
Subject: Re: Amoeba and Tied Parameters
Posted by [Maryam](#) on Wed, 18 Jan 2017 02:21:21 GMT
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Hello All,

Just thought to post an update regarding making a parameter tied to another parameter when using the Amoeba fitting routine in case anyone encountered the same issue later. Thanks to Dick Jackson, we were able to fix this problem. Here is how we did it:

I have a very large parameter space (22 parameters), 4 of which are fixed (so I set scale to zero for those four). I also have 3 pairs of parameters that are free to change by Amoeba but they must change by the same amount (i.e. $p[13]$ must always be equal to $p[10]$, and $p[17]$ must always be $p[14]$, etc.) The problem is my function does not have a simple form. It calls an R code to run some simulation, takes the result of that simulation, makes a plot, compares it to some model and calculates the chi-squared value. So I could not simply just set those parameters equal to each other and pass all the parameters to Amoeba.

What Dick suggested was to start by reducing my parameter space as much as we could by creating a subset of parameters for the call to Amoeba() and the FUNC() routine, and expanding to the full set before the code takes in the 22 parameters that it needs to run the simulations. This way we would be passing fewer parameters to the fitting routine by defining a new COMMON block that takes that subset of parameters and passes them to the fitting routine as opposed to Amoeba treating the tied parameters differently and then setting them equal before the call to the simulation code.

I am very grateful for Dick's help; so thank you very much Dick.
