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Effect of counter ions on the mesogenic ionic N-phenylpyridiniums

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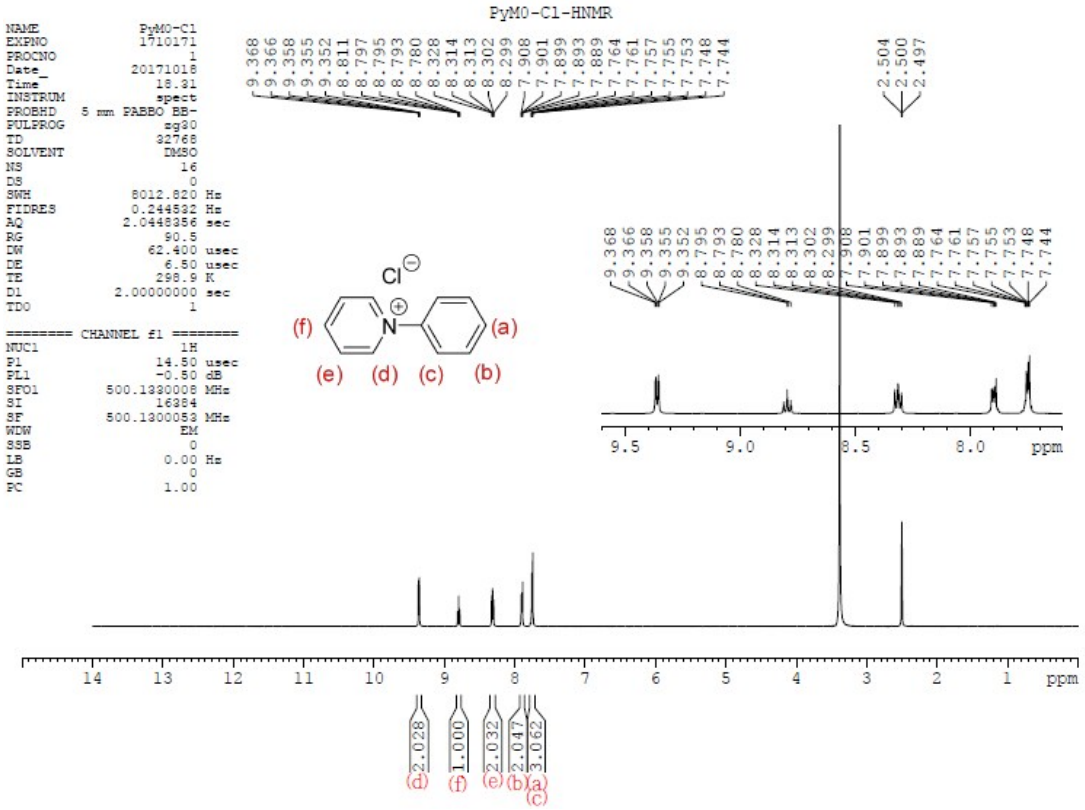

Fig. S1 ^{1}H NMR spectrum of compound **1–Cl** in DMSO–d_6.

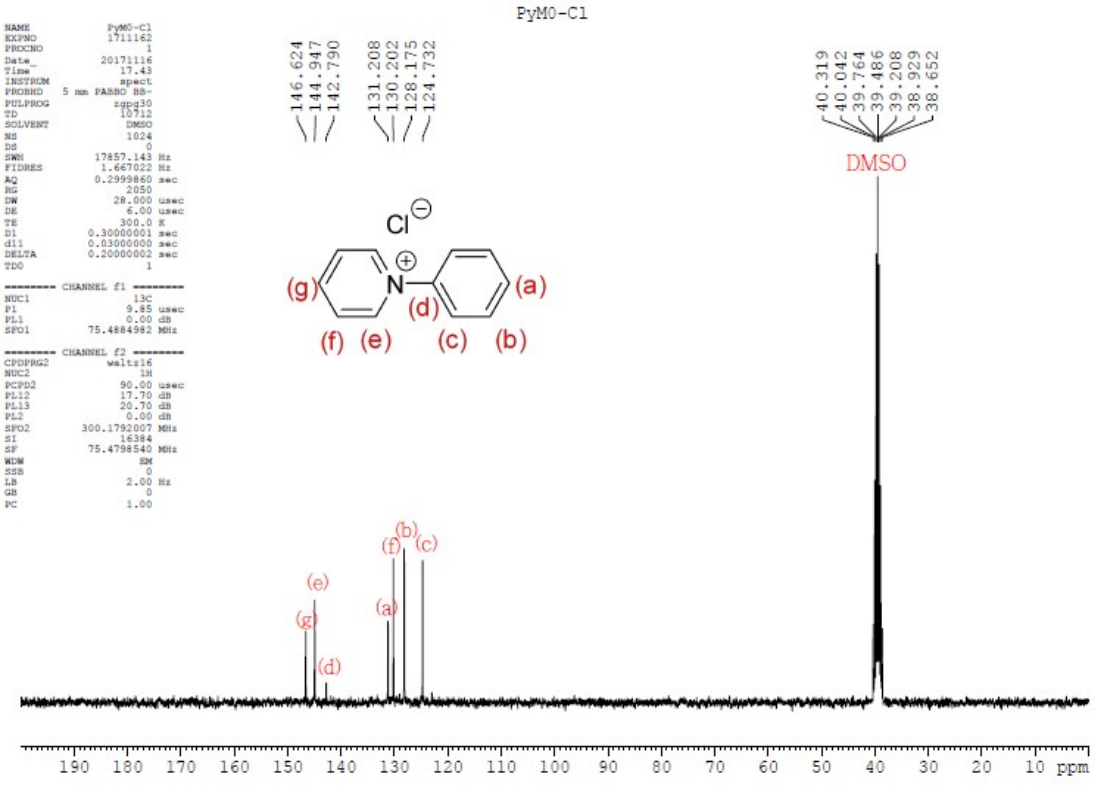

Fig. S2 ^{13}C NMR spectrum of compound **1–Cl** in DMSO–d_6.

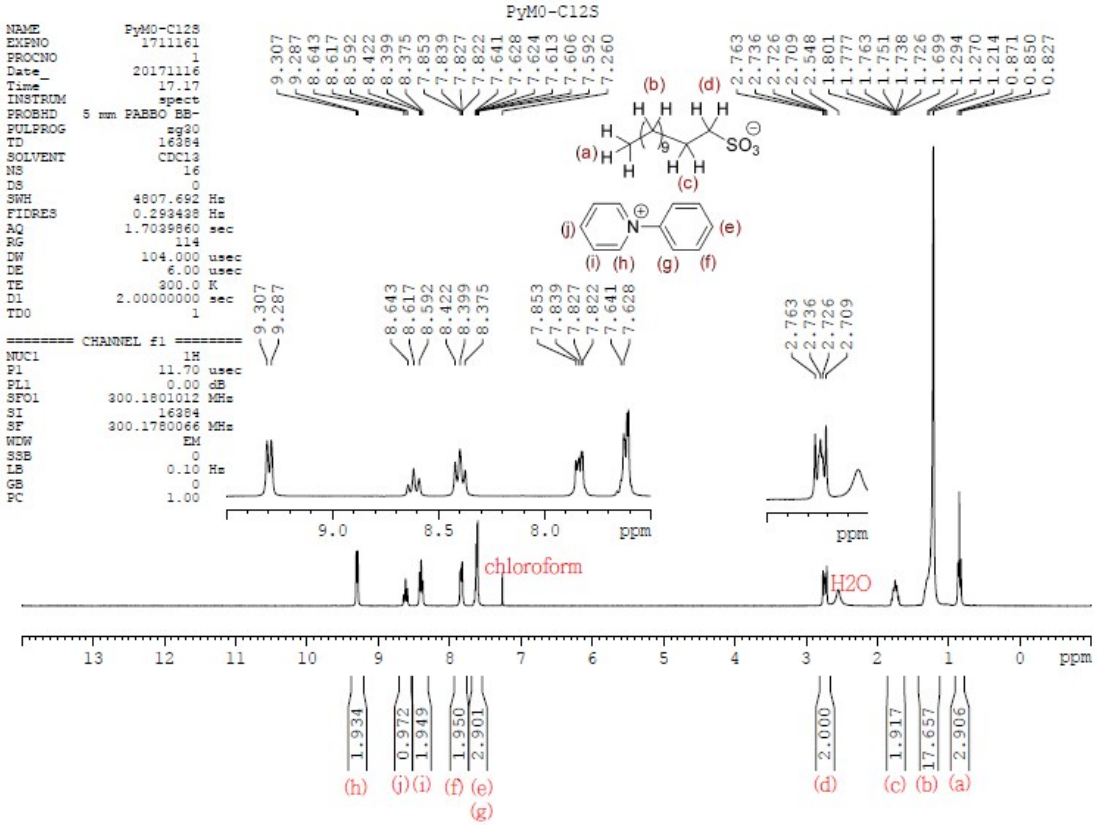

Fig. S3 ^{1}H NMR spectrum of compound **1–RSO$_3$** (n = 12) in $CDCl_3$.

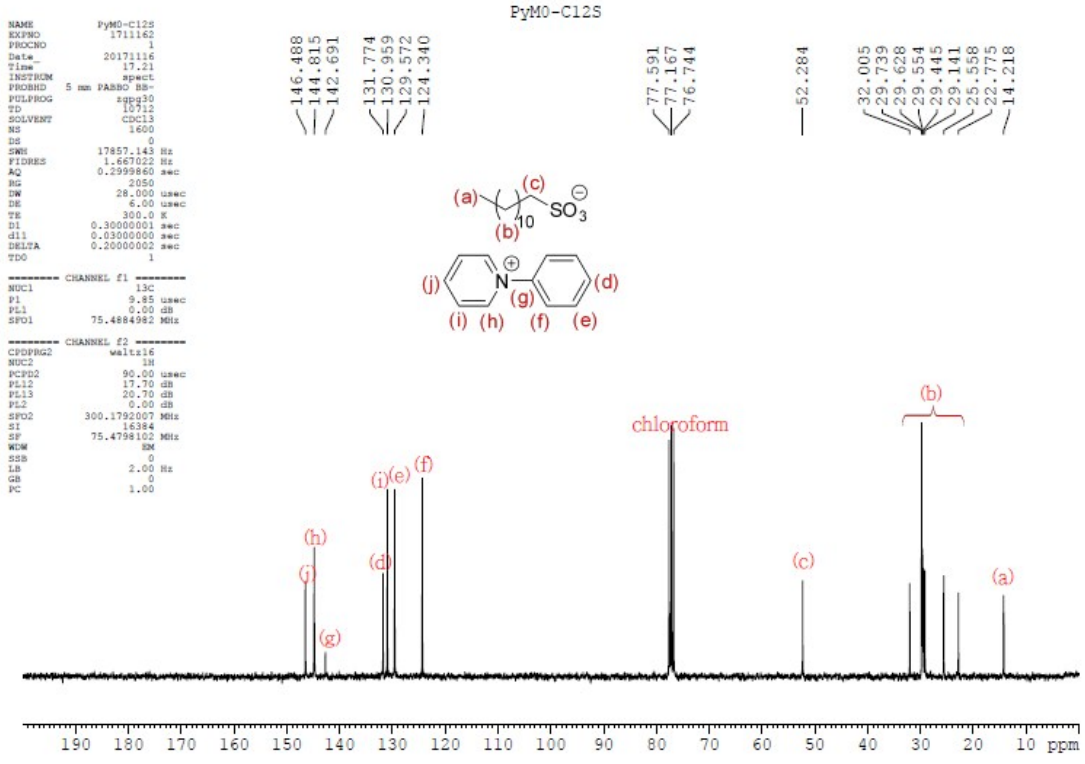

Fig. S4 ^{13}C NMR spectrum of compound **1–RSO$_3$** (n = 12) in $CDCl_3$.

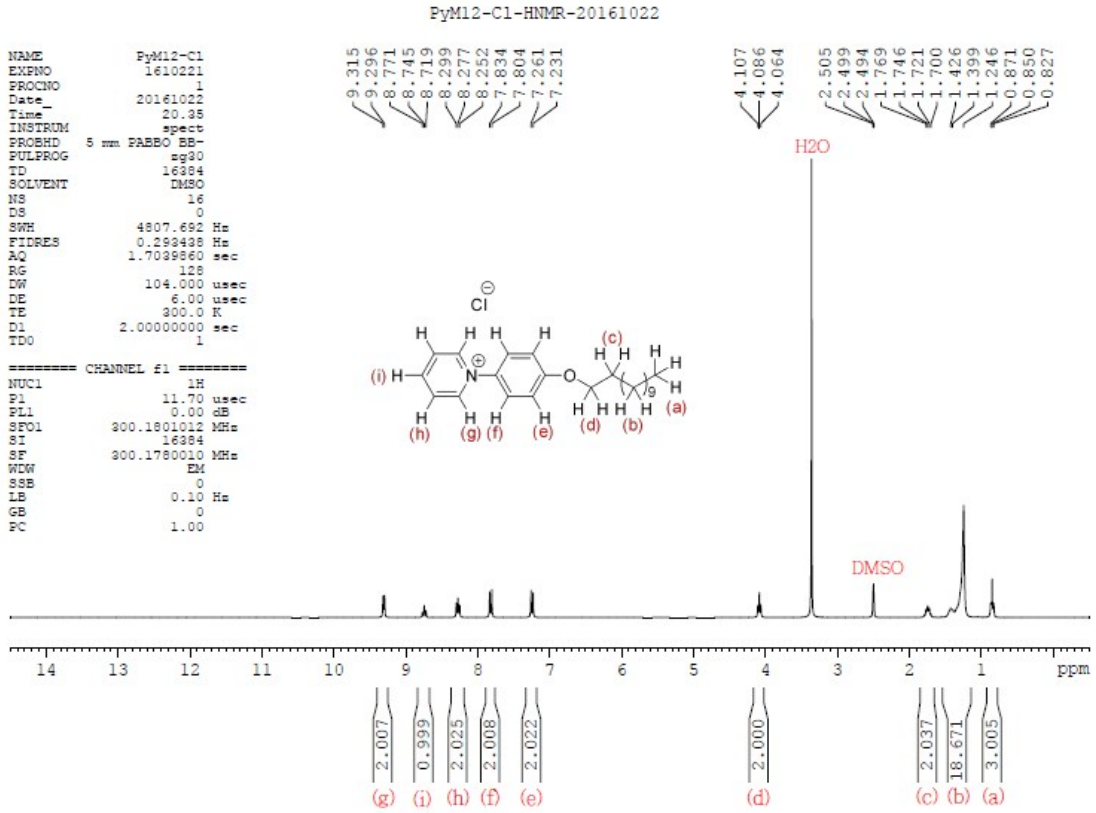

Fig. S5 ^{1}H NMR spectrum of compound **2–Cl** (n = 12) in DMSO–d_6.

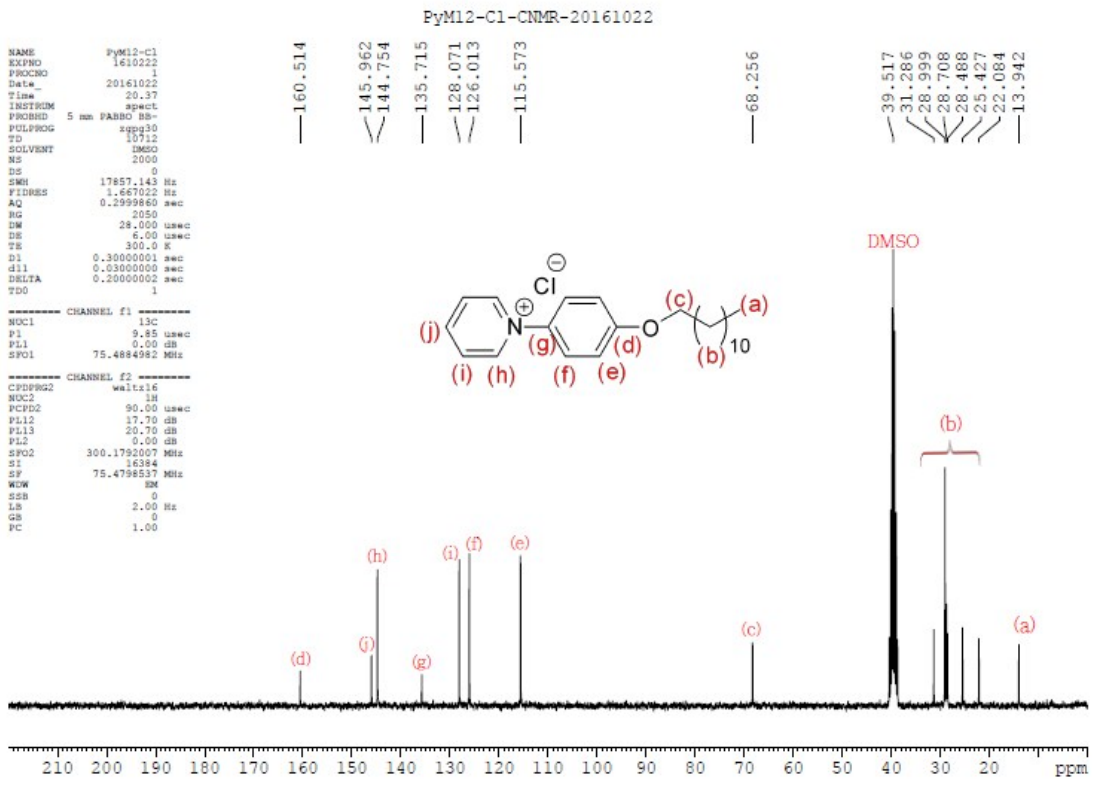

Fig. S6 ^{13}C NMR spectrum of compound **2–Cl** (n = 12) in DMSO–d_6.

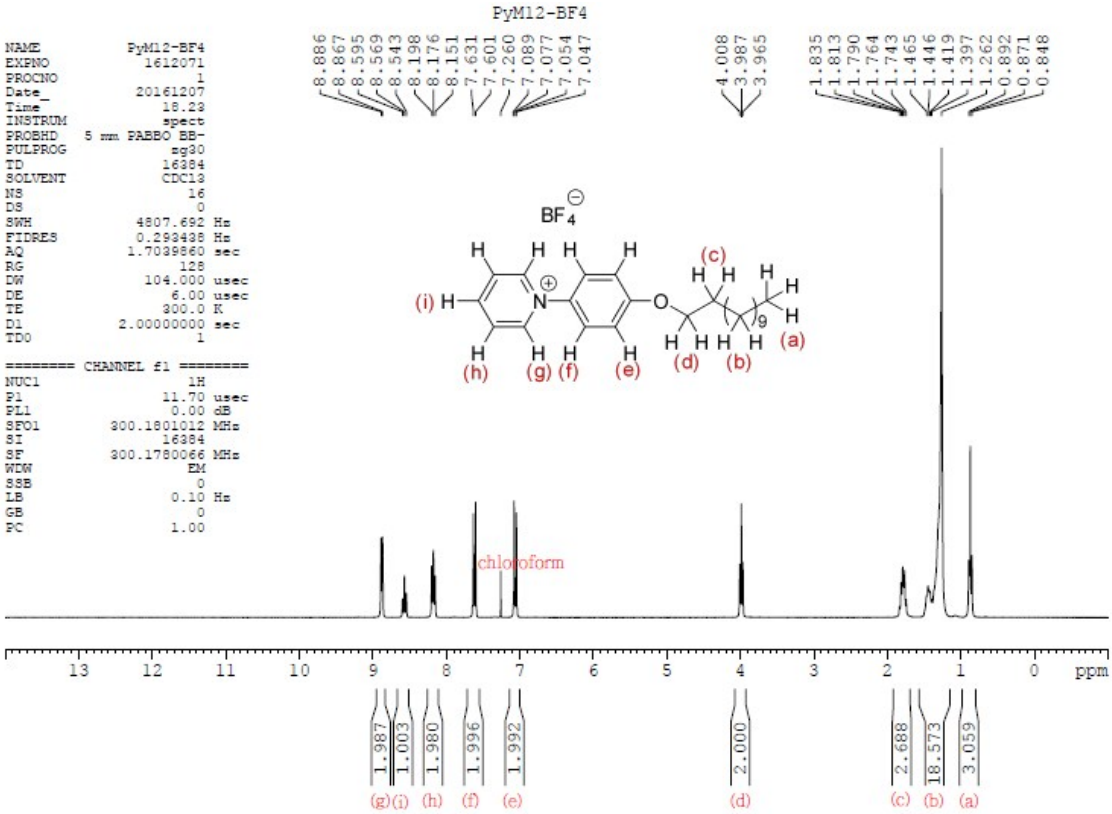

Fig. S7 ^{1}H NMR spectrum of compound **2–BF$_4$** (n = 12) in $CDCl_3$.

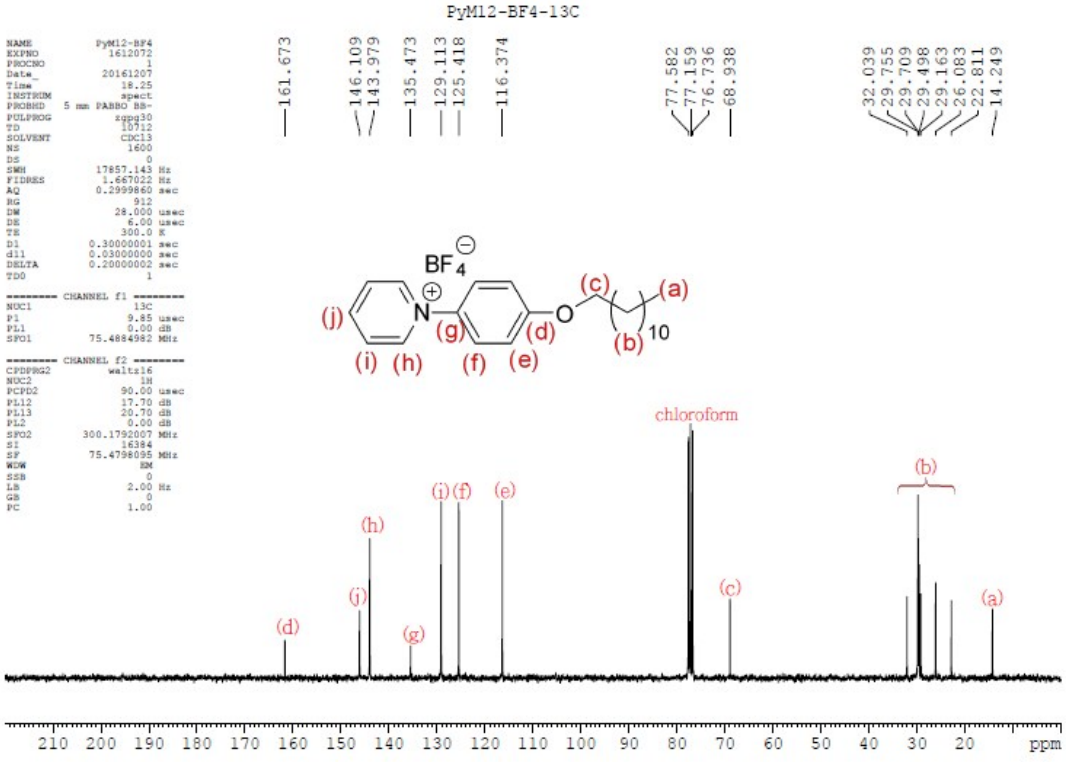

Fig. S8 ^{13}C NMR spectrum of compound **2–BF$_4$** (n = 12) in $CDCl_3$.

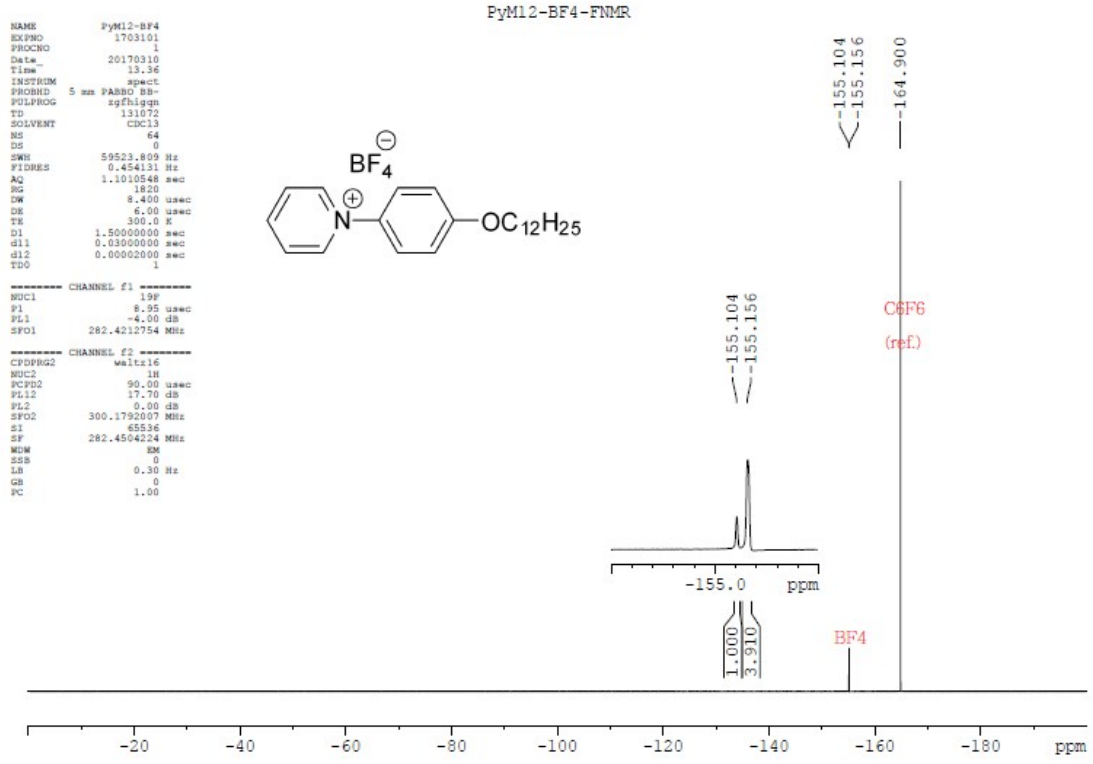

Fig. S9 ^{19}F NMR spectrum of compound **2–BF_4** (n = 12) in $CDCl_3$.

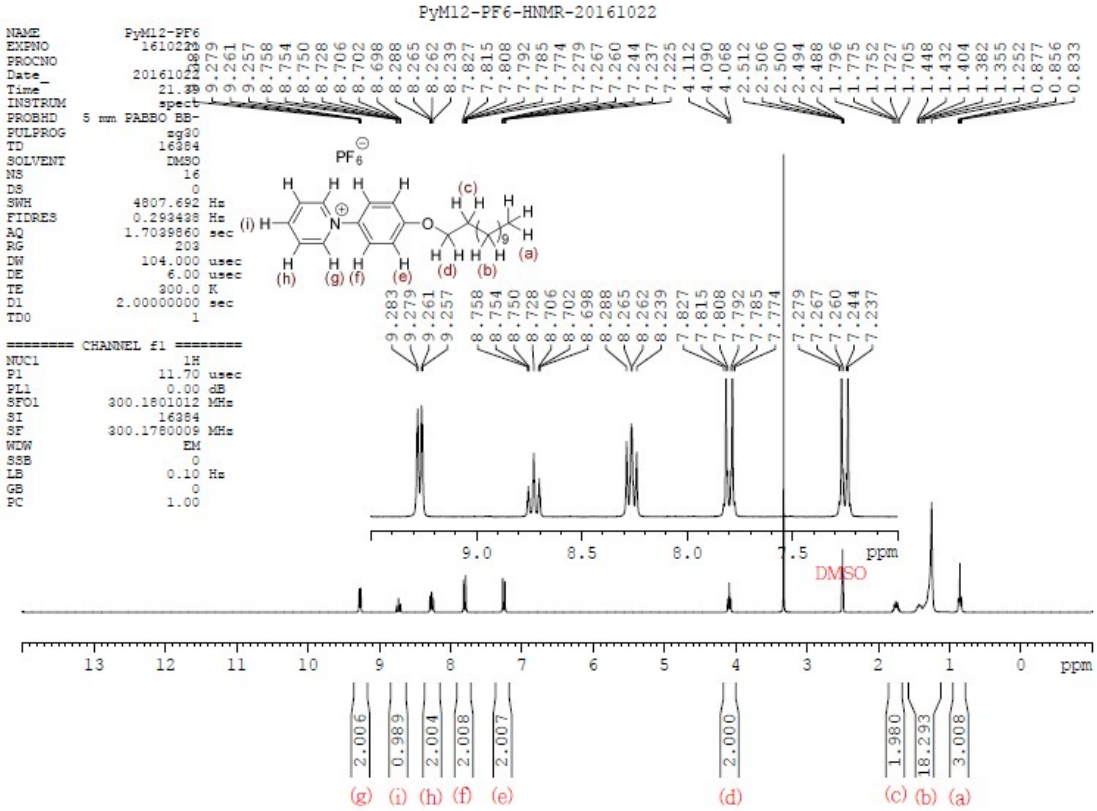

Fig. S10 ^{1}H NMR spectrum of compound **2–PF_6** (n = 12) in DMSO–d_6.

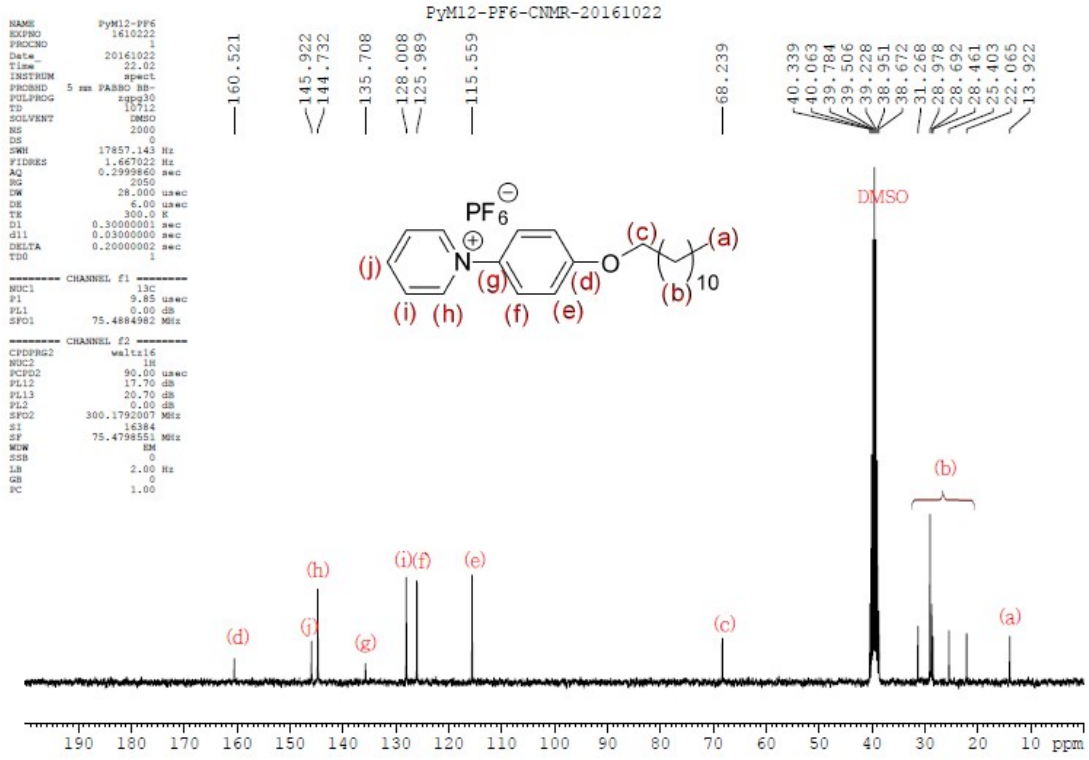

Fig. S11 ^{13}C NMR spectrum of compound **2–PF$_6$** (n = 12) in DMSO–d$_6$.

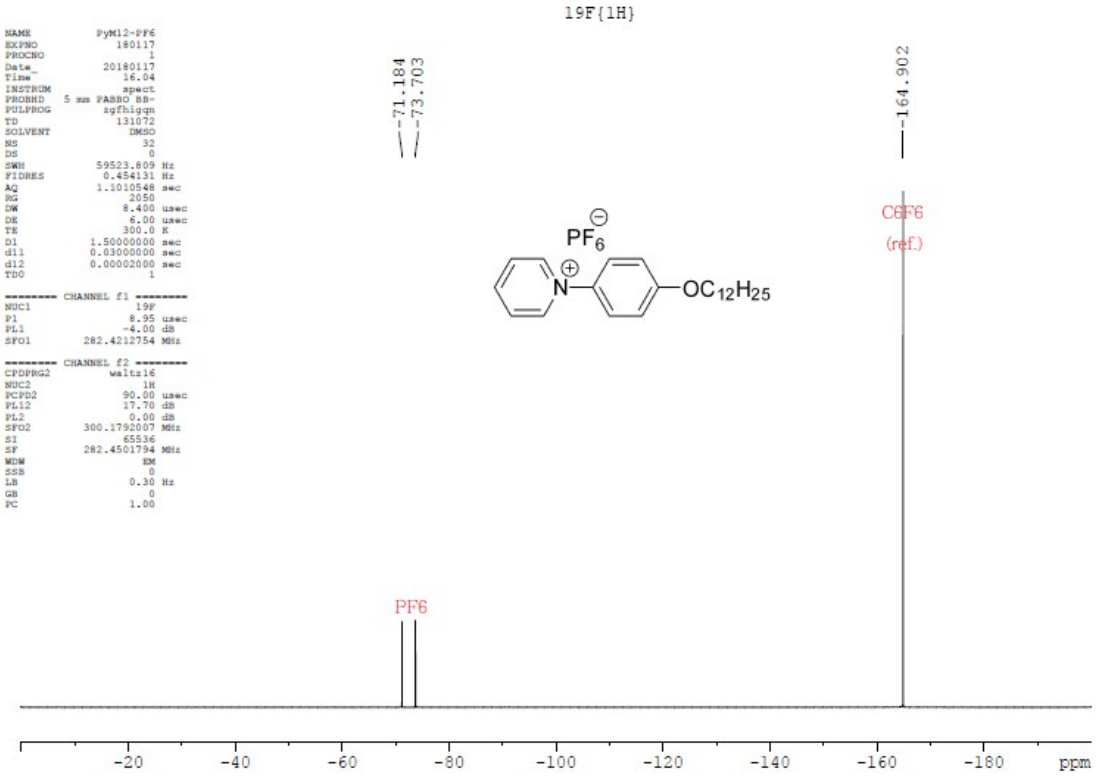

Fig. S12 ^{19}F NMR spectrum of compound **2–PF$_6$** (n = 12) in DMSO–d$_6$.

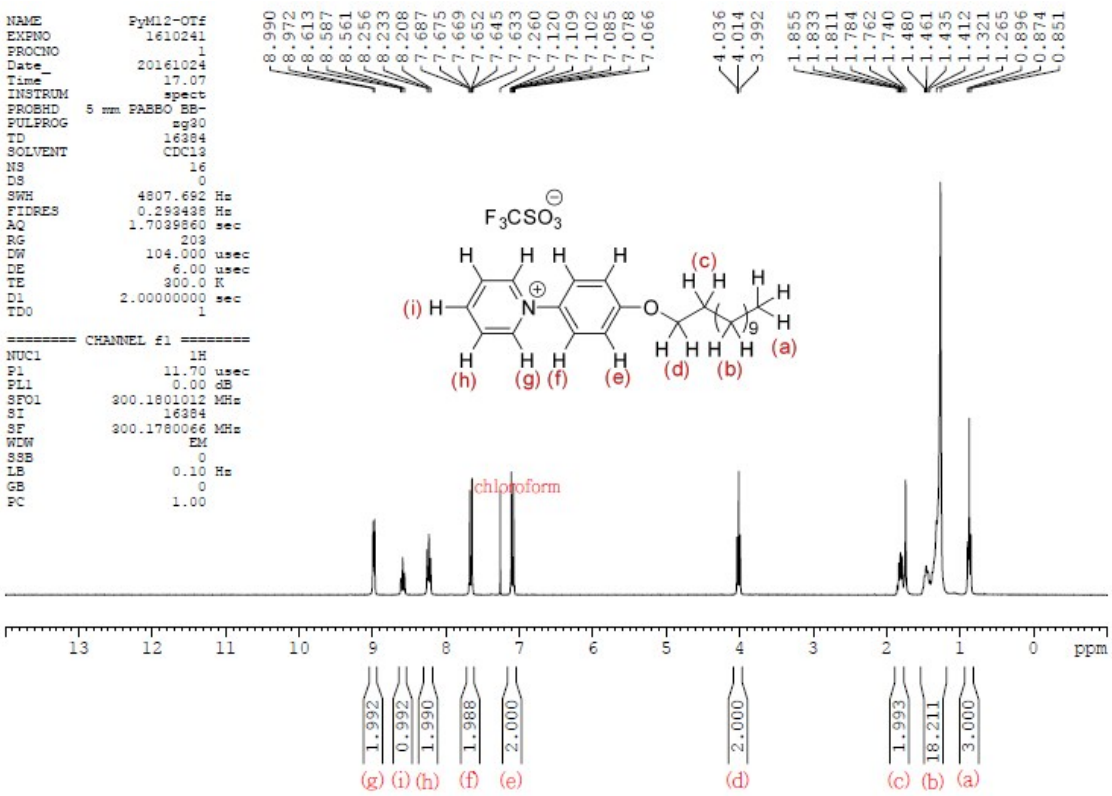

Fig. S13 ^{1}H NMR spectrum of compound **2–OTf** (n = 12) in $CDCl_3$.

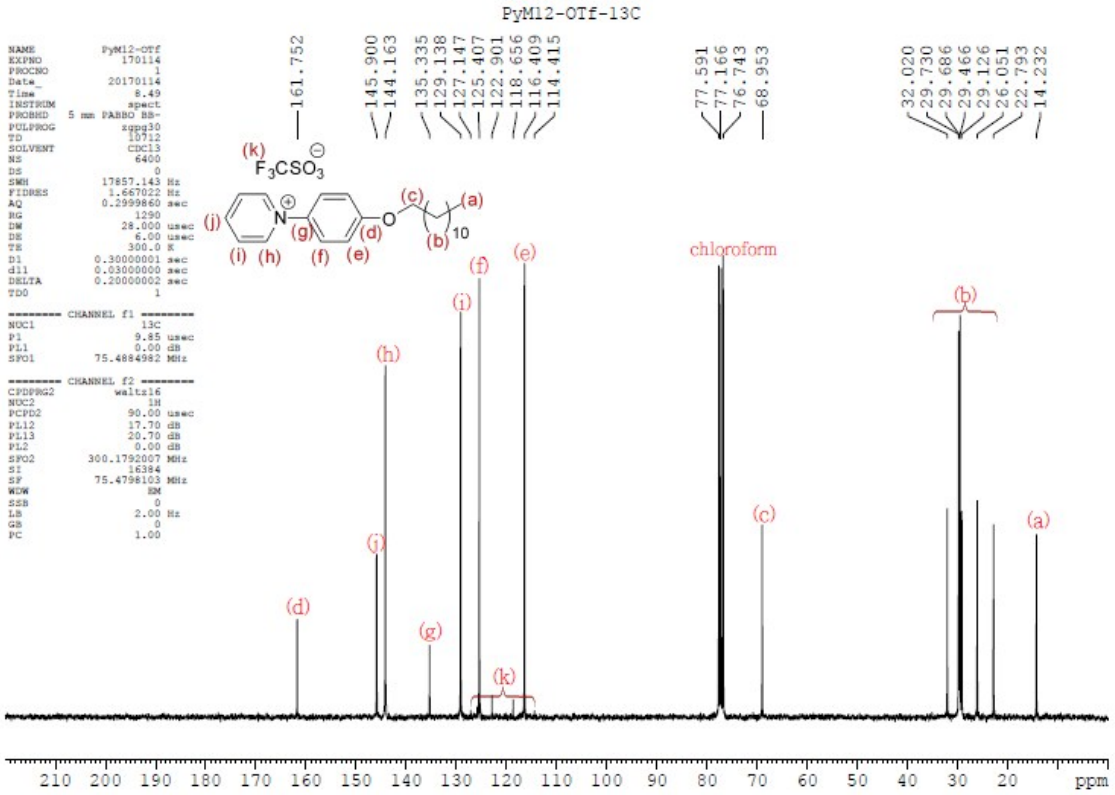

Fig. S14. ^{13}C NMR spectrum of compound **2–OTf** (n = 12) in $CDCl_3$.

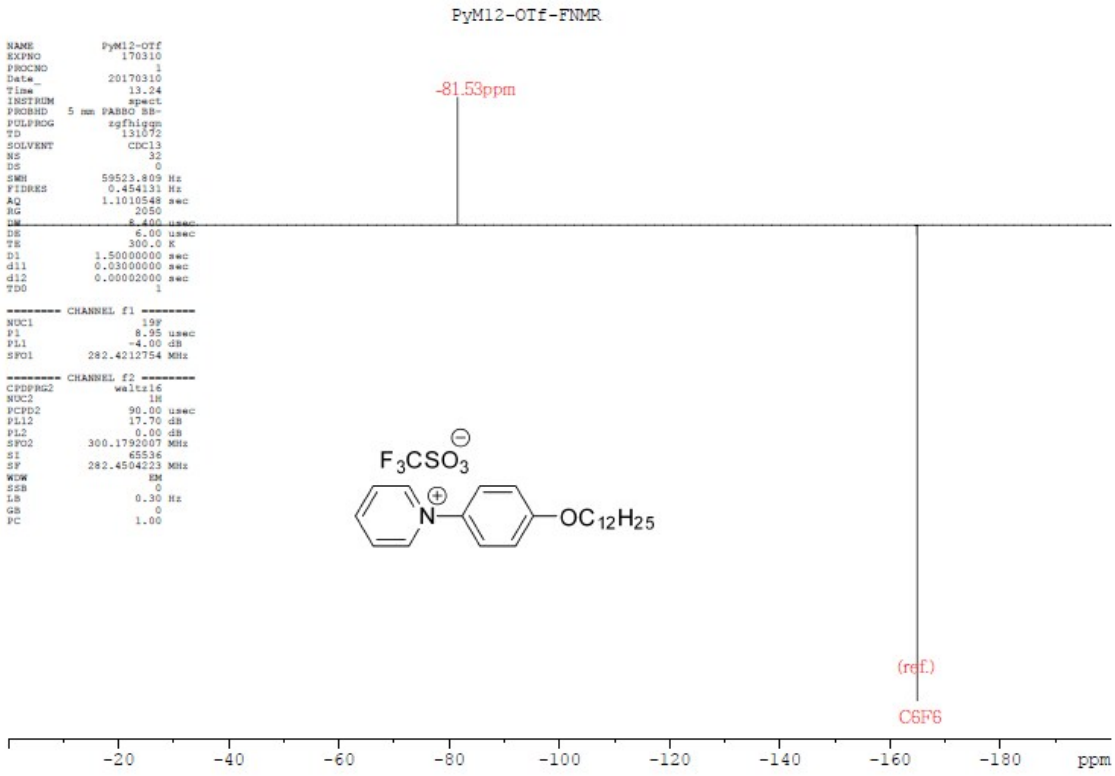

Fig. S15 ^{19}F NMR spectrum of compound **2–OTf** (n = 12) in $CDCl_3$.

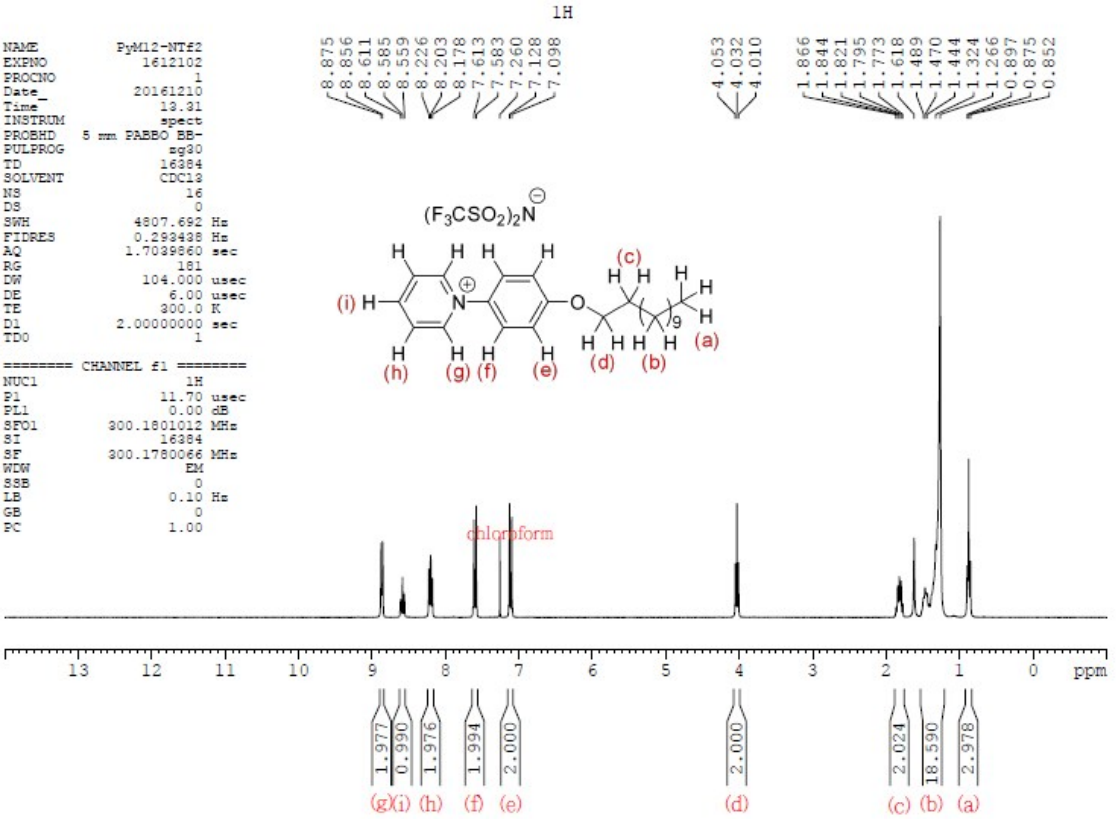

Fig. S16 ^{1}H NMR spectrum of compound **2–NTf$_2$** (n = 12) in $CDCl_3$.

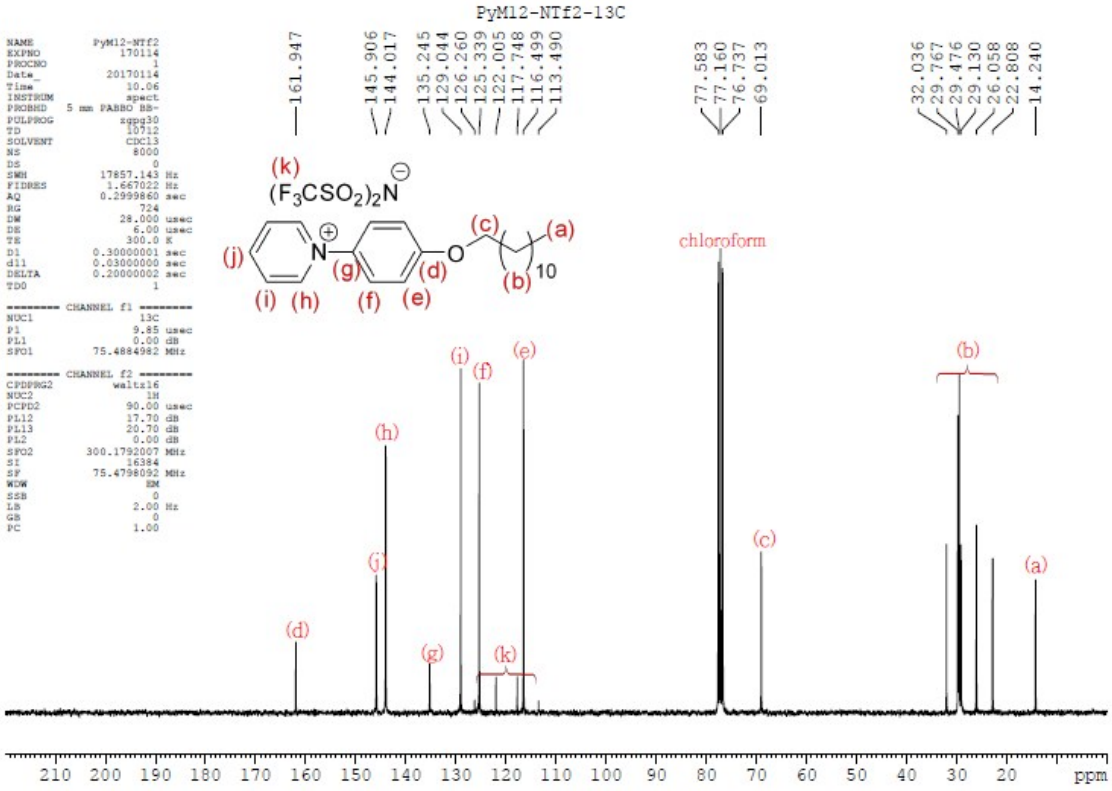

Fig. S17 ^{13}C NMR spectrum of compound **2–NTf$_2$** (n = 12) in $CDCl_3$.

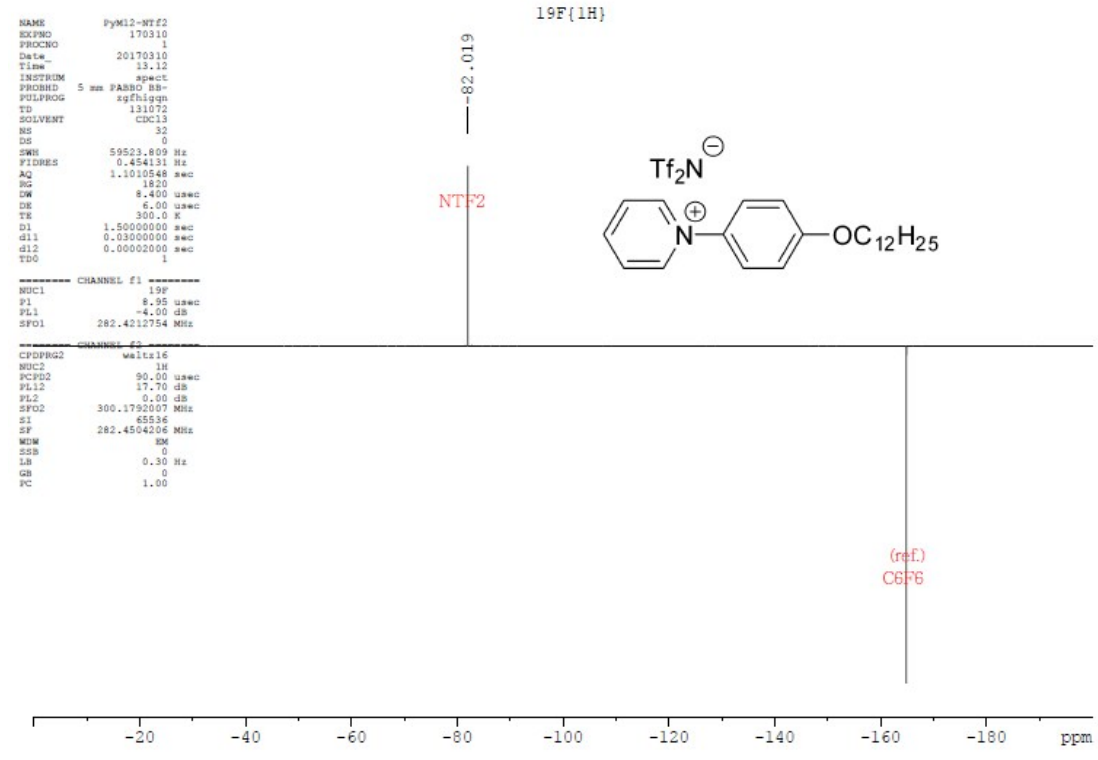

Fig. S18 ^{19}F NMR spectrum of compound **2–NTf$_2$** (n = 12) in $CDCl_3$.

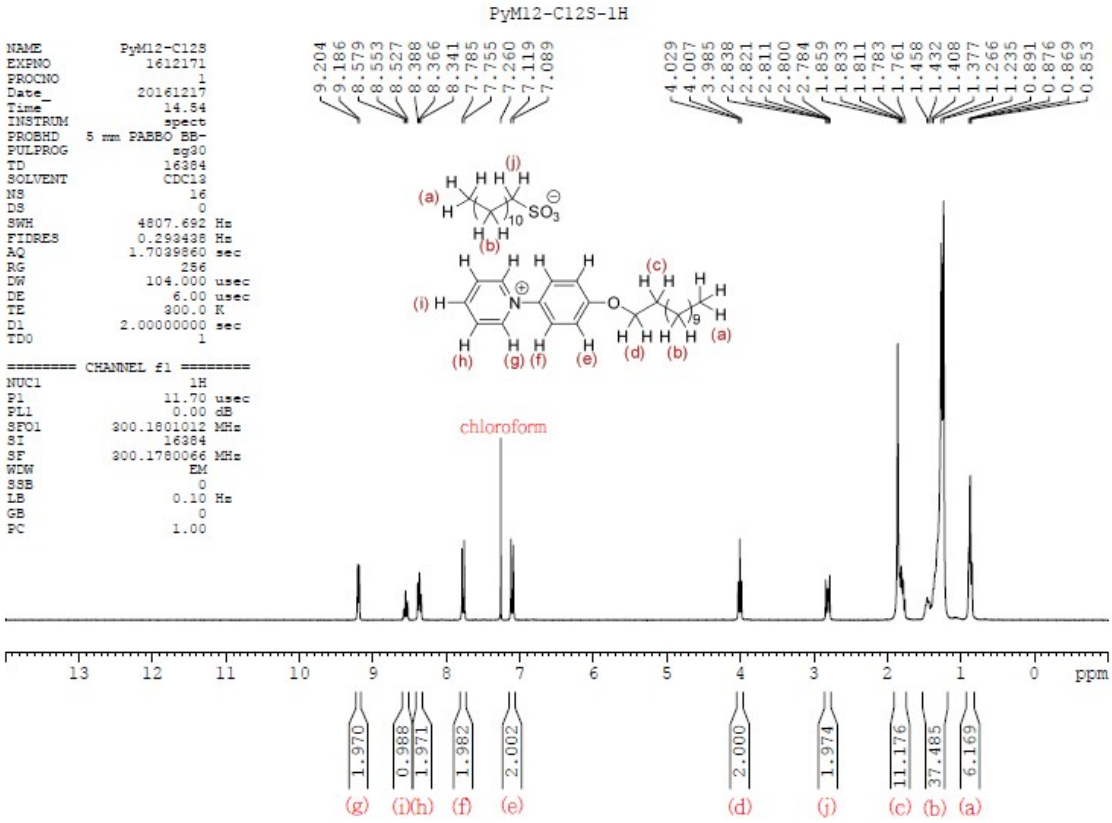

Fig. S19 ^{1}H NMR spectrum of compound **2–RSO$_3$** (n = 12) in $CDCl_3$.

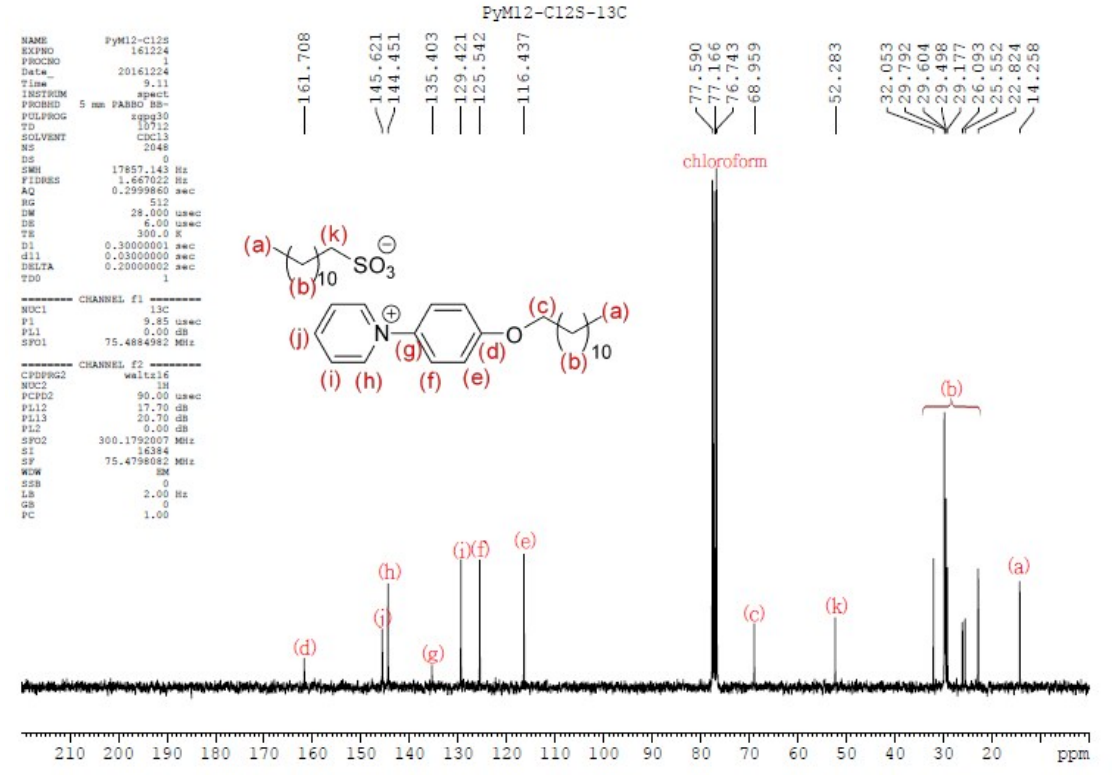

Fig. S20 ^{13}C NMR spectrum of compound **2–RSO$_3$** (n = 12) in $CDCl_3$.

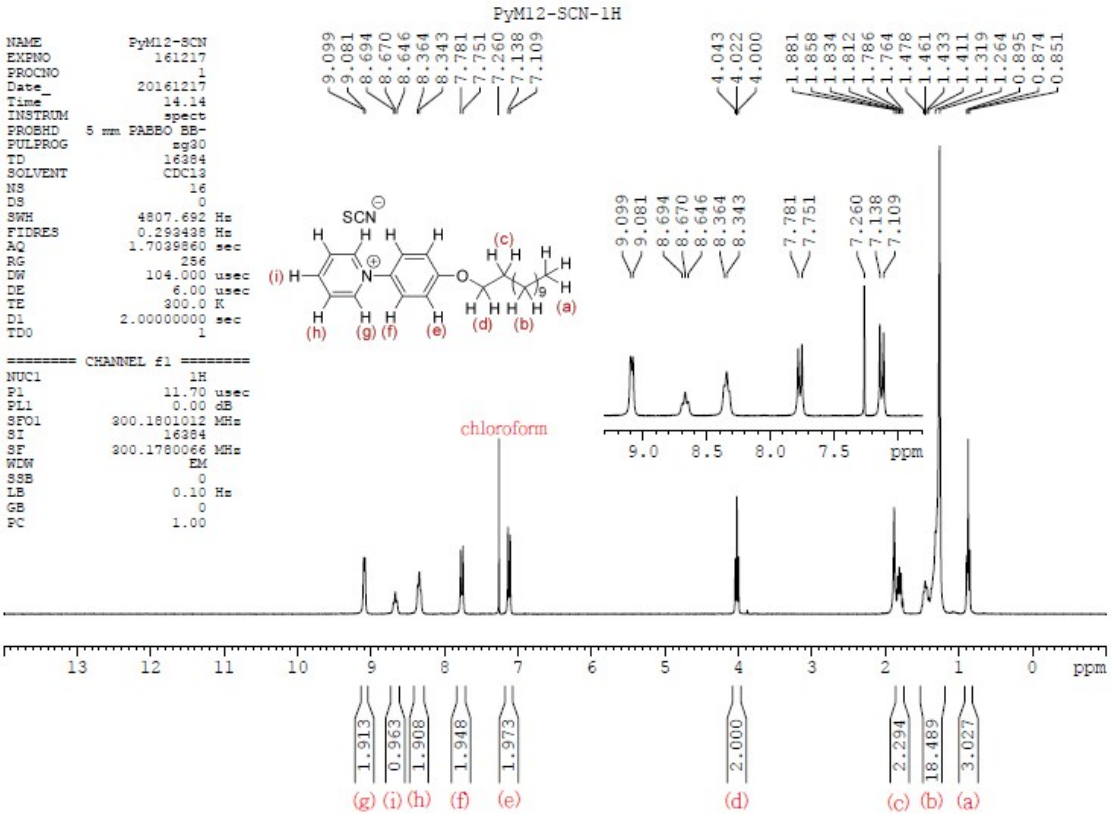

Fig. S21 ^{1}H NMR spectrum of compound **2–SCN** (n = 12) in $CDCl_3$.

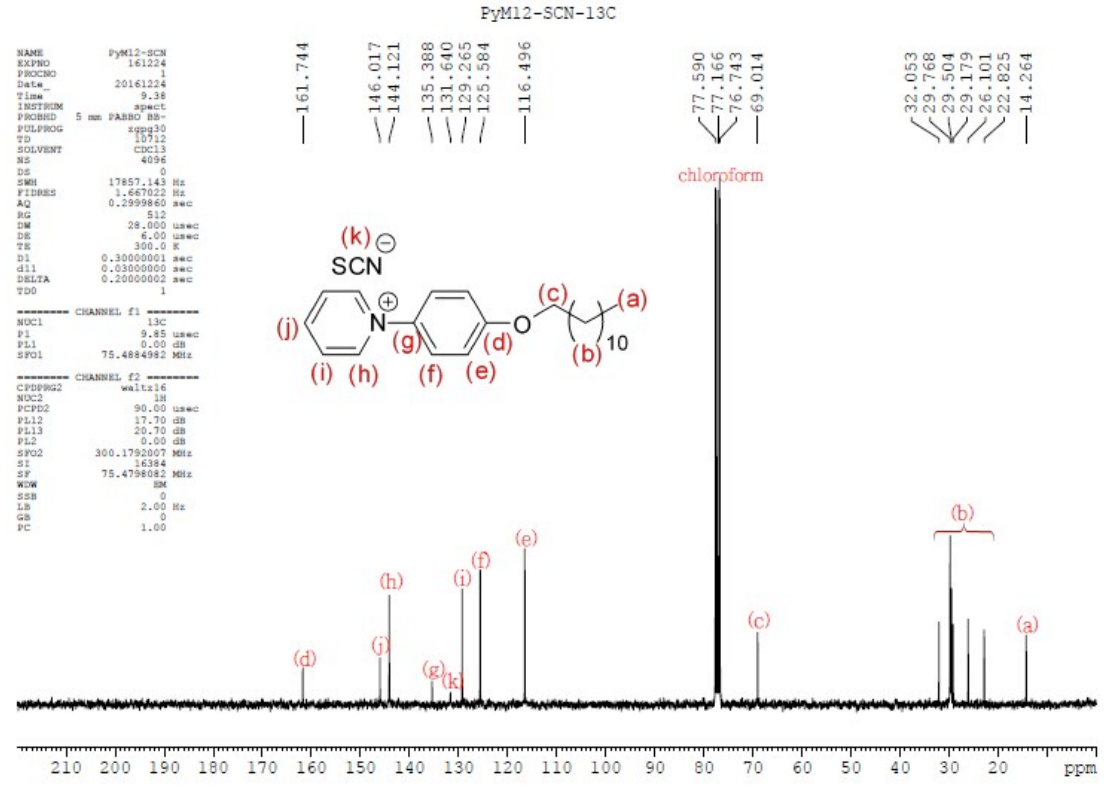

Fig. S22 ^{13}C NMR spectrum of compound **2–SCN** (n = 12) in $CDCl_3$.

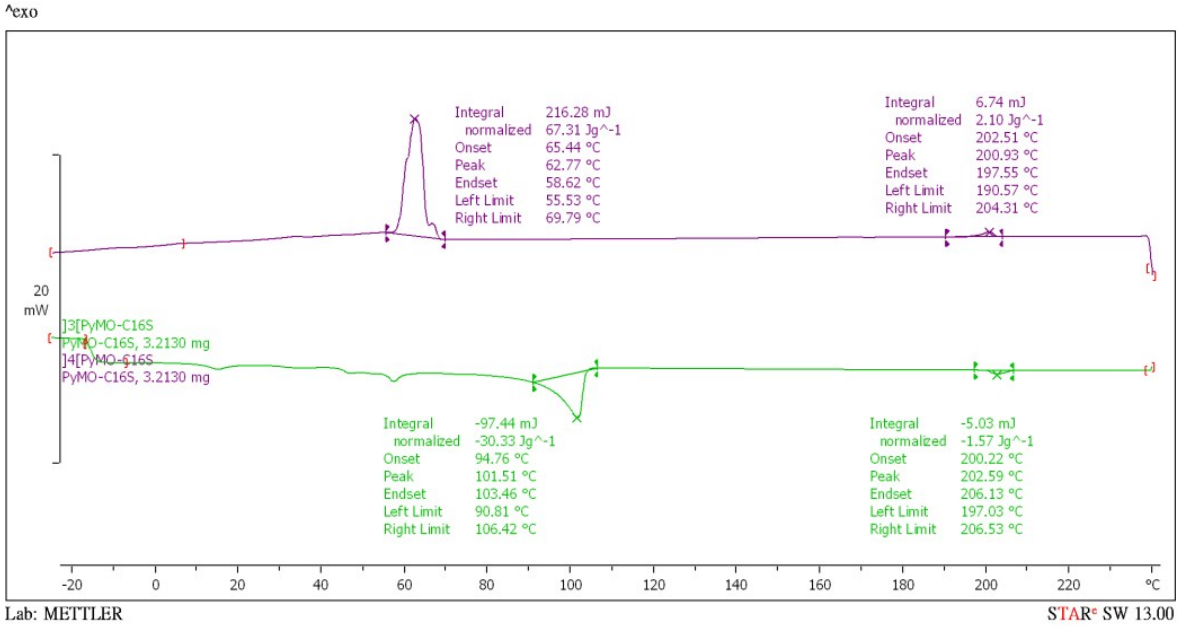

Fig. S23 The DSC thermograph of compound **1-SO_3** (n = 16)

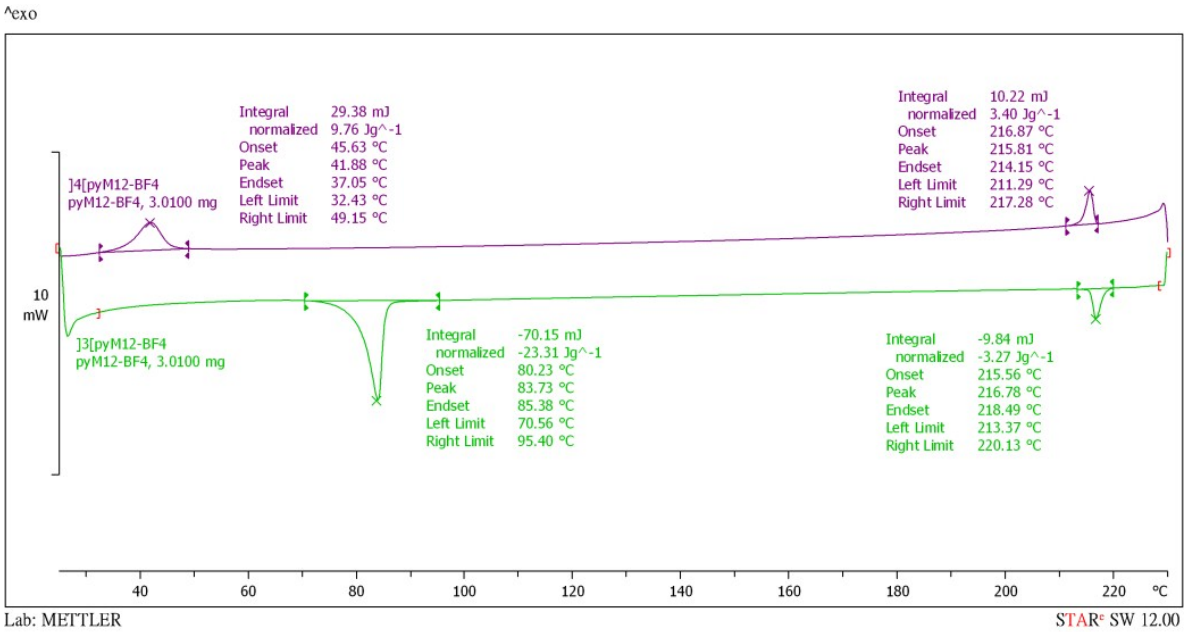

Fig. S24 The DSC thermograph of compound **2-BF_4** (n = 12)

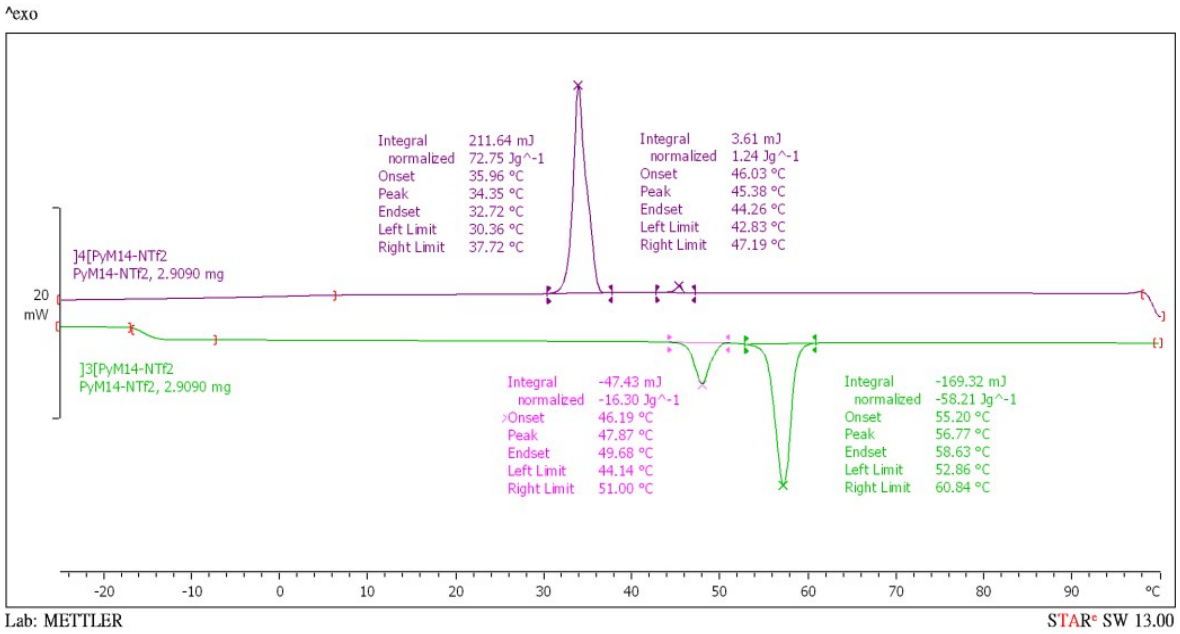

Fig. S25 The DSC thermograph of compound **2-NTf$_2$** (n = 14)

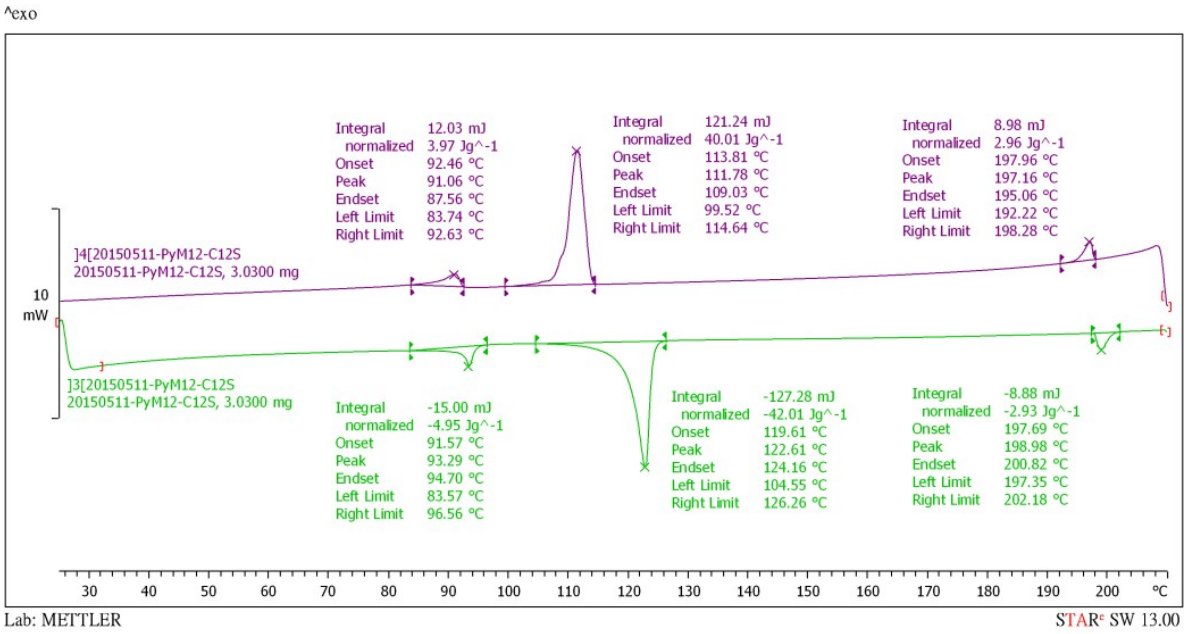

Fig. S26 DSC of compound **2-RSO$_3$** (n = 12)

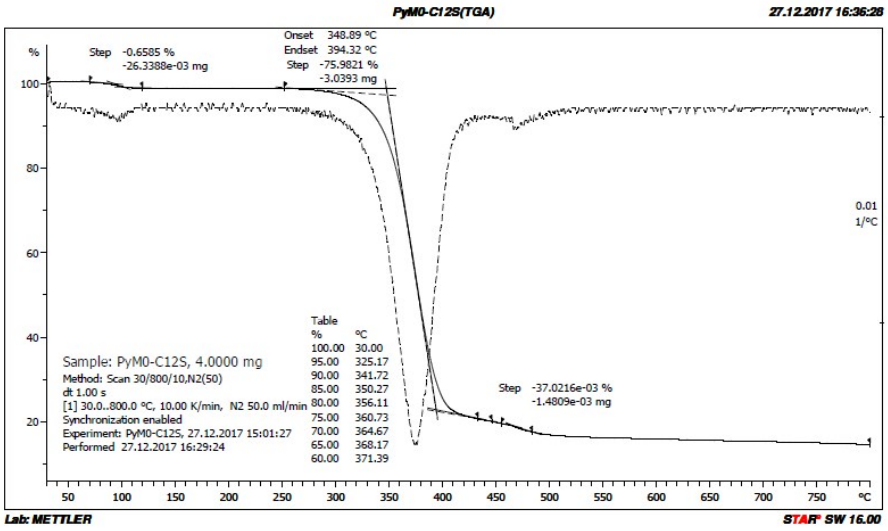

Fig. S27 The TGA thermogram of compound **1–RSO$_3$** (n = 12).

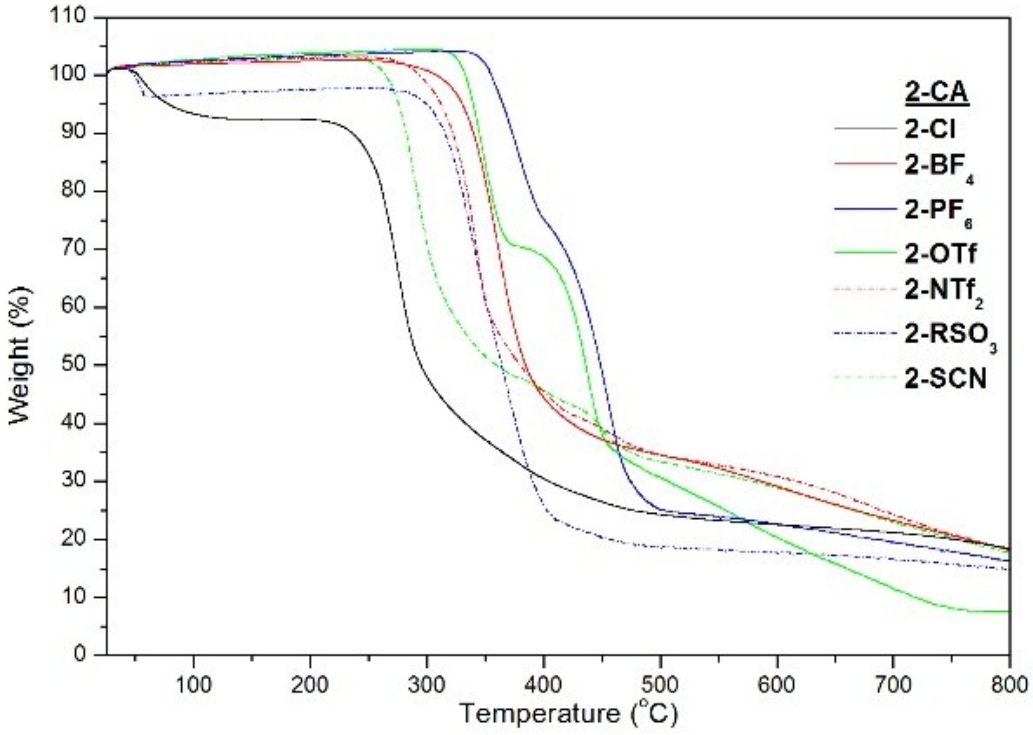

Fig. S28 The TGA thermogram of compounds **2–X** (all n = 12).

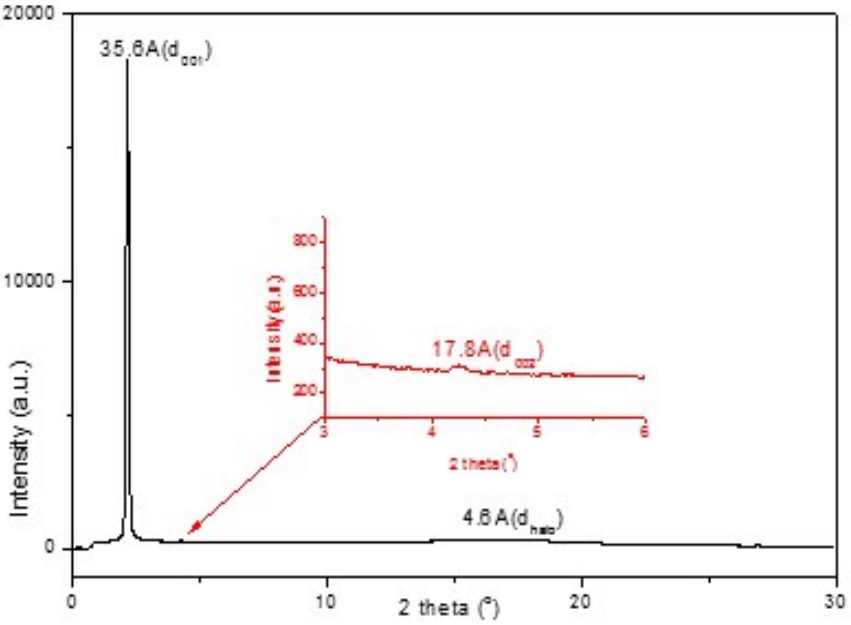

Fig. S29 Powder XRD plot of compound **2–BF_4** at 150℃

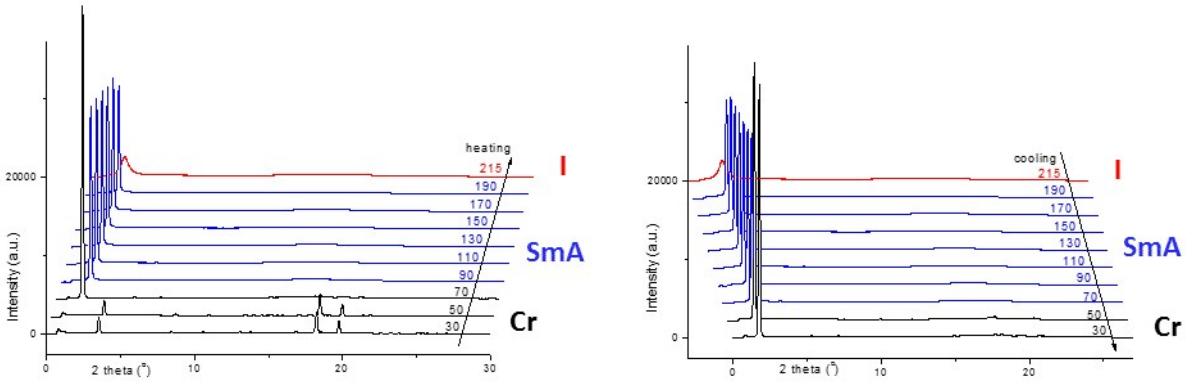

Fig. S30 The temperature–dependent powder X–ray diffraction plots of compound **2–BF_4** on heating and cooling processes.

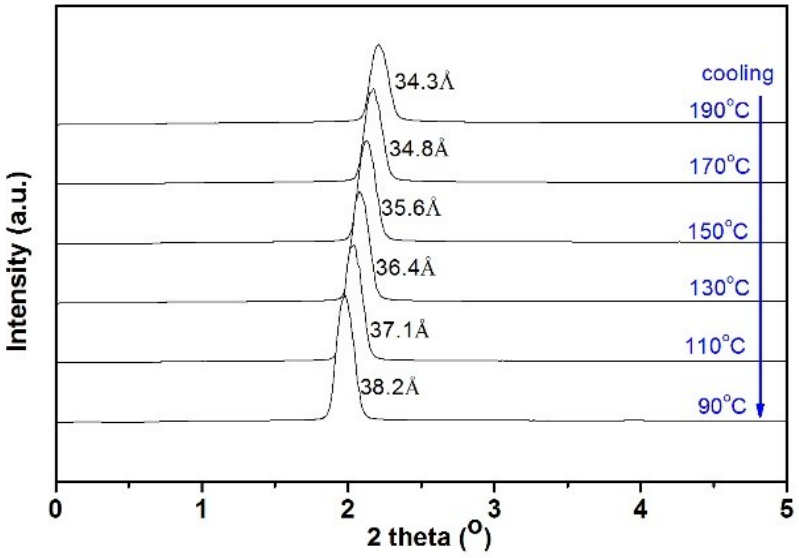

Fig. S31 The plots of d-spacing in compound **2–BF_4** at different temperature.