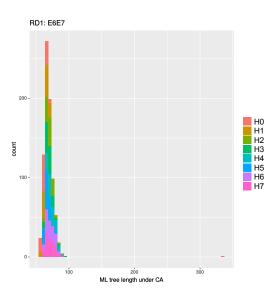
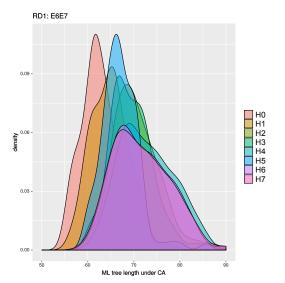
## **Random Permutation Test**

Reduced Dataset 1: E6E7

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

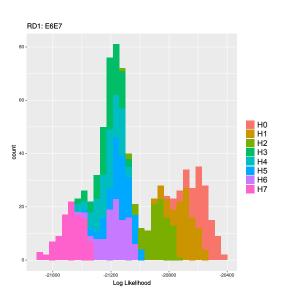


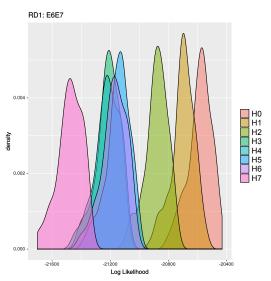


Kruskal-Wallis rank sum test on ML tree length chi-squared = 276.65, df = 7, p-value < 2.2e-16

## Multiple comparison test after Kruskal-Wallis p.value: 0.05

obs.dif critical.dif difference tlen\_H0-tlen\_H1 93.73 102.0845 FALSE tlen\_H0-tlen\_H2 330.76 102.0845 TRUE tlen\_H0-tlen\_H3 296.09 102.0845 TRUE 102.0845 tlen\_H0-tlen\_H4 405.87 TRUE tlen\_H0-tlen\_H5 187.34 102.0845 TRUE tlen\_H0-tlen\_H6 361.87 102.0845 TRUE tlen\_H0-tlen\_H7 357.54 102.0845 TRUE

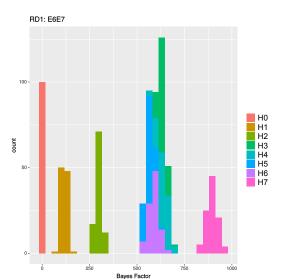


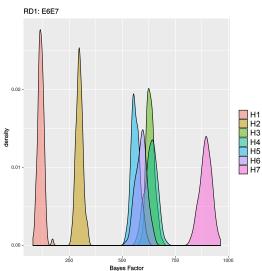


Kruskal-Wallis rank sum test on the Log Likelihood chi-squared = 694.21, df = 7, p-value < 2.2e-16

## Multiple comparison test after Kruskal-Wallis

p.value: 0.05 obs.dif critical.dif difference 102.0845 Inl\_H0-Inl\_H1 74.62 FALSE Inl\_H0-Inl\_H2 180.52 102.0845 TRUE Inl\_H0-Inl\_H3 474.95 TRUE 102.0845 Inl\_H0-Inl\_H4 476.26 102.0845 TRUE Inl\_H0-Inl\_H5 376.31 102.0845 TRUE 102.0845 Inl H0-Inl H6 412.88 TRUE Inl\_H0-Inl\_H7 680.70 102.0845 **TRUE** 





Kruskal-Wallis rank sum test on the  $\Delta$ BF chi-squared = 646.23, df = 6, p-value < 2.2e-16

## Multiple comparison test after Kruskal-Wallis

p.value: 0.05 critical dif difference obs dif bf\_H1-bf\_H2 100.00 86 8822 TRUE bf\_H1-bf\_H3 435.21 86.8822 TRUE bf\_H1-bf\_H4 442.02 86.8822 TRUE bf\_H1-bf\_H5 223.84 86 8822 TRUF bf\_H1-bf\_H6 298.93 86.8822 TRUE bf\_H1-bf\_H7 600.00 86.8822 TRUE bf\_H2-bf\_H3 335.21 86.8822 TRUE bf\_H2-bf\_H4 342.02 86.8822 **TRUE** bf\_H2-bf\_H5 123.84 86.8822 TRUE bf\_H2-bf\_H6 198.93 86.8822 TRUE bf\_H2-bf\_H7 500.00 86.8822 TRUE bf\_H3-bf\_H4 6.81 86.8822 FALSE bf\_H3-bf\_H5 211.37 86.8822 TRUE bf\_H3-bf\_H6 136.28 86.8822 TRUE bf\_H3-bf\_H7 164.79 86.8822 TRUE bf\_H4-bf\_H5 218.18 86.8822 TRUE bf\_H4-bf\_H6 143.09 86.8822 TRUE bf\_H4-bf\_H7 157.98 86.8822 TRUE 86.8822 FALSE bf\_H5-bf\_H6 75.09 bf\_H5-bf\_H7 376.16 86.8822 TRUE bf\_H6-bf\_H7 301.07 86.8822 TRUE