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Problem 4





The response differs from the three state model that is used in the paper in that the adaptation times were slower than the 2-state model, and that the eventual steady-state activated concentration (“Estar (uM)” was lower.

1. In part 3c of the previous part, Ast = 0.000101 uM, which is much smaller than the steady state “A” = Estar = 0.1 uM that is seen in part 4a.
   1. The “B” as an inhibitor was turned off via the directions in the problem set. The graphs are below. There is no steady-state reached after the ligand is added, (essentially there is no adaptation.) This is because without the inhibition, the mechanism for adaptation cannot be completed, and there is not control for eventually equalizing back to a steady-state concentration and stop continuously responding the ligand stimulant.



4d. **See handwritten answers**