Supporting Information

for

Polythiophenes with Vinylene Linked *Ortho*, *Meta* and *Para*-Carborane Sidechains

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Figures

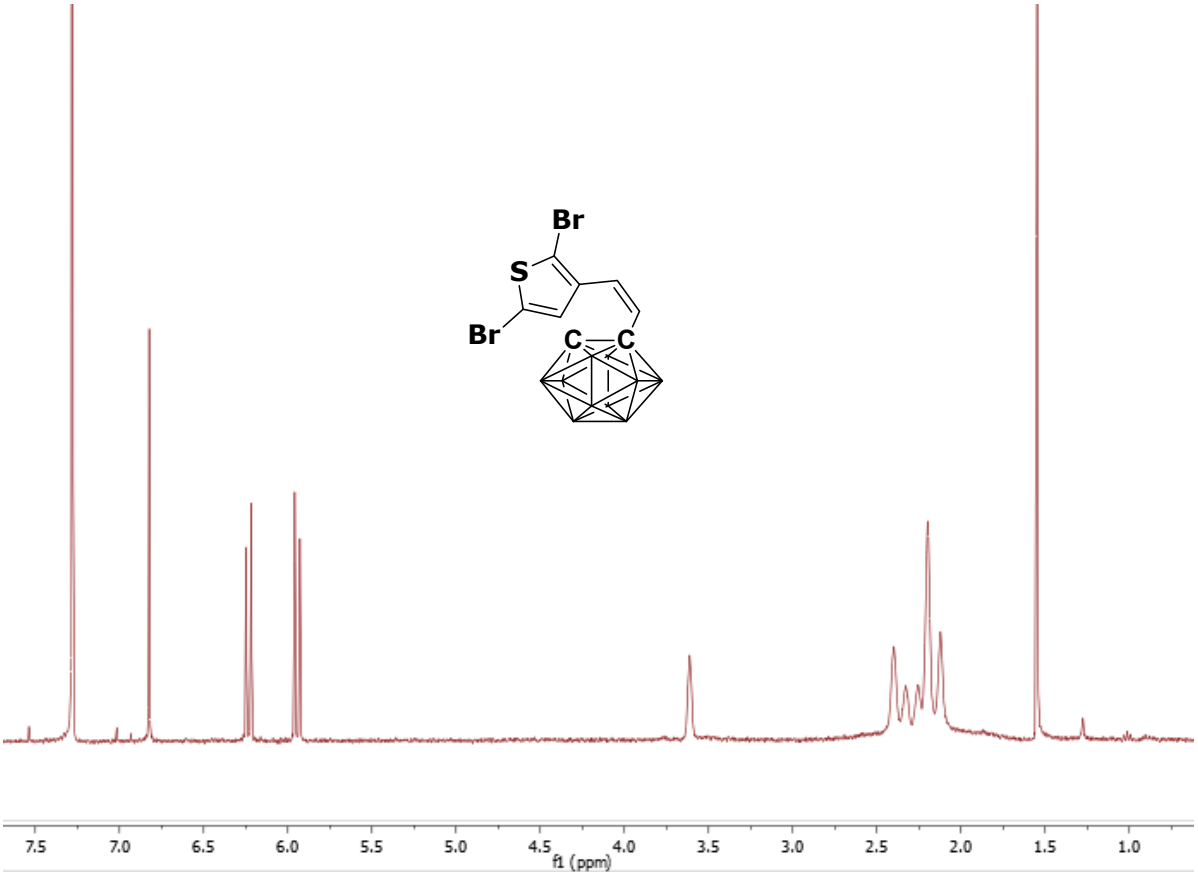

Fig. S1 ^{1}H NMR spectrum of *ortho*/*cis* monomer ($CDCl_3$)

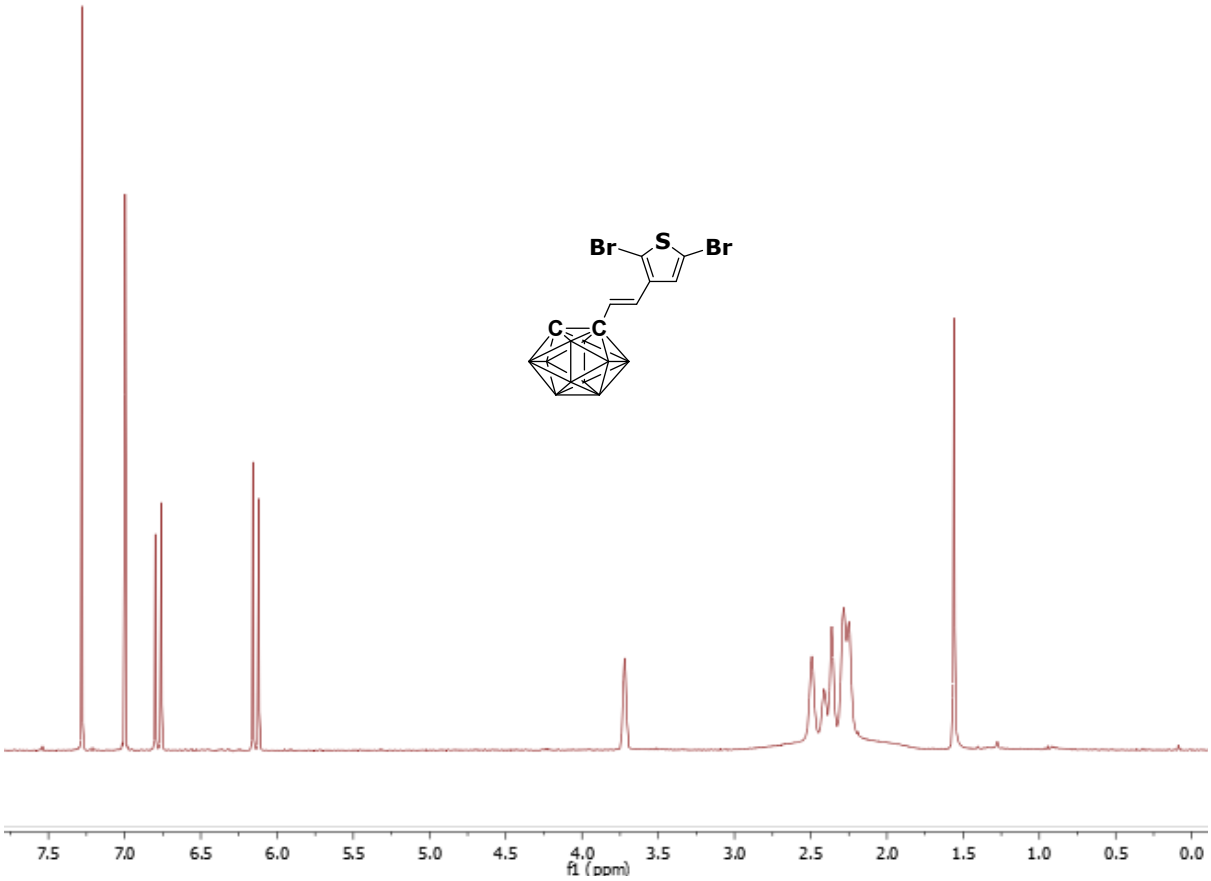

Fig. S2 ^{1}H NMR spectrum of *ortho*/*trans* monomer ($CDCl_3$)

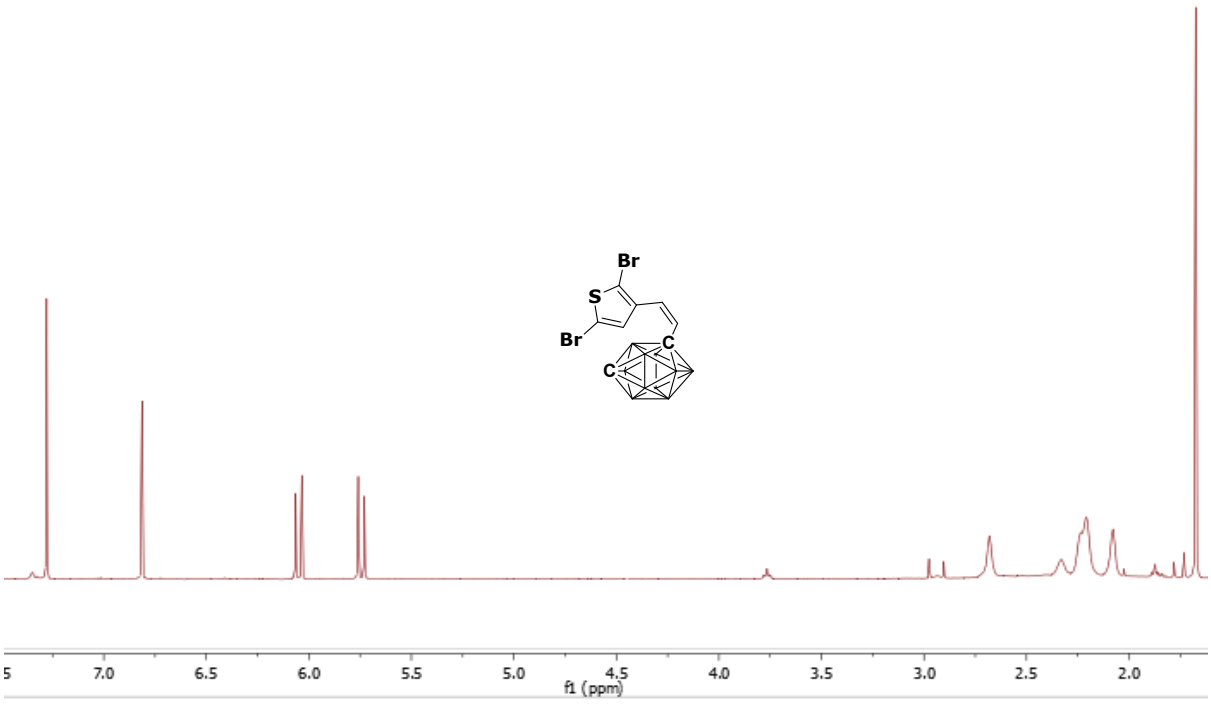

Fig. S3 ^{1}H NMR spectrum of *meta*/*cis* monomer ($CDCl_3$)

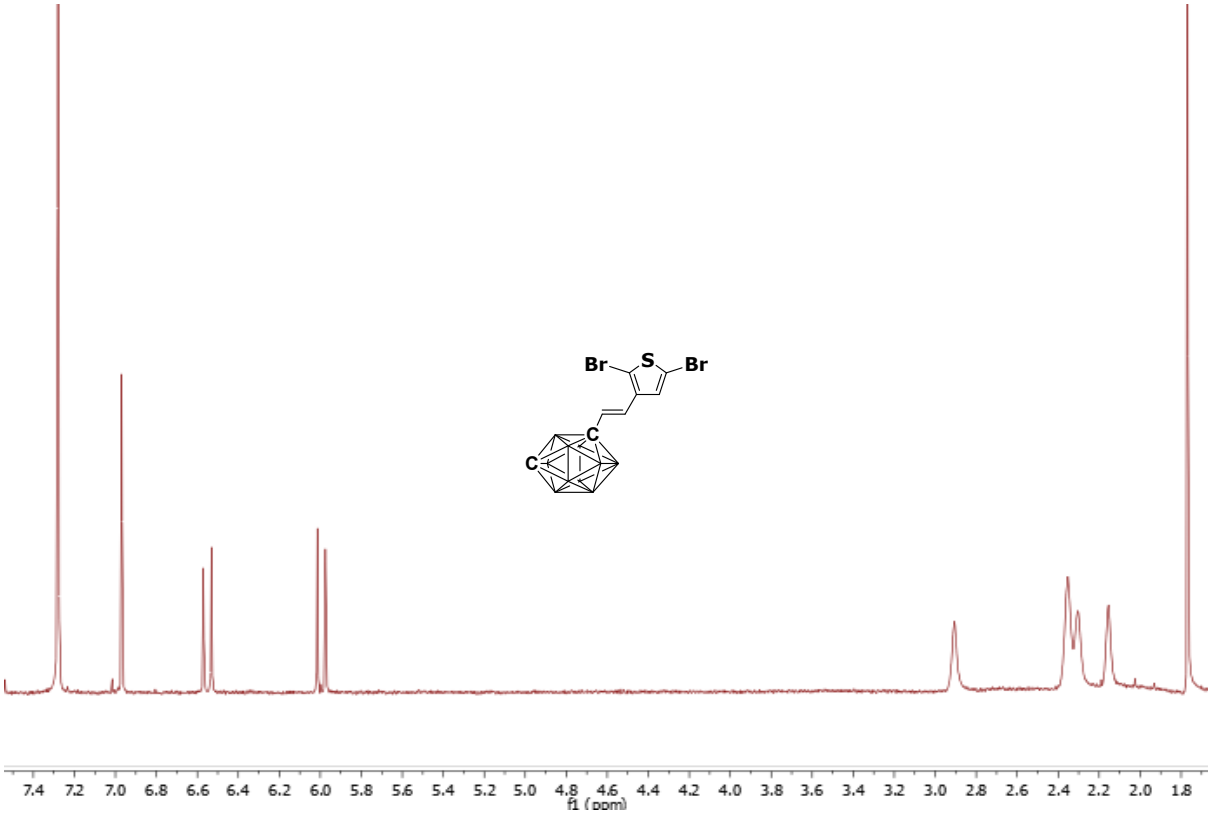

Fig. S4 ^{1}H NMR spectrum of *meta*/*trans* monomer ($CDCl_3$)

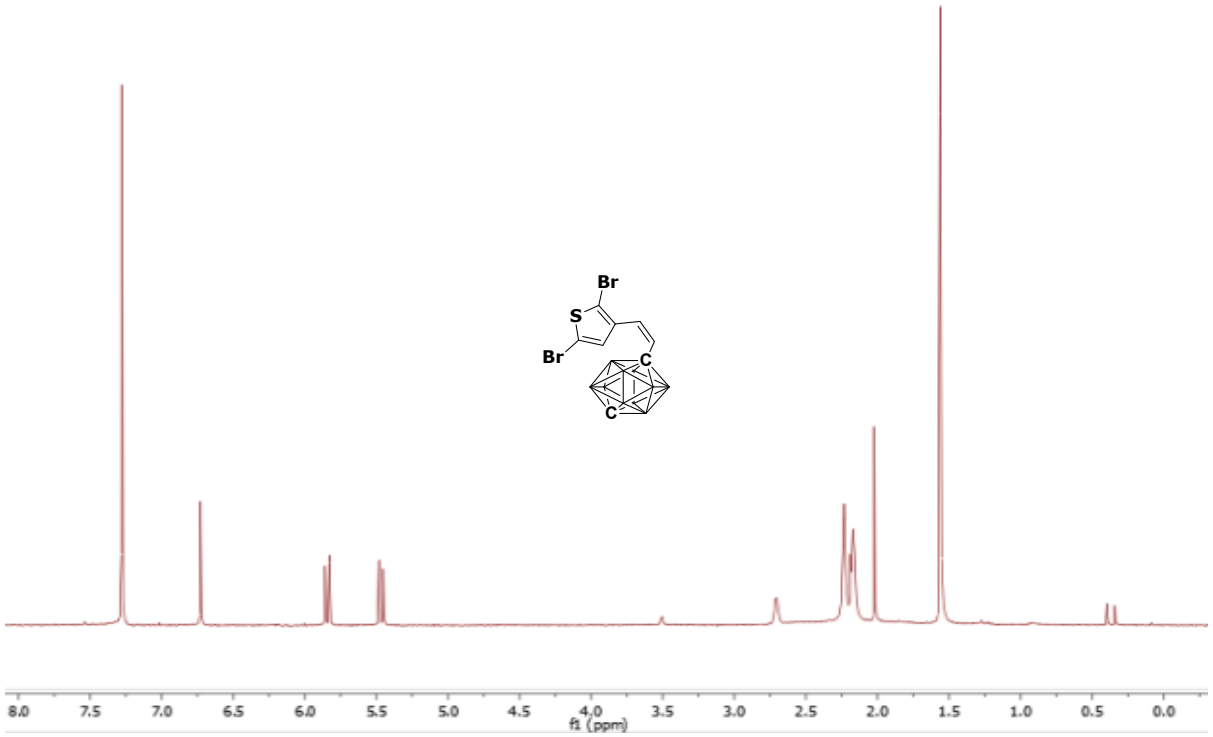

Fig. S5 ^{1}H NMR spectrum of *para*/*cis* monomer ($CDCl_3$)

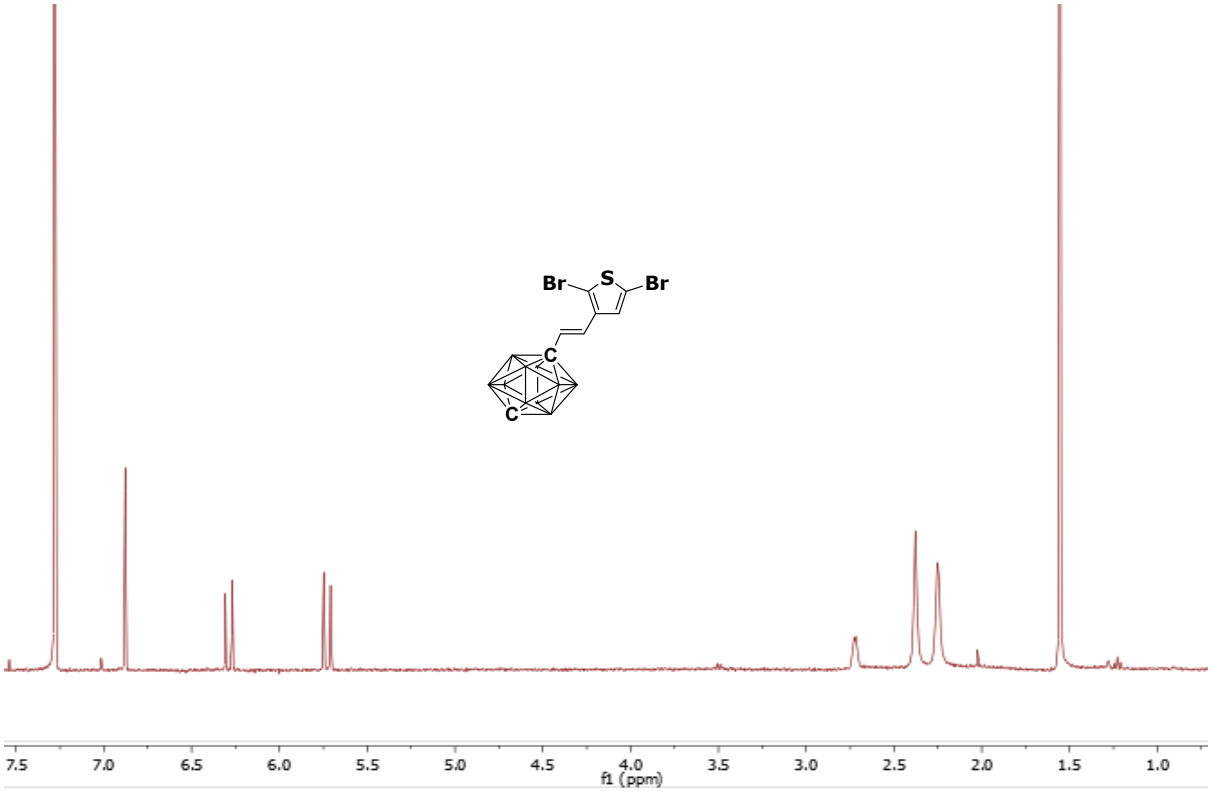

Fig. S6 ^{1}H NMR spectrum of *para*/*trans* monomer ($CDCl_3$)

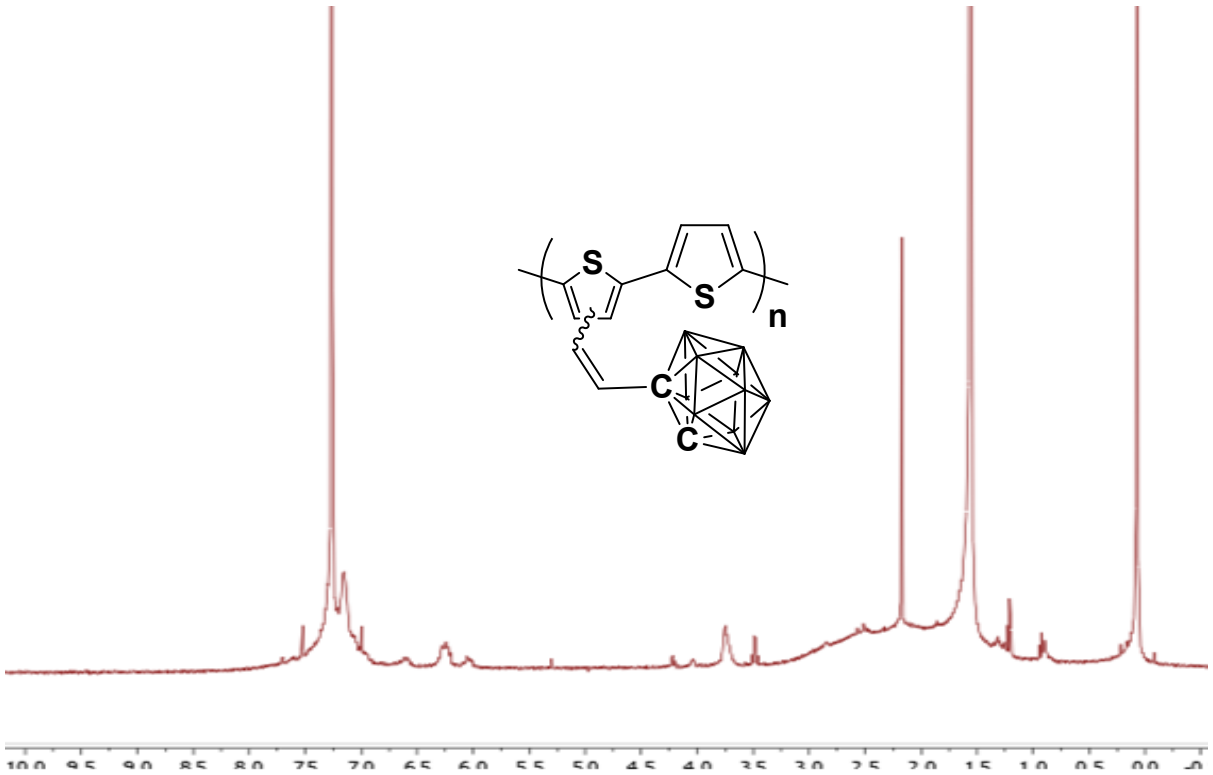

Fig. S7 ^{1}H NMR spectrum of *ortho/cis* polymer ($CDCl_3$, 298K)

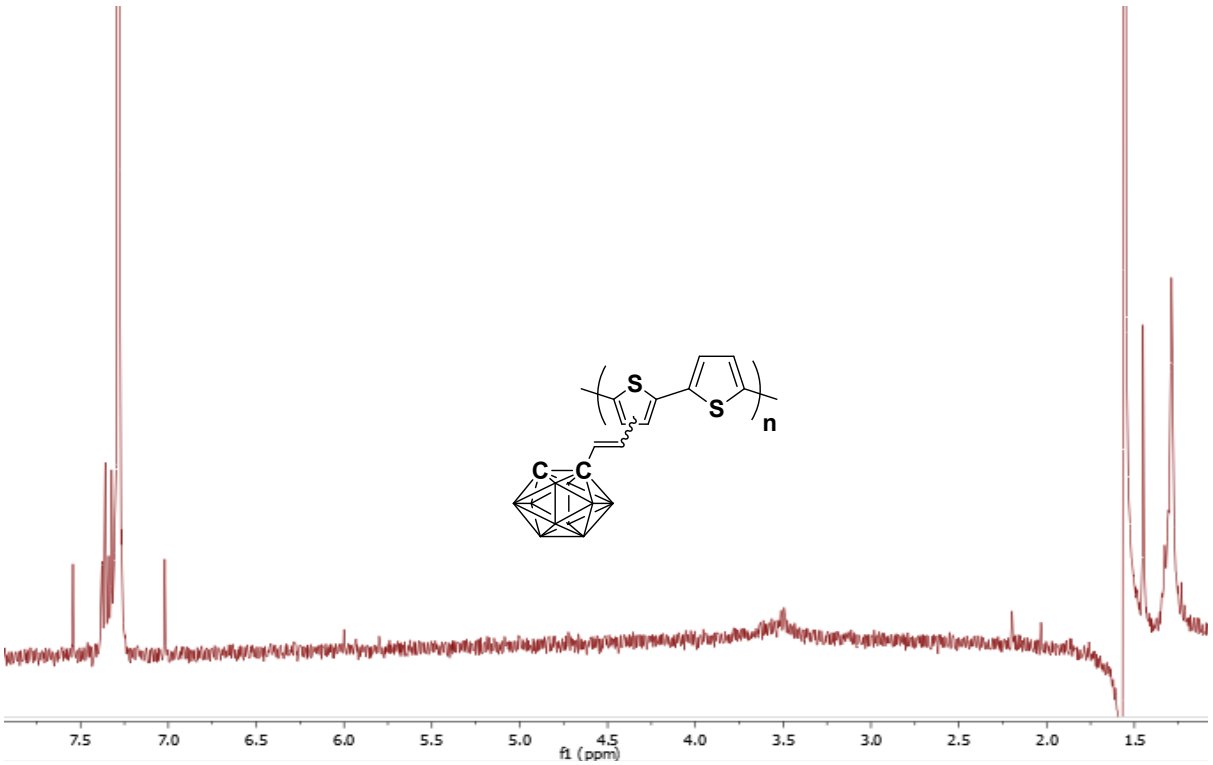

Fig. S8 ^{1}H NMR spectrum of *ortho/trans* polymer ($CDCl_3$, 298K)

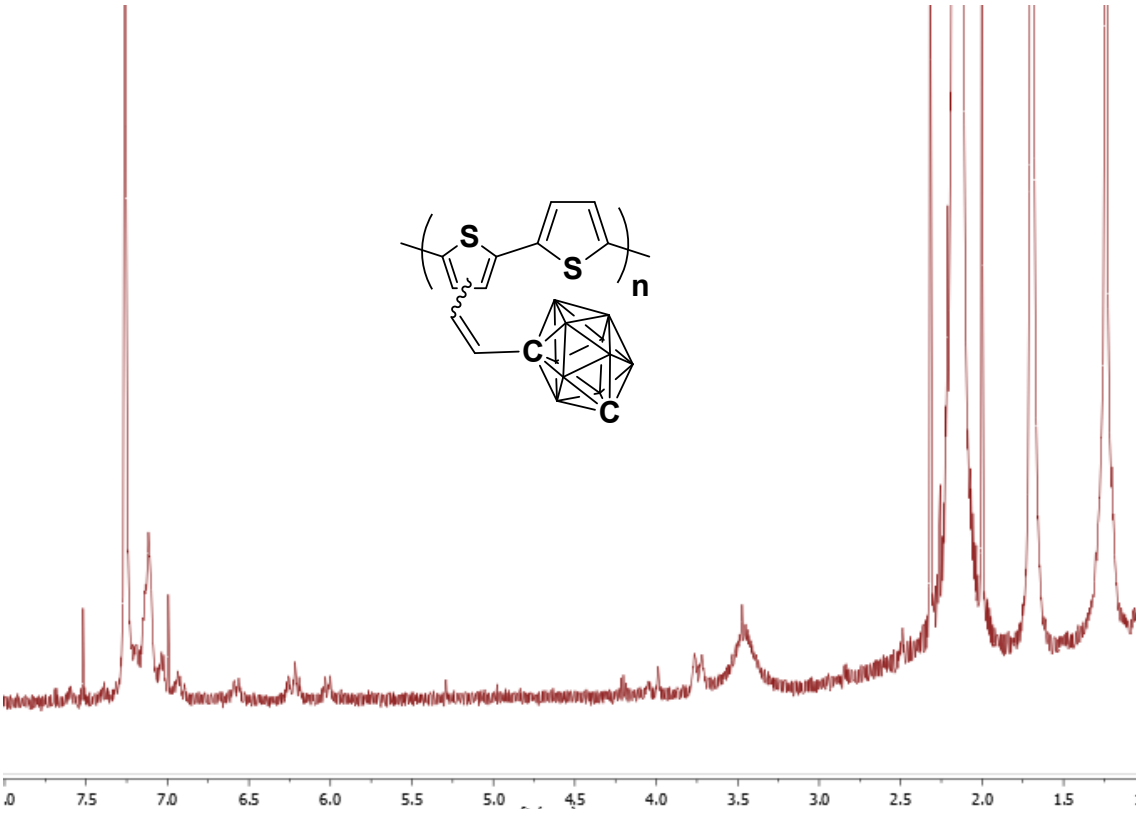

Fig. S9 ^{1}H NMR spectrum of *meta/cis* polymer ($CDCl_3$, 298K)

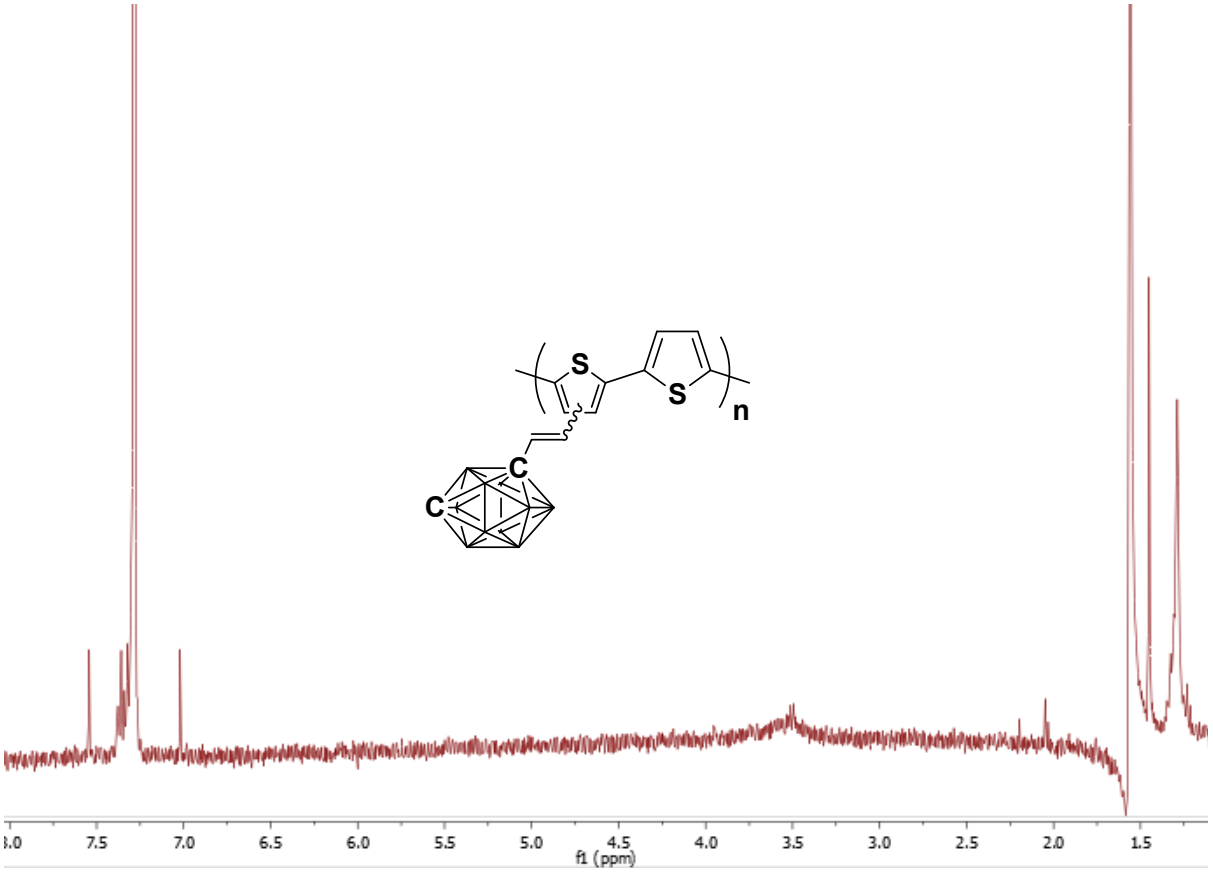

Fig. S10 ^{1}H NMR spectrum of *meta/trans* polymer ($CDCl_3$, 298K)

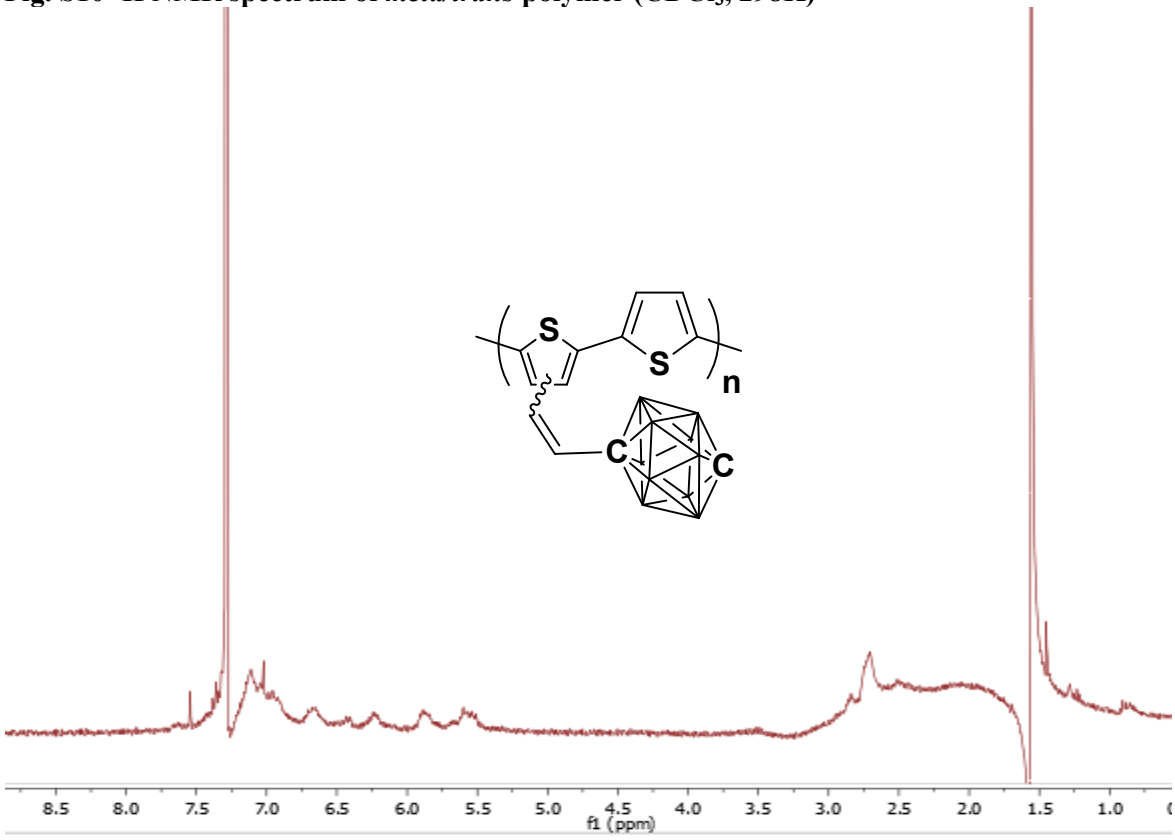

Fig. S11 ^{1}H NMR spectrum of *para/cis* polymer ($CDCl_3$, 298K)

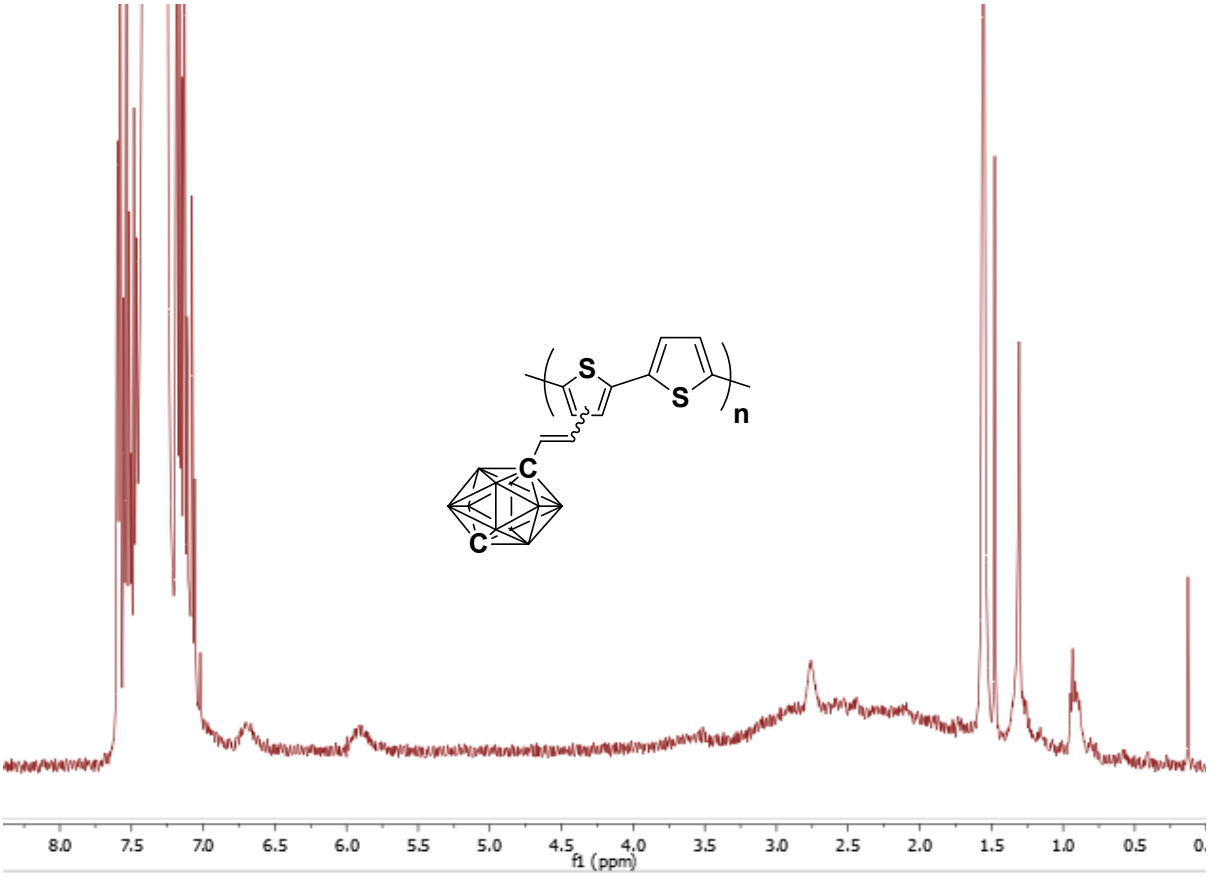

Fig. S12 ^{1}H NMR spectrum of *para/trans* polymer ($CDCl_3$, 298K)

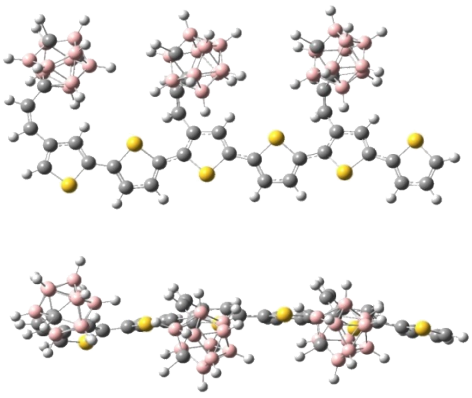

Fig S13. Minimum energy conformation of *meta*/*cis* polymer. Side-on (top) and top-down (bottom) views shown

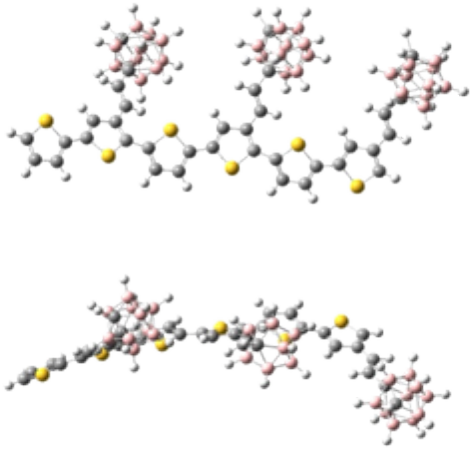

Fig S14. Minimum energy conformation of *meta*/*trans* polymer. Side-on (top) and top-down (bottom) views shown

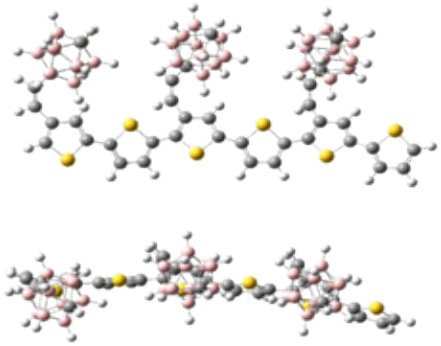

Fig S15. Minimum energy conformation of *para*/*cis* polymer. Side-on (top) and top-down (bottom) views shown

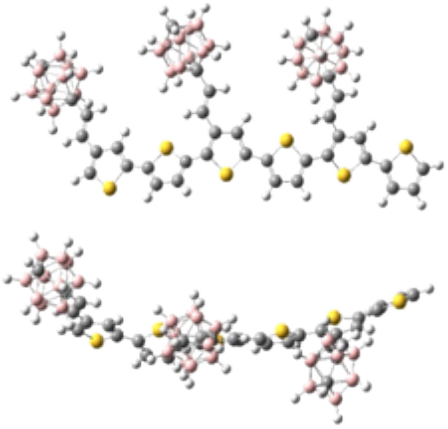

Fig S16. Minimum energy conformation of *para*/*trans* polymer. Side-on (top) and top-down (bottom) views shown

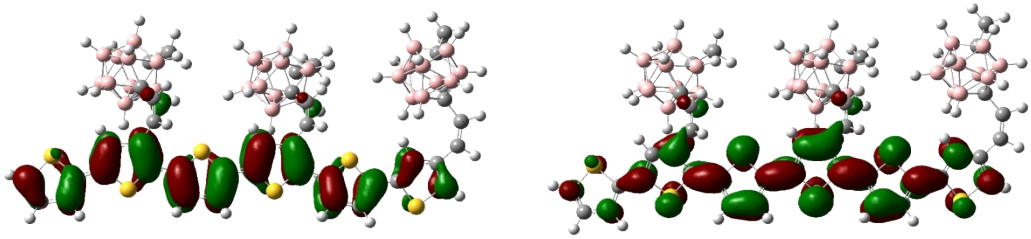

Fig. S17. Visualised frontier orbitals of *meta*/*cis* polymer. HOMO (left) and LUMO (right)

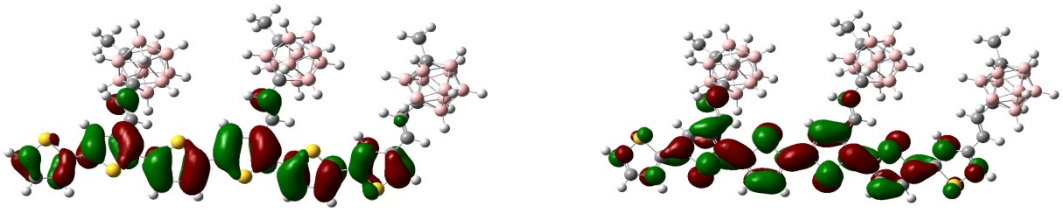

Fig. S18. Visualised frontier orbitals of *meta*/*trans* polymer. HOMO (left) and LUMO (right)

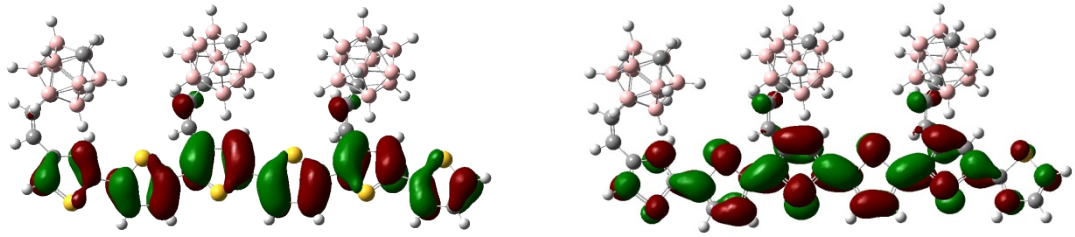

Fig. S19. Visualised frontier orbitals of *para*/*cis* polymer. HOMO (left) and LUMO (right)

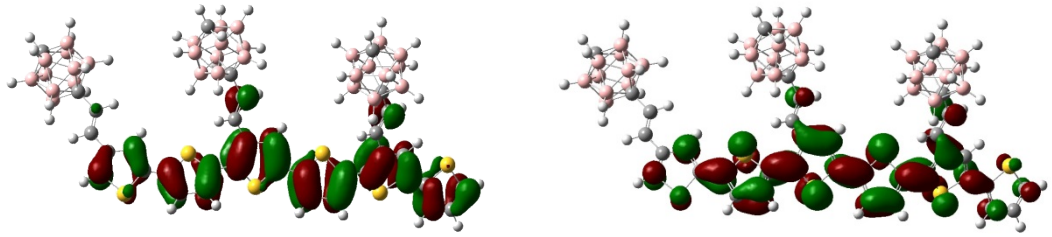

Fig. S20. Visualised frontier orbitals of *para*/*trans* polymer. HOMO (left) and LUMO (right)

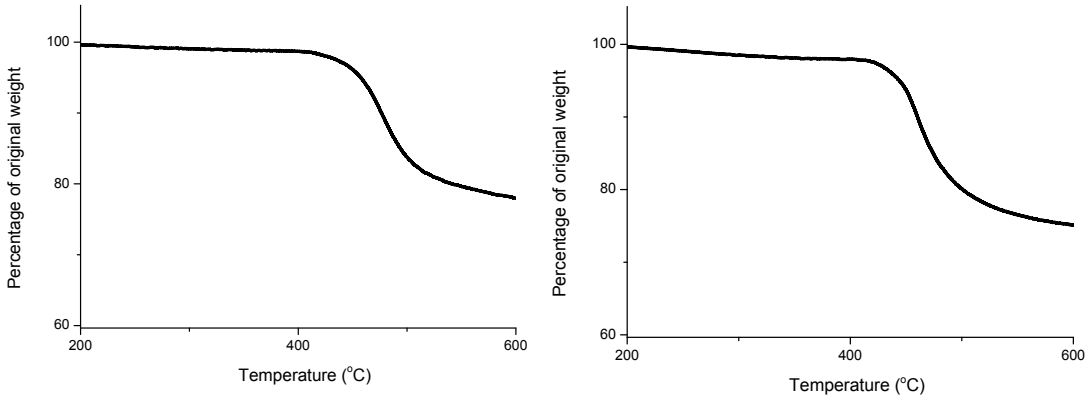

Fig. S21. TGA of *ortho*/*cis* (left) and *ortho*/*trans* (right) polymers

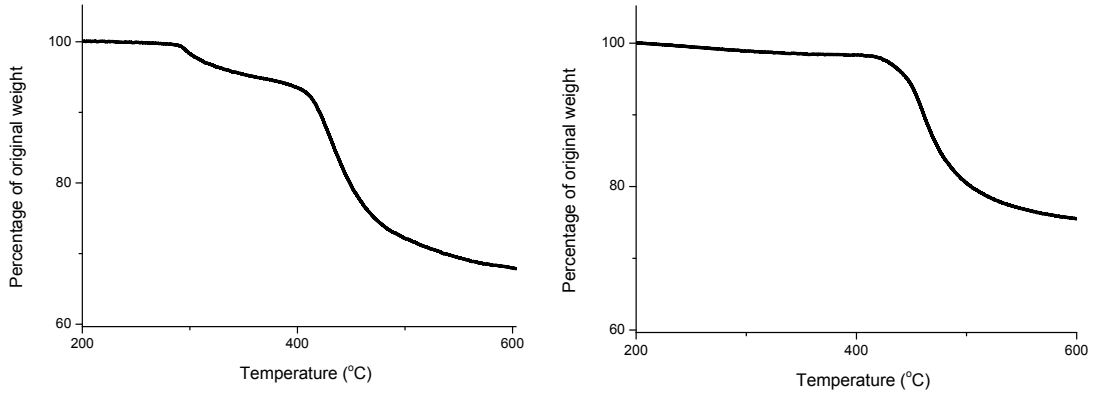

Fig. S22. TGA of *meta*/*cis* (left) and *meta*/*trans* (right) polymers

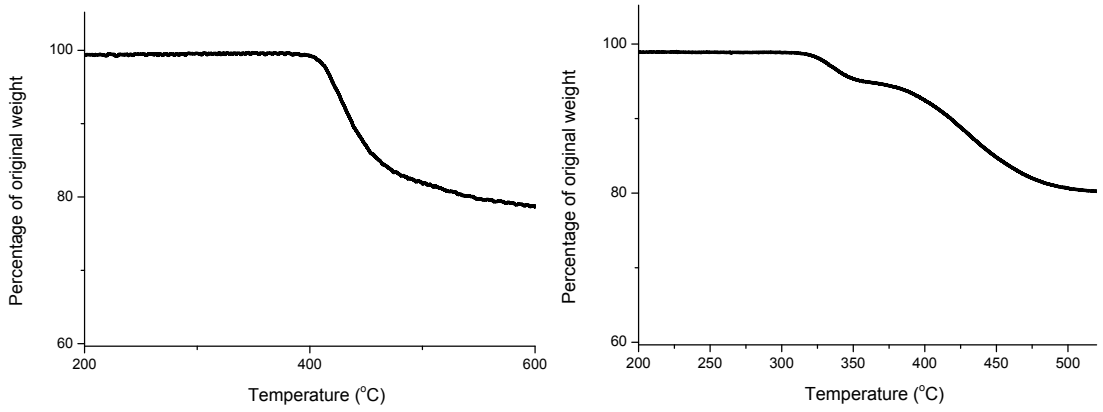

Fig. S23. TGA of *para*/*cis* (left) and *para*/*trans* (right) polymers

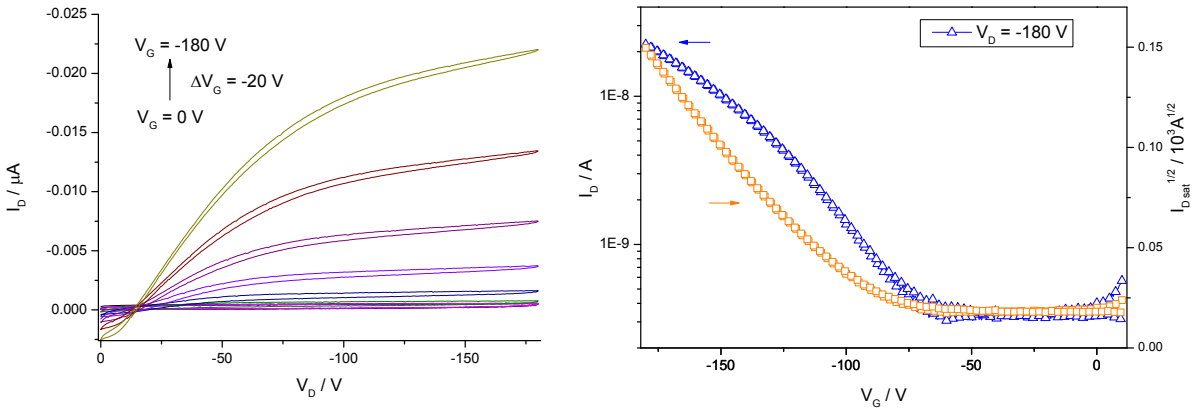

Fig. S24. Output (left) and transfer (right) characteristics of *ortho*/*cis* polymer

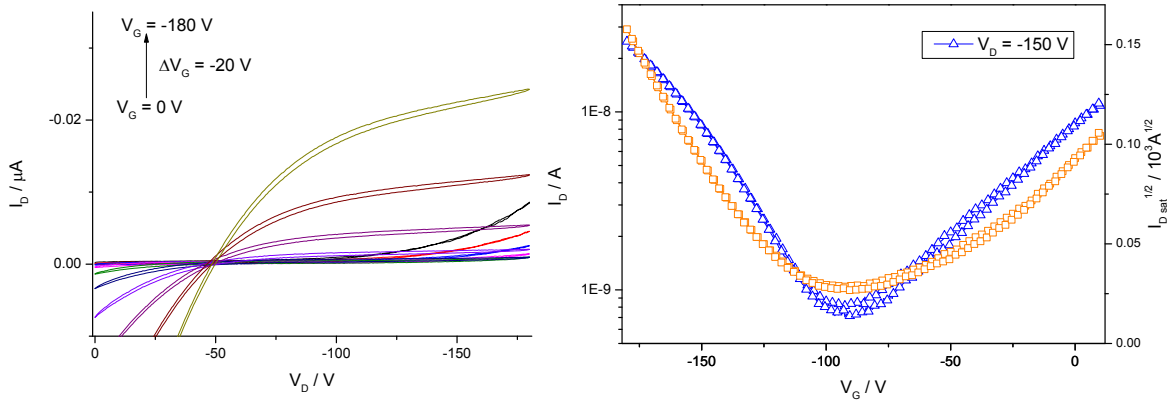

Fig. S25. Output (left) and transfer (right) characteristics of *ortho*/*trans* polymer

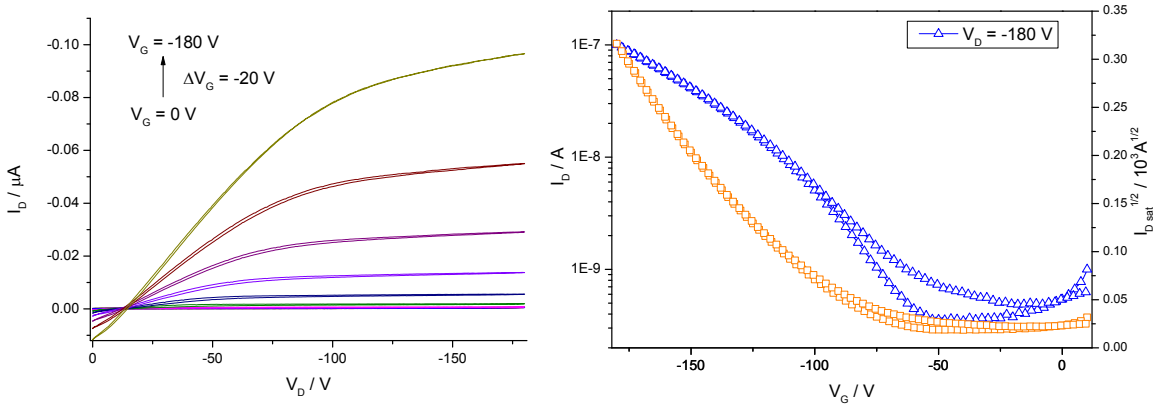

Fig. S26. Output (left) and transfer (right) characteristics of *meta*/*cis* polymer

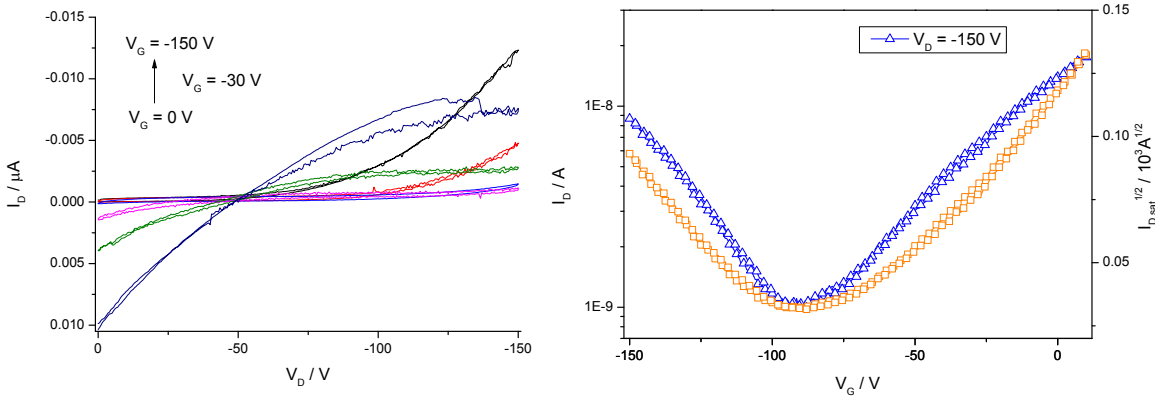

Fig. S27. Output (left) and transfer (right) characteristics of *meta*/*trans* polymer

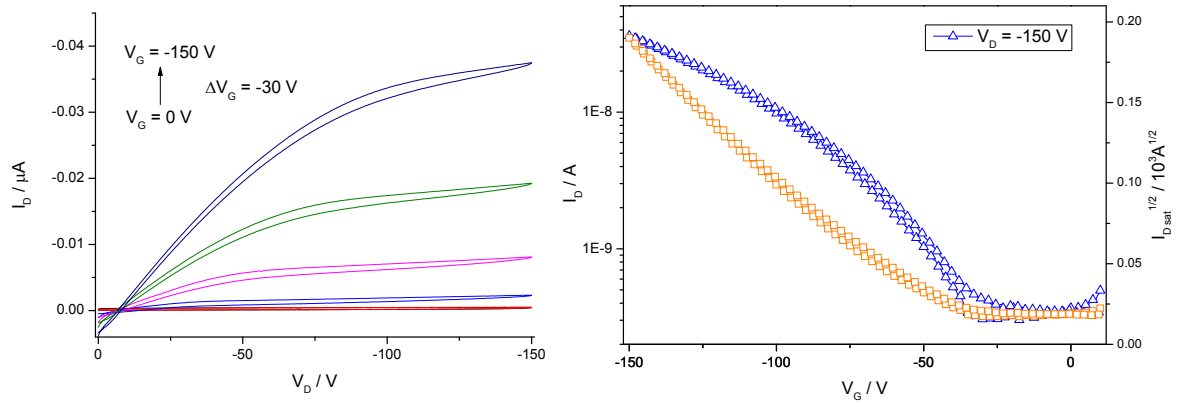

Fig. S28. Output (left) and transfer (right) characteristics of *para*/*cis* polymer

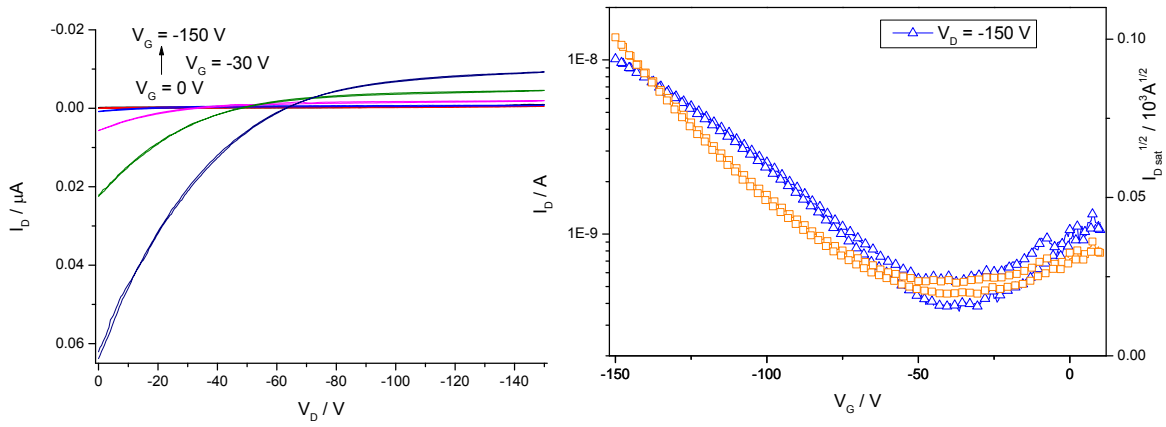

Fig. S29. Output (left) and transfer (right) characteristics of *para*/*trans* polymer