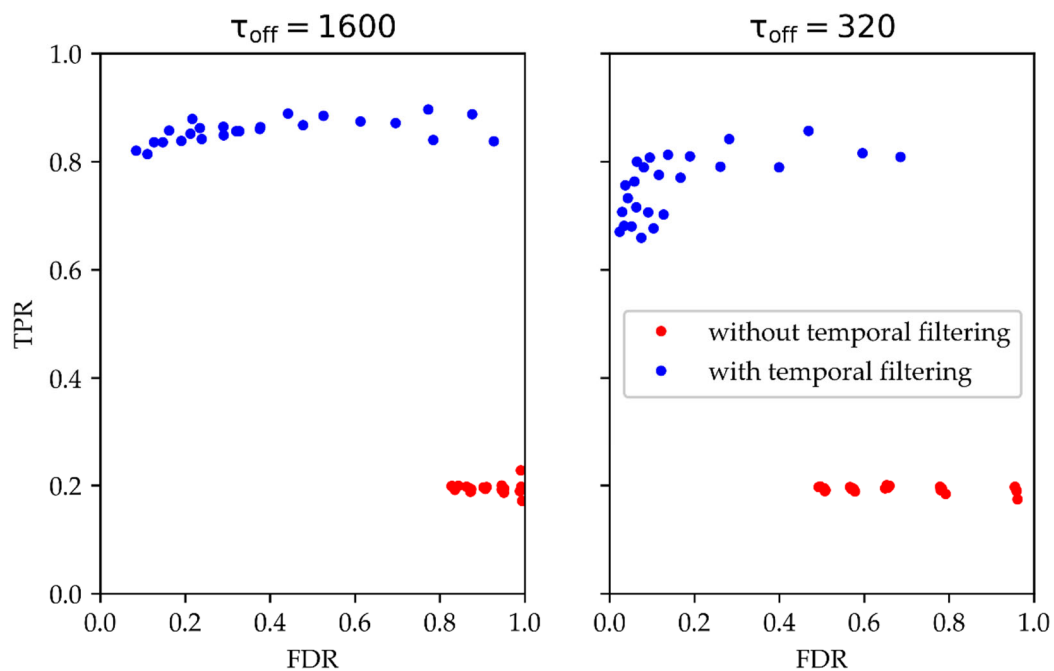
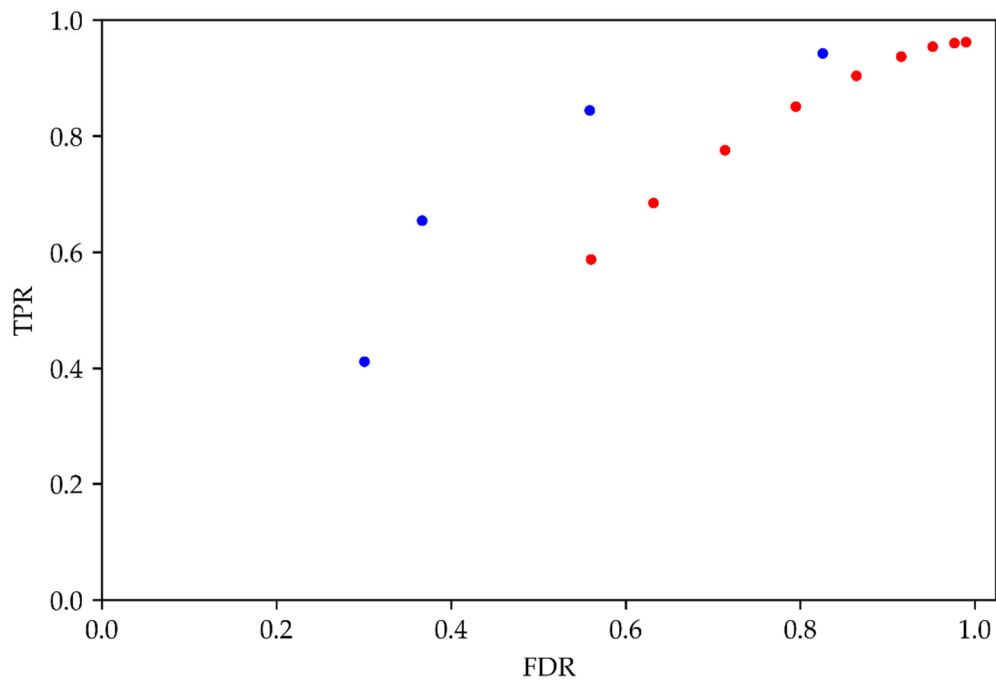


# Supplementary Figures



**Supplementary Figure 1.** Modified ROC Plot for different single molecule blinking scenarios. For the left panel we simulated molecules blinking at low frequency ( $\tau_{\text{on}}=16$ ;  $\tau_{\text{off}}=1600$ ), for the right panel we simulated blinking at high frequency ( $\tau_{\text{on}}=16$ ;  $\tau_{\text{off}}=320$ ); B was set to 500. The comparison shows data obtained without (red) and with (blue) temporal filtering.  $\omega_T$  was set to 80%, analyzed with the algorithm by Gao et al [23].



**Supplementary Figure 2:** Modified ROC Plot comparing temporal filtering (blue) and median filtering (red). For both simulations, we used  $\tau_{on}=6$ ,  $\tau_{off}=600$ ,  $B=500$ ;  $\omega_T$  was set to 80%. Data were analyzed with the algorithm by Gao et al [23].