

**Table S1.** Relative abundances and identities of statistically significant Caco-2 cell surface compositions before and after infection. Observed signals were deconvoluted to monoisotopic molecular masses by MassHunter. Compositions are arranged by *p*-values obtained by Student's *t*-test. Relative abundances are expressed as the mean  $\pm$  standard deviation (*n* = 3).

| Theoretical Mass | Experimental Mass | Composition  | Relative Abundance |                 | <i>t</i> -Test ( <i>p</i> -Value) |
|------------------|-------------------|--|--------------------|-----------------|-----------------------------------|
|                  |                   |  | Uninfected         | Infected        |                                   |
| 1827.68          | 1827.68           | Hex <sub>4</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub>                    | 0.48 $\pm$ 0.12    | 4.15 $\pm$ 0.30 | 3.8 x 10 <sup>-5</sup>            |
| 1608.60          | 1608.60           | Hex <sub>3</sub> HexNAc <sub>4</sub> Fuc <sub>2</sub>                    | --                 | 0.06 $\pm$ 0.01 | 3.8 x 10 <sup>-5</sup>            |
| 2175.79          | 2175.79           | Hex <sub>4</sub> HexNAc <sub>6</sub> NeuAc <sub>1</sub>                  | --                 | 0.08 $\pm$ 0.01 | 4.6 x 10 <sup>-5</sup>            |
| 2087.78          | 2087.78           | Hex <sub>4</sub> HexNAc <sub>7</sub>                                     | --                 | 0.07 $\pm$ 0.01 | 7.1 x 10 <sup>-5</sup>            |
| 1874.67          | 1874.66           | Hex <sub>5</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 0.93 $\pm$ 0.09    | 0.10 $\pm$ 0.02 | 1.0 x 10 <sup>-4</sup>            |
| 910.33           | 910.33            | GlcNAc <sub>2</sub> Man <sub>3</sub>                                     | 0.27 $\pm$ 0.15    | 1.61 $\pm$ 0.03 | 1.2 x 10 <sup>-4</sup>            |
| 2030.76          | 2030.76           | Hex <sub>4</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub>                    | 0.22 $\pm$ 0.07    | 1.05 $\pm$ 0.07 | 1.4 x 10 <sup>-4</sup>            |
| 2071.78          | 2071.79           | Hex <sub>3</sub> HexNAc <sub>7</sub> Fuc <sub>1</sub>                    | --                 | 0.39 $\pm$ 0.05 | 2.2 x 10 <sup>-4</sup>            |
| 2005.72          | 2005.73           | Hex <sub>6</sub> HexNAc <sub>5</sub>                                     | --                 | 0.07 $\pm$ 0.01 | 2.2 x 10 <sup>-4</sup>            |
| 2938.07          | 2938.08           | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>3</sub> NeuAc <sub>1</sub> | 1.06 $\pm$ 0.09    | 0.22 $\pm$ 0.07 | 2.5 x 10 <sup>-4</sup>            |
| 3375.23          | 3375.23           | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>4</sub> NeuAc <sub>2</sub> | 0.07 $\pm$ 0.01    | --              | 3.2 x 10 <sup>-4</sup>            |
| 1478.54          | 1478.54           | Hex <sub>4</sub> HexNAc <sub>4</sub>                                     | 0.06 $\pm$ 0.03    | 0.69 $\pm$ 0.10 | 4.2 x 10 <sup>-4</sup>            |
| 1558.54          | 1558.54           | GlcNAc <sub>2</sub> Man <sub>7</sub>                                     | 1.00 $\pm$ 0.42    | 4.51 $\pm$ 0.38 | 4.2 x 10 <sup>-4</sup>            |
| 1681.62          | 1681.62           | Hex <sub>4</sub> HexNAc <sub>5</sub>                                     | 0.10 $\pm$ 0.07    | 1.78 $\pm$ 0.26 | 4.3 x 10 <sup>-4</sup>            |
| 1665.62          | 1665.63           | Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub>                    | 0.42 $\pm$ 0.03    | 4.65 $\pm$ 0.69 | 4.4 x 10 <sup>-4</sup>            |
| 1396.49          | 1396.49           | GlcNAc <sub>2</sub> Man <sub>6</sub>                                     | 0.97 $\pm$ 0.50    | 4.54 $\pm$ 0.35 | 5.4 x 10 <sup>-4</sup>            |
| 1072.38          | 1072.38           | GlcNAc <sub>2</sub> Man <sub>4</sub>                                     | 0.21 $\pm$ 0.15    | 1.22 $\pm$ 0.09 | 6.1 x 10 <sup>-4</sup>            |
| 2937.05          | 2937.06           | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | 5.73 $\pm$ 0.78    | 1.41 $\pm$ 0.16 | 7.0 x 10 <sup>-4</sup>            |
| 1259.47          | 1259.47           | Hex <sub>3</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub>                    | 0.39 $\pm$ 0.04    | 0.87 $\pm$ 0.08 | 7.0 x 10 <sup>-4</sup>            |
| 2118.77          | 2118.78           | Hex <sub>4</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 0.67 $\pm$ 0.35    | 2.74 $\pm$ 0.16 | 7.4 x 10 <sup>-4</sup>            |
| 2880.03          | 2880.04           | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>2</sub> NeuAc <sub>2</sub> | 1.32 $\pm$ 0.18    | 0.34 $\pm$ 0.05 | 7.8 x 10 <sup>-4</sup>            |
| 2645.96          | 2645.96           | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 5.39 $\pm$ 0.46    | 2.17 $\pm$ 0.42 | 8.5 x 10 <sup>-4</sup>            |
| 1868.70          | 1868.70           | Hex <sub>3</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub>                    | 0.29 $\pm$ 0.14    | 1.22 $\pm$ 0.11 | 8.6 x 10 <sup>-4</sup>            |
| 1720.59          | 1720.60           | GlcNAc <sub>2</sub> Man <sub>8</sub>                                     | 1.13 $\pm$ 0.37    | 5.05 $\pm$ 0.71 | 1.0 x 10 <sup>-3</sup>            |
| 1234.43          | 1234.44           | GlcNAc <sub>2</sub> Man <sub>5</sub>                                     | 1.14 $\pm$ 0.49    | 4.73 $\pm$ 0.56 | 1.1 x 10 <sup>-3</sup>            |
| 1882.64          | 1882.65           | GlcNAc <sub>2</sub> Man <sub>9</sub>                                     | 1.06 $\pm$ 0.45    | 4.04 $\pm$ 0.43 | 1.1 x 10 <sup>-3</sup>            |
| 2233.84          | 2233.83           | Hex <sub>4</sub> HexNAc <sub>7</sub> Fuc <sub>1</sub>                    | --                 | 0.35 $\pm$ 0.08 | 1.4 x 10 <sup>-3</sup>            |
| 1931.69          | 1931.69           | Hex <sub>5</sub> HexNAc <sub>4</sub> NeuAc <sub>1</sub>                  | 0.73 $\pm$ 0.11    | 0.15 $\pm$ 0.06 | 1.5 x 10 <sup>-3</sup>            |
| 1316.49          | 1316.49           | Hex <sub>3</sub> HexNAc <sub>4</sub>                                     | 0.06 $\pm$ 0.07    | 0.54 $\pm$ 0.08 | 1.6 x 10 <sup>-3</sup>            |
| 2036.72          | 2036.72           | Hex <sub>6</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 0.61 $\pm$ 0.13    | 0.05 $\pm$ 0.01 | 1.7 x 10 <sup>-3</sup>            |
| 1462.54          | 1462.55           | Hex <sub>3</sub> HexNAc <sub>4</sub> Fuc <sub>1</sub>                    | 0.75 $\pm$ 0.29    | 2.14 $\pm$ 0.15 | 1.8 x 10 <sup>-3</sup>            |

|         |         |  |             |               |                        |
|---------|---------|--|-------------|---------------|------------------------|
| 1972.71 | 1972.72 | Hex <sub>4</sub> HexNAc <sub>5</sub> NeuAc <sub>1</sub>                  | --          | 0.61 ± 0.14   | 1.8 × 10 <sup>-3</sup> |
| 2249.83 | 2249.83 | Hex <sub>5</sub> HexNAc <sub>7</sub>                                     | --          | 0.12 ± 0.03   | 1.9 × 10 <sup>-3</sup> |
| 1843.67 | 1843.67 | Hex <sub>5</sub> HexNAc <sub>5</sub>                                     | 0.16 ± 0.11 | 0.90 ± 0.15   | 2.2 × 10 <sup>-3</sup> |
| 1437.51 | 1437.51 | Hex <sub>4</sub> HexNAc <sub>3</sub>                                     | 0.01 ± 0.01 | 0.23 ± 0.05   | 2.3 × 10 <sup>-3</sup> |
| 2046.75 | 2046.75 | Hex <sub>5</sub> HexNAc <sub>6</sub>                                     | 0.05 ± 0.04 | 0.31 ± 0.05   | 2.5 × 10 <sup>-3</sup> |
| 2077.75 | 2077.75 | Hex <sub>5</sub> HexNAc <sub>4</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 2.14 ± 0.49 | 0.26 ± 0.04   | 2.6 × 10 <sup>-3</sup> |
| 2395.89 | 2395.89 | Hex <sub>5</sub> HexNAc <sub>7</sub> Fuc <sub>1</sub>                    | 0.15 ± 0.15 | 0.83 ± 0.11   | 2.9 × 10 <sup>-3</sup> |
| 2134.77 | 2134.78 | Hex <sub>5</sub> HexNAc <sub>5</sub> NeuAc <sub>1</sub>                  | 0.44 ± 0.19 | 1.22 ± 0.09   | 3.0 × 10 <sup>-3</sup> |
| 2192.81 | 2192.81 | Hex <sub>5</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub>                    | 0.63 ± 0.34 | 1.94 ± 0.13   | 3.2 × 10 <sup>-3</sup> |
| 2525.95 | 2525.92 | Hex <sub>4</sub> HexNAc <sub>7</sub> Fuc <sub>3</sub>                    | --          | 0.02 ± 0.01   | 3.4 × 10 <sup>-3</sup> |
| 2516.91 | 2516.92 | Hex <sub>7</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub>                    | 0.10 ± 0.02 | 0.014 ± 0.003 | 3.6 × 10 <sup>-3</sup> |
| 3083.11 | 3083.11 | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>2</sub> NeuAc <sub>2</sub> | 3.23 ± 0.74 | 0.61 ± 0.13   | 3.7 × 10 <sup>-3</sup> |
| 1640.59 | 1640.59 | Hex <sub>5</sub> HexNAc <sub>4</sub>                                     | 0.07 ± 0.06 | 1.15 ± 0.30   | 3.7 × 10 <sup>-3</sup> |
| 1113.41 | 1113.41 | Hex <sub>3</sub> HexNAc <sub>3</sub>                                     | --          | 0.13 ± 0.04   | 3.9 × 10 <sup>-3</sup> |
| 2280.82 | 2280.83 | Hex <sub>5</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 2.20 ± 0.91 | 5.45 ± 0.30   | 4.1 × 10 <sup>-3</sup> |
| 1519.57 | 1519.56 | Hex <sub>3</sub> HexNAc <sub>5</sub>                                     | 0.01 ± 0.01 | 1.42 ± 0.42   | 4.2 × 10 <sup>-3</sup> |
| 2524.93 | 2524.93 | Hex <sub>4</sub> HexNAc <sub>7</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | --          | 0.08 ± 0.02   | 4.5 × 10 <sup>-3</sup> |
| 1275.46 | 1275.46 | Hex <sub>4</sub> HexNAc <sub>3</sub>                                     | --          | 0.12 ± 0.04   | 4.5 × 10 <sup>-3</sup> |
| 2571.92 | 2571.93 | Hex <sub>5</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | 12.4 ± 2.8  | 3.74 ± 0.30   | 5.8 × 10 <sup>-3</sup> |
| 2776.02 | 2776.01 | Hex <sub>5</sub> HexNAc <sub>6</sub> Fuc <sub>3</sub> NeuAc <sub>1</sub> | --          | 0.04 ± 0.01   | 7.0 × 10 <sup>-3</sup> |
| 2411.88 | 2411.88 | Hex <sub>6</sub> HexNAc <sub>7</sub>                                     | --          | 0.18 ± 0.06   | 8.0 × 10 <sup>-3</sup> |
| 2881.05 | 2881.06 | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>4</sub> NeuAc <sub>1</sub> | 0.19 ± 0.07 | --            | 9.0 × 10 <sup>-3</sup> |
| 1925.72 | 1925.72 | Hex <sub>3</sub> HexNAc <sub>7</sub>                                     | --          | 0.04 ± 0.01   | 9.1 × 10 <sup>-3</sup> |
| 1624.60 | 1624.60 | Hex <sub>4</sub> HexNAc <sub>4</sub> Fuc <sub>1</sub>                    | 0.84 ± 0.21 | 1.40 ± 0.02   | 1.0 × 10 <sup>-2</sup> |
| 2866.05 | 2866.06 | Hex <sub>7</sub> HexNAc <sub>7</sub> Fuc <sub>2</sub>                    | 1.26 ± 0.28 | 0.55 ± 0.03   | 1.1 × 10 <sup>-2</sup> |
| 2660.96 | 2660.95 | Hex <sub>5</sub> HexNAc <sub>4</sub> Fuc <sub>3</sub> NeuAc <sub>2</sub> | --          | 0.02 ± 0.01   | 1.1 × 10 <sup>-2</sup> |
| 2401.85 | 2401.85 | Hex <sub>7</sub> HexNAc <sub>4</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 0.15 ± 0.06 | --            | 1.1 × 10 <sup>-2</sup> |
| 2978.08 | 2978.07 | Hex <sub>5</sub> HexNAc <sub>7</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | --          | 0.13 ± 0.05   | 1.2 × 10 <sup>-2</sup> |
| 2442.88 | 2442.88 | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> NeuAc <sub>1</sub> | 1.90 ± 0.70 | 0.14 ± 0.03   | 1.2 × 10 <sup>-2</sup> |
| 2734.99 | 2734.54 | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>3</sub> NeuAc <sub>1</sub> | --          | 0.08 ± 0.03   | 1.3 × 10 <sup>-2</sup> |
| 2223.80 | 2223.80 | Hex <sub>5</sub> HexNAc <sub>4</sub> Fuc <sub>2</sub> NeuAc <sub>1</sub> | 0.73 ± 0.24 | 0.11 ± 0.07   | 1.3 × 10 <sup>-2</sup> |
| 1811.68 | 1811.67 | Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>2</sub>                    | --          | 0.03 ± 0.01   | 1.3 × 10 <sup>-2</sup> |
| 2572.94 | 2572.95 | Hex <sub>5</sub> HexNAc <sub>5</sub> Fuc <sub>3</sub> NeuAc <sub>1</sub> | 0.49 ± 0.16 | 0.11 ± 0.03   | 1.5 × 10 <sup>-2</sup> |
| 2733.97 | 2733.97 | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | 1.63 ± 0.63 | 0.18 ± 0.05   | 1.7 × 10 <sup>-2</sup> |
| 2500.92 | 2500.92 | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>2</sub>                    | 2.63 ± 0.94 | 0.51 ± 0.23   | 1.9 × 10 <sup>-2</sup> |
| 3448.24 | 3448.25 | Hex <sub>7</sub> HexNAc <sub>7</sub> Fuc <sub>2</sub> NeuAc <sub>2</sub> | 0.29 ± 0.12 | 0.02 ± 0.02   | 1.9 × 10 <sup>-2</sup> |
| 2530.89 | 2530.89 | Hex <sub>6</sub> HexNAc <sub>4</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | 0.08 ± 0.04 | --            | 2.0 × 10 <sup>-2</sup> |
| 3099.11 | 3099.10 | Hex <sub>7</sub> HexNAc <sub>6</sub> Fuc <sub>1</sub> NeuAc <sub>2</sub> | 0.22 ± 0.09 | 0.03 ± 0.02   | 2.5 × 10 <sup>-2</sup> |

|         |         |  |             |             |                        |
|---------|---------|--|-------------|-------------|------------------------|
| 1728.61 | 1728.62 | Hex <sub>5</sub> HexNAc <sub>3</sub> NeuAc <sub>1</sub>                  | 0.62 ± 0.22 | 0.18 ± 0.05 | 2.8 × 10 <sup>-2</sup> |
| 3026.09 | 3026.10 | Hex <sub>6</sub> HexNAc <sub>5</sub> Fuc <sub>3</sub> NeuAc <sub>2</sub> | 0.20 ± 0.07 | 0.05 ± 0.04 | 3.2 × 10 <sup>-2</sup> |
| 2573.94 | 2573.94 | Hex <sub>7</sub> HexNAc <sub>7</sub>                                     | --          | 0.07 ± 0.04 | 3.3 × 10 <sup>-2</sup> |
| 1884.70 | 1884.70 | Hex <sub>4</sub> HexNAc <sub>6</sub>                                     | --          | 0.16 ± 0.09 | 3.5 × 10 <sup>-2</sup> |
| 1890.66 | 1890.67 | Hex <sub>6</sub> HexNAc <sub>3</sub> NeuAc <sub>1</sub>                  | 1.30 ± 0.56 | 0.37 ± 0.06 | 4.6 × 10 <sup>-2</sup> |
| 3012.11 | 3012.10 | Hex <sub>7</sub> HexNAc <sub>7</sub> Fuc <sub>3</sub>                    | --          | 0.18 ± 0.11 | 4.8 × 10 <sup>-2</sup> |
| 2792.01 | 2792.06 | Hex <sub>6</sub> HexNAc <sub>6</sub> Fuc <sub>2</sub> NeuAc <sub>1</sub> | 3.60 ± 1.27 | 1.53 ± 0.17 | 4.9 × 10 <sup>-2</sup> |