CHM 3140, Spring 2022 Dr. Laurie S. Starkey

2A. (8 pts) Physical properties. **No explain = no credit.**

a) Which compound (A or B or neither) has the higher boiling point? Explain briefly.
A O=C=O
B CH₃-O-CH₃
b) Which compound (X or Y or neither) has the higher boiling point? Explain briefly.
X CH₃ CH₃ CH₃ CH₂-CH₂-CH₂
Y CH₃ CH₃ CH₃-CH₂-CH-CH₃

2B. (4 pts) Does this compound, in its pure liquid state, undergo hydrogen bonding? Explain briefly.

CH₃CHO

2C. (4 pts) For the lone pair on each indicated nitrogen atom, describe it as localized or delocalized.



- 2D. (8 pts) a) Using the skeleton provided, complete the Lewis structure for CH₃CH₂OCH₂CHCH₂.
 - b) Provide a 3-D sketch for this molecule (only the best resonance form). Remember to locate the maximum number of atoms in the plane of the page, and use overlapping orbitals to represent pi bonds.

