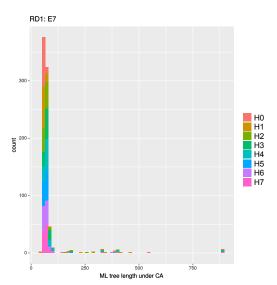
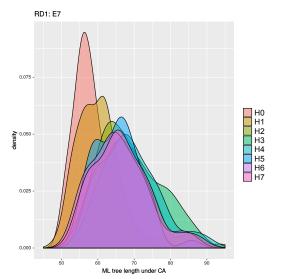
## **Random Permutation Test**

Reduced Dataset 1: E7

H0: (gray-blue-yellow-red-black-green)
H1: gray+(blue-yellow-red-black-green)
H2: gray+blue+(yellow-red-black-green)
H3: gray+blue+yellow+(red-black-green)
H4: gray+blue+yellow+red+(black-green)
H5: gray+blue+(red-black)+(green-yellow)
H6: gray+blue+red+black+(green-yellow)

H7: gray+blue+yellow+red+black+green





Kruskal-Wallis rank sum test on ML tree length chi-squared = 165.86, df = 7, p-value < 2.2e-16

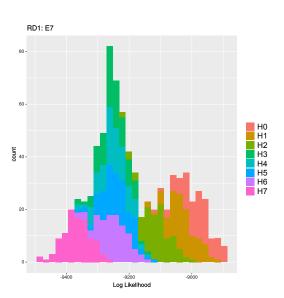
## Multiple comparison test after Kruskal-Wallis

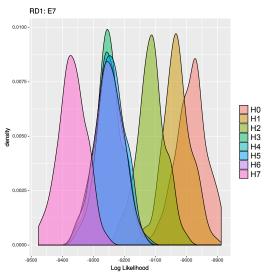
p.value: 0.05 obs.dif critical.dif difference tlen\_H0-tlen\_H1 97.52 102.0845 FALSE tlen\_H0-tlen\_H2 269.31 102.0845 TRUE tlen\_H0-tlen\_H3 335.53 102.0845 TRUE 102.0845 tlen\_H0-tlen\_H4 308.82 TRUE tlen\_H0-tlen\_H5 227.26 102.0845 TRUE tlen\_H0-tlen\_H6 234.92 102.0845 TRUE

102.0845

TRUE

tlen\_H0-tlen\_H7 256.56

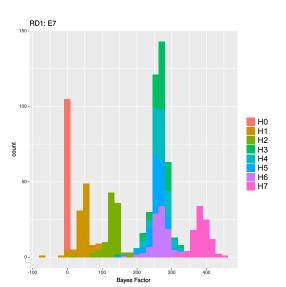


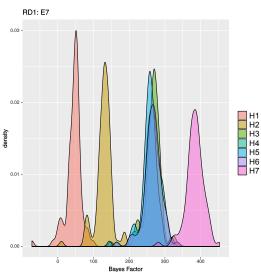


Kruskal-Wallis rank sum test on the Log Likelihood chi-squared = 665.11, df = 7, p-value < 2.2e-16

## Multiple comparison test after Kruskal-Wallis

p.value: 0.05 critical.dif difference obs.dif 102.0845 Inl H0-Inl H1 57.17 FALSE Inl\_H0-Inl\_H2 167.52 102.0845 TRUE Inl\_H0-Inl\_H3 431.76 TRUE 102.0845 102.0845 TRUE Inl\_H0-Inl\_H4 429.51 Inl\_H0-Inl\_H5 406.16 102.0845 TRUE 102.0845 Inl H0-Inl H6 428.60 TRUE Inl\_H0-Inl\_H7 661.76 102.0845 **TRUE** 





Kruskal-Wallis rank sum test on the ΔBF chi-squared = 565.76, df = 6, p-value < 2.2e-16

## Multiple comparison test after Kruskal-Wallis

p.value: 0.05 obs dif critical dif difference bf\_H1-bf\_H2 98.05 86 8822 TRUE bf\_H1-bf\_H3 368.34 86.8822 TRUE bf\_H1-bf\_H4 358.75 86.8822 TRUE bf\_H1-bf\_H5 309.04 86 8822 TRUF bf\_H1-bf\_H6 359.78 86.8822 TRUE bf\_H1-bf\_H7 597.99 86.8822 TRUE bf\_H2-bf\_H3 270.29 86.8822 TRUE bf\_H2-bf\_H4 260.70 86.8822 **TRUE** bf\_H2-bf\_H5 210.99 86.8822 TRUE bf\_H2-bf\_H6 261.73 86.8822 TRUE bf\_H2-bf\_H7 499.94 86.8822 TRUE bf\_H3-bf\_H4 9.59 86.8822 FALSE bf\_H3-bf\_H5 59.30 86.8822 FALSE bf\_H3-bf\_H6 8.56 86.8822 **FALSE** bf\_H3-bf\_H7 229.65 86.8822 TRUE bf\_H4-bf\_H5 49.71 86.8822 **FALSE** bf\_H4-bf\_H6 86.8822 FALSE 1.03 bf\_H4-bf\_H7 239.24 86.8822 TRUE 86.8822 FALSE bf\_H5-bf\_H6 50.74 bf\_H5-bf\_H7 288.95 86.8822 TRUE bf\_H6-bf\_H7 238.21 86.8822 TRUE