

**Document Title:**

Sample data collection rates for eBIC microscopes

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1.1.0

**Date:**

06 Oct 2022

**Krios with Gatan K3 & GIF**

|  | 1.072 Å/px @ 81k | 0.831 Å/px @ 105k | 0.653 Å/px @ 130k | 0.513 Å/px @ 165k |
|--|------------------|-------------------|-------------------|-------------------|
| Pixel size and magnification             | 1.072 Å/px @ 81k | 0.831 Å/px @ 105k | 0.653 Å/px @ 130k | 0.513 Å/px @ 165k |
| Magnified sensor area (μm <sup>2</sup> ) | 0.271            | 0.163             | 0.101             | 0.062             |
| Shots/hole                               | 2                | 3                 | 5                 | 8                 |
| Movies/hour                              | <b>482</b>       | <b>719</b>        | <b>819</b>        | <b>1079</b>       |
| μm <sup>2</sup> /hour                    | 131              | 117               | 82                | 67                |

**Krios with TFS Falcon 4i & Selectris X**

|  | 1.171 Å/px @ 105k | 0.921 Å/px @ 130k | 0.723 Å/px @ 165k | 0.576 Å/px @ 215k |
|--|-------------------|-------------------|-------------------|-------------------|
| Pixel size and magnification             | 1.171 Å/px @ 105k | 0.921 Å/px @ 130k | 0.723 Å/px @ 165k | 0.576 Å/px @ 215k |
| Magnified sensor area (μm <sup>2</sup> ) | 0.230             | 0.142             | 0.088             | 0.056             |
| Shots/hole                               | 2                 | 4                 | 7                 | 11                |
| Movies/hour                              | <b>275</b>        | <b>400</b>        | <b>550</b>        | <b>725</b>        |
| μm <sup>2</sup> /hour                    | 63                | 57                | 48                | 40                |

Sample data rates for K3 (non-CDS) and Falcon 4i at common magnifications for SPA. All datasets collected in EPU on R1.2/1.3 Quantifoil grids. Total dose of 40e/A<sup>2</sup>, 50um C2, 3s stage delay, 0.5s IS delay. Dose rates: K3- 13-15e/px/s; F4i 6-7e/px/s.