

## Supplementary Information

### Microwave assisted expeditious approach towards benzimidazole acrylonitrile derivatives exploring new silica supported SBPTS catalyst

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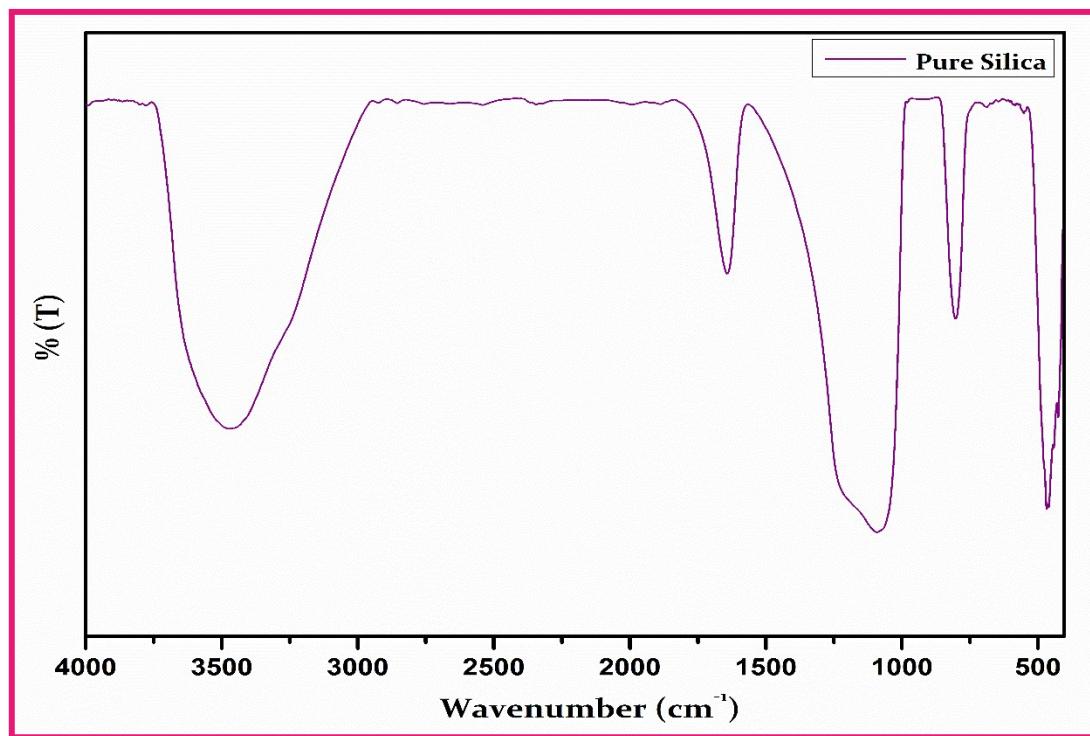
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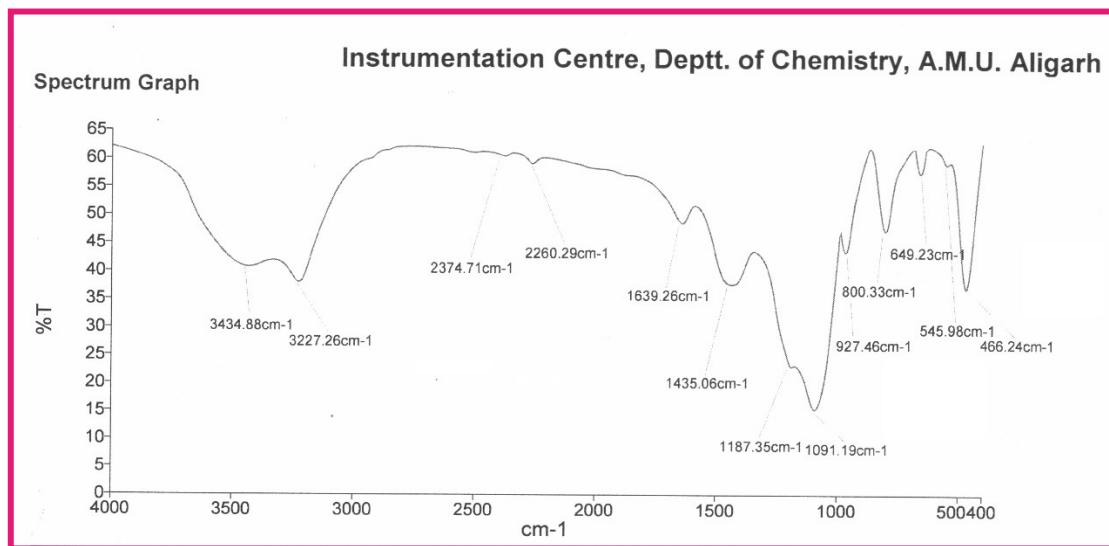
#### Corresponding authors email address:

\*mehtab.organic2009@gmail.com (Prof. M. Parveen)

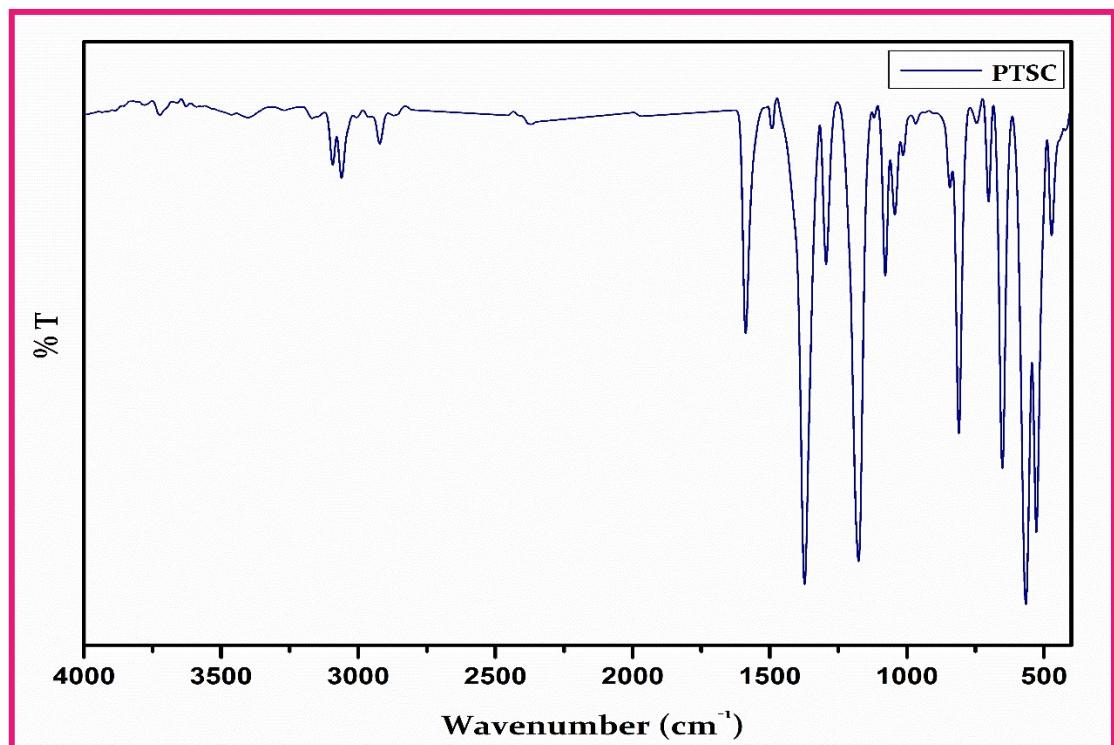
\*\*mirzafaheem.org@gmail.com (Dr. F. Ahmad)



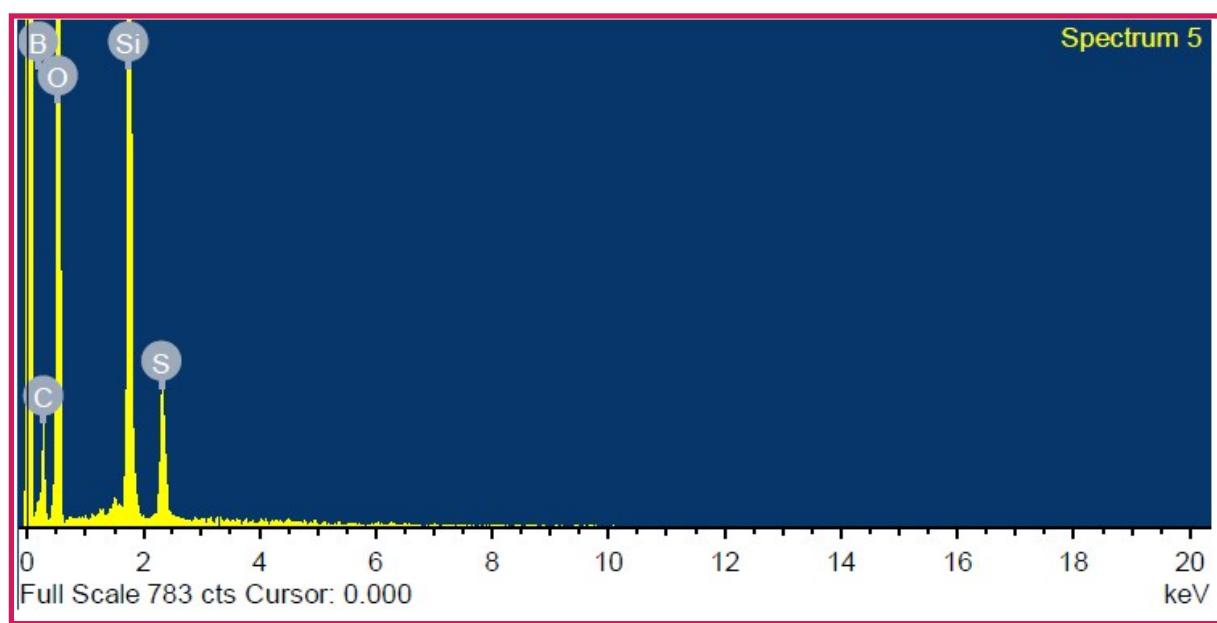
**Fig. S1(a)** FT-IR spectrum of pure silica



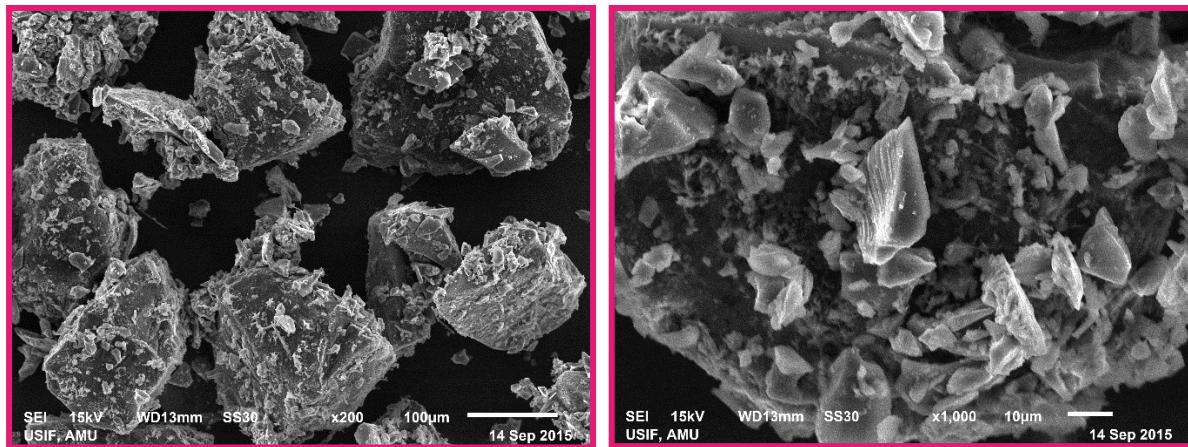
**Fig. S1(b)** FT-IR spectrum of pure silica-boric acid



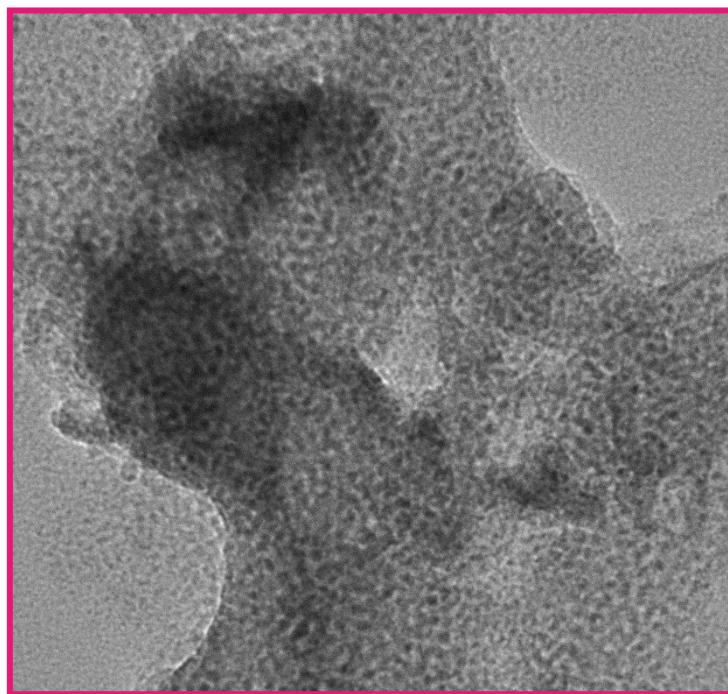
**Fig. S1(c)** FT-IR spectrum of *p*-toluenesulfonyl chloride



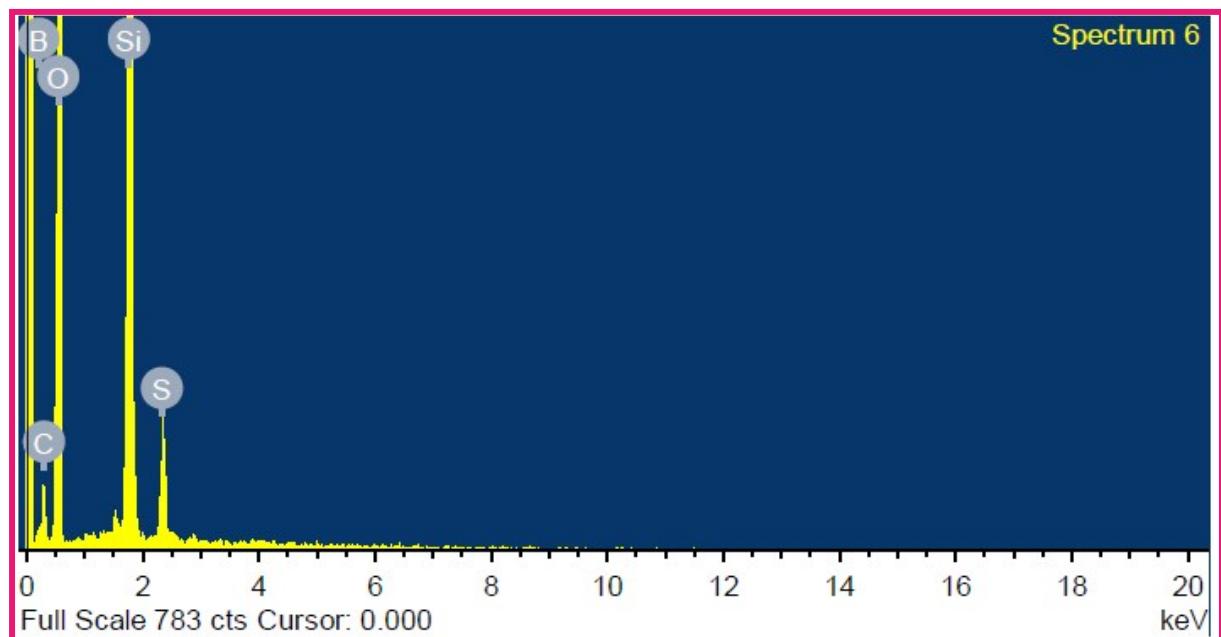
**Fig. S2** EDX analysis of the SBPTS catalyst



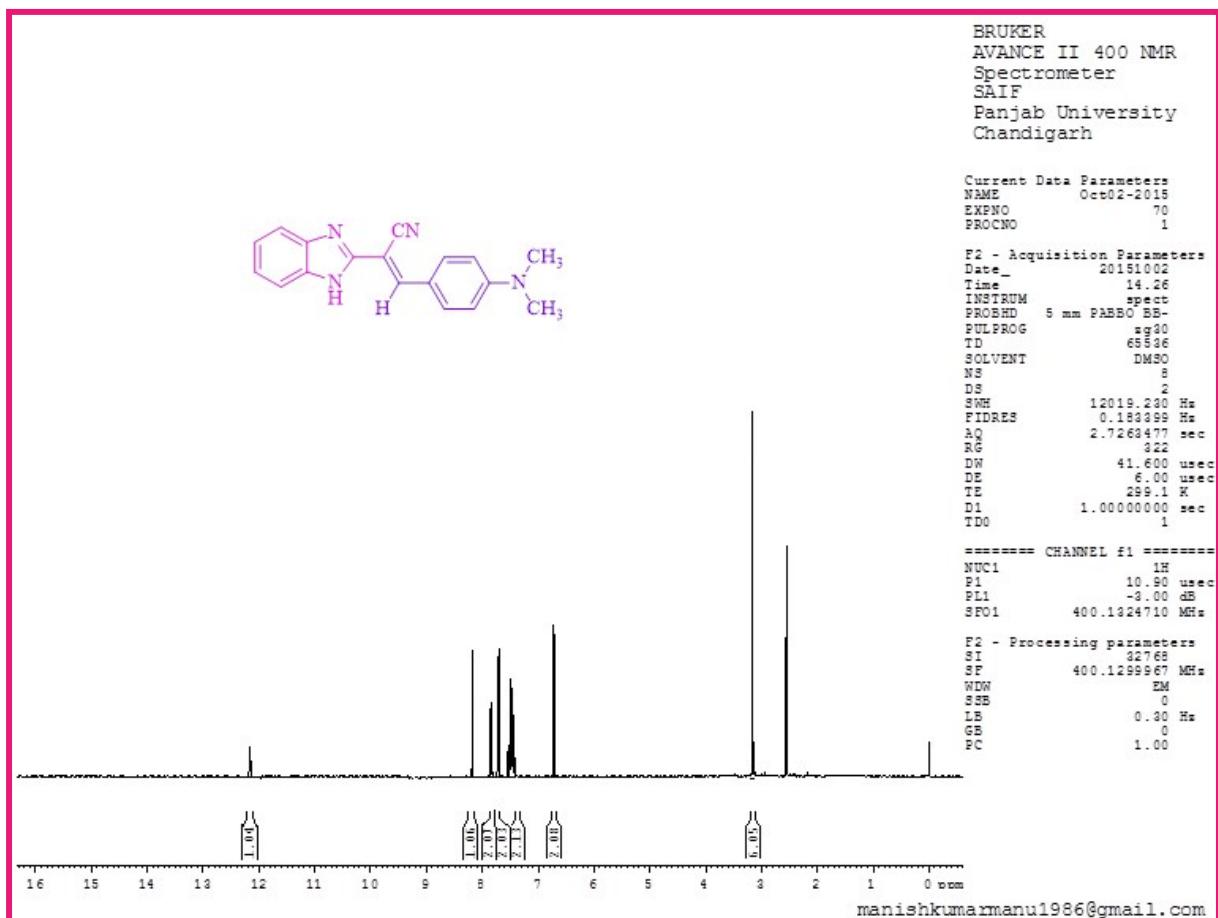
**Fig. S3** SEM micrograph of the recovered catalyst



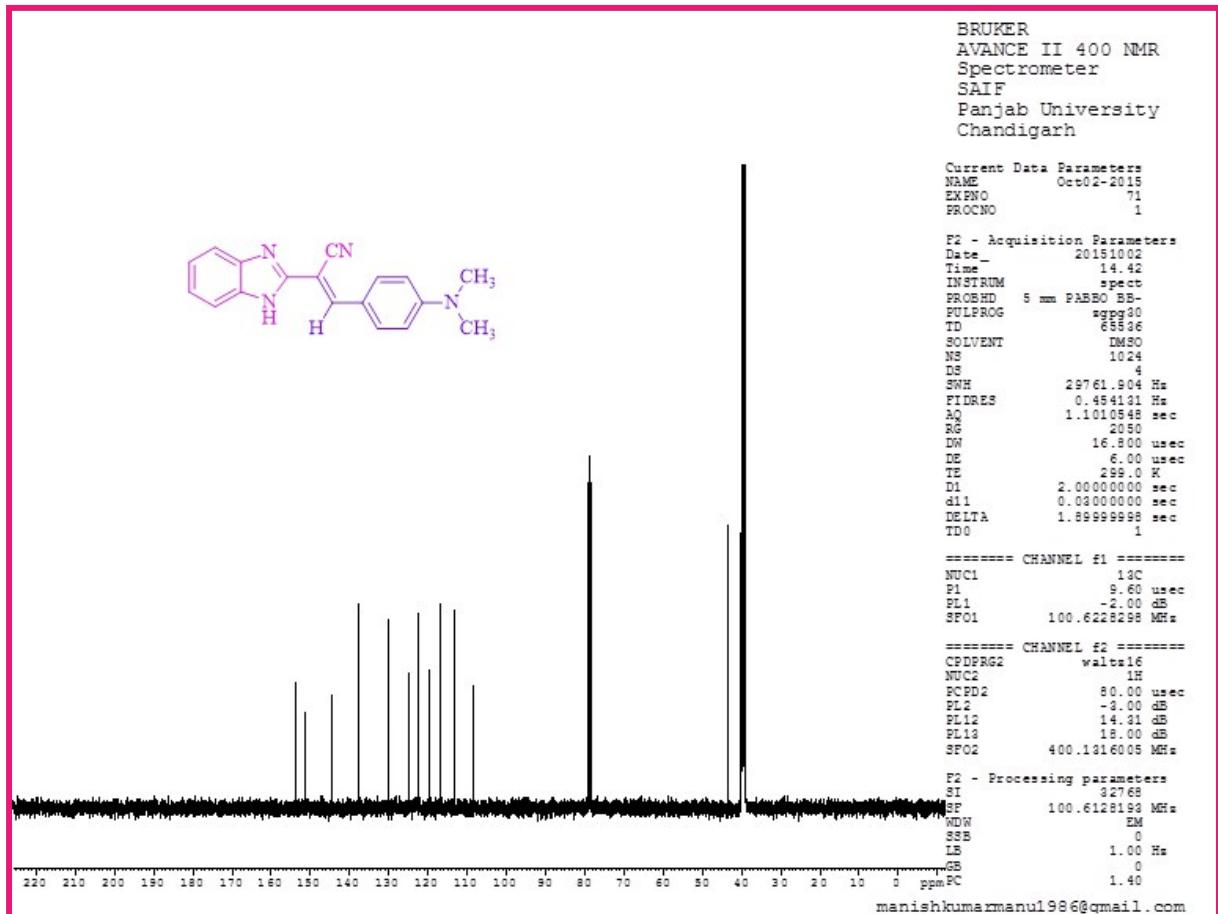
**Fig. S4** TEM micrograph of the recovered catalyst



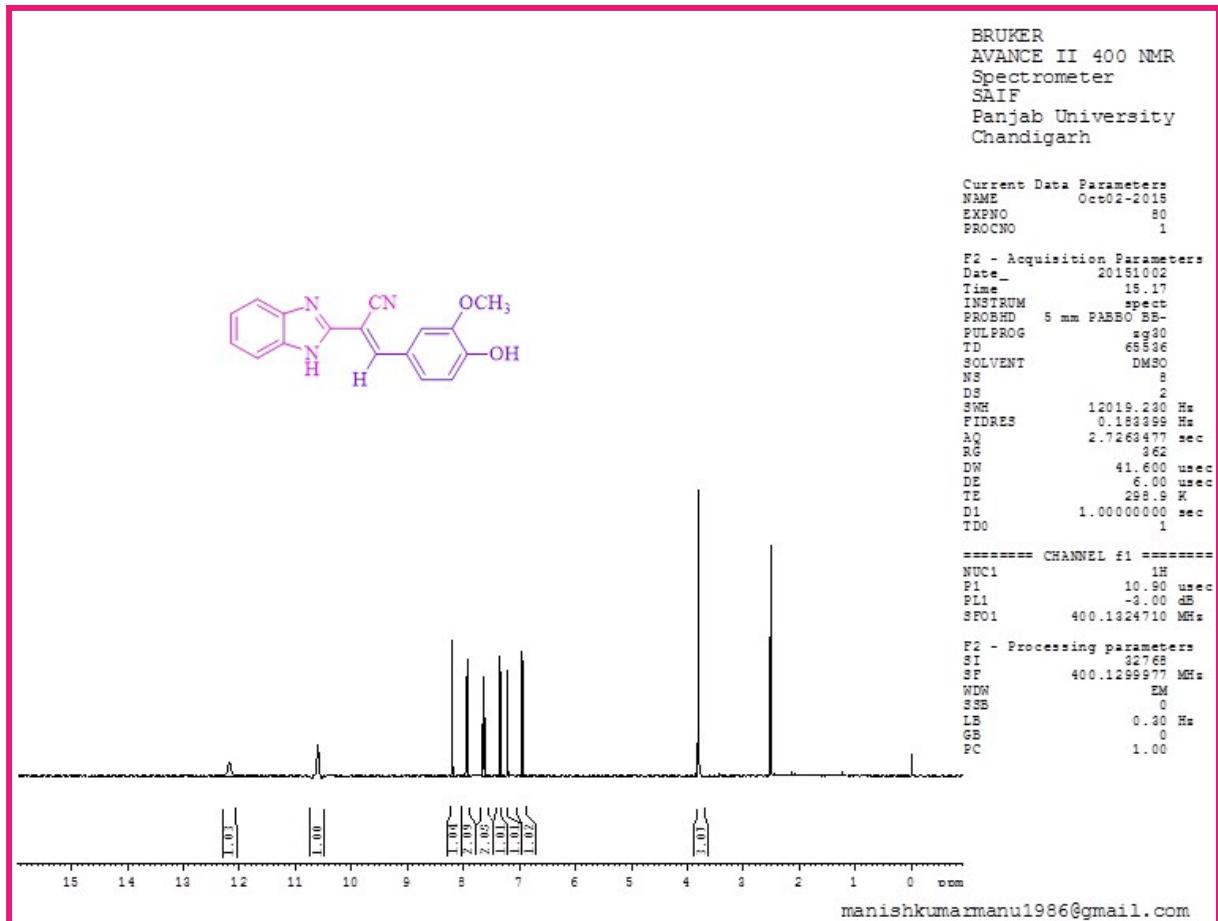
**Fig. S5** EDX analysis of the recovered catalyst



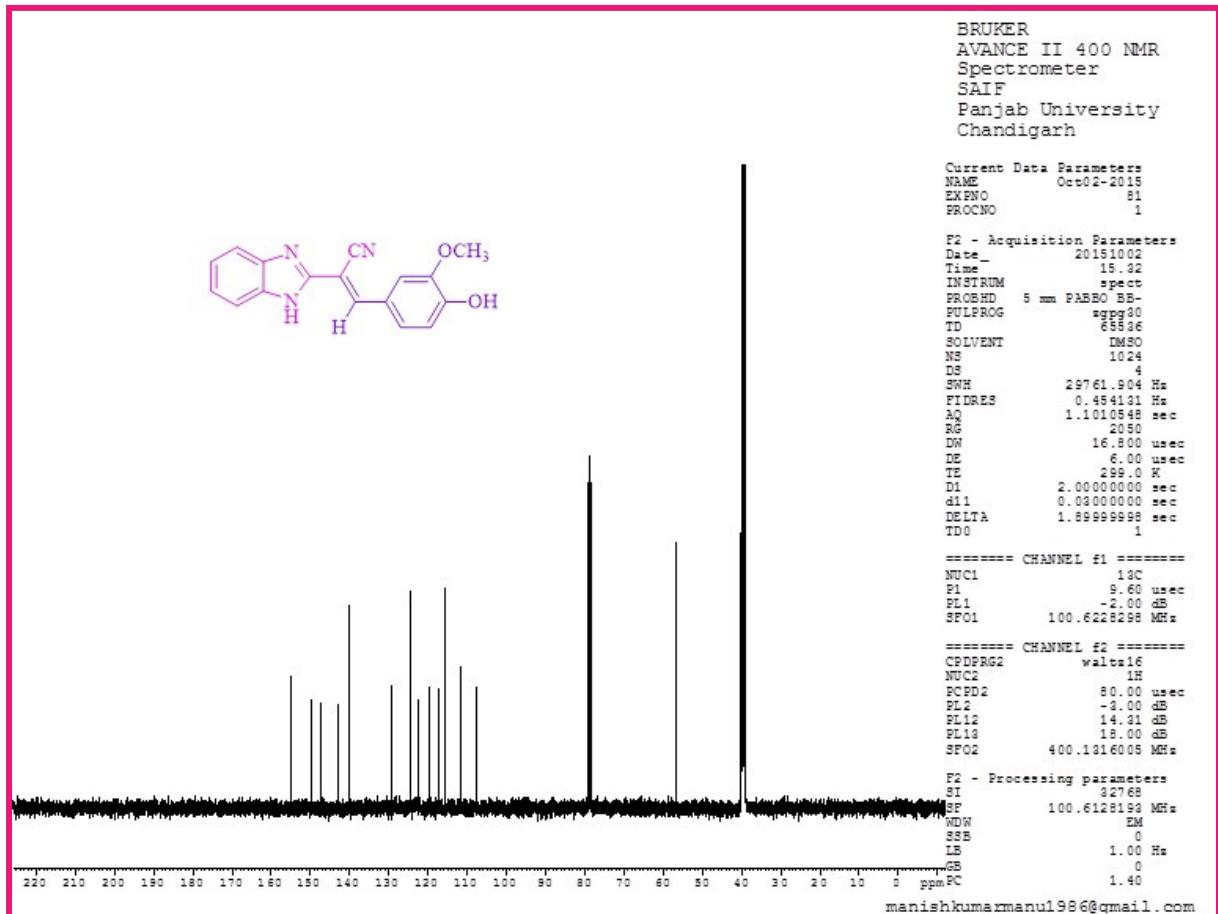
**Fig. S6**  $^1\text{H}$  NMR spectrum of compound **3a**



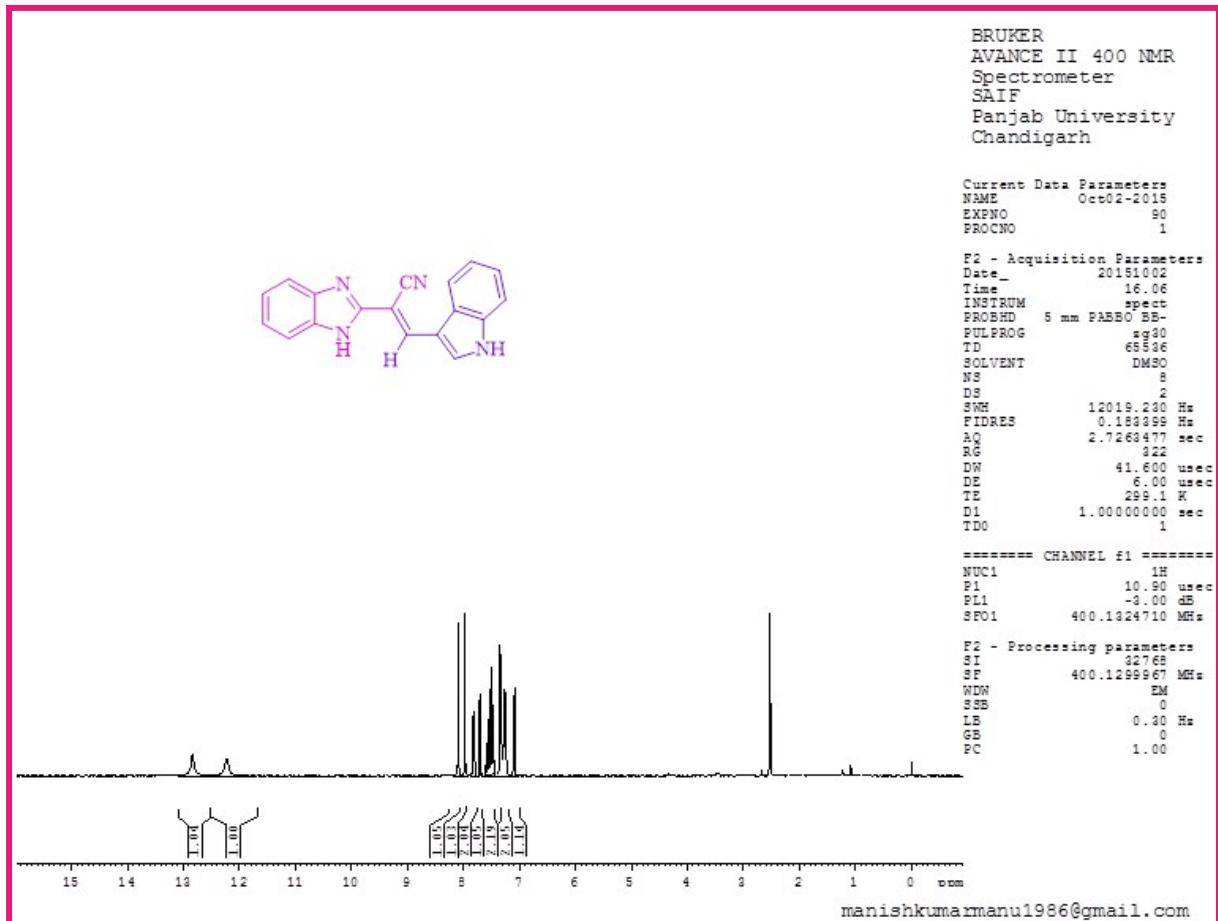
**Fig. S7**  $^{13}\text{C}$  NMR spectrum of compound 3a



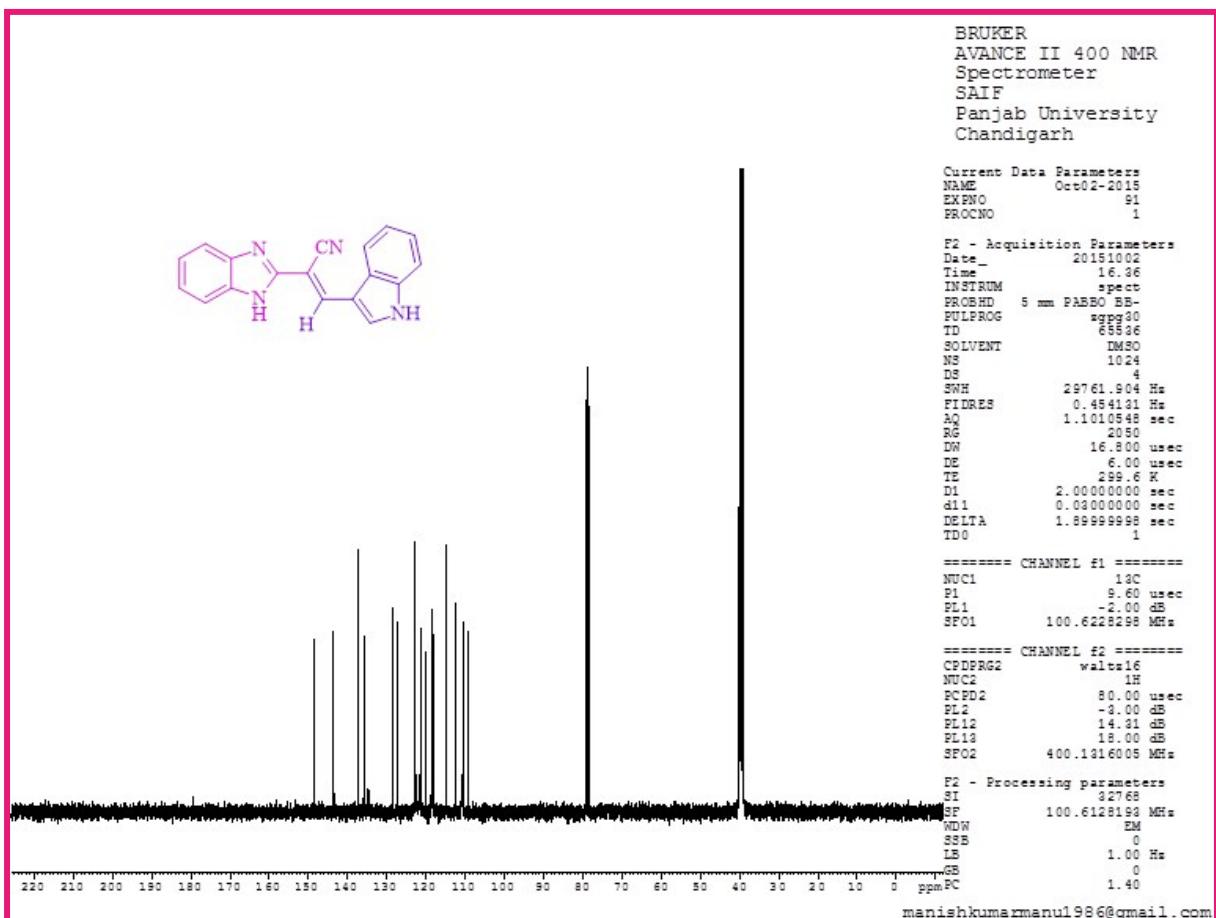
**Fig. S8**  $^1\text{H}$  NMR spectrum of compound **3e**



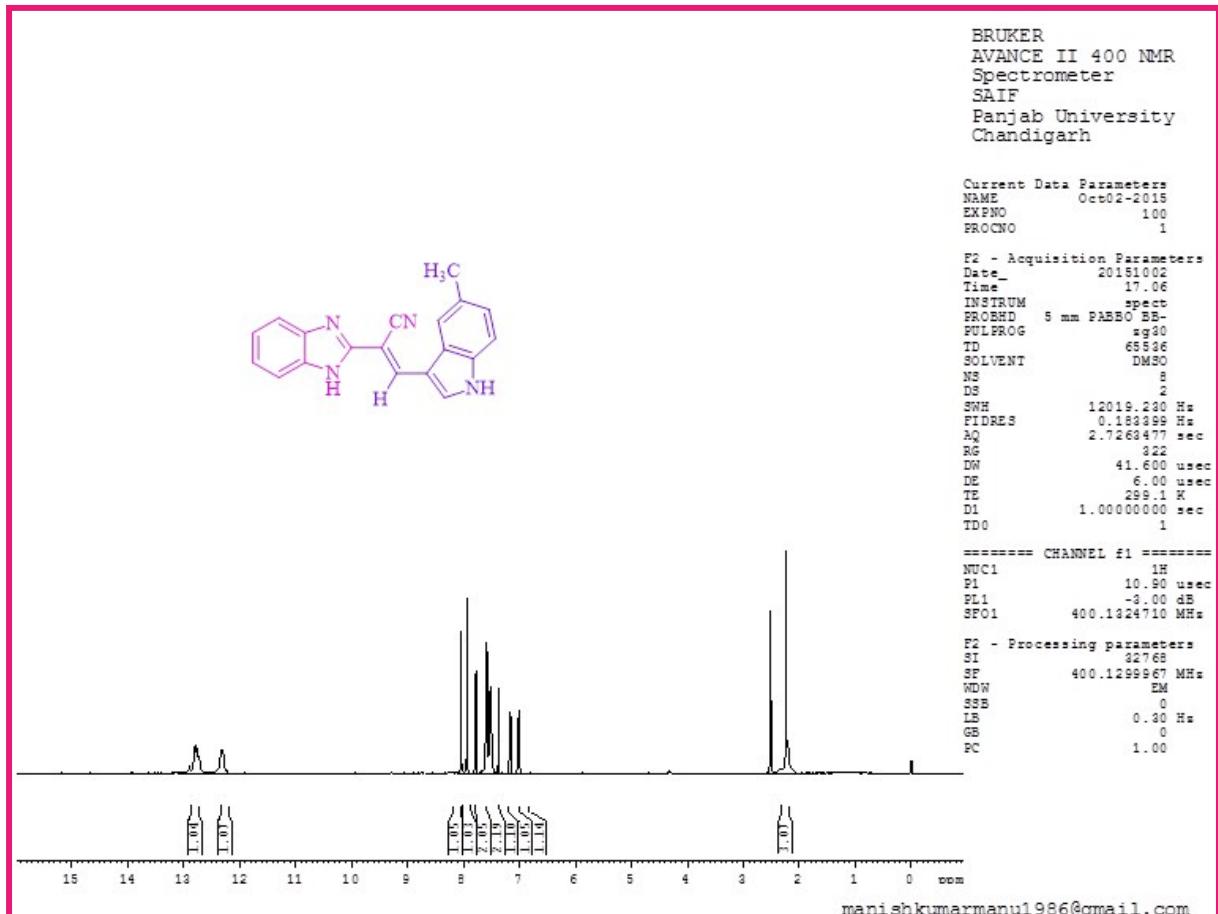
**Fig. S9**  $^{13}\text{C}$  NMR spectrum of compound **3e**



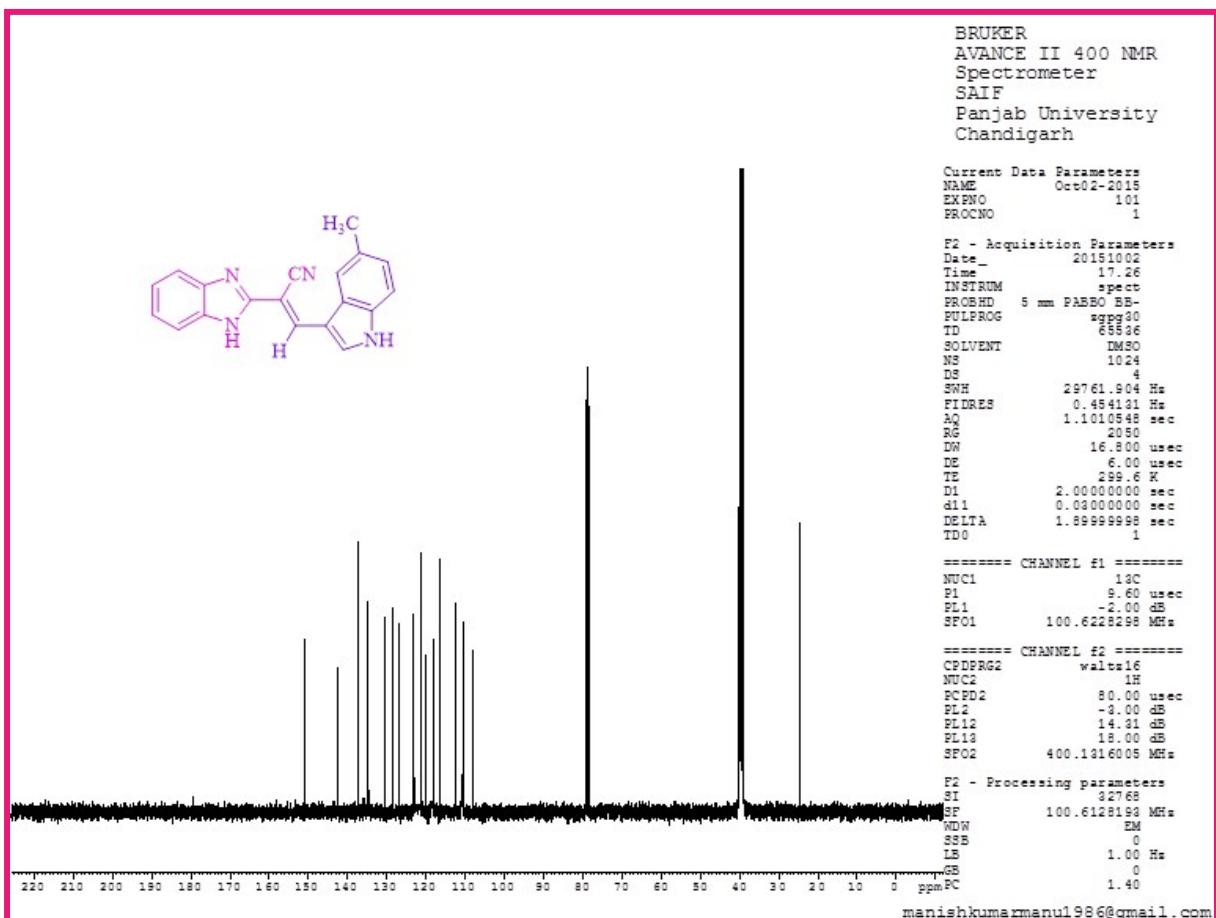
**Fig. S10**  $^1\text{H}$  NMR spectrum of compound **3g**



**Fig. S11**  $^{13}\text{C}$  NMR spectrum of compound 3g



**Fig. S12**  $^1\text{H}$  NMR spectrum of compound **3i**



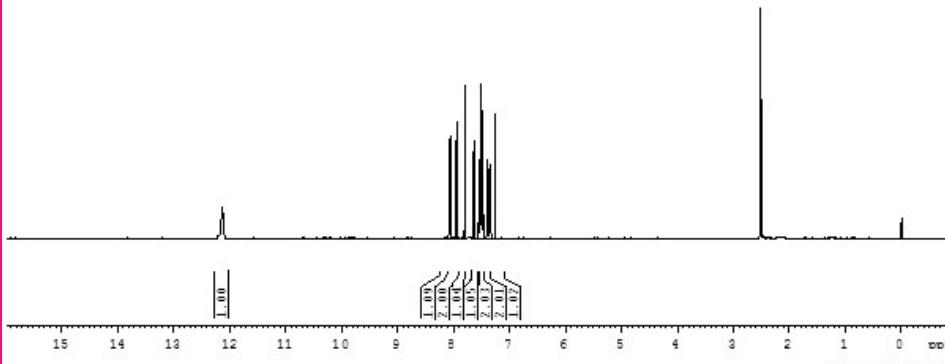
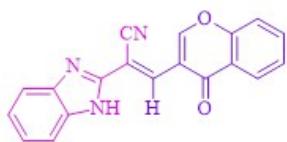
**Fig. S13**  $^{13}\text{C}$  NMR spectrum of compound **3i**

BRUKER  
AVANCE II 400 NMR  
Spectrometer  
SAIF  
Panjab University  
Chandigarh

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PROCNO 1  
  
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PULPROG zg30  
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DS 2  
SWH 12019.230 Hz  
FIDRES 0.183399 Hz  
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DE 6.00 usec  
TE 298.9 K  
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TDO 1

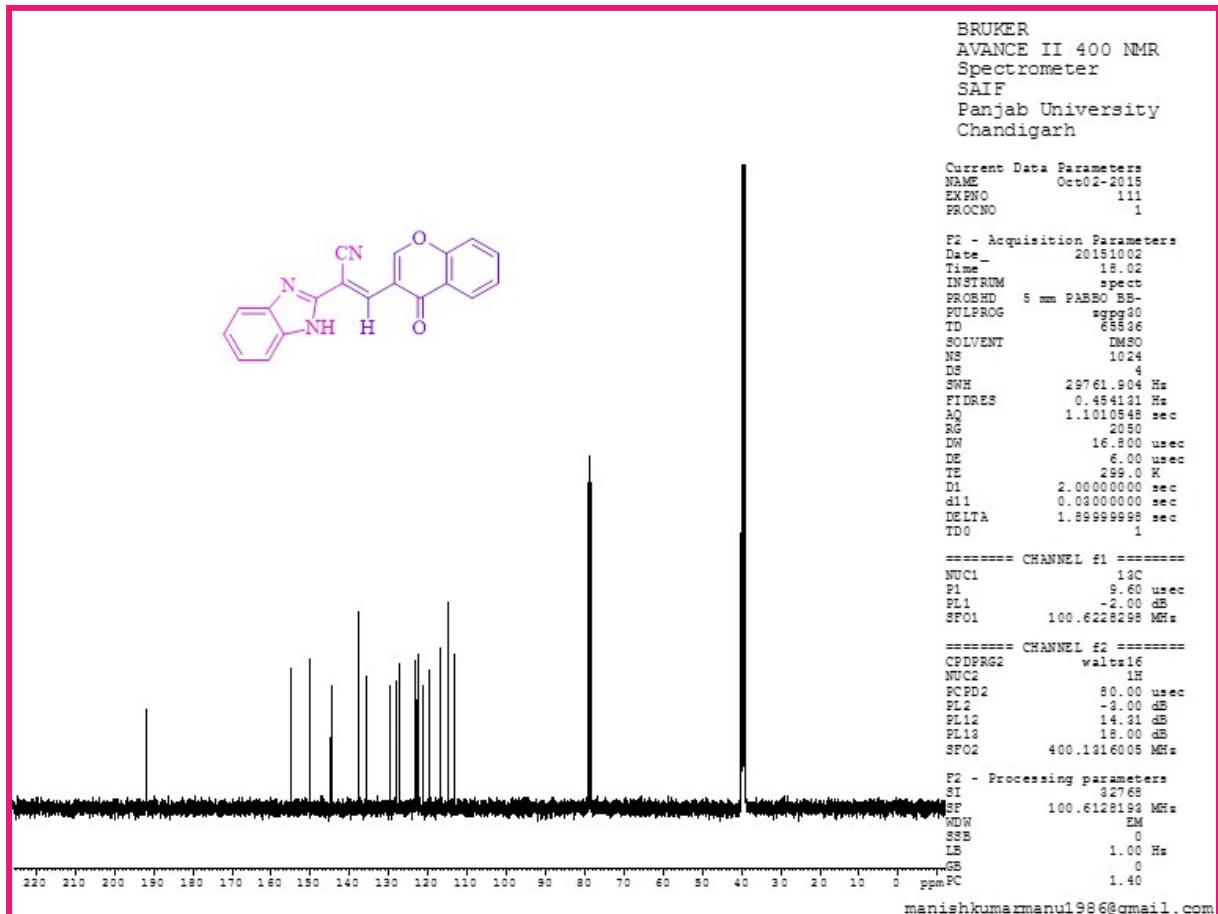
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P2 - Processing parameters  
SI 32768  
SF 400.12299977 MHz  
WDW EM  
SSB 0  
LB 0.20 Hz  
GB 0  
PC 1.00



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**Fig. S14**  $^1\text{H}$  NMR spectrum of compound 3j



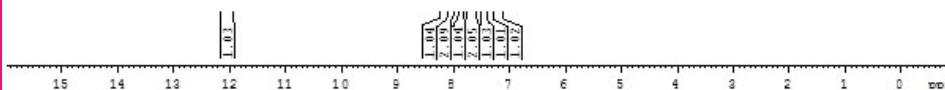
**Fig. S15**  $^{13}\text{C}$  NMR spectrum of compound 3j

BRUKER  
AVANCE II 400 NMR  
Spectrometer  
SAIF  
Panjab University  
Chandigarh

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FIDRES 0.183399 Hz  
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TE 298.9 K  
D1 1.0000000 sec  
TDO 1

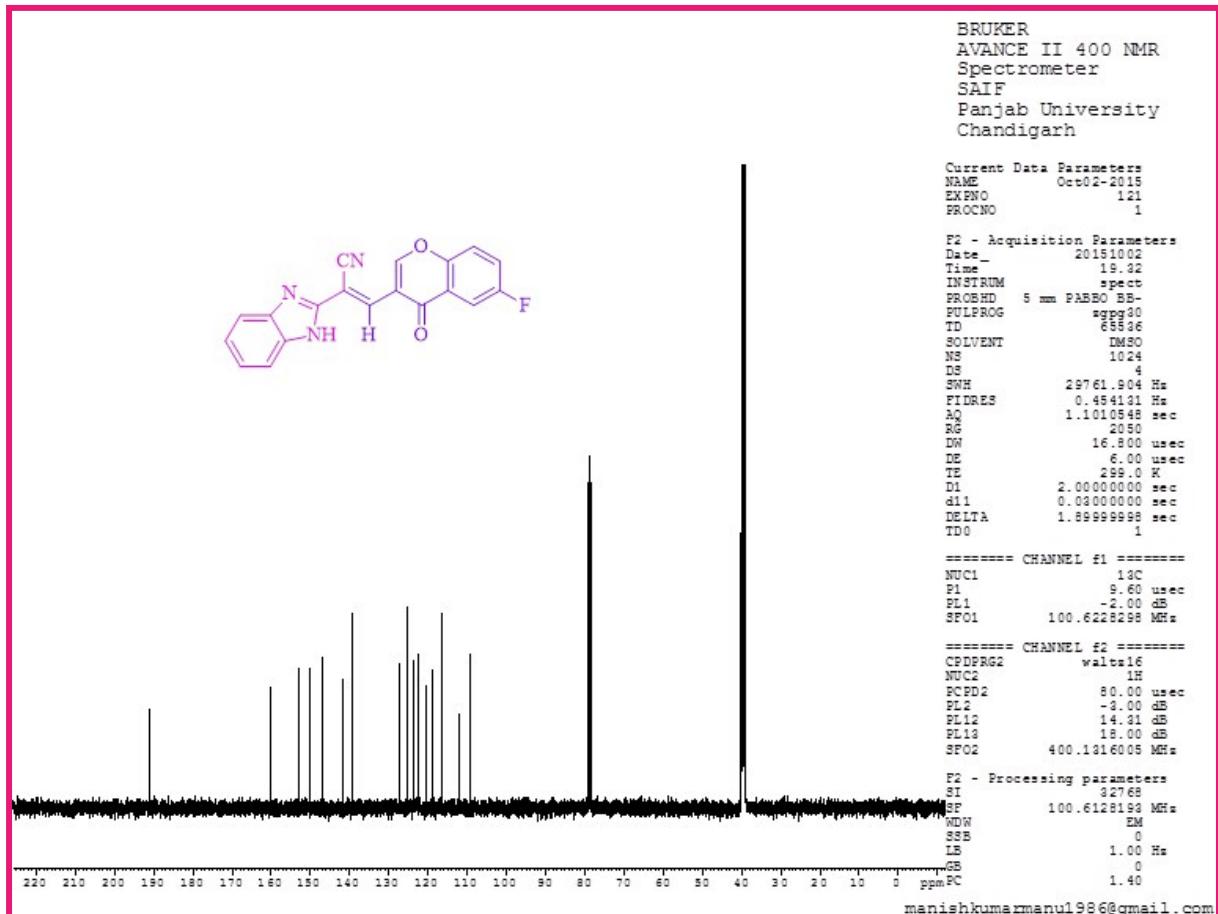
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P2 - Processing parameters  
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SF 400.1224717 MHz  
WDW EM  
SSB 0  
LB 0.20 Hz  
GB 0  
PC 1.00



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**Fig. S16**  $^1\text{H}$  NMR spectrum of compound 3l



**Fig. S17**  $^{13}\text{C}$  NMR spectrum of compound **3I**