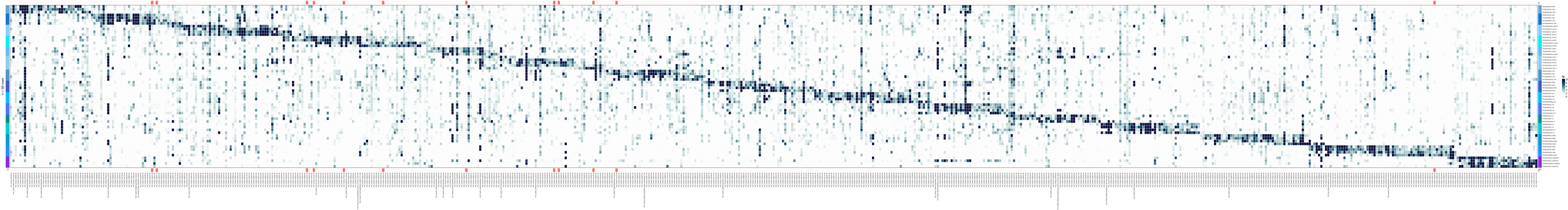n = 661 columns