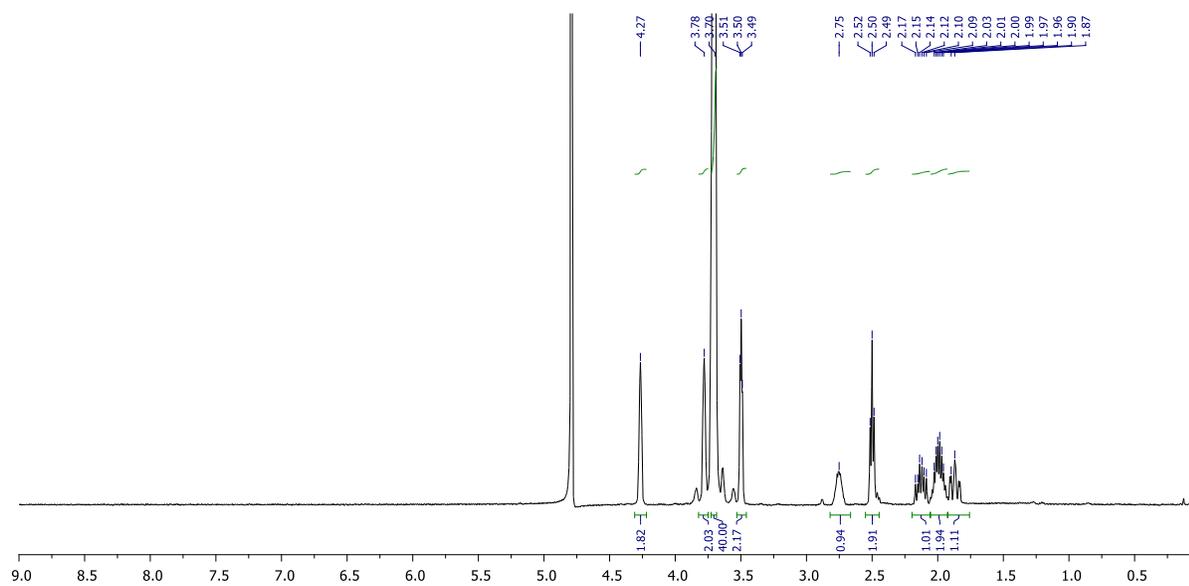
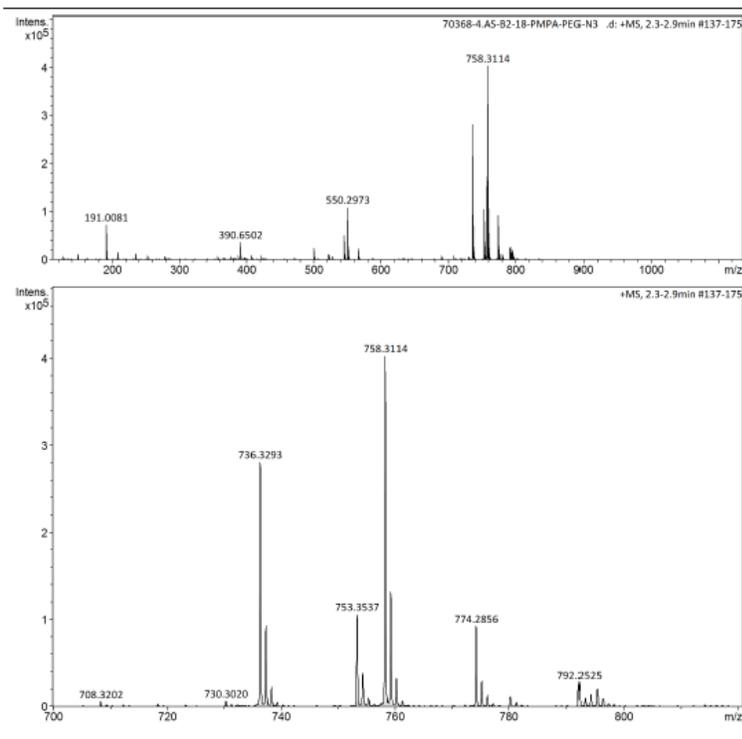


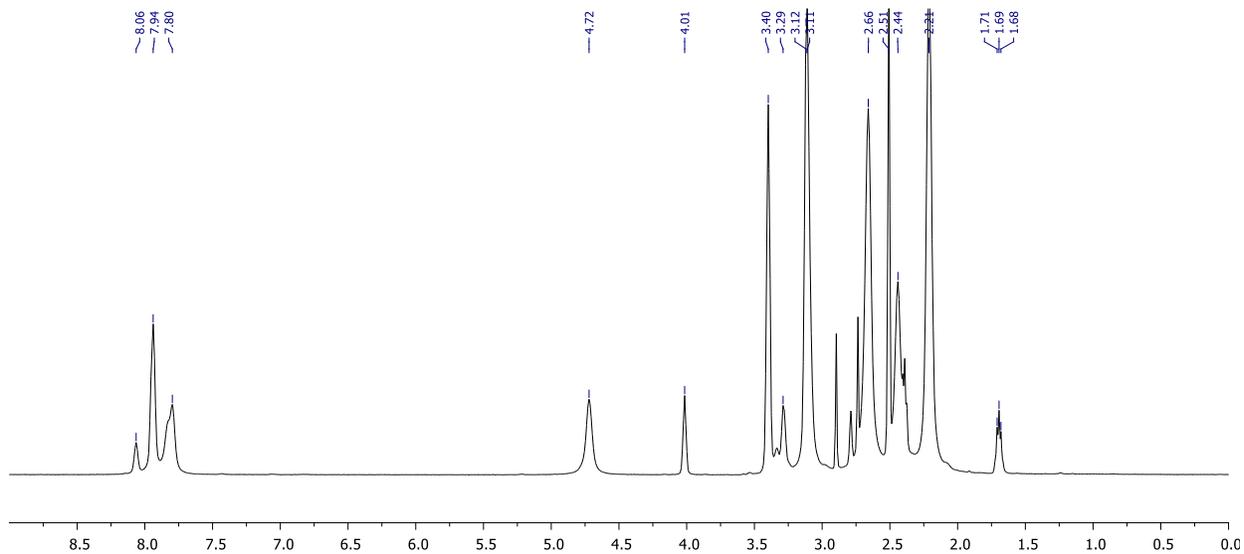
Supplementary Figures



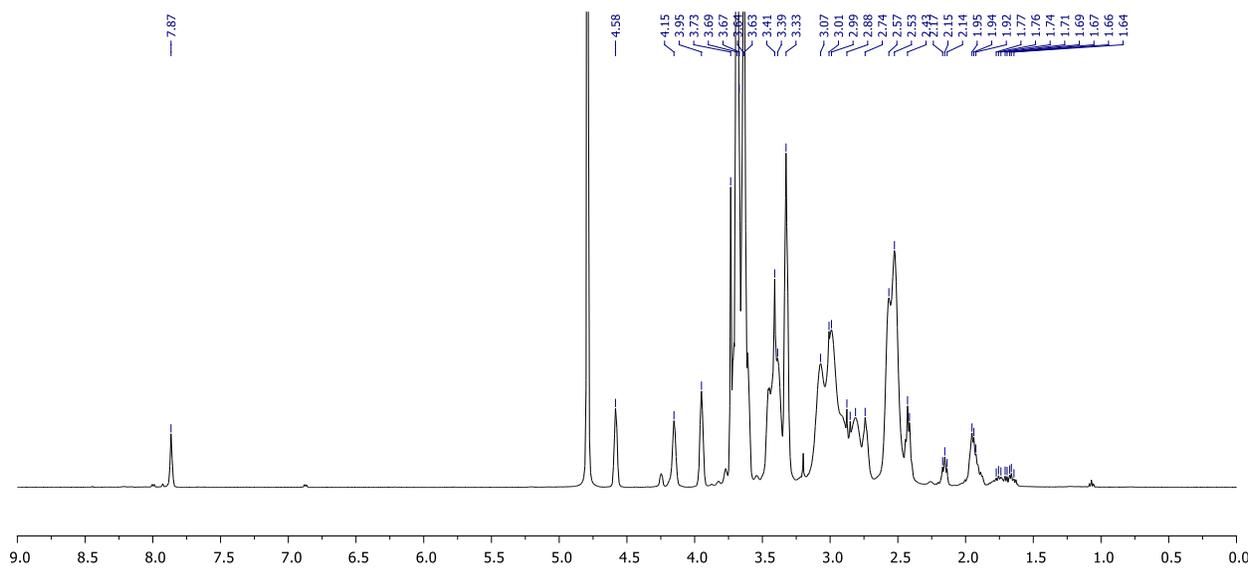
Supplementary Figure 1. ^1H NMR of 2PMPA-PEG-N₃ (compound 2) in D₂O



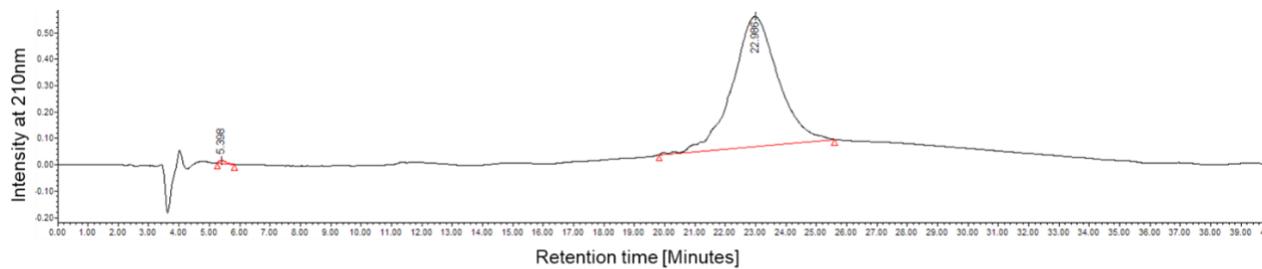
Supplementary Figure 2. ESI-MS spectra of 2PMPA-PEG-N₃ (compound 2)



Supplementary Figure 3. ^1H NMR of D-hexyne (compound **4**) in $\text{DMSO-}d_6$



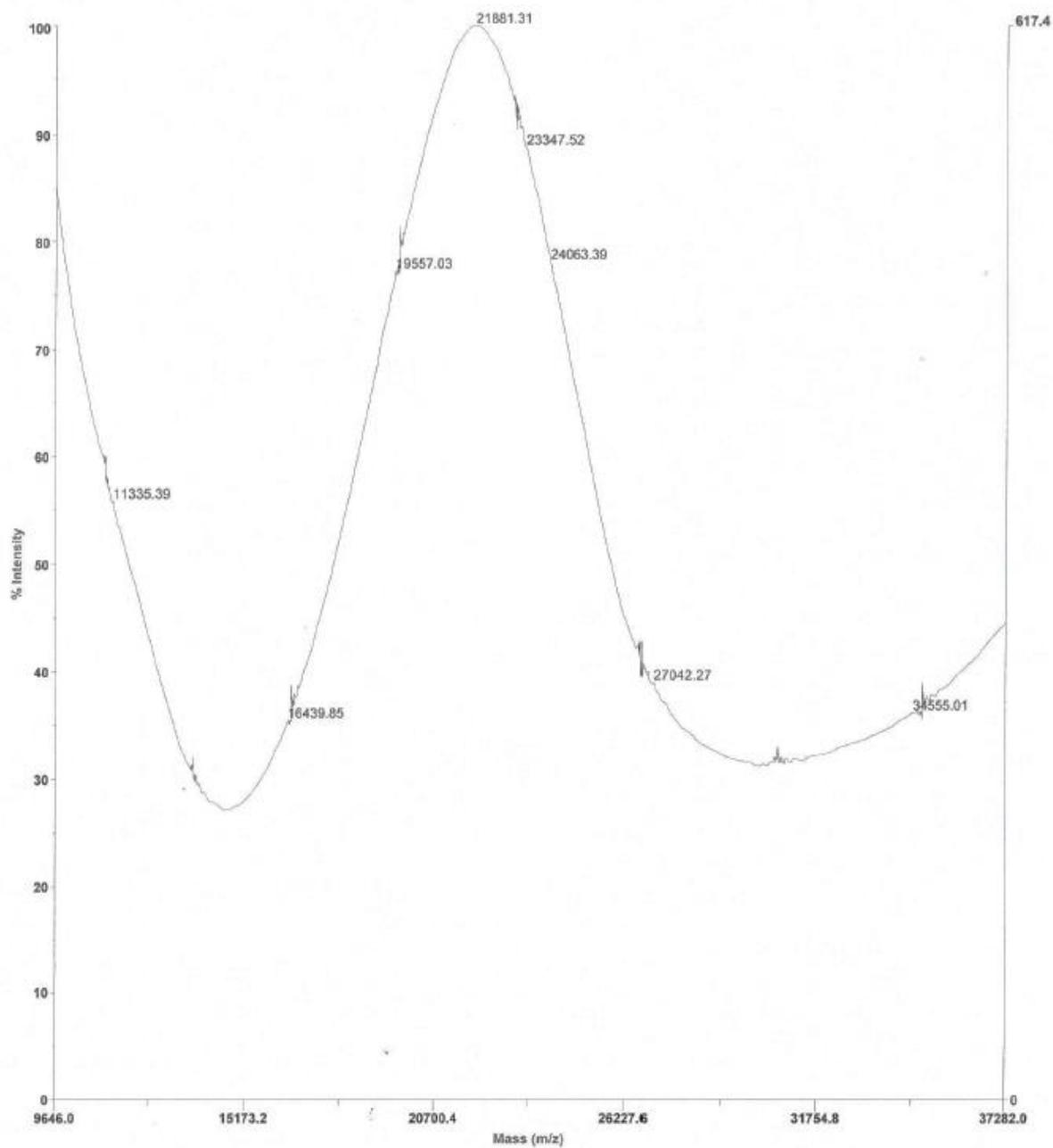
Supplementary Figure 4. ^1H NMR of D-2PMPA (compound **5**) in D_2O



Retention Time (min)	Area ($\mu\text{V}\cdot\text{sec}$)	% Area	Height (μV)
5.398	159949	0.31	11287
22.986	51298359	99.69	493039

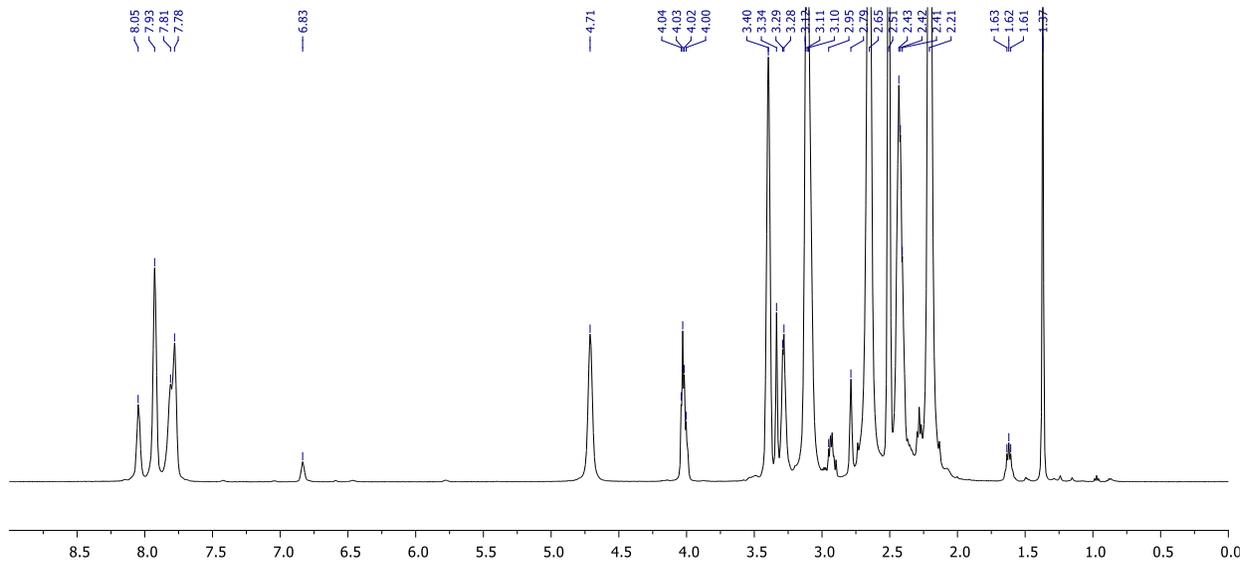
Supplementary Figure 5. HPLC trace of D-2PMPA (compound **5**) at 210nm showing a purity >99%

Voyager Spec #1=>BC=>NR(5.00)[BP = 5051.9, 2261]

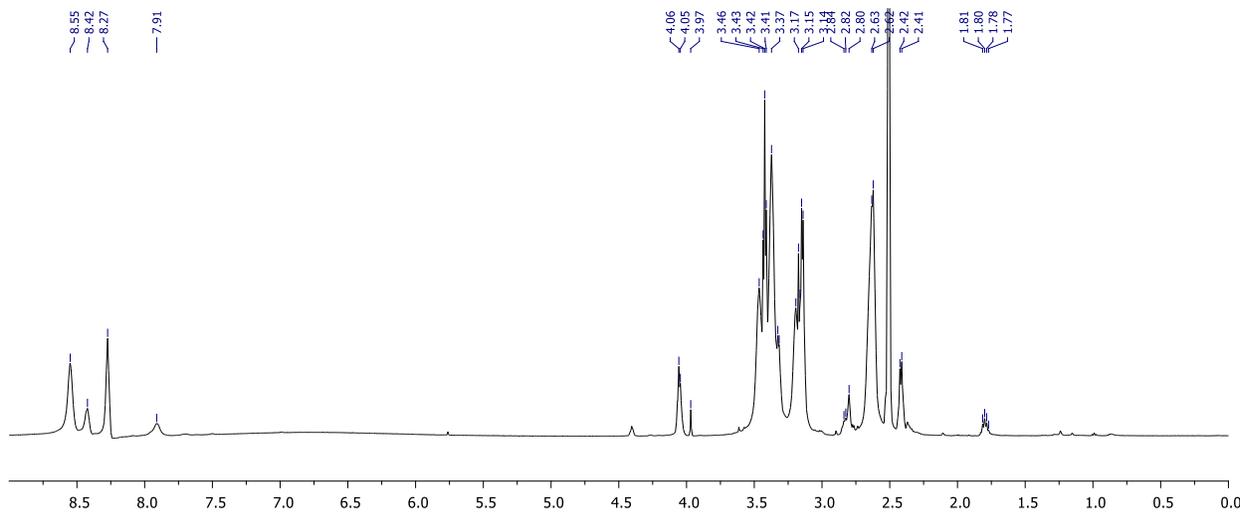


D-PMPA
C:\...D-PMPA_0001.dat
Acquired: 11:08:00, September 20, 2019

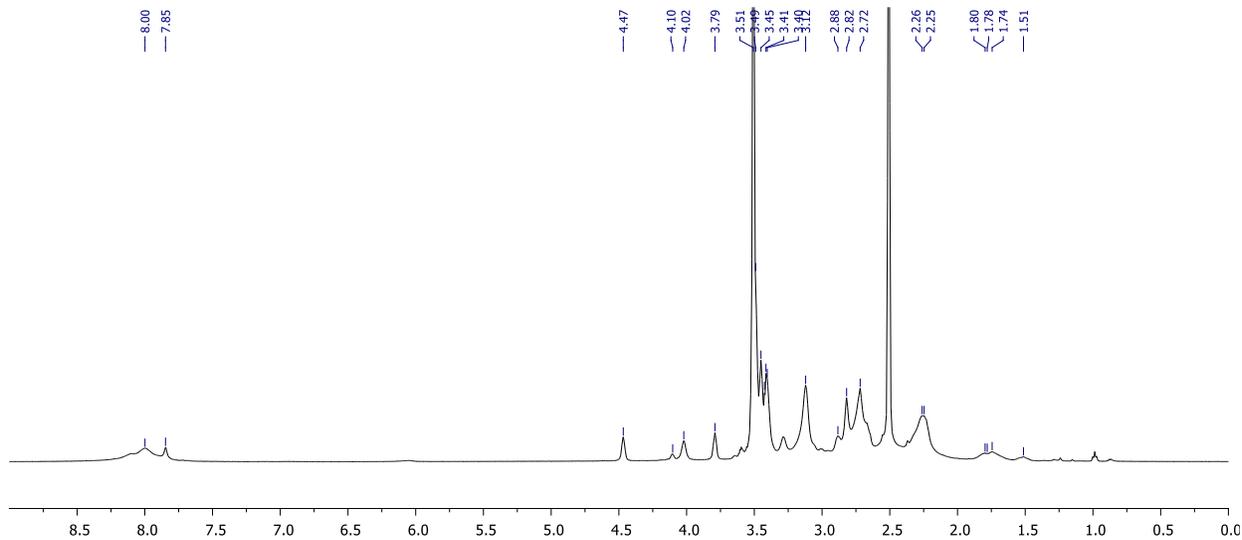
Supplementary Figure 6. MALDI-ToF spectra of D-2PMPA (compound 5)



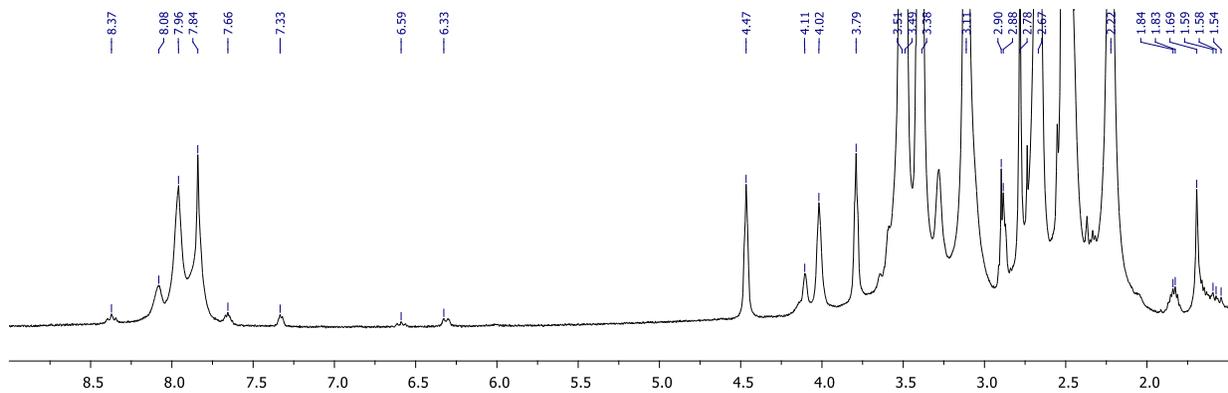
Supplementary Figure 7. ^1H NMR of compound **6** in $\text{DMSO-}d_6$



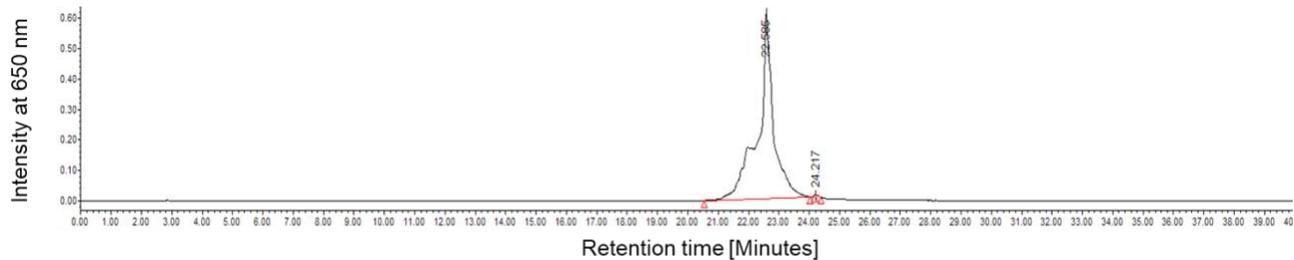
Supplementary Figure 8. ^1H NMR of compound **7** in $\text{DMSO-}d_6$



Supplementary Figure 9. ^1H NMR of compound **8** in $\text{DMSO-}d_6$

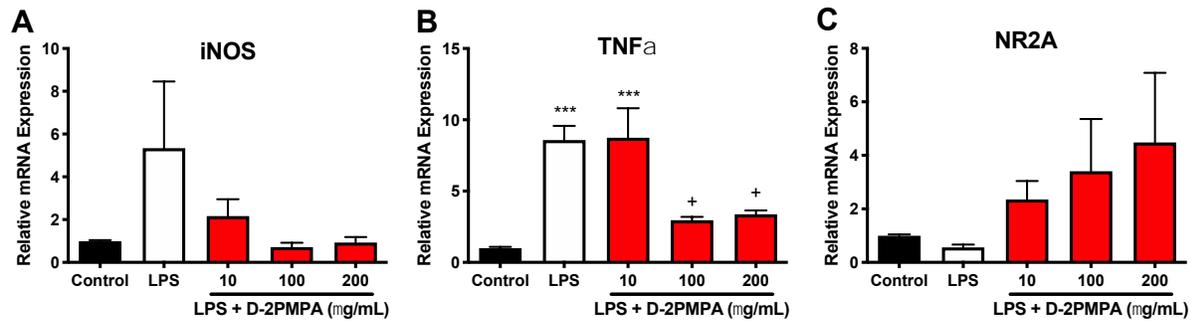


Supplementary Figure 10. ^1H NMR of Cy5-D-2PMPA (compound **9**) in $\text{DMSO-}d_6$



Name	Retention Time (min)	Area ($\mu\text{V}\cdot\text{sec}$)	% Area	Height (μV)
1	22.585	21353518	99.97	609742
2	24.217	5639	0.03	1441

Supplementary Figure 11. HPLC chromatogram of Cy5-D-2PMPA (compound **9**) showing greater than 99% purity



Supplementary Figure 12. Anti-inflammatory effect of D-2PMPA on LPS-treated glial cultures. D-2PMPA downregulates pro-inflammatory markers **A.** iNOS and **B.** TNF α and causes a trend increase in **C.** NR2A. Significantly different from control at $P < 0.001$ (***) . Significantly different from LPS at $P < 0.05$ (+).