For each of the following pairs of compounds, determine which is the stronger acid (A or B) WITHOUT referring to a pKₐ table. Of course, you might be able to check some of your answers by looking up the pKₐ's, but each of these problems can be solved by understanding acidity trends. Draw the conjugate bases, and compare the stabilities of the conjugate bases in order to make your prediction. Explain briefly.

**CH₃OH**  
**CH₃SH**  
A  
B  

Stronger acid? Explain.

**CF₃CO₂H**  
**CCl₃CO₂H**  
A  
B  

Stronger acid? Explain.

**H**  
H-C-O-Hₓ  
Hₓ  

try Hₓ as an acid, then try Hₓ  

More acidic proton? Explain.

**Complete the Lewis structures** given (add missing lone pairs) and **predict the products** expected for the above proton-transfer reaction. Use **curved arrows** to show the reaction mechanism. **To which side does the equilibrium lie** (Right/forward or Left/reverse or neither)? **Hint:** compare the two acids and compare the two bases; try to find a difference in stability. More stable = less reactive, weaker acid or base.

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acid + base ⇌ conj. base + conj. acid
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