A New Reactivity-based One-pot Synthesis of N-Acetyllactosamine Oligomers

Tony K-K. Mong, Cheng-Yuan Huang and Chi-Huey Wong*

Department of Chemistry and the Skaggs institute for Chemical Biology, The Scripps Research Institute,

10550 North Torrey Pines Road, La Jolla, CA 92037, USA.

wong@scripps.edu

Supporting Information

Table of Contents

	Page
Figure 1. ¹ H NMR spectrum of deprotected tetrasaccharide 1	S1
Figure 2. ¹ H NMR spectrum of deprotected hexasaccharide 2	S2
Figure 3. ¹ H NMR spectrum of deprotected octasaccharide 3.....	S3
Figure 4. ¹ H NMR spectrum of Compound 6	S4
Figure 5. ¹³ C-APT NMR spectrum of Compound 6	S5
Figure 6. ¹ H NMR spectrum of glucosaminyl building block 7.....	S6
Figure 7. ¹³ C-APT NMR spectrum of glucosaminyl building block 7	S7
Figure 8. ¹ H NMR spectrum of Compound 8	S8
Figure 9. ¹³ C-APT NMR spectrum of Compound 8.....	S9
Figure 10. ¹ H NMR spectrum of Compound 10	S10
Figure 11. ¹³ C-APT NMR spectrum of Compound 10	S11
Figure 12. ¹ H NMR spectrum of Compound 11.....	S12
Figure 13. ¹³ C-APT NMR spectrum of Compound 11	S13
Figure 14. ¹ H NMR spectrum of Compound 12	S14
Figure 15. ¹³ C-APT NMR spectrum of Compound 12.....	S15
Figure 16. ¹ H NMR spectrum of Compound 13	S16

Figure 17. ^{13}C -APT NMR spectrum of Compound 13	S17
Figure 18. ^1H NMR spectrum of glucosaminyl building block 14	S18
Figure 19. ^{13}C -APT NMR spectrum of glucosaminyl building block 14	S19
Figure 20. ^1H NMR spectrum of non-reducing end lactosaminyl building block 16	S20
Figure 21. ^{13}C -APT NMR spectrum of non-reducing end lactosaminyl building block 16	S21
Figure 22. ^1H NMR spectrum of bridging lactosaminyl building block precursor 17	S22
Figure 23. ^{13}C -APT NMR spectrum of bridging lactosaminyl building block precursor 17	S23
Figure 24. ^1H NMR spectrum of bridging lactosaminyl building block 18	S24
Figure 25. ^{13}C -APT NMR spectrum of bridging lactosaminyl building block 18	S25
Figure 26. ^1H NMR spectrum of reducing end tetrasaccharide building block precursor 21	S26
Figure 27. ^{13}C -APT NMR spectrum of reducing end tetrasaccharide building block precursor 21	S27
Figure 28. ^1H NMR spectrum of reducing end lactosaminyl building block 22	S28
Figure 29. ^{13}C -APT NMR spectrum of reducing end lactosaminyl building block 22	S29
Figure 30. ^1H NMR spectrum of protected hexasaccharide 23	S30
Figure 31. ^{13}C -APT NMR spectrum of protected hexasaccharide 23	S31
Figure 32. ^1H NMR spectrum of protected octasaccharide 24	S32
Figure 33. ^{13}C -APT NMR spectrum of protected octasaccharide 24	S33

Figure 1. ^1H NMR spectrum of deprotected tetrasaccharide **1**

S1

Figure 3. ^1H NMR spectrum of deprotected octasaccharide 3

S3

S4

Figure 4. ¹H NMR spectrum of Compound 6

S5

Figure 5. ^{13}C -APT NMR spectrum of Compound 6

S6

Figure 6. ^1H NMR spectrum of glucosaminyll building block 7

Figure 7. ^{13}C -APT NMR spectrum of glucosaminyI building block 7

S7

S8

Figure 8. ¹H NMR spectrum of Compound 8

Figure 9. ^{13}C -APT NMR spectrum of Compound 8

S9

S10

Figure 10. ^1H NMR spectrum of Compound 10

Figure 11. ^{13}C -APT NMR spectrum of Compound 10

S11

S12

Figure 12. ¹H NMR spectrum of Compound 11

S13

Figure 13. ^{13}C -APT NMR spectrum of Compound 11

Figure 14. ^1H NMR spectrum of Compound 12

S14

Figure 15. ^{13}C -APT NMR spectrum of Compound 12

S15

Figure 16. ¹H NMR spectrum of Compound 13

S16

Figure 17. ^{13}C -APT NMR spectrum of Compound 13

S17

Figure 18. ^1H NMR spectrum of glucosaminyI building block 14

S18

Figure 20. ^1H NMR spectrum of non-reducing end lactosaminyl building block **16**

S20

Figure 21. ^{13}C -APT NMR spectrum of non-reducing end lactosaminy building block 16

S21

Figure 22. ¹H NMR spectrum of bridging lactosaminyl building block precursor 17

S22

Figure 23. ^{13}C -APT NMR spectrum of bridging lactosaminyl building block precursor 17

S23

Figure 24. ^1H NMR spectrum of bridging lactosaminyl building block 18

S25

Figure 25. ^{13}C -APT NMR spectrum of bridging lactosaminyl building block 18

Figure 26. ¹H NMR spectrum of reducing end tetrasaccharide building block precursor 21

S26

Figure 27. ^{13}C -APT NMR spectrum of reducing end tetrasaccharide building block precursor 21

S27

Figure 28. ^1H NMR spectrum of reducing end lactosaminy building block 22

S28

Figure 29. ^{13}C -APT NMR spectrum of reducing end lactosaminy] building block 22

S29

Figure 30. ¹H NMR spectrum of protected hexaaccharide 23

S30

Figure 31. ^{13}C -APT NMR spectrum of protected hexasaccharide 23

S31

Figure 32. ¹H NMR spectrum of protected octasaccharide 24

S32

Figure 33. ^{13}C -APT NMR spectrum of protected octasaccharide 24

S33