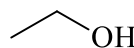
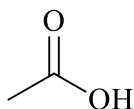
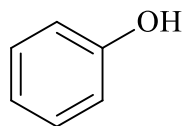
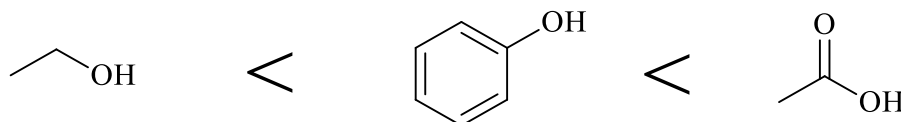


Marks
3

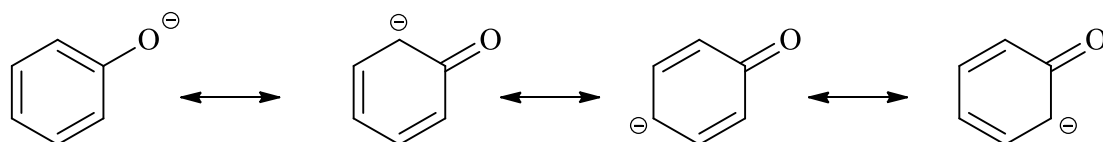
- Consider the three compounds shown below.



Arrange these compounds in order of increasing acidity. Explain your reasoning.



Ethanol is the weakest acid as its conjugate base is not resonance stabilised. Phenol is a stronger acid as its conjugate base is resonance stabilised – the negative charge can be delocalised into the aromatic ring as shown below.



There is even greater resonance stabilisation for the acetate ion (the conjugate base of acetic acid), as the negative charge is delocalised onto the electronegative oxygen atoms (as opposed to the carbon atoms in the case of phenol).

