Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supramolecular Birefringent Metallogels formed by Trinuclear Copper(II) complexes with myo-inositol and bipyridyl ligands

Aditya A. Puranik, Priyanka S. Salunke, Neelima D. Kulkarni*

*Department of Chemistry, Faculty of Science,

The Maharaja Sayajirao, University of Baroda, Vadodara, 390002 Gujarat, India.

E-mail: nk_msu@yahoo.co.in, ndkulkarni-chem@msubaroda.ac.in ; Tel: +91(265)2795552

Supplementary Information

a) ^{1}H NMR spectrum of inositol

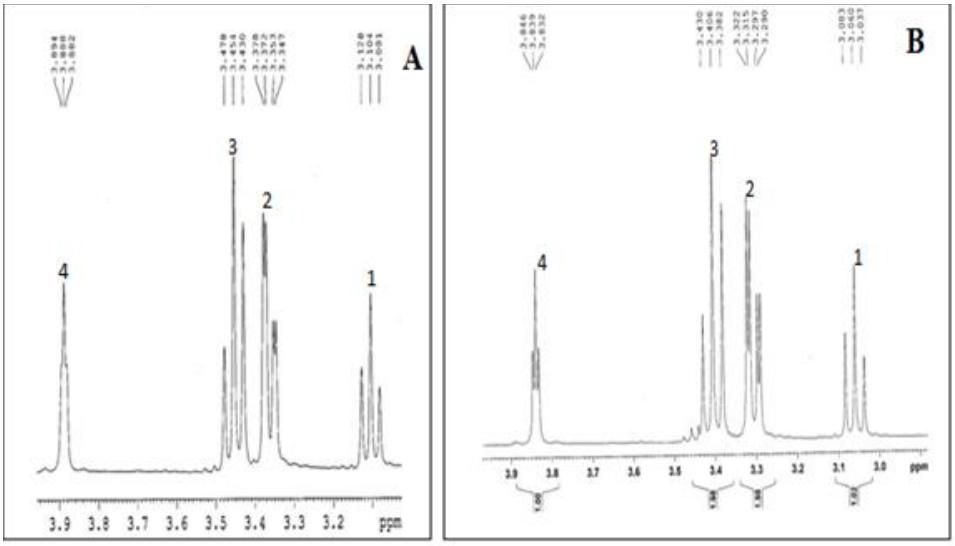

Figure S1: Figure 3. [A] ^{1}H NMR spectrum of inositol and [B] 1H NMR spectrum of insoitol+base (KOH).

b) ESI-MS of metallogels

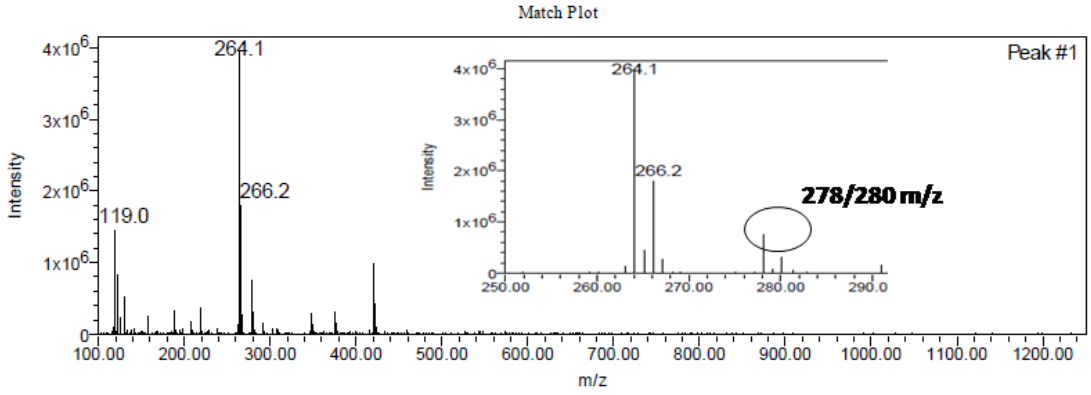

Figure S2. ESI-MS of the metallogel-111.

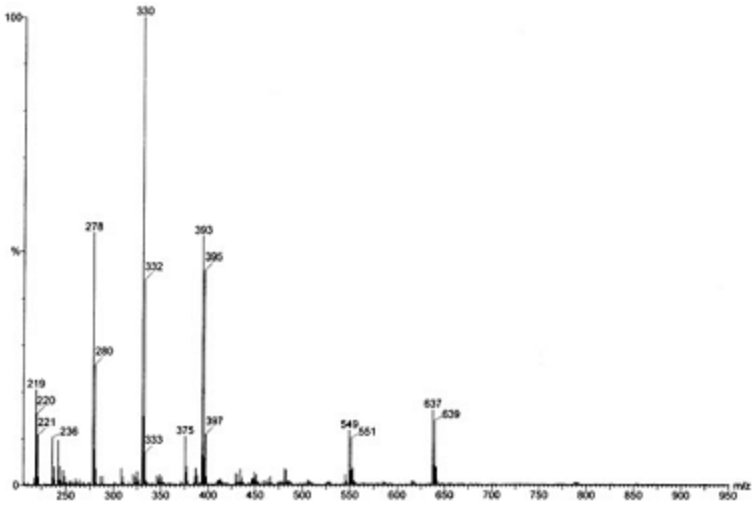

Figure S3. ESI-MS of the metallogel-112.

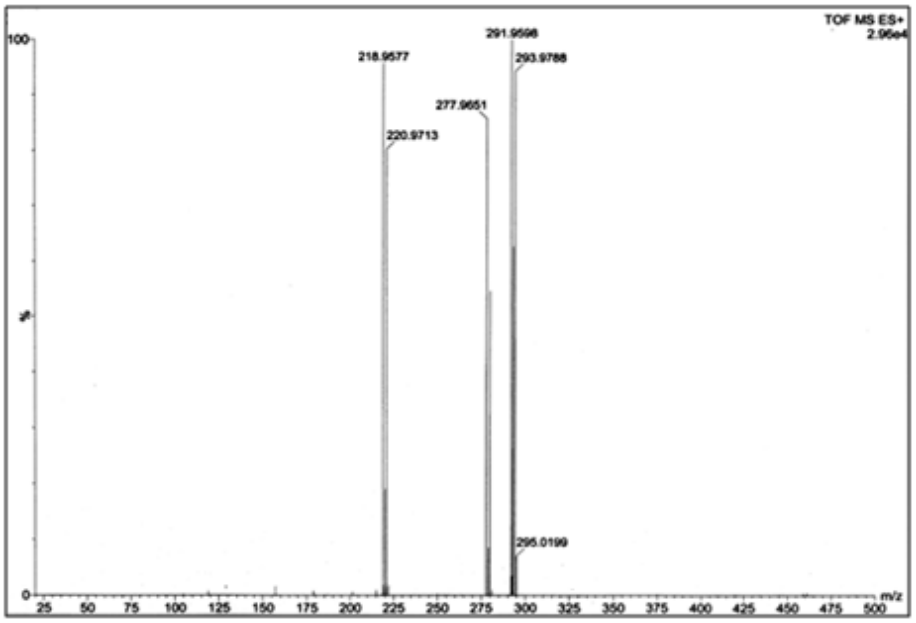

Figure S4. ESI-MS of the hydrogel 113.

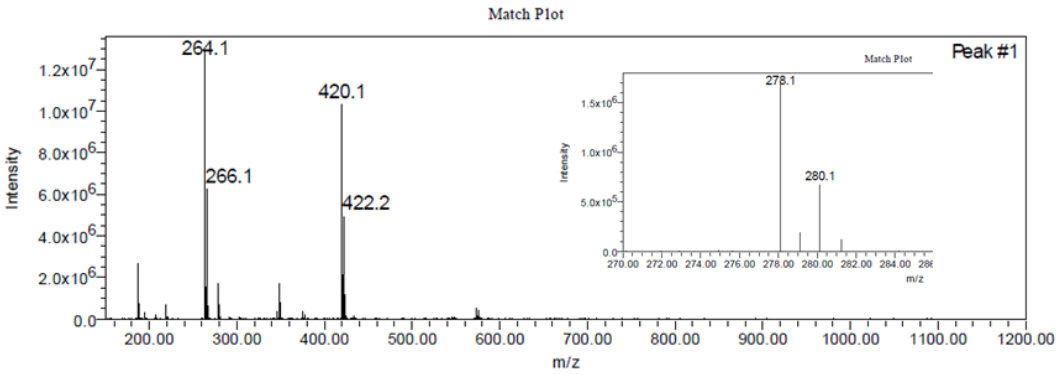

Figure S5. ESI-MS of the metallogel-121.

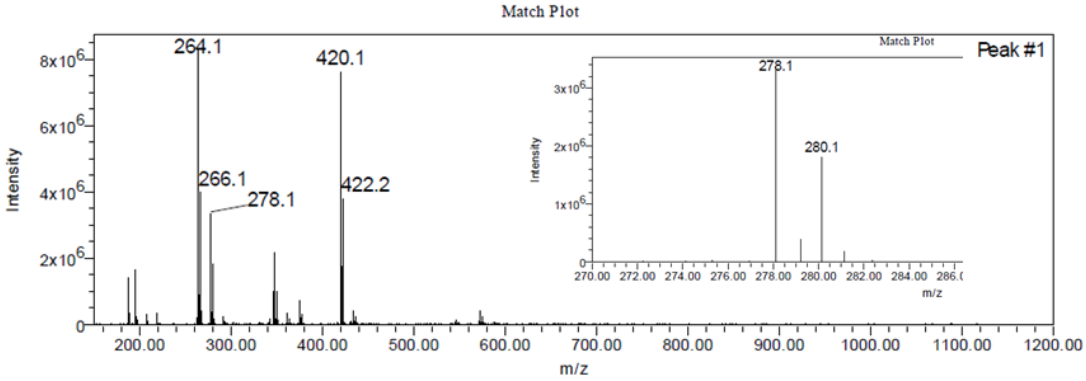

Figure S6. ESI-MS of the metallogel-122.

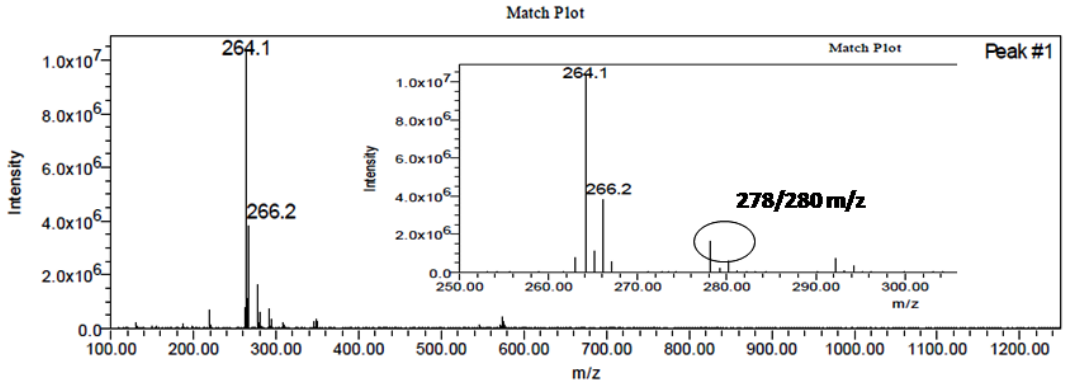

Figure S7. ESI-MS of the metallogel-123.

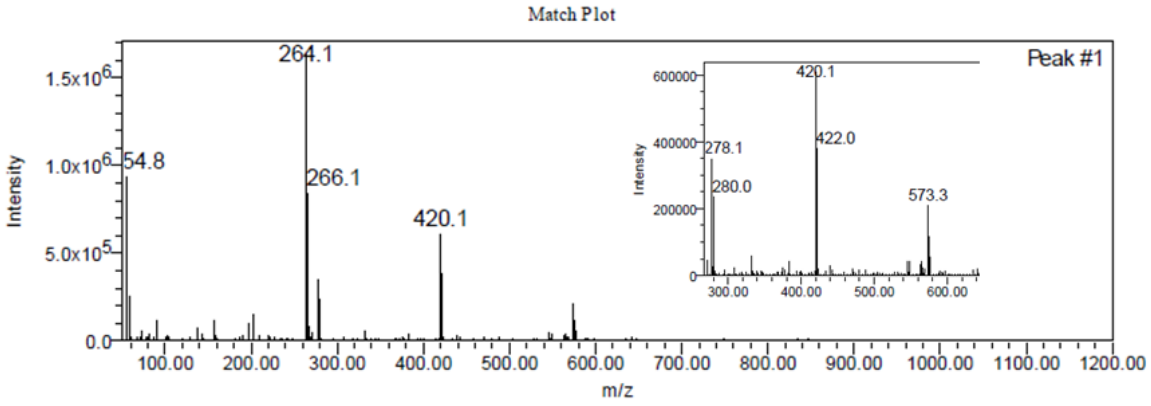

Figure S8. ESI-MS of the metallogel-114.

c) IR analysis of Xerogels

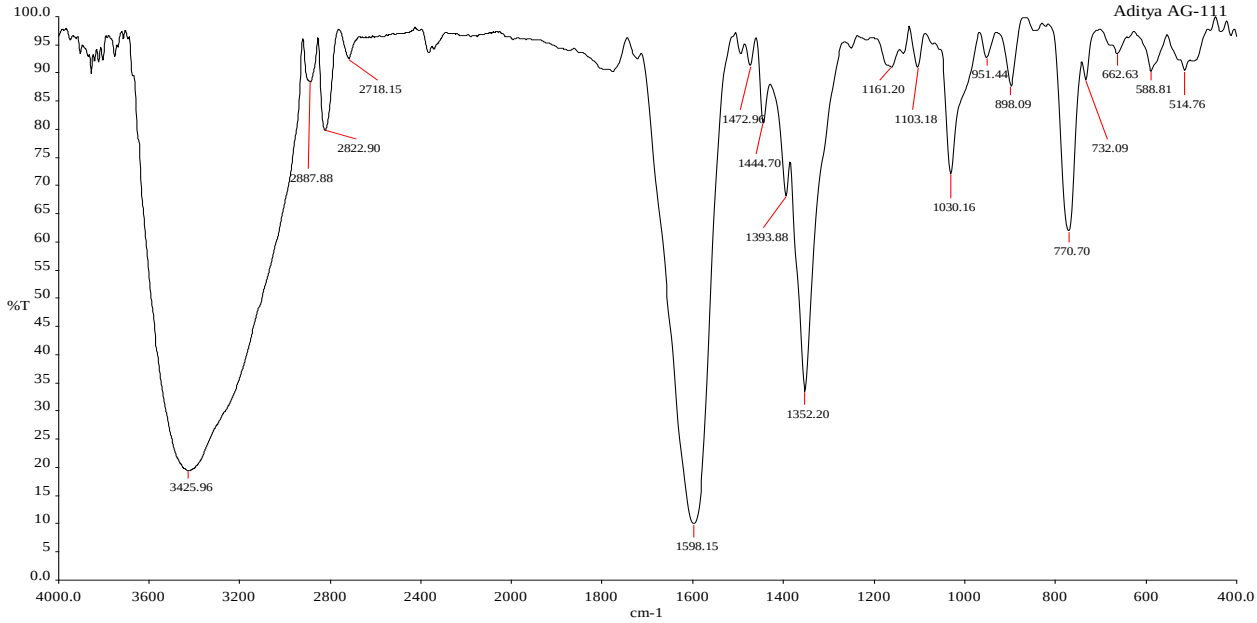

Figure S9. IR spectrum of gel **111**.

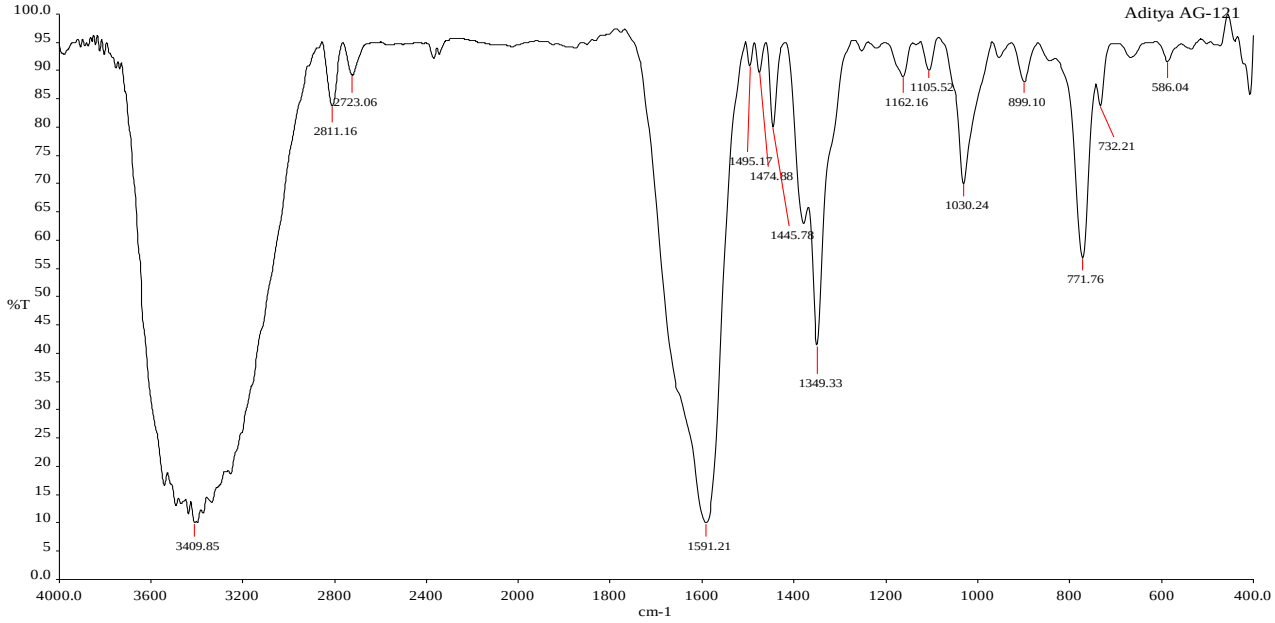

Figure S10. IR spectrum of gel **121**.

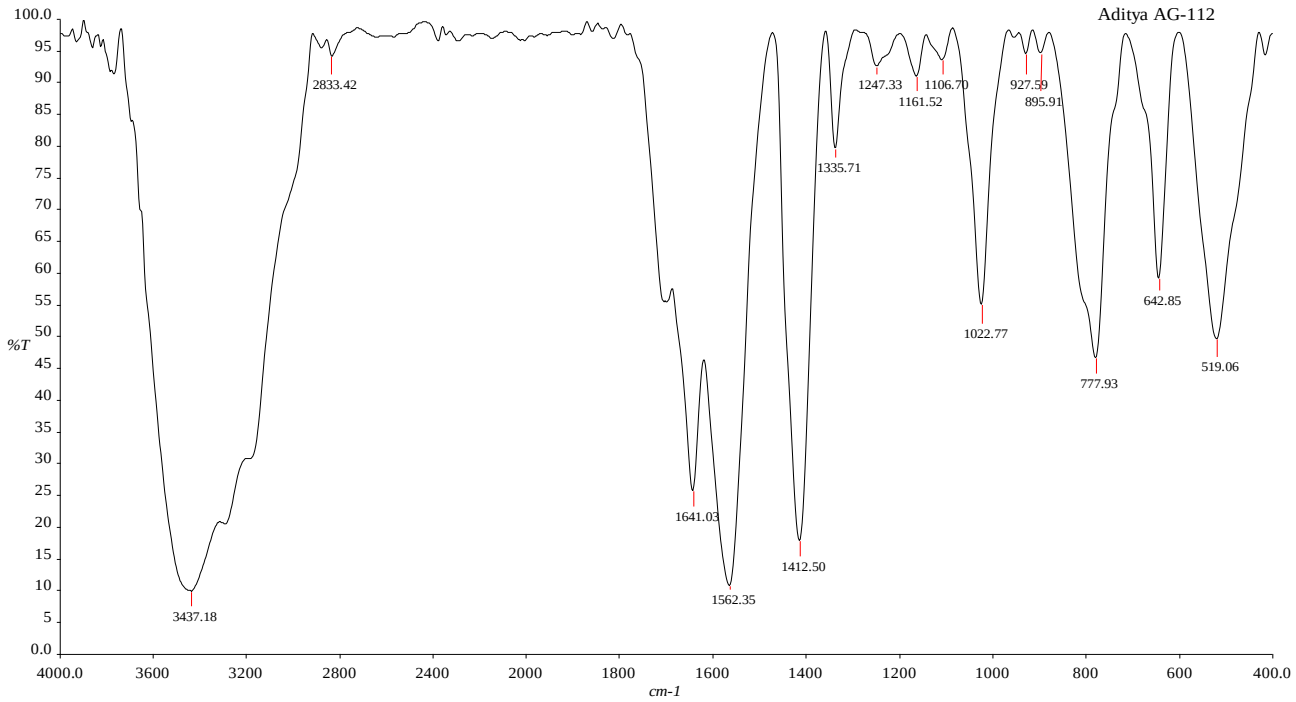

Figure S11. IR spectrum of gel **112**.

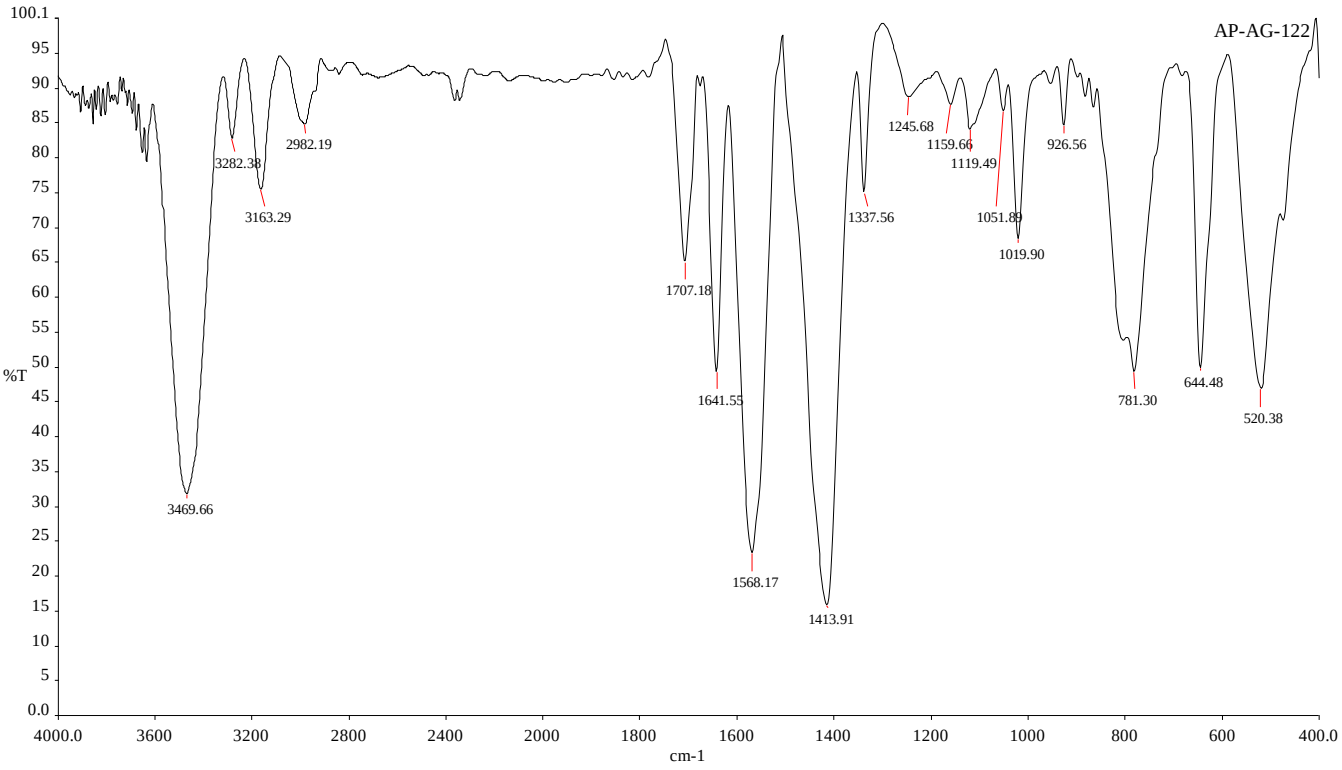

Figure S12. IR spectrum of gel **122**.

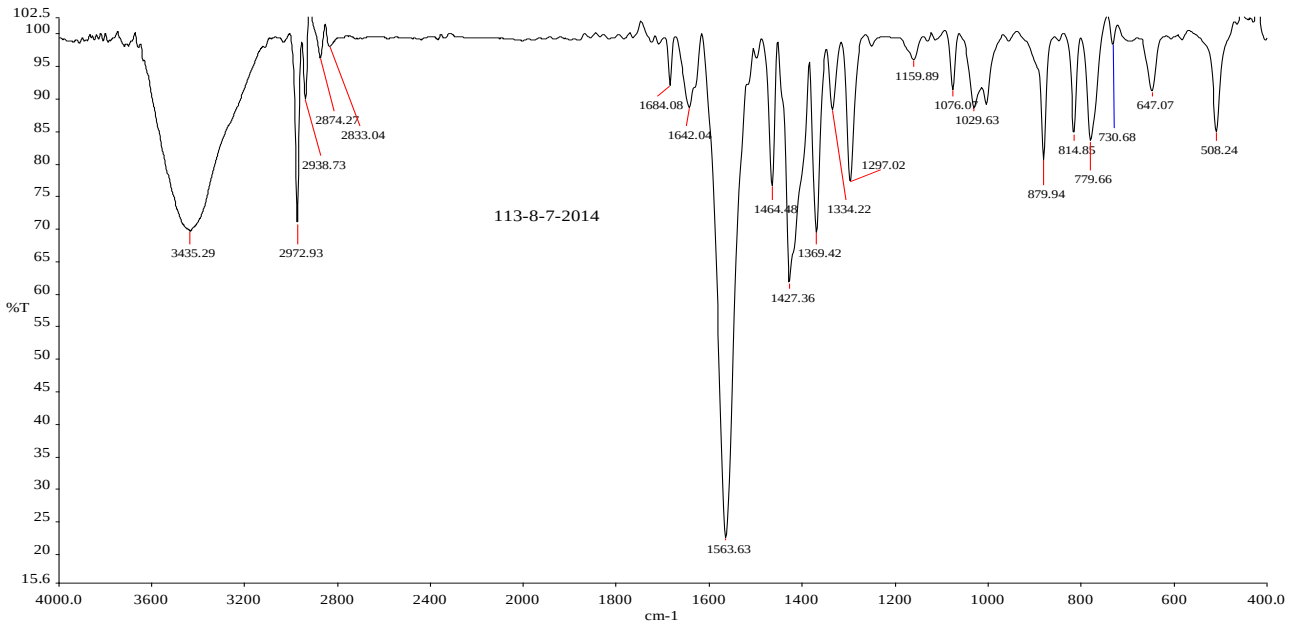

Figure S13. IR spectrum of gel **113**.

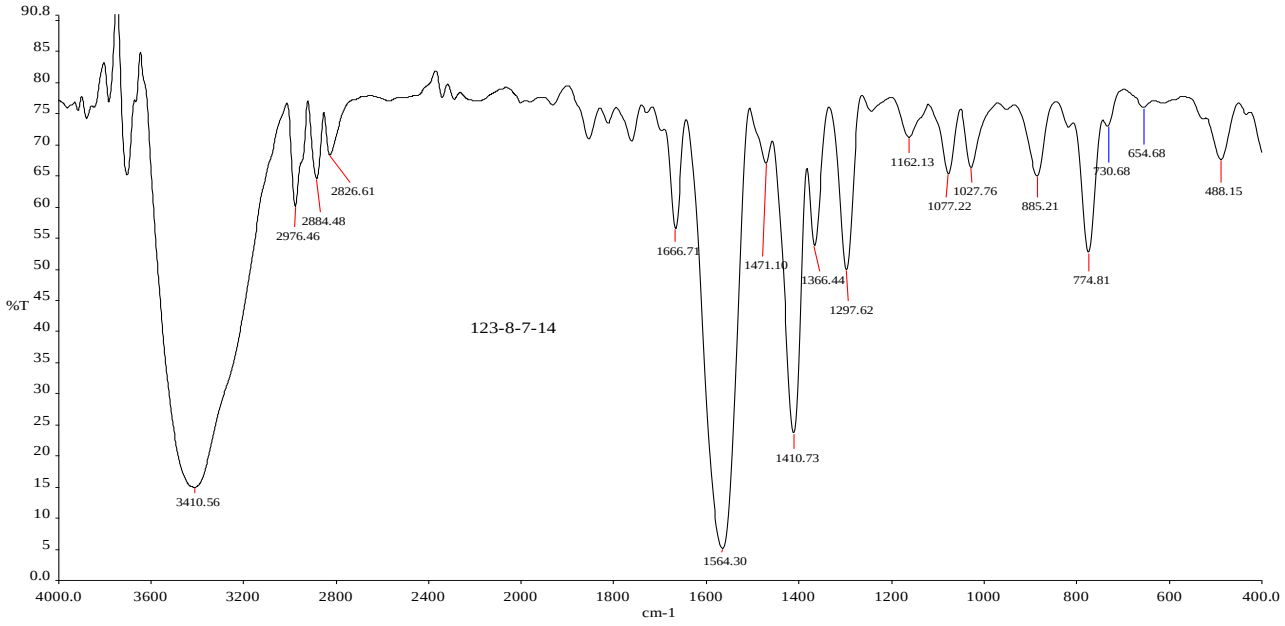

Figure S14. IR spectrum of gel **123**.

d) Thermal analysis

TG- DTA of gels

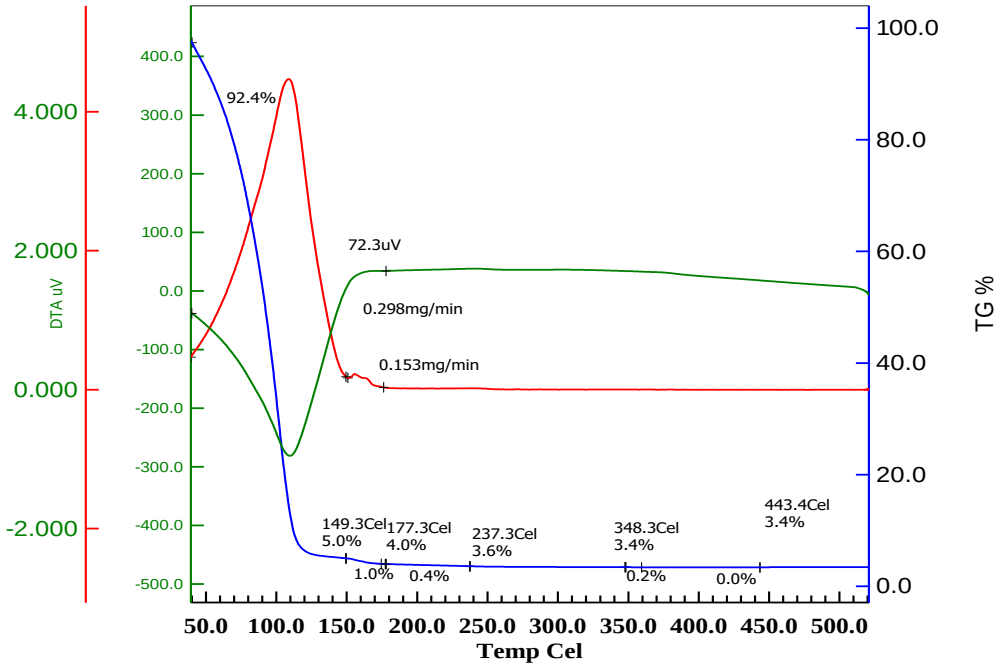

Figure S15: TG-DTA of gel 111

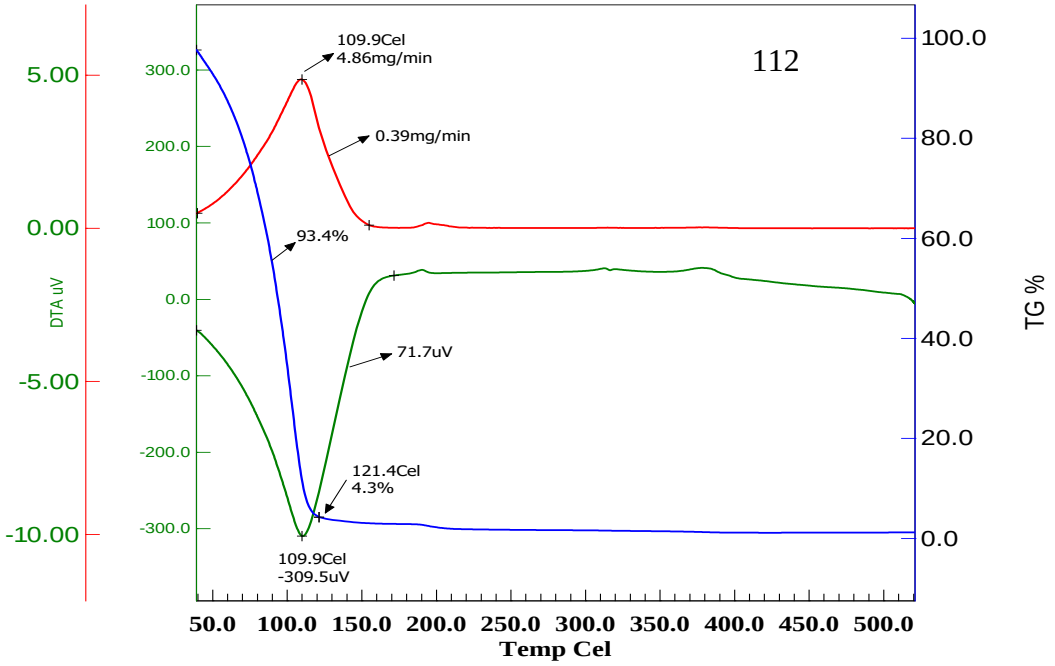

Figure S16. TG-DTA of gel **112**.

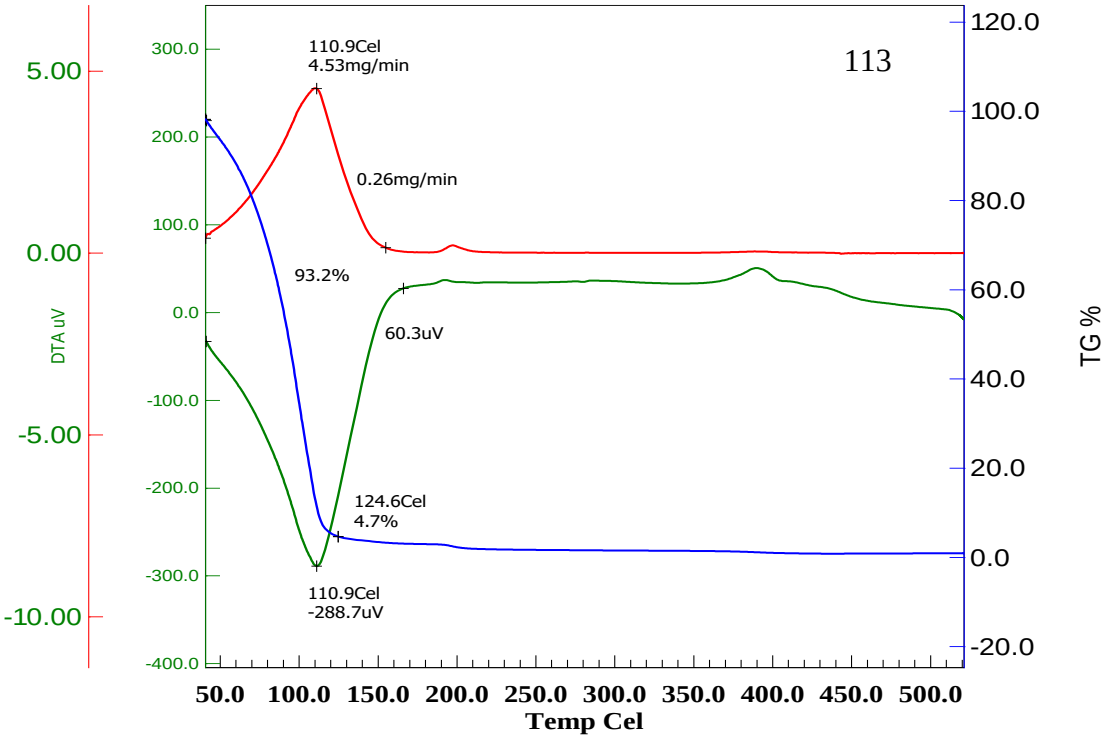

Figure S17. TG-DTA of gel **113**.

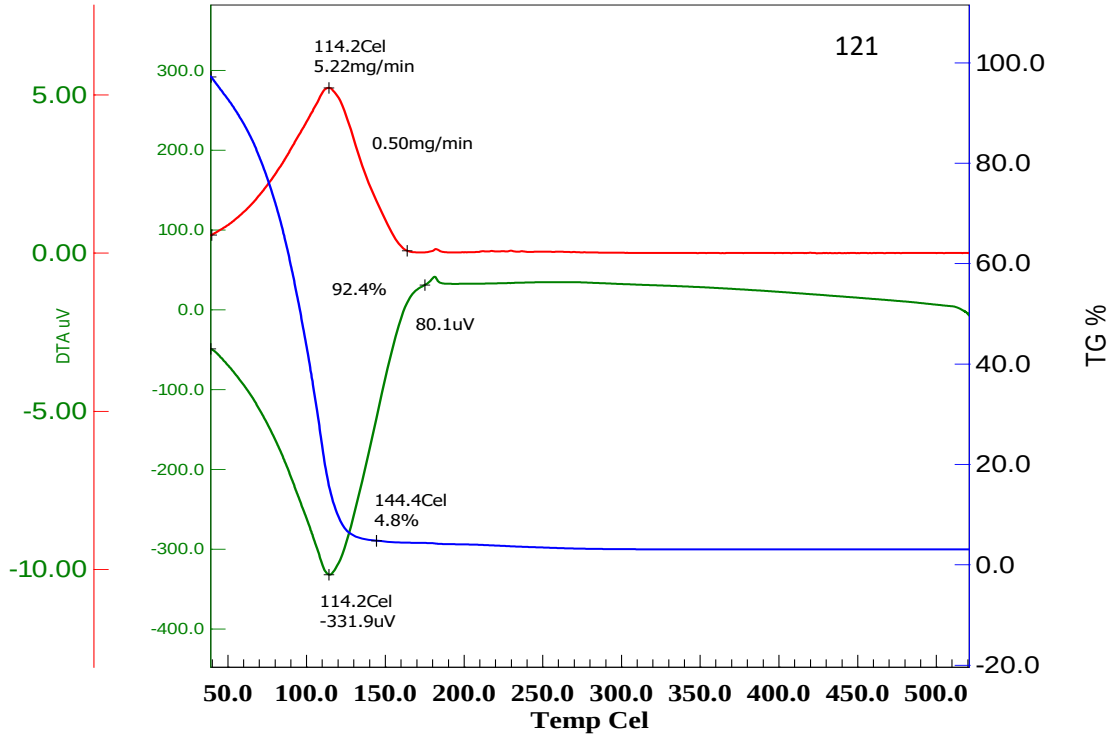

Figure S18. TG-DTA of gel **121**.

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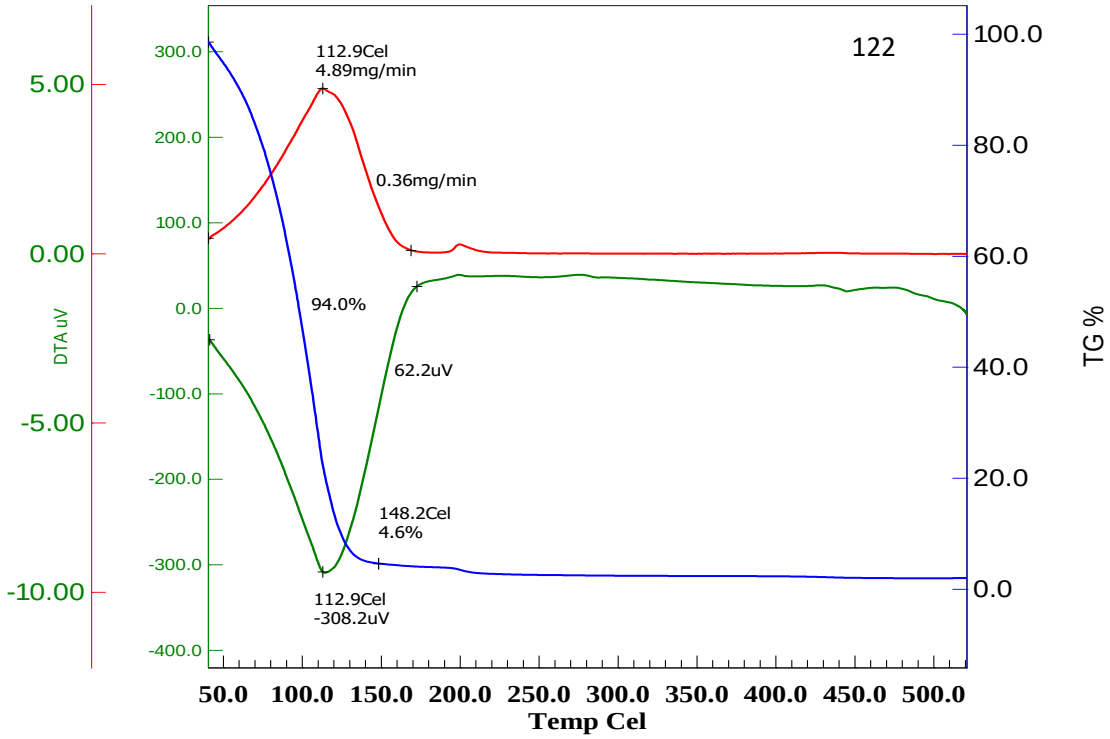

Figure S19. TG-DTA of gel **122**.

TG-DTA of xerogels

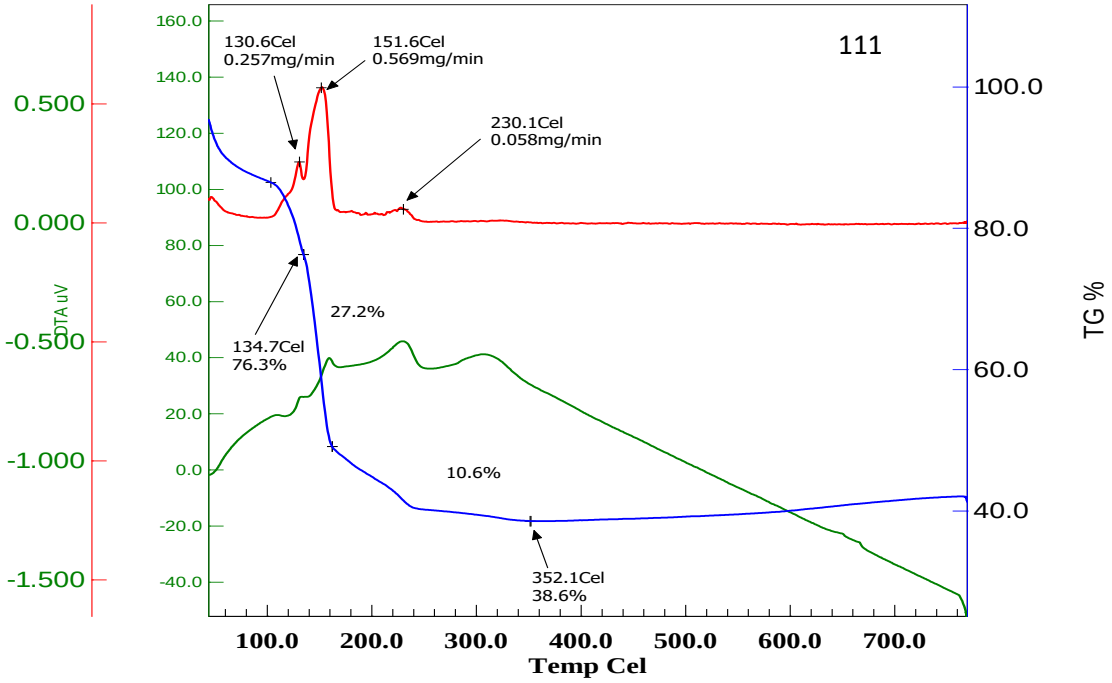

Figure S20. TG-DTA of xerogel **111**.

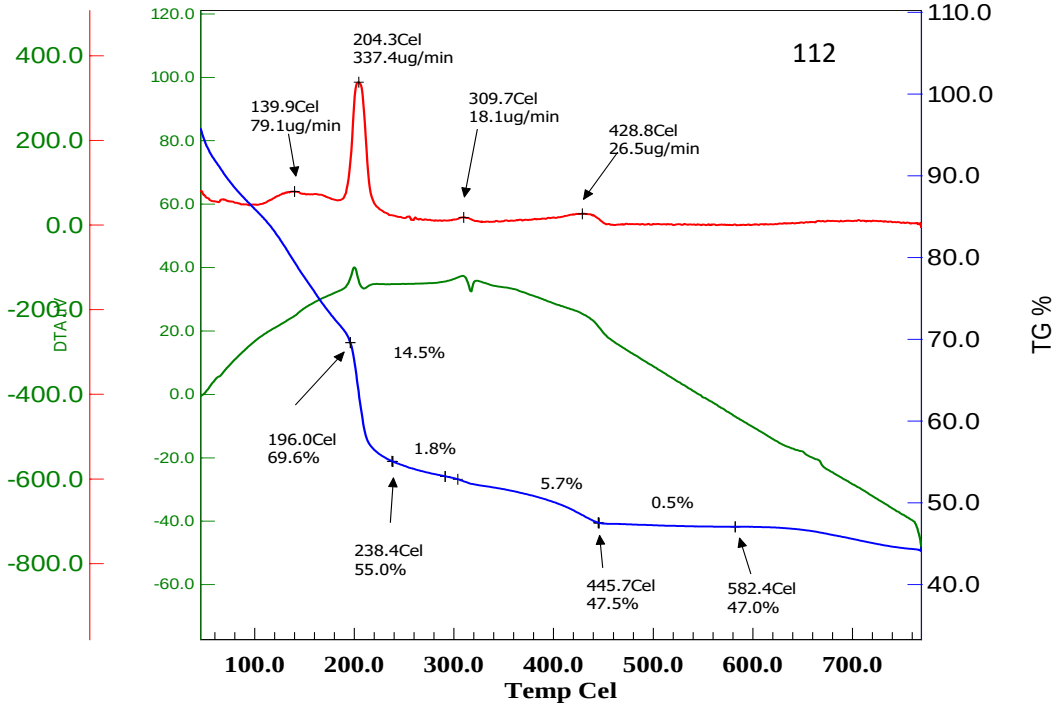

Figure S21. TG-DTA of xerogel **112**.

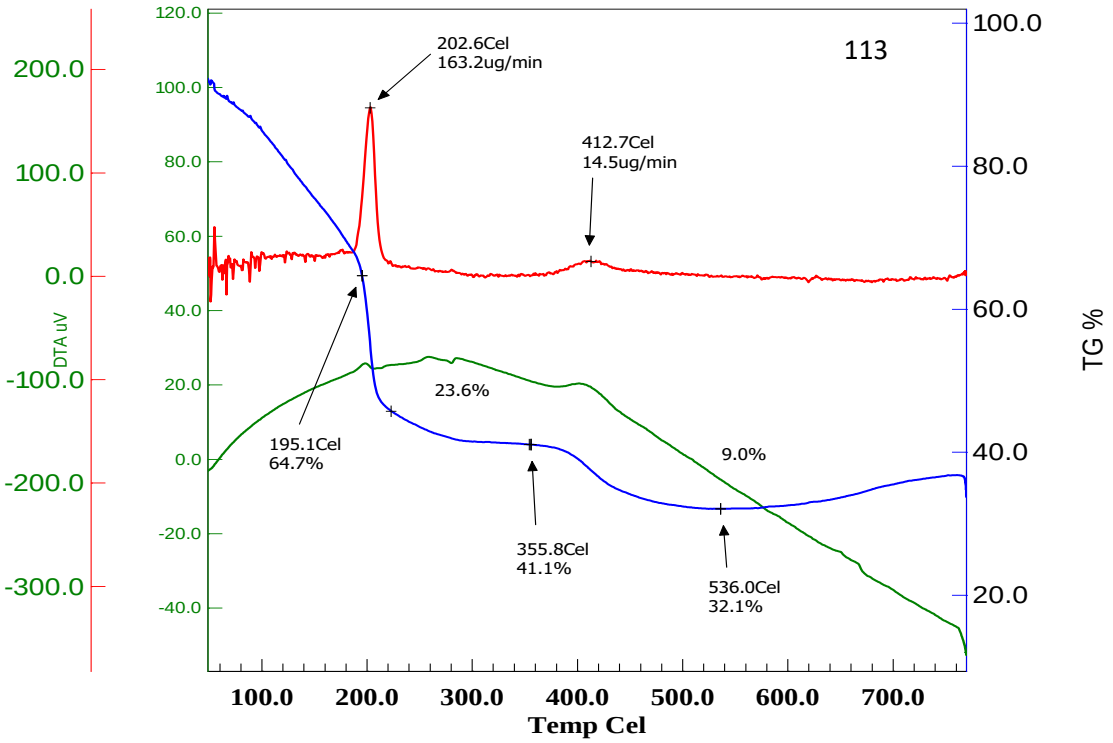

Figure S22. TG-DTA of xerogel **113**.

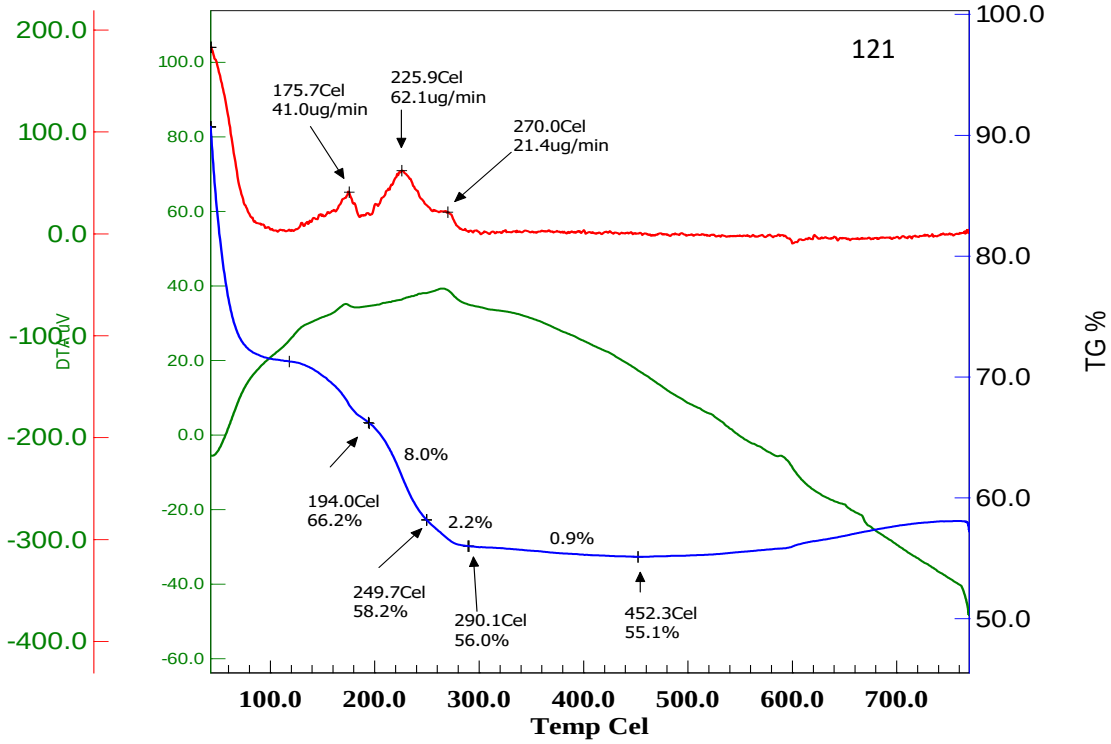

Figure S23. TG-DTA of xerogel **121**.

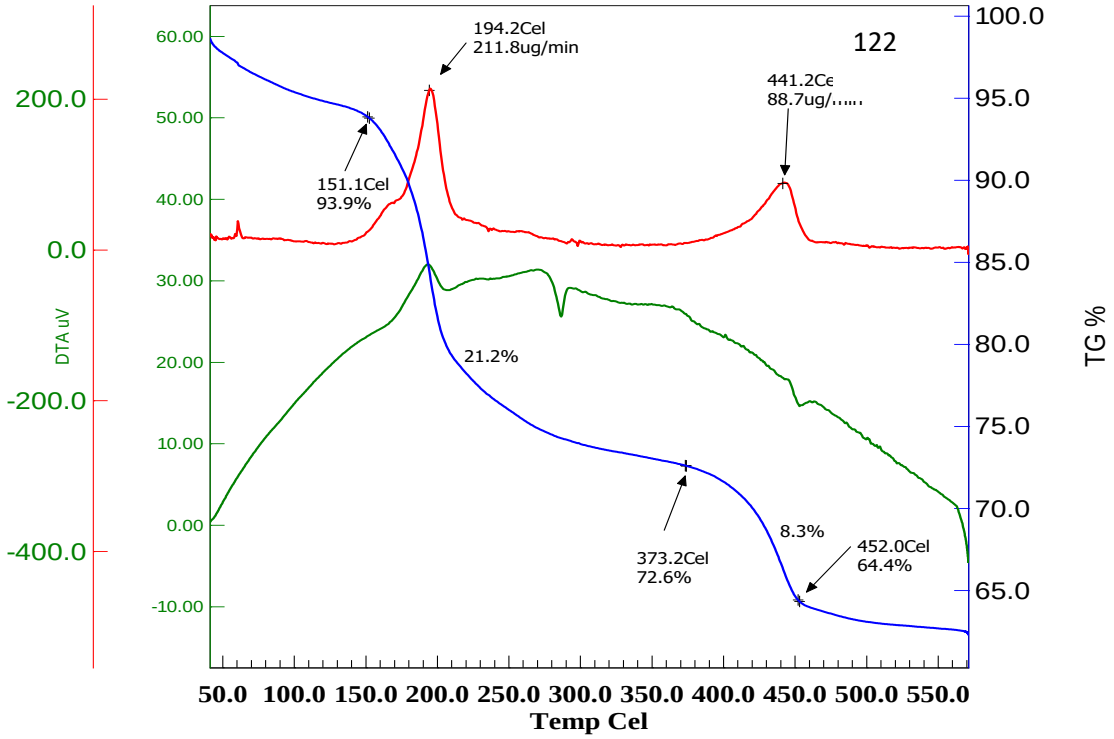

Figure S24. TG-DTA of xerogel **122**.

e) Effect of anions in the formation

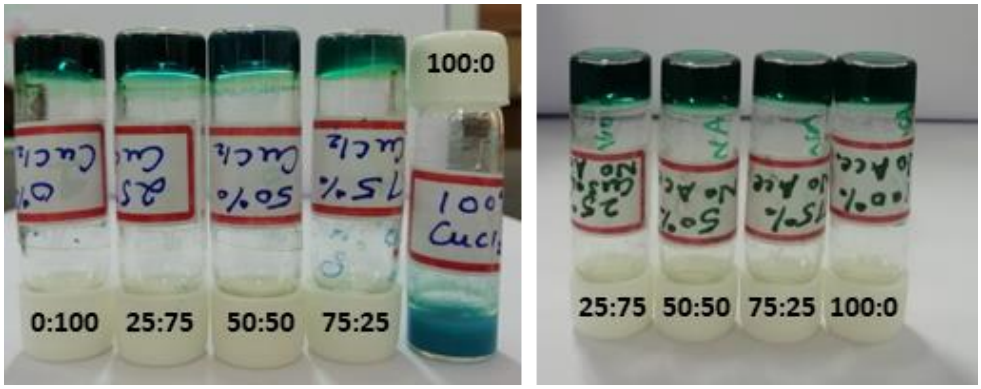

Figure S25. Effect of different ratios of copper chloride : copper acetate (left) and copper sulphate copper acetate(right) on gel formation.

f) Rheological studies of metallogels

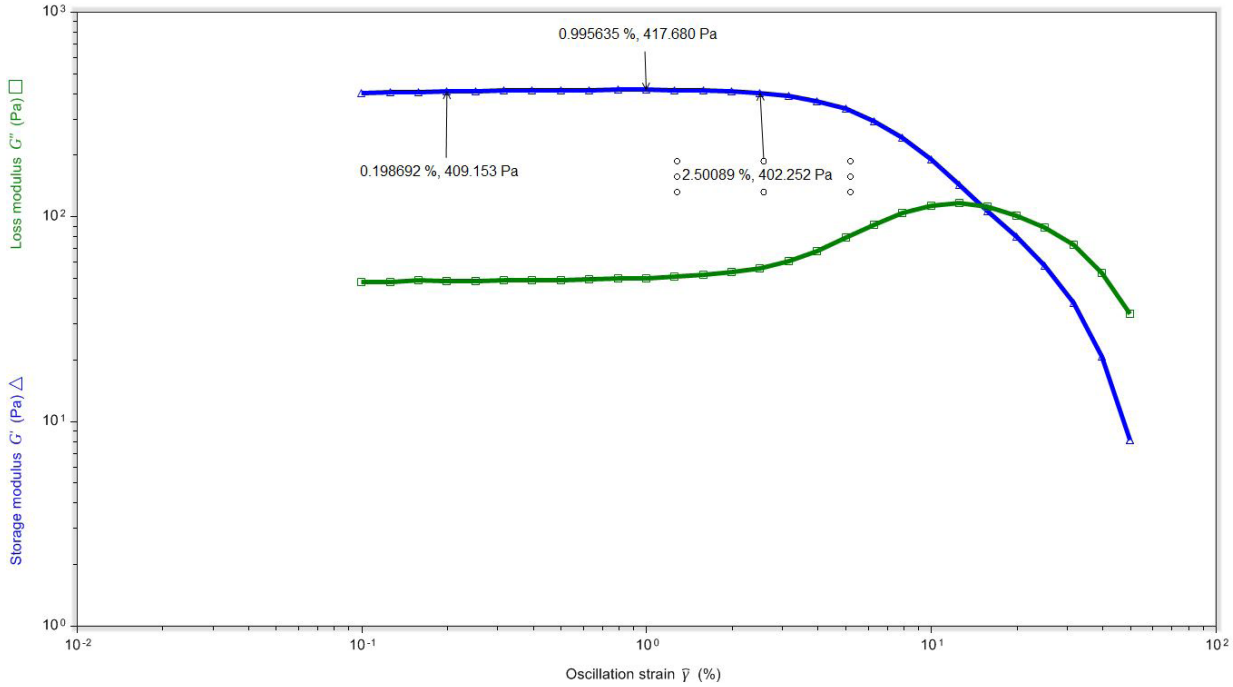

Figure S26: Frequency sweep graph of the gel 121 (Amplitude sweep performed at room temperature @10rad/sec)

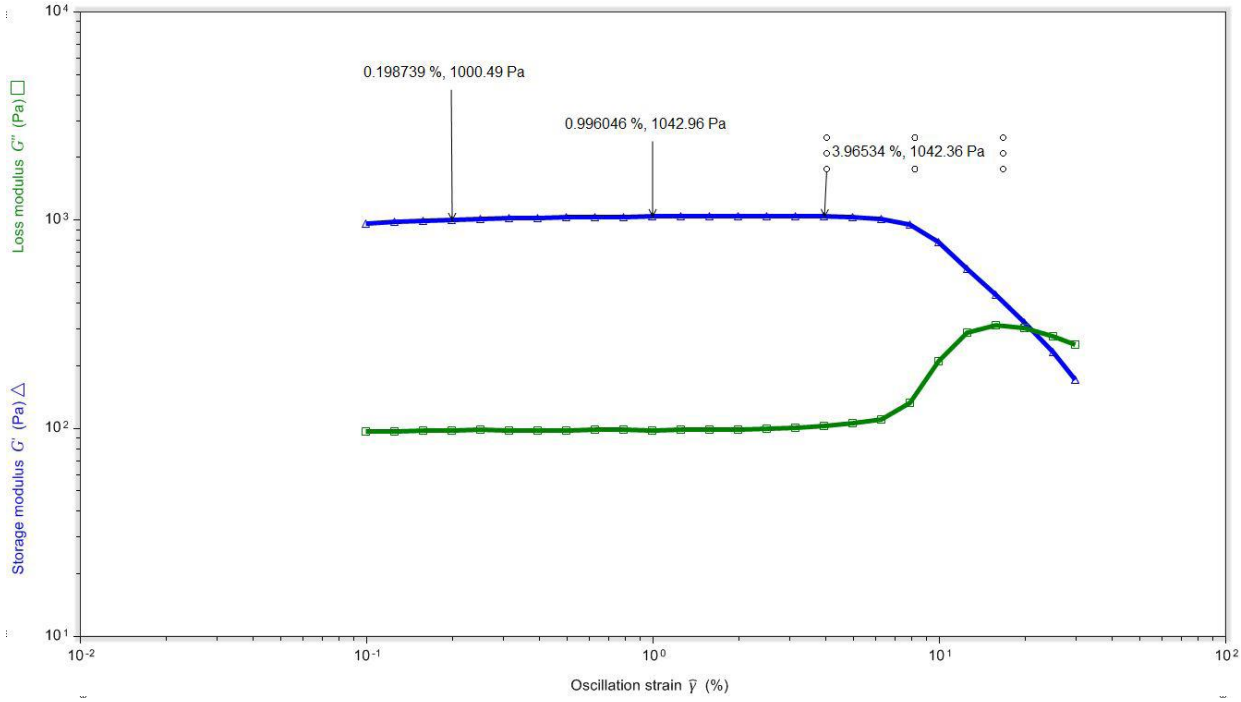

Figure S27: Frequency sweep graph of the gel 122 (Amplitude sweep performed at room temperature @10rad/sec)

g) Polarized microscope images (POM)

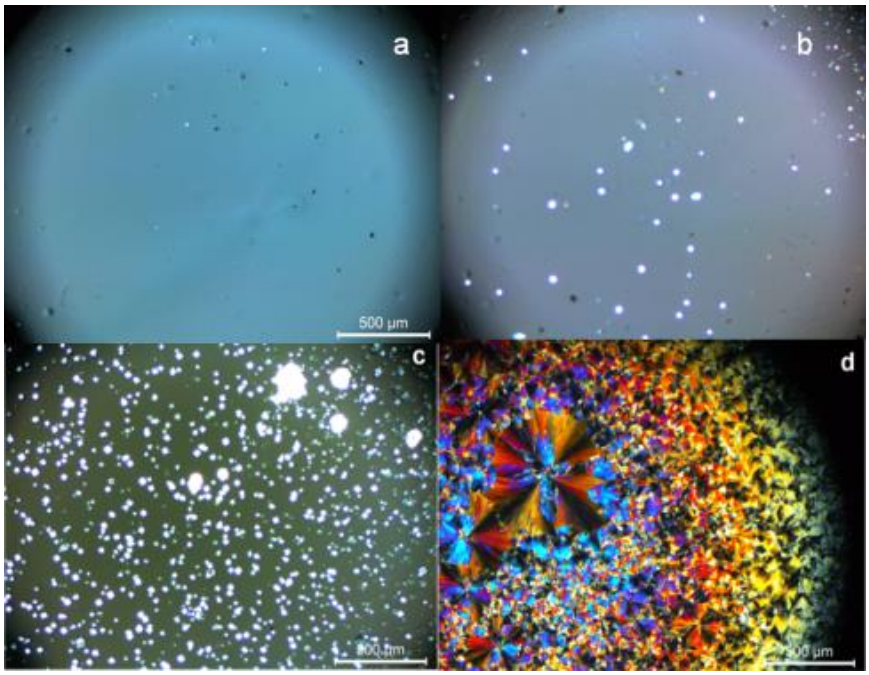

Figure S28. Images [a] to [d] show a gradual change from the isotropic solution to a gel and further to an anisotropic birefringent xerogel.

h) Optimized geometrical parameters involving metal coordination.

Cu-N Distances (Ao)		
R(24,82)	N24-Cu82	2.0083
R(32,82)	N32-Cu82	1.9934
R(62,83)	N62-Cu83	2.0013
R(68,83)	N68-Cu83	1.9924
R(42,84)	N42-Cu84	1.9926
R(48,84)	N48-Cu84	2.0056
Cu-O Distances (Ao)		
R(8,82)	O8-Cu82	2.0807
R(12,82)	O12-Cu82	1.9118
R(11,83)	O11-Cu83	2.0969
R(7,83)	O7-Cu83	1.9193
R(9,84)	O9-Cu84	2.0551
R(10,84)	O10-Cu84	1.9133
Bond angles		
A(8,82,12)	O8-Cu82-O12	84.4064
A(8,82,24)	O8-Cu82-N24	100.9129
A(12,82,32)	O12-Cu82-N32	94.8474
A(24,82,32)	N24-Cu82-N32	82.3473
A(7,83,11)	O7-Cu83-O12	85.4213
A(7,83,68)	O7-Cu83-N68	95.7818
A(11,83,62)	O11-Cu83-N62	97.3579
A(62,83,68)	N62-Cu83-N68	82.3852
A(9,84,10)	O9-Cu84-O10	83.9133
A(9,84,48)	O9-Cu84-N48	98.6515
A(10,84,42)	O10-Cu84-N42	97.0066
A(42,84,48)	N42-Cu84-N48	82.3591
Torsional angles		
L(8,82,32,24,-1)	O8-Cu82-N32-N24 (-1)	183.2601
L(12,82,24,32,-1)	O12-Cu82-N24-N32 (-1)	177.1946
L(7,83,62,68,-1)	O7-Cu83-N62-N68 (-1)	178.1669
L(11,83,68,62,-1)	O11-Cu83-N68-N62 (-1)	179.743
L(9,84,42,48,-1)	O9-Cu84-N42-N48 (-1)	181.0106
L(10,84,48,42,-1)	O10-Cu84-N48-N42 (-1)	179.3657
L(8,82,32,24,-2)	O8-Cu82-N32-N24 (-2)	163.1729
L(12,82,24,32,-2)	O12-Cu82-N24-N32 (-2)	170.8925
L(7,83,62,68,-2)	O7-Cu83-N62-N68 (-2)	188.0659
L(11,83,68,62,-2)	O7-Cu83-N62-N68 (-2)	186.9341
L(9,84,42,48,-2)	O9-Cu84-N42-N48 (-2)	192.5417
L(10,84,48,42,-2)	O10-Cu84-N48-N42 (-2)	189.0303

Table TS1.: Optimized geometrical parameters involving metal coordination.