

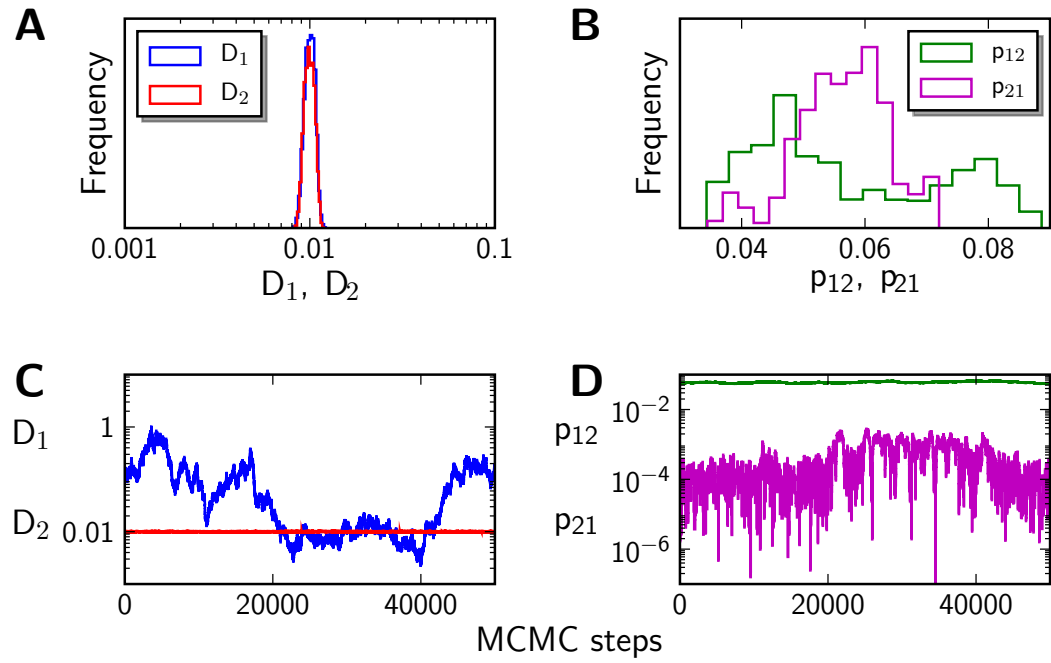


Figure S2. Pure Brownian diffusion analyzed with a two-state HMM. 10 independent trajectories with 1000 steps each were simulated with a diffusion coefficient of $0.01 (\mu\text{m})^2/\text{s}$, and fitted to a 2-state HMM. As discussed above, the 2-state HMM collapses to a 1-state model in one of two possible ways: Either the two diffusion coefficients converge to the same value (A. and B.), or one of the states is inaccessible because of a very small transition probability leading into it (C. and D.) D_1 and D_2 are in units of $(\mu\text{m})^2/\text{s}$.