

KINETIC EXCLUSION AMPLIFICATION OF NUCLEIC ACID LIBRARIES

ABSTRACT

A fluidic system is provided, configured to perform a method of reacting a first solution and a different, second solution on a flow cell by first flowing the first solution over an array of amplification sites on the flow cell, then repeating this action using the second solution. The first solution includes target nucleic acids and a first reagent mixture that comprises nucleoside triphosphates and one or more replication enzymes. The target nucleic acids in the first solution transport to and bind to the amplification sites at a transport rate. The first reagent mixture amplifies the target nucleic acids that are bound to the amplification sites to produce clonal populations of amplicons originating from the corresponding target nucleic acids. The amplicons are produced at an amplification rate that exceeds the transport rate. The second solution includes a second reagent mixture and lacks the target nucleic acids.

[FIG. 14]