Invariant Rooting Algorithm

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Score Computation :

The invariant penalty score computation involves only inequalities.

1 Analysis of output

We have analyzed the 10-taxon datatset and also the Avian dataset. First, we will discuss the results on the 10-taxon followed by the Avian dataset.

1.1 10-taxon dataset

We have analyzed 3 replicates on the dataset from higher to lower ILS. For each of the 3 replicates of the four model conditions we have performed two experiments :-

1. Fixed quintet - we have taken a fixed quintet *['1','3','5','7','8']* and have scored the edges which a induced in the subtree of the quintet.

2. Shortest Quintet - For each edge we have taken the shortest quintet (quintets topologically closer to the edge) such that edge is induced by the quintet.

1.2 Output Format of 5-taxon tree

It contains the taxons which are part of the quintet and the edges which are induced by the quintet (i.e. it also retains the nodes with out-degree 1).

1. For a leaf node, the node label is of the format v_1v_2, where v_1 represents the taxon label and v_2 denotes the score of the edge leading to that node.

2. For an internal node, the value represents the score of the edge leading to that node.

The **U** below each figure denotes the corresponding frequency of the gene tree topology.