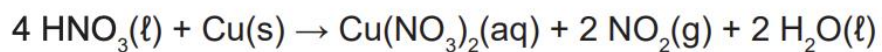


7. The following equation shows the reaction between copper and concentrated nitric acid:



Observable changes associated with this reaction are the dissolving of the copper, the formation of a deep blue solution and the evolution of a pungent brown gas.

Which of the following are some of the atomic/molecular scale events needed for these observable changes to occur?

- (i) collisions between  $\text{HNO}_3$  molecules and Cu atoms
  - (ii) donation and acceptance of protons
  - (iii) reduction of copper atoms
- 
- (a) i only
  - (b) ii only
  - (c) i and iii only
  - (d) i, ii and iii