

Development of coumarin-inspired bifunctional hybrids as a new class of anti-Alzheimer's agents with potent *in vivo* efficacy

Atamjit Singh^{1,*}, Aman Sharma¹, Karanvir Singh¹, Kirandeep Kaur¹, Pallvi Mohana², Jignesh Prajapati³, Uttam Kaur⁴, Dweipayan Goswami³, Saroj Arora², Renu Chadha⁵, Preet Mohinder Singh Bedi^{1,6*}

¹*Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, Punjab 143005, India*

²*Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab 143005, India*

³*Department of Microbiology & Biotechnology, University School of Sciences, Gujrat University, Ahmedabad, Gujrat 380009, India*

⁴*University School of Business Management, Chandigarh University, Gharuan 140413, India*

⁵*University Institute of Pharmaceutical Sciences, Punjab University, Chandigarh 160014, India*

⁶*Drug and Pollution testing Laboratory, Guru Nanak Dev University, Amritsar, Punjab 143005, India*

*Corresponding authors:

1. Dr. Atamjit Singh

Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, Punjab 143005, India

Email id: atampanesar@gmail.com, atamjitpharma.rsh@gndu.ac.in

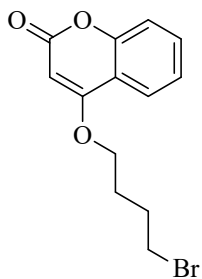
ORCID: 0000-0001-5439-8032

2. Prof. Preet Mohinder Singh Bedi

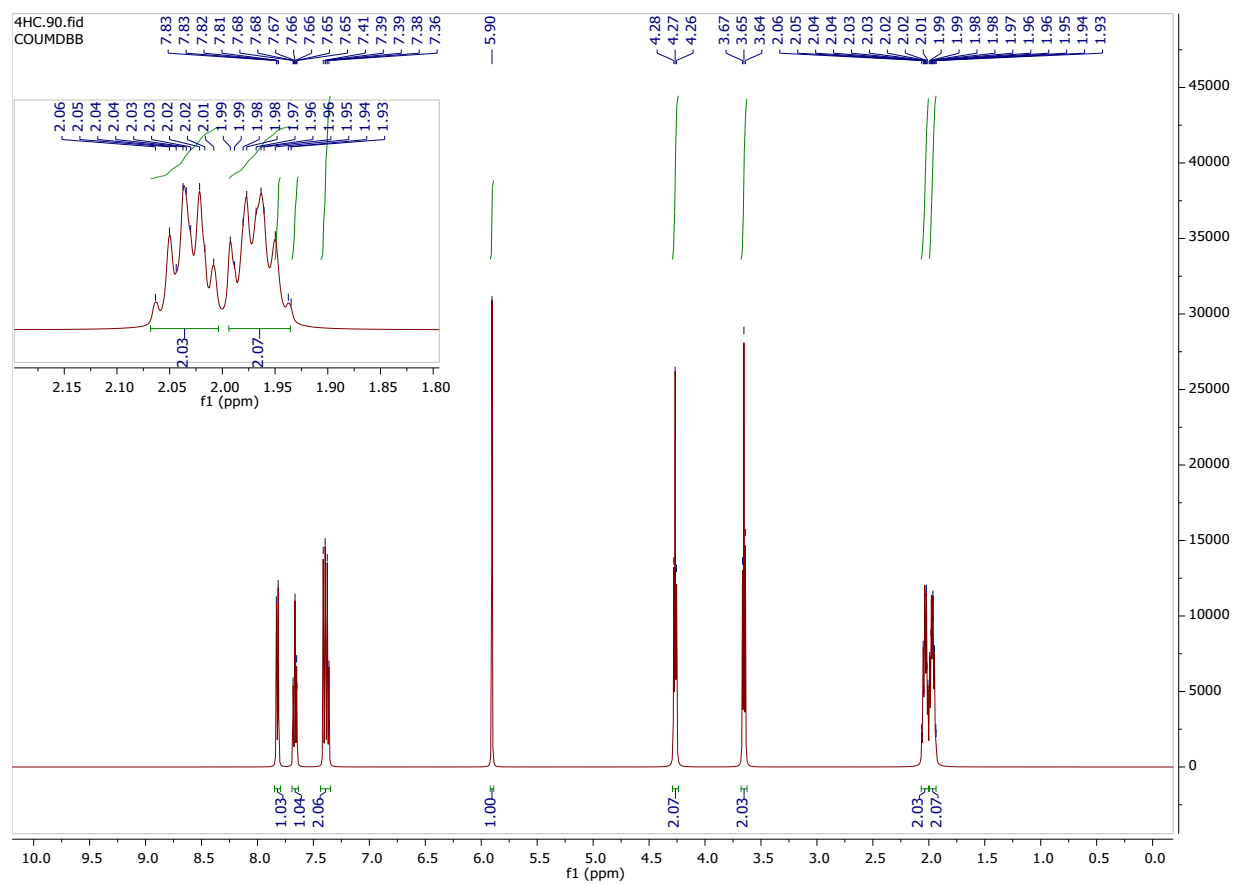
Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, Punjab 143005, India

Email id: bedi_preet@yahoo.com, preet.pharma@gndu.ac.in

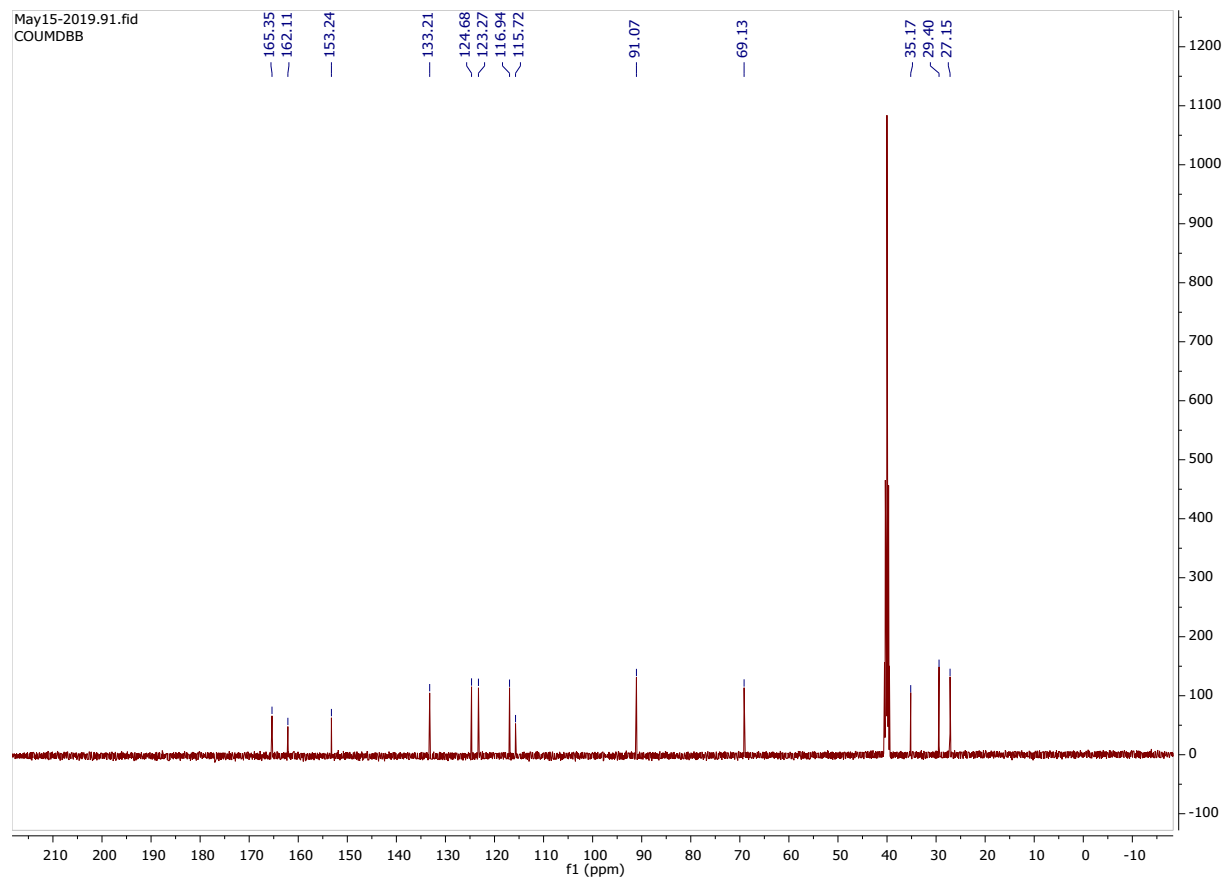
^1H and ^{13}C spectra of synthetics

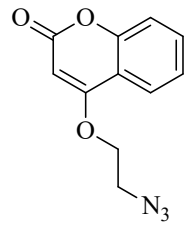


^1H spectrum of 4-(4-bromobutoxy)-2H-chromen-2-one

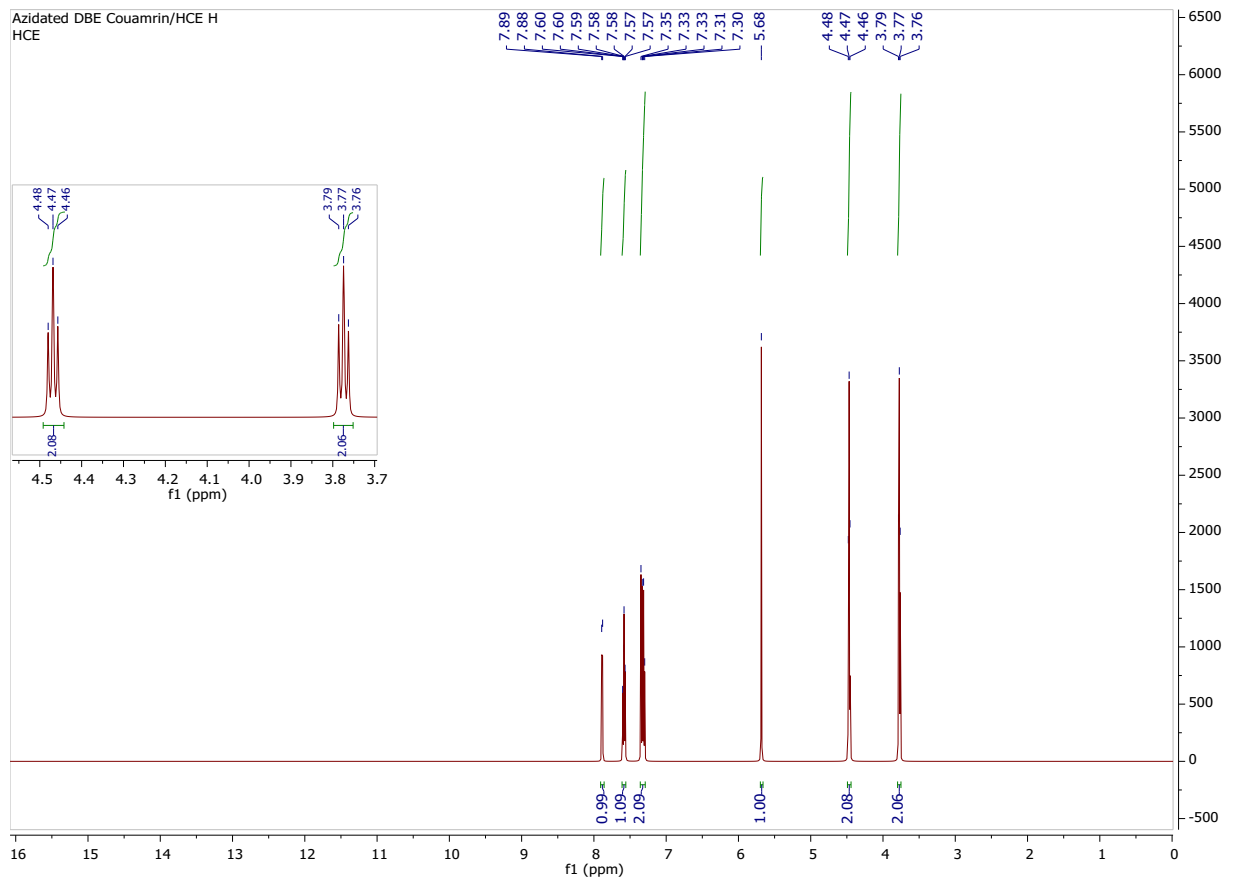


^{13}C spectrum of 4-(4-bromobutoxy)-2H-chromen-2-one

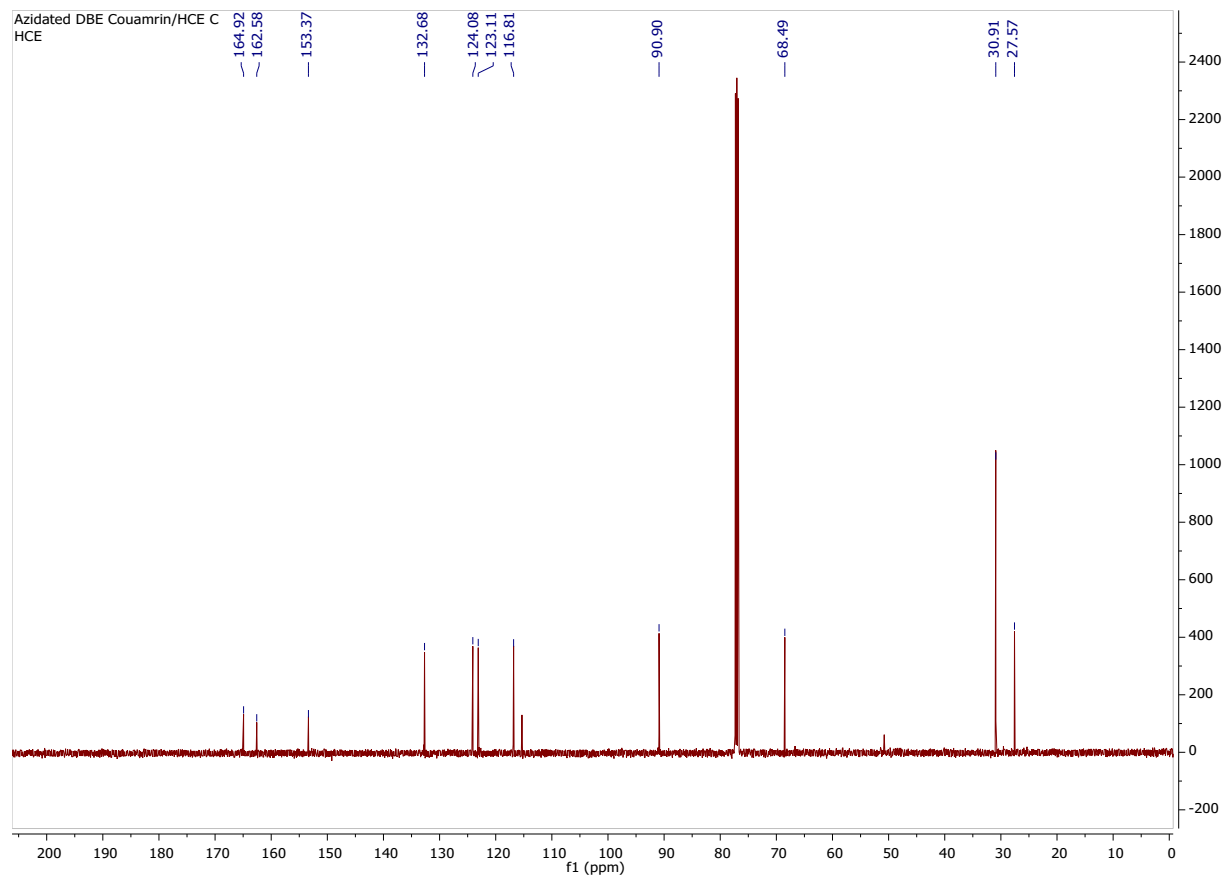


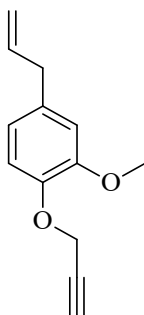


^1H spectrum of 4-(2-azidoethoxy)-2H-chromen-2-one

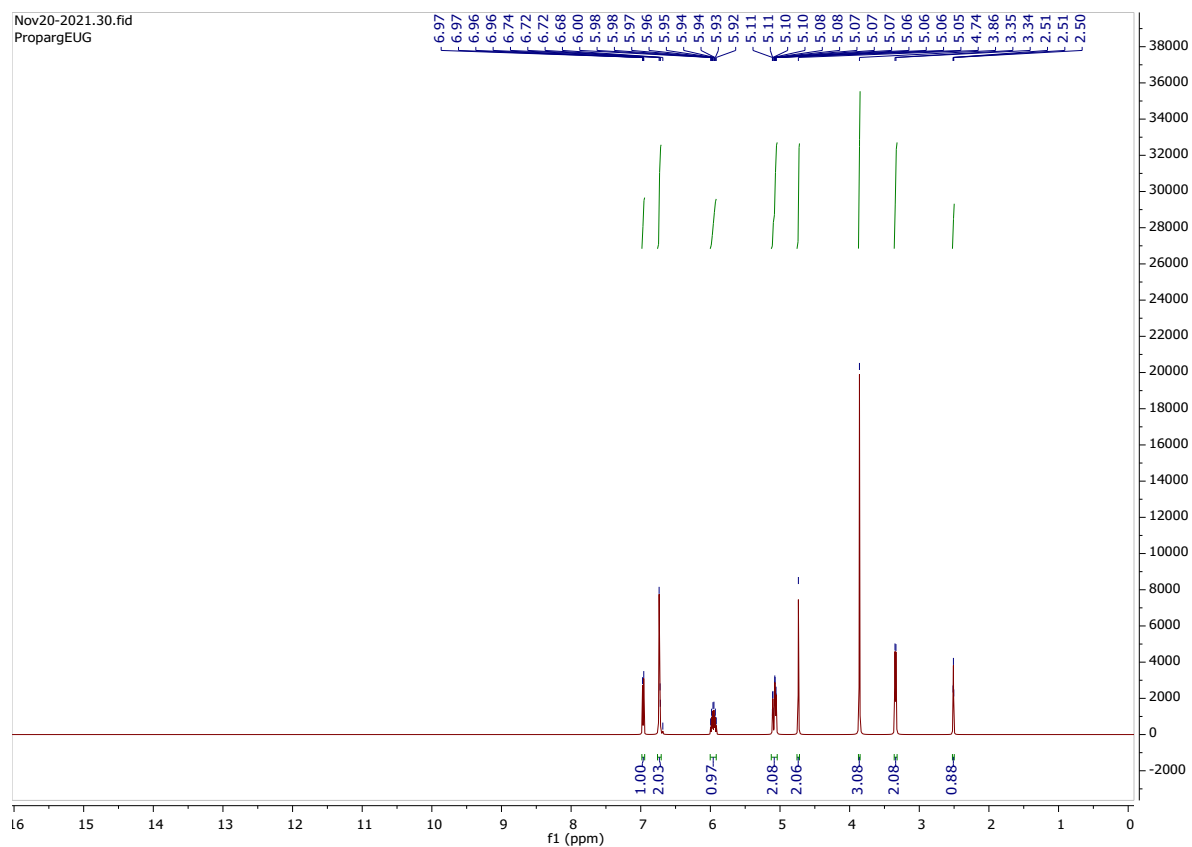


¹³C spectrum of 4-(2-azidoethoxy)-2H-chromen-2-one

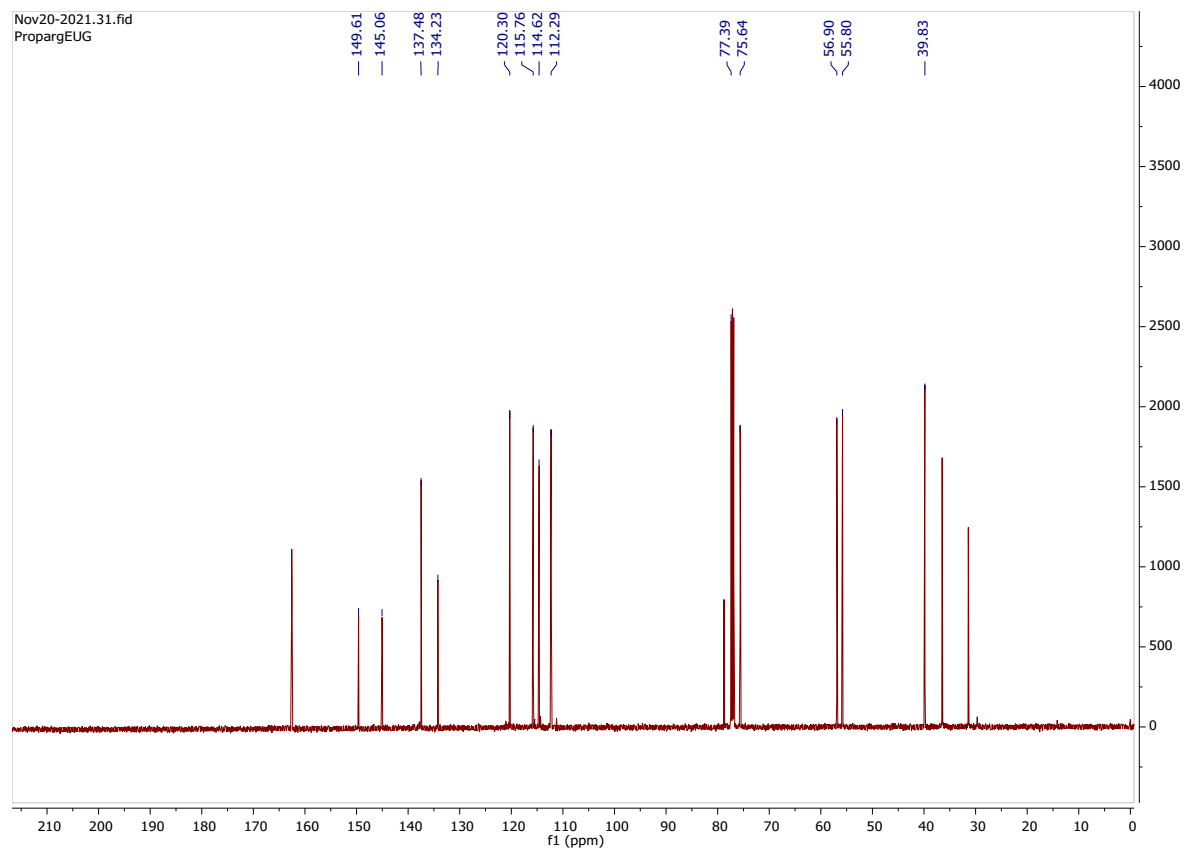


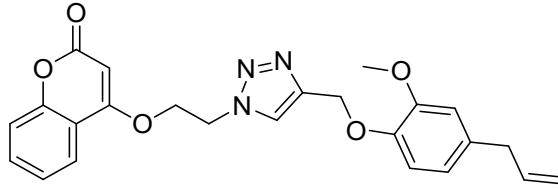


^1H spectrum of 4-allyl-2-methoxy-1-(prop-2-yn-1-yloxy)benzene

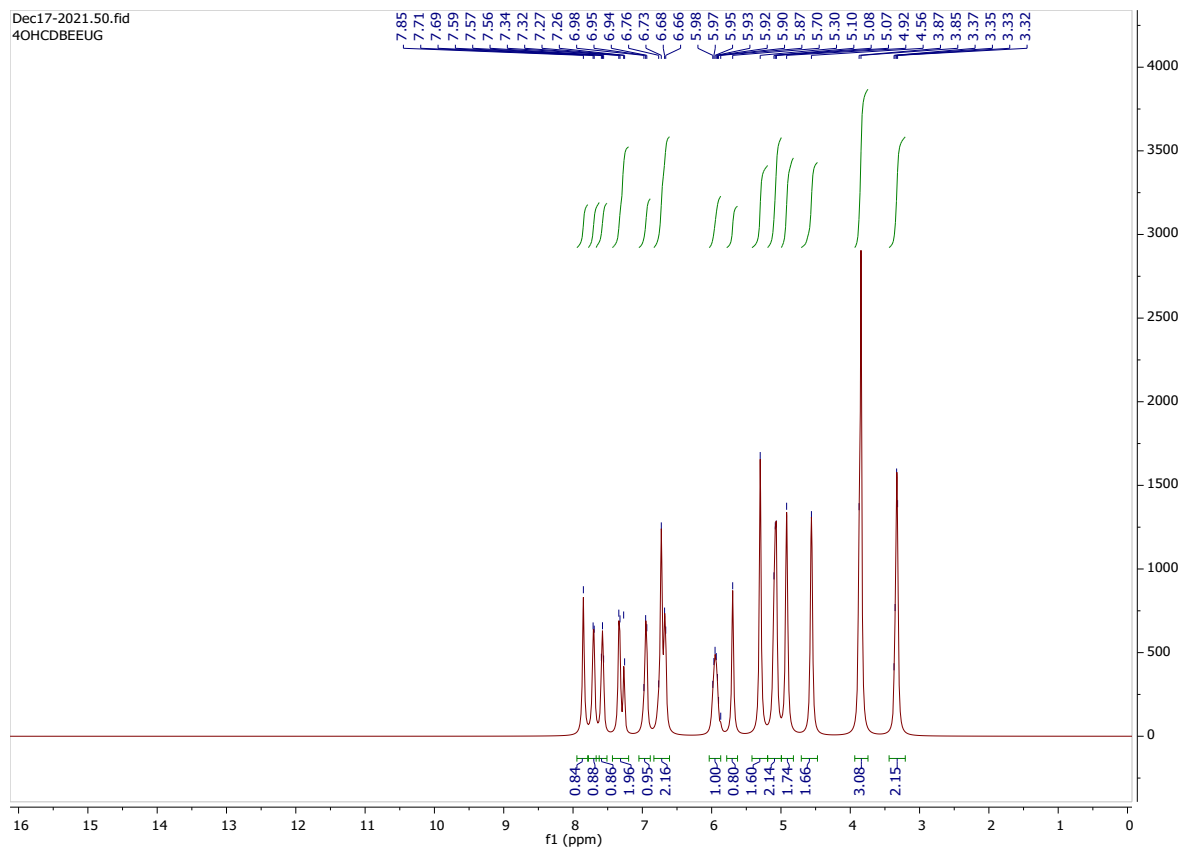


^{13}C spectrum of 4-allyl-2-methoxy-1-(prop-2-yn-1-yloxy)benzene

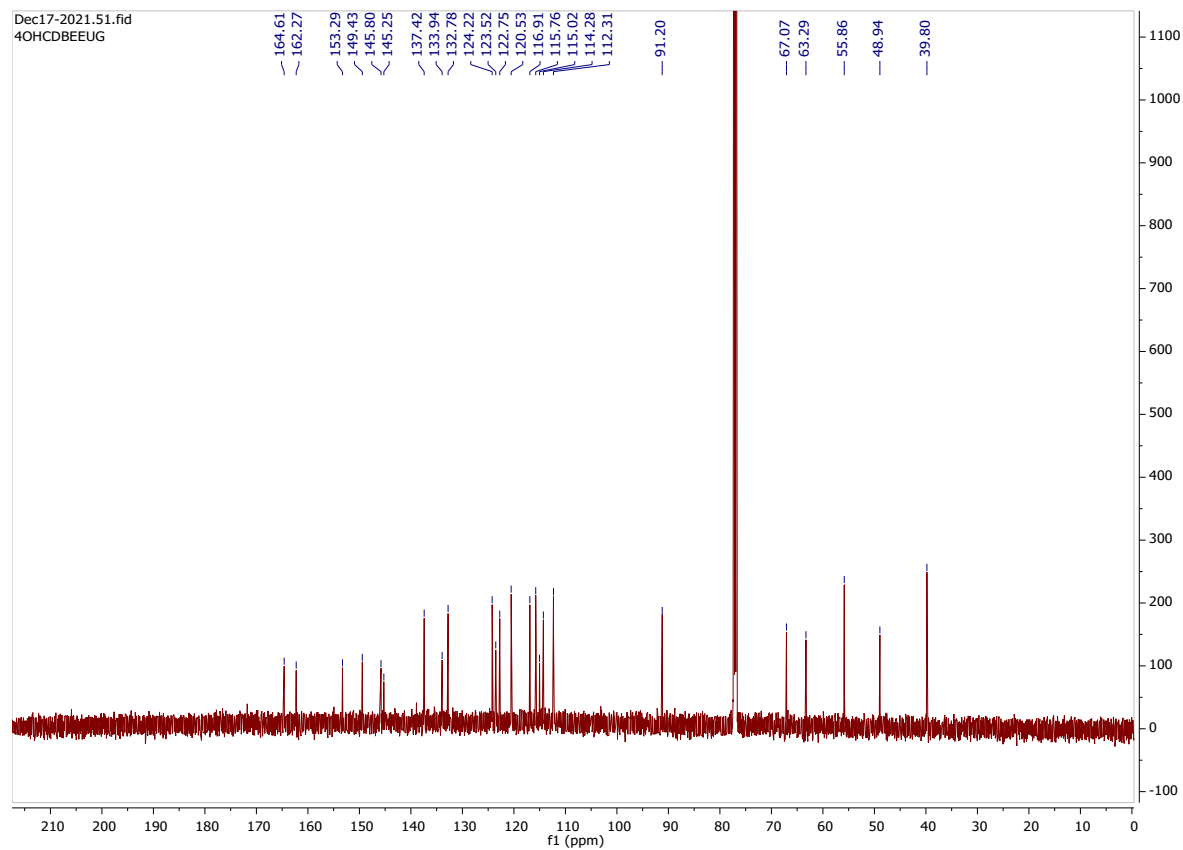


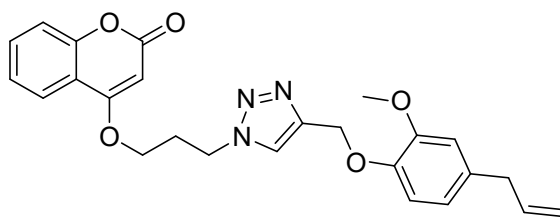


^1H spectrum of 4-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-2H-chromen-2-one (A1)

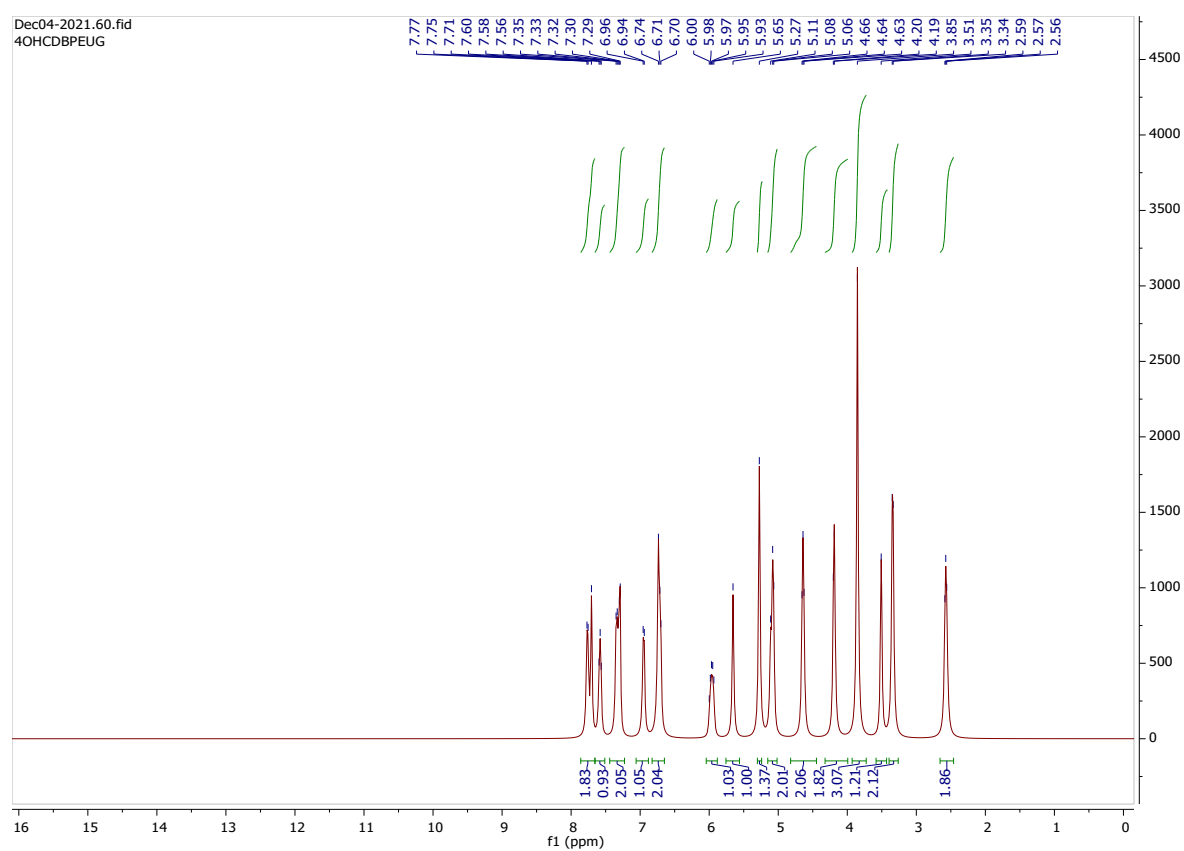


¹³C spectrum of 4-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-2H-chromen-2-one (A1)

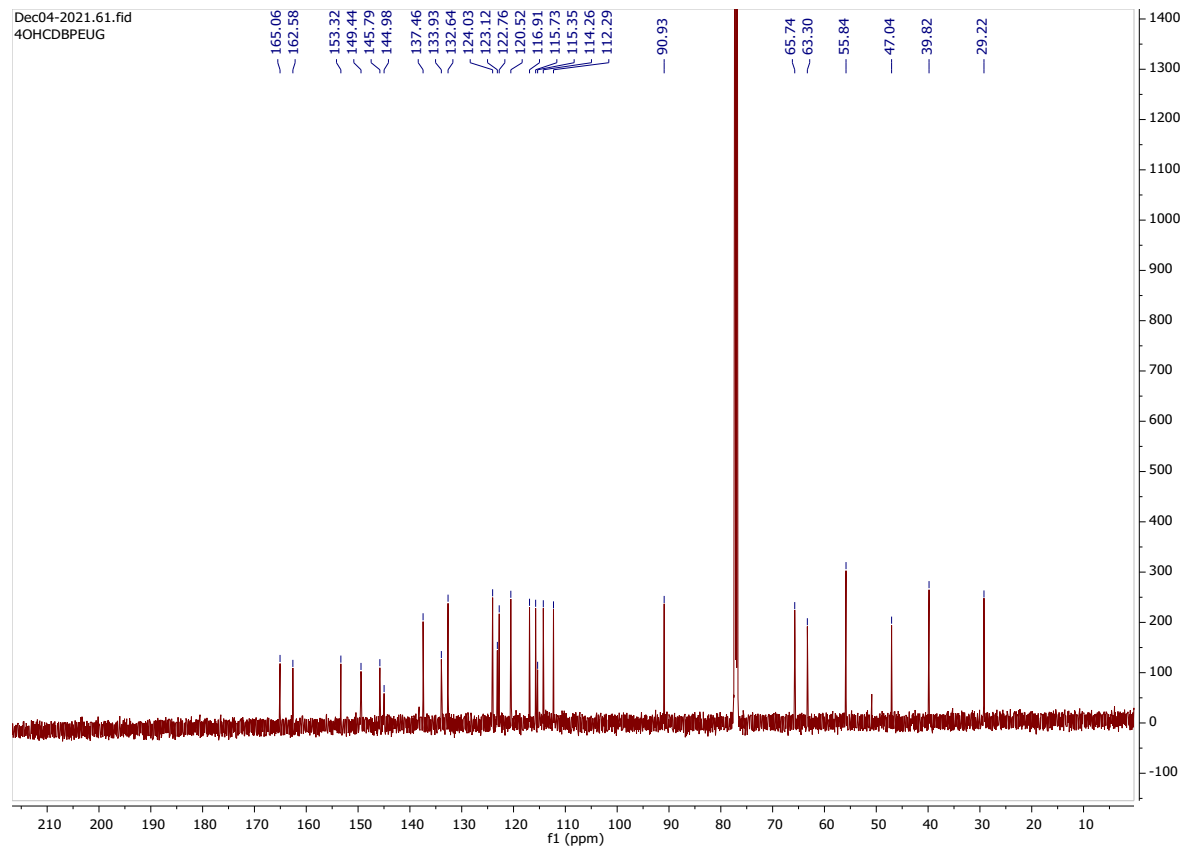


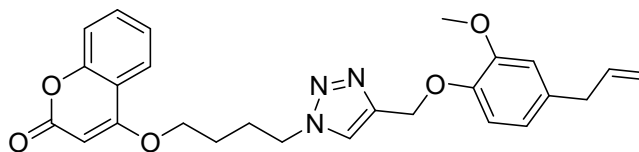


^1H spectrum of 4-(3-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-2H-chromen-2-one (**A2**)

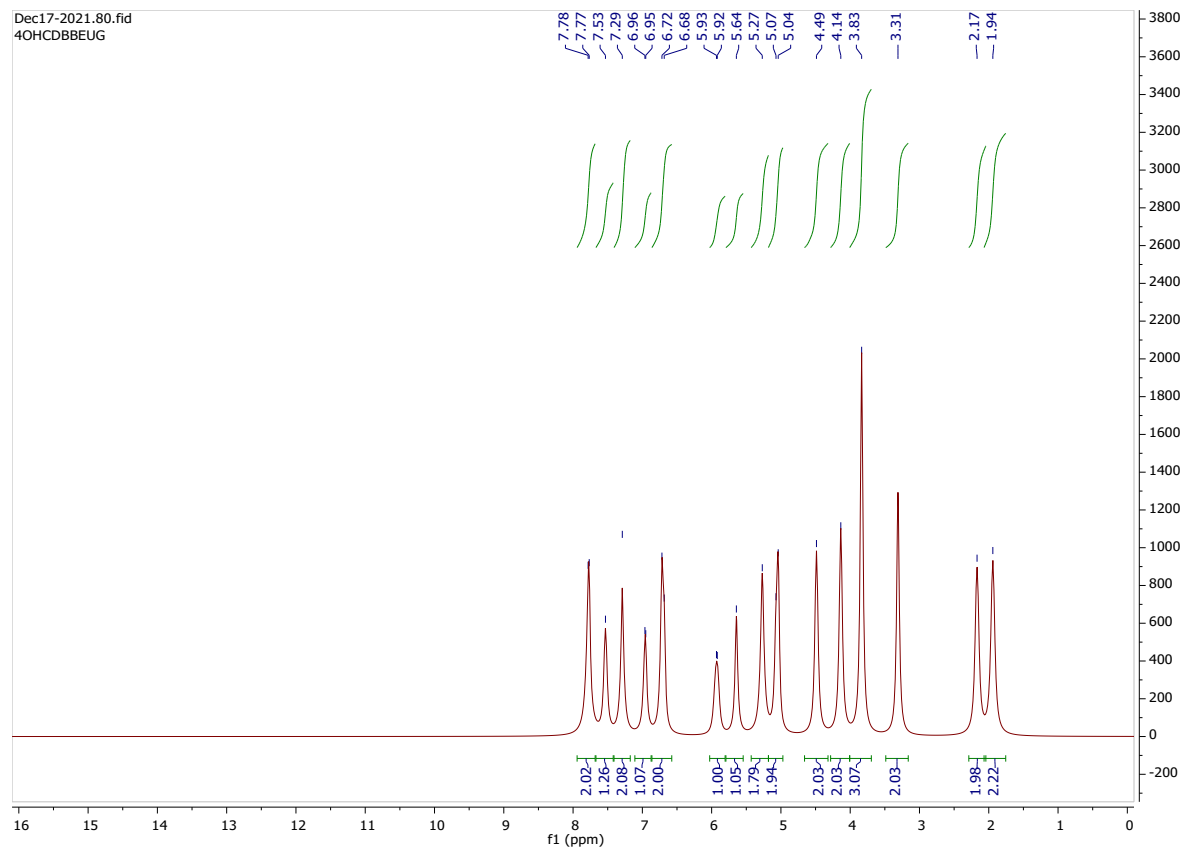


¹³C spectrum of 4-(3-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-2H-chromen-2-one (A2)

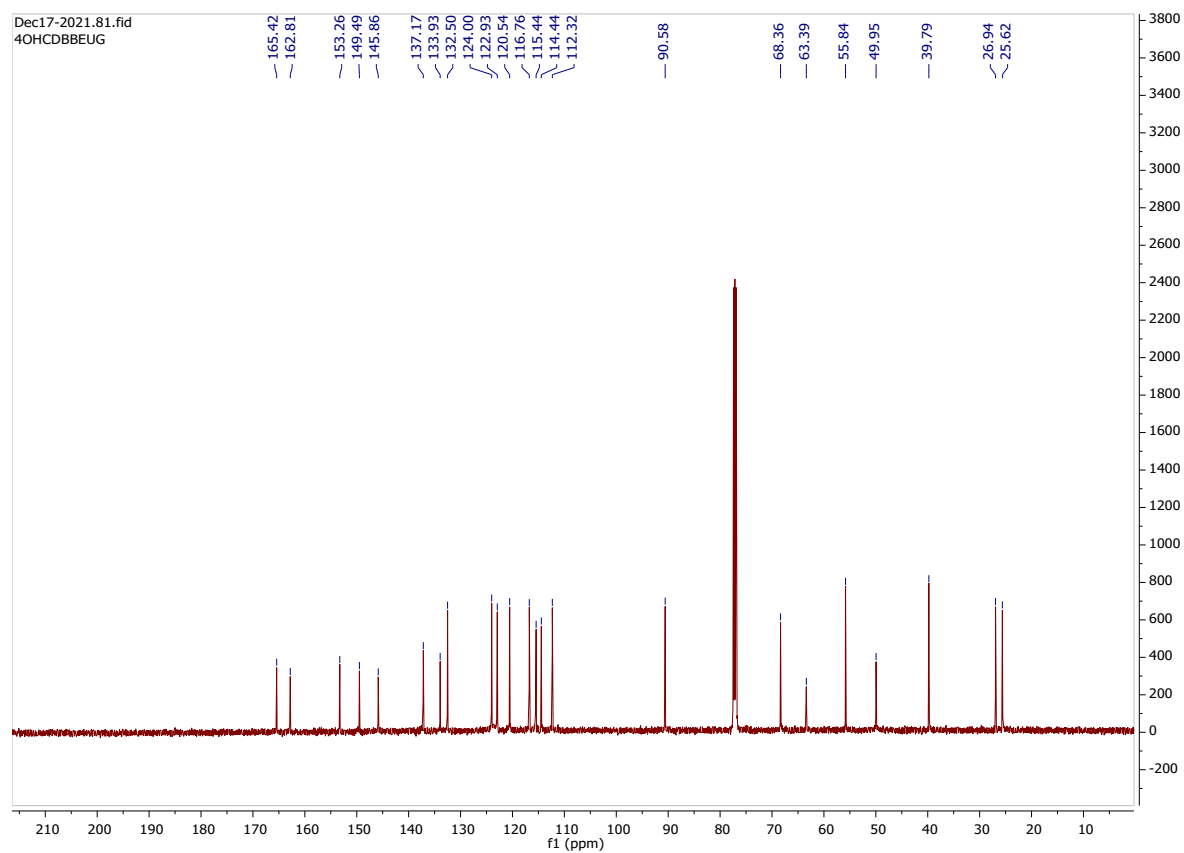


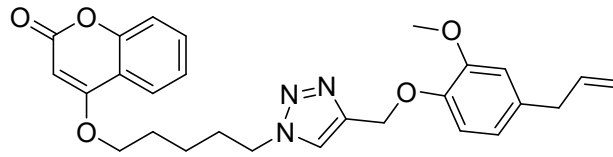


^1H spectrum of 4-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-2H-chromen-2-one (**A3**)

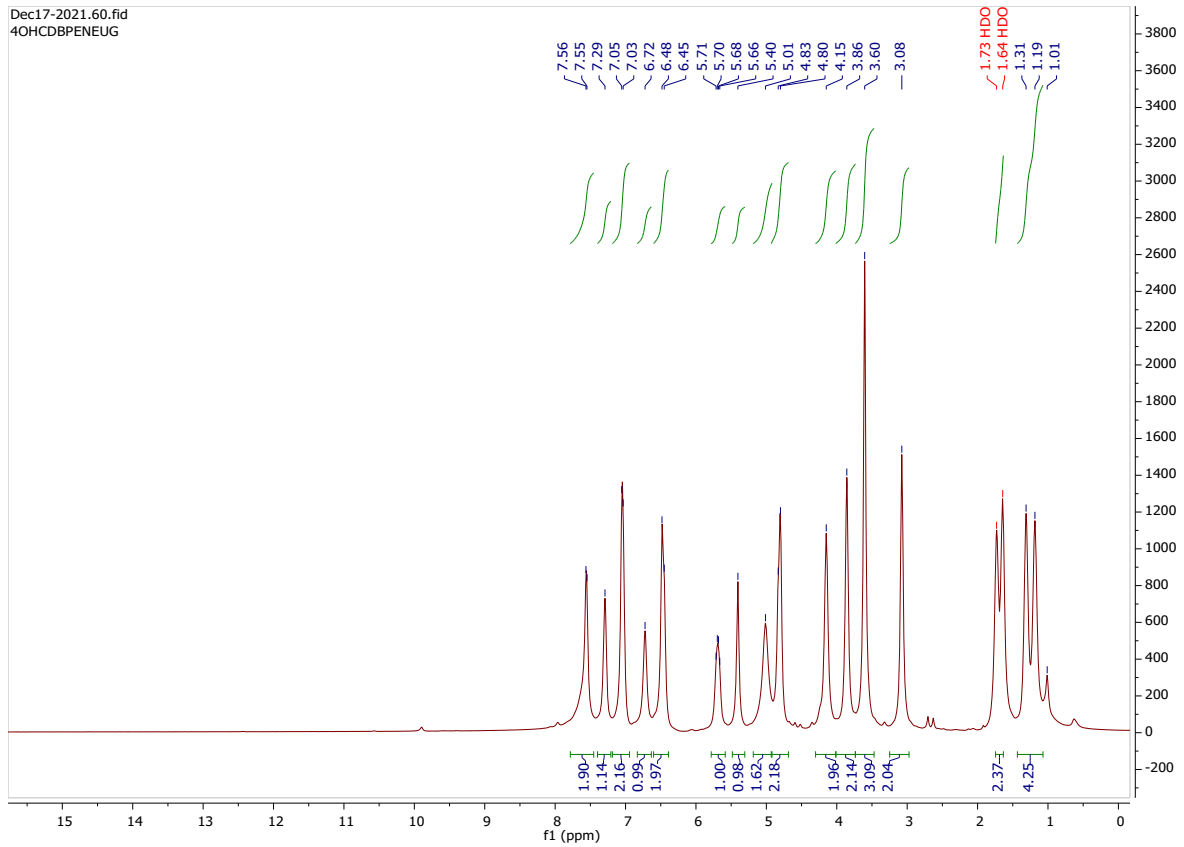


¹³C spectrum of 4-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-2H-chromen-2-one (A3)

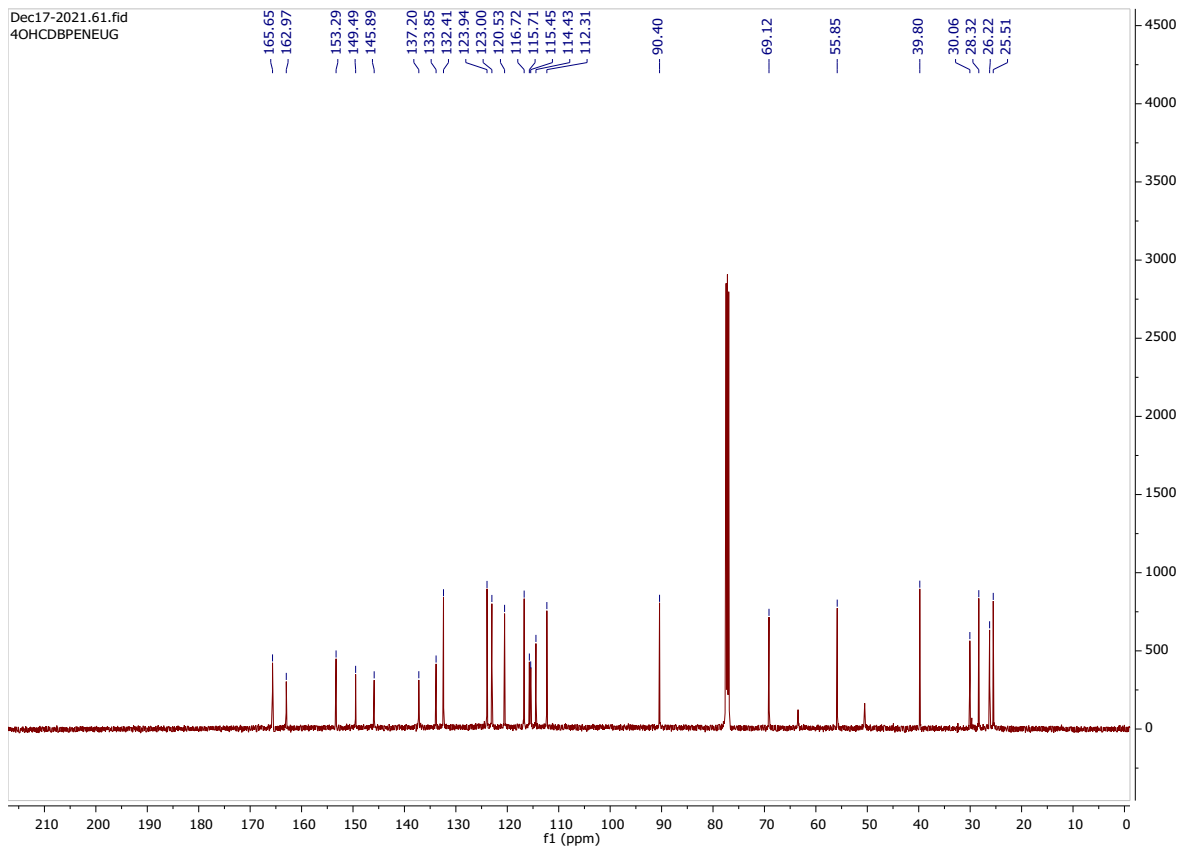


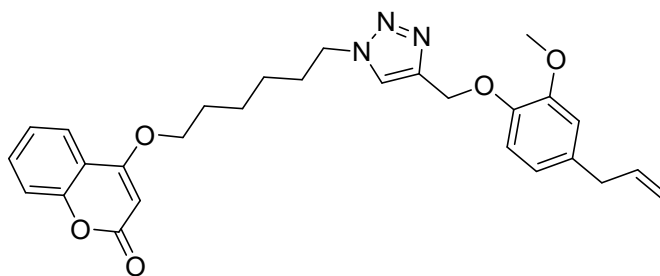


^1H spectrum of 4-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-2H-chromen-2-one (A4)

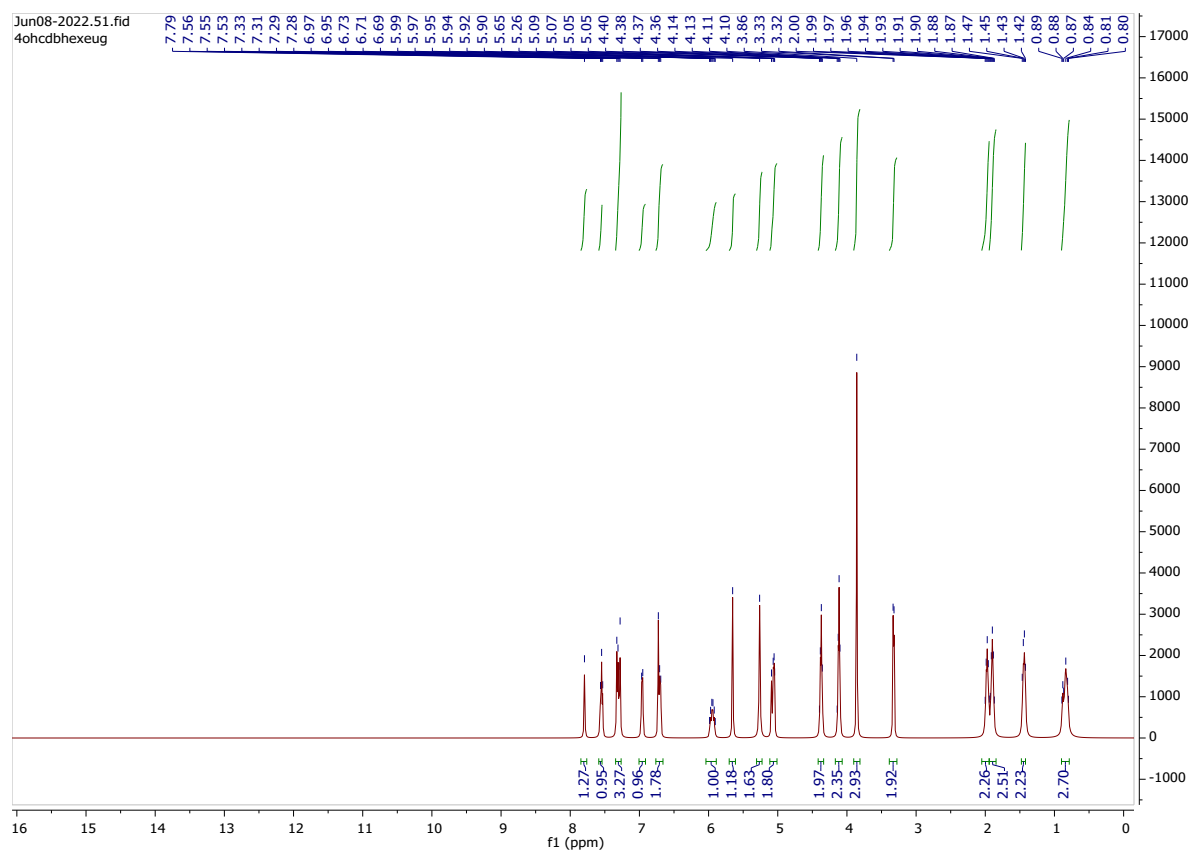


¹³C spectrum of 4-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-2H-chromen-2-one (A4)

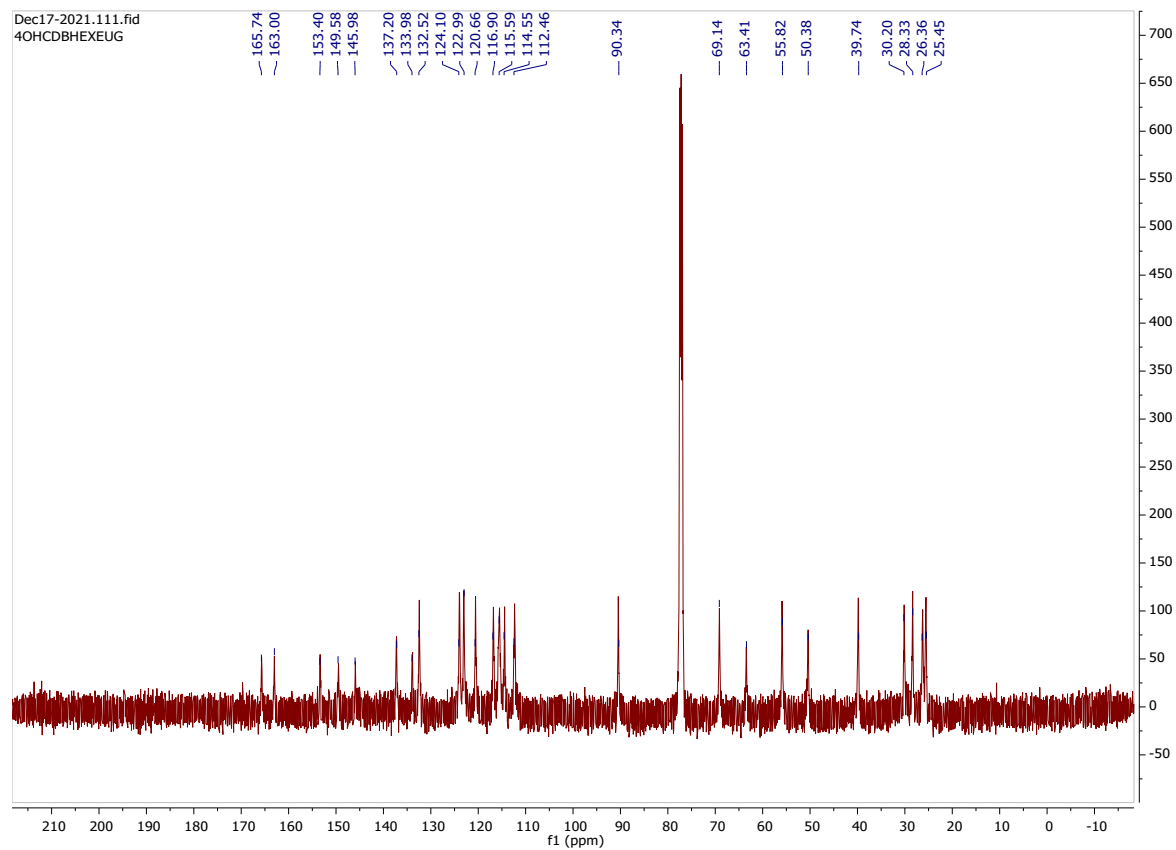


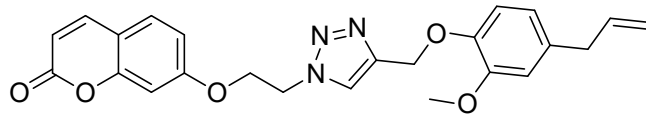


^1H spectrum of 4-((5-(4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)-2H-chromen-2-one (A5)

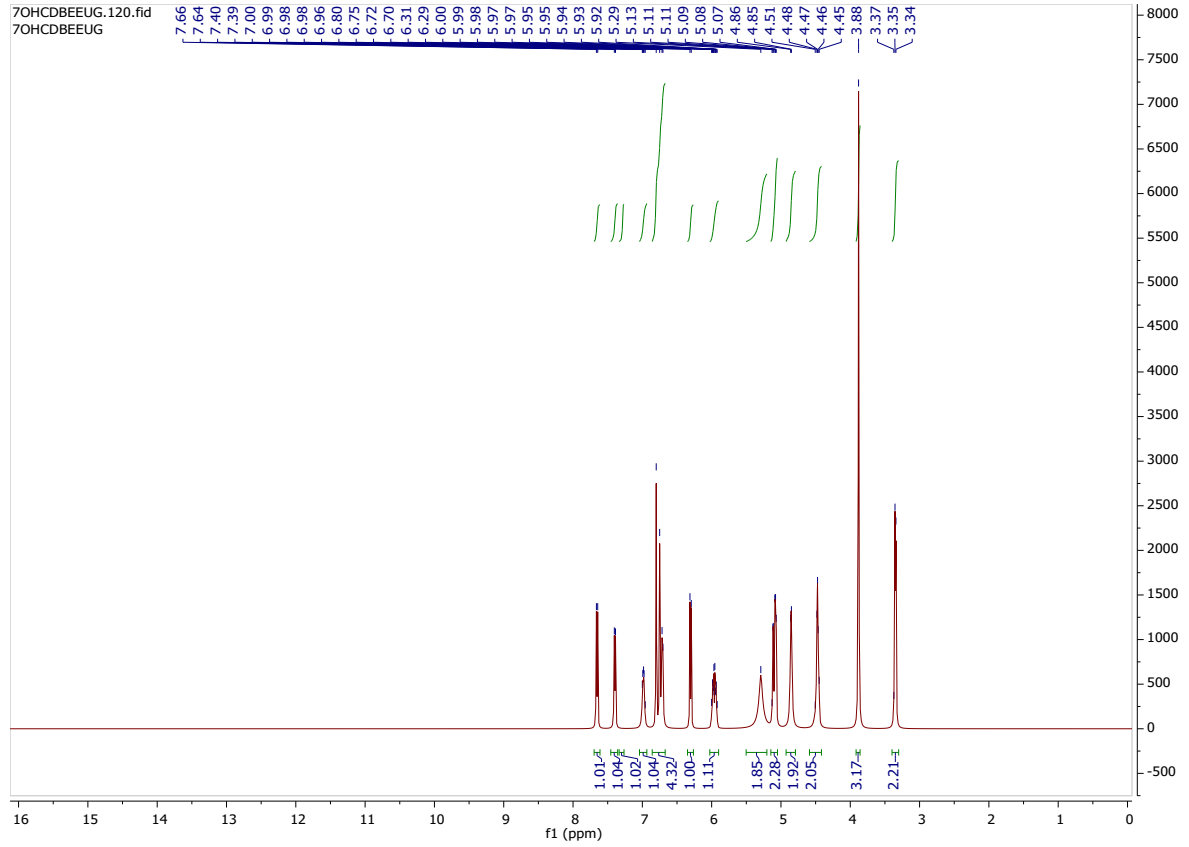


¹³C spectrum of 4-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-2H-chromen-2-one (A5)

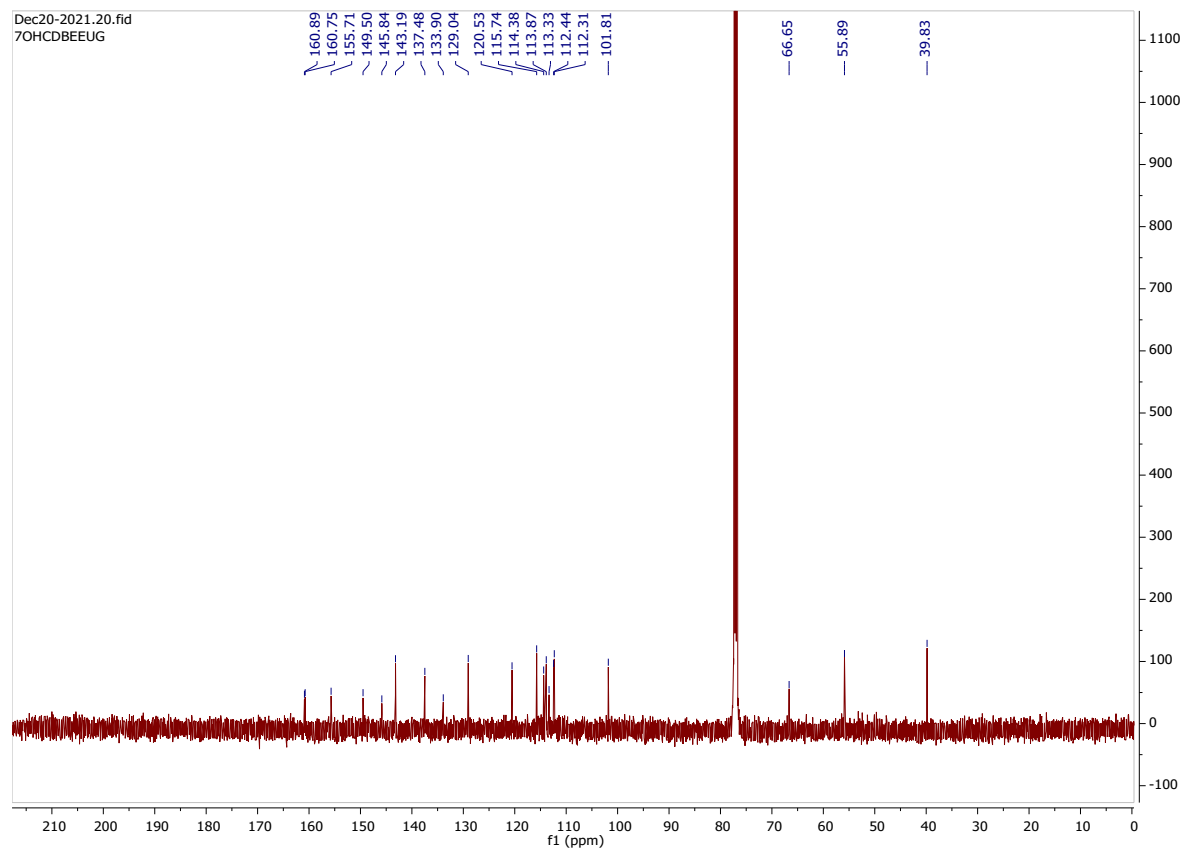


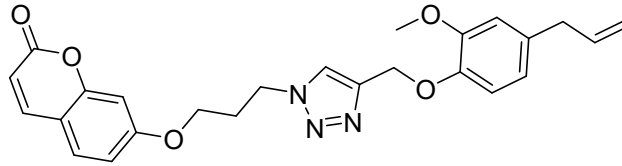


^1H spectrum of 7-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-2H-chromen-2-one (A6)

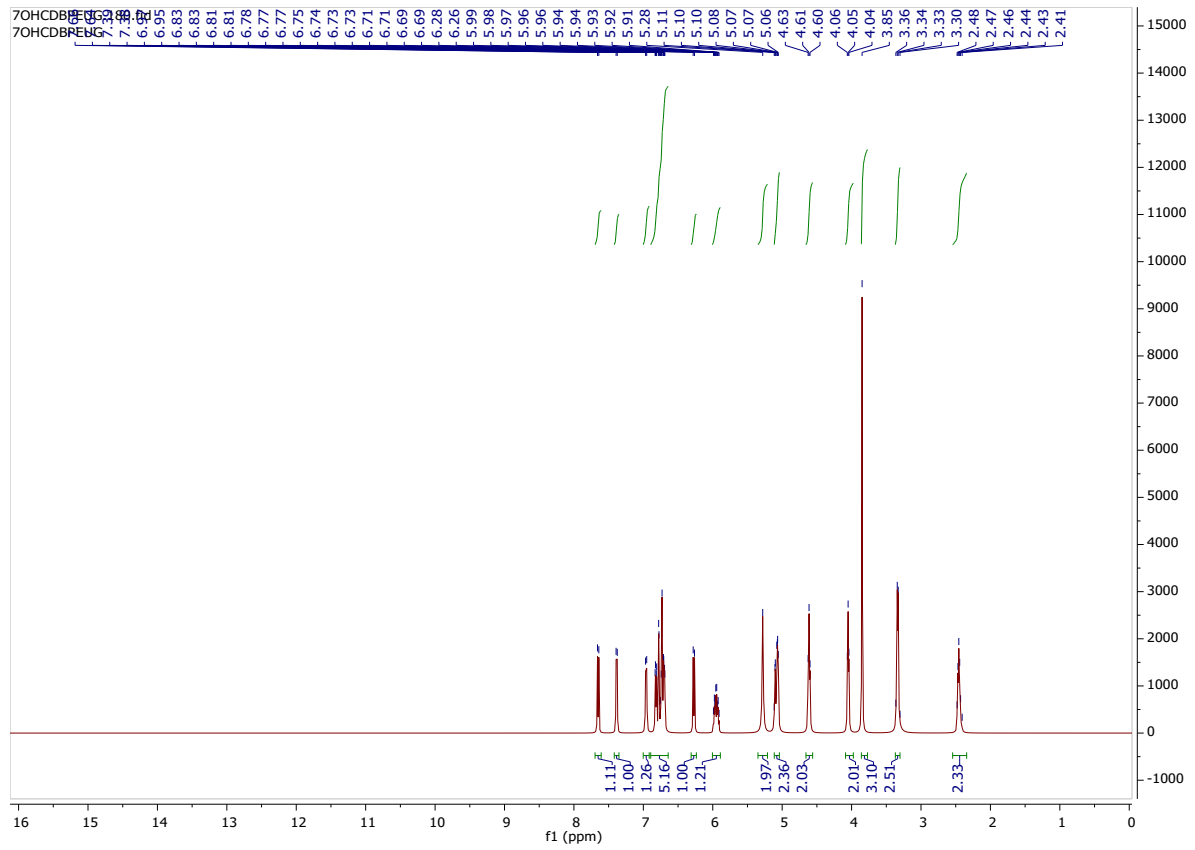


¹³C spectrum of 7-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-2H-chromen-2-one (A6)

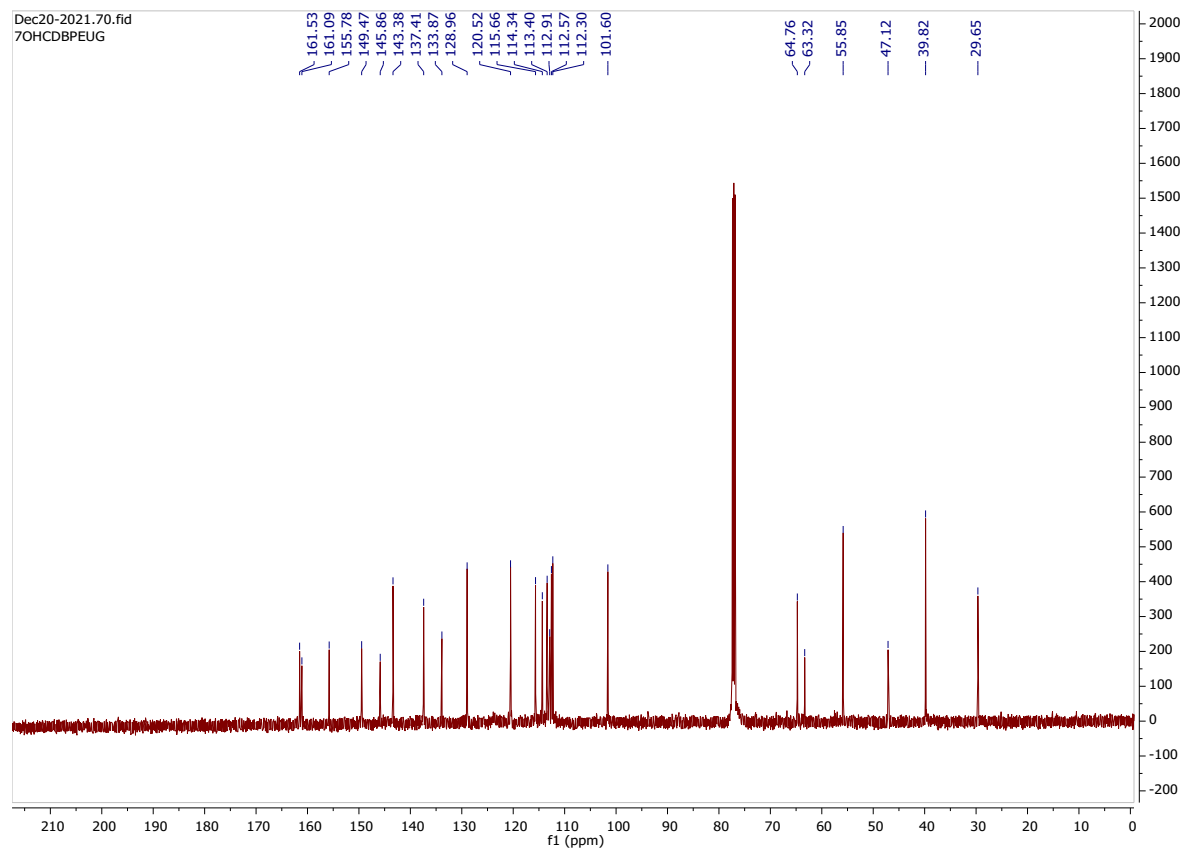


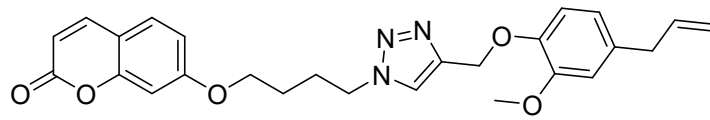


^1H spectrum of 7-(3-(4-allyloxyphenyl)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-2H-chromen-2-one (A7)

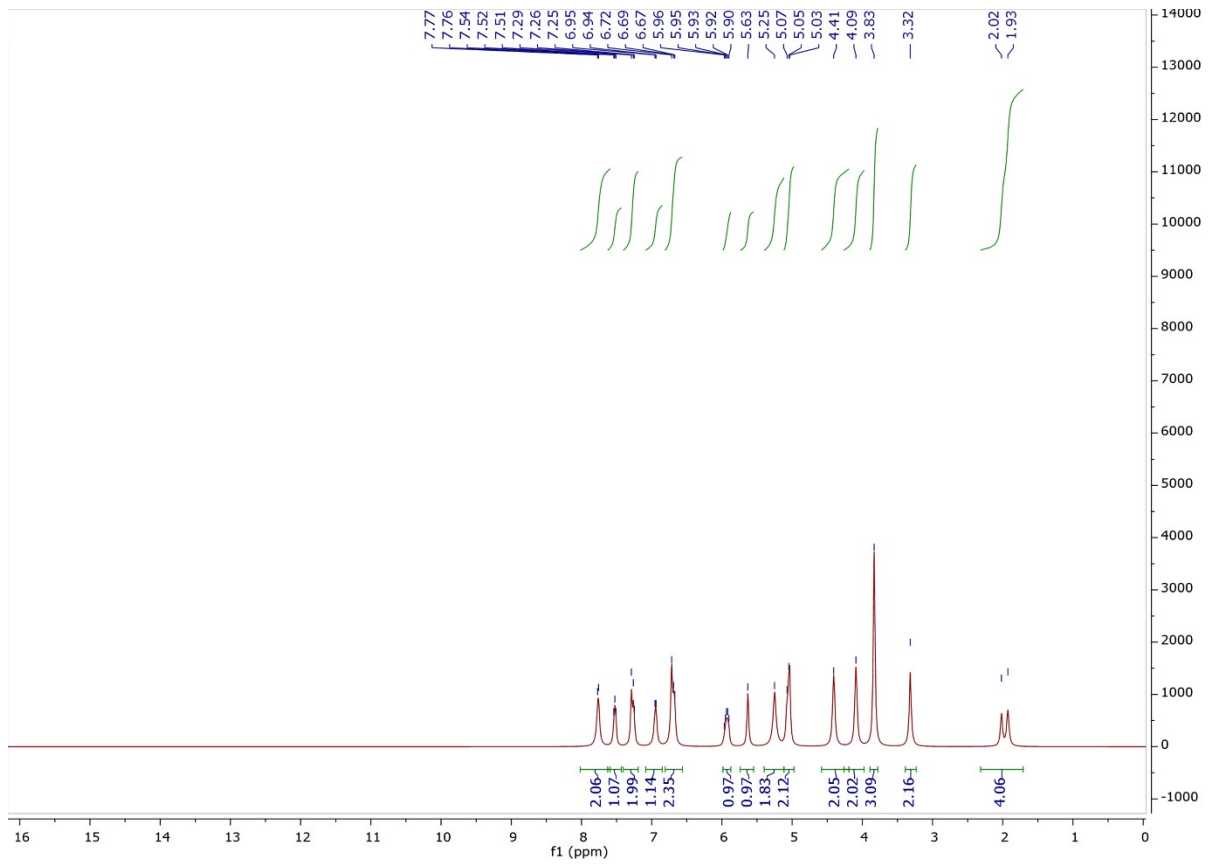


¹³C spectrum of 7-(3-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-2H-chromen-2-one (A7)

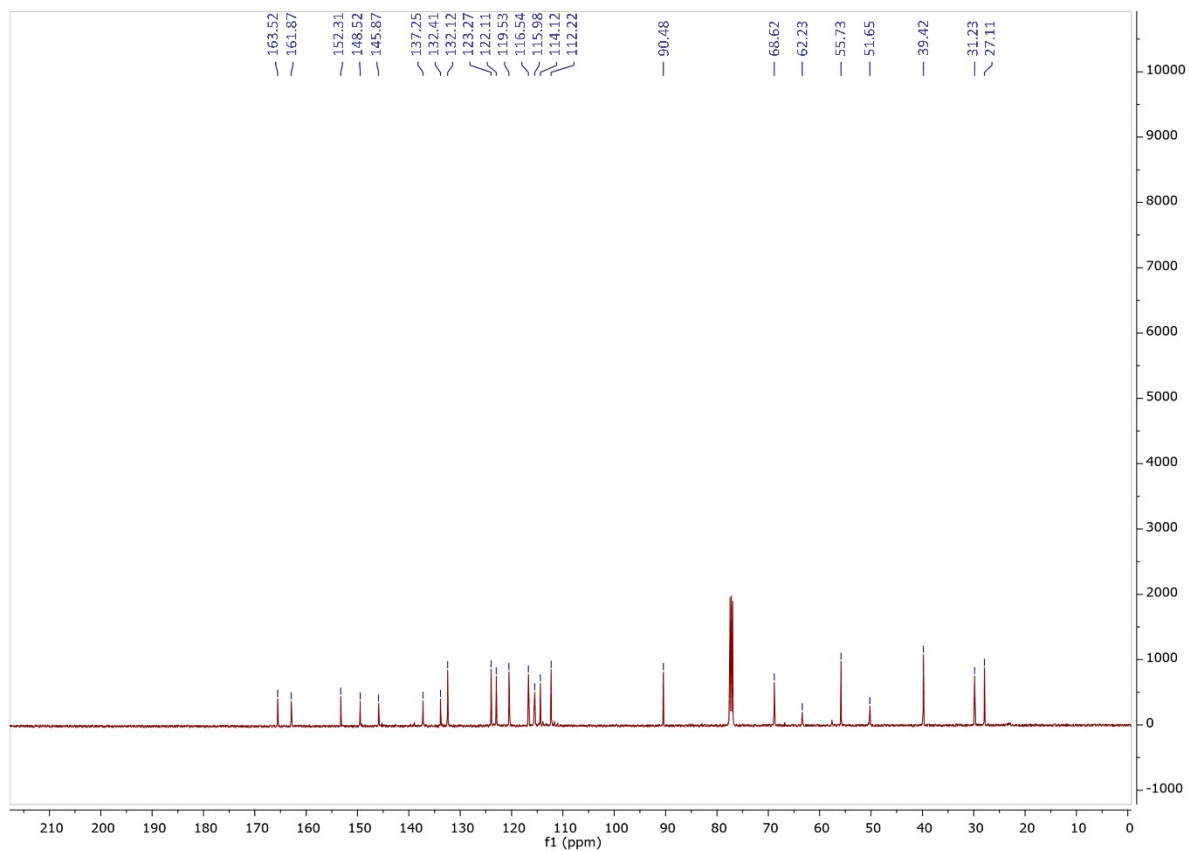


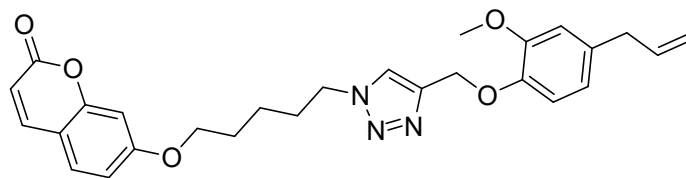


^1H spectrum of 7-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-2H-chromen-2-one (A8)

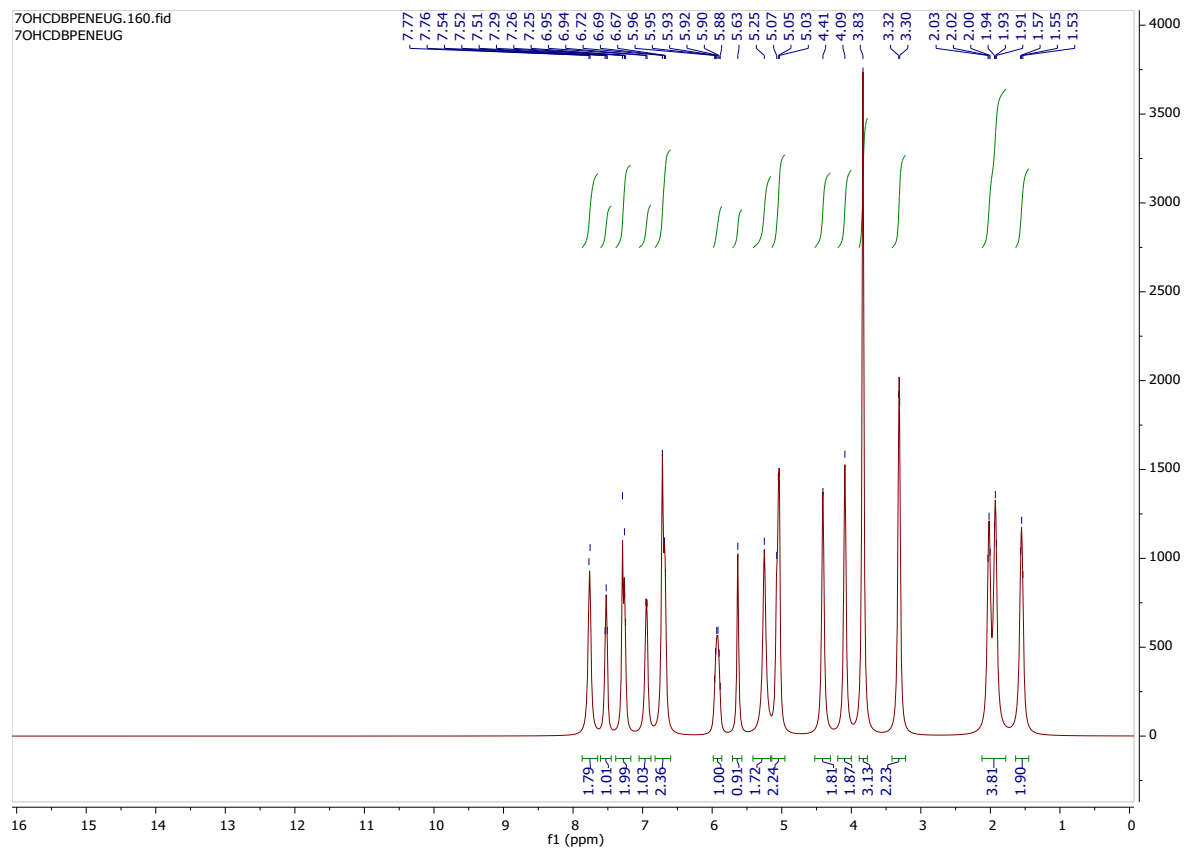


¹³C spectrum of 7-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-2H-chromen-2-one (A8)

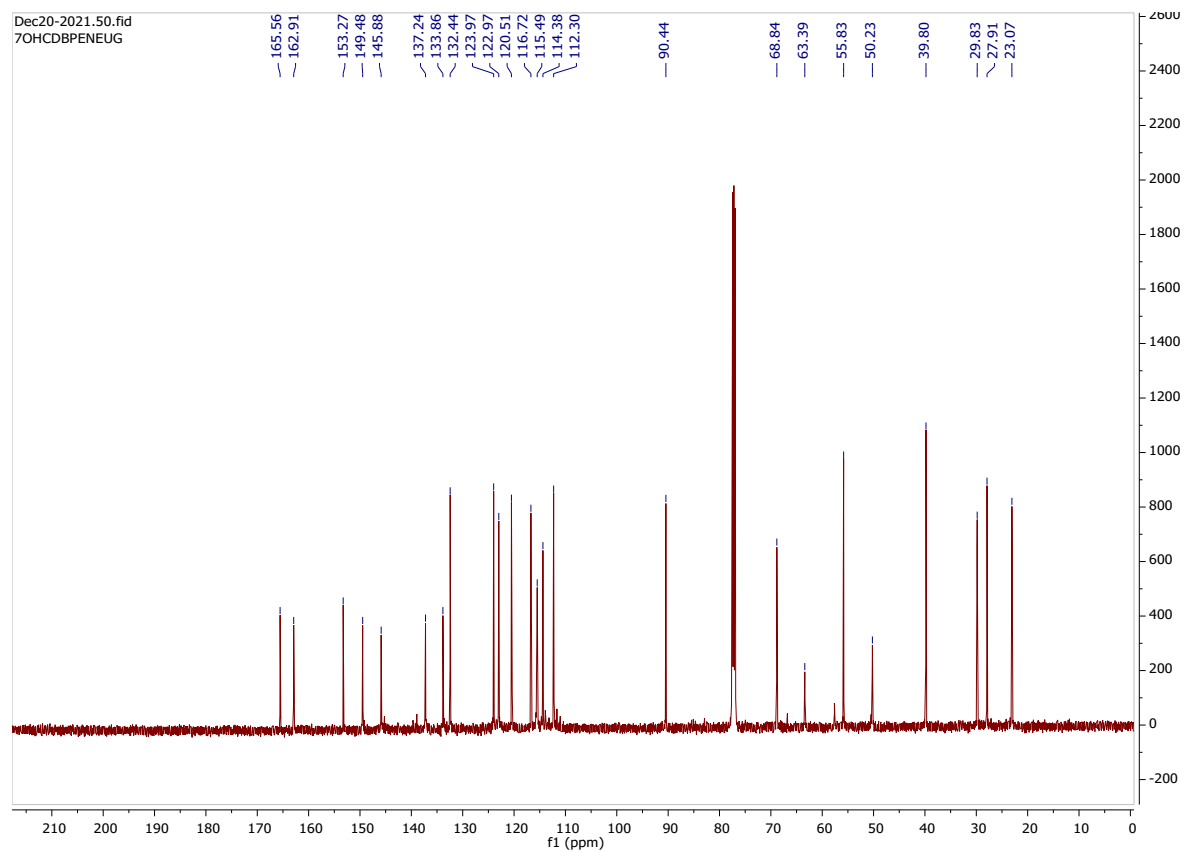


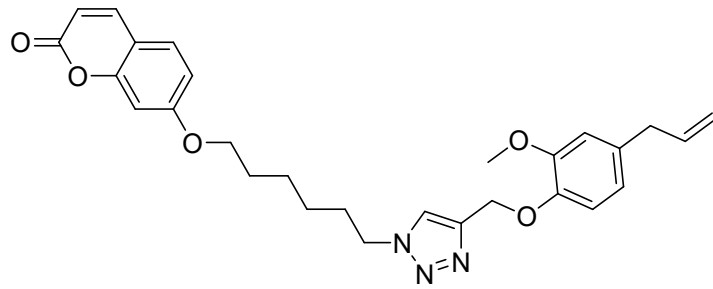


^1H spectrum of 7-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-2H-chromen-2-one (A9)

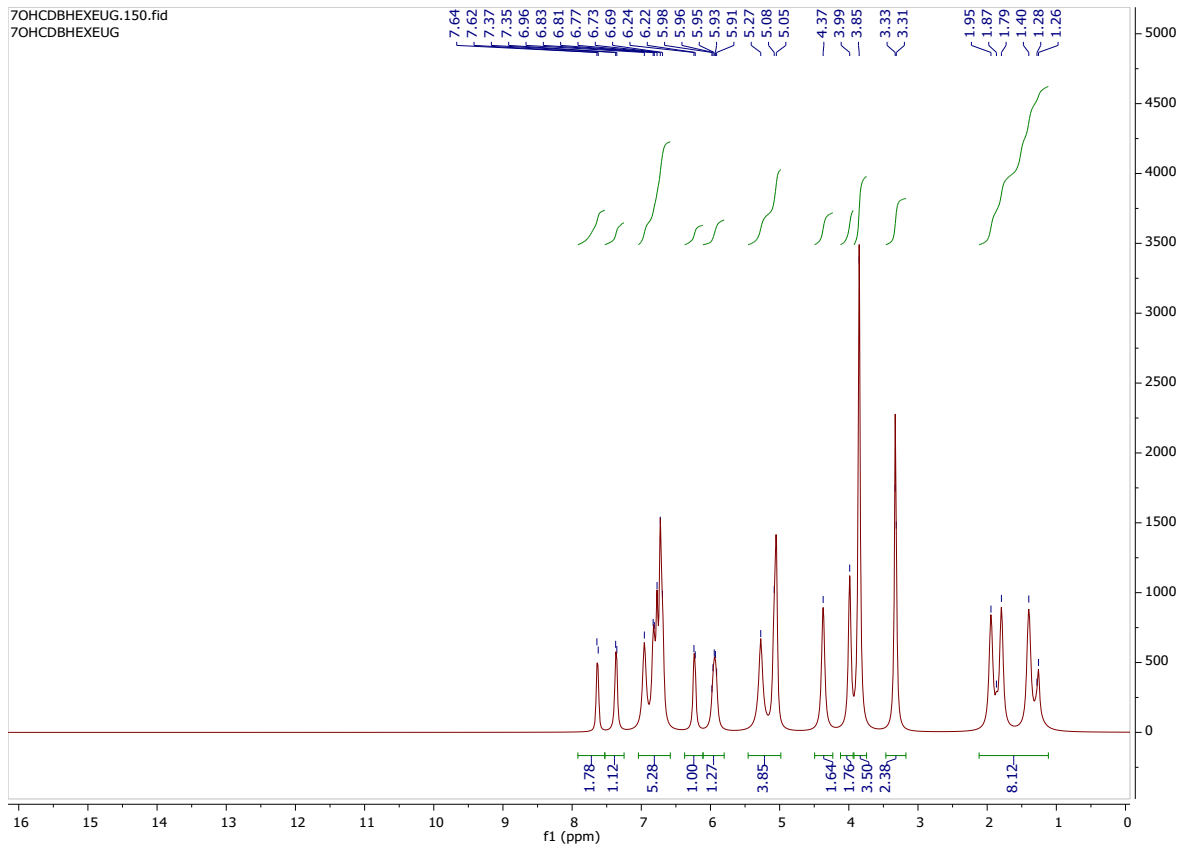


¹³C spectrum of 7-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-2H-chromen-2-one (A9)

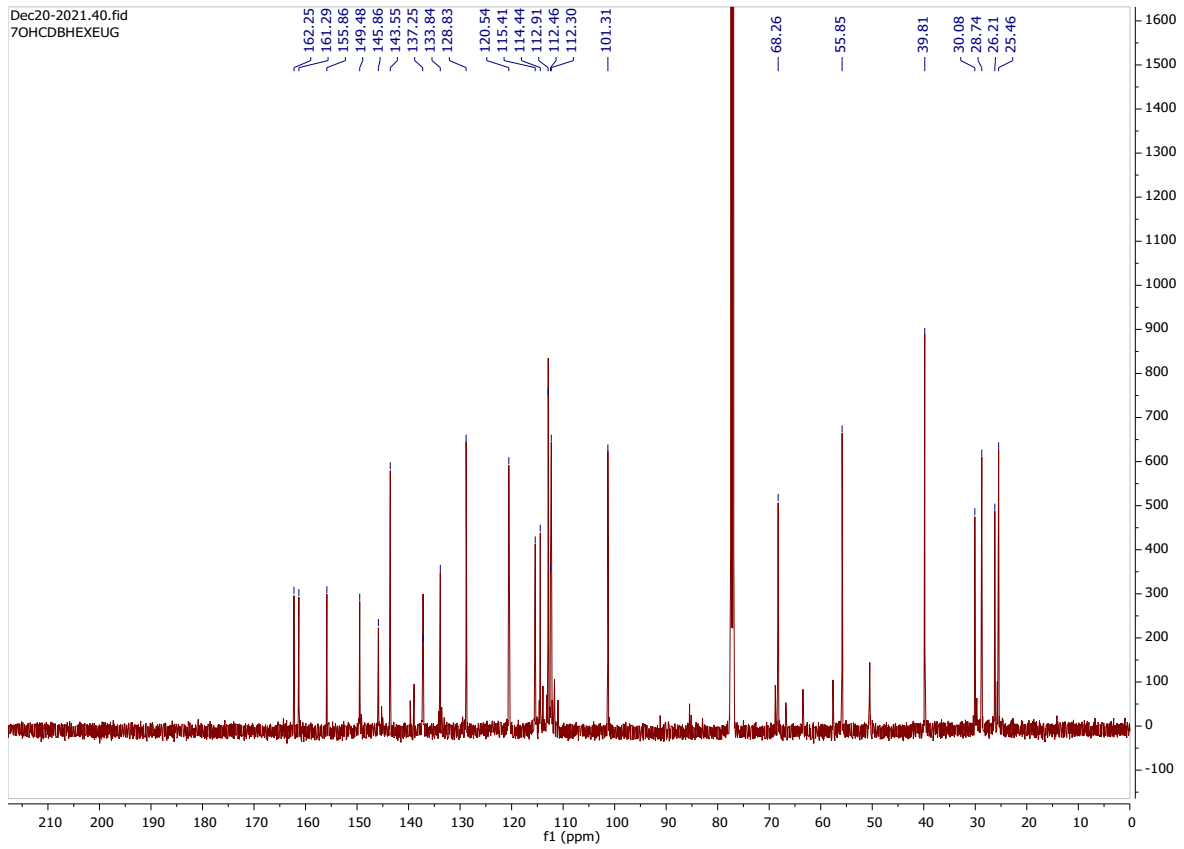


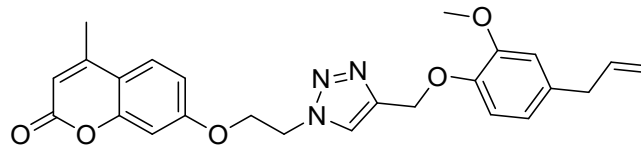


^1H spectrum of 7-((6-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)hexyl)oxy)-2H-chromen-2-one (**A10**)

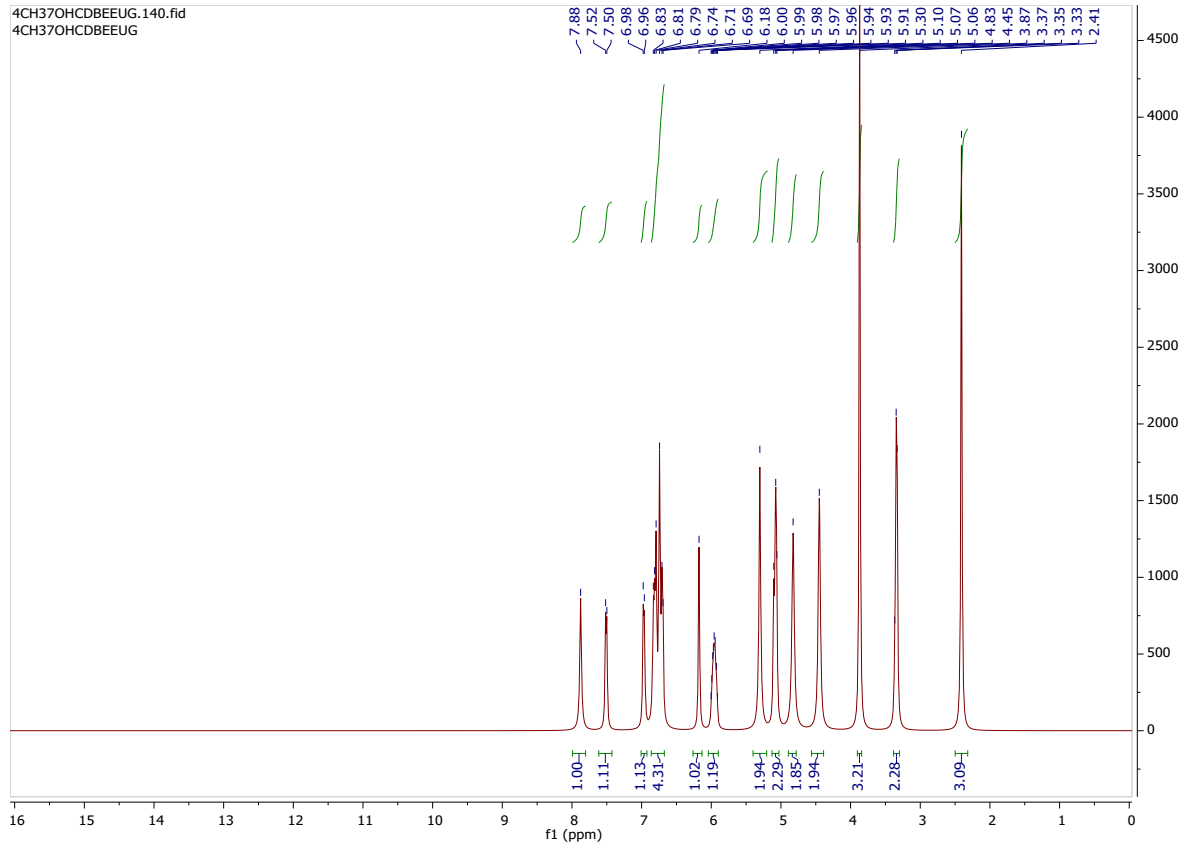


¹³C spectrum of 7-((6-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)hexyl)oxy)-2H-chromen-2-one (A10)

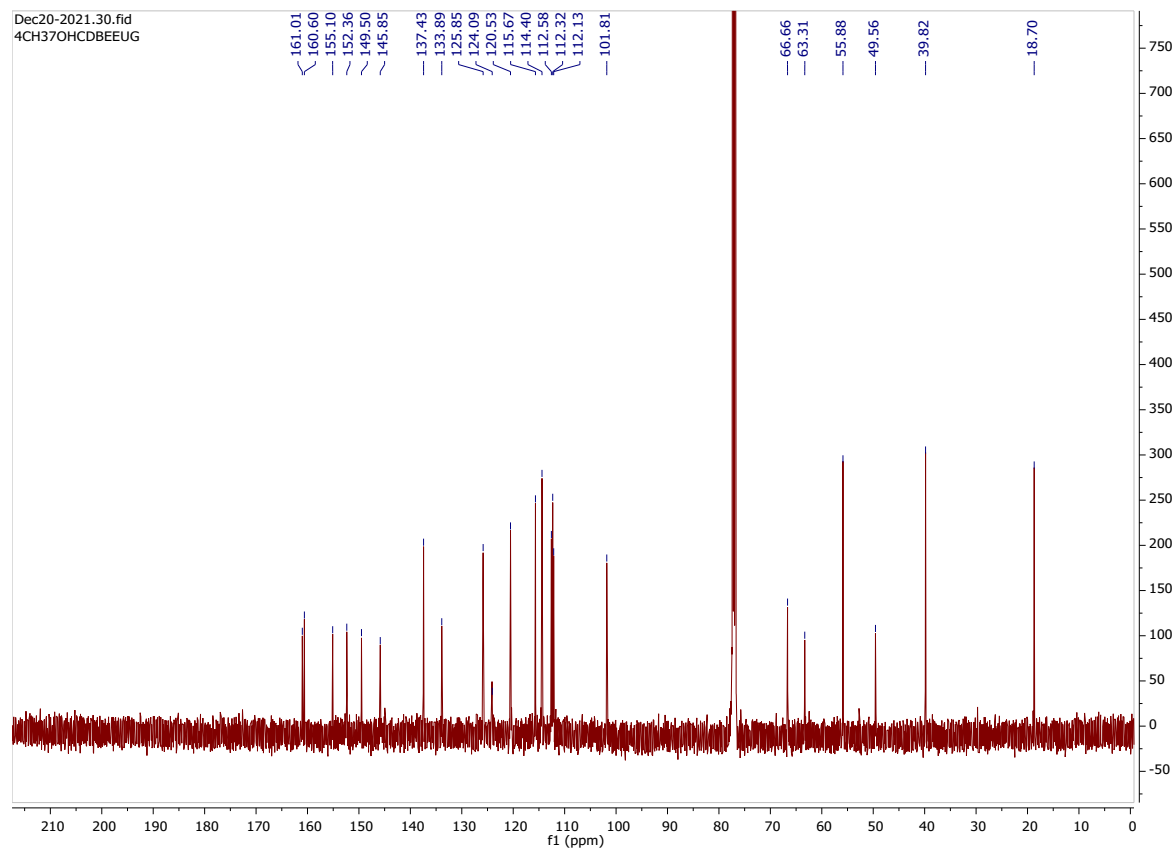


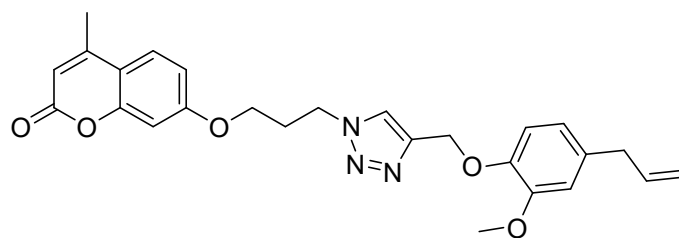


^1H spectrum of 7-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-4-methyl-2H-chromen-2-one (**A11**)

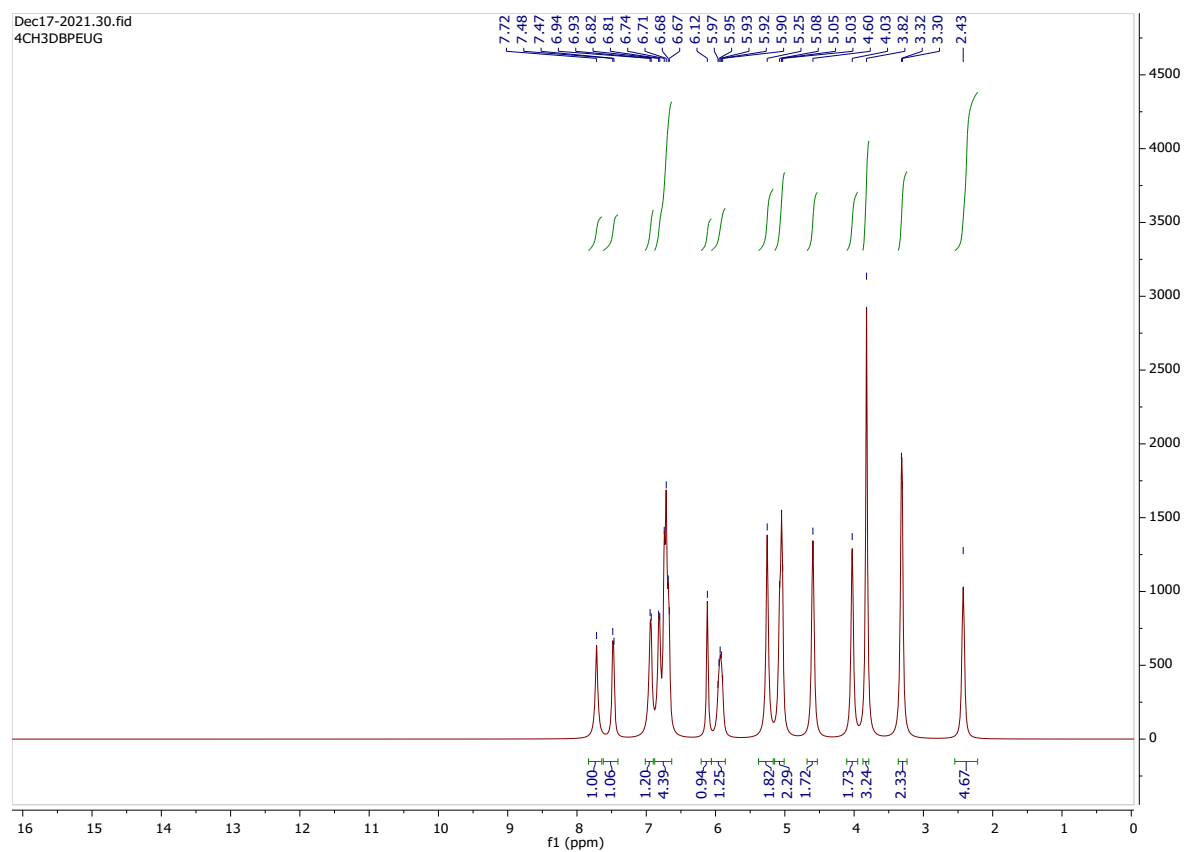


¹³C spectrum of 7-(2-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)-4-methyl-2H-chromen-2-one (A11)

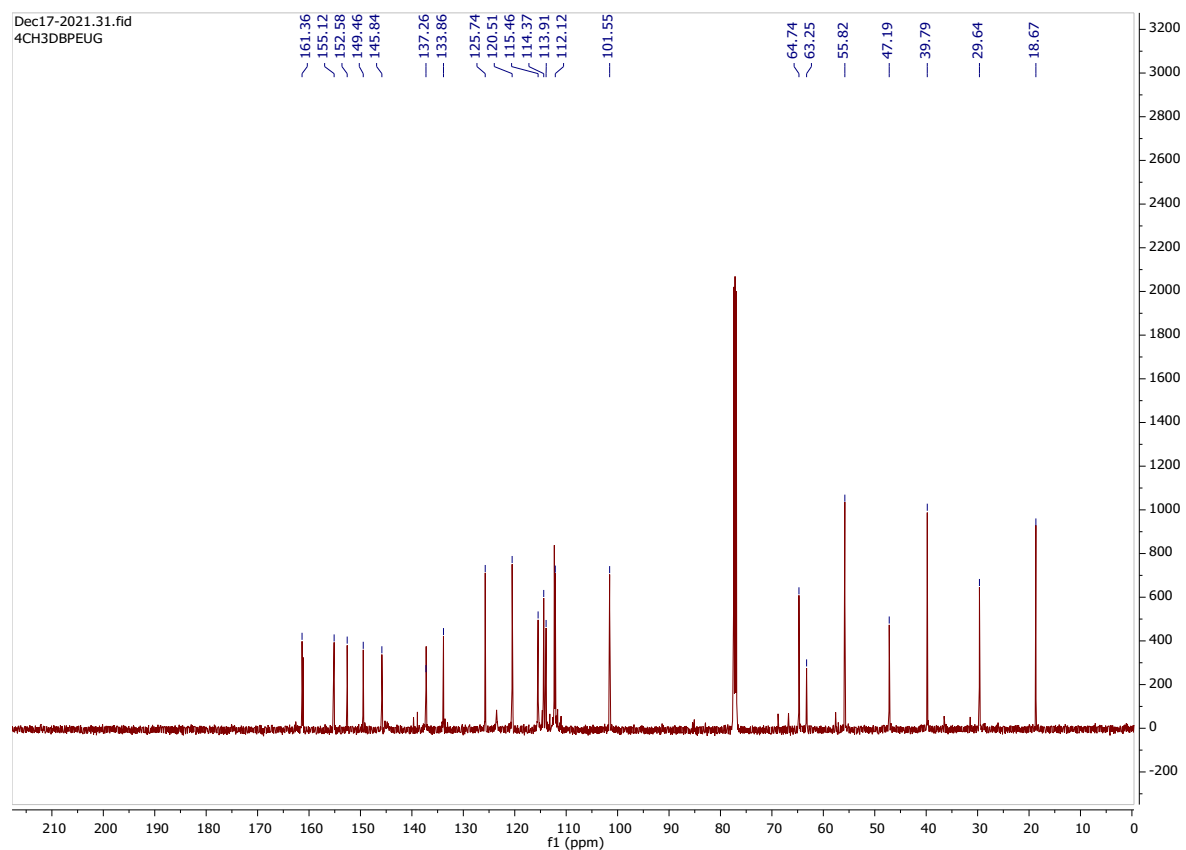


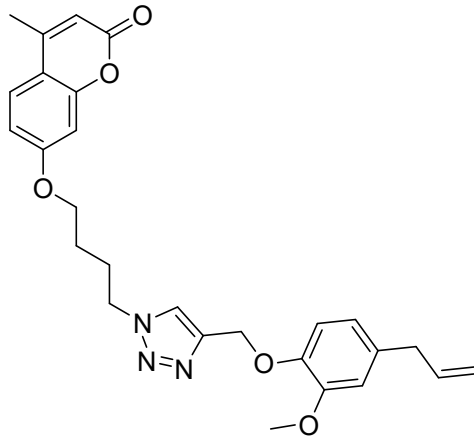


^1H spectrum of 7-(3-(4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-4-methyl-2H-chromen-2-one (**A12**)

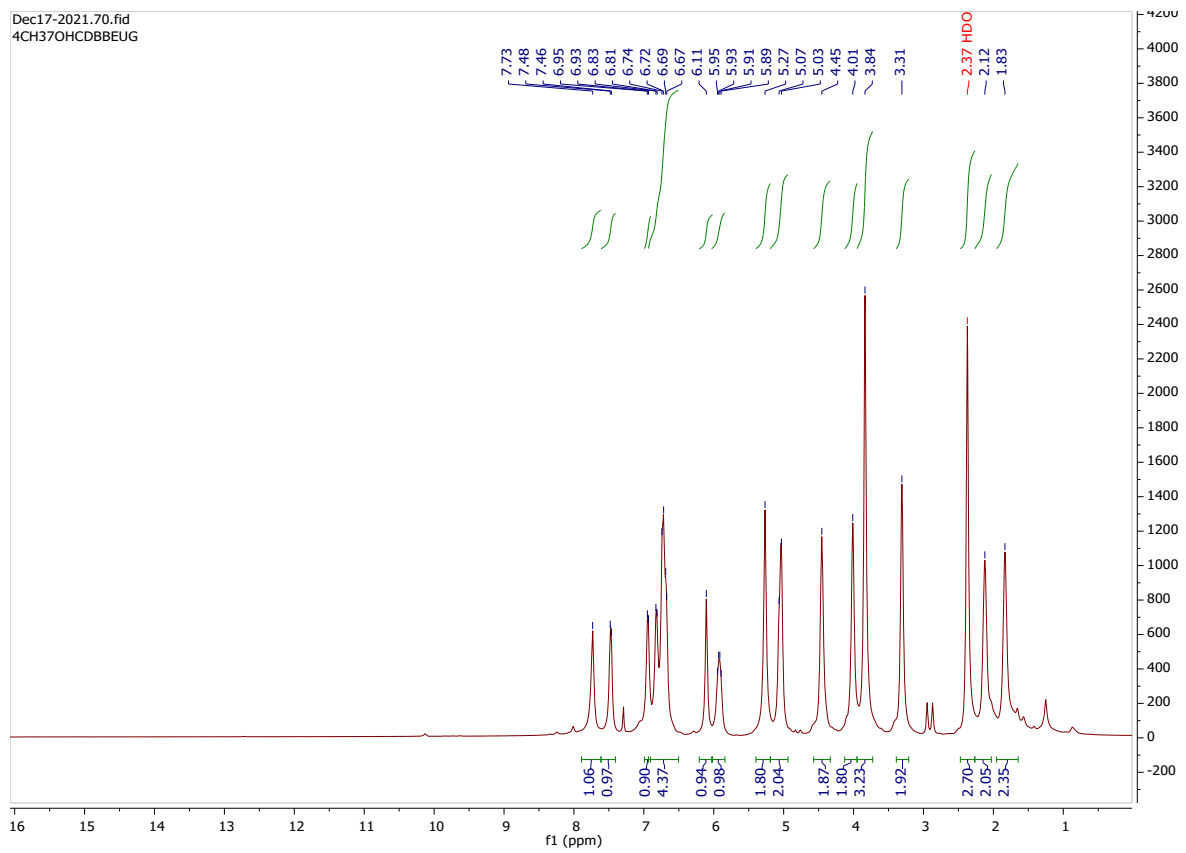


¹³C spectrum of 7-(3-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)propoxy)-4-methyl-2H-chromen-2-one (A12)

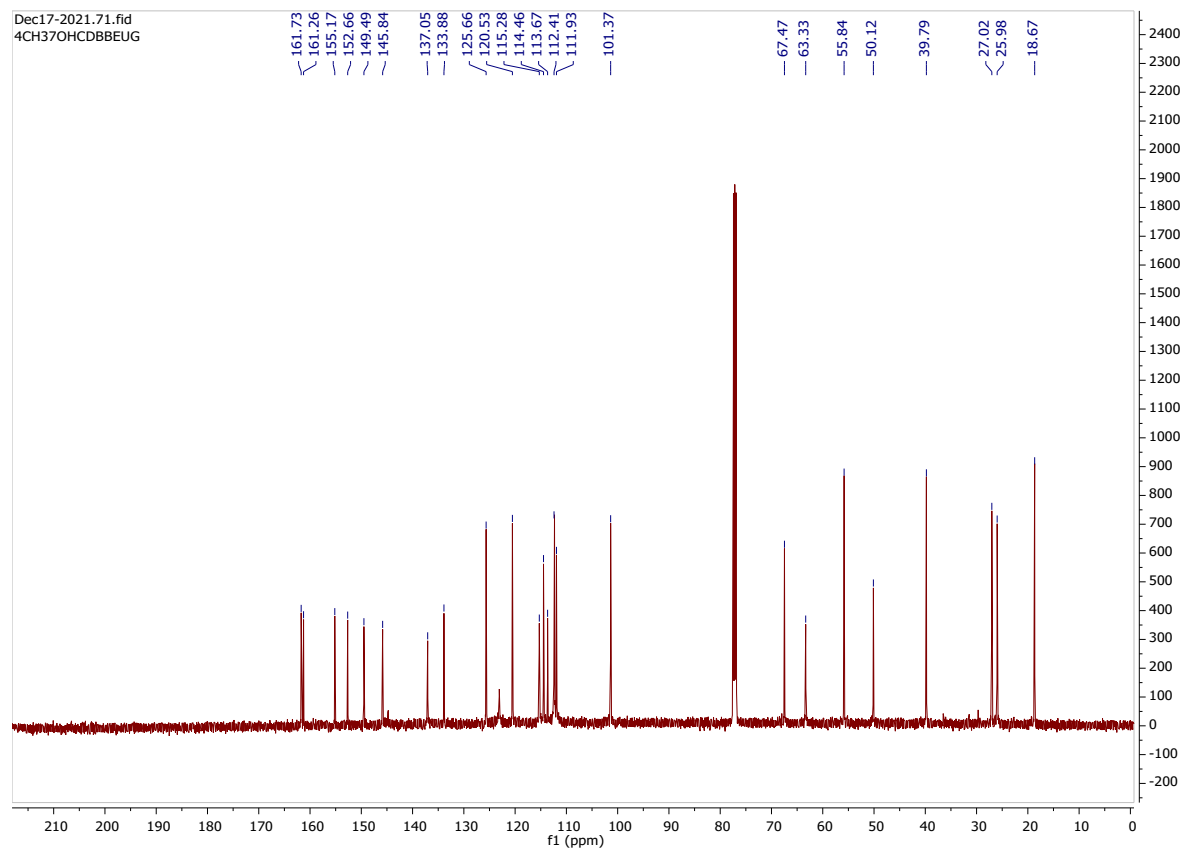


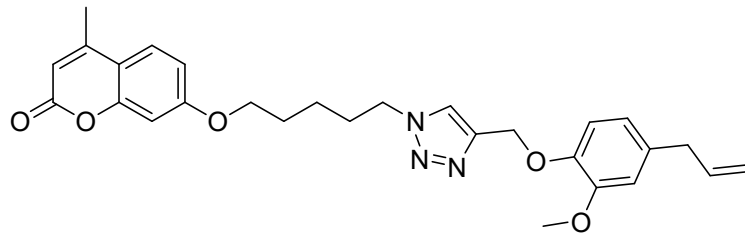


^1H spectrum of 7-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-4-methyl-2H-chromen-2-one (A13)

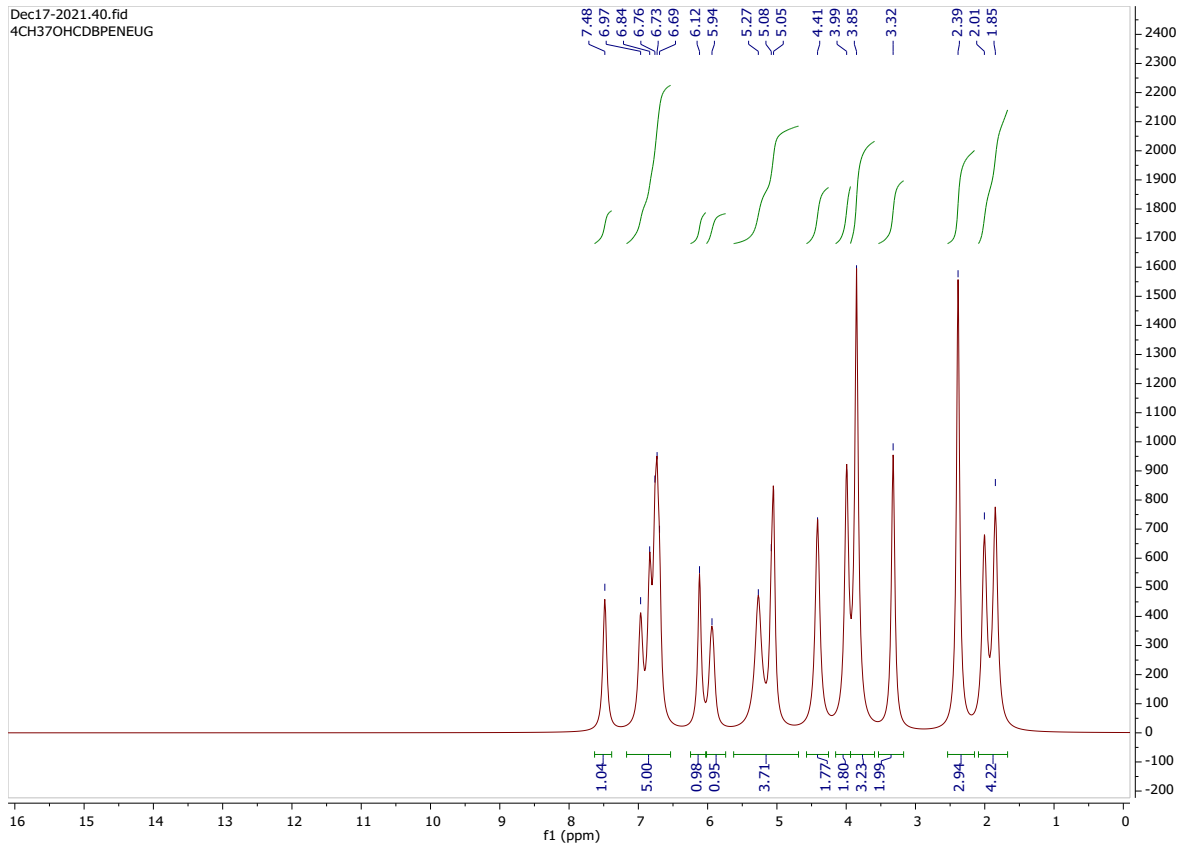


¹³C spectrum of 7-(4-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)butoxy)-4-methyl-2H-chromen-2-one (A13)

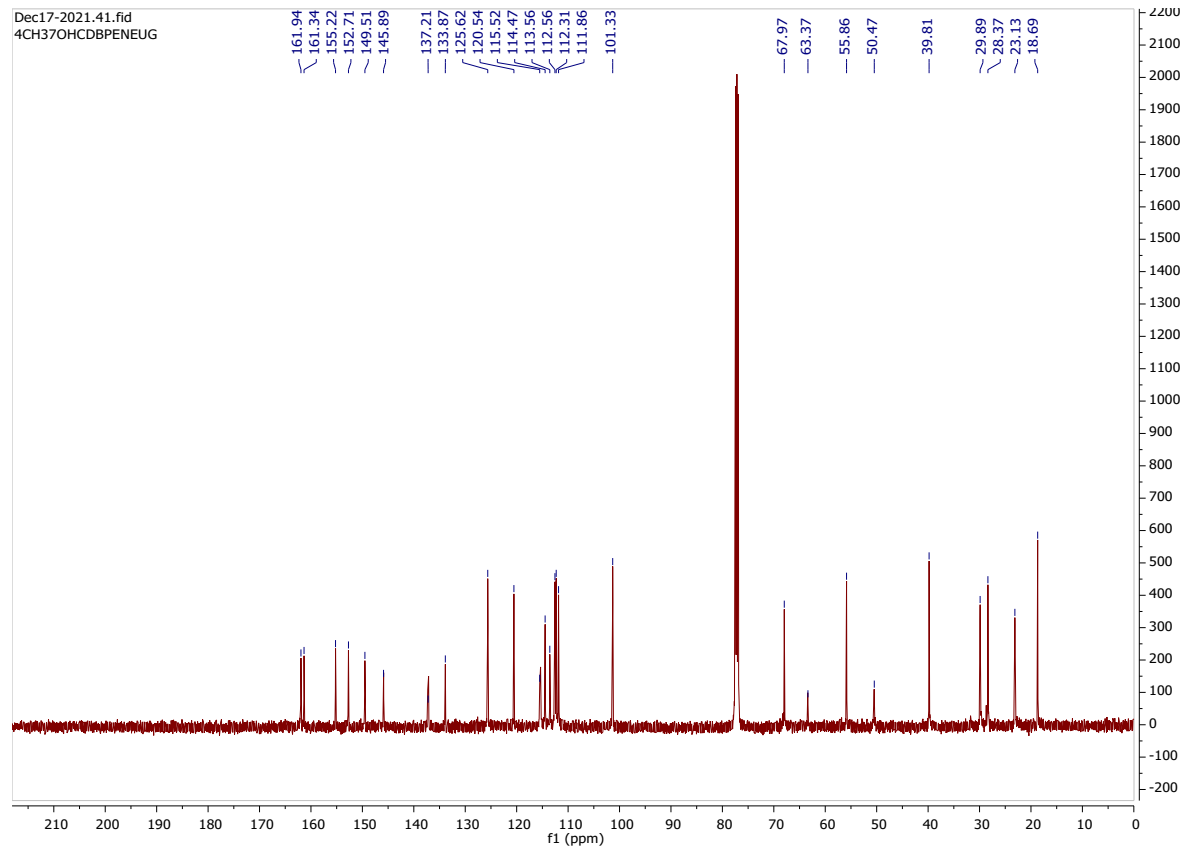


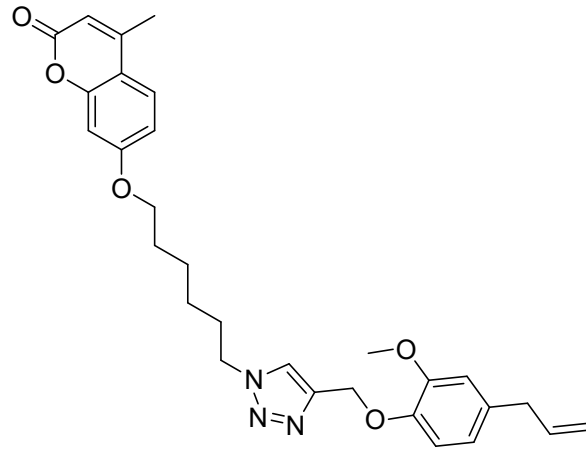


^1H spectrum of 7-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-4-methyl-2H-chromen-2-one (**A14**)

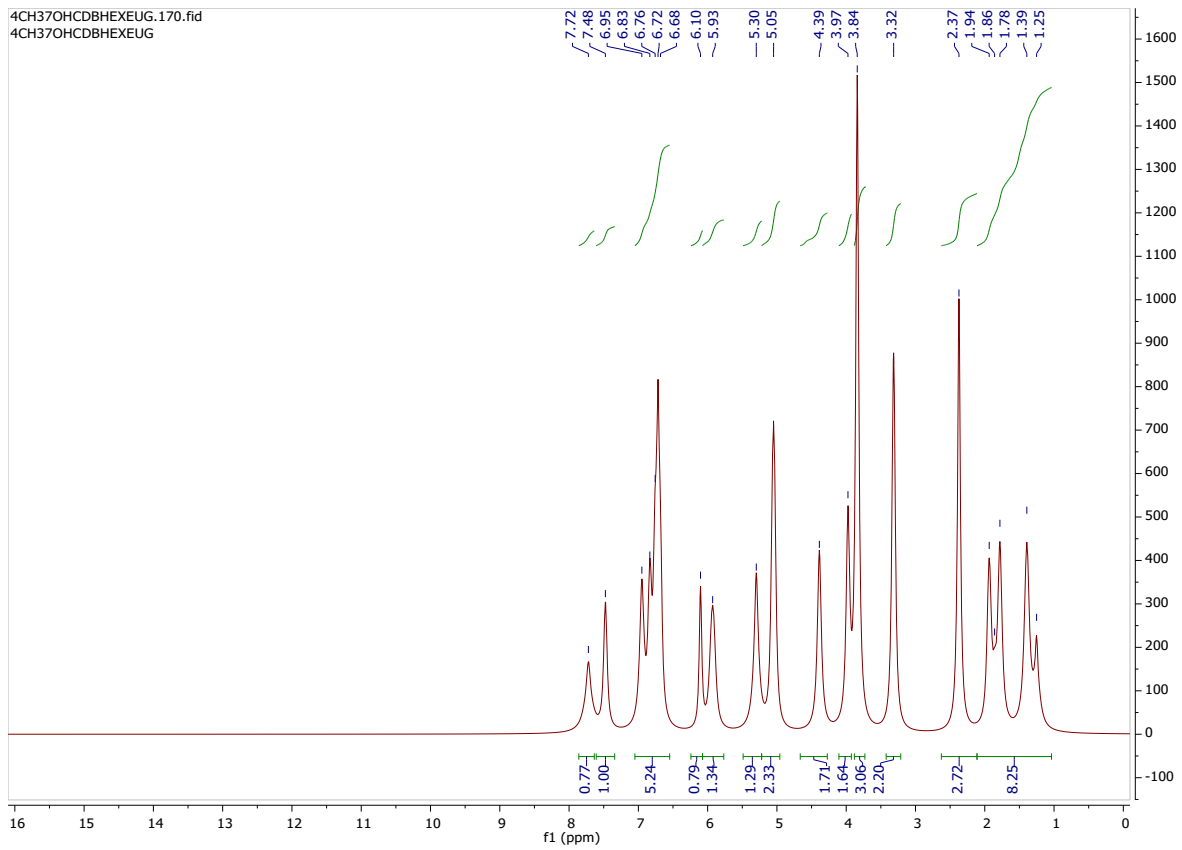


¹³C spectrum of 7-((5-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)pentyl)oxy)-4-methyl-2H-chromen-2-one (A14)





^1H spectrum of 7-((6-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)hexyl)oxy)-4-methyl-2H-chromen-2-one (A15)



¹³C spectrum of 7-((6-(4-((4-allyl-2-methoxyphenoxy)methyl)-1H-1,2,3-triazol-1-yl)hexyl)oxy)-4-methyl-2H-chromen-2-one (A15)

