

## Supporting information

### **Palladium nanoparticles supported on triazine functionalised mesoporous covalent organic polymers as efficient catalysts for Mizoroki-Heck cross coupling reaction**

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## 1. Characterization data

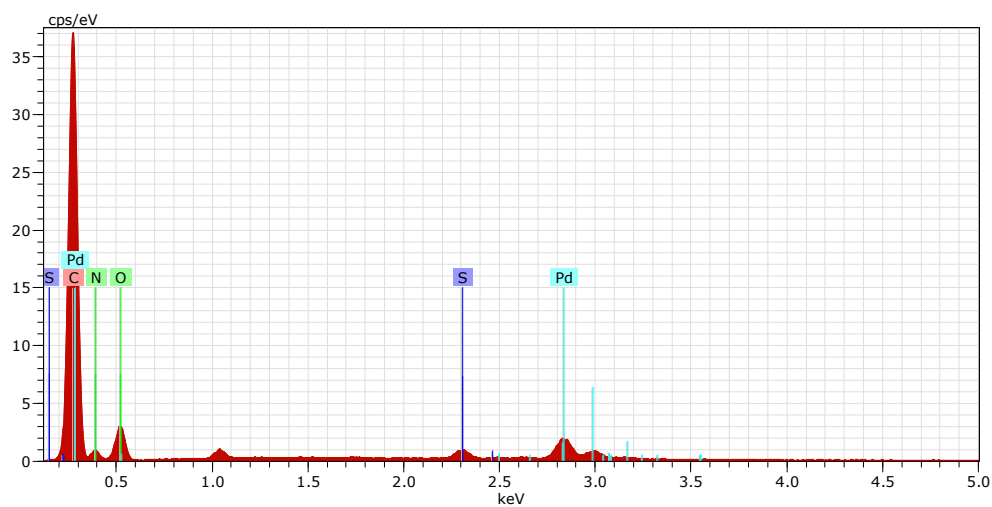


Fig. S1. EDX of fresh Pd@MCOP

Table S1: Details of Atom weight percentage in fresh Pd@MCOP

Element, Atomic number	Series	Atom (wt%)
C, 6	K-series	64.41
N, 7	K-series	19.29
O, 8	K-series	13.96
Pd, 46	L-series	2.04
S, 16	K-series	0.31

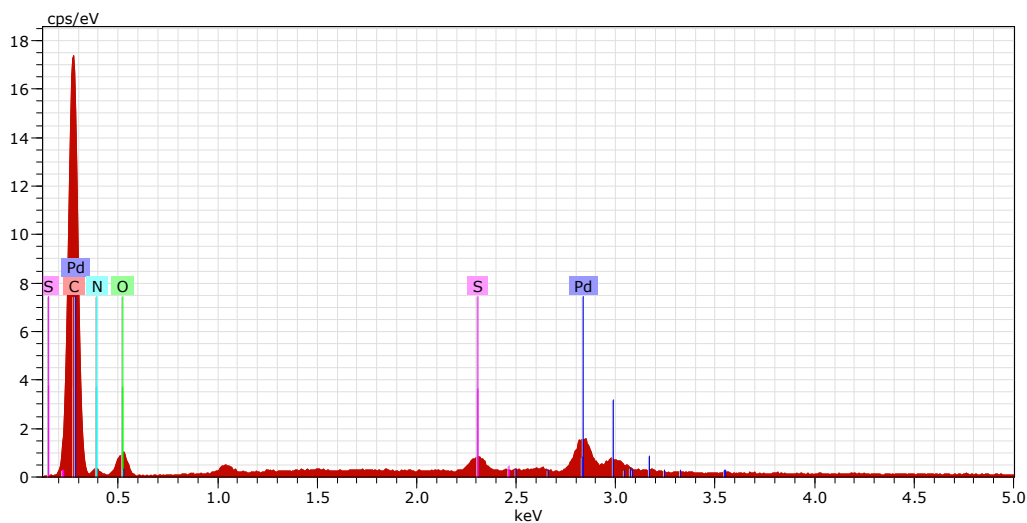
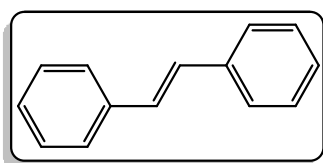


Fig. S1. EDX of reused Pd@MCOP

**Table S2: Details of Atom weight percentage in reused Pd@MCOP**

Element, Atomic number	Series	Atom (wt%)
C, 6	K-series	69.14
N, 7	K-series	16.72
O, 8	K-series	11.52
Pd, 46	L-series	2.00
S, 16	K-series	0.62

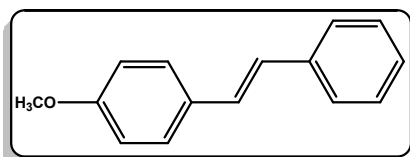
### NMR data for Mizoroki-Heck Cross Coupling products



**(E)-1,2-diphenylethene (Table 3, Entry 1):**

Compound 3a was prepared according to the general procedure and purified by column chromatography to give a white solid.

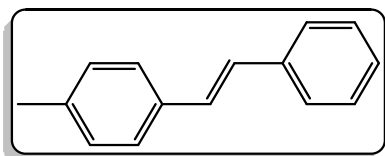
<sup>1</sup>H-NMR (400 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 7.50 (d, J = 7.4 Hz, 4H), 7.35 (t, J = 7.5 Hz, 4H), 7.25 (t, 2H), 7.10 (s, 2H); <sup>13</sup>C-NMR (100 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 137.4, 128.8, 128.7, 127.6, 126.6.



**(E)-1-methoxy-4-styrylbenzene (Table 3, Entry 2 and 22):**

Compound 3b was prepared according to the general procedure and purified by column chromatography to give a white solid.

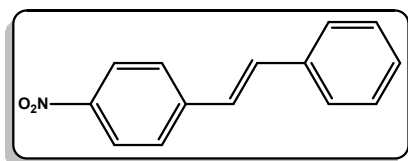
<sup>1</sup>H-NMR (400 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 1H NMR (400 MHz, CDCl<sub>3</sub>) δ 7.49-7.42 (m, 4H), 7.36-7.32 (t, 7.6 Hz, 2H), 7.24-7.21 (m, 1H), 7.08-6.91 (q, J = 38.0, 16.3 Hz, 2H), 6.91-6.90 (m, 1H), 6.89-6.88 (m, 1H), 3.82 (s, 3H); <sup>13</sup>C-NMR (100 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 159.4, 137.7, 130.2, 128.7, 128.6, 127.7, 127.2, 126.7, 126.3, 114.2, 55.3.



**(E)-1-methyl-4-styrylbenzene (Table 3, Entry 3 and 23):**

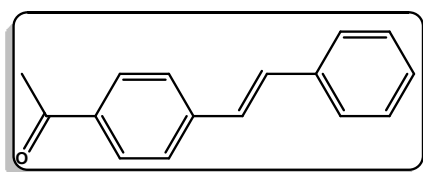
Compound 3c was prepared according to the general procedure and purified by column chromatography to give a white solid.

<sup>1</sup>H-NMR (400 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 7.50-7.48 (d, J = 7.5 Hz, 2H), 7.42-7.40 (d, J=8.0 Hz, 2H), 7.36-7.32 (t, J = 7.6 Hz, 2H), 7.25-7.22 (t, J=7.3 Hz, 1H), 7.17-7.15 (d, J = 7.9 Hz, 2H), 7.07 (d, 2H), 2.35 (s, 3H); <sup>13</sup>C-NMR (100 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 137.6, 137.5, 134.6, 129.4, 128.7, 127.7, 127.4, 126.5, 126.4, 21.3.



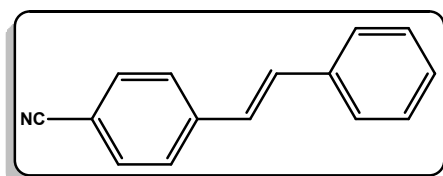
**(E)-1-nitro-4-styrylbenzene (Table 3, Entry 4):** Compound 3d was prepared according to the general procedure and purified by column chromatography to give a yellow solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm):  $\delta$  8.21-8.18 (d,  $J = 8.7$  Hz, 2H), 7.62-7.59 (d,  $J = 8.8$  Hz, 2H), 7.55-7.53 (d,  $J = 7.3$  Hz, 2H), 7.41 – 7.27 (m, 3H), 7.24-7.23 (d, 1H), 7.14-7.10 (d, 1H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 146.8, 143.9, 136.2, 133.3, 128.9, 128.9, 127.1, 126.9, 126.3, 124.2.



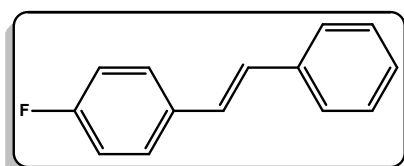
**(E)-1-(4-styrylphenyl)ethanone (Table 3, Entry 5):** Compound 3e was prepared according to the general procedure and purified by column chromatography to give a pale yellow solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.94 (d,  $J = 8.4$  Hz, 2H), 7.57 (d,  $J = 8.4$  Hz, 2H), 7.53 (d,  $J = 7.3$  Hz, 2H), 7.37 (t,  $J = 7.5$  Hz, 2H), 7.29 (t,  $J = 7.3$  Hz, 1H), 7.22 (d,  $J = 16.4$  Hz, 1H), 7.12 (d,  $J = 16.3$  Hz, 1H), 2.60 (s, 3H).;  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 197.46, 142.01, 136.70, 135.96, 131.46, 128.87, 128.80, 128.32, 127.45, 126.82, 126.50, 26.57.



**(E)-1-cyano-4-styrylbenzene (Table 3, Entry 6):** Compound 3f was prepared according to the general procedure and purified by column chromatography to give a white solid.

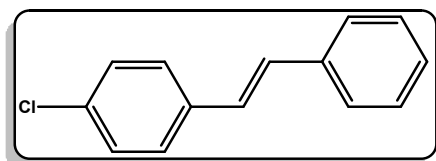
$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.63-7.56 (q, 4H), 7.54-7.52 (d, 2H), 7.40-7.36 (t, 2H), 7.33-7.29 (m, 1H), 7.23-7.18 (d,  $J = 16.3$  Hz, 1H), 7.10-7.06 (d,  $J = 16.3$  Hz, 1H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 141.9, 136.3, 132.5, 132.4, 128.9, 128.7, 126.9, 126.9, 126.8, 119.0, 110.6.



**(E)-1-fluoro-4-styrylbenzene (Table 3, Entry 7):** Compound 3g was prepared according to the general procedure and purified by column chromatography to give a white solid.

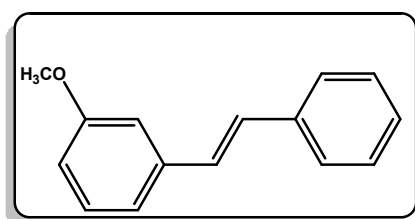
$^1\text{H-NMR}$  (500 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.53-7.49 (m, 4H), 7.40-7.37 (t, 2H), 7.30-7.27 (t, 1H), 7.11-7.02 (m, 4H);  $^{13}\text{C-NMR}$  (125 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 163.3, 161.2, 137.2, 133.5, 133.5, 128.7, 128.5, 128.4, 128.0, 128.0, 127.7, 127.5, 126.5,

115.7, 115.5.



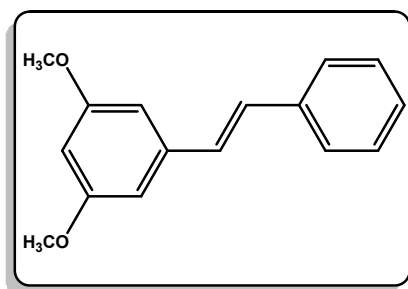
**(E)-1-chloro-4-styrylbenzene (Table 3, Entry 8):** Compound 3h was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (500 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.54-7.52 (d, 2H), 7.47-7.45 (d, 2H), 7.41-7.38 (t, 2H), 7.36-7.34 (d, 2H), 7.32-7.30 (d, 1H), 7.09-7.08 (d, 2H);  $^{13}\text{C-NMR}$  (125 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 137.0, 135.9, 133.2, 129.3, 128.8, 128.7, 127.9, 127.7, 127.4, 126.6.



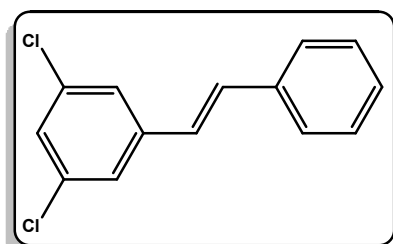
**(E)-1-methoxy-3-styrylbenzene (Table 3, Entry 9):** Compound 3i was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.49-7.47 (d,  $J = 7.5$  Hz, 2H), 7.35-7.31 (t,  $J = 7.5$  Hz, 2H), 7.26-7.22 (m, 2H), 7.09-7.03 (t,  $J = 13.1$  Hz, 4H), 6.80-6.78 (d,  $J = 8.1$  Hz, 1H), 3.80 (s, 3H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 160.0, 138.9, 137.3, 129.7, 129.1, 128.8, 128.7, 127.8, 126.7, 119.4, 113.4, 111.9, 55.3.



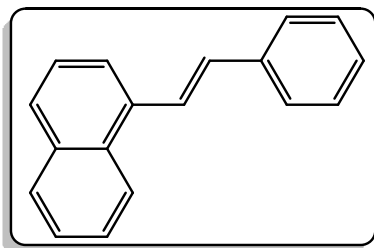
**(E)-1,3-dimethoxy-5-styrylbenzene (Table 2, Entry 10):** Compound 3j was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (500 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.57-7.55 (d, 2H), 7.43-7.39 (t, 2H), 7.33-7.30 (t, 1H), 7.16-7.07 (q, 2H), 6.40-6.38 (d, 2H), 6.46 (s, 1H), 3.97 (s, 6H);  $^{13}\text{C-NMR}$  (125 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 161.04, 139.4, 137.2, 129.2, 128.7, 128.7, 127.9, 126.6, 104.6, 100.0, 55.5.



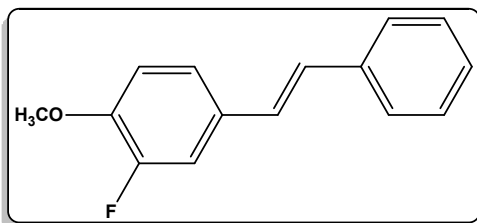
**(E)-1,3-dichloro-5-styrylbenzene (Table 3, Entry 11):** Compound 3k was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (500 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.53-7.51 (d, 2H), 7.43-7.38 (t, 2H), 7.38 (s, 2H), 7.36-7.33 (t, 1H), 7.25 (s, 1H), 7.13-7.09 (d, 1H), 6.97-6.93 (d, 1H);  $^{13}\text{C-NMR}$  (125 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 140.4, 136.3, 135.2, 132.3, 128.9, 128.5, 127.2, 126.8, 125.8, 124.8.



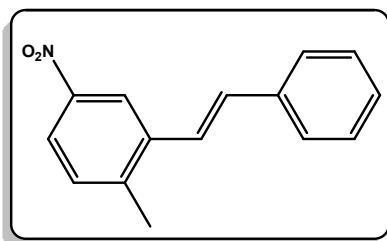
**(E)-1-styrylnaphthalene (Table 3, Entry 12):** Compound 3l was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 8.17-8.15 (d,  $J=7.9$  Hz, 1H), 7.85-7.78 (m, 2H), 7.74-7.72 (d,  $J=8.2$  Hz, 1H), 7.68-7.66 (d,  $J=7.1$  Hz, 1H), 7.54-7.52 (d,  $J=7.8$  Hz, 2H), 7.47-7.39 (m, 3H), 7.35-7.31 (t,  $J=7.6$  Hz, 2H), 7.28-7.18 (m, 1H), 7.10-7.06 (d,  $J=16.2$  Hz, 1H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 137.8, 135.2, 133.9, 131.9, 131.6, 128.9, 128.8, 128.2, 127.9, 126.9, 126.3, 126.0, 126.0, 125.9, 123.9, 123.8.



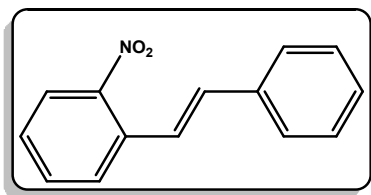
**(E)-2-fluoro-1-methoxy-4-styrylbenzene (Table 3, Entry 14):** Compound 3m was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (500 MHz,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.52-7.20 (d, 2H), 7.39-7.36 (t, 2H), 7.32-7.28 (t, 2H), 7.21-7.19 (d, 1H), 7.04-6.94 (m, 3H), 3.92 (s, 3H);  $^{13}\text{C-NMR}$  (125 MHz,  $\text{CDCl}_3$ ,  $\delta$  ppm): 153.5, 151.6, 147.3, 147.2, 137.2, 131.0, 130.9, 128.7, 127.9, 127.6, 127.2, , 127.2, 126.4, 122.9, 122.9, 113.4, 113.3, 113.3, 113.3, 56.3.



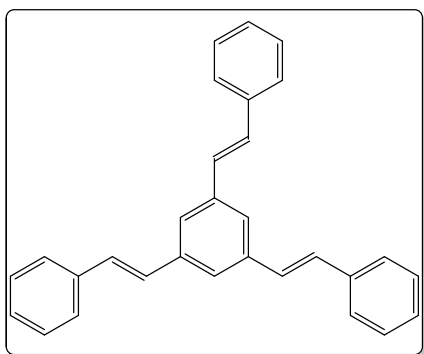
**(E)-1-methyl-4-nitro-2-styrylbenzene (Table 3, Entry 13):** Compound 3n was prepared according to the general procedure and purified by column chromatography to give a viscous yellow liquid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 8.42 (s, 1H), 7.99 (dd,  $J = 8.3, 1.4$  Hz, 1H), 7.55 – 7.53 (d, 2H), 7.41-7.37 (t, 2H), 7.33 – 7.29 (m, 2H), 7.27 – 7.22 (m, 1H), 7.14-7.10 (d,  $J = 16.1$  Hz, 1H), 2.50 (s, 3H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 146.7, 143.1, 137.7, 136.5, 132.8, 131.1, 128.8, 128.4, 126.8, 124.0, 121.8, 120.1, 20.1.



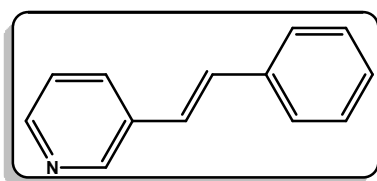
**(E)-1-nitro-2-styrylbenzene (Table 3, Entry 15):** Compound 3o was prepared according to the general procedure and purified by column chromatography to give a viscous yellow liquid.

<sup>1</sup>H-NMR (500 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 7.96-7.94 (d, 1H), 7.76-7.74 (d, 1H), 7.63-7.55 (m, 4H), 7.42-7.37 (m, 3H), 7.36-7.34 (d, 1H), 7.11-7.09 (d, 1H); <sup>13</sup>C-NMR (125 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 148.0, 136.5, 133.9, 133.2, 128.9, 128.7, 128.2, 128.0, 127.1, 124.8, 123.5.



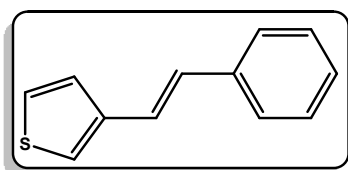
**1,3,5-tri((E)-styryl)benzene (Table 3, Entry 16):** Compound 3p was prepared according to the general procedure and purified by column chromatography to give a white solid.

<sup>1</sup>H-NMR (500 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 7.60-7.58 (d, 9H), 7.49-7.38 (m, 6H), 7.35-7.32 (m, 3H), 7.26-7.22 (d, 3H), 7.20-7.16 (d, 3H); <sup>13</sup>C-NMR (125 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 138.1, 137.3, 129.3, 128.8, 128.4, 127.8, 126.6, 124.0.



**(E)-3-styrylpyridine (Table 3, Entry 18):** Compound 3q was prepared according to the general procedure and purified by column chromatography to give a brown solid.

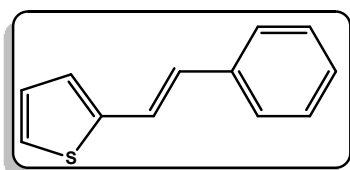
<sup>1</sup>H-NMR (400 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): δ 8.72 (d, 1H), 8.48 (d, 1H), 7.83-7.81 (d, J=7.9 Hz, 1H), 7.53-7.51 (d, J=7.6 Hz, 2H), 7.39-7.36 (t, J=7.5 Hz, 2H), 7.31-7.27 (m, 3H), 7.18-7.14 (d, J=16.4 Hz, 1H), 7.08-7.04 (d, J=16.4 Hz, 1H); <sup>13</sup>C-NMR (100 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 148.6, 136.7, 133.0, 132.7, 130.9, 128.8, 128.2, 126.7, 124.9, 123.6.



**(E)-3-styrylthiophene (Table 2, Entry 19):** Compound 3r was prepared according to the general procedure and purified by column chromatography to give a brown solid.

<sup>1</sup>H-NMR (400 MHz, 25 °C, CDCl<sub>3</sub>, δ ppm): 7.47-7.45 (d, J = 7.4 Hz, 2H), 7.35 – 7.28

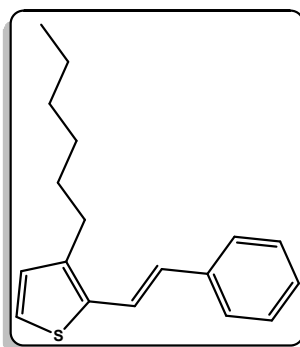
(m, 4H), 7.25-7.23 (m, 2H), 7.13-7.09 (d,  $J=16.3$  Hz, 1H), 6.96-6.92 (d,  $J=16.3$  Hz, 1H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 140.2, 137.4, 128.7, 127.5, 126.3, 126.2, 124.9, 122.9, 122.4.



**(E)-2-styrylthiophene (Table 3, Entry 20):**

Compound 3s was prepared according to the general procedure and purified by column chromatography to give a yellow solid.

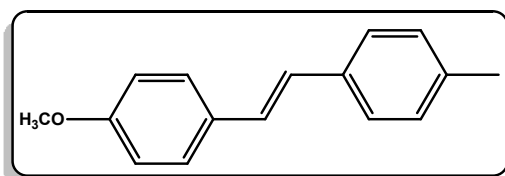
$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.44-7.42 (d,  $J=7.4$  Hz, 2H), 7.33-7.29 (t, 2H), 7.23-7.14 (m, 3H), 7.03-7.02 (d,  $J = 3.5$  Hz, 1H), 6.97-6.95 (dd,  $J = 5.1, 3.6$  Hz, 1H), 6.93-6.89 (d,  $J = 16.1$  Hz, 1H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 142.9, 137.1, 128.8, 128.4, 127.7, 126.4, 126.2, 124.4, 121.9.



**(E)-3-hexyl-2-styrylthiophene (Table 3, Entry 21):**

Compound 3t was prepared according to the general procedure and purified by column chromatography to give a viscous brown liquid.

$^1\text{H-NMR}$  (500 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.55-7.53 (d, 2H), 7.43-7.40 (t, 2H), 7.32-7.29 (m, 1H), 7.16-7.15 (d, 2H), 6.99-6.96 (d, 1H), 6.93-6.92 (d, 1H), 2.78-2.75 (t, 2H), 2.72-2.67 (m, 2H), 1.46-1.39 (m, 6H), 0.99-0.96 (t, 3H);  $^{13}\text{C-NMR}$  (125 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 141.2, 137.5, 136.3, 129.8, 128.7, 127.7, 127.4, 126.3, 123.0, 120.8, 31.8, 31.0, 29.2, 28.5, 22.7, 14.2.

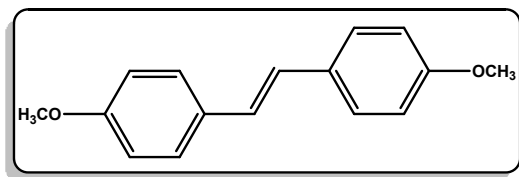


**(E)-1-methoxy-4-(4-methylstyryl)benzene**

**(Table 3, Entry 24):** Compound 3u was prepared according to the general procedure and purified by column chromatography to give a white solid.

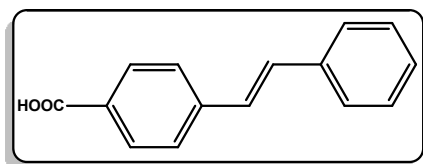
$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.43-7.41 (d,  $J=8.7$  Hz, 2H), 7.38-7.36 (d,  $J=8.1$  Hz, 2H), 7.15-7.13 (d,  $J=8.0$  Hz, 2H), 7.03-6.99 (d,  $J=16.3$  Hz, 1H), 6.95-6.93 (d, 1H), 6.89-6.87 (d,  $J=8.7$  Hz, 2H), 3.80 (s, 3H), 2.34 (s, 3H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 159.2, 137.1, 134.9, 130.4, 129.4, 127.6, 127.3, 126.6, 126.2, 114.2, 55.3, 21.3.





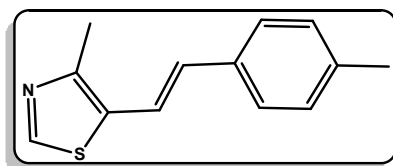
**(E)-1,2-bis(4-methoxyphenyl)ethene (Table 3, Entry 25):** Compound 3v was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.43-7.41 (d, 4H), 6.93-6.88 (m, 6H);  $^{13}\text{C-NMR}$  (75 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 156.9, 128.4, 125.4, 124.1, 112.1, 53.3.



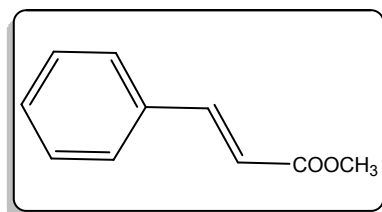
**(E)-4-styrylbenzoic acid (Table 3, Entry 26):** Compound 3w was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (400 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 1H NMR (400 MHz, DMSO)  $\delta$  12.91 (s, 1H), 7.95-7.93 (d, 2H), 7.73-7.71 (d, 2H), 7.65-7.63 (d, 2H), 7.44-7.29 (m, 5H);  $^{13}\text{C-NMR}$  (100 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 167.0, 141.4, 136.6, 130.9, 129.7, 129.4, 128.7, 128.2, 127.4, 126.8, 126.4, 39.9, 39.7, 39.5, 39.3, 39.1.



**(E)-4-methyl-5-(4-methylstyryl)thiazole (Table 3, Entry 27):** Compound 3x was prepared according to the general procedure and purified by column chromatography to give a brown liquid.

$^1\text{H-NMR}$  (300 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 8.55 (s, 1H), 7.39-7.36 (d,  $J = 8.0$  Hz, 2H), 7.18-7.13 (t, 2H), 7.09 (s, 1H), 6.82-6.77 (d,  $J = 16.0$  Hz, 1H), 2.53 (s, 3H), 2.36 (s, 3H);  $^{13}\text{C-NMR}$  (75 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 150.1, 149.1, 137.9, 133.9, 131.4, 131.1, 129.4, 126.3, 117.2, 21.2, 15.3.



**(E)-methyl cinnamate (Table 3, Entry 1 and 28):** Compound 3y was prepared according to the general procedure and purified by column chromatography to give a white solid.

$^1\text{H-NMR}$  (300 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 7.23-7.67 (d, 1H), 7.53-7.51 (m, 2H), 7.40-7.38 (m, 3H), 3.81 (s, 3H);  $^{13}\text{C-NMR}$  (75 MHz, 25 °C,  $\text{CDCl}_3$ ,  $\delta$  ppm): 167.3, 144.8, 134.3, 130.2, 128.9, 127.9, 117.7, 51.6.

Aug09-2013-ksgs  
CH 5 (c)  
PROTON CDCl3 {D:\data} nmr 1

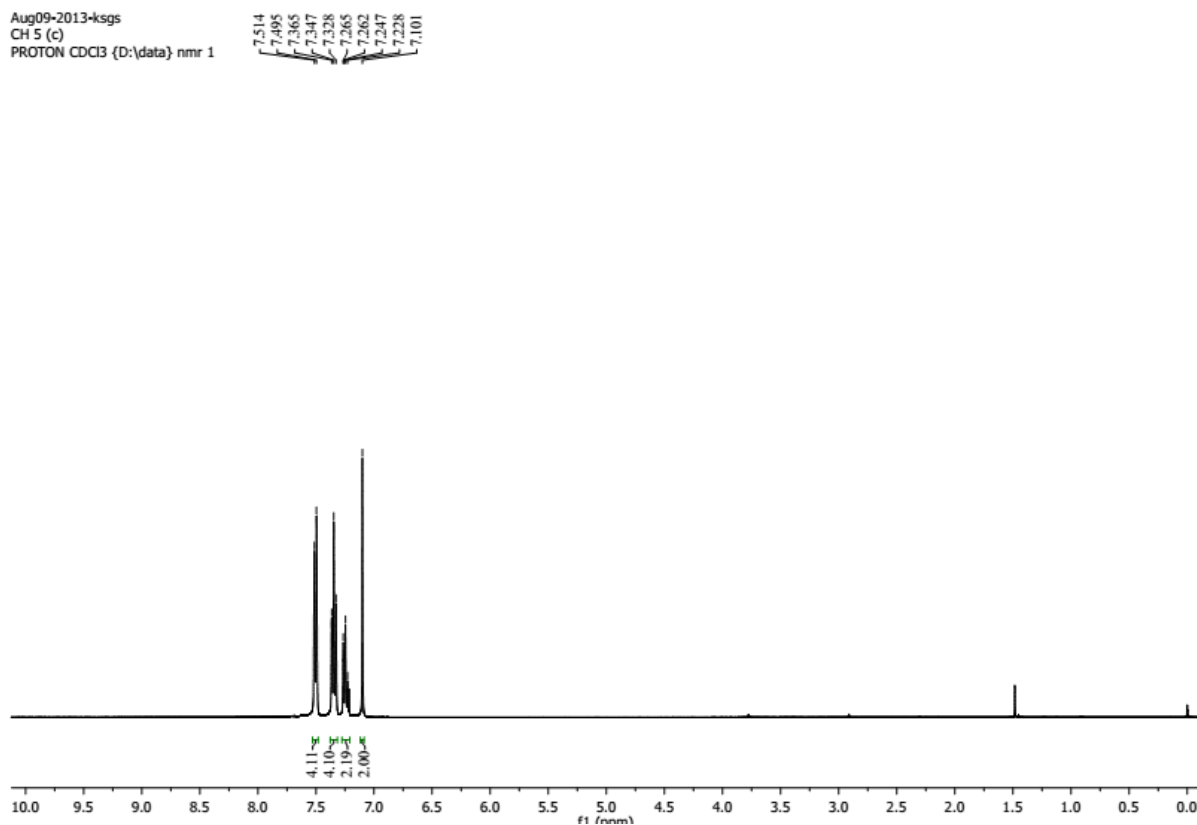


Fig. S3. 400 MHz <sup>1</sup>H NMR spectrum of (*E*)-1,2-diphenylethene (**3a**)

Aug09-2013-ksgs  
CH 5 (c)  
C13CPD CDCl3 {D:\data} nmr 1

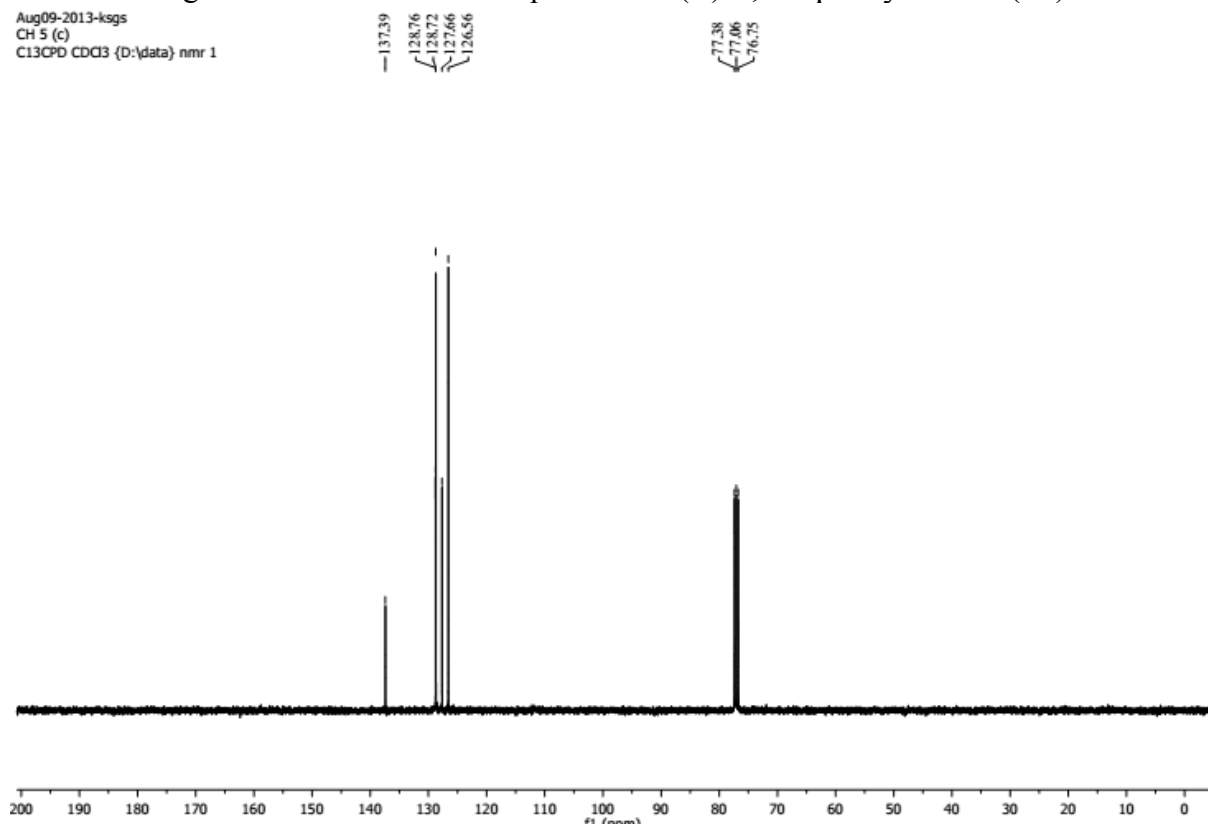


Fig. S4. 100 MHz <sup>13</sup>C NMR spectrum of (*E*)-1,2-diphenylethene (**3a**)

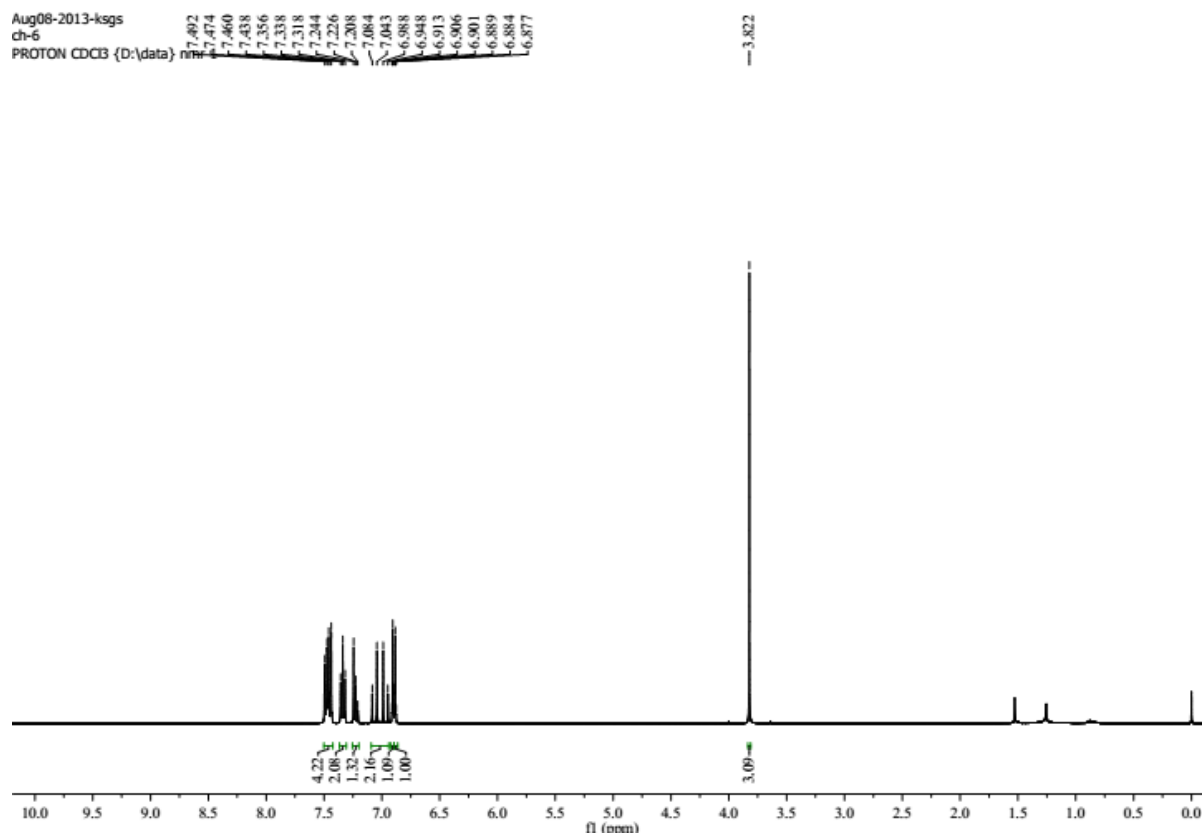


Fig. S5. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-methoxy-4-styrylbenzene (**3b**)

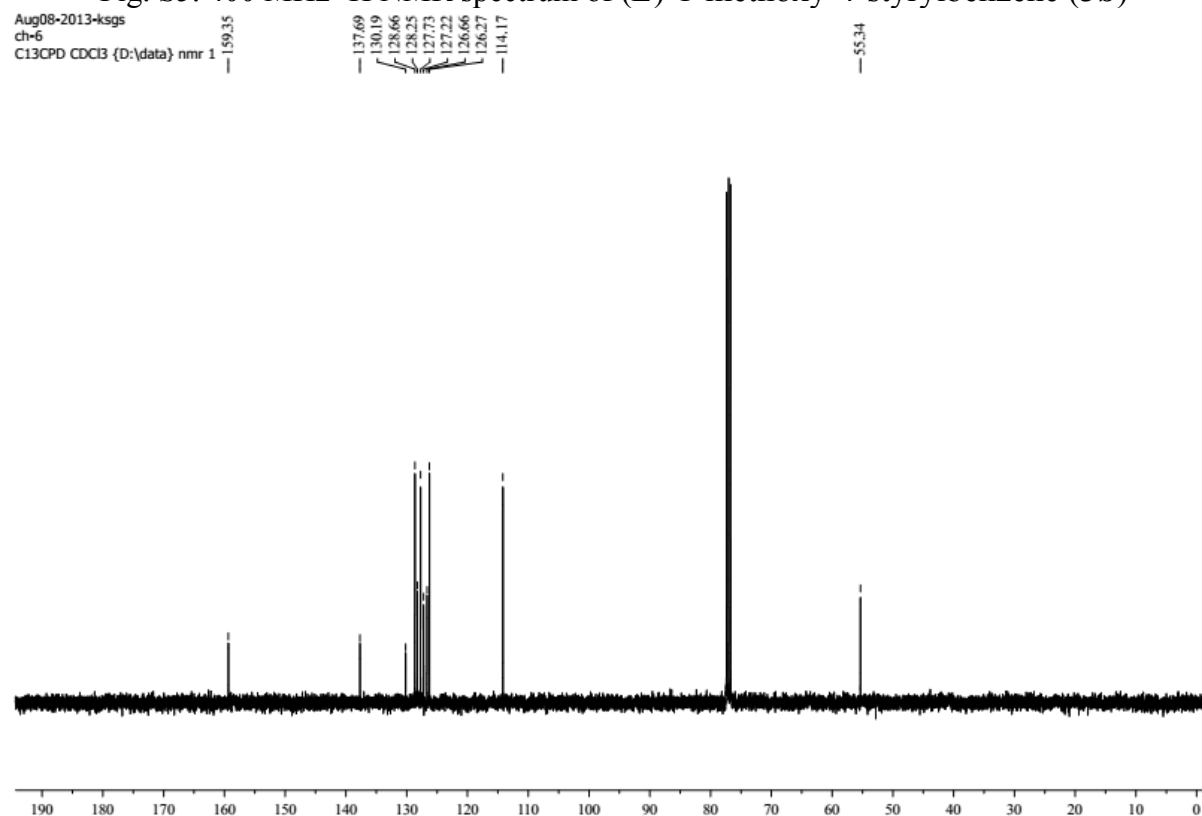


Fig. S6. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-methoxy-4-styrylbenzene (**3b**)

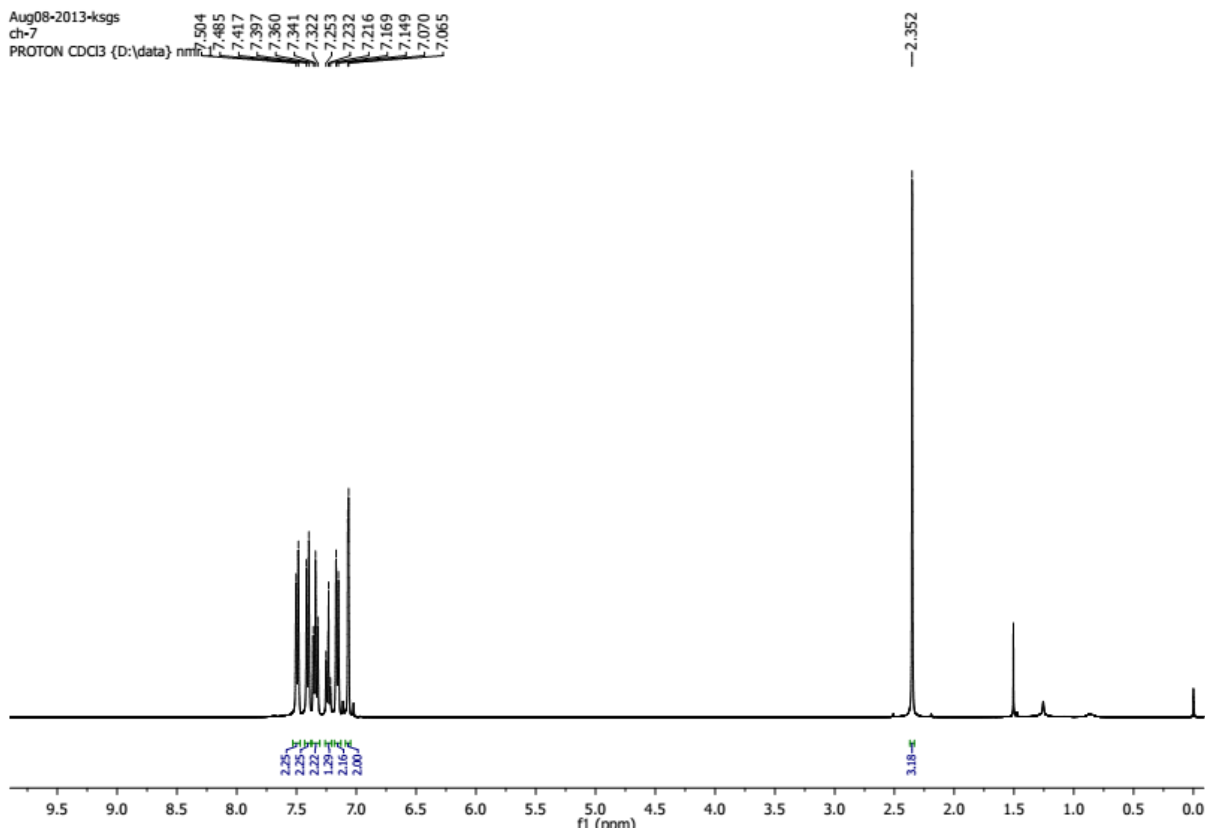


Fig. S7. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-methyl-4-styrylbenzene (**3c**)

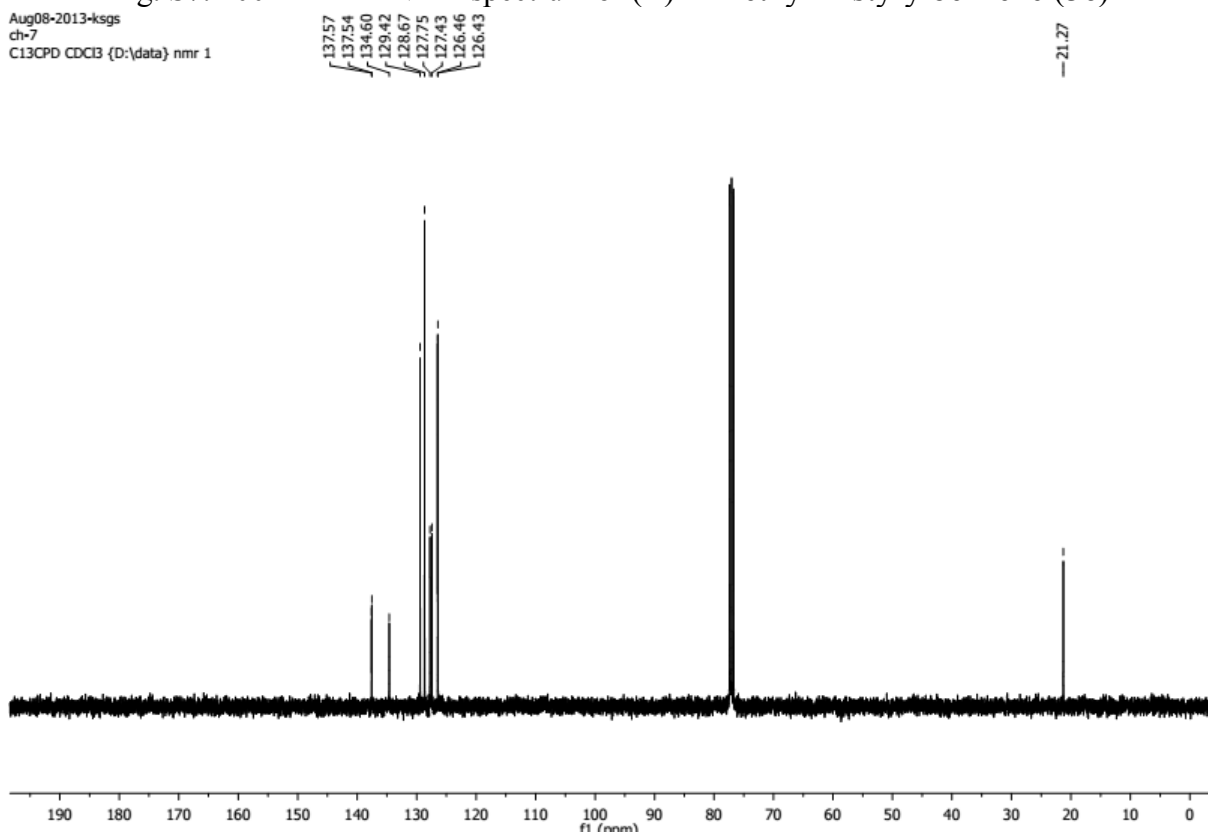


Fig. S8. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-methyl-4-styrylbenzene (**3c**)

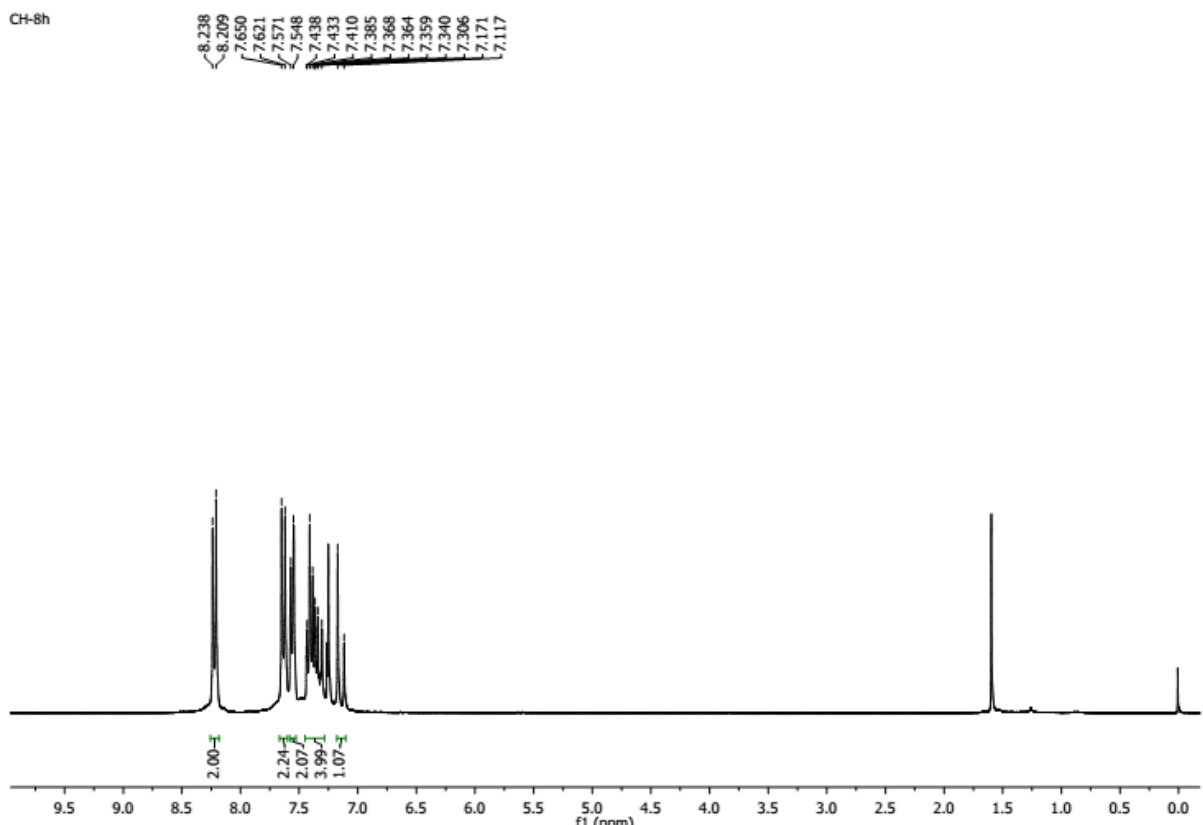


Fig. S9. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-nitro-4-styrylbenzene (**3d**)

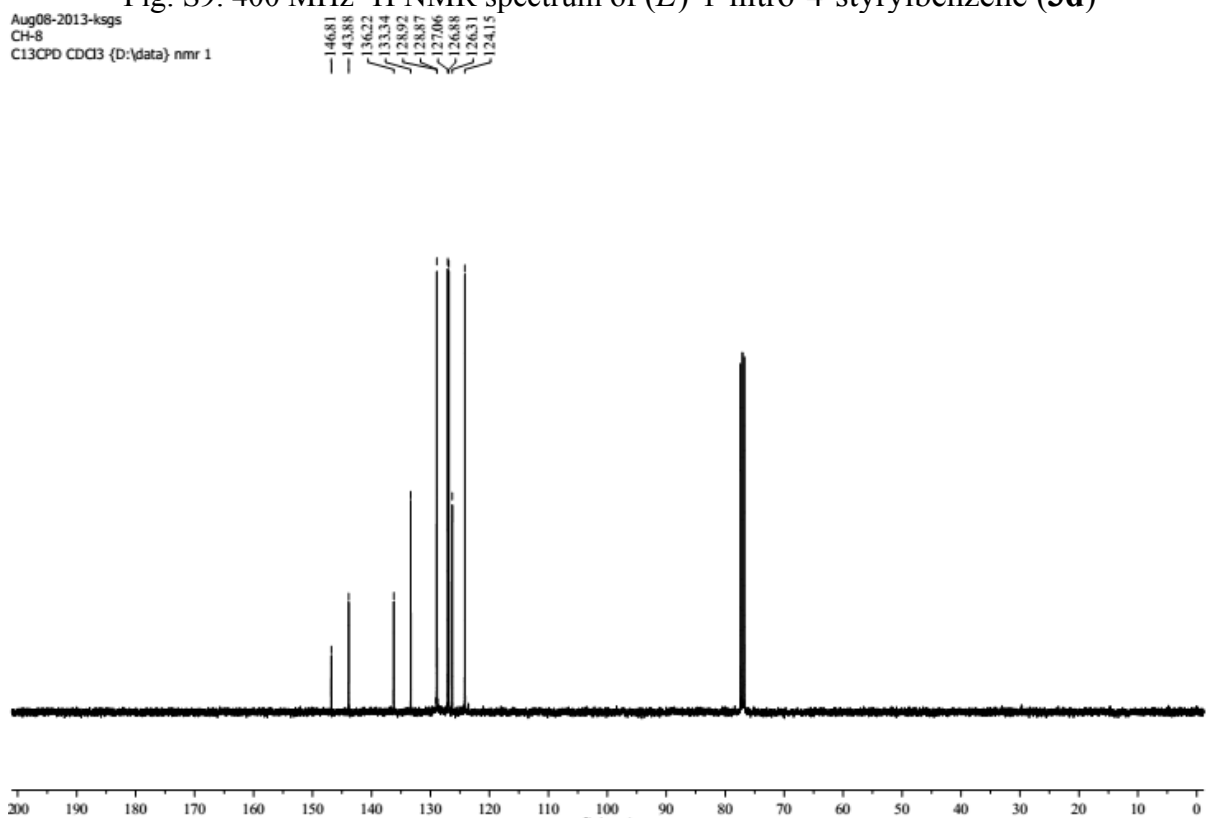


Fig. S10. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-nitro-4-styrylbenzene (**3d**)

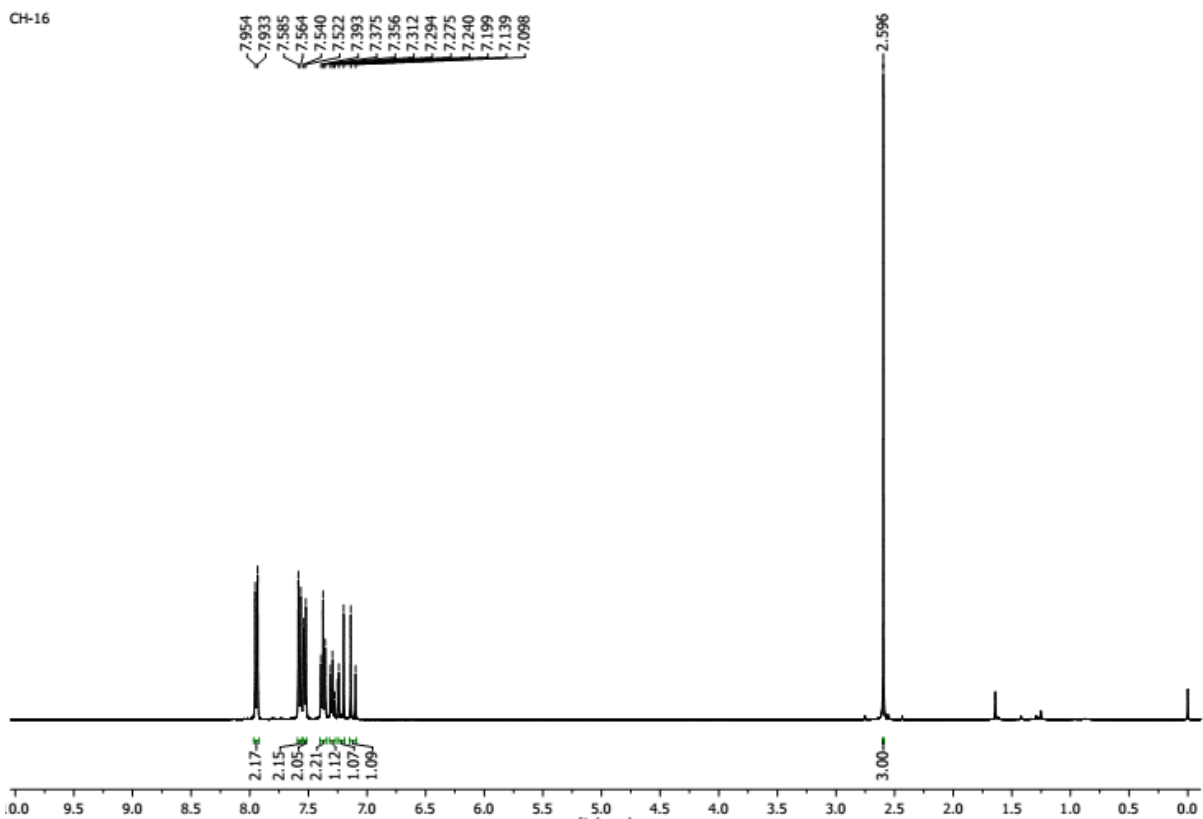


Fig. S11. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-(4-styrylphenyl)ethanone (**3e**)

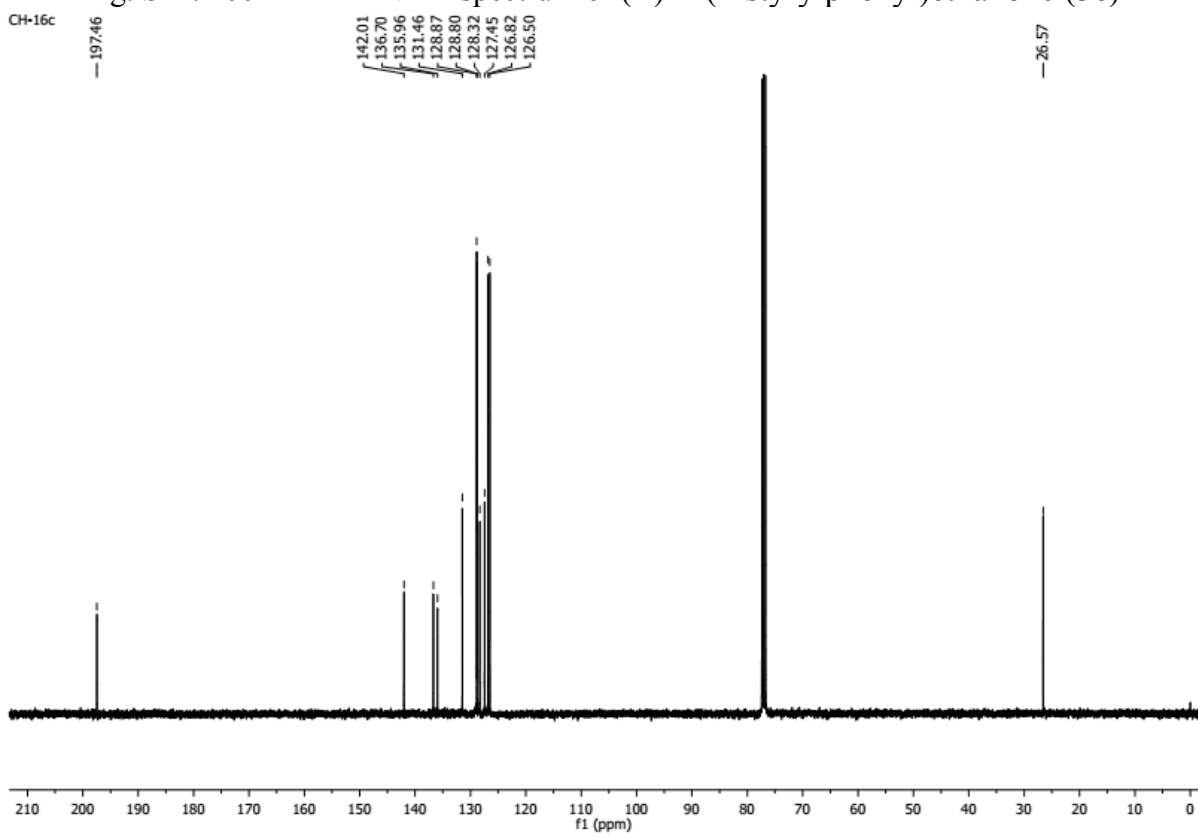


Fig. S12. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-(4-styrylphenyl)ethanone (**3e**)

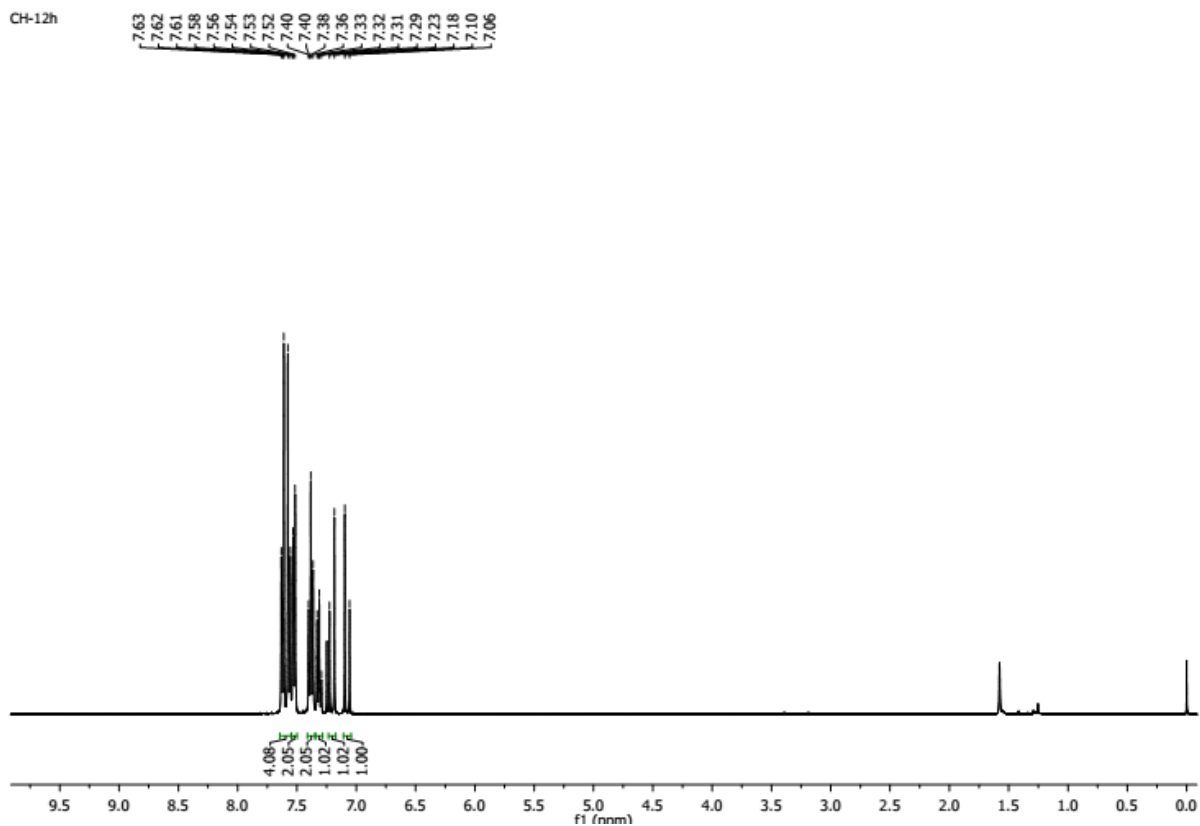


Fig. S13. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-cyano-4-styrylbenzene (**3f**)

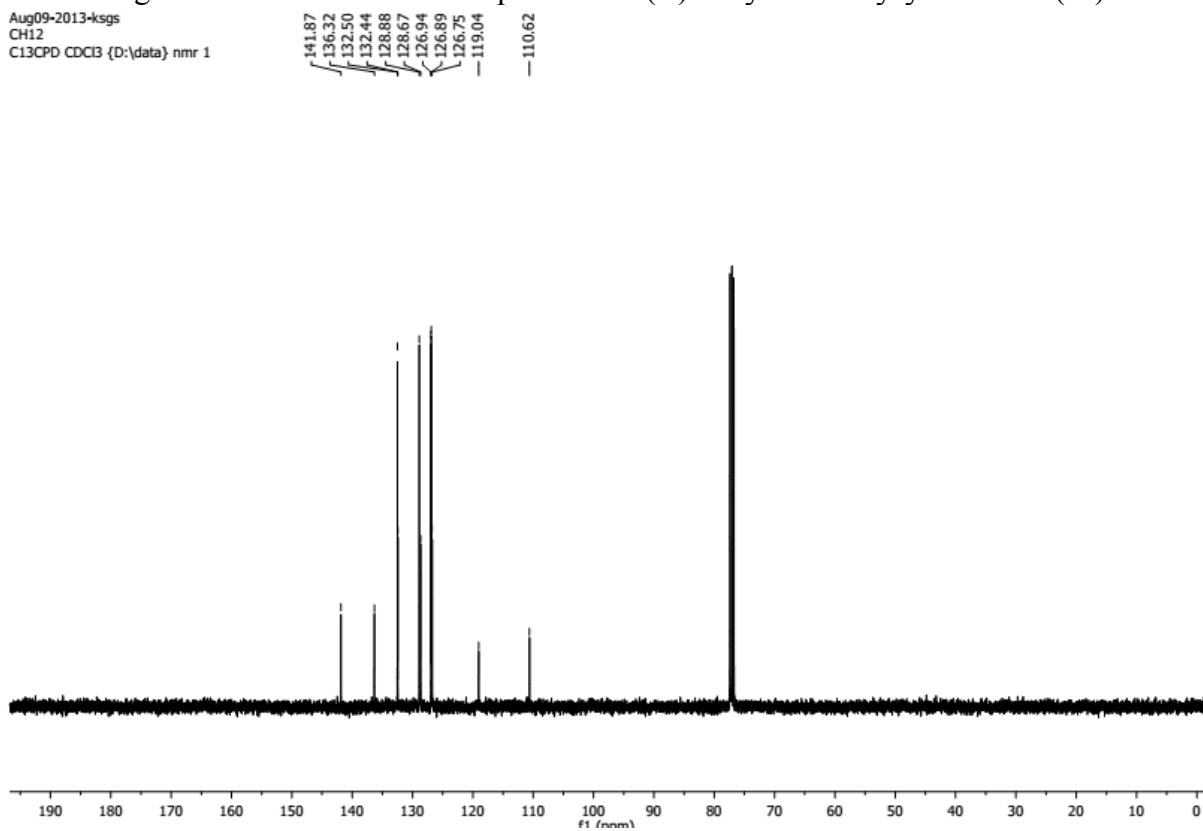


Fig. S14. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-cyano-4-styrylbenzene (**3f**)

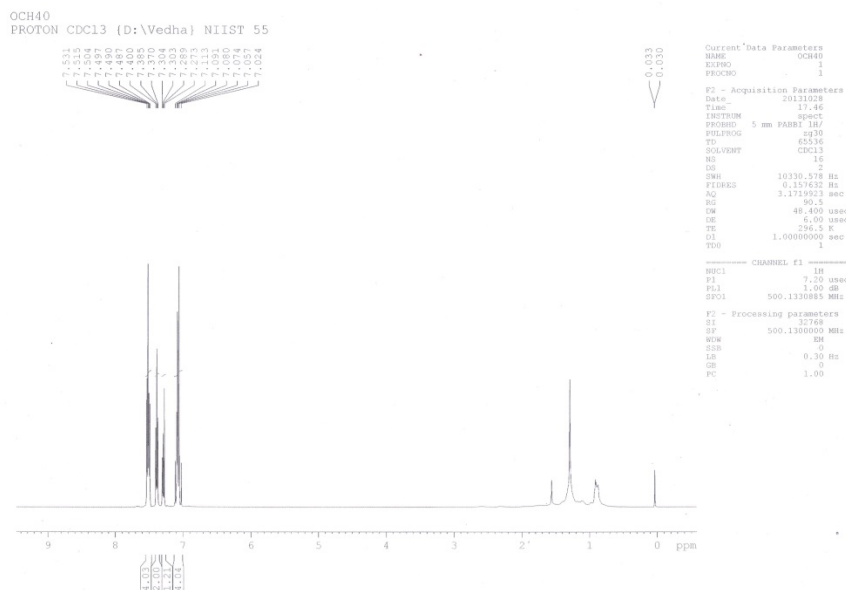


Fig. S15. 500 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-fluoro-4-styrylbenzene (**3g**)

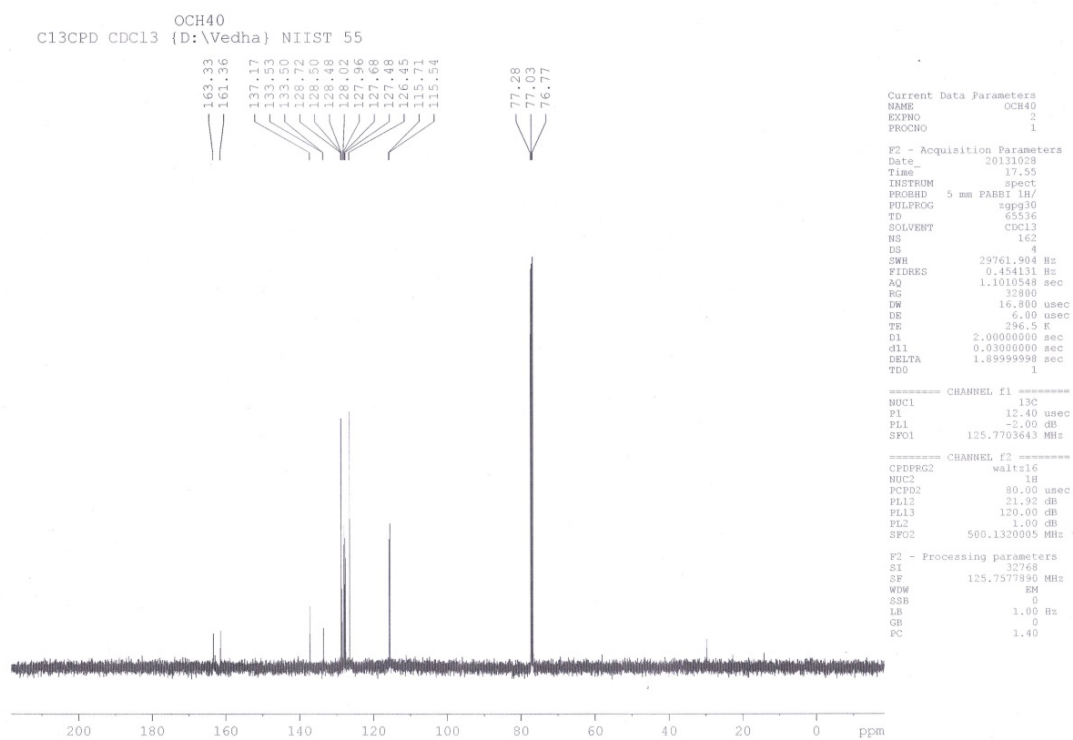


Fig. S16. 125 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-fluoro-4-styrylbenzene (**3g**)



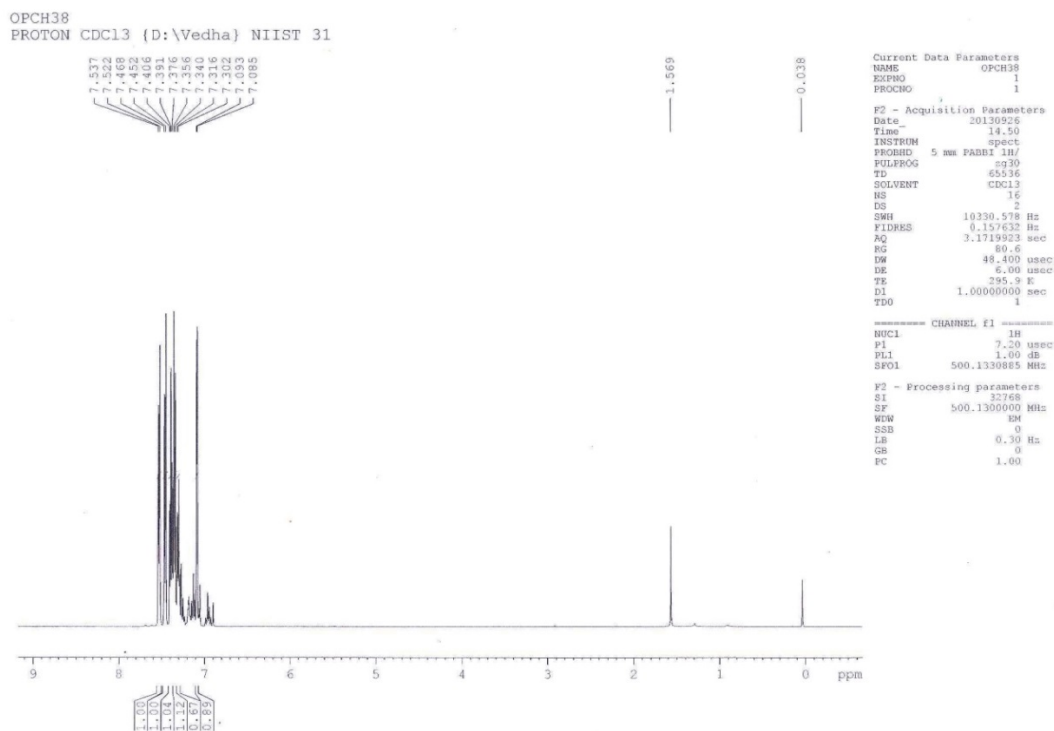


Fig. S17. 500 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-chloro-4-styrylbenzene (**3h**)

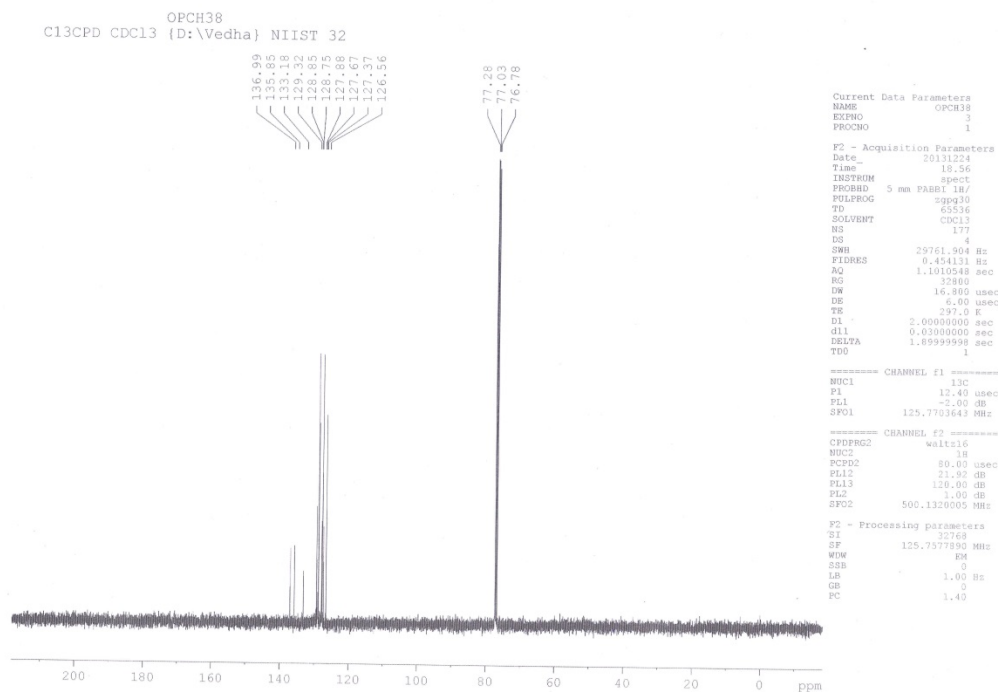


Fig. S18. 125 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-chloro-4-styrylbenzene (**3h**)

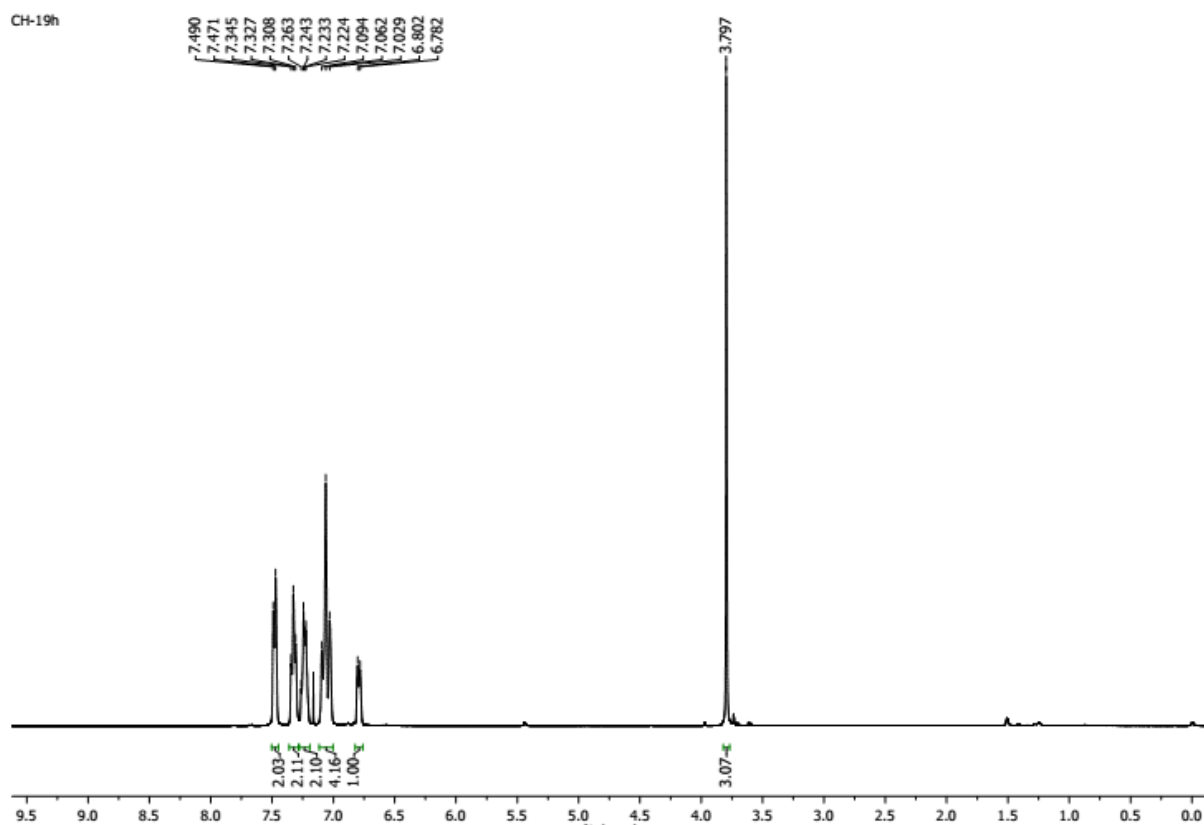


Fig. S19. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-methoxy-3-styrylbenzene (**3i**)

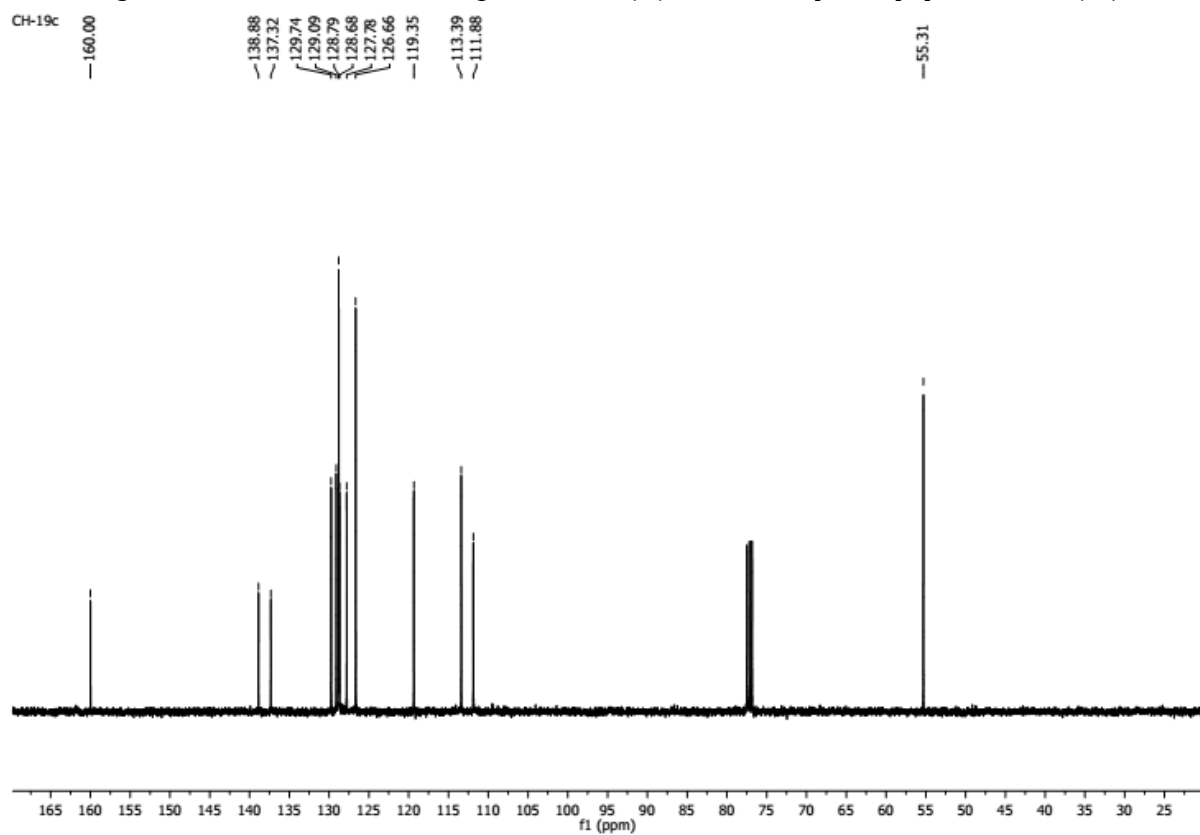


Fig. S20. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-methoxy-3-styrylbenzene (**3i**)

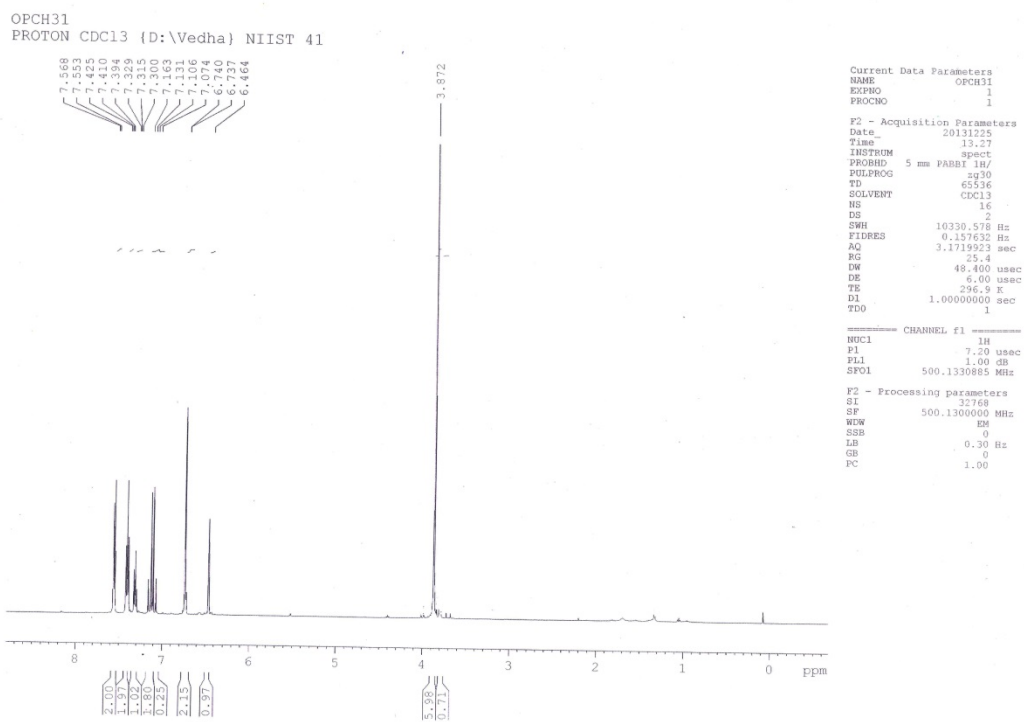


Fig. S21. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1,3-dimethoxy-5-styrylbenzene (**3j**)

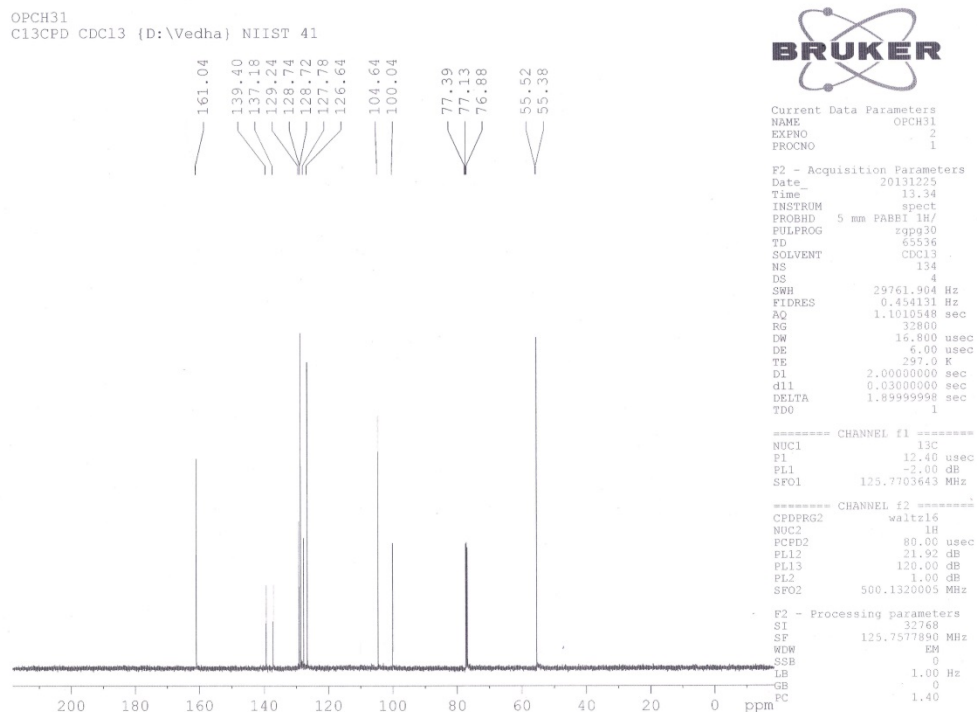
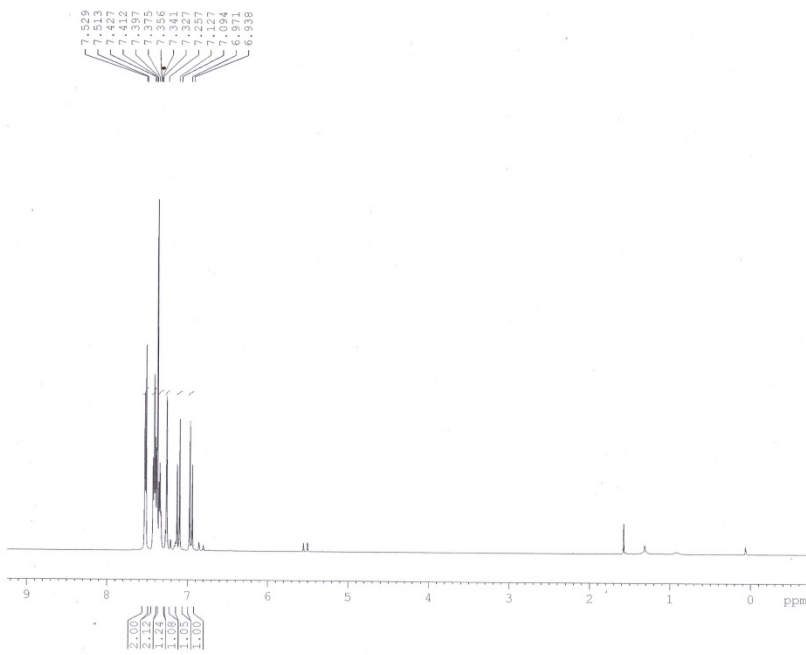


Fig. S22. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1,3-dimethoxy-5-styrylbenzene (**3j**)

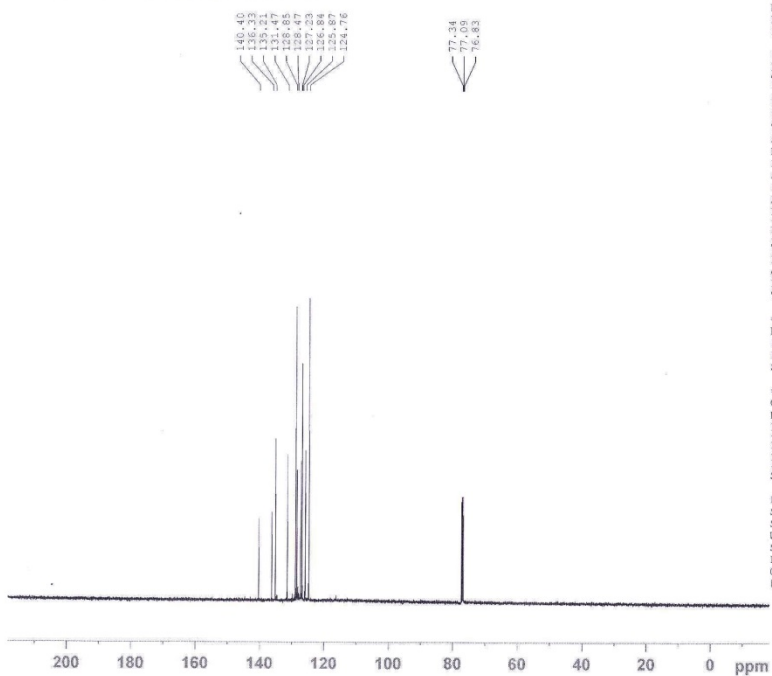
OPCH42  
PROTON CDC13 {D:\Vedha\ NIIST 38



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Fig. S23. 500 MHz <sup>1</sup>H NMR spectrum of (*E*)-1,3-dichloro-5-styrylbenzene (3k)

OPCH42  
C13CPD CDC13 {D:\Vedha\ NIIST 38



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PL1 -2.00 dB  
SFO1 125.7703643 MHz  
  
===== CHANNEL f2 =====  
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NUC2 1H  
PCPD2 80.00 usec  
PL12 21.82 dB  
PL13 120.00 dB  
PL2 1.00 dB  
SFO2 500.1320005 MHz  
  
F2 - Processing parameters  
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SF 125.7577890 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

Fig. S24. 125 MHz <sup>13</sup>C NMR spectrum of (*E*)-1,3-dichloro-5-styrylbenzene (3k)

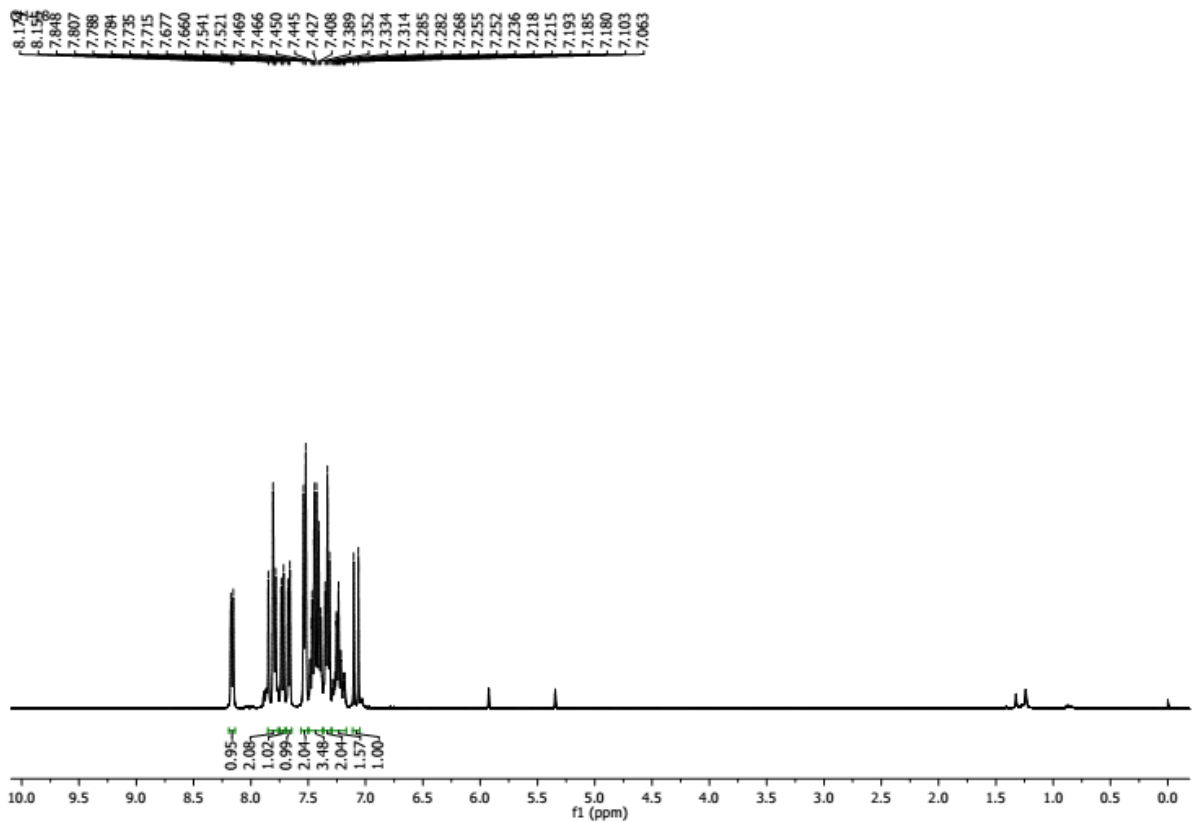


Fig. S25. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-styrylnaphthalene (**31**)

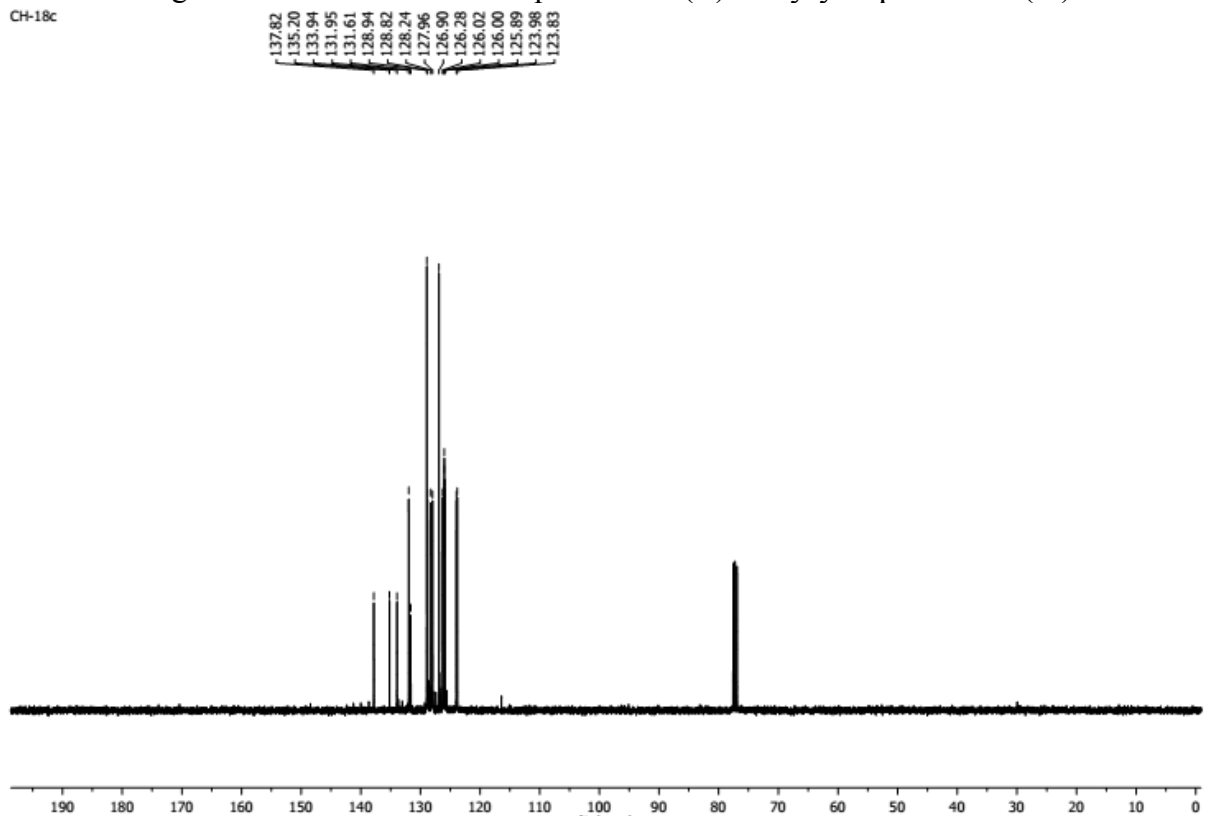


Fig. S26. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-styrylnaphthalene (**31**)

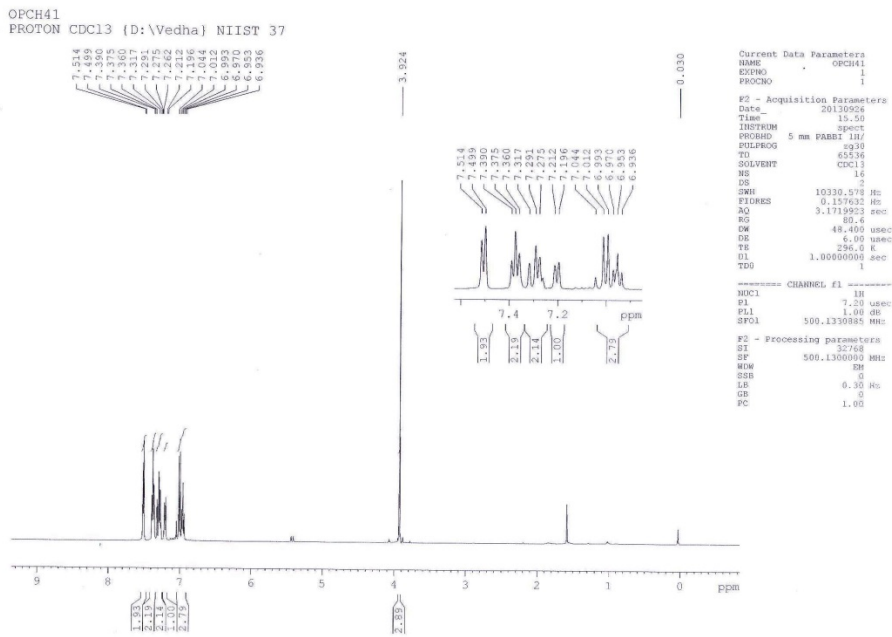


Fig. S27. 500 MHz  $^1\text{H}$  NMR spectrum of (*E*)-2-fluoro-1-methoxy-4-styrylbenzene (**3m**)

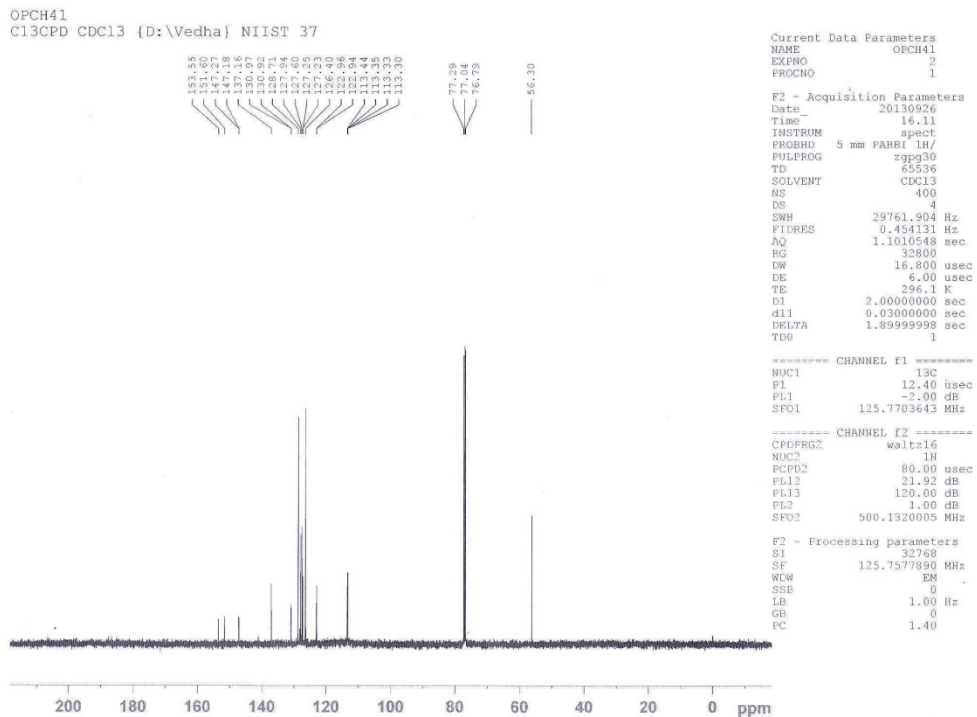


Fig. S28. 125 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-2-fluoro-1-methoxy-4-styrylbenzene (**3m**)

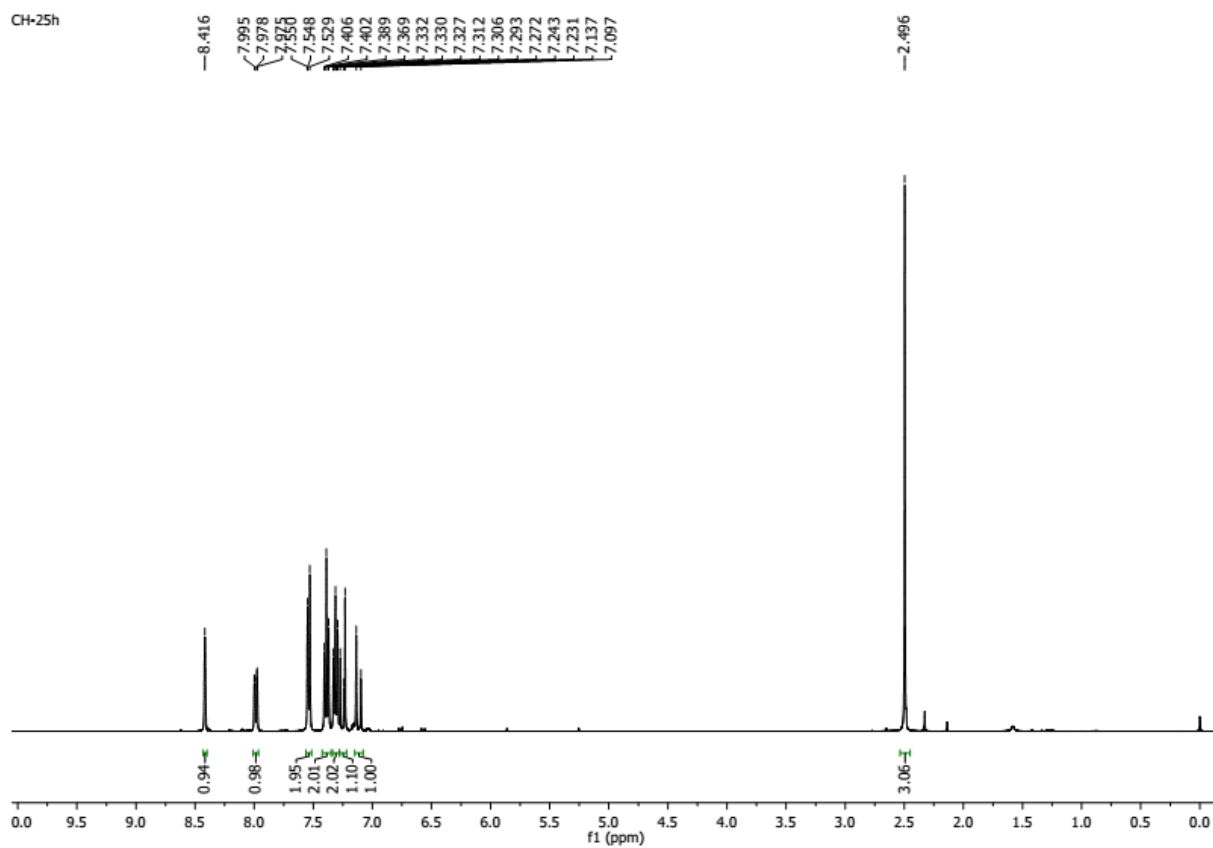


Fig. S29. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-methyl-4-nitro-2-styrylbenzene (**3n**)

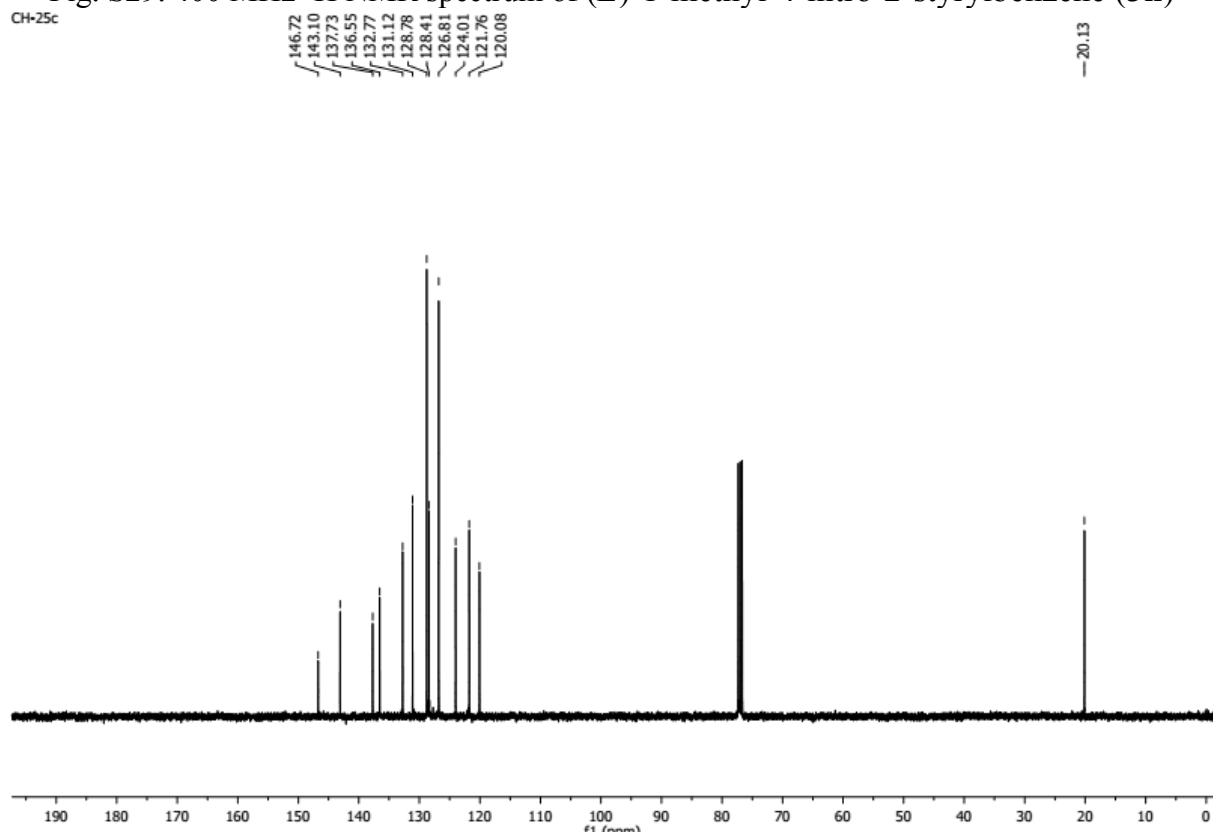


Fig. S30. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-methyl-4-nitro-2-styrylbenzene (**3n**)

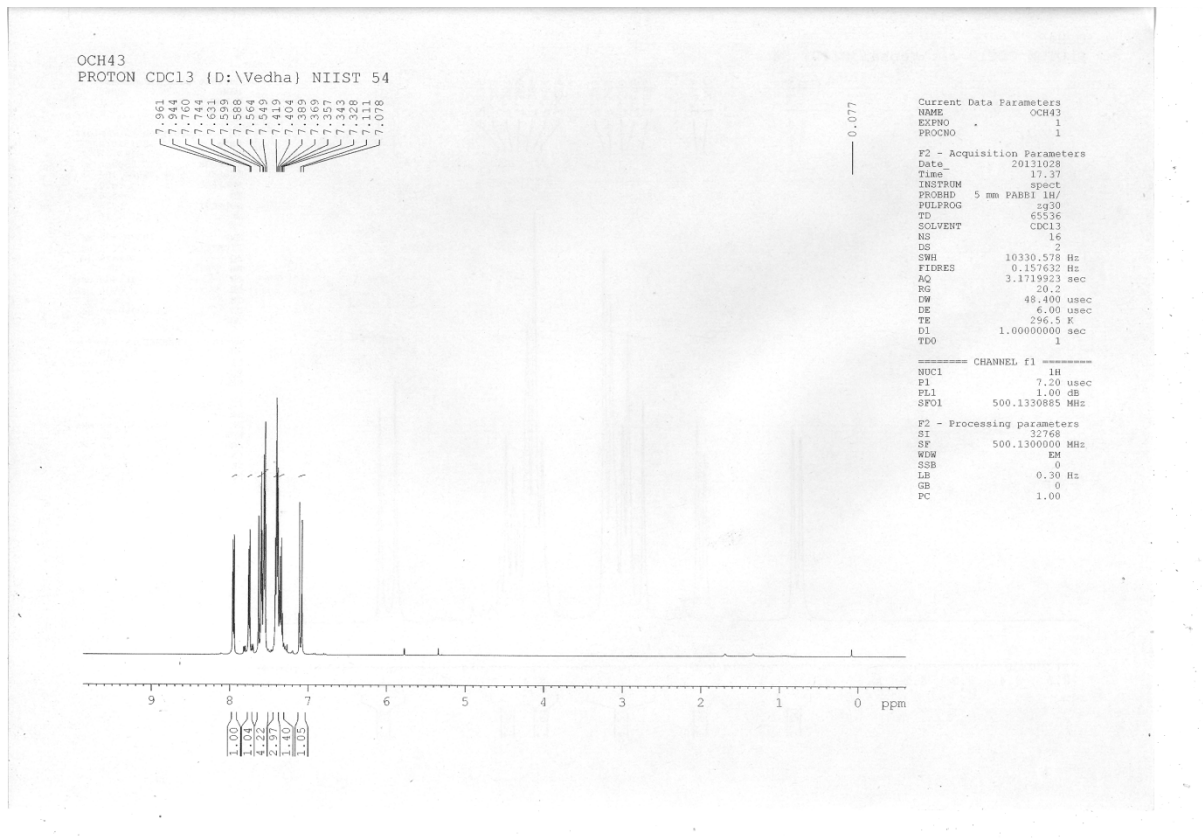


Fig. S31. 500 MHz <sup>1</sup>H NMR spectrum of (*E*)-1-nitro-2-styrylbenzene (**30**)

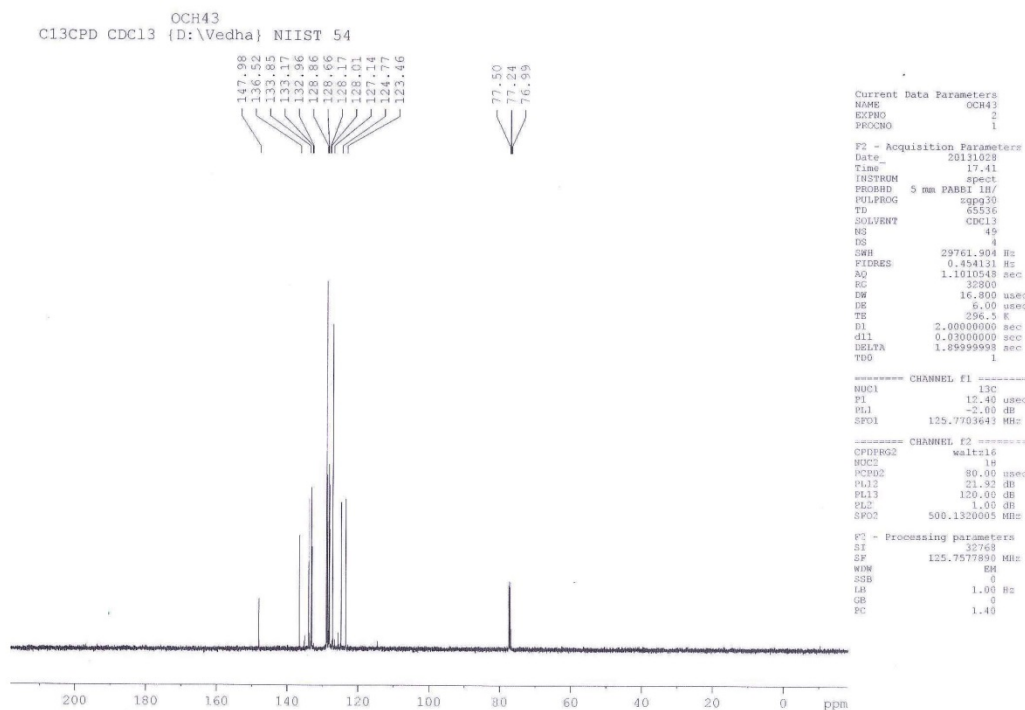
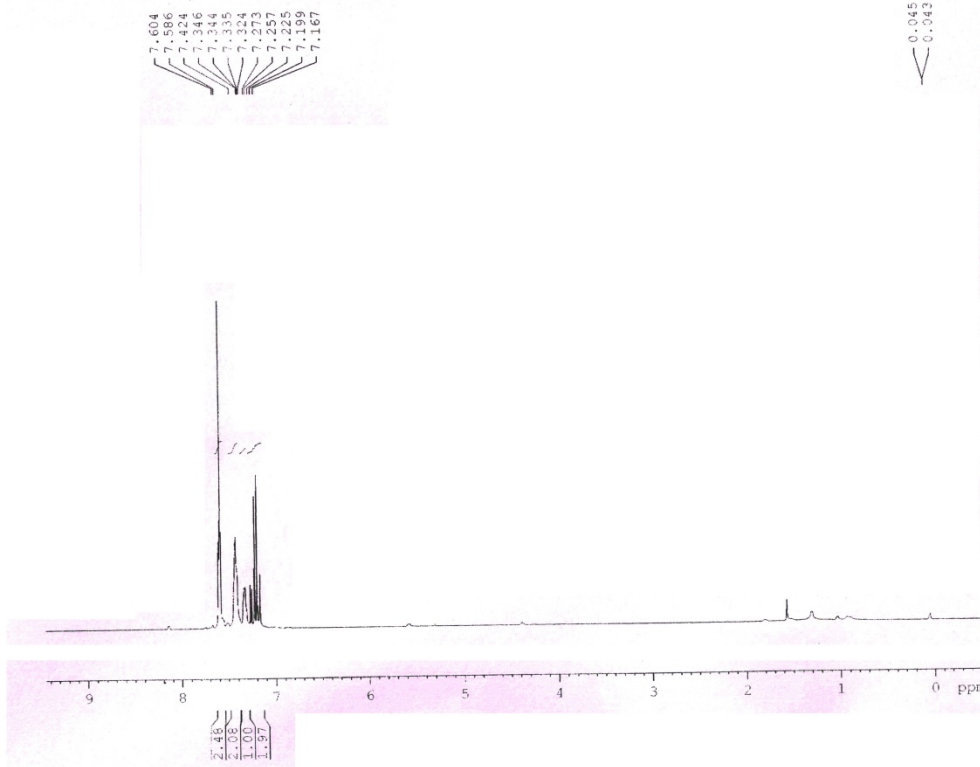


Fig. S32. 125 MHz <sup>13</sup>C NMR spectrum of (*E*)-1-nitro-2-styrylbenzene (**30**)



OCH33  
PROTON CDC13 [D:\Vedha} NIIST 59



0003

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PROCNO    1

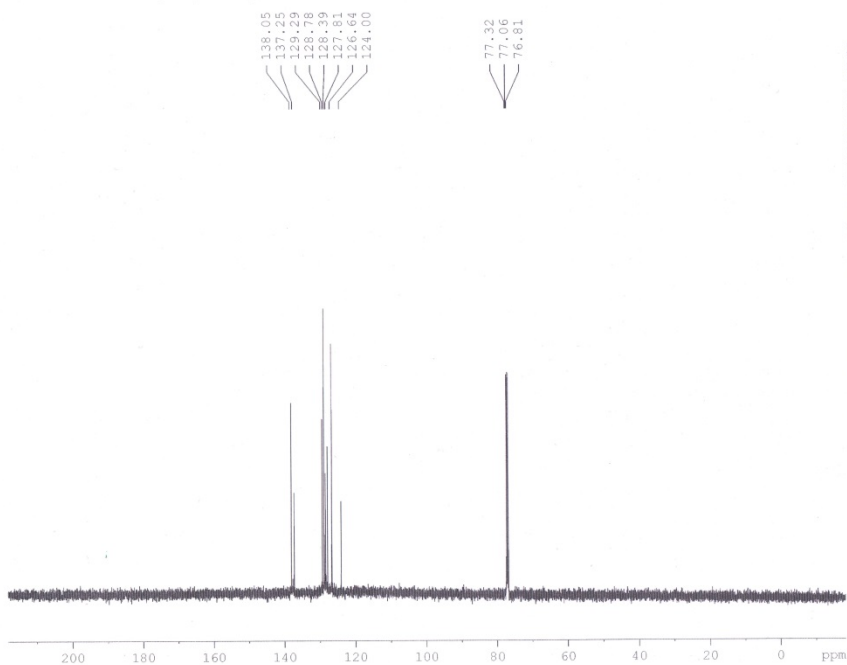
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PL1       1.00 dB
SFO1      500.130885 MHz

F2 - Processing parameters
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SF        500.130885 MHz
WDW       EM
SSB       0
LB        0.30 Hz
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Fig. S33. 500 MHz <sup>1</sup>H NMR spectrum of 1,3,5-tri((E)-styryl)benzene (**3p**)

OCH33  
C13CPD CDC13 [D:\Vedha} NIIST 59



```
Current Data Parameters
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PROCNO    1

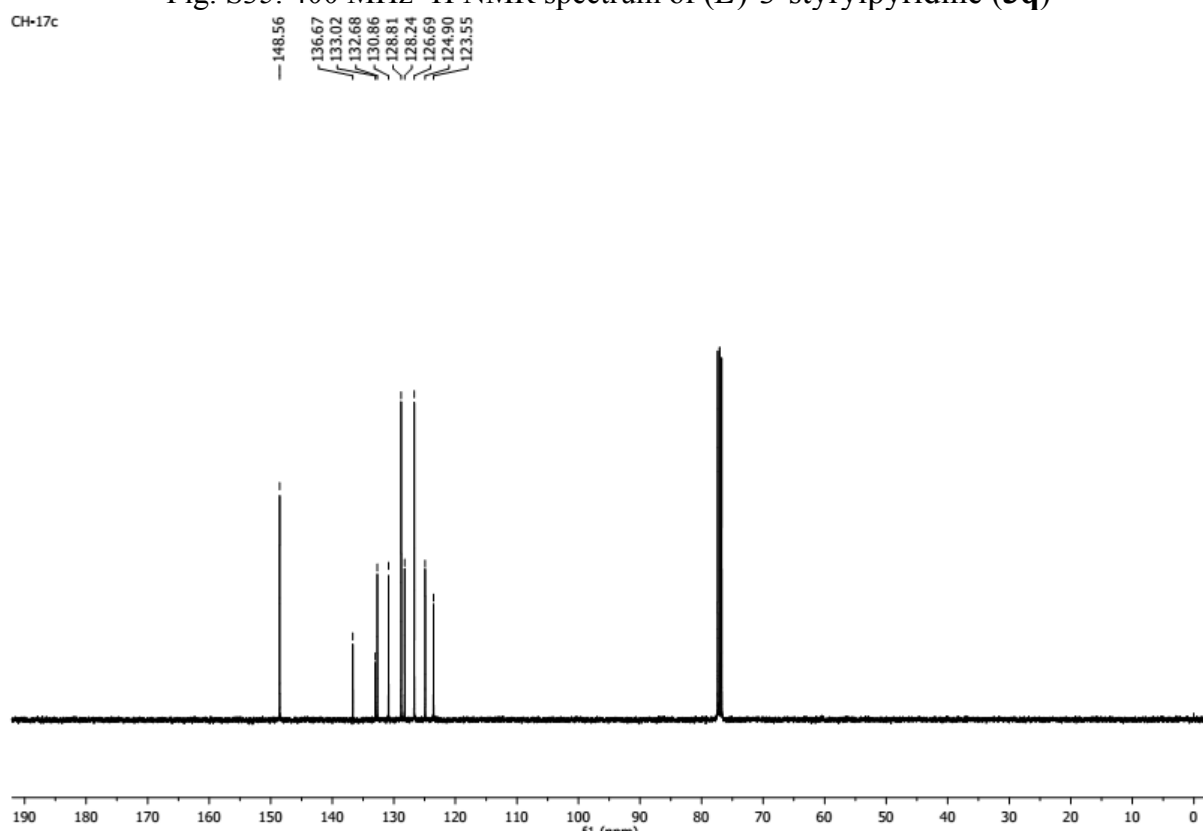
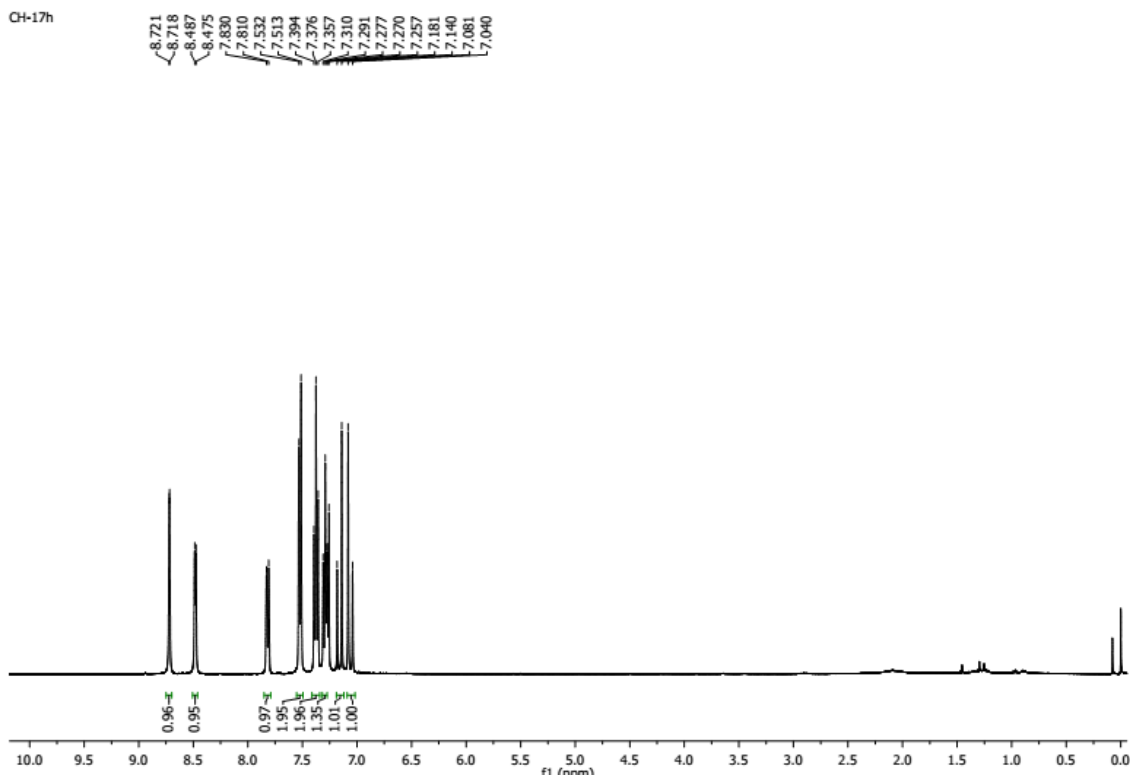
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PL1       -2.00 dB
SFO1      125.7703643 MHz

===== CHANNEL f2 =====
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PL2      1.00 dB
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```
F2 - Processing parameters
SI        32768
SF        125.7577890 MHz
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Fig. S34. 125 MHz <sup>13</sup>C NMR spectrum of 1,3,5-tri((E)-styryl)benzene (**3p**)



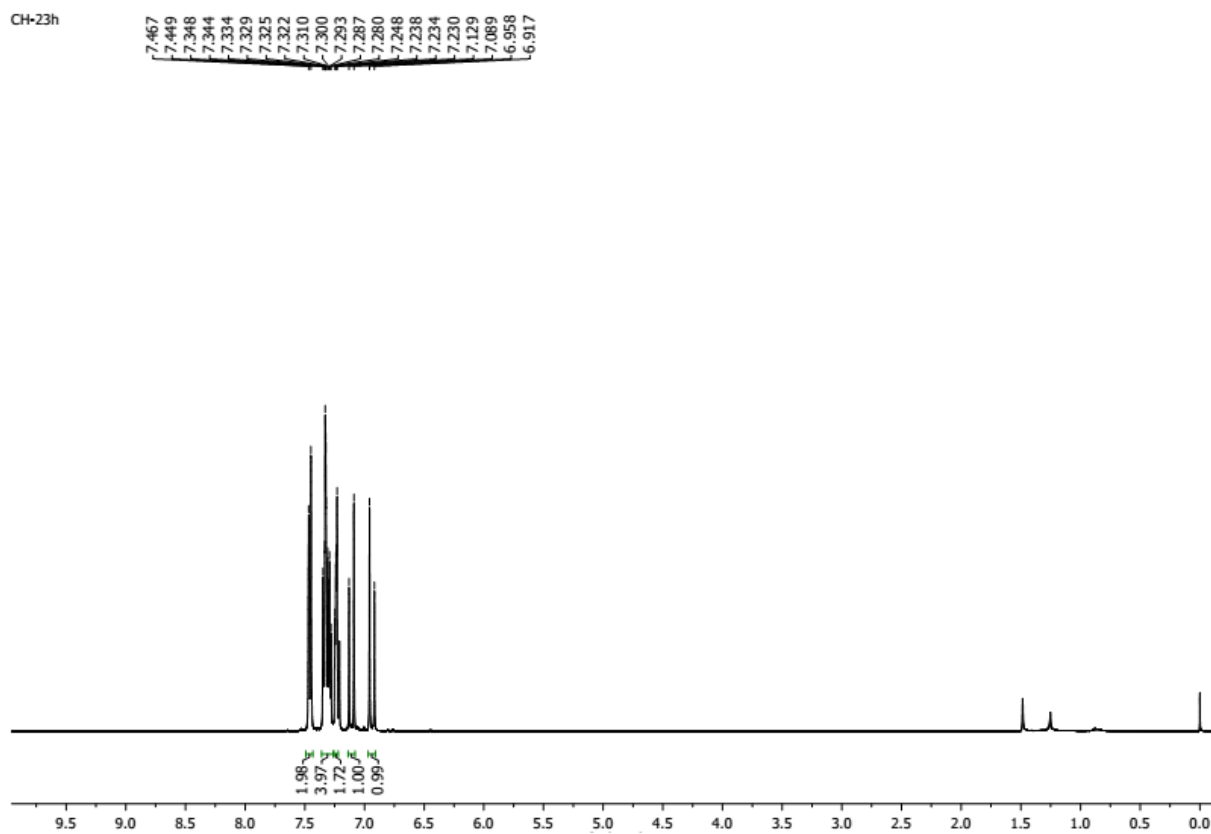


Fig. S37. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-3-styrylthiophene (**3r**)

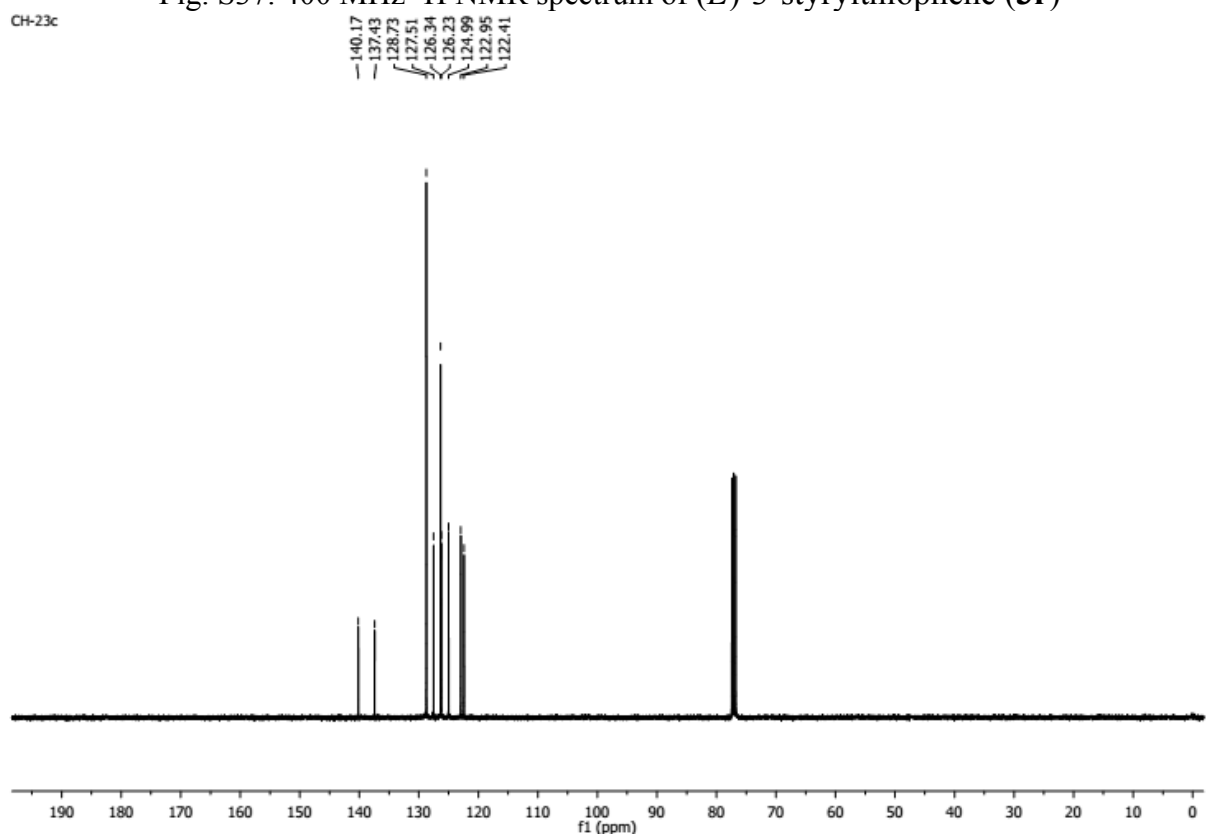


Fig. S38. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-3-styrylthiophene (**3r**)

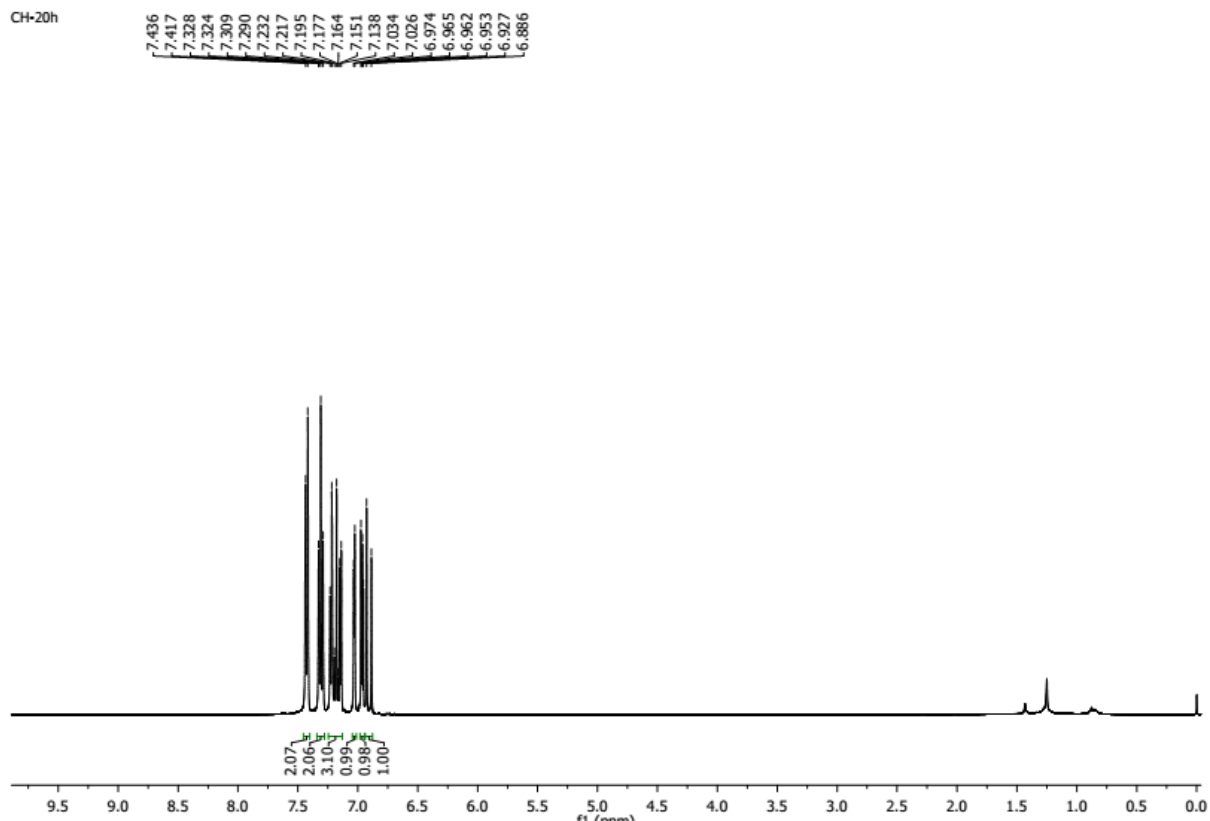


Fig. S39. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-2-styrylthiophene (**3s**)

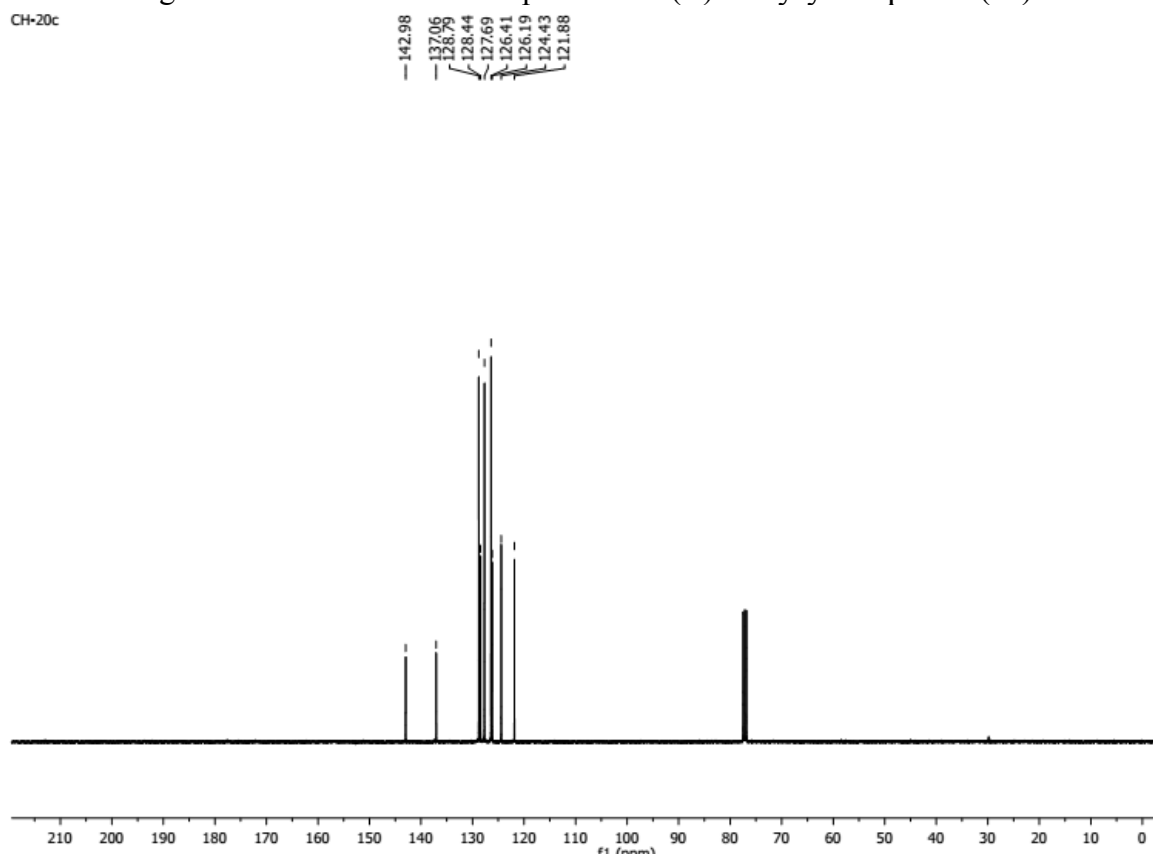


Fig. S40. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-2-styrylthiophene (**3s**)

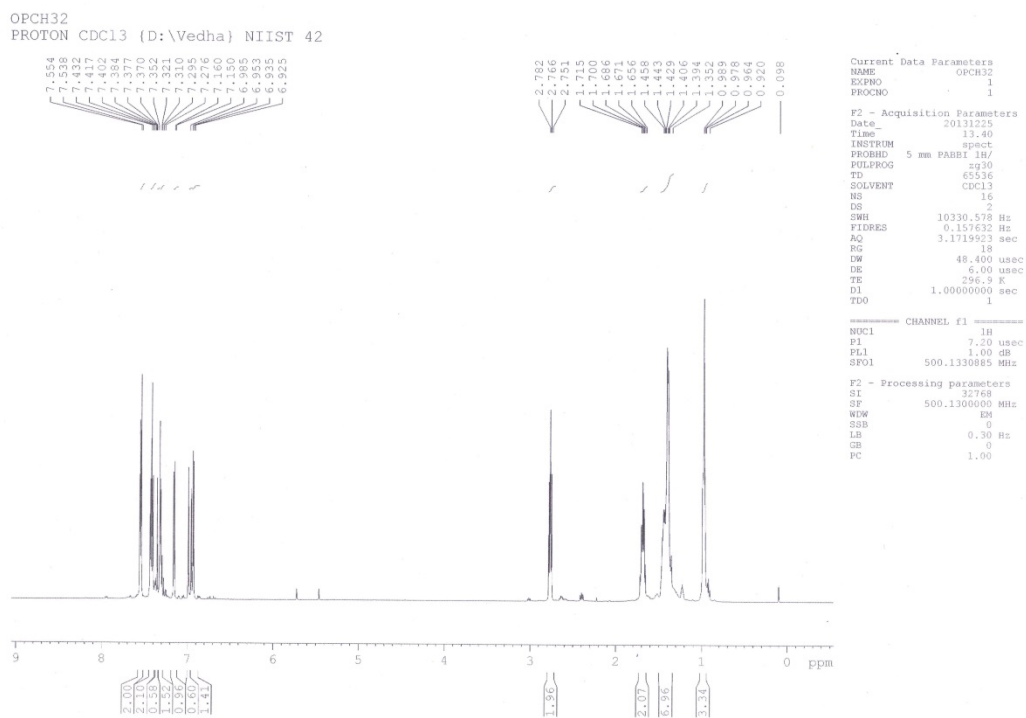


Fig. S41. 500 MHz  $^1\text{H}$  NMR spectrum of (*E*)-3-hexyl-2-styrylthiophene (**3t**)

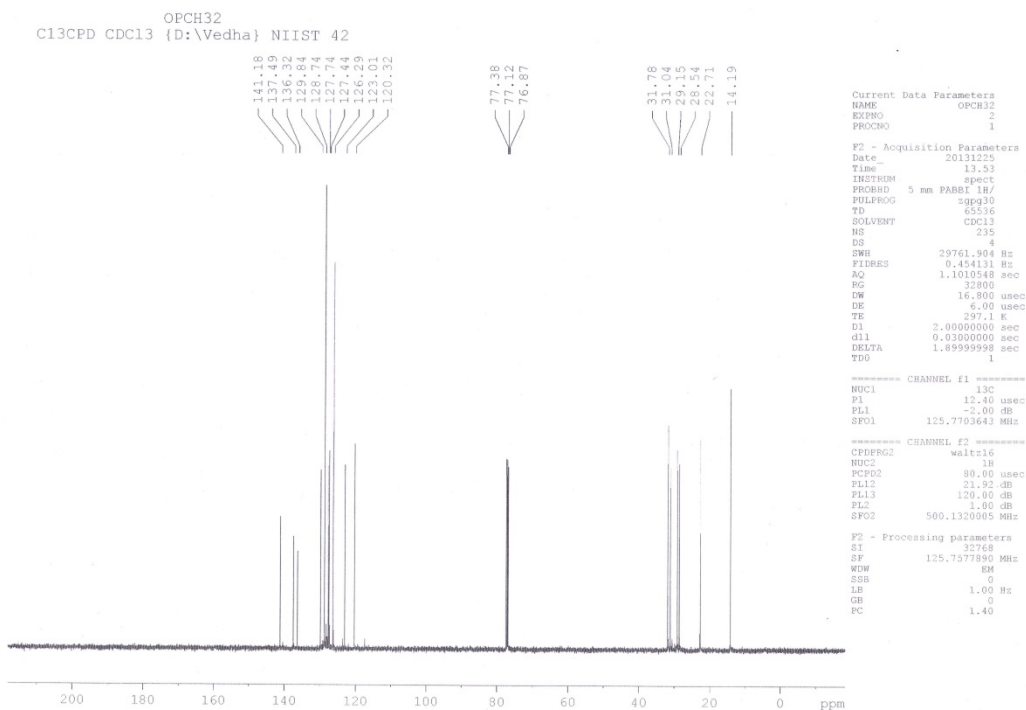


Fig. S42. 125 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-3-hexyl-2-styrylthiophene (**3t**)

CH-21

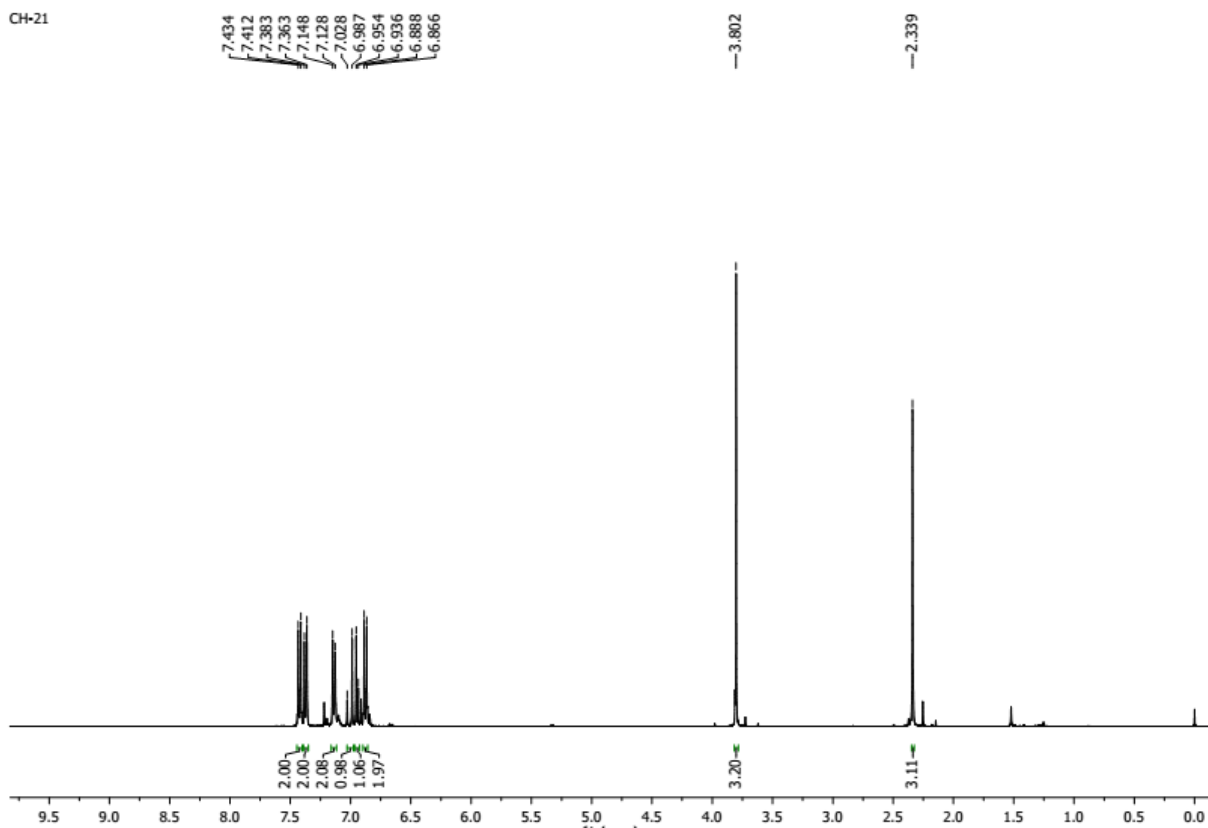


Fig. S43. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-1-methoxy-4-(4-methylstyryl)benzene (**3u**)

CH-21c

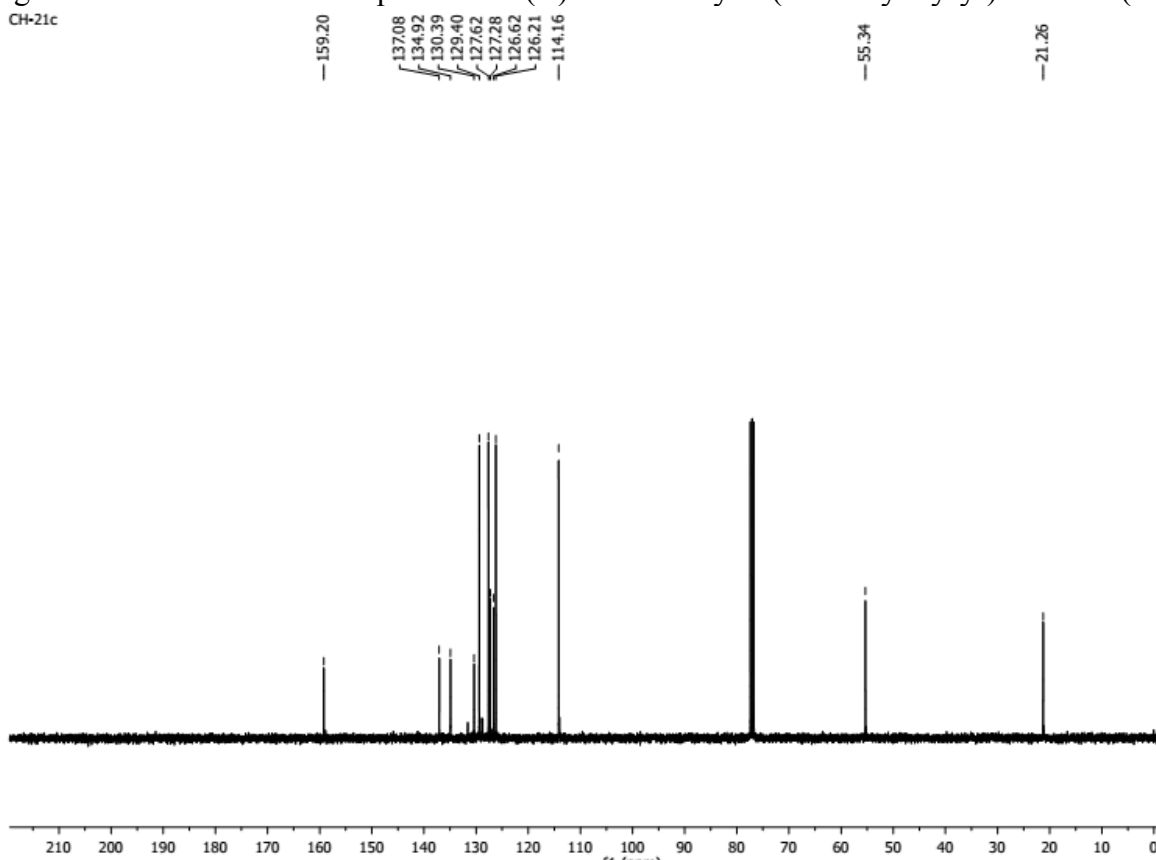


Fig. S44. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-1-methoxy-4-(4-methylstyryl)benzene (**3u**)

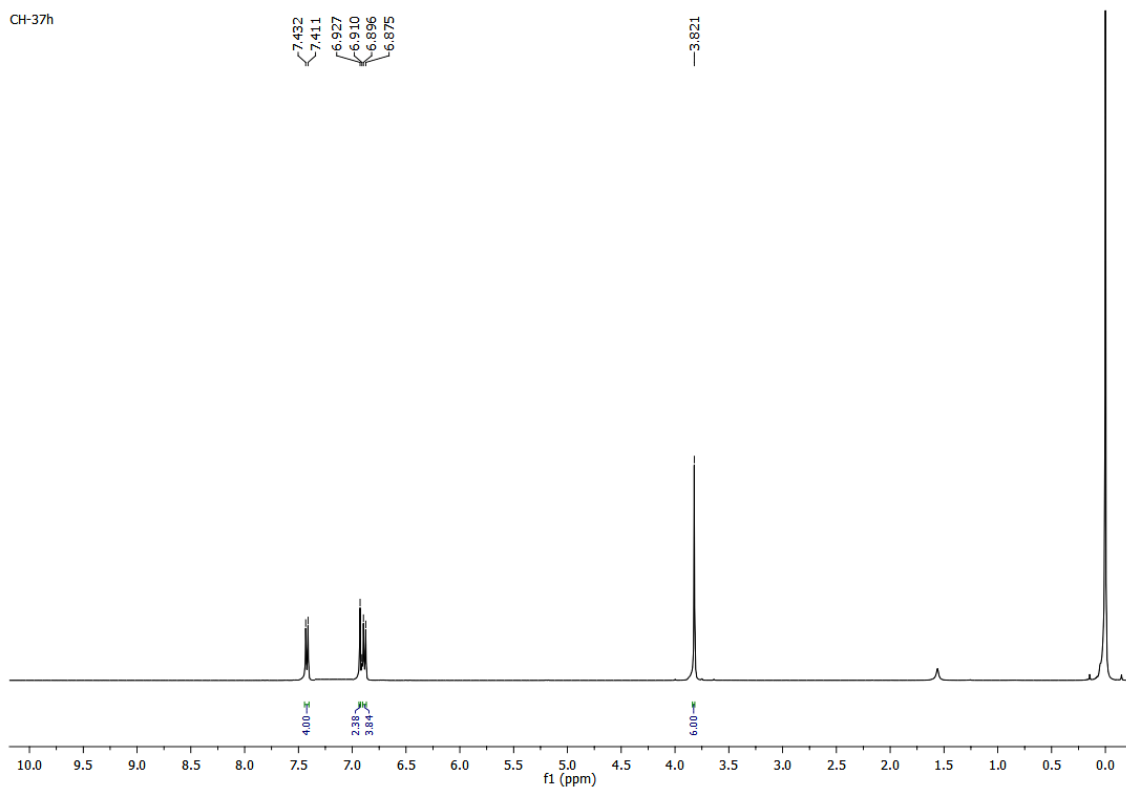


Fig. S45. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-4,4'-dimethoxystyrene (**3v**)

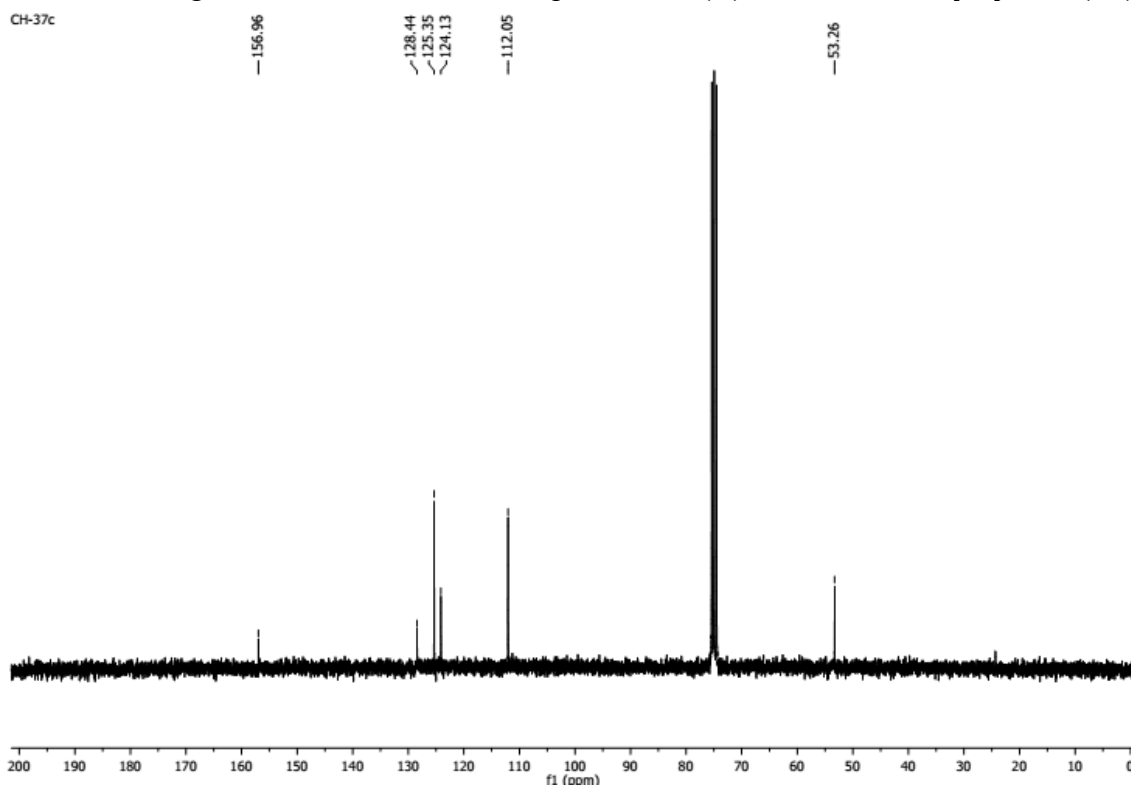


Fig. S46. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-4,4'-dimethoxystyrene (**3v**)

CH-39h

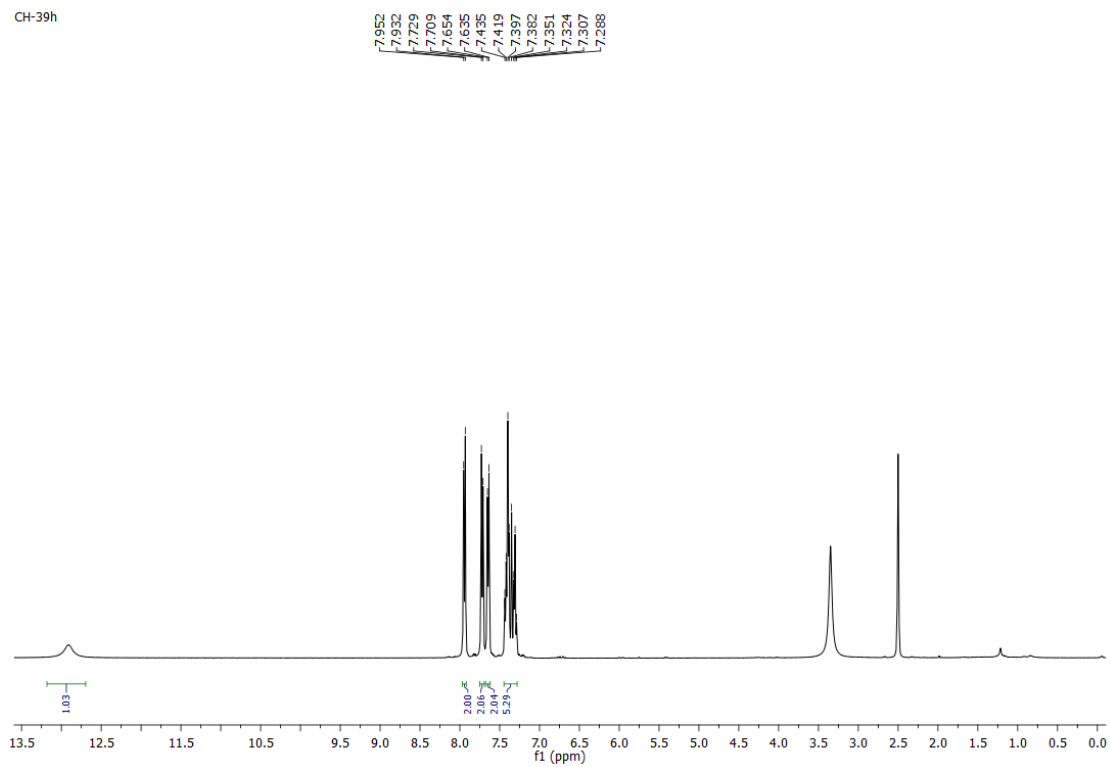


Fig. S47. 400 MHz  $^1\text{H}$  NMR spectrum of (*E*)-4-styrylbenzoic acid (**3w**)

CH-39c

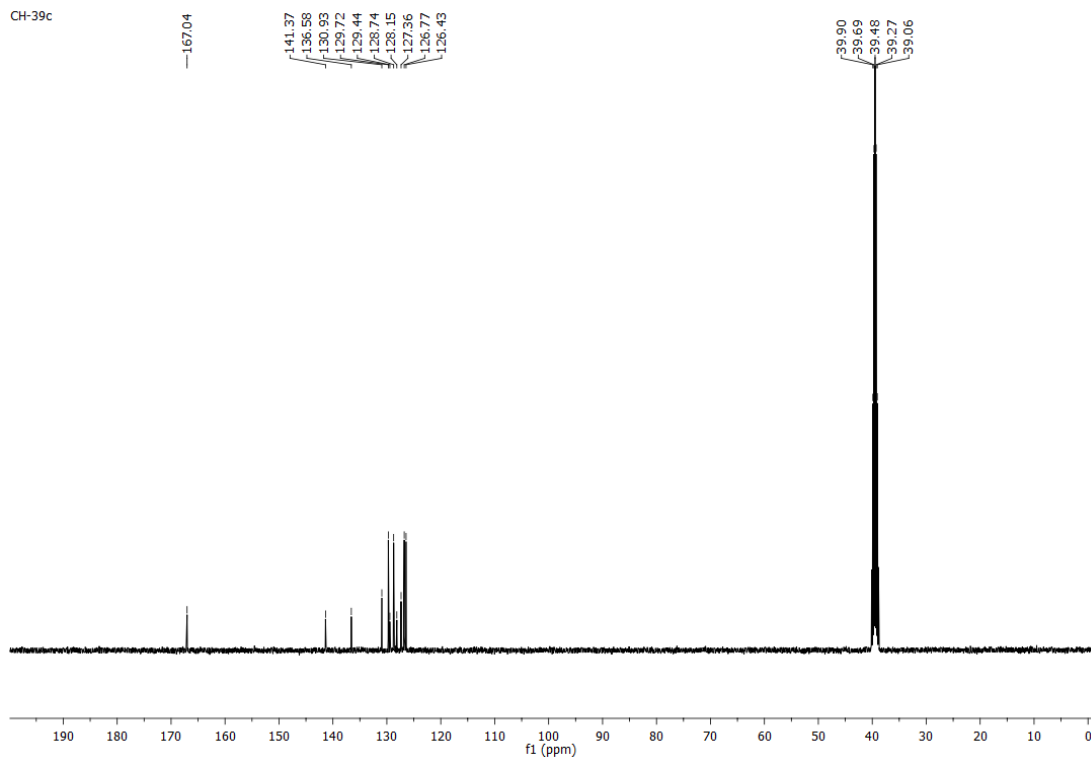


Fig. S48. 100 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-4-styrylbenzoic acid (**3w**)



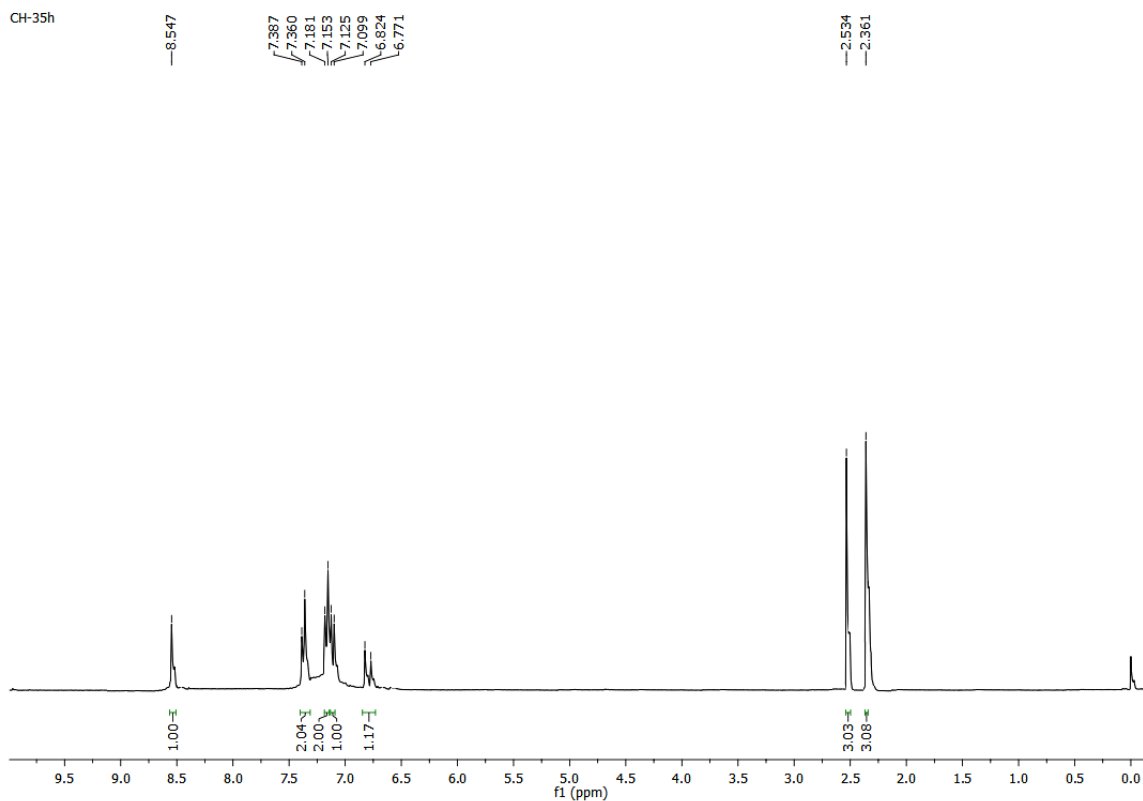


Fig. S49. 300 MHz  $^1\text{H}$  NMR spectrum of (*E*)-4-methyl-5-(4-methylstyryl)thiazole (**3x**)

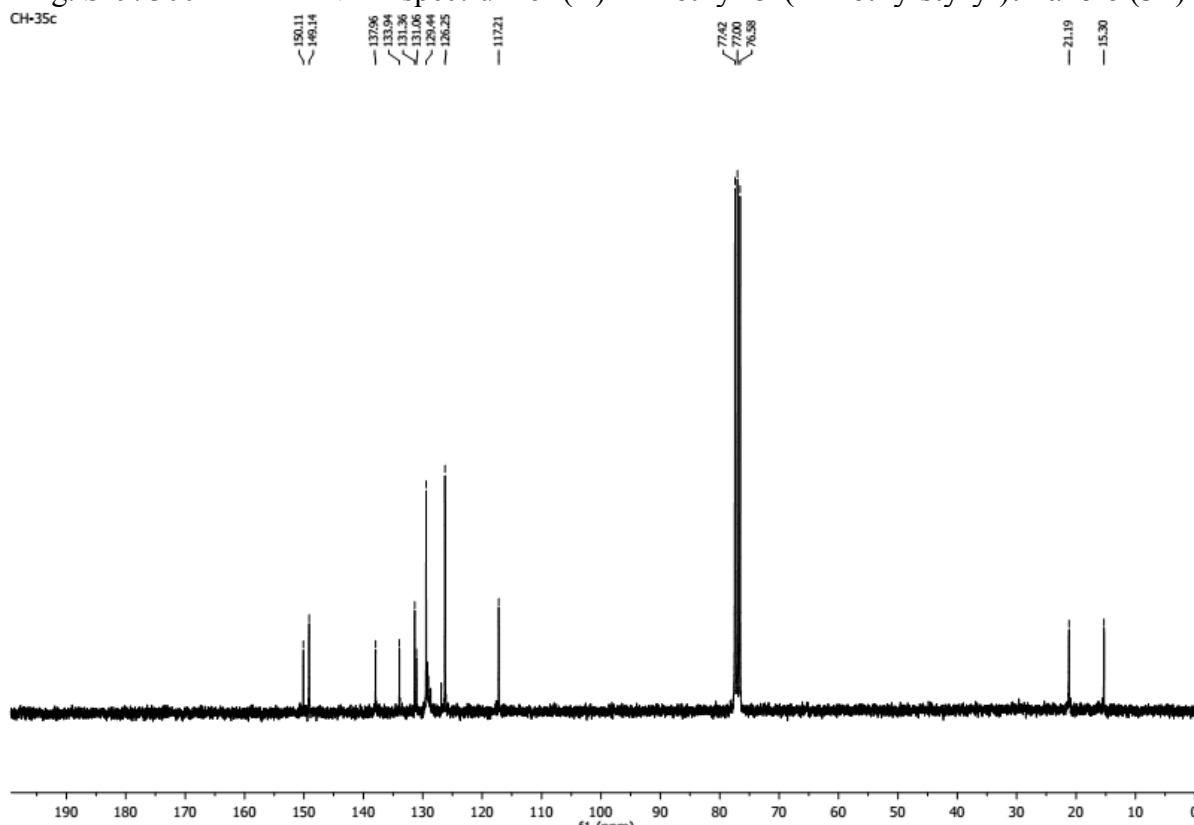


Fig. S50. 75 MHz  $^{13}\text{C}$  NMR spectrum of (*E*)-4-methyl-5-(4-methylstyryl)thiazole (**3x**)

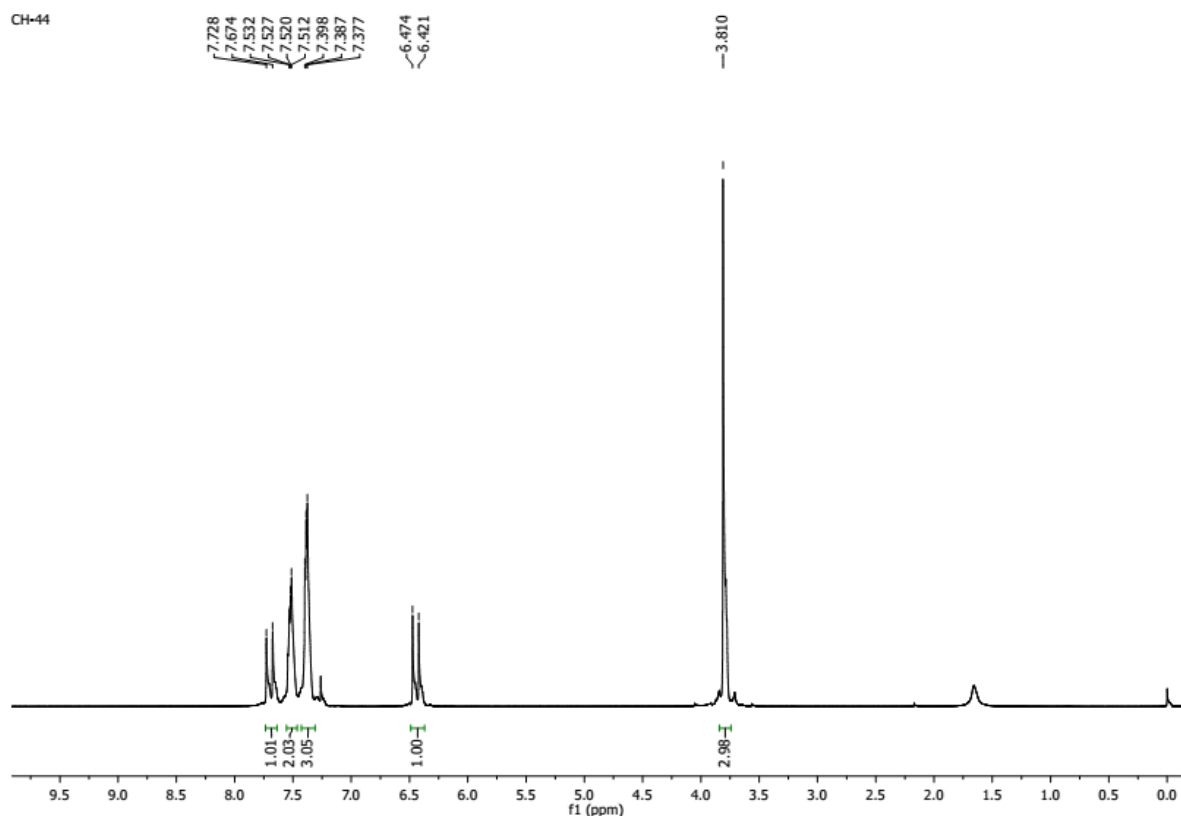


Fig. S51. 300 MHz  $^1\text{H}$  NMR spectrum of methylacrylate (**3y**)

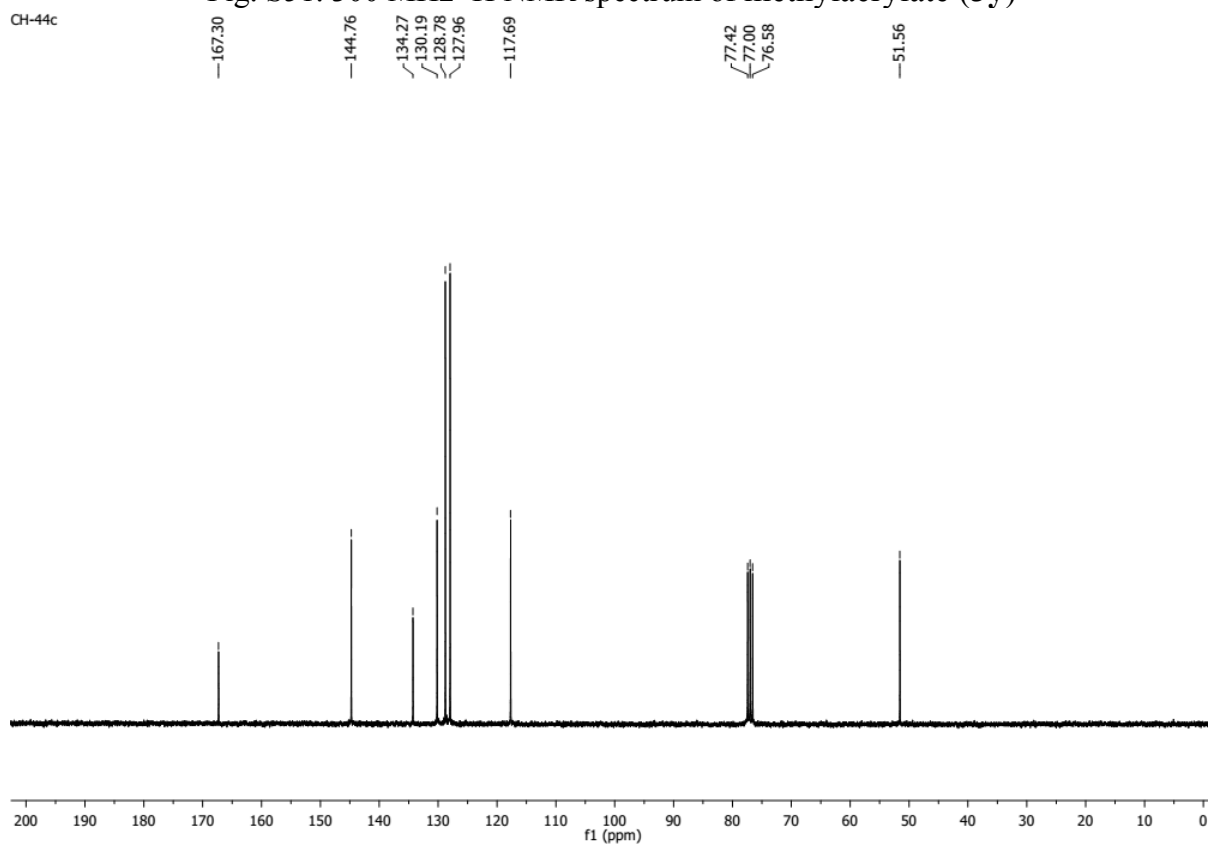


Fig. S52. 75 MHz  $^{13}\text{C}$  NMR spectrum of methylacrylate (**3y**)