
Algorithm 1 Enumerate all trees for given taxon set

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1: procedure ENUMERATE( $graph(V, E)$ )
2:   for  $e \in graph$  do
3:     if  $e$  is leaf then return  $e$     //  $e$  is its own root
4:      $resolutions \leftarrow \emptyset$ 
5:      $t_l \leftarrow$  first tree subtending  $e$ 
6:      $t_r \leftarrow$  second tree subtending  $e$ 
7:     for  $subtree_l$  in ENUMERATE( $t_l$ ) do
8:       for  $subtree_r$  in ENUMERATE( $t_r$ ) do
9:          $trees_{final} \cup (subtree_l \oplus subtree_r)$ 
           // Function  $\oplus$  joins the roots of
           //  $subtree_l$  and  $subtree_r$  with an edge
           // and subtends a root to that edge,
           // so a rooted tree is always returned.
   return  $trees_{final}$ 

```

Algorithm 2 Enumerate all trees for given taxon set, functionally

procedure ENUMERATE-FUNCTIONAL($graph(V, E)$) = $trees_{final}$ **where**
