

34 Basicity and phenylamine – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
Phenylamine	苯胺	_____
basicity	碱性	_____
lone pair	孤对电子	_____

Recall

Amines are bases. **Phenylamine** 苯胺 is an amine with the -NH_2 on a benzene ring.

New ideas

Read these first, then do the Practice.

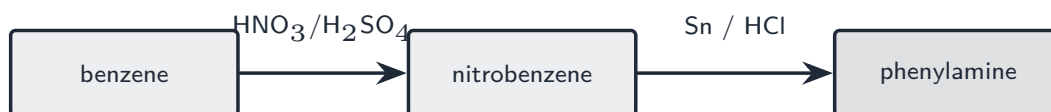
■ 1 Why amines are basic



the lone pair accepts an H^+ – so it is basic

The **basicity** 碱性 of an amine comes from the **lone pair** 孤对电子 on its nitrogen, which can accept an H^+ from water.

■ 2 Making phenylamine



Make phenylamine from benzene in two steps: nitrate it to nitrobenzene, then reduce it with Sn and concentrated HCl.

Watch out: an amine is basic because its nitrogen *lone pair* accepts an H^+ . Phenylamine is a *weaker* base than an aliphatic amine, because the ring draws that lone pair away.

Practice

Try these in order.

34.6 Where does an amine's basicity come from? [1]

34.7 What does the lone pair accept? [1]

34.8 What is *phenylamine*? [1]

34.9 What is the first step in making phenylamine from benzene? [1]

34.10 What reagent reduces nitrobenzene to phenylamine? [1]

34.11 Challenge. Phenylamine is a *weaker* base than ethylamine. Explain why, in terms of the nitrogen's lone pair. [2]
