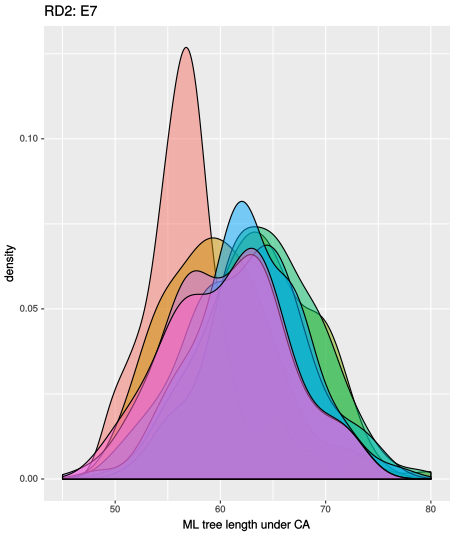# Random Permutation Test
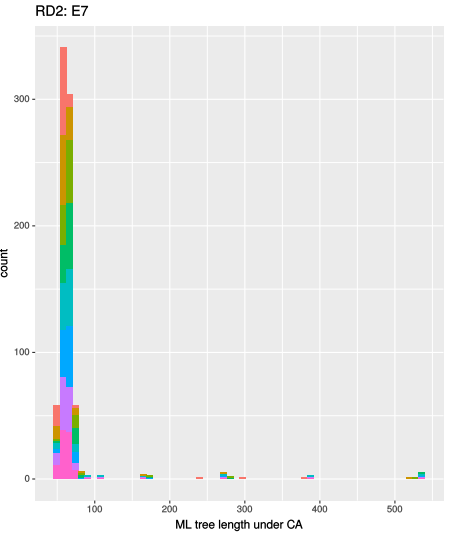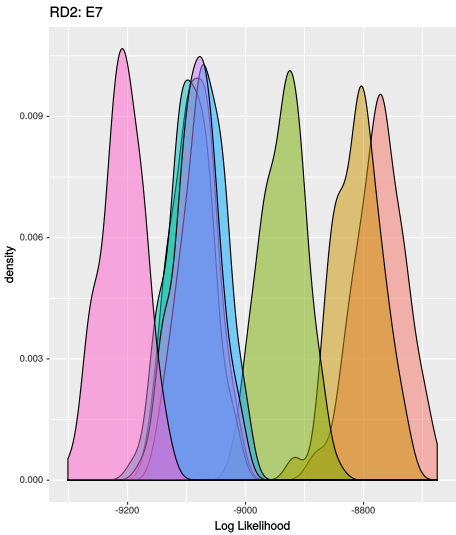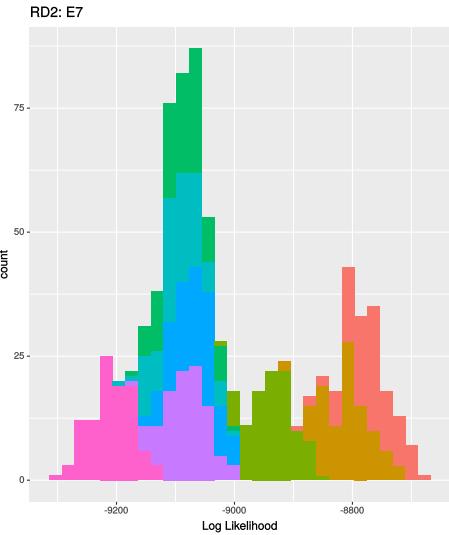## Reduced Dataset 2: E7

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 = 110.41, df = 7, p-value < 2.2e-16

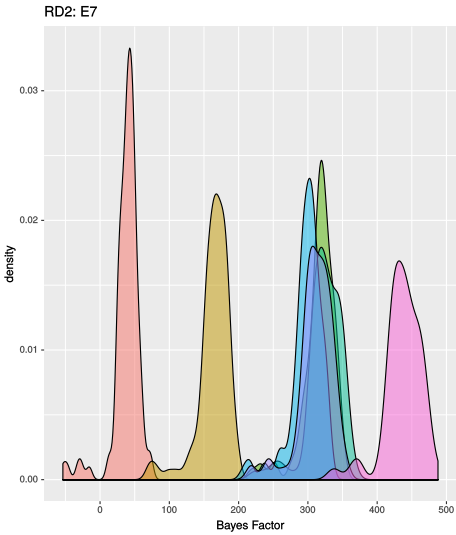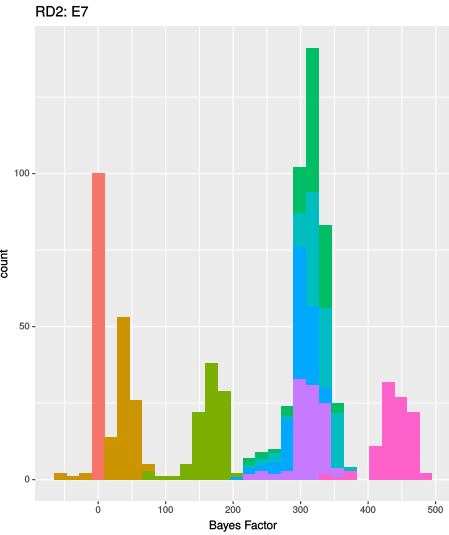**Multiple comparison test after Kruskal-Wallis**
p.value: 0.05

	obs.dif	critical.dif	difference
tlen_H0-tlen_H1	100.82	102.0845	FALSE
tlen_H0-tlen_H2	258.38	102.0845	TRUE
tlen_H0-tlen_H3	278.32	102.0845	TRUE
tlen_H0-tlen_H4	220.37	102.0845	TRUE
tlen_H0-tlen_H5	224.17	102.0845	TRUE
tlen_H0-tlen_H6	154.42	102.0845	TRUE
tlen_H0-tlen_H7	157.36	102.0845	TRUE

Kruskal-Wallis rank sum test on the Log Likelihood
chi-squared = 688.43, df = 7, p-value < 2.2e-16

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

	obs.dif	critical.dif	difference
lnl_H0-lnl_H1	49.38	102.0845	FALSE
lnl_H0-lnl_H2	173.36	102.0845	TRUE
lnl_H0-lnl_H3	436.45	102.0845	TRUE
lnl_H0-lnl_H4	459.10	102.0845	TRUE
lnl_H0-lnl_H5	381.42	102.0845	TRUE
lnl_H0-lnl_H6	421.58	102.0845	TRUE
lnl_H0-lnl_H7	671.59	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	99.96	86.8822	TRUE
bf_H1-bf_H3	373.27	86.8822	TRUE
bf_H1-bf_H4	410.86	86.8822	TRUE
bf_H1-bf_H5	271.96	86.8822	TRUE
bf_H1-bf_H6	344.92	86.8822	TRUE
bf_H1-bf_H7	598.89	86.8822	TRUE
bf_H2-bf_H3	273.31	86.8822	TRUE
bf_H2-bf_H4	310.90	86.8822	TRUE
bf_H2-bf_H5	172.00	86.8822	TRUE
bf_H2-bf_H6	244.96	86.8822	TRUE
bf_H2-bf_H7	498.93	86.8822	TRUE
bf_H3-bf_H4	37.59	86.8822	FALSE
bf_H3-bf_H5	101.31	86.8822	TRUE
bf_H3-bf_H6	28.35	86.8822	FALSE
bf_H3-bf_H7	225.62	86.8822	TRUE
bf_H4-bf_H5	138.90	86.8822	TRUE
bf_H4-bf_H6	65.94	86.8822	FALSE
bf_H4-bf_H7	188.03	86.8822	TRUE
bf_H5-bf_H6	72.96	86.8822	FALSE
bf_H5-bf_H7	326.93	86.8822	TRUE
bf_H6-bf_H7	253.97	86.8822	TRUE