

Supplementary Information for: Sub-pixel resolving optofluidic microscope for on-chip cell imaging

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Fig S1. Motion of an *Euglena gracilis* cell over 25 frames (a) and the motion vector obtained via our tracing program (b).

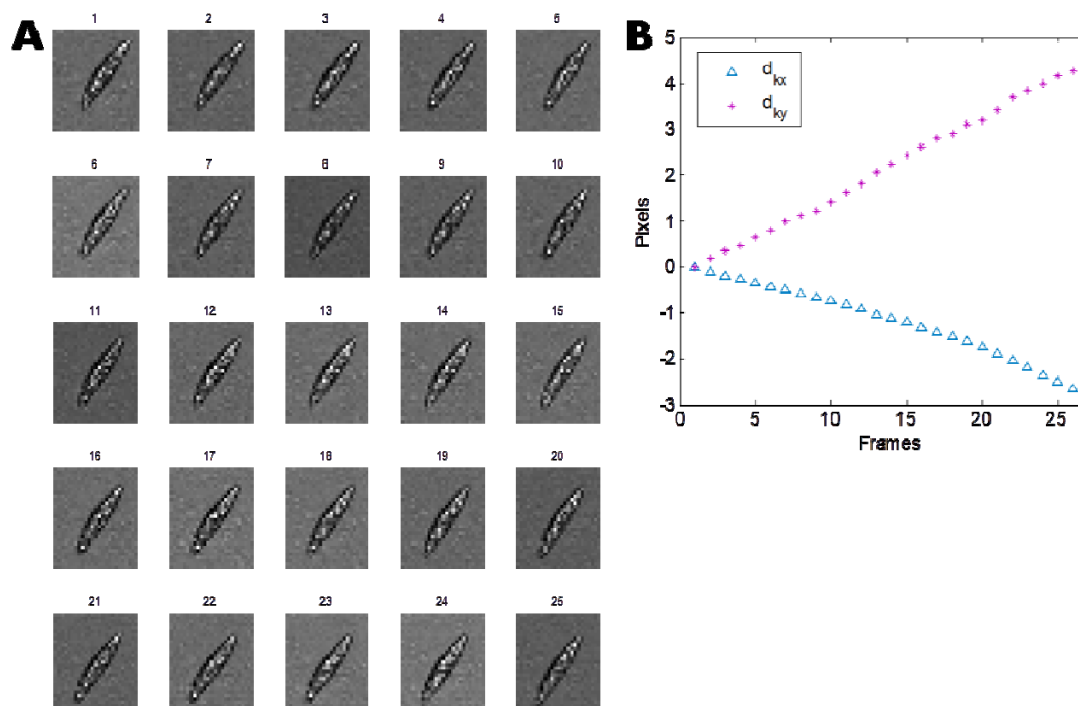


Fig S2. Motion vector for *Euglena gracilis* corresponding to Fig 2A (A2, A3)

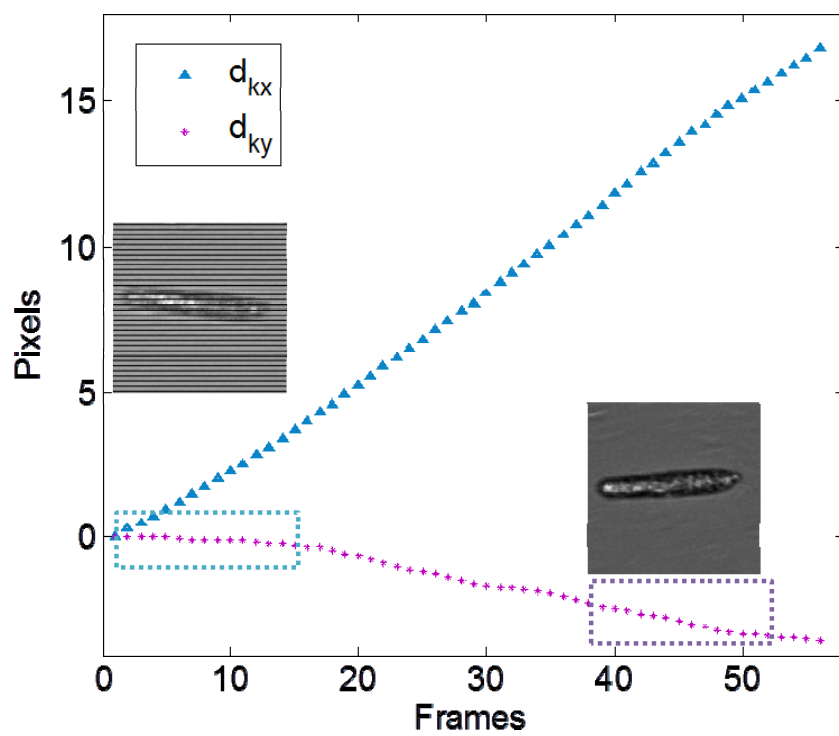


Fig S3. Rotation angle measured for the *Euglena gracilis* in Fig 3B by the angle of the microorganism.

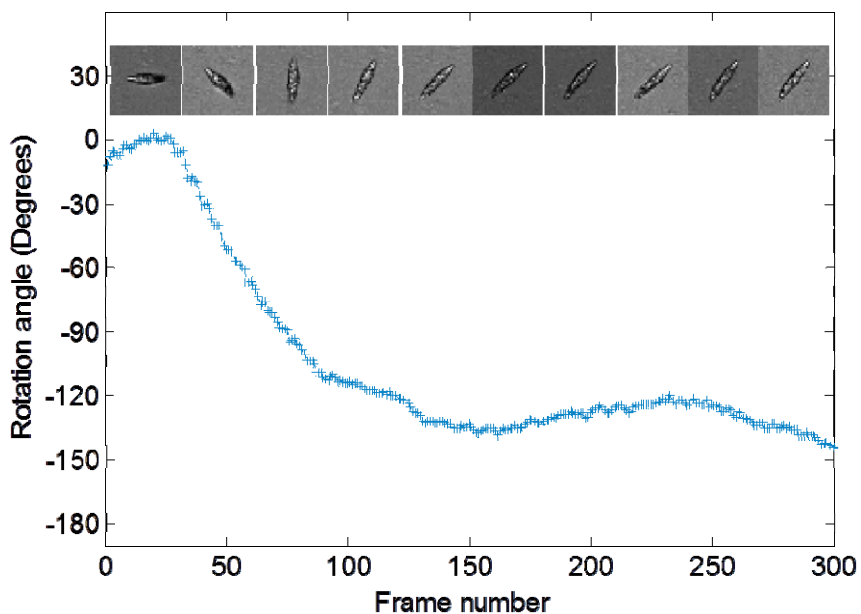


Fig S4. Rotation angle measured for the *Euglena gracilis* in Fig 3C by the displacement of the *Euglena gracilis*. The yellow line in inset indicates the trace of the cell in the sequence.

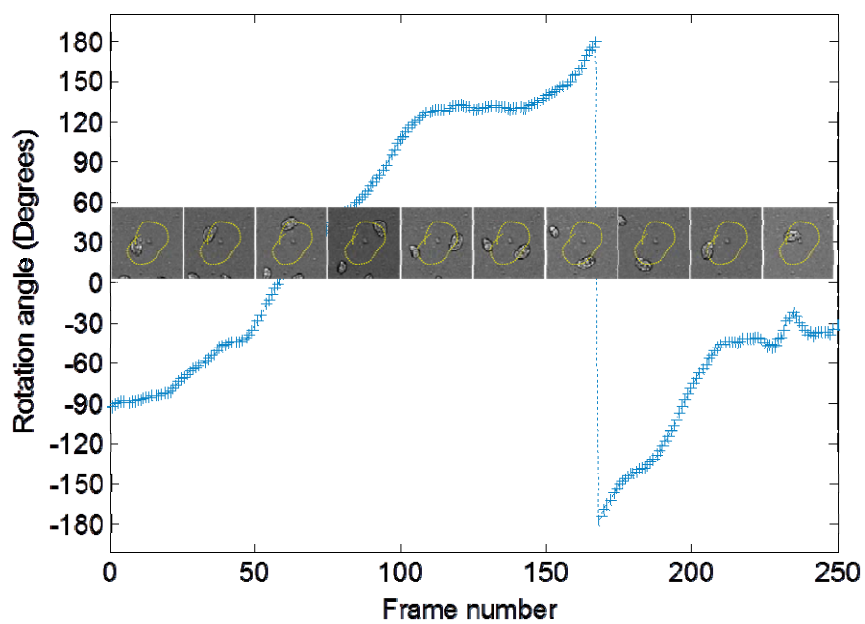


Table S1. Cell counting results and percentage difference between the machine count and two manual count results.

| | Machine | Observer A | Observer B | Machine-A (%) | Machine-B (%) | A-B (%) |
|-----------------|----------------|-------------------|-------------------|----------------------|----------------------|----------------|
| Image 1 | 112 | 112 | 110 | 0.00 | 1.80 | 1.80 |
| Image 2 | 121 | 115 | 119 | 5.08 | 1.67 | 3.42 |
| Image 3 | 115 | 117 | 117 | 1.72 | 1.72 | 0.00 |
| Image 4 | 102 | 105 | 107 | 2.90 | 4.78 | 1.89 |
| Image 5 | 99 | 102 | 99 | 2.99 | 0.00 | 2.99 |
| Image 6 | 94 | 97 | 94 | 3.14 | 0.00 | 3.14 |
| Image 7 | 103 | 111 | 101 | 7.48 | 1.96 | 9.43 |
| Image 8 | 169 | 157 | 161 | 7.36 | 4.85 | 2.52 |
| Image 9 | 157 | 154 | 150 | 1.93 | 4.56 | 2.63 |
| Image 10 | 187 | 199 | 193 | 6.22 | 3.16 | 3.06 |
| Image 11 | 219 | 222 | 233 | 1.36 | 6.19 | 4.84 |
| Image 12 | 196 | 197 | 194 | 0.51 | 1.03 | 1.53 |
| Image 13 | 239 | 245 | 239 | 2.48 | 0.00 | 2.48 |
| Image 14 | 282 | 302 | 292 | 6.85 | 3.48 | 3.37 |
| Average | | | | 3.57 | 2.51 | 3.08 |