Supplementary Information

NMR Studies on [2 + 3] Cycloaddition of Nitrile Oxides to Polyunsaturated Medium Size Rings

Mirosław Gucma, W. Marek Gołębiewski and Alicja K. Michalczyk*

Institute of Industrial Organic Chemistry, Annopol 6, 3-236 Warsaw, Poland

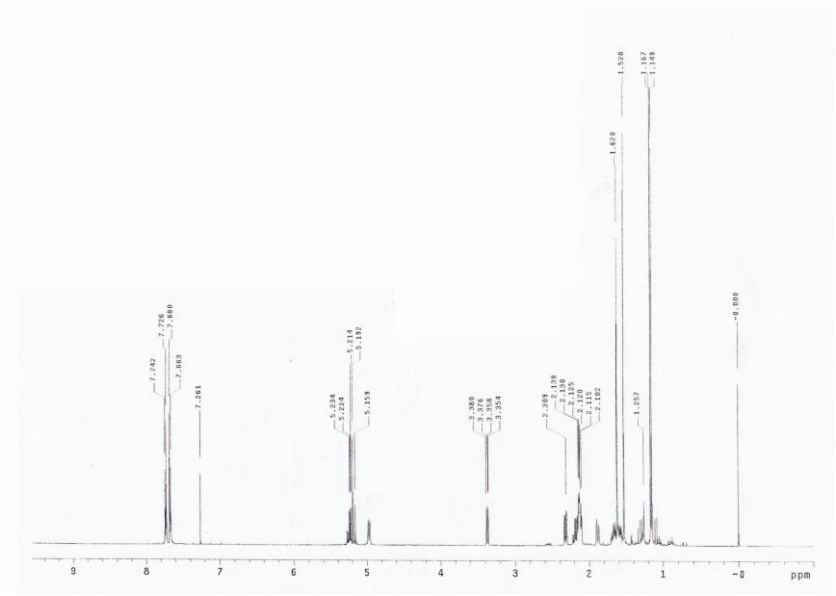

Figure S1. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **6**.

*e-mail: golebiewski@ipo.waw.pl

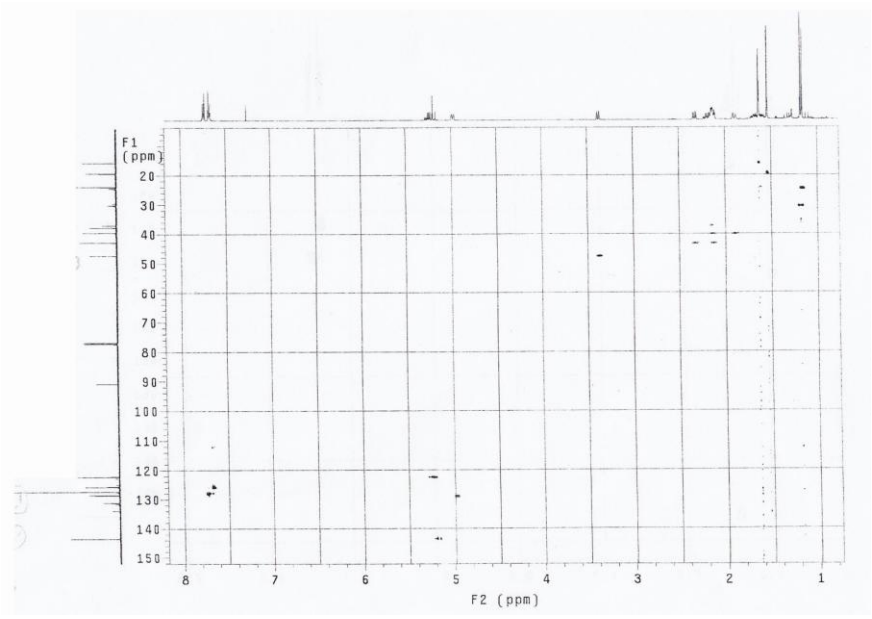

Figure S2. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **6**.

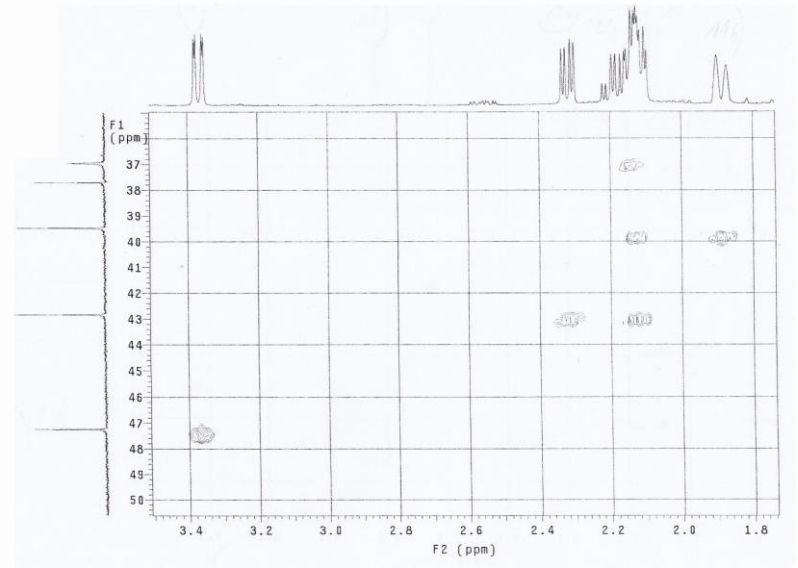

Figure S3. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **6**.

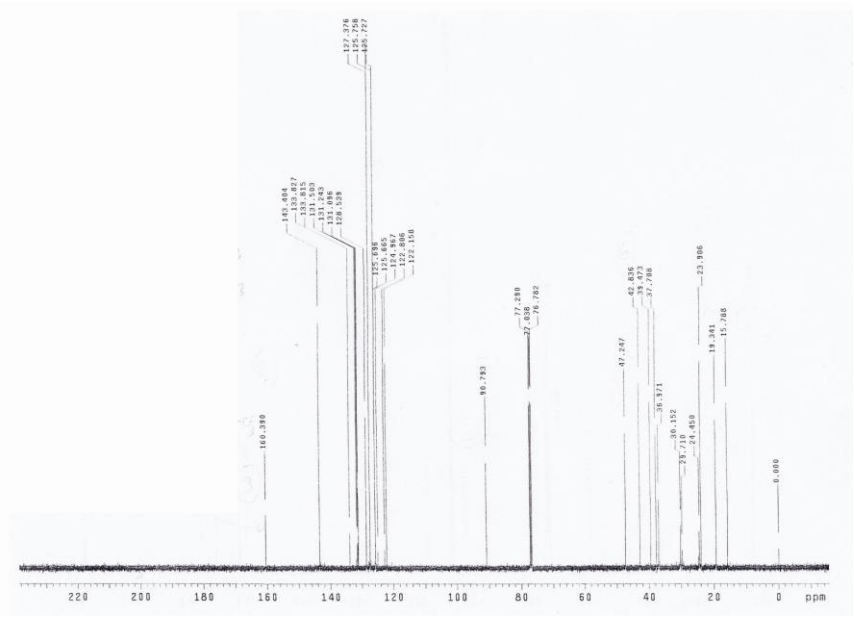

Figure S4. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **6**.

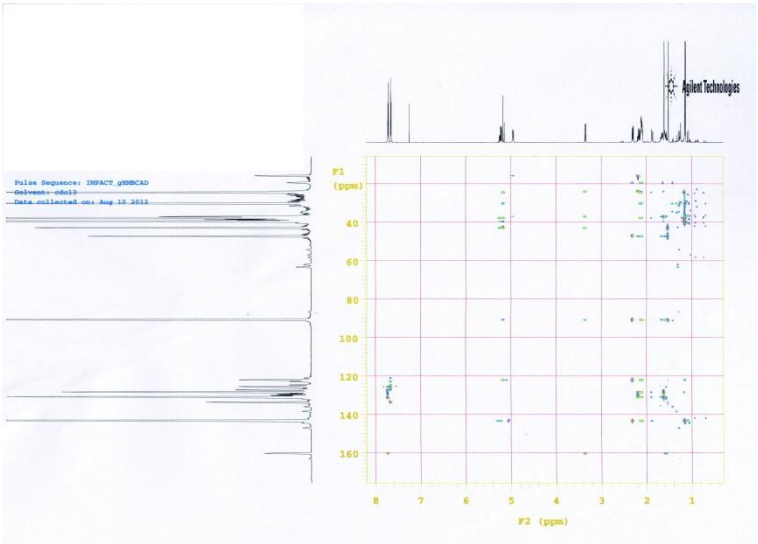

Figure S5. ^{1}H-^{13}C HMBC NMR spectrum (600 MHz, $CDCl_3$) of **6**.

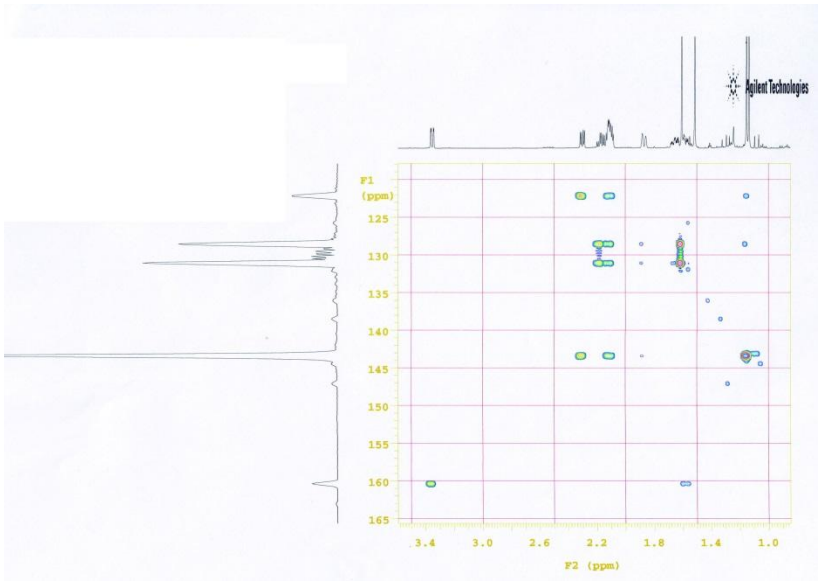

Figure S6. ^{1}H-^{13}C HMBC NMR spectrum (an expansion) (600 MHz, $CDCl_3$) of **6**.

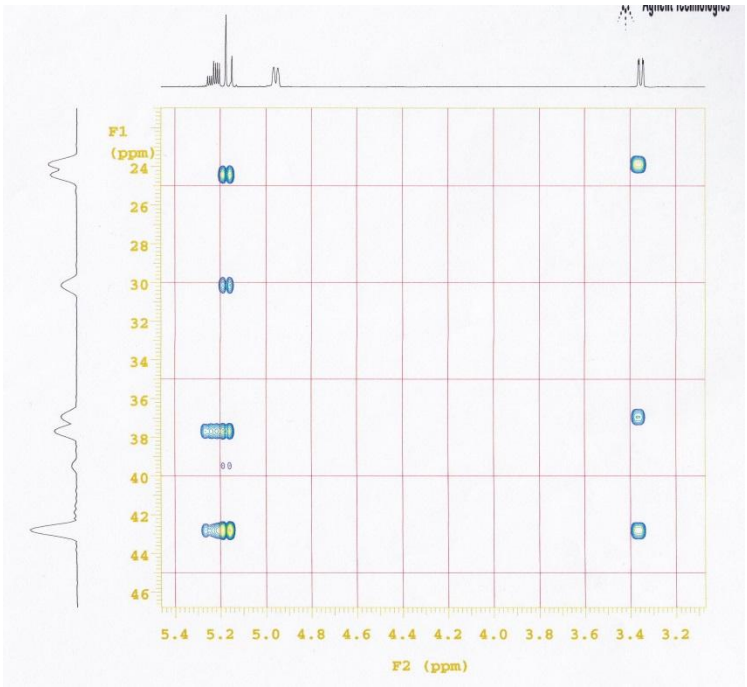

Figure S7. ^{1}H-^{13}C HMBC NMR spectrum (an expansion) (600 MHz, $CDCl_3$) of **6**.

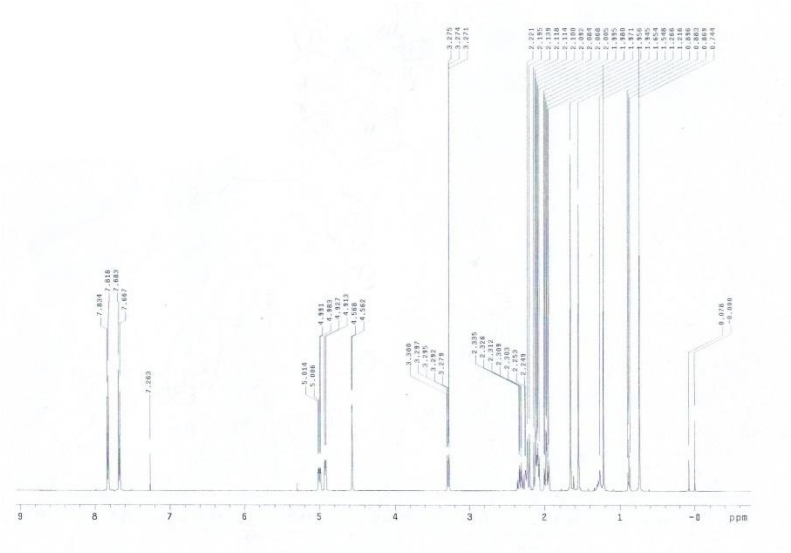

Figure S8. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **7**.

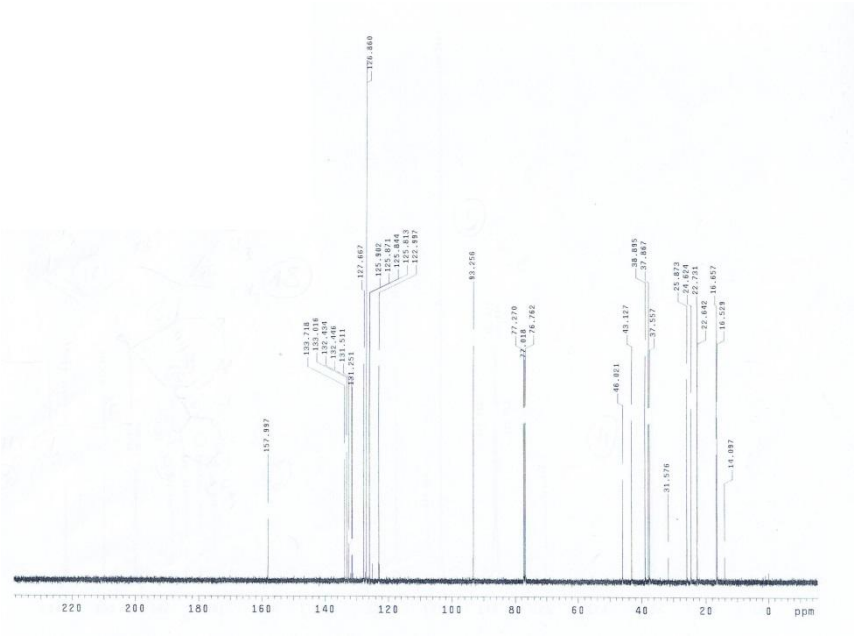

Figure S9. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **7**.

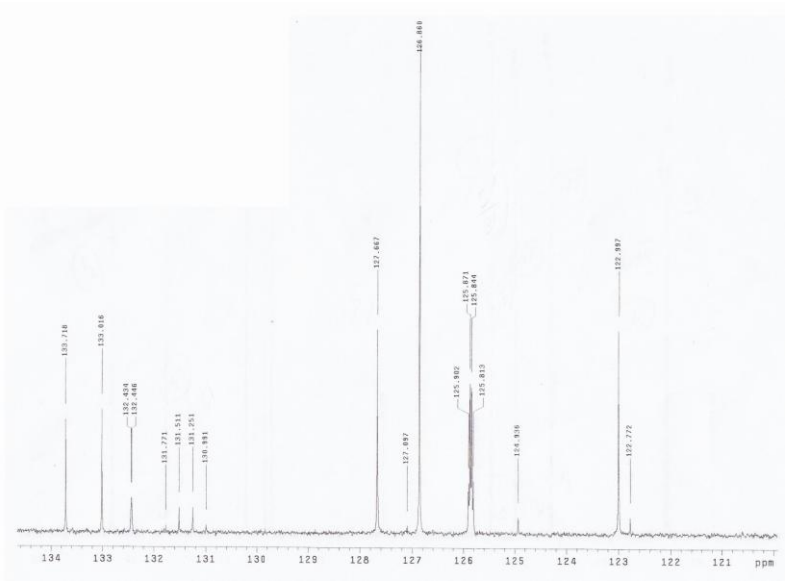

Figure S10. ^{13}C NMR spectrum (an expansion) (125.8 MHz, $CDCl_3$) of **7**.

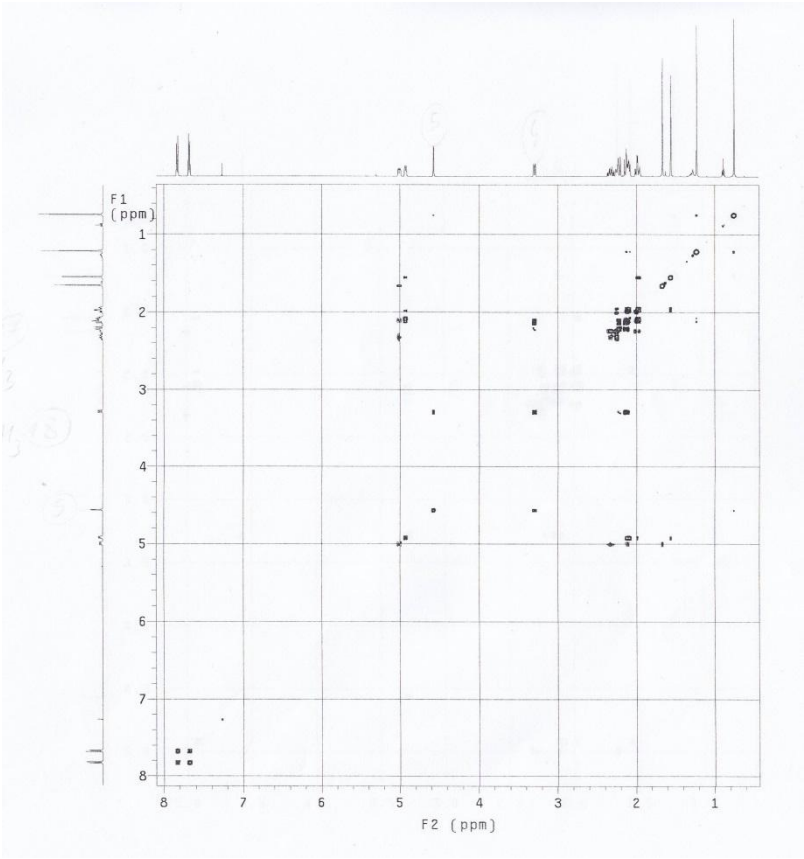

Figure S11. ^{1}H COSY NMR spectrum (500 MHz, $CDCl_3$) of **7**.

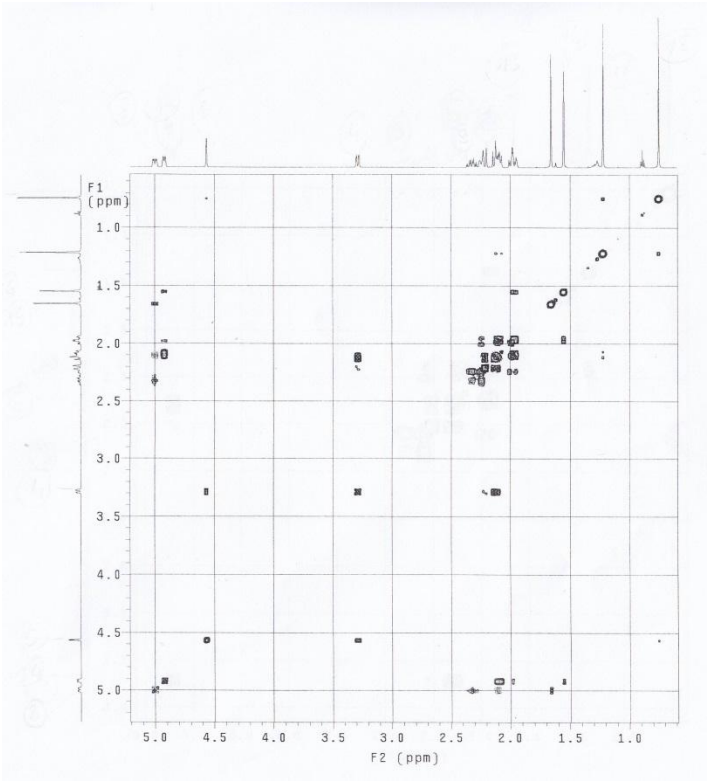

Figure S12. ^{1}H COSY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **7**.

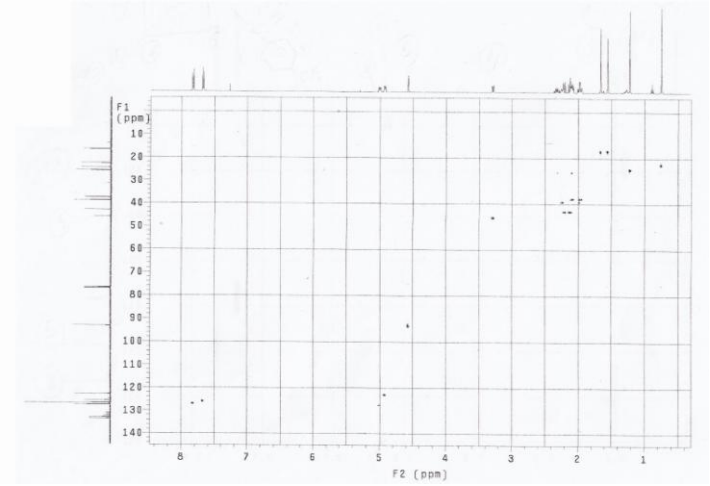

Figure S13. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **7**.

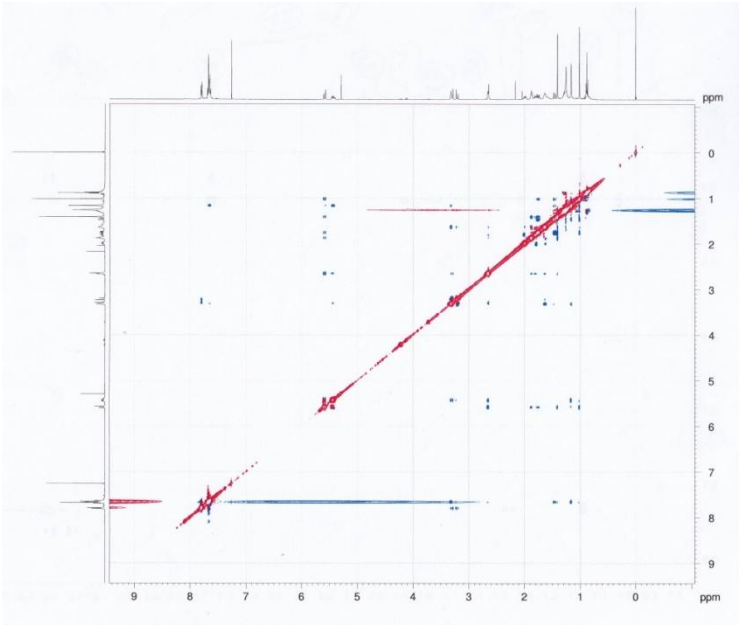

Figure S14. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **9**.

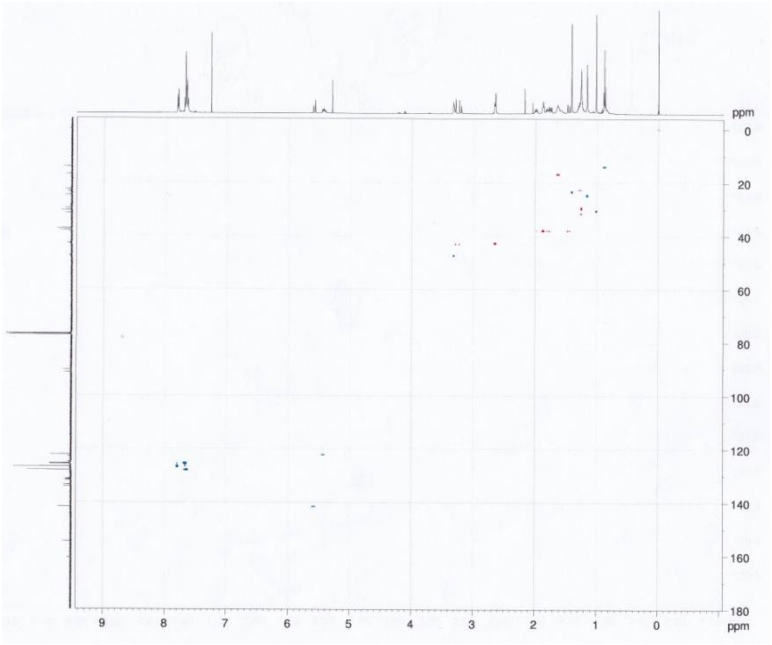

Figure S15. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **9**.

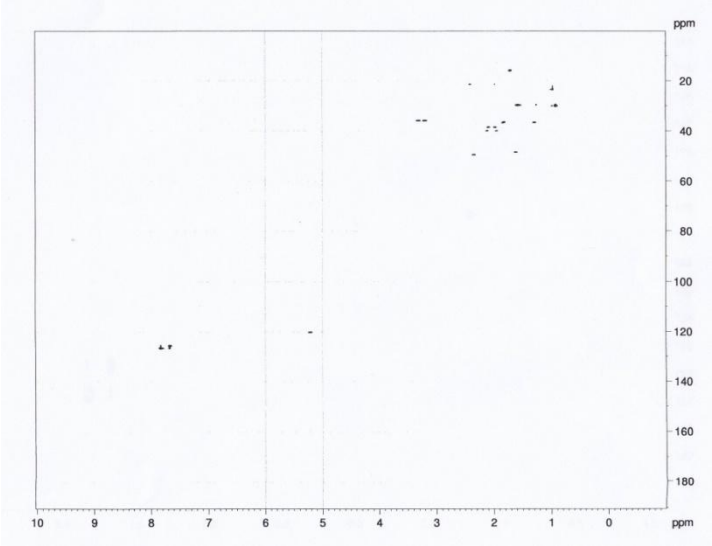

Figure S16. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **11**.

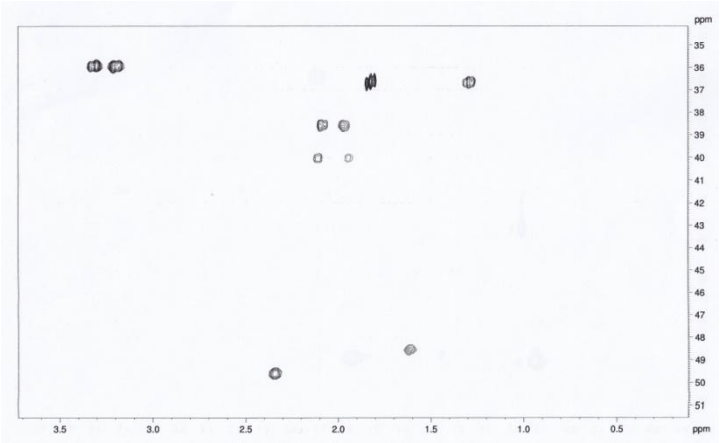

Figure S17. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **11**.

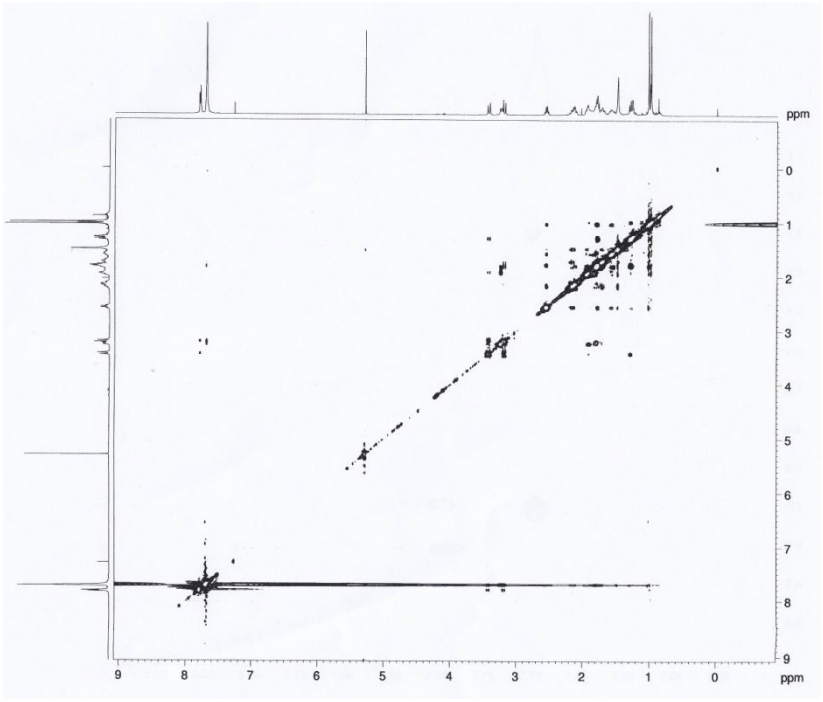

Figure S18. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **12**.

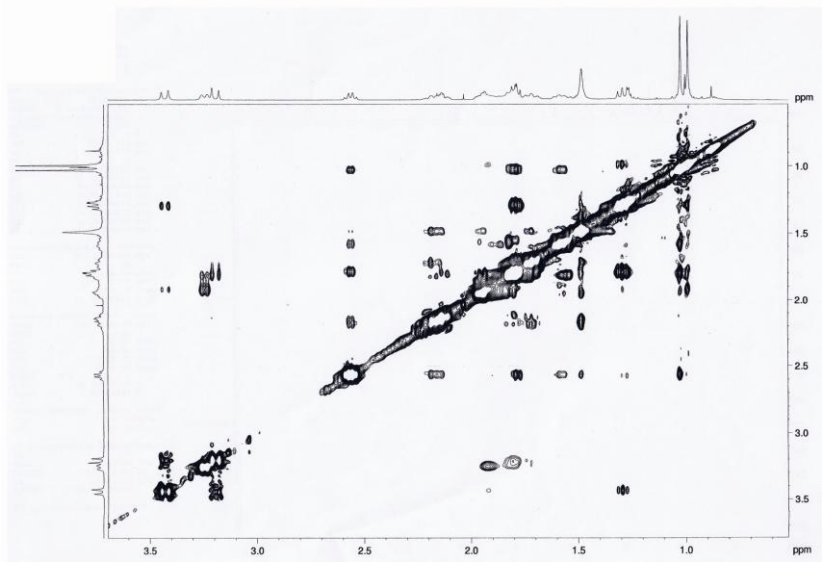

Figure S19. ^{1}H ROESY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **12**.

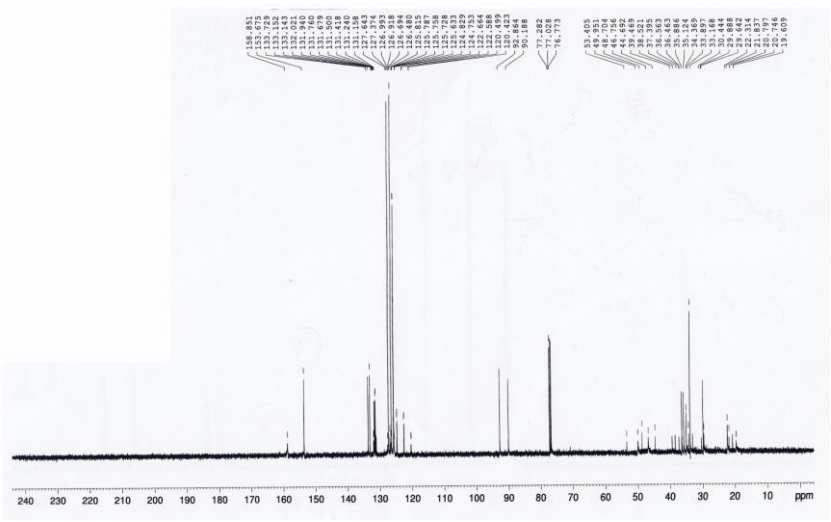

Figure S20. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **12**.

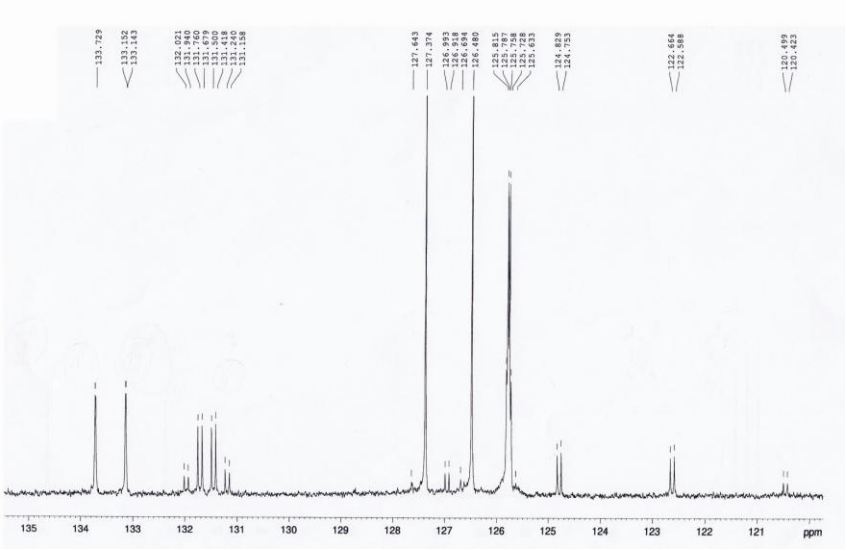

Figure S21. ^{13}C NMR spectrum (an expansion) (125.8 MHz, $CDCl_3$) of **12**.

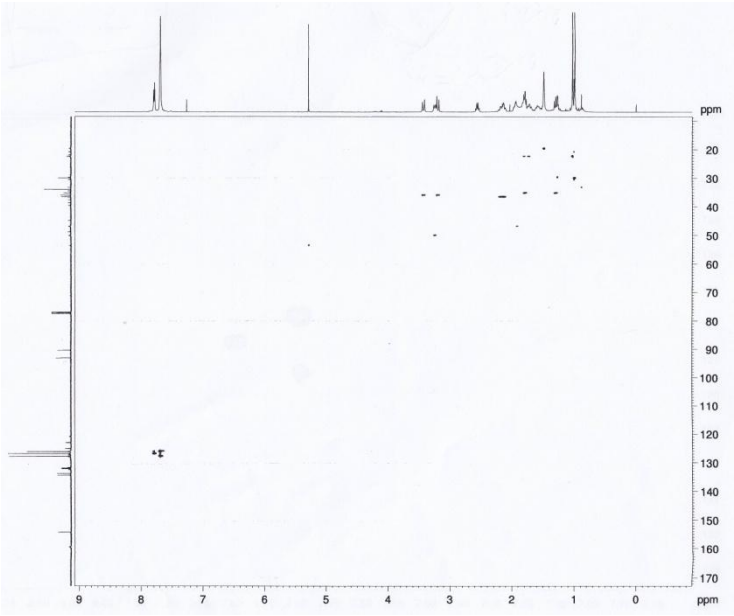

Figure S22. ^{13}C-^{1}H HSQC NMR spectrum (500 MHz, $CDCl_3$) of **12**.

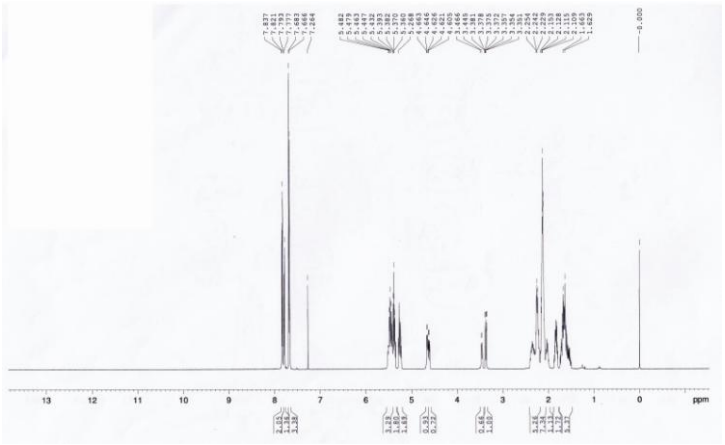

Figure S23. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **16** + **17**.

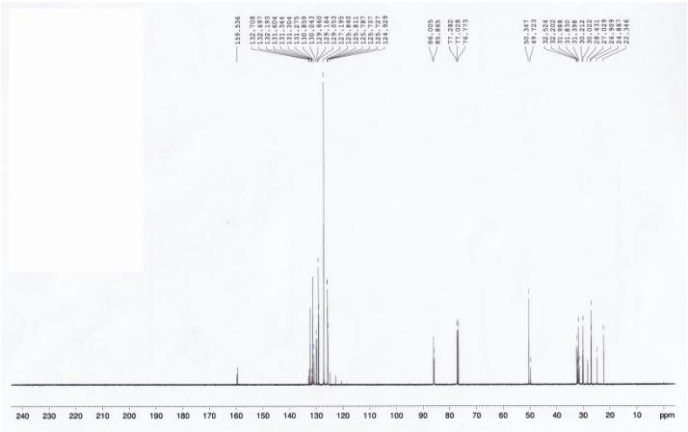

Figure S24. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **16** + **17**.

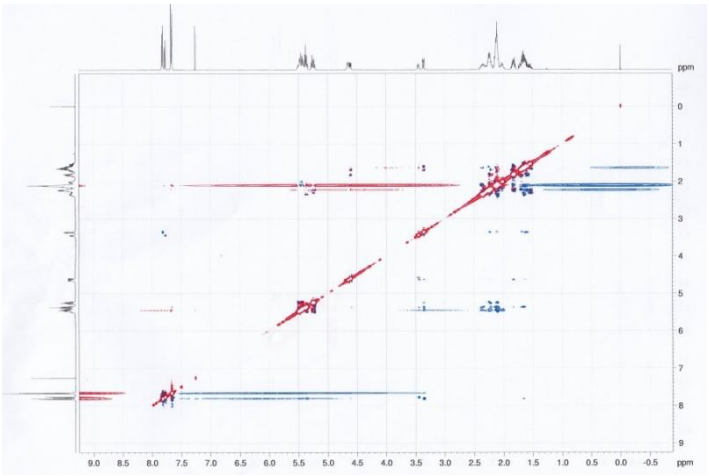

Figure S25. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **16** + **17**.

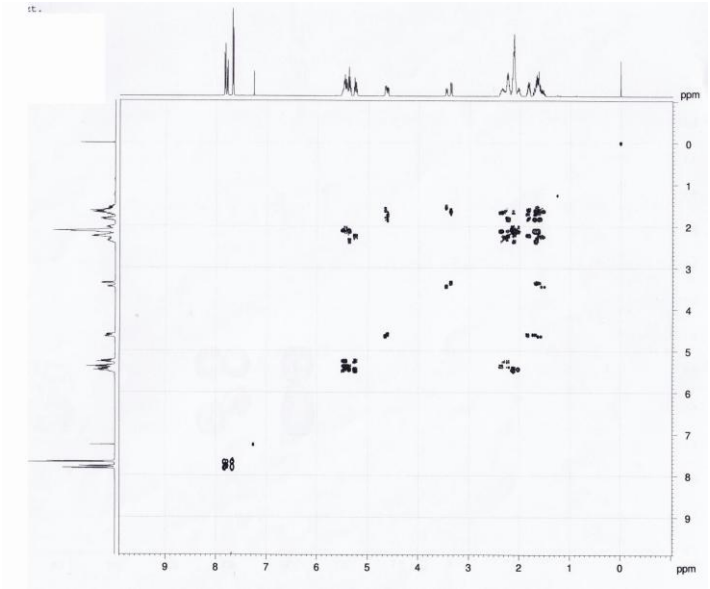

Figure S26. ^{1}H COSY NMR spectrum (500 MHz, $CDCl_3$) of **16** + **17**.

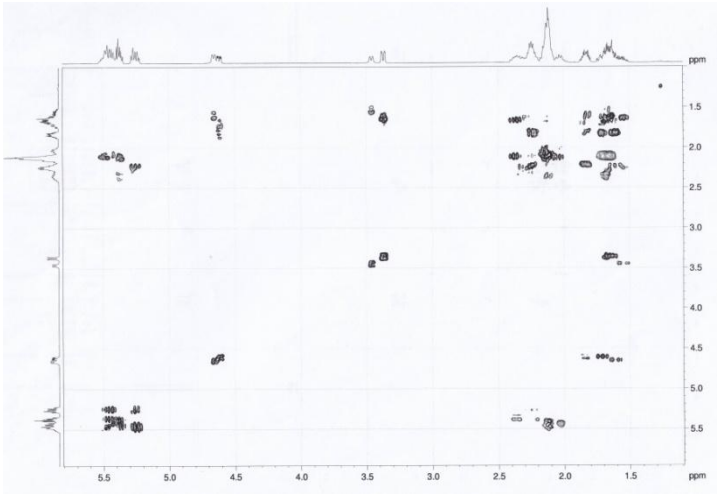

Figure S27. ^{1}H COSY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **16** + **17**.

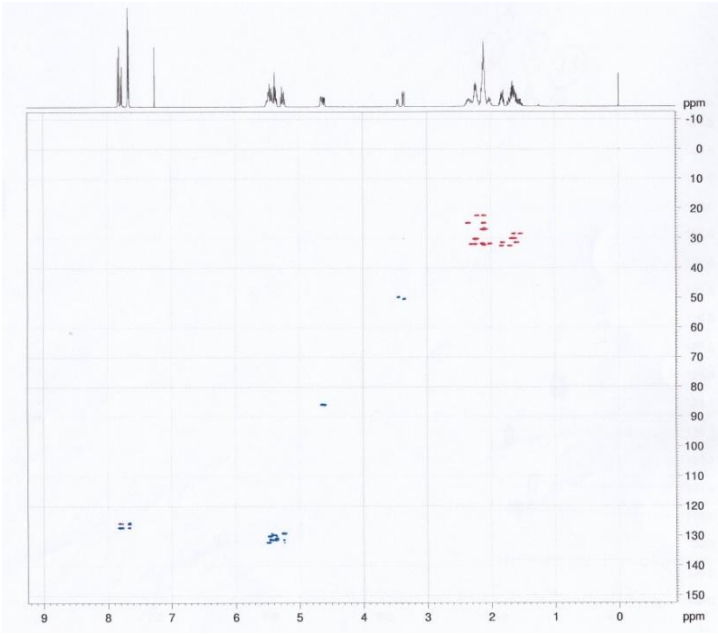

Figure S28. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **16** + **17**.

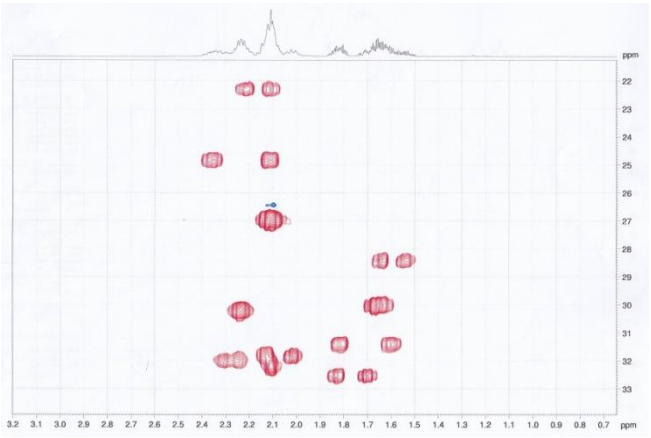

Figure S29. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **16** + **17**.

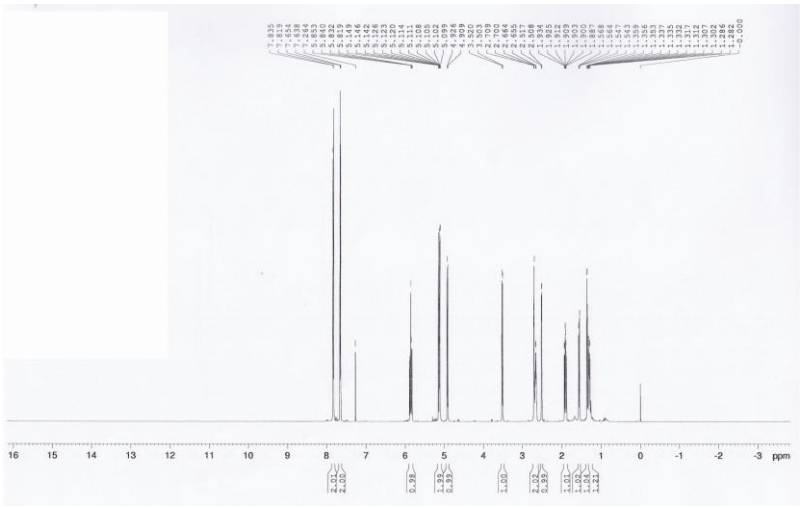

Figure S30. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **23**.

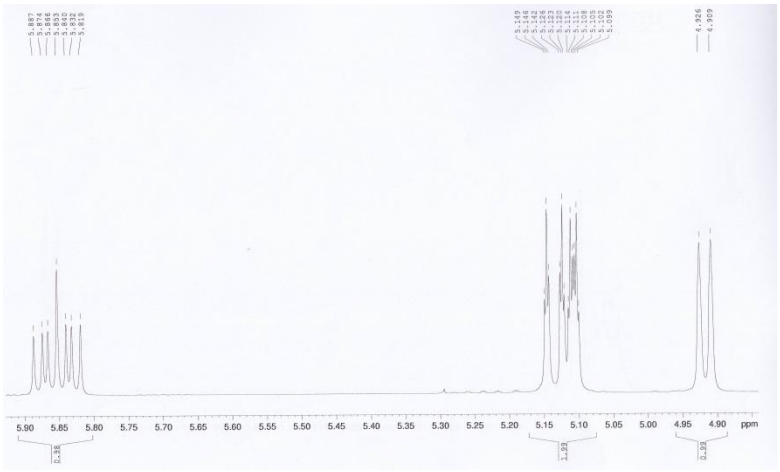

Figure S31. ^{1}H NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **23**.

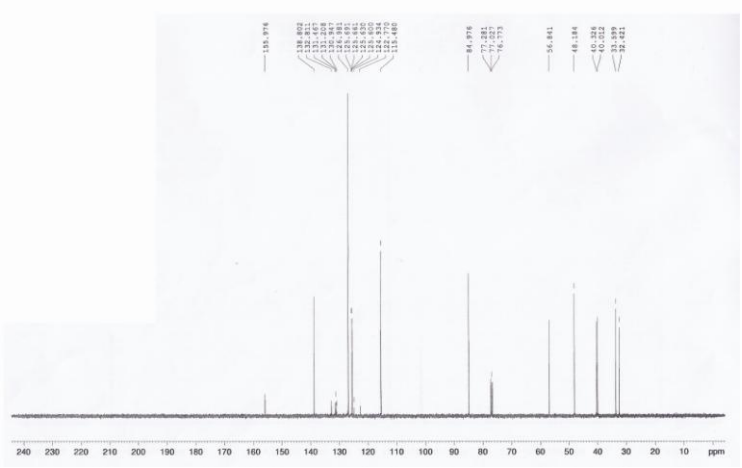

Figure S32. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **23**.

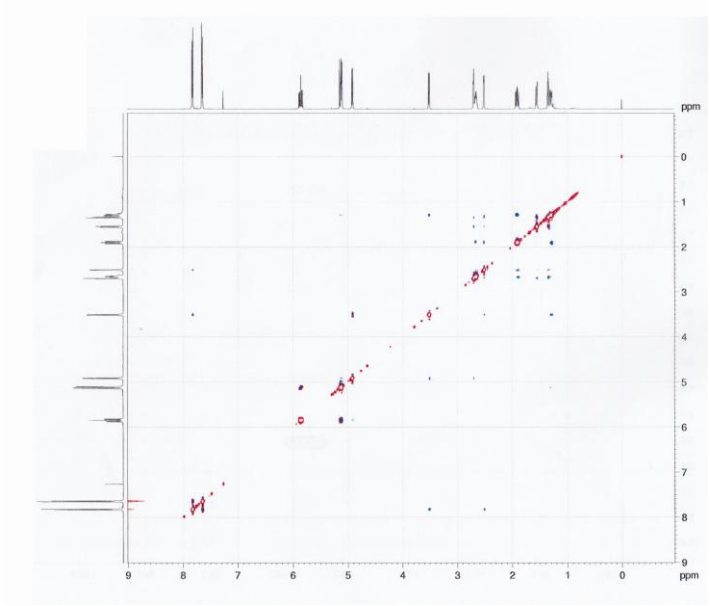

Figure S33. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **23**.

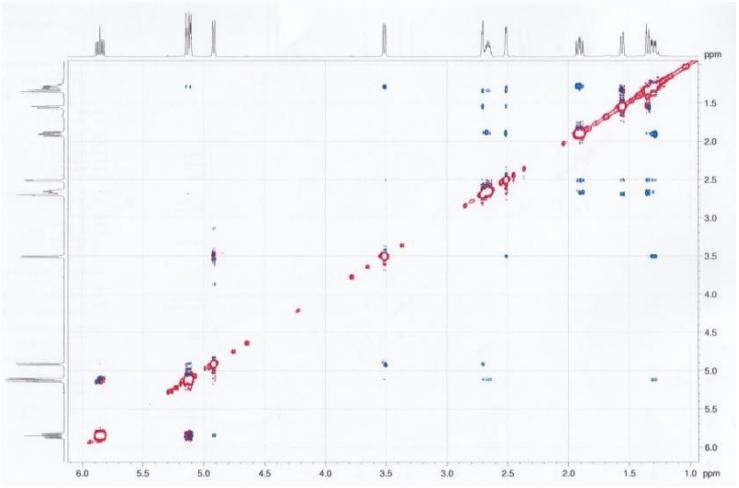

Figure S34. ^{1}H ROESY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **23**.

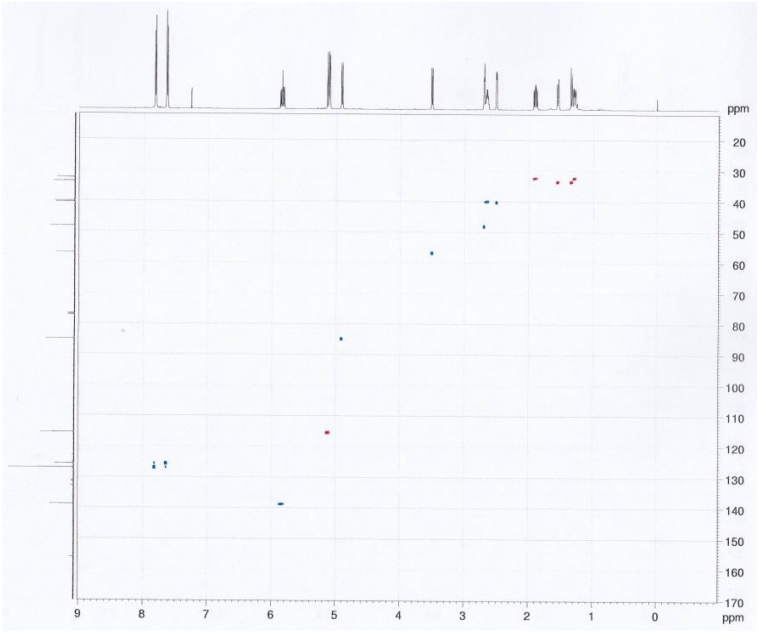

Figure S35. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **23**.

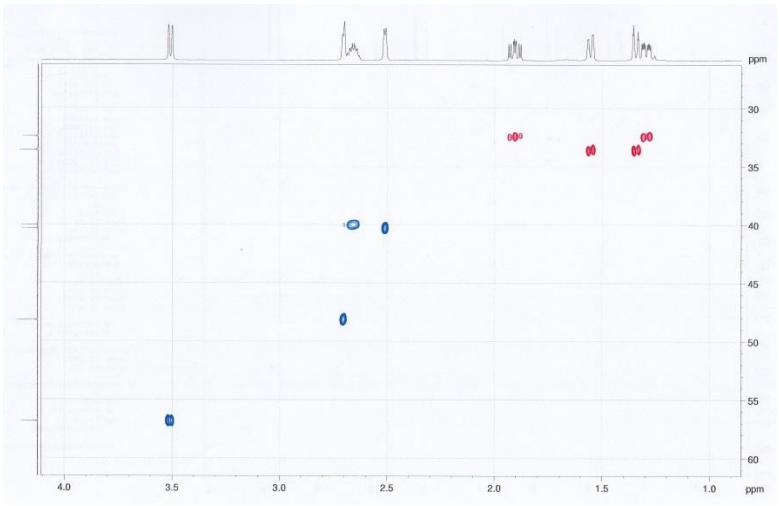

Figure S36. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **23**.

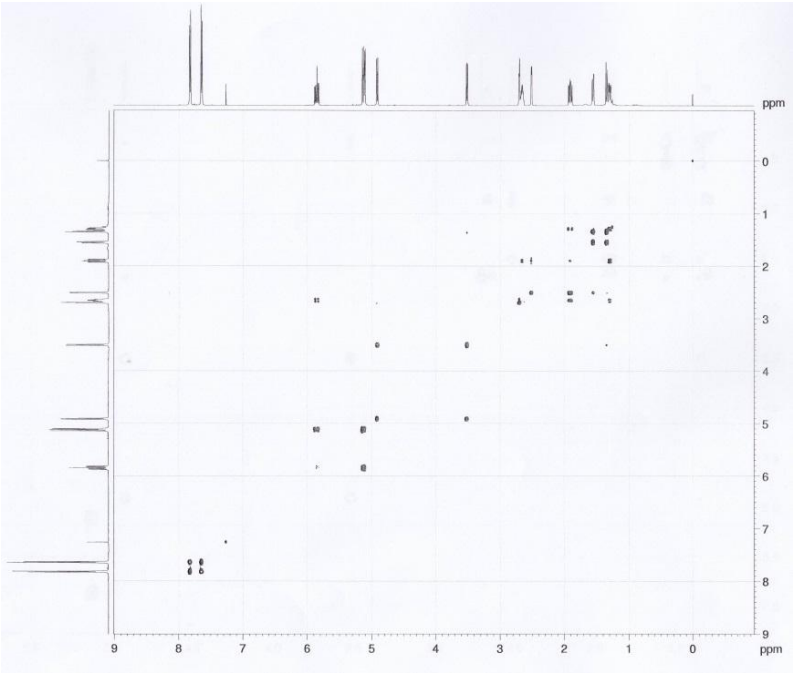

Figure S37. ^{1}H COSY NMR spectrum (500 MHz, $CDCl_3$) of **23**.

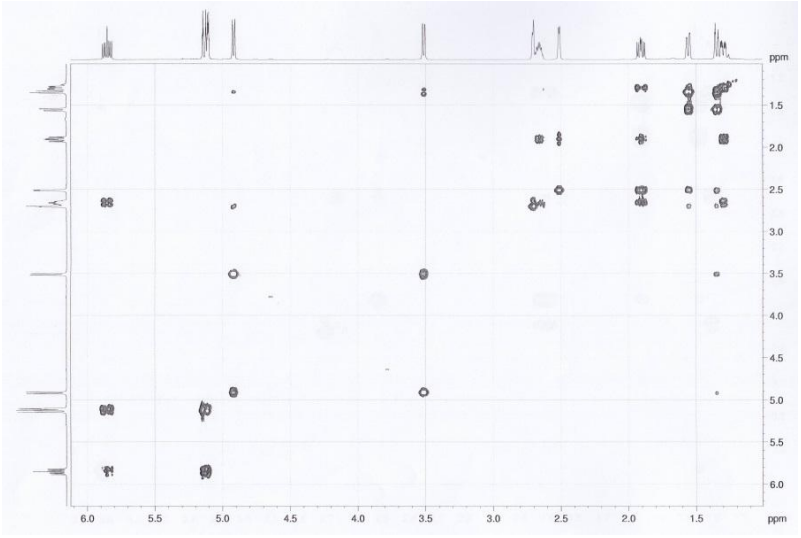

Figure S38. ^{1}H COSY spectrum NMR (an expansion) (500 MHz, $CDCl_3$) of **23**.

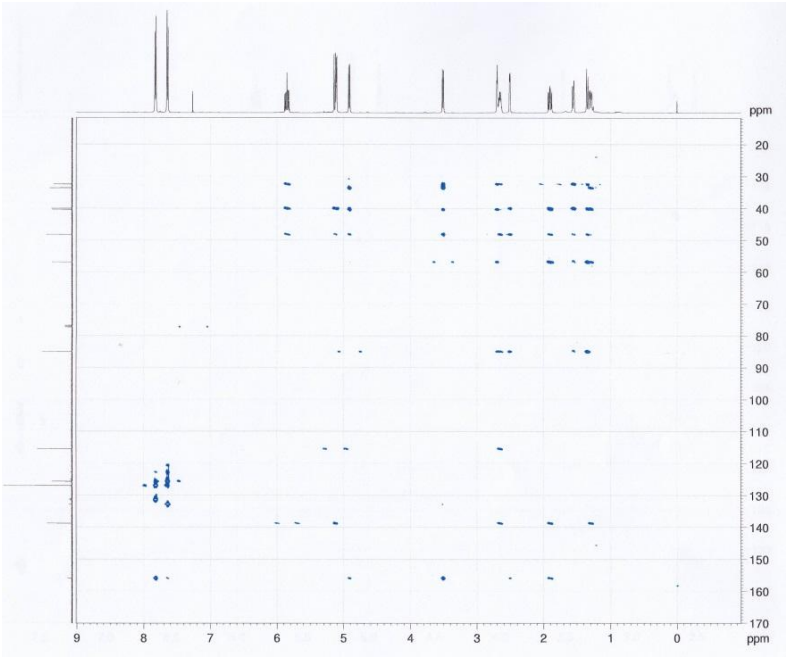

Figure S39. ^{1}H-^{13}C HMBC NMR spectrum (500 MHz, $CDCl_3$) of **23**.

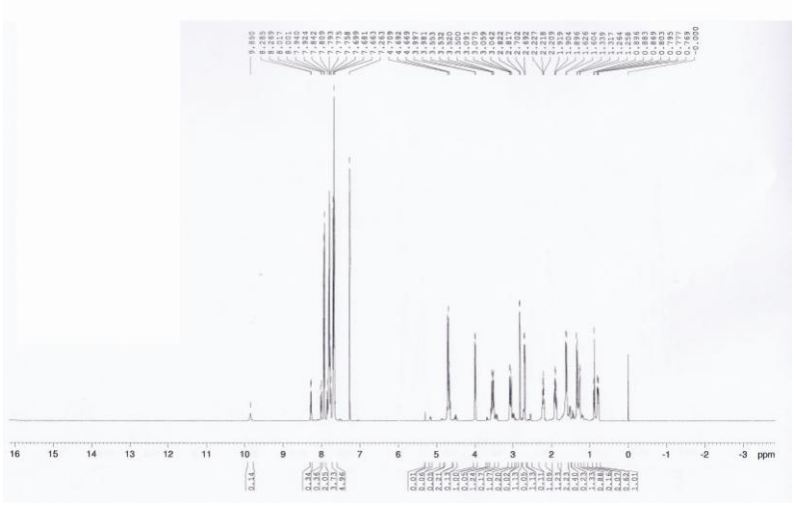

Figure S40. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **24**.

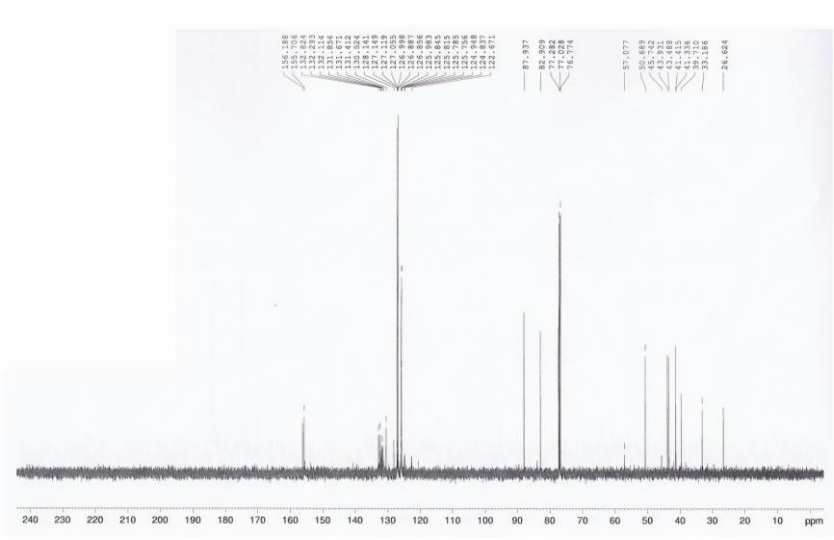

Figure S41. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **24**.

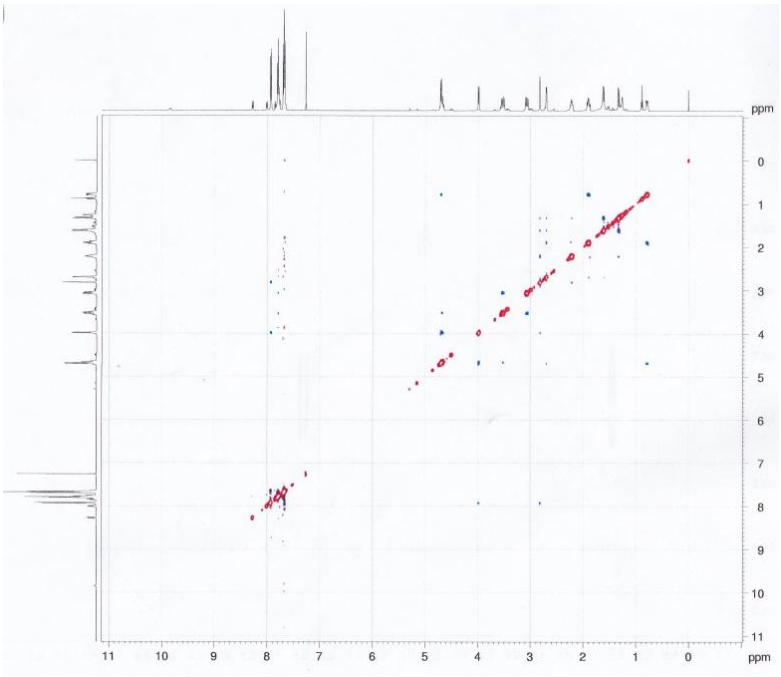

Figure S42. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **24**.

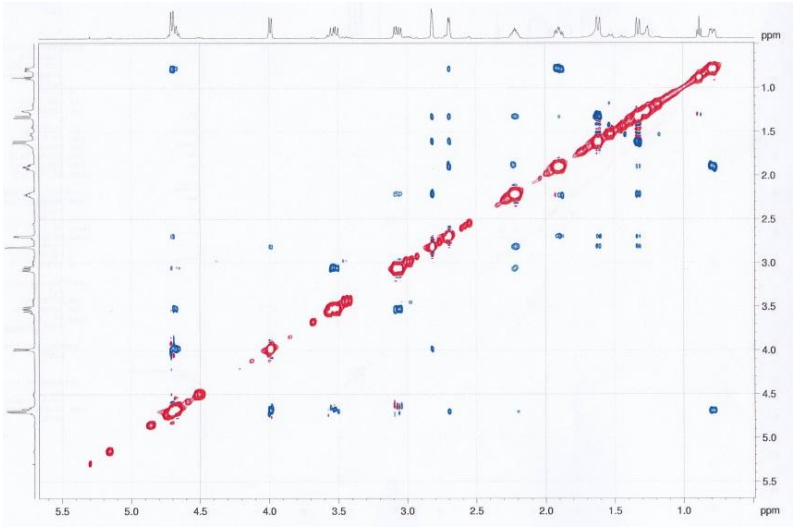

Figure S43. ^{1}H ROESY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **24**.

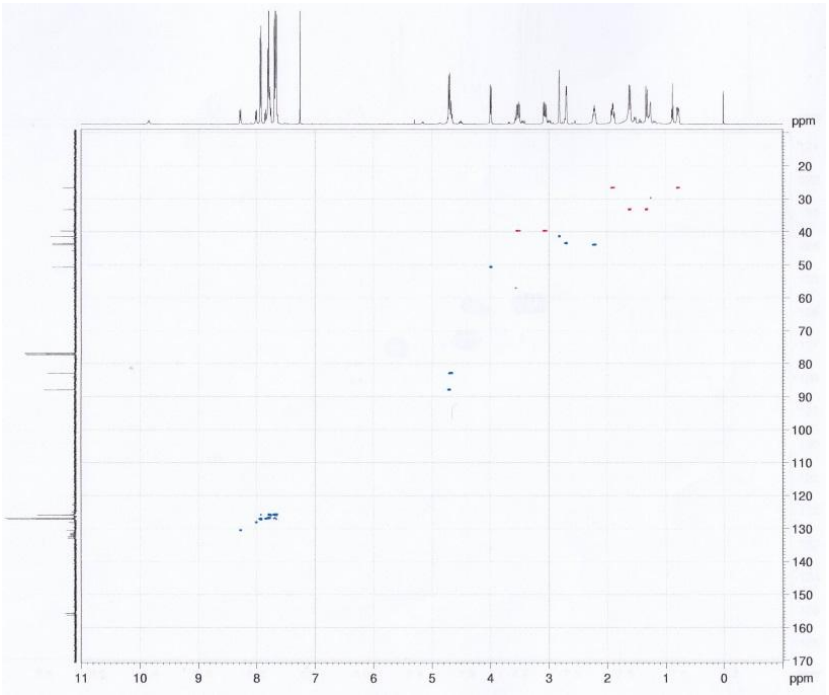

Figure S44. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **24**.

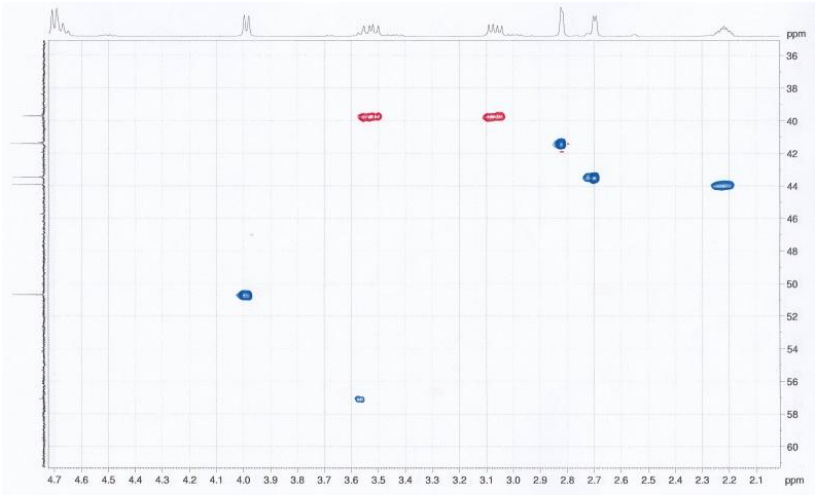

Figure S45. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **24**.

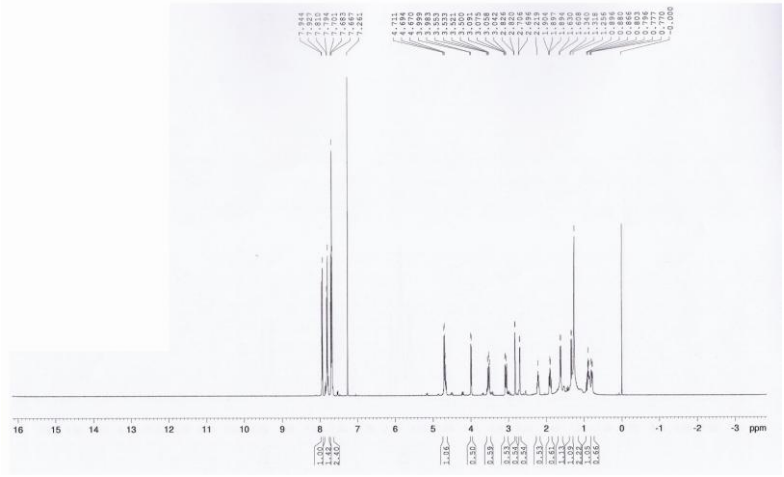

Figure S46. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of **26**.

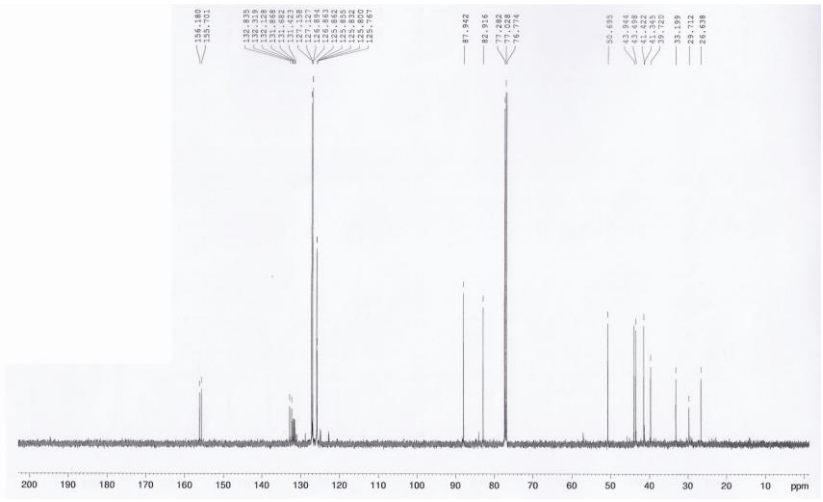

Figure S47. ^{13}C NMR spectrum (125.8 MHz, $CDCl_3$) of **26**.

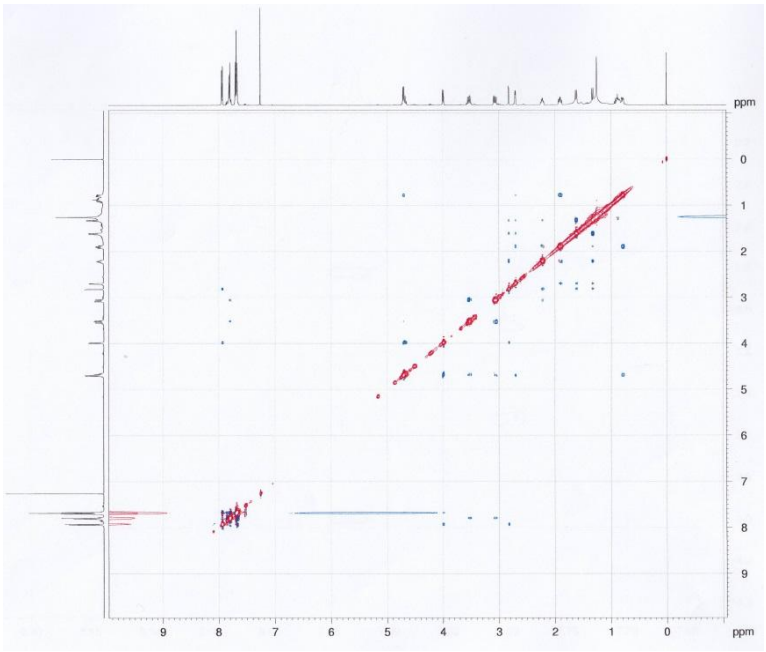

Figure S48. ^{1}H ROESY NMR spectrum (500 MHz, $CDCl_3$) of **26**.

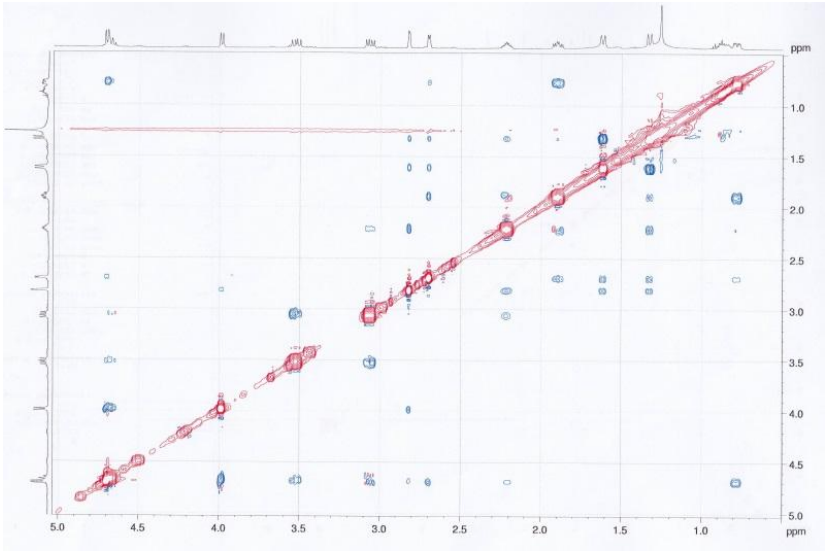

Figure S49. ^{1}H ROESY NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **26**.

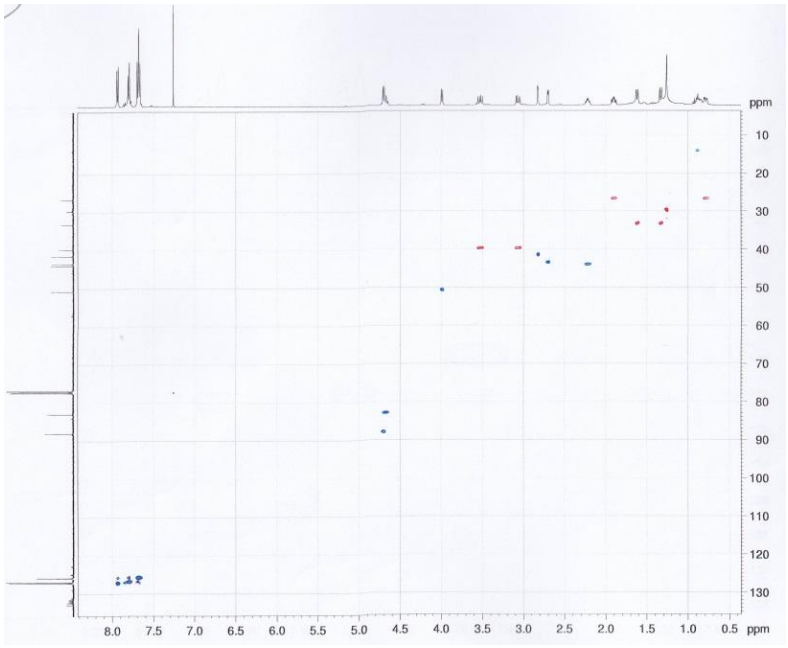

Figure S50. ^{1}H-^{13}C HSQC NMR spectrum (500 MHz, $CDCl_3$) of **26**.

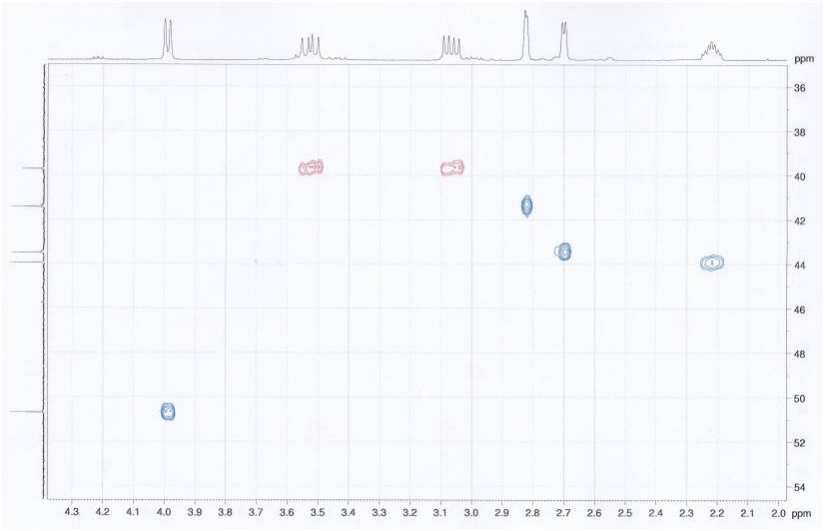

Figure S51. ^{1}H-^{13}C HSQC NMR spectrum (an expansion) (500 MHz, $CDCl_3$) of **26**.