**Appendix 1 – Supplementary File 1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Symbol** | **Parameter** | **Growth condition** | | | **Source** |
| **M9glyCAAT** | **M9gly** | **M9ala** |
|  | Mean cell area (μm2) | 2.48 | 1.51 | 1.40 | Measured in this work |
|  | Mean cell width (μm) | 0.80 | 0.69 | 0.62 | Measured in this work |
|  | Mean cell length (μm) | 3.25 | 2.44 | 2.51 | Measured in this work |
|  | Mean cell volume (μm3) | 1.50 | 0.83 | 0.70 | Estimated from cell length and width |
|  | Cell volume at birth (μm3) | 1.08 | 0.60 | 0.50 | for exponential-growing population |
|  | Normalized growth rate (1/min) | 0.0173 | 0.0069 | 0.0039 | Measured in this work |
|  | Doubling time (min) | 40 | 100 | 175 | Estimated from |
|  | Average DNA concentration  under balanced growth (genome/μm3) | 1.40 | 1.99 | 2.02 | Calculated from cell cycle averaging of the DNA content and cell volume. |
|  | DNA concentration  of 1N cells at birth  (genome/μm3) | 0.92 | 1.67 | 2.00 | Calculated from with the assumption of initial DNA content = 1 genome. |
|  | Cell volume:protein ratio (106 μm3) | 0.283 | 0.339 | 0.530 | See Appendix 1 – Supplementary File 1 and Appendix 2 – Supplementary File 1 for and estimates, respectively. |
|  | Cell area:protein ratio (106 μm2) | 0.469 | 0.616 | 1.061 | See Appendix 1 – Supplementary File 1 for and estimates. |