Figure S7: *SURFDAWave* performance on simulated data trained and tested with simulations conducted with YRI demographic history to differentiate between sweeps and neutrality. *SURFDAWave* parameters using Daubechies' least-Asymmetric wavelets to estimate spatial distributions of summary statistics and using $\gamma = 1$ or $\gamma = 0$. (Left) Power to differentiate between sweep and neutrality by comparing the probability of a sweep under sweep simulations with the same probability in simulations of neutrality when using varying γ penalties in *SURFDAWave*. (Right confusion matrices) Classification rates using *SURFDAWave* when using $\gamma = 1$ and $\gamma = 0$.