



Figure S1: Accuracy of different algorithms as a function of resolvability of population structure. This figure is similar to Figure 1 in the main text, with results using the F-prior included. Subfigure (a) illustrates the demographic model underlying the three populations represented in the simulated datasets. Subfigure (b) compares the optimal model complexity inferred by ADMIXTURE ( $K_{cv}^*$ ), fastSTRUCTURE with simple prior ( $K_{cv}^*$ ,  $K_{\mathcal{E}}^*$ ,  $K_{\emptyset^c}^*$ ), fastSTRUCTURE with F-prior ( $K_{cv}^*$ ), and fastSTRUCTURE with logistic prior ( $K_{cv}^*$ ). Subfigure (c) compares the accuracy of admixture proportions estimated by each algorithm at the optimal value of  $K$  in each replicate.