

Electronic Supplementary Information

Title: Oxidative dehydrogenation of thiols to disulfides at room temperature using silica supported iron oxide as an efficient solid catalyst

Susmita Paul^{*a} and S. M. Islam^{*b}

Department of Chemistry, University of Kalyani, Kalyani, Nadia, 741235, West Bengal, India

Email: susmitapaul2007@rediffmail.com; manir65@rediffmail.com

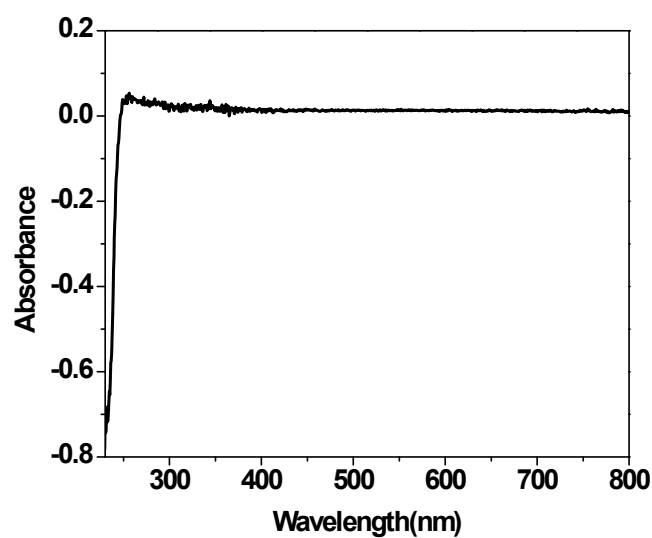


Figure 1.a; DRS-UV analysis of silica gel G.

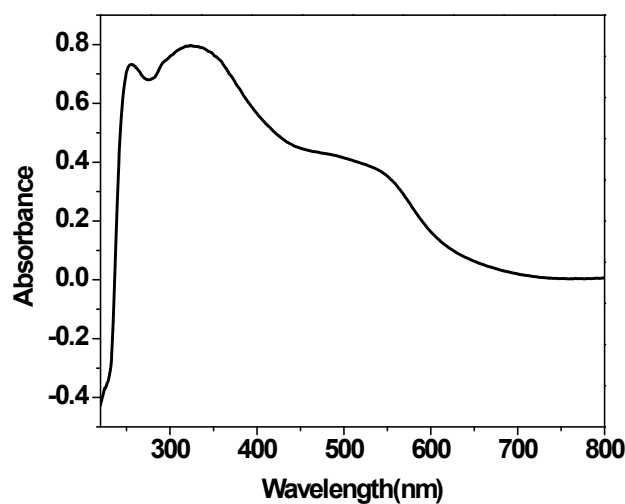


Figure 1.b; DRS-UV analysis of Catalyst B.

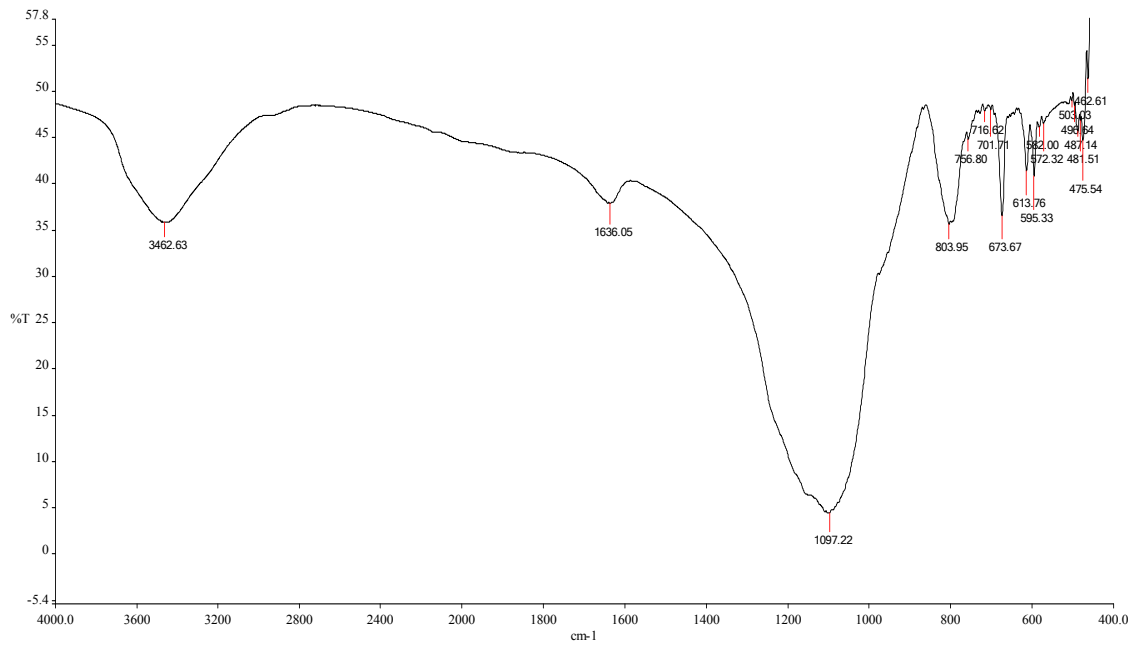


Figure 2.a; FT-IR analysis of silica gel G.

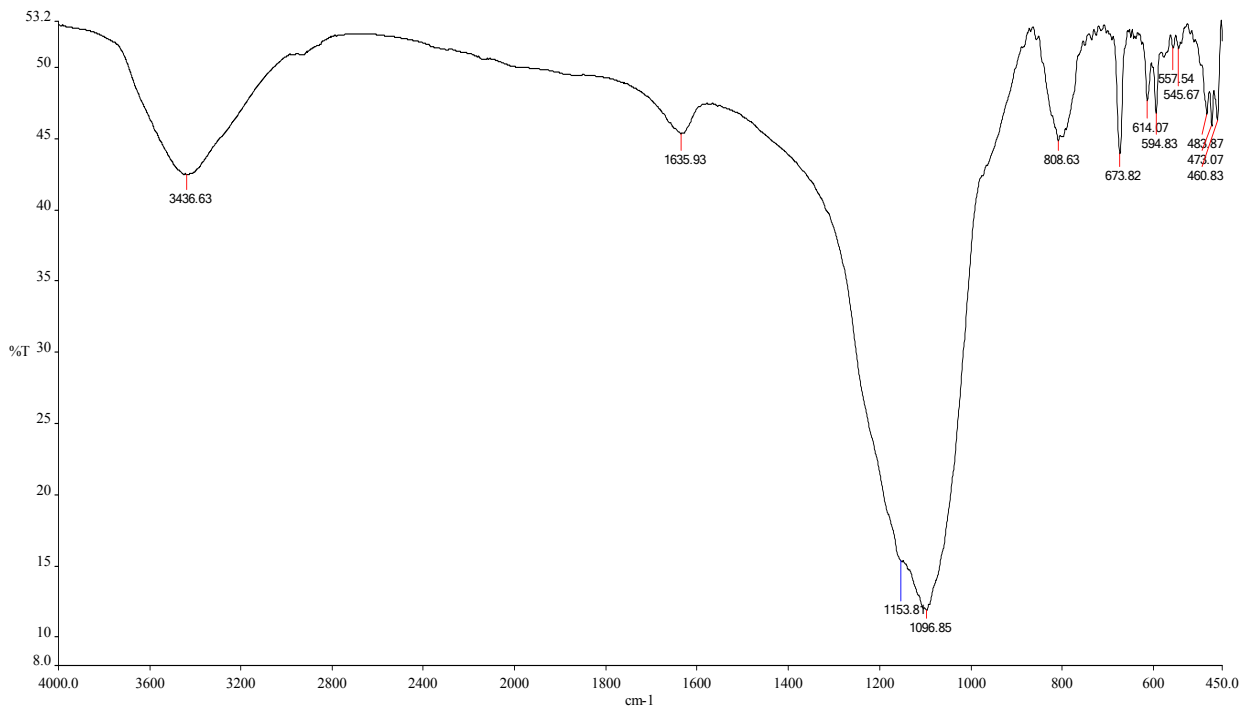


Figure 2.b; FT-IR analysis of Catalyst B

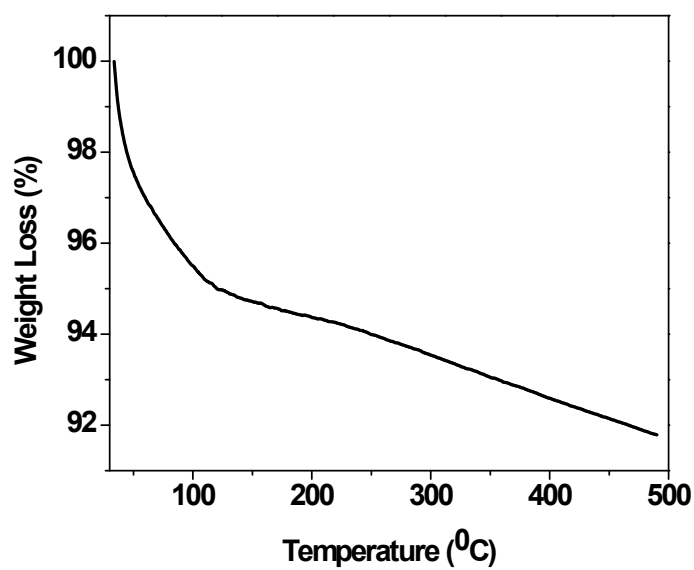


Figure 3.a; TG/DTA analysis of silica gel G.

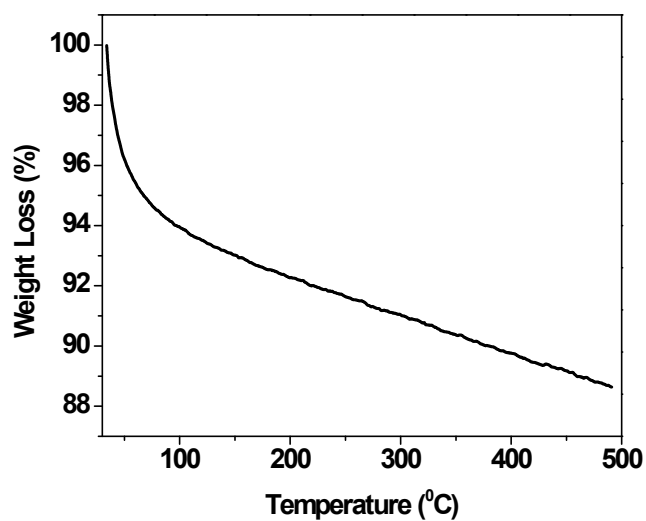


Figure 3.b; TG/DTA analysis of Catalyst B.

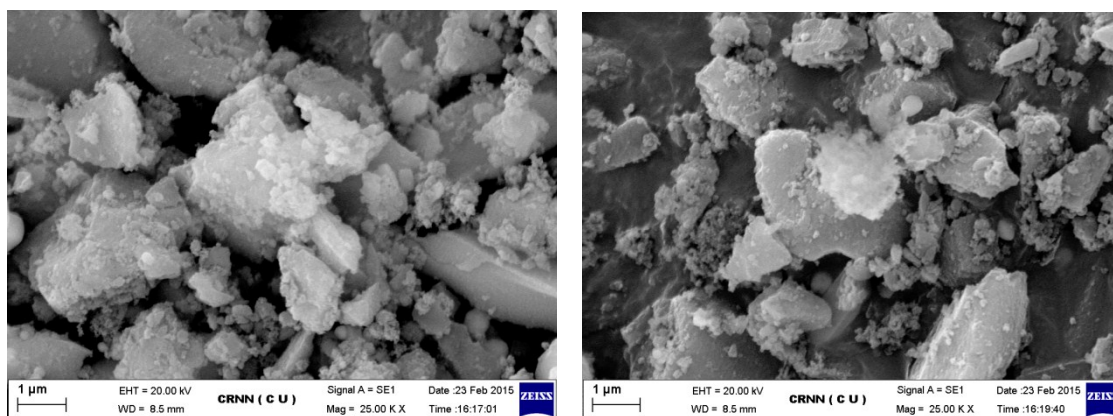


Figure 4. SEM analysis of Catalyst B

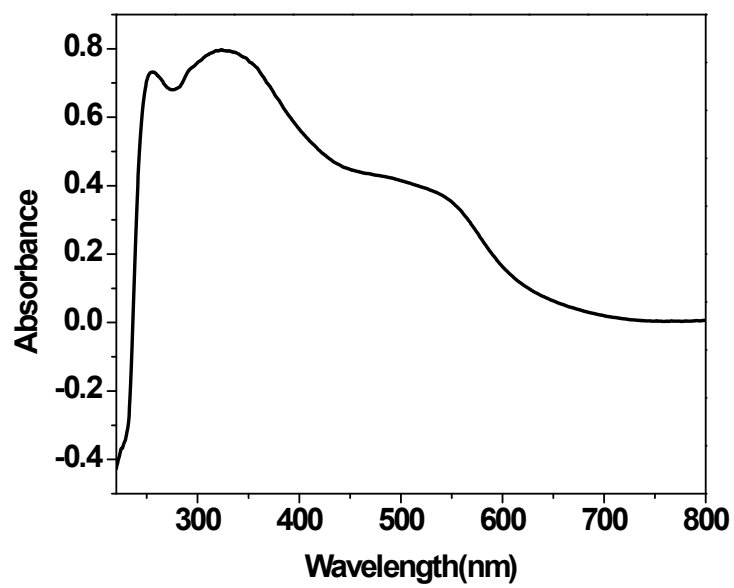


Figure 5a. DRS-UV analysis of Catalyst B after sixth cycle.

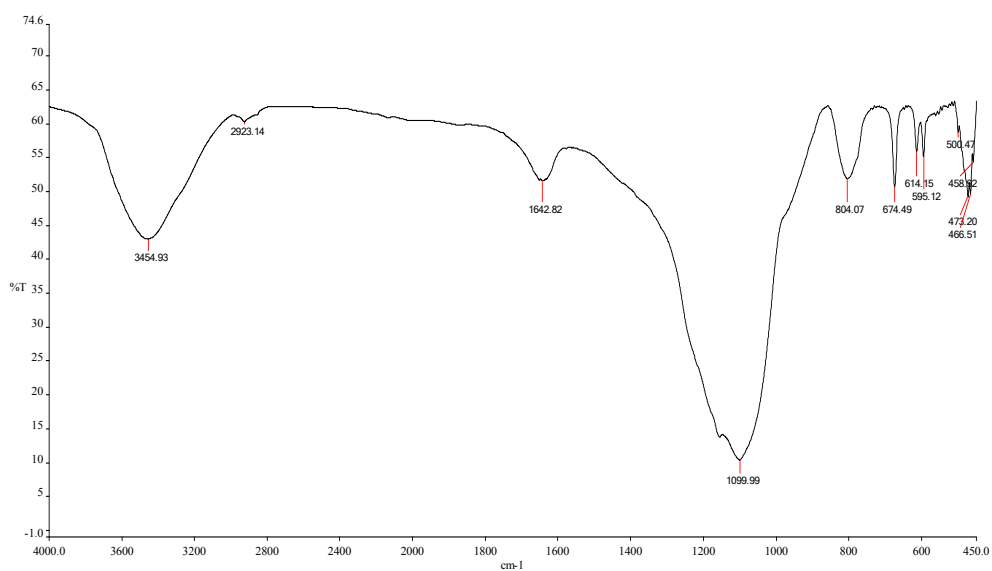


Figure 5.b; FT-IR analysis of Catalyst B after six recycle run.

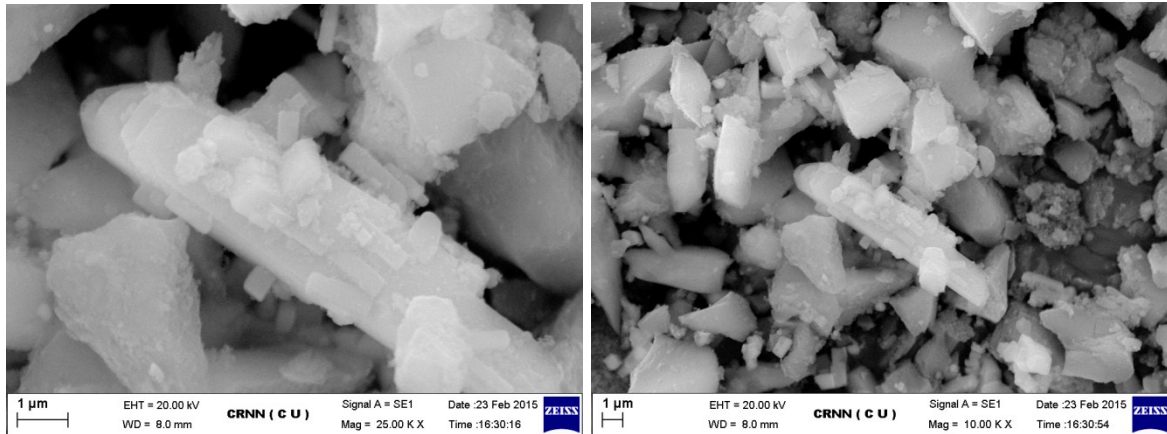


Figure 5. SEM analysis of Catalyst B, $\text{Fe}_2\text{O}_3@\text{SiO}_2$ after sixth cycle.

EDX of $\text{Fe}_2\text{O}_3@\text{SiO}_2$, Catalyst B

Spectrum processing :

Peak possibly omitted : 9.709 keV

Processing option : All elements analyzed (Normalised)

Number of iterations = 4

Standard :

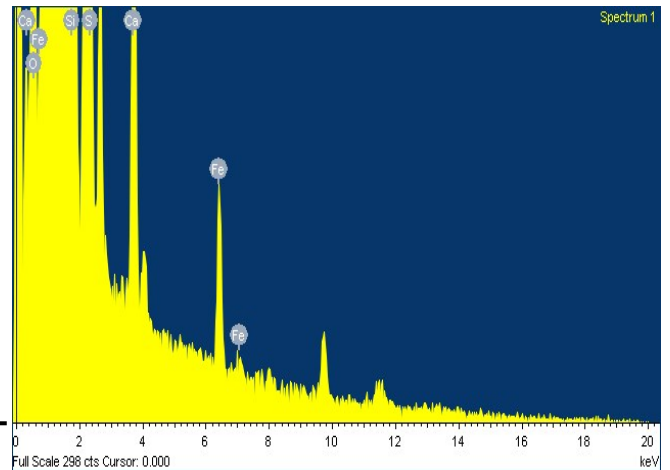
O SiO2 1-Jun-1999 12:00 AM

Si SiO2 1-Jun-1999 12:00 AM

S FeS2 1-Jun-1999 12:00 AM

Ca Wollastonite 1-Jun-1999 12:00 AM

Fe Fe 1-Jun-1999 12:00 AM



Element	Weight%	Atomic%
O K	51.99	67.04
Si K	38.17	28.04
S K	2.56	1.65
Ca K	4.04	2.08
Fe K	3.25	1.20
Totals	100.00	

Scanned 1H and 13C NMR spectral data of selected disulfides:

Table 3; Entry 1

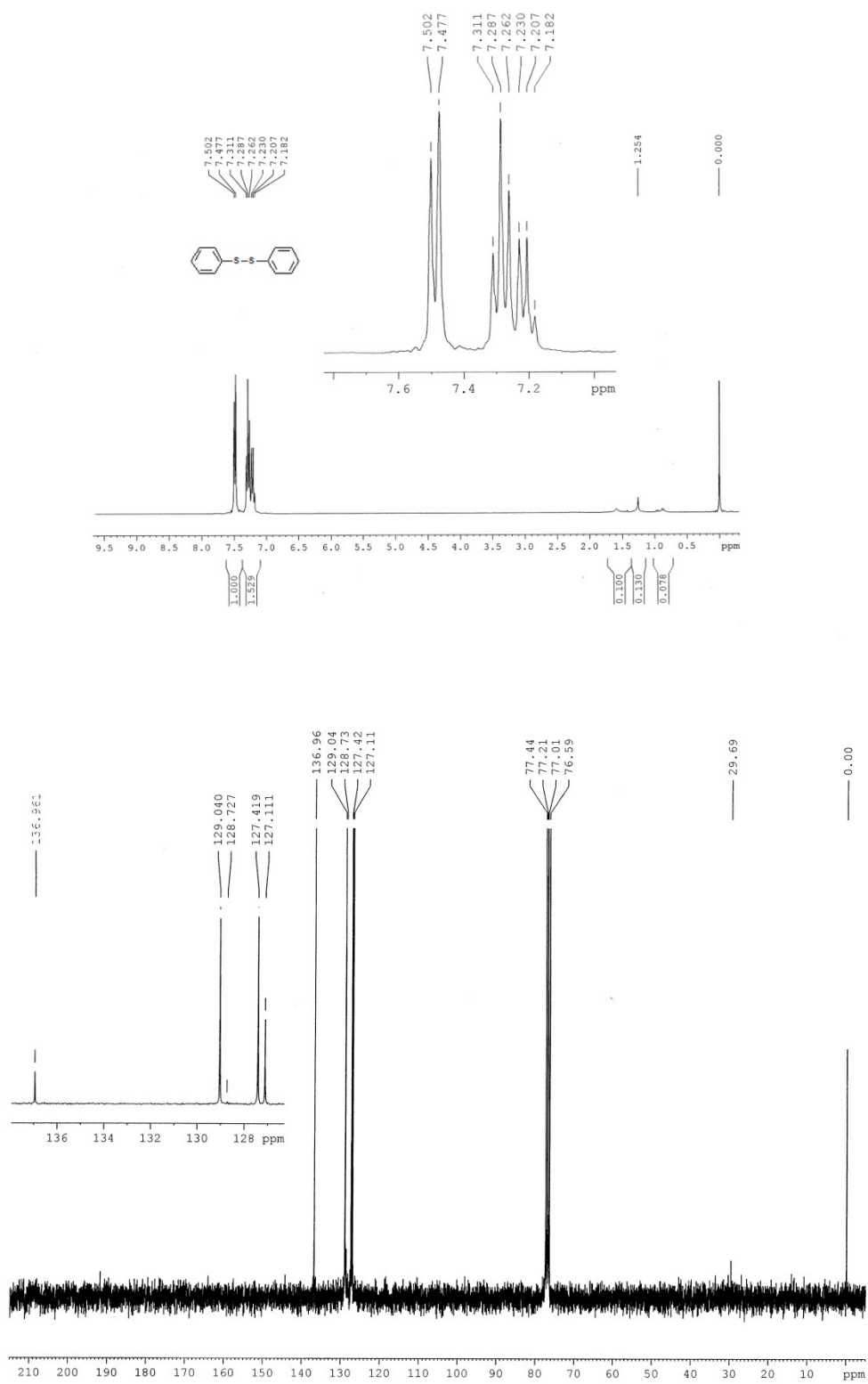


Table 3; Entry 2

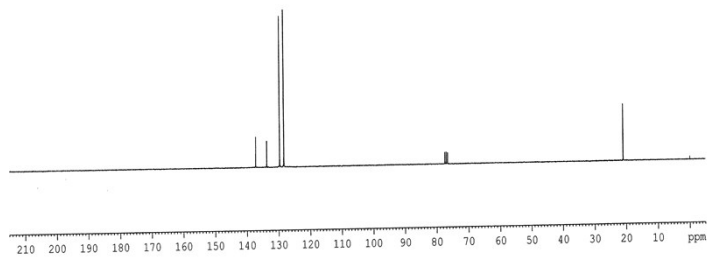
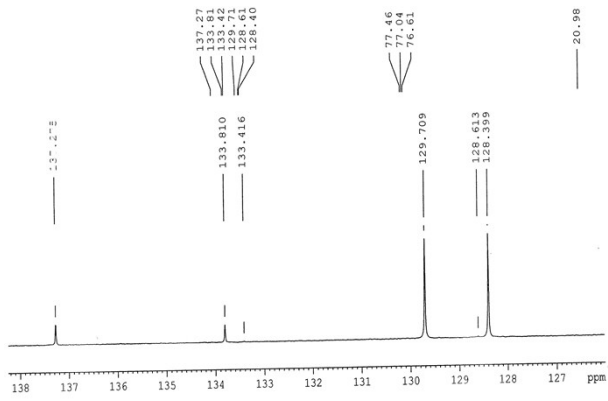
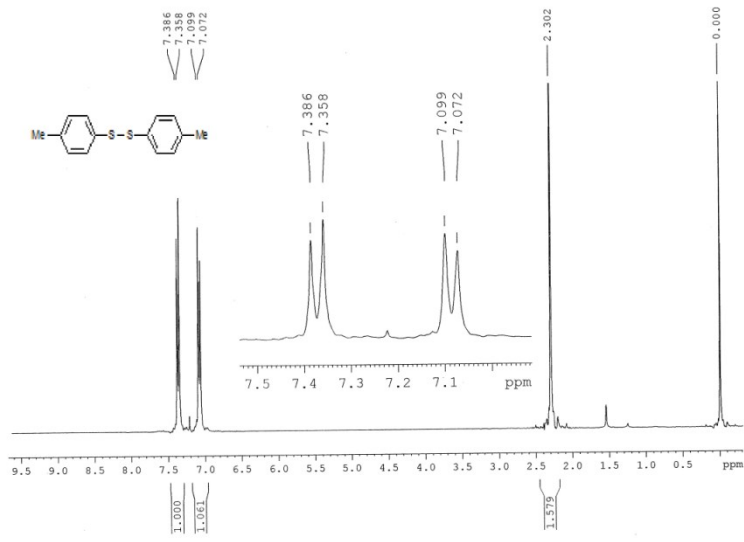


Table3; Entry 3

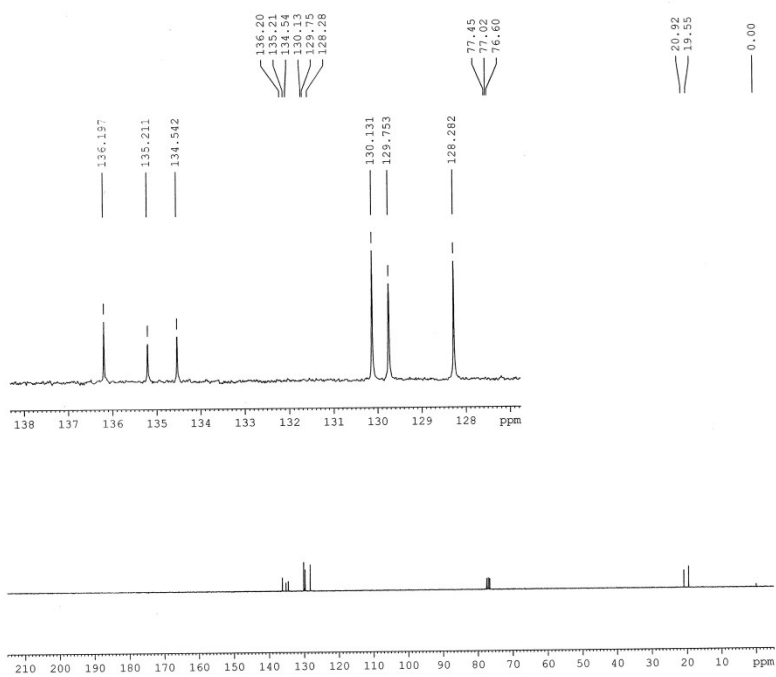
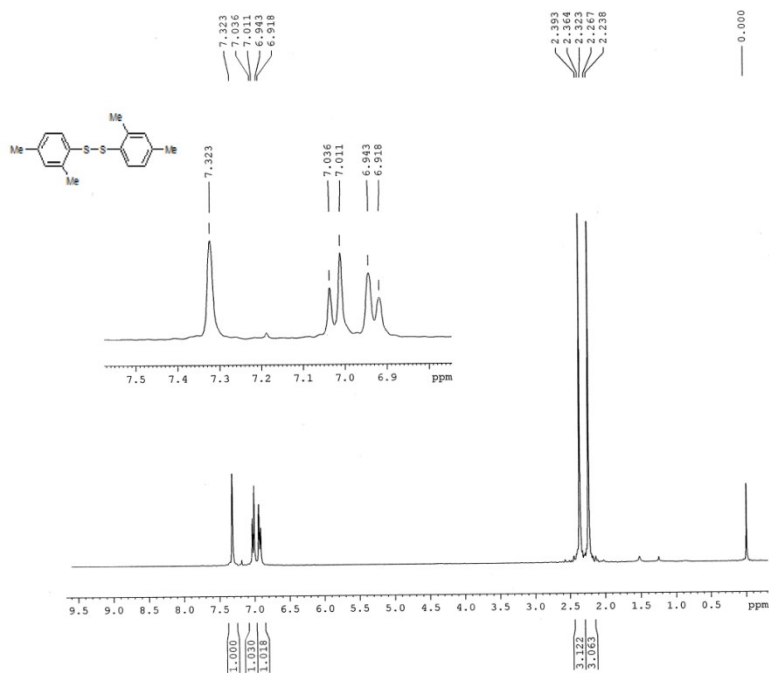


Table 3; Entry 5

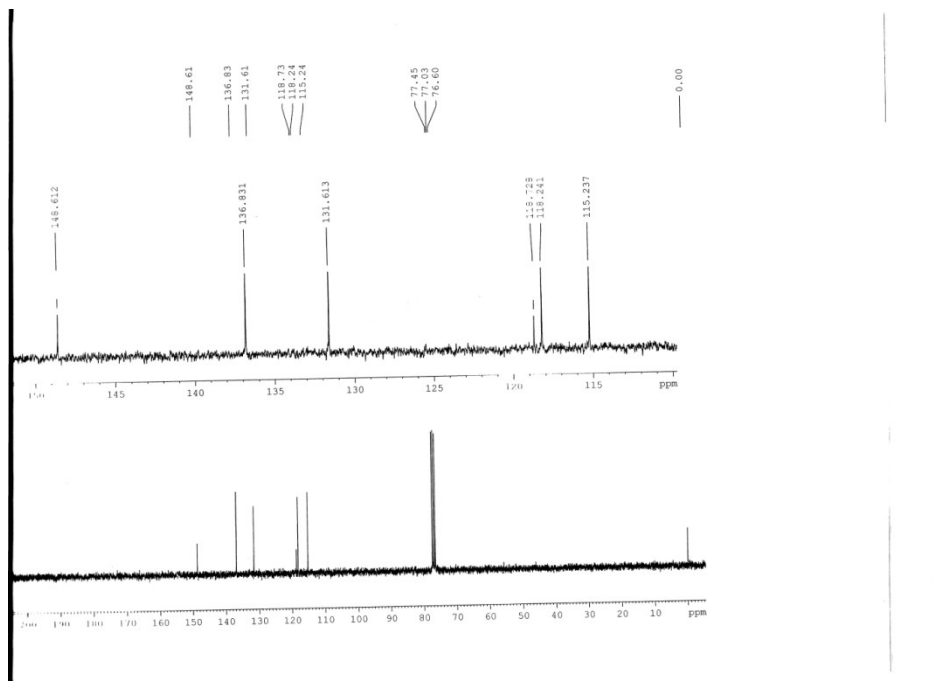
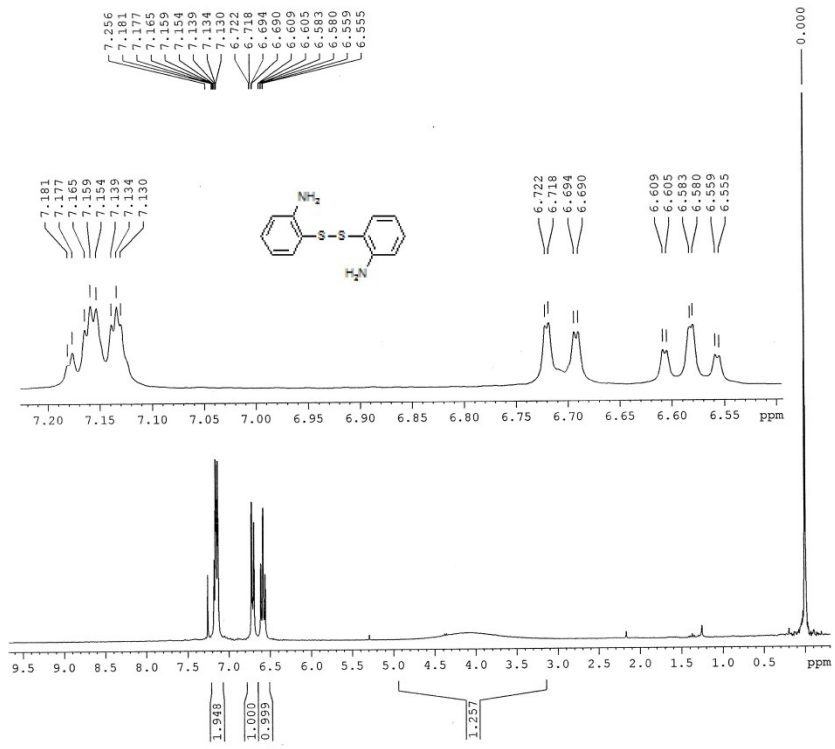


Table 3; Entry 6

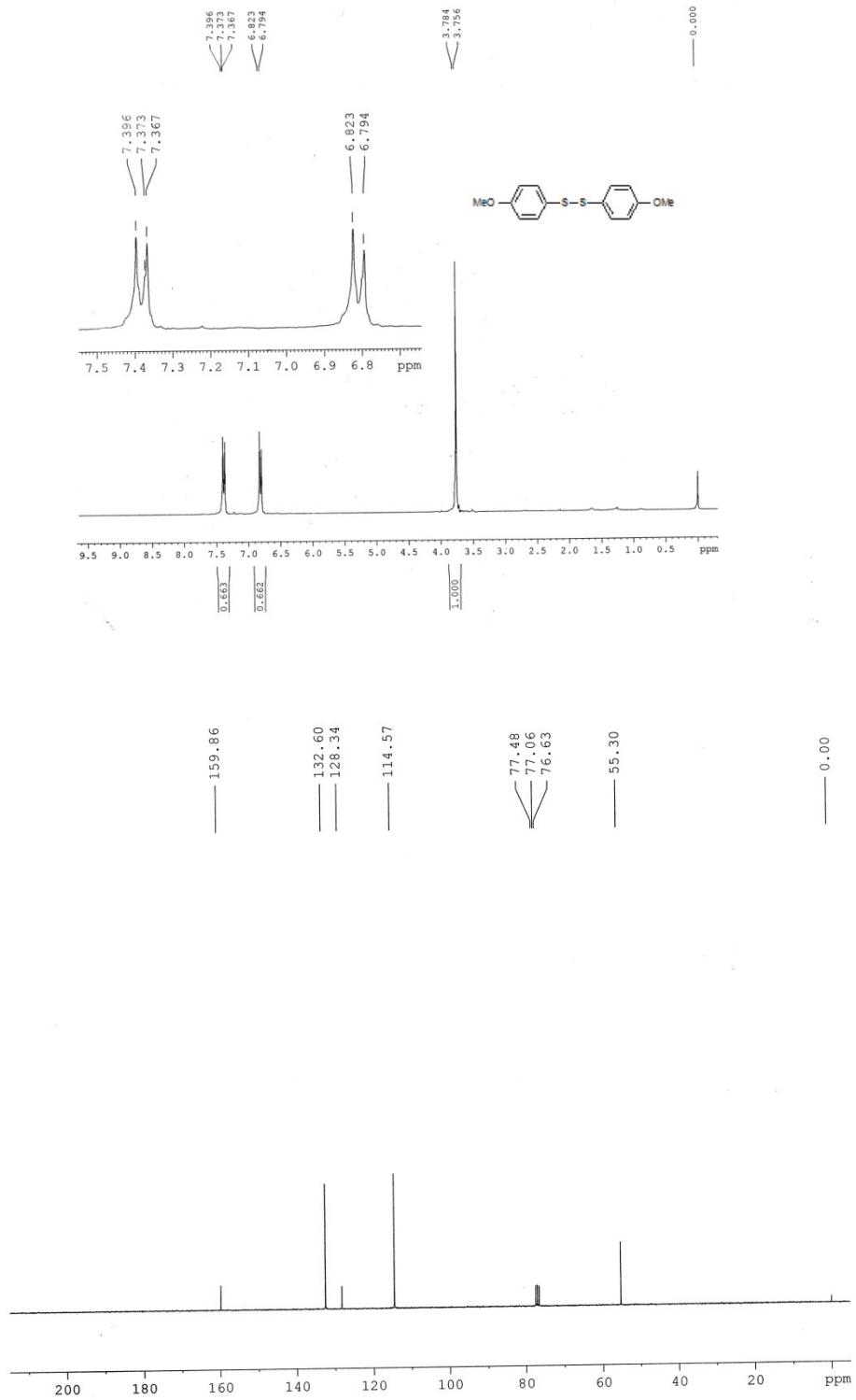


Table 3; Entry 7

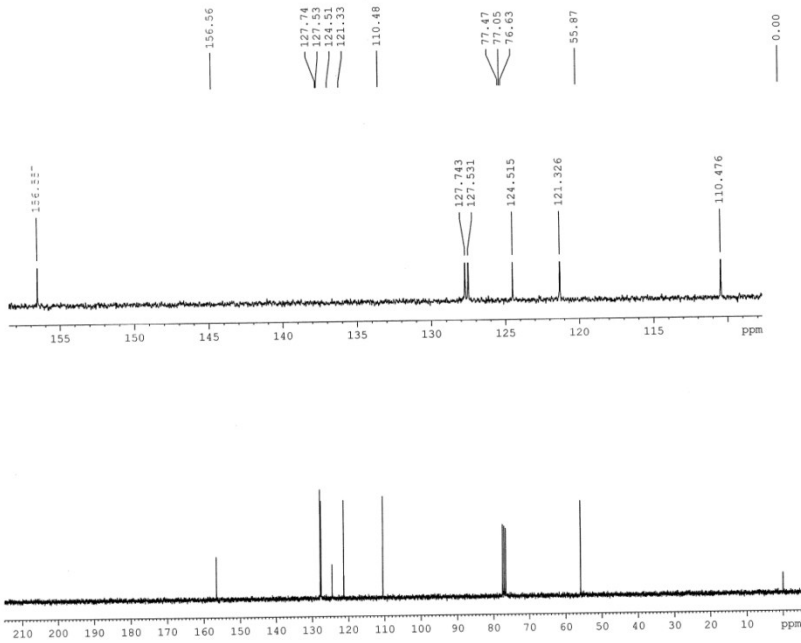
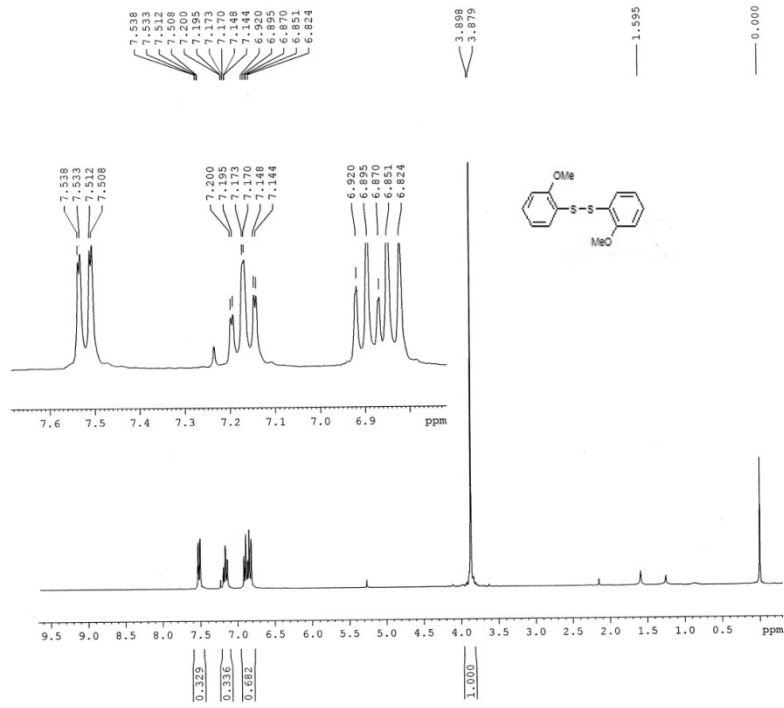


Table 3; Entry 8

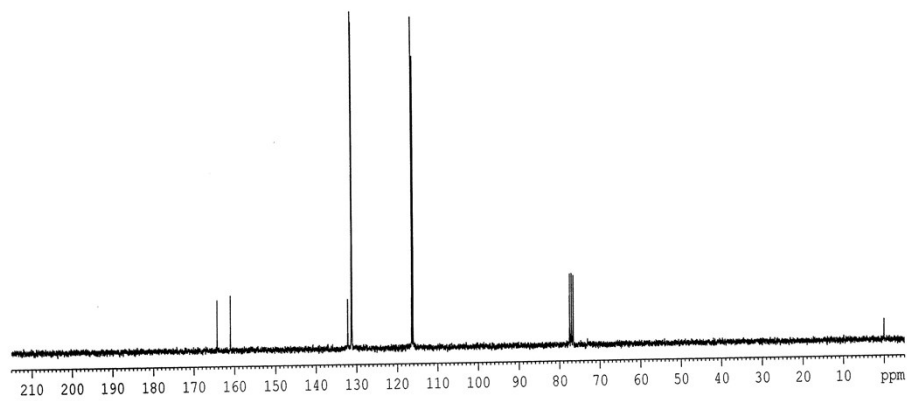
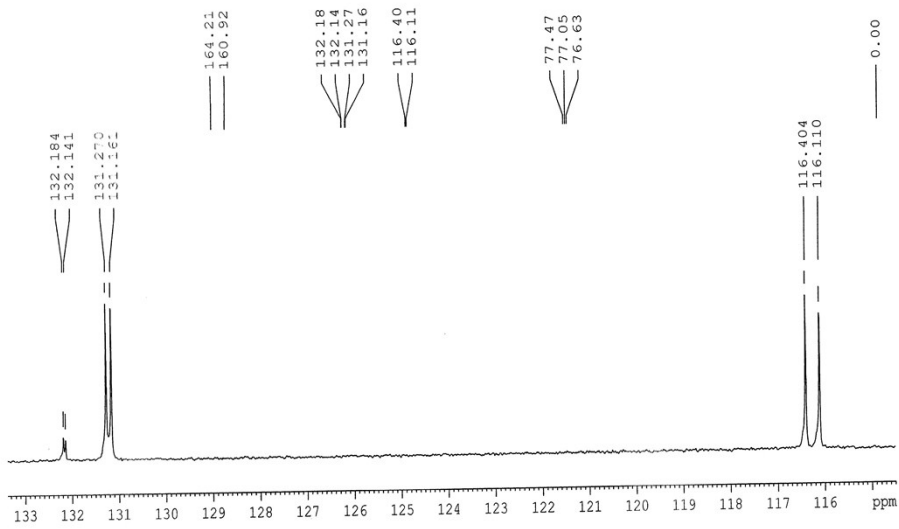
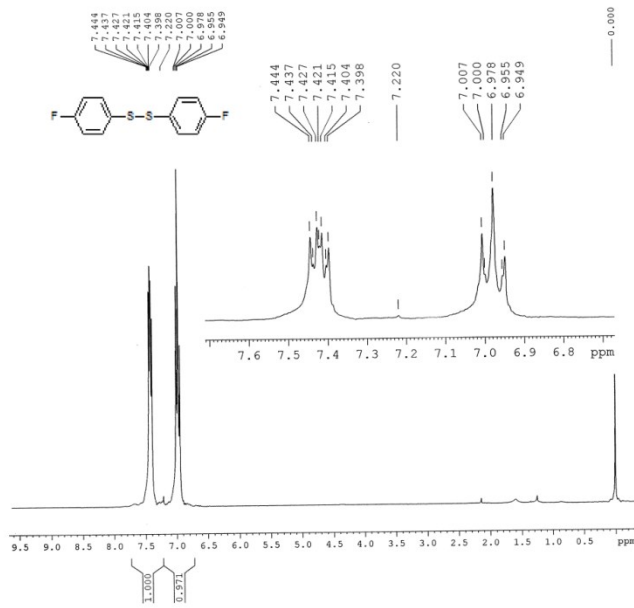


Table 3; Entry 9

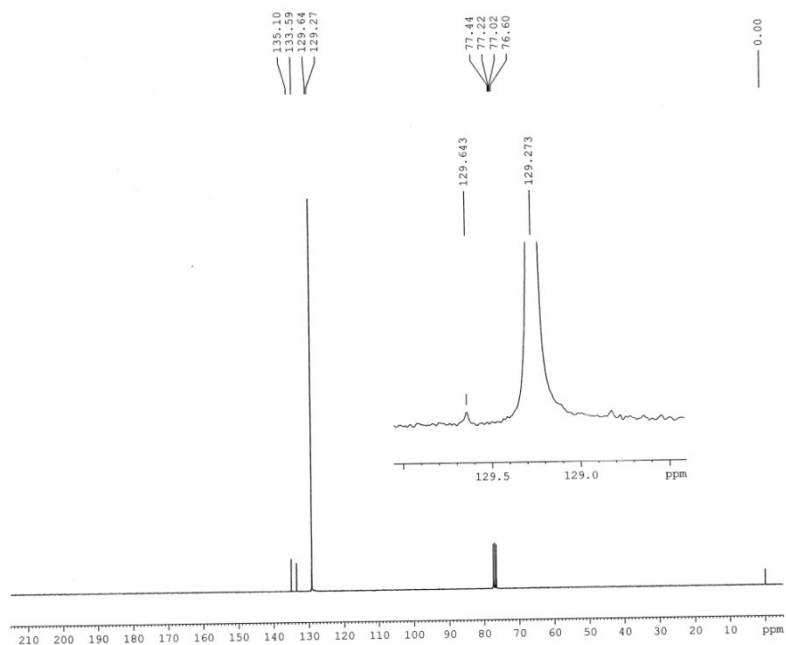
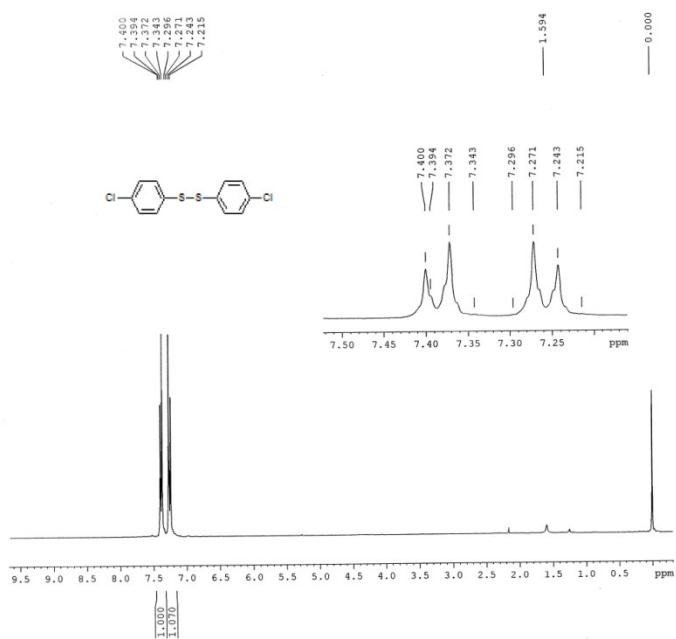


Table 3; Entry 12

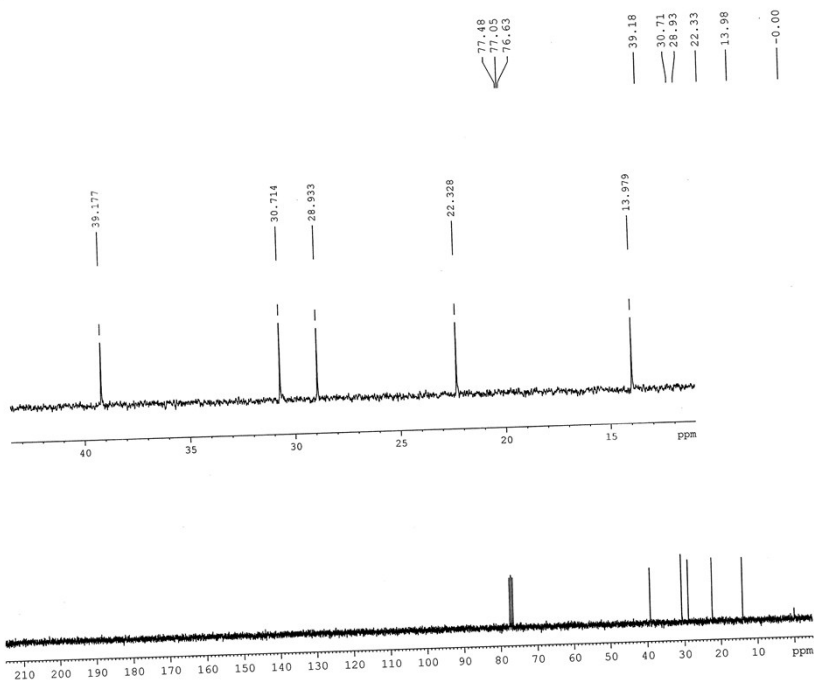
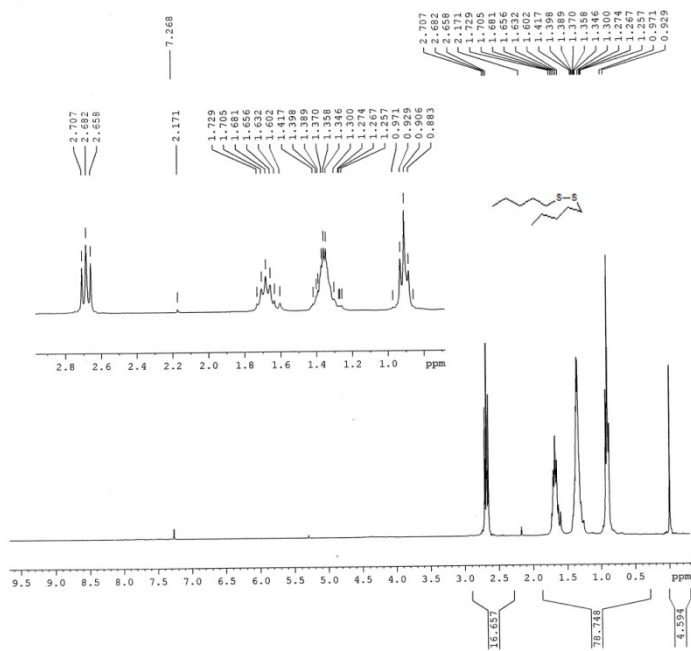


Table 3; Entry 13

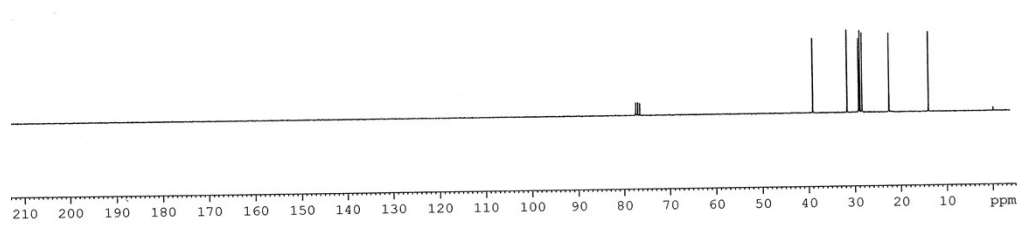
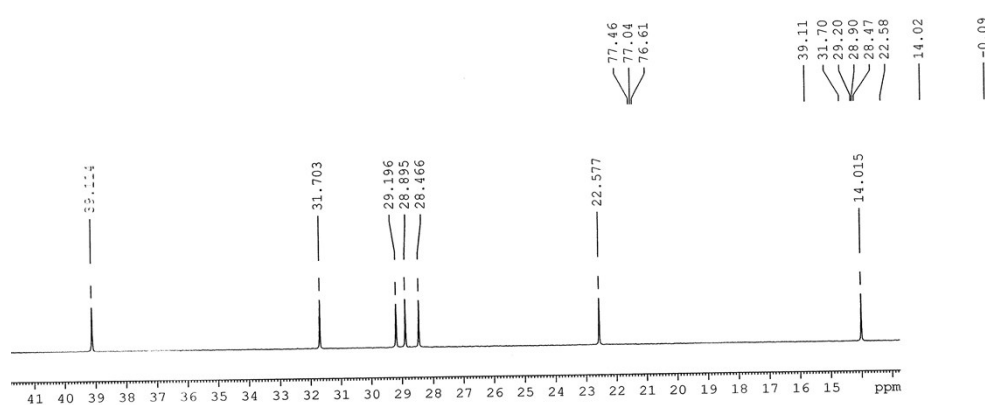
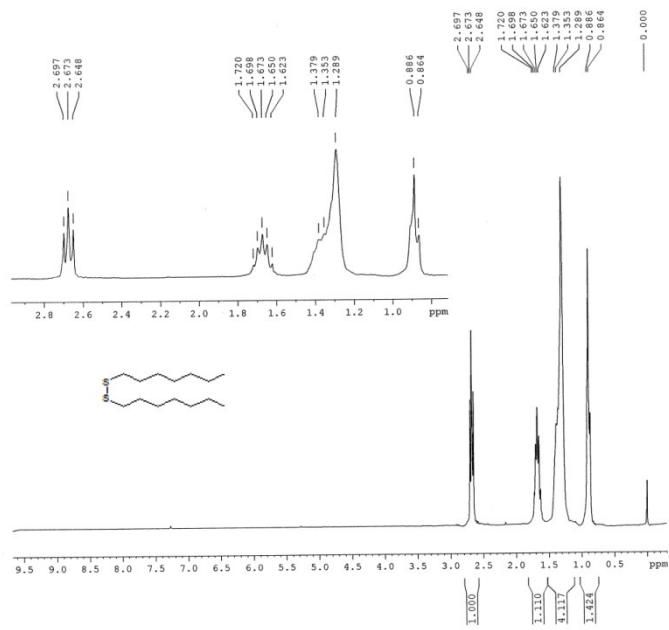


Table 3; Entry 14

