CHROMATOGRAPHY PROBLEMS

1) A mixture of pentanal and pentan-1-ol were separating by column chromatography using a silica powder with cyclohexane as eluent. Which substance will have the shortest retention time? Explain your answer.

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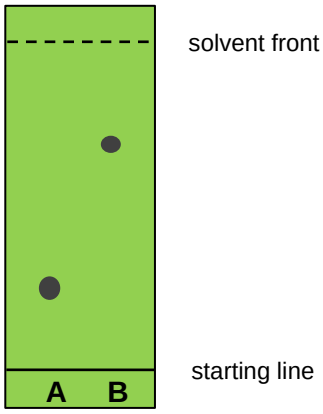
2) The following TLC chromatogram was produced under a UV lamp.



a) Calculate the R_f values for substances **A** and **B.**

b) The plate was coated in silica powder and the solvent used was hexane. One substance was phenylamine and the other substance was tetrachloromethane. Which substance is likely to be which? Explain your answer.

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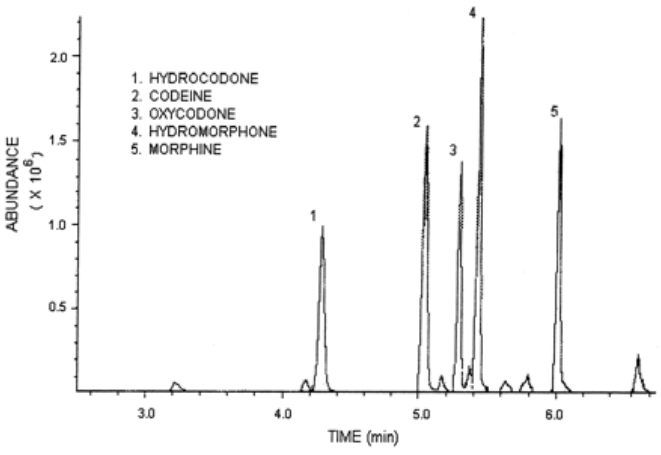
3) A mixture of opiates found in a sample of urine was analysed by gas chromatography.



a) Which opiate had the longest retention time?

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b) Explain why this substance had the longest retention time.

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