Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary Information

Side-Chain Boron Difluoride Formazanate Polymers via Ring-Opening Metathesis Polymerization

*Samantha Novoa, Joseph A. Paquette, Stephanie M. Barbon, Ryan R. Maar and Joe B. Gilroy**

Department of Chemistry and the Centre for Advanced Materials and Biomaterials Research (CAMBR), The University of Western Ontario, 1151 Richmond St. N., London, Ontario, Canada, N6A 5B7. Tel: +1-519-661-2111 ext. 81561, E-mail: joe.gilroy@uwo.ca.

Emission Correction Data

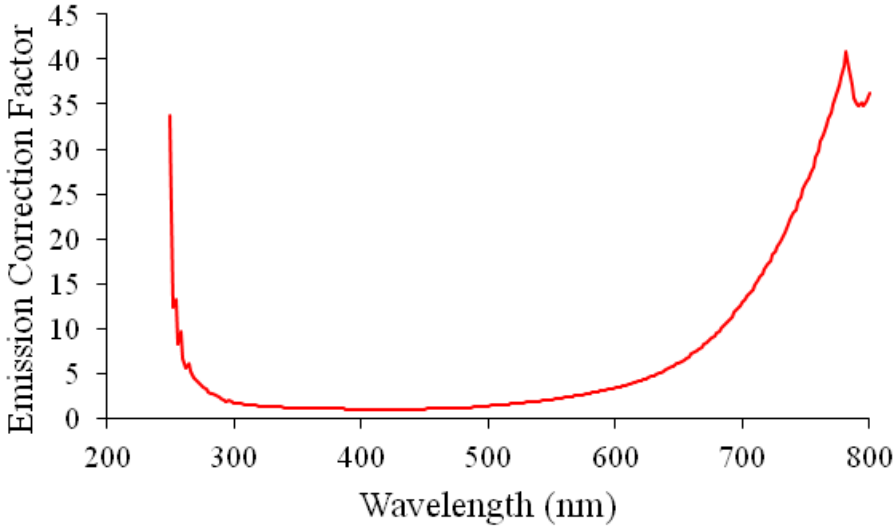

Fig. S1 Wavelength-dependent emission correction provided by Photon Technology International.

NMR Spectra

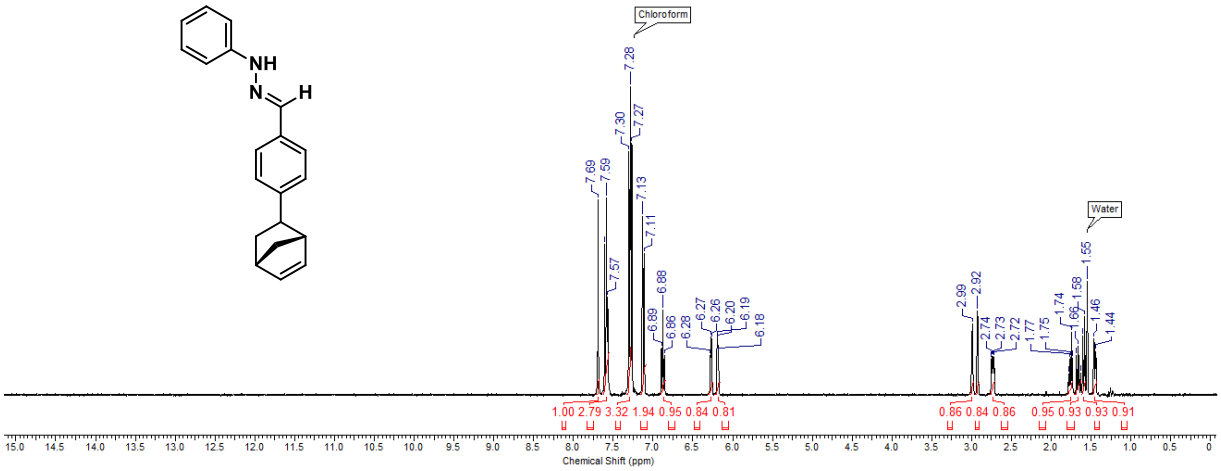

Fig. S2 ^{1}H NMR spectrum of hydrazone **9** in $CDCl_3$.

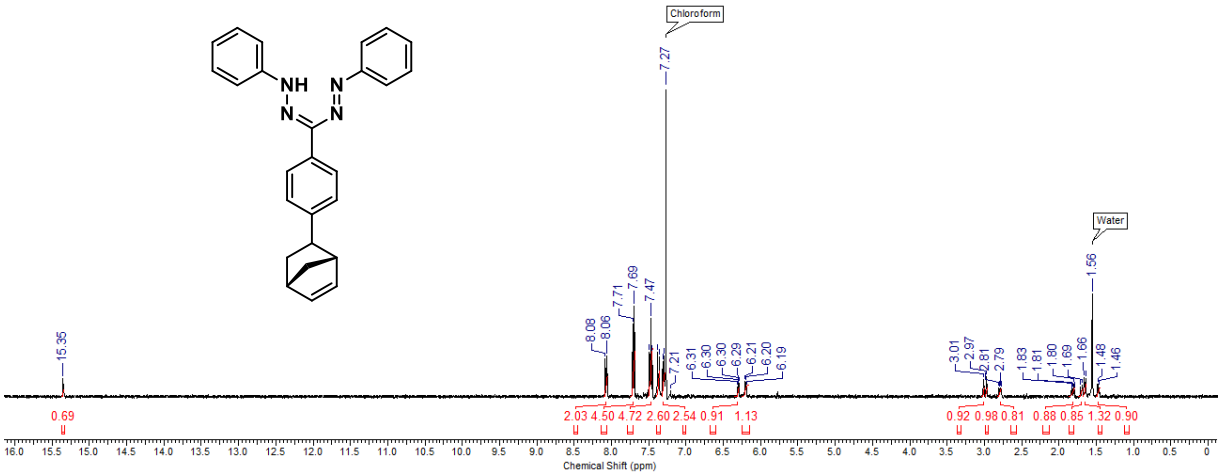

Fig. S3 ^{1}H NMR spectrum of formazan **10** in $CDCl_3$.

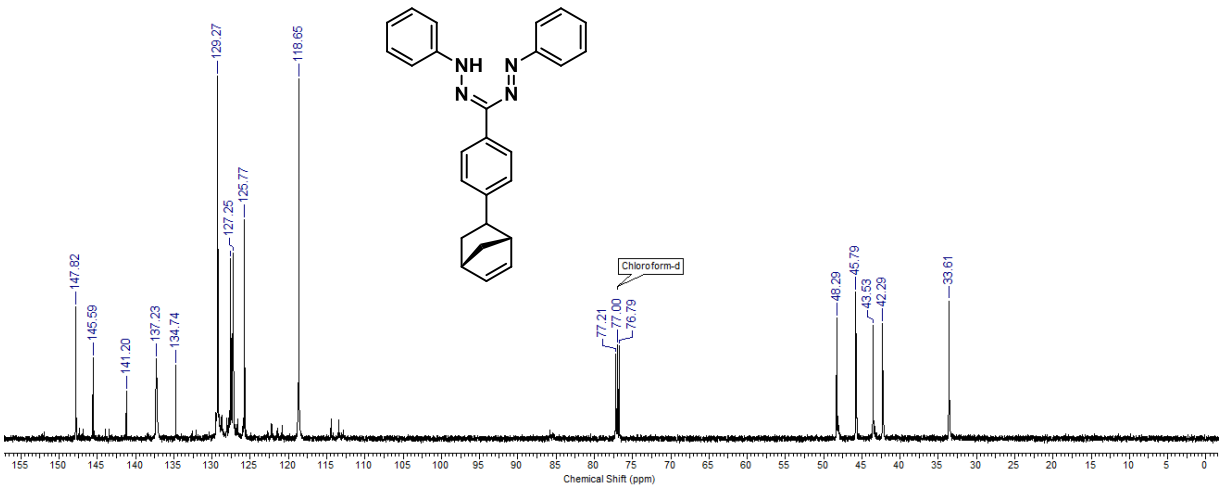

Fig. S4 $^{13}C\{^{1}H\}$ NMR spectrum of formazan **10** in $CDCl_3$.

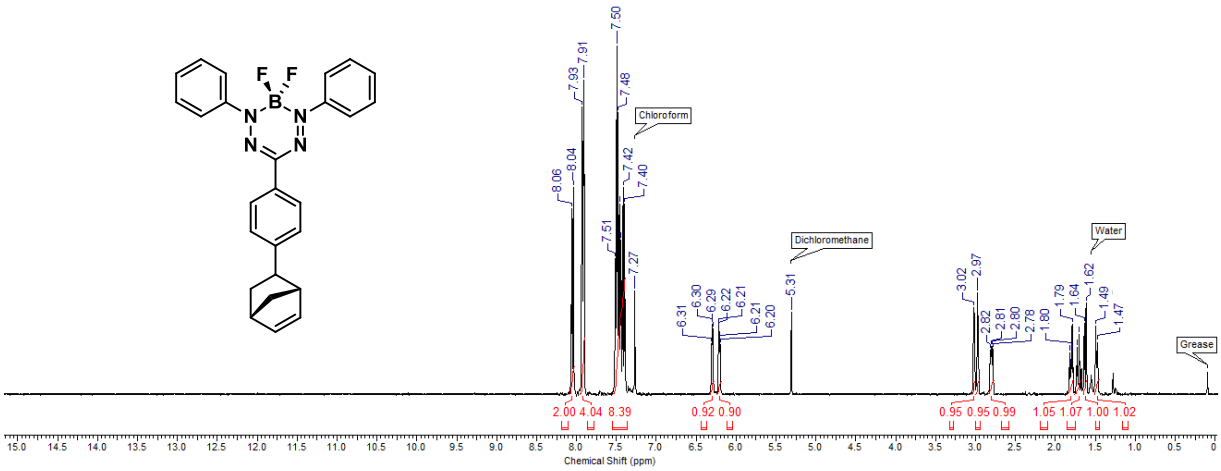

Fig. S5 ^{1}H NMR spectrum of BF_2 formazanate monomer **11** in $CDCl_3$.

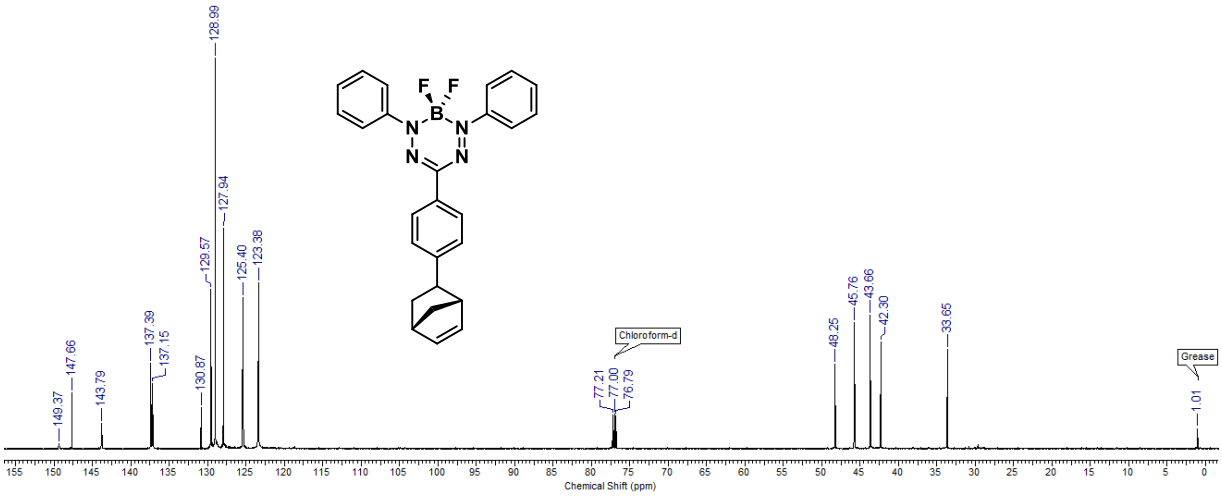

Fig. S6 $^{13}C\{^{1}H\}$ NMR spectrum of BF_2 formazanate monomer **11** in $CDCl_3$.

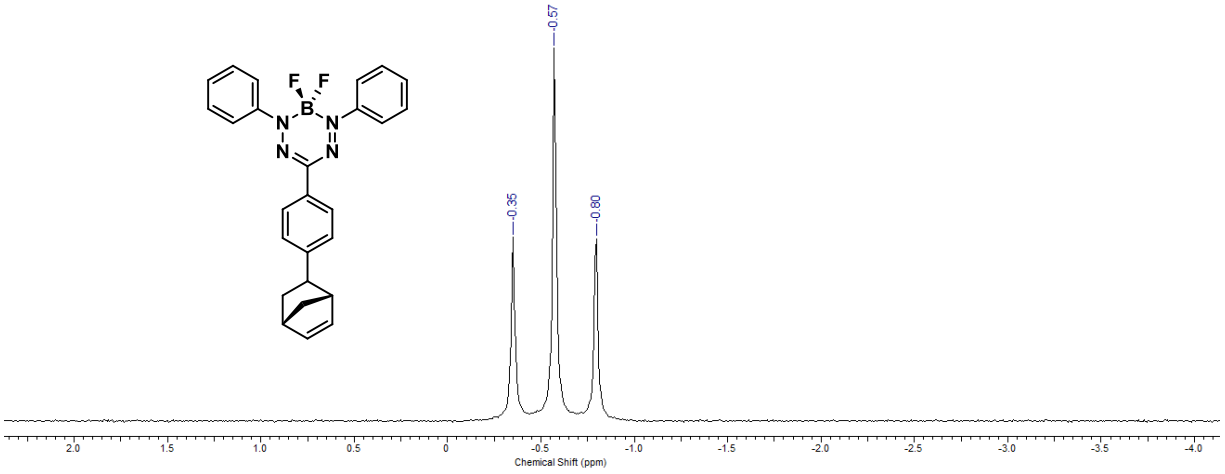

Fig. S7 ^{11}B NMR spectrum of BF_2 formazanate monomer **11** in $CDCl_3$.

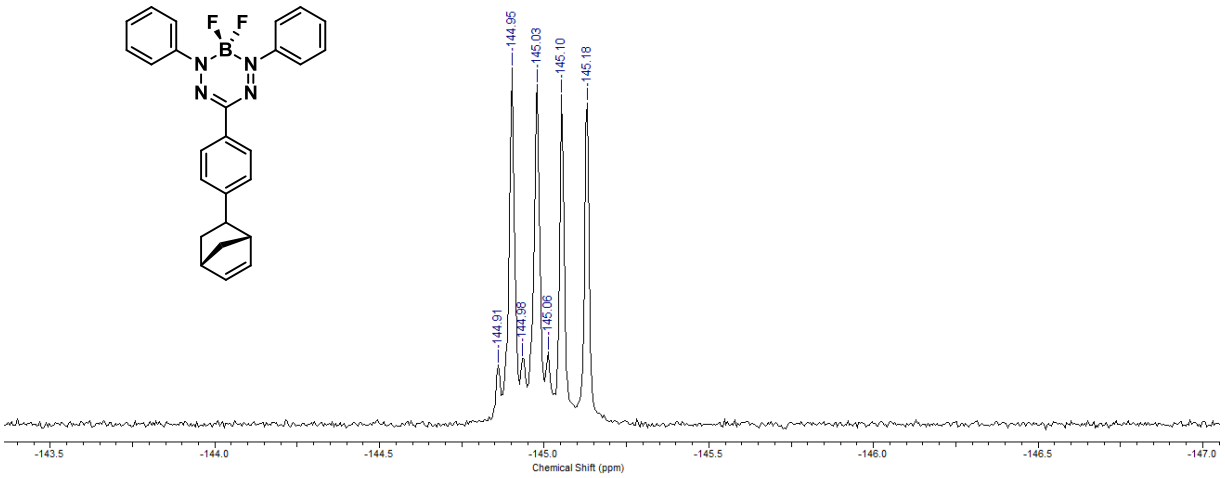

Fig. S8 ^{19}F NMR spectrum of BF_2 formazanate monomer **11** in $CDCl_3$.

Additional GPC Data

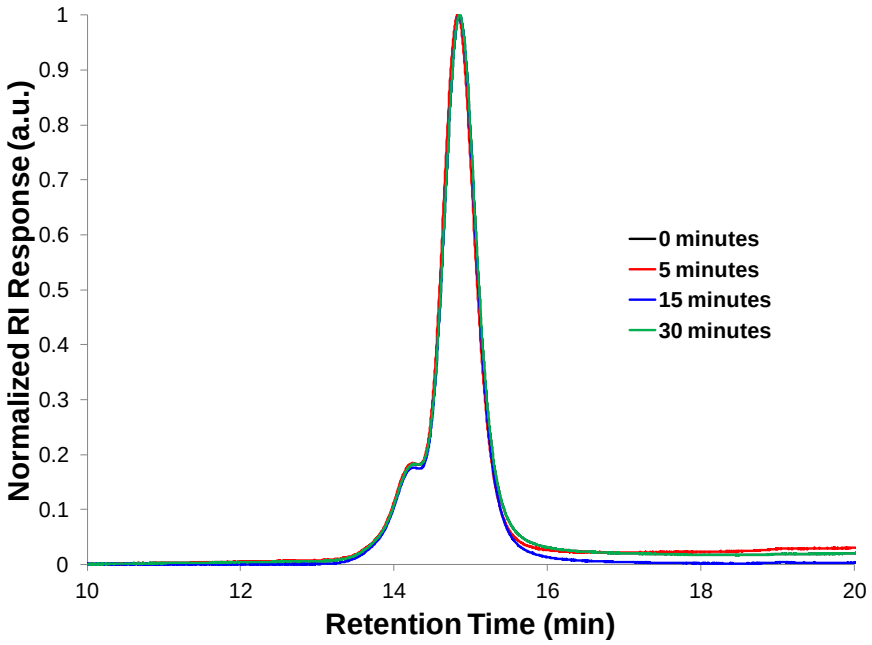

Fig. S9 GPC Traces for Control Experiment Involving the Reaction of Grubbs' 3rd Generation Catalyst with Polymer 12.

Polymer NMR Data

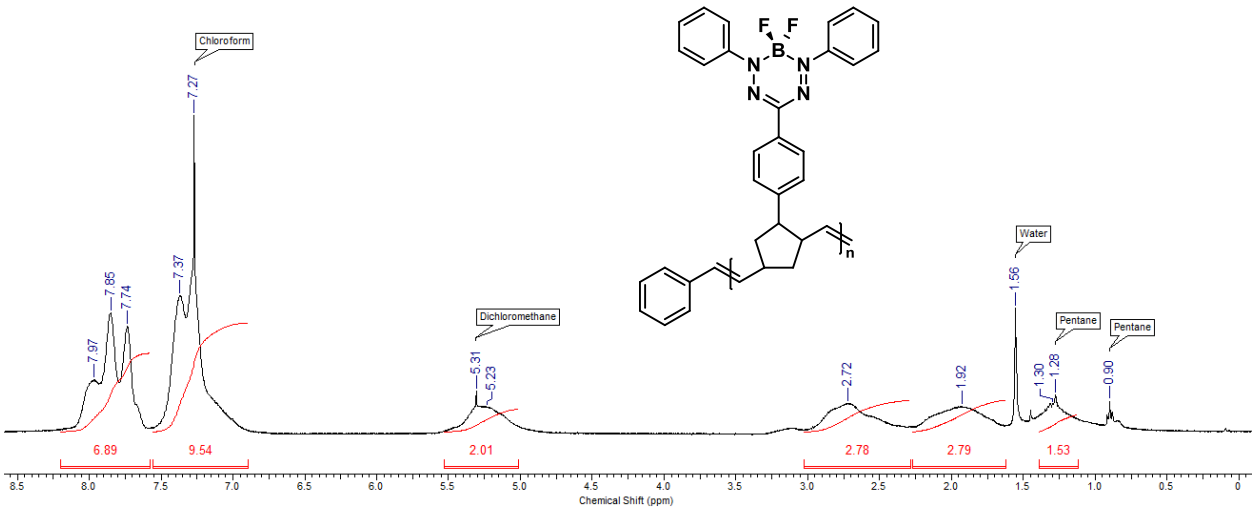

Fig. S10 ^{1}H NMR spectrum of BF_2 formazanate polymer **12** in $CDCl_3$.

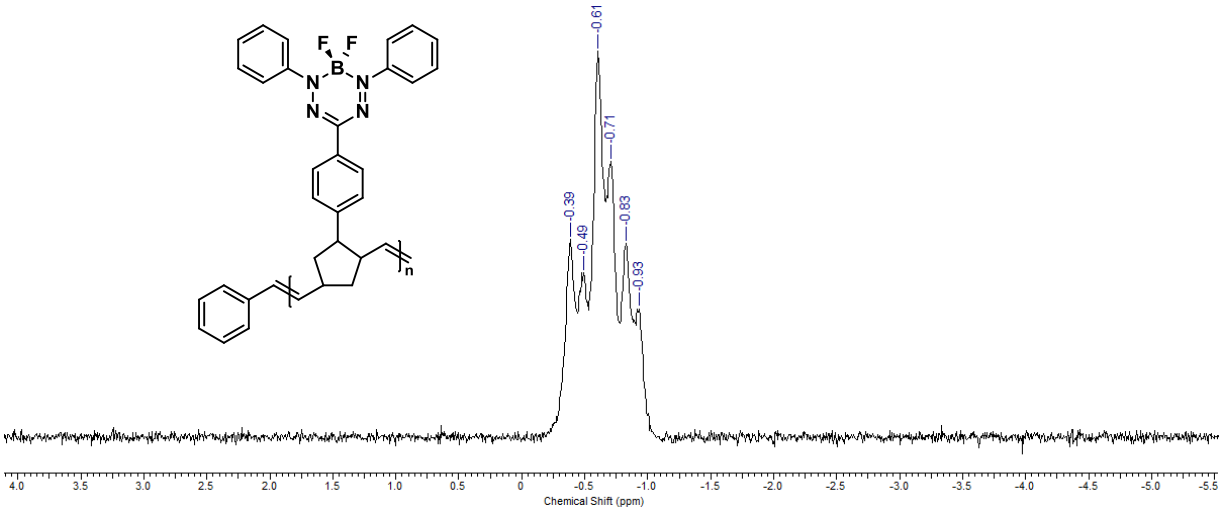

Fig. S11 ^{11}B NMR spectrum of BF_2 formazanate polymer **12** in $CDCl_3$.

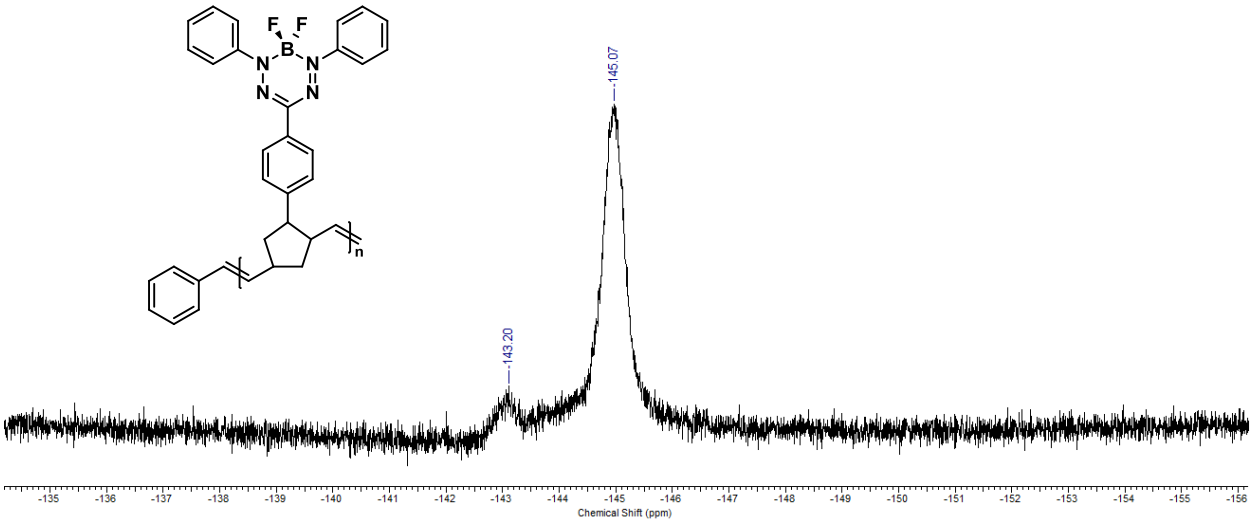

Fig. S12 ^{19}F NMR spectrum of BF_2 formazanate polymer **12** in $CDCl_3$.

Thermal Analysis

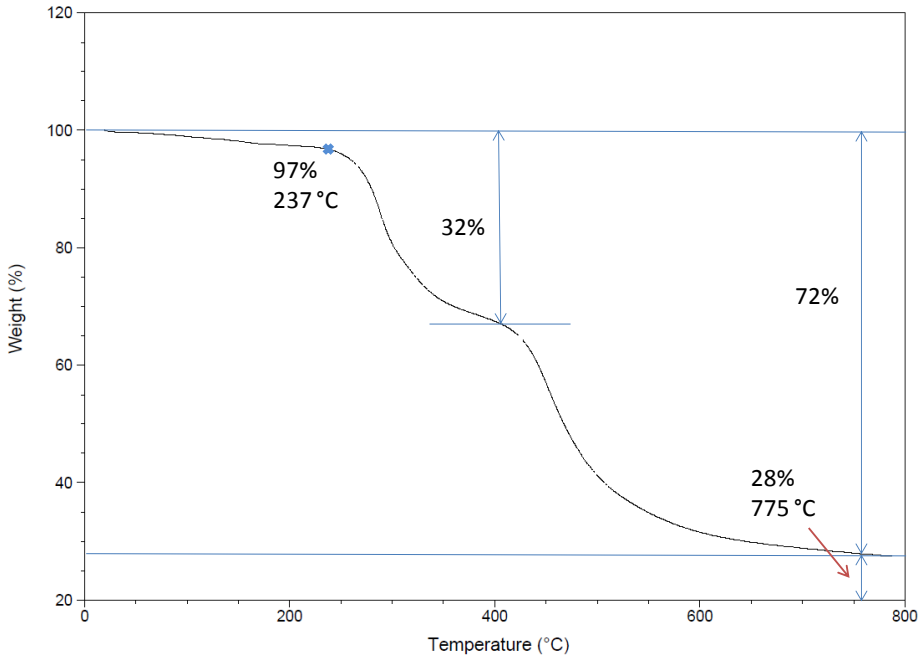

Fig. S13 TGA trace for BF_2 formazanate polymer **12**.

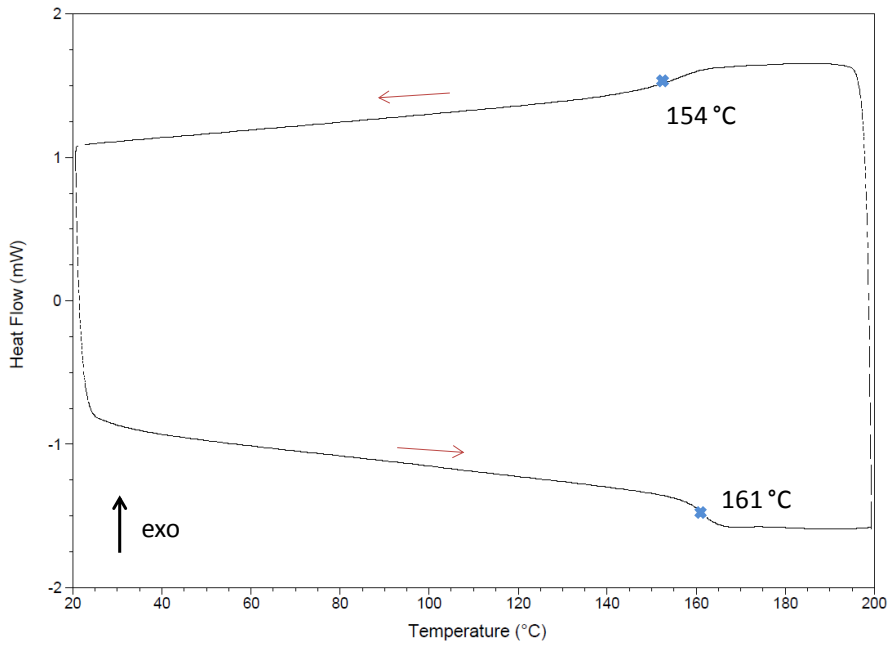

Fig. S14 DSC thermogram collected for BF_2 formazanate polymer **12**.

UV-Vis Absorption Spectra

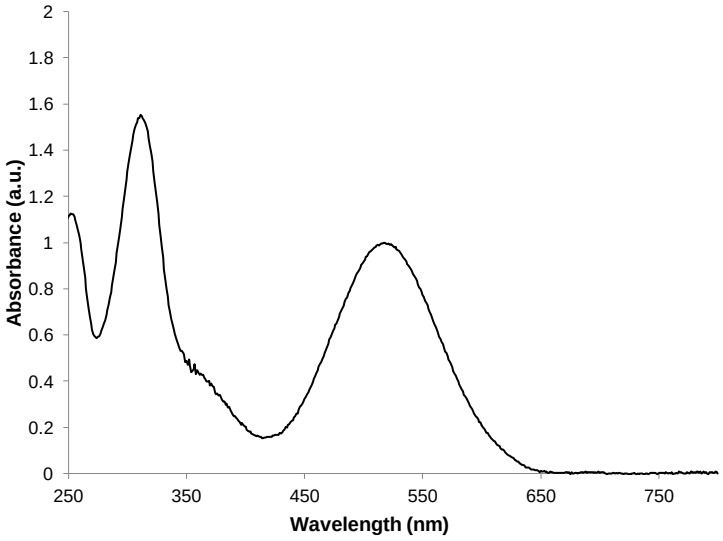

Fig. S15 UV-Vis absorption spectrum of BF_2 formazanate monomer **11** recorded in CH_2Cl_2.

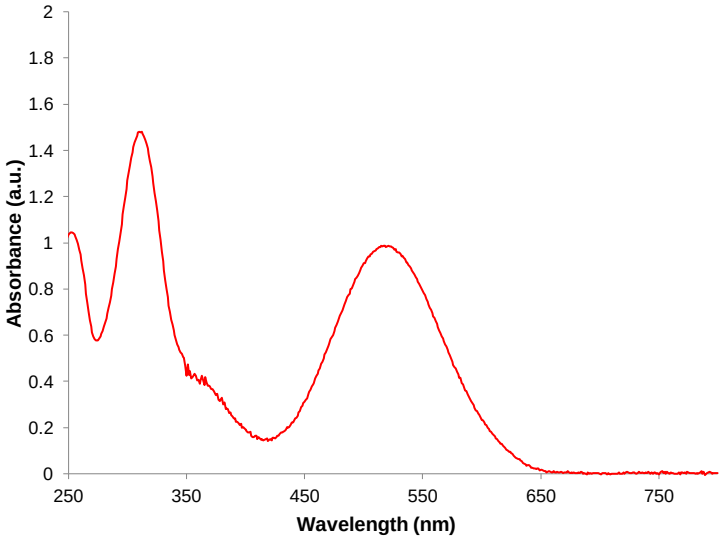

Fig. S16 UV-Vis absorption spectrum of BF_2 formazanate polymer **12** recorded in CH_2Cl_2.

Cyclic Voltammetry Data

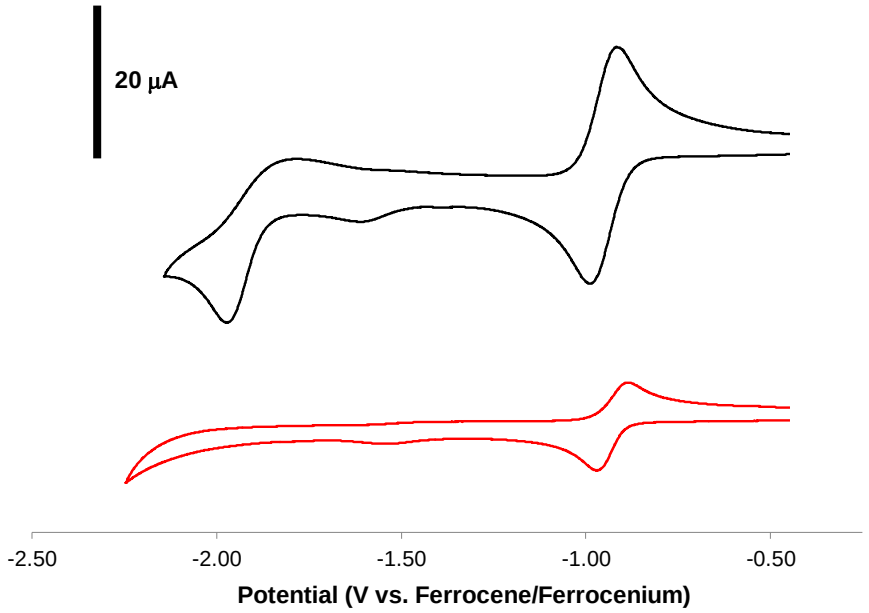

Fig. S17 Cyclic voltammograms for BF_2 formazanate monomer **11** (black line) and polymer **12** (red line) recorded in dry, degassed THF containing ~ 1 mM analyte and 0.1 M nBu$_4$NPF$_6$ at a scan rate of 250 mV s^{-1}.

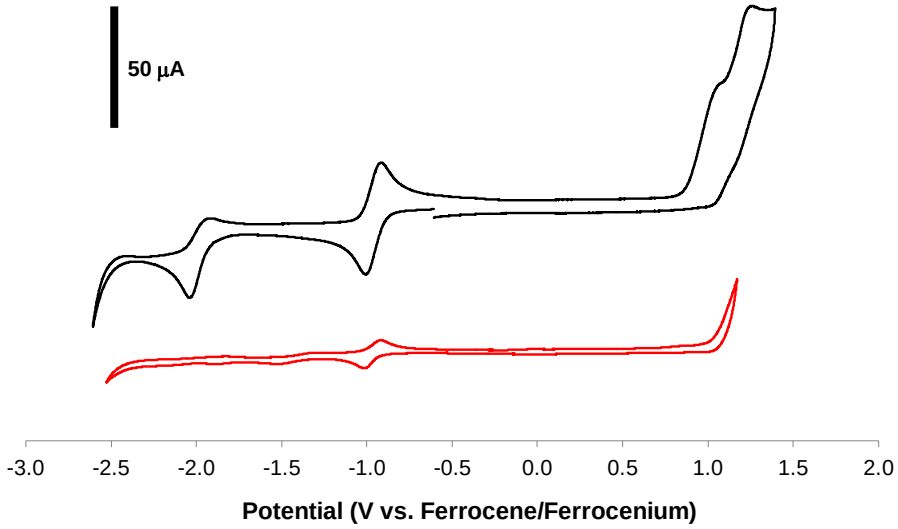

Fig. S18 Cyclic voltammograms for BF_2 formazanate monomer **11** (black line) and polymer **12** (red line) recorded in dry, degassed CH_2Cl_2 containing ~ 1 mM analyte and 0.1 M nBu$_4$NPF$_6$ at a scan rate of 250 mV s^{-1}.