

QUIZ on Lecture P1_Wk1_L6

1. The London dispersion interaction

- a) varies as z^{-6}
- b) acts between all molecules and atoms
- c) is independent of the relative orientation between two molecules or atoms
- d) is independent of temperature
- e) all of the above

2. The London dispersion electrostatic interaction

- a) only acts between atoms or molecules having a net electric charge
- b) only acts between atoms or molecules having a permanent dipole moment
- c) is primarily a quantum mechanical effect that acts between all atoms or molecules
- d) requires a thermal angle average over all possible orientations of an induced electric dipole

3. The London dispersion force varies with separation z as

- a) z^{-4}
- b) z^{-5}
- c) z^{-6}
- d) z^{-7}

4. Even though helium atoms are electrically neutral, they condense to form a liquid at 4.2K, indicating a very weak atom-atom interaction must be present. This atom-atom interaction is primarily the result of

- a) the Keeson interaction
- b) the Debye interaction
- c) the London interaction
- d) all of the above