**Supplementary File 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Unit** | **Initial estimation** | **Optimized parameters** | |
| **M9glyCAA**  **(model A)** | **M9glyCAA**  **(model B)** |
|  | /min | 1.99 | 1.22 | 1.76 |
|  | /min | 20.0 | 22.4 | 22.5 |
|  | 1/ | 1.40 | 1.17 | 1.55 |
|  | 1/ | 622 | 797 | 532 |
|  | 1/min | 0.96 | 1.27 | 1.31 |
|  |  | 0.28 | 0.28 | 0.18 |
|  |  | 0.47 | - | - |
|  | /cell | 20.2 | - | - |
|  | /cell | 3.82 | - | - |
|  | genome  /cell | 1.40 | - | - |