• For each of the following pairs of compounds, identify which is the stronger acid and give reasons for your choice.

Marks 4

Phenol is more acidic as the phenoxide ion is resonance stabilised:

Chloroacetic acid is more acidic. The Cl atom is electronegative and pulls electrons from the carboxylic acid, thus weakening the O–H bond.

$$\begin{picture}(200,0) \put(0,0){\line(0,0){100}} \put(0,0){\line(0,0){10$$

The *para* isomer is more acidic as the charge on the phenoxide ion can be delocalised into the nitro group. This is not possible with the *meta* isomer.