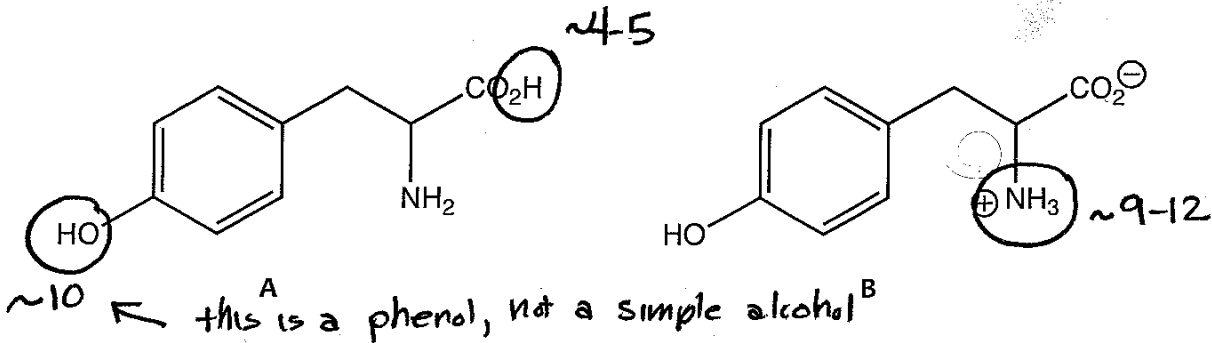


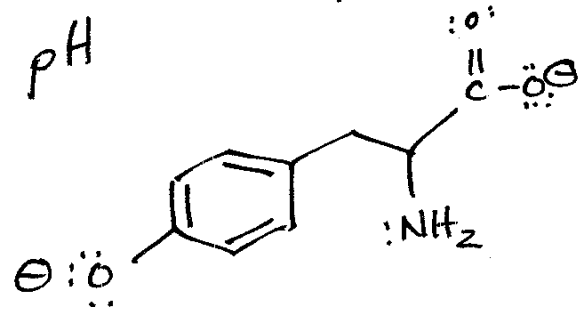
Quiz #1

Two structures for the amino acid tyrosine are given below. Structure A is sometimes found in texts, but is generally considered wrong, with B being a more realistic representation of the true structure (at least at more or less neutral pH values).



1. How many acidic protons are there in tyrosine? Circle them and give an approximate pKa for each.  
*in "free" amino acids, pKa values are often a bit different than typical ranges*
2. Why would people consider A to be wrong? Keep your answer short.  
*Because the carboxylic acid is strong enough to donate its proton to the amine, which is a base*
3. Draw the structure of tyrosine as it would exist at pH 12.

*everything would be deprotonated at this extreme pH*



*B is called the "zwitterion" or two ion form, by the way.*