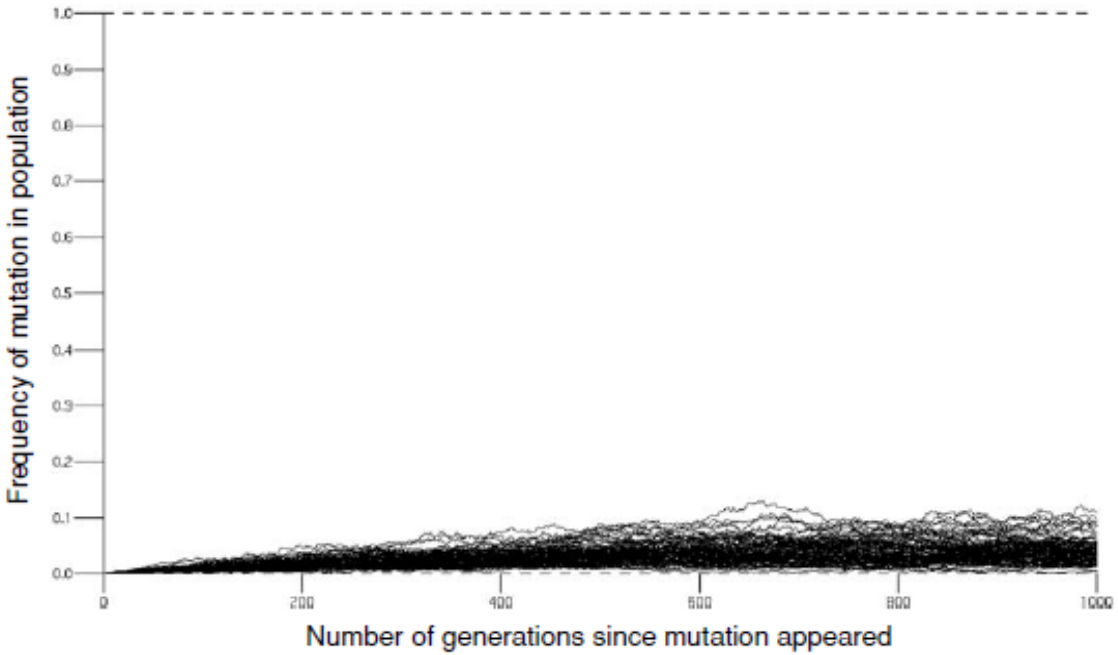
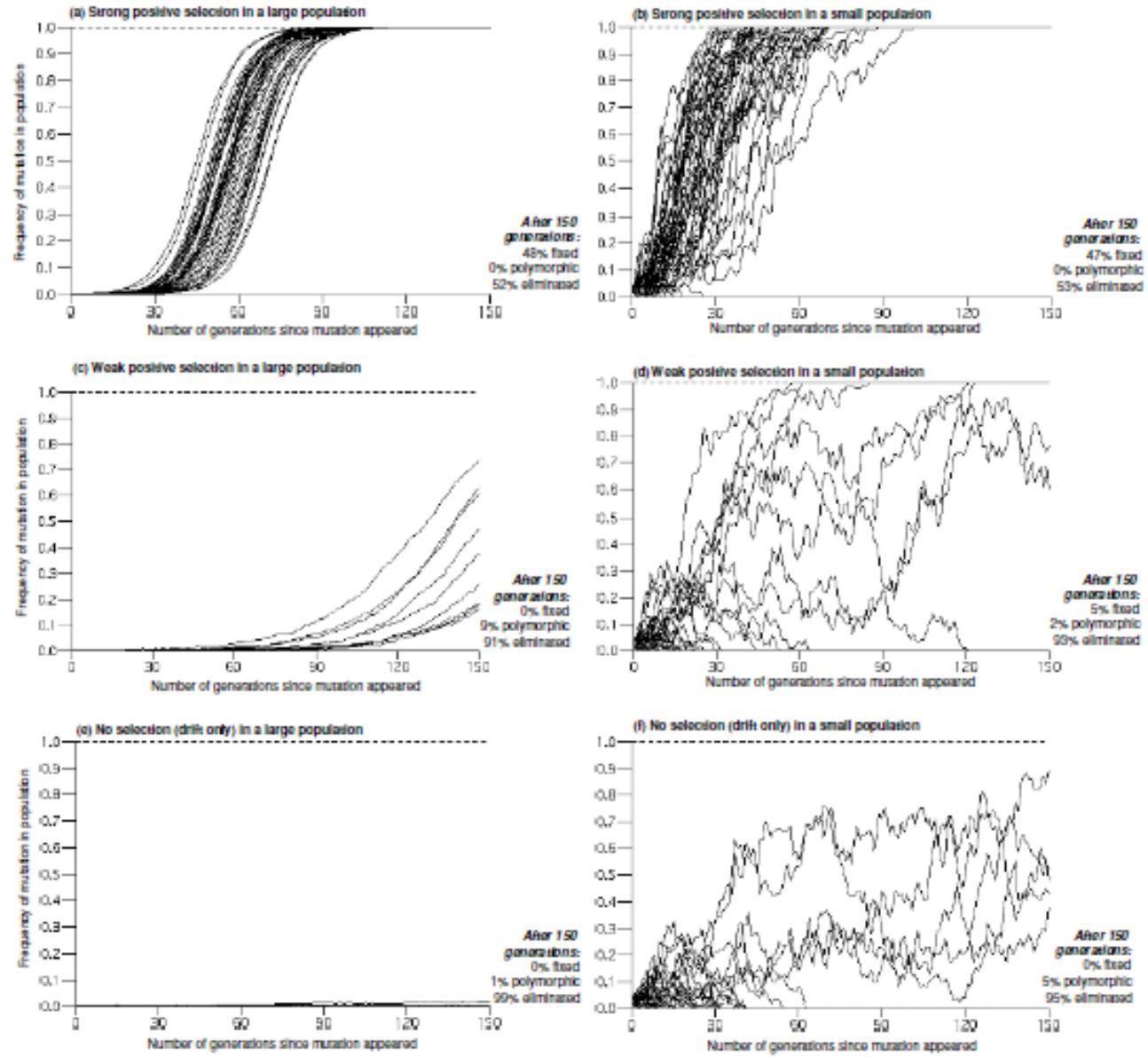
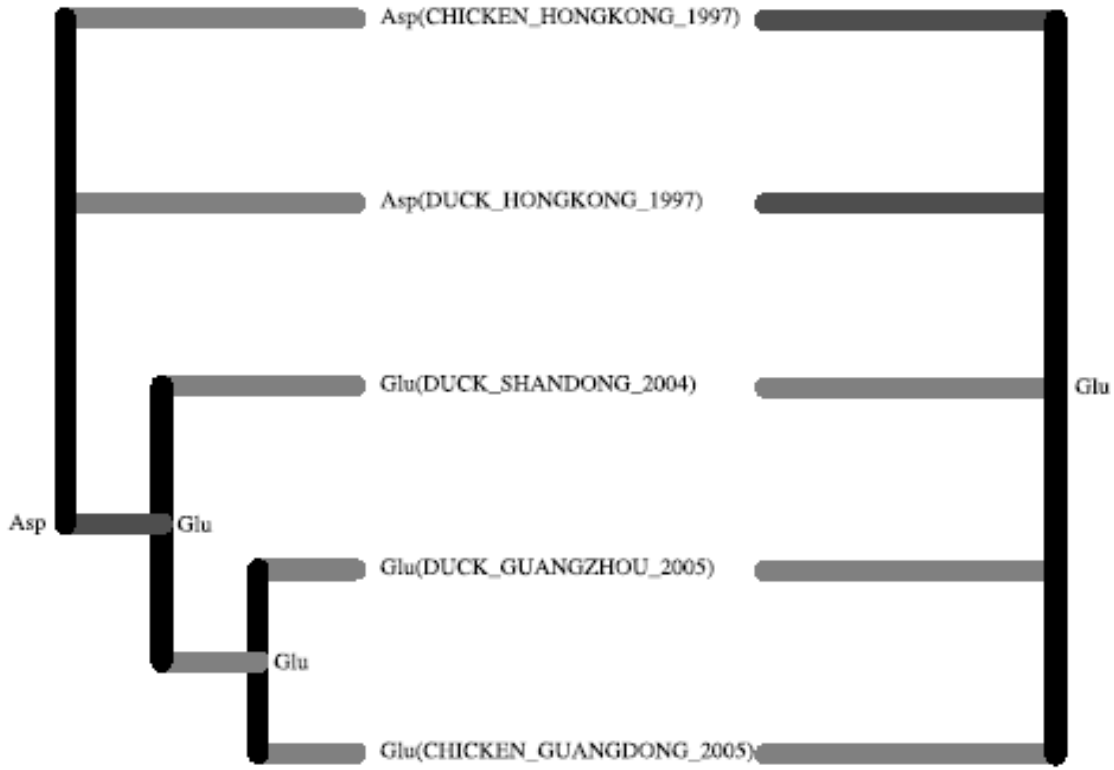
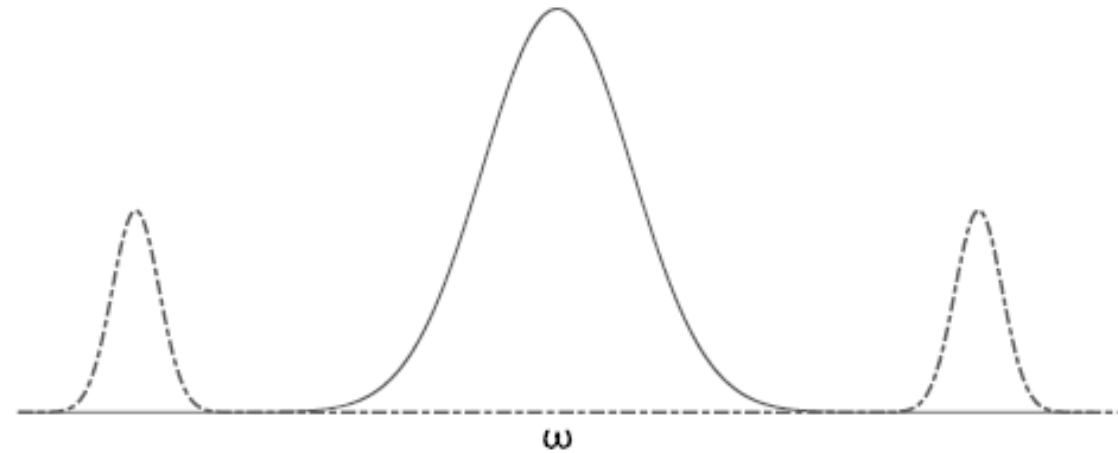
13. Doğal seçilim ve moleküler dizilerin adaptasyonu

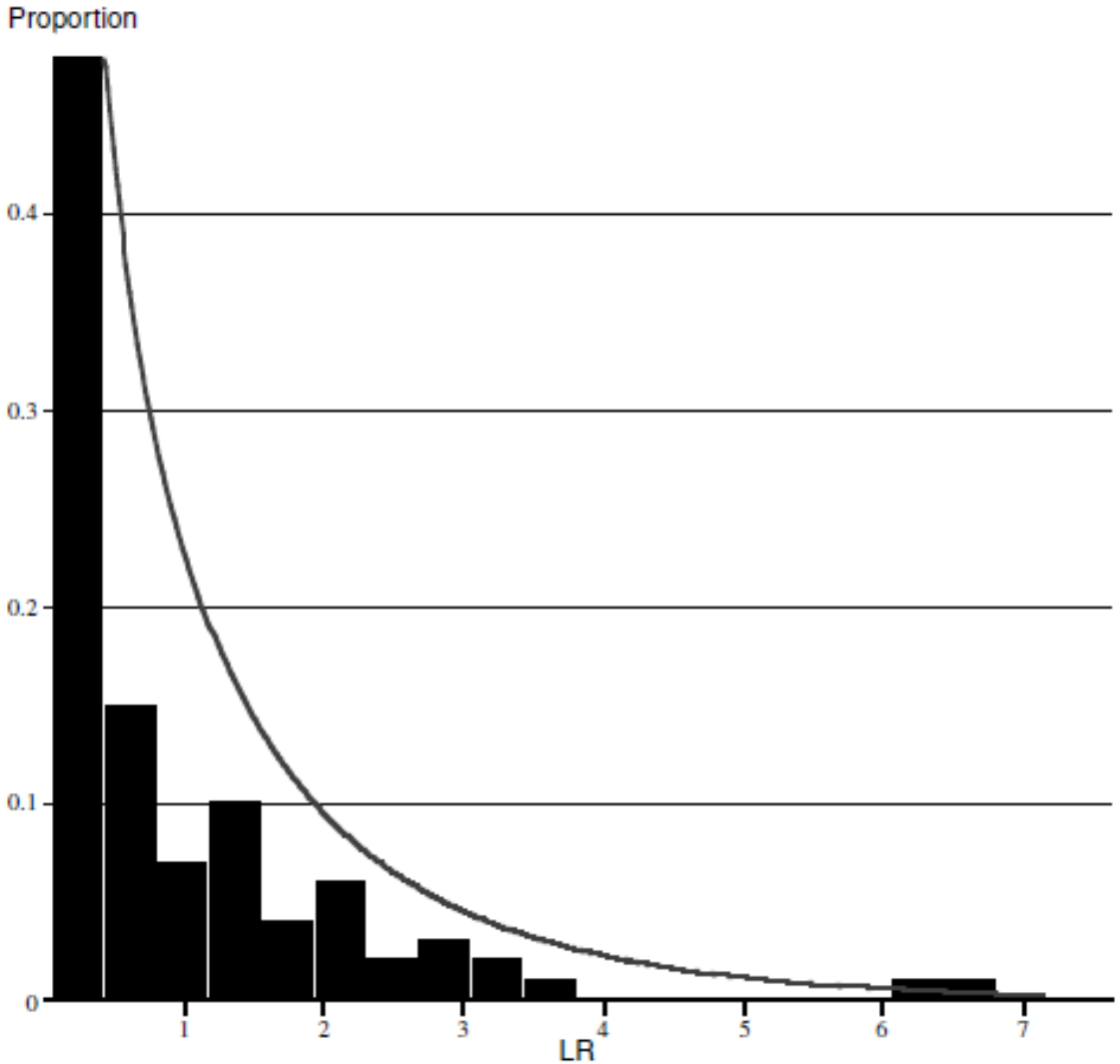




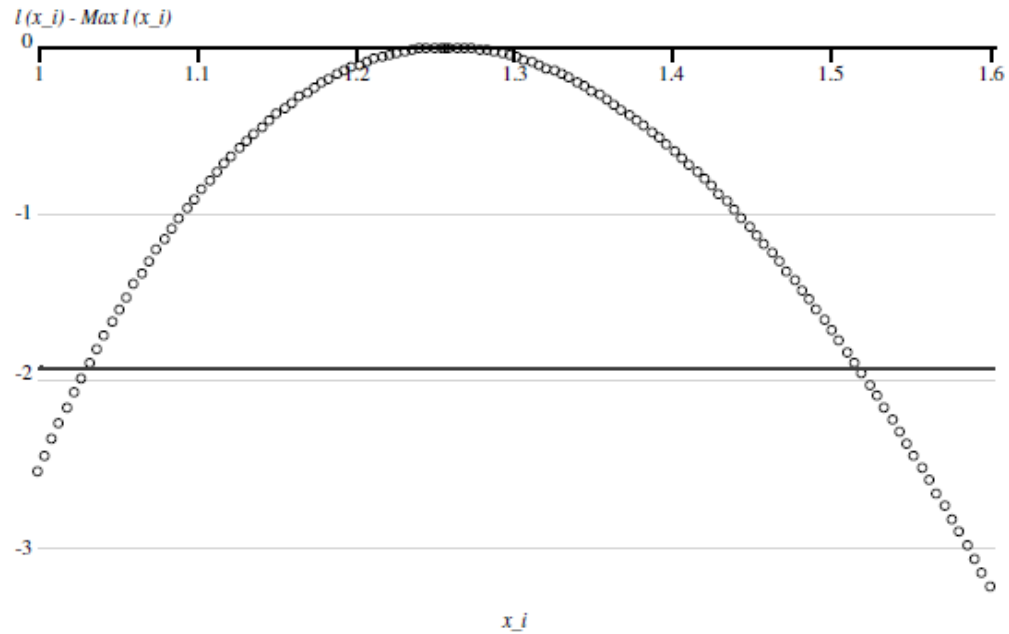
14. Seçilim baskısının hesaplanması

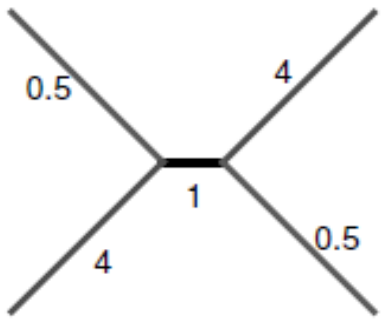


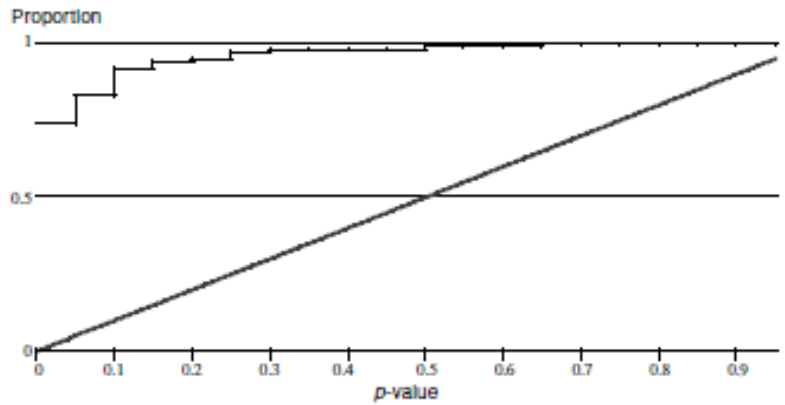


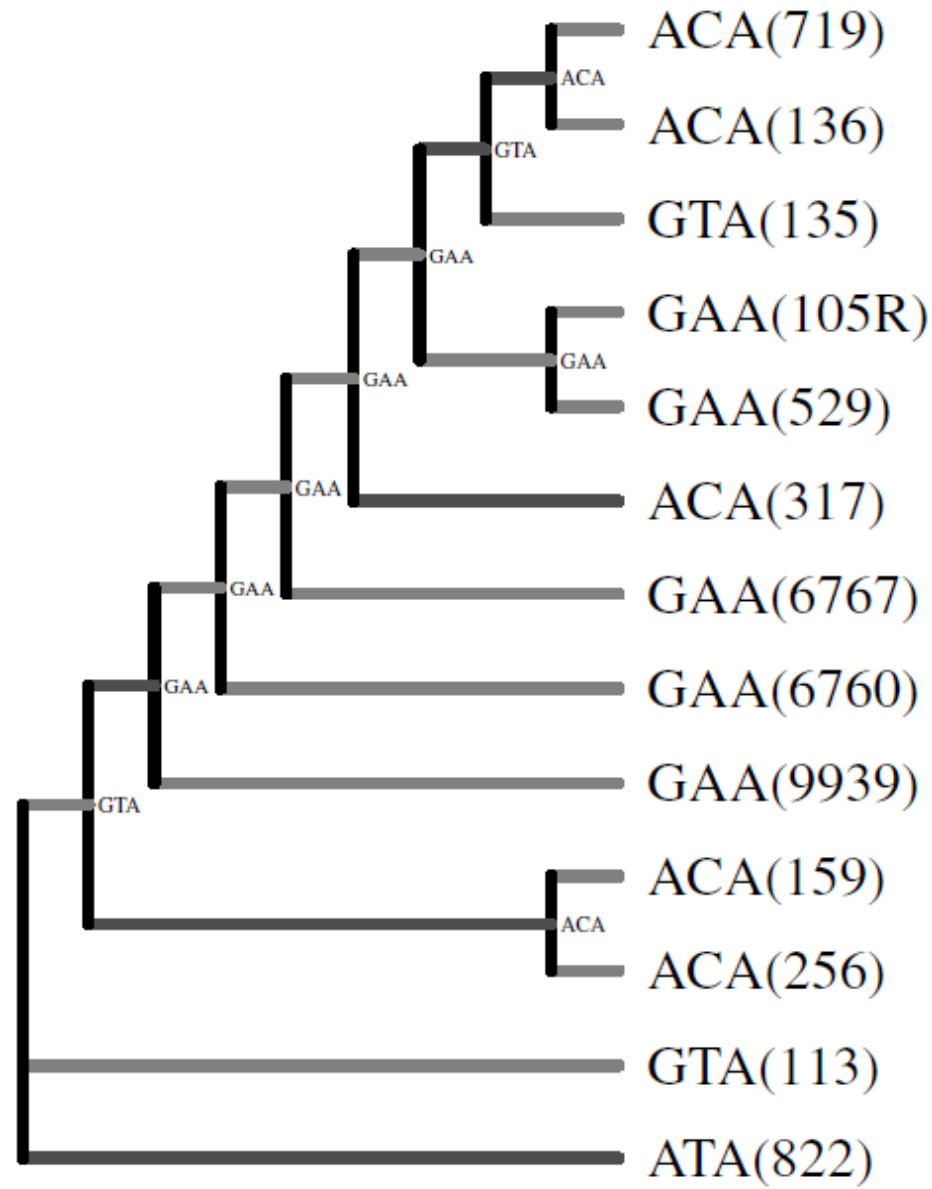


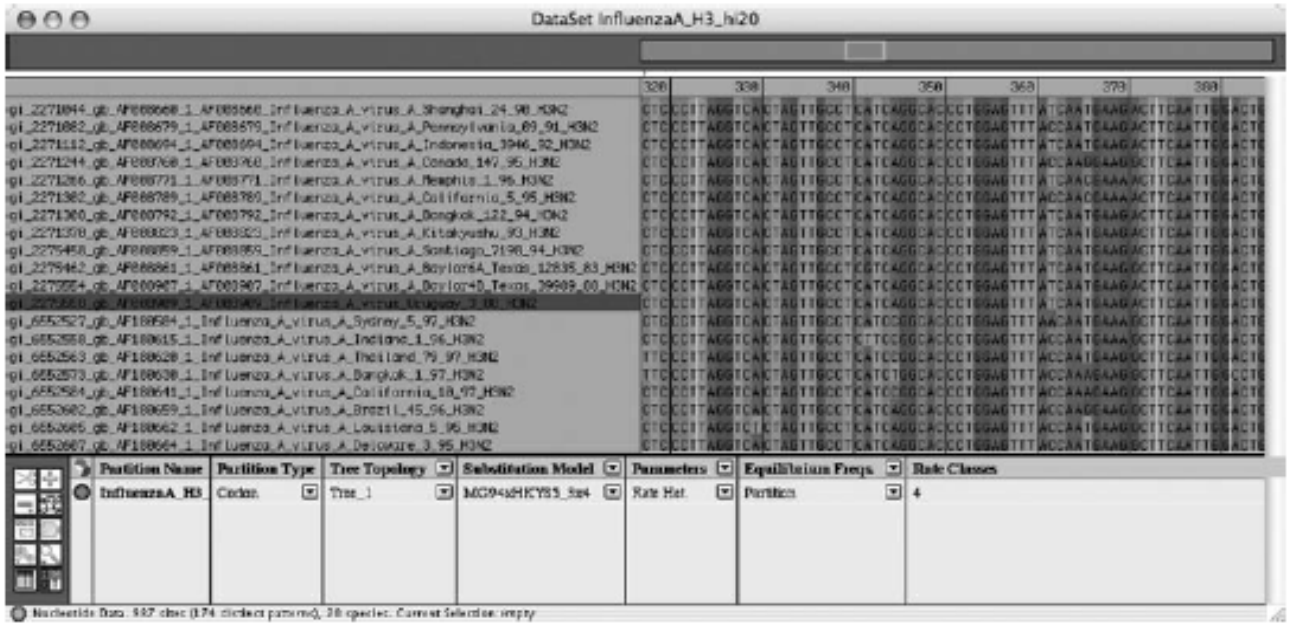
$$I(\theta_1, \ldots \theta_n) = \begin{pmatrix} \frac{\partial^2 l}{\partial \theta_1^2} & \frac{\partial^2 l}{\partial \theta_1 \partial \theta_2} & \cdots & \frac{\partial^2 l}{\partial \theta_1 \partial \theta_n} \\ \vdots & & & \vdots \\ \frac{\partial^2 l}{\partial \theta_n^2} & \frac{\partial^1 l}{\partial \theta_n \partial \theta_2} & \cdots & \frac{\partial^2 l}{\partial \theta_n^2} \end{pmatrix}$$

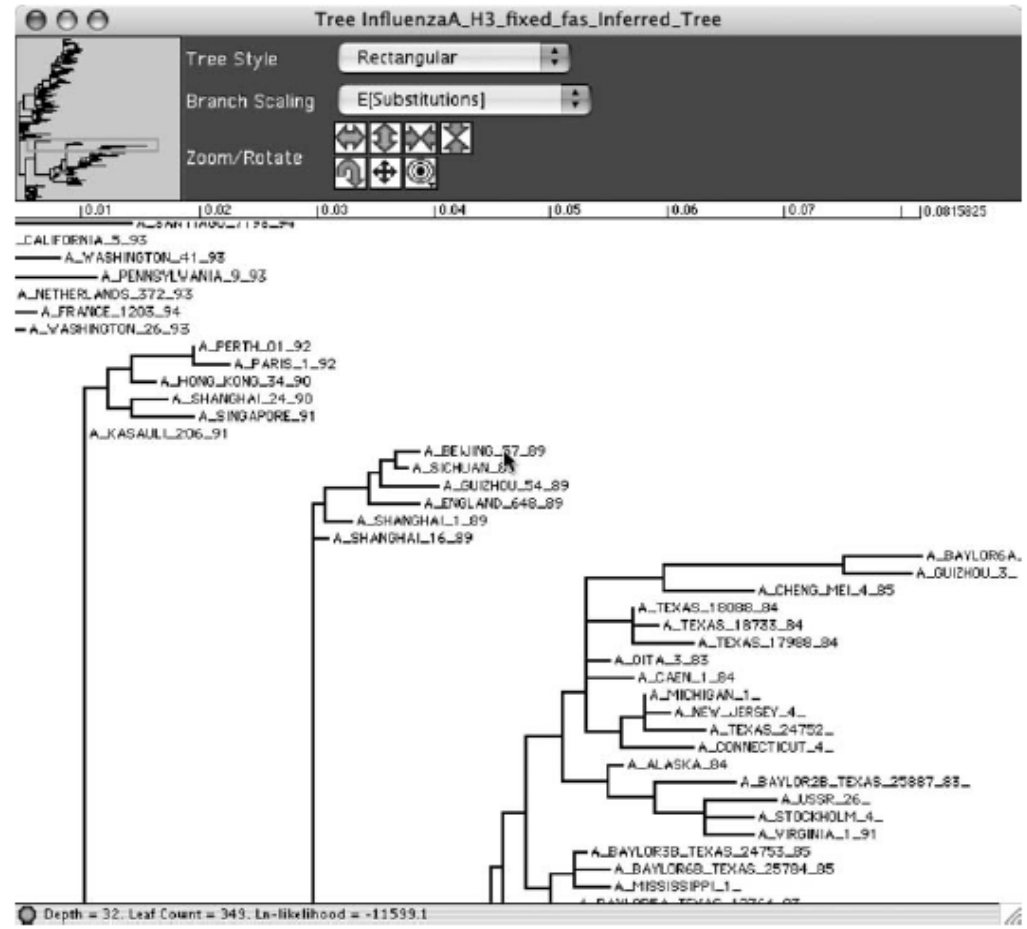










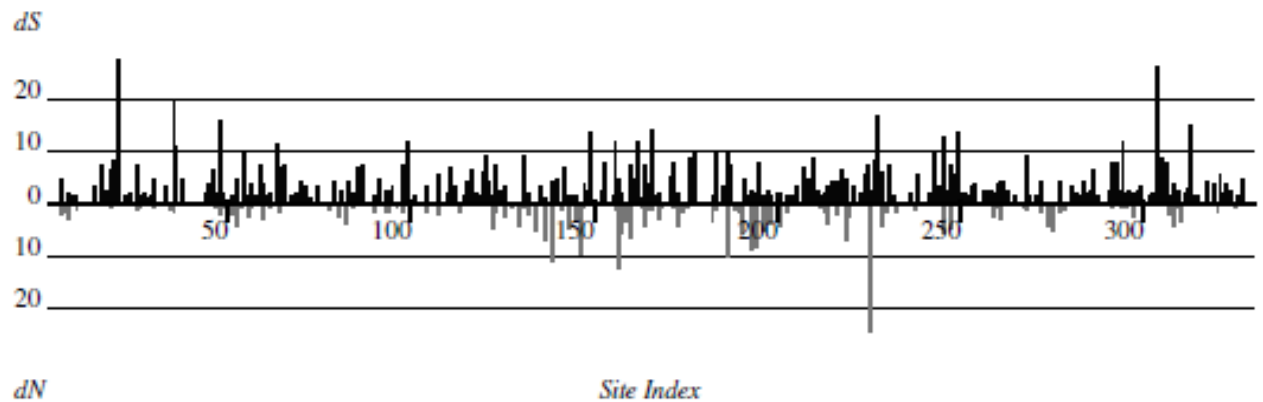


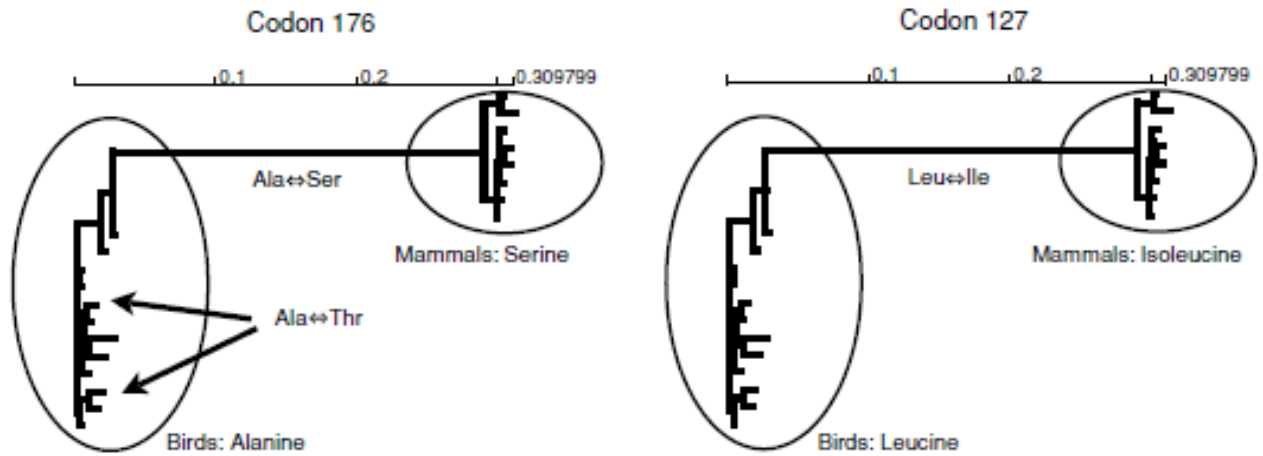
Likelihood parameters for InfluenzaA_H3_Random35

Current LF

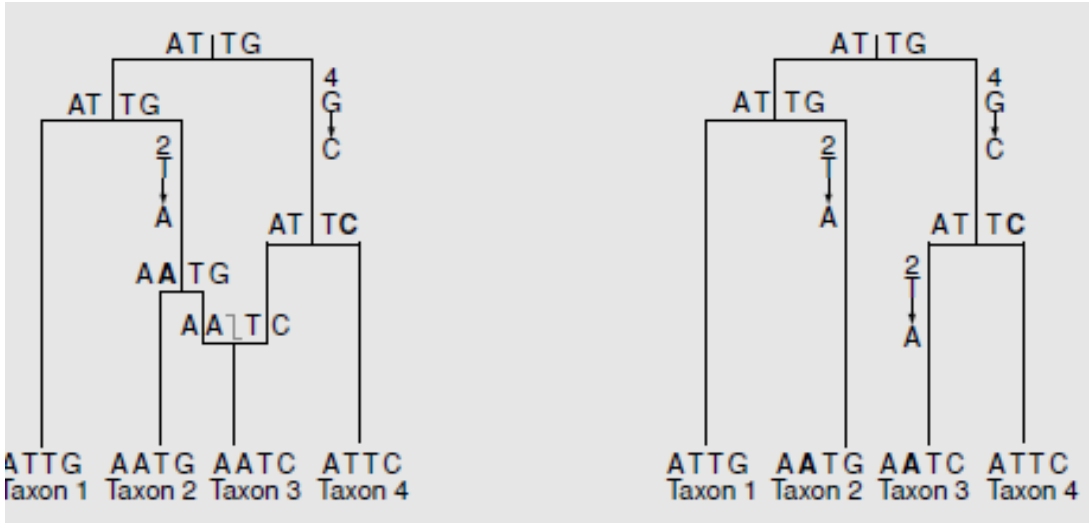
Parameter ID	Value	Constraint
InfluenzaA_H3_Random35_tree		
HA_Shared_AC	0.30143	
HA_Shared_AT	0.200079	
HA_Shared_CG	0.30143	HA_Shared_AC
HA_Shared_CT	1	1
HA_Shared_GT	0.200079	HA_Shared_AT
HA_Shared_R	0.487639	
InfluenzaA_H3_Random35_tree.A_ANN_ARBOR_3_93.synRate	0.00891064	
InfluenzaA_H3_Random35_tree.A_ARGENTINA_207_96.synRate	0.0224131	
InfluenzaA_H3_Random35_tree.A_BANGKOK_1_97.synRate	0.0403524	
InfluenzaA_H3_Random35_tree.A_BEIJING_46_92.synRate	0.0044381	
InfluenzaA_H3_Random35_tree.A_CANBERRA_5_97.synRate	0.0404291	
InfluenzaA_H3_Random35_tree.A_CHILE_2115_96.synRate	0	

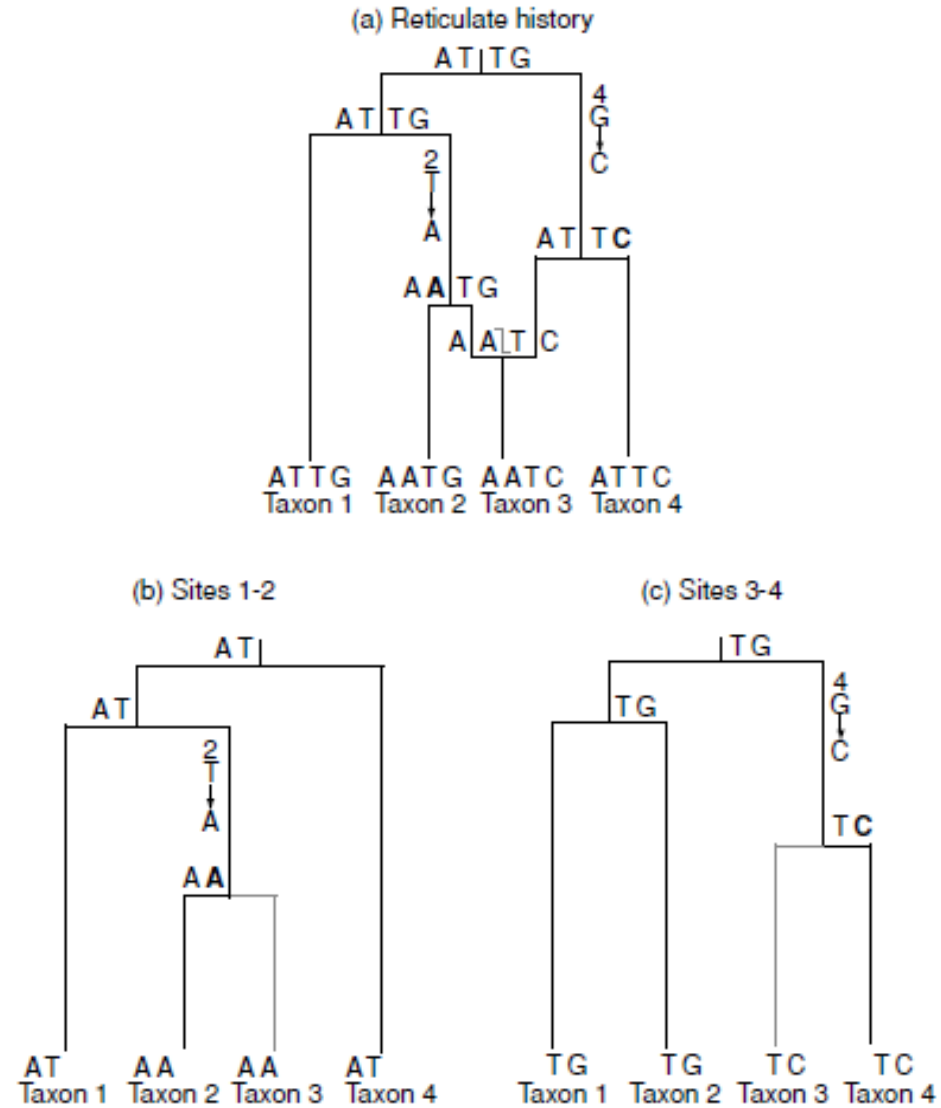
Log Likelihood = -3119.95, parameter count = 70, AIC = 6379.89.

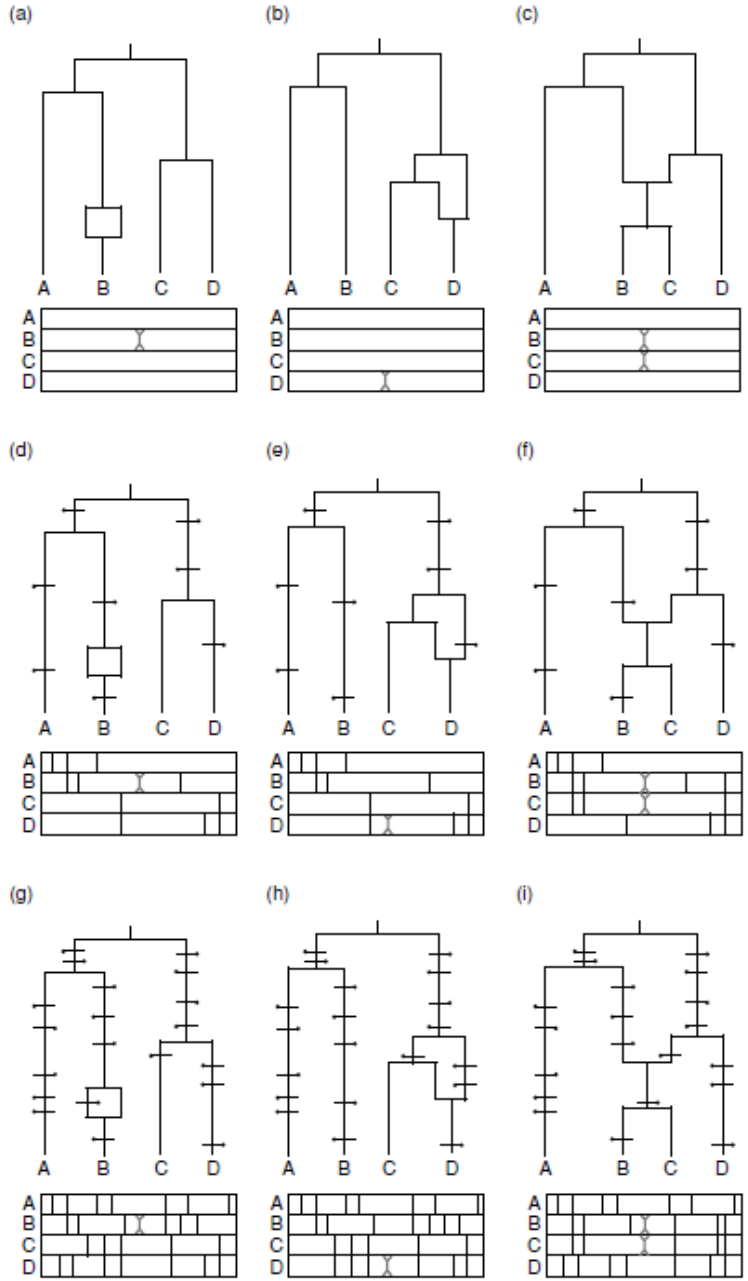


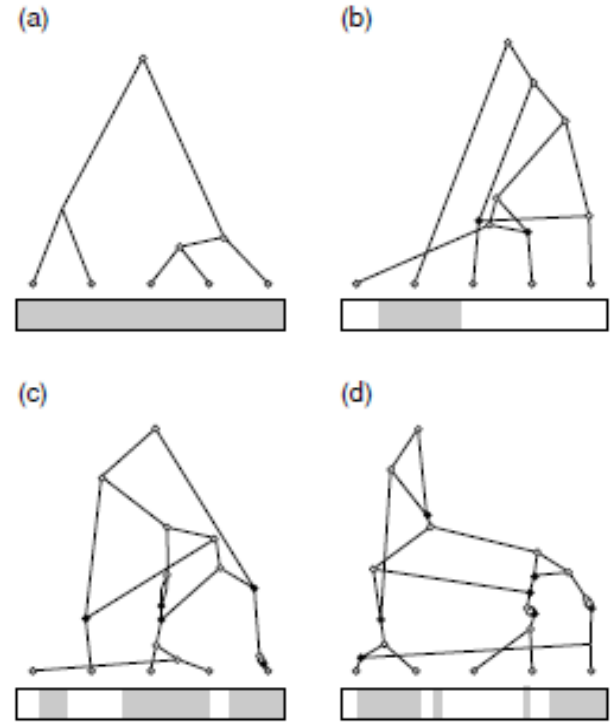


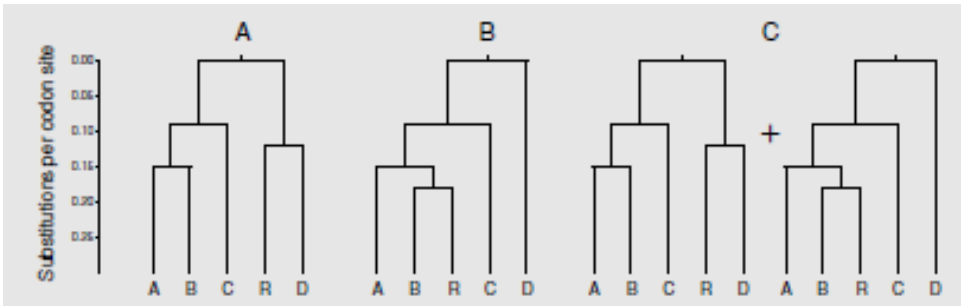
15. Rekombinasyonun tespiti

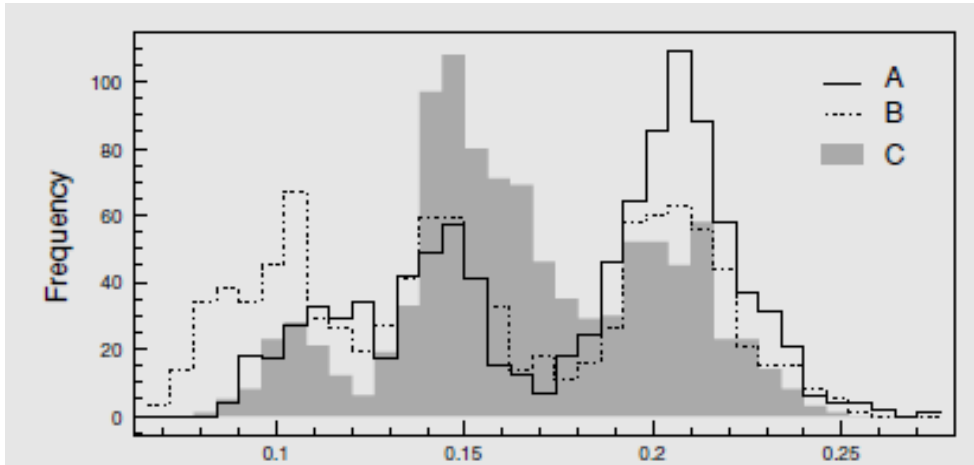


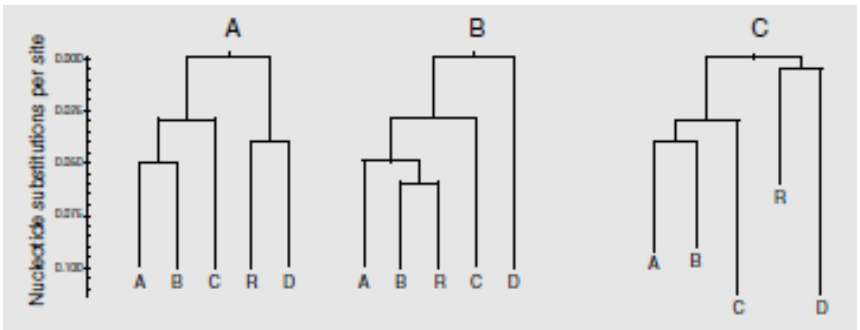


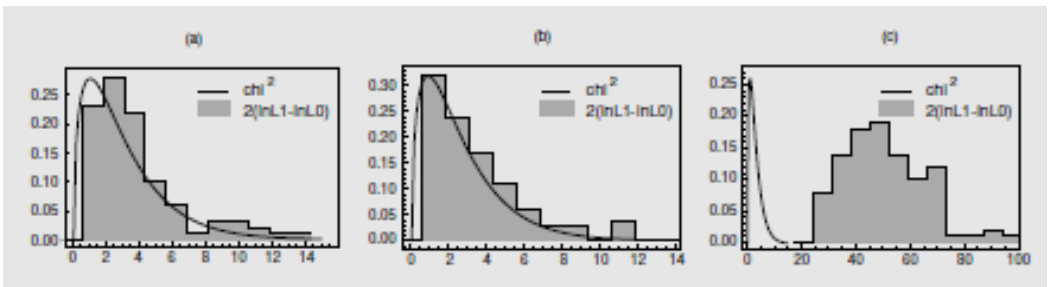












Figures and tables are taken from: Lemey, P., Salemi, M., & Vandamme, A. M. (Eds.). (2009). *The phylogenetic handbook: a practical approach to phylogenetic analysis and hypothesis testing*. Cambridge University Press. For educational use only.