

Supplementary Information

Synthesis of Glycerol-Derived 4-Alkyl-Substituted 1,2,3-Triazoles and Evaluation of Their Fungicidal, Phytotoxic, and Antiproliferative Activities

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Selected IR, NMR (^1H and ^{13}C) and MS spectra

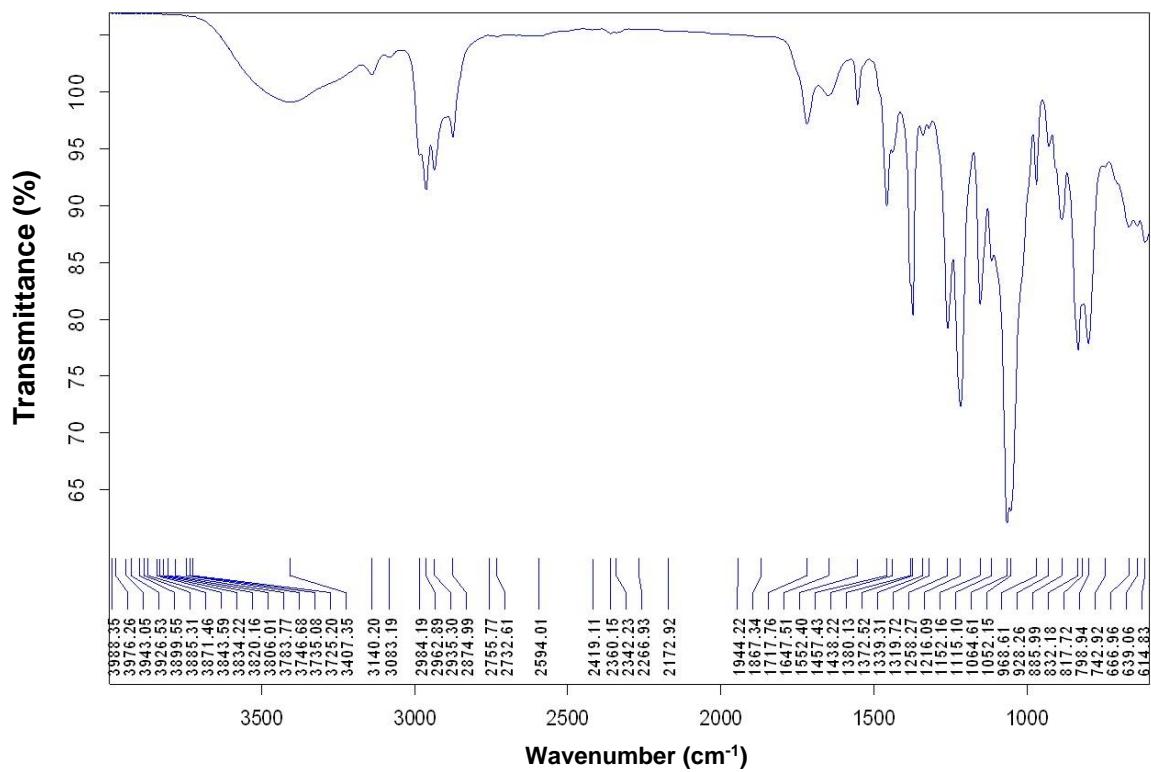


Figure S1. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-propyl-1*H*-1,2,3-triazole (**4a**).

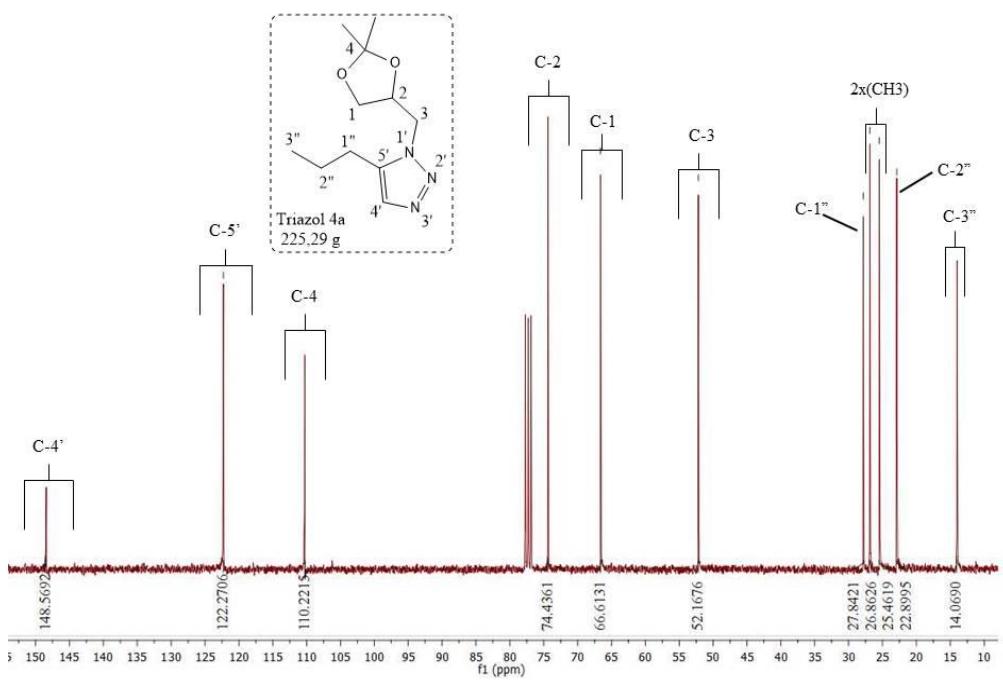


Figure S2. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-propyl-1*H*-1,2,3-triazole (**4a**).

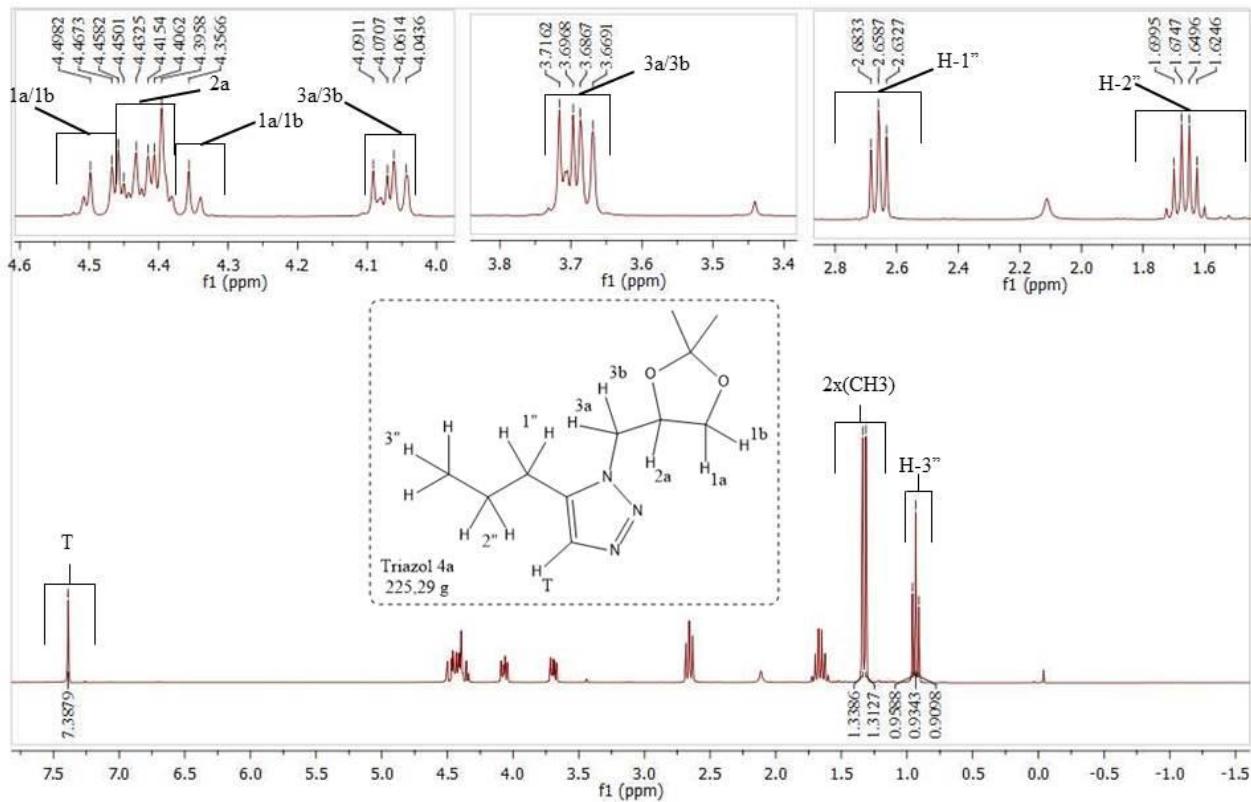


Figure S3. ^1H NMR spectrum (300 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-propyl-1*H*-1,2,3-triazole (**4a**).

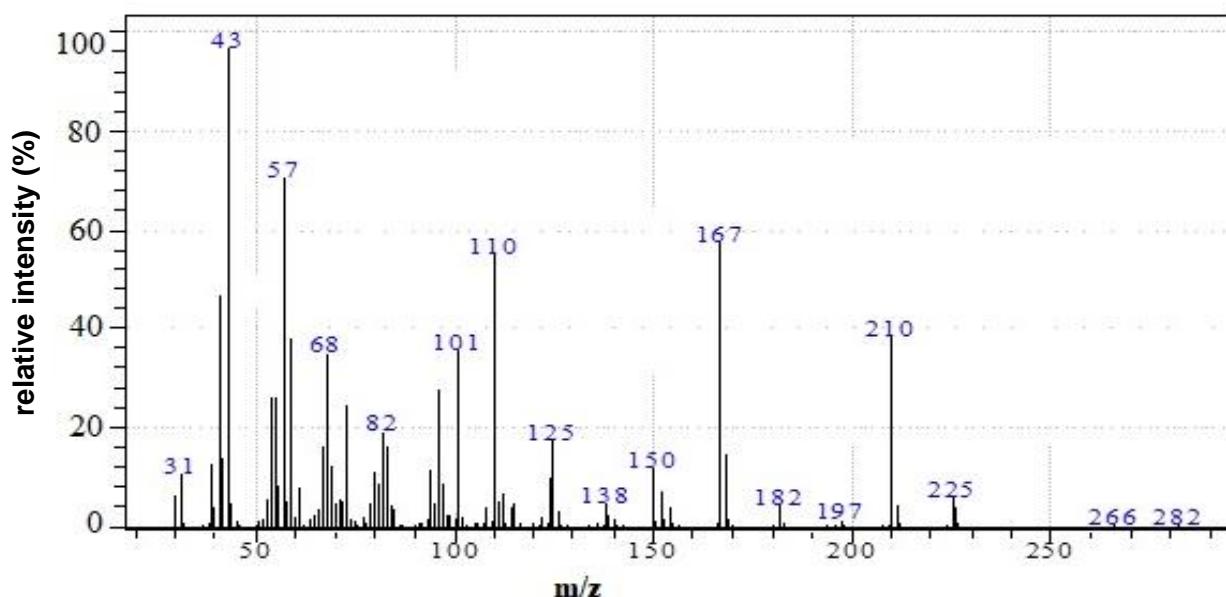


Figure S4. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-propyl-1*H*-1,2,3-triazole (**4a**).

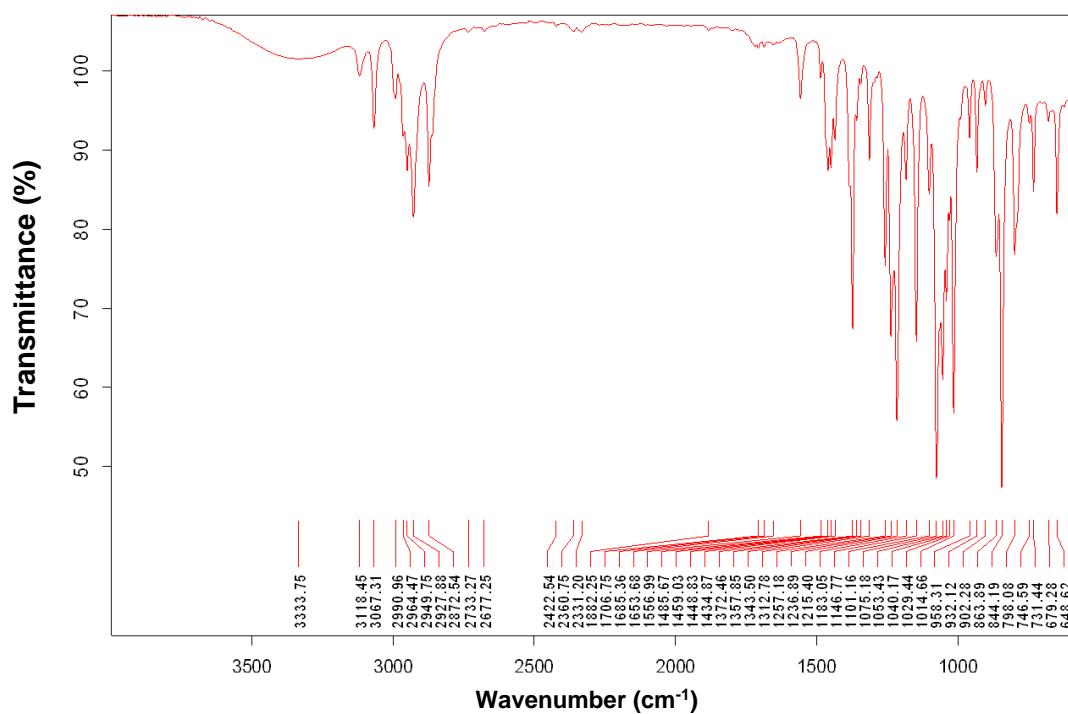


Figure S5. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-butyl-1*H*-1,2,3-triazole (**4b**).

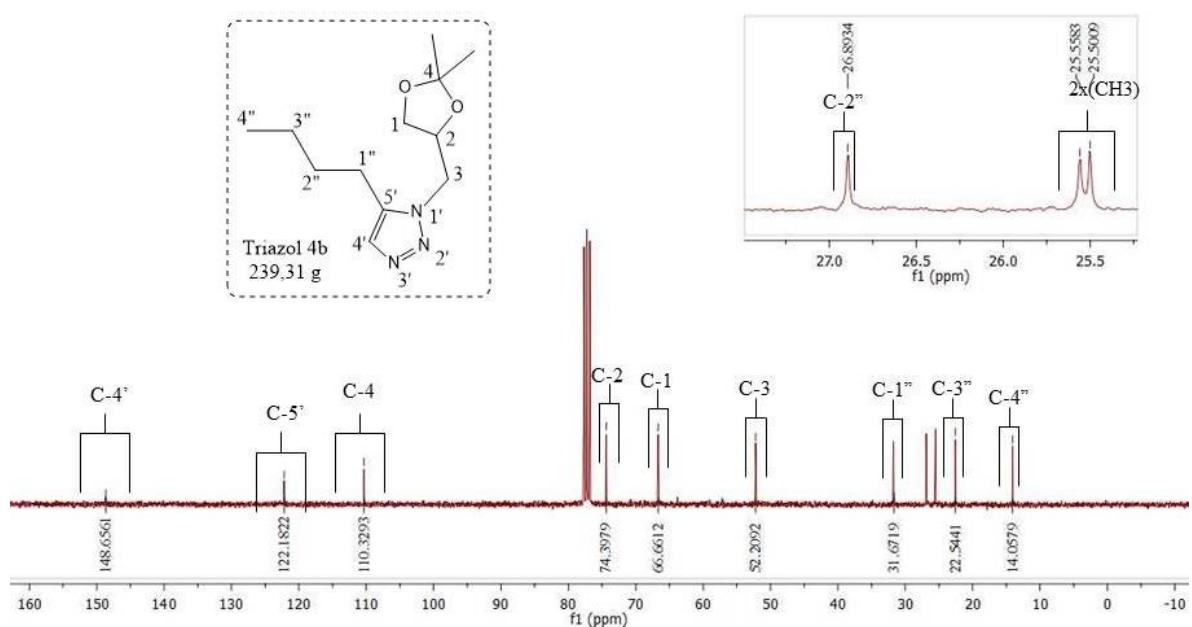


Figure S6. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-butyl-1*H*-1,2,3-triazole (**4b**).

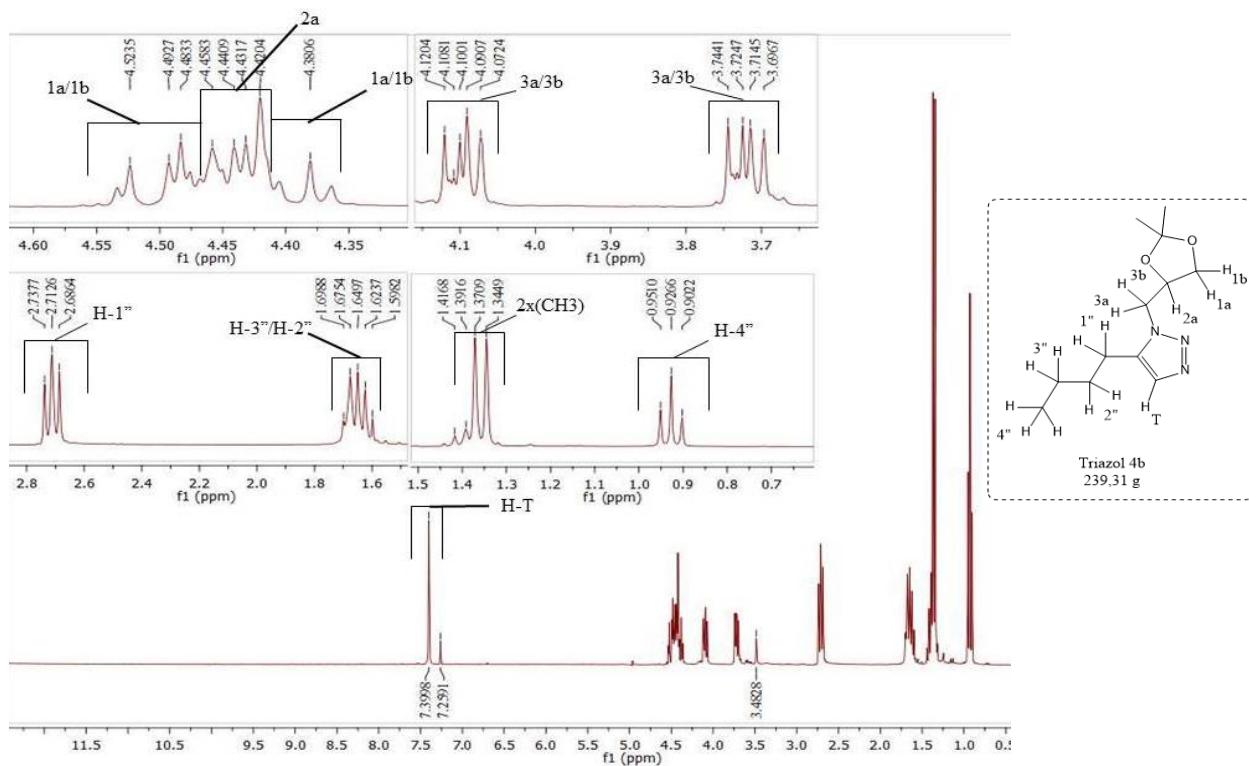


Figure S7. ¹H NMR spectrum (300 MHz, CDCl₃) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-butyl-1*H*-1,2,3-triazole (**4b**).

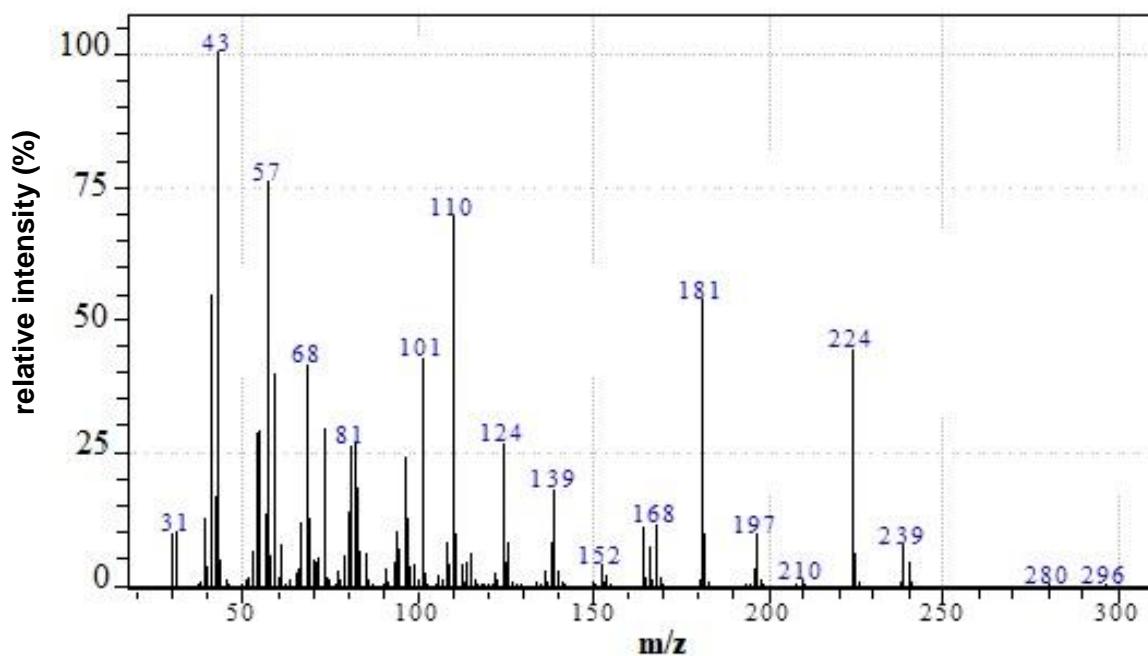


Figure S8. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-butyl-1*H*-1,2,3-triazole (**4b**).

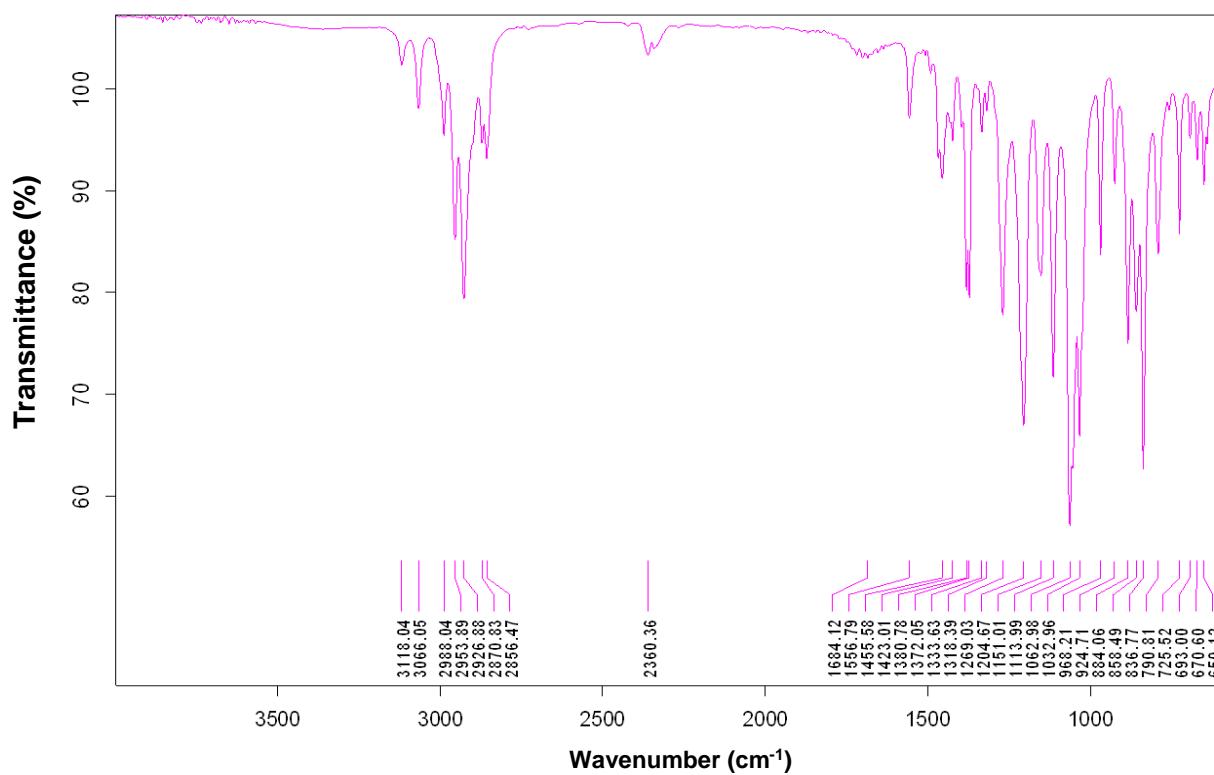


Figure S9. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-pentyl-1*H*-1,2,3-triazole (**4c**).

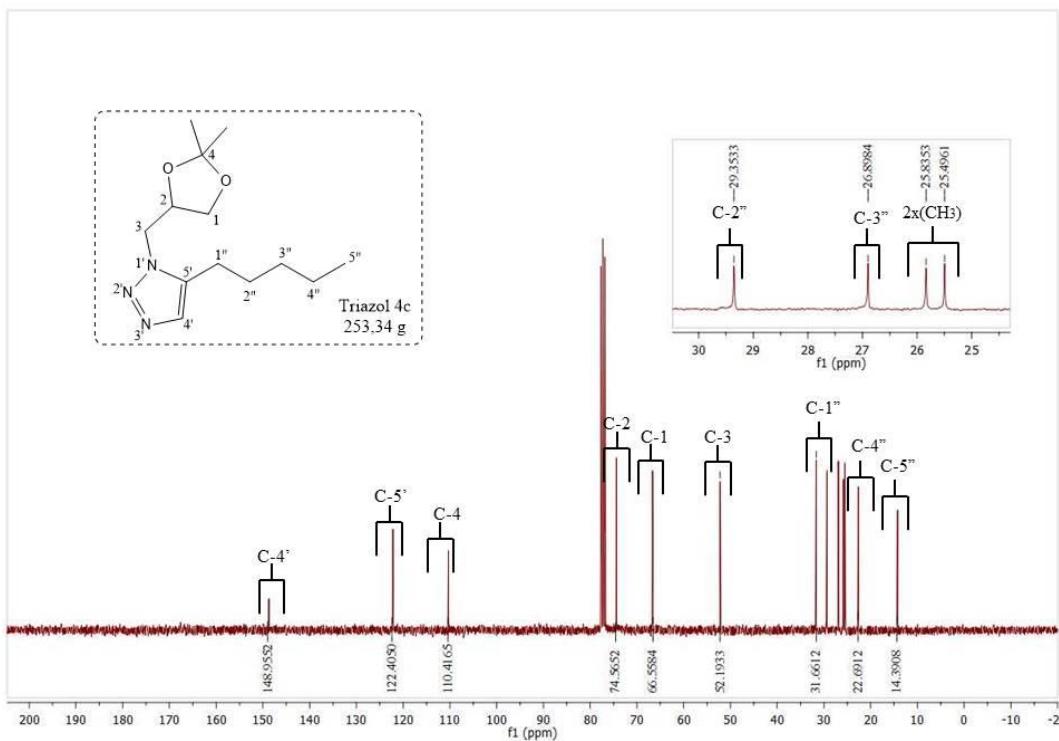


Figure S10. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-pentyl-1*H*-1,2,3-triazole (**4c**).

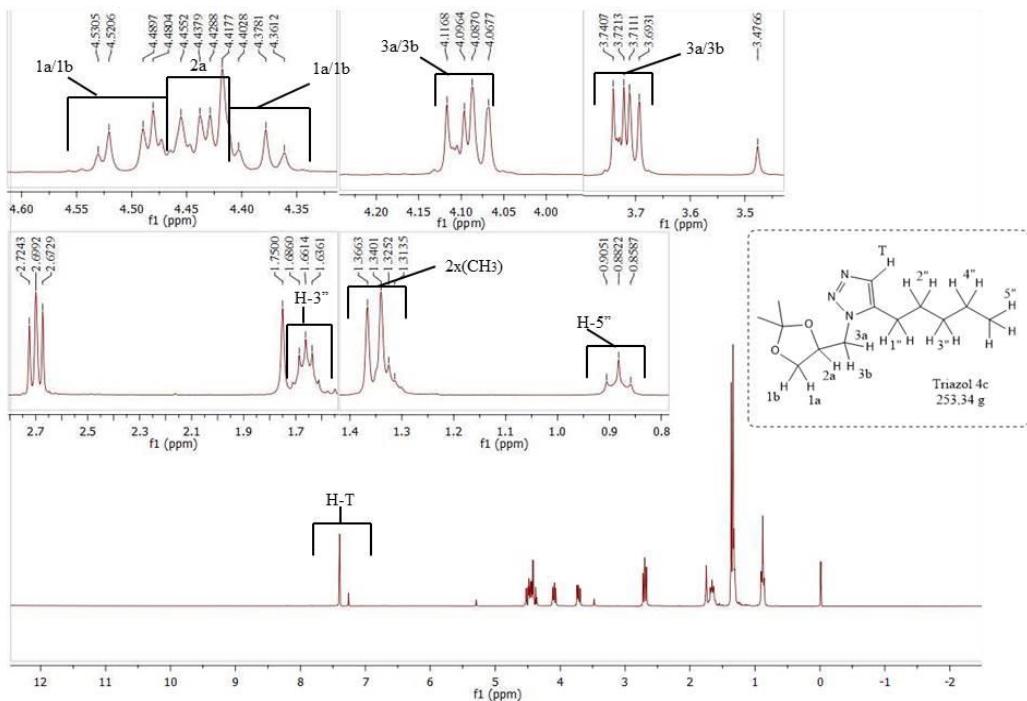


Figure S11. ^1H NMR spectrum (300 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-pentyl-1*H*-1,2,3-triazole (**4c**).

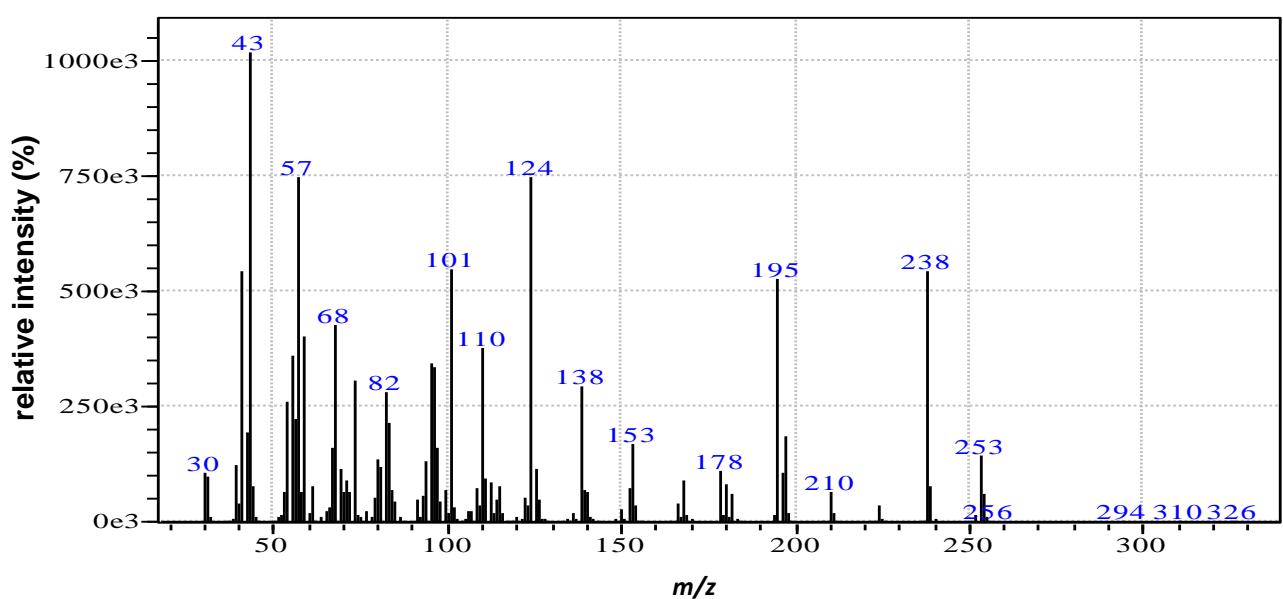


Figure S12. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-pentyl-1*H*-1,2,3-triazole (4c).

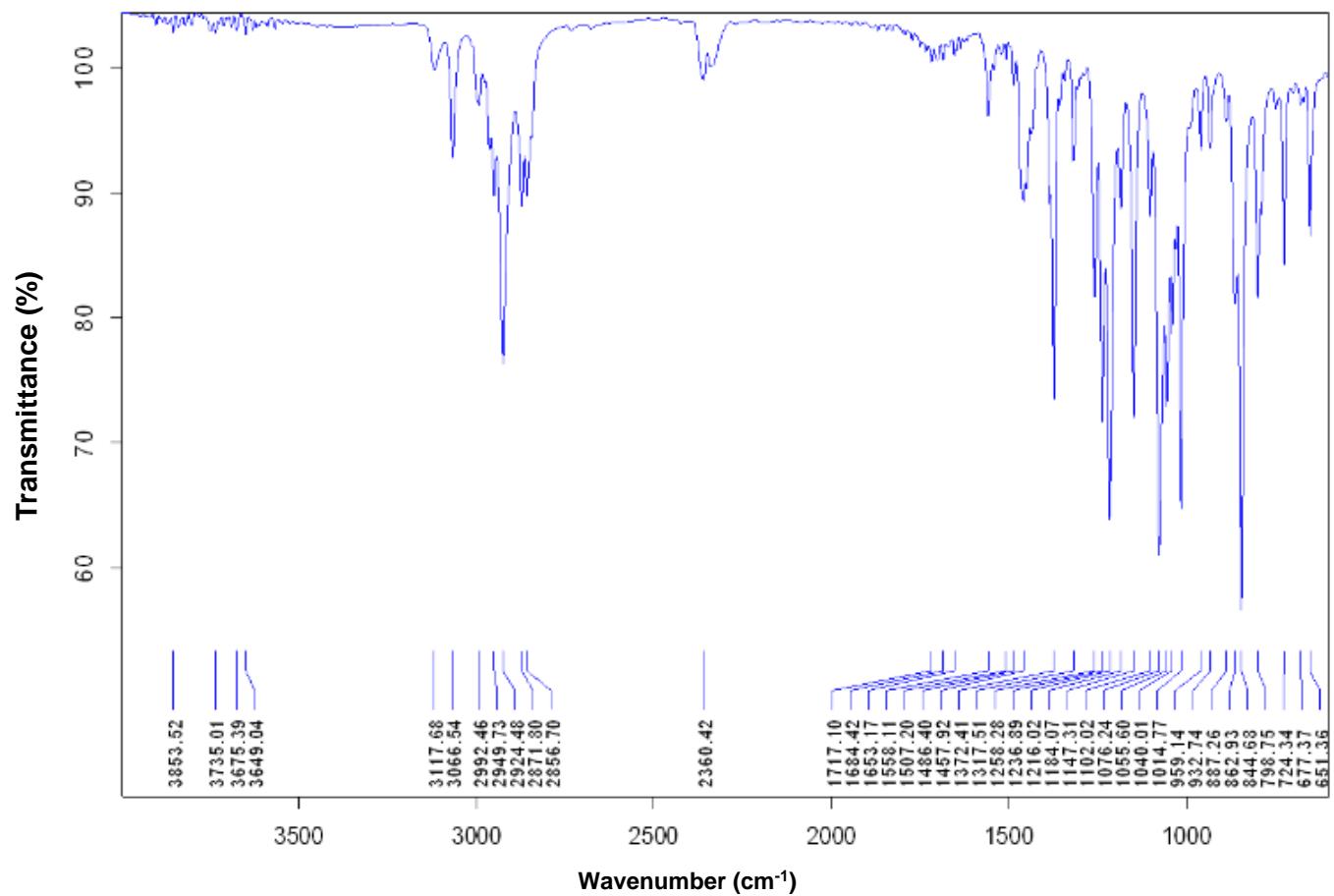


Figure S13. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-hexyl-1*H*-1,2,3-triazole (**4d**).

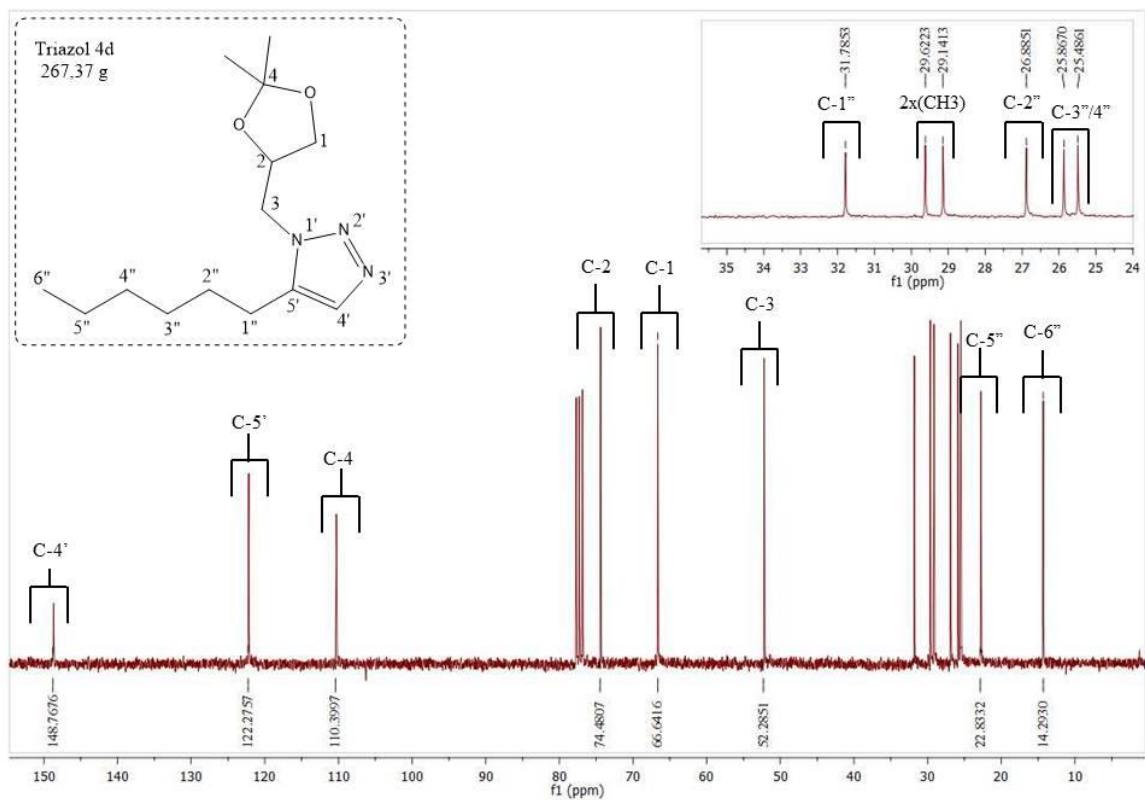


Figure S14. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-hexyl-1*H*-1,2,3-triazole (**4d**).

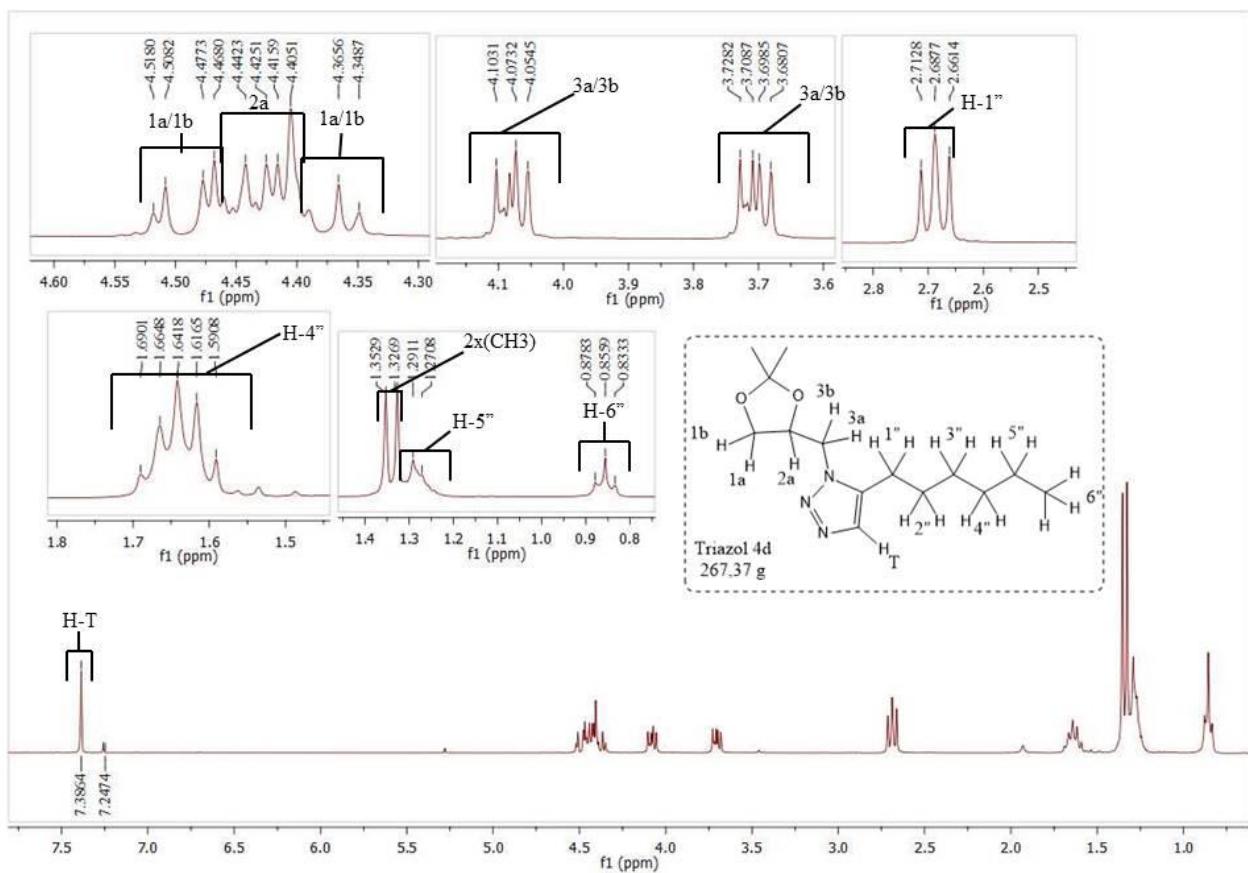


Figure S15. ^1H NMR spectrum (300 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-hexyl-1*H*-1,2,3-triazole (**4d**).

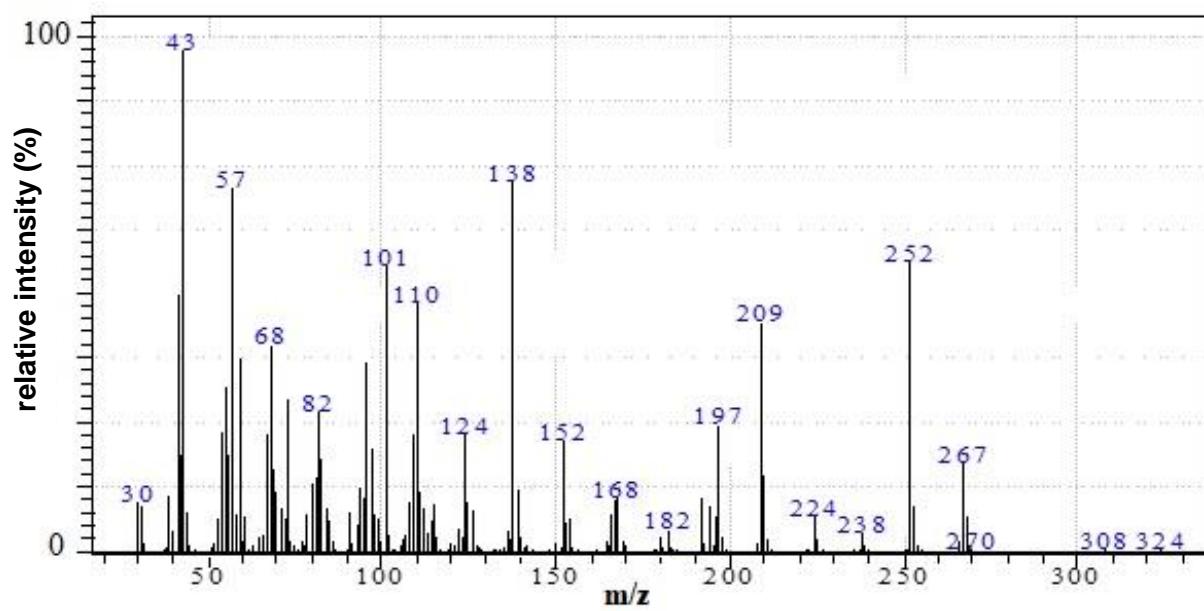


Figure S16. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-hexyl-1*H*-1,2,3-triazole (**4d**).

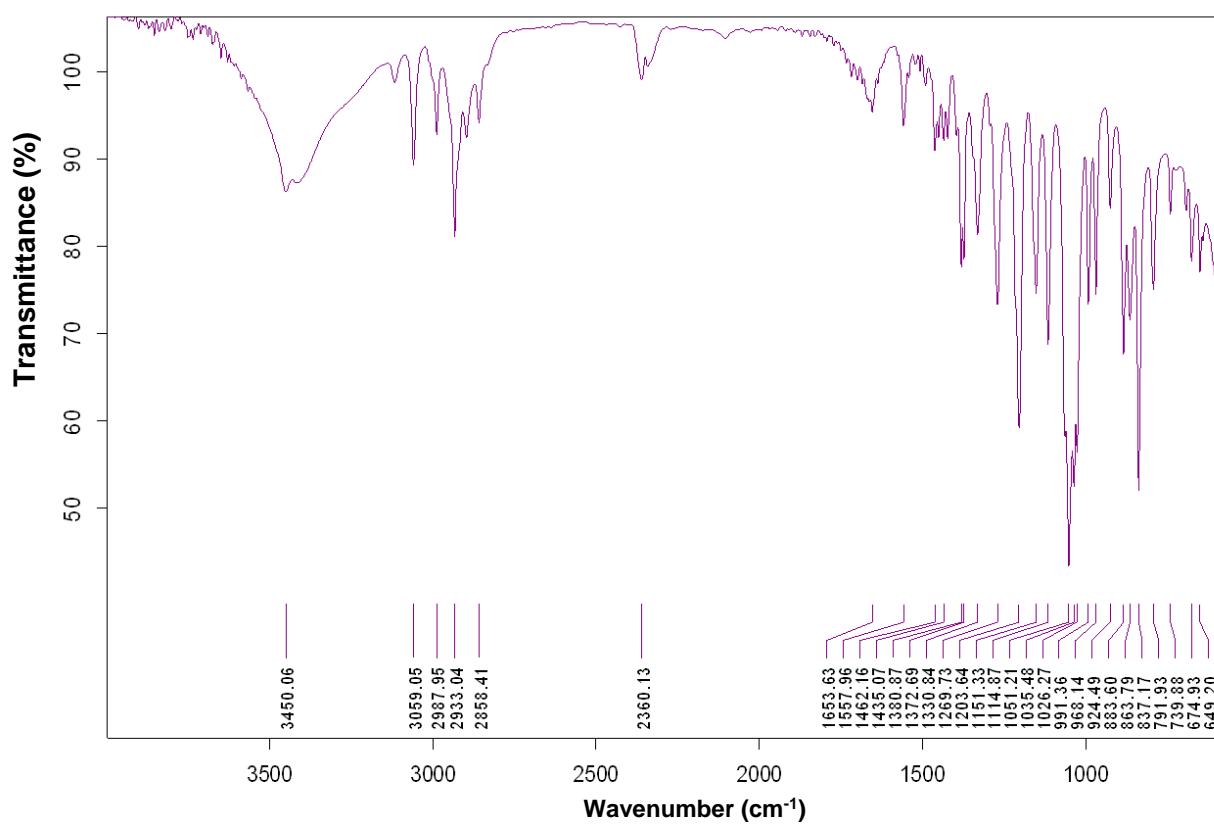


Figure S17. IR spectrum of 4-(1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-(4-hydroxybutyl)-1*H*-1,2,3-triazole (**4e**).

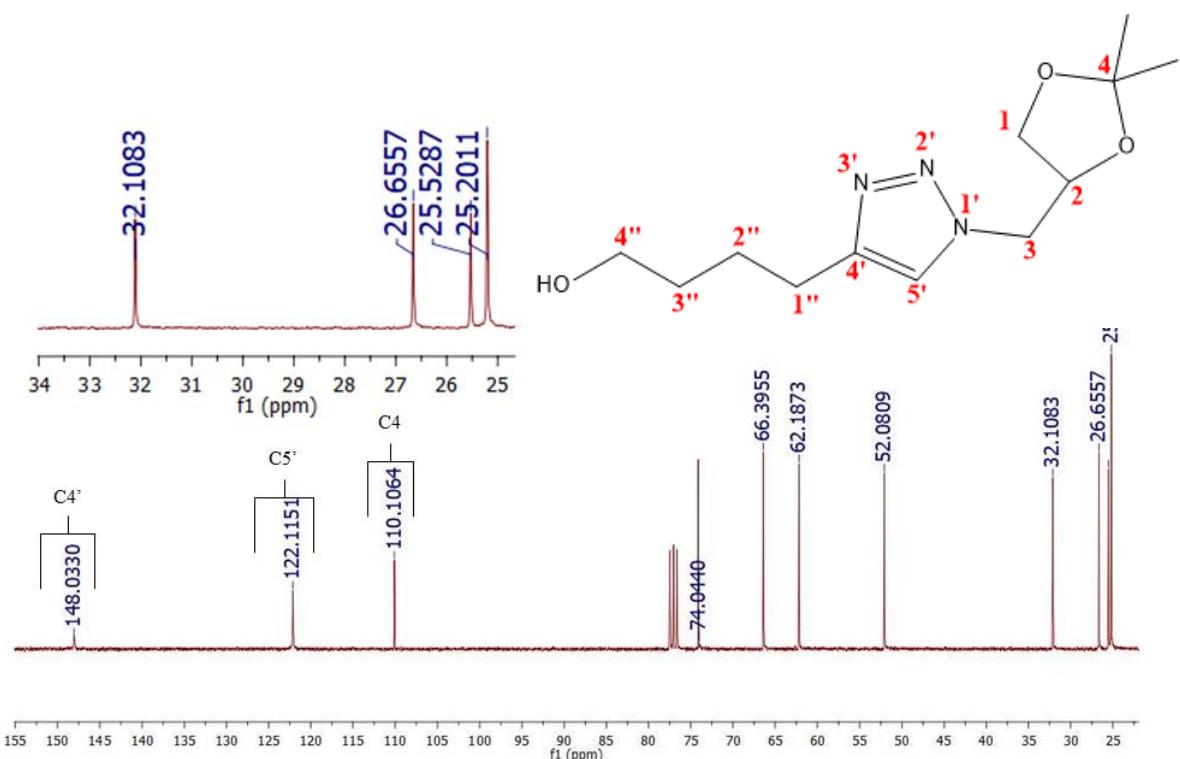


Figure S18. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 4-(1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-(4-hydroxybutyl)- 1H -1,2,3-triazole (**4e**).

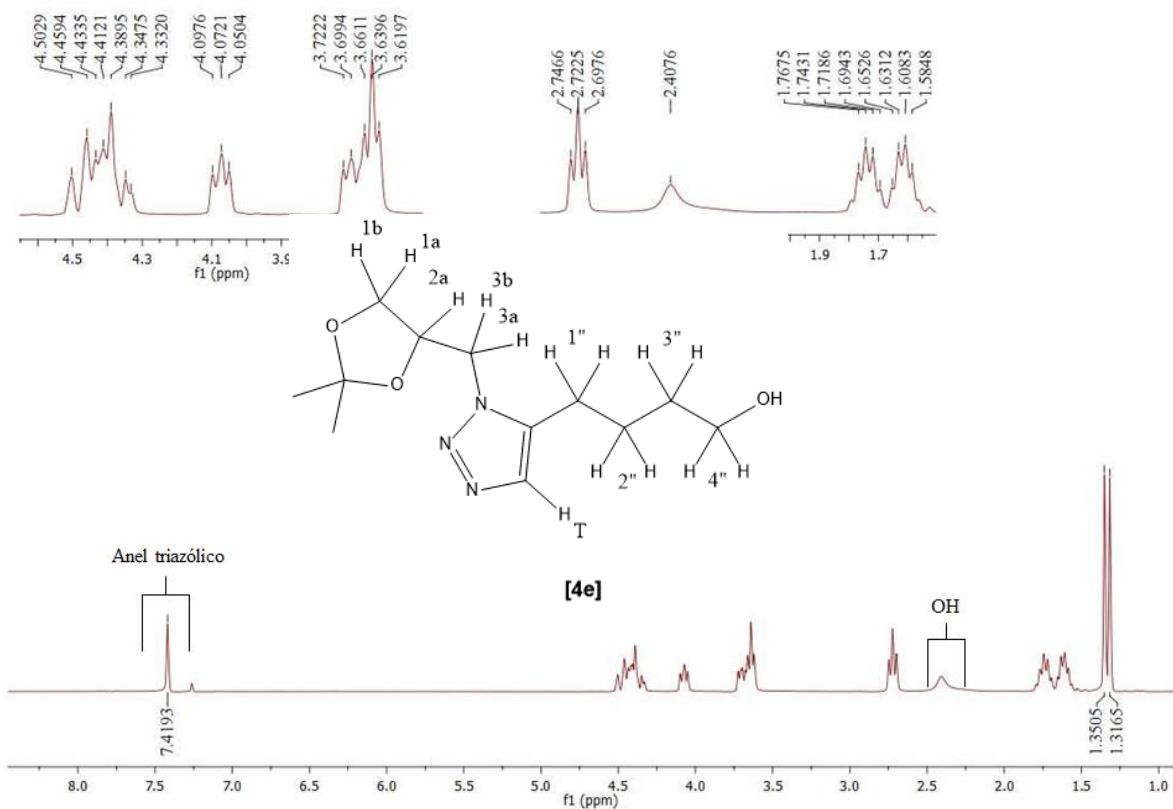


Figure S19. ^1H NMR spectrum (300 MHz, CDCl_3) of 4-(1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-(4-hydroxybutyl)-1*H*-1,2,3-triazole (**4e**).

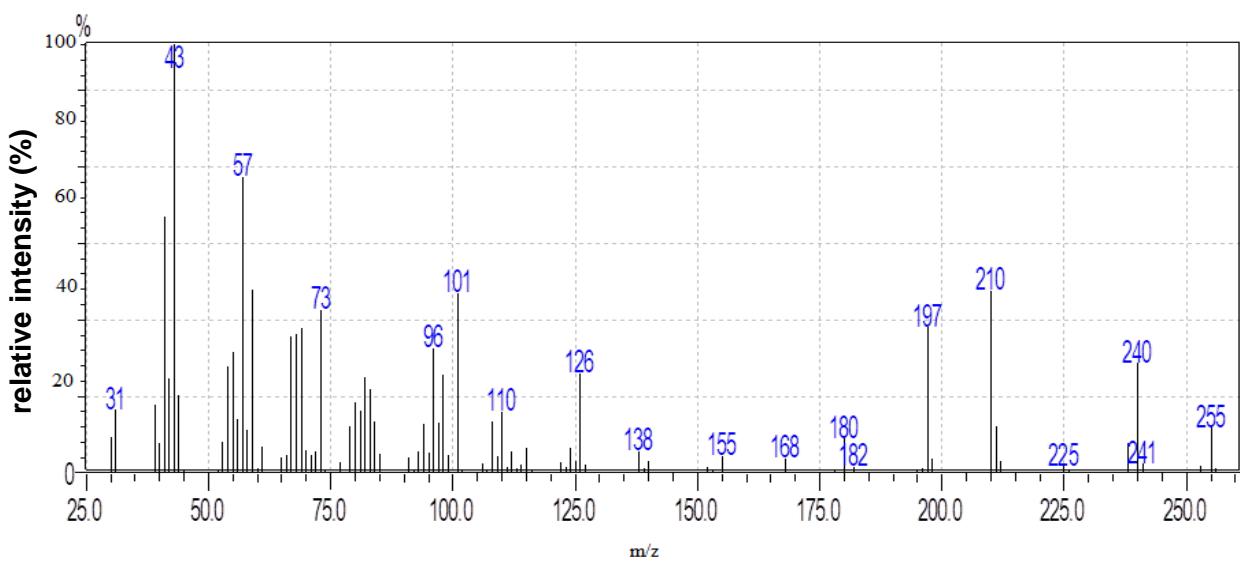


Figure S20. MS spectrum of 4-(1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-(4-hydroxybutyl)-1*H*-1,2,3-triazole (**4e**).

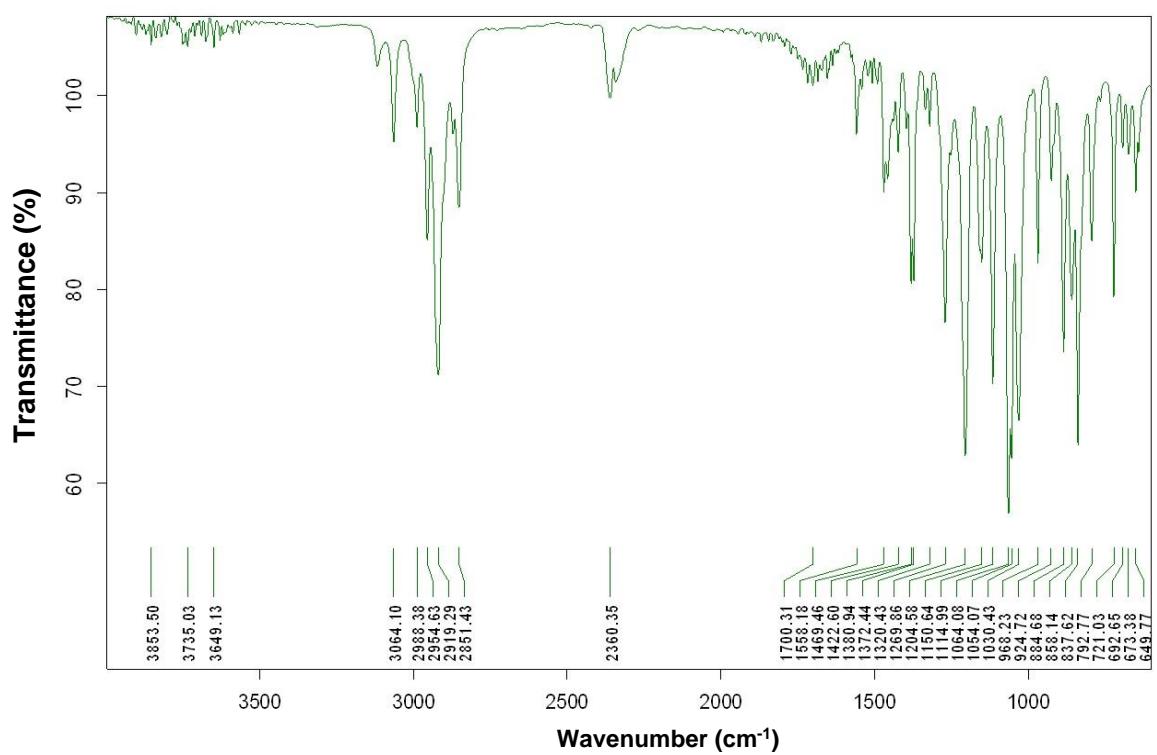


Figure S21. IR spectrum of 1-((2,2-dimethyl)1,3-dioxolan-4-yl)-4-heptyl-1*H*-1,2,3-triazole (**4f**).

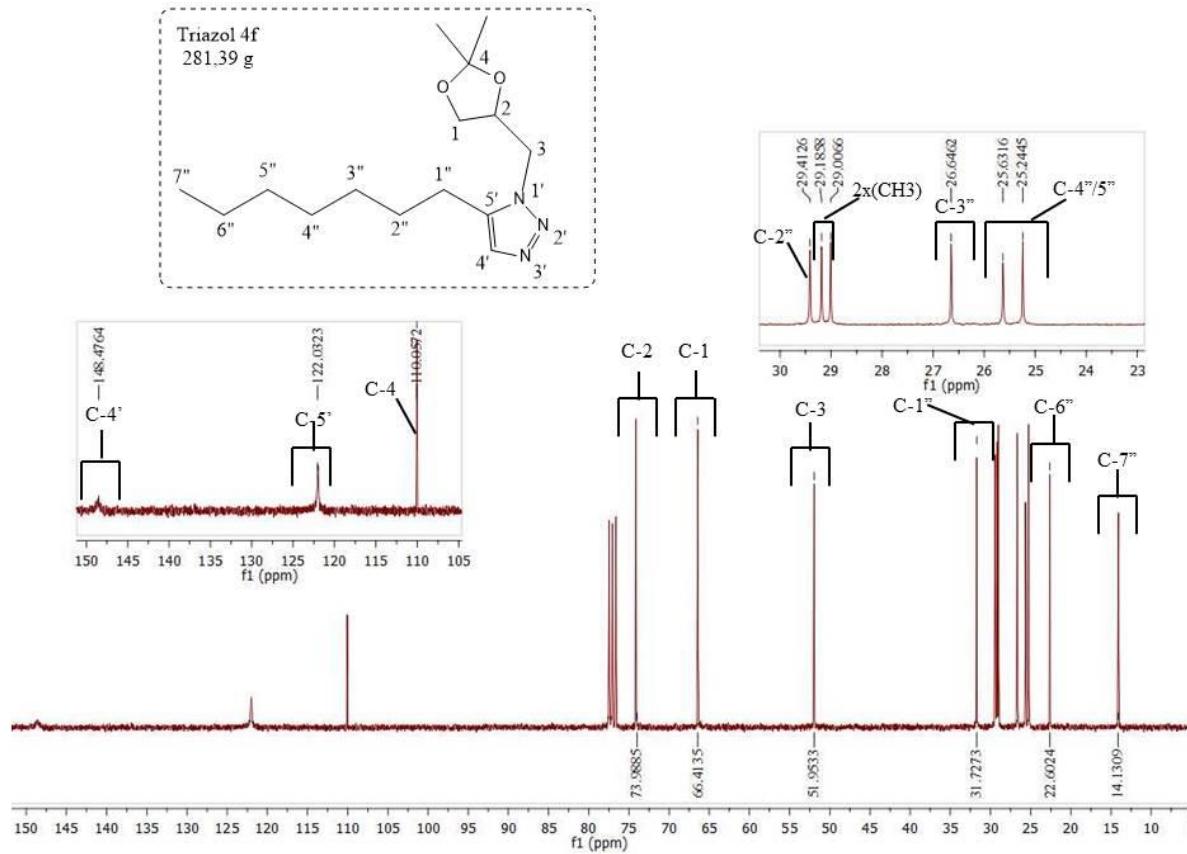


Figure S22. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl)1,3-dioxolan-4-yl)-4-heptyl-1*H*-1,2,3-triazole (**4f**).

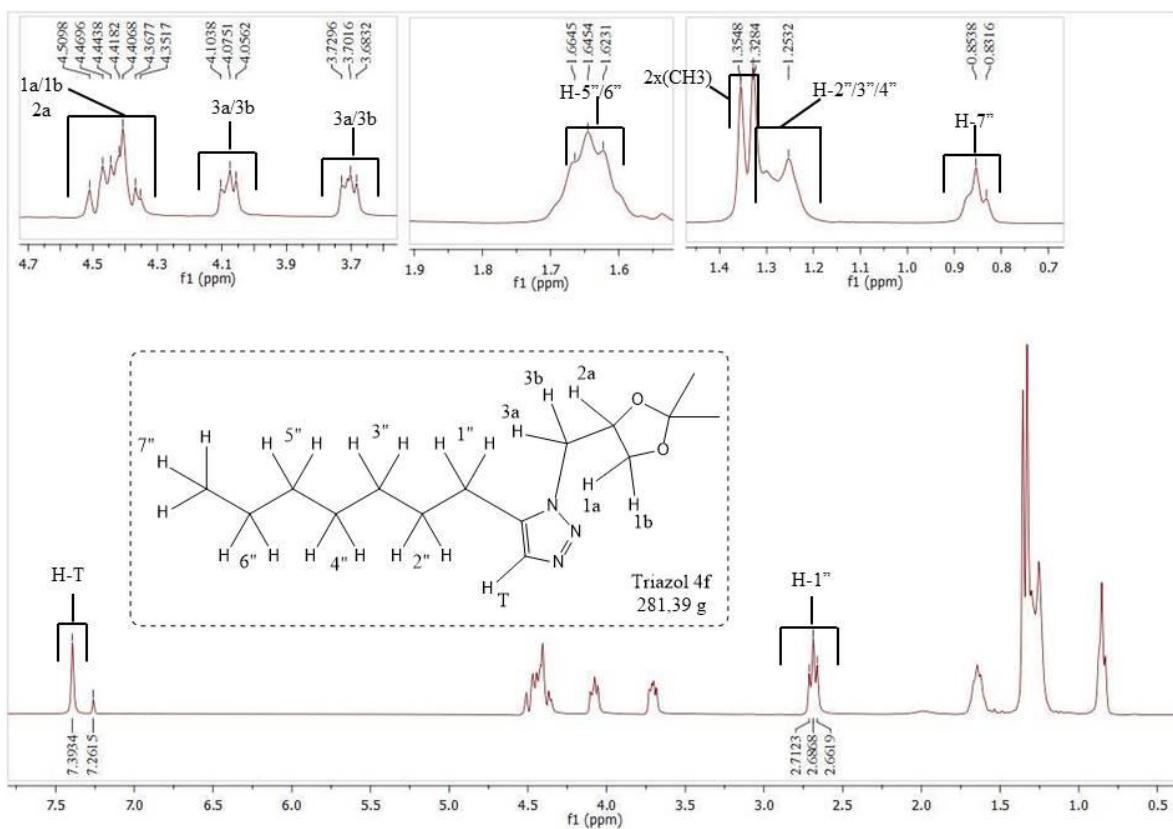


Figure S23. ¹H NMR spectrum (300 MHz, CDCl₃) of 1-((2,2-dimethyl)1,3-dioxolan-4-yl)-4-heptyl-1*H*-1,2,3-triazole (**4f**).

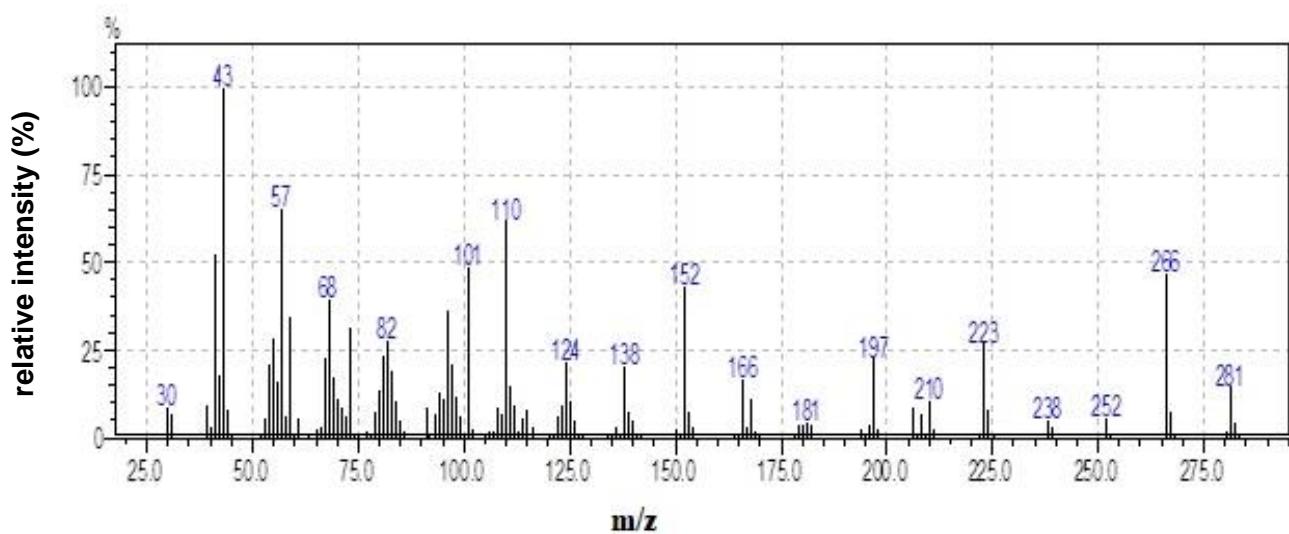


Figure S24. MS spectrum of 1-((2,2-dimethyl)1,3-dioxolan-4-yl)-4-heptyl-1*H*-1,2,3-triazole (**4f**).

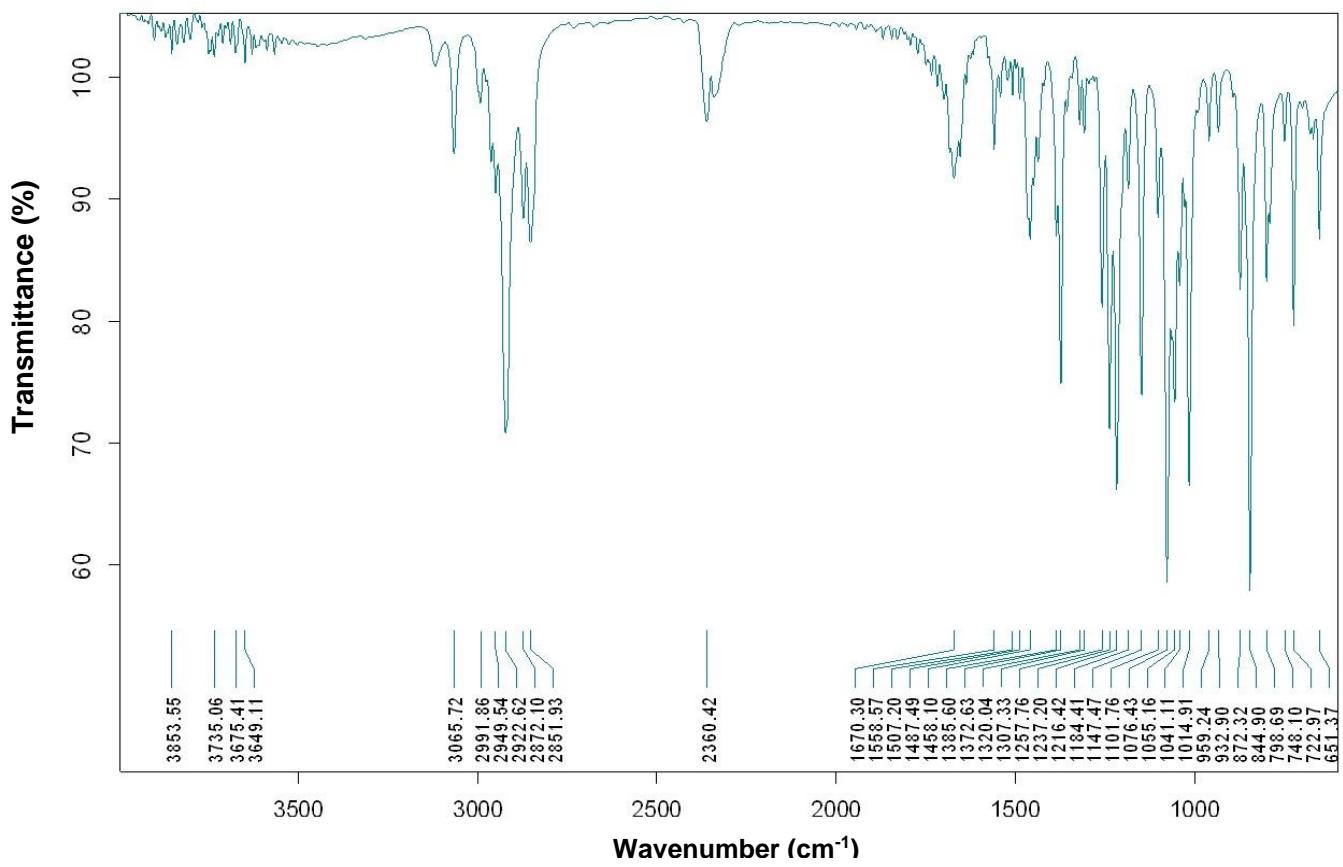


Figure S25. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-octyl-1*H*-1,2,3-triazole (**4g**).

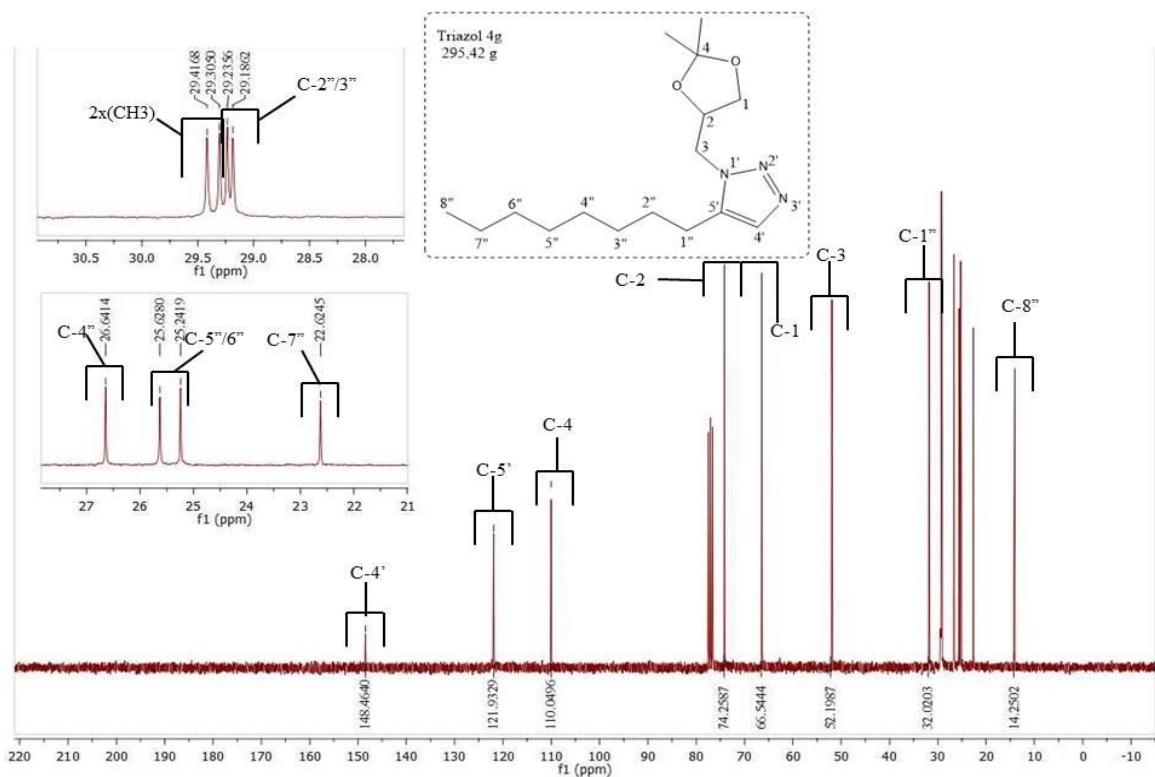


Figure S26. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-octyl-1*H*-1,2,3-triazole (**4g**).

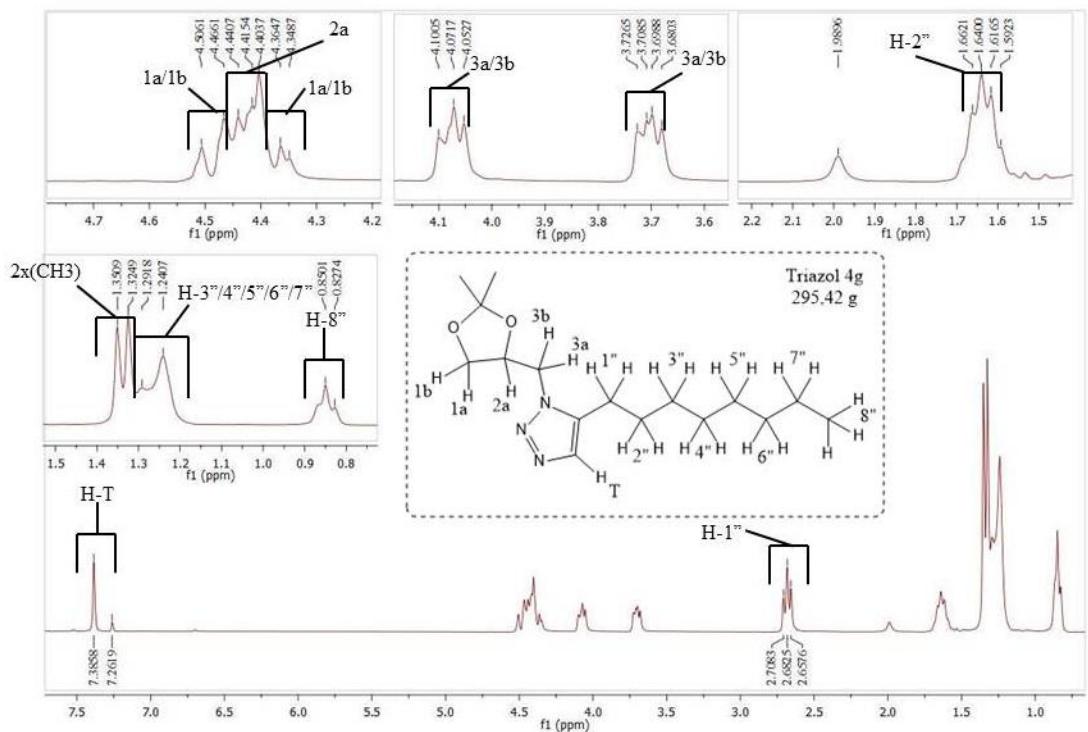


Figure S27. ^1H NMR spectrum (300 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-octyl-1*H*-1,2,3-triazole (**4g**).

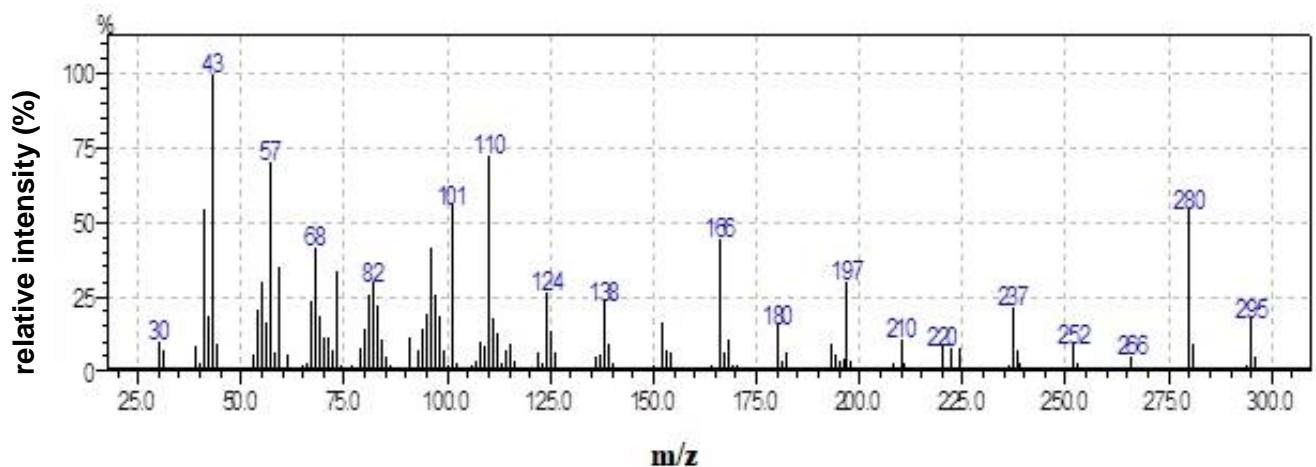


Figure S28. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-octyl-1*H*-1,2,3-triazole (**4g**).

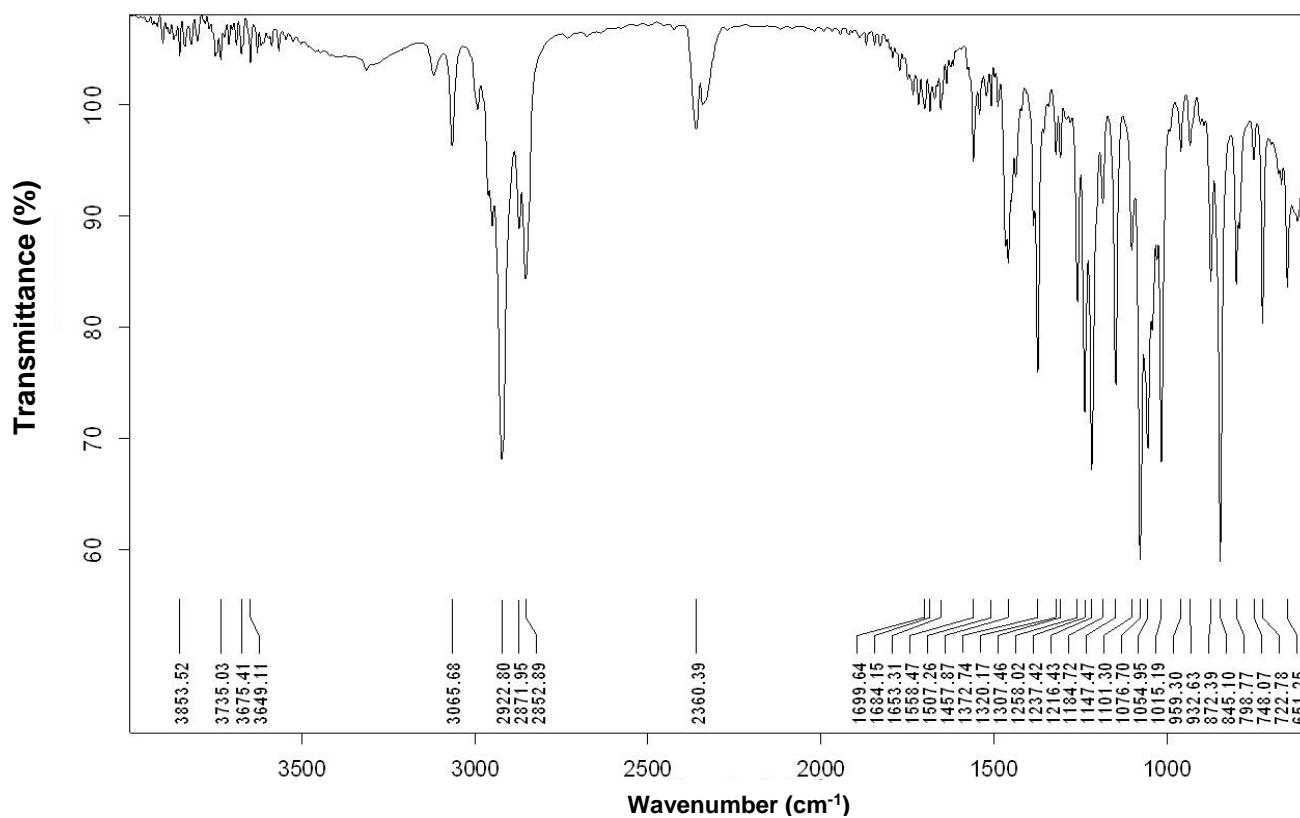


Figure S29. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-nonyl-1*H*-1,2,3-triazole (**4h**).

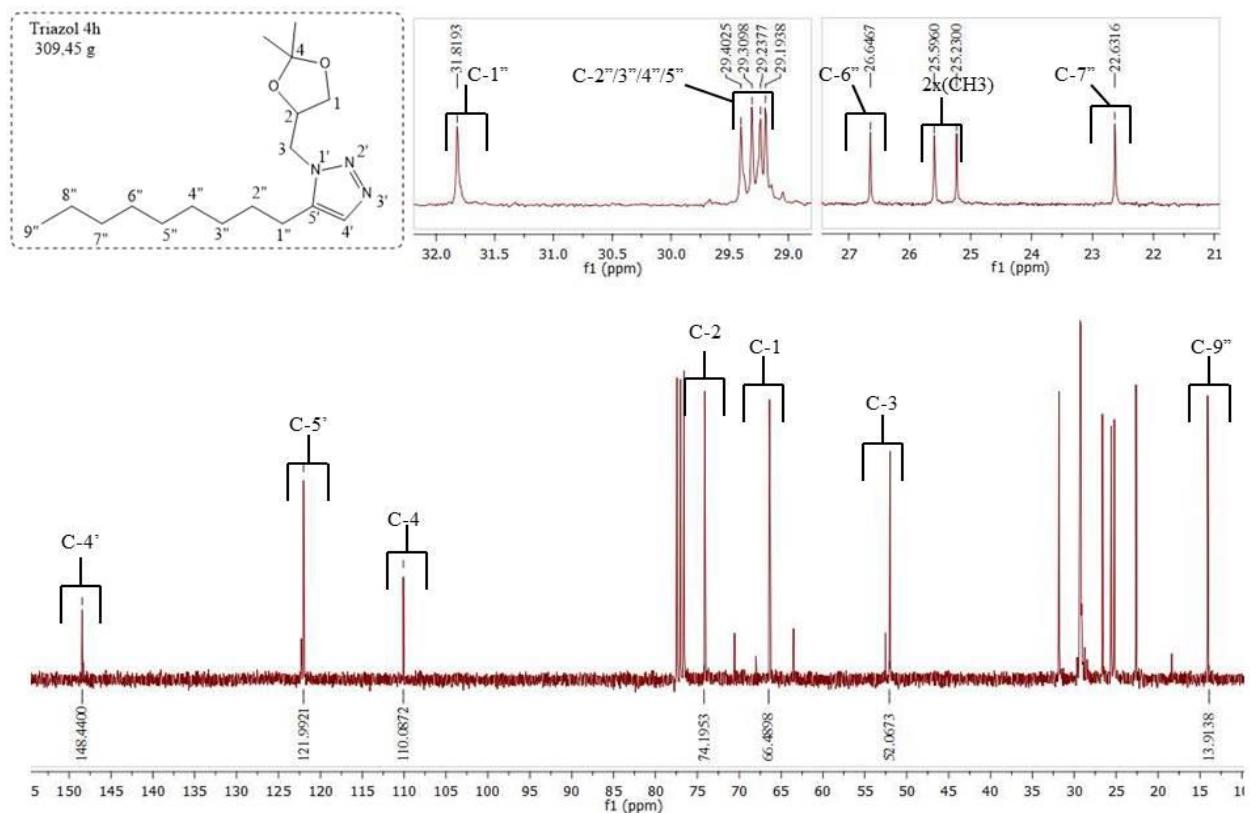


Figure S30. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-nonyl-1*H*-1,2,3-triazole (**4h**).

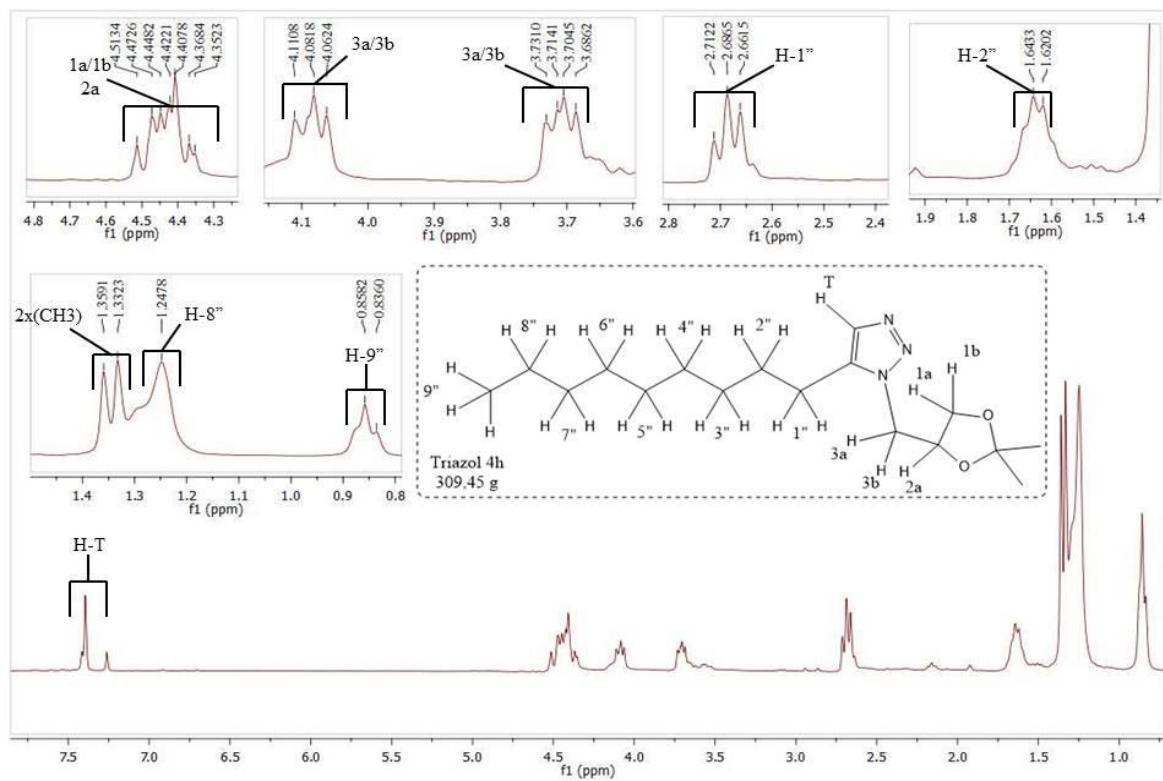


Figure S31. ¹H NMR spectrum (300 MHz, CDCl₃) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-nonyl-1*H*-1,2,3-triazole (**4h**).

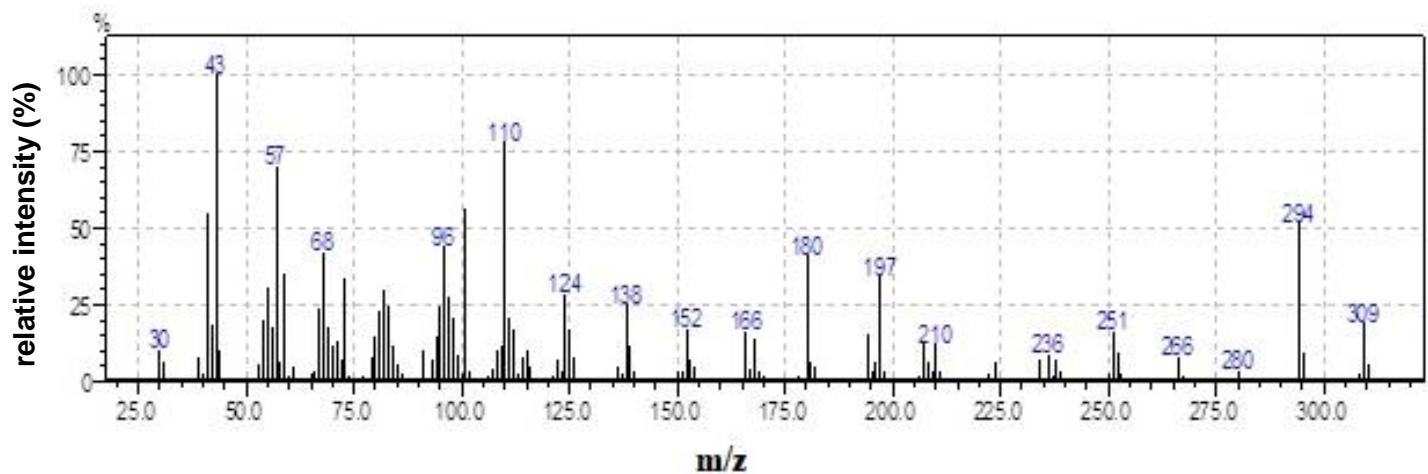


Figure S32. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-nonyl-1*H*-1,2,3-triazole (**4h**).

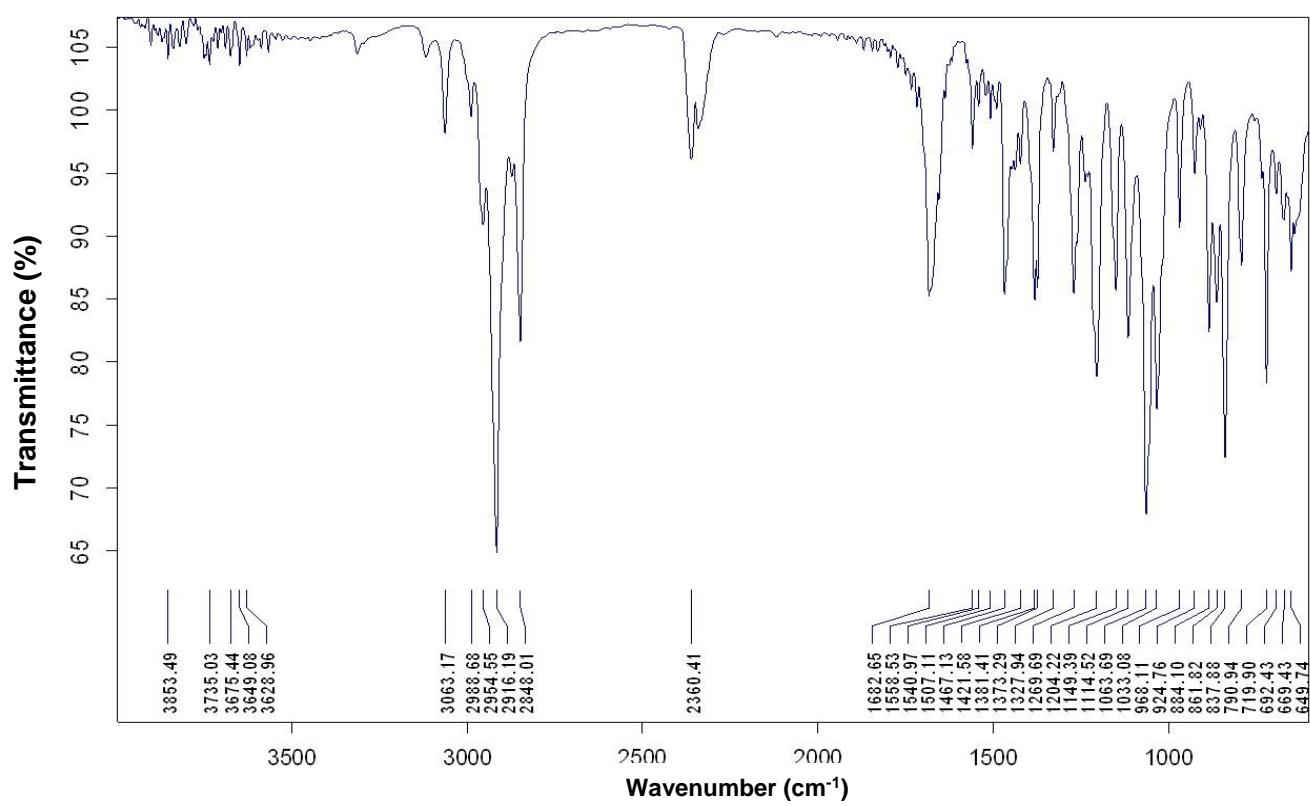


Figure S33. IR spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-decyl-1*H*-1,2,3-triazole (**4i**).

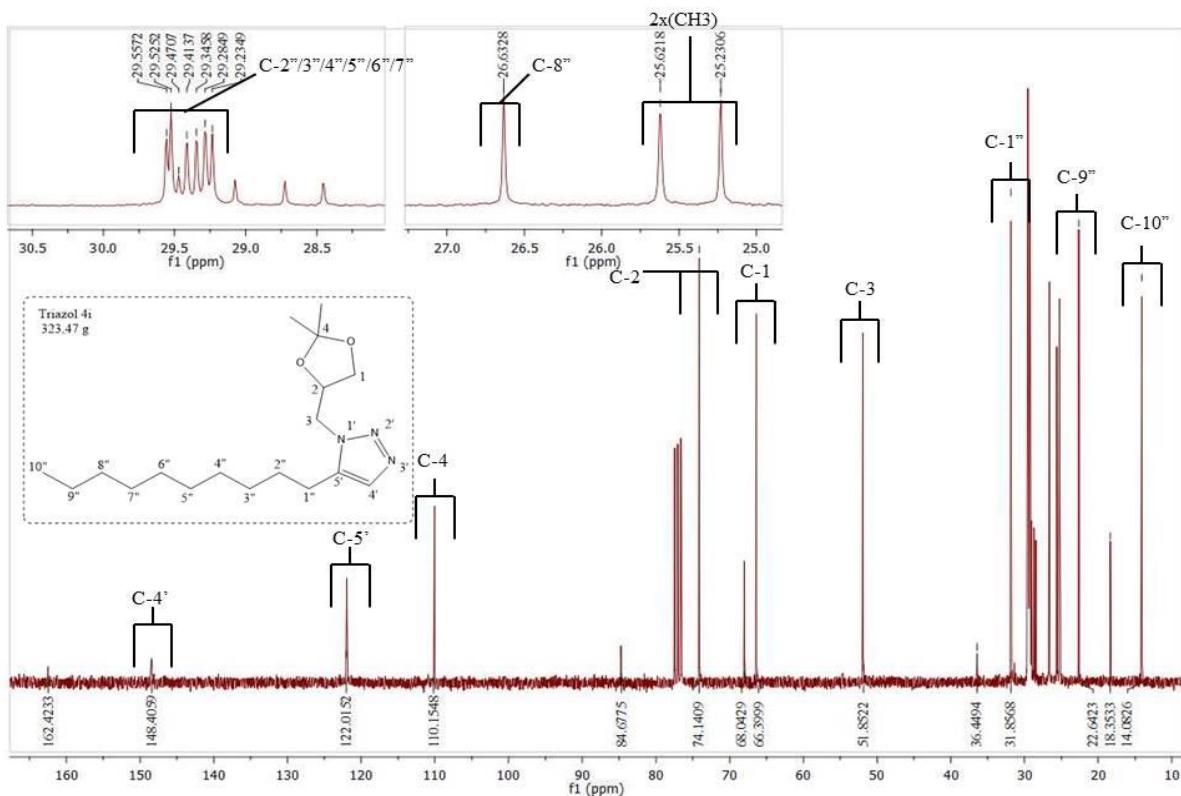


Figure S34. ^{13}C NMR spectrum (75 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-decyl-1*H*-1,2,3-triazole (**4i**).

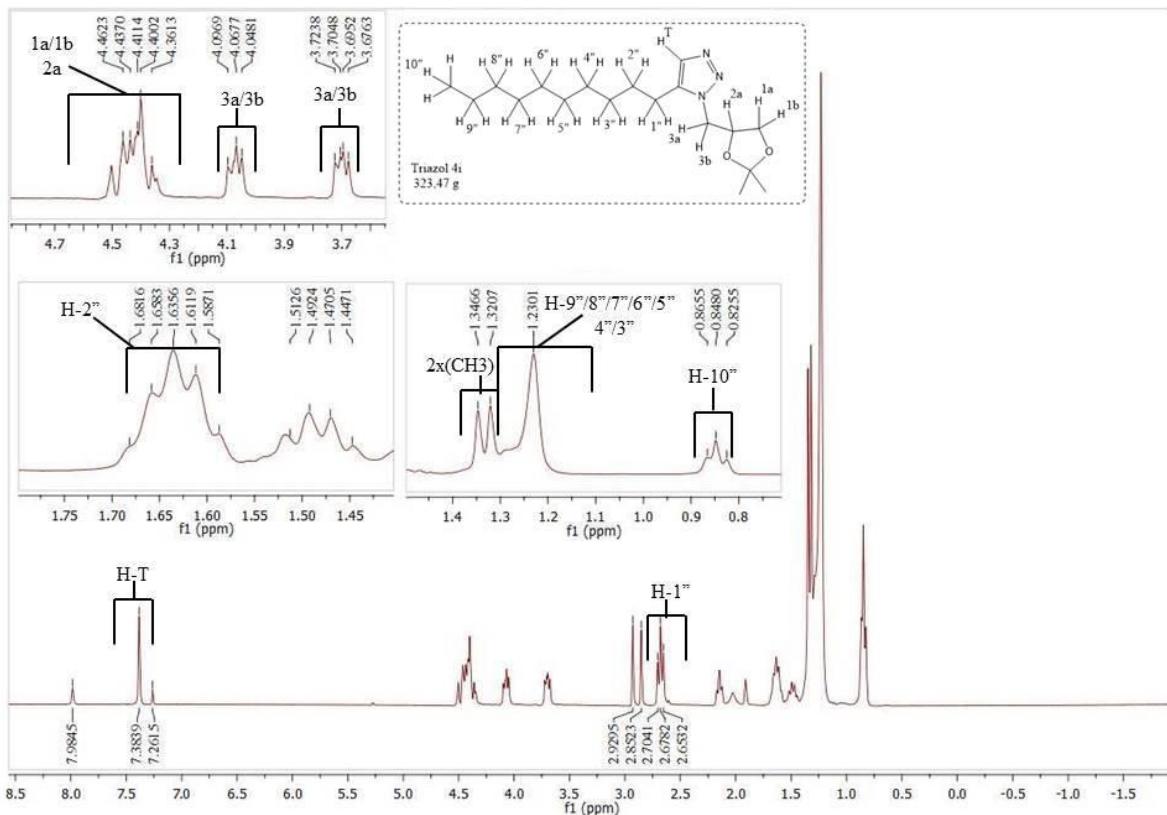


Figure S35. ^1H NMR spectrum (300 MHz, CDCl_3) of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-decyl-1*H*-1,2,3-triazole (**4i**).

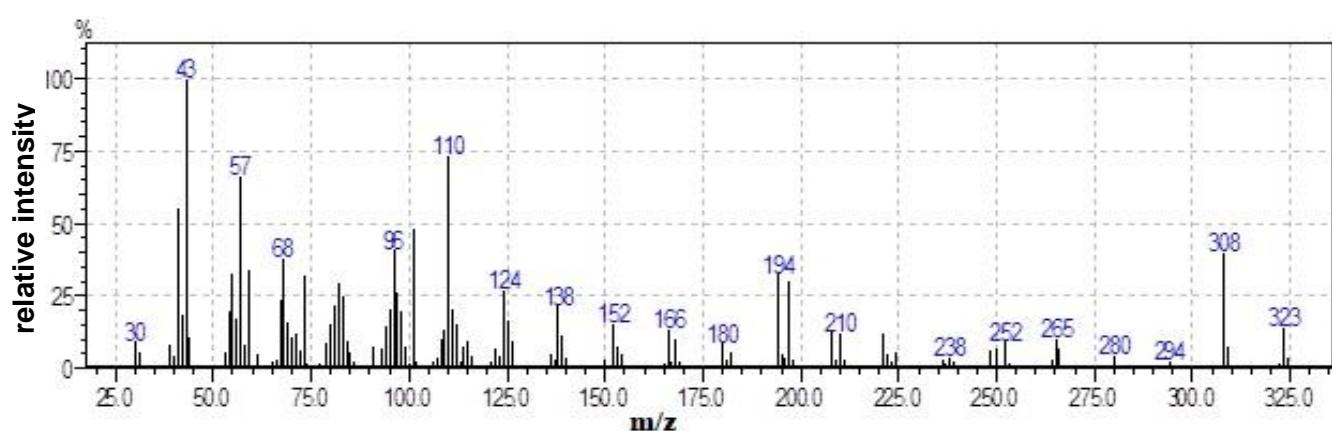


Figure S36. MS spectrum of 1-((2,2-dimethyl-1,3-dioxolan-4-yl)methyl)-4-decyl-1*H*-1,2,3-triazole (**4i**).



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