

# Complexity classes in cellular computing with membranes

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## Abstract

Given a class of recognizer membrane systems  $\mathcal{F}$ , the complexity class  $\mathbf{PMC}_{\mathcal{F}}$  of all problem solvable in polynomial time by a family of P systems of type  $\mathcal{F}$  is presented. This complexity class is stable by polynomial time reduction, and offer a new way to attack the  $\mathbf{P} \neq \mathbf{NP}$  conjecture, now inside the framework of the cellular computing with membranes.