Electronic Supplementary Information (ESI)

Oil-sealed femtoliter fiber-optic arrays for single molecule analysis

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Content:

Fig. S1. On-chip sealing using mineral oil. A section of the femtoliter microwell array after an enzyme/substrate solution containing 0.72 pM β-gal and 100 μM RDG has been sealed by mineral oil with an on-chip protocol. The accumulation of fluorescent product in wells containing an active enzyme molecule makes them clearly distinguishable from the background.

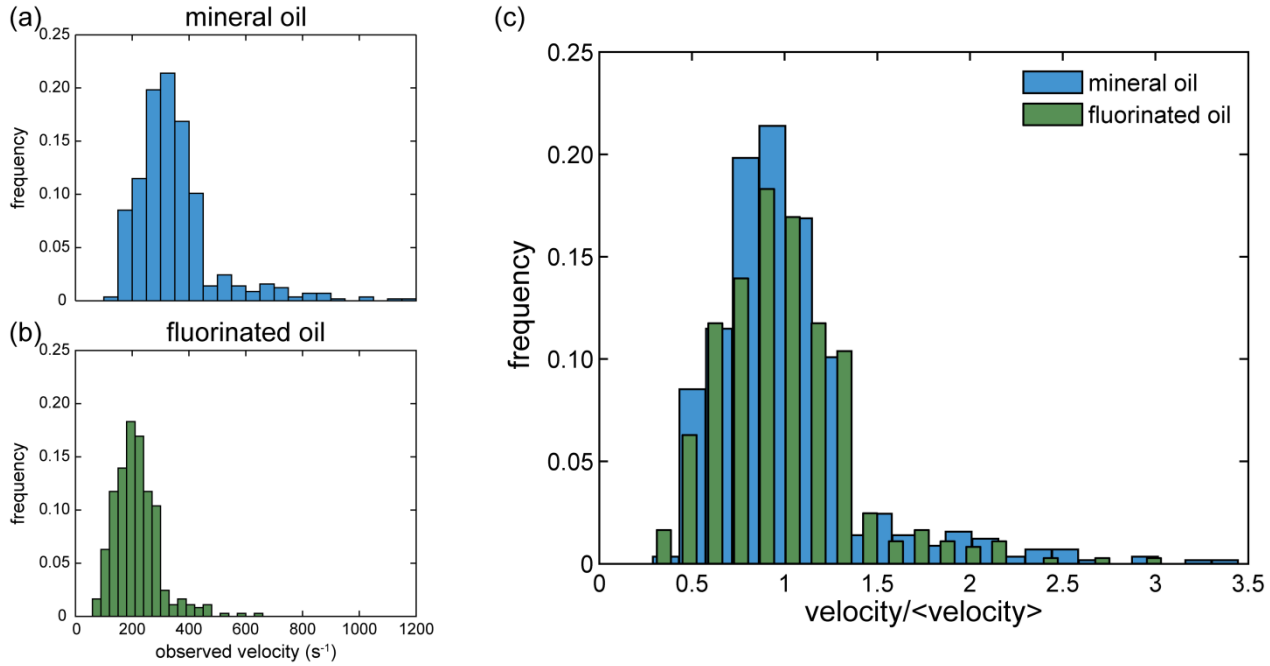

Fig. S2. Histograms of observed velocities of β-gal enzymes sealed with mineral oil and fluorinated oil. (a) Histogram of the observed velocities of 575 β-gal enzymes sealed with mineral oil using an off-chip protocol. The mean velocity is 350 sec^{-1}. (b) Histogram of the observed velocities of 366 β-gal enzymes sealed with Fluorinert© FC-70 oil using an off-chip protocol. The mean velocity is 220 sec^{-1}. (b). Normalized histograms of β-gal catalytic turnover rates sealed by FC-70 and mineral oil. The shapes of the distributions correlate well with one another.