

Chemguide – questions

AMIDES: OTHER REACTIONS

1. Ammonia, NH_3 , ethylamine, $\text{CH}_3\text{CH}_2\text{NH}_2$, and ethanamide, CH_3CONH_2 , all contain an NH_2 group. Ammonia and ethylamine are both weak bases, but ethanamide has almost no base character.
 - a) Explain why ammonia and amines like ethylamine are weak bases. (You are not expected to comment on any differences between ammonia and ethylamine in base strength.)
 - b) Explain why amides like ethanamide are different.
2. In each of the following cases, describe briefly how you would carry out the given conversions. You should say what other reagent(s) you would use and give any necessary conditions for the reactions.
 - a) convert $\text{CH}_3\text{CH}_2\text{CONH}_2$ into $\text{CH}_3\text{CH}_2\text{NH}_2$
 - b) convert $\text{CH}_3\text{CH}_2\text{CONH}_2$ into $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$
 - c) convert $\text{CH}_3\text{CH}_2\text{CONH}_2$ into $\text{CH}_3\text{CH}_2\text{CN}$