



Figure S1 Bias of the LD estimates for D (A), D' (C) and r^2 (E) and standard error (SE) of the LD estimates for D (B), D' (D) and r^2 (F) when $p_{A_1} = 0.5$, $p_{A_2} = 0.75$, $\varepsilon = 0.01$ and the true values of D were 0, 0.05, 0.1 and 0.125. The dashed lines represents the estimates obtained using GUS-LD whereas the solid lines represents the estimates obtained using the standard likelihood approach. The upper and lower bound for D are -0.125 and 0.125 respectively.