

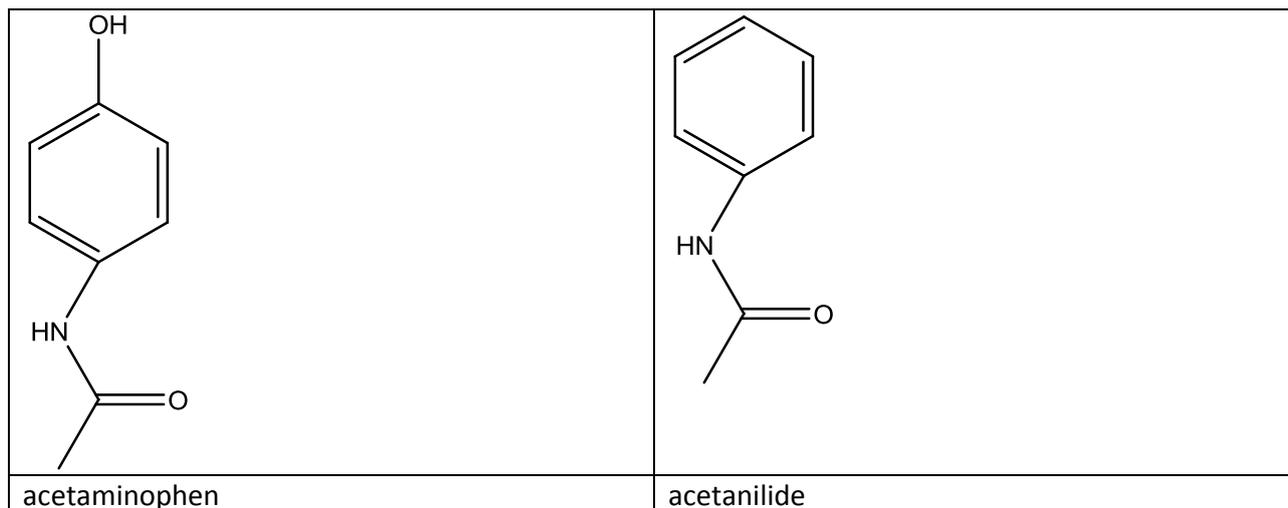
Answer on Question #56910 – Chemistry – Organic Chemistry

Question:

Is acetaminophen less acidic than acetanilide? Why?

Solution:

Consider structures both compounds.



These structures distinguished by the presence -OH group in acetaminophen. This group is phenol group, it is an acid function. So acetanilide is less acidic than acetaminophen. We can compare pKa this compounds:

$$\text{pKa}(\text{acetaminophen}) = 9.38$$

$$\text{pKa}(\text{acetanilide}) = 13.39$$

So our judgments are true.

Answer: acetanilide is less acidic than acetaminophen.

