

Hybrid Hydrogels Derived from Renewable Resources as a Smart Stimuli Responsive Soft Material for Drug Delivery Applications

Vandana Singh,^a Yadavali Siva Prasad,^{a,d} Arun Kumar Rachamalla,^c Vara Prasad Rebaka,^c Tohira Banoo,^c C. Uma Maheswari,^a Vellaisamy Sridharan,^b Krishnamoorthy Lalitha,^{*a} Subbiah Nagarajan,^{*a,c}

a. School of Chemical and Biotechnology, SASTRA Deemed University, Thanjavur – 613401, Tamil Nadu, India.

b. Department of Chemistry and Chemical Sciences, Central University of Jammu, Rahya-Suchani (Bagla), District-Samba, Jammu-181143, J&K, India

c. Department of Chemistry, National Institute of Technology Warangal, Warangal -506004, Telangana, India.

d. Department of Biomedical Engineering, Saveetha School of Engineering, Saveetha Nagar, Thandalam, Tamil Nadu, India

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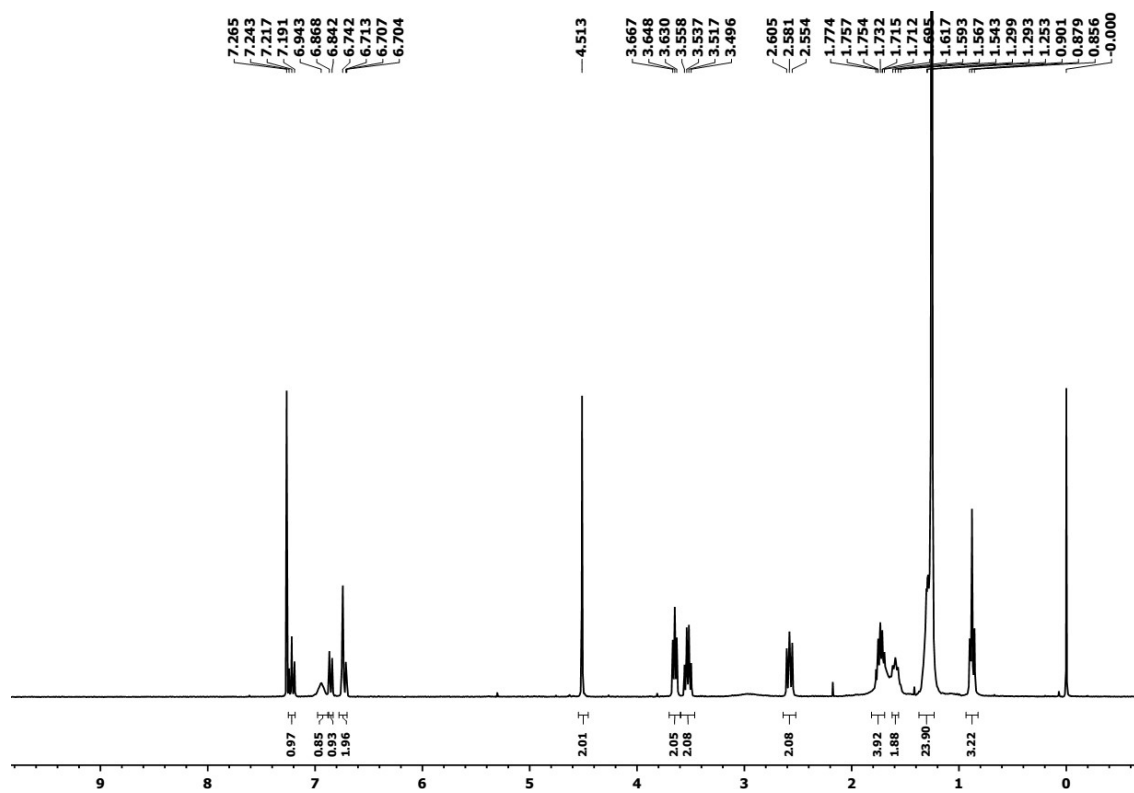


Figure S1. ^1H NMR of compound **6a** in CDCl_3

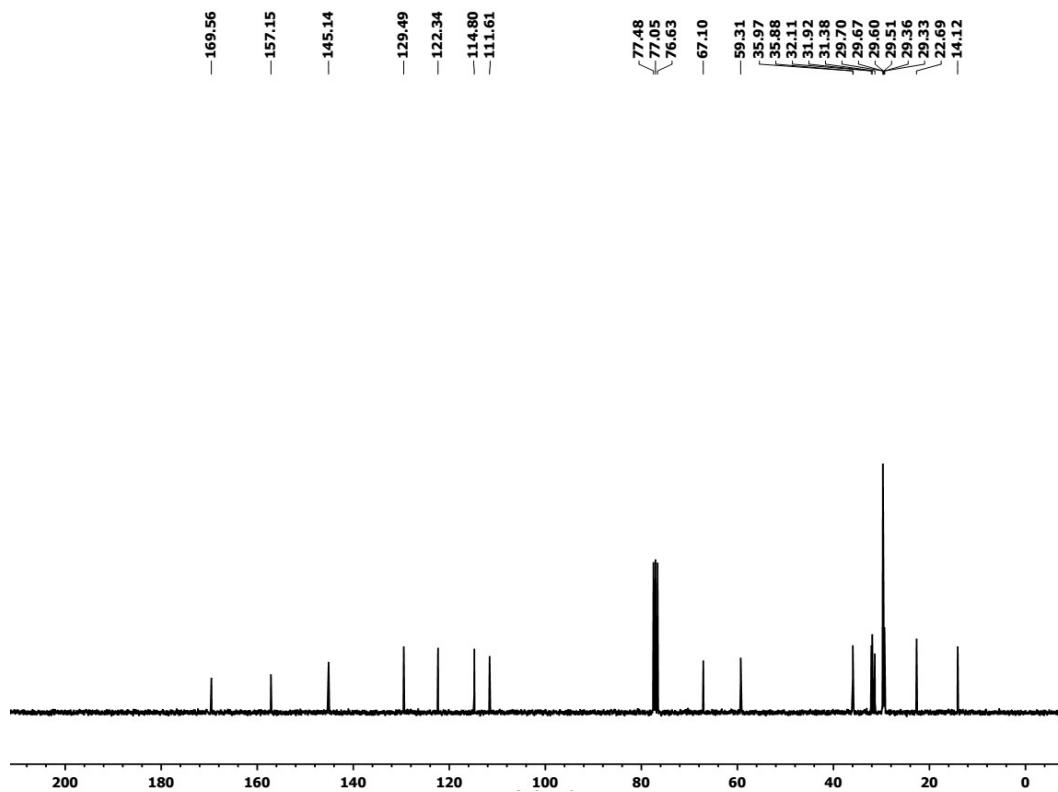


Figure S2. ^{13}C NMR of compound **6a** in CDCl_3

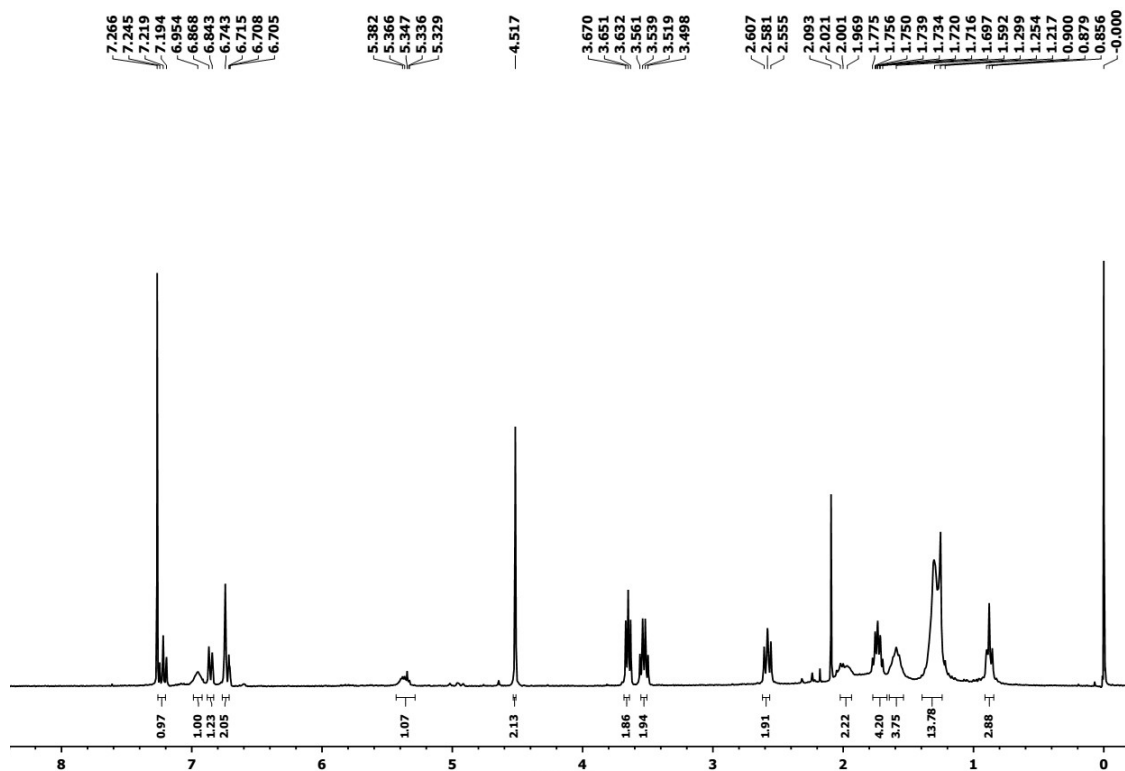


Figure S3. ^1H NMR of compound **6b** in CDCl_3

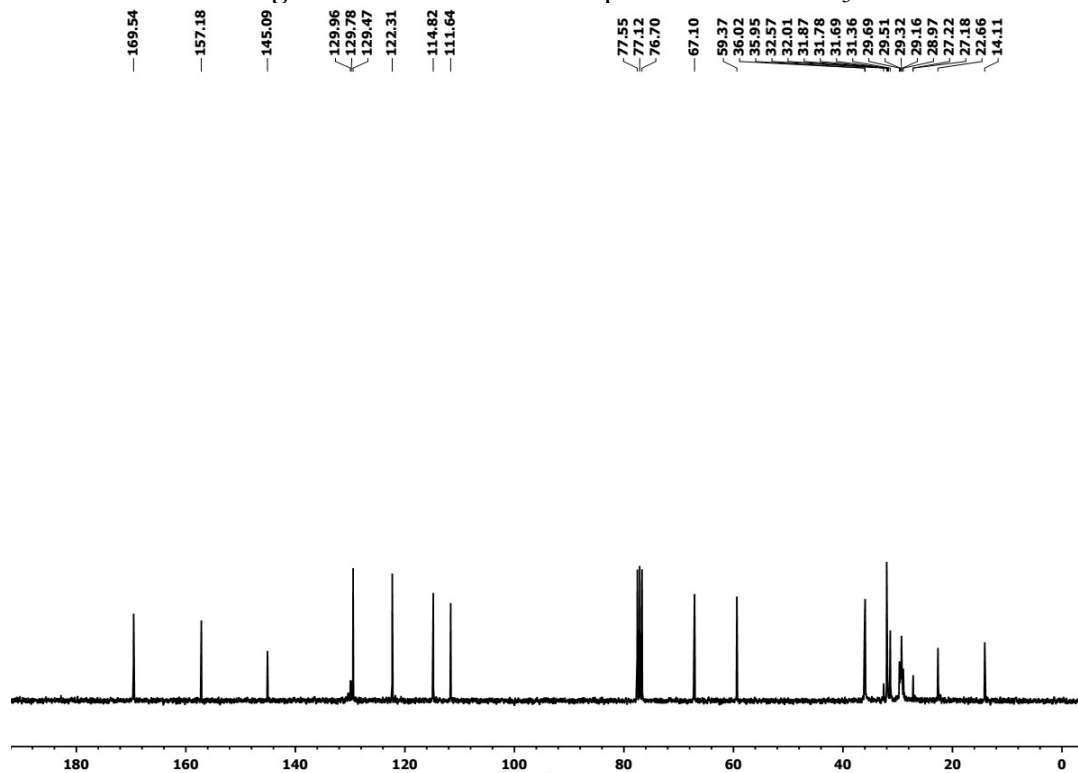


Figure S4. ^{13}C NMR of compound **6b** in CDCl_3

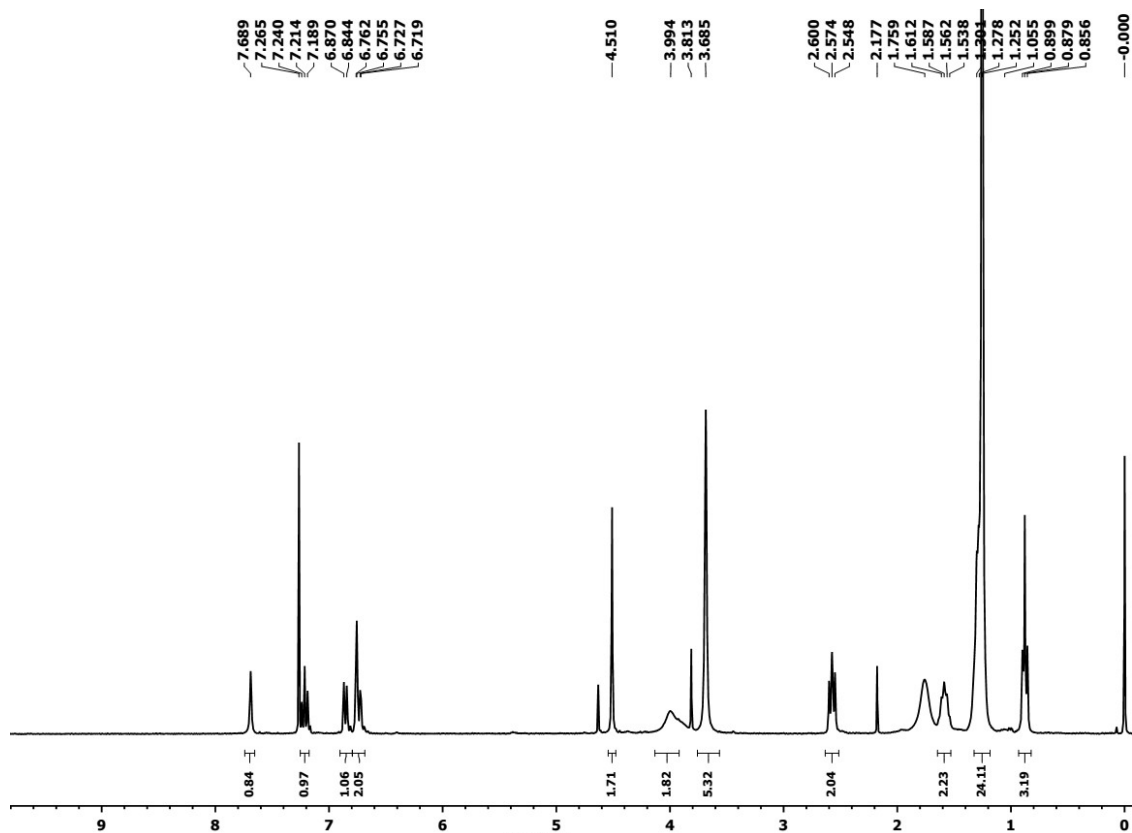


Figure S5. ^1H NMR of compound **7a** in CDCl_3

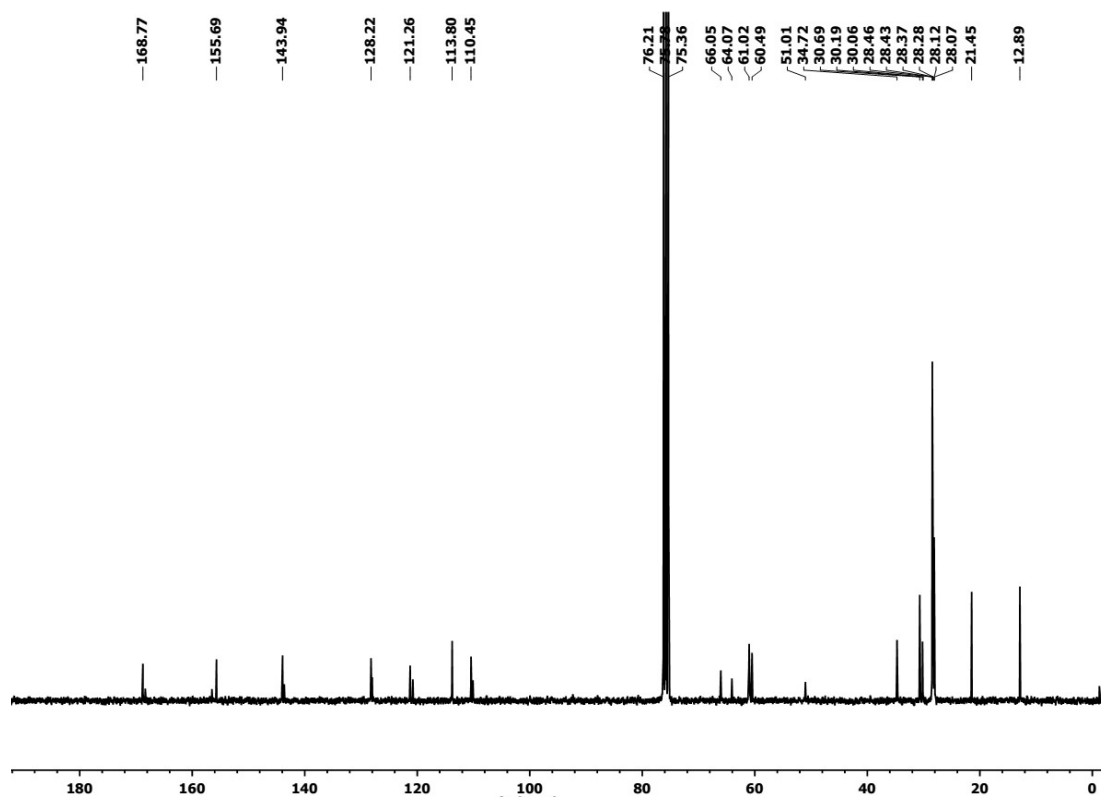


Figure S6. ^{13}C NMR of compound **7a** in CDCl_3

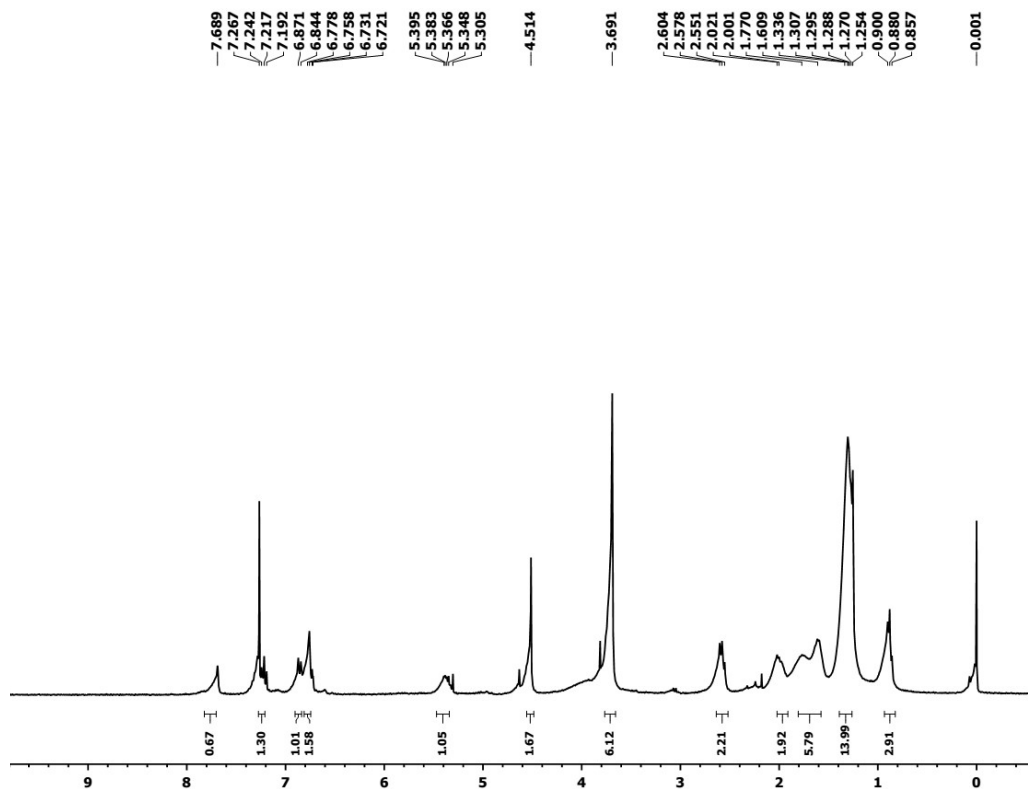


Figure S7. ^1H NMR of compound **7b** in CDCl_3

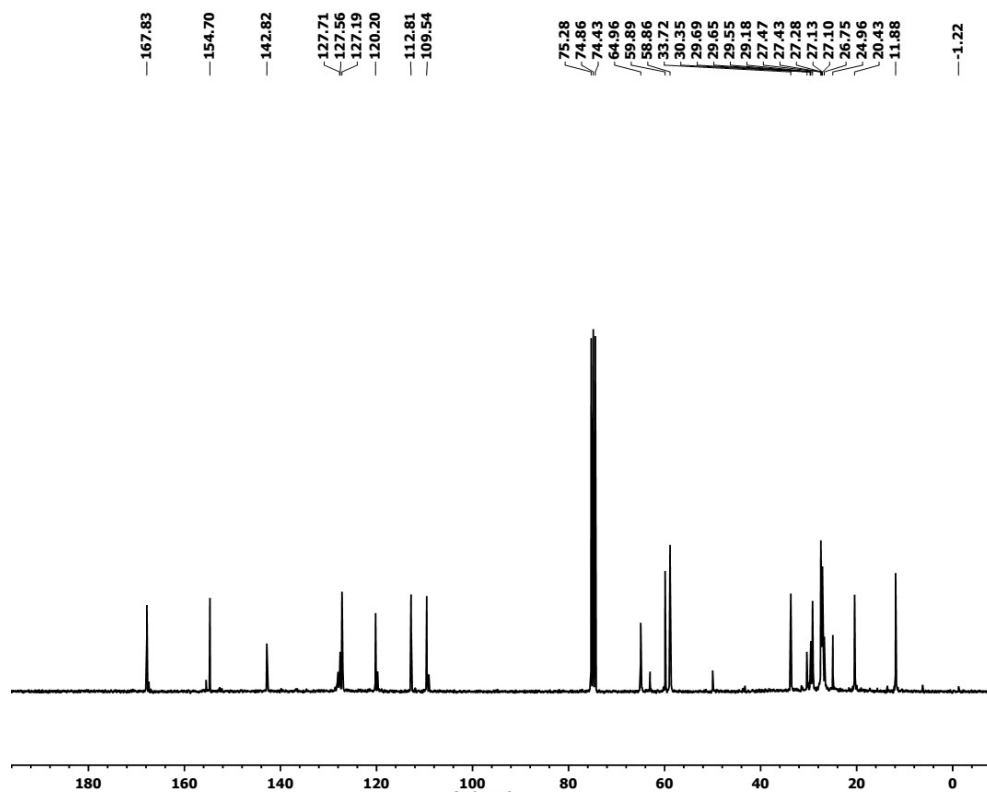
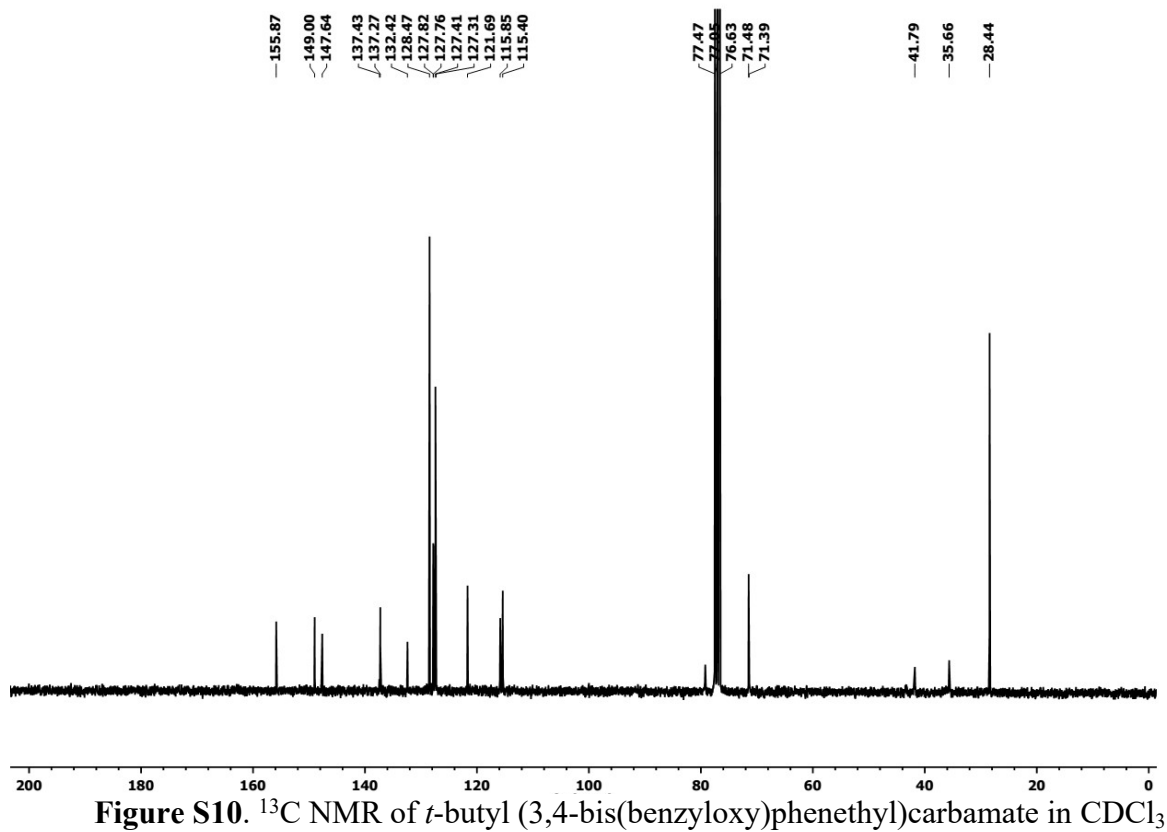
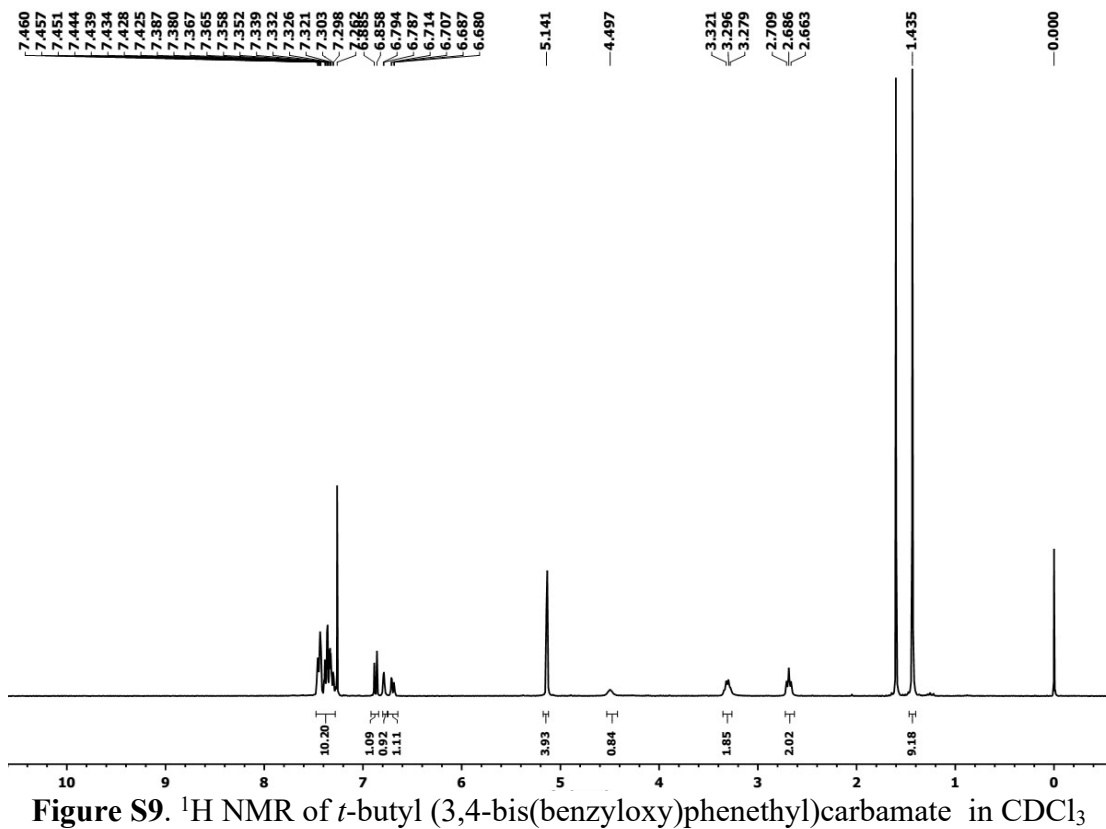


Figure S8. ^{13}C NMR of compound **7b** in CDCl_3



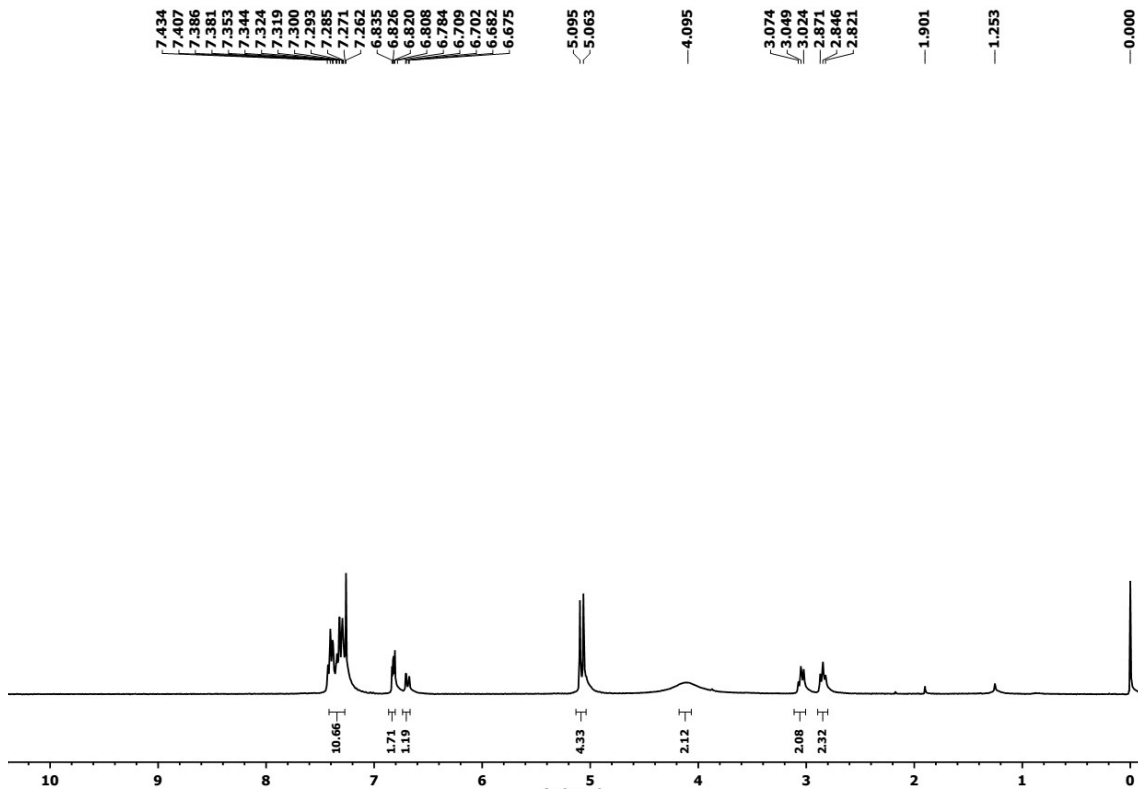


Figure S11. ¹H NMR of 2-(3,4-Bis-benzyloxy-phenyl)-ethylamine in CDCl₃

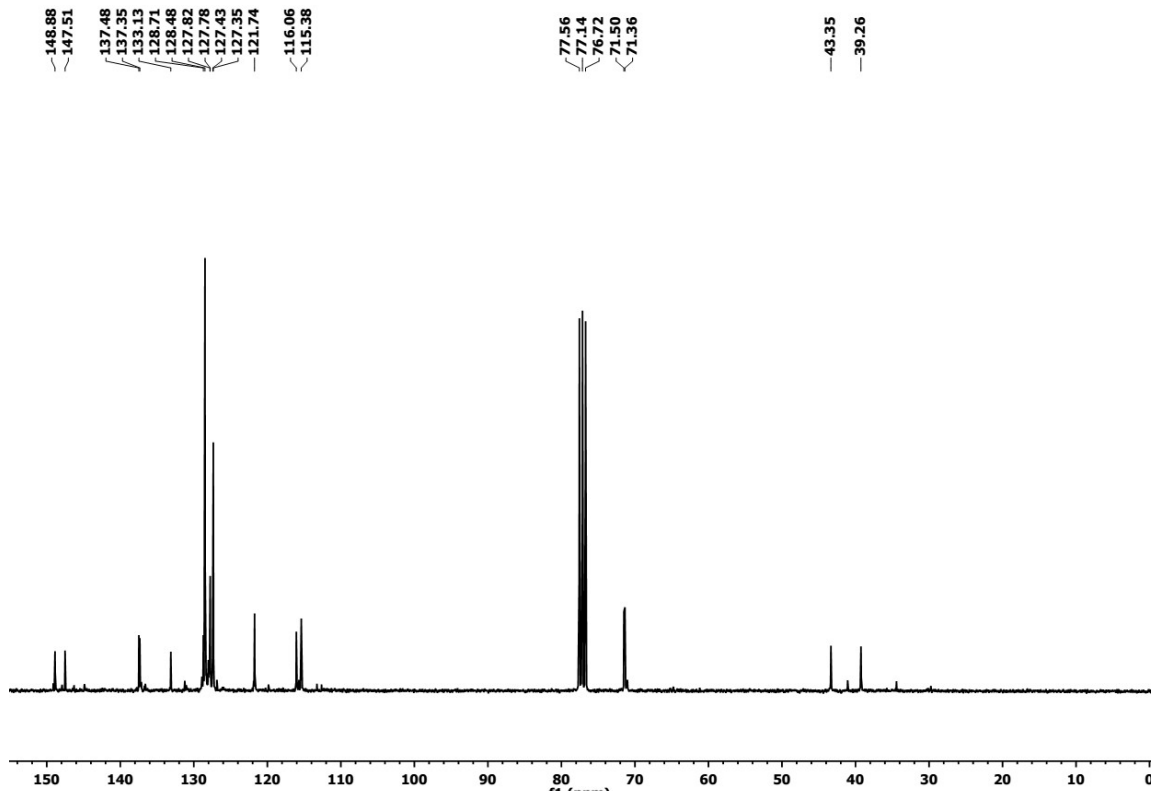


Figure S12. ¹³C NMR of 2-(3,4-Bis-benzyloxy-phenyl)-ethylamine in CDCl₃

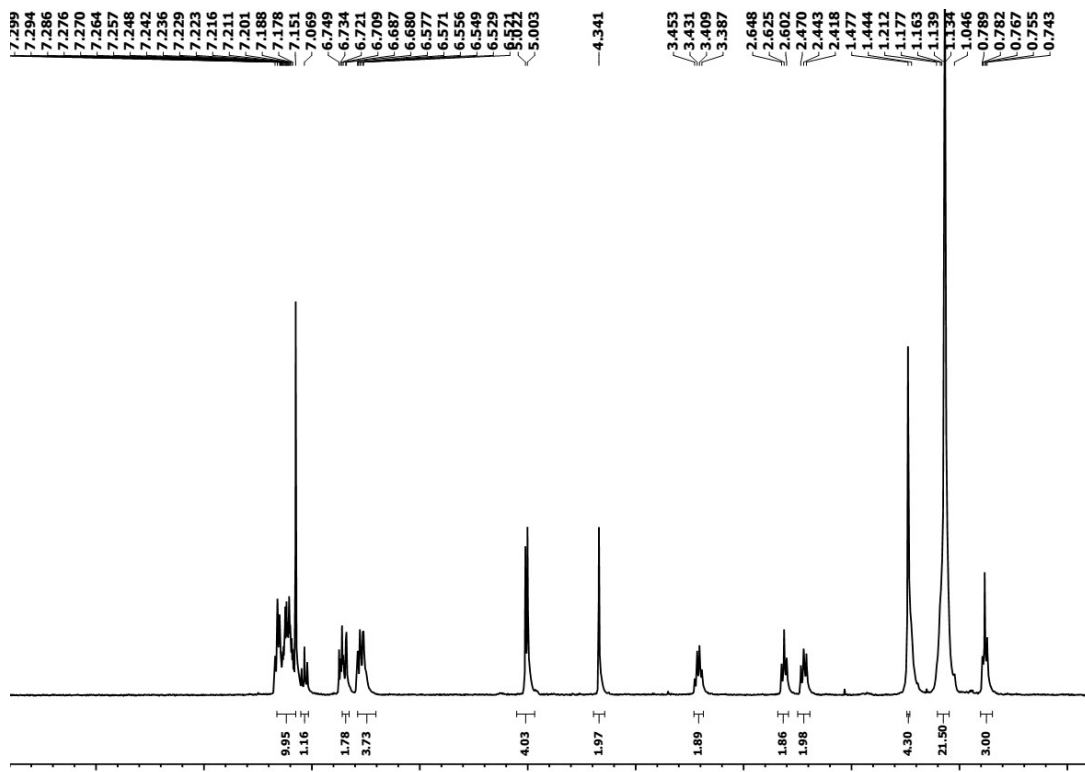


Figure S13. ^1H NMR of *N*-(3,4-bis(benzyloxy)phenethyl)-2-(3-pentadecylphenoxy)acetamide in CDCl_3

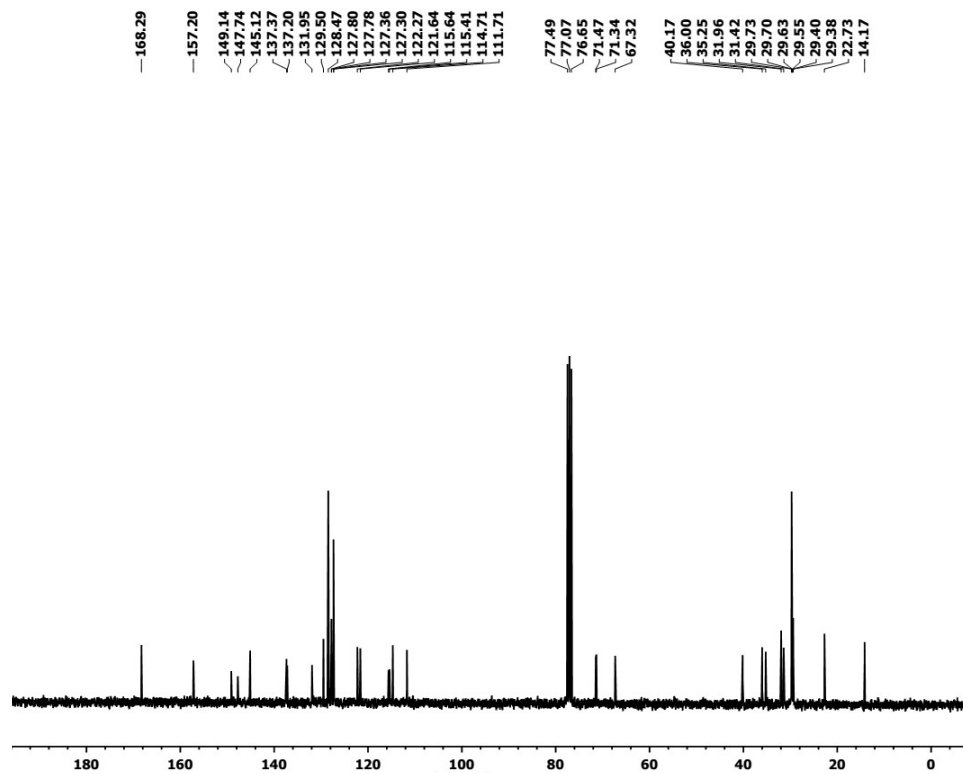


Figure S14. ^{13}C NMR of *N*-(3,4-bis(benzyloxy)phenethyl)-2-(3-pentadecylphenoxy)acetamide in CDCl_3

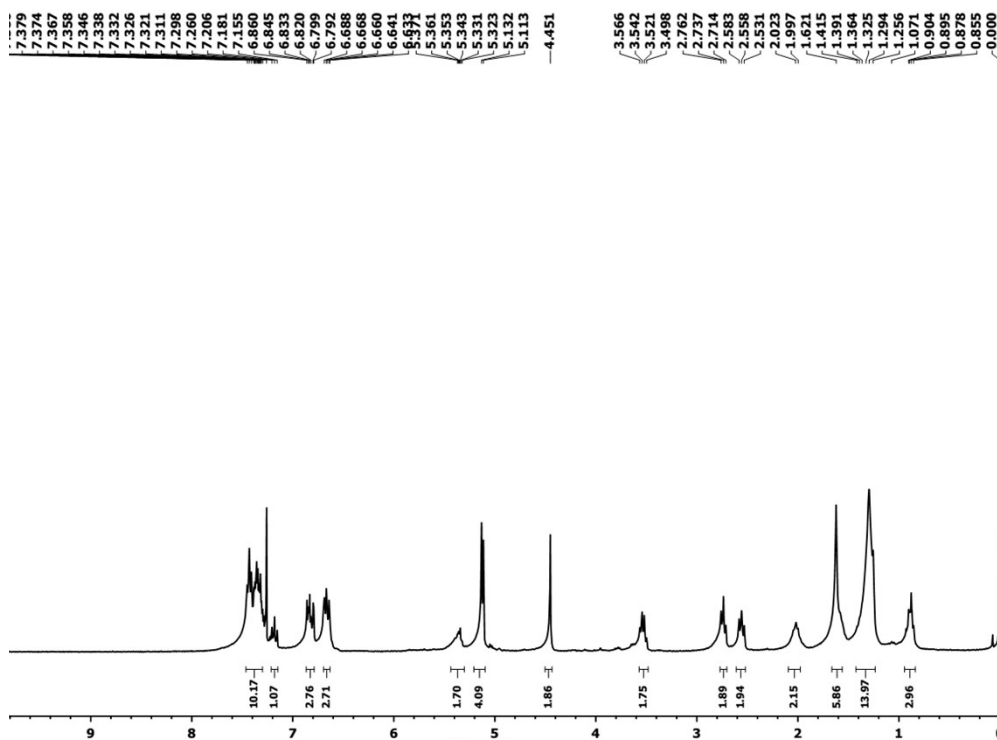


Figure S15. ^1H NMR of *N*-(3,4-bis(benzyloxy)phenethyl)-2-(3-pentadec8-en-1-ylphenoxy)acetamide in CDCl_3

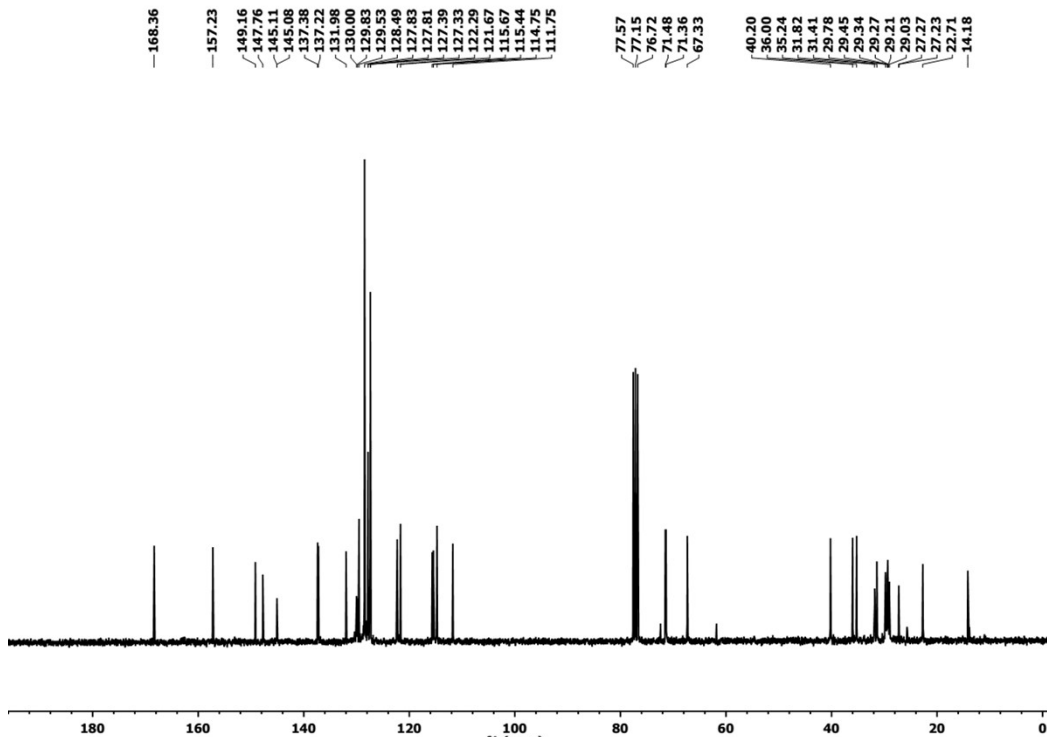


Figure S16. ^{13}C NMR of *N*-(3,4-bis(benzyloxy)phenethyl)-2-(3-pentadec8-en-1-ylphenoxy)acetamide in CDCl_3

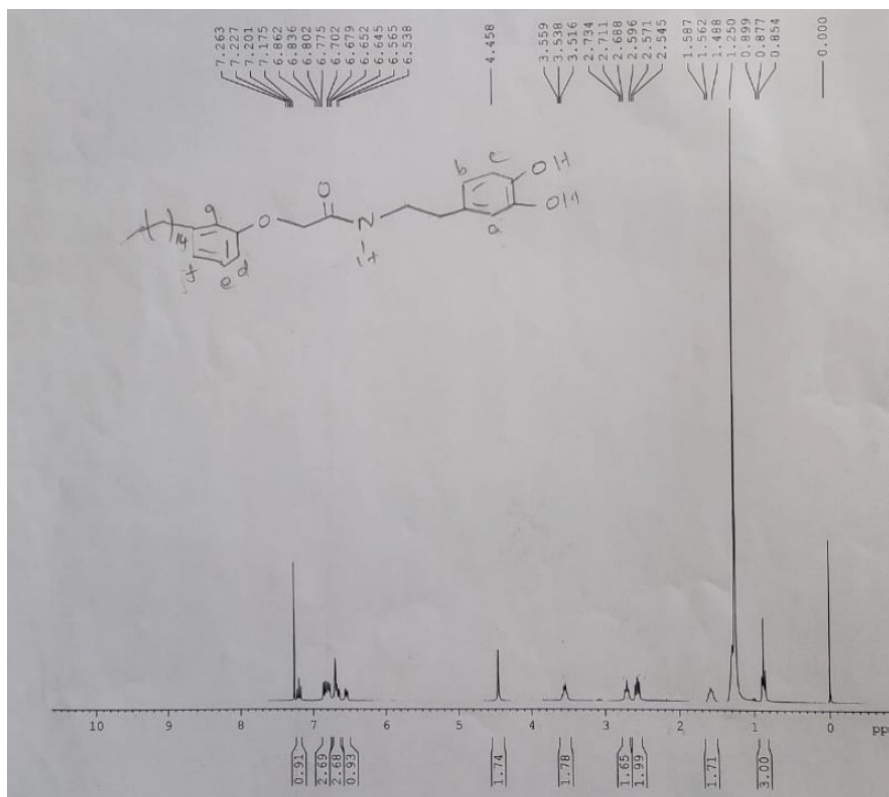


Figure S17. ¹H NMR of compound **8a** in CDCl₃

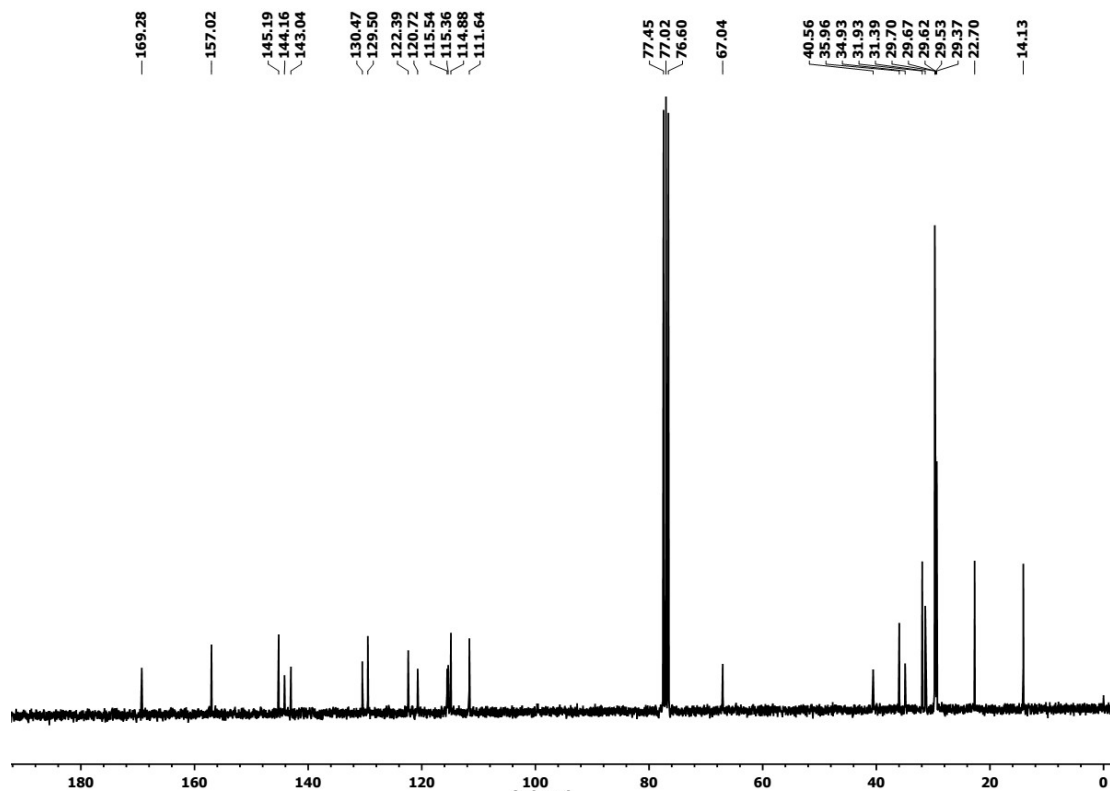


Figure S18. ¹³C NMR of compound **8a** in CDCl₃

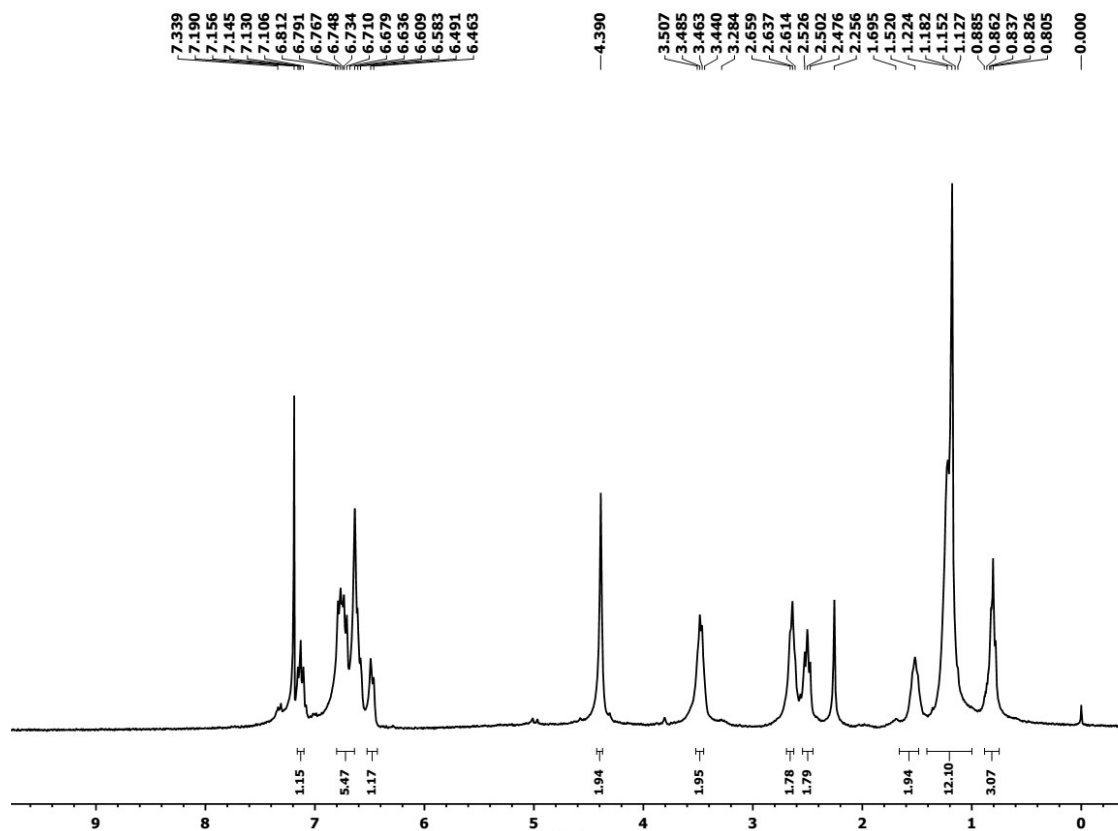


Figure S19. ^1H NMR of compound **8b** in CDCl_3

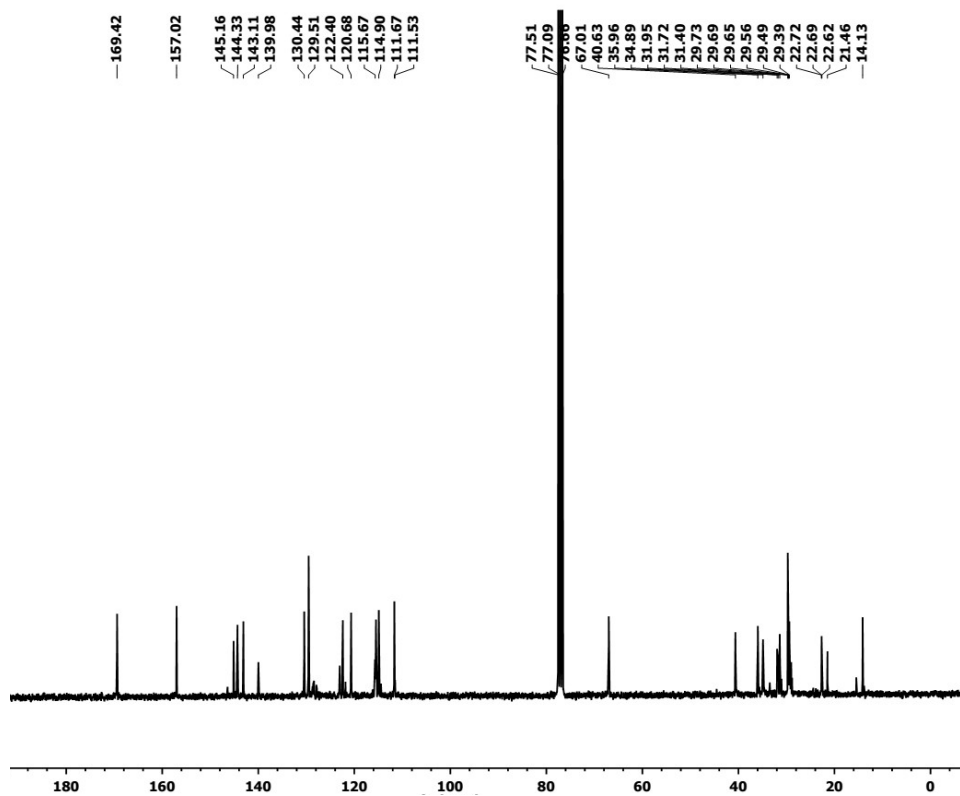


Figure S20. ^{13}C NMR of compound **8b** in CDCl_3

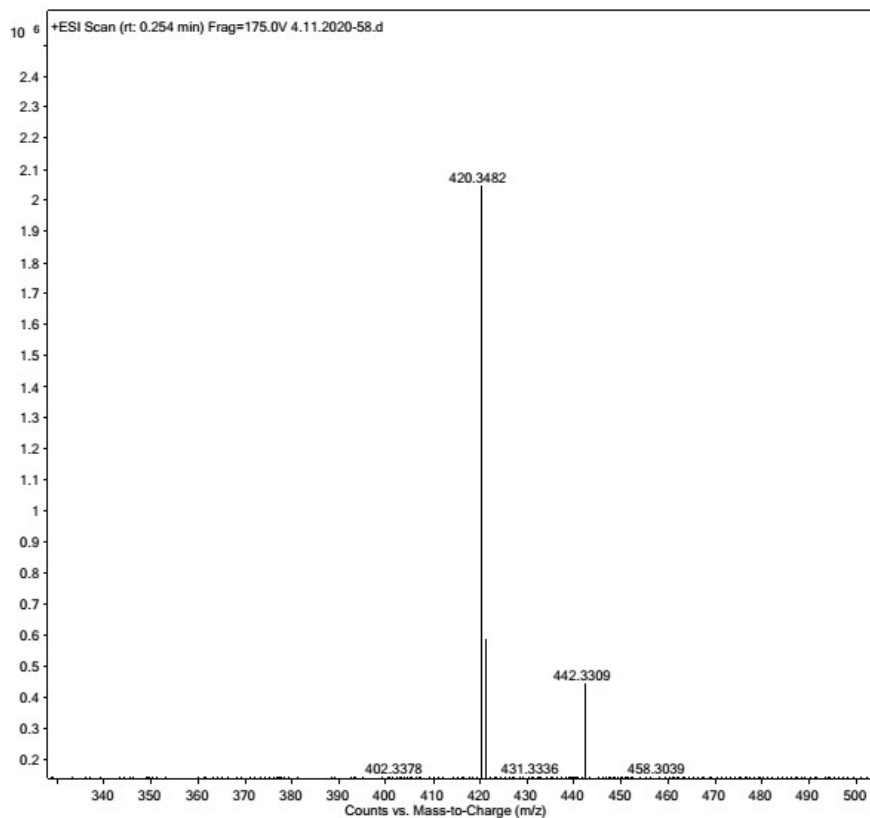


Figure S21. Mass spectra of compound **6a** in methanol

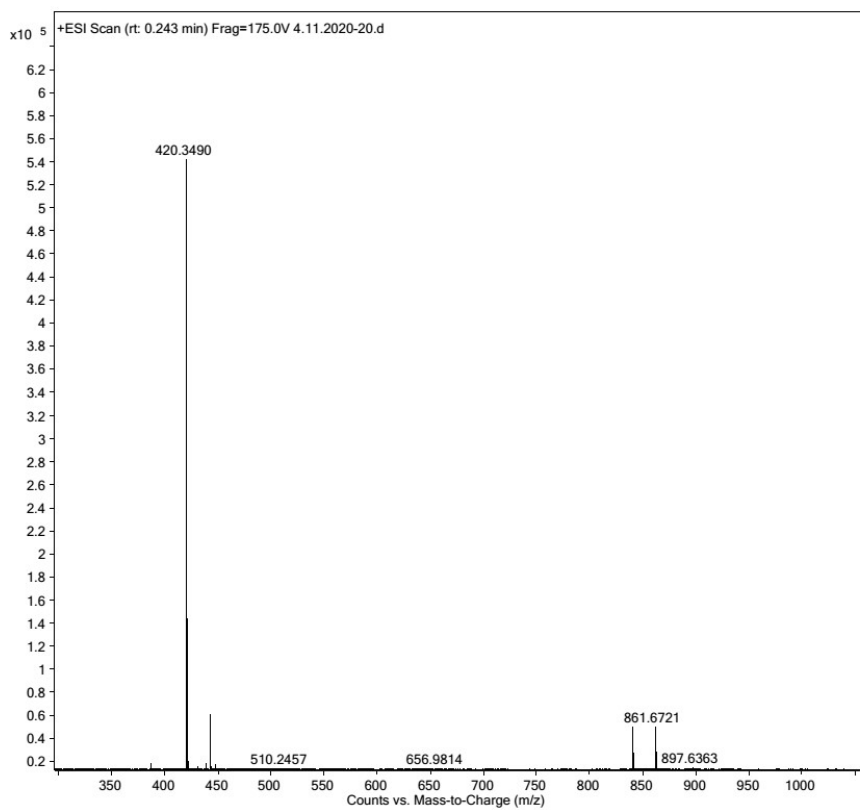


Figure S22. Mass spectra of compound **6b** in methanol

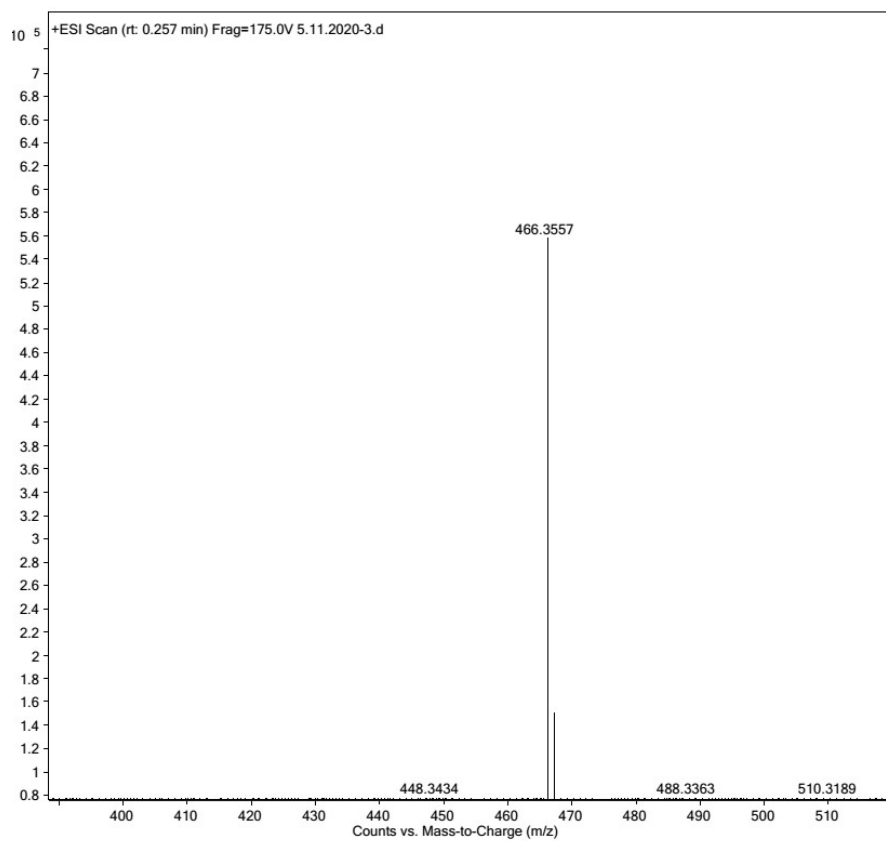


Figure S23. Mass spectra of compound **7a** in methanol

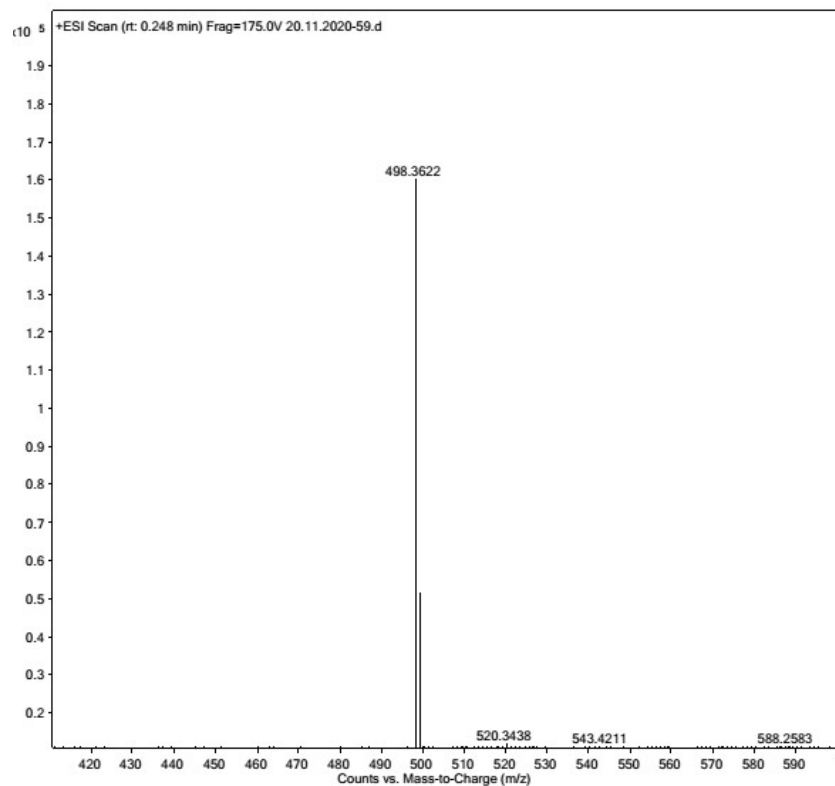


Figure S24. Mass spectra of compound **8a** in methanol

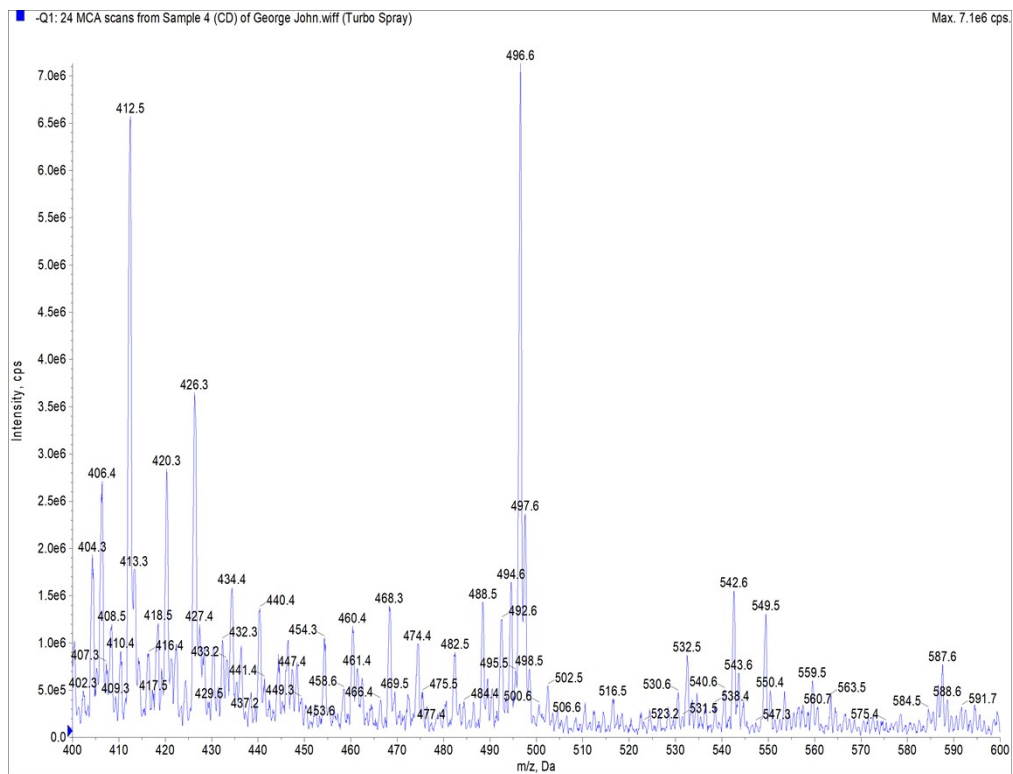
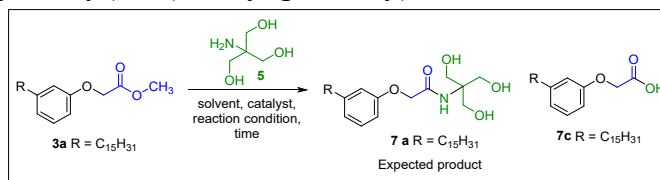


Figure S25. Mass spectra of compound **8b** in methanol

Table S1. Optimization of reaction conditions for the synthesis of *N*-(1,3-dihydroxy-2-(hydroxymethyl)propan-2-yl)-2-(3-alkyl phenoxy)acetamides **7a,b**



Entry	Solvent	Catalyst	Reaction Condition	Reaction Time (h)	Yield (%) [*]
1	MeOH	-	RT	2	NR
2	MeOH	-	Reflux	6	NR
3	DMSO	-	Reflux	6	NR
4	MeOH	K ₂ CO ₃	RT	2	NR
5	EtOH	K ₂ CO ₃	RT	2	NR
6	THF	K ₂ CO ₃	RT	2	NR
7	Anhydrous DMSO	K ₂ CO ₃	RT	2	NR
8	MeOH	K ₂ CO ₃	Reflux	6	7c formed
9	Anhydrous DMSO	K ₂ CO ₃	reflux	6	7c formed
10	DCM	K ₂ CO ₃	RT	6-12	NR
11	DCM	Et ₃ N	RT	2	NR
12	MeOH	Et ₃ N	RT	2	< 10
13	MeOH	Et ₃ N	RT	6	40
14	EtOH	Et ₃ N	RT	6	20
15	THF	Et ₃ N	RT	6	NR
16	MeOH	Et ₃ N	reflux	6	7c formed [#]
17	DCM + MeOH (9:1)	Et ₃ N	RT	8	30
18	DCM + MeOH (1:1)	Et ₃ N	RT	12	72

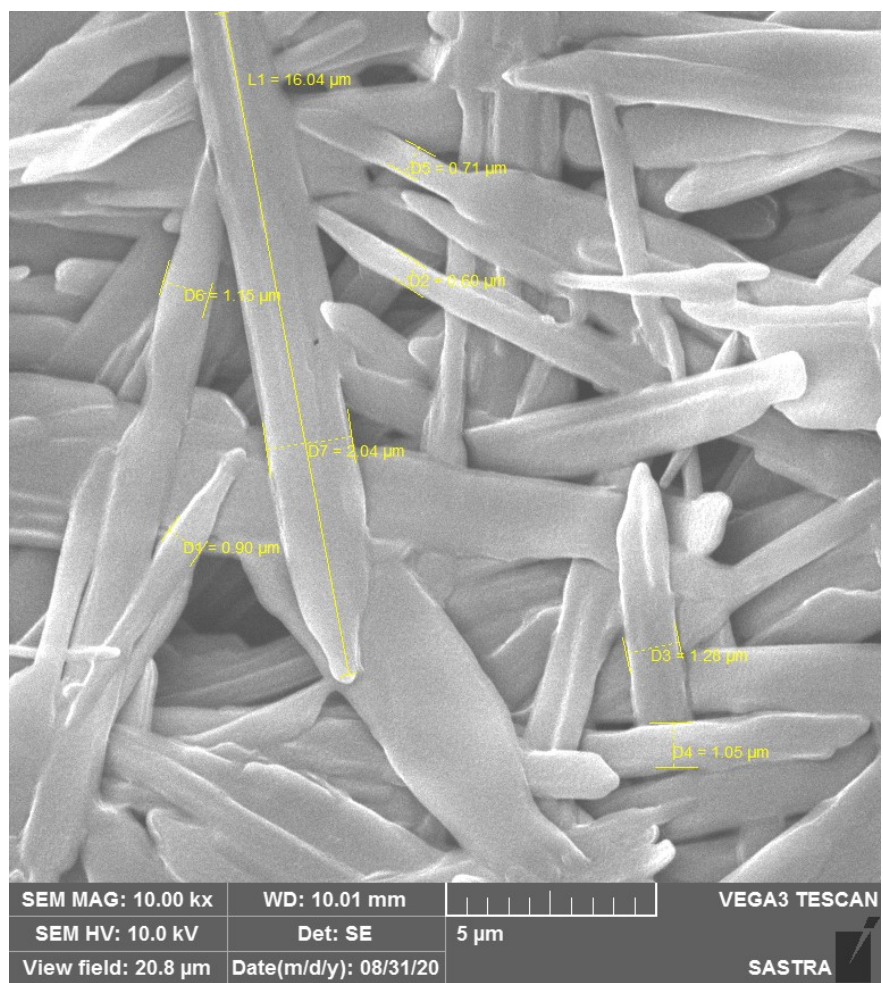


Figure S26. SEM image of hybrid hydrogel formed by **6a**

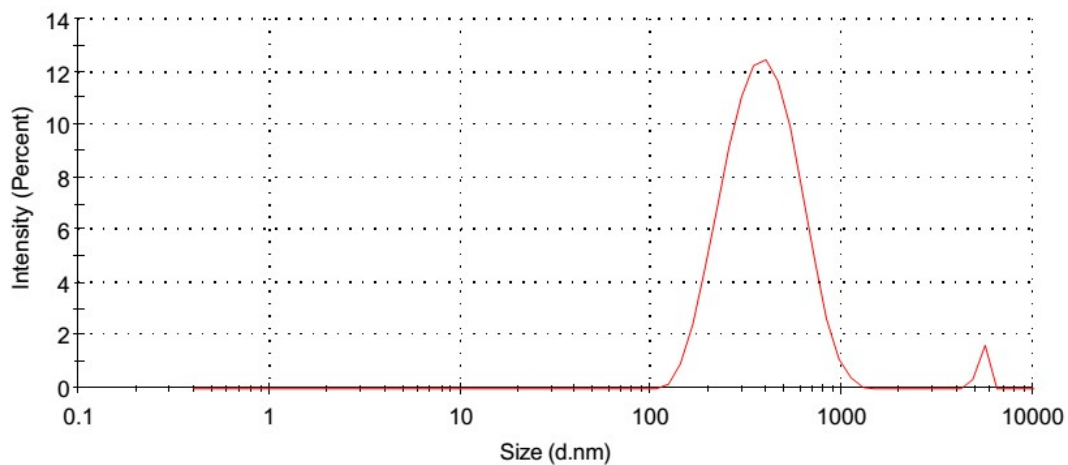


Figure S27. Size distribution intensity plot of **8a** in ethanol + H₂O