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**Patrick De Leenheer\*** (deleenhe@math.ufl.edu). *Multi-strain within-host virus dynamics.*

We consider a standard within-host multi-strain virus model and allow mutations between different strains. In the absence of mutations, the fittest strain drives the remaining strains to extinction. Treating the mutation rate as a perturbation parameter, we show that the corresponding steady state persists, perhaps with small concentrations of some or all other strains, depending on the connectivity of the graph describing all possible mutations. Using a particular global perturbation result, we show that the perturbed steady state remains globally asymptotically stable. (Received February 09, 2009)