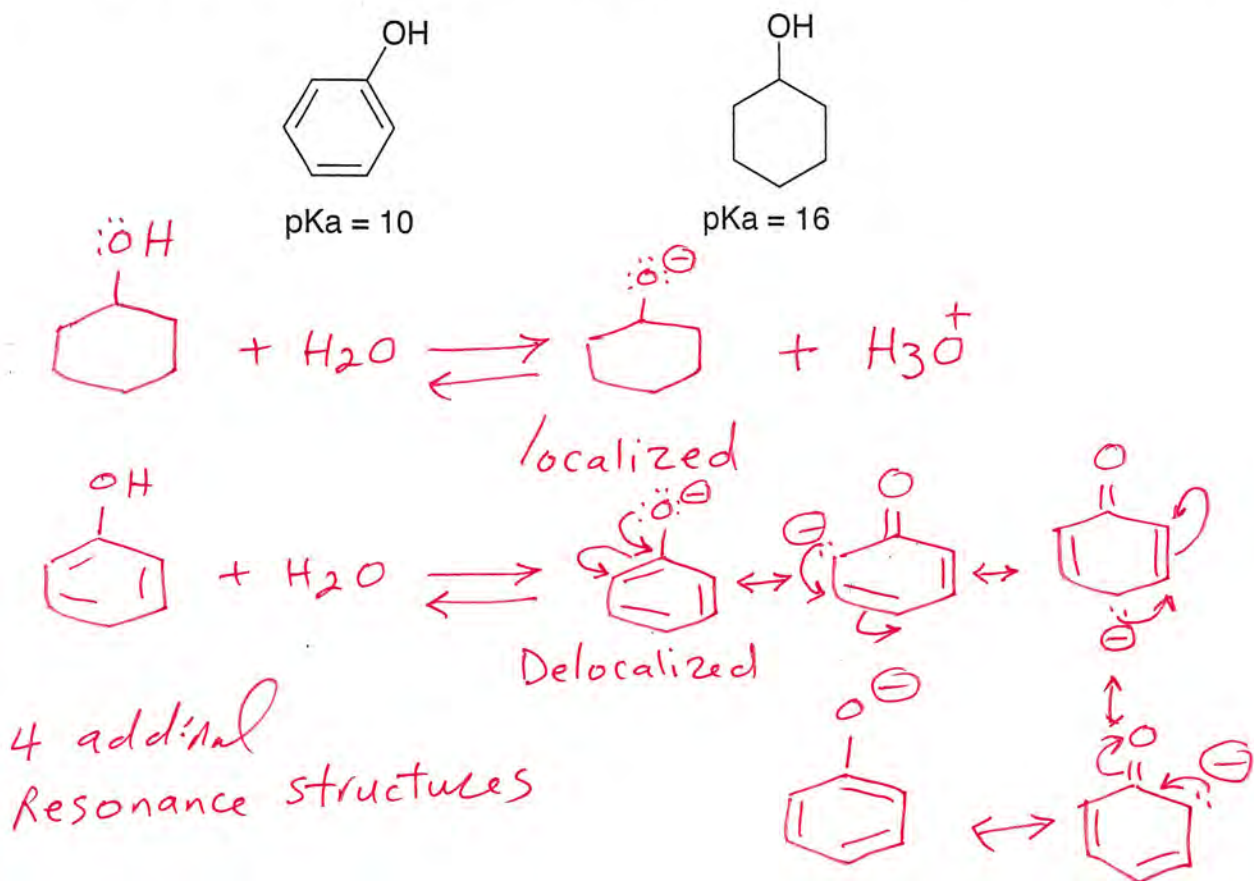


Bonus Question: (10 Points)
Section No.

Name: *Key*
PID:

Offer reasoning for the fact that phenol has a pKa of 10, while that of cyclohexanol is 16.
Hint: look at their corresponding conjugate bases.



The conjugated base of phenol has 4 additional resonance structures. Therefore, it is very stable and this explains the exceptionally low pKa for phenol.

The conjugate base of cyclohexanol is localized with no additional resonance structures. Therefore, the conjugate base is much much less stable than that of phenol. as a result, cyclohexanol has a pKa of 16.