Electronic Supplementary Information for :

Donor−Acceptor Copolymers Containing Phthalazinone −Thiophene Structure Synthesized by Classical Nucleophilic Aromatic Polymerization

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1. ^{1}H-NMR and ^{13}C-NMR spectrum of M2 and polymers

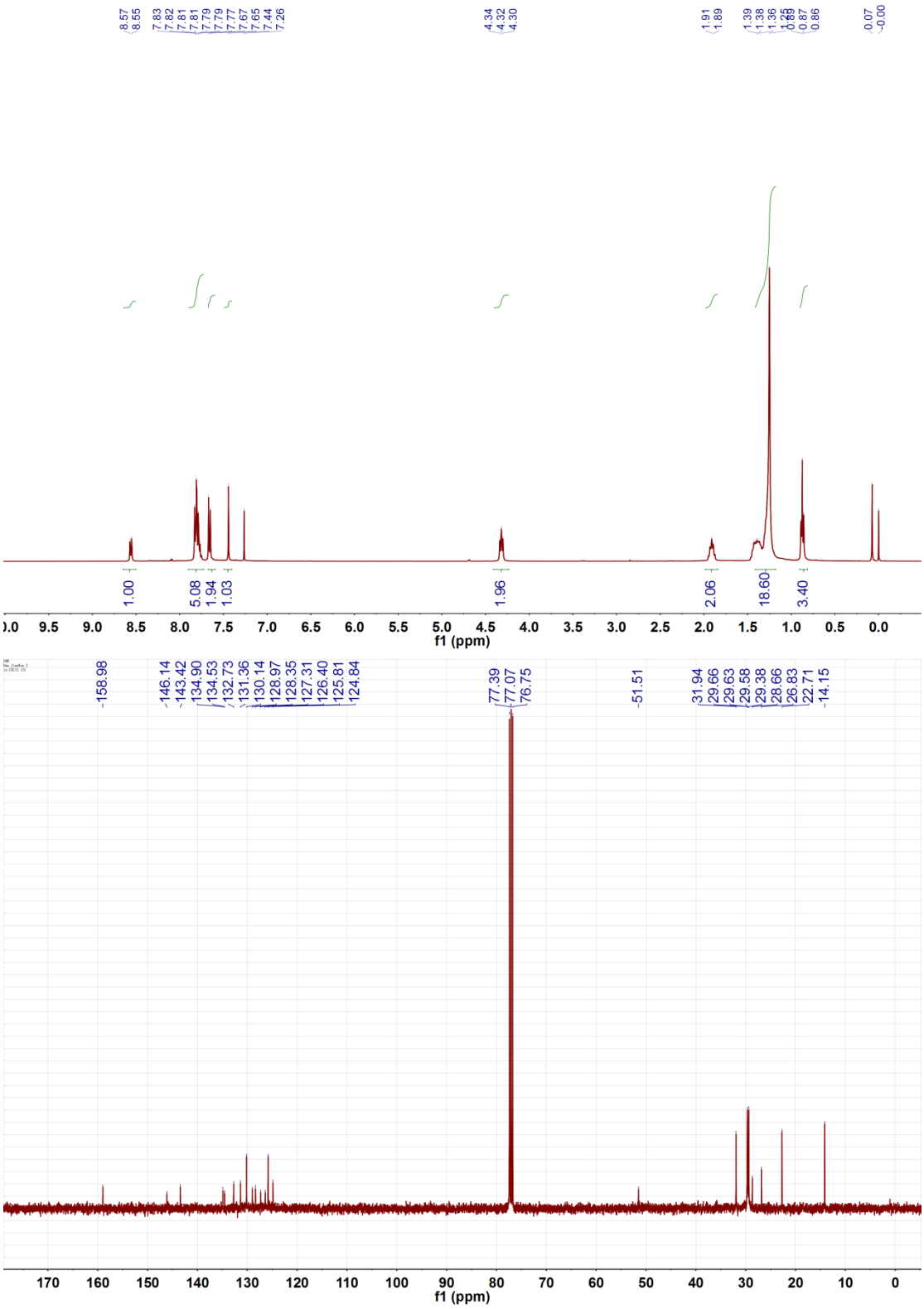


Figure S1. ^{1}H-NMR and ^{13}C-NMR spectra of M2.

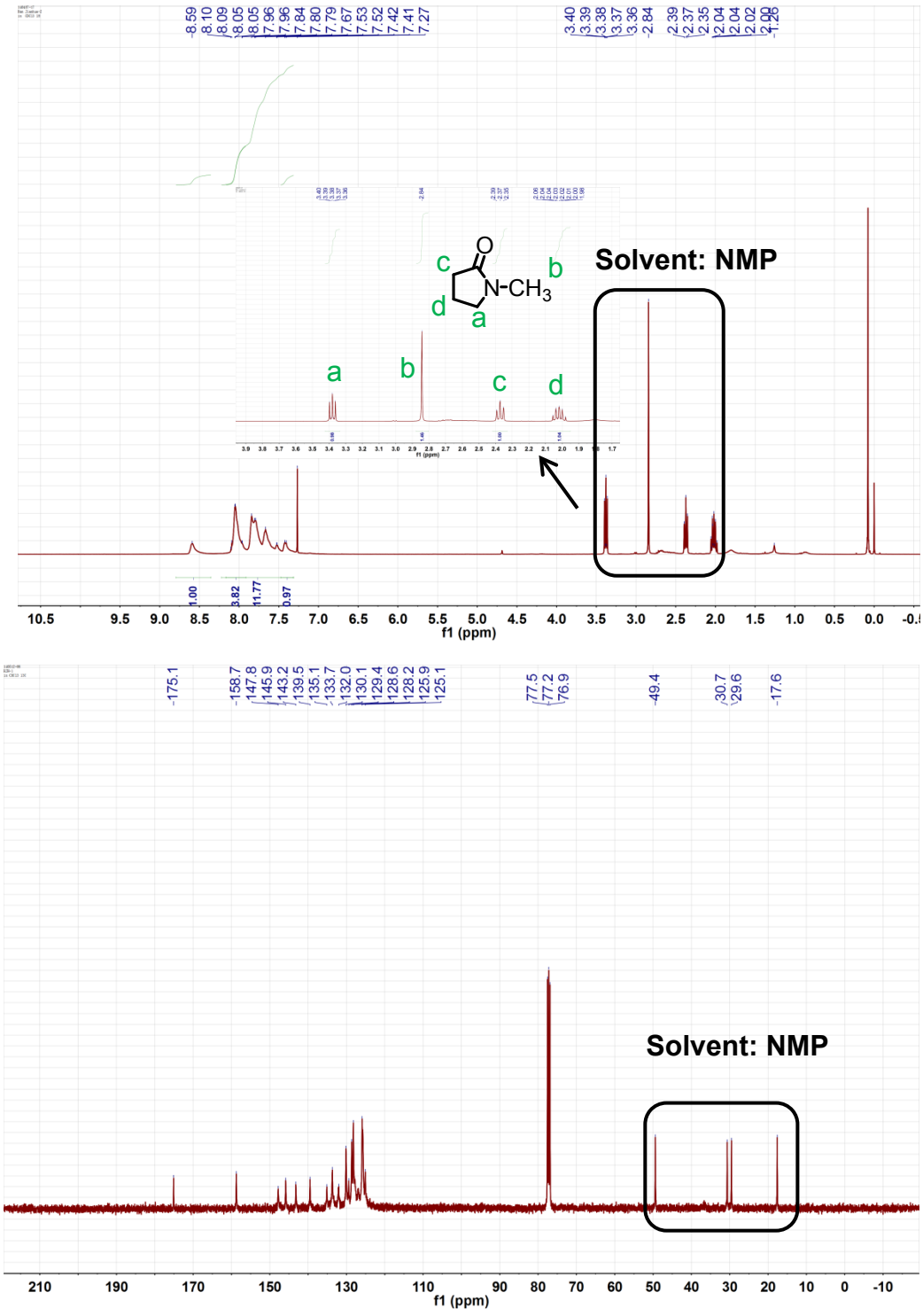


Figure S2. ^{1}H-NMR and ^{13}C-NMR spectra of PDS.

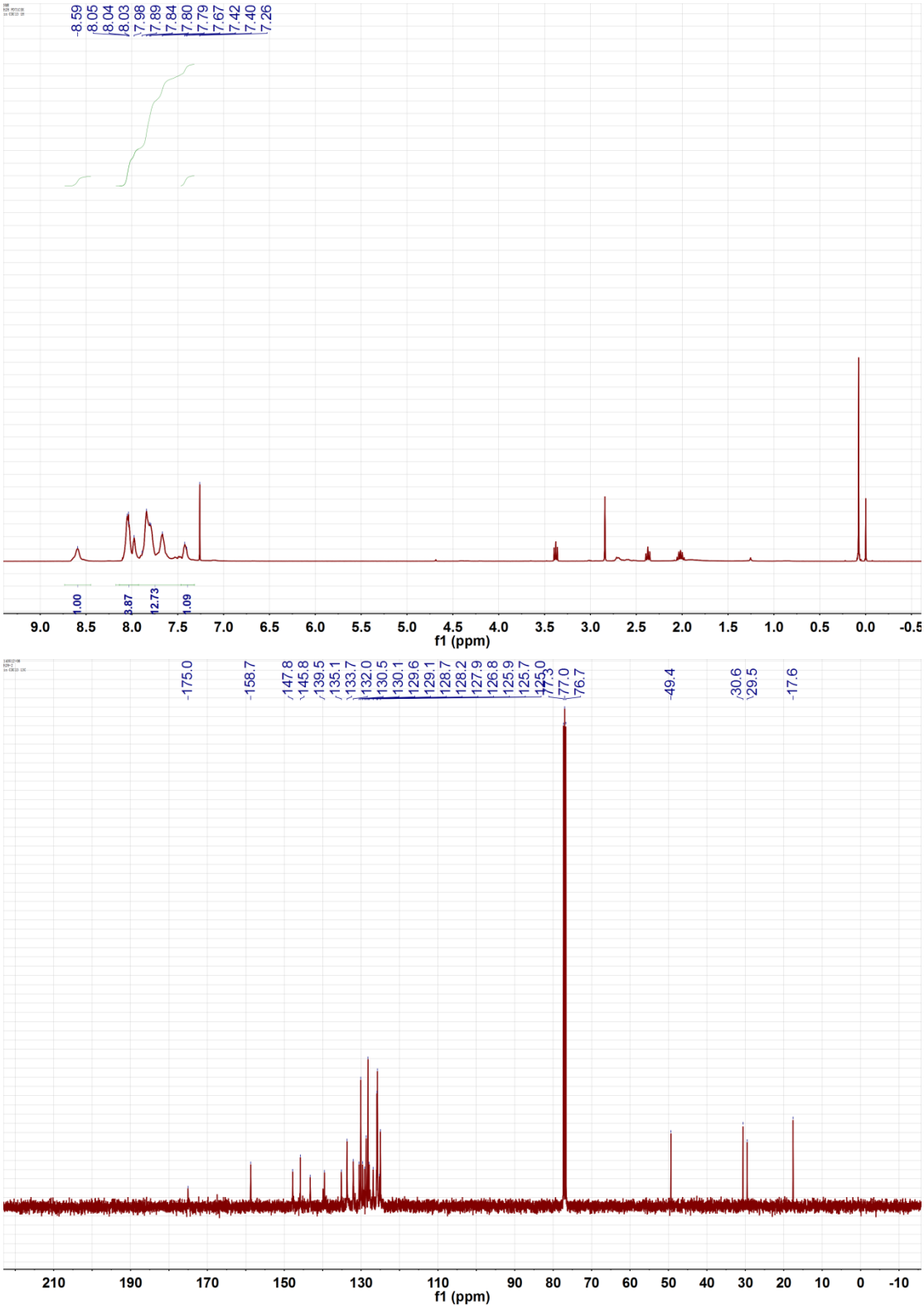


Figure S3. ^{1}H-NMR and ^{13}C-NMR spectra of PDSK82.

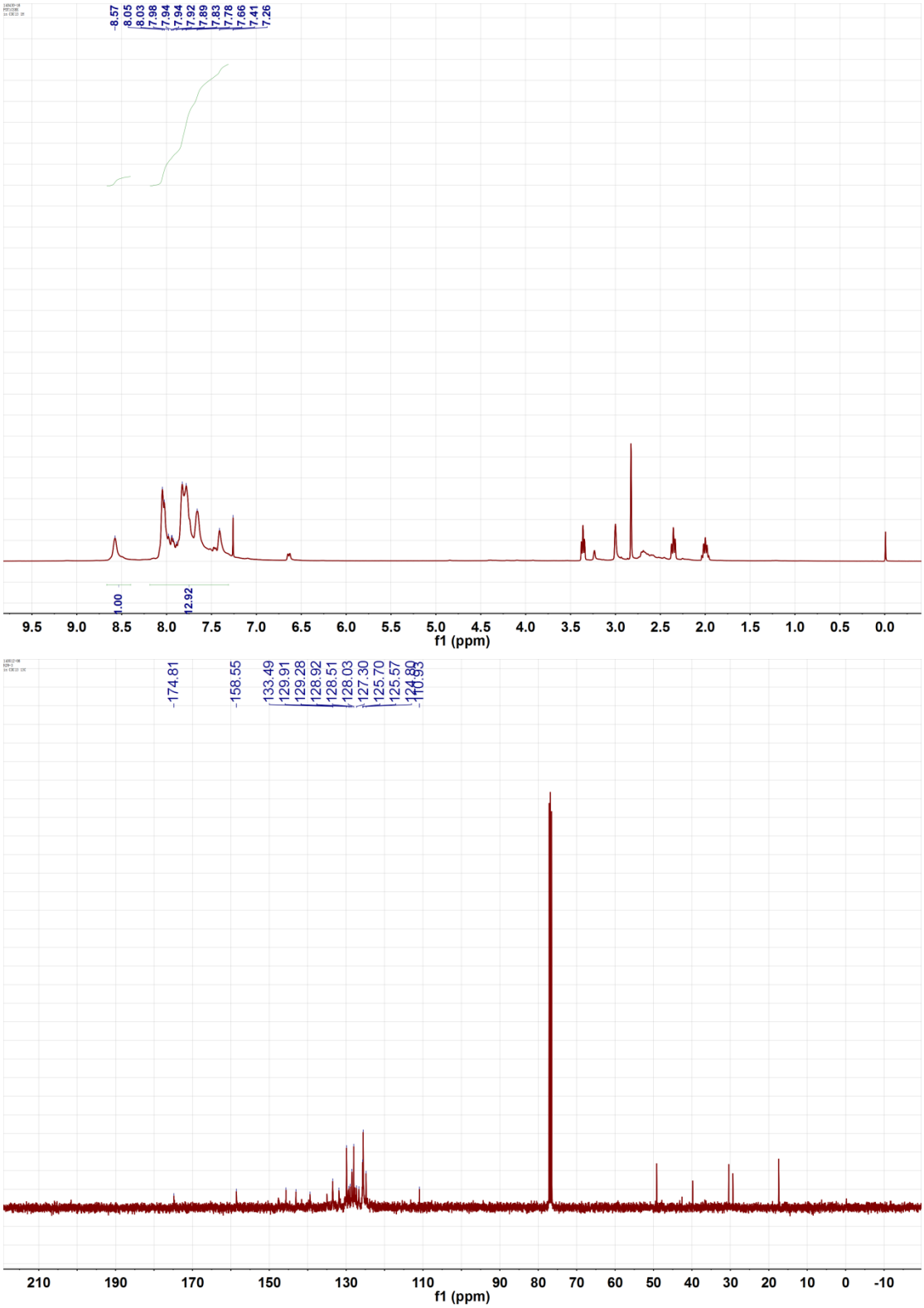


Figure S4. ^{1}H-NMR and ^{13}C-NMR spectra of PDSKK82.

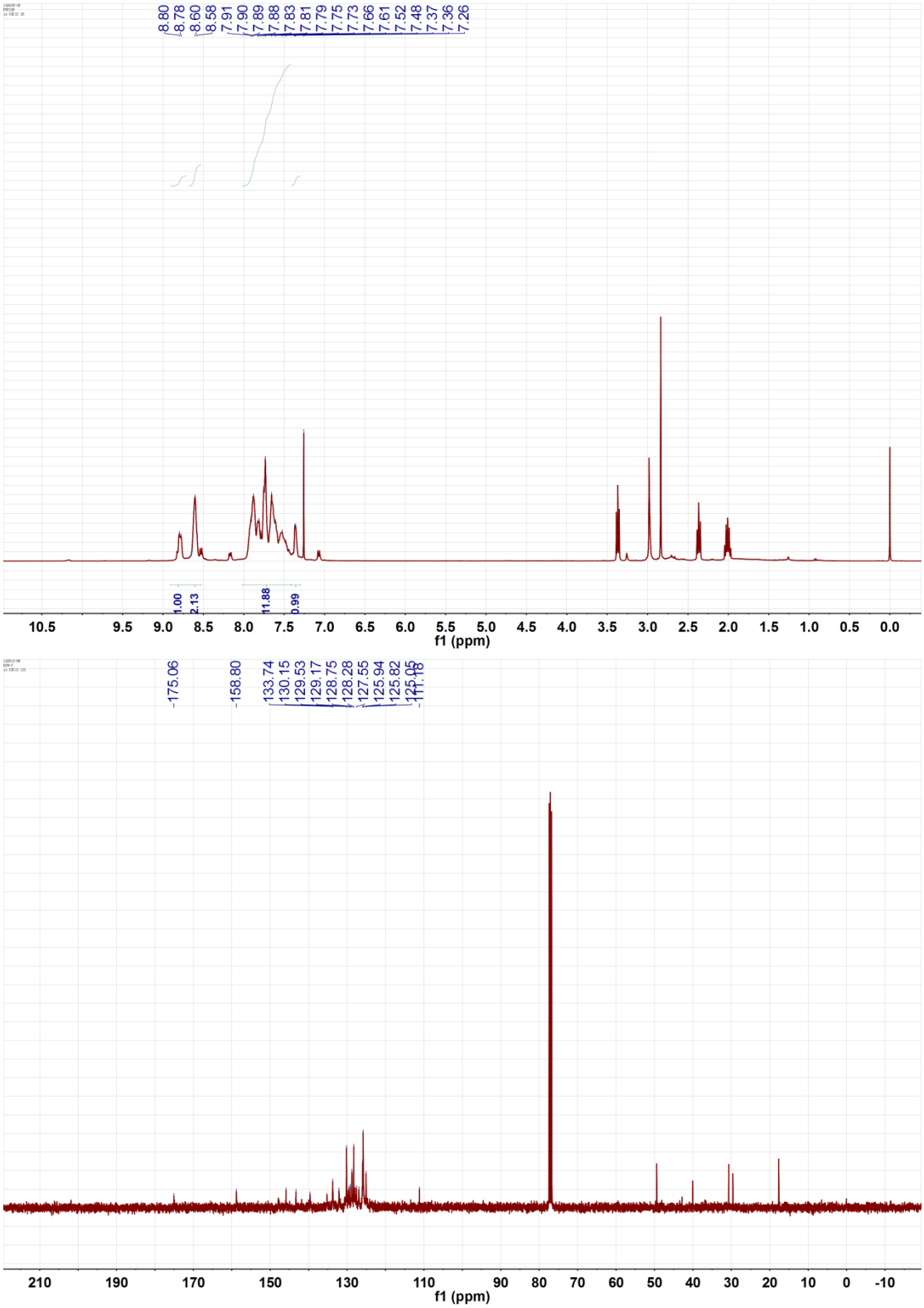


Figure S5. ^{1}H-NMR and ^{13}C-NMR spectra of PDNS.

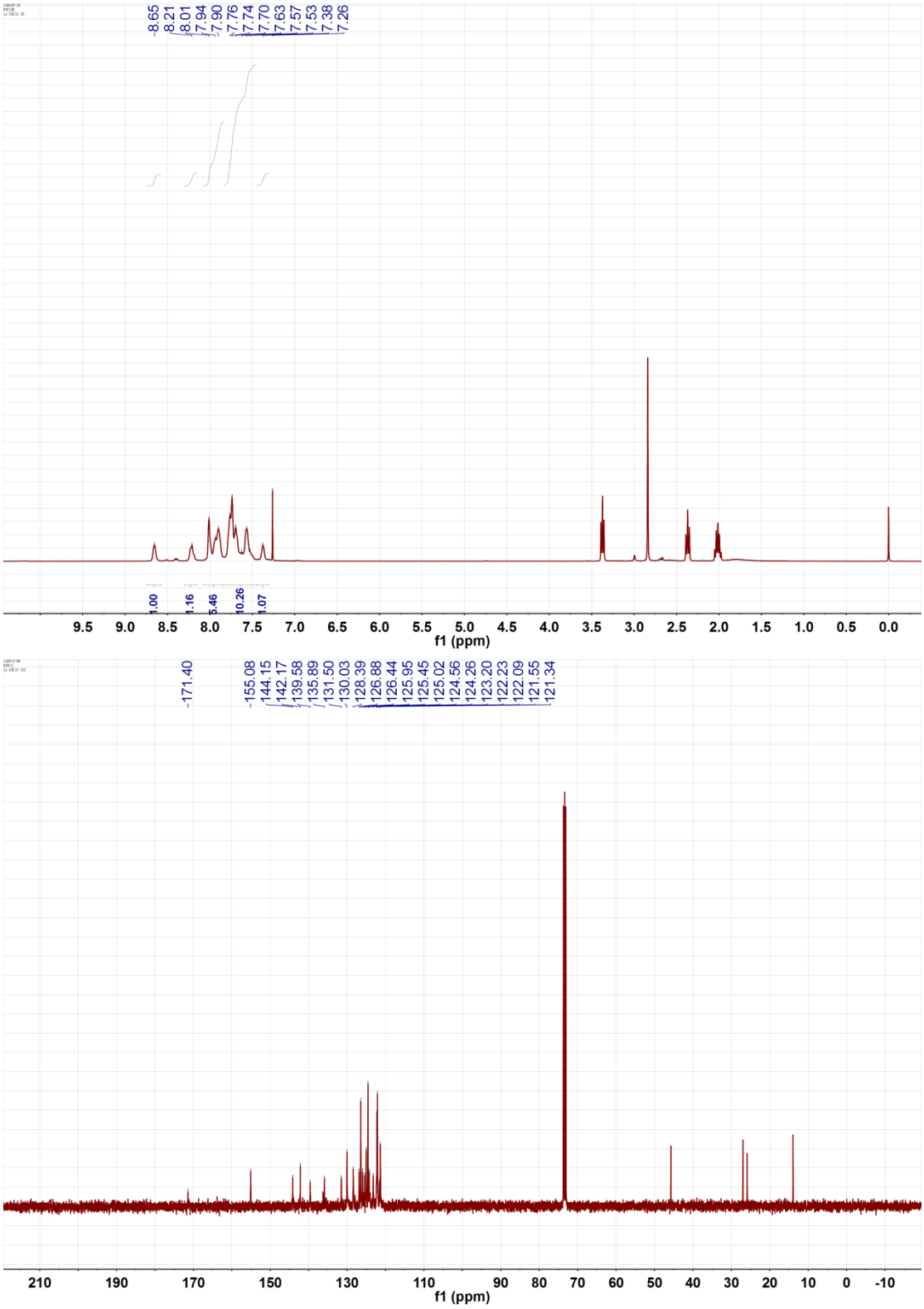


Figure S6. ^{1}H-NMR and ^{13}C-NMR spectra of PDNK.

2. MALDI-TOF, IR, DSC, CV and HPLC-MS spectrum of M2

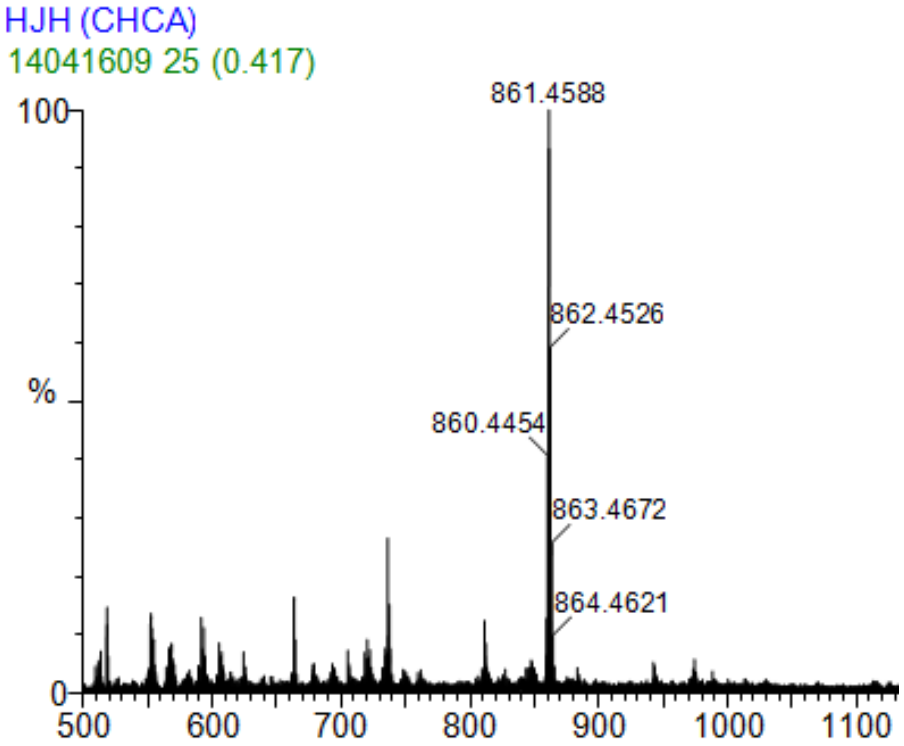


Figure S7. MALDI-TOF spectrum of M2.

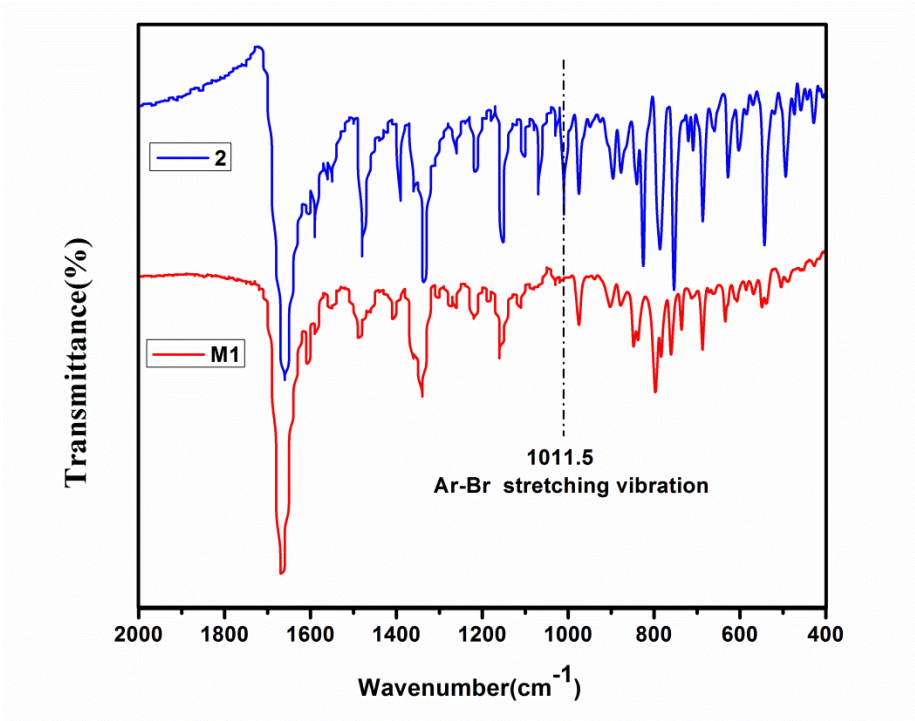


Figure S8. FT-IR spectrum of M1.

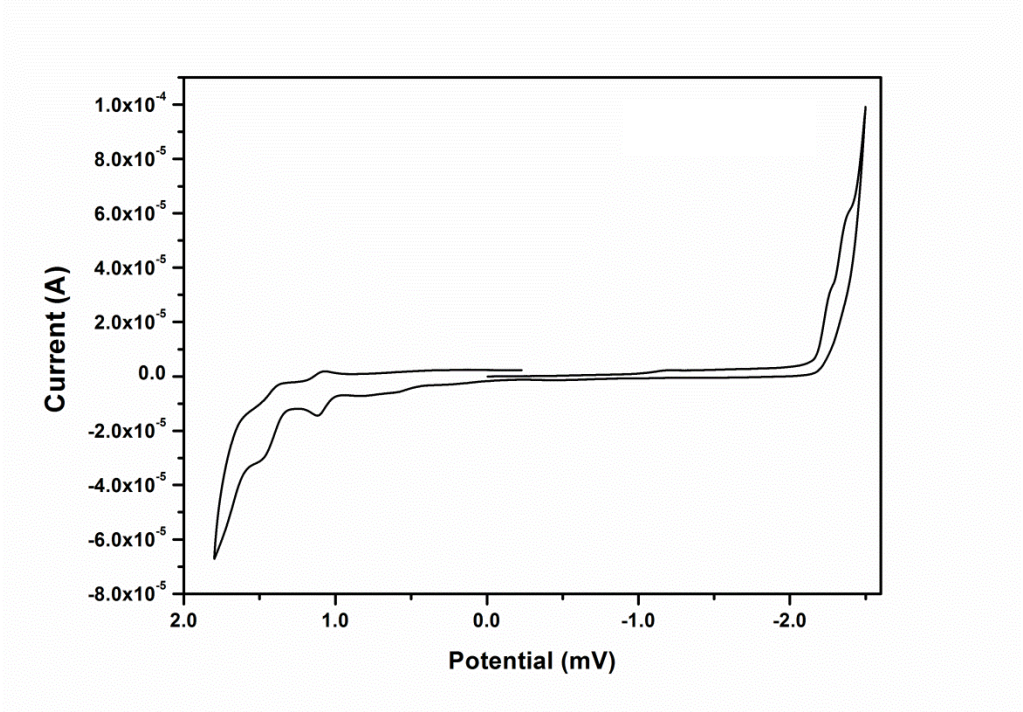


Figure S9. Cyclic voltammograms of M2.

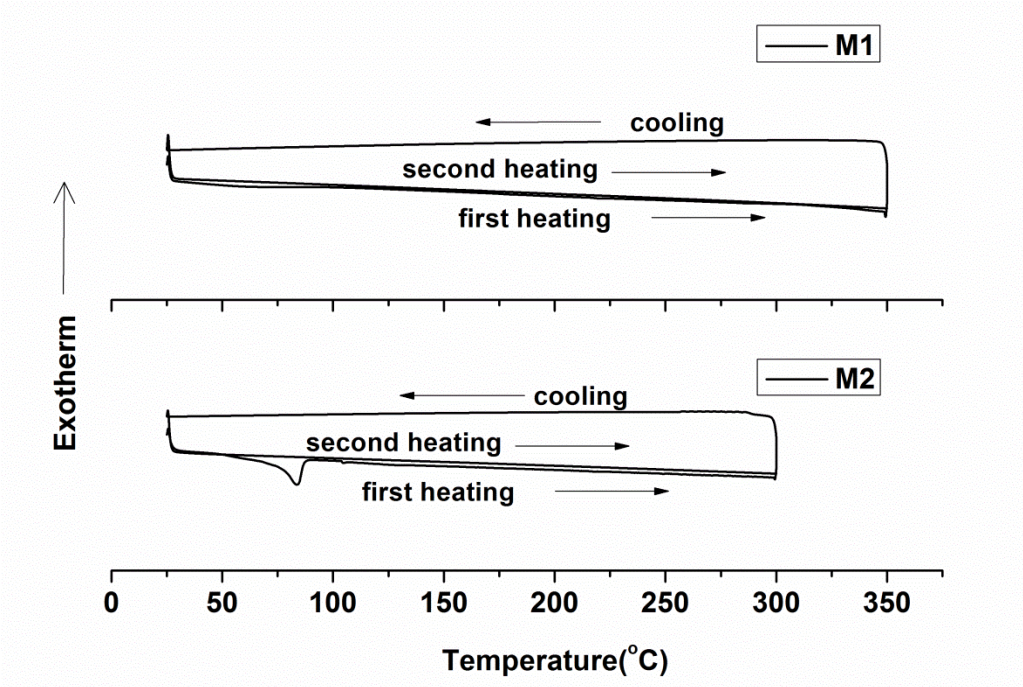
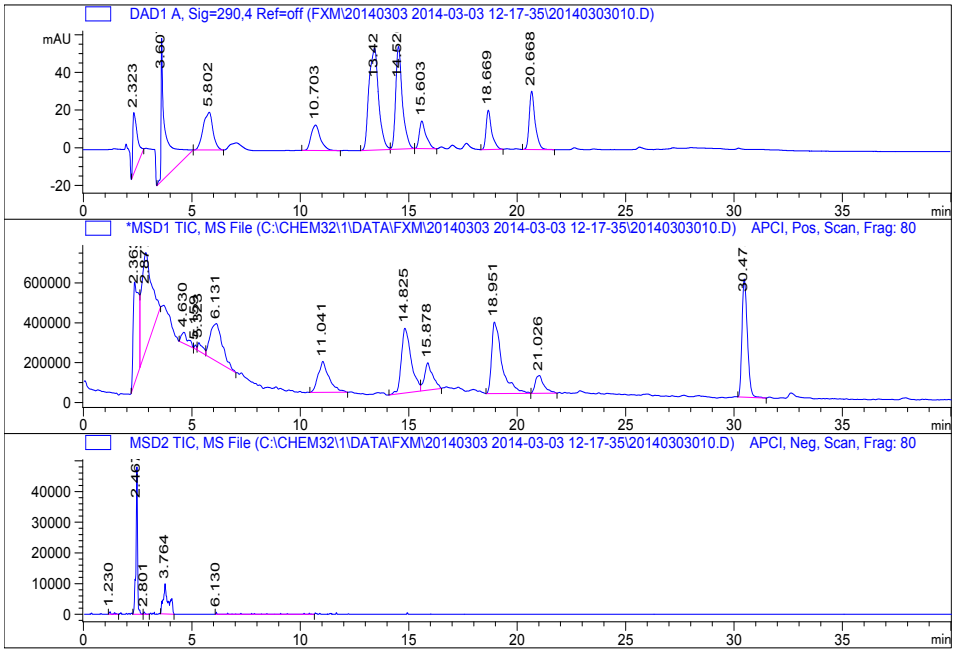


Figure S10. DSC spectrum of M1 and M2.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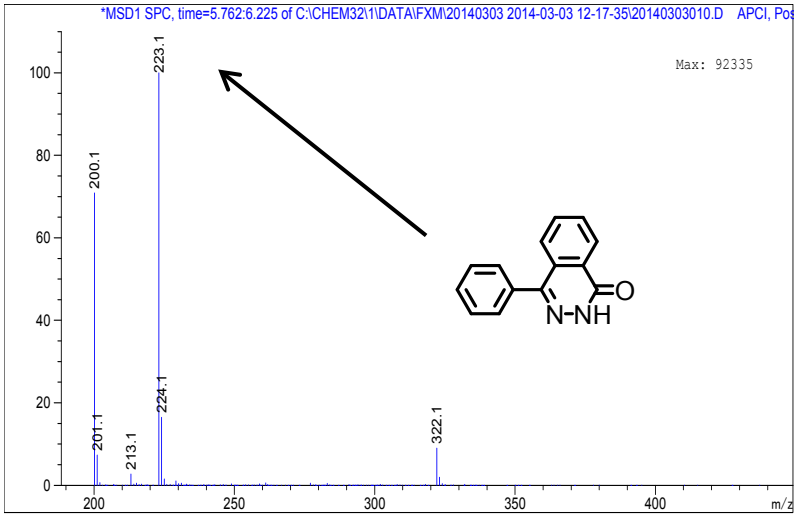
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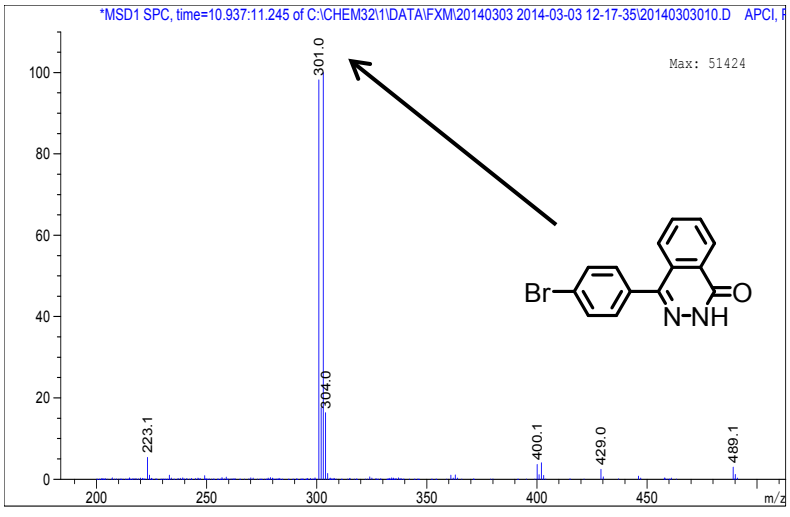
N-NH
m/z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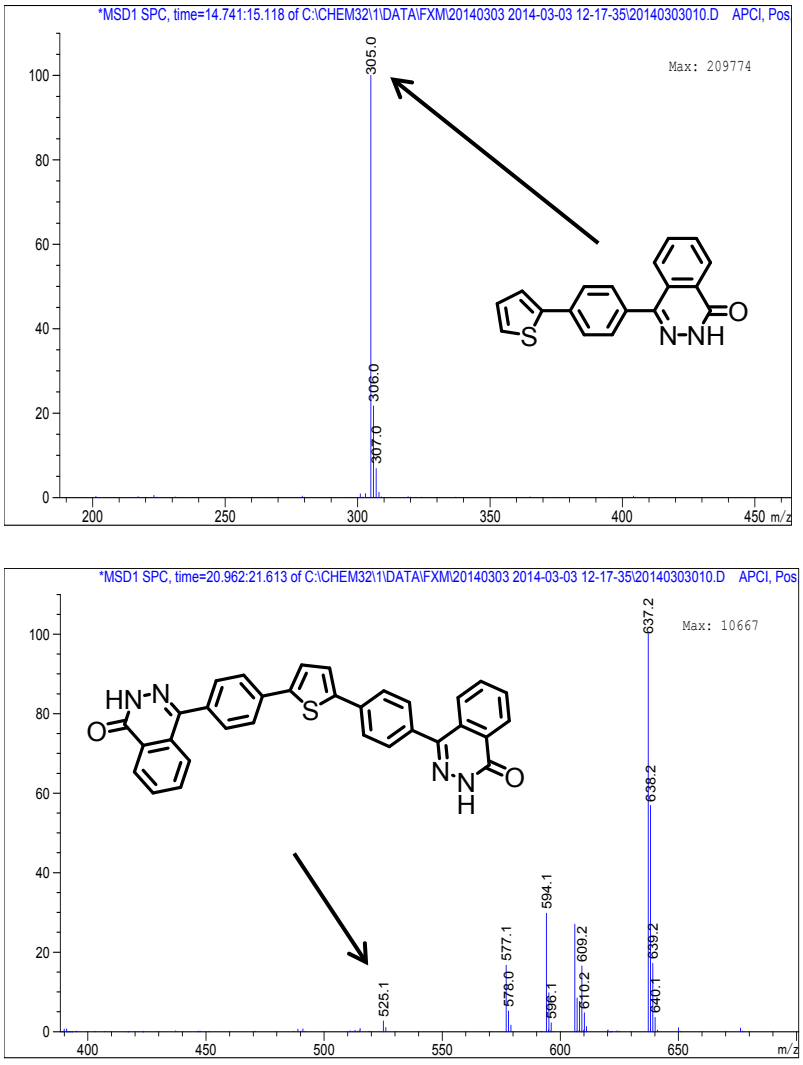

Figure S11. HPLC-MS of M1 in NMP.

4.DSC and CV curves of polymers

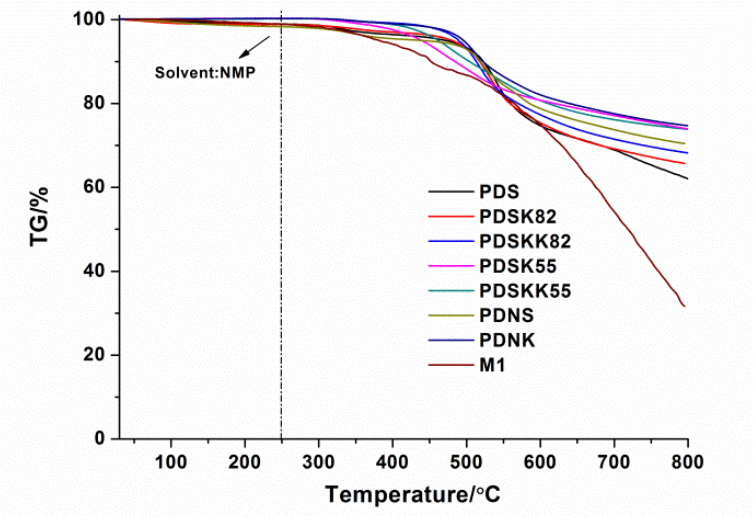

Figure S12. TGA trace record at 20 °C/min under nitrogen

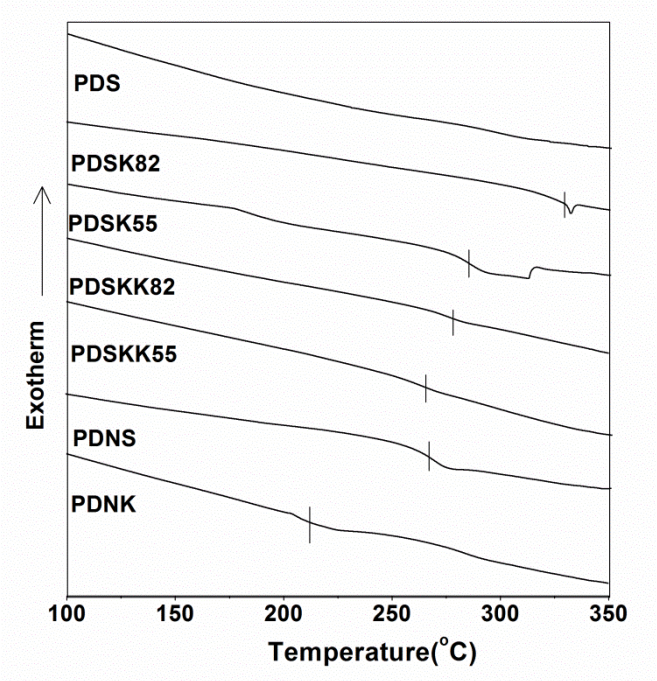

Figure S13. DSC traces record at 10 °C /min under nitrogen

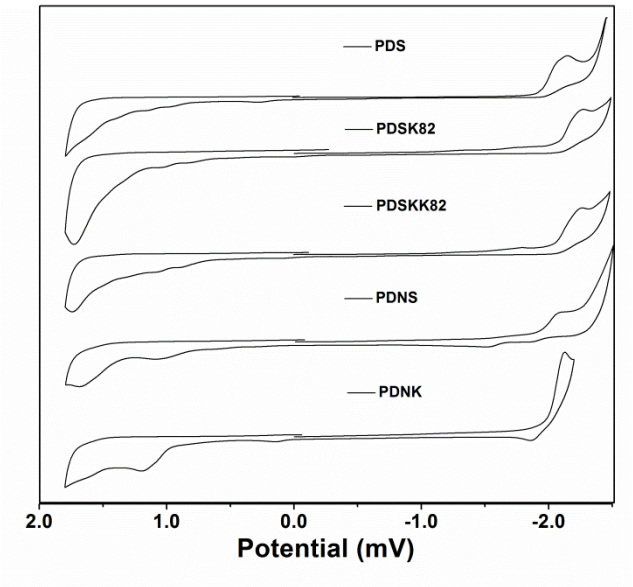

Figure S14.Cyclic voltammograms of polymers at a scan rate of 50 mV/s

4. Solubility table of monomers and copolymers in organic solvent

Table S1**.** Solubility of Copolymers in Organic Solvent

Polymer[a]	NMP[b]	DMAc	DMF	DS	THF	$CHCl_3$	DCM	TO	AC	HMPA
M1	--	--	--	--	--	--	--	--	--	+-
M2	++	++	++	++	++	++	++	++	++	++
PDS	++	+-	+-	+-	--	+	+-	--	--	++
PDSK82	++	+-	+-	+-	--	+-	+-	--	--	++
PDSK55	--	--	--	--	--	--	--	--	--	--
PDSKK82	++	+-	+-	+-	--	+-	+-	--	--	++
PDSKK55	--	--	--	--	--	--	--	--	--	--
PDNS	++	+	+	+	--	+	+-	+-	--	++
PDNK	++	+-	+-	+-	--	+	+-	--	--	++

[a]++ soluble in RT; + soluble heating; +- parting soluble heating ; -- insoluble; Tested with 0.04 g of the polymers in 1 mL of solvent.

[b]NMP: N-methylpyrrolidone; DMAc: N,N-dimethyl acetamide; DS:dimethylsulfoxide; THF: tetrahydrofuran; $CHCl_3$: chloroform; DCM: dichloromethane; To: toluene; AC: acetone; HMPA: hexamethylphosphoric triamide.