SUPPORTING INFORMATION

A library of new organofunctional silanes obtained by thiol-(meth)acrylate Michael addition reaction

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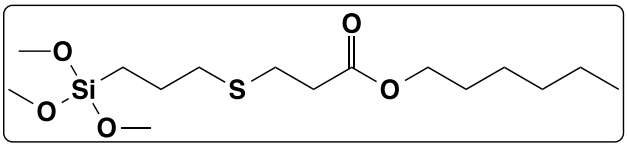
3a



Product characterization

^{1}H NMR (600 MHz, $CDCl_3$) δ 4.04 (t, *J*=6.8 Hz, 2H, C(O)OC<u>H</u>$_2$); 3.52 (s, 9H, Si(OCH$_3$)$_3$); 2.73 (t, *J*=7.5 Hz, 2H); 2.55 (t, *J*=7.5 Hz, 2H), 2.51 (m, 2H) ($CH_2SCH_2CH_2$); 1.65 (m, 2H, SiCH$_2$C<u>H</u>$_2$); 1.58 (m, 2H, C(O)OCH$_2$C<u>H</u>$_2$); 1.32 – 1.23 (m, 6H, CH_2), 0.85 (t, *J*=6.9 Hz, 3H, CH_3); 0.71 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (151 MHz, $CDCl_3$) δ 172.10 (C=O); 64.88 (C(O)O<u>C</u>H$_2$); 50.57 (Si(OCH$_3$)$_3$); 35.04, 31.47, 28.62, 26.90, 25.62, 22.98, 22.58 (CH_2); 14.03 (CH_3); 8.60 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.52 (Si(OCH$_3$)$_3$) ppm.

NMR spectra

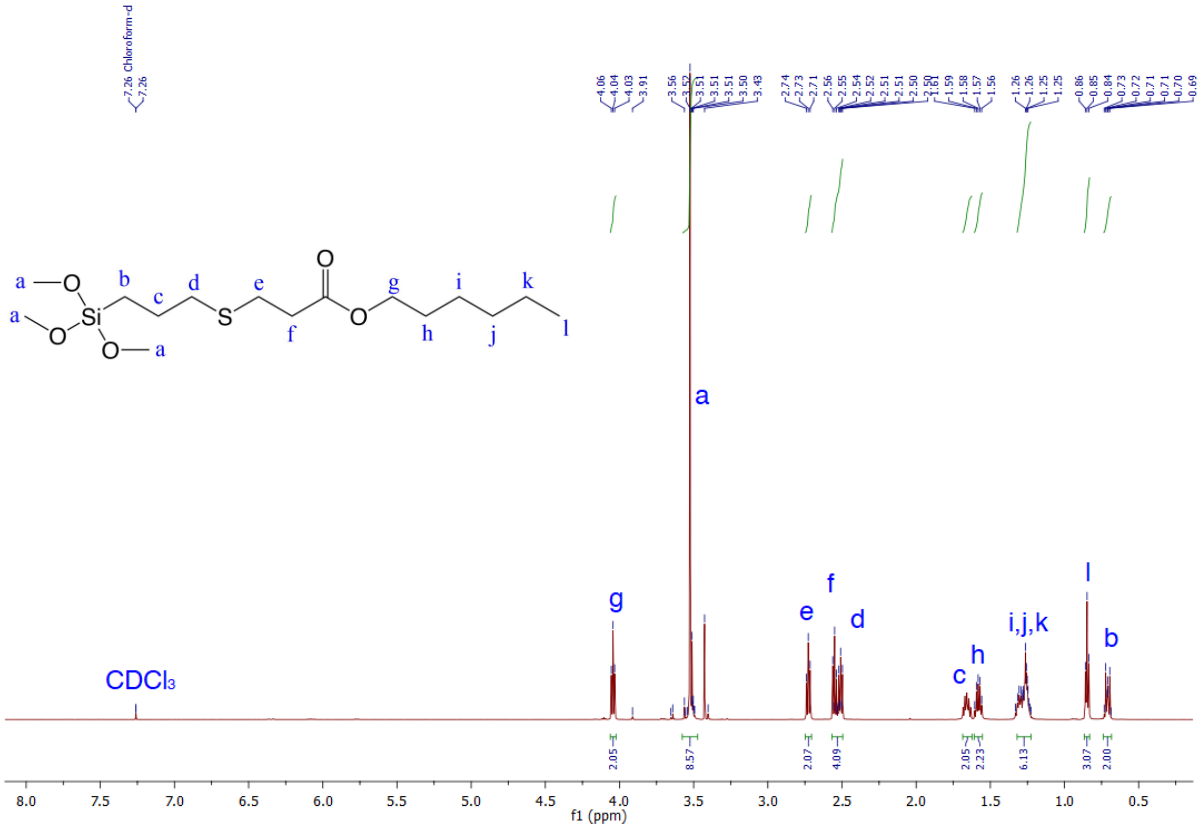


Figure 1. ^{1}H NMR spectrum of 3a.

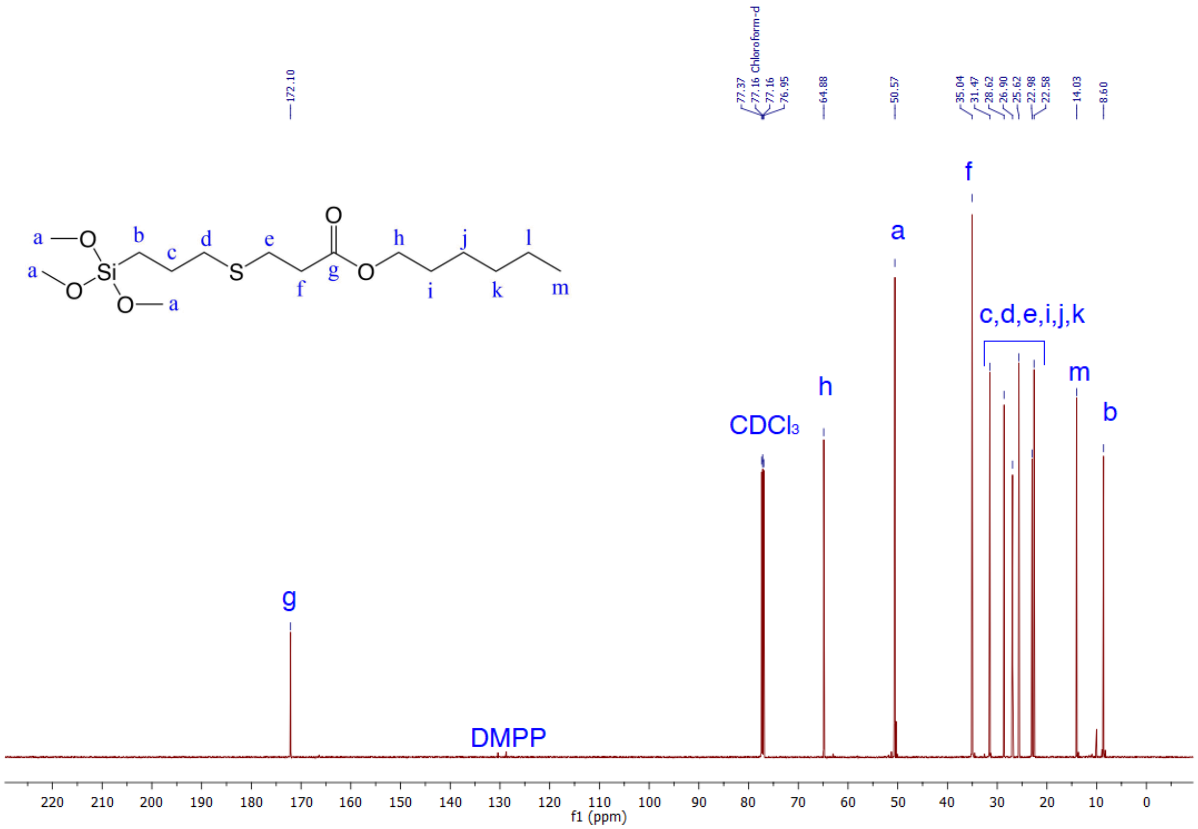


Figure 2. ^{13}C NMR spectrum of 3a.

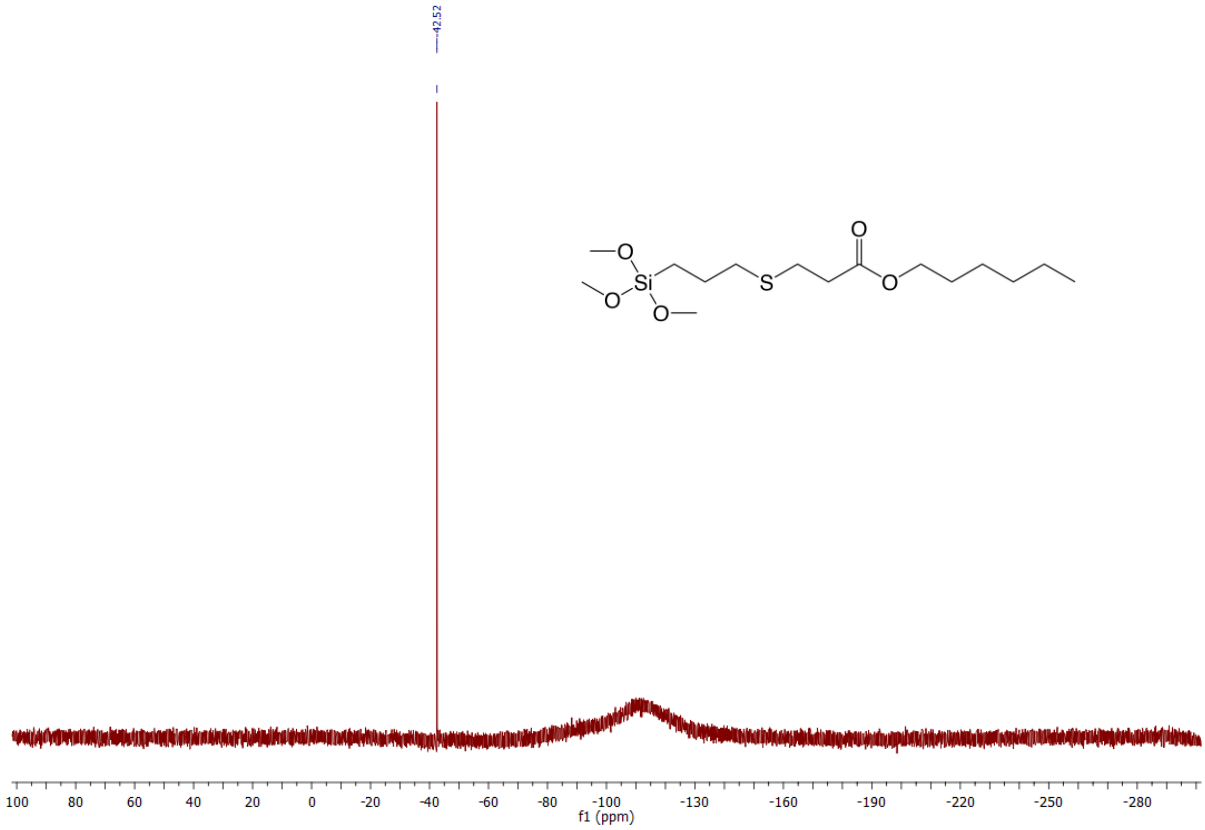


Figure 3. ^{29}Si NMR spectrum of 3a.

FT-IR spectrum

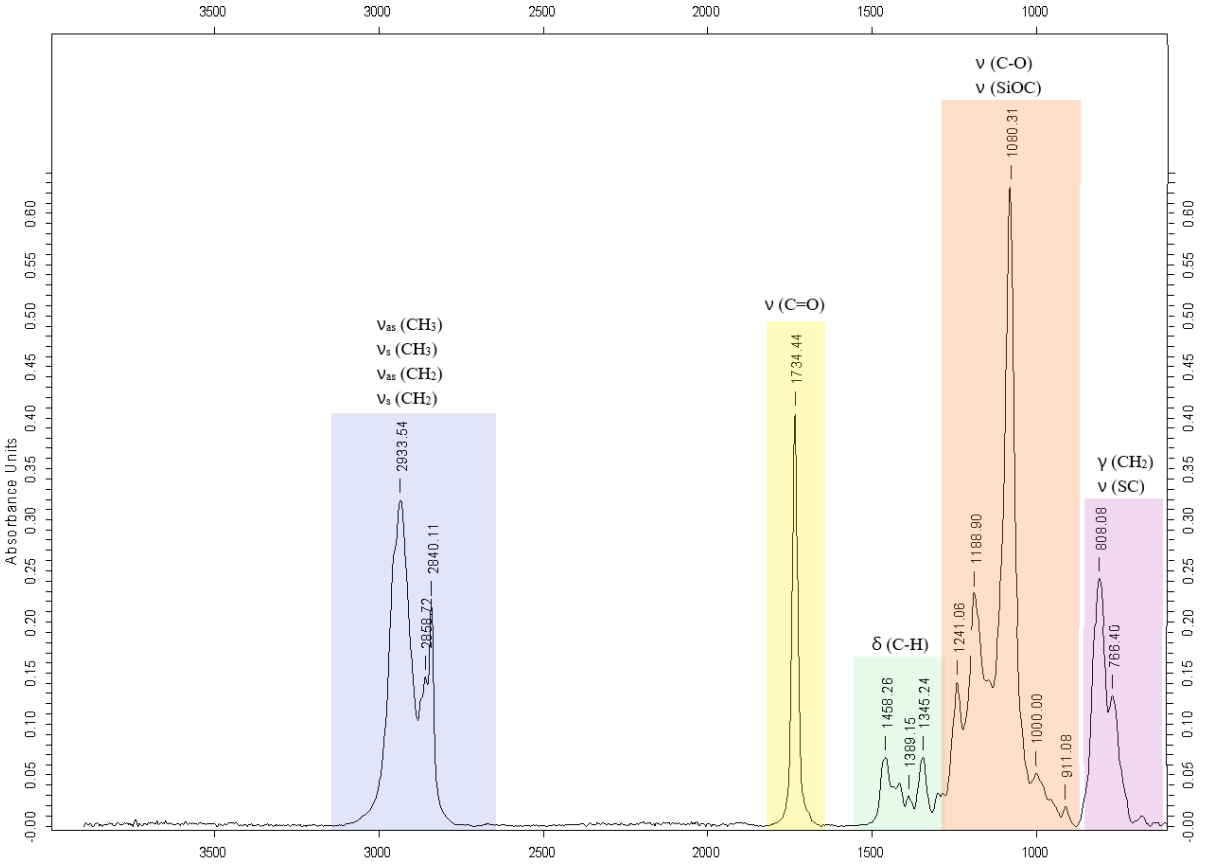
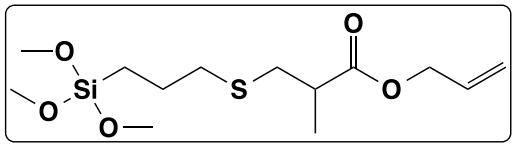


Figure 4. FT-IR spectrum of 3a.

3b



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 5.88 (ddt, *J*=17.2, 10.5, 5.7 Hz, 1H, (-C<u>H</u>=CH_2); 5.29 (dq, *J*=17.2, 1.6 Hz, 1H), 5.19 (dq, *J*=10.4, 1.3 Hz, 1H) (-CH=C<u>H_2</u>); 4.56 (dt, *J*=5.7, 1.5 Hz, 2H, C(O)OC<u>H_2</u>); 3.52 (s, 9H, $Si(OCH_3)_3$); 2.80 (m, 1H), 2.65 (sext, J=6.9 Hz, 1H), 2.56-2.48 (m, 3H) (C<u>H_2</u>SC<u>H_2</u>C<u>H</u>); 1.64 (m, 2H, $SiCH_2$C<u>H_2</u>); 1.22 (d, *J*=6.9 Hz, 3H, $CHCH_3$); 0.70 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 174.85 (C=O); 132.21 (-C<u>H</u>=CH_2); 118.16 (-CH=C<u>H_2</u>); 65.23 (C(O)OC<u>H_2</u>); 50.56 ($Si(OCH_3)_3$); 40.33 (CH_2SCH_2C<u>H</u>); 35.56, 35.33 (CH_2SCH_2); 23.01 ($SiCH_2$C<u>H_2</u>); 16.86(CHC<u>H_3</u>); 8.56 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.49 ($Si(OCH_3)_3$) ppm.

NMR spectra

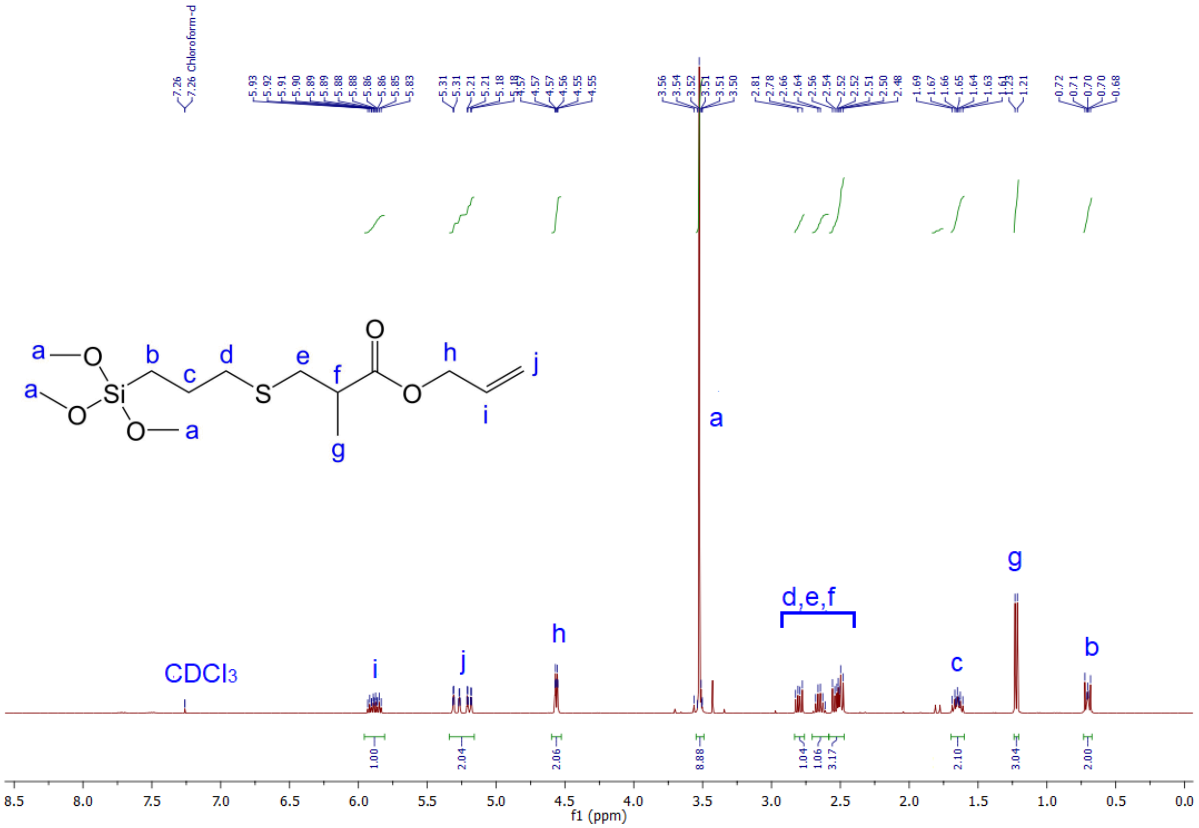


Figure 5. ^{1}H NMR spectrum of 3b.

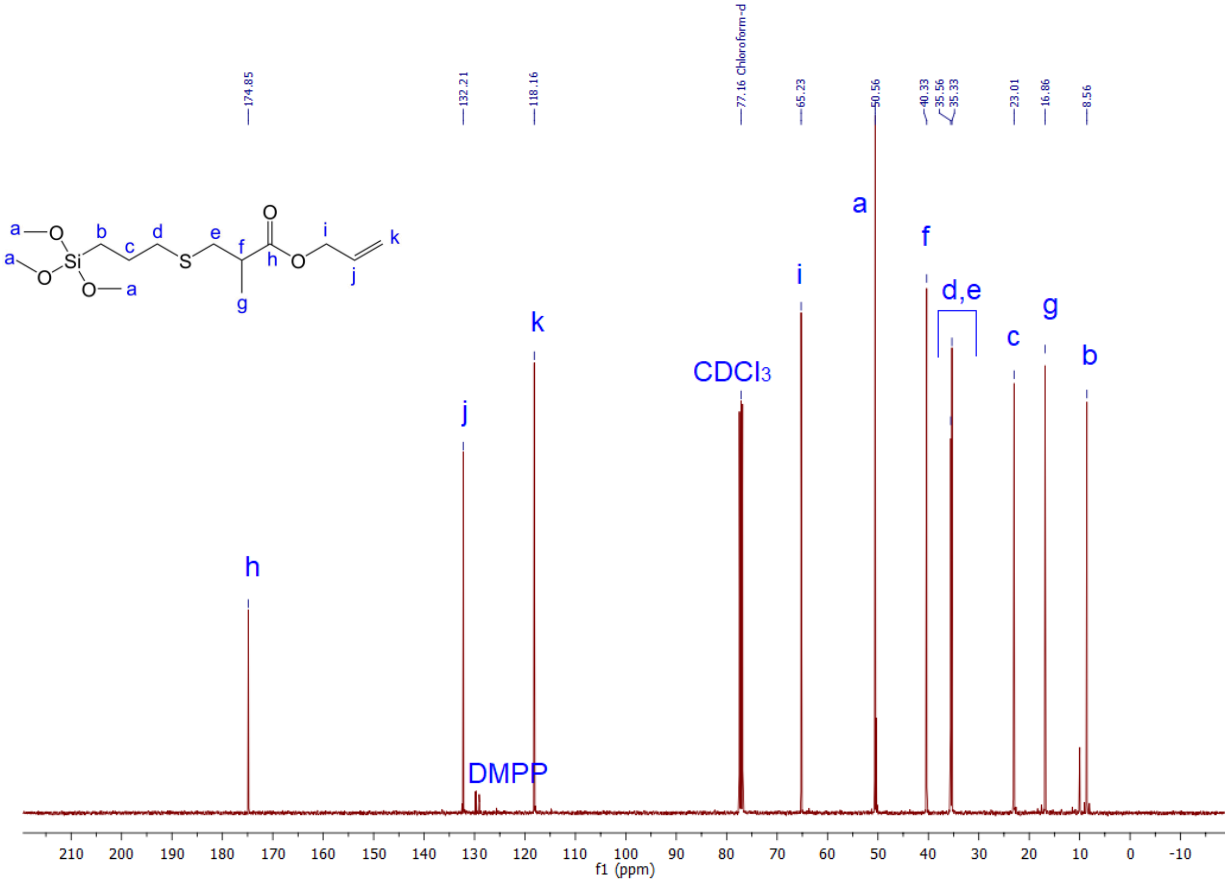


Figure 6. ^{13}C NMR spectrum of 3b.

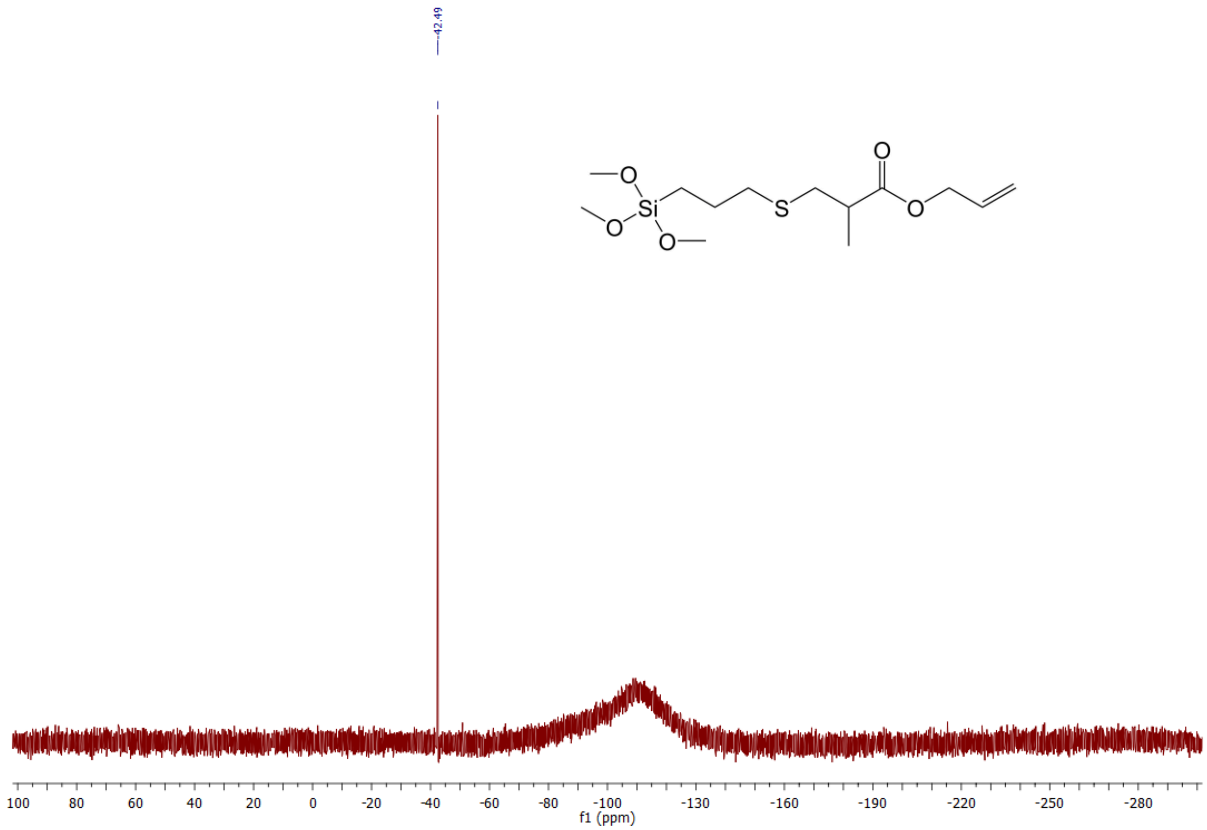


Figure 7. ^{29}Si NMR spectrum of 3b.

FT-IR spectrum

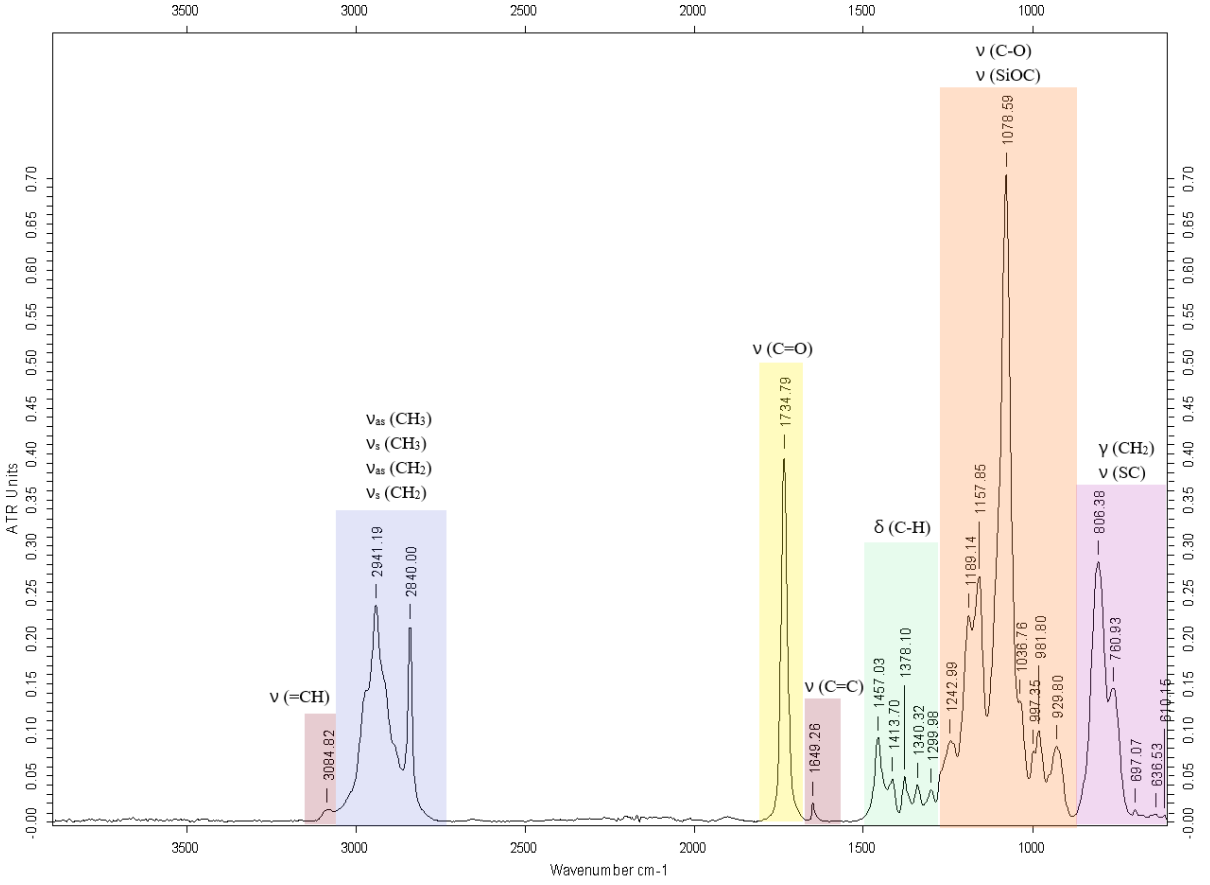
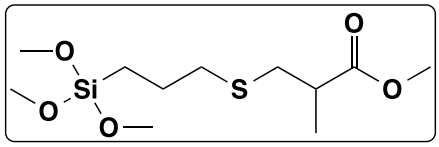


Figure 8. FT-IR spectrum of 3b.

3c



Product characterization

^{1}H NMR (600 MHz, $CDCl_3$) δ 3.65 (s, 3H, OCH_3); 3.52 (s, 9H, $Si(OCH_3)_3$); 2.77 (dd, *J*=13.0, 7.1 Hz, 1H), 2.62 (sext, *J*=7.0 Hz, 1H), 2.53-2.47 (m, 3H) (CH_2SCH_2CH); 1.63 (m, 2H, $SiCH_2CH_2$); 1.20 (d, *J*=7.0 Hz, 3H, $CHCH_3$); 0.69 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (151 MHz, $CDCl_3$) δ 175.46 (C=O); 51.58 (OCH_3); 50.35 ($Si(OCH_3)_3$); 40.04 (CHC(O)); 35.35, 35.17 (CH_2SCH_2); 22.81 ($SiCH_2CH_2$); 16.63 ($CHCH_3$); 8.36 ($SiCH_2$) ppm. **^{29}Si NMR** (119 MHz, $CDCl_3$) δ -42.49 $Si(OCH_3)_3$) ppm.

NMR spectra

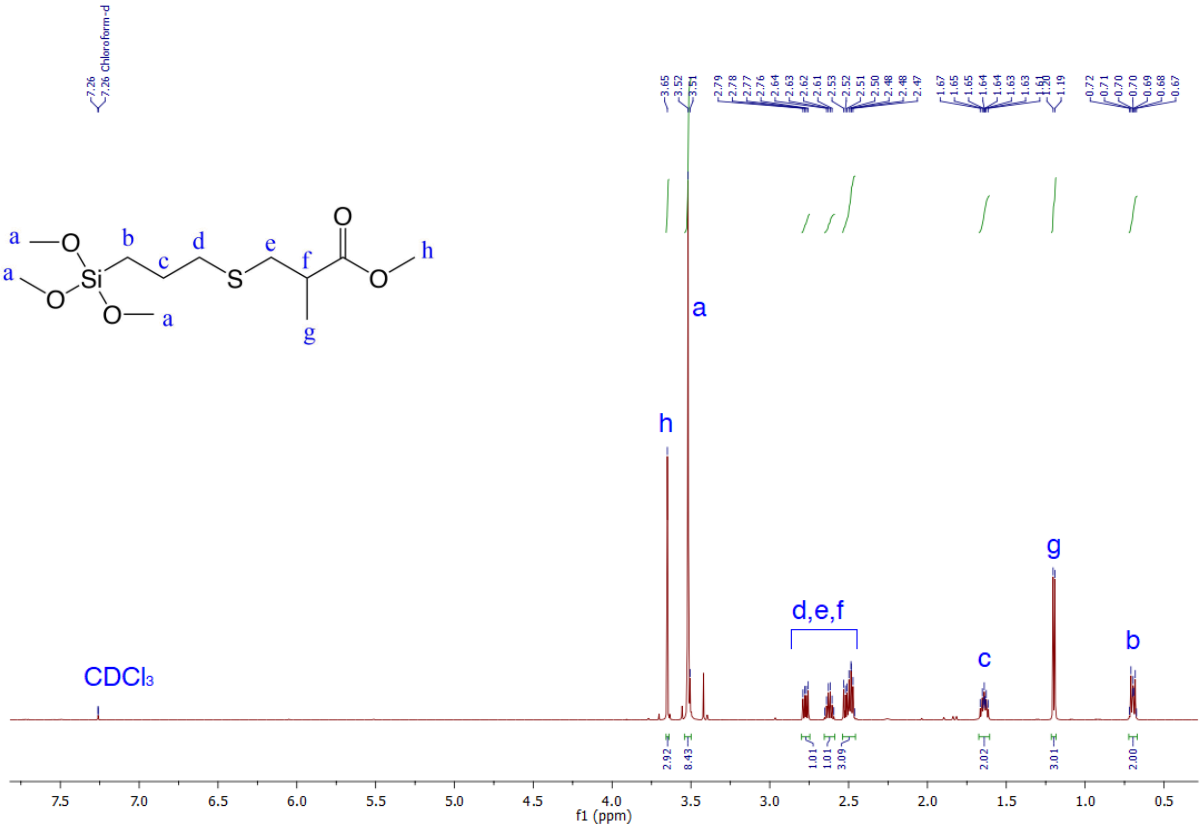


Figure 9. ^{1}H NMR spectrum of 3c.

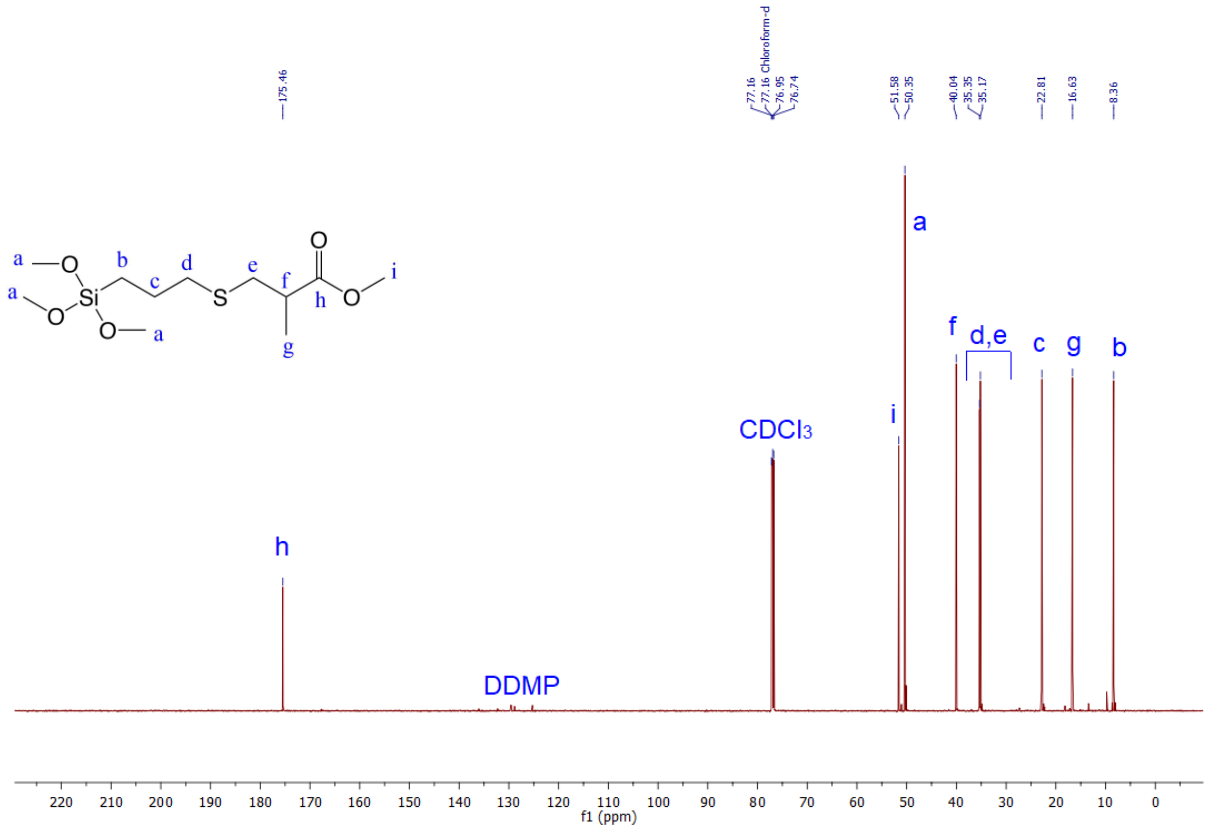


Figure 10. ^{13}C NMR spectrum of 3c.

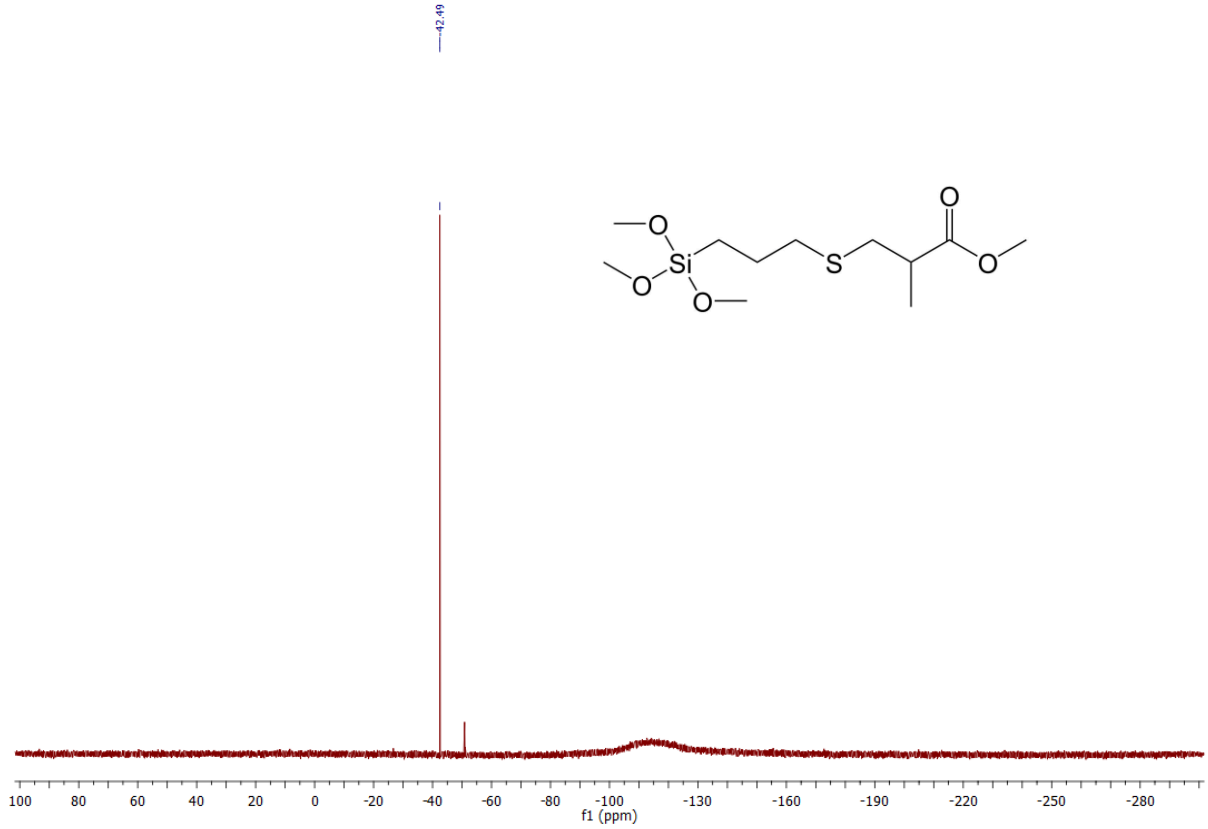


Figure 11. ^{29}Si NMR spectrum of 3c.

FT-IR spectrum

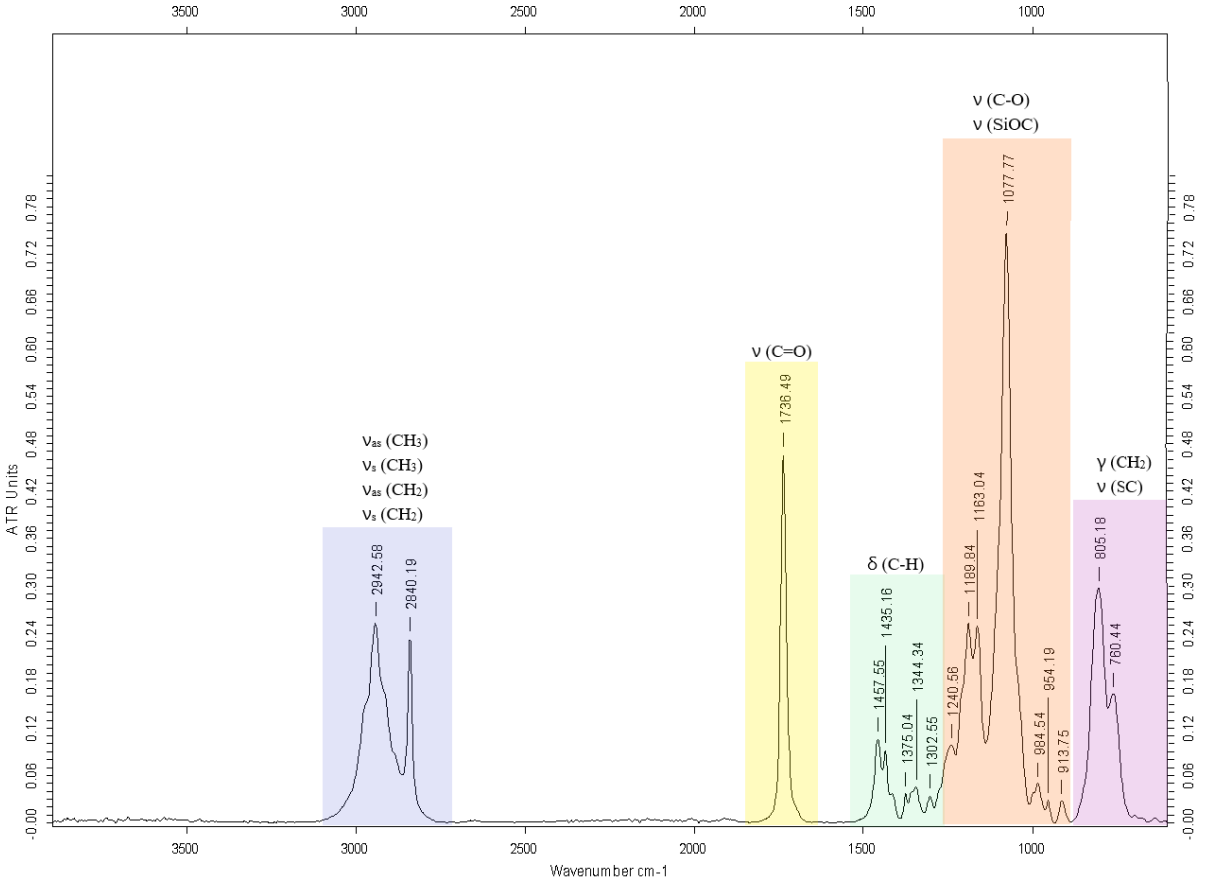
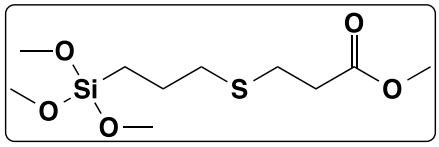


Figure 12. FT-IR spectrum of 3c.

3d



Product characterization

^{1}H NMR (600 MHz, $CDCl_3$) δ 3.64 (s, 3H,OCH_3); 3.52 (s, 9H, $Si(OCH_3)_3$); 2.72 (t, *J*=7.4 Hz, 2H), 2.56 (t, *J*=7.4 Hz, 2H) 2.50 (m, 2H) ($CH_2SCH_2CH_2C(O)$); 1.64 (m, 2H, $SiCH_2C\underline{H}_2$); 0.70 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (151 MHz, $CDCl_3$) δ 172.44 (C=O); 51.76 (OCH_3), 50.55 ($Si(OCH_3)_3$); 35.02, 34.77 (CH_2SCH_2); 26.82 ($\underline{C}H_2C(O)$); 22.95 ($SiCH_2\underline{C}H_2$); 8.57 ($SiCH_2$) ppm. **^{29}Si NMR** (119 MHz, $CDCl_3$) δ -42.52 $Si(OCH_3)_3$) ppm.

NMR spectra

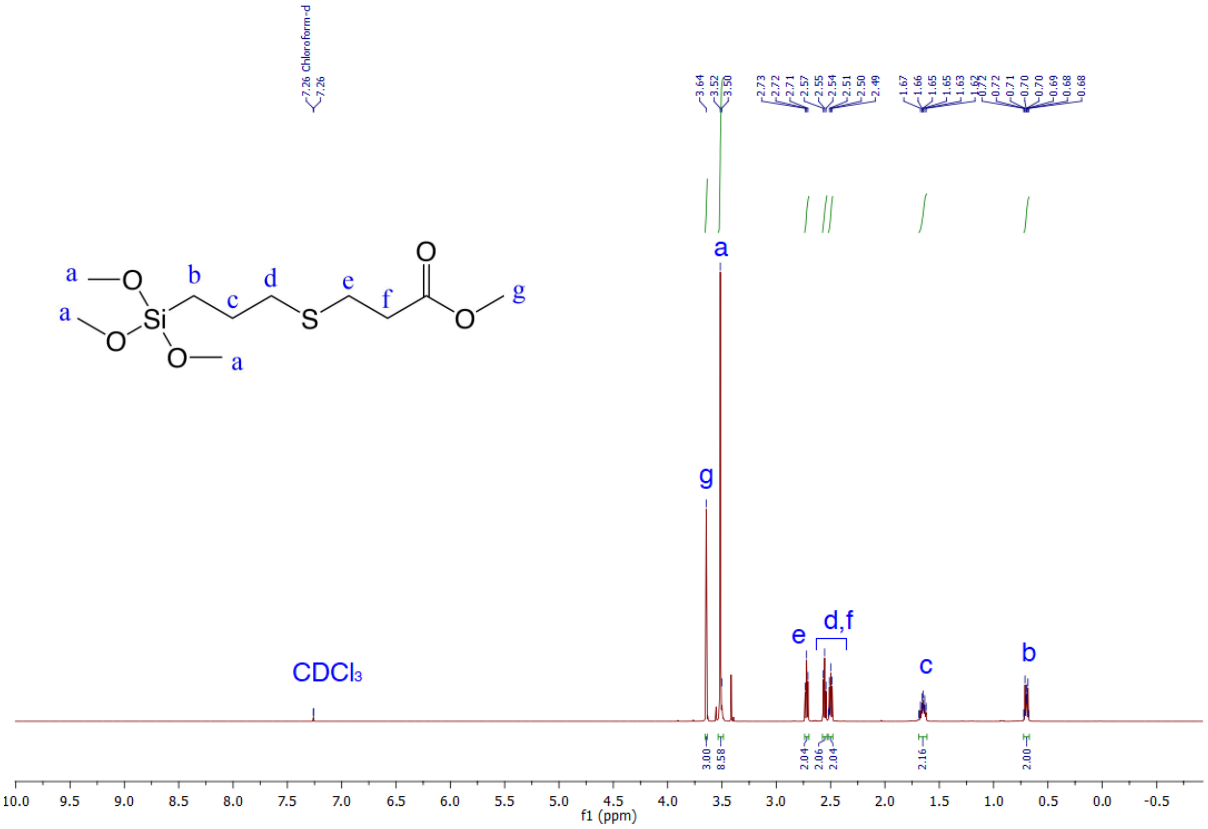


Figure 13. ^{1}H NMR spectrum of 3d.

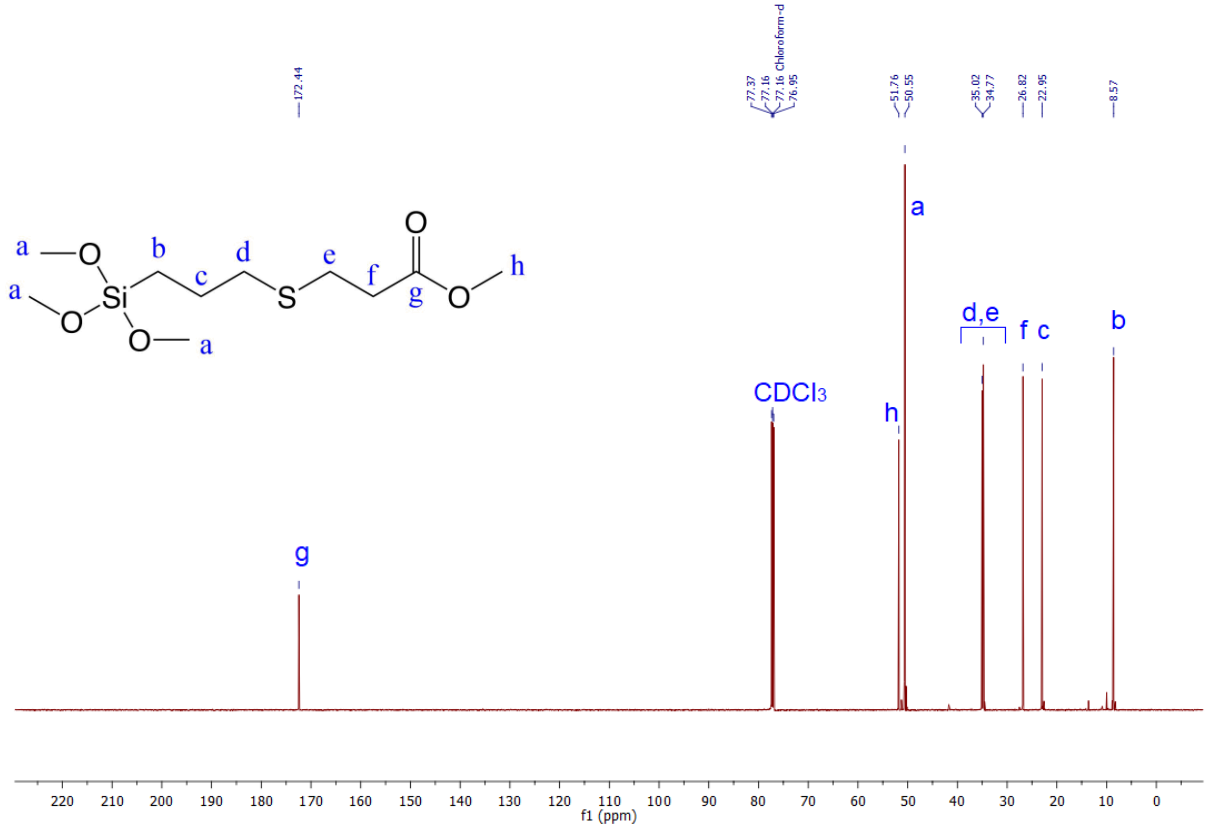


Figure 14. ^{13}C NMR spectrum of 3d.

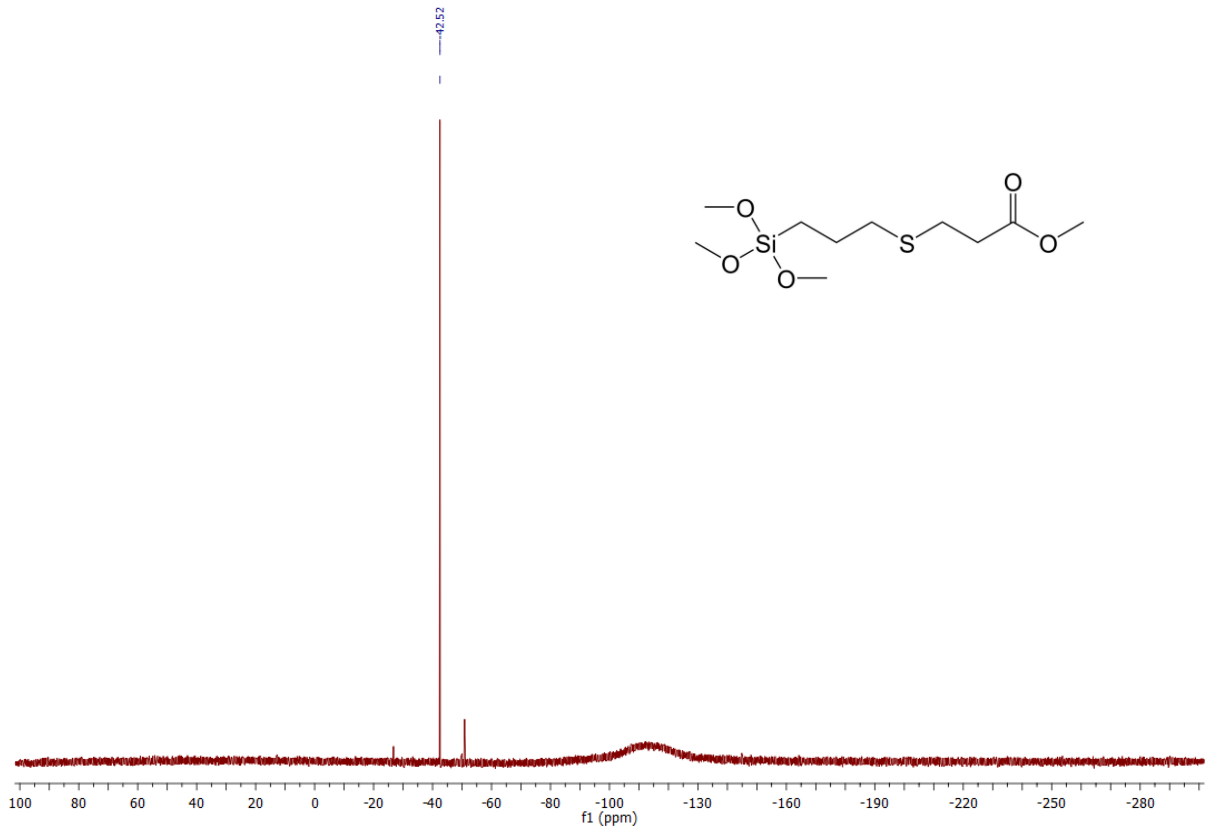


Figure 15. ^{29}Si NMR spectrum of 3d.

FT-IR spectrum

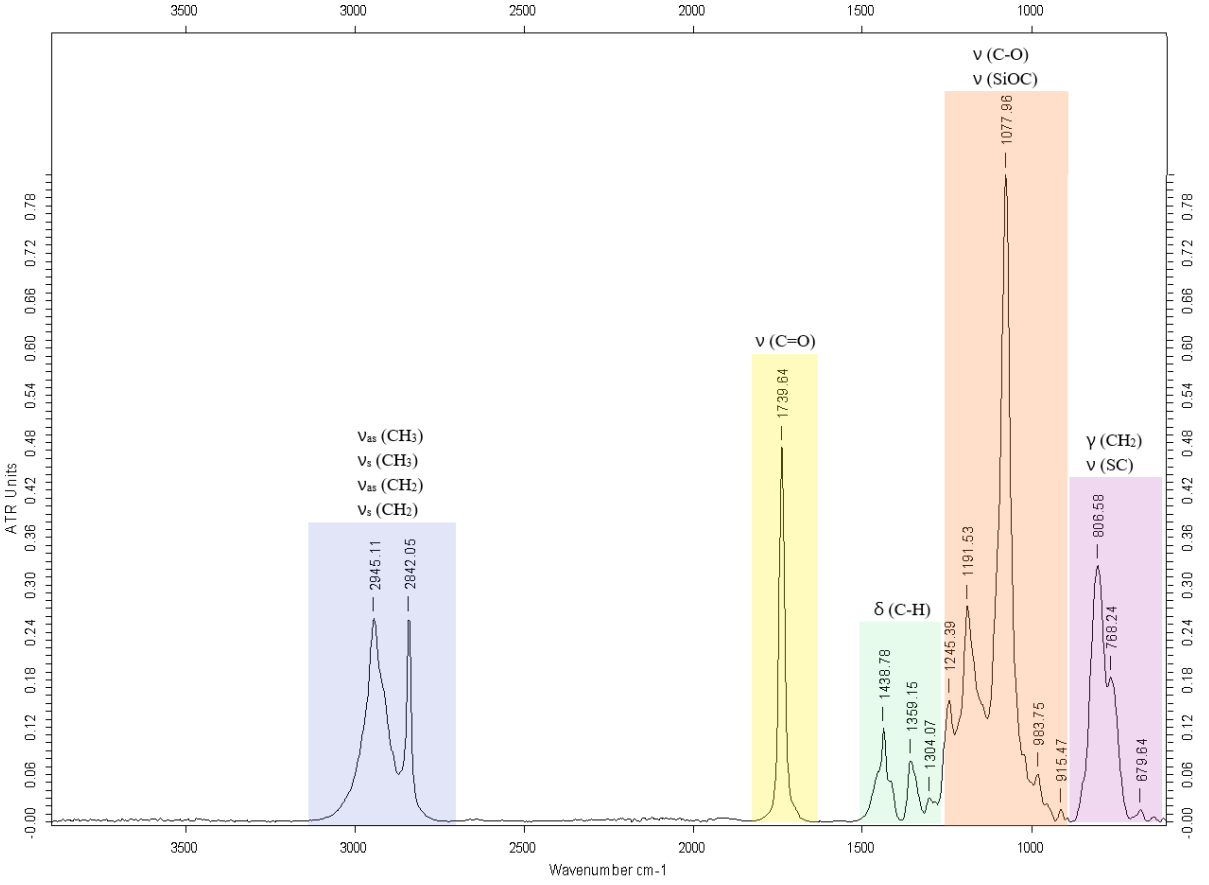
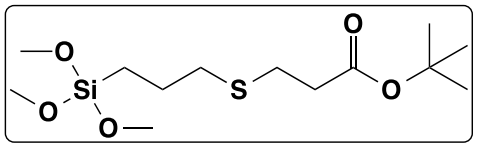


Figure 16. FT-IR spectrum of 3d.

3e



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 3.53 (s, 9H, $Si(OCH_3)_3$); 2.69 (m, 2H), 2.49 (m, 4H) ($CH_2SCH_2CH_2$); 1.66 (m, 2H, $SiCH_2C\underline{H}_2$); 1.41 (m, 9H, CH_3); 0.71 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 171.15 (C=O); 80.56 ($\underline{C}(CH_3)_3$); 50.37 ($Si(OCH_3)_3$); 35.99, 34.84 (CH_2SCH_2); 27.93 (CH_3); 26.85 ($SCH_2\underline{C}H_2$); 22.80 ($SiCH_2\underline{C}H_2$) 8.39 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.48 ($Si(OCH_3)_3$) ppm.

NMR spectra

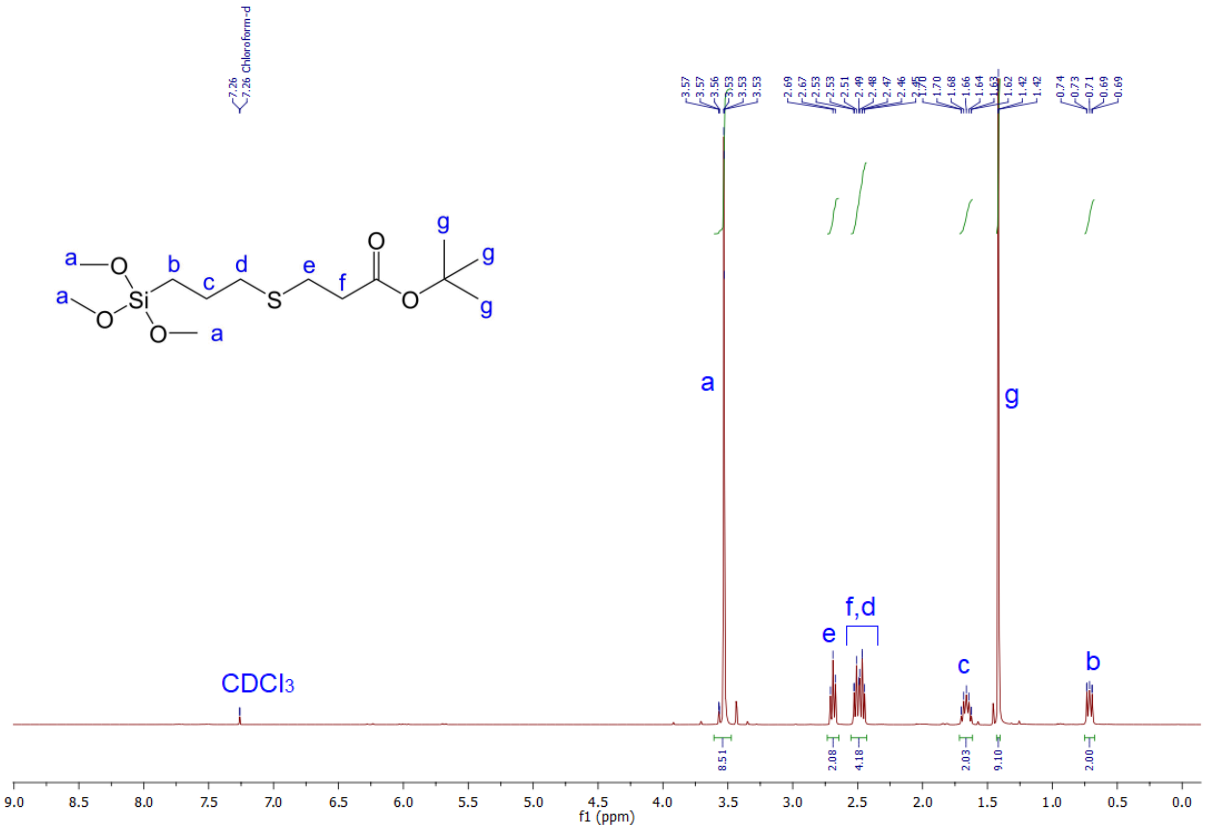


Figure 17. ^{1}H NMR spectrum of 3e.

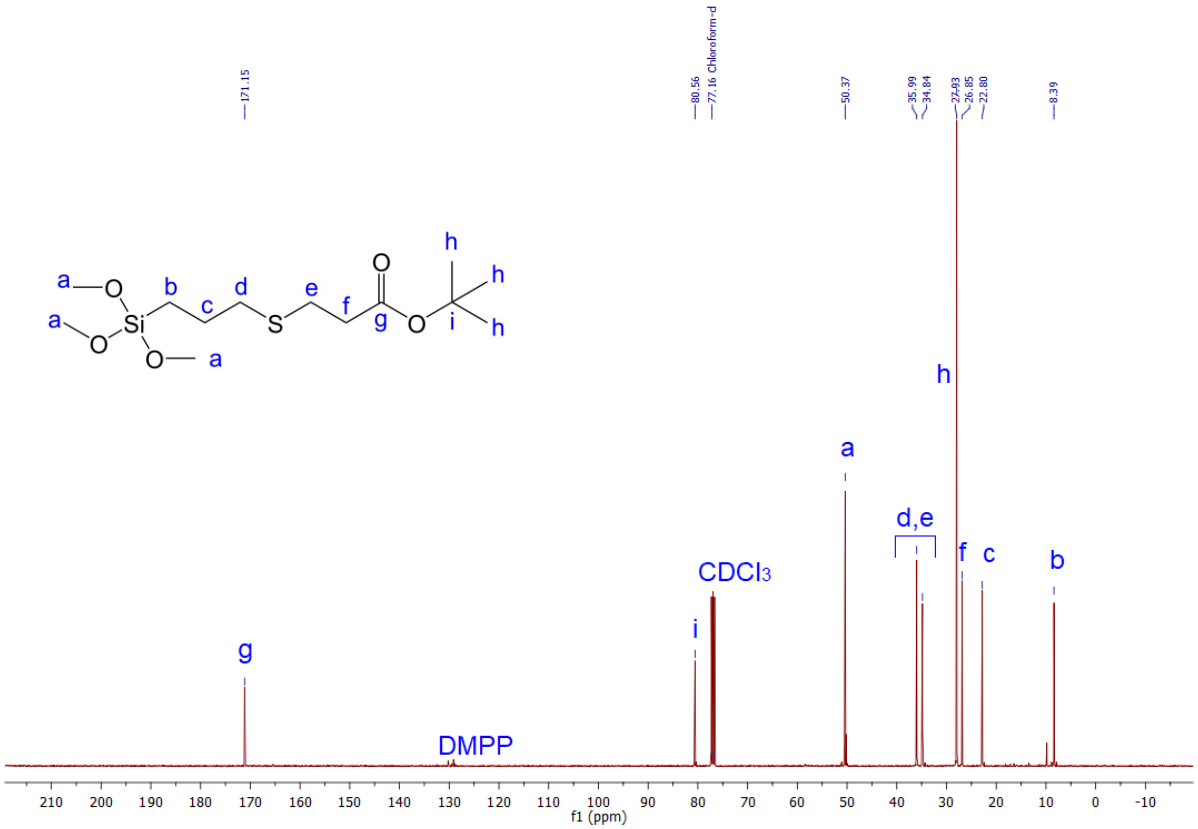


Figure 18. ^{13}C NMR spectrum of 3e.

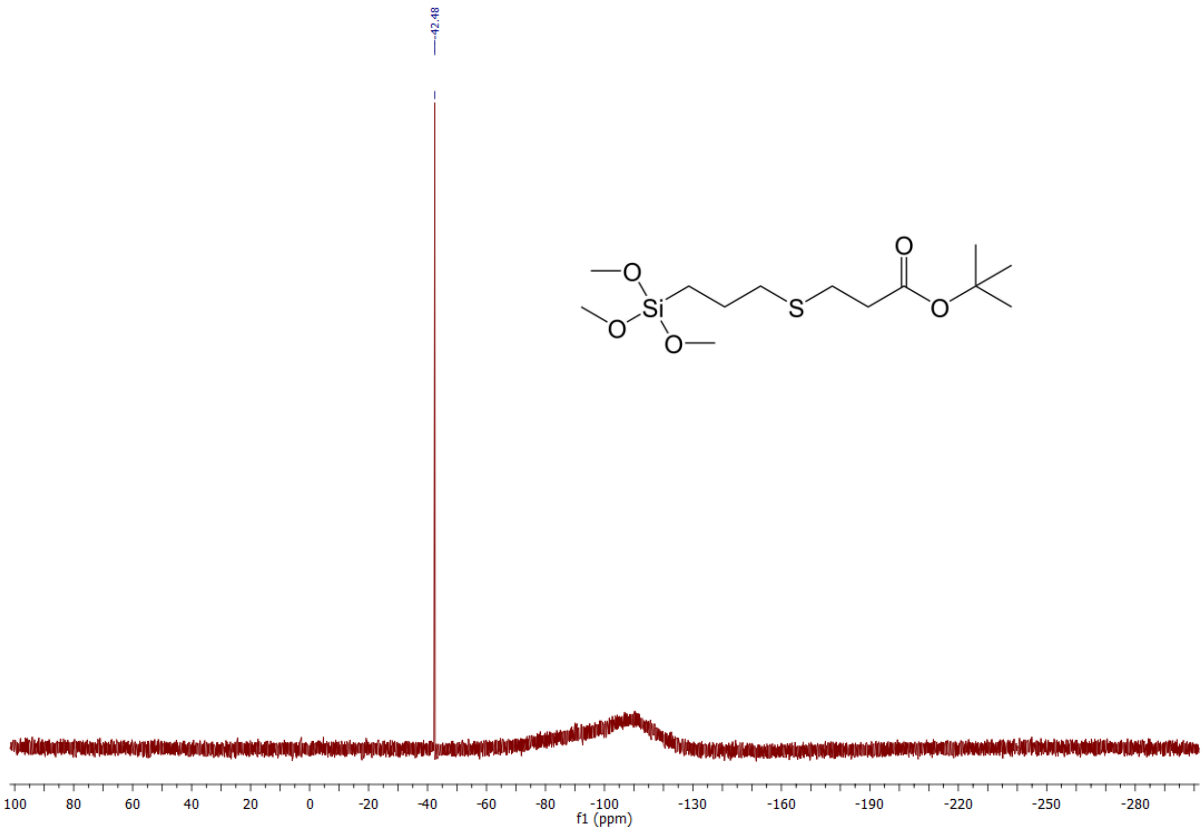


Figure 19. ^{29}Si NMR spectrum of 3e.

FT-IR spectrum

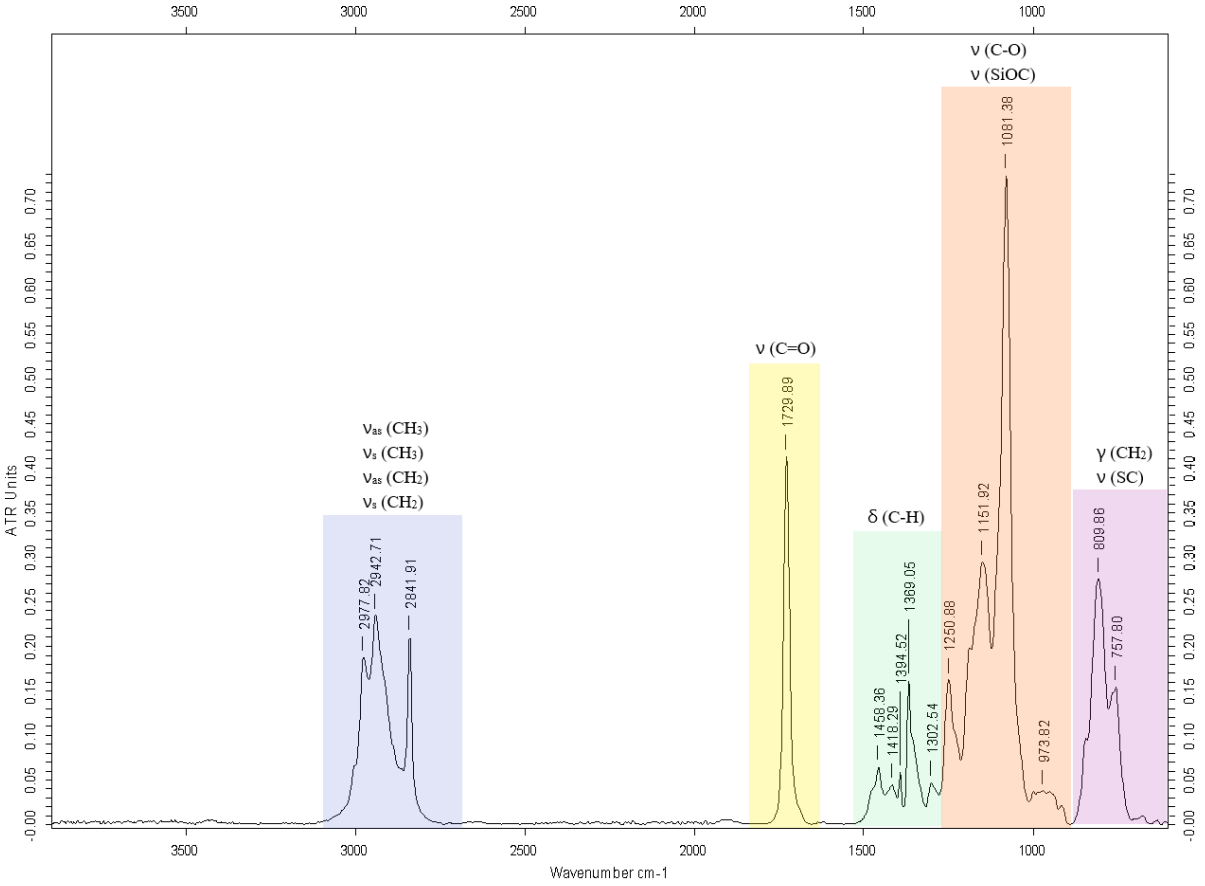
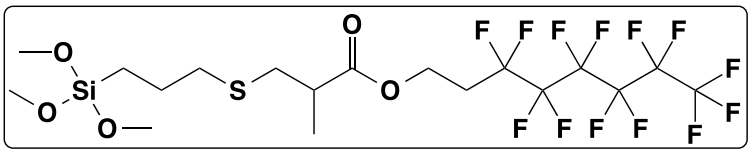


Figure 20. FT-IR NMR spectrum of 3e.

3f



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 4.39 (t, *J*=6.4 Hz, 2H, $C(O)OCH_2$); 3.55 (s, 9H, $Si(OCH_3)_3$); 2.79 (dd, *J*=12.7, 7.3 Hz, 1H), 2.67 (sext, *J*=6.9 Hz, 1H), 2.58-2.41 (m, 5H) (CH_2SCH_2CH, CH_2CF_2); 1.67 (m, 2H, ($SiCH_2CH_2$); 1.23 (d, *J*=6.9 Hz, 3H, CH_3); 0.72 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 174.53 (C=O); 119.85-108.09 (CF_2, CF_3); 56.24 ($C(O)O\underline{C}H_2$); 50.29 ($Si(OCH_3)_3$); 39.98, 35.28, 34.94, 30.34, ($\underline{C}H_2S\underline{C}H_2\underline{C}H$, $\underline{C}H_2CF_2$); 22.76 ($SiCH_2\underline{C}H_2$); 16.46 (CH_3); 8.32 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.54 ($Si(OCH_3)_3$) ppm.

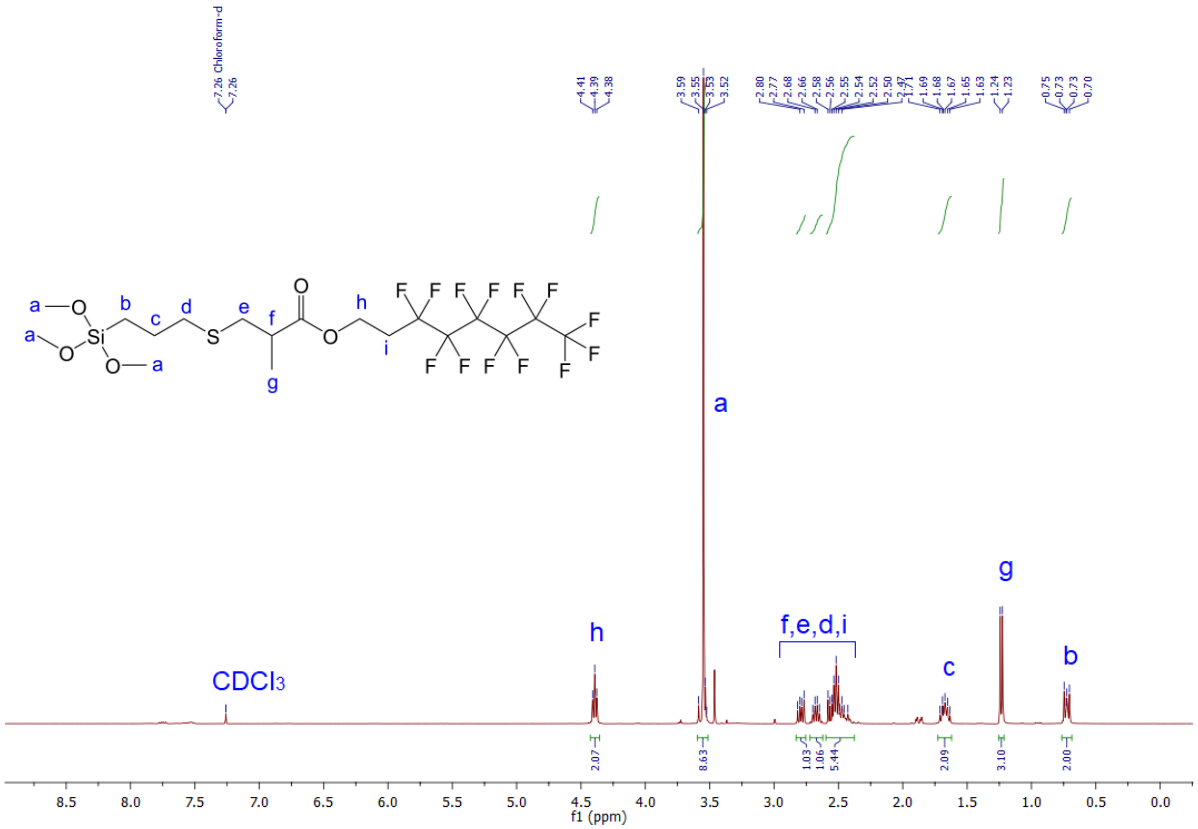


Figure 21. ^{1}H NMR spectrum of 3f.

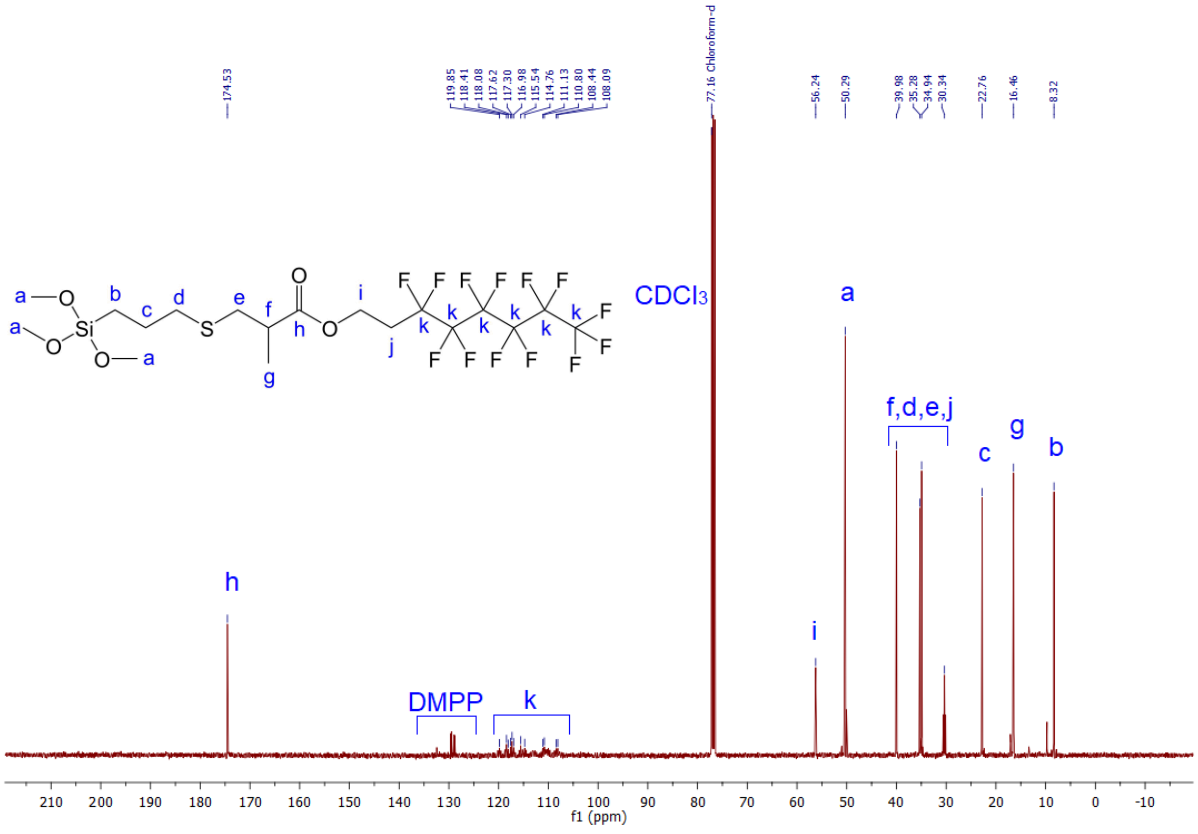


Figure 22. ^{13}C NMR spectrum of 3f.

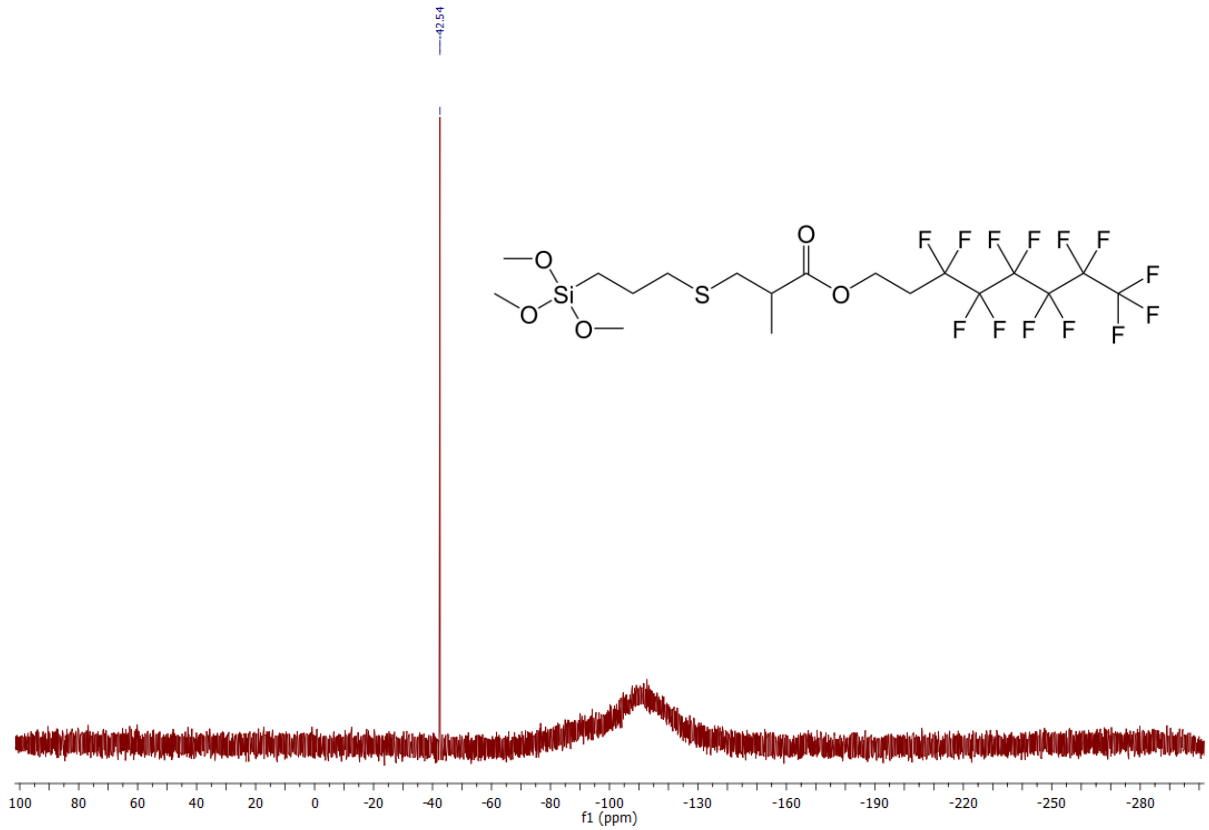


Figure 23. ^{29}Si NMR spectrum of 3f.

FT-IR spectrum

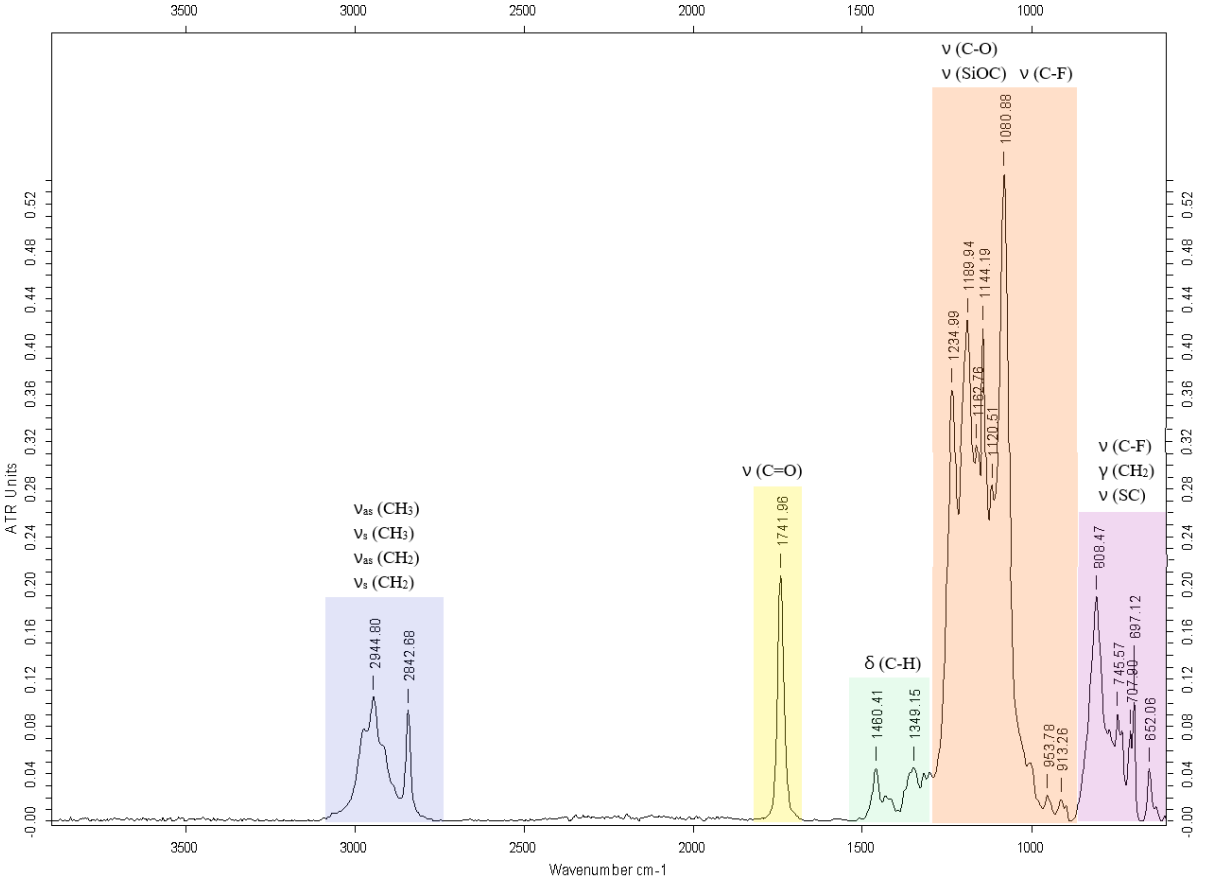
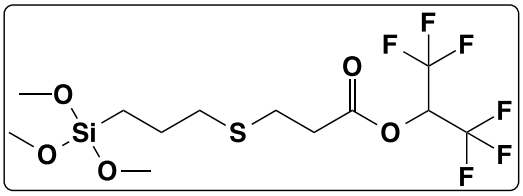


Figure 24. FT-IR NMR spectrum of 3f.

3g



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 5.76 (hept, *J*=6.1 Hz, 1H, $CH(CF_3)_2$); 3.55 (s, 9H, $Si(OCH_3)_3$); 2.80 (s, 4H), 2.55 (m, 2H) ($CH_2SCH_2CH_2$); 1.69 (m, 2H, $SiCH_2CH_2$); 0.73 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 168.90 (C=O); 124.68-116.25 (CF_3); 66.68 ($CH(CF_3)_2$); 50.85 ($Si(OCH_3)_3$); 35.05, 34.23 (CH_2SCH_2); 26.30 ($CH_2SCH_2CH_2$); 22.99 ($SiCH_2CH_2$); 8.56 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.62 ($Si(OCH_3)_3$) ppm.

NMR spectra

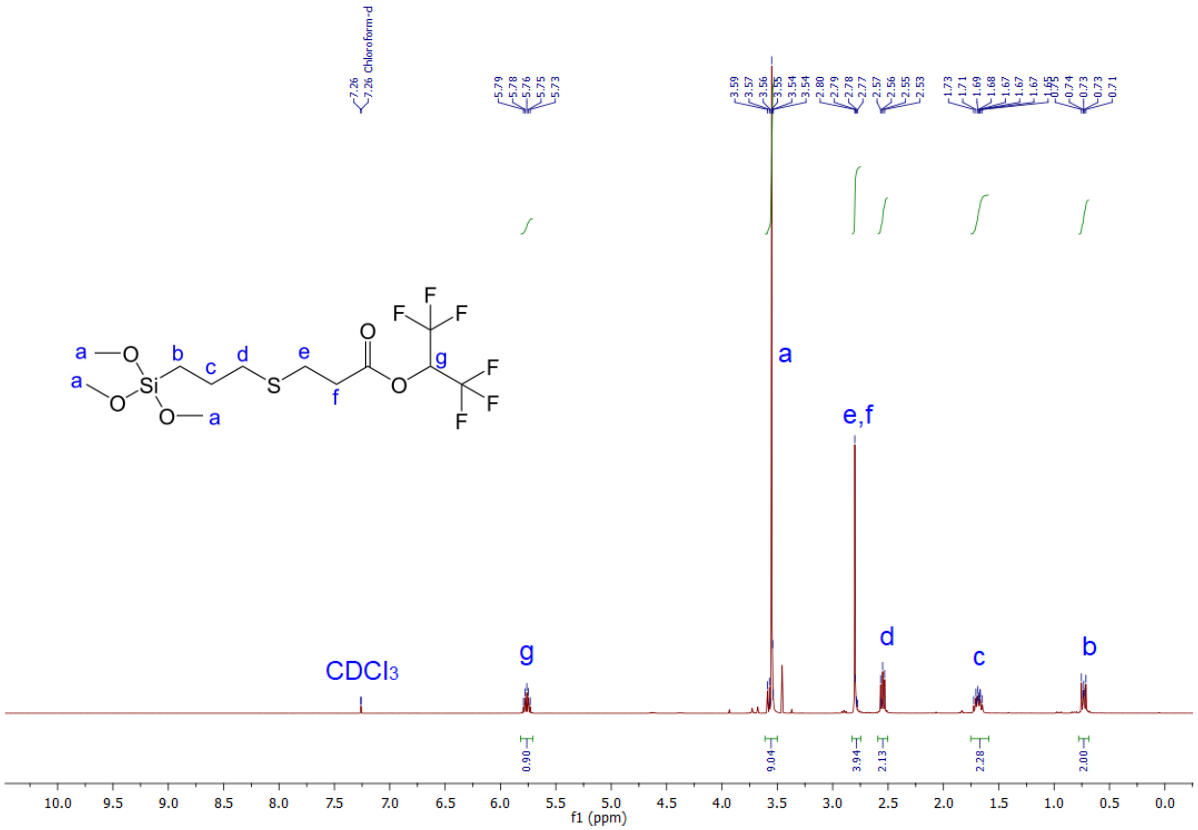


Figure 25. ^{1}H NMR spectrum of 3g.

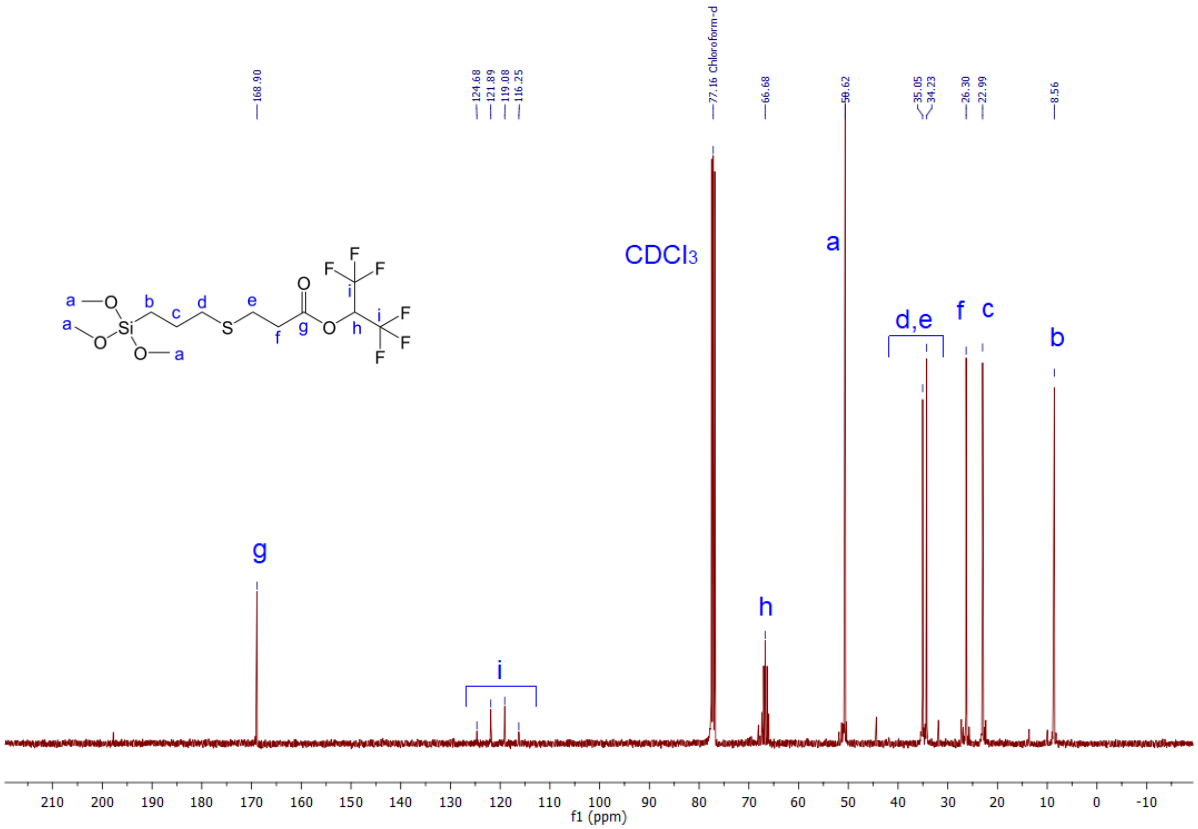


Figure 26. ^{13}C NMR spectrum of 3g.

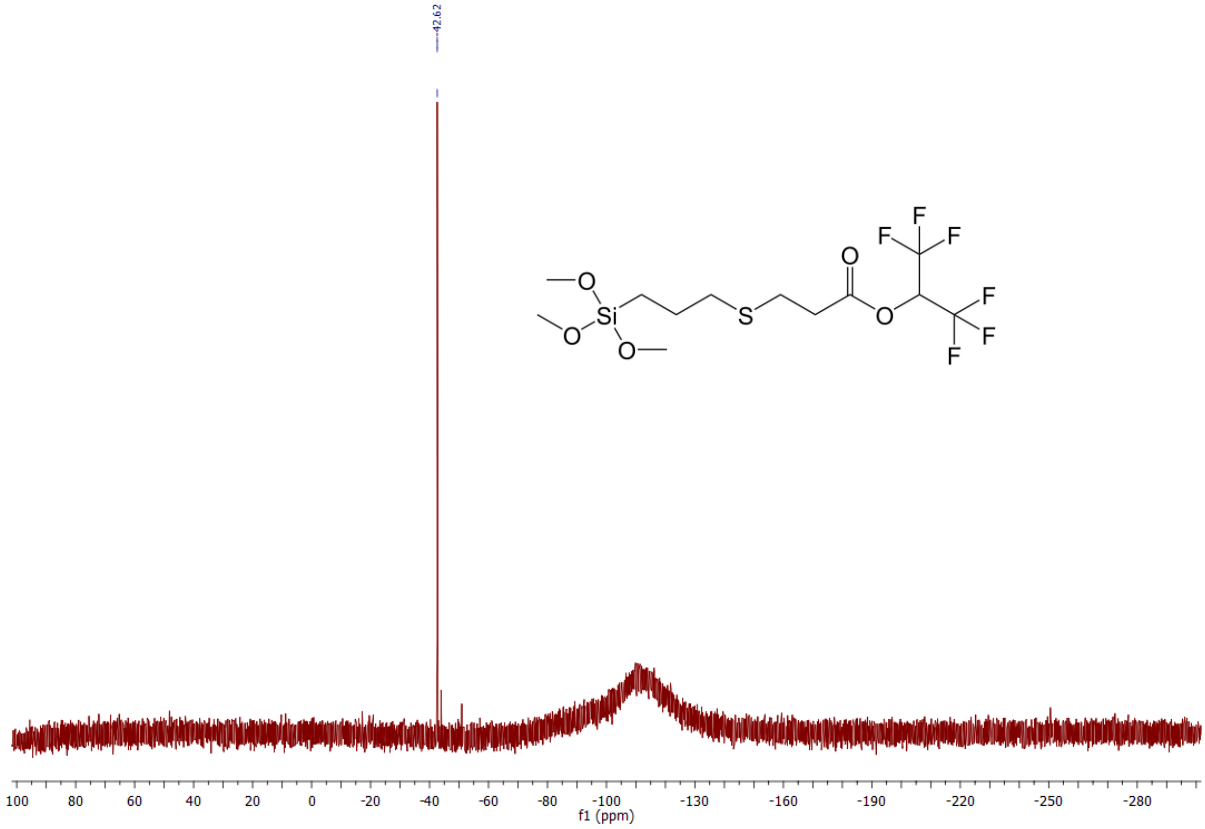


Figure 27. ^{29}Si NMR spectrum of 3g.

FT-IR spectrum

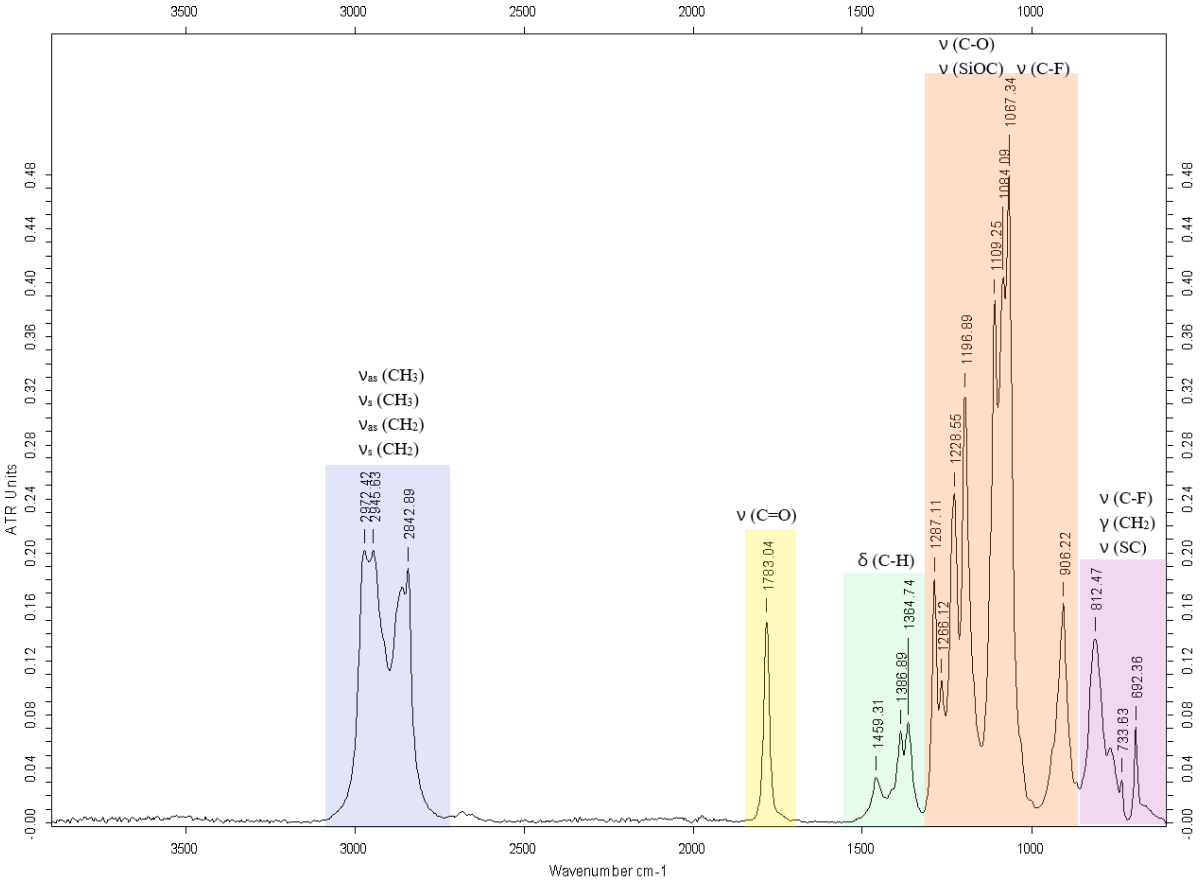
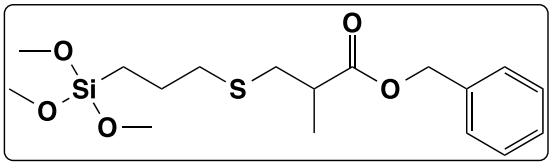


Figure 28. FT-IR spectrum of 3g.

3h



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.32 (m, 5H, C_6H_5); 5.13 (s, 2H, $C(O)OCH_2$); 3.55 (s, 9H, $Si(OCH_3)_3$); 2.84 (dd, *J*=12.8, 7.1 Hz, 1H), 2.71 (sext, *J*=6.9 Hz, 1H), 2.57 (dd, *J*=12.8, 6.8 Hz, 1H), 2.51 (m, 2H) (CH_2SCH_2CH); 1.67 (m, 2H, $SiCH_2CH_2$); 1.26 (d, *J*=6.9 Hz, 3H, CH_3); 0.72 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 175.15 (C=O); 136.11, 128.67-128.23 (C_6H_5); 66.51 ($C(O)O\underline{C}H_2$); 50.83 ($Si(OCH_3)_3$); 40.48 ($CH_2SCH_2\underline{C}H$); 35.71, 35.66 (CH_2SCH_2); 23.10 ($SiCH_2\underline{C}H_2$); 16.94 (CH_3); 8.66 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.47 ($Si(OCH_3)_3$) ppm.

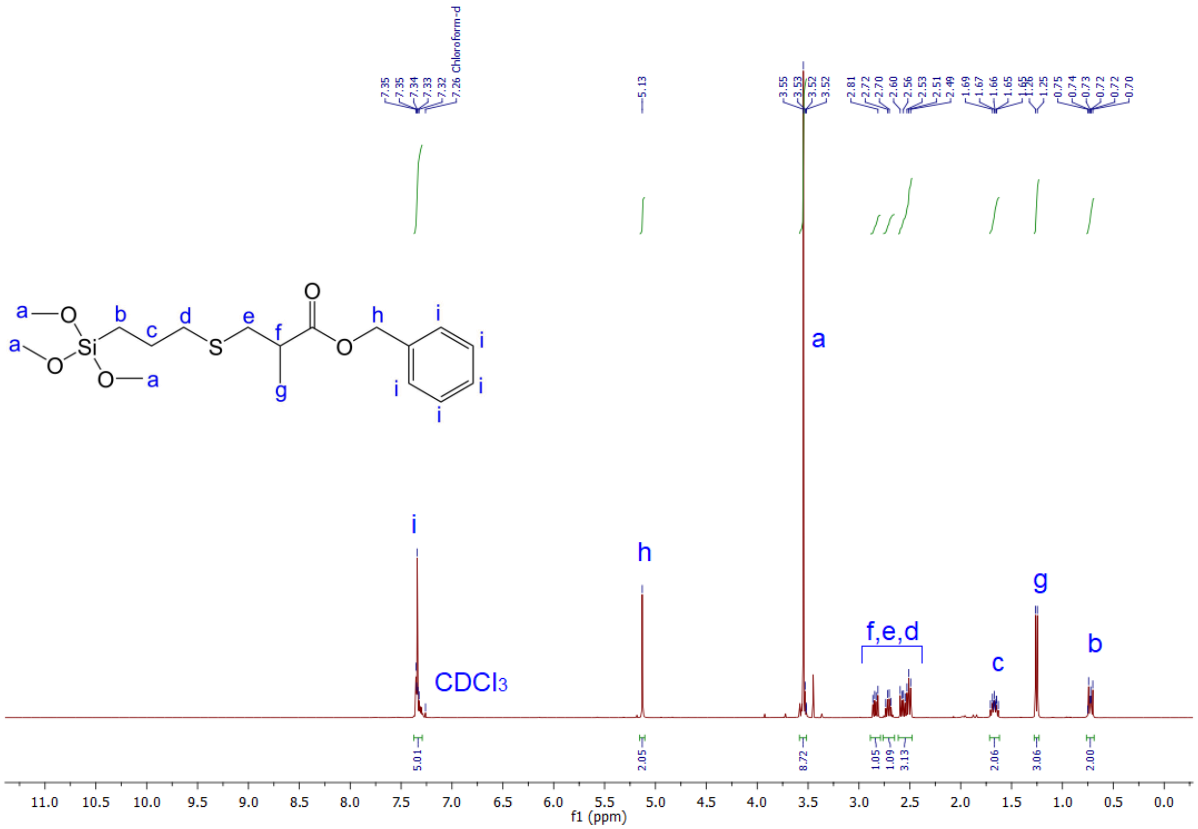


Figure 29. ^{1}H NMR spectrum of 3h.

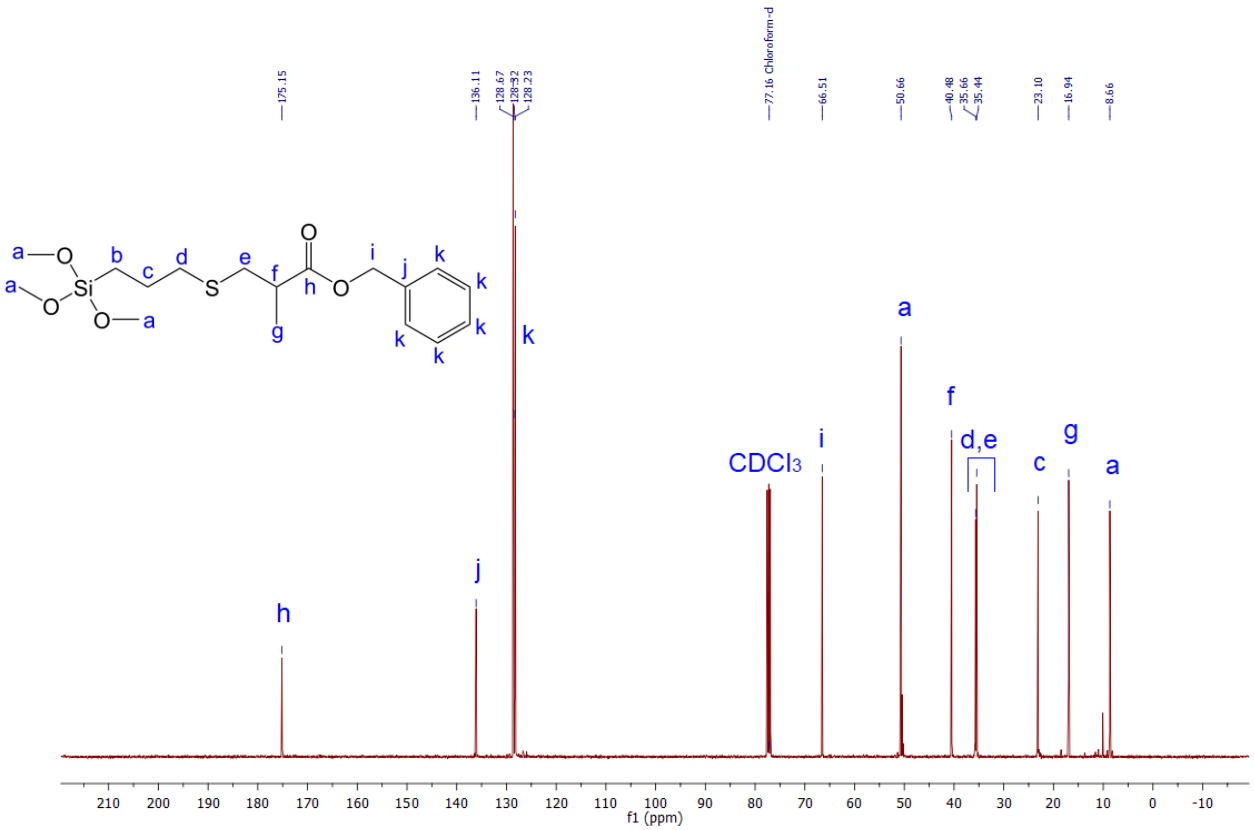


Figure 30. ^{13}C NMR spectrum of 3h.

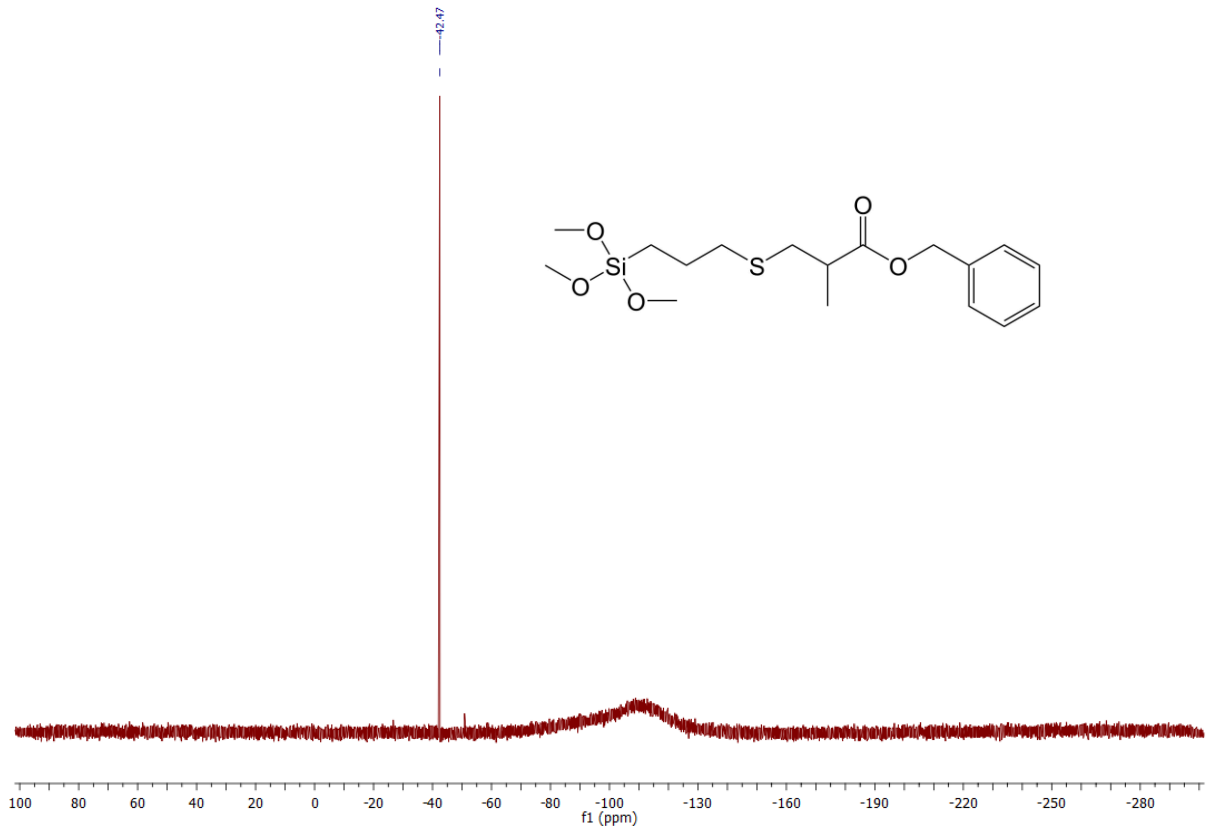


Figure 31. ^{29}Si NMR spectrum of 3h.

FT-IR spectrum

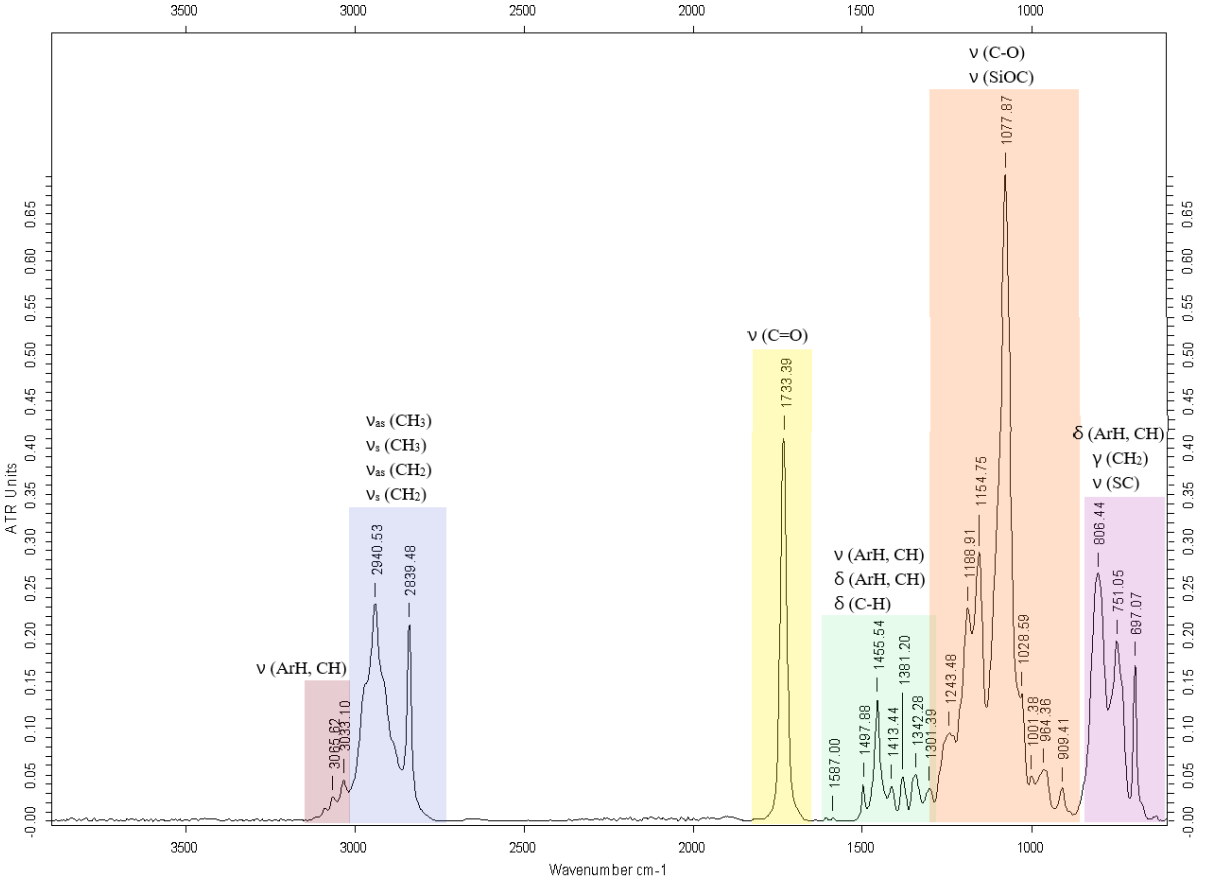
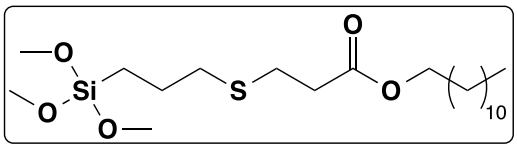


Figure 32. FT-IR spectrum of 3h.

3i



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 4.06 (t, *J*=6.7 Hz, 2H, $C(O)CH_2$); 3.55 (s, 9H, $Si(OCH_3)_3$); 2.75 (t, *J*=7.4 Hz, 2H), 2.55 (dt, *J*=14.9, 7.4 Hz, 4H) ($CH_2SCH_2CH_2$); 1.68 (m, 2H, $SiCH_2CH_2$); 1.60 (m, 2H, $C(O)CH_2C\underline{H}_2$); 1.33 – 1.24 (m, 18H, CH_2); 0.86 (t, *J*=6.7 Hz, 3H, CH_3); 0.73 (m, 2H, CH_2) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 172.17 (C=O); 64.96 ($C(O)O\underline{C}H_2$); 50.63 $Si(OCH_3)_3$); 35.08, 32.02, 29.74, 29.73, 29.68, 29.62, 29.45, 29.35, 28.70, 26.94, 26.01, 23.02, 22.79 (CH_2); 14.21 (CH_3), 8.64 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.49 ($Si(OCH_3)_3$) ppm

NMR spectra

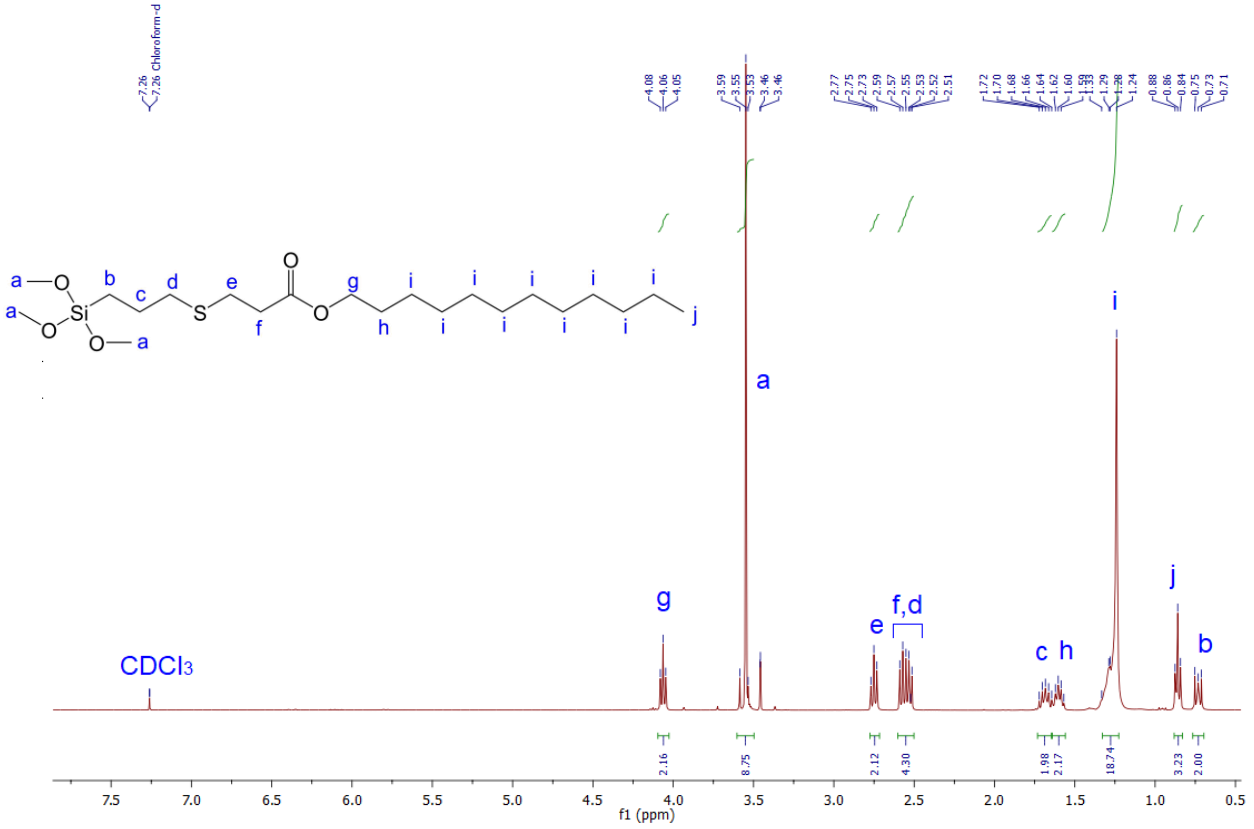


Figure 33. ^{1}H NMR spectrum of 3i.

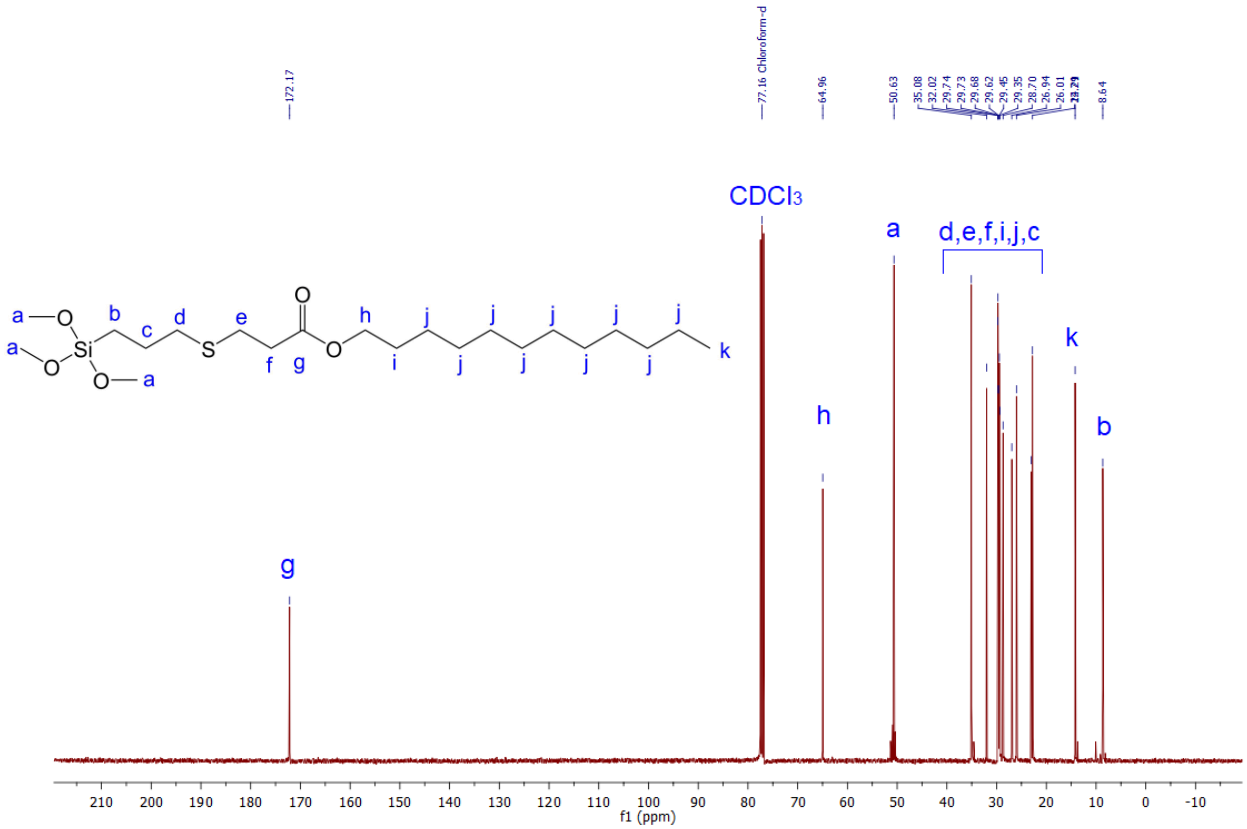


Figure 34. ^{13}C NMR spectrum of 3i.

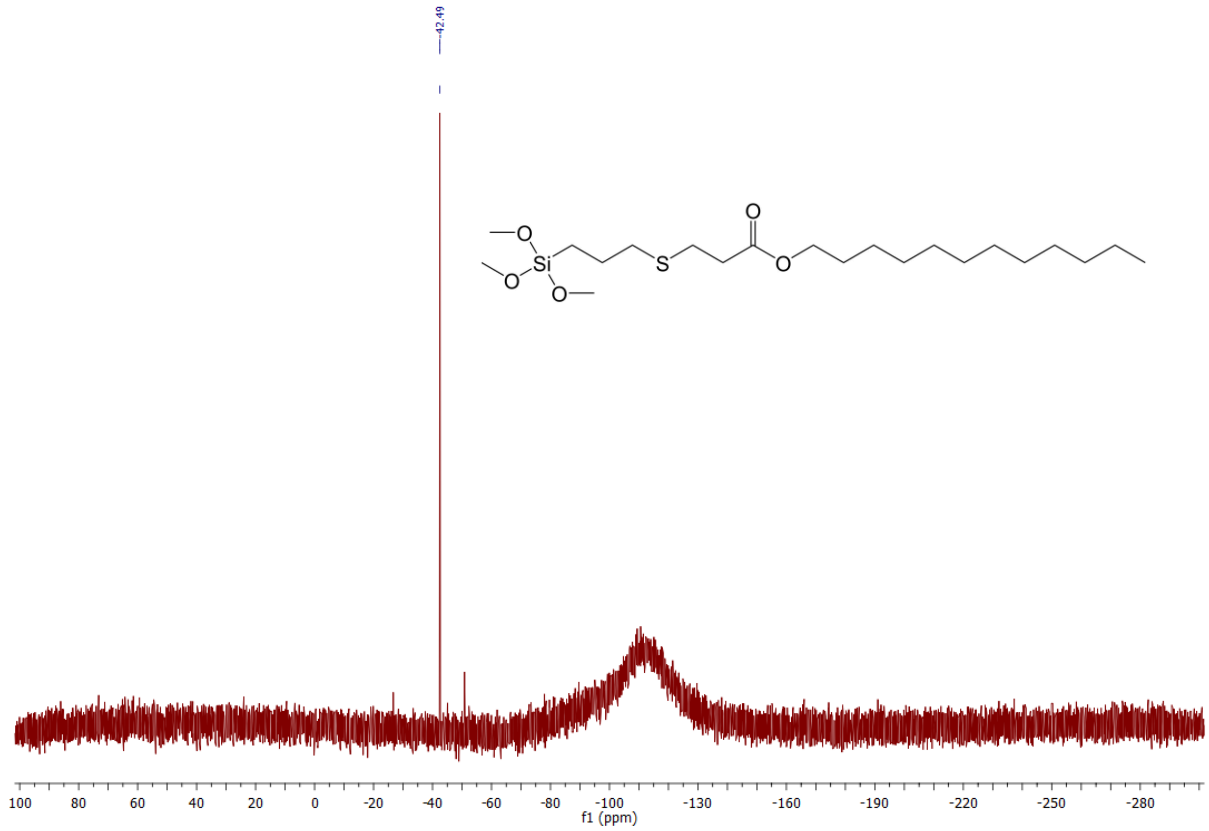


Figure 35. ^{29}Si NMR spectrum of 3i.

FT-IR spectrum

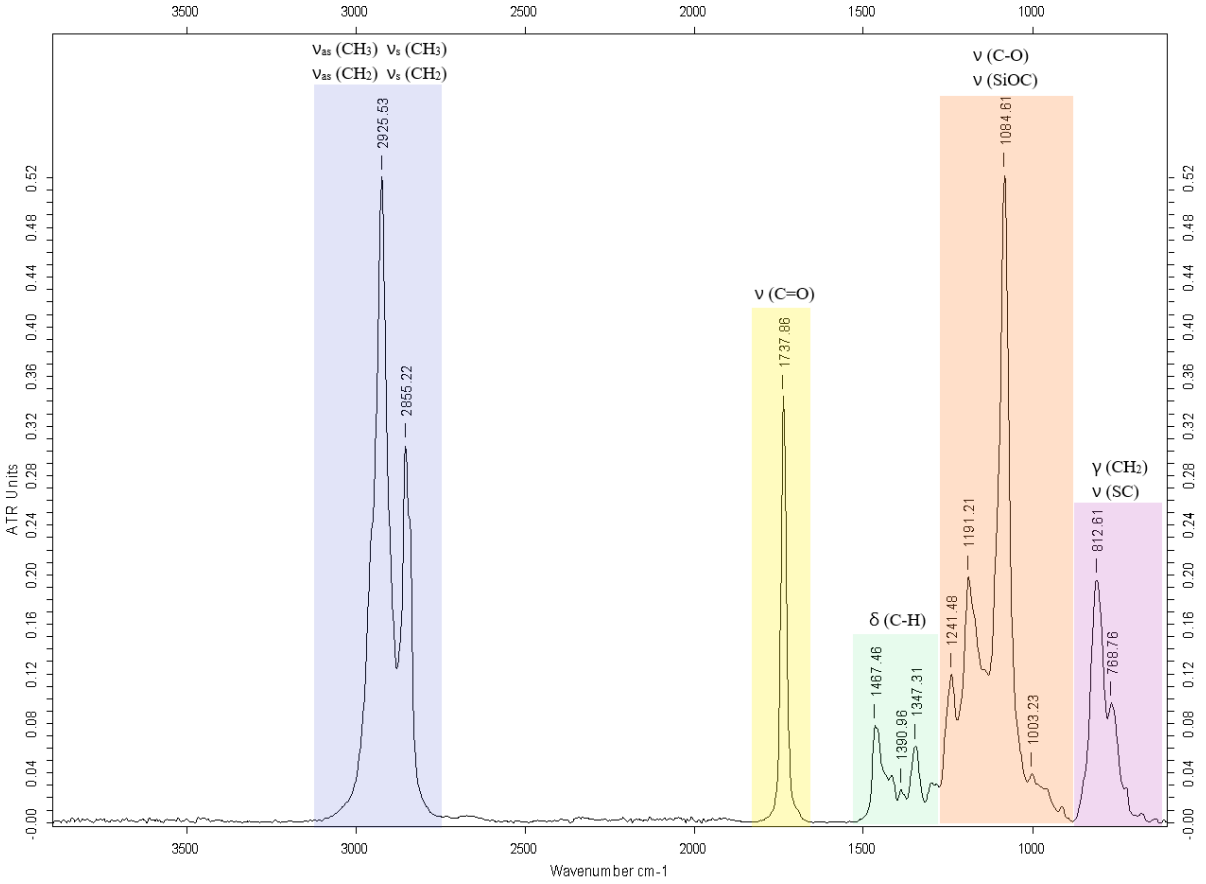
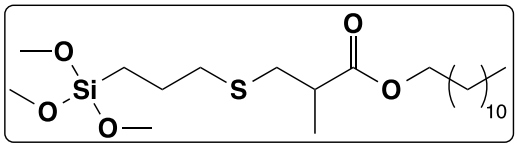


Figure 36. FT-IR spectrum of 3i.

3j



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 4.06 (tt, *J*=6.7, 1.3 Hz, 2H, $C(O)OCH_2$); 3.54 (m, 9H, $(Si(OCH_3)_3)$; 2.80 (ddt, *J*=12.7, 7.0, 1.4 Hz, 1H), 2.62 (m, 1H), 2.52 (m, 3H) (CH_2SCH_2CH); 1.74 – 1.64 (m, 2H, $SiCH_2CH_2$); 1.64 – 1.55 (m, 2H, $C(O)OCH_2C\underline{H}_2$); 1.32 – 1.21 (m, 21H, CH_2, CH_3); 0.85 (m, 3H, $CHC\underline{H}_3$); 0.72 (m, 2H, $SiCH_2$) ppm.

^{13}C NMR (101 MHz, $CDCl_3$) δ 175.02 (C=O); 64.50 ($C(O)O\underline{C}H_2$); 50.28 ($Si(OCH_3)_3$); 40.10, 35.28, 35.10, 31.67, 29.40, 29.39, 29.34, 29.28, 29.11, 29.00, 28.38, 25.66, 22.74, 22.45 (CH_2); 16.62 ($CH\underline{C}H_3$); 13.87 (CH_3); 8.30 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.47 ($Si(OCH_3)_3$) ppm.

NMR spectra

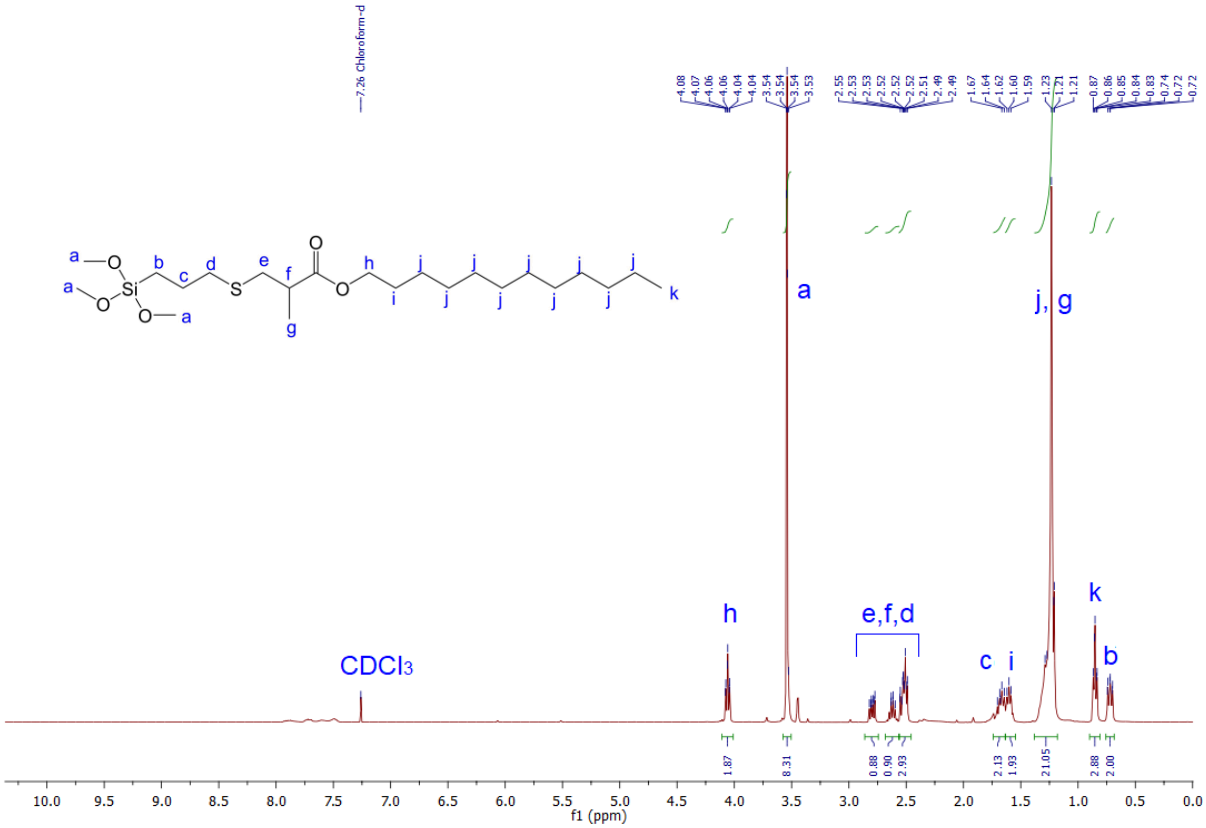


Figure 37. ^{1}H NMR spectrum of 3j.

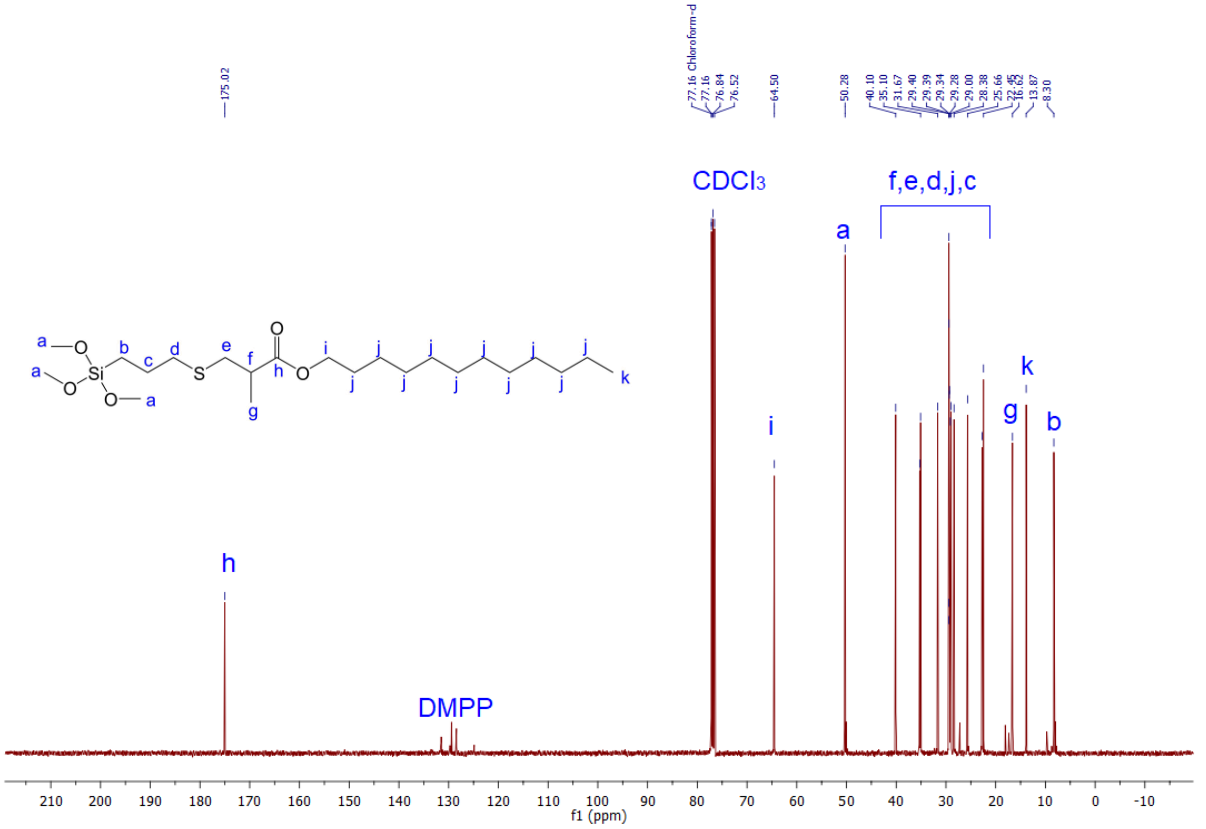


Figure 38. ^{13}C NMR spectrum of 3j.

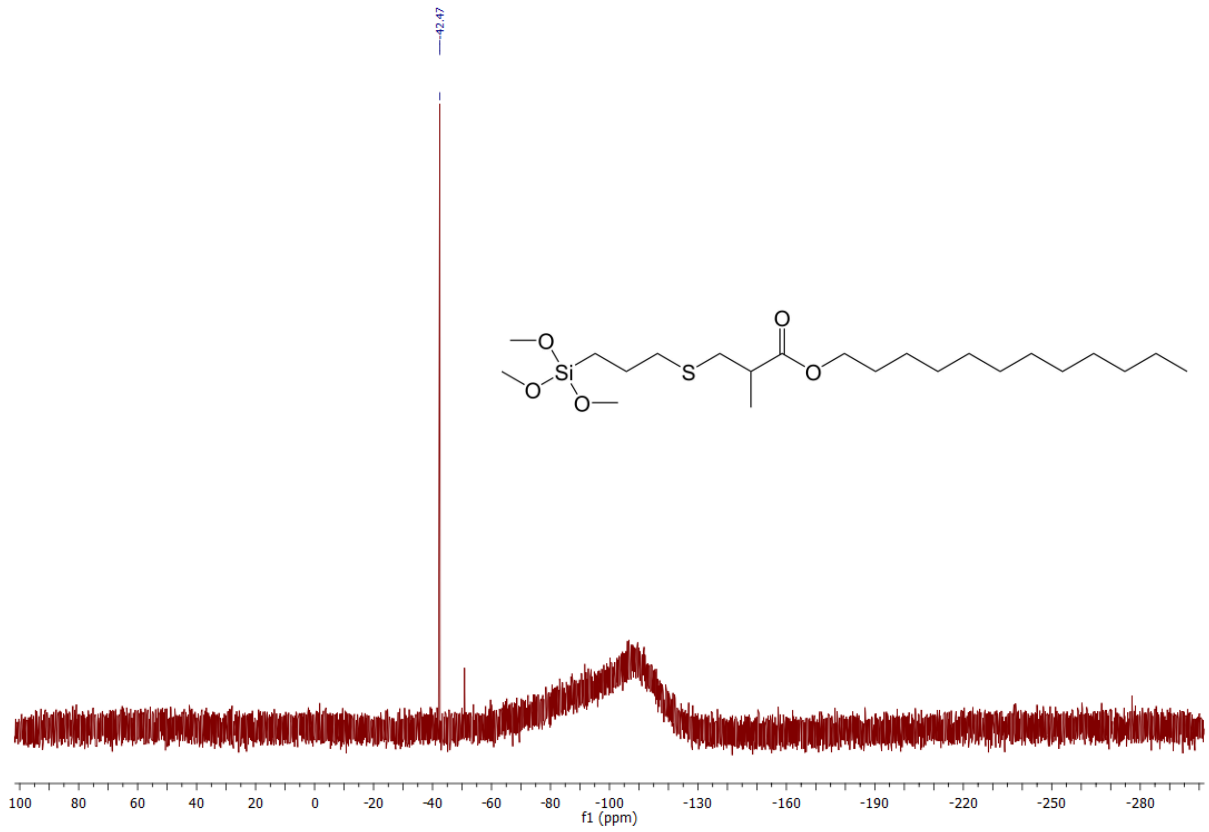


Figure 39. ^{29}Si NMR spectrum of 3j.

FT-IR spectrum

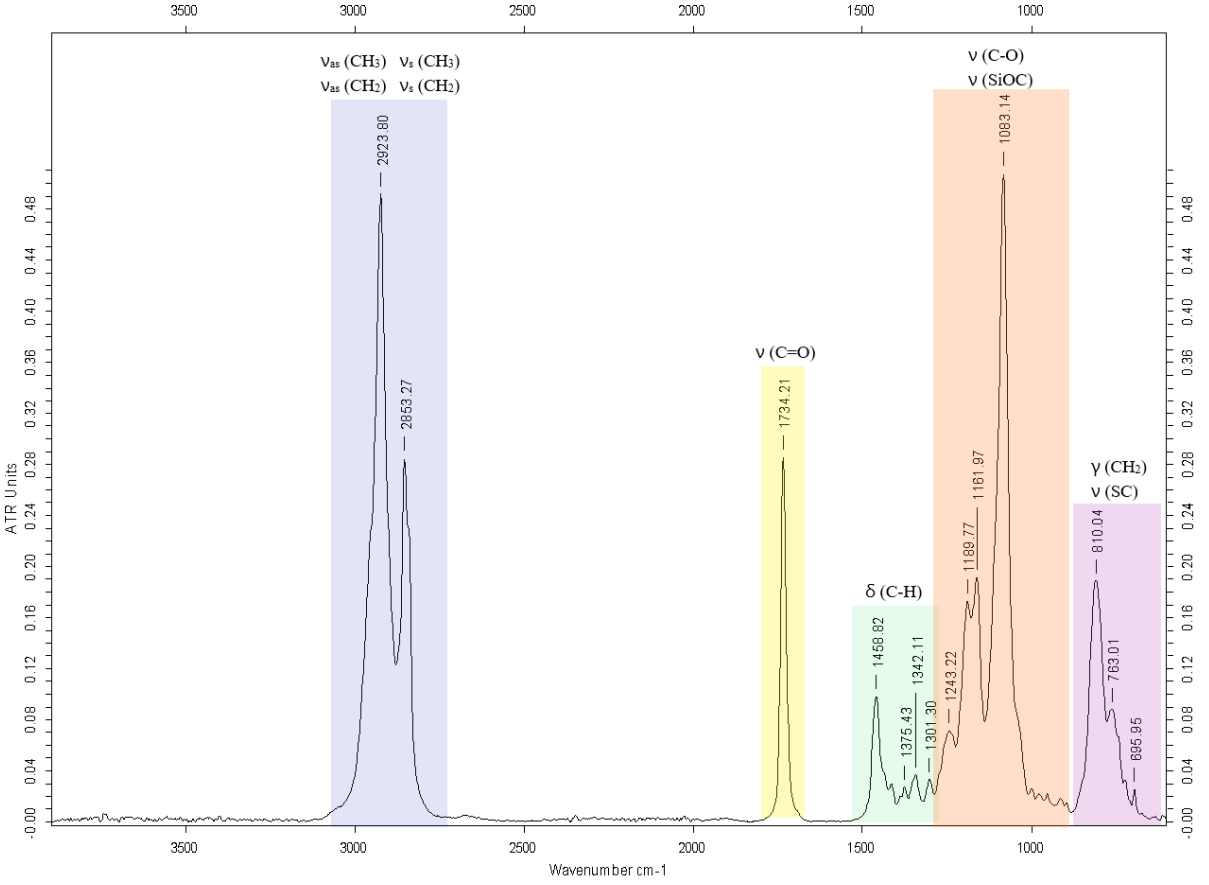
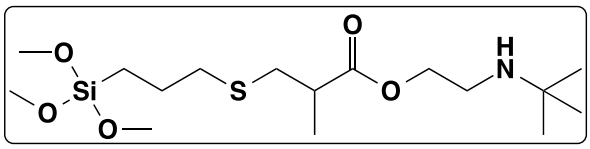


Figure 40. FT-IR spectrum of 3j.

3k



Product characterization

^{1}H NMR (600 MHz, $CDCl_3$) δ 4.16 (dq, *J*=13.0, 5.4 Hz, 2H, $C(O)OCH_2$); 3.51 (s, 9H, $Si(OCH_3)_3$); 2.78 – 2.74 (m, 3H), 2.63 (sext, *J*=7.0 Hz, 1H), 2.54-2.47 (m, 3H) (CH_2); 1.63 (m, 2H, $SiCH_2CH_2$); 1.20 (d, *J*=7.0 Hz, 3H, CH_3); 1.06 (s, 9H, CH_3); 0.69 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (151 MHz, $CDCl_3$) δ 174.87 (C=O); 64.96 ($C(O)OCH_2$); 50.34 ($Si(OCH_3)_3$); 41.10 (CH_2NH); 40.07, 35.36, 35.18 (CH_2SCH_2); 28.74 ($(CH_3)_3$); 22.80 ($SiCH_2\underline{C}H_2$); 16.77 ($CH\underline{C}H_3$); 8.38 ($SiCH_2$) ppm. **^{29}Si NMR** (119 MHz,$CDCl_3$) δ -42.55 ($Si(OCH_3)_3$) ppm.

NMR spectra

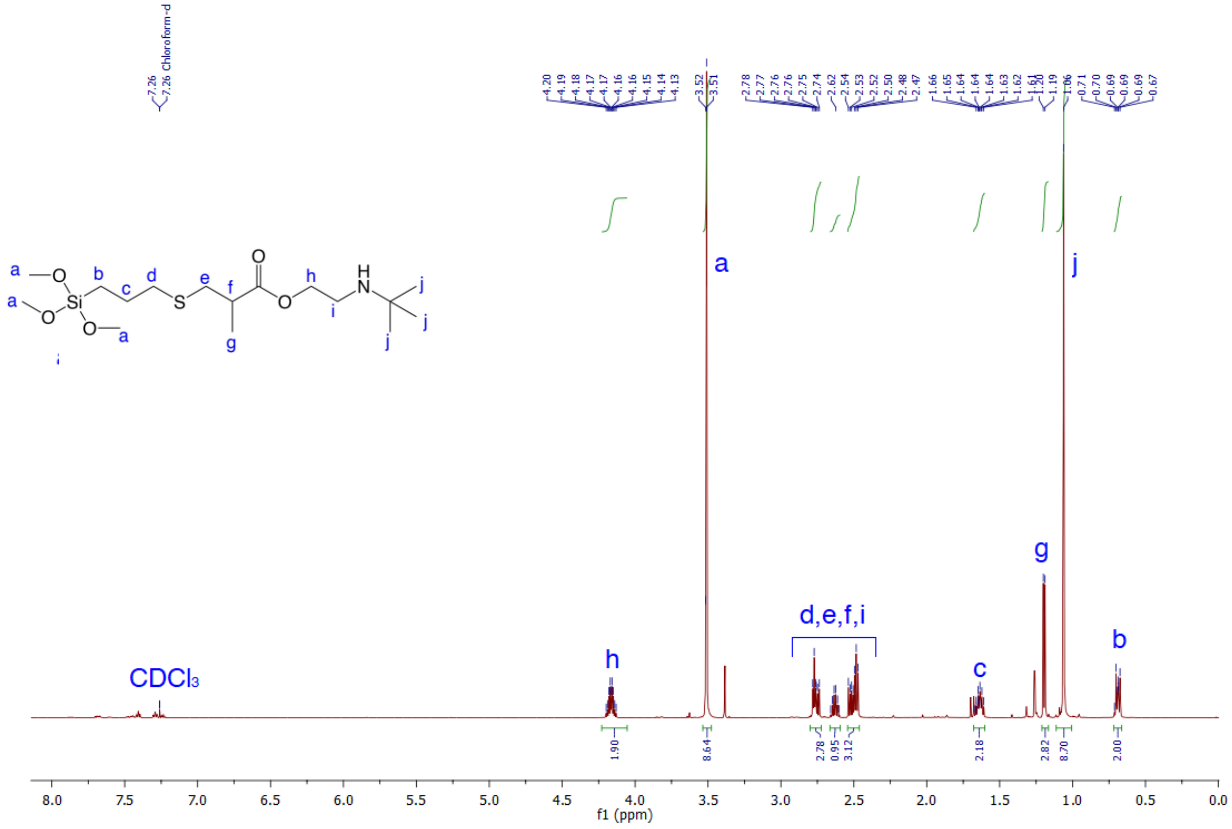


Figure 41. ^{1}H NMR spectrum of 3k.

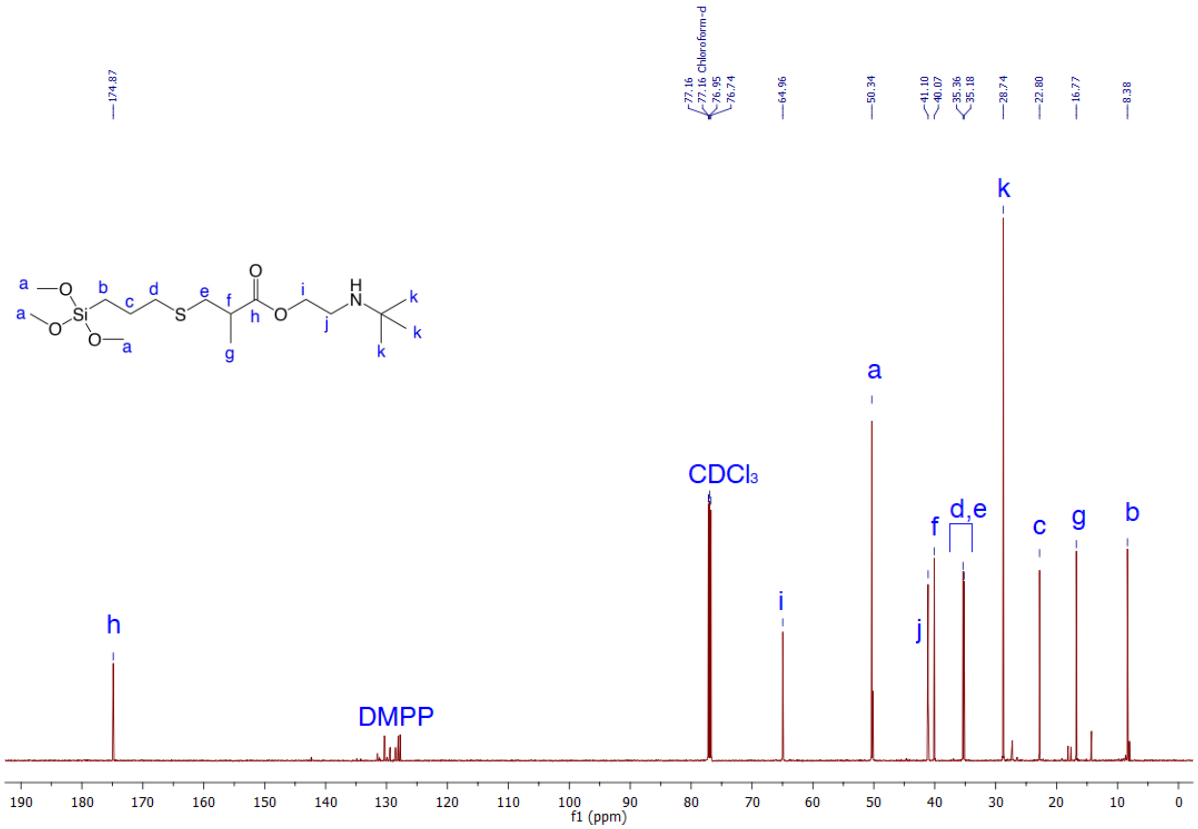


Figure 42. ^{13}C NMR spectrum of 3k.

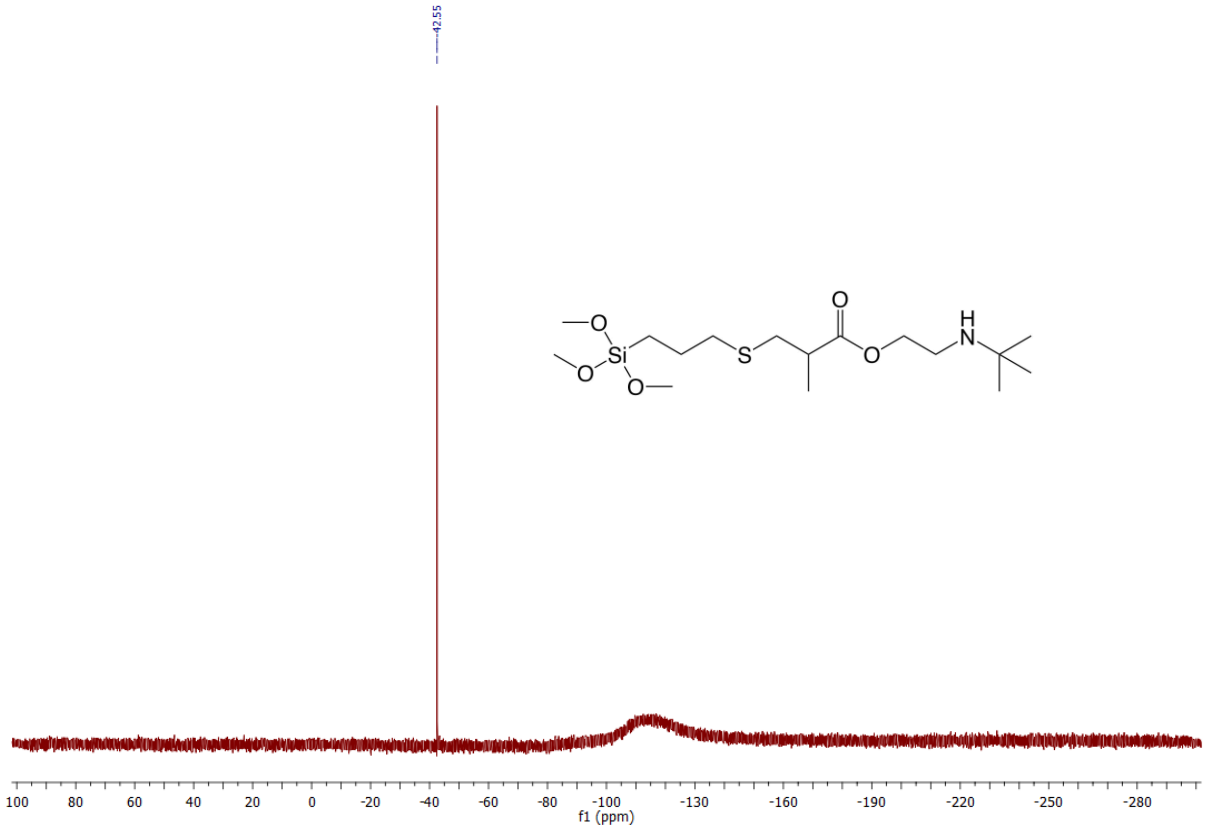


Figure 43. ^{29}Si NMR spectrum of 3k.

FT-IR spectrum

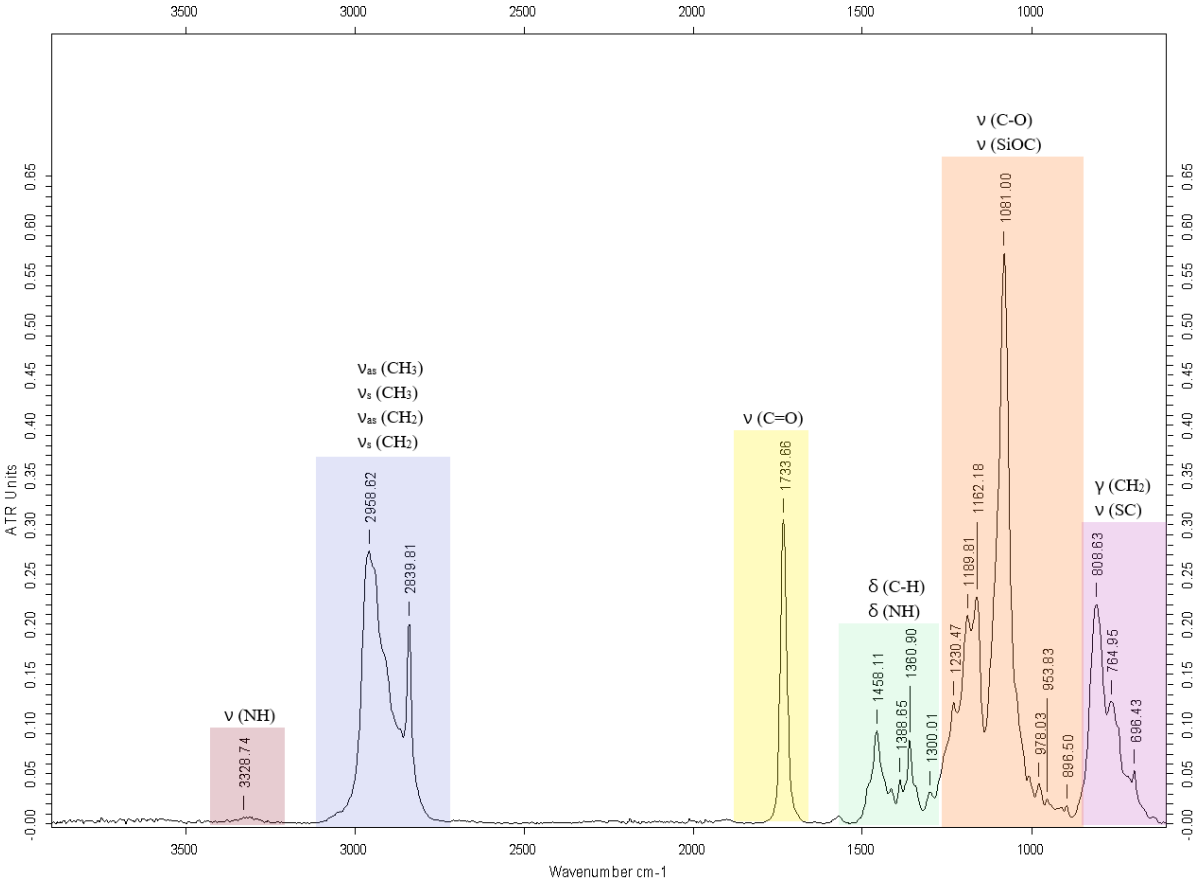
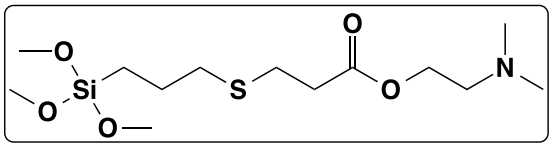


Figure 44. FT-IR NMR spectrum of 3k.

3l



Product characterization

H NMR (400 MHz, $CDCl_3$) δ 4.13 (t, *J*=5.7 Hz, 2H, $C(O)OCH_2$); 3.48 (s, 9H, $Si(OCH_3)_3$); 2.69 (m, 2H), 2.54 (m, 4H), 2.47 (m, 2H) ($CH_2SCH_2CH_2$, $C\underline{H}_2N(CH_3)_2$); 2.22 (s, 6H, $N(CH_3)_2$); 1.61 (m, 2H, $SiCH_2CH_2$); 0.66 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 172.82 (C=O); 62.04 ($C(O)OCH_2$); 57.51 ($\underline{C}H_2N(CH_3)_2$); 50.34 ($Si(OCH_3)_3$); 45.41 ($N(CH_3)_2$); 34.78, 34.67 ($CH_2SCH_2$); 26.56 ($CH_2SCH_2\underline{C}H_2$); 22.72 ($SiCH_2CH_2$); 8.36 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.56 ($Si(OCH_3)_3$) ppm.

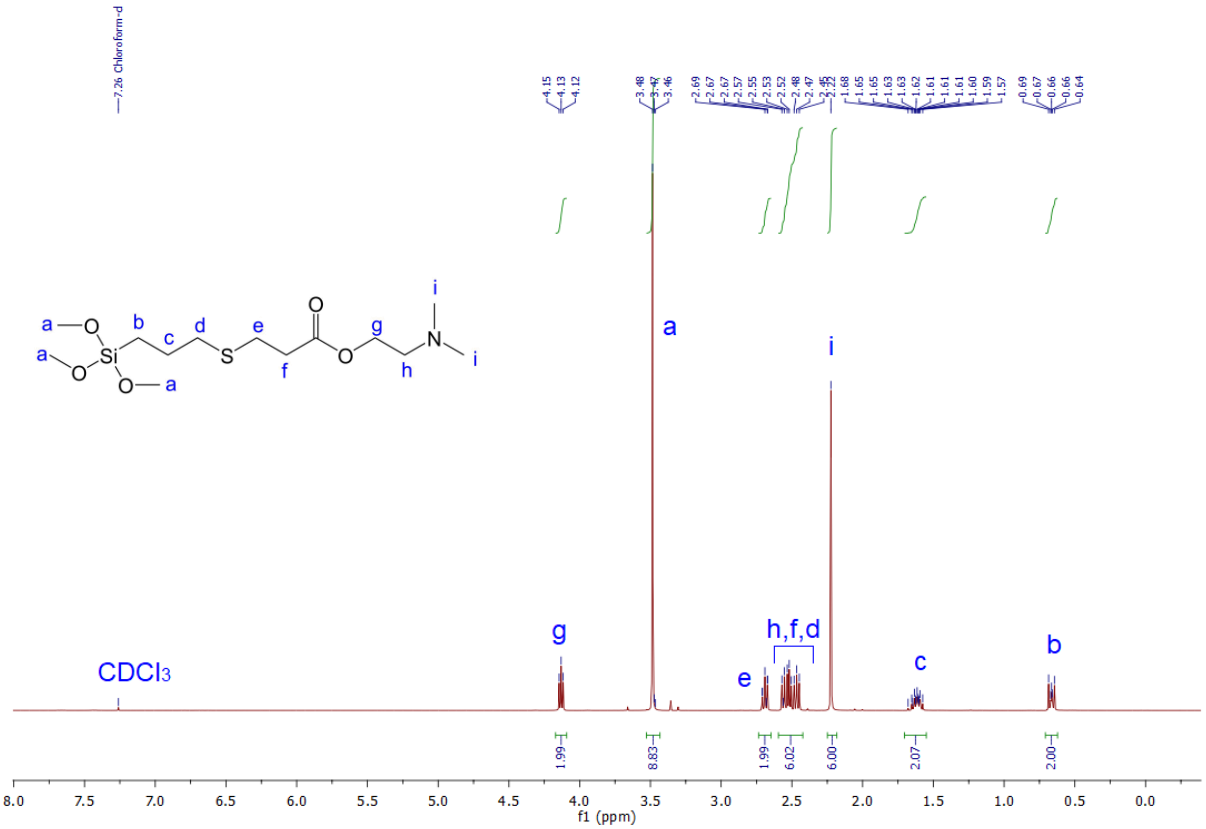


Figure 45. ^{1}H NMR spectrum of 3l.

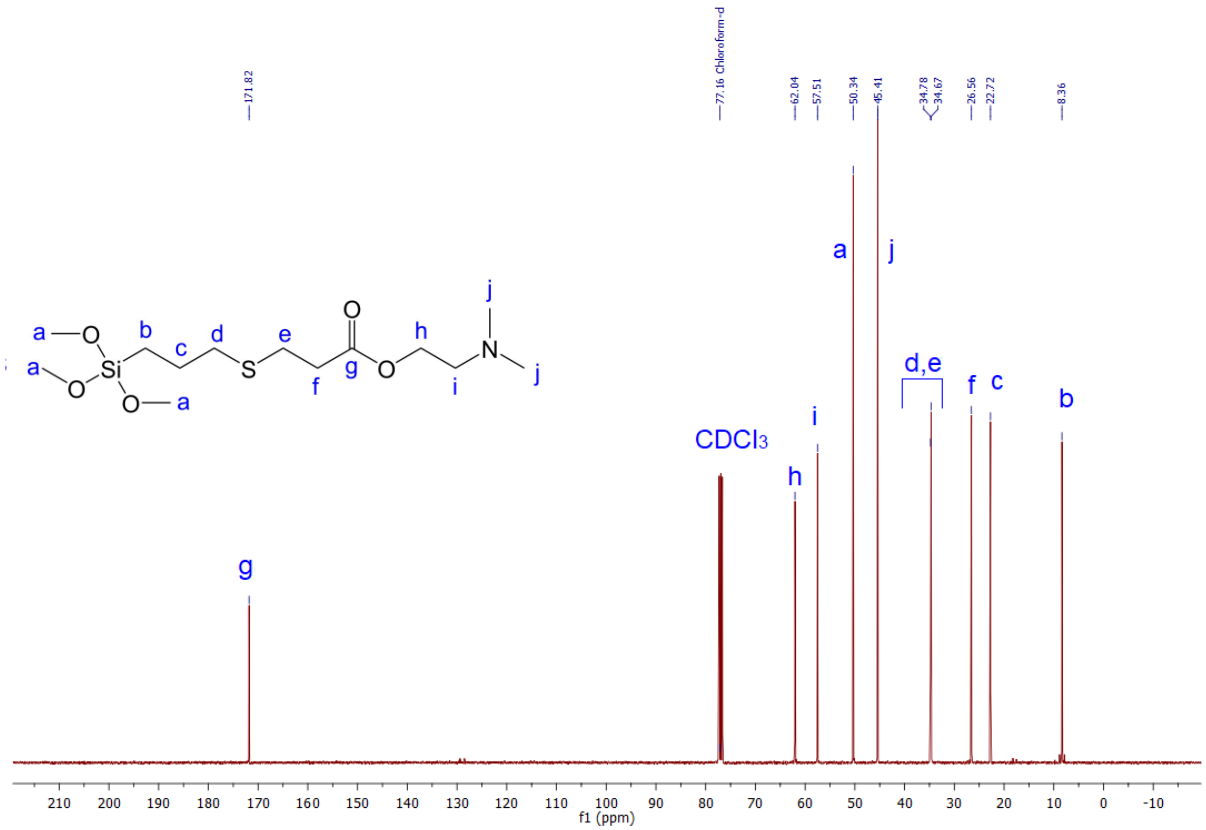


Figure 46. ^{13}C NMR spectrum of 3l.

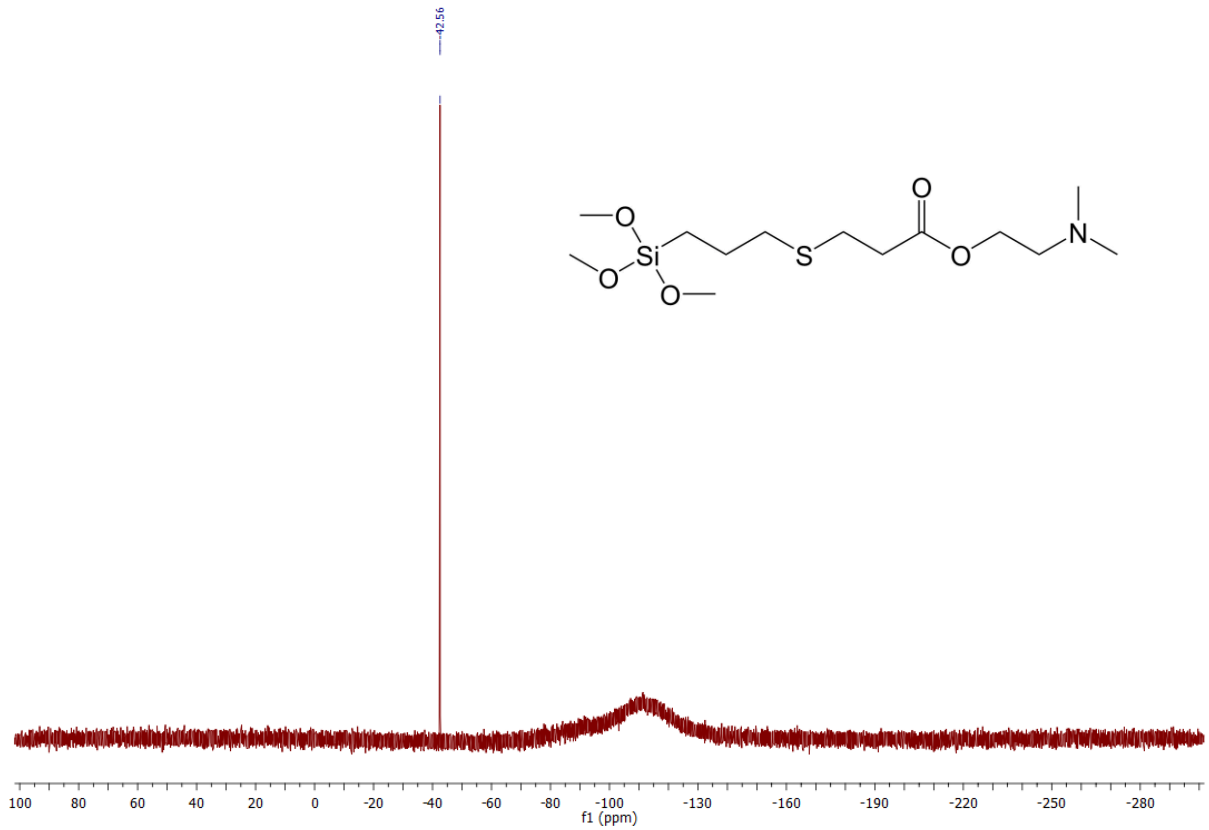


Figure 47. ^{29}Si NMR spectrum of 3l.

FT-IR spectrum

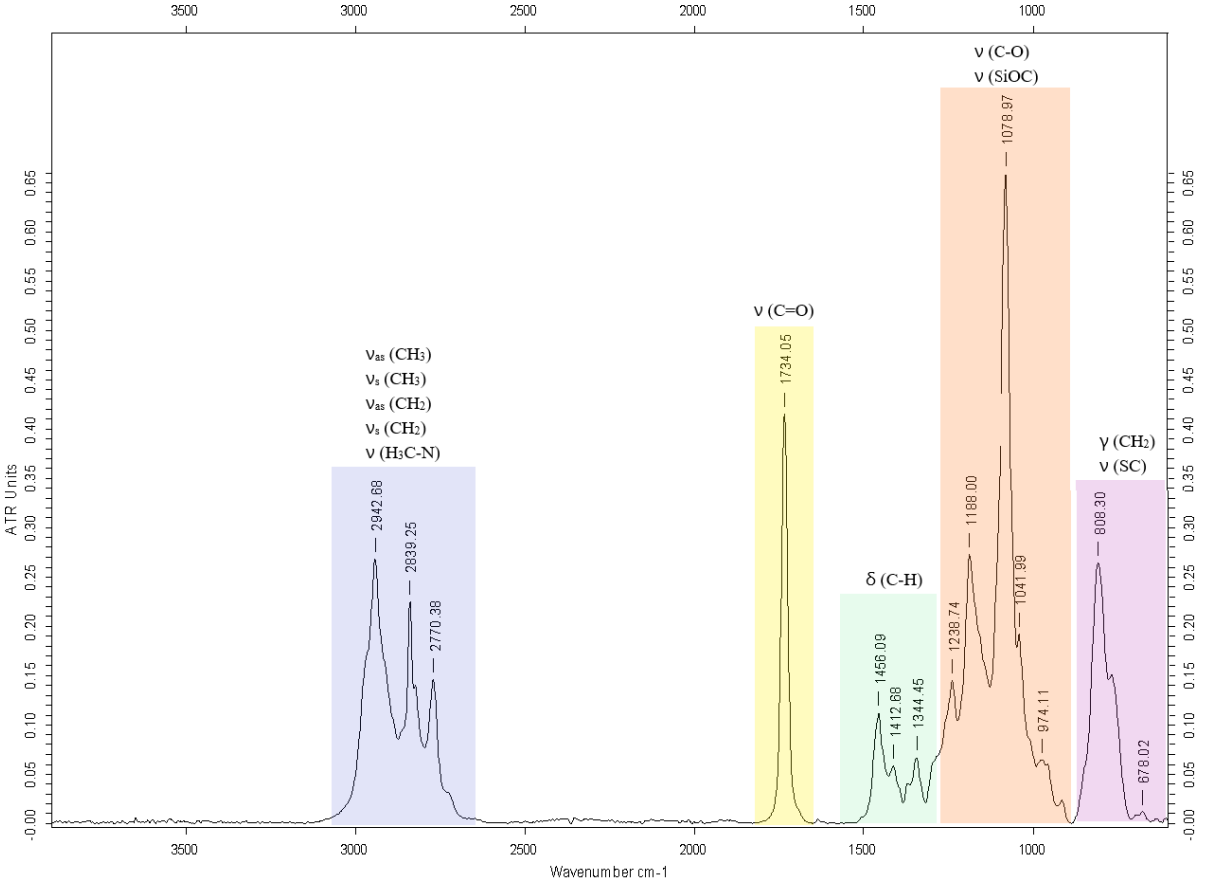
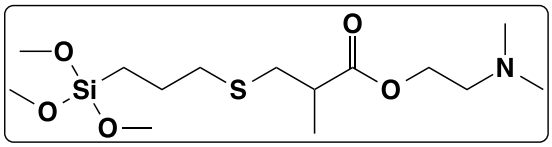


Figure 48. FT-IR NMR spectrum of 3l.

3m



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 4.15 (t, *J*=5.8 Hz, 2H, $C(O)OCH_2$); 3.50 (s, 9H, $Si(OCH_3)_3$); 2.75 (dd, *J*=12.7, 7.1 Hz, 1H), 2.62 (sext, *J*=6.9 Hz, 1H), 2.55-2.44 (m, 5H) (CH_2SCH_2CH, $CH_2N(CH_3)_2$); 2.23 (s, 6H, $N(CH_3)_2$); 1.62 (m, 2H, $SiCH_2CH_2$); 1.18 (d, *J*=6.9 Hz, 3H, CH_3); 0.67 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 175.20 (C=O); 62.37 ($C(O)OCH_2$); 57.71 ($CH_2N(CH_3)_2$); 50.54 ($Si(OCH_3)_3$); 45.67 ($N(CH_3)_2$); 40.17 (CH_2SCH_2CH); 35.53, 35.32 (CH_2SCH_2); 22.99 ($SiCH_2CH_2$); 16.84 (CH_3); 8.57 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.53 ($Si(OCH_3)_3$) ppm.

NMR spectra

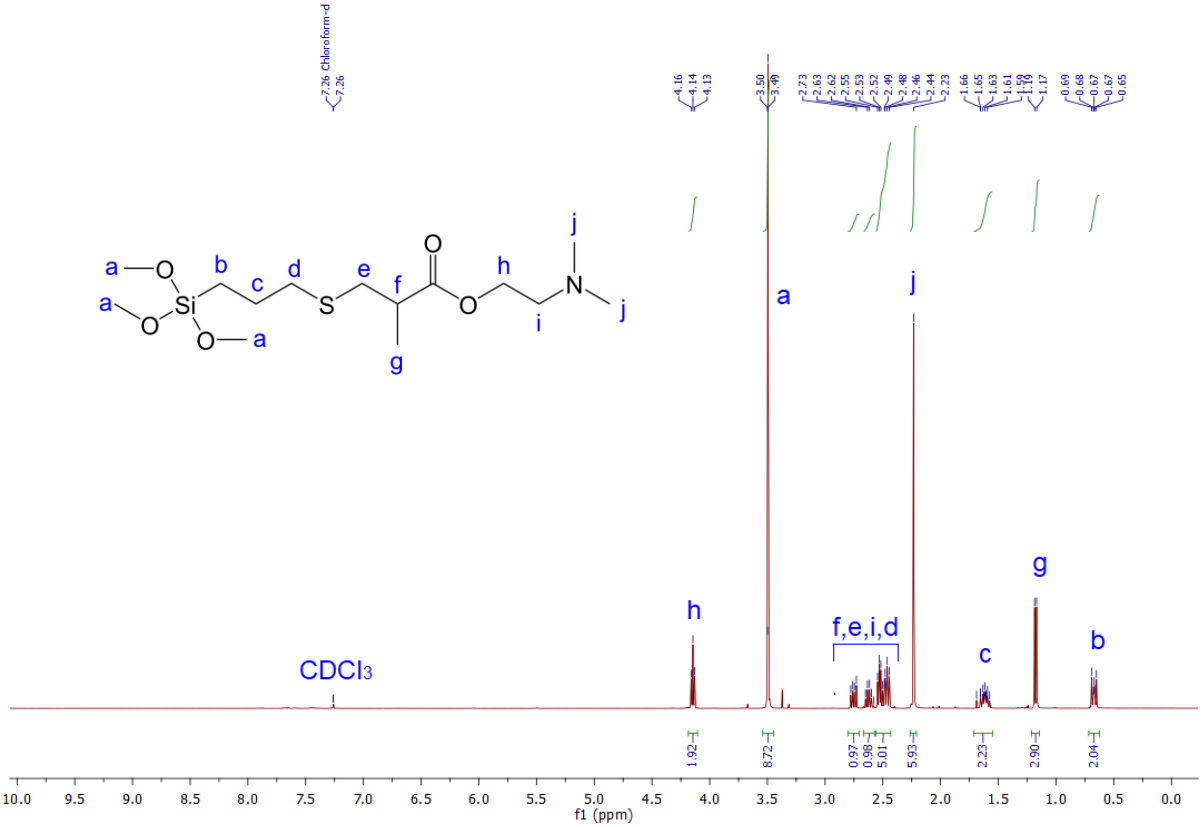


Figure 49. ^{1}H NMR spectrum of 3m.

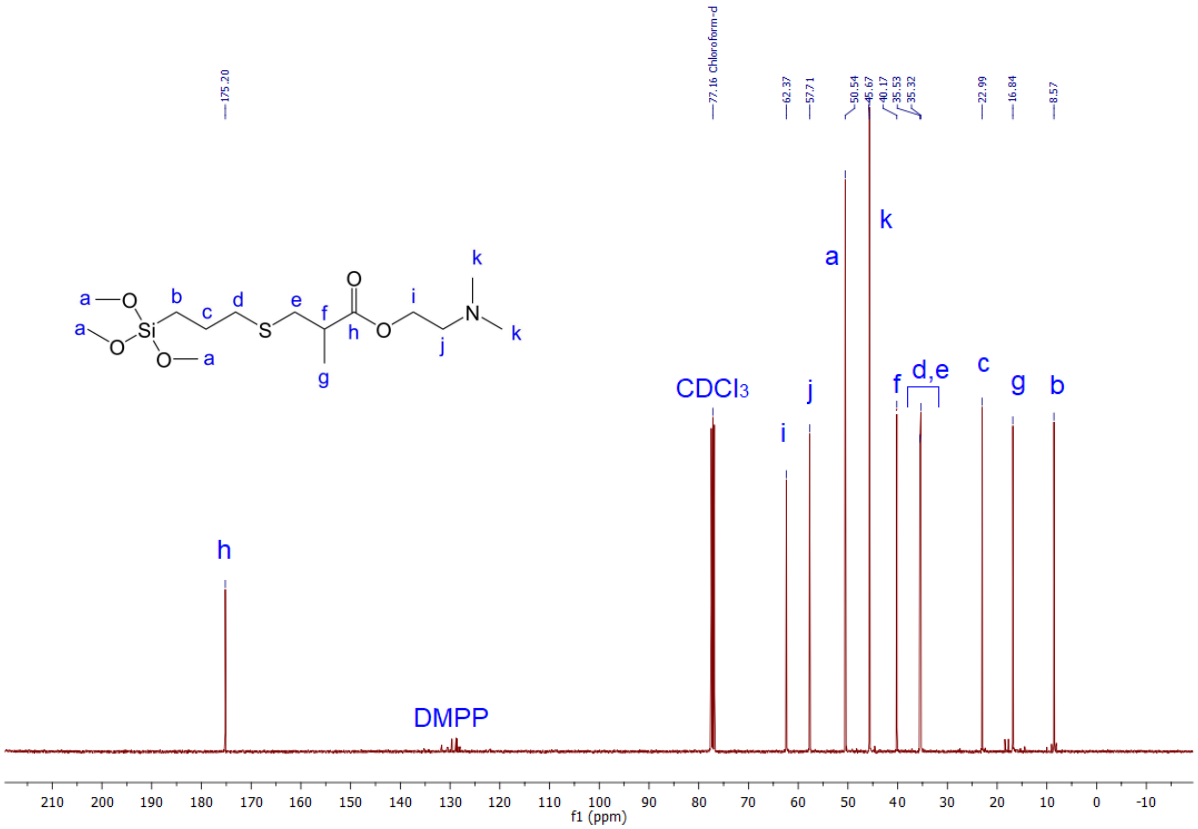


Figure 50. ^{13}C NMR spectrum of 3m.

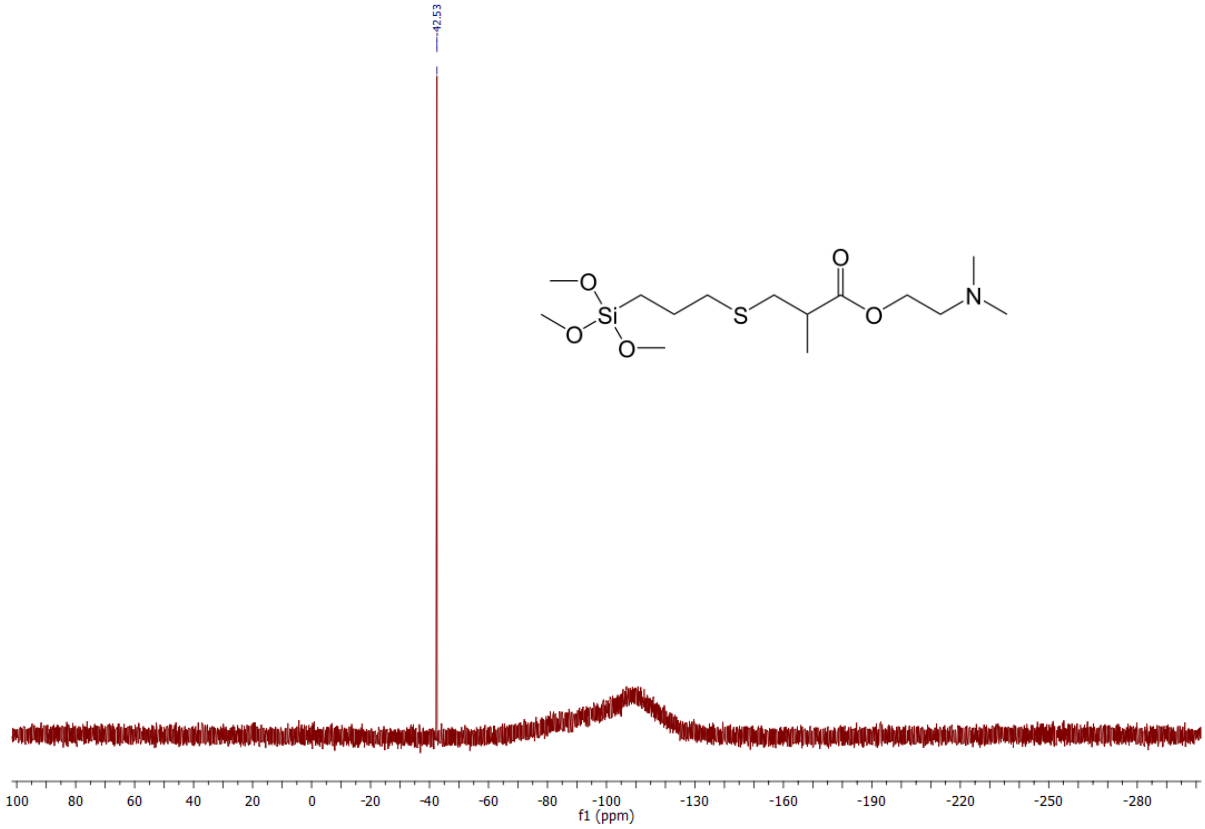


Figure 51. ^{29}Si NMR spectrum of 3m.

FT-IR spectrum

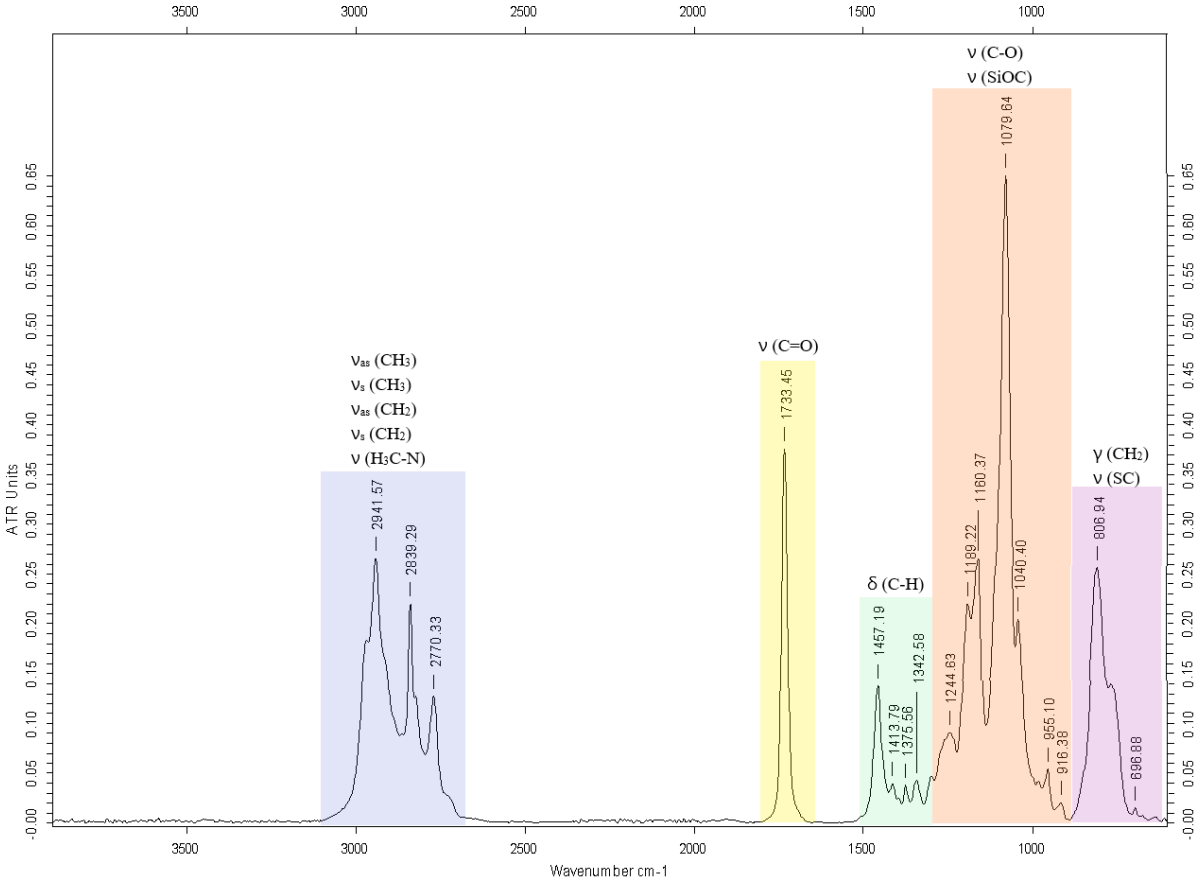
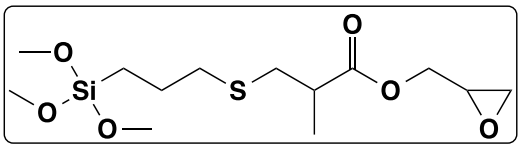


Figure 52. FT-IR NMR spectrum of 3m.

3n



Product characterization

^{1}H NMR (600 MHz, $CDCl_3$) δ 4.38 (dt, *J*=12.3, 3.2 Hz, 1H, C(O)CH_2CHC$\underline{H}_2$); 3.90 (ddd, *J*=16.0, 12.3, 6.2 Hz, 1H, C(O)CH_2CHC$\underline{H}_2$); 3.51 (s, 9H, (Si$(OCH_3)_3$); 3.16 (m, 1H, $CH_2C\underline{H}CH_2$); 2.80-2.76 (m, 2H), 2.67 (m, 1H), 2.61 (m, 1H), 2.53 (m, 1H), 2.49 (m, 2H) ($C\underline{H}_2SC\underline{H}_2C\underline{H}$, CHO$C\underline{H}_2$); 1.63 (m, 2H, Si$CH_2C\underline{H}_2$); 1.21 (dd, *J*=7.0, 1.6 Hz, 3H, CH_3); 0.69 (m, 2H, SiCH_2) ppm. **^{13}C NMR** (151 MHz, $CDCl_3$) δ 174.88 (C=O); 65.03 (d) (C(O)CH_2); 50.54 (Si$(OCH_3)_3$); 49.34 (d) (C(O)O$CH_2C\underline{H}$); 44.62 (d) (C(O)O$CH_2CH\underline{C}H_2$); 40.22 (d) ($CH_2SCH_2\underline{C}H$); 35.55, 35.27 (d) (CH_2SCH_2); 23.01 (Si$CH_2\underline{C}H_2$); 16.83 (d) (CH_3); 8.55 (SiCH_2) ppm. **^{29}Si NMR** (119 MHz, $CDCl_3$) δ -42.51 Si$(OCH_3)_3$) ppm.

NMR spectra

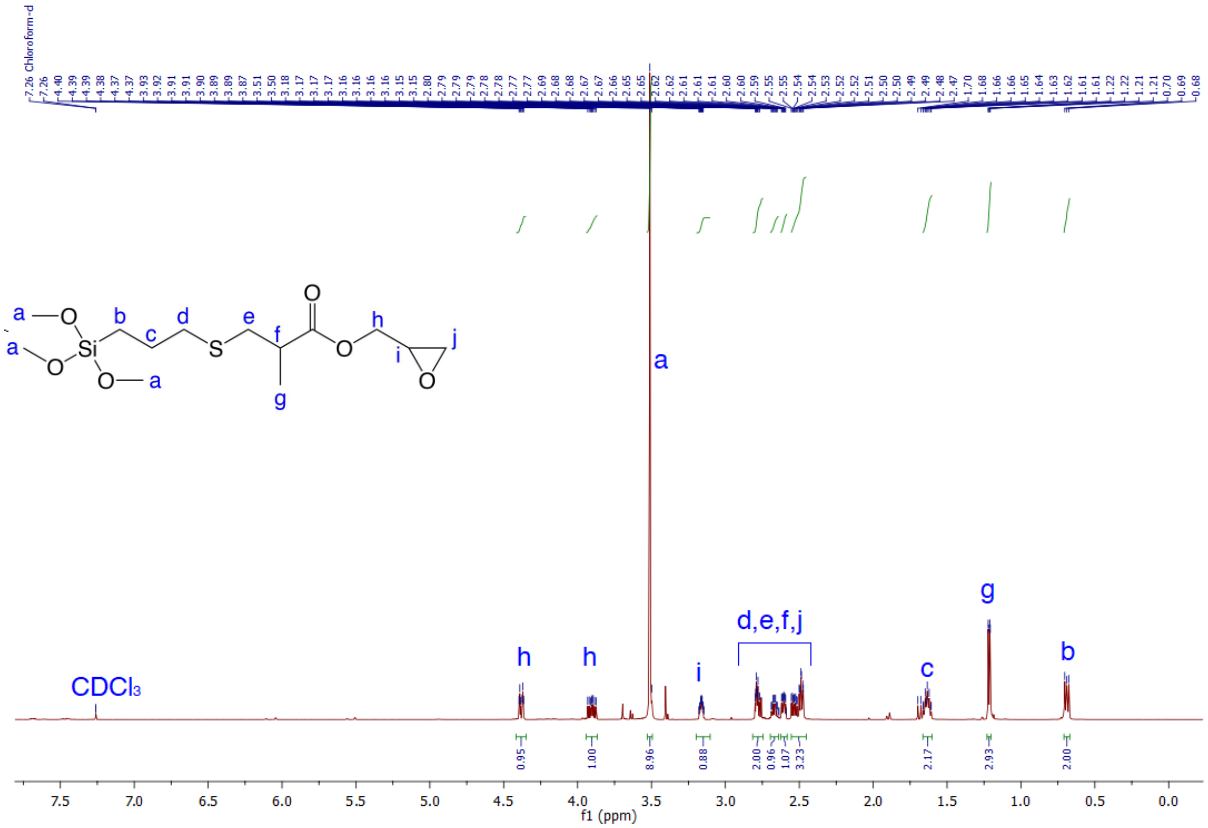


Figure 53. ^{1}H NMR spectrum of 3n.

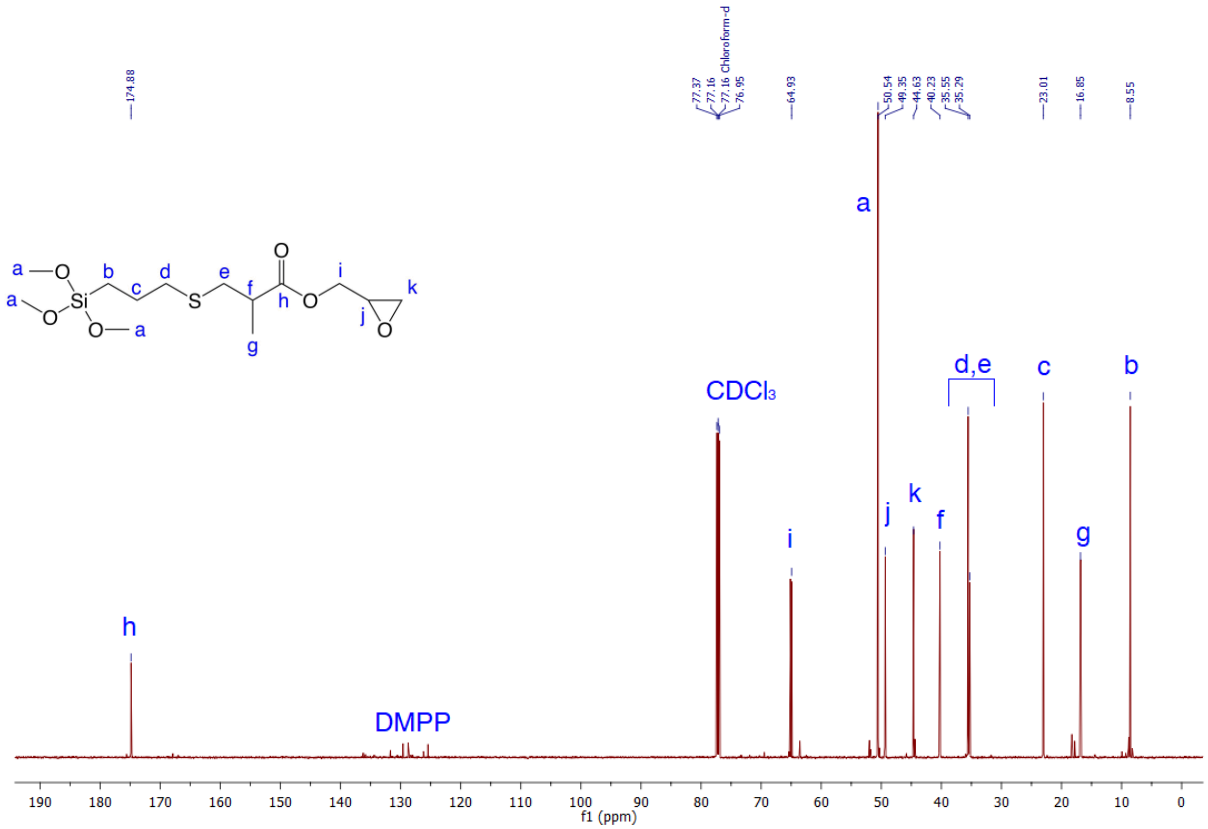


Figure 54. ^{13}C NMR spectrum of 3n.

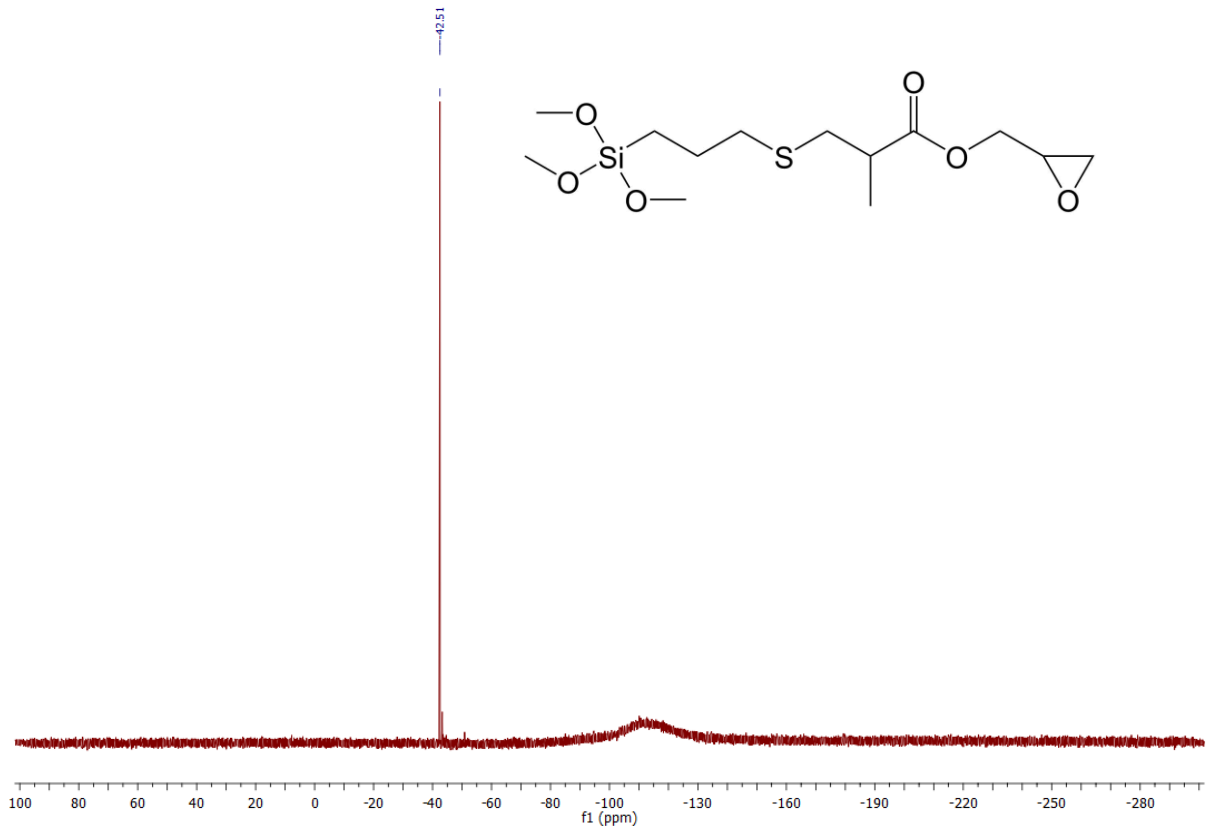


Figure 55. ^{29}Si NMR spectrum of 3n.

FT-IR spectrum

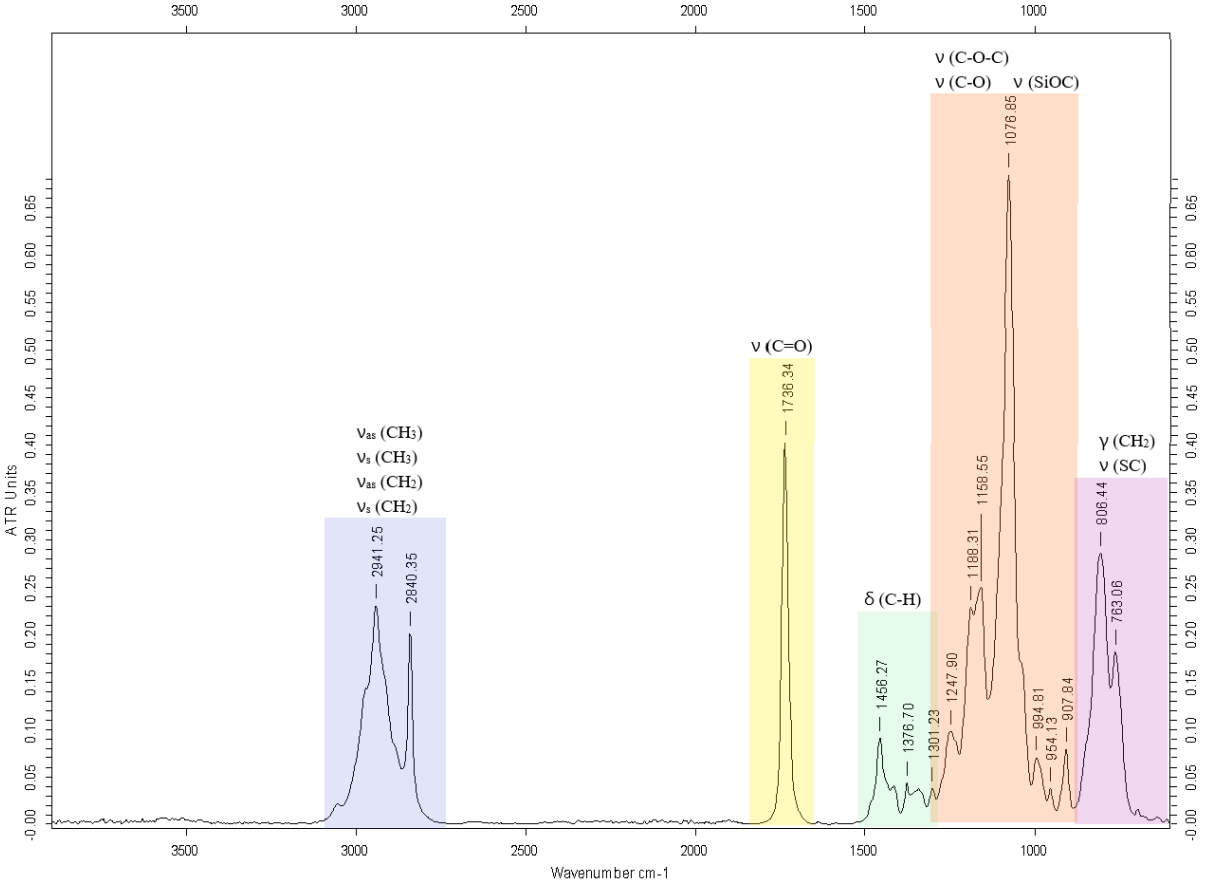
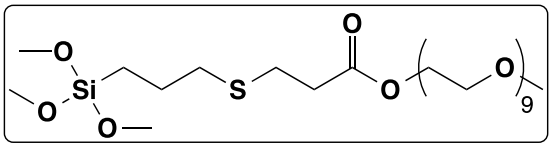


Figure 56. FT-IR NMR spectrum of 3n.

3o



Product characterization

^{1}H NMR (400 MHz, $CDCl_3$) δ 4.19 (m, 2H, $(O)OCH_2$); 3.64 (m, 2H, $C(O)CH_2CH_2$); 3.61 – 3.56 (m, 32H, CH_2); 3.51 (s, 9H, $(Si(OCH_3)_3$); 3.32 (s, 3H, CH_3); 2.71 (m, 2H), 2.57 (m, 2H), 2.48 (m, 2H) ($CH_2SCH_2CH_2$); 1.64 (m, 2H, $SiCH_2CH_2$); 0.69 (m, 2H, $SiCH_2$) ppm. **^{13}C NMR** (101 MHz, $CDCl_3$) δ 172.05 (C=O); 72.05 ($C(O)CH_2CH_2$); 70.69 (CH_2); 69.19 (CH_2); 63.89 ($C(O)CH_2$); 59.13 (CH_3); 50.65 ($Si(OCH_3)_3$); 35.12, 35.08 (CH_2SCH_2); 26.83 ($CH_2SCH_2CH_2$); 23.02 ($SiCH_2CH_2$); 8.65 ($SiCH_2$) ppm. **^{29}Si NMR** (79 MHz, $CDCl_3$) δ -42.55 ($Si(OCH_3)_3$) ppm.

NMR spectra

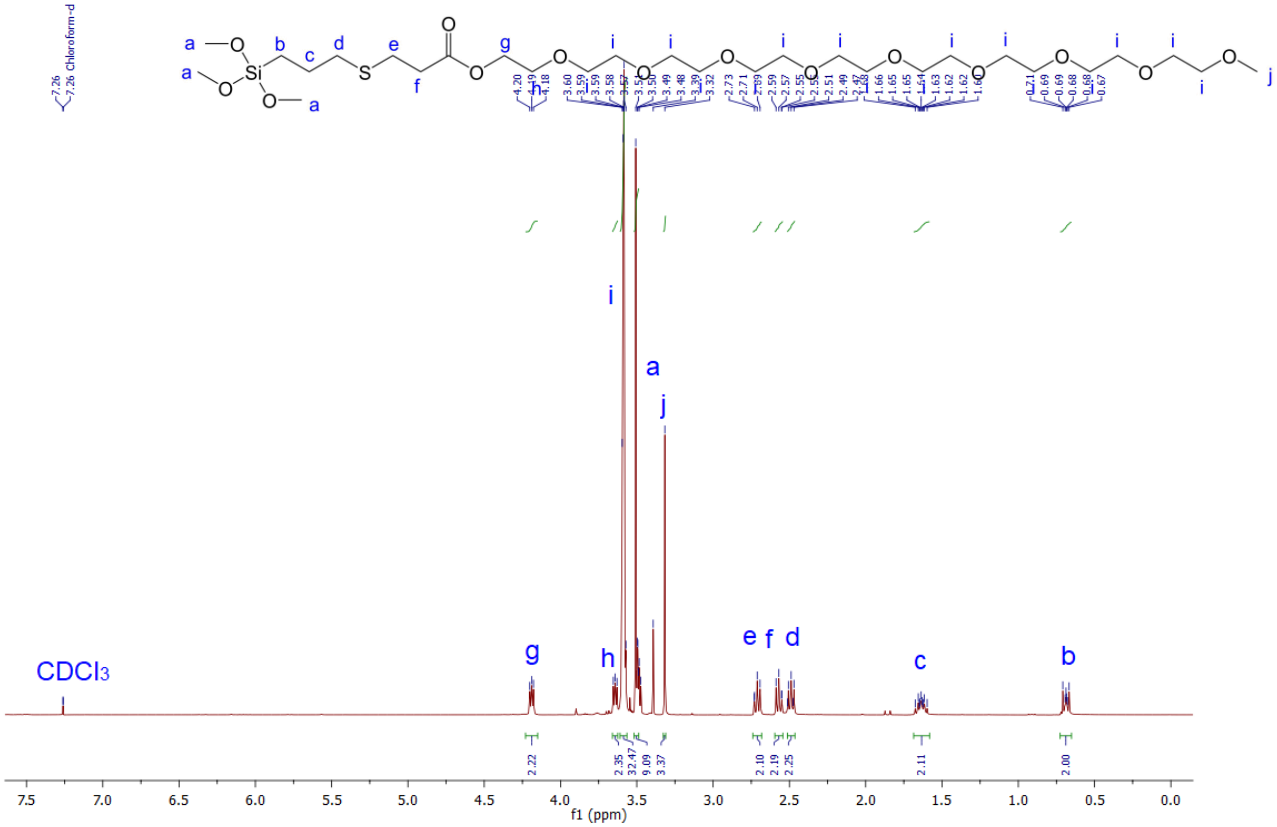


Figure 57. ^{1}H NMR spectrum of 3o.

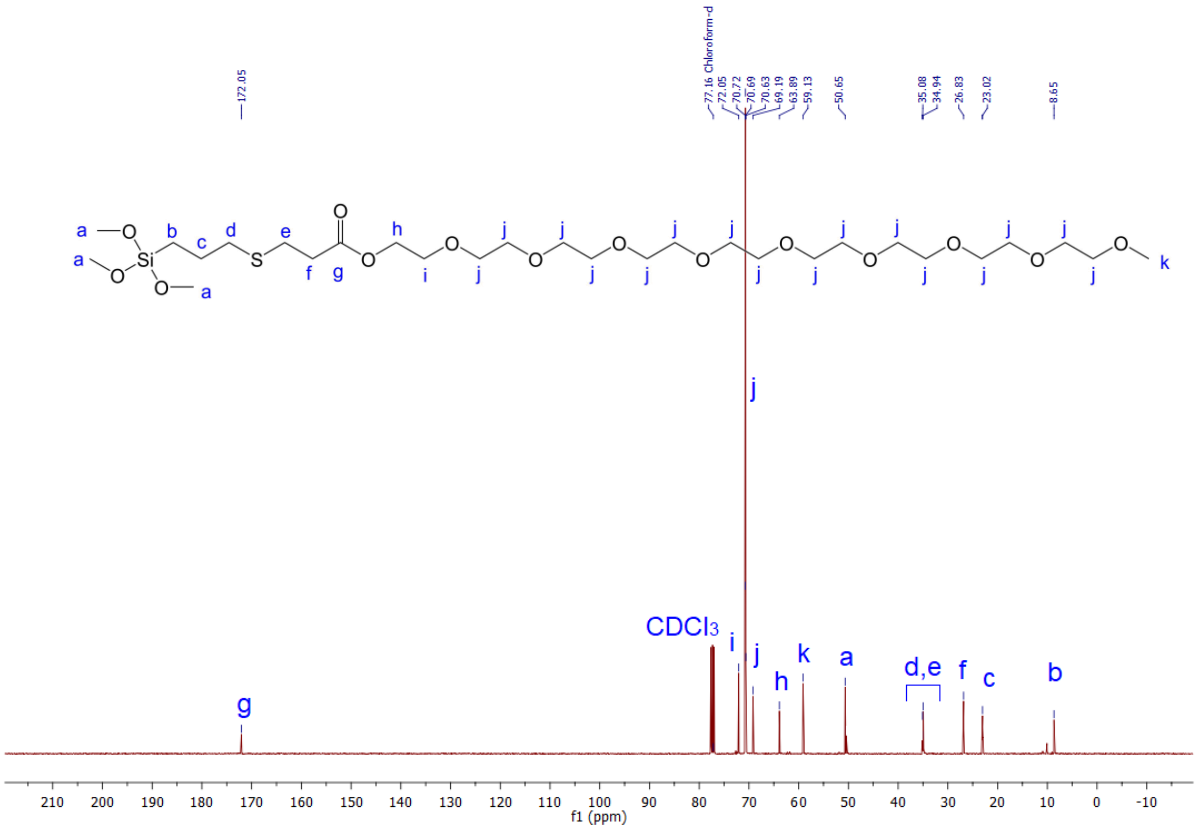


Figure 58. ^{13}C NMR spectrum of 3o.

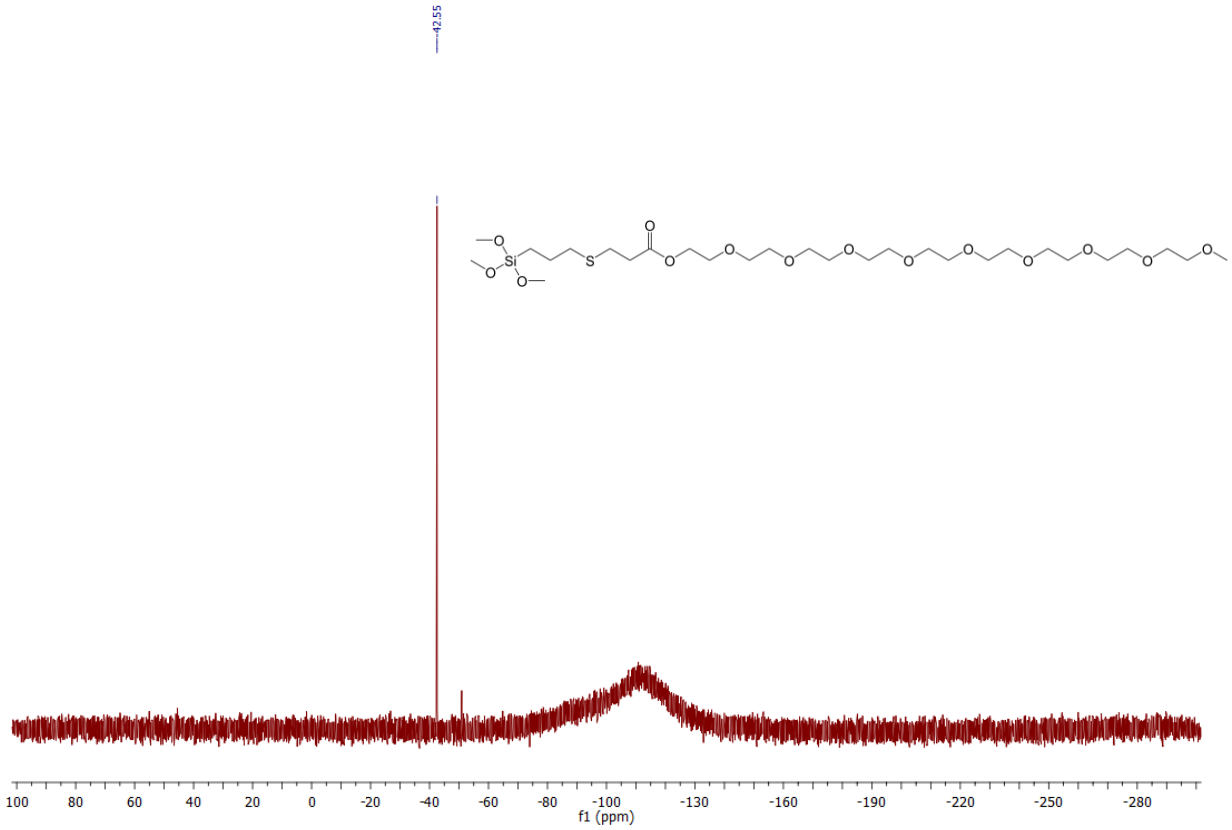


Figure 59. ^{29}Si NMR spectrum of 3o.

FT-IR spectrum

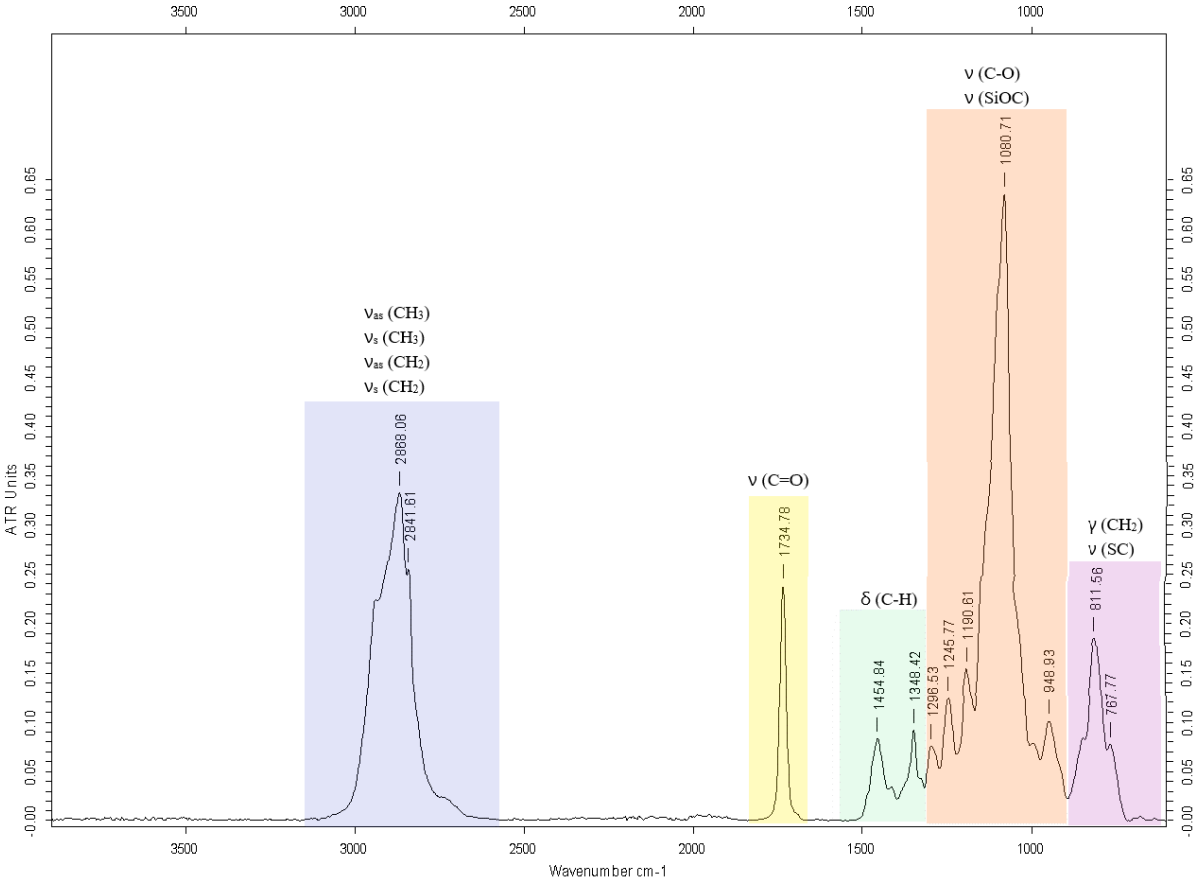
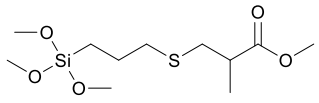
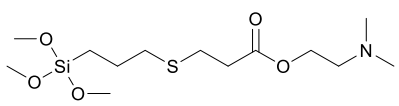


Figure 60. FT-IR NMR spectrum of 3o.

Table S1. Comparison of conditions of reactions and yields for the obtained alkoxysilanes with the literature data

Product	**Current research**	**Ref.**
3c 	*Conditions:* DMPP (0.5 wt.%), 1h *Yield:* 93%	*Conditions:* AIBN (5 mol%), ethanol, 24h, reflux, inert atmosphere *Yield:* 95% [S1] M. Sato, S. Kitajima, US 2018362552A1, KRI, Inc., 2018
3l 	*Conditions:* DMPP (0.5 wt.%), 0.5h *Yield:* 98%	*Conditions:* AIBN (2 mol%), ethyl acetate, 80°C, 24h, inert atmosphere *Yield:* quantitative [S1]
3m	*Conditions:* DMPP (2 wt.%), 1h	*Conditions:* AIBN (2 mol%), ethyl acetate, 80°C, 24h, inert atmosphere

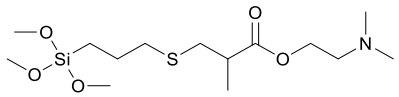
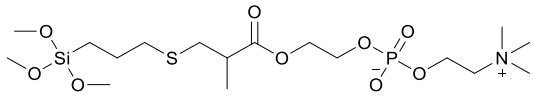
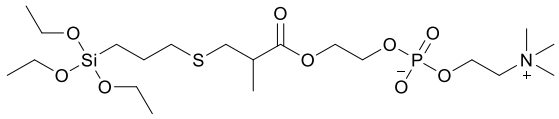
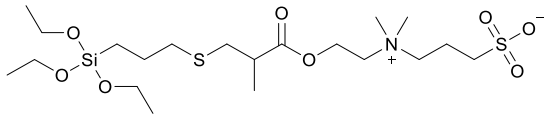
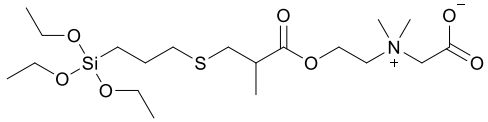
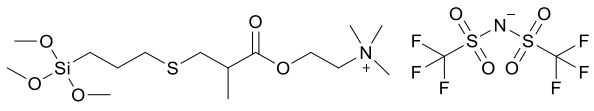
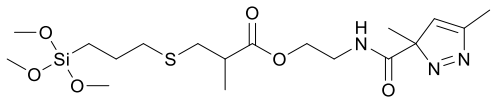
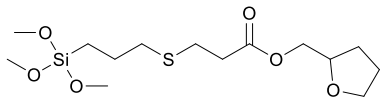
	*Yield:* 95%	*Yield:* 93% [S1]

Table S2. Other examples (conditions and yields) of alkoxysilanes obtained from 3-mercaptopropyltrialkoxysilane and functional group-containing (meth)acrylic acid esters

Product	Conditions	Yield	Ref.
	Diisopropylamine (4 mol%), EtOH, rt, 24h	80%	[S2] J. Michinishi, Y. Hishida, Y. Yoshitetsu, JP 2015 110534A, NOF Corporation, 2015
	Benzophenone (2 mol%), EtOH, rt, UV-irradiation (300 nm), 15 min	quantitative	[S3] M. E. Lee, L. Lei, KR 2016/107443A, University Industry Foundation Yonsei University Wonju Campus, 2016 [S4] M. E. Lee, L. Lei, KR 201710417A, University Industry Foundation Yonsei University Wonju Campus, 2017
	Diisopropylamine (4 mol%), MeOH, rt, 16h	-	[S5] S. Takamatsu, R. Matsuno, S. Kumagai, Y. Kokubo, K. Hashimoto, H. Yoshikawa, A. Takahara, H. Otsuka, EP 2832736A1, Sumitomo Riko Co. Ltd. National University Corporation Kyushu University, 2015
	Et_3N (5 mol%), EtOH, rt, 24h	96%	[S6] M. Umezaki, D. Sakuma, T. Nishino, T. Kishioka, Y. Hiroi,

			S. Kimura, T. Ohashi, Y. Usui, US 2014370182A1, M. Umezaki, D. Sakuma, T. Nishino, T. Kishioka, Y. Hiroi, S. Kimura, T. Ohashi, Y. Usui, Nissan Chemical Corp., 2014
	Acetonitrile, rt, 5h	97%	[S7] Y. Tanaka, T. Jinno, CN 103596965B, Koei Chemical Co., 2016
	AIBN (1 mol%), 80°C, inert atmosphere, overnight	-	[S8] M. Sato, S. Kitajima, JP 2020152646A, KRI, Inc. 2020
	AIBN (2 mol%), ethyl acetate, 24h, reflux, inert atmosphere	97%	[S9] M. Sato, S. Kitajima, JP 2018115171A, KRI, Inc. 2018