Electronic Supplementary Information

Comparative outcomes of voltage-dependent current density, charge transportation and rectification ratio of fabricated electronic devices by mechanically flexible supramolecular network

Baishakhi Pal,[a] Santanu Majumdar,[b] Indrajit Pal,[b] Gerald Lepcha,[b] Amiya Dey,[b] Partha Pratim Ray,[a,*] Biswajit Dey[b,*]

[a]Department of Physics, Jadavpur University, Kolkata 700032, India

[b]Department of Chemistry, Visva-Bharati University, Santiniketan 731235, India

*E-mail: bdeychem@gmail.com, biswajit.dey@visva-bharati.ac.in (B.D.); parthap.ray@jadavpuruniversity.in (P.P.R.)

1. Minimum Critical Gelation Concentration (MGC) for the Synthesis of Mn-BDA and Cd-BDA Metallogel.

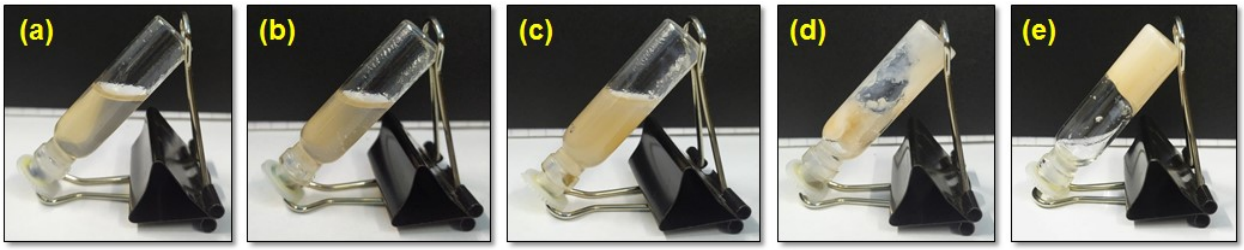

Fig. S1 Determination of Minimum Critical Gelation Concentration (MCG) of the Mn-BDA metallogel with step-wise photography (a-e) of Mn-BDA metallogel-forming chemical constituents having varied concentrations.

Table S1 Determination of Minimum Critical Gelation Concentration of the Mn-BDA

Serial No.	[$Mn(OAc)_2 \cdot 4H_2O$] (in 1 ml DMF)	[BDA] (in 1 ml DMF)	Phase
1	12.3 mg/ml	7.3 mg/ml	Sol
2	19.6 mg/ml	11.7 mg/ml	Sol
3	24.5 mg/ml	14.6 mg/ml	Viscous sol
4	49.1 mg/ml	29.3 mg/ml	Weak gel
5	73.6 mg/ml	43.9 mg/ml	Gel

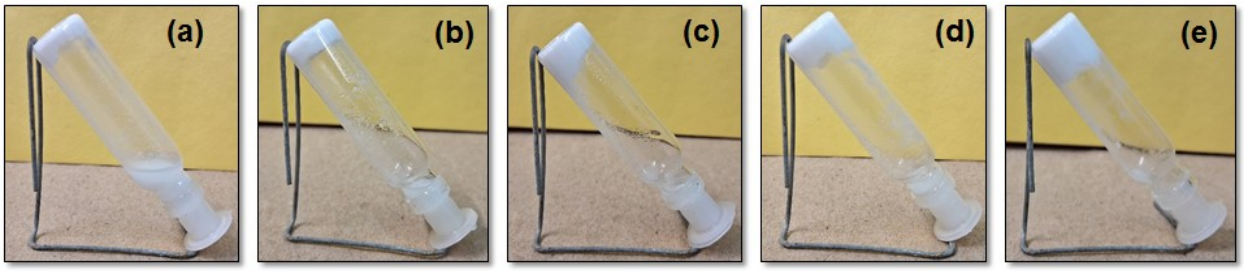

Fig. S2 Determination of Minimum Critical Gelation Concentration of the Cd-BDA metallogel with step-wise photography of Cd-BDA metallogel-forming chemical constituents having varied concentrations.

Table S2 Determination of Minimum Critical Gelation Concentration of the Cd-BDA

Serial No.	[$Cd(OAc)_2 \cdot 2H_2O$] (in 1 ml DMF)	[Gelator] (in 1 ml DMF)	Phase
1	266.5 mg/ml	146.2 mg/ml	Sol
2	319.8 mg/ml	175.4 mg/ml	Viscous Sol
3	399.8 mg/ml	219.2 mg/ml	Viscous sol
4	453.1 mg/ml	248.5 mg/ml	More viscous sol
5	533.1 mg/ml	292.3 mg/ml	Gel

2. Testing of gel forming ability of different solvents in forming stable metallogel of Mn-BDA, and Cd-BDA.

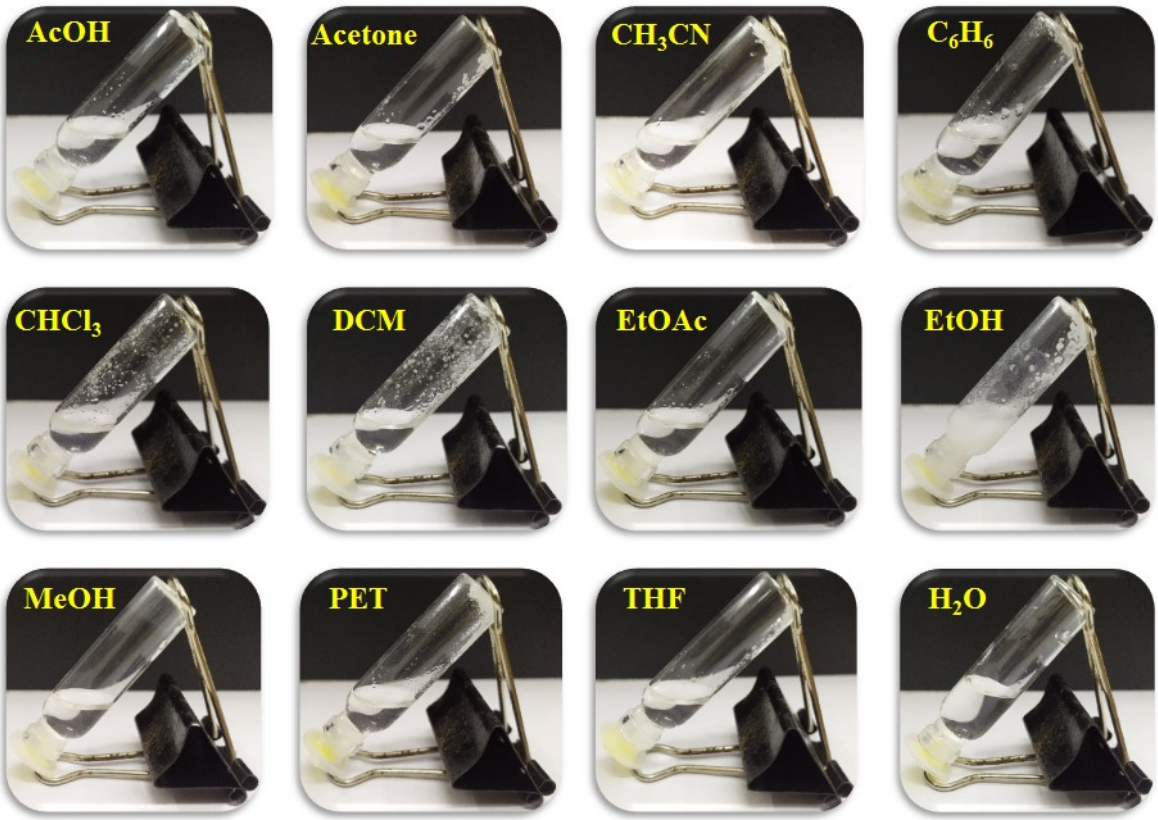

Fig. S3 Role of versatile solvents in forming stable metallogel of Mn-BDA.

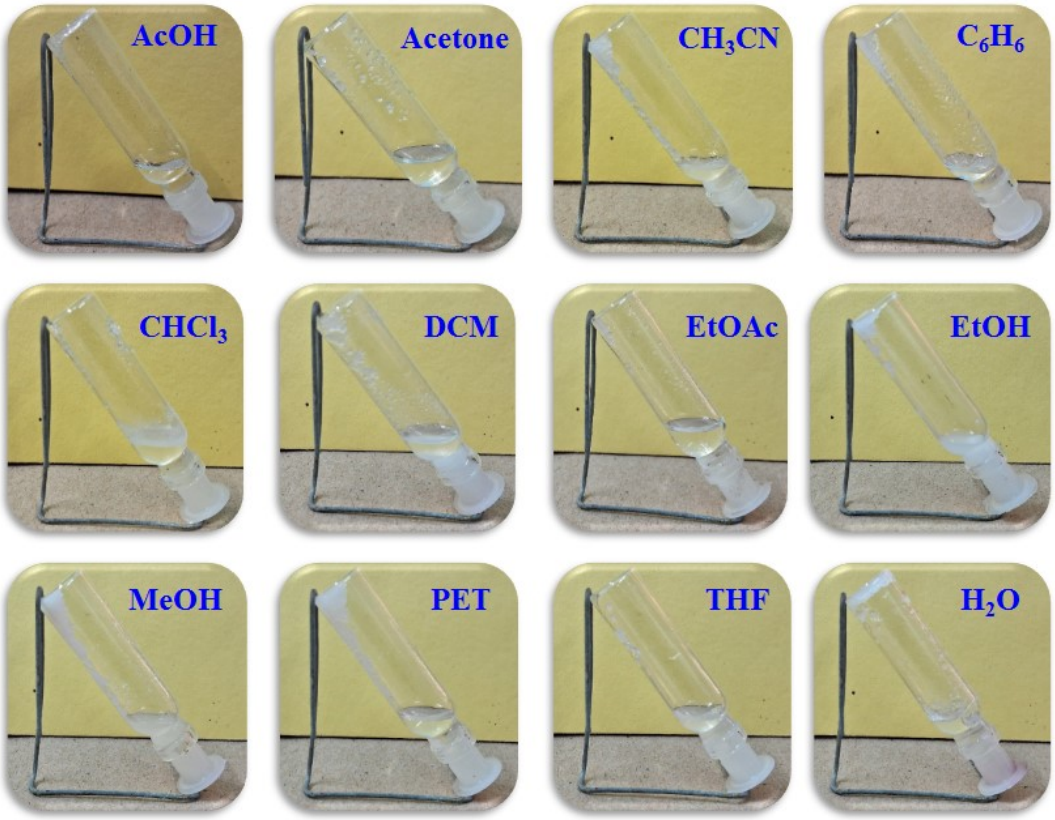

Fig. S4 Role of versatile solvents in forming stable metallogel of Cd-BDA.

3. EDS elemental analyses of Mn-BDA, and Cd-BDA metallogels.

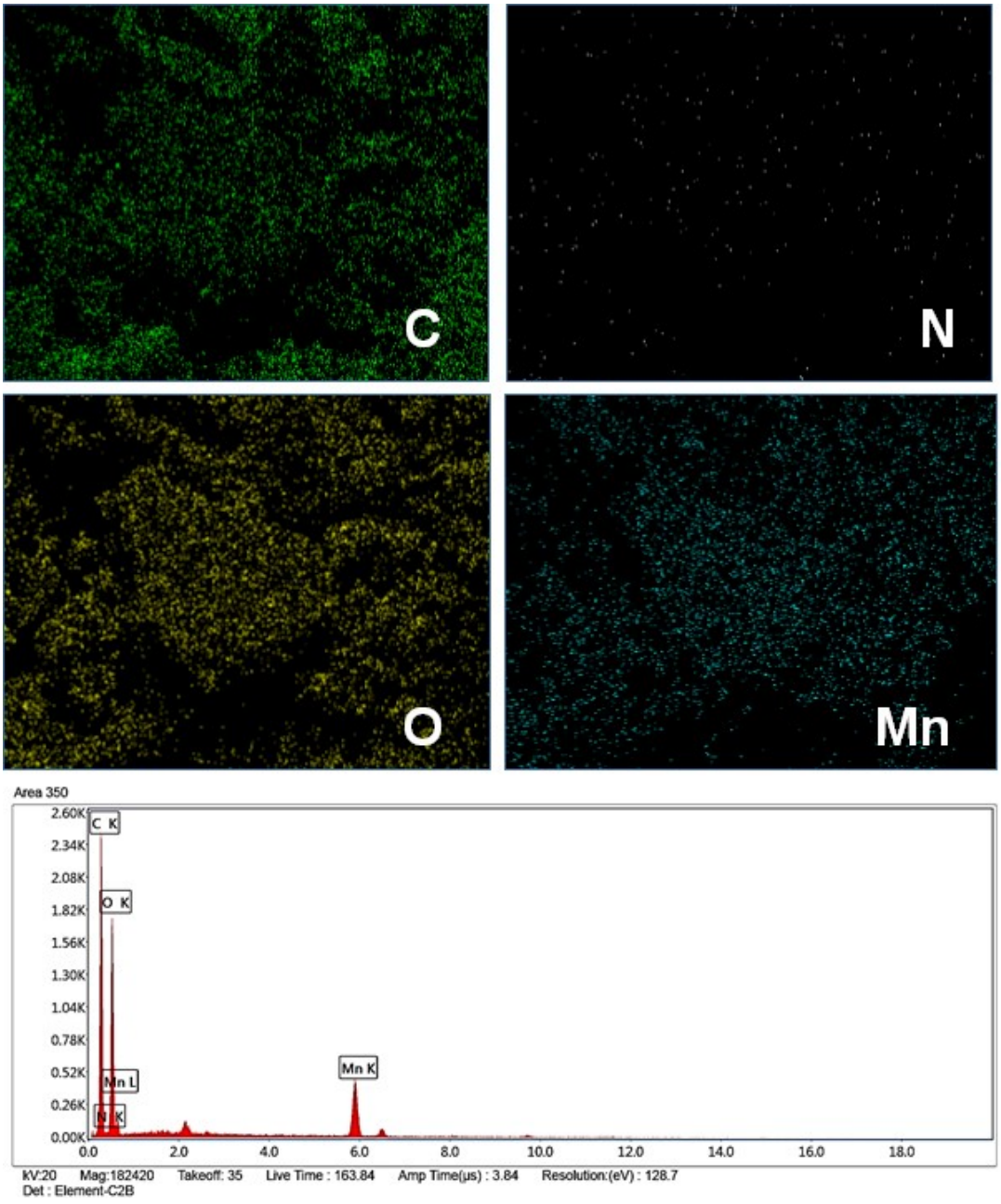

Fig. S5 EDAX elemental mapping with spectrum of Mn-BDA metallogel.

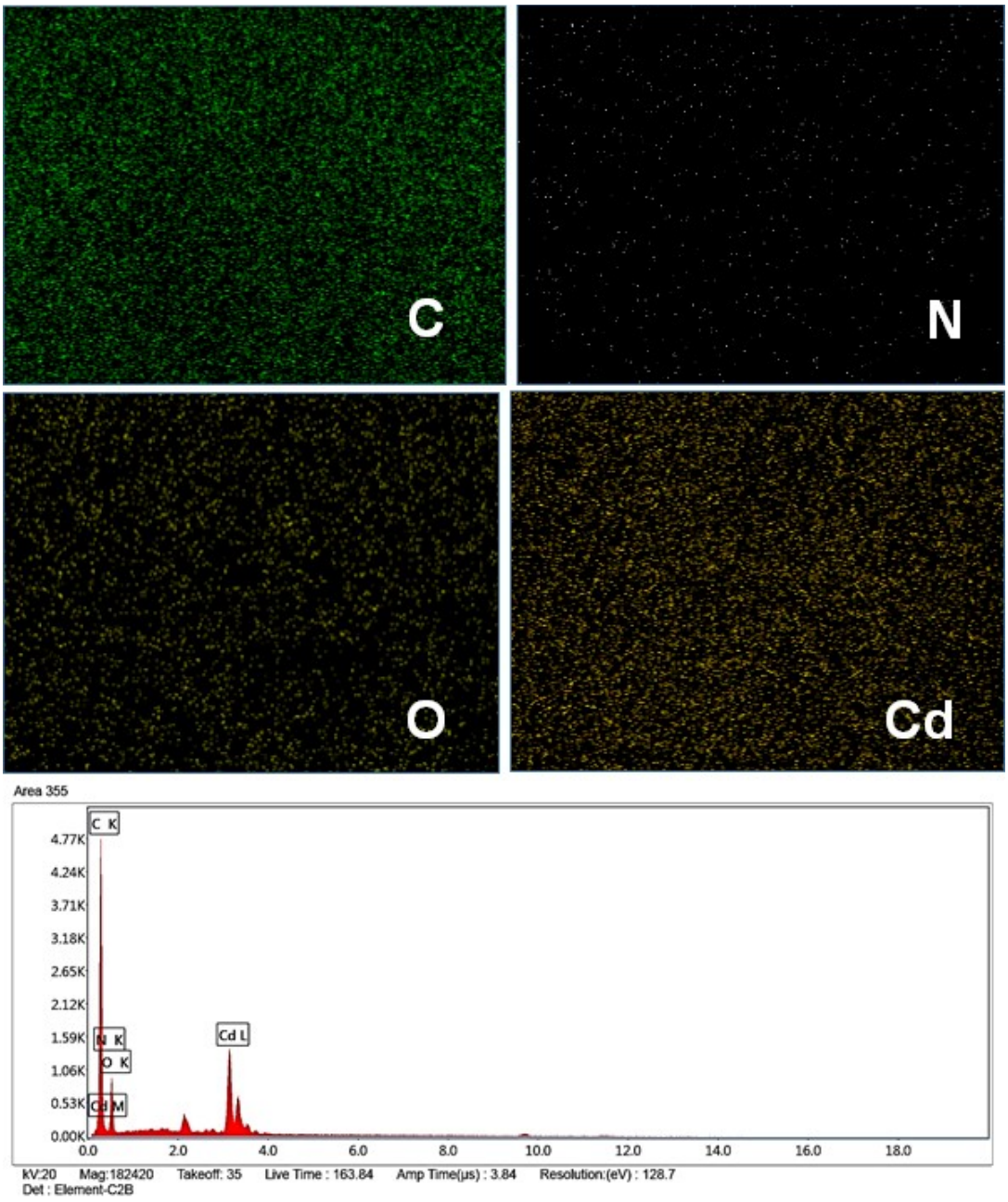

Fig. S6 EDAX elemental mapping with spectrum of Cd-BDA metallogel.

4. ESI-Mass analyses of Mn-BDA and Cd-BDA metallogels.

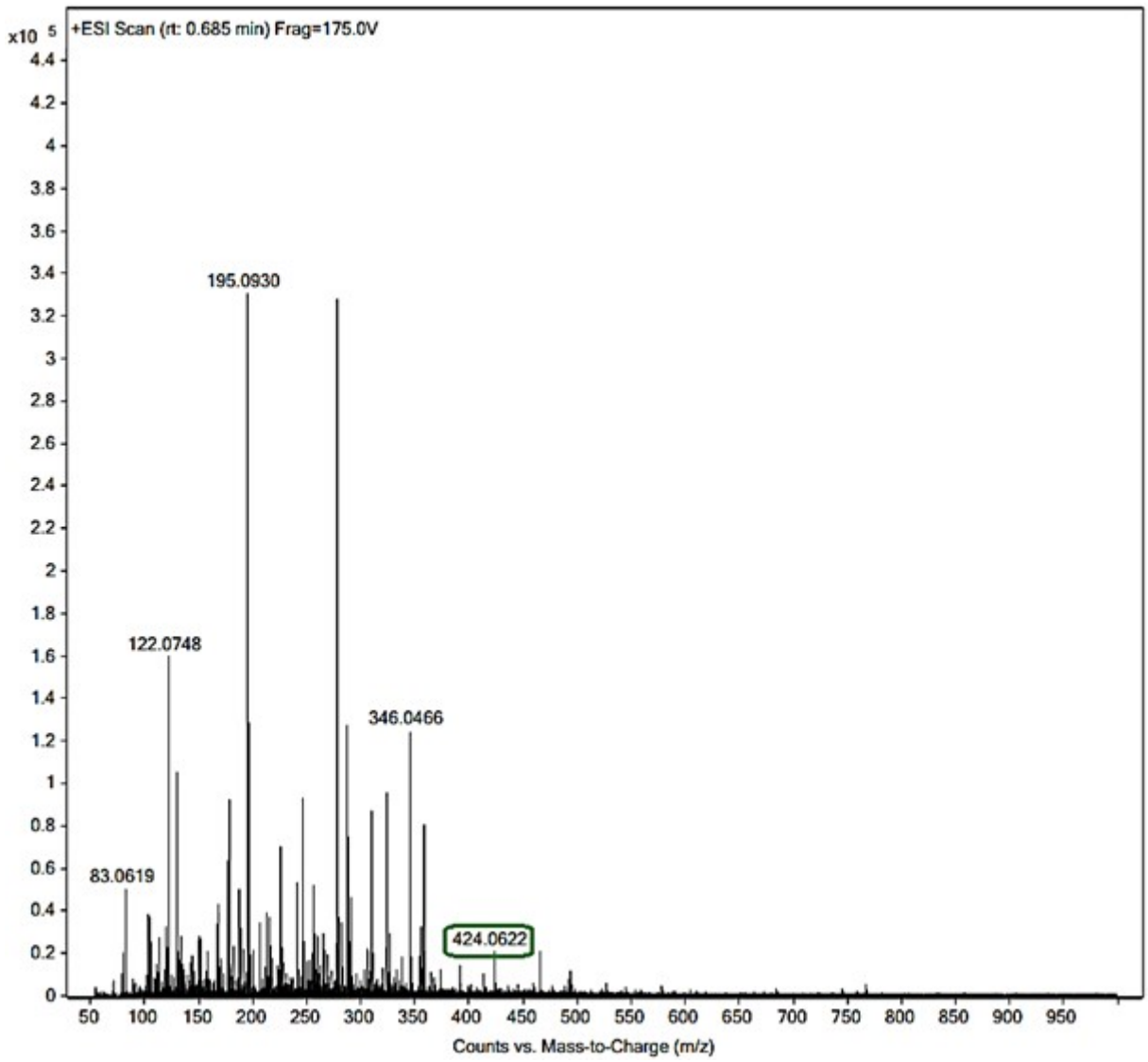

Fig. S7 ESI-Mass Spectra of Mn-BDA metallogel.

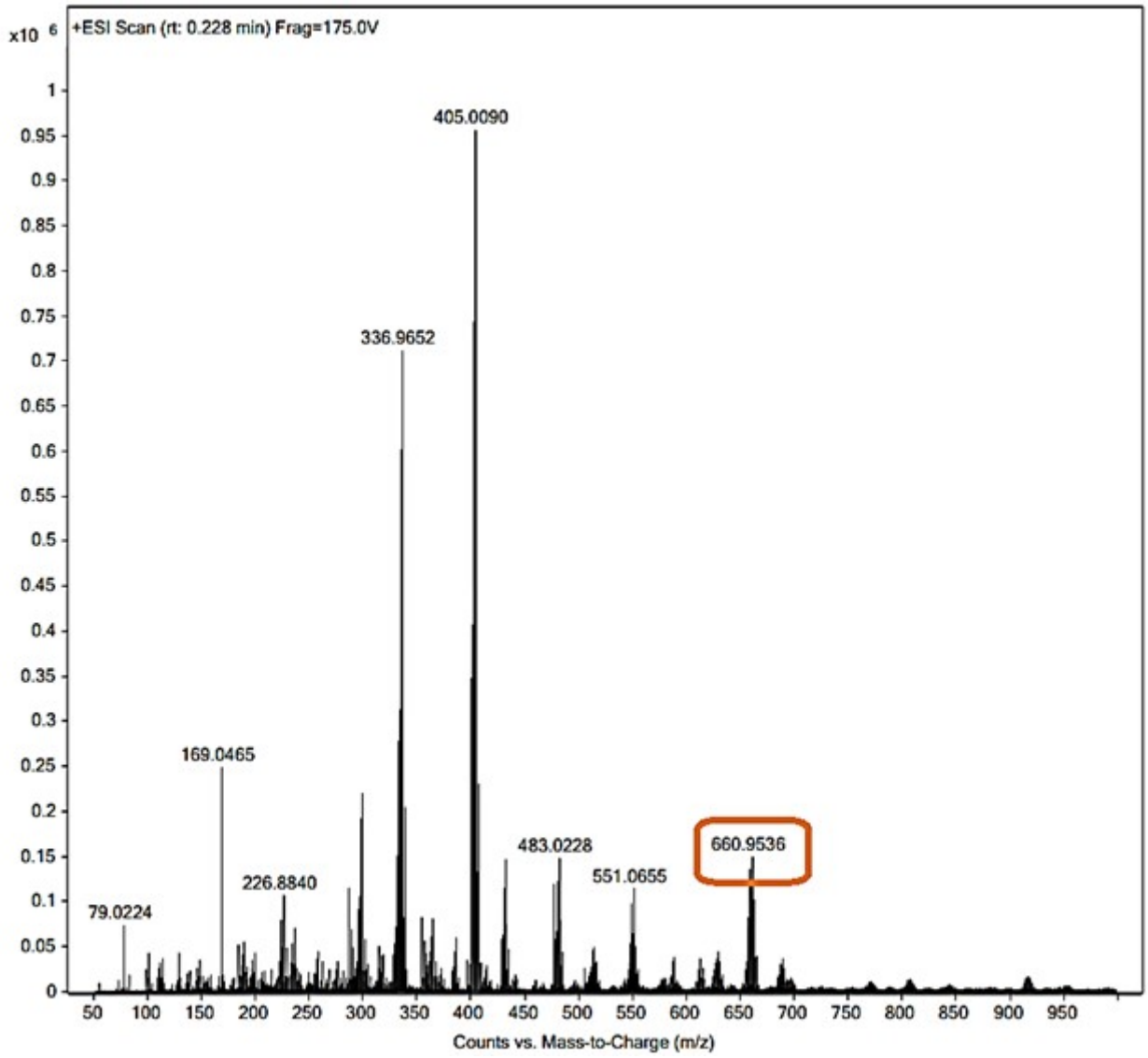

Fig. S8 ESI-Mass Spectra of Cd-BDA metallogel.