Supporting Information

for

S-Fluorenylmethyl protection of the cysteine side chain upon N^{α}-Fmoc deprotection

Johannes W. Wehner and Thisbe K. Lindhorst*

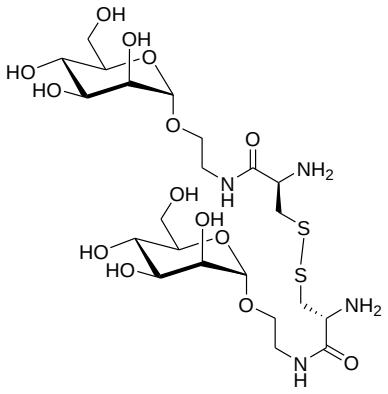
Address: Otto Diels Institute of Organic Chemistry, Christiana Albertina University of Kiel, Otto-Hahn-Platz 3/4, 24098 Kiel, Germany

Email: Thisbe K. Lindhorst* - tklind@oc.uni-kiel.de

* Corresponding author

Analytical material: NMR and mass spectra of products 3-dimer, 6, 7, 8, 9 and 10

L-Cystine-bis[2-(α-D-mannopyranosyloxy)ethyl]amide (3-dimer)



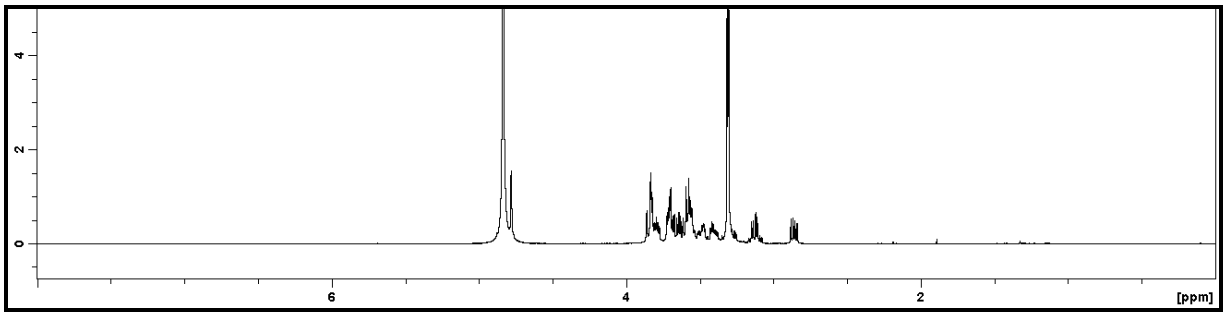


Figure S1: ^{1}H NMR spectrum (500 MHz, CD_3OD) of compound **3-dimer**.

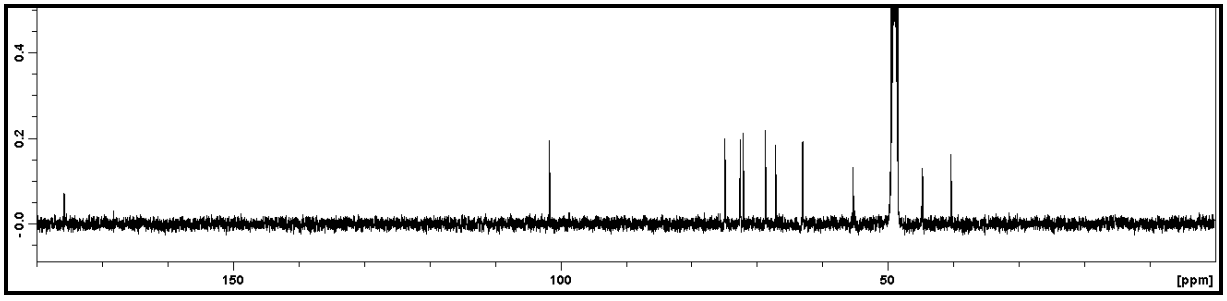


Figure S2: ^{13}C NMR spectrum (125 MHz, CD_3OD) of compound **3-dimer**.

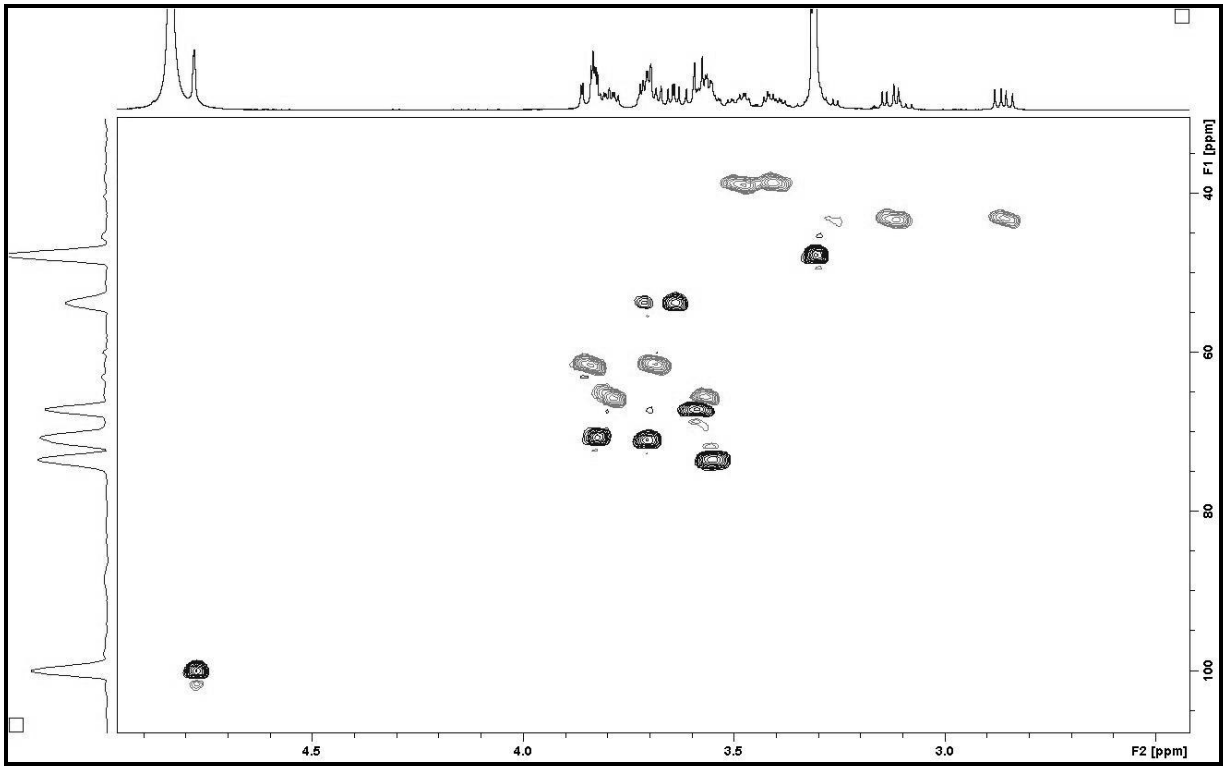


Figure S3: $^{1}H/^{13}C$ HSQC NMR spectrum (125 MHz, CD_3OD) of compound **3-dimer**.

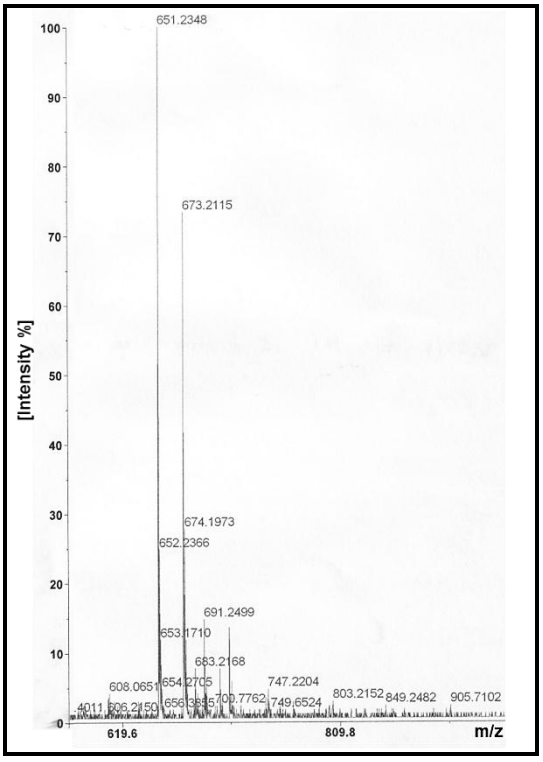
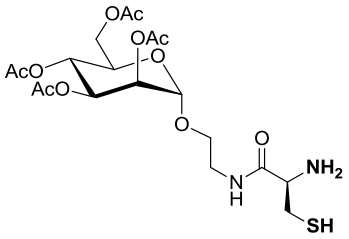


Figure S4: ESI mass spectrum of compound **3-dimer** (*m*/*z* 651.2348 $[M + H]^+$ and *m*/*z* 673.2115 $[M + Na]^+$).

L-Cysteine-[2-(2,3,4,6-tetra-*O*-acetyl-α-D-mannopyranosyloxy)ethyl]amide (6)



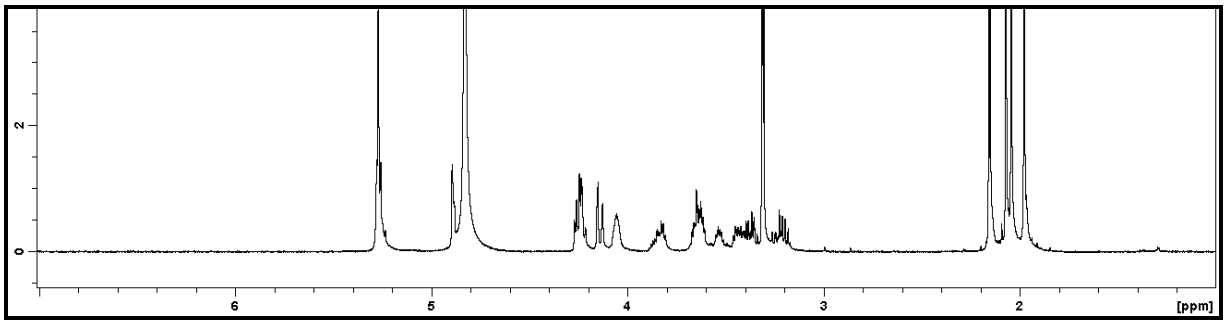


Figure S5: ^{1}H NMR spectrum (500 MHz, CD_3OD) of compound **6**.

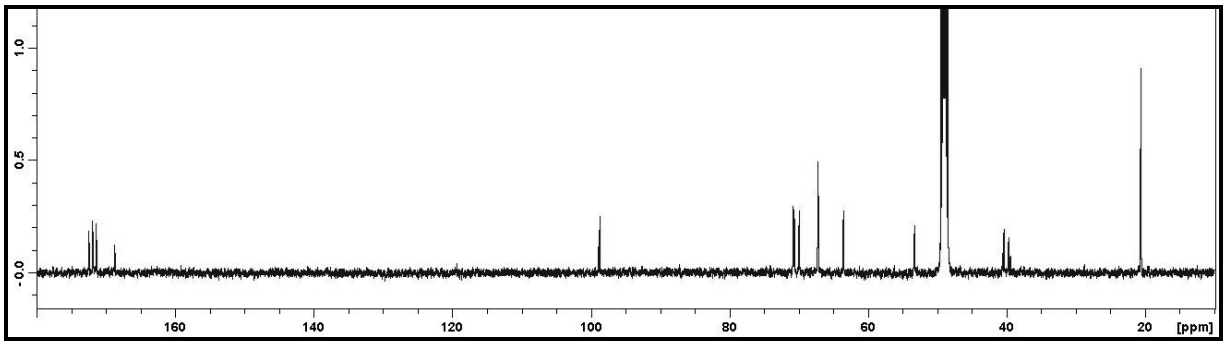


Figure S6: ^{13}C NMR spectrum (125 MHz, CD_3OD) of compound **6**.

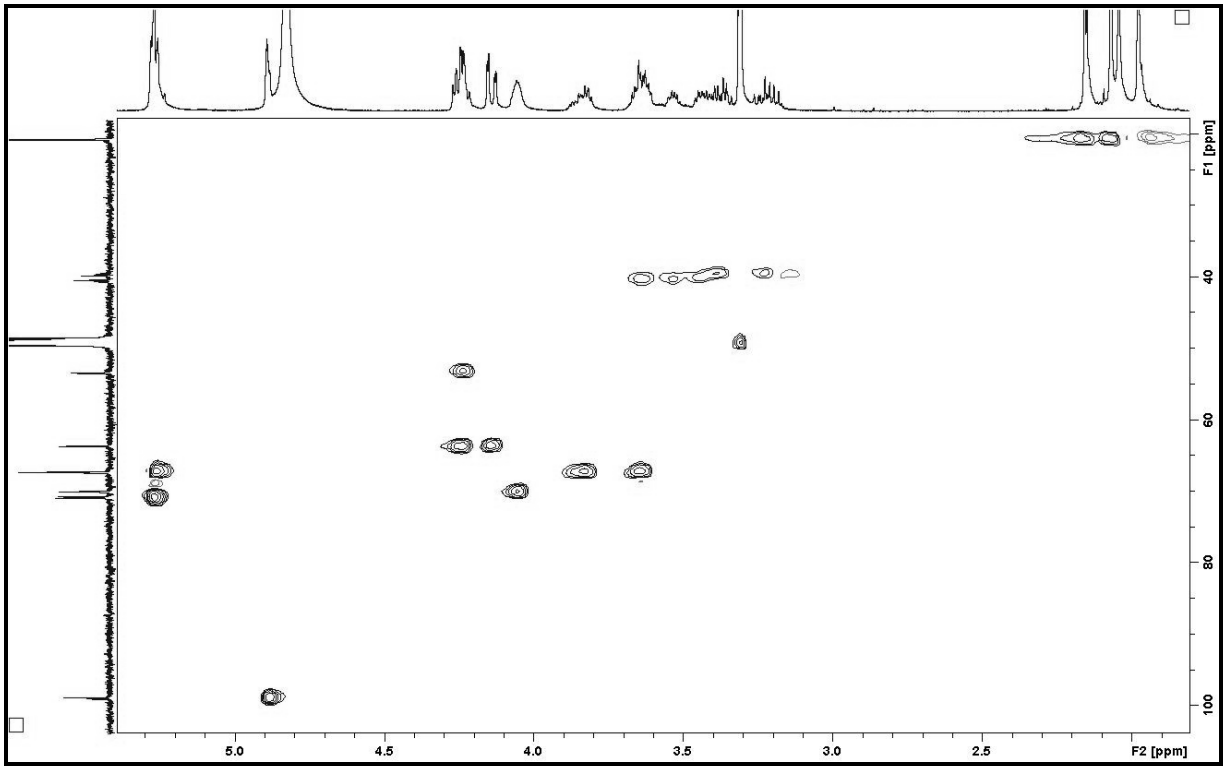


Figure S7: $^{1}H/^{13}C$ HSQC NMR spectrum (125 MHz, CD_3OD) of compound **6**.

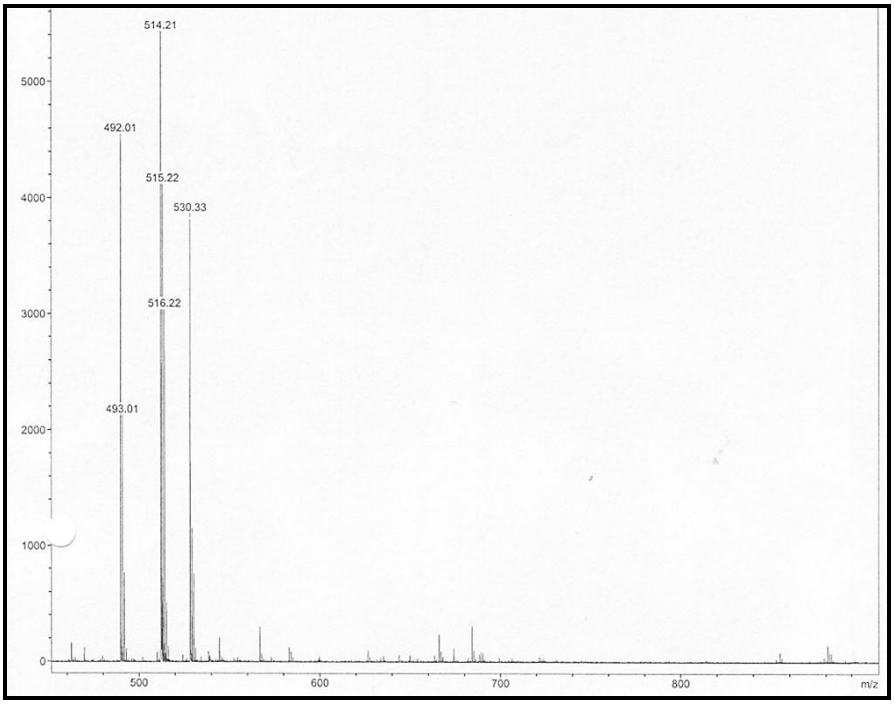
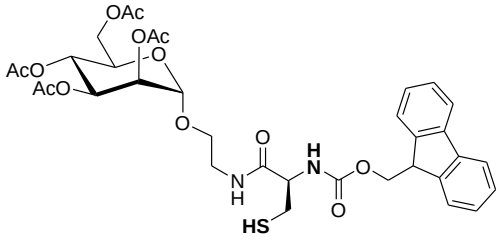


Figure S8: MALDI-TOF mass spectrum of compound **6** (*m*/*z* 492.01 $[M + H]^+$, *m*/*z* 514.21 $[M + Na]^+$ and *m*/*z* 530.33 $[M + K]^+$).

***N*-(Fluoren-9-ylmethoxycarbonyl)-L-cysteine-[2-(2,3,4,6-tetra-*O*-acetyl-α-D-mannopyranosyloxy)ethyl]amide (7)**



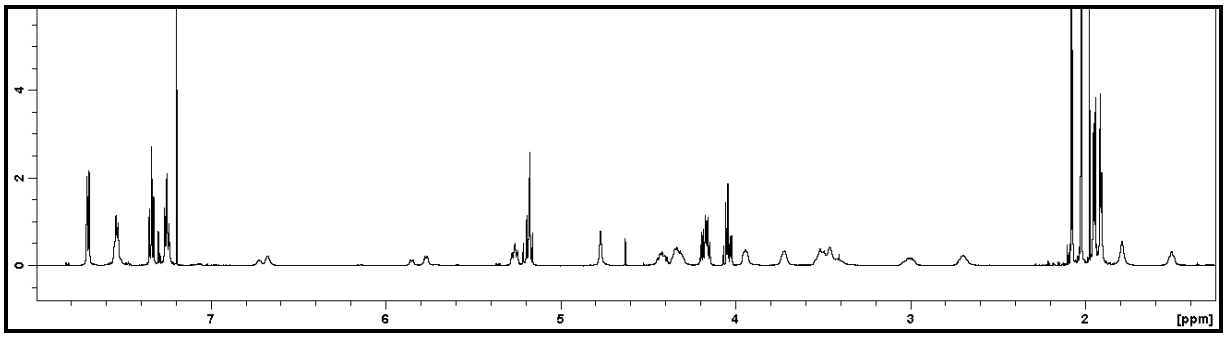


Figure S9: ^{1}H NMR spectrum (600 MHz, $CDCl_3$) of compound **7**.

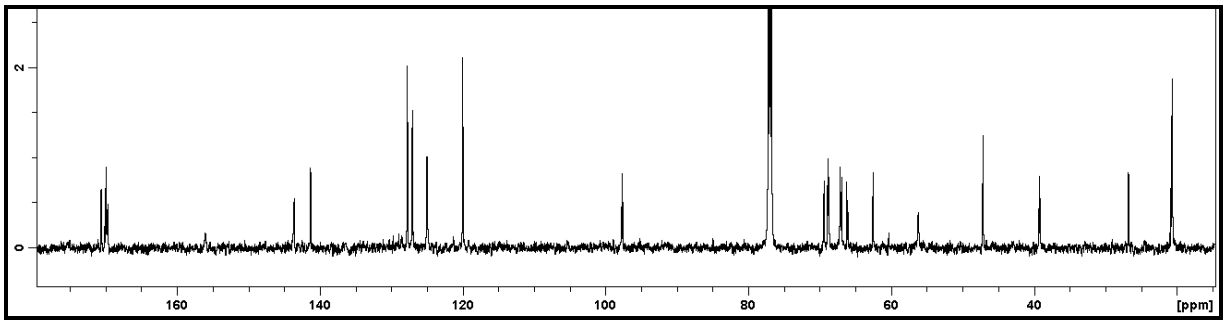


Figure S10: ^{13}C NMR spectrum (150 MHz, $CDCl_3$) of compound **7**.

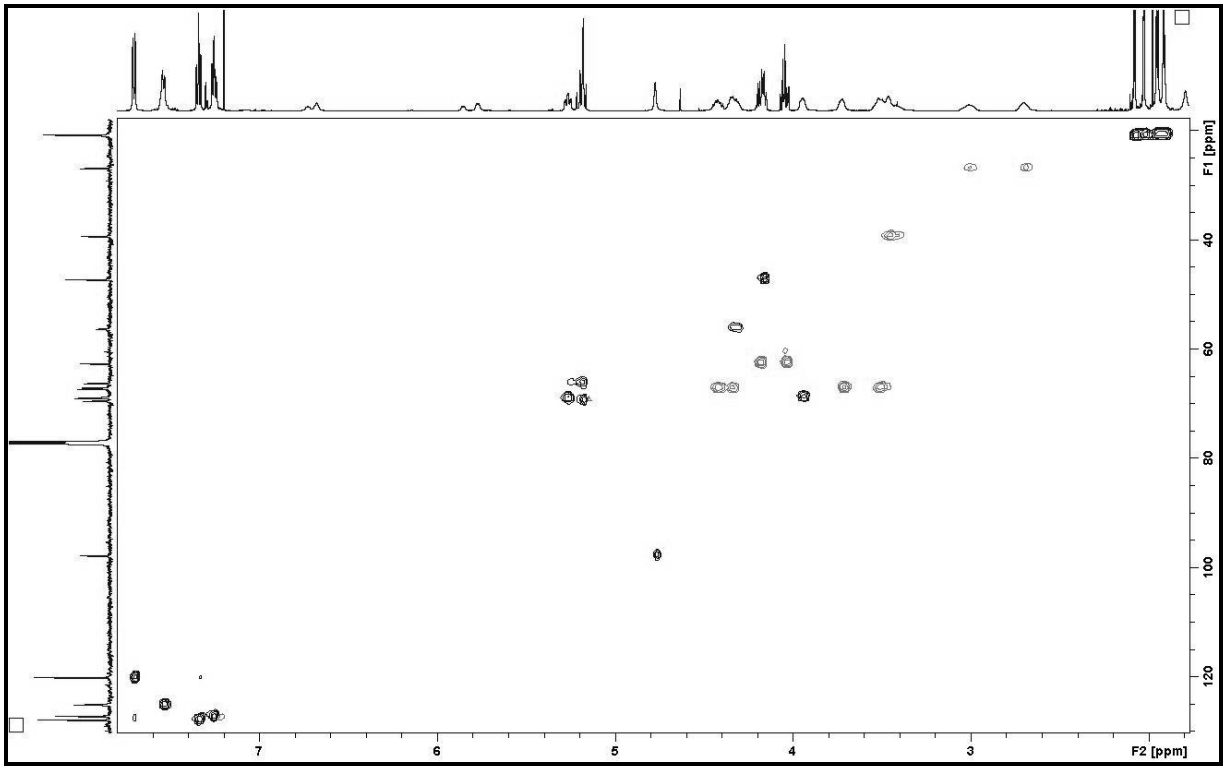


Figure S11: $^{1}H/^{13}C$ HSQC NMR spectrum (150 MHz, $CDCl_3$) of compound **7**.

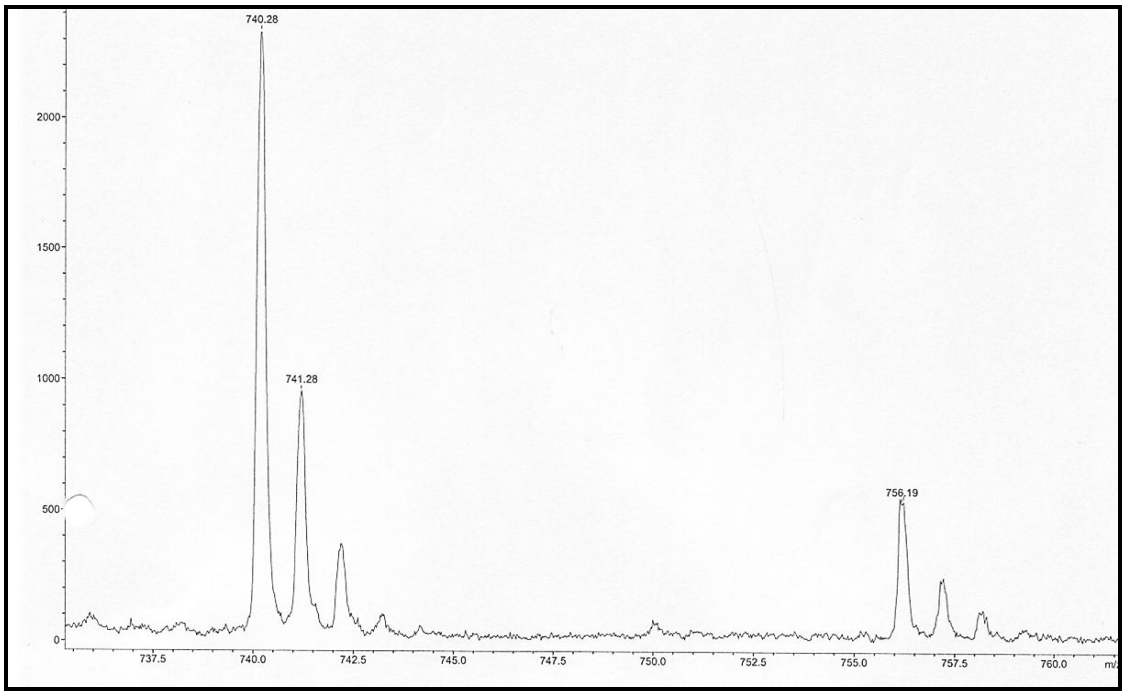
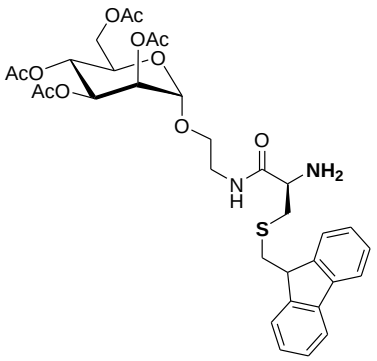


Figure S12: MALDI-TOF mass spectrum of compound **7** (*m*/*z* 740.28 $[M + Na]^+$ and *m*/*z* 756.19 $[M + K]^+$).

***S*-(Fluoren-9-yl)-L-cysteine-[2-(2,3,4,6-tetra-*O*-acetyl-α-D-mannopyranosyloxy)ethyl]amide (8)**



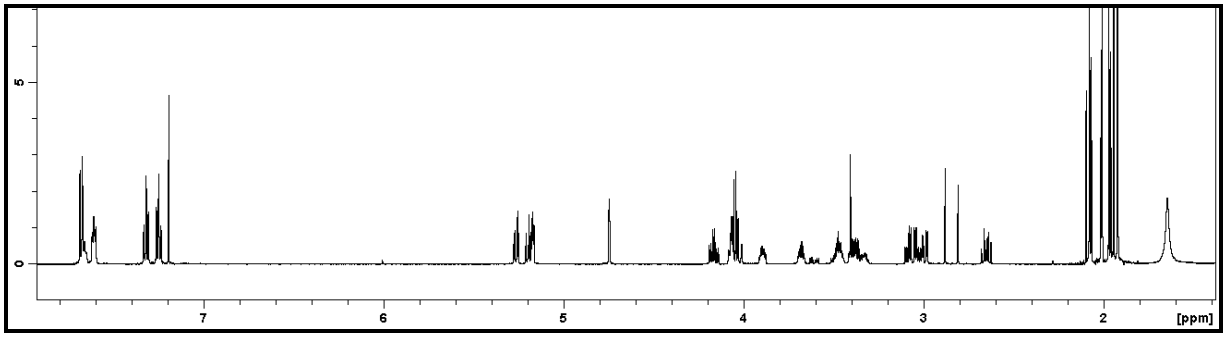


Figure S13: ^{1}H NMR spectrum (600 MHz, $CDCl_3$) of compound **8**.

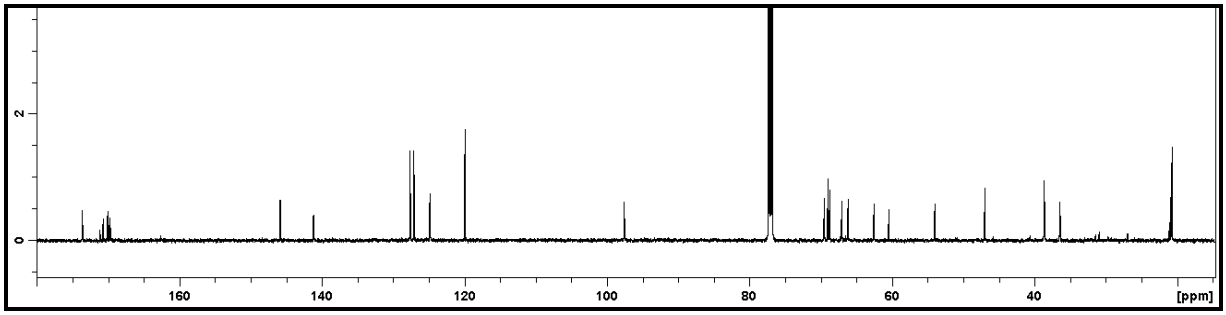


Figure S14: ^{13}C NMR spectrum (150 MHz, $CDCl_3$) of compound **8**.

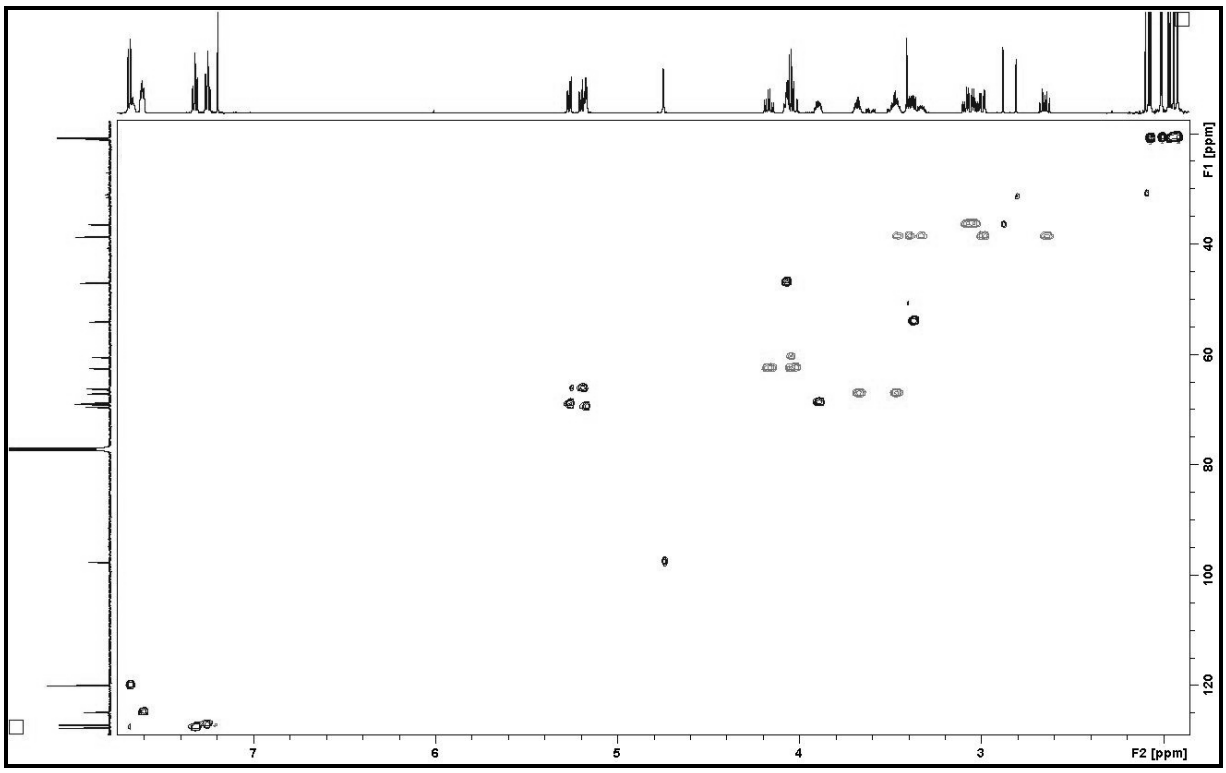


Figure S15: $^{1}H/^{13}C$ HSQC NMR spectrum (150 MHz, $CDCl_3$) of compound **8**.

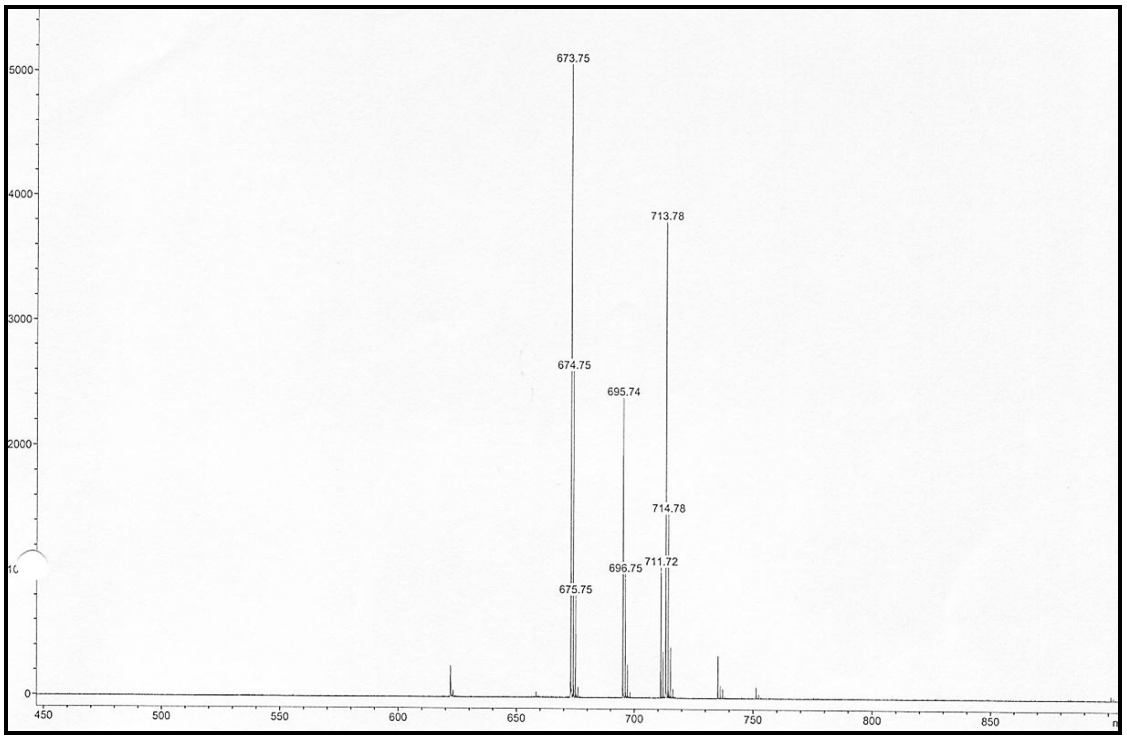
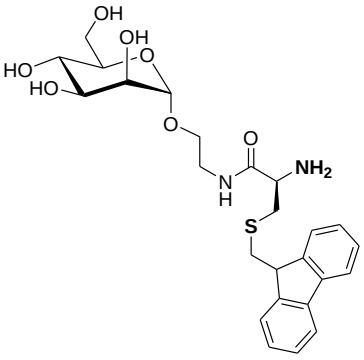


Figure S16: MALDI-TOF mass spectrum of compound **8** (*m*/*z* 673.75 $[M + H]^+$, *m*/*z* 695.74 $[M + Na]^+$ and *m*/*z* 713.78 $[M + K]^+$).

***S*-(Fluoren-9-yl)-L-cysteine-[2-(α-D-mannopyranosyloxy)ethyl]amide (9)**



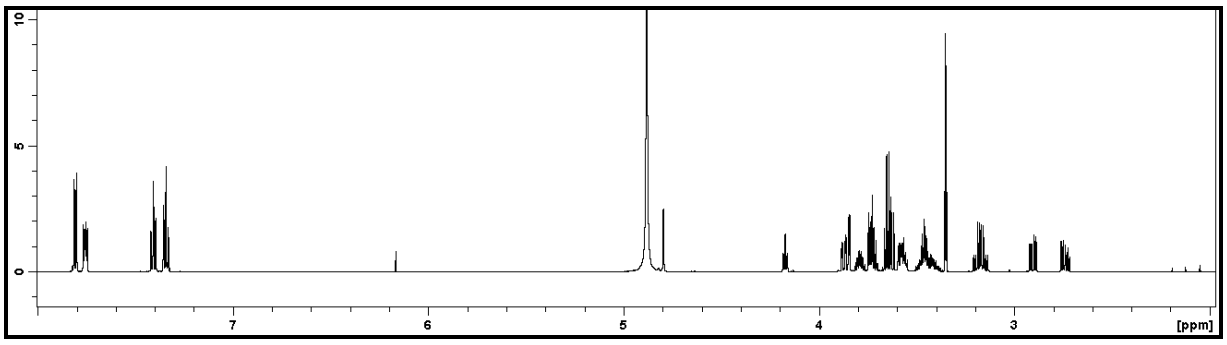


Figure S17: ^{1}H NMR spectrum (600 MHz, CD_3OD) of compound **9**.

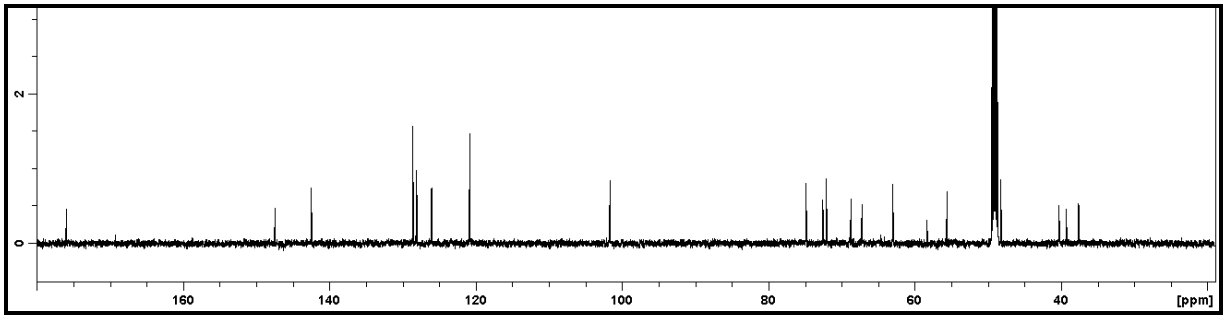


Figure S18: ^{13}C NMR spectrum (150 MHz, CD_3OD) of compound **9**.

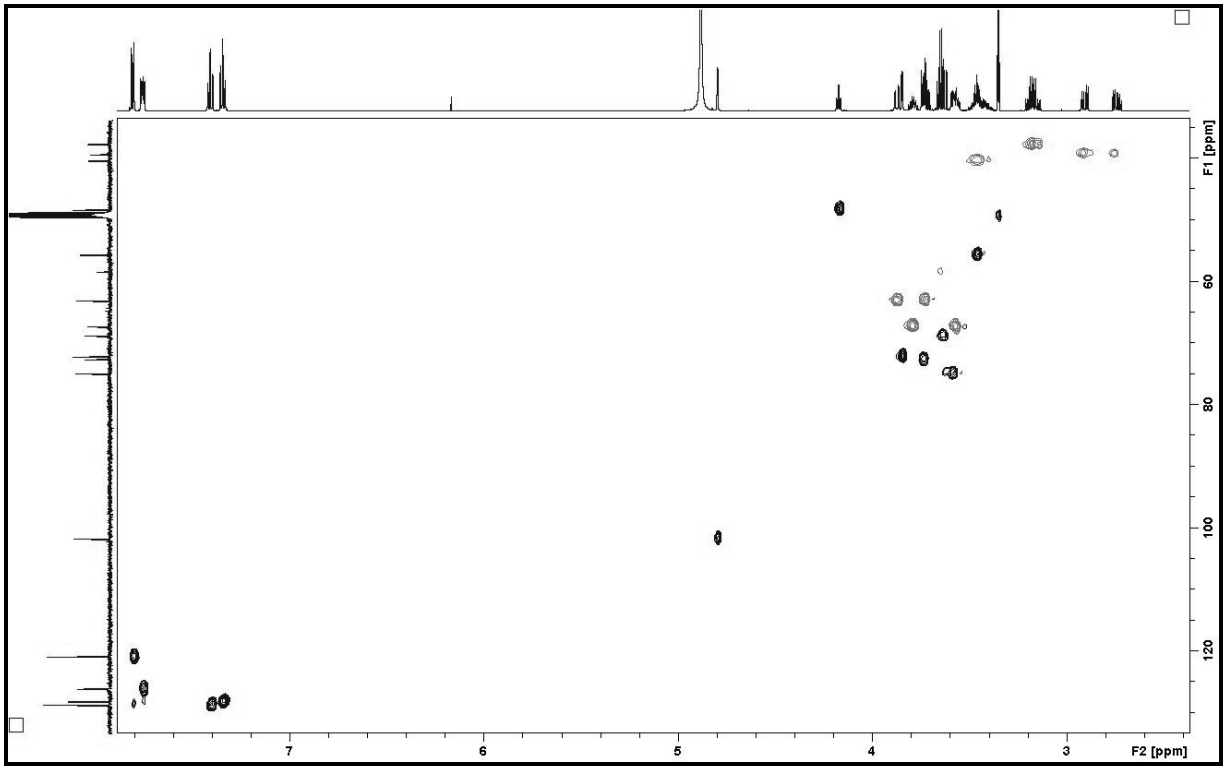


Figure S19: $^{1}H/^{13}C$ HSQC NMR spectrum (150 MHz, CD_3OD) of compound **9**.

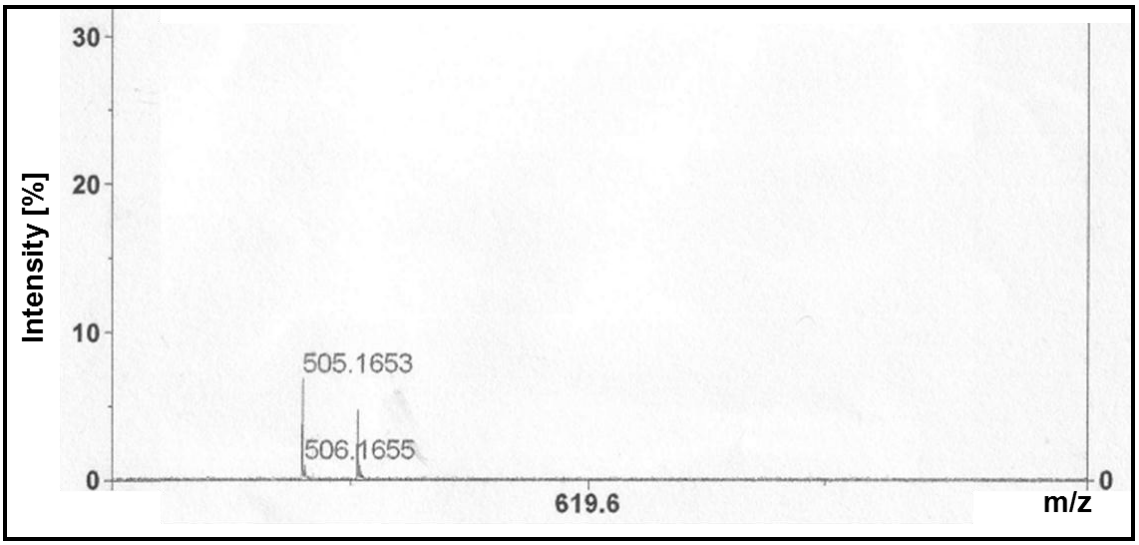
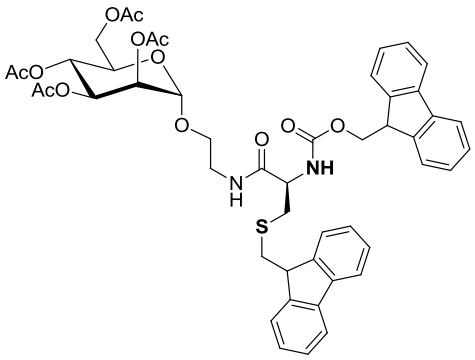


Figure S20: ESI mass spectrum of compound **9** (*m*/*z* 505.1653 $[M + H]^+$).

***N*-(Fluoren-9-ylmethoxycarbonyl)-*S*-(fluoren-9-yl)-L-cysteine-[2-(2,3,4,6-tetra-*O*-acetyl-α-D-mannopyranosyloxy)ethyl]amide (10)**



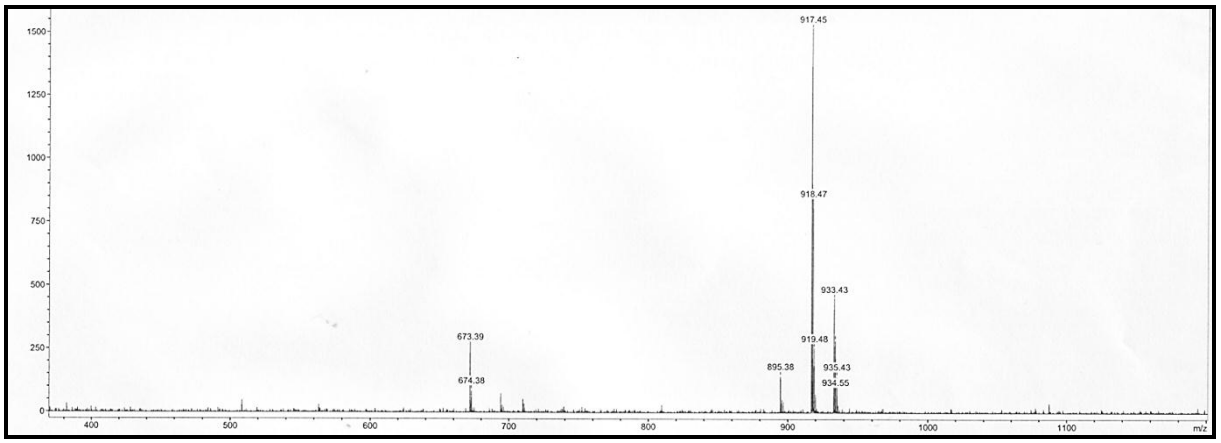


Figure S21: MALDI-TOF mass spectrum of compound **10** (*m*/*z* 895.38 $[M + H]^+$, *m*/*z* 917.45 $[M + Na]^+$ and *m*/*z* 933.43 $[M + K]^+$); *m*/*z* 673.39 is caused by the loss of the *N*-Fmoc-protecting group during ionization.