Table 1| Single Component Network

Reaction Network	Kinetic Constants
0 --> A A --> 0	$k_1 = 10$ $k_2 = 1$

The original network is a one component and two reaction network. By design this network is opened up. From this reaction network a steady state mass balance is derived for component A.

$$\frac{dA}{dt} = 0 = k_1 - k_2 A \tag{1}$$

From the steady state balances there is one equation and three unknowns, this leaves two variables to be specified. The kinetic constants, k_1 and k_2, are specified as 10 and 1 respectively. The average concentration of component A is solved as 10 molecules. To run the simulation the minimum value for component A is set to zero, and the maximum value for component A is set to 20. This value is chosen to roughly center the steady state graphically. The maximum number of moments is set to 2, and all of the initial guesses for the Lagrange Multipliers are set to zero. Table 2 summarizes the parameters required for the simulation, and Figure 1 displays the results. The plot properly depicts the same steady state calculated from the component balance.

Table 2| Simulation Parameters

Minimum Value (A)	Maximum Value (A)	Maximum Number of Moments	LaGrange Multipliers (Initial Guess)
0	20	2	0

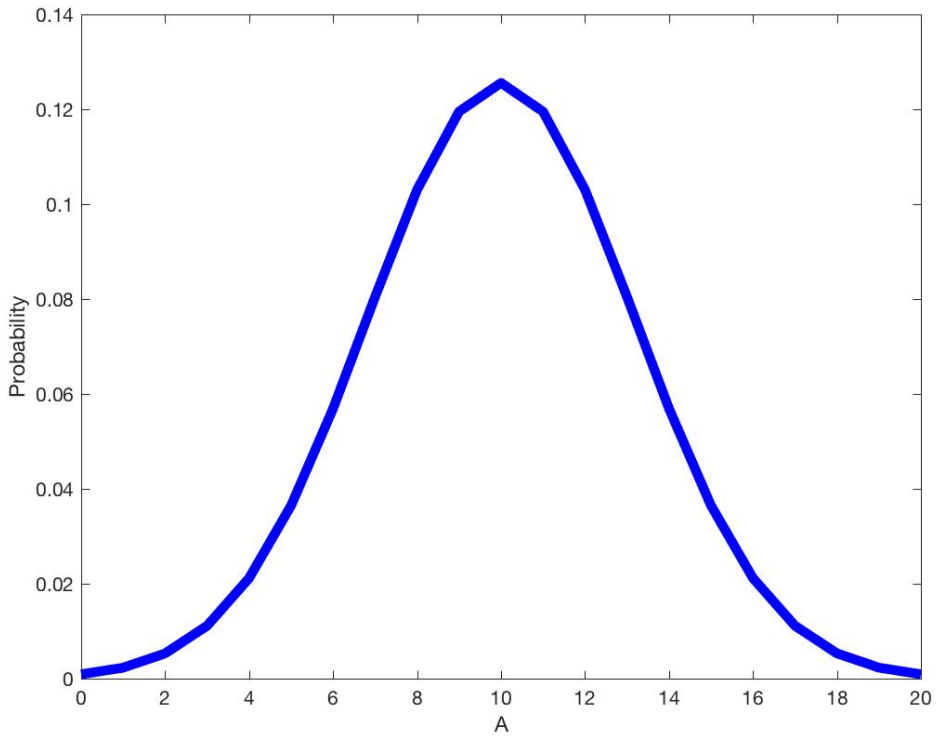

Figure 1| Results from Simulation. Component A results are displayed.