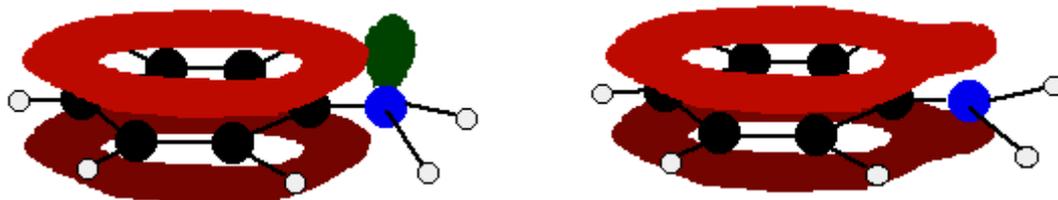


Chemguide – questions

PHENYLAMINE: INTRODUCTION

1. The Chemguide page contains these two diagrams, except that here the labelling has been removed.



- a) Describe what these diagrams are showing.
- b) Very briefly say what effect this has on the properties of phenylamine relative to benzene itself or to a simple amine like methylamine.
2. The Chemguide page also contains this table comparing the melting and boiling points of methylbenzene and phenylamine.

	melting point (°C)	boiling point (°C)
$C_6H_5NH_2$	-6.2	184
$C_6H_5CH_3$	-95.0	111

- a) Why was methylbenzene chosen for comparison purposes?
- b) State what the table shows about the melting and boiling points of the two compounds, and explain the reason(s) for that.
3. Phenylamine is slightly soluble in water, but if a reasonable quantity is shaken with water, it forms two layers.
- a) Explain why phenylamine is soluble at all in water.
- b) Explain why phenylamine is only slightly soluble in water.