

12. A sealed glass tube at room temperature contains nitrogen dioxide (a brown gas) and dinitrogen tetroxide (a colourless gas) in equilibrium, as represented by the following equation.



If the appearance of the gas mixture at room temperature is pale brown, which one of the following is **true** if the glass tube is placed in hot water?

- (a) The gas mixture will not undergo any noticeable change in appearance.
- (b) The gas mixture will become darker brown.
- (c) The gas mixture will become even paler at first, but would then return to its original appearance of pale brown.
- (d) The gas mixture will become colourless.