

# **Novel 1, 2, 3-Triazolium Based Dicationic amphiphiles Synthesized by using Click-chemistry Approach for Efficient Plasmid Delivery**

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## **Supporting information**

<sup>1</sup>H-NMR and ESI-MS spectra of all the intermediates and lipid molecules (Fig. S1-S18) and Elemental analysis lipids.

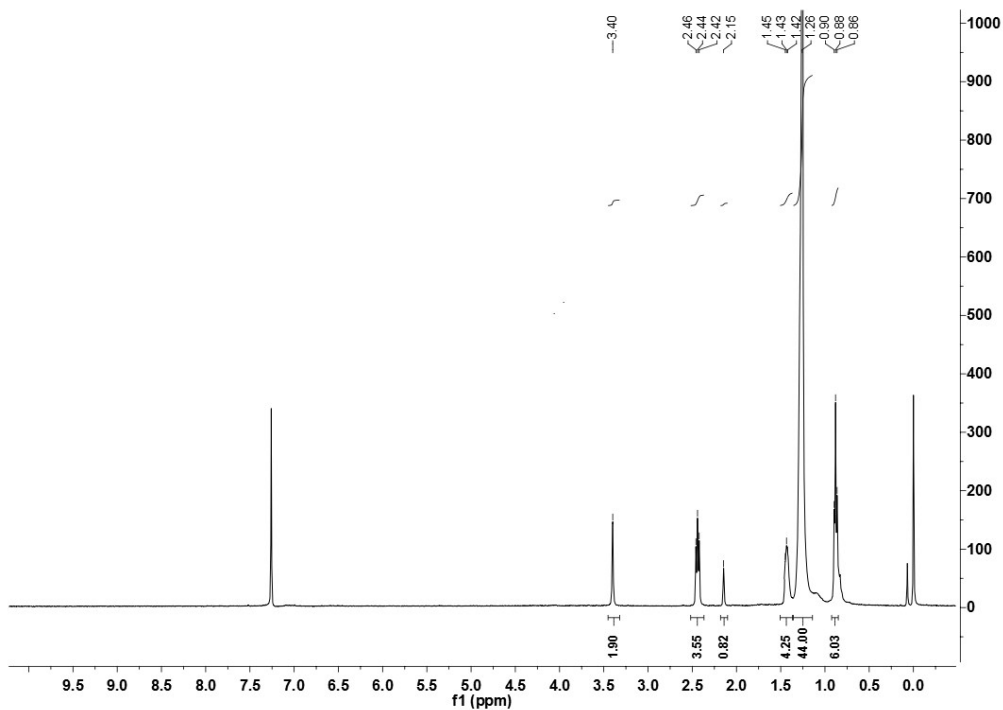


Fig. S1:  $^1\text{H-NMR}$  Spectrum of compound 1a

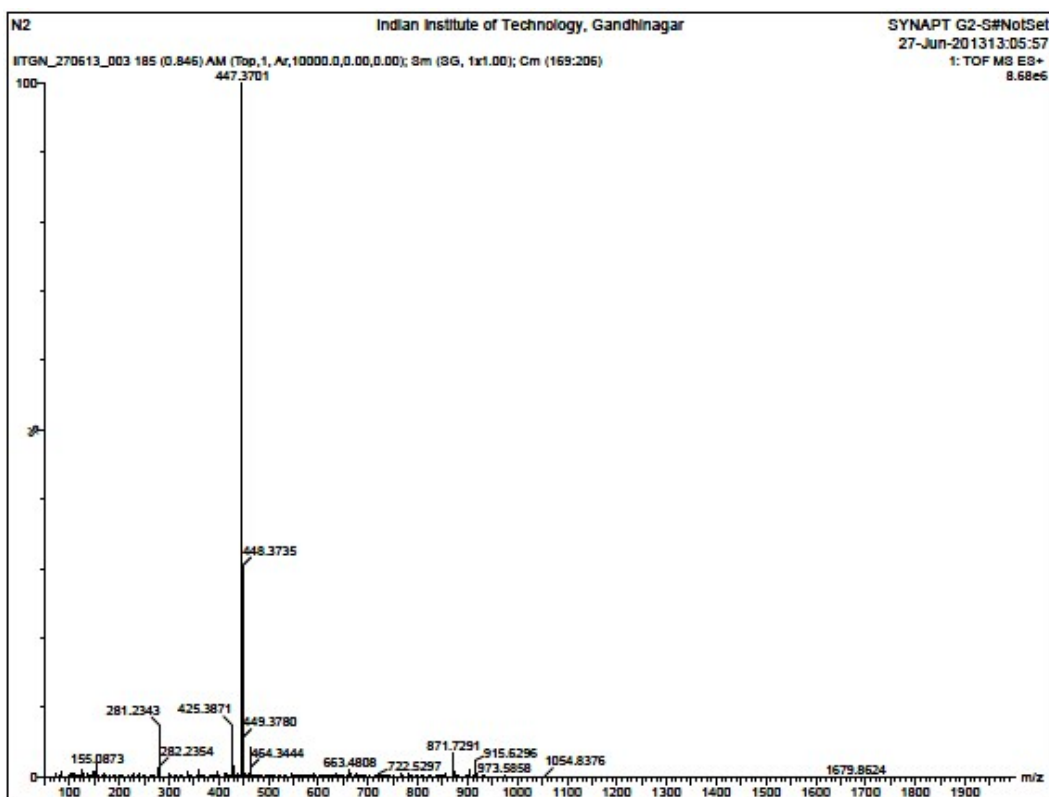
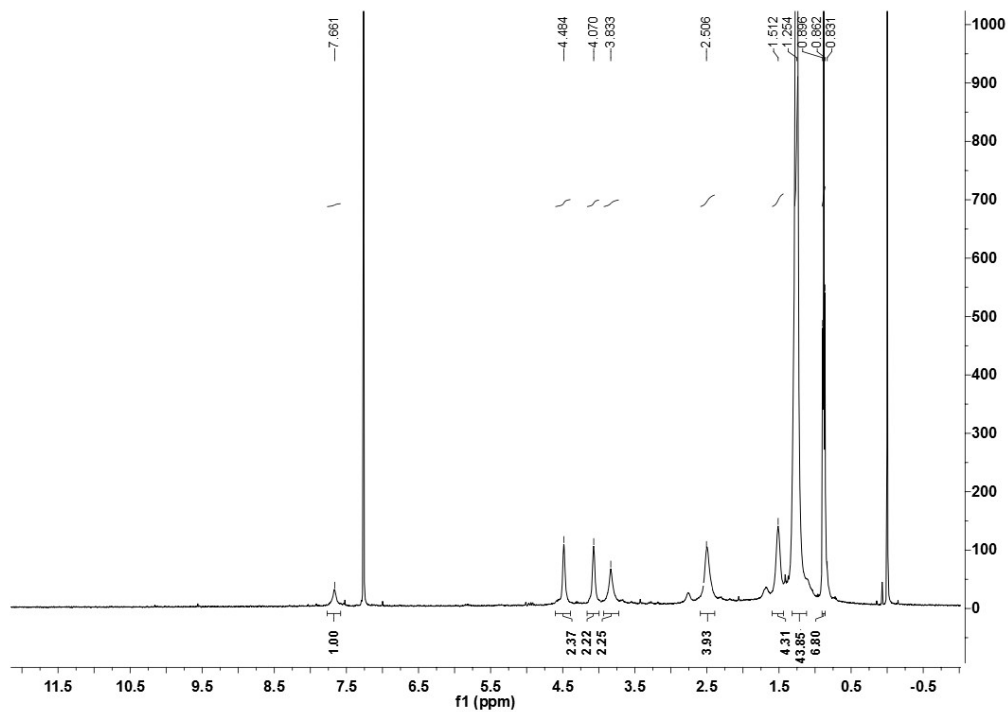
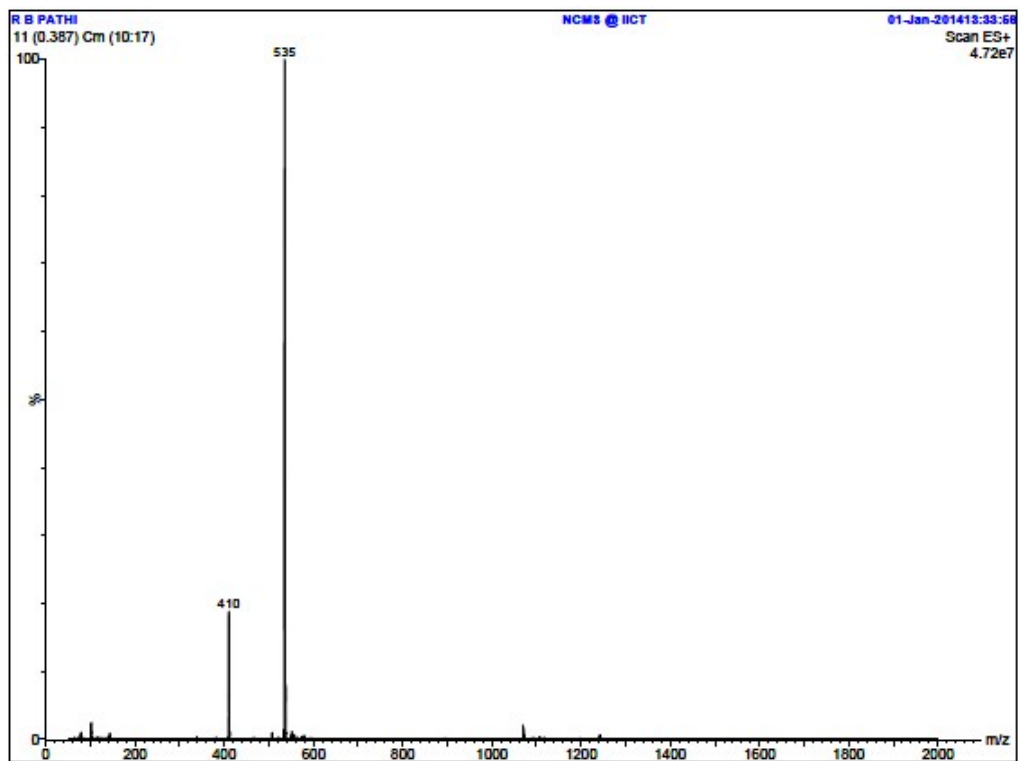


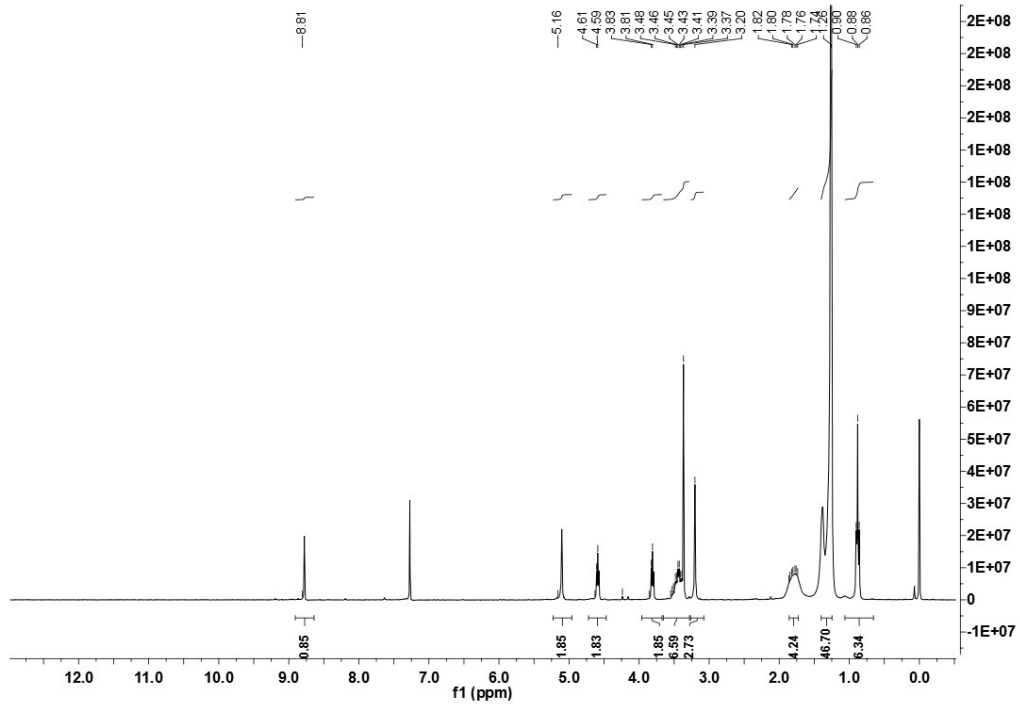
Fig. S2: ESI-MS (HRMS) Spectrum of compound 1a



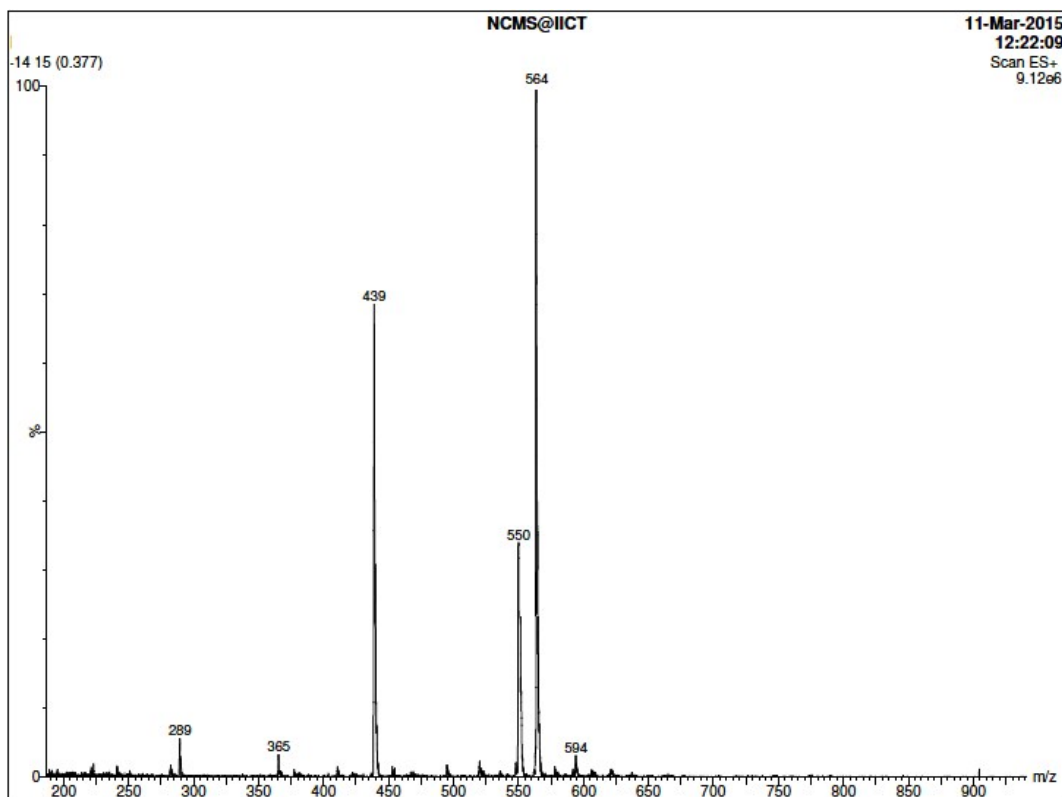
**Fig. S3:**  $^1\text{H}$ -NMR Spectrum of compound **2a**



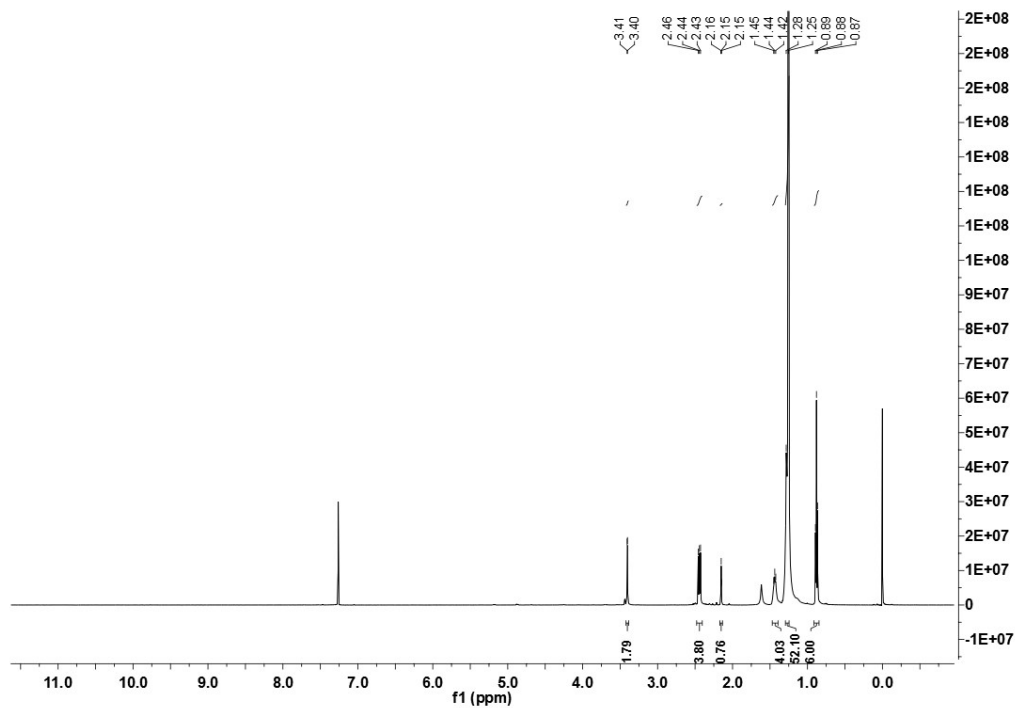
**Fig. S4:** ESI-MS Spectrum of compound **2a**



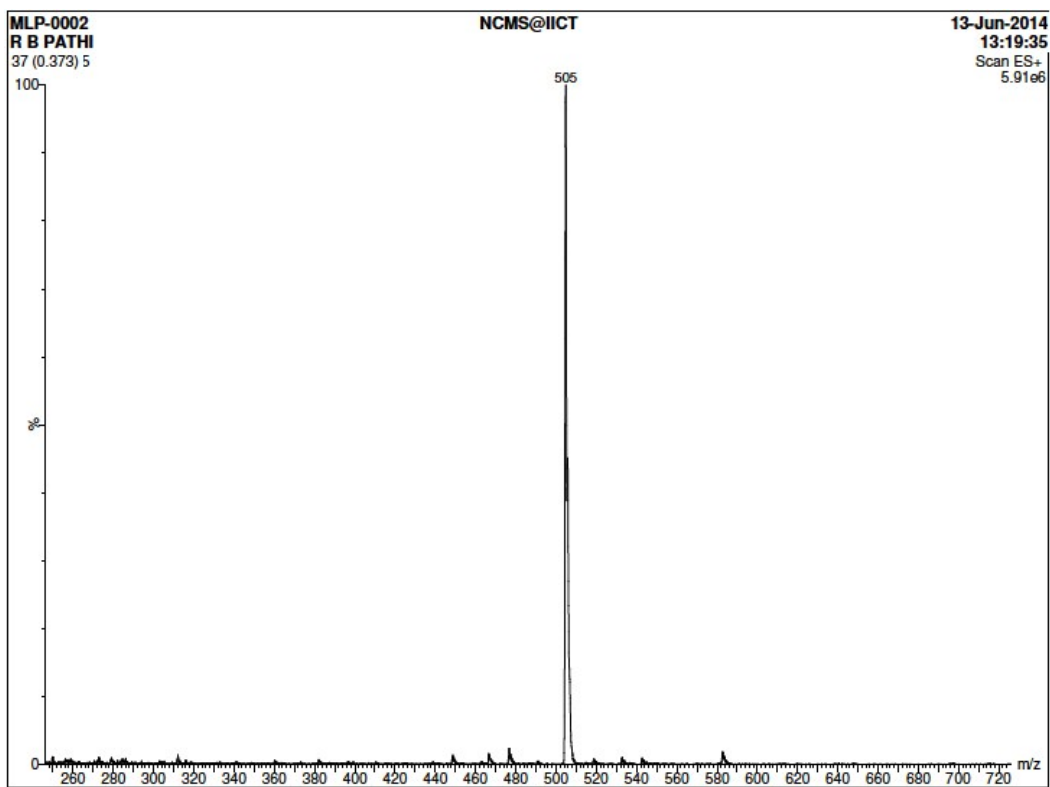
**Fig. S5: <sup>1</sup>H-NMR Spectrum of Lipid L1**



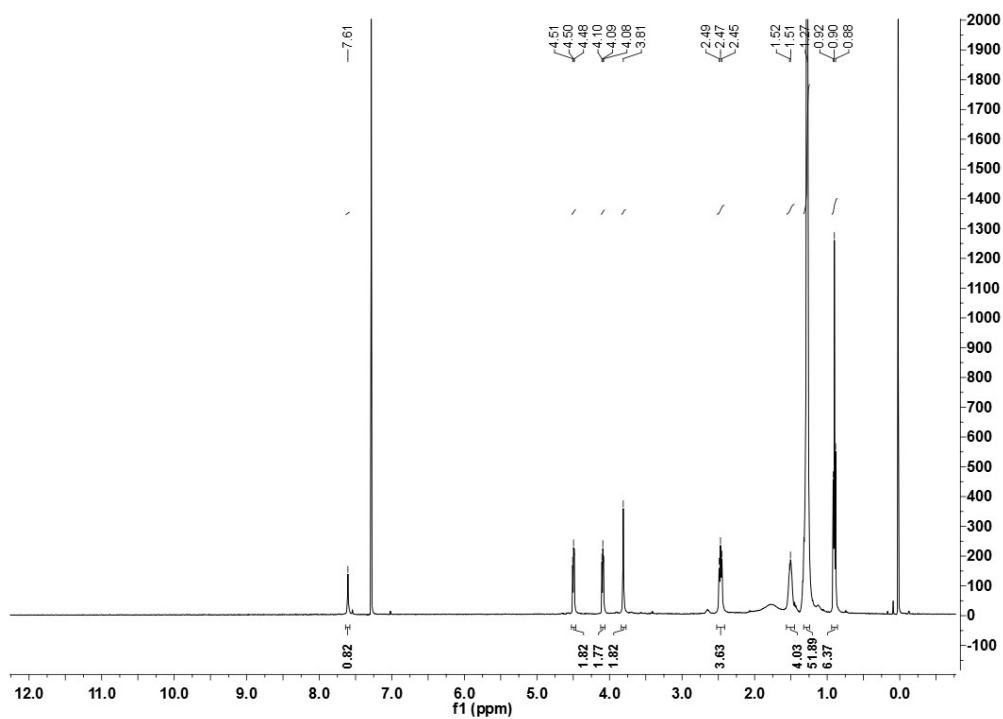
**Fig. S6: ESI-MS Spectrum of Lipid L1**



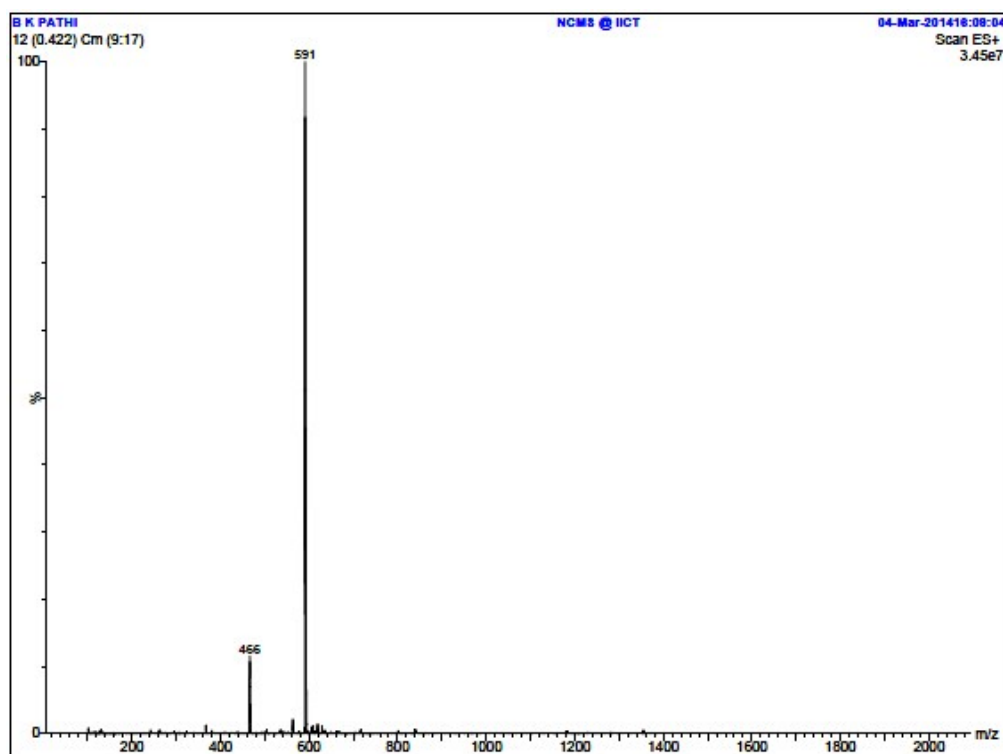
**Fig. S7:**  $^1\text{H-NMR}$  Spectrum of compound **1b**



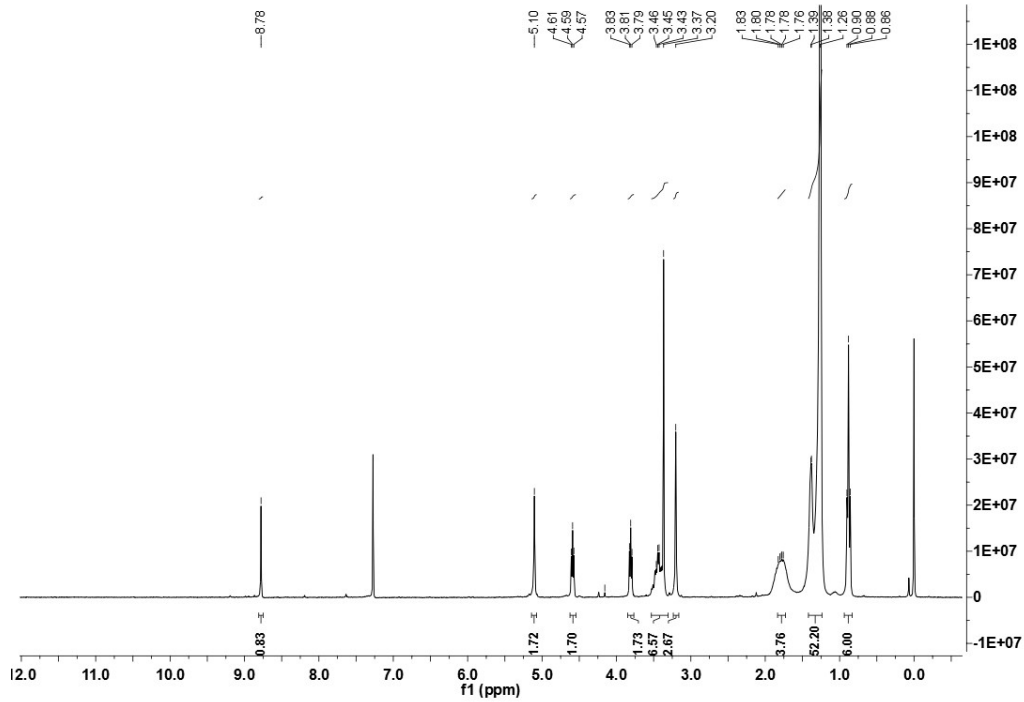
**Fig. S8:** ESI-MS Spectrum of compound **1b**



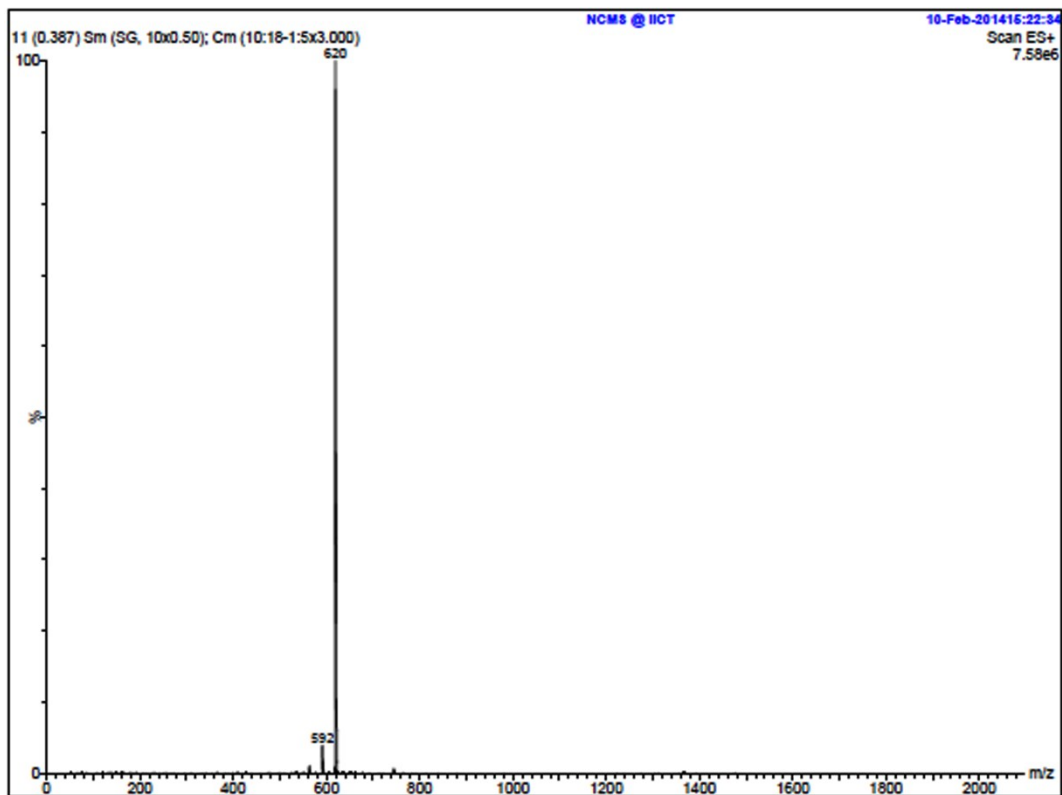
**Fig. S9:**  $^1\text{H-NMR}$  Spectrum of compound **2b**



**Fig. S10:** ESI-MS Spectrum of compound **2b**



**Fig. S11:** <sup>1</sup>H-NMR Spectrum of Lipid L2



**Fig. S12:** ESI-MS Spectrum of Lipid L2

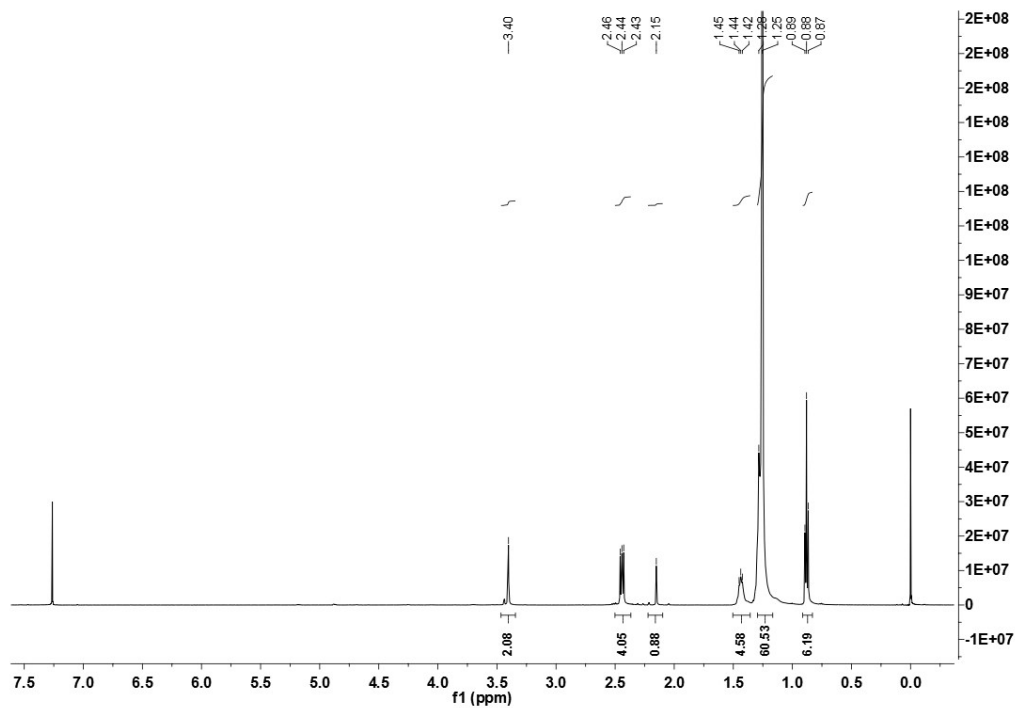


Fig. S13: <sup>1</sup>H-NMR Spectrum of compound 1c

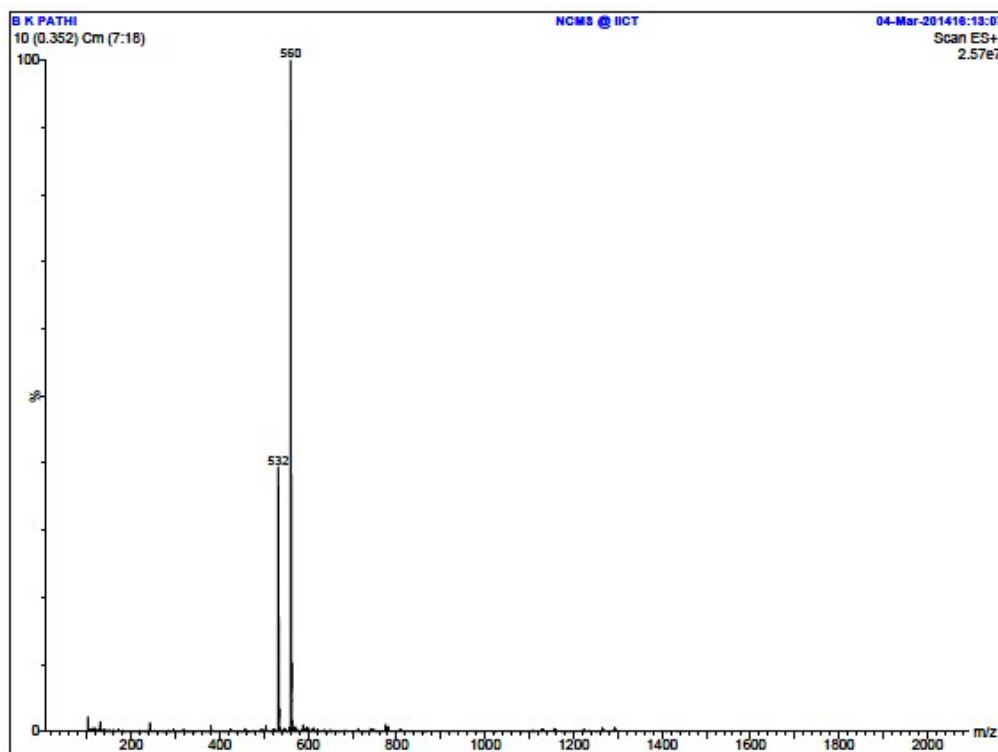


Fig. S14: ESI-MS Spectrum of compound 1c



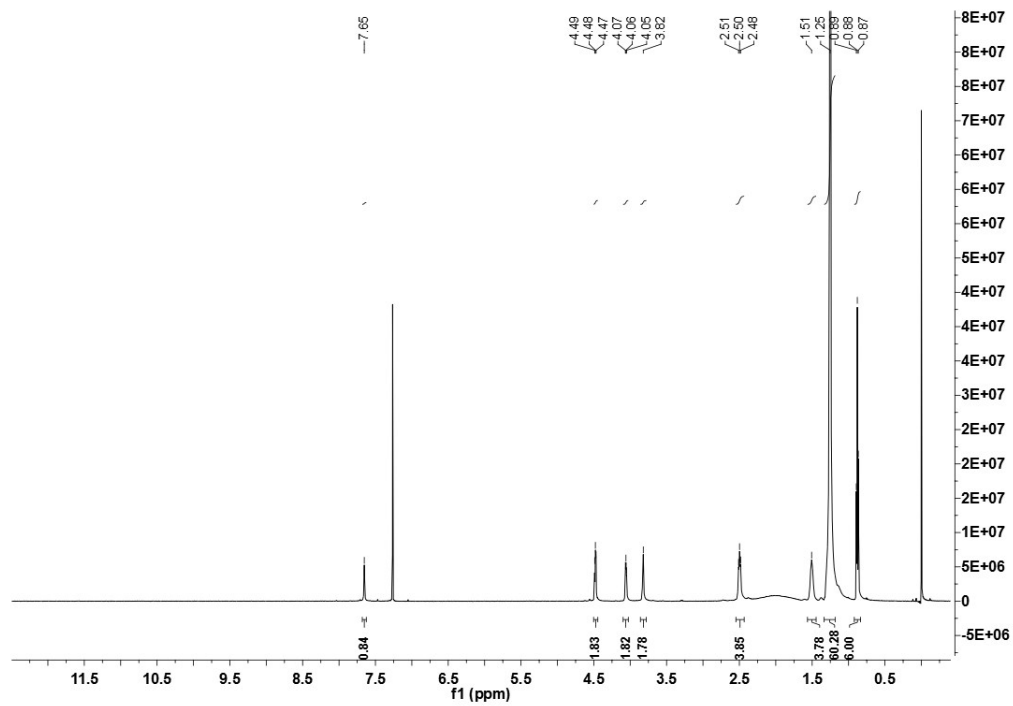


Fig. S15:  $^1\text{H}$ -NMR Spectrum of compound **2c**

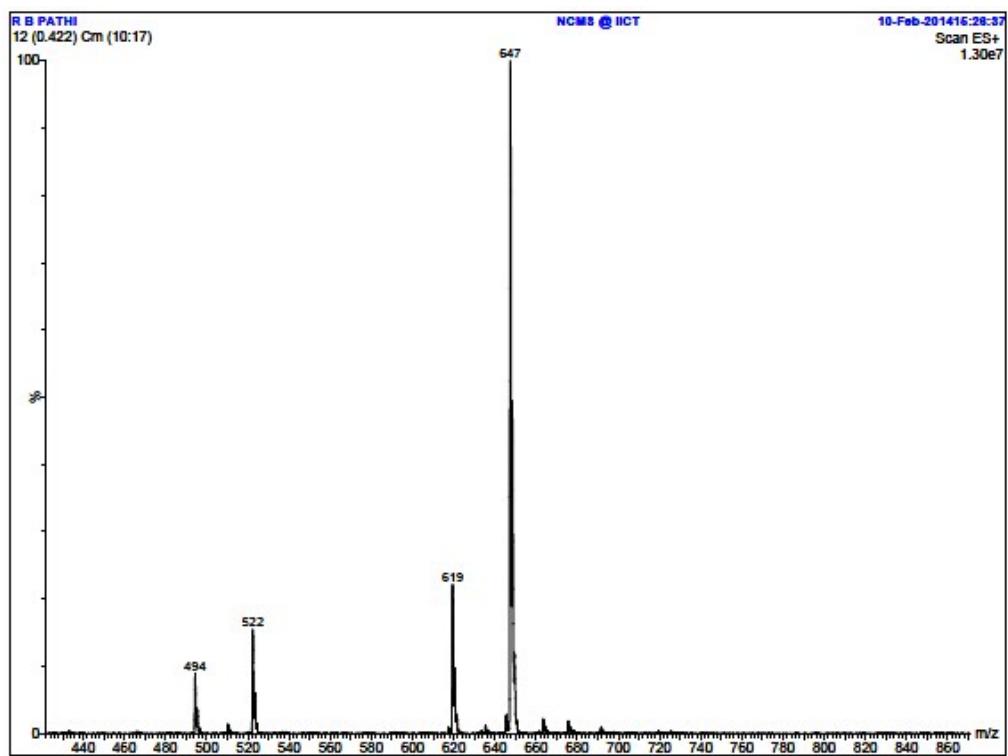
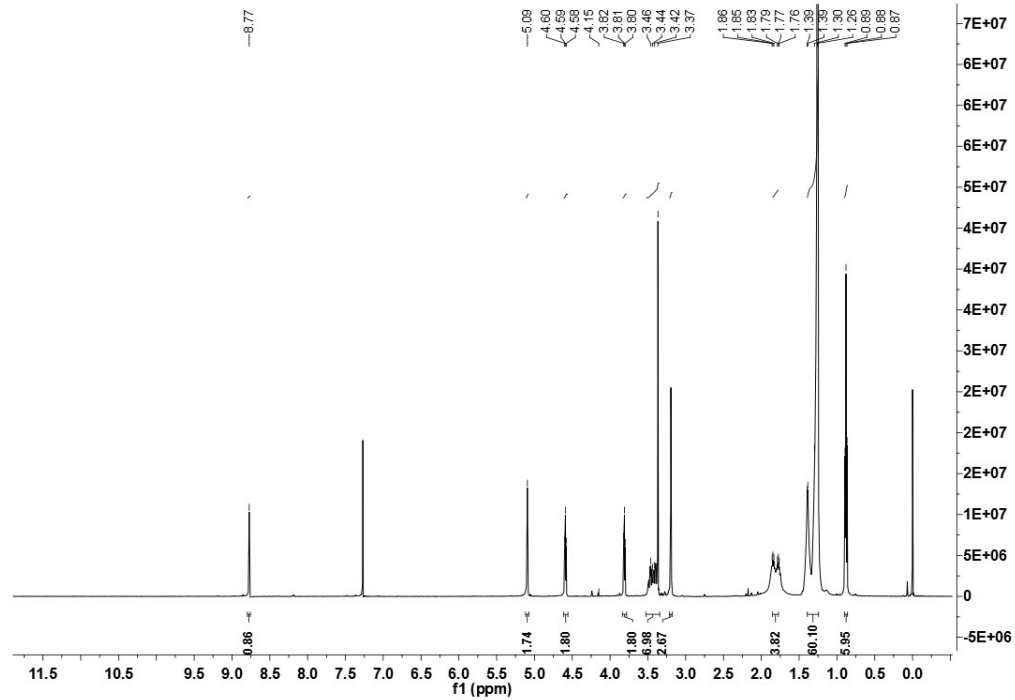
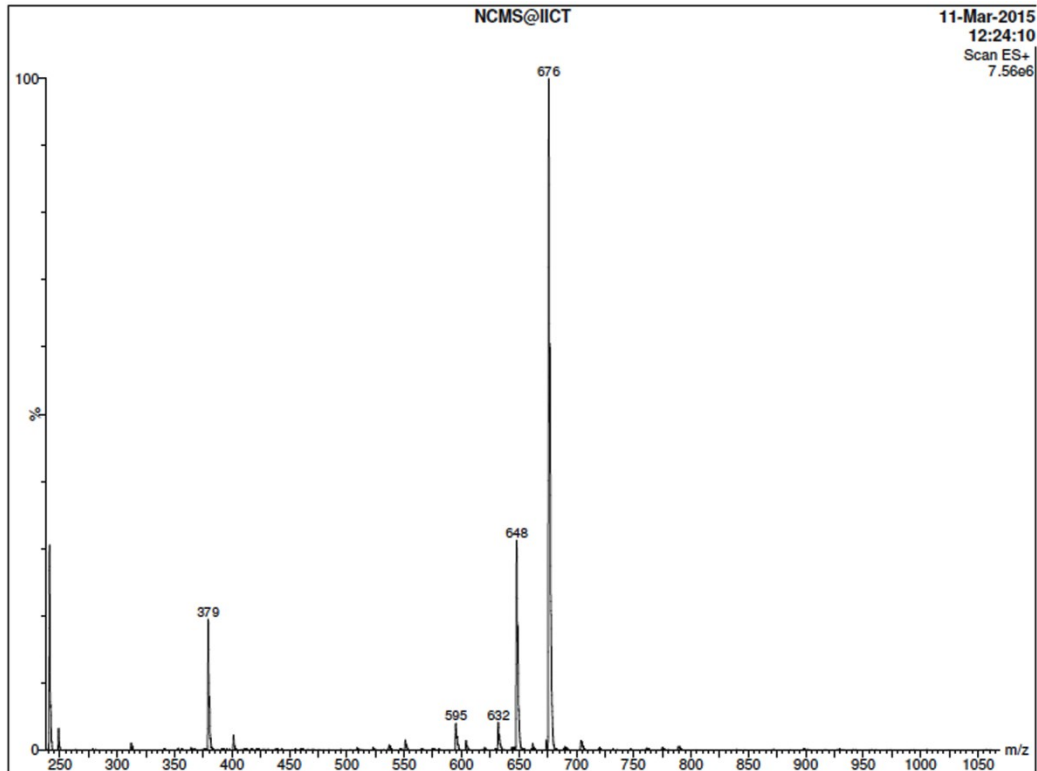


Fig. S16: ESI-MS Spectrum of compound **2c**



**Fig. S17:**  $^1\text{H-NMR}$  Spectrum of Lipid L3



**Fig. S18:** ESI-MS Spectrum of Lipid L3

## Elemental Analysis Data of Lipids 1-3

### Lipid 1

Calculated: %C: 74.41; %H: 12.85; %N: 9.92; %O: 2.83.

Observed: %C: 74.01; %H: 12.5; %N: 9.98; %O: 2.63.

### Lipid 2

Calculated: %C: 75.42; %H: 12.98; %N: 9.02; %O: 2.58.

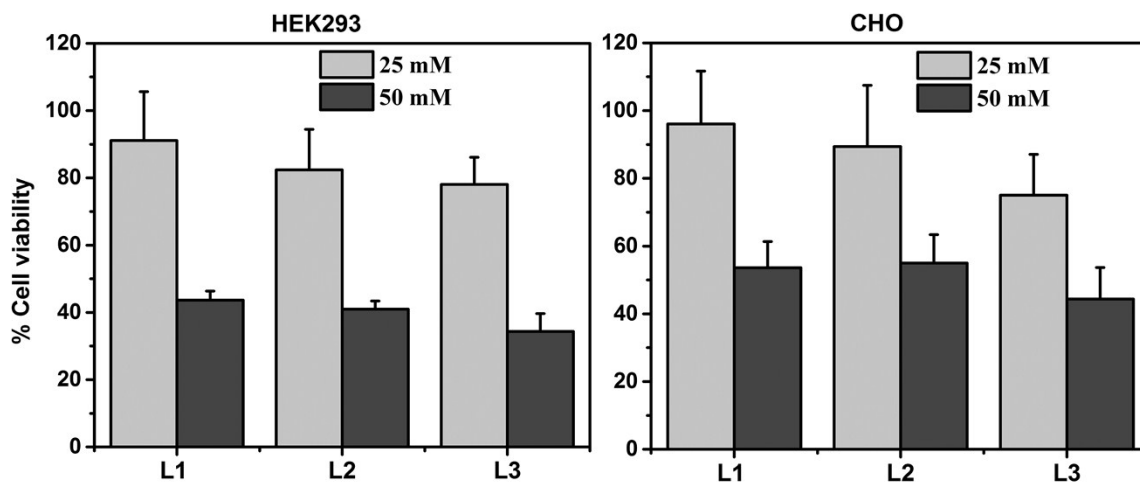
Observed: %C: 75.41; %H: 12.85; %N: 9.2; %O: 2.38.

### Lipid 3

Calculated: %C: 76.27; %H: 13.10; %N: 8.27; %O: 2.36.

Observed: %C: 76.41; %H: 13.15; %N: 8.2; %O: 2.38.

## Liposomal cell viability:



**Fig. S19:** % cell viabilities obtained from average of three individual experiments using two different concentrations of dicationic liposomal suspensions of L1, L2 and L3.