Supplementary data belonging to manuscript:

Synthesis and characterization of sialylated lactose and lactulose derived

oligosaccharides by Trypanosoma cruzi trans-sialidase

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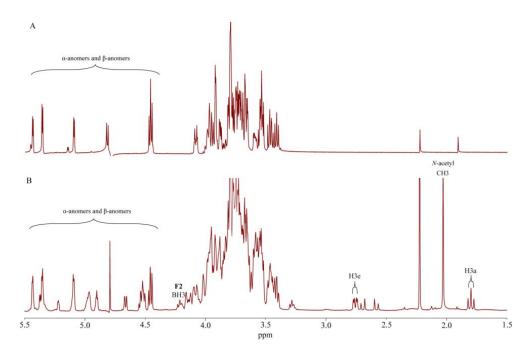
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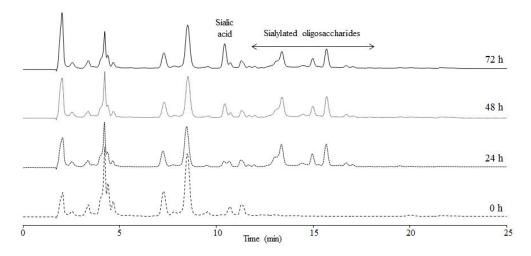
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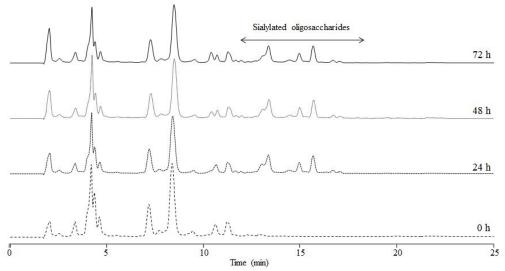
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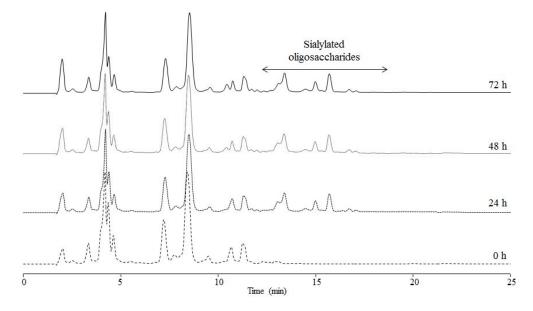
**Figure S1:** 500 MHz  $^1$ H NMR spectra, recorded in D<sub>2</sub>O at 25  $^{\circ}$ C of A) structure F2 2-glc-lac and B) the GL34 mixture after *trans*-sialylation incubation of 10 mM GL34 plus 5 mM GMP-derived Neu5Ac( $\alpha 2 \rightarrow 3$ ) with TcTS (10  $\mu$ g mL $^{-1}$ ) at 25  $^{\circ}$ C for 24 h.



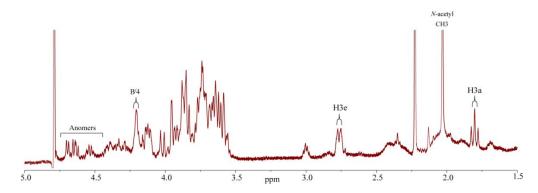
**Figure S2**: HPAEC-PAD profiles of compounds in the reaction mixtures of 5 mM LGOS/5mM GMP-derived Neu5Ac( $\alpha 2\rightarrow 3$ )/5 µg mL<sup>-1</sup> TcTS at 25 °C and pH 5.0 after various incubation times, and renewed addition of TcTS (5 µg mL<sup>-1</sup>) after each 24 h of incubation.



**Figure S3**: HPAEC-PAD profiles of compounds in the reaction mixtures of 10 mM LGOS/5mM GMP-derived Neu5Ac( $\alpha 2\rightarrow 3$ )/5 µg mL<sup>-1</sup> TcTS at 25 °C and pH 5.0 after various incubation times, and renewed addition of TcTS (5 µg mL<sup>-1</sup>) after each 24 h of incubation.



**Figure S4**: HPAEC-PAD profiles of compounds in the reaction mixtures of 15 mM LGOS/5mM GMP-derived Neu5Ac( $\alpha 2\rightarrow 3$ )/5 µg mL<sup>-1</sup> TcTS at 25 °C and pH 5.0 after various incubation times, and renewed addition of TcTS (5 µg mL<sup>-1</sup>) after each 24 h of incubation.



**Figure S5**: 500 MHz  $^1$ H NMR spectra, recorded in D<sub>2</sub>O at 25  $^{\circ}$ C of the Dowex 1x8 (Cl-) Sia-LGOS fraction eluted by 50 mM ammonium bicarbonate from the incubation of 1 mM LGOS plus 5 mM GMP-derived Neu5Ac( $\alpha$ 2 $\rightarrow$ 3) with TcTS (10  $\mu$ g mL<sup>-1</sup>) at 25  $^{\circ}$ C for 48 h.