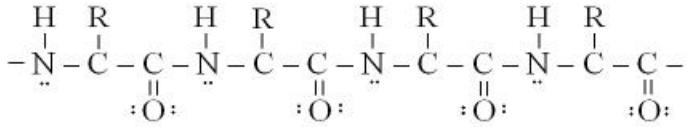
Unit 3 - Intermolecular Forces and Properties - Free Response VIII

Question ___ **Name:_____**

a) The Lewis structure for a section of a protein molecule is shown below. This protein is able to interact with itself in order to form a stable helix structure, which is referred to as an α-helix. Explain how this protein is able to do this.



b) Classify each of the following processes as a physical change, a chemical change, or both. Justify your answer by identifying the types of intermolecular or intramolecular forces that are involved in each of the following processes and describing what happens to those forces while the processes are occurring.

I. $I_2\ (s) \rightarrow I_2\ (g)$

II. $NaI\ (s) \rightarrow Na^+\ (aq) + I^-\ (aq)$

c) Ammonia, NH_3, has a higher boiling point than arsenic trihydride, AsH_3.

I. Identify the type(s) of intermolecular force(s) that exists in pure samples of each compound.

II. Explain why the boiling point of ammonia, NH_3, is higher than the boiling point than arsenic trihydride, AsH_3.