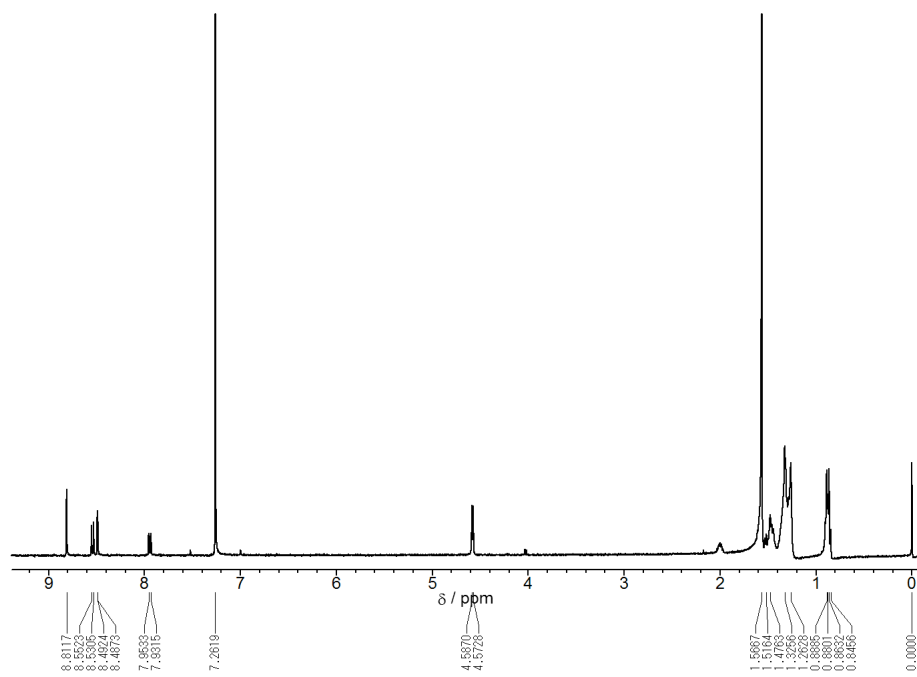


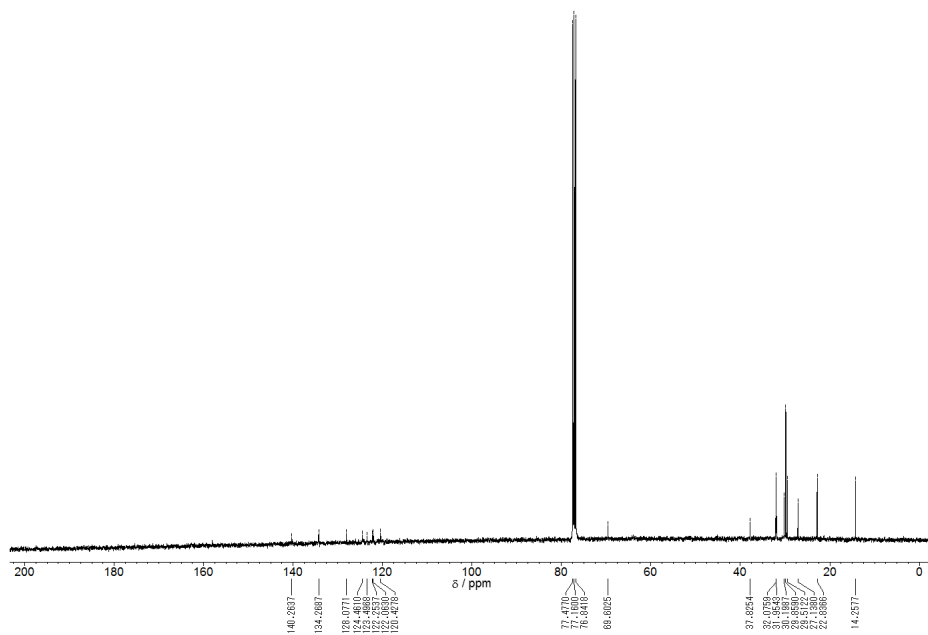
## Supplementary Information

# Amide-Bridged Terphenyl and Dithienylbenzene Units for Semiconducting Polymers

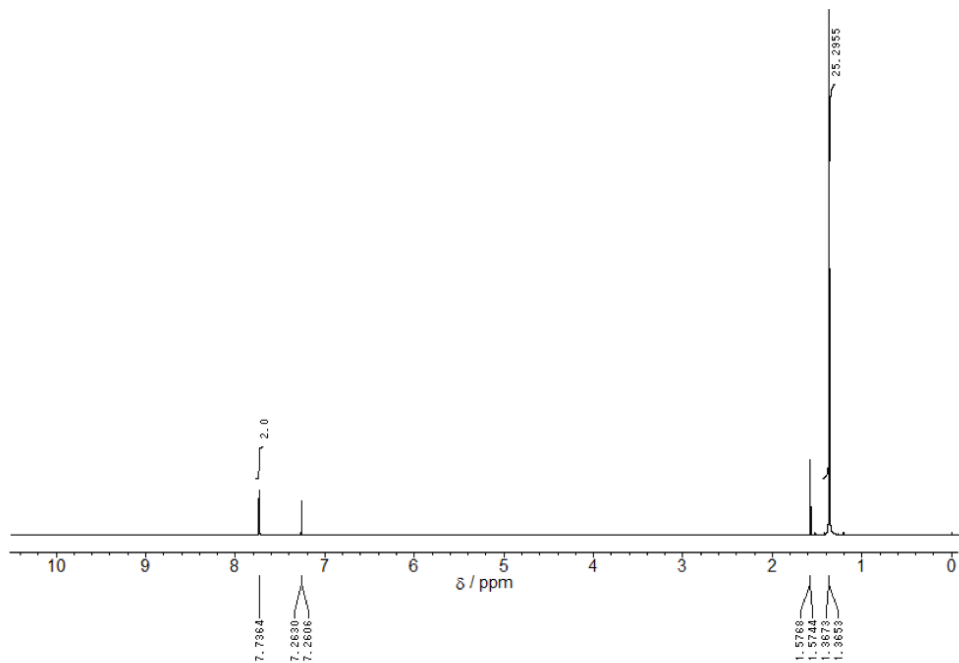
Masahiro Akita,<sup>a</sup> Masahiko Saito,<sup>b</sup> Itaru Osaka,<sup>b\*</sup> Tomoyuki Koganezawa,<sup>c</sup> Kazuo Takimiya<sup>a,b</sup>



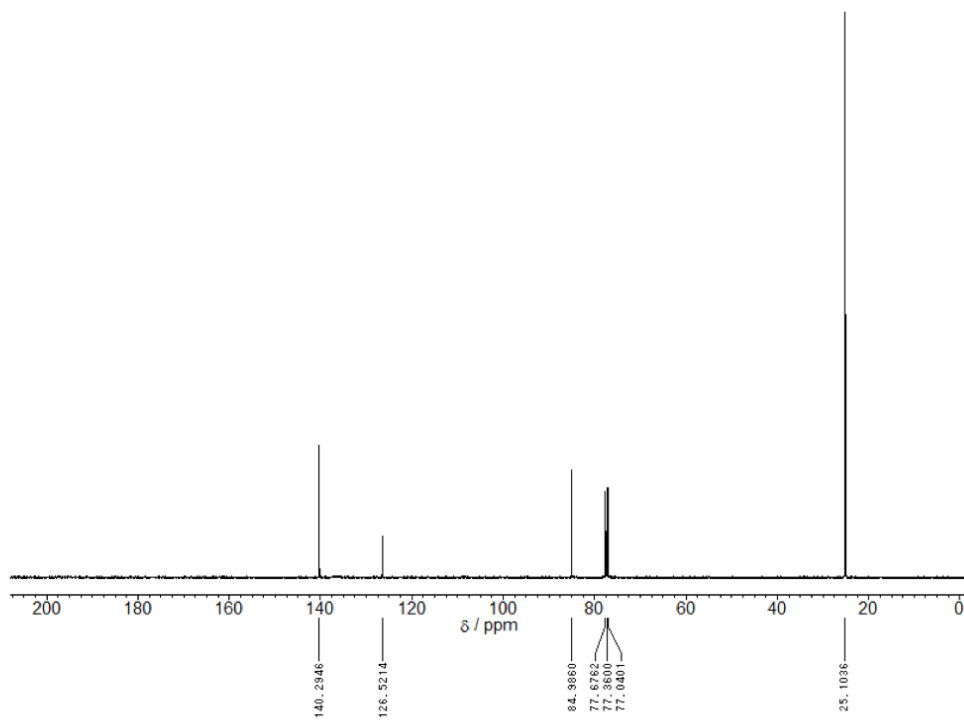
<sup>1</sup>H-NMR spectrum of 5,12-bis((2-decyltetradecyl)oxy)isoquinolino[3,4-*b*]phenanthridine (4)



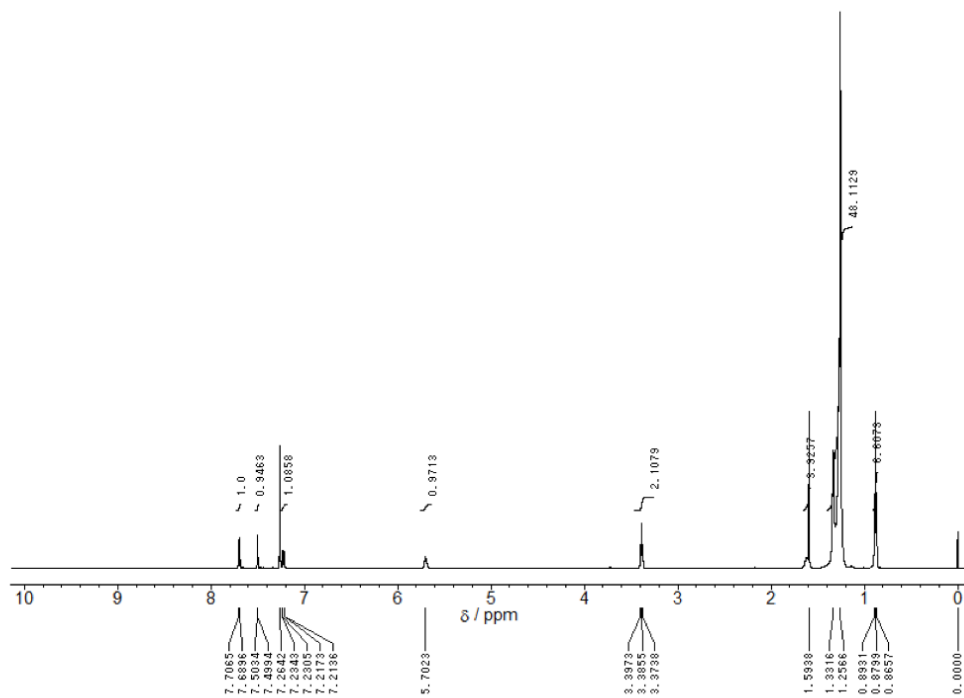
<sup>13</sup>C-NMR spectrum of 5,12-bis((2-decyltetradecyl)oxy)isoquinolino[3,4-*b*]phenanthridine (4)



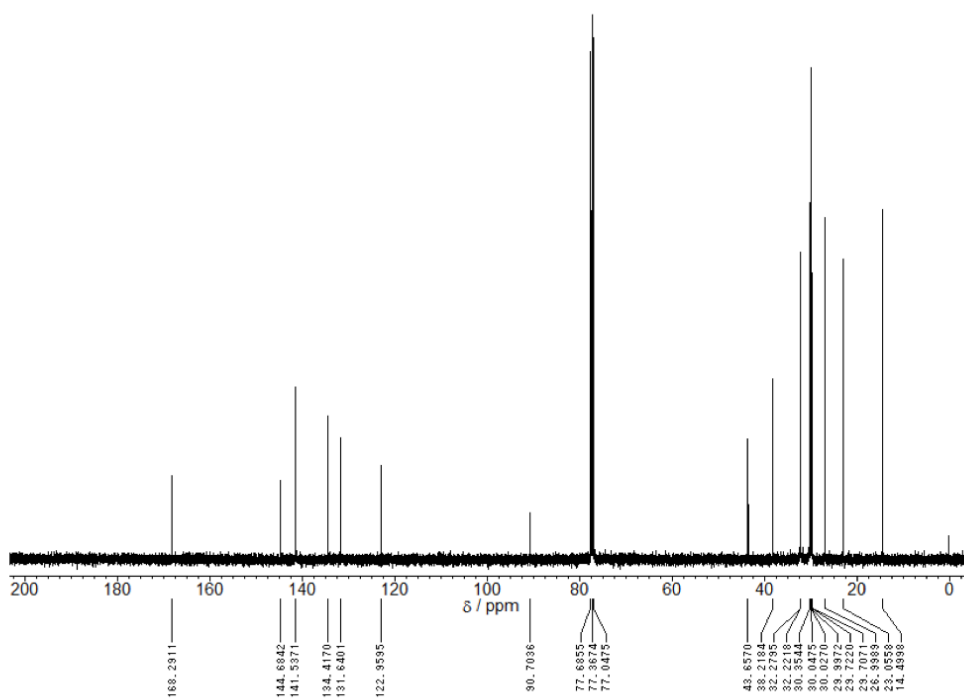
$^1\text{H-NMR}$  spectrum of 2,2'-(2,5-dibromo-1,4-phenylene)bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolane) (5)



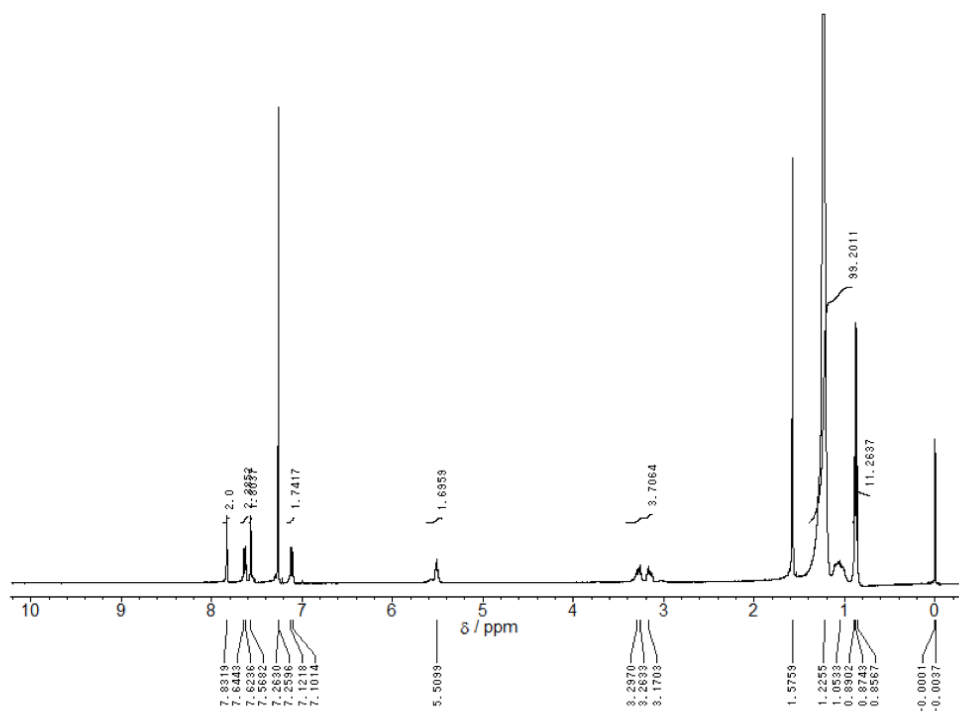
$^{13}\text{C-NMR}$  spectrum of 2,2'-(2,5-dibromo-1,4-phenylene)bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolane) (5)



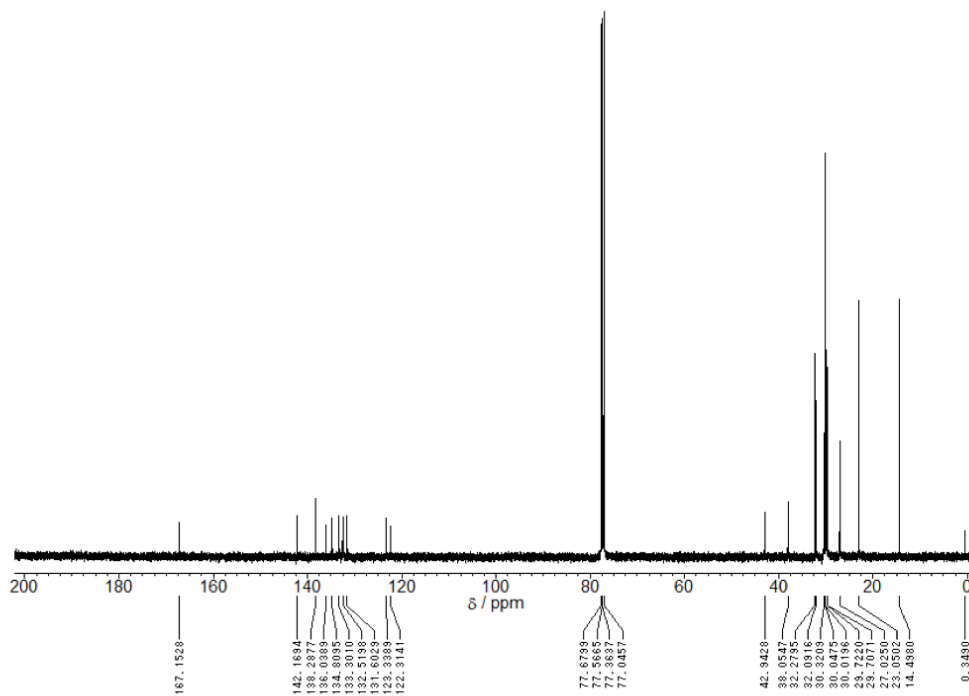
$^1\text{H-NMR}$  spectrum of 5-bromo-*N*-(2-decyltetradecyl)-2-iodobenzene (**6**)



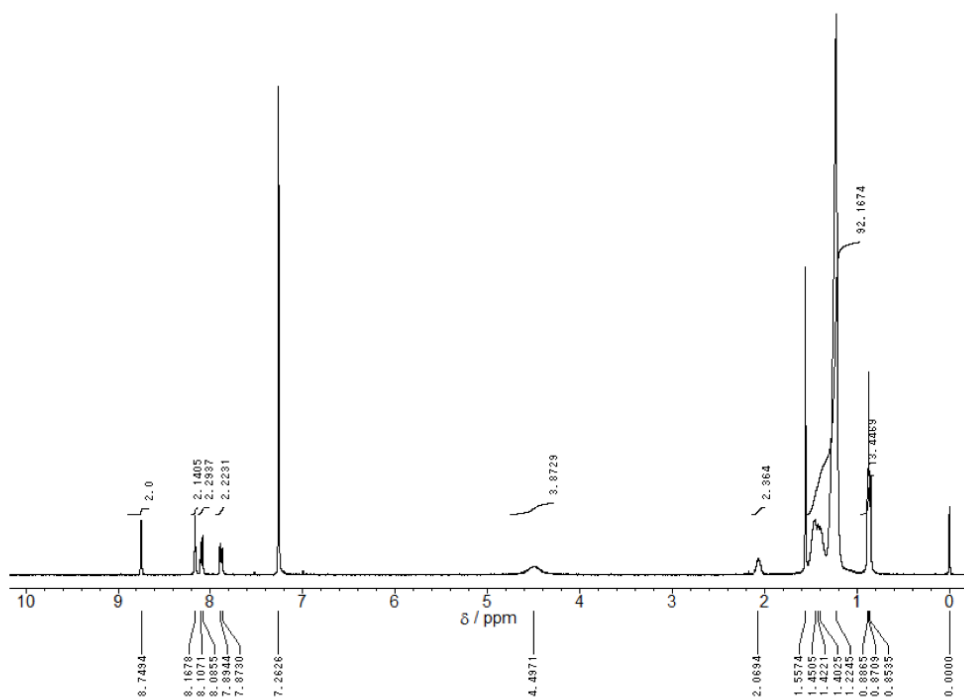
$^{13}\text{C-NMR}$  spectrum of 5-bromo-*N*-(2-decyltetradecyl)-2-iodobenzene (**6**)



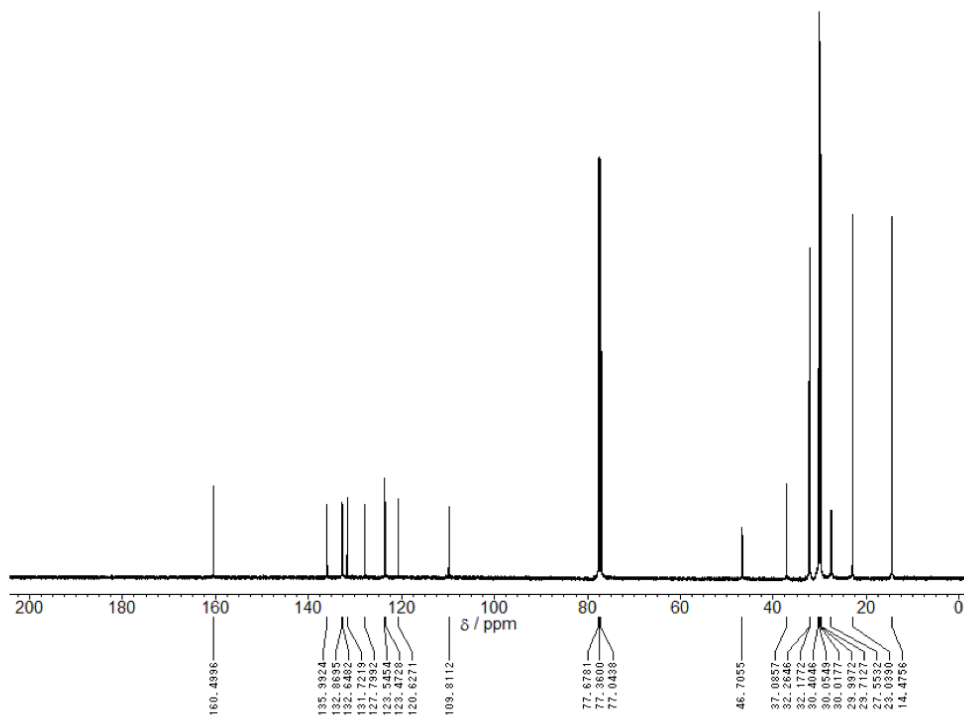
$^1\text{H-NMR}$  spectrum of 2',4,4'',5'-tetrabromo-*N,N''*-bis(2-decyltetradecyl)-(1,1':4',1''-terphenyl)-2,2''-dicarboxamide (7)



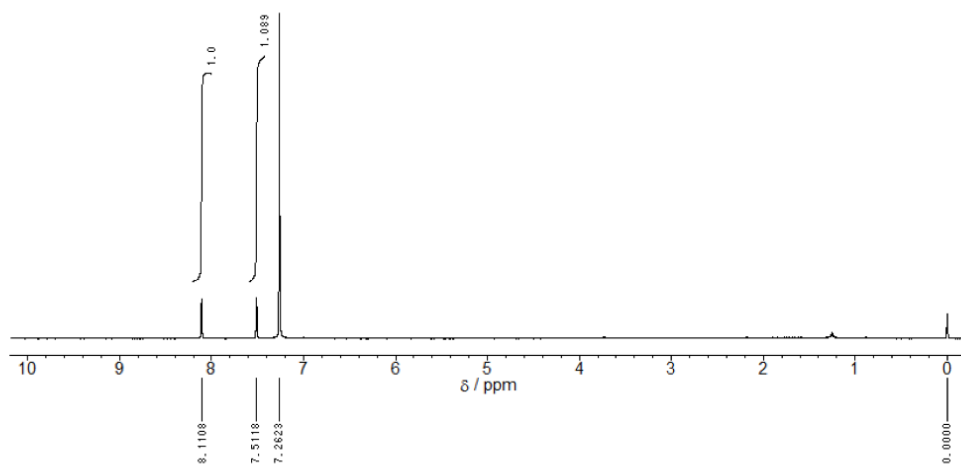
$^{13}\text{C-NMR}$  spectrum of 2',4,4'',5'-tetrabromo-*N,N''*-bis(2-decyltetradecyl)-(1,1':4',1''-terphenyl)-2,2''-dicarboxamide (7)



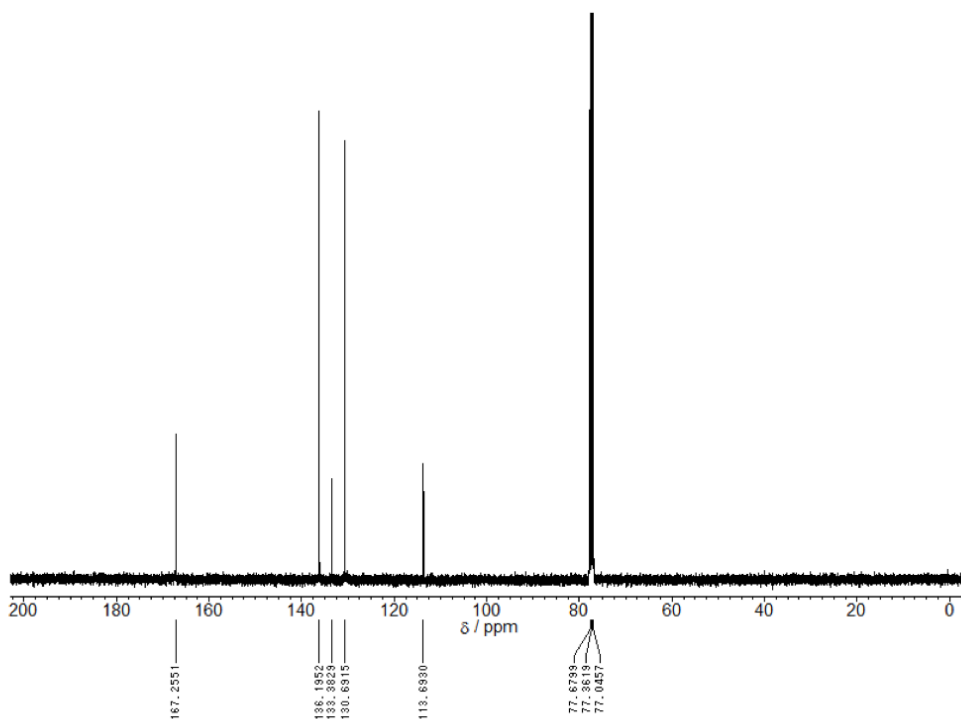
$^1\text{H-NMR}$  spectrum of 3,10-dibromo-6,13-bis(2-decyltetradecyl)-6,13-dihydroisoquinolino[3,4-*b*]phenanthridine-5,12-dione (**8**)



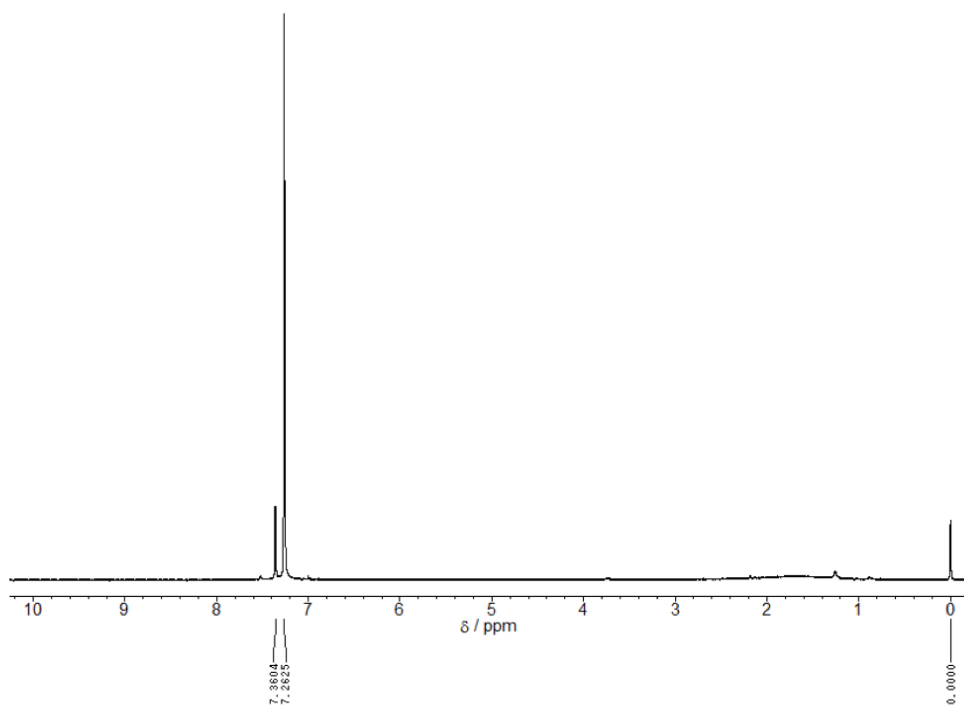
$^{13}\text{C-NMR}$  spectrum of 3,10-dibromo-6,13-bis(2-decyltetradecyl)-6,13-dihydroisoquinolino[3,4-*b*]phenanthridine-5,12-dione (**8**)



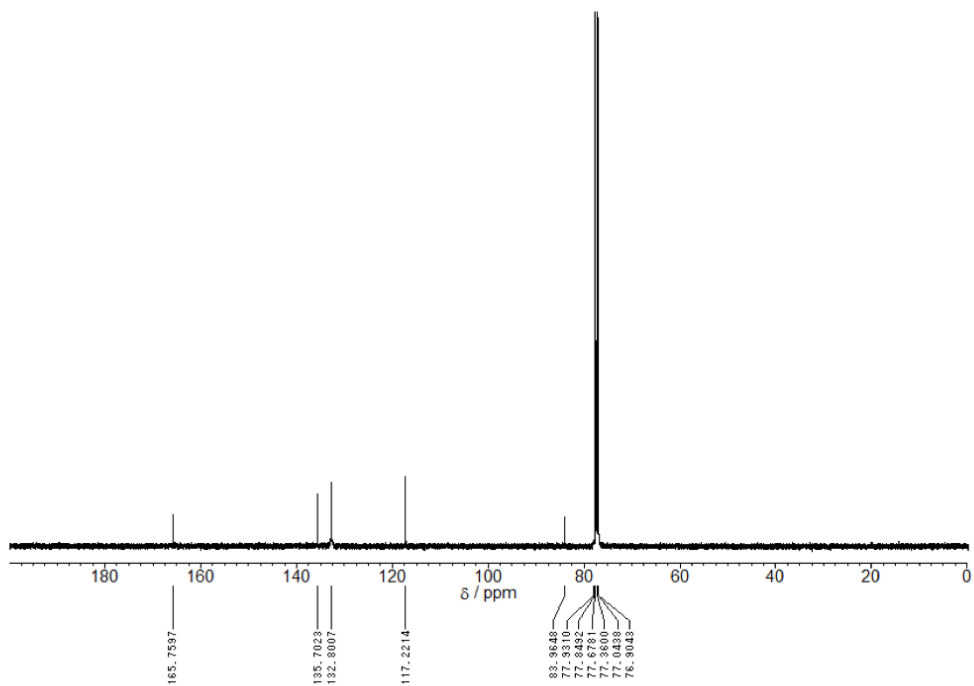
$^1\text{H-NMR}$  spectrum of 5-bromothiophene-3-carboxylic acid (9)



$^{13}\text{C-NMR}$  spectrum of 5-bromothiophene-3-carboxylic acid (9)

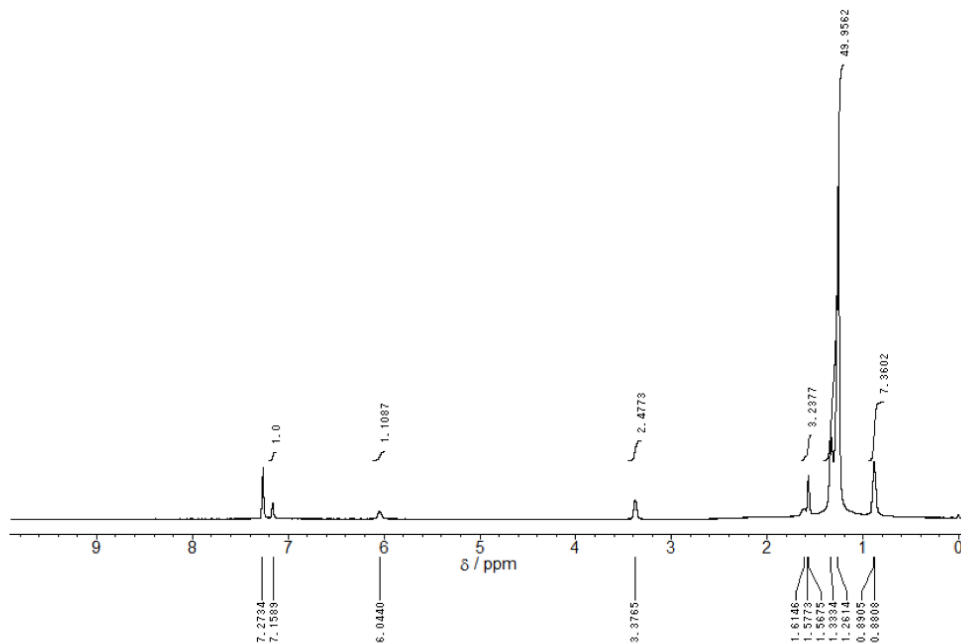


$^1\text{H-NMR}$  spectrum of 5-bromo-2-iodothiophene-3-carboxylic acid (**10**)

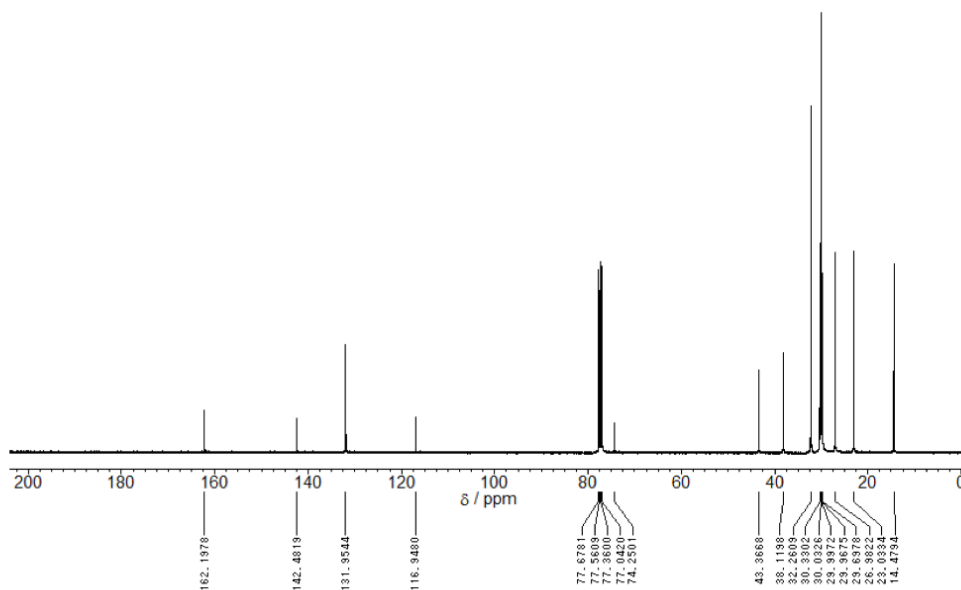


$^{13}\text{C-NMR}$  spectrum of 5-bromo-2-iodothiophene-3-carboxylic acid (**10**)



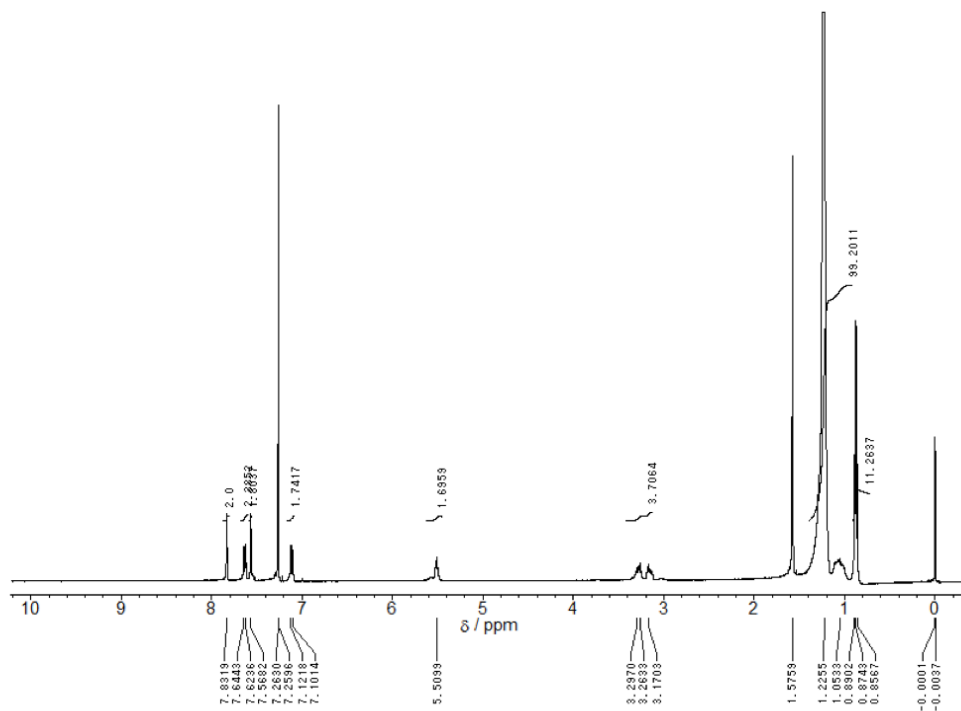


<sup>1</sup>H-NMR spectrum of 5-bromo-*N*-(2-decyltetradecyl)-2-iodothiophene-3-carboxamide (**11**)

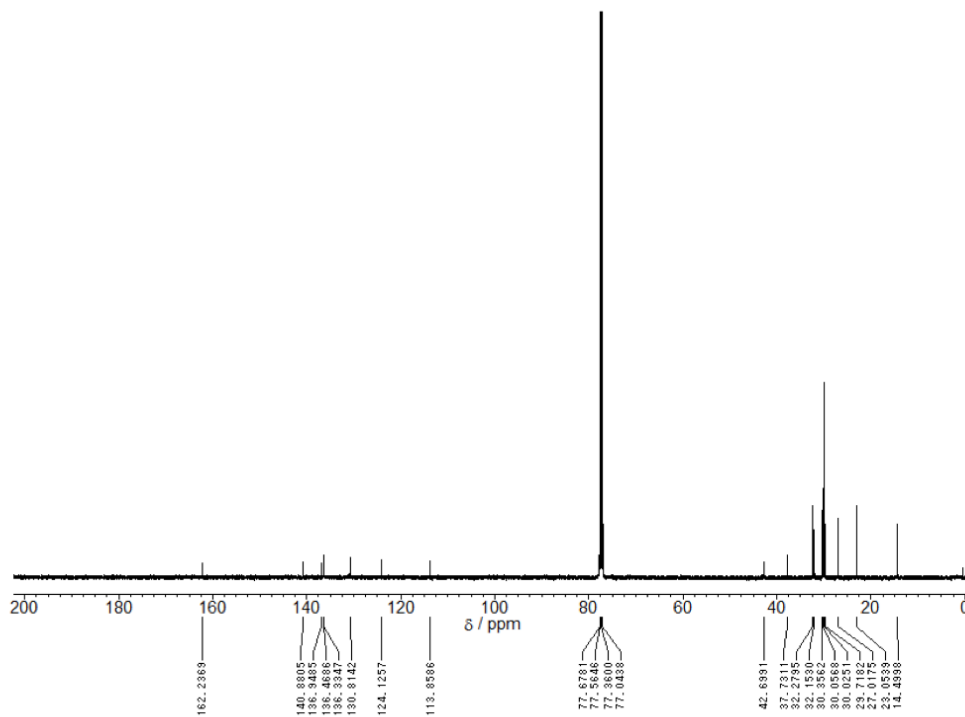


<sup>13</sup>C-NMR spectrum of 5-bromo-*N*-(2-decyltetradecyl)-2-iodothiophene-3-carboxamide (**11**)

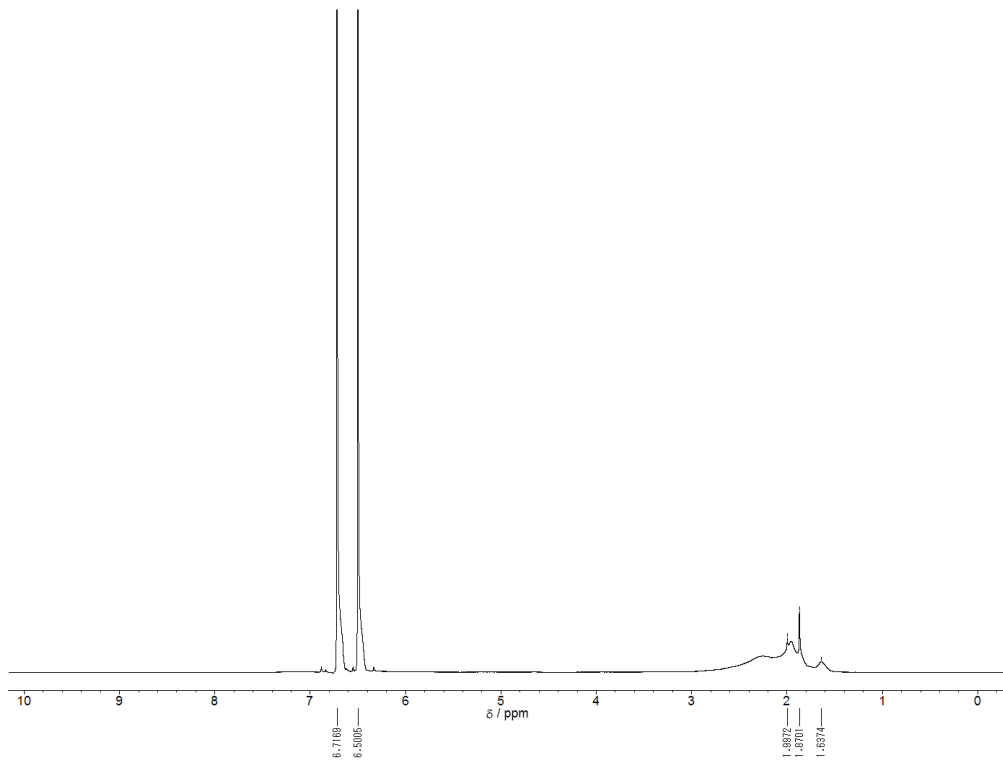




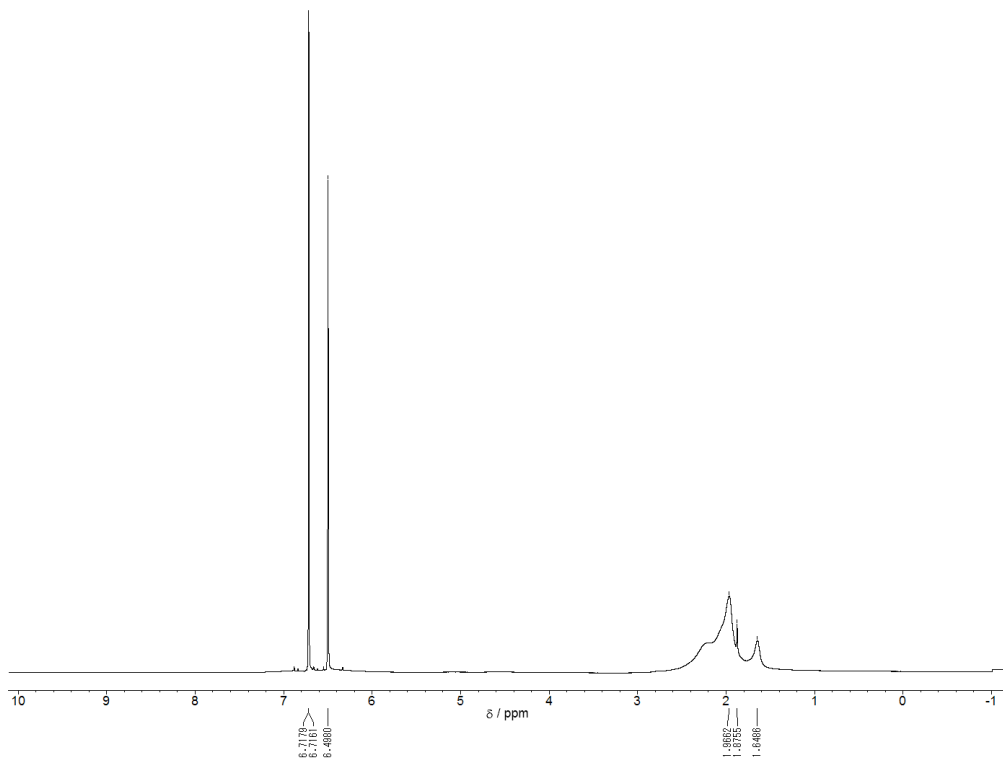
$^1\text{H-NMR}$  spectrum of 2,8-dibromo-5,11-bis(2-decyltetradecyl)thieno[2',3':4,5]pyrido[2,3-g]thieno[3,2-c]quinoline-4,10-dione (**13**)



$^{13}\text{C-NMR}$  spectrum of 2,8-dibromo-5,11-bis(2-decyltetradecyl)thieno[2',3':4,5]pyrido[2,3-g]thieno[3,2-c]quinoline-4,10-dione (**13**)



<sup>1</sup>H-NMR spectrum of PIQP2T



<sup>1</sup>H-NMR spectrum of PTPQ2T

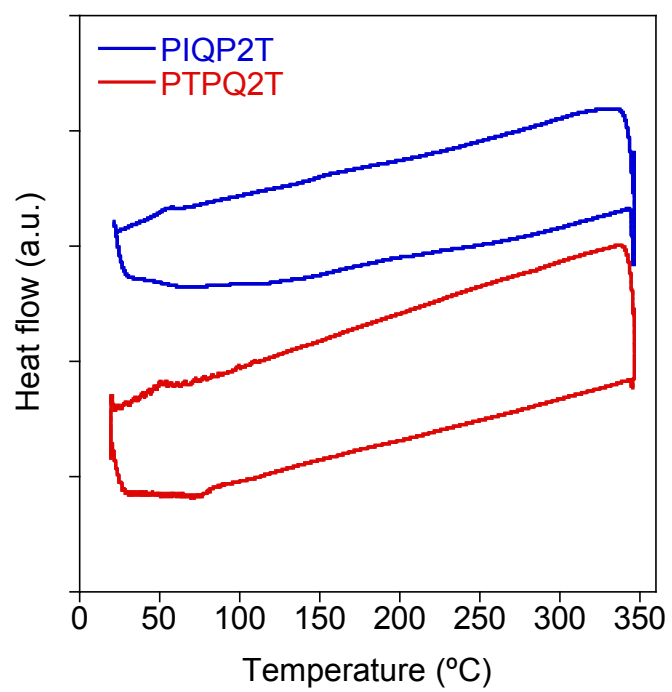


Figure S1. DSC curves of the polymers.