r_in = 0.34 , r_out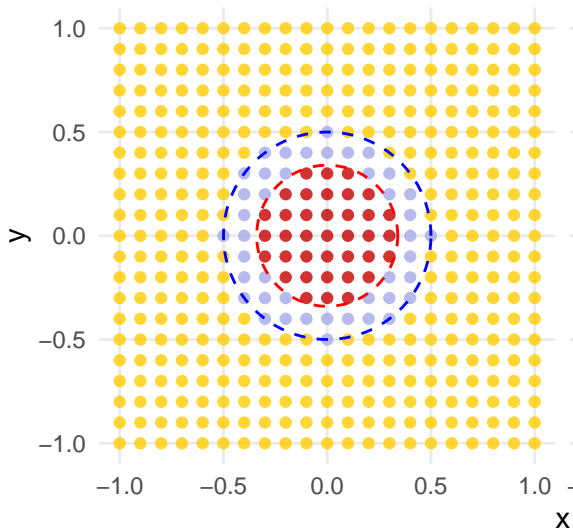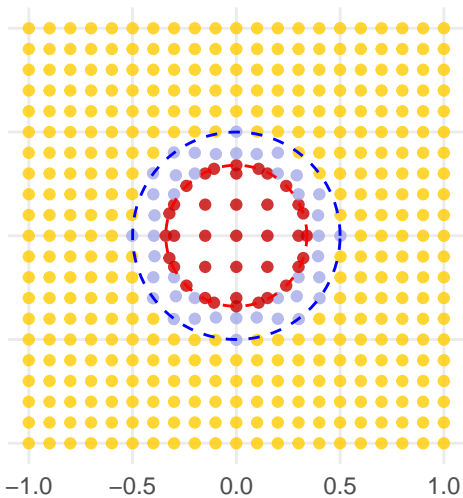 = 0.5