

Input: A graph G with m edges; each edge e has a given length $l(e)$.

Initialise:

- 1 Pick a vertex s , which is incident to the edge with smallest distance $D(e)$.
- 2 Set $U := s$ and let T be a tree with one vertex, namely s .
- 3 Set the calibration coefficients C of s zero, $C(s) := (0, 0)$.
- 4 Set measure of path weight $W(s) := \infty$.

Grow Tree: While $U \neq V$,

- 5 Among all edges uv with $u \in U$ and $v \in V \setminus U$ pick that one with smallest $D(uv)$.
- 6 Add uv to T and remove it from G by setting $D(uv) = \infty$.
- 7 Add v to U .
- 8 Compute $C(v, u)$ where u is used as calibration peak-list. Assign
 $C(v, s) := C(v, u) \circ C(u, s)$.
- 9 Set the measure of path weight $W(v, s) = \min(S(uv), W(u, s))$ (S - similarity).

Output:

- 10 T – which is a maximum spanning tree.
- 11 C – which is the calibration list to align all peak-lists (vertices) to the starting peak-list (vertex) s .
- 12 W – which are the weights of the path from $s \rightarrow v \in F$.
- 13 S – modified similarity matrix.