Supporting Information

Nitrogen-Doped Graphene Quantum Dots Combined *Sodium 10-Amino-2-Methoxyundecanoate*: Studies of Pro-Inflammatory Gene Expression and Live Cell Imaging

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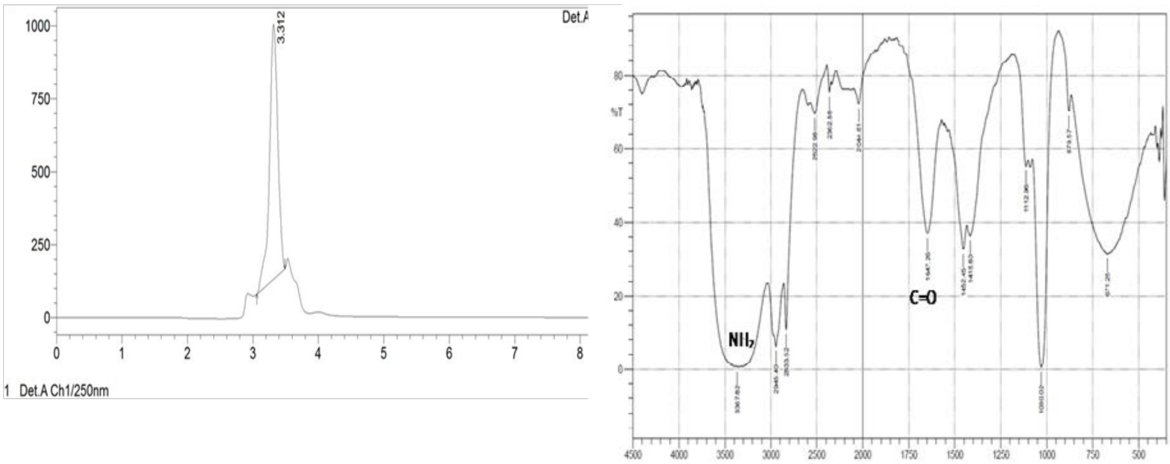
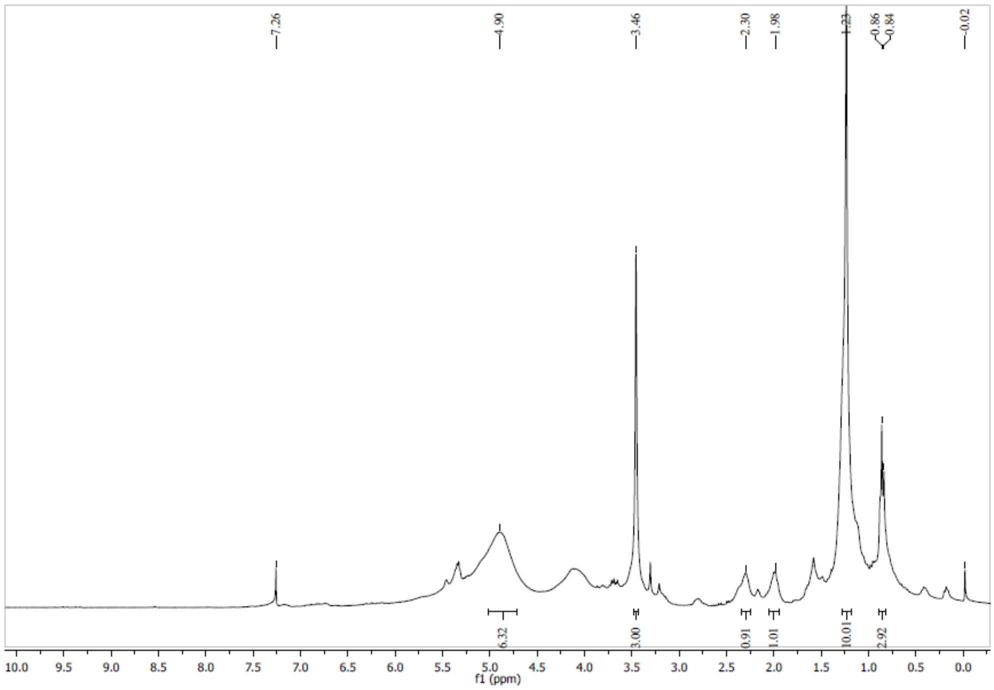


Figure S1. HPLC and FT-IR spectrum of **SAM** fraction from *Lyngbya* sp.,



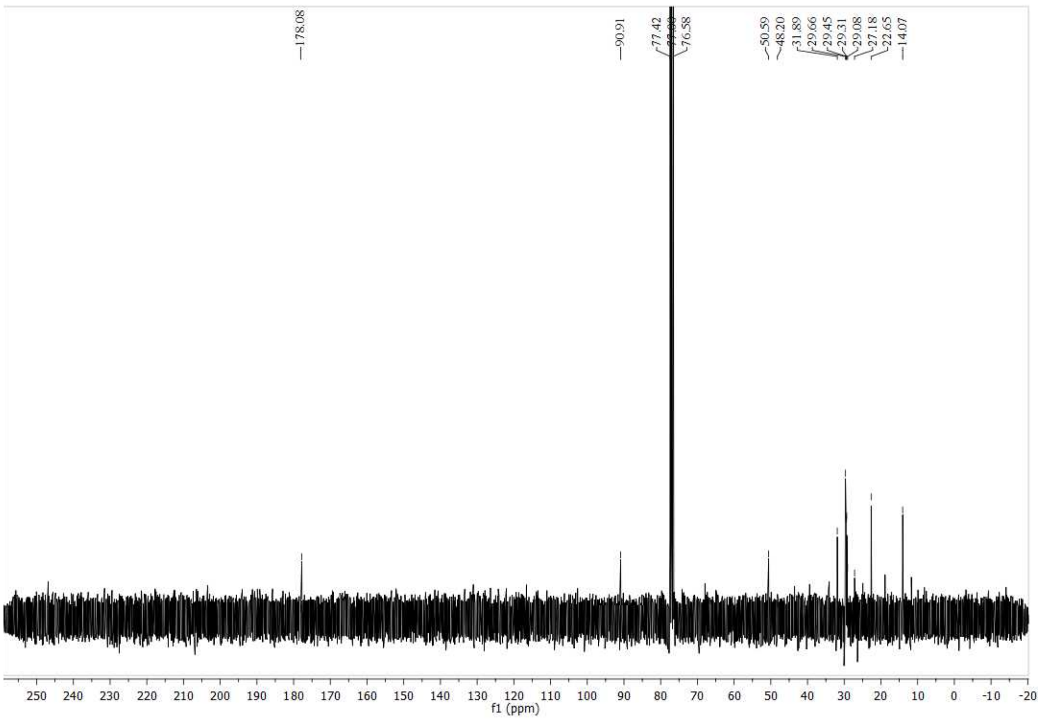


Figure S2. 1H NMR & 13C NMR of **SAM** from *Lyngbya* sp.

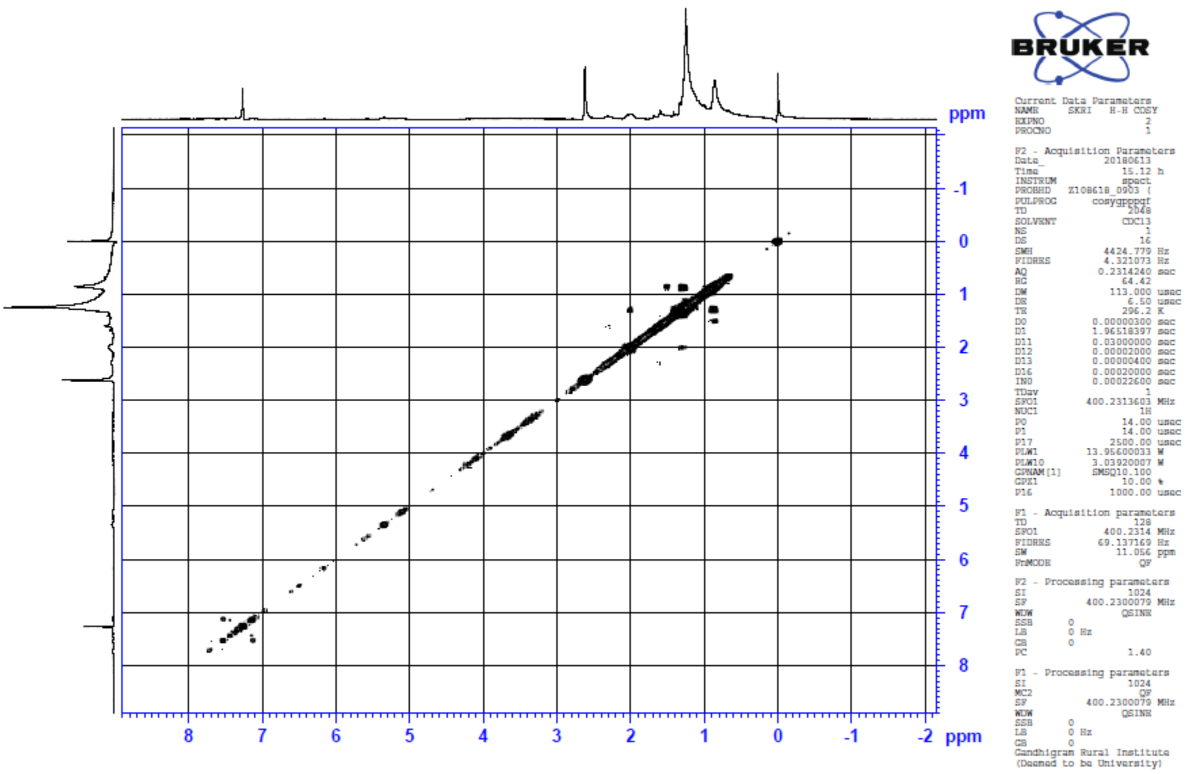


Figure S3. 2D-NMR of **SAM** from *Lyngbya sp*.

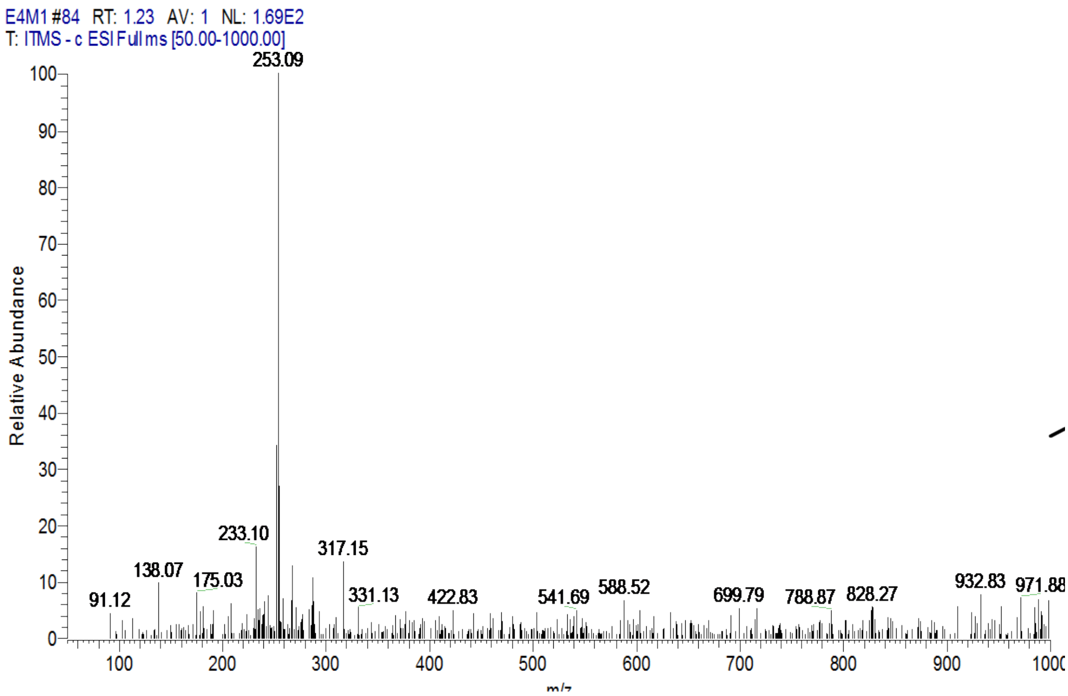


Figure S4. ESI-MS of **SAM** from *Lyngbya* sp. major peak observed is of mass 253.09.

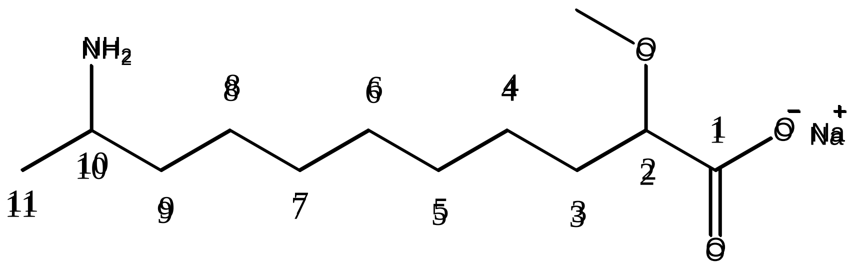


Figure S5. Structural of *Sodium 10-amino-2-methoxyundecanoate* (**SAM**).

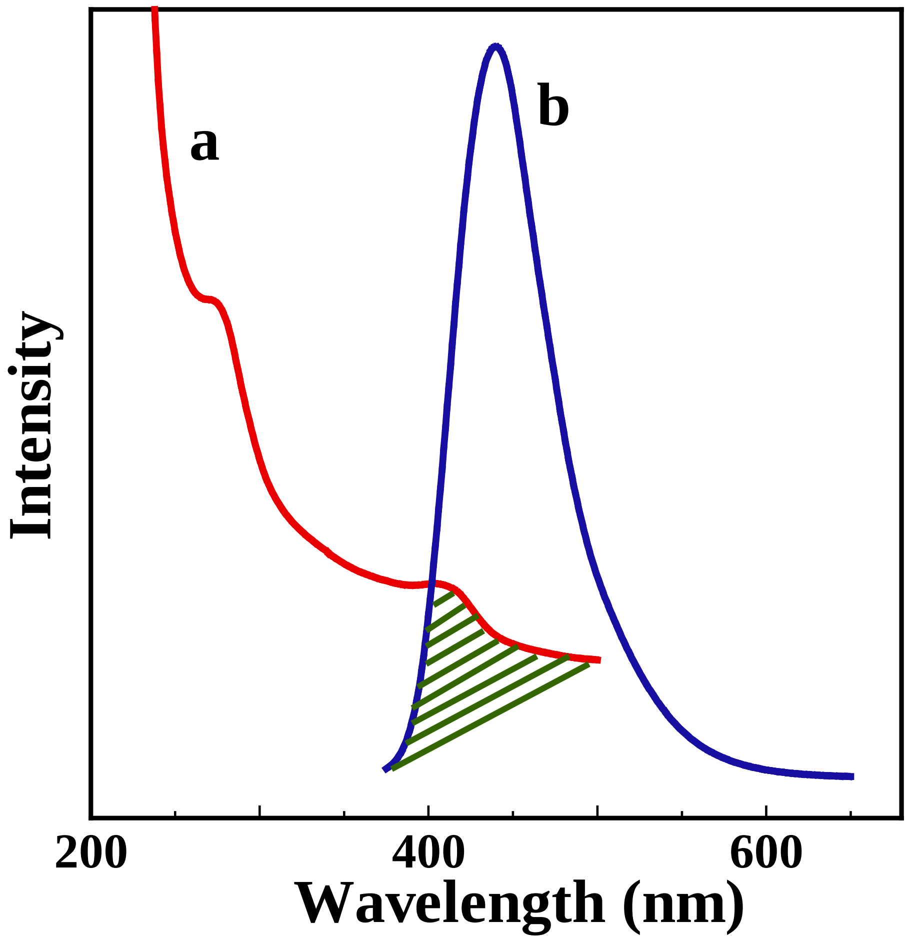


Figure S6. Spectral overlap of absorption spectrum of (a) SAM with emission spectrum of N-GQDs (b).

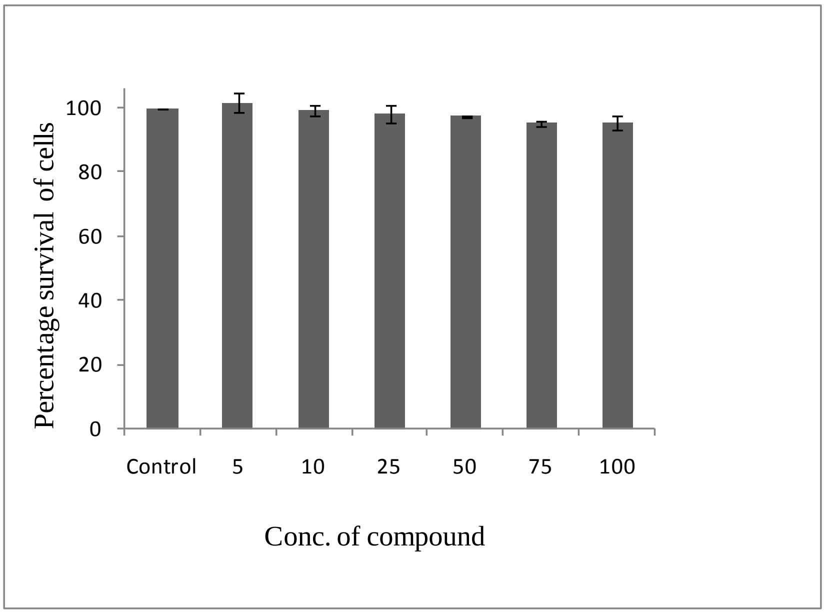


Figure S7. Effect of compound **SAM** on survival percentage of RAW 264.7 cells.

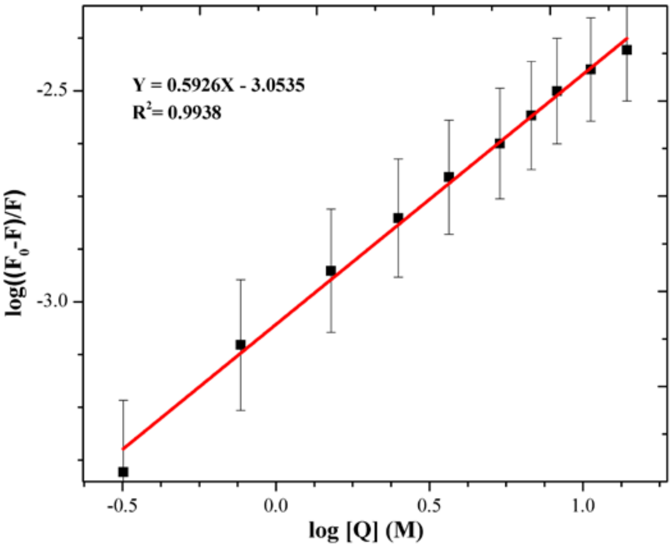


Figure S8. Binding constant plot for fluorescence quenching of N-GQDs in the presence of SAM.

Table S1. Structural validation of **SAM** by NMR.

δ (ppm)	**No., of H corresponding**	**Attachment/position of H in the molecule**
0.85, 0.87	3	CH_3 (C_{11})
1.12	2	CH_2 (C_3)
1.25	10	CH_2 ($C_4 – C_8$)
1.59	2	CH_2 (C_9)
1.99	1	CH (C_2)
2.31	1	CH (C_{10})
3.47	3	OCH_3 (C_2)
4.13	2	NH_2

Table S2. List of primers used for RT-PCR analysis for the expression of the inflammatory genes:

Gene symbol	**Gene Name**	**Forward Primer**	**Reverse Primer**
Act	Actin	CTGACAGACTACCTCATGAG ATCC	CTCGAAGTCTAGAGCAACAT AGCAC
IL-1α	Interleukin-1 alpha	ATCAGCACCTTACACCTACC AGAGT	GCTGAGATAGTGTTTGTCCA CATC
IL-1β	Interleukin-1 beta	GTTCCCATTAGACAACTGCA CTAC	CTTGGTTCTCCTTGTACAAA GCTC
IL-4	Interleukin-4	CTTCTTTCTCGAATGTACCA GGAG	GAGCTCACTCTCTGTGGTGT TCT
IL-6	Interleukin-	CCAGAGTCCTTCAGAGAGAT	CTGTGACTCCAGCTTATCTG

	6	ACAGA	TTAGG
COX-2	Cycloxygenase-2	GACCGAGTTTACTGAGAAGAGGAG	CTCCTGGAAGGTACCAAAGATAGAG
TNF-α	Tumor necrosis factor	GATGGGTTGTACCTTGTCTACTCC	GAGGTTGACTTTCTCCTGGTATGAG
NF-κβ	Nuclear factor-kappa beta	AGTACCACCTATGATGGGACTACAC	GTCATAGAGAGGCTCAAAGTTCTCC
iNOS	Inducible nitric oxide synthase	CCTCCTCCACCCTACCAAGT	CACCCAAAGTGCTTCAGTCA