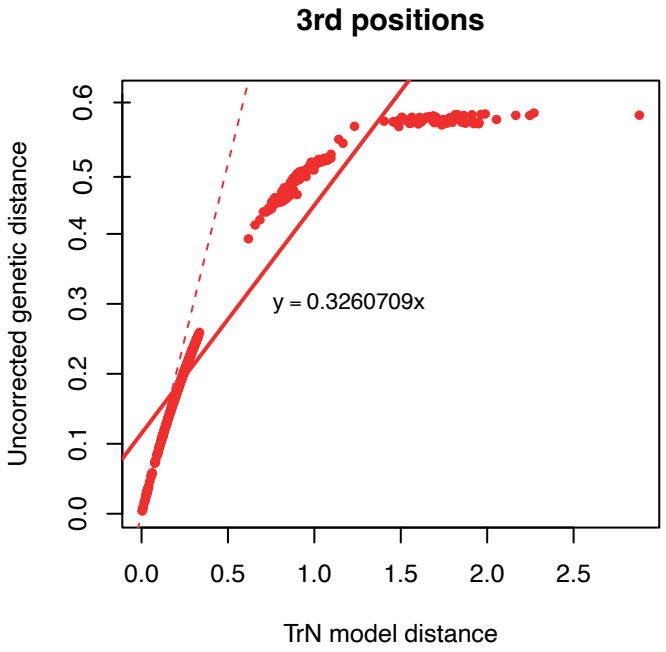
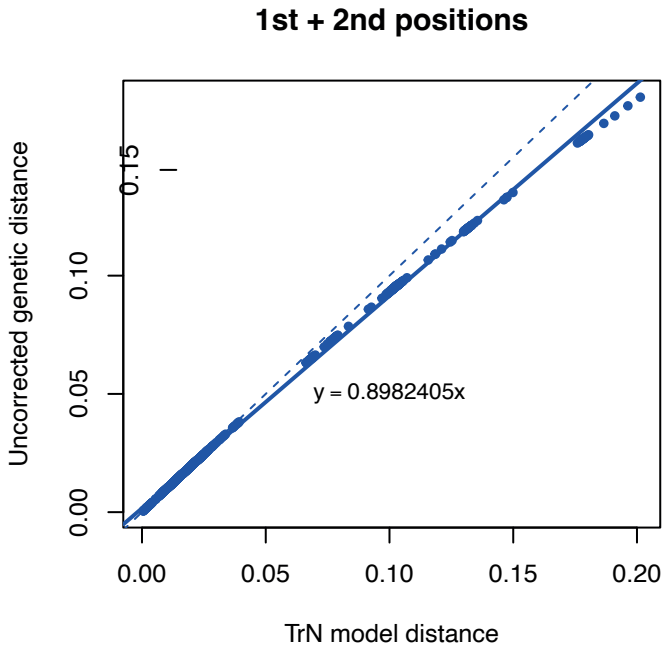
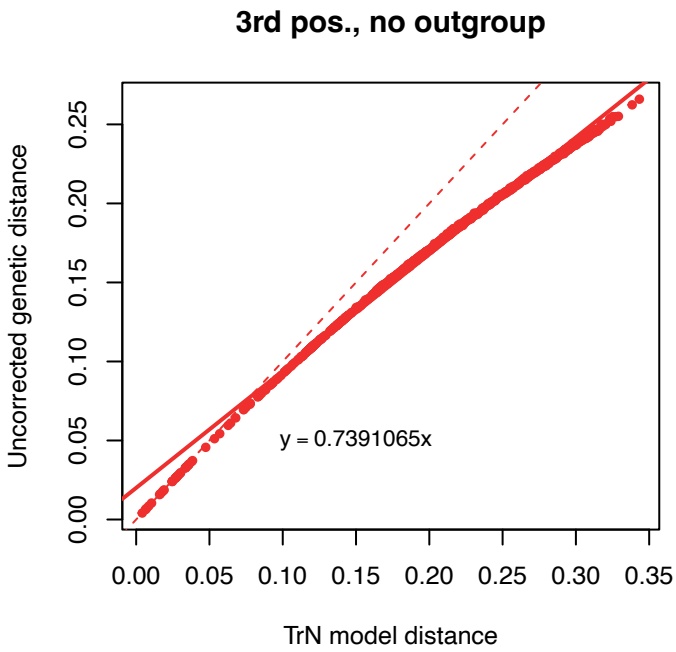
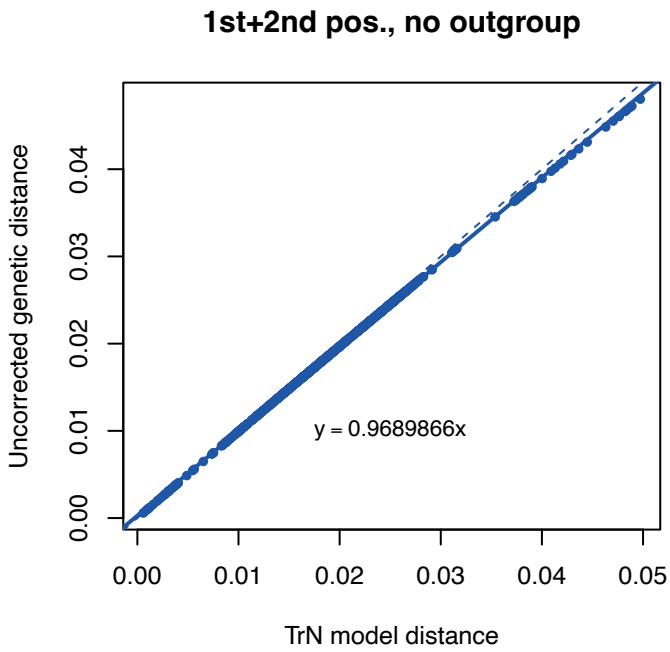
a)

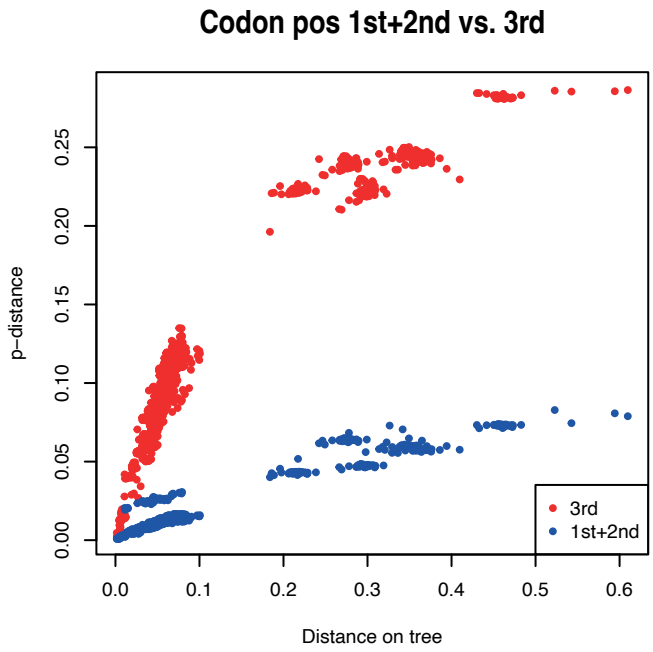

3rd positions
Uncorrected genetic distance
TrN model distance
y = 0.3260709x
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.0
0.5
1.0
1.5
2.0
2.5

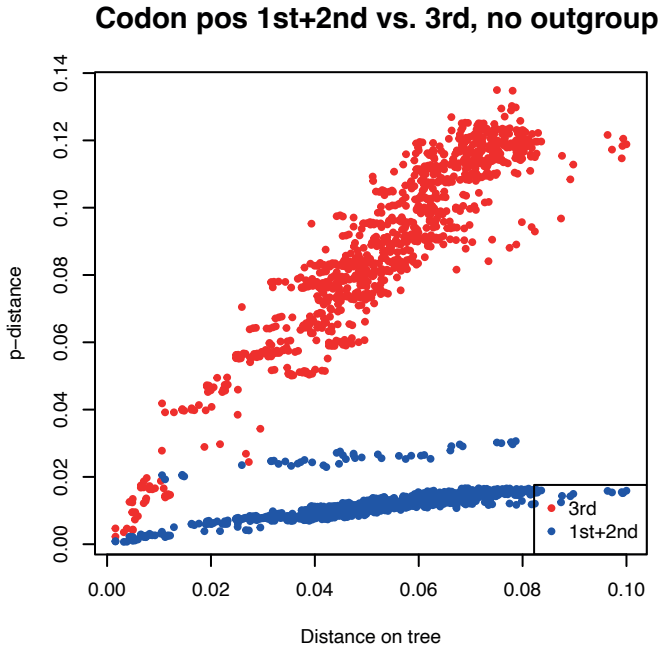

1st + 2nd positions
Uncorrected genetic distance
TrN model distance
y = 0.8982405x
0.00
0.05
0.10
0.15
0.20


3rd pos., no outgroup
Uncorrected genetic distance
TrN model distance
y = 0.7391065x
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35


1st+2nd pos., no outgroup
Uncorrected genetic distance
TrN model distance
y = 0.9689866x
0.00
0.01
0.02
0.03
0.04
0.05

b)


Codon pos 1st+2nd vs. 3rd
p−distance
Distance on tree
3rd
1st+2nd
0.00
0.05
0.10
0.15
0.20
0.25
0.0
0.1
0.2
0.3
0.4
0.5
0.6


Codon pos 1st+2nd vs. 3rd, no outgroup
p−distance
Distance on tree
3rd
1st+2nd
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14