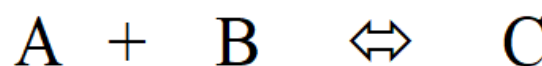
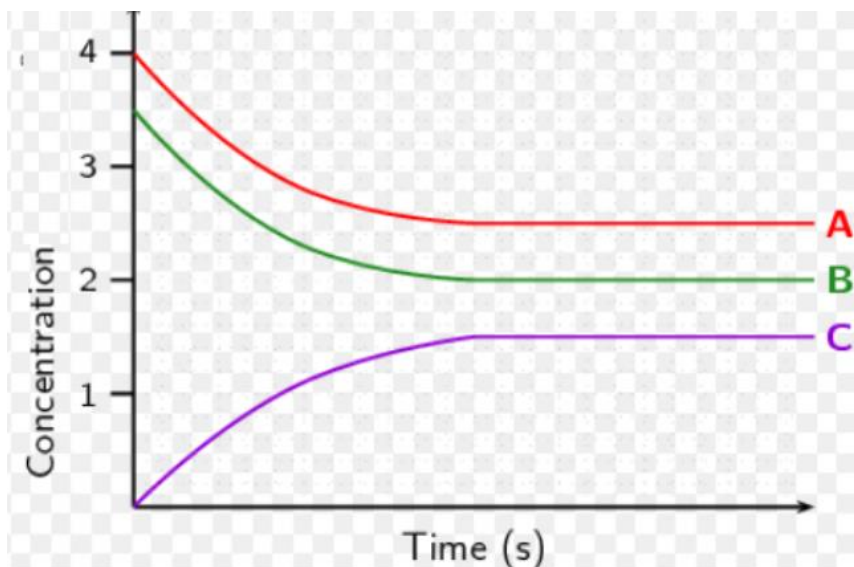


1) Use the graph to fill out the table below.

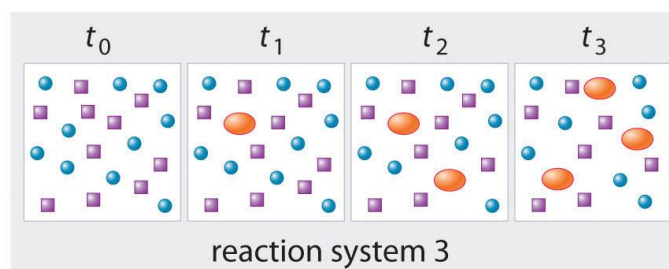
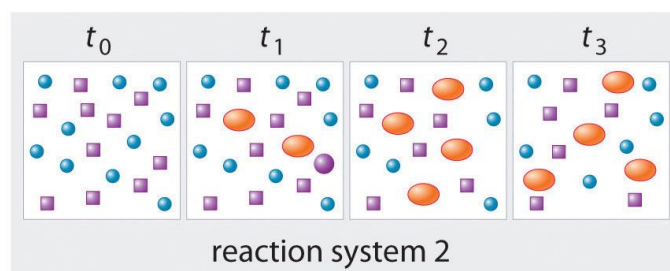
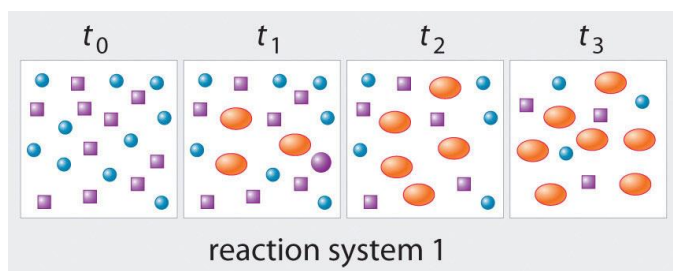


Initial # of moles

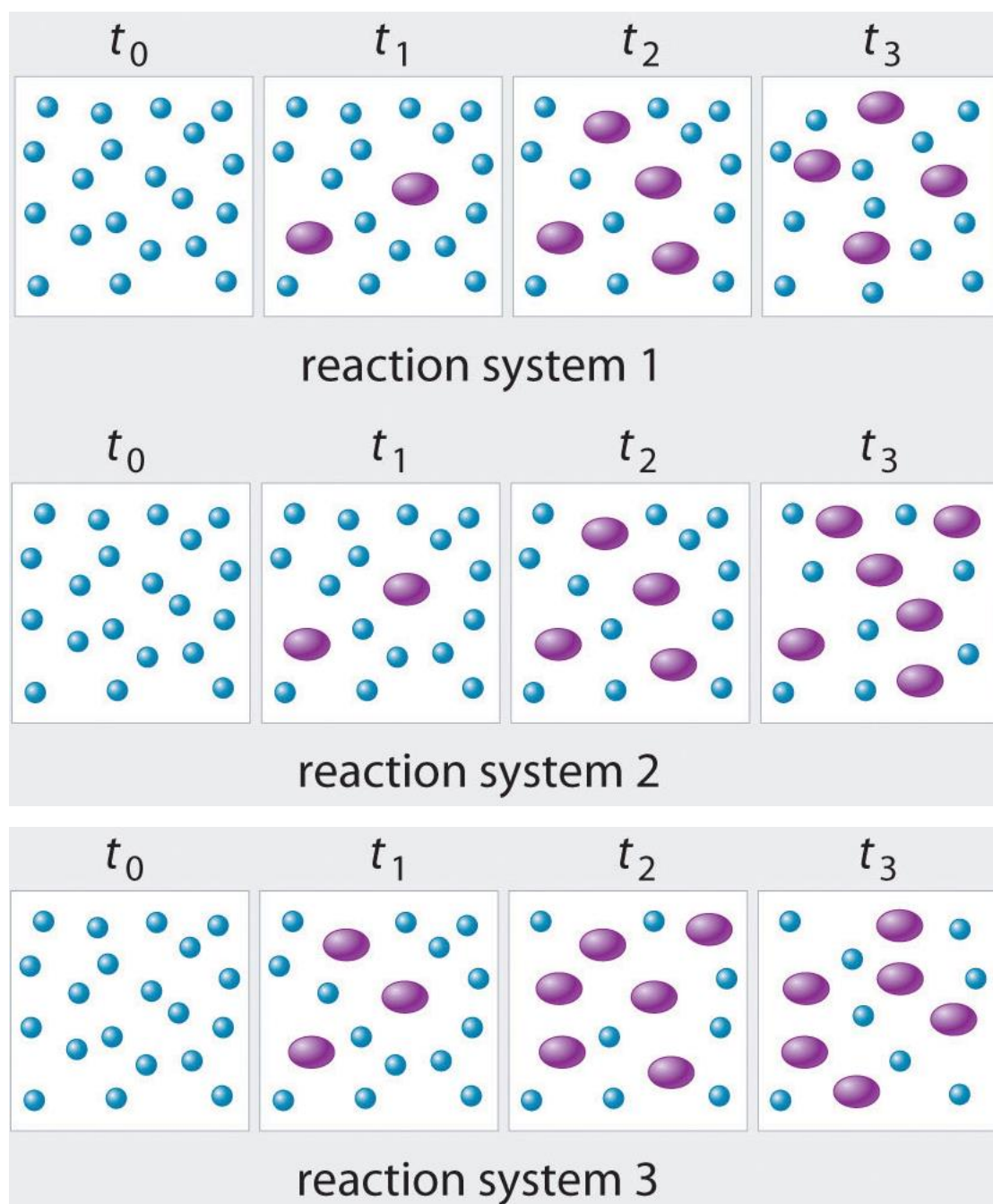
Change in the # of moles

Equilibrium # of moles

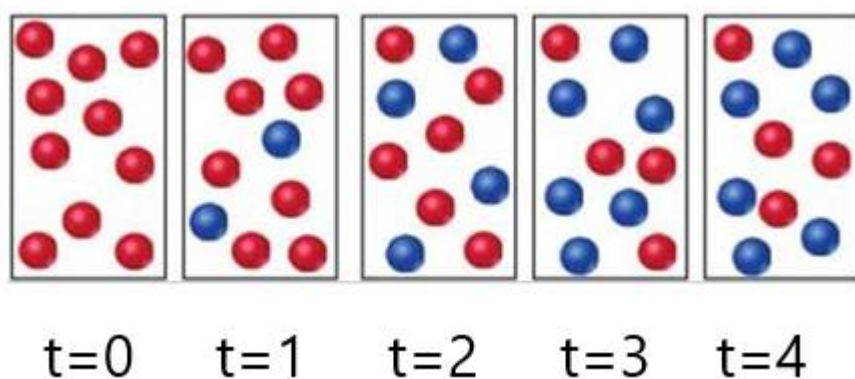
2) Which system, if any, has reached chemical equilibrium?



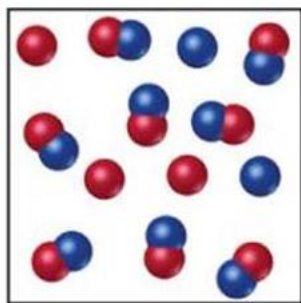
3) Which system, took the longest to reach chemical equilibrium?



4) At what time is the reaction at equilibrium?

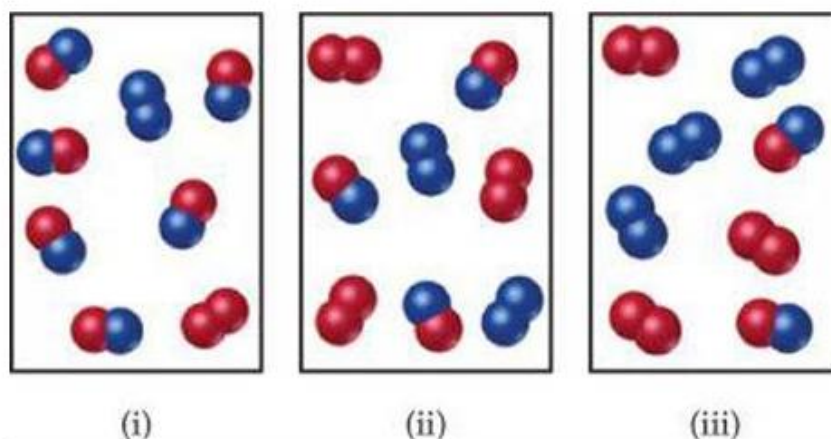


5) In the reaction $A + B \leftrightarrow AB$, is the equilibrium constant greater than, less than, or equal to 1.00? A is the red particles, blue is the B particles.

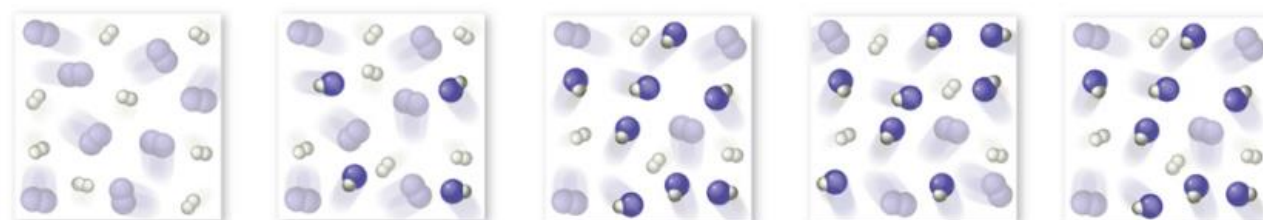
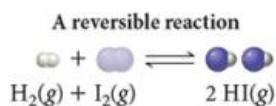


6)

The reaction $A_2 + B_2 \rightleftharpoons 2 AB$ has an equilibrium constant $K_c = 1.5$. The following diagrams represent reaction mixtures containing A_2 molecules (red), B_2 molecules (blue), and AB molecules. Which reaction mixture is at equilibrium?

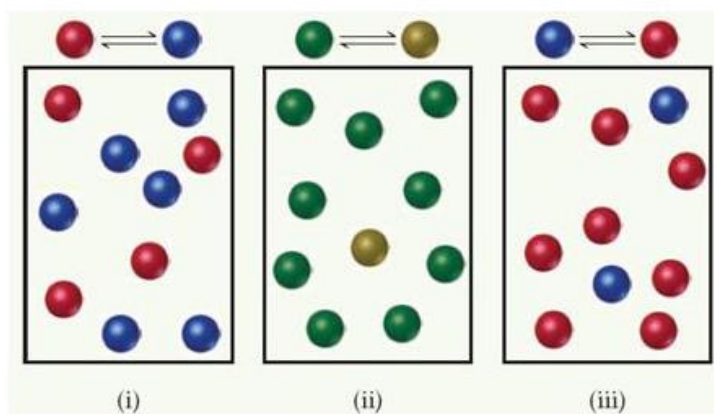


7) At what time is the reaction at equilibrium?

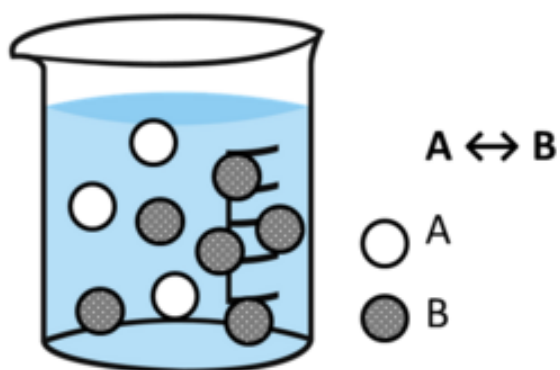


8)

The following diagrams represent three different systems at equilibrium, all in the same size containers. (a) Without doing any calculations, rank the three systems in order of increasing equilibrium constant, K_c .



9)



Analyze the equilibrium mixture above. Which K value correctly describes this mixture at equilibrium?

A $K = 0$

B $K = 1$

C $K > 1$

D $K < 1$