**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 $s \rightarrow v \in F$.

*Figure 1: Modified Dijkstra-Prim MST algorithm. The algorithm starts with vertex $s$ (peak-list) belonging to the peak-list pair with smallest distance (line 1) (the standard algorithm starts with an arbitrary pair). In addition to computing the MST $T$, the algorithm computes the calibration constants $C(v, s)$ (line 8) and the connection weight $W(u)$ (line 9).*