Abstract

The present invention discloses methods for assembling a nucleic acid molecule from a set of overlapping oligonucleotides. The method involves contacting a set of overlapping oligonucleotides with a DNA polymerase, a mixture of dNTPs, and a crowding agent to form an assembly mixture. In one embodiment the crowding agent is polyethylene glycol (PEG). The presence of the crowding agent facilitates the nucleic acid assembly process of the invention. The assembly mixture is then subjected to multiple cycles, each cycle comprising an annealing phase, an extension phase, and a denaturation phase, and the desired nucleic acid molecule is thereby assembled. In some embodiments one or more of the phases are time varied.

No suitable figure