

Supporting Information for

Effects of Random Copolymer's Component Distribution on Opto-electronic Properties

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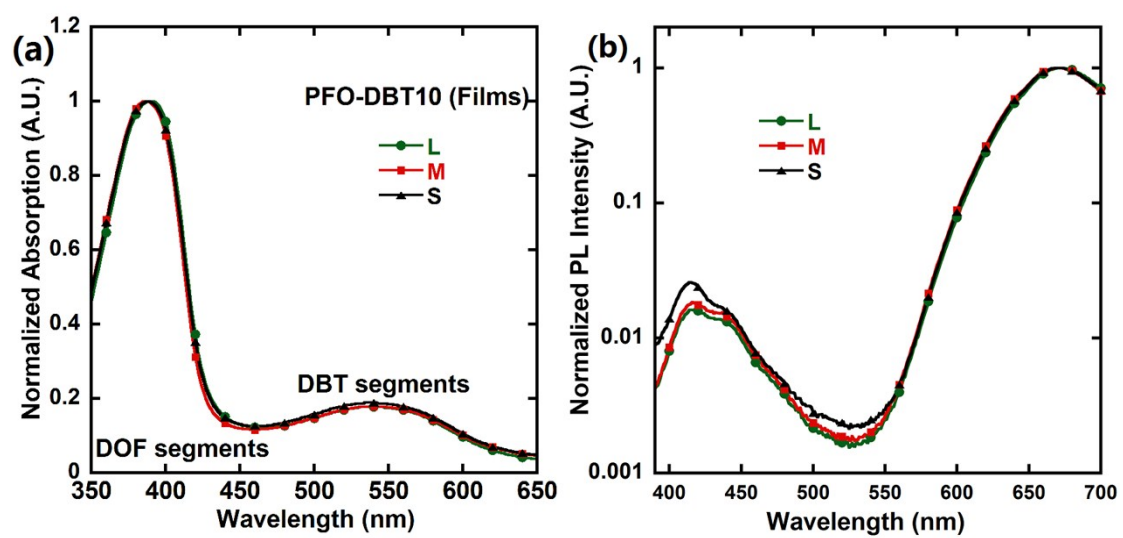


Figure S1. (a) The absorption spectra and (b) the PL spectra (the excitation wavelength is 360 nm) of the random polymers in solid state films.

Table S1. The data in Figure 3.

PFO-DBT10-L with 106 DOF-DOF_{0.8}DBT_{0.2} units					
DBT Units	Unnormalized Ratio	DOF/DBT	DBT Units	Unnormalized Ratio	DOF/DBT
0 (PFO)	5.33997E-11	N/A	54	1.01303E-12	2.925926
1	1.41509E-09	211	55	2.39444E-13	2.854545
2	1.85731E-08	105	56	5.45163E-14	2.785714
3	1.60967E-07	69.66667	57	1.19553E-14	2.719298
4	1.03622E-06	52	58	2.52505E-15	2.655172
5	5.28474E-06	41.4	59	5.13569E-16	2.59322
6	2.22399E-05	34.33333	60	1.00574E-16	2.533333
7	7.94283E-05	29.28571	61	1.89607E-17	2.47541
8	0.000245731	25.5	62	3.44044E-18	2.419355
9	0.000668935	22.55556	63	6.00712E-19	2.365079
10	0.001622168	20.2	64	1.00901E-19	2.3125
11	0.003539277	18.27273	65	1.62994E-20	2.261538
12	0.007004818	16.66667	66	2.53134E-21	2.212121
13	0.012662556	15.30769	67	3.77812E-22	2.164179
14	0.021028888	14.14286	68	5.41716E-23	2.117647
15	0.032244295	13.13333	69	7.45841E-24	2.072464
16	0.045847357	12.25	70	9.85576E-25	2.028571
17	0.060680325	11.47059	71	1.24932E-25	1.985915
18	0.075007625	10.77778	72	1.51827E-26	1.944444
19	0.086850934	10.15789	73	1.76785E-27	1.90411
20	0.09445039	9.6	74	1.97092E-28	1.864865
21	0.096699209	9.095238	75	2.10231E-29	1.826667
22	0.093402645	8.636364	76	2.1438E-30	1.789474
23	0.085280676	8.217391	77	2.08812E-31	1.753247
24	0.073732251	7.833333	78	1.94088E-32	1.717949
25	0.060460446	7.48	79	1.71977E-33	1.683544
26	0.047089386	7.153846	80	1.45105E-34	1.65
27	0.034881027	6.851852	81	1.16443E-35	1.617284
28	0.024603581	6.571429	82	8.8752E-37	1.585366
29	0.016543787	6.310345	83	6.4158E-38	1.554217
30	0.010615597	6.066667	84	4.39177E-39	1.52381
31	0.006506334	5.83871	85	2.84173E-40	1.494118
32	0.003812305	5.625	86	1.73478E-41	1.465116
33	0.002137201	5.424242	87	9.97E-43	1.436782
34	0.001147174	5.235294	88	5.38153E-44	1.409091
35	0.000589975	5.057143	89	2.721E-45	1.382022
36	0.000290891	4.888889	90	1.28492E-46	1.355556

37	0.000137583	4.72973	91	5.64799E-48	1.32967
38	6.24556E-05	4.578947	92	2.30217E-49	1.304348
39	2.72242E-05	4.435897	93	8.66407E-51	1.27957
40	1.14002E-05	4.3	94	2.99556E-52	1.255319
41	4.58787E-06	4.170732	95	9.45965E-54	1.231579
42	1.77507E-06	4.047619	96	2.7098E-55	1.208333
43	6.6049E-07	3.930233	97	6.98401E-57	1.185567
44	2.36425E-07	3.818182	98	1.60347E-58	1.163265
45	8.14354E-08	3.711111	99	3.23934E-60	1.141414
46	2.69976E-08	3.608696	100	5.66884E-62	1.12
47	8.61626E-09	3.510638	101	8.41907E-64	1.09901
48	2.6477E-09	3.416667	102	1.03175E-65	1.078431
49	7.83505E-10	3.326531	103	1.0017E-67	1.058252
50	2.23299E-10	3.24	104	7.22378E-70	1.038462
51	6.12977E-11	3.156863	105	3.4399E-72	1.019048
52	1.62085E-11	3.076923	106	8.11296E-75	1
53	4.12859E-12	3	(PFO-DBT50)	SUM	1

PFO-DBT10-M with 58 DOF-DOF_{0.8}DBT_{0.2} units

DBT Units	Unnormalized Ratio	DOF/DBT	DBT Units	Unnormalized Ratio	DOF/DBT
0 (PFO)	2.39452E-06	N/A	30	6.03657E-08	2.866666667
1	3.47206E-05	115	31	1.3631E-08	2.741935484
2	0.000247384	57	32	2.87528E-09	2.625
3	0.00115446	37.66666667	33	5.66343E-10	2.515151515
4	0.003968456	28	34	1.04107E-10	2.411764706
5	0.010714832	22.2	35	1.7847E-11	2.314285714
6	0.023661921	18.33333333	36	2.85055E-12	2.222222222
7	0.043943567	15.57142857	37	4.23731E-13	2.135135135
8	0.07003506	13.5	38	5.85418E-14	2.052631579
9	0.097270917	11.88888889	39	7.50536E-15	1.974358974
10	0.119156873	10.6	40	8.91261E-16	1.9
11	0.129989316	9.545454545	41	9.78214E-17	1.829268293
12	0.127281206	8.666666667	42	9.89859E-18	1.761904762
13	0.112594913	7.923076923	43	9.20799E-19	1.697674419
14	0.090478055	7.285714286	44	7.84772E-20	1.636363636
15	0.066350573	6.733333333	45	6.10378E-21	1.577777778
16	0.044579292	6.25	46	4.31245E-22	1.52173913
17	0.027534268	5.823529412	47	2.75263E-23	1.468085106
18	0.015679236	5.444444444	48	1.57703E-24	1.416666667
19	0.00825223	5.105263158	49	8.04606E-26	1.367346939
20	0.004022962	4.8	50	3.62073E-27	1.32
21	0.001819911	4.523809524	51	1.41989E-28	1.274509804

22	0.00076519	4.272727273	52	4.77849E-30	1.230769231
23	0.000299422	4.043478261	53	1.3524E-31	1.188679245
24	0.000109164	3.833333333	54	3.13056E-33	1.148148148
25	3.71159E-05	3.64	55	5.69193E-35	1.109090909
26	1.17772E-05	3.461538462	56	7.62312E-37	1.071428571
27	3.48953E-06	3.296296296	57	6.68694E-39	1.035087719
28	9.65851E-07	3.142857143	58	2.8823E-41	1
			(PFO-DBT50)		
29	2.49789E-07	3	SUM	1	

PFO-DBT10-S with 31 DOF-DOF_{0.8}DBT_{0.2} units

DBT Units	Unnormalized Ratio	DOF/DBT	DBT Units	Unnormalized Ratio	DOF/DBT
0 (PFO)	0.000990352	N/A	17	1.52867E-05	2.647058824
1	0.007675228	61	18	2.97242E-06	2.444444444
2	0.028782106	30	19	5.0844E-07	2.263157895
3	0.069556756	19.66667	20	7.6266E-08	2.1
4	0.121724323	14.5	21	9.98722E-09	1.952380952
5	0.164327836	11.4	22	1.13491E-09	1.818181818
6	0.178021822	9.333333	23	1.11024E-10	1.695652174
7	0.158948056	7.857143	24	9.25199E-12	1.583333333
8	0.119211042	6.75	25	6.4764E-13	1.48
9	0.07616261	5.888889	26	3.73638E-14	1.384615385
10	0.041889435	5.2	27	1.72981E-15	1.296296296
11	0.019992685	4.636364	28	6.17788E-17	1.214285714
12	0.008330285	4.166667	29	1.59773E-18	1.137931034
13	0.003043758	3.769231	30	2.66288E-20	1.066666667
14	0.000978351	3.428571	31	2.14748E-22	1
15	0.000277199	3.133333	(PFO-DBT50)		
16	6.92999E-05	2.875	SUM	1	