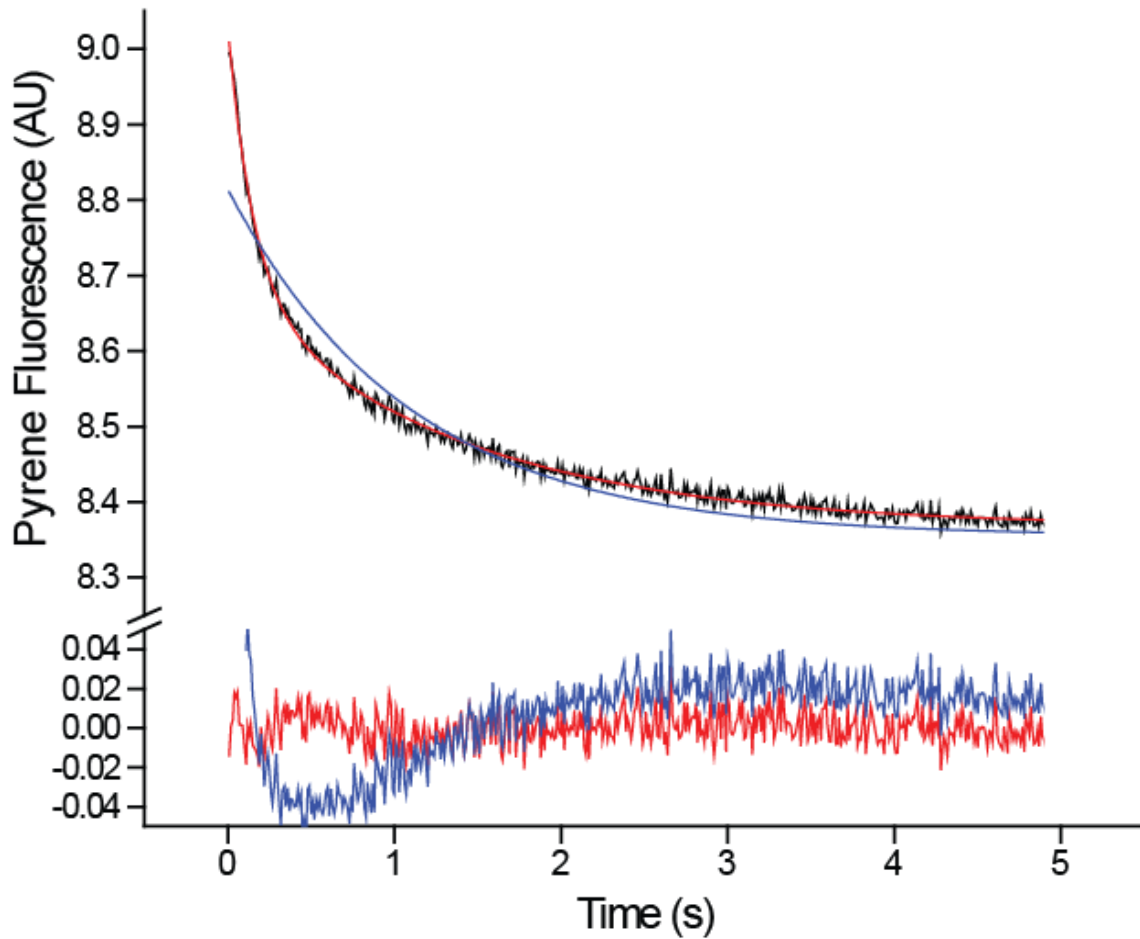


Supplementary Figure 1.



The kinetics of mRNA translocation measured by the pyrene quenching assay is best fitted by the sum of two exponentials. Pre-translocation ribosomes containing deacylated elongator tRNA^{Met} in the P site and N-Ac-Phe-tRNA^{Phe} in the A site were rapidly mixed with EF-G-GTP. Pyrene quenching is shown in black and the single-exponential and double-exponential fits in blue and red, respectively. The corresponding residuals obtained by subtracting the fitted curves from the raw data are shown at the bottom.