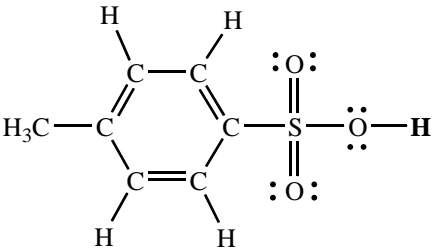
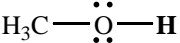
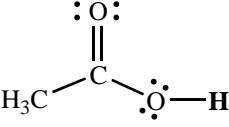


3. (cont'd)

c) Calculate the pH of a 0.25 M sodium benzoate solution. *Hint: Set up an ICE table for the reaction in a).*

	8
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4. a) Shown below are three acids and their corresponding acid dissociation constants. Write the structure of the conjugate base for each. The acidic proton is bold faced.

Acid	K _a	Write structure of conjugate base here.
	4.0	I
	3.2×10^{-16}	II
	1.6×10^{-5}	III

b) Place the above conjugate bases (**I**, **II**, **III**) in order of increasing base strength. You must justify your answer.

Rank the conjugate bases here. <div style="text-align: center; font-size: 2em;">< <</div>	Justification
2	3