ChBE 3130A Lively Quiz 7 **Date:**_____

Name: Key

Problem 1: Using the diagram below, find the following:

a) Find the dew point temperature for a feed $z_1 = 0.2$: 93.5°C.

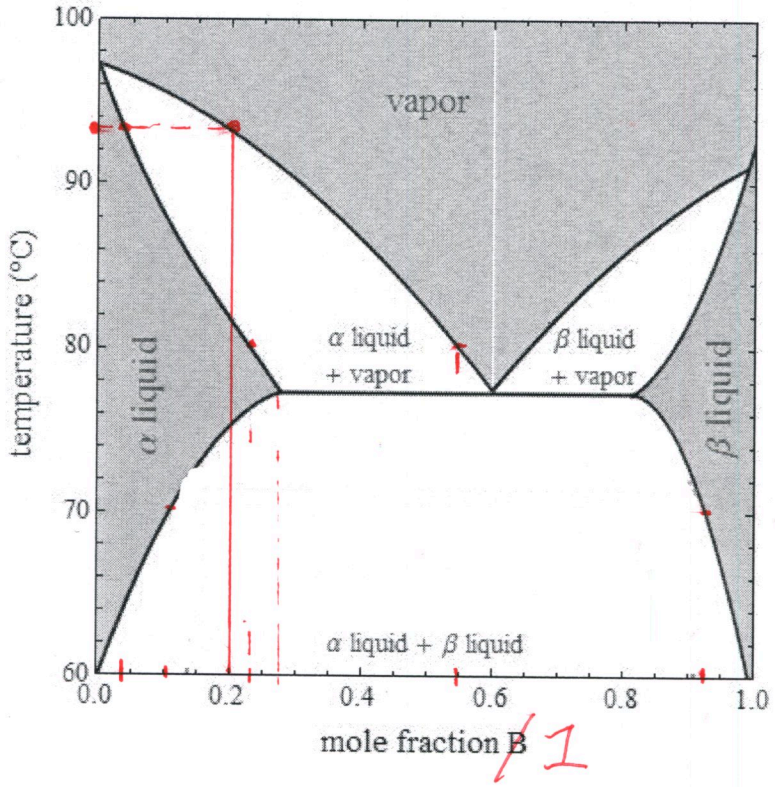
b) What is the composition of the first droplet that forms at this condition? $x_1 = 0.03$

c) What are the compositions in each phase at the VLLE temperature? $x_1^\alpha = 0.275$, $y_1 = 0.6$ $x_1^\beta = 0.81$

d) A vapor with a composition of $y_1 = 0.50$ is cooled rapidly to 70°. How many phases are present at this temperature? 2

e) What are the compositions of these phases? $x_1^\alpha = 0.11$ $x_1^\beta = 0.925$

f) The system is then heated to 80°C. What are the compositions of the phases at that condition? $x_1 = 0.225$ $y_1 = 0.55$



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