Propylamine and triethylamine were analysed by thin layer chromatography. A silica plate was used with hexane as solvent. The resulting chromatogram is shown.

**a** Draw the skeletal structure of each amine.

**b** Give two ways in which the spots of these colourless substances could be identified.

1. 

2. 

**c** Calculate the $R_f$ value of spots A and B.

**d** State which substance is spot A. Explain your answer.

**e** A second experiment was carried out. Before putting samples on the plate, some hydrochloric acid was added to each amine. Predict how the $R_f$ values for the acidified amine samples will change from the original experiment.