

Supplementary Materials

Conductivity and Density of States of New Polyphenylquinoline

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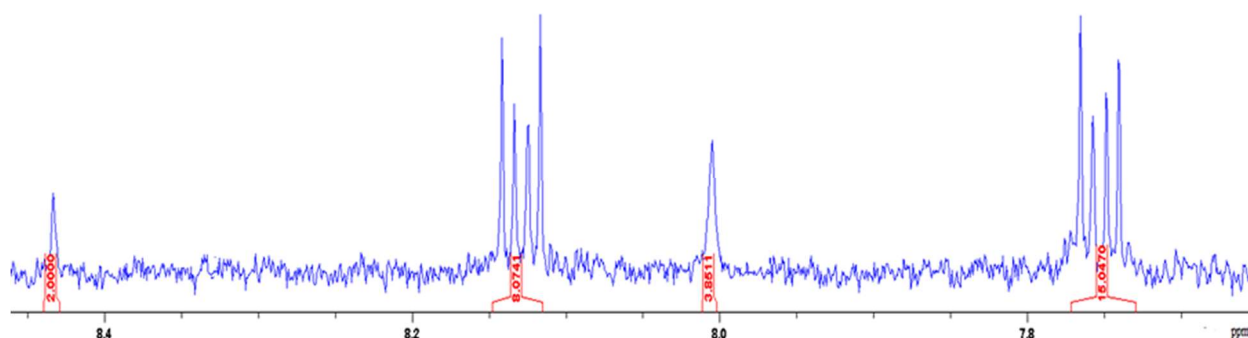


Figure S1. ^1H NMR spectrum of PPQ-DBT in DMSO-d_6

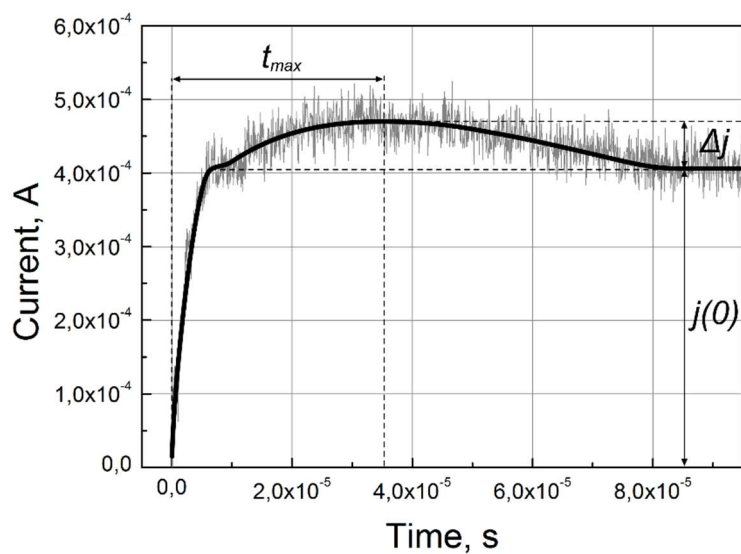


Figure S2. MIS-CELIV transient current of holes recorded on a load resistance of $50 \, \Omega$ at $8000 \, \text{V} \cdot \text{s}^{-1}$ ramp.

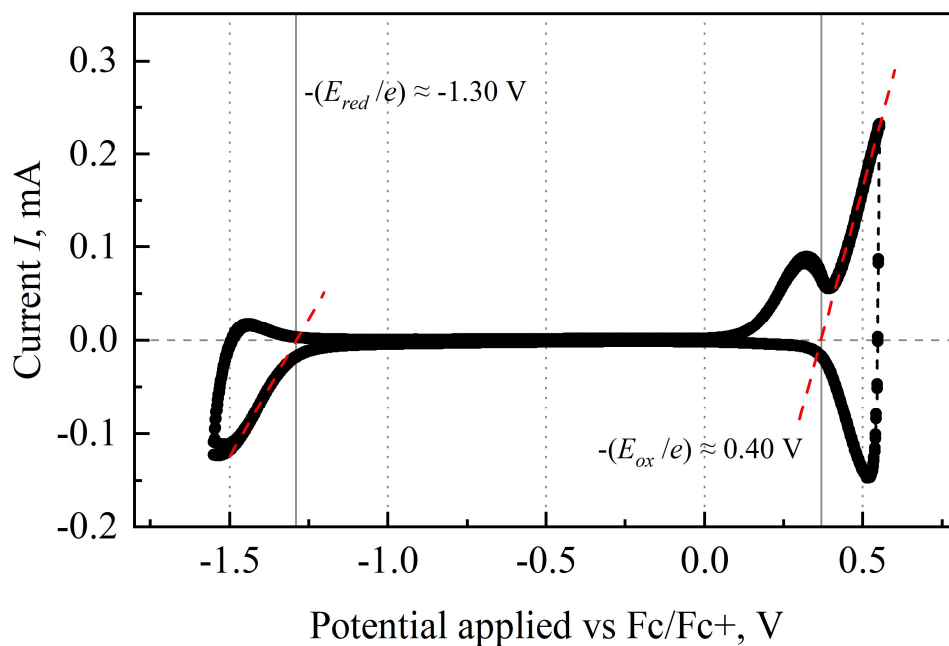


Figure S3. Cyclic voltammogram of the polymer thin film on Pt sheet in 0.2M TBAPF6 in acetonitrile. The scan rate used was 20 mV·s⁻¹; the oxidation (E_{ox}) and reduction (E_{red}) onsets are 0.40 V and -1.30 V, respectively.

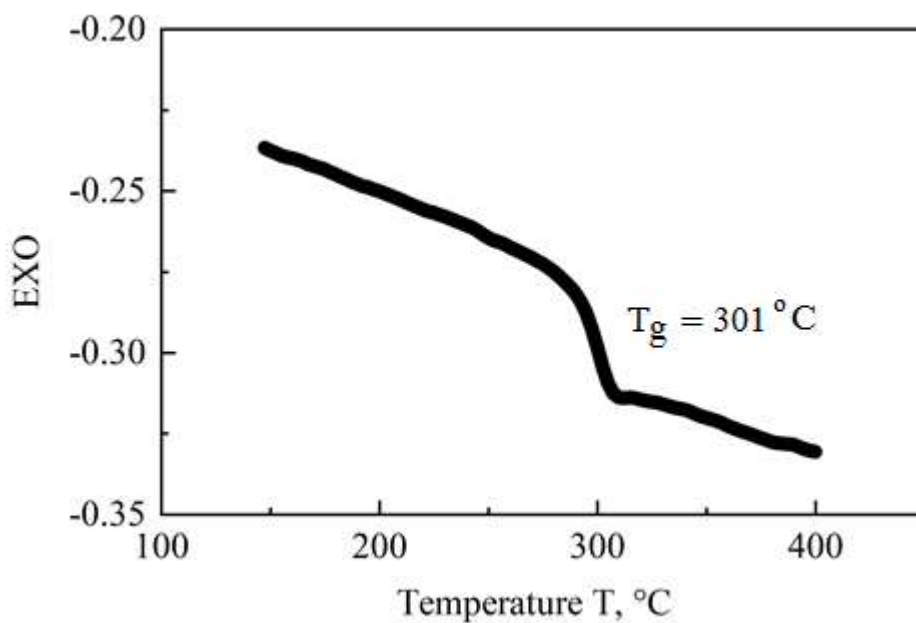


Figure S4. DSC curve of the second heating cycle for PPQ-DBT at a scan rate of 10 °C/min.

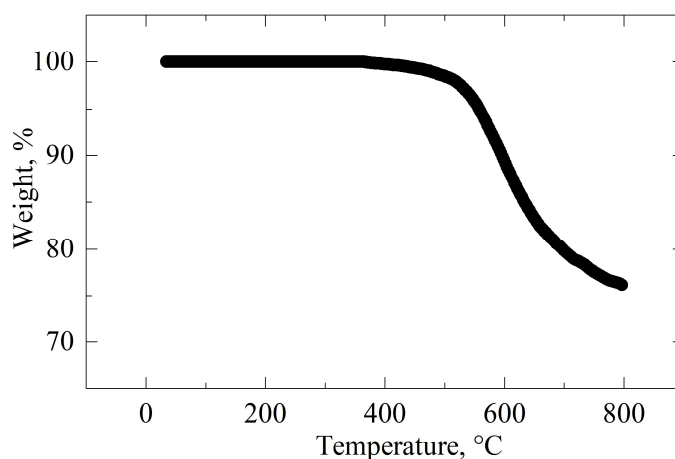


Figure S5. TGA curve for PPQ-DBT at a scan rate of 10 °C/min.

Table S1. The content of fluorine atoms in unannealed (a) and annealed (b) PPQ- DBT films obtained from XPS spectra in Figure S6 and Figure S7.

(a)

Peak name	E_B /eV	Area/cps·eV	Sens. Fact.	Norm. Area	Quant./at. %	
C1s Peak 1	285.02	314290.50	0.25	1257162.0	85.21	85.21
N1s C-N	399.84	18788.056	0.42	44733.467	3.03	3.51
N1s N-H	398.4	2994.5573	0.42	7129.8984	0.48	
O1s	532.6	108243.07	0.66	164004.65	11.12	11.12
F1s	688.9	2310.2841	1	2310.2841	0.16	0.16

(b)

Peak name	E_B /eV	Area/cps·eV	Sens. Fact.	Norm. Area	Quant./at. %	
C1s C-C/C-H	284.98	357405.66	0.25	1429622.6	50.3	88.29
C1s C-O/C-N	286.33	165411.28	0.25	661645.13	23.28	
C1s N-C=O	287.66	91734.233	0.25	366936.93	12.91	
C1s Peak 4	291.19	12785.755	0.25	51143.023	1.8	
N1s Peak 1	401.64	19038.400	0.42	45329.525	1.59	3.82
N1s Peak 2	399.7	26602.994	0.42	63340.463	2.23	
O1s Peak 1	534.61	72499.619	0.66	109847.90	3.87	7.82
O1s Peak 2	532.74	74112.898	0.66	112292.27	3.95	
F1s	690.1	1877.8423	1	1877.8423	0.07	0.07

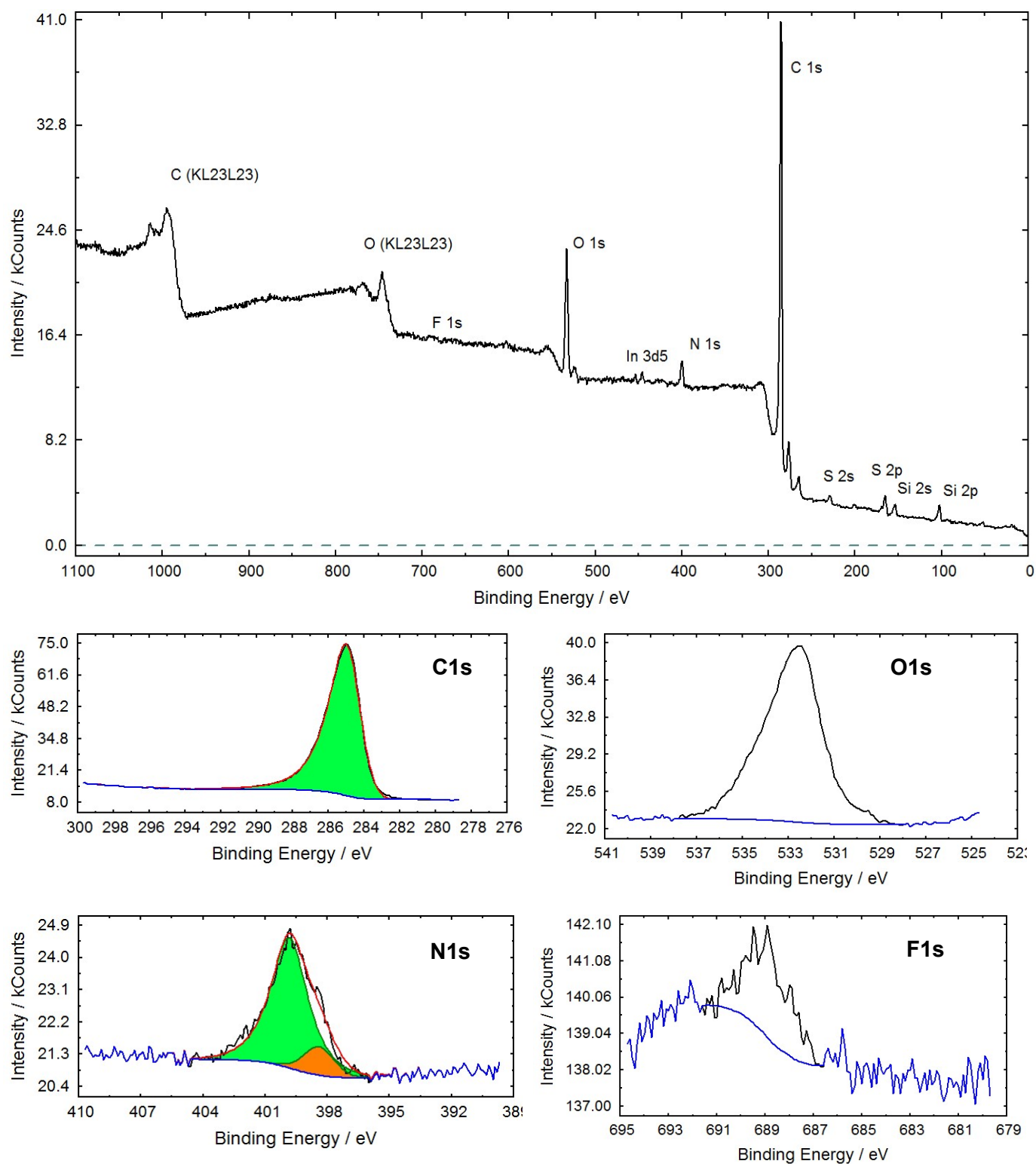


Figure S6. Unannealed PPQ- DBT film XPS spectrum and its deconvolution into components.

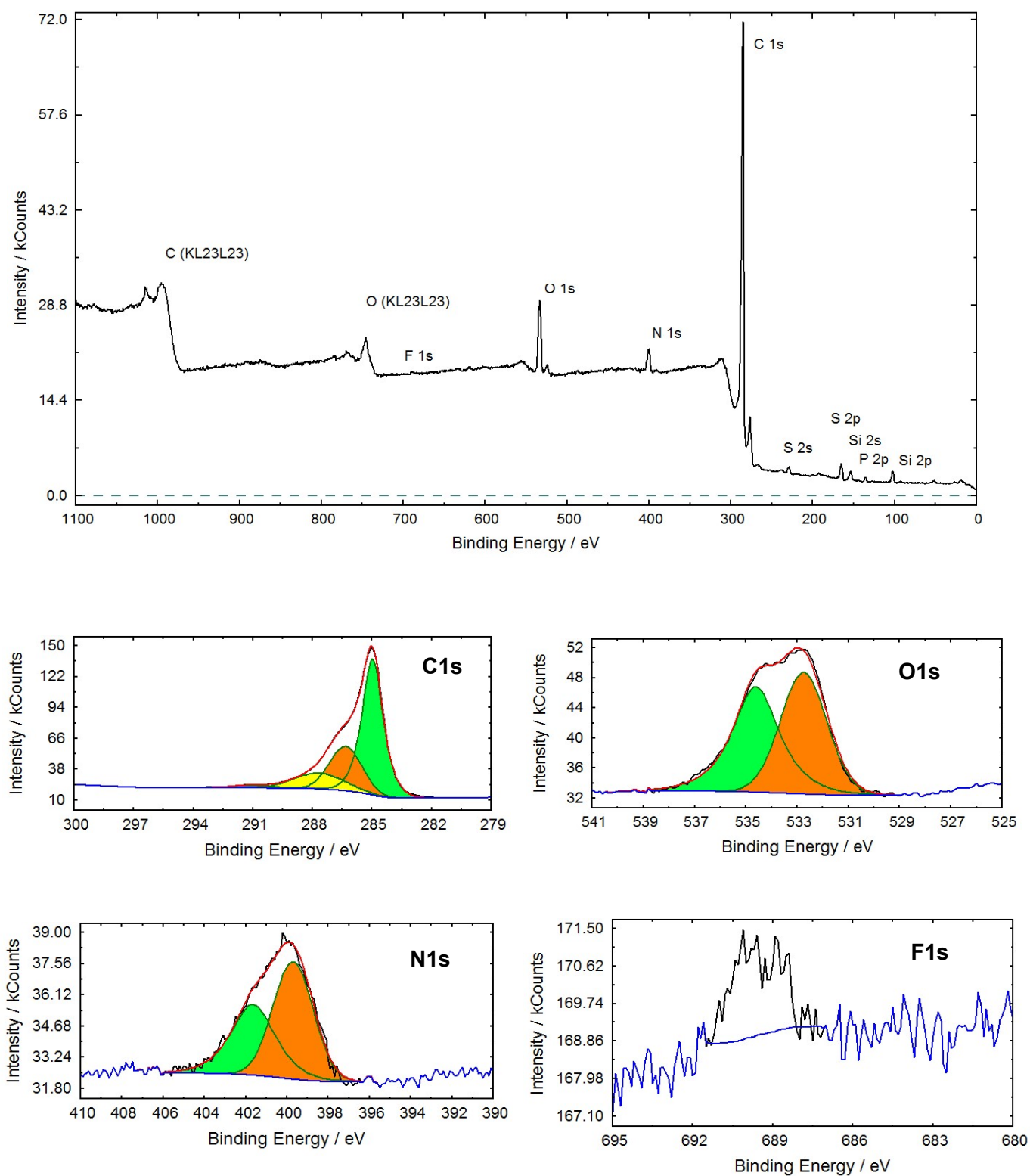


Figure S7. Annealed PPQ- DBT film XPS spectrum and its deconvolution into components.