

**Supplementary Figure 1:** Distribution of maximum posterior probabilities for reconstructions of the three nodes indicated in Supplementary Figure S3. For each node, the fraction of all sites that are either reconstructed correctly (solid) or incorrectly (cross-hatched) for a given value of the maximum ML posterior probability for the three different reconstruction methods: ML (red), MP (green), and BI (blue). Note the change in scale in the *y* axis.

