

**Supporting information for**

**Effect of substituents on the electron transport properties of bay substituted perylene diimide derivatives**

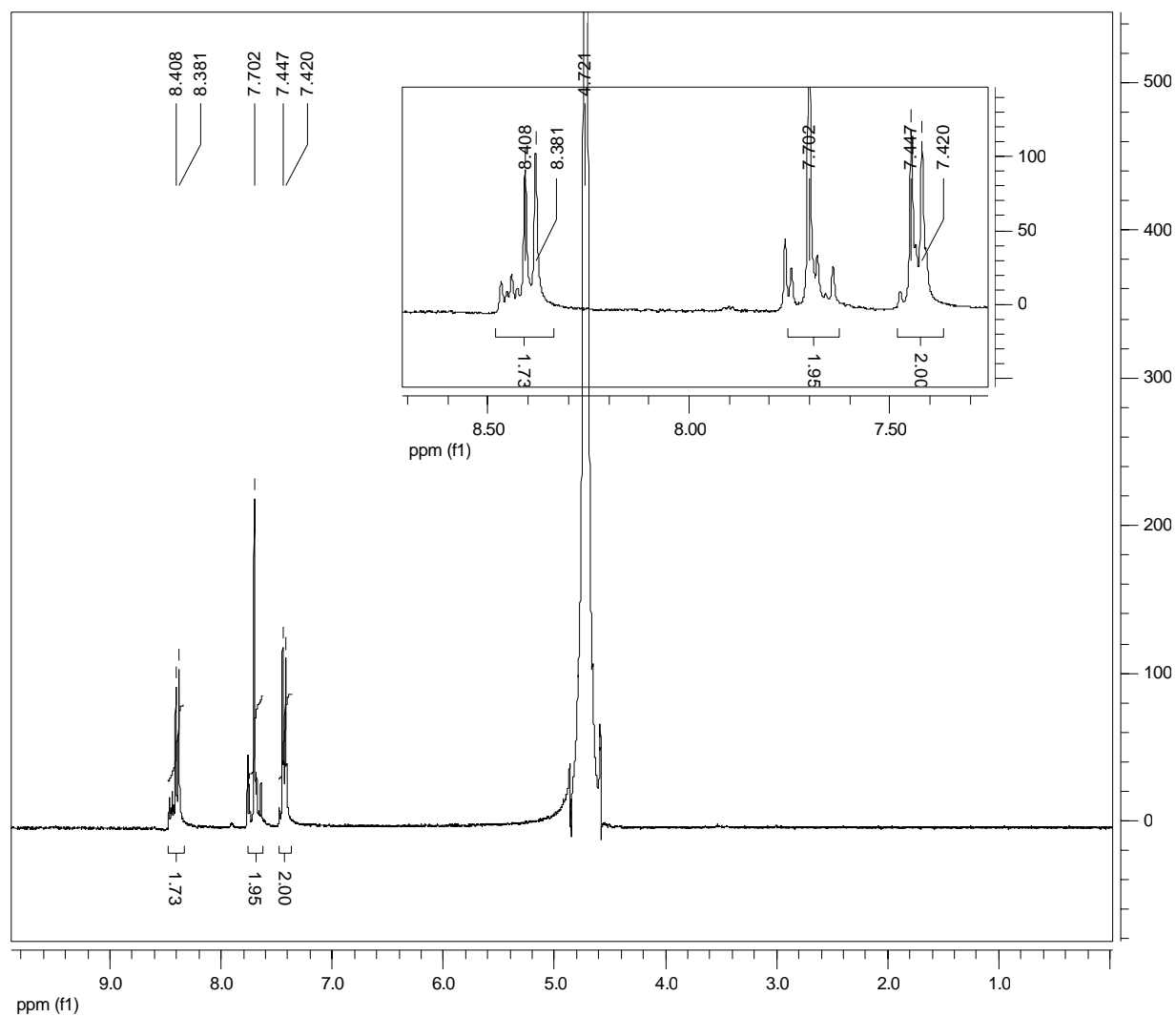
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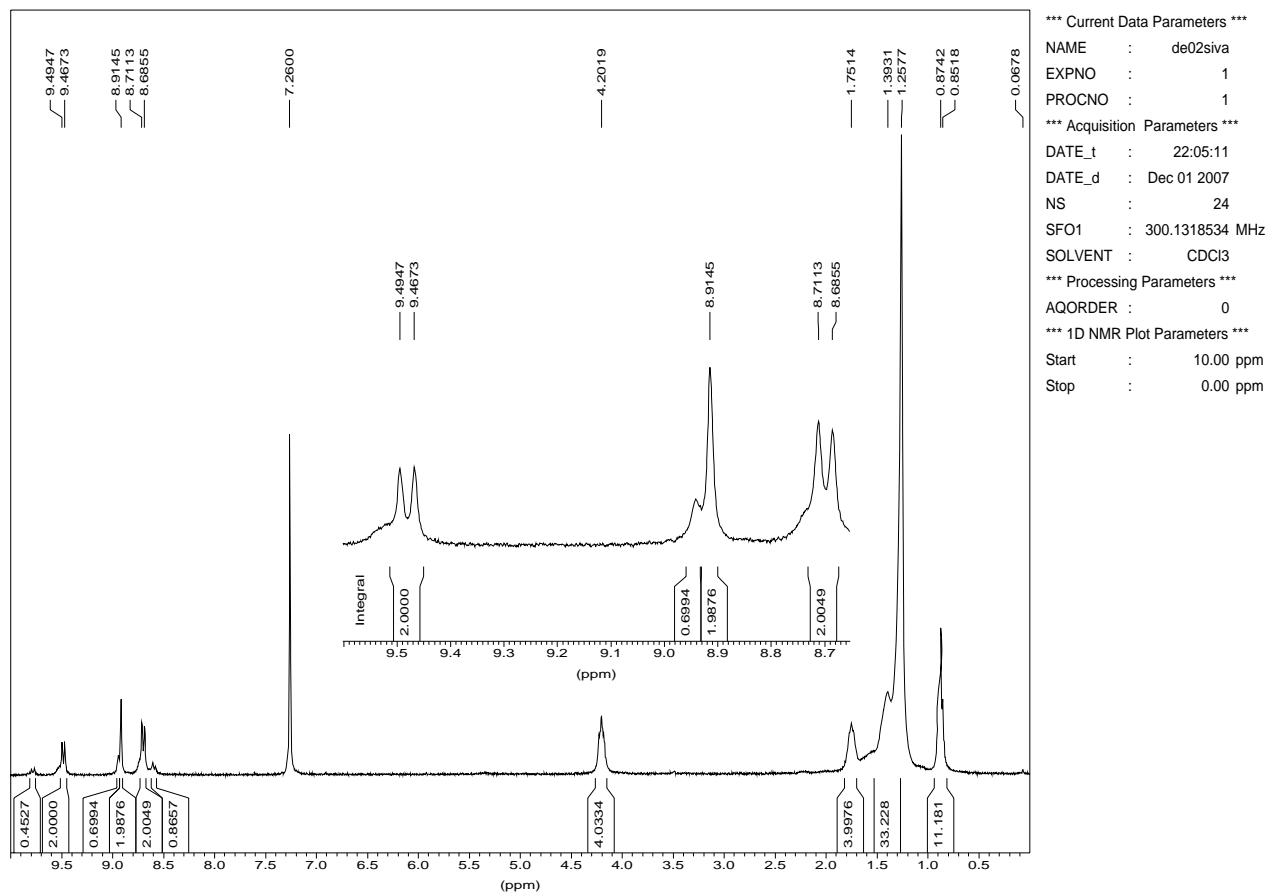
<sup>b</sup>*Department Organic Technology, Kaunas University of Technology, Radvilenu pl. 19, LT-50254, Kaunas, Lithuania*

<sup>c</sup>*Department of Solid State Electronics, Vilnius University, Sauletekio al. 9, LT-10222, Vilnius, Lithuania*

**Figure 1S** –  $^1\text{H}$  NMR of 1,7-dibromo perylene



siva239



**Figure 2S** –  $^1\text{H}$  NMR spectrum of 1,7-dibromo-N,N'-dodecyl perylene bisimide (PDI)

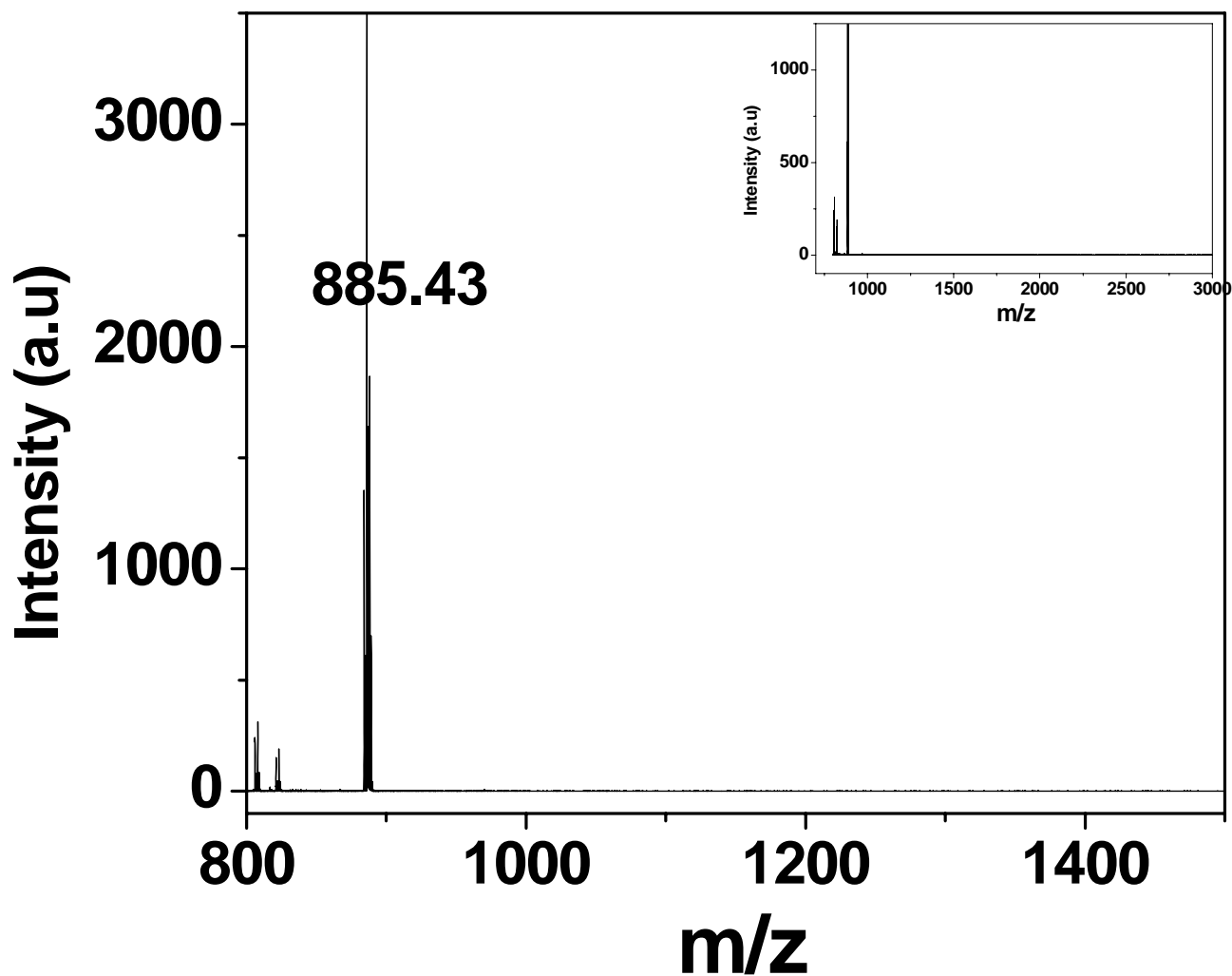
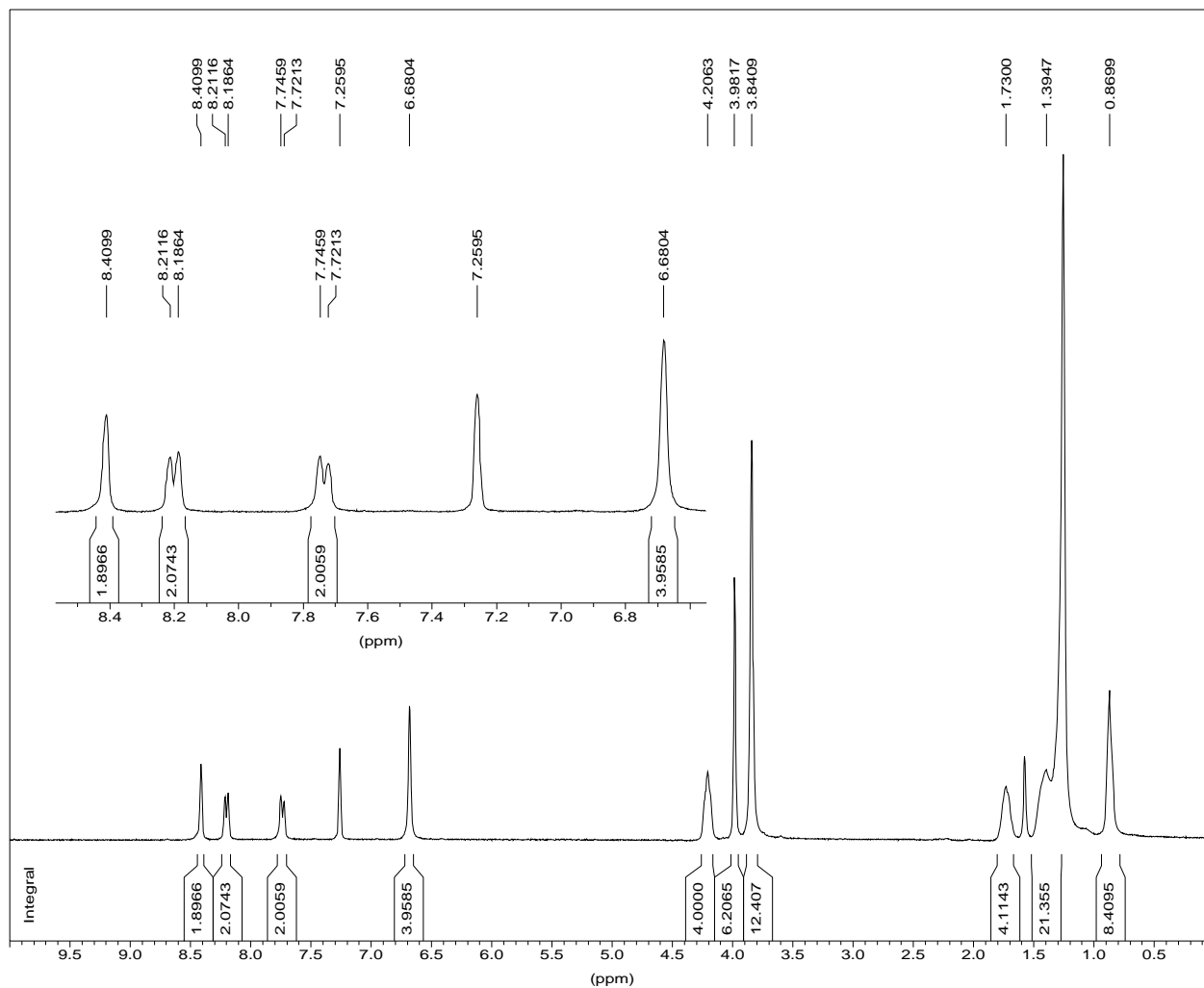


Figure 3S – MALDI-TOF spectrum of 1,7-dibromo-N,N'-dodecyl perylene bisimide (PDI)

Figure 4S.  $^1\text{H}$  and  $^{13}\text{C}$  NMR of PDI1

siva232

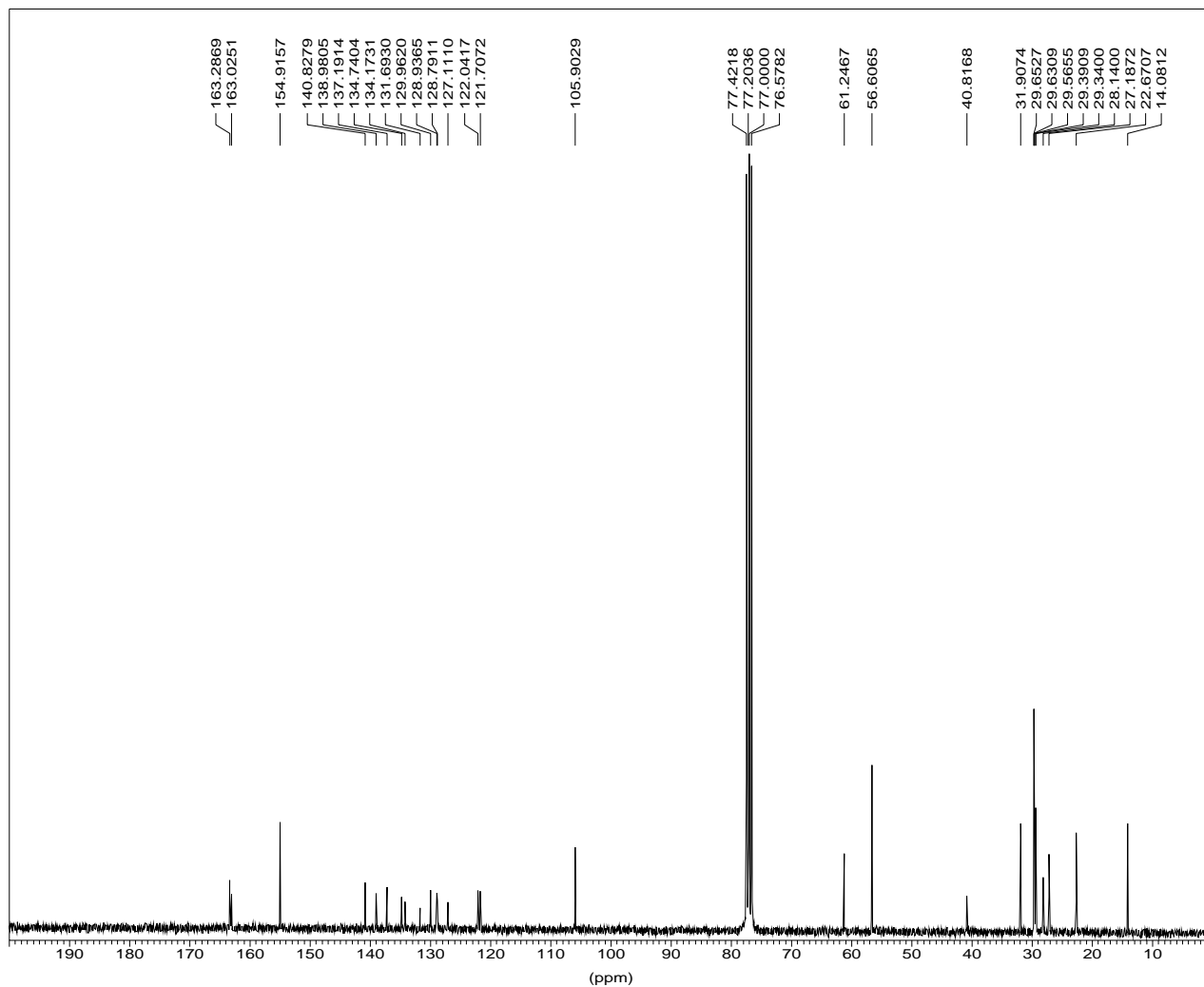


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PROCNO : 1  
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DATE\_d : Nov 20 2007  
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NS : 24  
O1 : 1853.43 Hz  
O2 : 1853.43 Hz  
O3 : 1853.43 Hz  
SFO1 : 300.1318534 MHz  
SFO2 : 300.1318534 MHz  
SFO3 : 300.1318534 MHz  
SOLVENT : CDCl3  
\*\*\* Processing Parameters \*\*\*  
AZFW : 0.100 ppm  
\*\*\* 1D NMR Plot Parameters \*\*\*  
SR : 12.05 Hz

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$^{13}\text{C}$  of PDI1

siva232

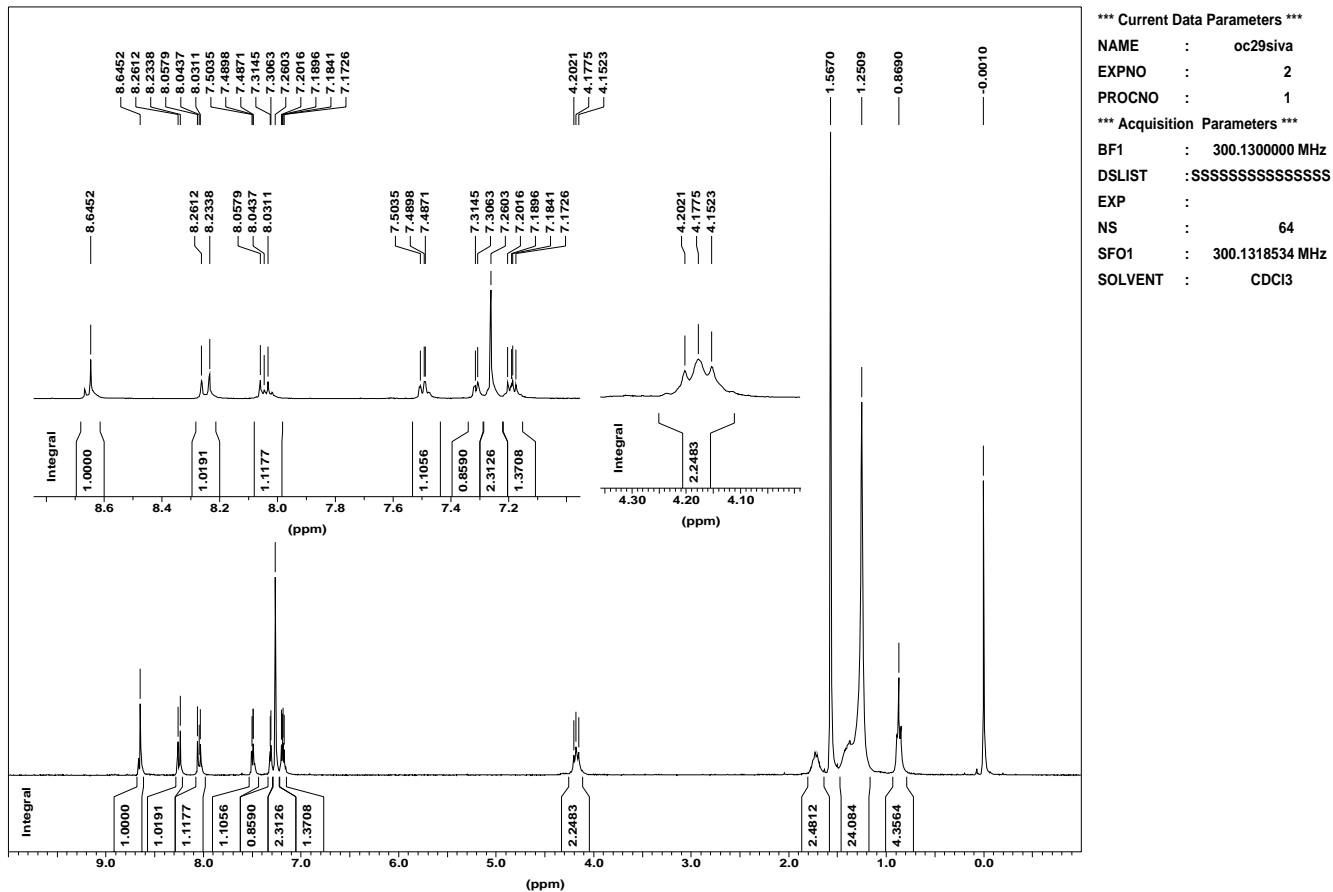


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NS : 21016  
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O2 : 1200.52 Hz  
O3 : 7546.30 Hz  
SFO1 : 75.4756731 MHz  
SFO2 : 300.1312005 MHz  
SFO3 : 75.4752953 MHz  
SOLVENT : CDCl3  
\*\*\* Processing Parameters \*\*\*  
AZFW : 0.500 ppm  
\*\*\* 1D NMR Plot Parameters \*\*\*  
SR : 1.02 Hz

Figure S5.  $^1\text{H}$  and  $^{13}\text{C}$  NMR of PDI2

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<sup>13</sup>C of PDI2

siva221

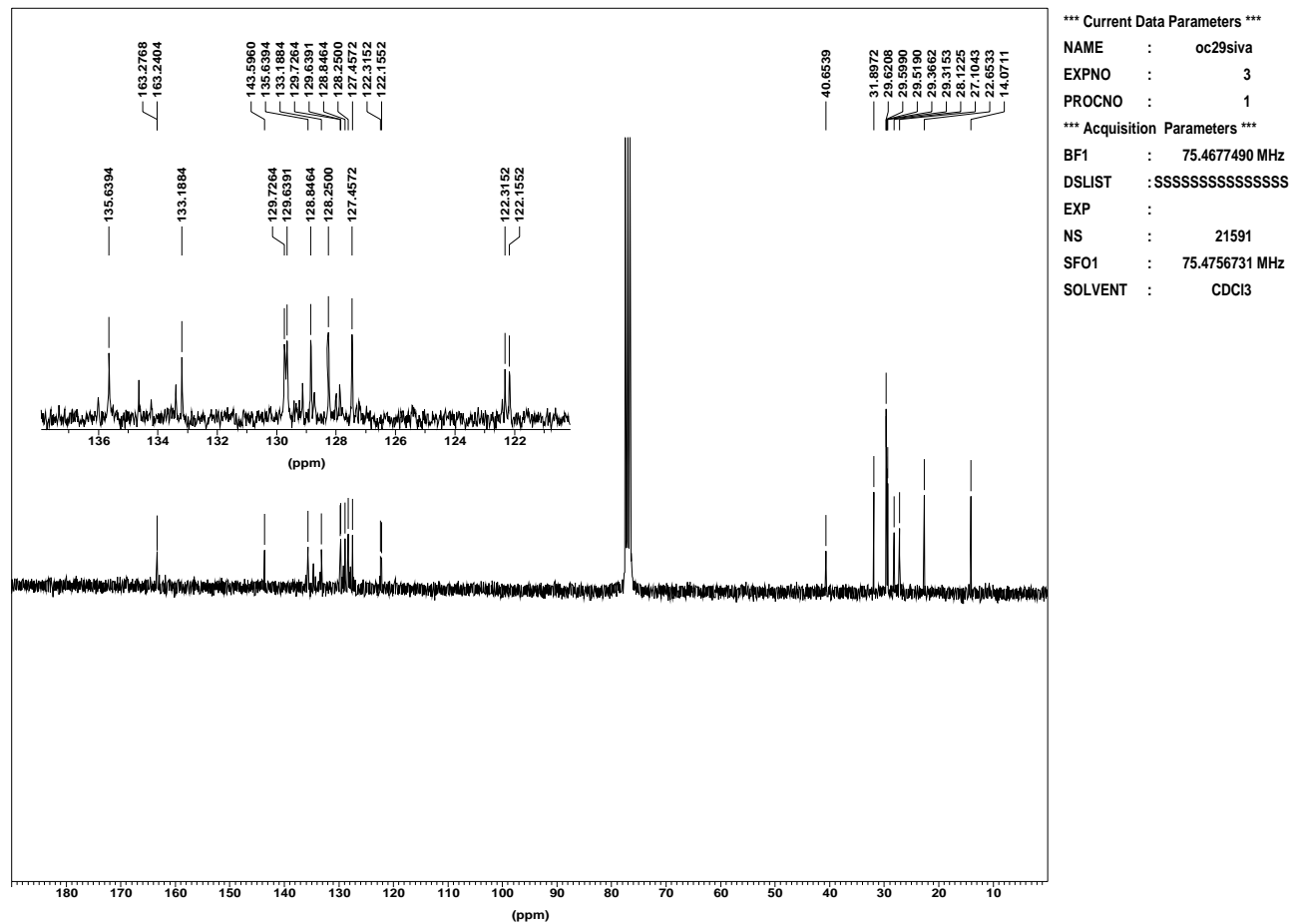
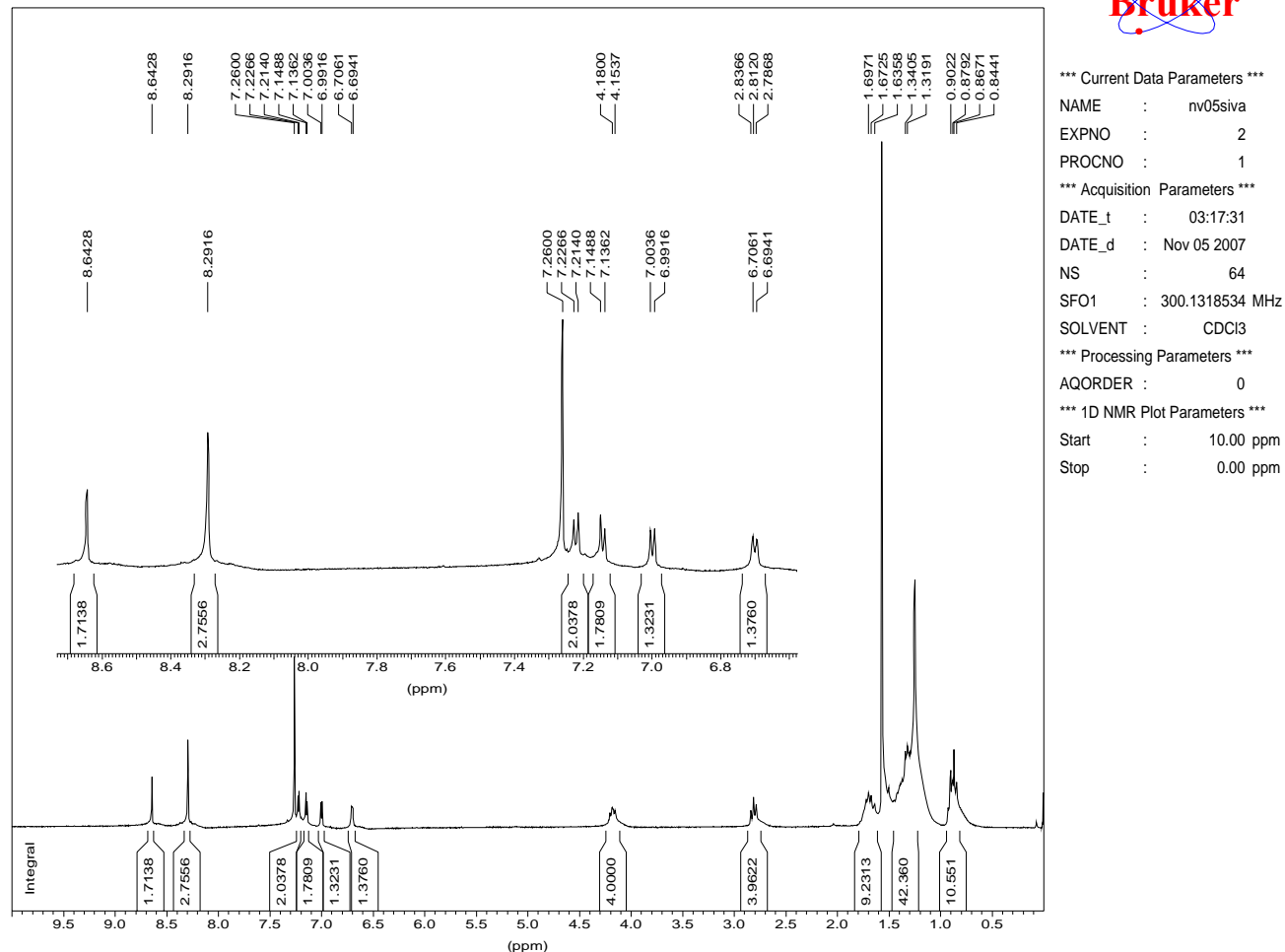




Figure 6S.  $^1\text{H}$  and  $^{13}\text{C}$  NMR of PDI3

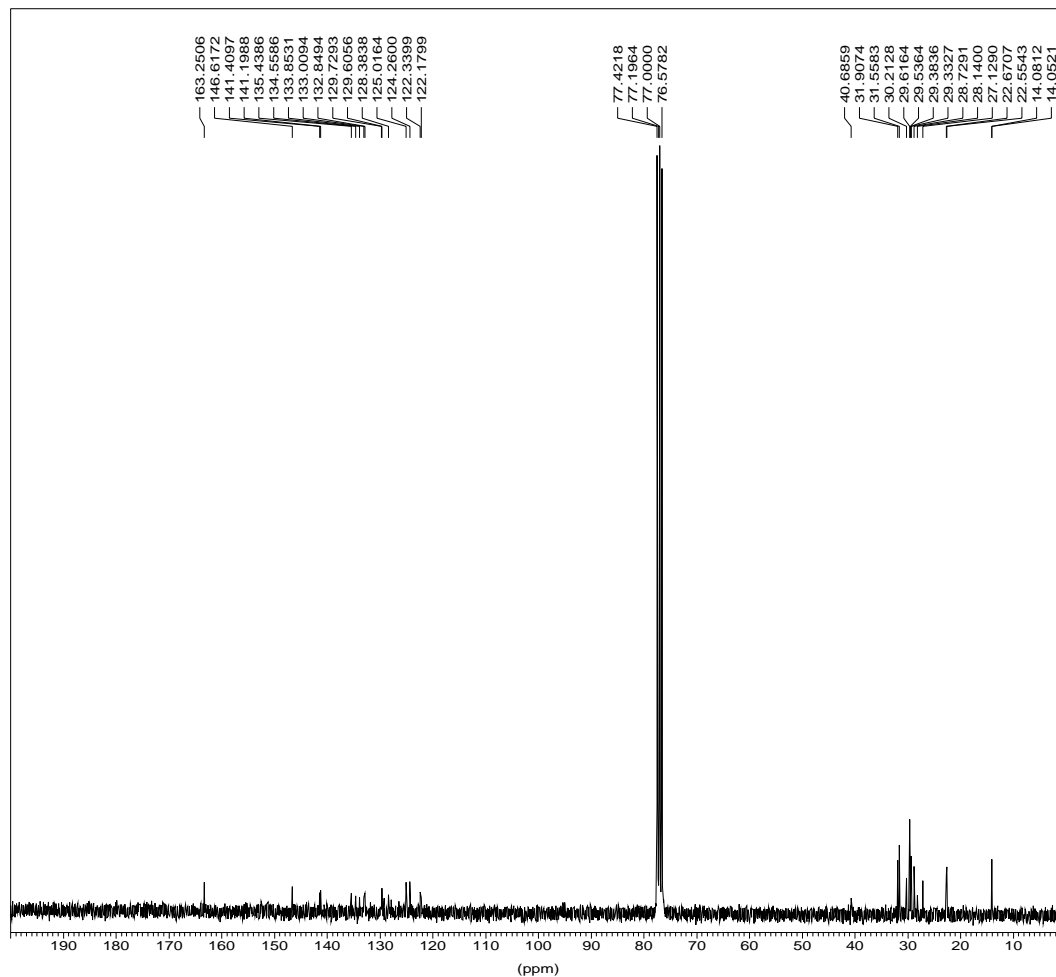
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$^{13}\text{C}$  of PDI3

siva226



\*\*\* Current Data Parameters \*\*\*

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EXPNO : 3  
PROCNO : 1

\*\*\* Acquisition Parameters \*\*\*

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DATE\_d : Nov 05 2007  
NS : 5244  
SFO1 : 75.4756731 MHz  
SOLVENT : CDCl3

\*\*\* Processing Parameters \*\*\*

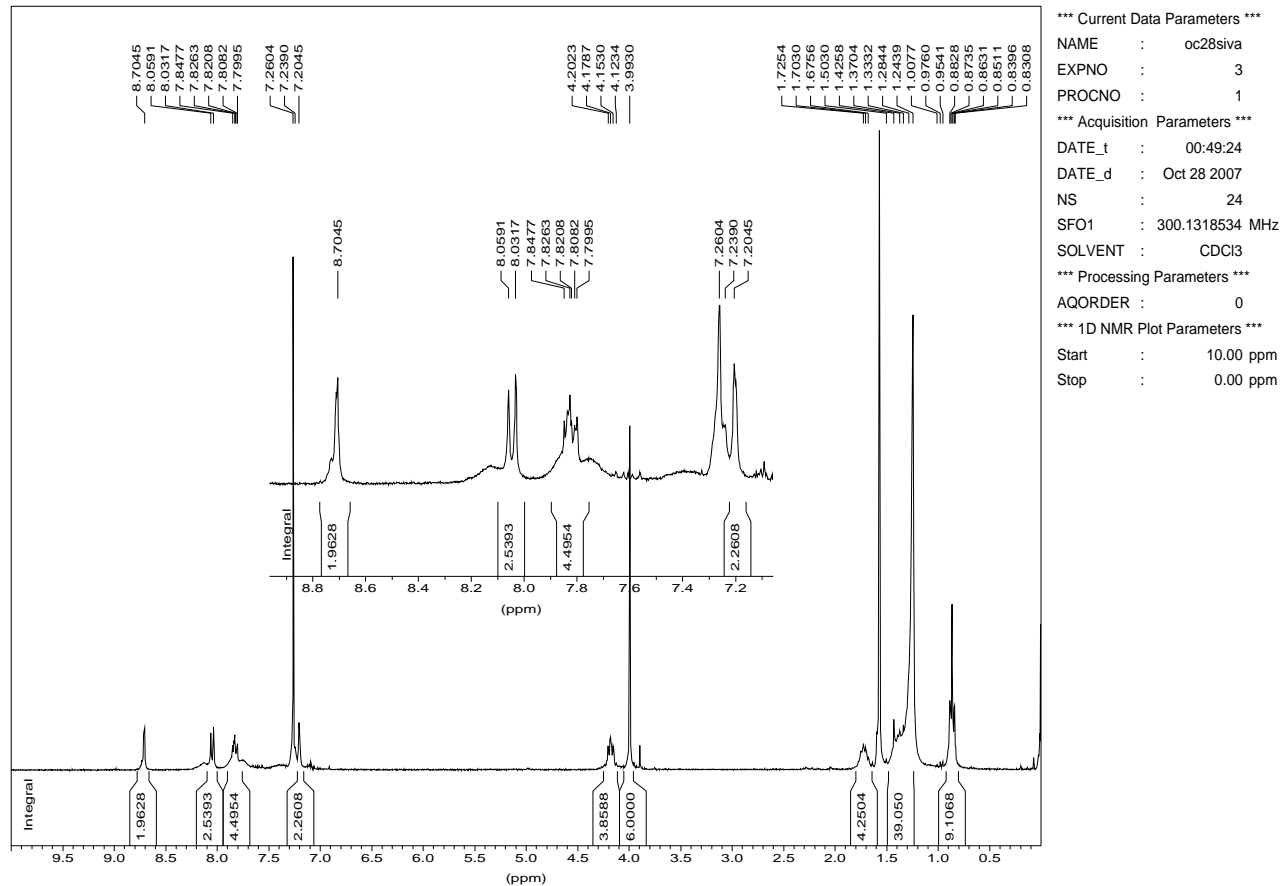
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\*\*\* 1D NMR Plot Parameters \*\*\*

Start : 200.00 ppm  
Stop : 0.00 ppm

Figure 7S.  $^1\text{H}$  and  $^{13}\text{C}$  NMR of PDI4

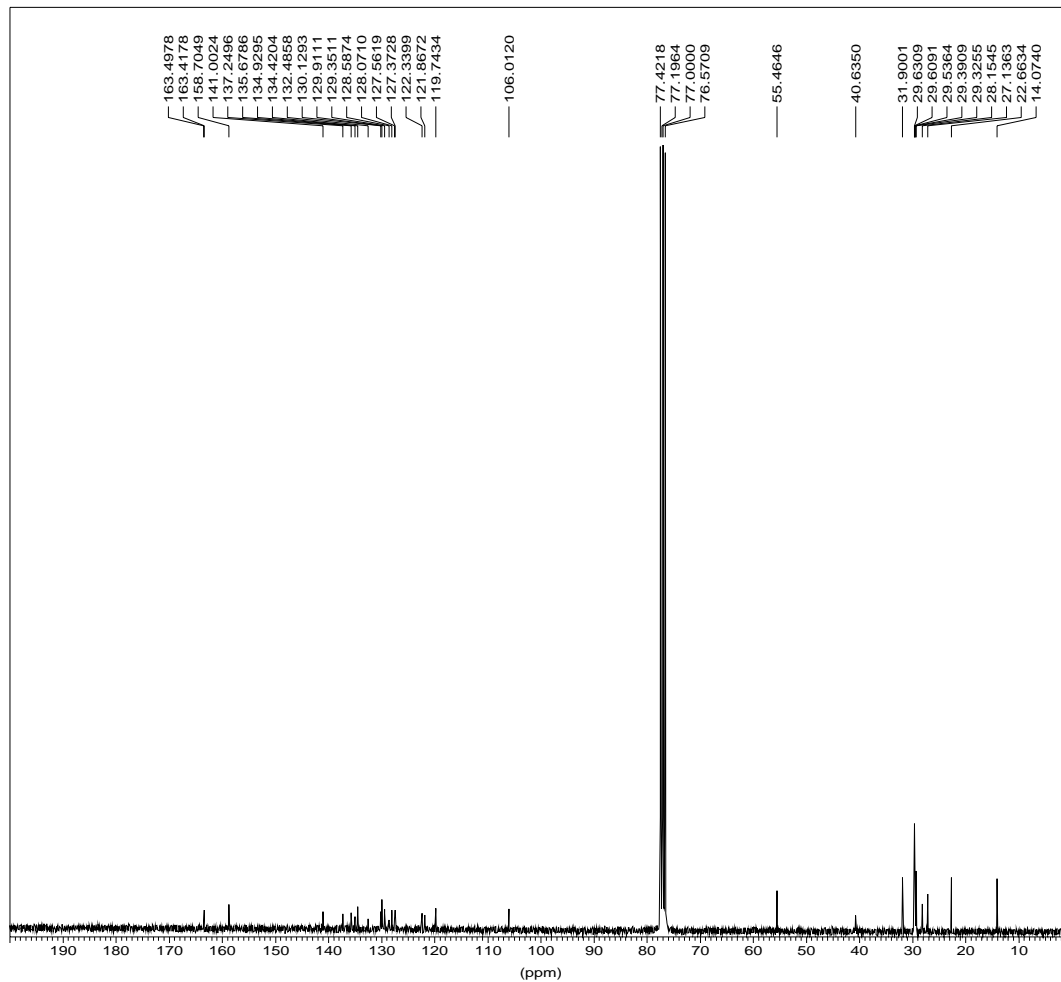
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$^{13}\text{C}$  of PDI4

siva210



\*\*\* Current Data Parameters \*\*\*

NAME : oc28siva  
EXPNO : 6  
PROCNO : 1

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DATE\_d : Oct 28 2007  
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SOLVENT : CDCl3

\*\*\* Processing Parameters \*\*\*

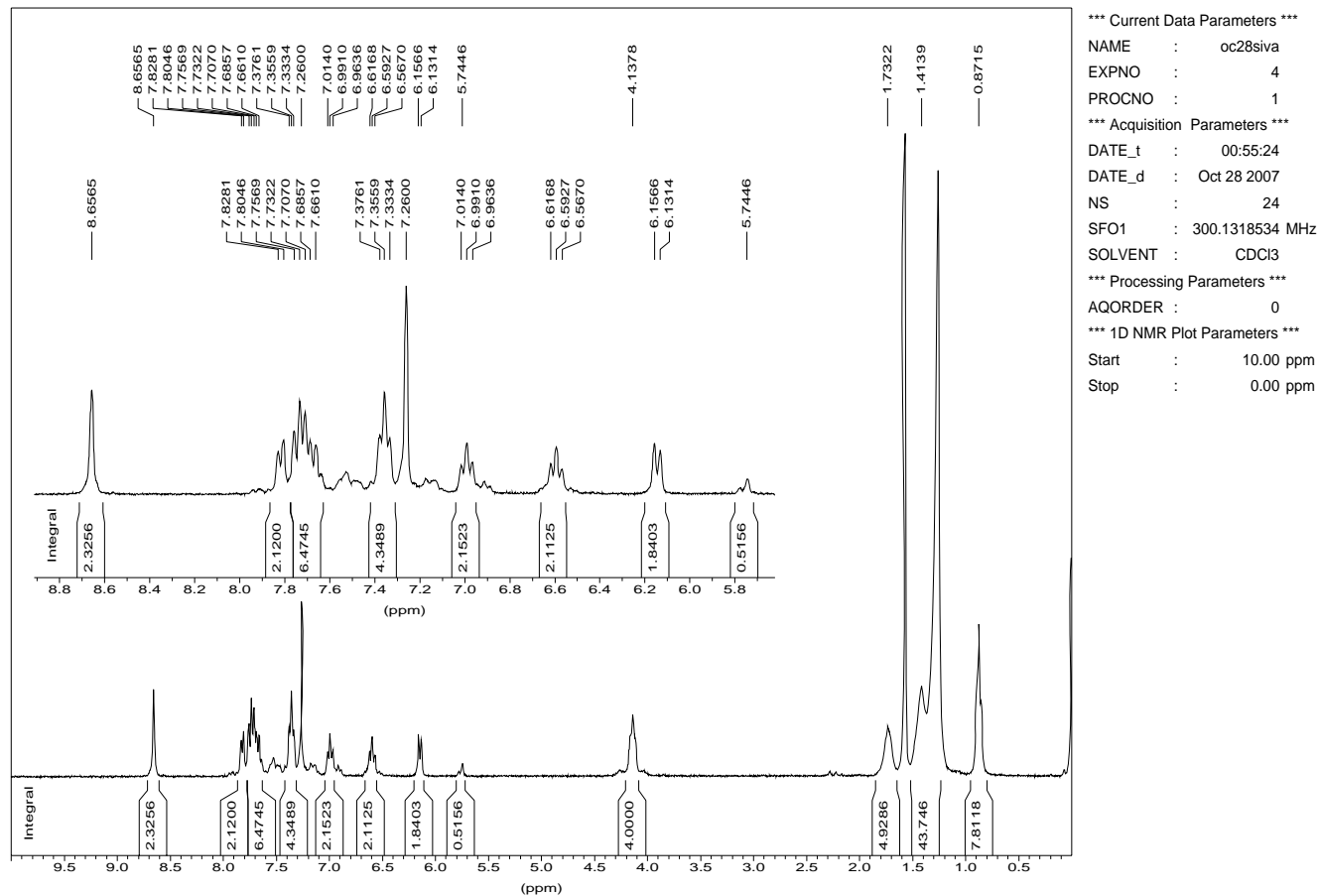
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\*\*\* 1D NMR Plot Parameters \*\*\*

Start : 200.00 ppm  
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Figure 8S. <sup>1</sup>H and <sup>13</sup>C NMR of PDI5

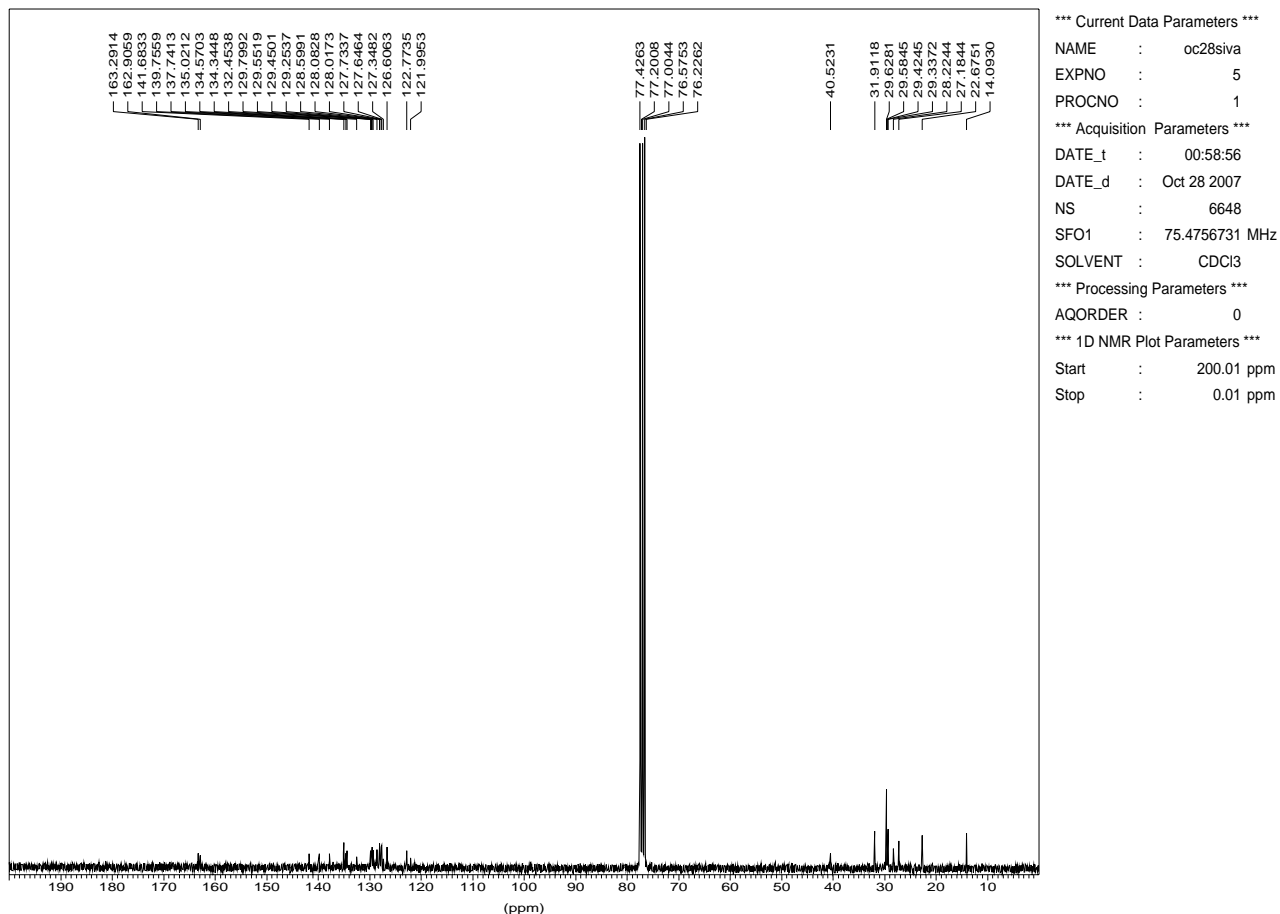
siva213

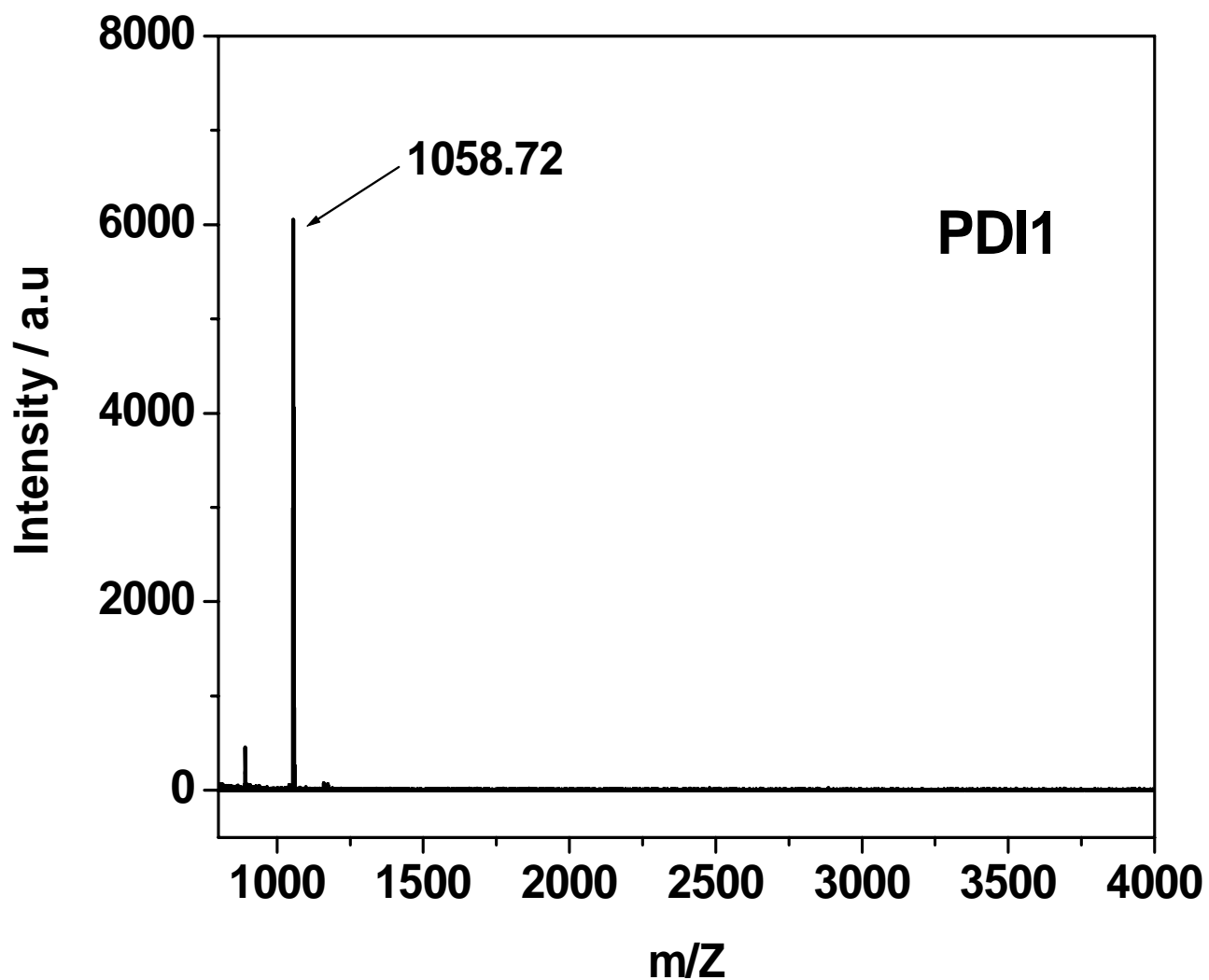


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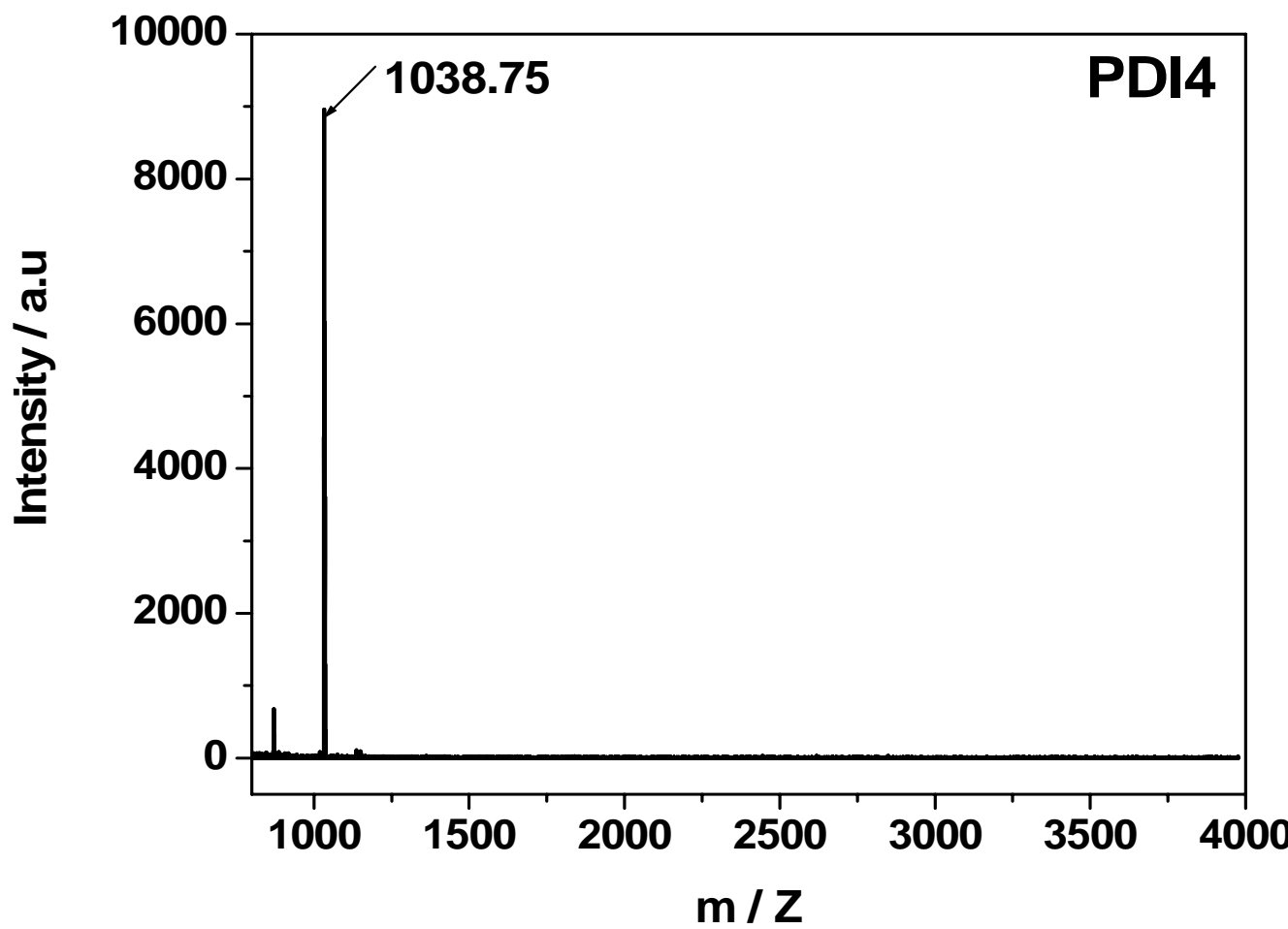
$^{13}\text{C}$  of PDI5

siva213



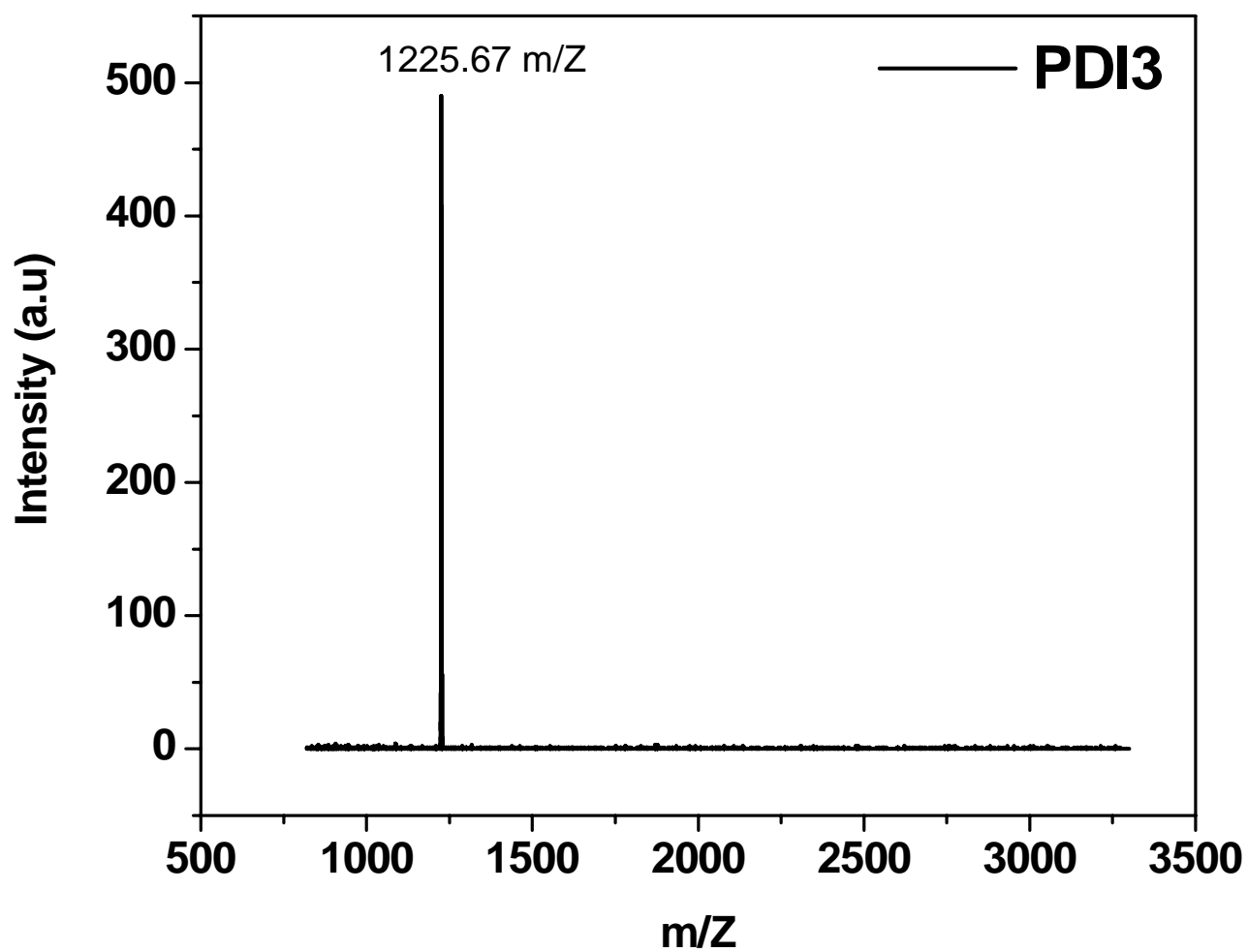


MALDI-TOF of PDI1



MALDI-TOF of PDI4





MALDI-TOF of PDI3

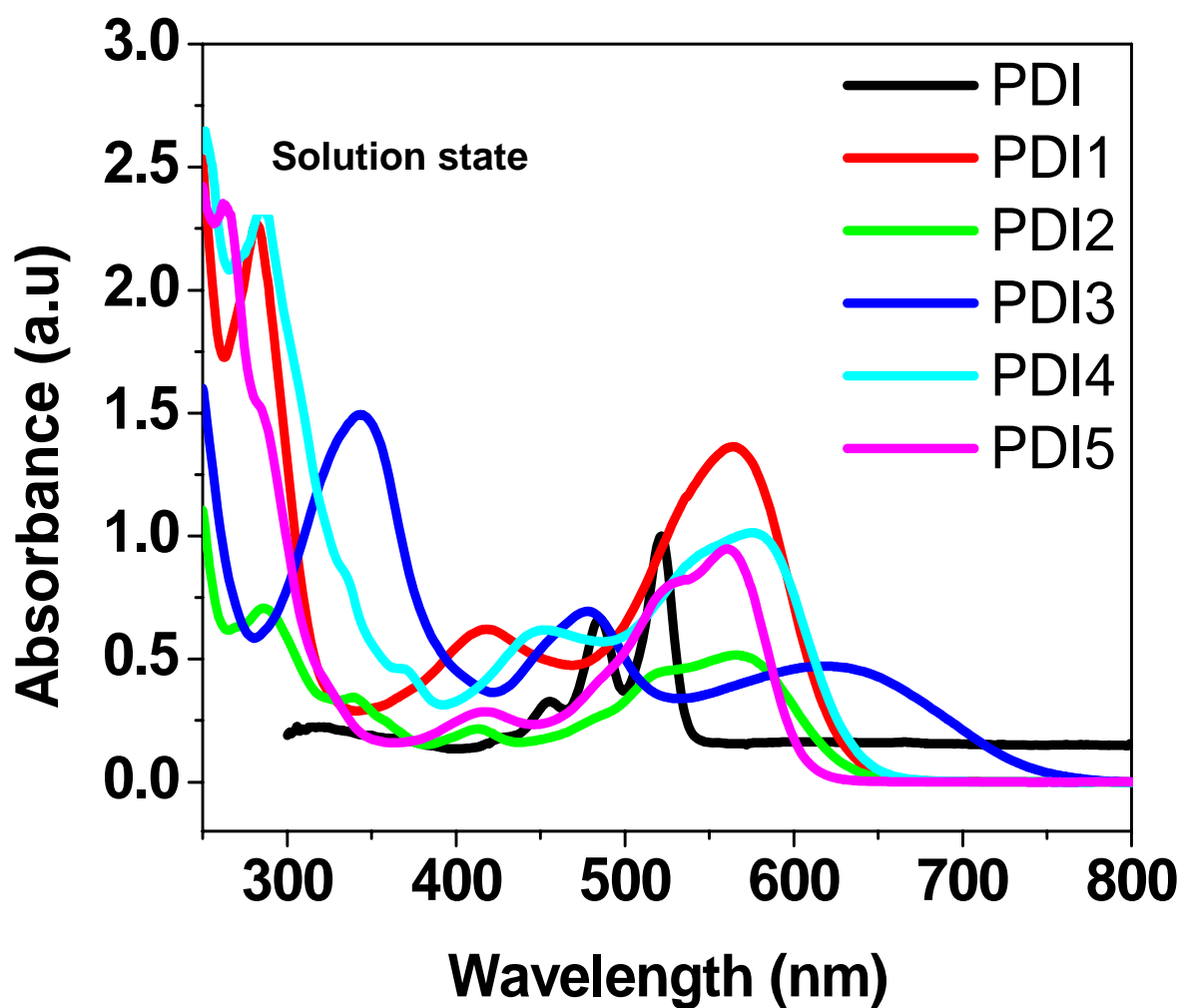


Figure 9S. Absorption spectra in solution

Figure 10S. Absorption spectra of thin films

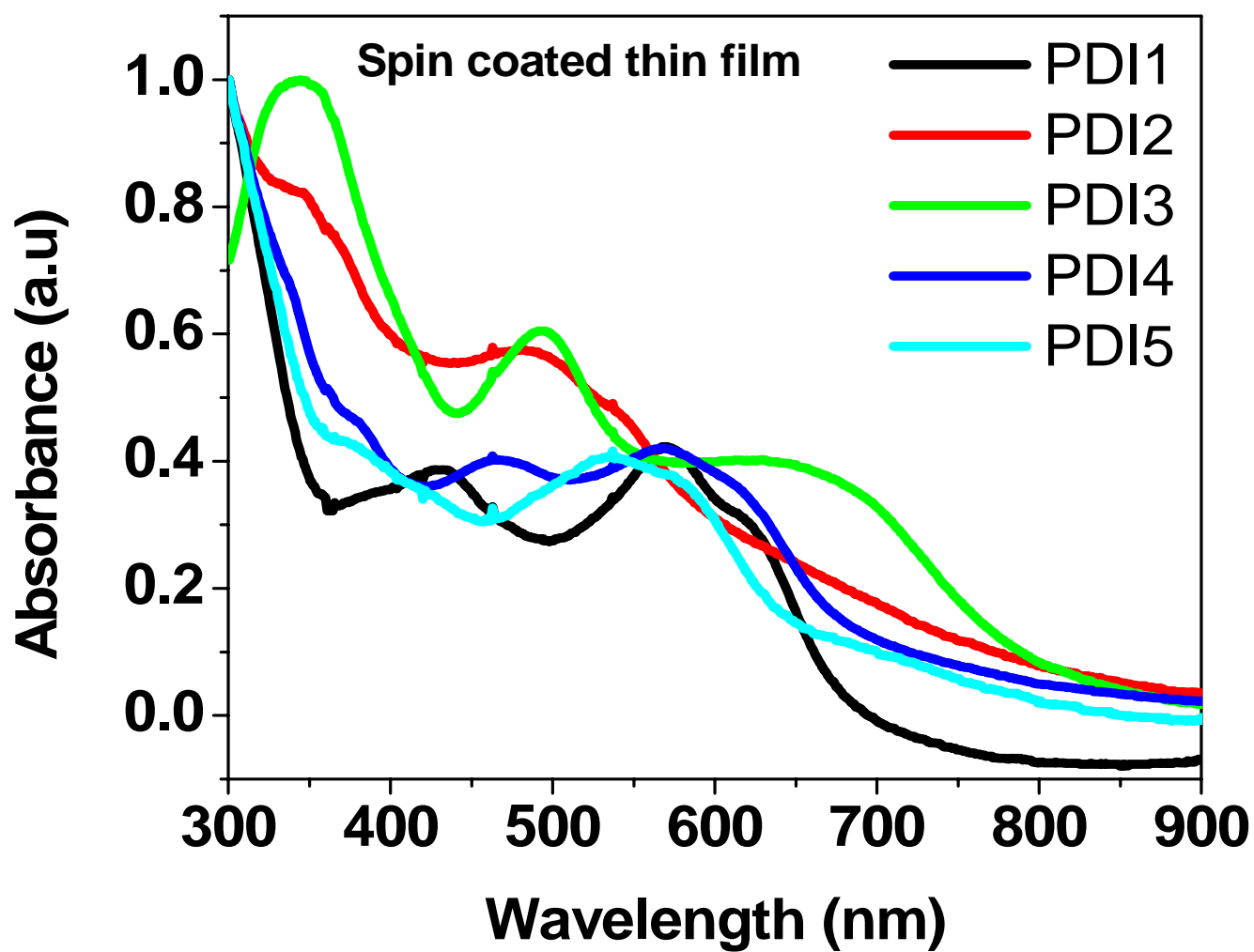
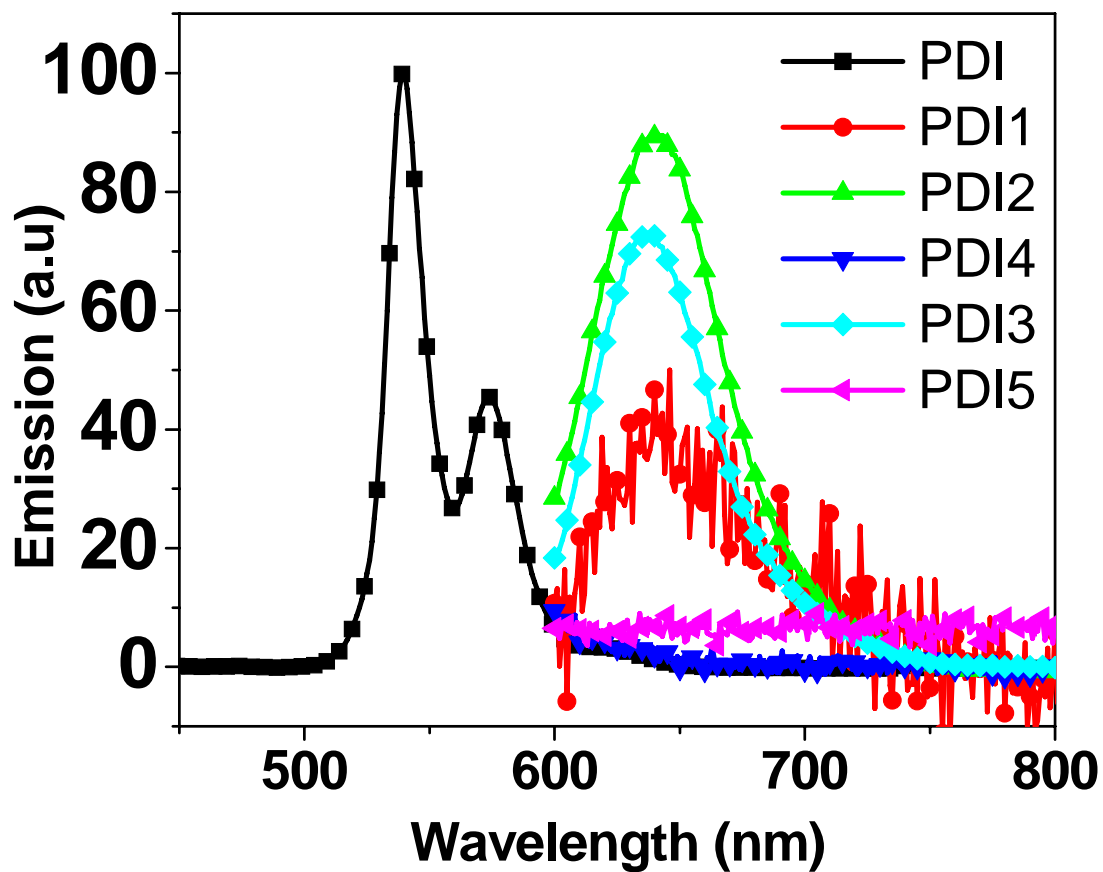
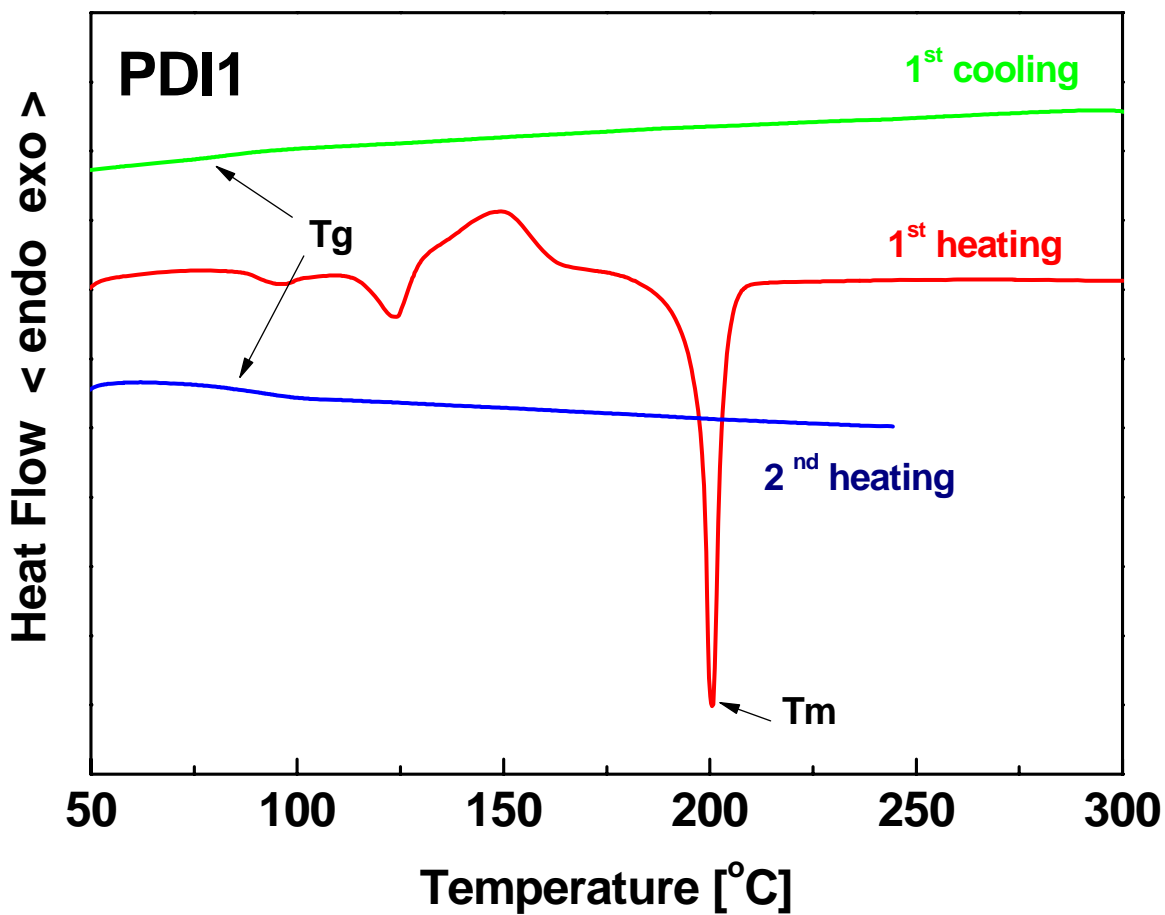


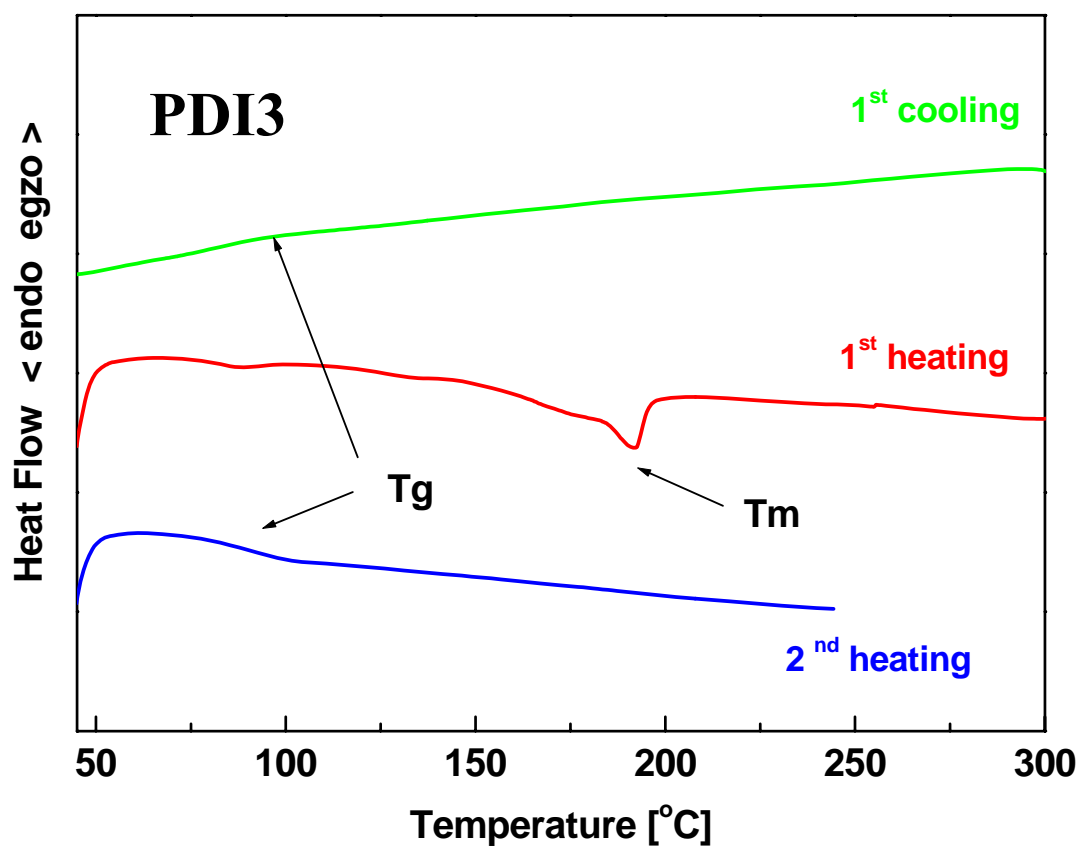
Figure 11S. Emission spectra in solution



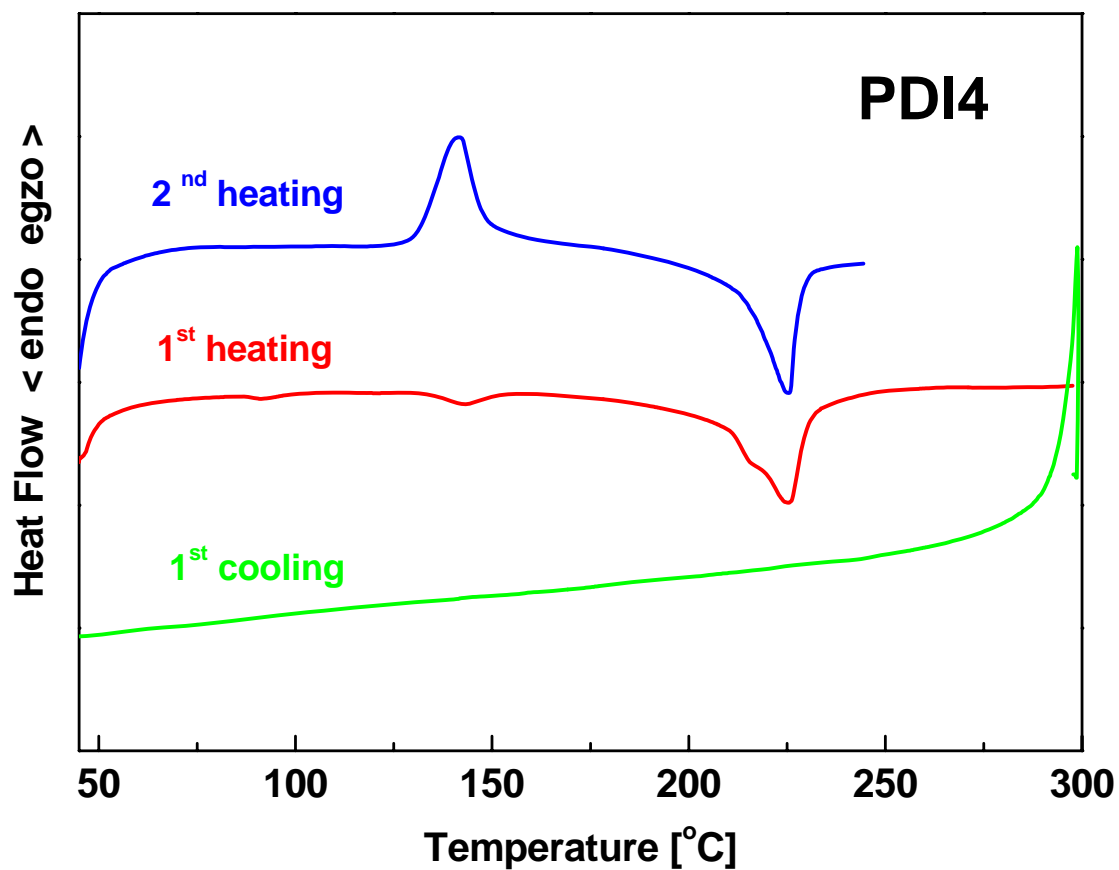
**Figure 12S.** DSC curves of PDI1. Heating-cooling-heating curve. Recorded under nitrogen atmosphere



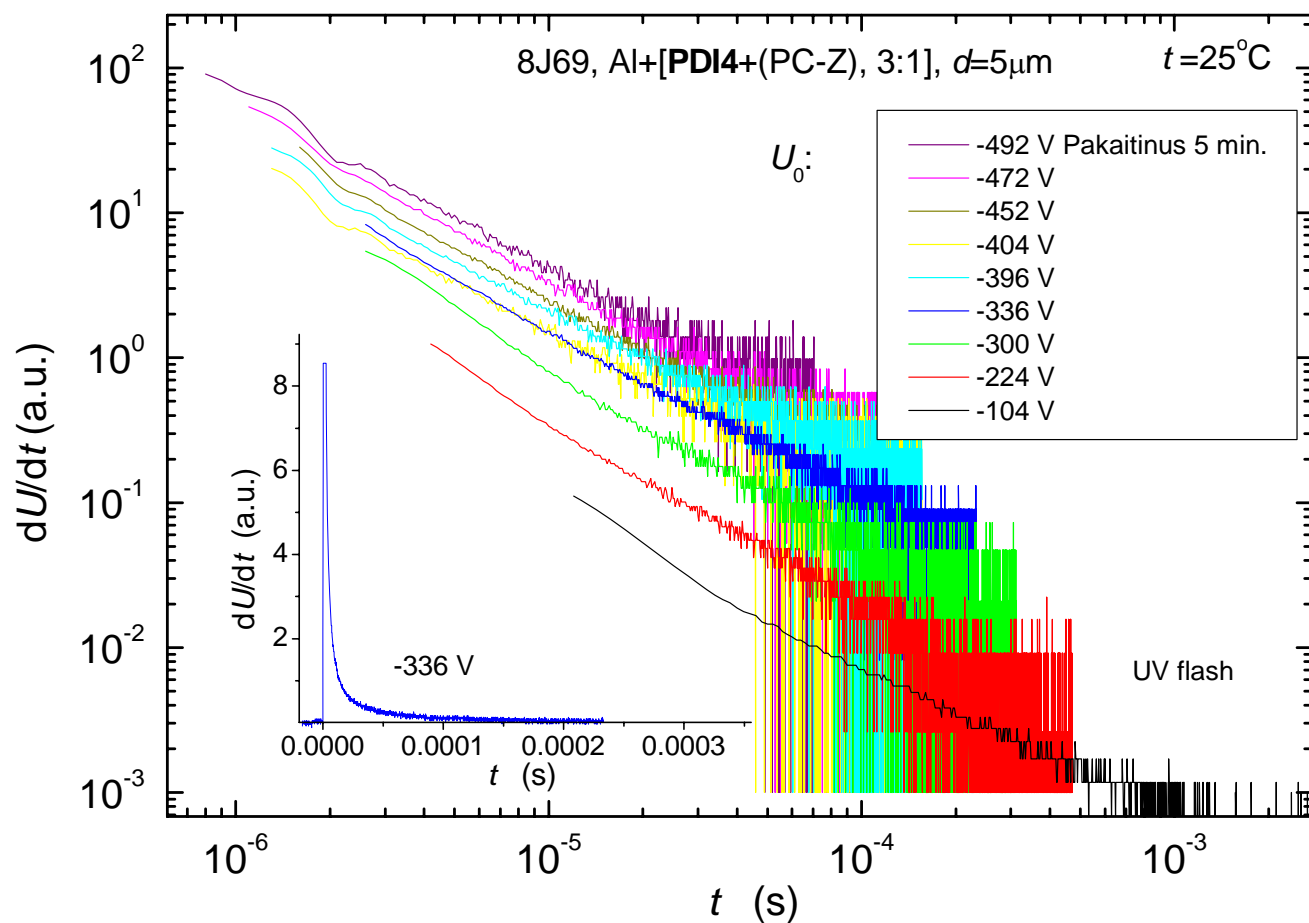
**Figure 13S.** DSC curves of PDI3. Heating-cooling-heating curve. Recorded under nitrogen atmosphere



**Figure 14S.** DSC curves of PDI4. Heating-cooling-heating curve. Recorded under nitrogen atmosphere



**Figure 15S.** XTOF transients for blend of PDI4 and PC-Z. Arrow marks in insert indicates a transit time of holes





**Figure 16S.** XTOF transients for blend of PDI5 and PC-Z. Arrow marks in insert indicates a transit time of holes

