Summary: We consider tissue P systems working on vesicles of multisets with the very simple operations of insertion, deletion, and substitution of single objects. With the whole multiset being enclosed in a vesicle, sending it to a target cell can be indicated in those simple rules working on the multiset. As derivation modes we consider the sequential mode, where exactly one rule is applied in a derivation step, and the set maximal mode, where in each derivation step a non-extendable set of rules is applied. With the set maximal mode, computational completeness can already be obtained with tissue P systems having a tree structure, whereas tissue P systems even with an arbitrary communication structure are not computationally complete when working in the sequential mode. Adding polarizations $-1, 0, 1$ are sufficient for obtaining computational completeness even for tissue P systems working in the sequential mode.

For the entire collection see [Zbl 1433.68013].

MSC: 68Q45 Formal languages and automata

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References:


