1044-92-117 **T V Kostova*** (kostova@llnl.gov), L-561, 7000 East Avenue, Livermore, CA 94583. *Towards a Model of a Viral Quasispecies.*

The term "quasispecies", currently widely adopted within the biomedical community to qualify the genetic diversity within RNA viral species, was first introduced in a mathematical model of self-replicating polynucleotides in a bioreactor where the total mass of the polynucleotides is kept constant and the mutant space contains all possible genetic sequences arising from the master sequence through single point mutations. Several authors have questioned the applicability of the model to viral quasispecies. Here we propose a modification of the model which brings more realism with regard to viral quasispecies. We derive an explicit expression allowing to calculate extinction thresholds for the viral mutation rate, replication rate and number of conserved nucleotide sites. The value of the new results from the standpoint of driving viral populations to extinction is discussed. (Received August 26, 2008)