Table S3. Monotone DNF learning algorithm

Monotone DNF Learner $(F, S)$:

**Input:**
- $F$: A set of selected features (by CF(), for example)
- $S$: the labeled training datasets

**Steps:**
1. Construct $\{L\}$, the list of literals in the features (e.g., 5A).
2. Throw out $L$ that does not cover any positive sequences.
3. Combinatorial construct $\{\text{Clauses}\}$, the list of conjunctive clauses from $\{L\}$, (e.g., 5A AND 8C).
   The possible combinations are $|L|$ chooses 1, 2, ..., $|F|$.
4. Throw out the conjunctive clauses that cover any negative sequences.
5. Incrementally construct $\{\text{DNF}\}$, the list of disjunctive normal form that covers all positive sequences but no negative sequences: starts from 1 clause, construct DNF from $\{\text{Clauses}\}$, try the next larger number if no solution learned.

**Output:**
The set of the shortest DNF