A: observed QQ uniform

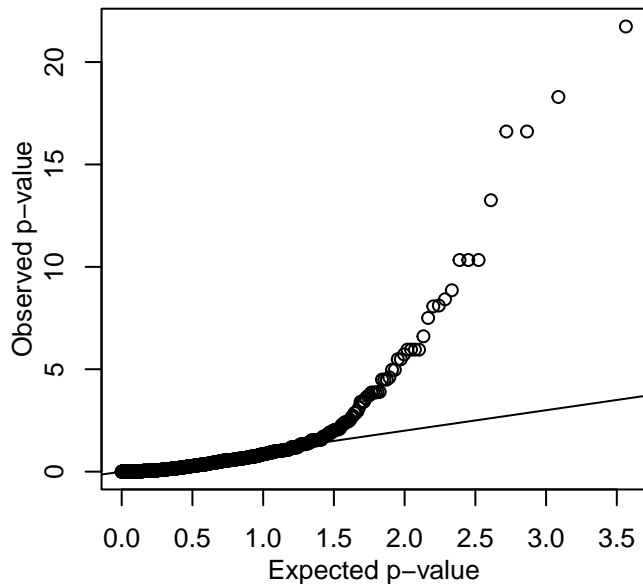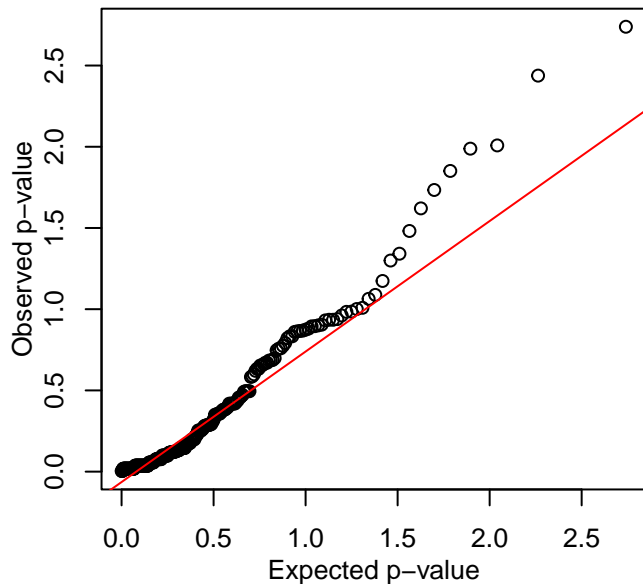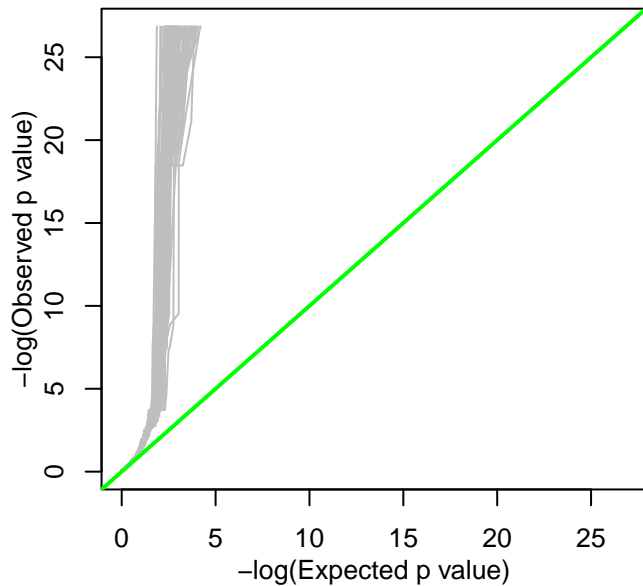**B: simulated QQ uniform**

C: observed QQ HWE null

D: simulated QQ HWE null