

Figure S2: Comparison of the estimates of the scaled covariance matrices  $\Omega_{\text{HSA}}$  among the J = 52 human populations (lower diagonal panels of the scatterplot in blue) and  $\Omega_{\text{BTA}}$  among the J = 18 French cattle breeds (upper diagonal panels of the scatterplot in red) between BayEnv2 (Coop *et al.*, 2010) and four alternative BayPass model parameterizations (i)  $\rho = 1$ ; ii)  $\rho = 1$  and  $a_{\pi} = b_{\pi} = 1$ ; iii)  $\rho = J$  and ; iv)  $\rho = J$  and  $a_{\pi} = b_{\pi} = 1$ ). For each pairs of  $\Omega$  estimates, the FMD distance (Förstner and Moonen, 2003) between the two corresponding matrices is also given.