

Selectivity in molecular computing

Grzegorz ROZENBERG

Leiden Institute of Advanced Computer Science

Leiden University

Niels Bohrweg 1

2333 CA Leiden

The Netherlands

E-mail:rozenber@liacs.nl

A typical methodology for the so called filtering approach requires first a generation of a library of molecules, and then filtering out the molecules that represent a solution (or solutions) to a problem under consideration. However a sufficient selectivity for the second (filtering) phase is a nontrivial (often nasty) problem for experimental implementations. Also, the existing theoretical models of molecular computing are very much biased towards the first (generative) phase.

In our talk we will discuss a model for organizing (experiments implementing) molecular computations for which the primary problem is the problem of selectivity, i.e., locating and displaying a solution (or solutions). Possible relationships to membrane computing are also discussed.