

Table S21: Quasibinomial logistic regression results for amino acid and nucleotide datasets excluding *ycf1* and *ycf2* as highly influential observations, including only length and tree length and both ignoring and considering $BS \geq 70\%$ support. Parameters are not transformed i.e. they represent the estimated ceteris paribus effect of the predictor on log odds. Quantities in brackets are standard errors. Dispersion gives the estimated quasibinomial dispersion parameter.

| Dependent Variable: Total Concordant/Total Discordant | | | | |
|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <i>glm: quasibinomial</i> | | | | |
| <i>link = logit</i> | | | | |
| | AA | AA $BS \geq 70$ | Nuc | Nuc $BS \geq 70$ |
| Length | 0.002 ^{***} (0.0003) | 0.002 ^{***} (0.0002) | 0.001 ^{***} (0.0001) | 0.001 ^{***} (0.0001) |
| Tree_Length | 0.291 ^{***} (0.059) | 0.277 ^{***} (0.046) | 0.509 ^{***} (0.121) | 0.414 ^{***} (0.127) |
| Constant | -2.390 ^{***} (0.158) | -3.414 ^{***} (0.137) | -1.580 ^{***} (0.171) | -2.516 ^{***} (0.190) |
| Dispersion | 4.25 | 1.684 | 3.277 | 2.841 |
| Observations | 77 | 77 | 77 | 77 |

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$