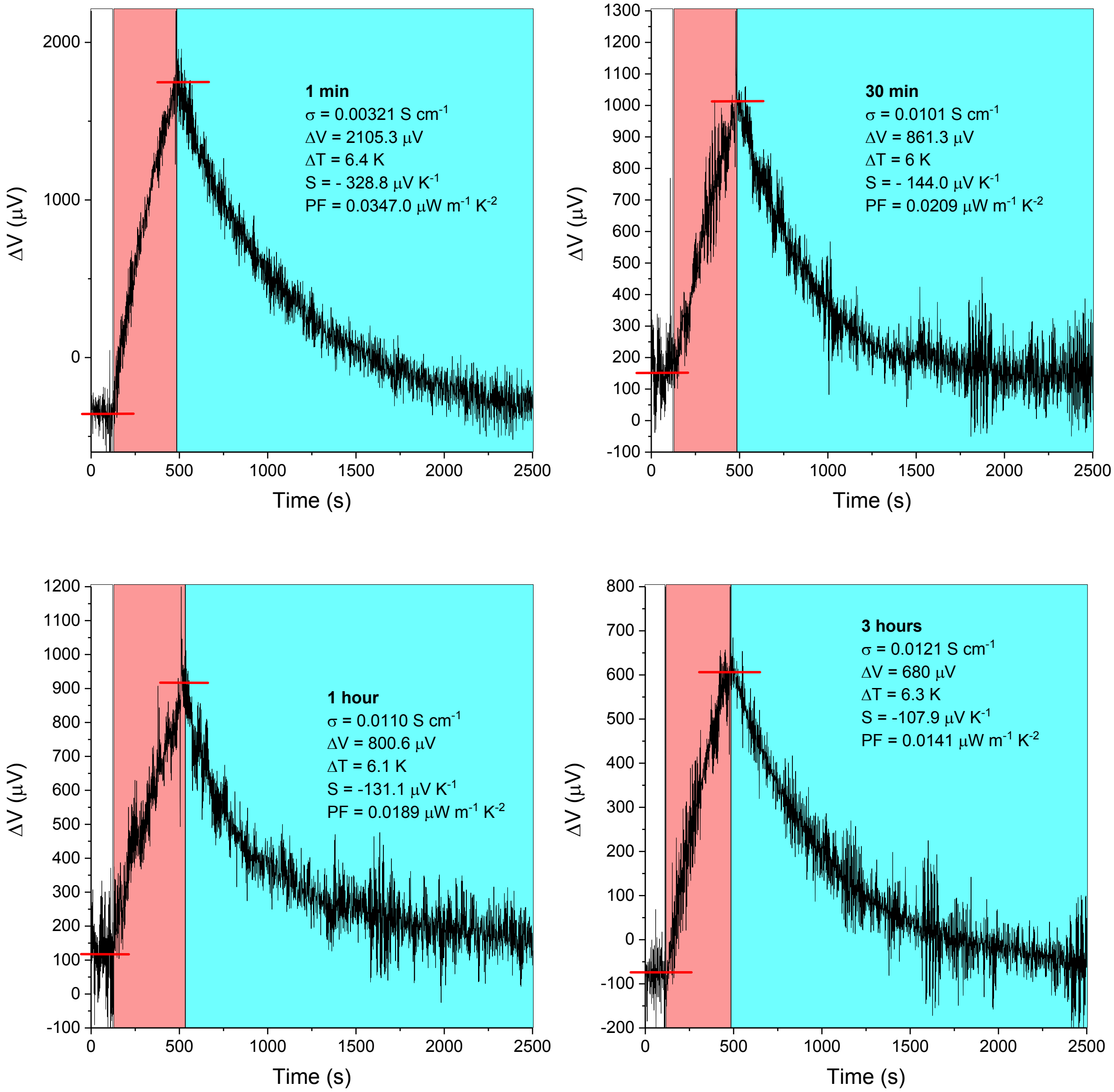

Figure S7. Representative thermovoltage measurements against time. All samples were hold at RT for about 100 s before heating. White region: holding at RT. Pink region: heating. Blue region: natural cooling.

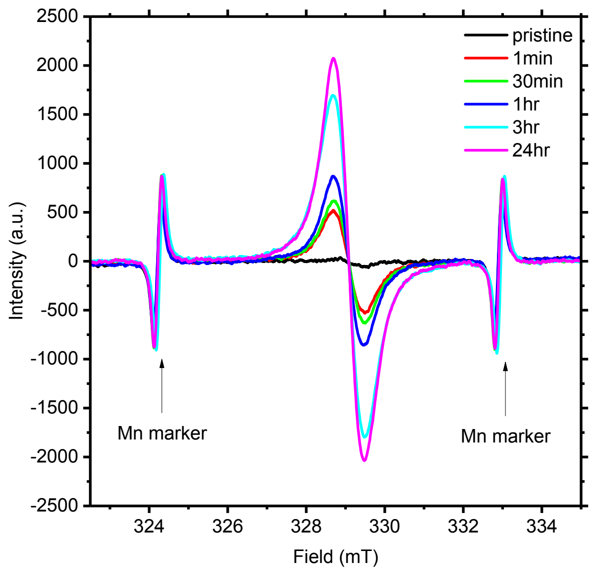

Fig. S8. Solid-state EPR spectra of the pristine and $BV^{\bullet+}$-doped pNDI-2T. The *g*-values are all about 2.004.

Coordinates for pair of pNDI-2T dimer

Center Number	Atomic Number	Atomic Type	Coordinates (Angstroms) X	Y	Z
1	6	0	-6.511640	-1.602109	1.385664
2	6	0	-7.834811	-1.905776	1.213852
3	6	0	-6.054203	-0.286004	1.648718
4	6	0	-8.830807	-0.917191	1.371748
5	6	0	-8.193347	-3.309216	0.904044
6	6	0	-7.011930	0.730351	1.688964
7	6	0	-10.213176	-1.239905	1.283655
8	6	0	-8.392468	0.399523	1.632390
9	7	0	-9.544095	-3.593337	0.865592
10	8	0	-7.345384	-4.162964	0.705877
11	6	0	-6.660894	2.182332	1.657133
12	6	0	-10.578432	-2.655715	0.977566
13	6	0	-11.169816	-0.250639	1.521642
14	6	0	-9.379213	1.380740	1.868890
15	6	0	-9.955372	-4.958045	0.544111
16	7	0	-7.652506	3.092324	2.018181
17	8	0	-5.570673	2.596771	1.305809
18	8	0	-11.718982	-3.043141	0.831927
19	6	0	-10.706176	1.052614	1.838694
20	6	0	-9.003735	2.785649	2.153532
21	1	0	-10.731805	-5.274159	1.238827
22	1	0	-10.359253	-4.996190	-0.469354
23	1	0	-9.078965	-5.594591	0.621457
24	6	0	-7.270322	4.504571	2.078294
25	8	0	-9.821679	3.633311	2.450702
26	1	0	-6.279477	4.581737	2.521207
27	1	0	-7.250188	4.930988	1.073121
28	1	0	-8.010668	5.021848	2.682364
29	1	0	-5.804645	-2.421741	1.326902
30	1	0	-11.422390	1.842369	2.031102
31	6	0	-4.622869	-0.116972	1.928800
32	6	0	-4.007619	0.703005	2.836418
33	16	0	-3.448427	-1.154597	1.167038
34	6	0	-2.607783	0.524458	2.905735
35	1	0	-4.543333	1.424531	3.437489
36	6	0	-2.139312	-0.441796	2.050234
37	1	0	-1.962396	1.102142	3.556373
38	6	0	-12.637127	-0.402388	1.466884
39	6	0	-13.438661	-0.880374	0.469243
40	16	0	-13.605760	0.247519	2.763766
41	6	0	-14.825120	-0.732492	0.742348
42	1	0	-13.044425	-1.330995	-0.430240
43	6	0	-15.065740	-0.147886	1.948315
44	1	0	-16.019066	0.059484	2.412653
45	1	0	-15.608771	-1.058693	0.069952
46	6	0	-0.770964	-0.846003	1.795092
47	16	0	0.535547	-0.276150	2.783894
48	6	0	-0.296463	-1.647339	0.788174
49	6	0	1.720925	-1.120170	1.820376
50	6	0	1.107339	-1.799944	0.804431
51	1	0	-0.934945	-2.097779	0.037833
52	6	0	3.156571	-0.902273	2.058676
53	1	0	1.652711	-2.383402	0.077083
54	6	0	4.171673	-1.856155	1.943423
55	6	0	3.539404	0.430893	2.358202
56	6	0	5.530828	-1.453881	2.052299
57	6	0	3.890069	-3.314298	1.783060
58	6	0	4.844680	0.823963	2.456697

59	1	0	2.781092	1.195663	2.474797
60	6	0	6.583409	-2.384960	1.914922
61	6	0	5.890394	-0.107744	2.282034
62	7	0	4.977489	-4.180400	1.622827
63	8	0	2.775193	-3.793900	1.802656
64	6	0	5.131353	2.255337	2.712574
65	6	0	7.886222	-2.001464	2.085568
66	6	0	6.307560	-3.806870	1.606150
67	6	0	7.248721	0.300353	2.360814
68	6	0	4.643590	-5.585129	1.398445
69	7	0	6.467681	2.631084	2.626035
70	8	0	4.253257	3.062633	2.946999
71	6	0	8.262799	-0.659519	2.342873
72	1	0	8.643950	-2.774480	2.029358
73	8	0	7.201557	-4.602297	1.371549
74	6	0	7.522705	1.769188	2.328553
75	1	0	4.002253	-5.940313	2.204207
76	1	0	4.104398	-5.693079	0.455820
77	1	0	5.573732	-6.144639	1.366854
78	6	0	6.782834	4.060729	2.674988
79	6	0	9.680586	-0.407014	2.640655
80	8	0	8.604887	2.240321	2.030546
81	1	0	7.690670	4.204137	3.258862
82	1	0	6.943474	4.443385	1.665313
83	1	0	5.939720	4.566257	3.137077
84	6	0	10.226022	0.419977	3.584242
85	16	0	10.930811	-1.335746	1.860882
86	6	0	11.638371	0.320771	3.675096
87	1	0	9.633402	1.083656	4.198845
88	6	0	12.156875	-0.585991	2.799760
89	1	0	12.240229	0.898834	4.364886
90	1	0	13.192638	-0.851620	2.644840
91	6	0	-3.539408	-0.428356	-2.358195
92	6	0	-4.844651	-0.821241	-2.457577
93	6	0	-3.156510	0.904316	-2.056422
94	6	0	-5.890382	0.110210	-2.281659
95	6	0	-5.131292	-2.252170	-2.715978
96	6	0	-4.171651	1.858036	-1.939733
97	6	0	-7.248686	-0.297738	-2.361473
98	6	0	-5.530808	1.455954	-2.049641
99	7	0	-6.467636	-2.628047	-2.630286
100	8	0	-4.253180	-3.059059	-2.951738
101	6	0	-3.890142	3.315884	-1.776629
102	6	0	-7.522699	-1.766613	-2.331632
103	6	0	-8.262759	0.662125	-2.342307
104	6	0	-6.583426	2.386828	-1.911157
105	6	0	-6.782785	-4.057604	-2.681641
106	7	0	-4.977626	4.181815	-1.615950
107	8	0	-2.775230	3.795490	-1.794349
108	8	0	-8.604959	-2.238197	-2.034605
109	6	0	-7.886207	2.003636	-2.082791
110	6	0	-6.307698	3.808284	-1.600263
111	1	0	-6.943497	-4.441909	-1.672603
112	1	0	-7.690561	-4.200050	-3.265838
113	1	0	-5.939619	-4.562366	-3.144478
114	6	0	-4.643791	5.586159	-1.389080
115	8	0	-7.201774	4.603376	-1.364810
116	1	0	-4.105440	5.692596	-0.445803
117	1	0	-4.001704	5.942520	-2.193721
118	1	0	-5.573906	6.145710	-1.357467
119	1	0	-2.781137	-1.192986	-2.475935
120	1	0	-8.643906	2.776612	-2.025645
121	6	0	-1.720793	1.121571	-1.817894

122	6	0	-1.106730	1.800293	-0.801510
123	16	0	-0.535836	0.277622	-2.782095
124	6	0	0.296985	1.646877	-0.785407
125	1	0	-1.651684	2.383539	-0.073708
126	6	0	0.770973	0.845972	-1.792911
127	1	0	0.935729	2.096367	-0.034725
128	6	0	-9.680456	0.410119	-2.640927
129	6	0	-10.225623	-0.415518	-3.585850
130	16	0	-10.930900	1.337882	-1.860316
131	6	0	-11.637934	-0.316054	-3.677093
132	1	0	-9.632852	-1.078393	-4.201172
133	6	0	-12.156676	0.589544	-2.800700
134	1	0	-13.192476	0.855044	-2.645808
135	1	0	-12.239588	-0.893120	-4.367895
136	6	0	2.139061	0.441012	-2.048270
137	16	0	3.448944	1.154899	-1.167129
138	6	0	2.606660	-0.526885	-2.902397
139	6	0	4.622561	0.115444	-1.927716
140	6	0	4.006461	-0.705832	-2.833594
141	1	0	1.960640	-1.105520	-3.551558
142	6	0	6.054112	0.284429	-1.648718
143	1	0	4.541530	-1.428675	-3.433649
144	6	0	7.011553	-0.732246	-1.687985
145	6	0	6.512069	1.600798	-1.387881
146	6	0	8.392215	-0.401705	-1.632625
147	6	0	6.660172	-2.184097	-1.653907
148	6	0	7.835408	1.904368	-1.217235
149	1	0	5.805355	2.420733	-1.329969
150	6	0	9.378583	-1.383529	-1.868181
151	6	0	8.831053	0.915285	-1.374189
152	7	0	7.651361	-3.094854	-2.014233
153	8	0	5.570036	-2.597791	-1.301453
154	6	0	8.194459	3.308193	-0.909747
155	6	0	10.705654	-1.055736	-1.839060
156	6	0	9.002604	-2.788737	-2.150656
157	6	0	10.213548	1.237759	-1.287302
158	6	0	7.268752	-4.507065	-2.072272
159	7	0	9.545314	3.591966	-0.872214
160	8	0	7.346803	4.162491	-0.712641
161	6	0	11.169800	0.247846	-1.524147
162	1	0	11.421559	-1.845977	-2.030634
163	8	0	9.820178	-3.637029	-2.447046
164	6	0	10.579358	2.653998	-0.983852
165	1	0	7.248950	-4.932158	-1.066531
166	1	0	6.277684	-4.584555	-2.514634
167	1	0	8.008676	-5.025365	-2.675983
168	6	0	9.957263	4.957068	-0.553273
169	6	0	12.637164	0.399238	-1.469980
170	8	0	11.720121	3.041487	-0.840025
171	1	0	10.364092	4.996236	0.458956
172	1	0	10.731634	5.272747	-1.250514
173	1	0	9.080509	5.593351	-0.628789
174	6	0	13.438972	0.878524	-0.473186
175	16	0	13.605402	-0.252860	-2.766025
176	6	0	14.825348	0.729889	-0.746288
177	1	0	13.044985	1.330574	0.425692
178	6	0	15.065619	0.143395	-1.951411
179	1	0	15.609190	1.056909	-0.074515
180	1	0	16.018815	-0.064928	-2.415588

Coordinates for pair of pNDI-2T dimers with $BV^{\bullet+}$

Center Number	Atomic Number	Atomic Type	Coordinates (Angstroms) X	Y	Z
1	6	0	-6.254926	0.274596	-1.579345
2	6	0	-7.523235	0.759614	-1.400542
3	6	0	-5.956975	-1.108509	-1.629689
4	6	0	-8.624588	-0.121653	-1.327663
5	6	0	-7.712710	2.225238	-1.338300
6	6	0	-7.017483	-1.998115	-1.460289
7	6	0	-9.956159	0.363662	-1.210486
8	6	0	-8.345807	-1.504396	-1.391828
9	7	0	-9.006276	2.662376	-1.230072
10	8	0	-6.761689	3.004145	-1.387528
11	6	0	-6.813985	-3.459537	-1.212910
12	6	0	-10.140935	1.834600	-1.084854
13	6	0	-11.027448	-0.533781	-1.252391
14	6	0	-9.442532	-2.393335	-1.419761
15	6	0	-9.264190	4.095346	-1.096073
16	7	0	-7.915328	-4.295823	-1.352084
17	8	0	-5.741855	-3.924757	-0.872309
18	8	0	-11.203590	2.376887	-0.877608
19	6	0	-10.721834	-1.915946	-1.387986
20	6	0	-9.233845	-3.861941	-1.477605
21	1	0	-10.046177	4.390310	-1.794028
22	1	0	-9.604688	4.314000	-0.082833
23	1	0	-8.339970	4.624240	-1.305134
24	6	0	-7.678955	-5.732761	-1.186962
25	8	0	-10.155495	-4.643380	-1.586671
26	1	0	-6.784891	-6.010972	-1.742277
27	1	0	-7.533264	-5.967076	-0.130860
28	1	0	-8.551357	-6.255450	-1.568507
29	1	0	-5.454763	0.994687	-1.694905
30	1	0	-11.527615	-2.639224	-1.422231
31	6	0	-4.563426	-1.474438	-1.923990
32	6	0	-4.062622	-2.444713	-2.748216
33	16	0	-3.272509	-0.481812	-1.311012
34	6	0	-2.651871	-2.408818	-2.877092
35	1	0	-4.685565	-3.174749	-3.246887
36	6	0	-2.067236	-1.406635	-2.147346
37	1	0	-2.086017	-3.114189	-3.473712
38	6	0	-12.462794	-0.212466	-1.165483
39	6	0	-13.156370	0.518367	-0.240053
40	16	0	-13.564900	-0.973839	-2.285144
41	6	0	-14.562847	0.474097	-0.428901
42	1	0	-12.671861	1.069058	0.552550
43	6	0	-14.926987	-0.283585	-1.500596
44	1	0	-15.920715	-0.462159	-1.885752
45	1	0	-15.271626	0.994770	0.202527
46	6	0	-0.670395	-1.060067	-1.968030
47	16	0	0.561926	-1.479857	-3.121728
48	6	0	-0.132300	-0.365463	-0.917368
49	6	0	1.793691	-0.708489	-2.166751
50	6	0	1.260734	-0.170716	-1.031435
51	1	0	-0.714757	-0.035666	-0.066683
52	6	0	3.227504	-0.786478	-2.483206
53	1	0	1.860711	0.328144	-0.284057
54	6	0	4.091595	0.308851	-2.464656
55	6	0	3.781100	-2.074305	-2.671917
56	6	0	5.493077	0.095909	-2.524190
57	6	0	3.599481	1.717048	-2.460273
58	6	0	5.133186	-2.282385	-2.745827

59	1	0	3.131131	-2.940791	-2.715428
60	6	0	6.401485	1.170965	-2.416135
61	6	0	6.036359	-1.200893	-2.649462
62	7	0	4.539684	2.731094	-2.281685
63	8	0	2.429530	2.026543	-2.613688
64	6	0	5.625096	-3.676426	-2.882518
65	6	0	7.746366	0.966662	-2.557439
66	6	0	5.914042	2.542079	-2.157268
67	6	0	7.440539	-1.415714	-2.699817
68	6	0	4.031727	4.101440	-2.231735
69	7	0	6.998997	-3.849862	-2.763540
70	8	0	4.868712	-4.611918	-3.047900
71	6	0	8.309675	-0.321707	-2.755547
72	1	0	8.390347	1.838133	-2.528004
73	8	0	6.657969	3.461670	-1.873274
74	6	0	7.918889	-2.825035	-2.551798
75	1	0	3.345302	4.260219	-3.061707
76	1	0	3.497181	4.281652	-1.296379
77	1	0	4.882964	4.773059	-2.296180
78	6	0	7.512955	-5.220075	-2.677671
79	6	0	9.742387	-0.381101	-3.068819
80	8	0	9.056899	-3.106618	-2.225376
81	1	0	8.429506	-5.293711	-3.260676
82	1	0	7.727423	-5.468687	-1.636658
83	1	0	6.748874	-5.882892	-3.073258
84	6	0	10.399106	-1.217715	-3.931767
85	16	0	10.837668	0.832356	-2.461381
86	6	0	11.770326	-0.898219	-4.096769
87	1	0	9.915586	-2.039835	-4.440674
88	6	0	12.147733	0.183884	-3.358712
89	1	0	12.444905	-1.449343	-4.739344
90	1	0	13.127238	0.633643	-3.282314
91	6	0	-3.231480	-0.326112	2.446653
92	6	0	-4.515898	0.146312	2.462165
93	6	0	-2.914902	-1.707788	2.389116
94	6	0	-5.608761	-0.746834	2.428592
95	6	0	-4.733810	1.609242	2.481029
96	6	0	-3.981216	-2.612882	2.411290
97	6	0	-6.946519	-0.267268	2.426023
98	6	0	-5.316978	-2.128436	2.420300
99	7	0	-6.042333	2.031487	2.330755
100	8	0	-3.814552	2.409268	2.583712
101	6	0	-3.781216	-4.093903	2.505409
102	6	0	-7.143299	1.181427	2.148655
103	6	0	-8.009023	-1.166135	2.557169
104	6	0	-6.416428	-3.016354	2.406711
105	6	0	-6.297353	3.463882	2.170955
106	7	0	-4.906046	-4.917685	2.419366
107	8	0	-2.696212	-4.613738	2.662592
108	8	0	-8.185767	1.661621	1.746635
109	6	0	-7.697922	-2.549358	2.505315
110	6	0	-6.213781	-4.482380	2.314801
111	1	0	-6.416439	3.710488	1.113447
112	1	0	-7.216785	3.720903	2.693569
113	1	0	-5.452406	4.002012	2.590593
114	6	0	-4.645890	-6.357342	2.428774
115	8	0	-7.147469	-5.252039	2.179999
116	1	0	-4.055417	-6.632436	1.553832
117	1	0	-4.083033	-6.621094	3.323496
118	1	0	-5.604973	-6.866058	2.411835
119	1	0	-2.432817	0.405733	2.445652
120	1	0	-8.491776	-3.285501	2.560019
121	6	0	-1.485508	-2.034427	2.237984

122	6	0	-0.879643	-2.941215	1.412497
123	16	0	-0.279375	-1.054291	3.036843
124	6	0	0.532305	-2.865962	1.421721
125	1	0	-1.431338	-3.649837	0.812834
126	6	0	1.021197	-1.895547	2.255765
127	1	0	1.169561	-3.514555	0.833128
128	6	0	-9.405327	-0.799263	2.819590
129	6	0	-9.893772	0.222814	3.589913
130	16	0	-10.712401	-1.814411	2.273172
131	6	0	-11.304130	0.202680	3.729405
132	1	0	-9.261669	0.967448	4.053825
133	6	0	-11.879950	-0.839509	3.064995
134	1	0	-12.928995	-1.087227	2.989358
135	1	0	-11.864541	0.929065	4.303967
136	6	0	2.402188	-1.503279	2.473720
137	16	0	3.590054	-1.751728	1.228877
138	6	0	2.967493	-0.882875	3.557038
139	6	0	4.835053	-1.007072	2.176555
140	6	0	4.347656	-0.601968	3.386416
141	1	0	2.415408	-0.671185	4.465272
142	6	0	6.231775	-0.984537	1.706875
143	1	0	4.968621	-0.138543	4.143183
144	6	0	7.016363	0.162768	1.615840
145	6	0	6.830635	-2.228343	1.408715
146	6	0	8.411237	0.039214	1.387424
147	6	0	6.428678	1.534049	1.642669
148	6	0	8.163159	-2.342984	1.107190
149	1	0	6.238698	-3.135971	1.440683
150	6	0	9.255150	1.167695	1.451953
151	6	0	9.010985	-1.214011	1.132042
152	7	0	7.299076	2.609194	1.713447
153	8	0	5.224302	1.741657	1.566185
154	6	0	8.693455	-3.693117	0.799600
155	6	0	10.608129	1.028067	1.319824
156	6	0	8.697251	2.521906	1.661667
157	6	0	10.415222	-1.343170	0.929582
158	6	0	6.705117	3.945902	1.722739
159	7	0	10.061479	-3.789431	0.668109
160	8	0	7.956222	-4.656984	0.680099
161	6	0	11.238254	-0.220068	1.055526
162	1	0	11.213518	1.923531	1.390884
163	8	0	9.392715	3.510629	1.754705
164	6	0	10.948885	-2.705896	0.625322
165	1	0	6.281113	4.167212	0.740944
166	1	0	5.923806	3.997003	2.480238
167	1	0	7.497775	4.653677	1.946764
168	6	0	10.623200	-5.093636	0.319367
169	6	0	12.709405	-0.164402	0.956899
170	8	0	12.108564	-2.923730	0.347889
171	1	0	10.786110	-5.148271	-0.759121
172	1	0	11.575770	-5.217954	0.828911
173	1	0	9.912336	-5.856034	0.624735
174	6	0	13.570025	-0.625455	-0.001442
175	16	0	13.582373	0.760465	2.155693
176	6	0	14.919276	-0.243866	0.223181
177	1	0	13.246069	-1.223430	-0.839439
178	6	0	15.077508	0.496645	1.354988
179	1	0	15.738733	-0.522588	-0.427263
180	1	0	15.992947	0.887738	1.775367
181	6	0	-0.555079	3.164350	1.959553
182	6	0	-0.203724	3.122642	0.572909
183	6	0	1.193193	2.978724	0.310413
184	6	0	2.102511	2.875972	1.317205

185	6	0	0.396348	3.074311	2.925514
186	1	0	-1.586423	3.233060	2.280562
187	1	0	1.565585	2.921027	-0.702767
188	1	0	3.162648	2.728105	1.142321
189	1	0	0.154112	3.110525	3.980320
190	6	0	-1.168107	3.195573	-0.471721
191	6	0	-0.819543	3.047197	-1.850250
192	6	0	-2.558568	3.397315	-0.218523
193	6	0	-1.768519	3.111955	-2.822185
194	1	0	0.197371	2.846762	-2.162701
195	6	0	-3.463632	3.452200	-1.232689
196	1	0	-2.939396	3.491191	0.788990
197	1	0	-1.524415	2.990389	-3.869851
198	1	0	-4.525968	3.583451	-1.064903
199	6	0	2.718339	2.837554	3.704214
200	1	0	2.387312	2.070033	4.408161
201	1	0	3.641275	2.477983	3.243729
202	6	0	-4.087938	3.450924	-3.611265
203	1	0	-5.006263	2.980970	-3.255442
204	1	0	-3.719294	2.879482	-4.465423
205	6	0	-4.347936	4.889726	-3.987395
206	6	0	-3.517514	5.550683	-4.891408
207	6	0	-5.418625	5.574729	-3.415367
208	6	0	-3.746953	6.882033	-5.212466
209	1	0	-2.690587	5.020272	-5.355944
210	6	0	-5.648390	6.907503	-3.736796
211	1	0	-6.075285	5.053793	-2.724236
212	6	0	-4.812548	7.562769	-4.633099
213	1	0	-3.098945	7.387099	-5.920859
214	1	0	-6.485953	7.434037	-3.291329
215	1	0	-4.995049	8.601566	-4.887008
216	6	0	2.931644	4.149486	4.423096
217	6	0	2.790214	4.221799	5.805908
218	6	0	3.296462	5.296951	3.716606
219	6	0	3.015328	5.419089	6.477916
220	1	0	2.506239	3.334793	6.365476
221	6	0	3.516931	6.493076	4.384789
222	1	0	3.400708	5.256572	2.635908
223	6	0	3.378058	6.555925	5.768389
224	1	0	2.903239	5.461775	7.556040
225	1	0	3.799353	7.379346	3.826466
226	1	0	3.552075	7.490902	6.290014
227	7	0	-3.085983	3.312807	-2.536037
228	7	0	1.722124	2.926065	2.627170