

## Supplementary Information

# Sonication-responsive organogelation of a tripodal peptide and optical properties of embedded Tm<sup>3+</sup> nanoclusters †

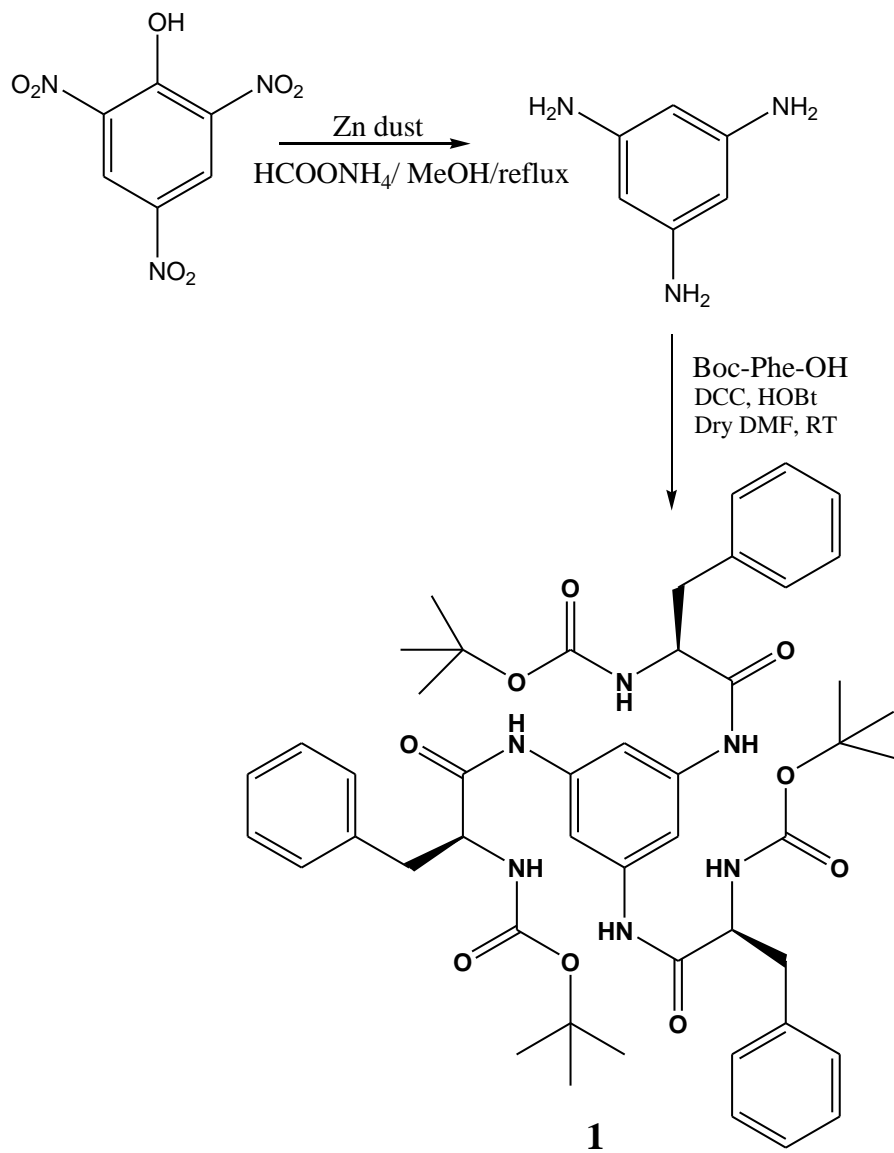
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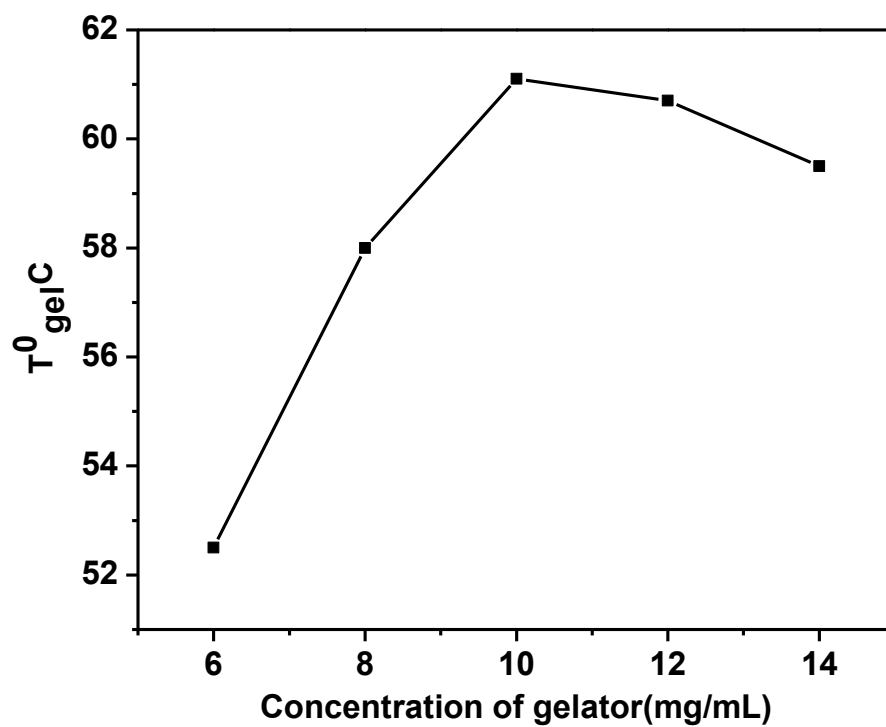
E-mail: [deba\\_h76@yahoo.com](mailto:deba_h76@yahoo.com); [deba\\_h76@iiserkol.ac.in](mailto:deba_h76@iiserkol.ac.in) and [mvenkat@iiserkol.ac.in](mailto:mvenkat@iiserkol.ac.in)

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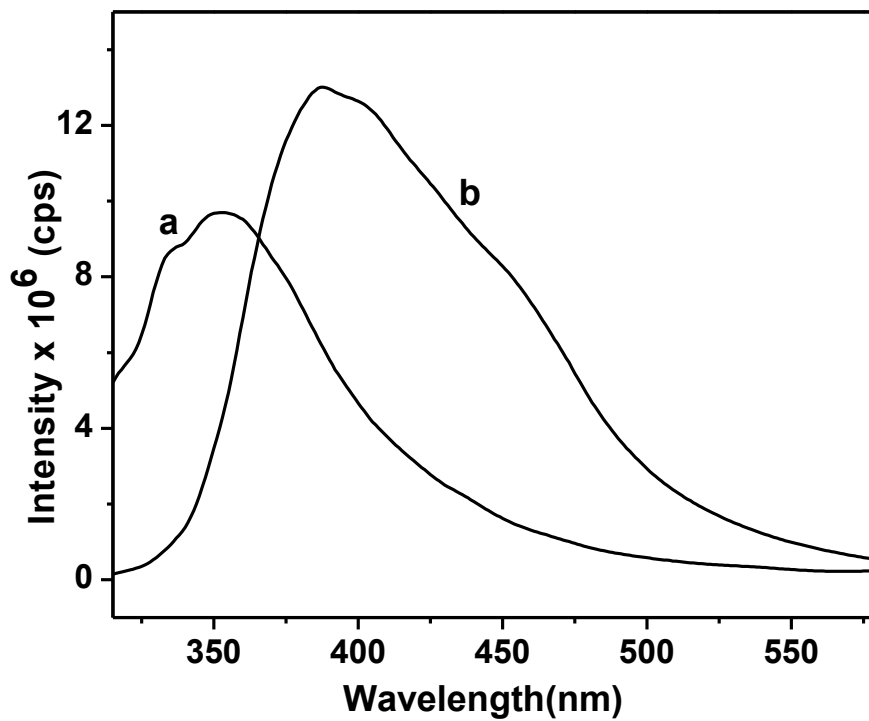
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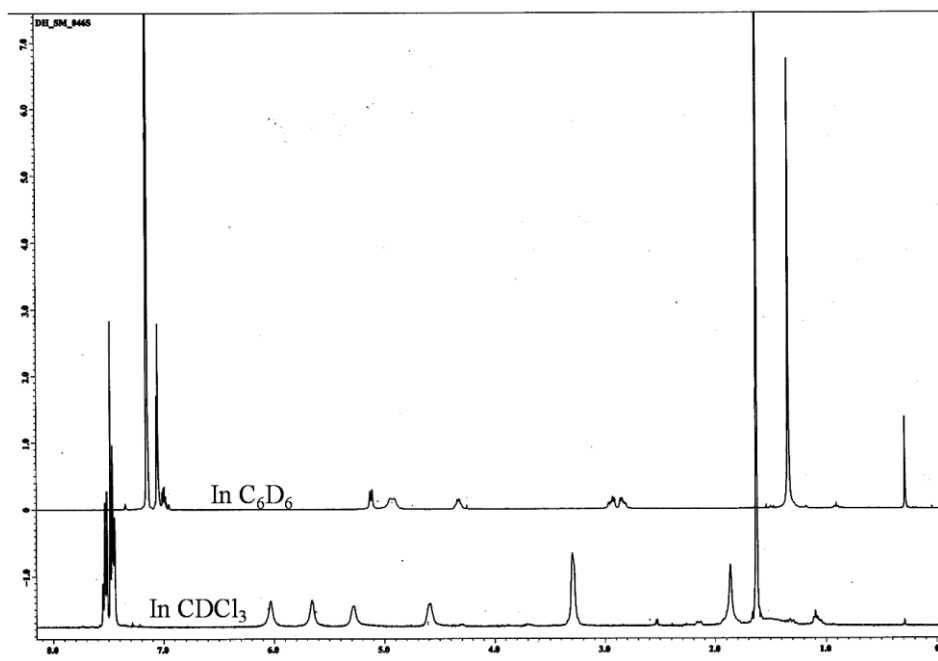
**ESI Fig. S1** Schematic representation of synthesis of peptide 1



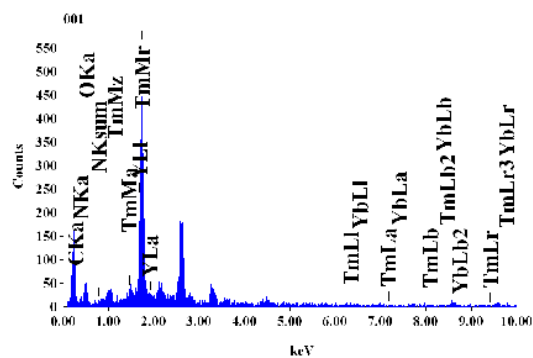
**ESI Fig. S2**  $T_{gel}$  curve of peptide 1 gelator in toluene.



**ESI Fig. S3** The emission spectra of peptide **1** in solution state (a) and in gel state (b) obtained by sonication at concentration 10 mg/mL.

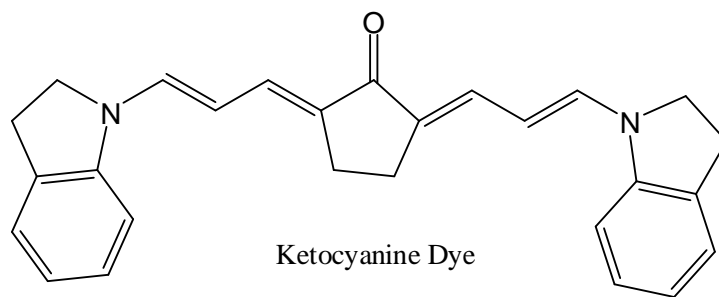


**ESI Fig. S4** <sup>1</sup>H-NMR (400 MHz) spectra of peptide **1** in two different solvents ( 3mg/mL).

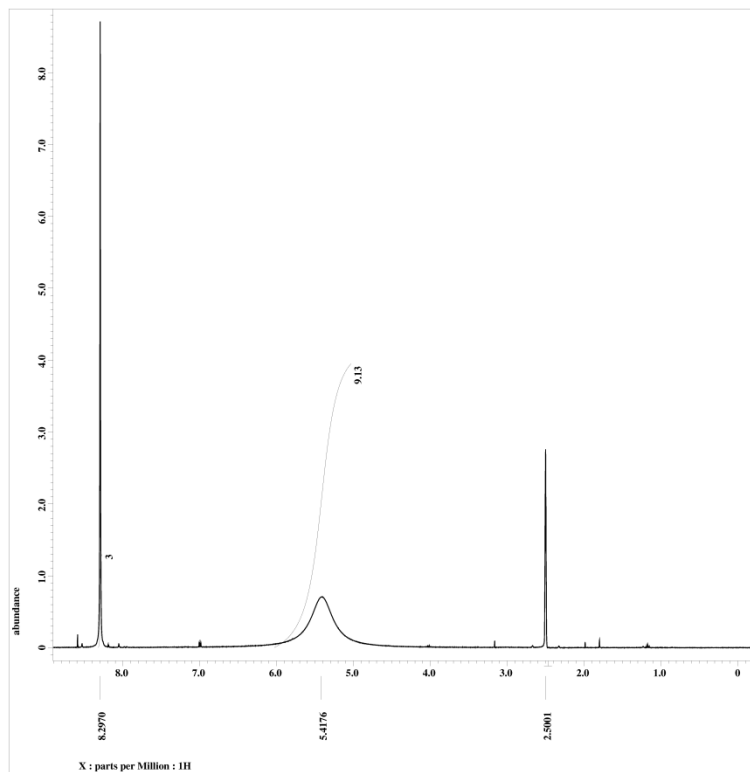
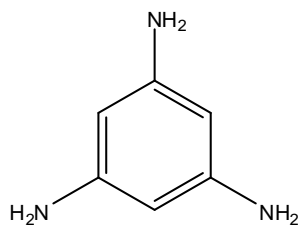


Ele...	Cl...	{keV}	mass%	Error%	At%
C	K	0.277	21.69	3.31	45.85
N	K	0.392	3.08	10.57	5.58
O	K	0.525	22.27	5.35	35.34
F	K	0.677	1.77	3.99	2.36
Y	L	1.922	24.12	4.31	6.89
Tm	L				
Yb	M	1.521	27.07	5.62	3.97
Total			100.00		100.00

ESI Fig. S5 EDS study of nanocrystal and Ketocyanine in peptide **1** xerogel matrix.



ESI Fig. S6 Chemical structure of ketocyanine dye.



**Fig. 1**  $^1\text{H}$  NMR (DMSO- $d_6$ , 400MHz,  $\delta_{\text{ppm}}$ ) of 1,3,5-triaminobenzene.

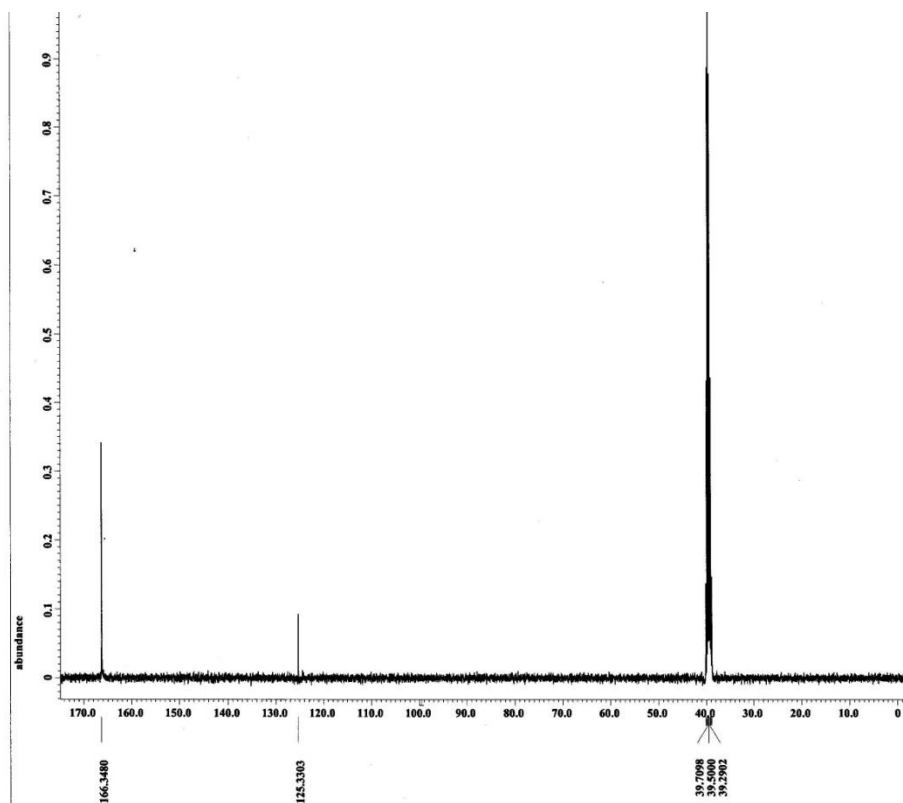


Fig. 2  $^{13}\text{C}$  NMR (DMSO- $d_6$ , 100MHz,  $\delta_{\text{ppm}}$ ) of 1,3,5-triaminobenzene.

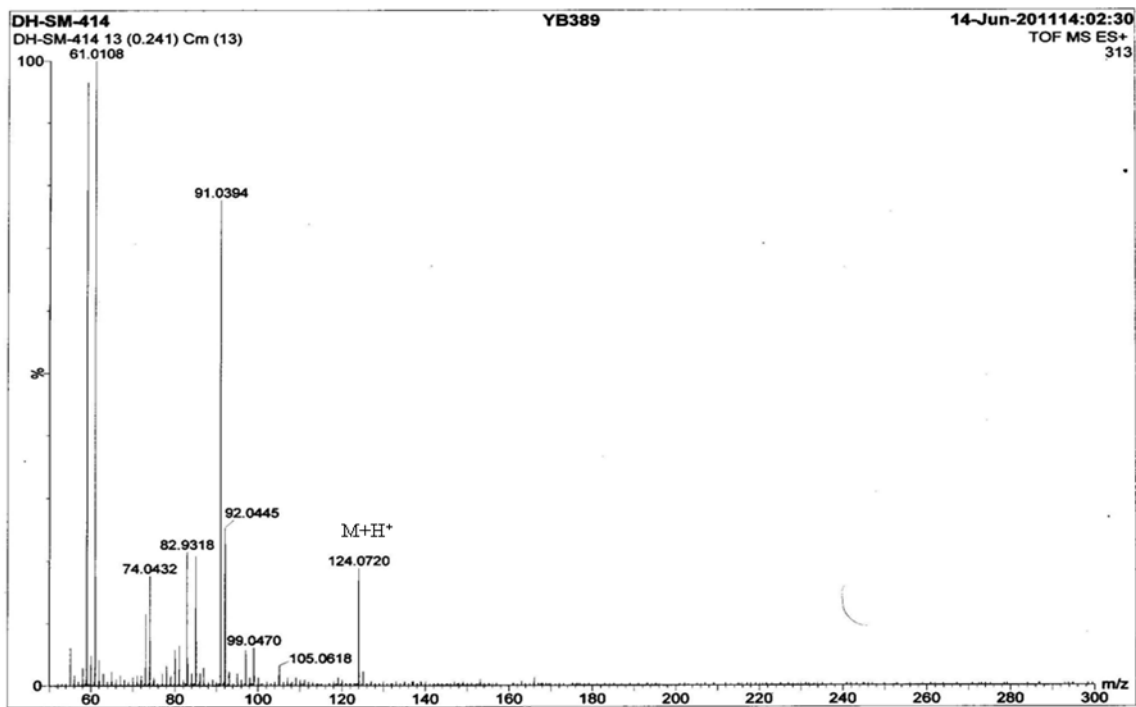
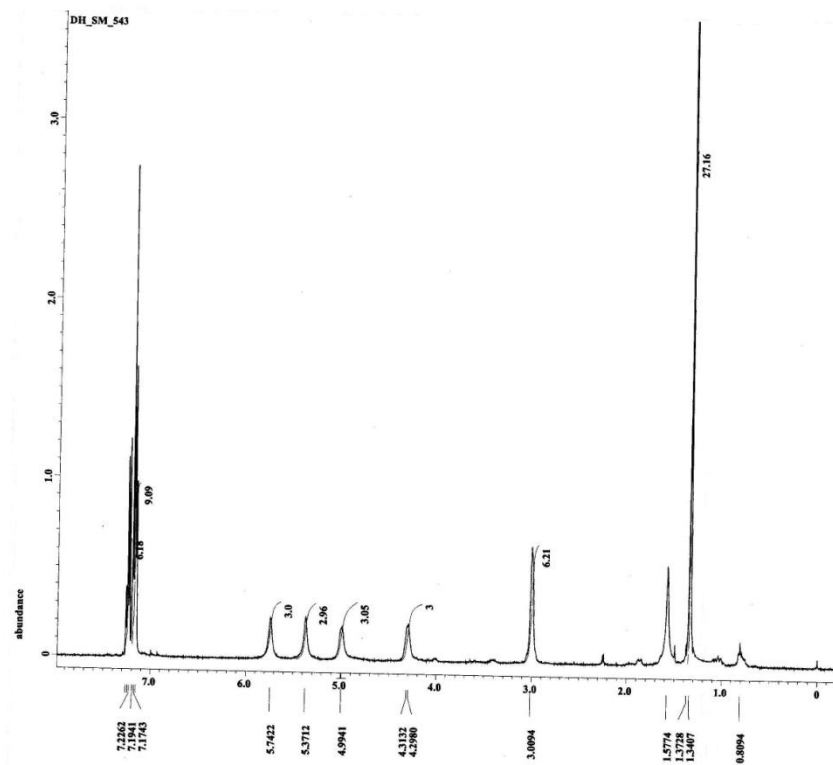
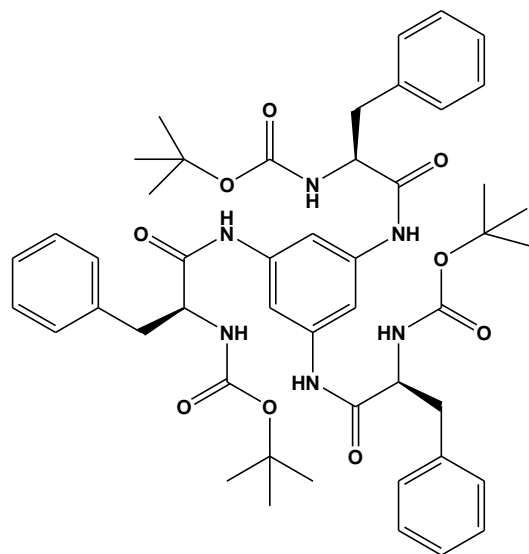


Fig. 3 Mass spectra of 1,3,5-triaminobenzene.





**Fig. 4** <sup>1</sup>H NMR (CDCl<sub>3</sub>, 400MHz, δ<sub>ppm</sub>) of peptide **1**.

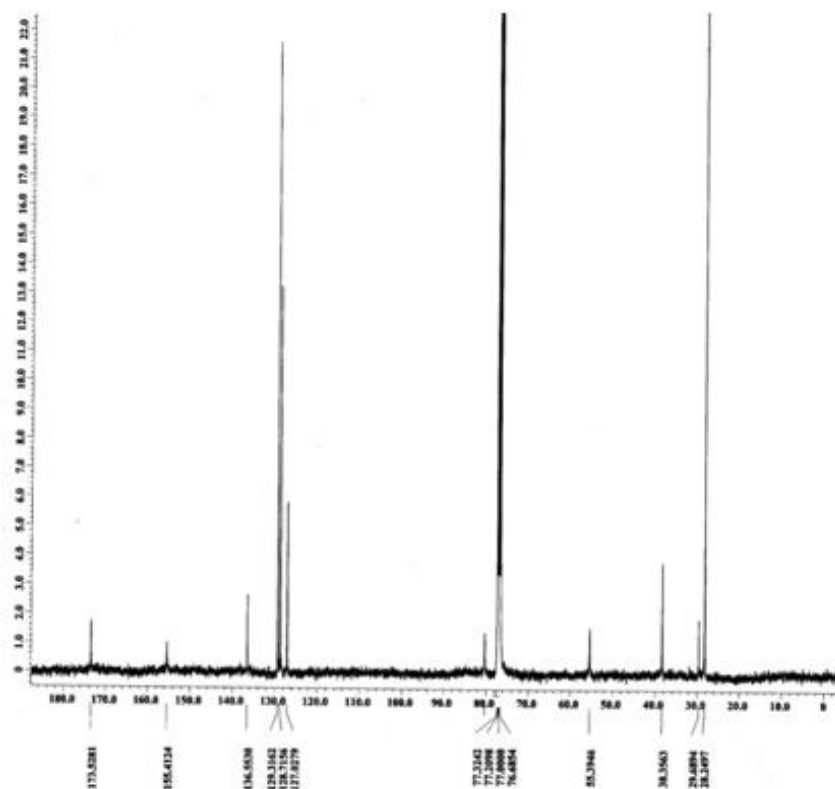


Fig. 5  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 100MHz,  $\delta_{\text{ppm}}$ ) of peptide 1.

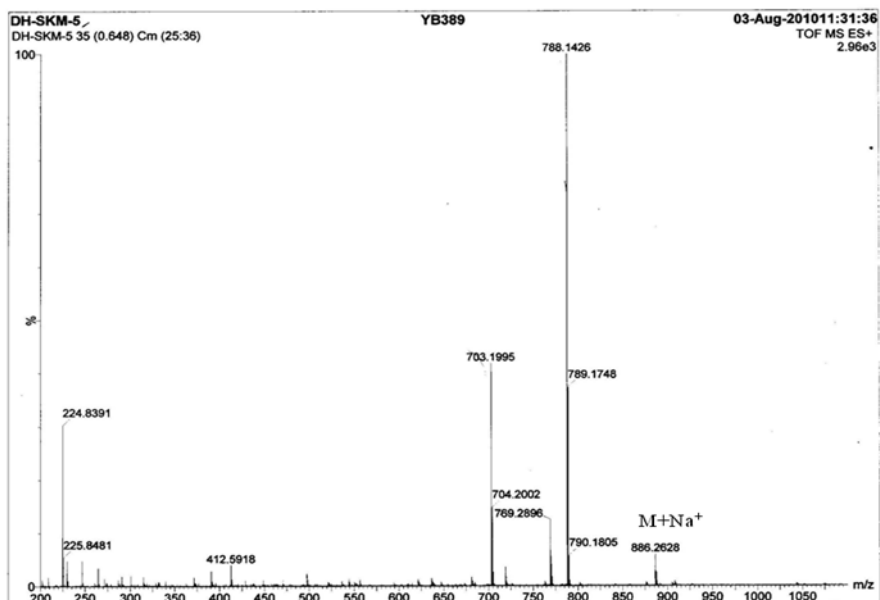
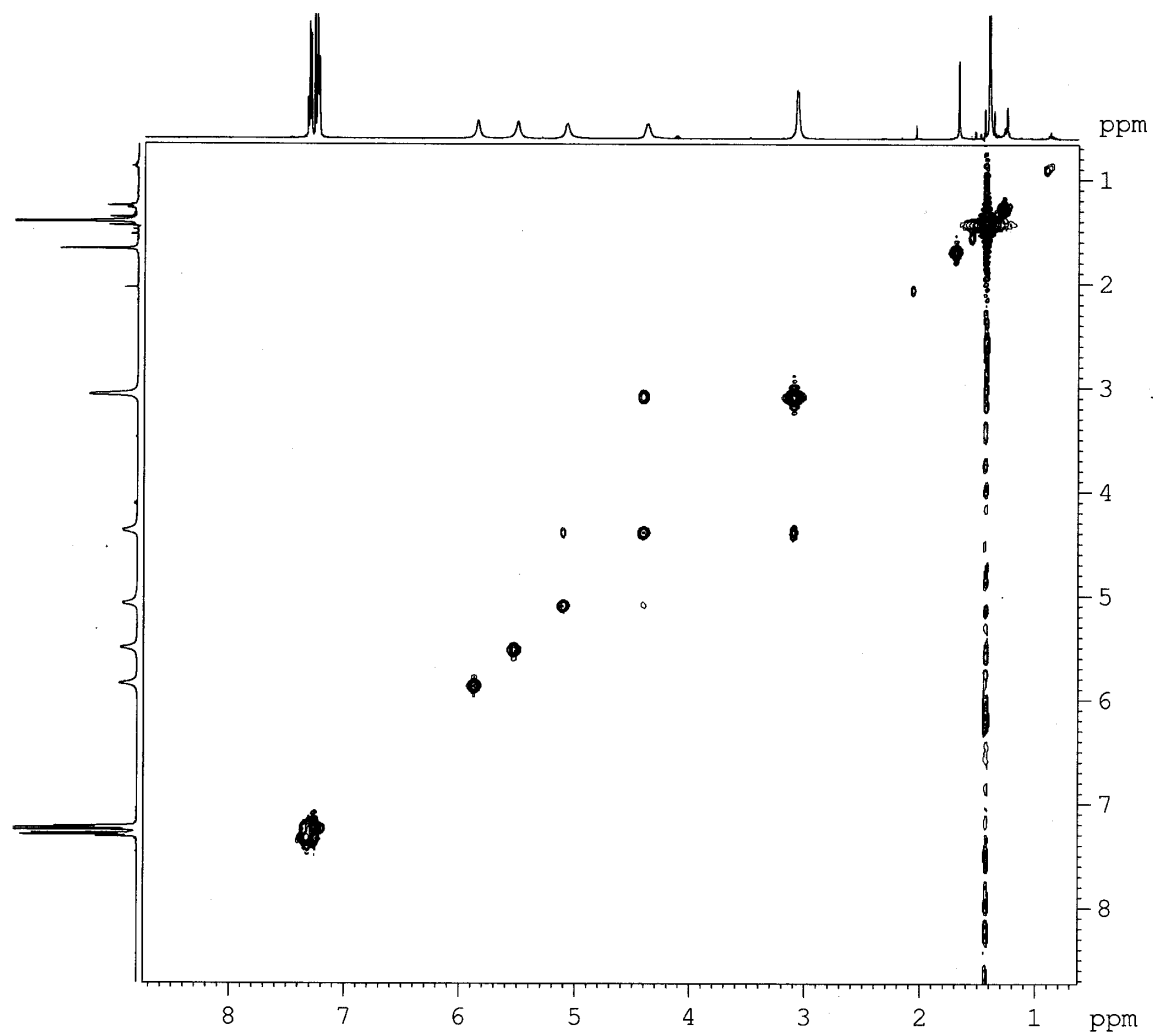


Fig. 6 Mass spectra of Peptide 1.



**Fig. 7** COSY spectra of peptide **1**.