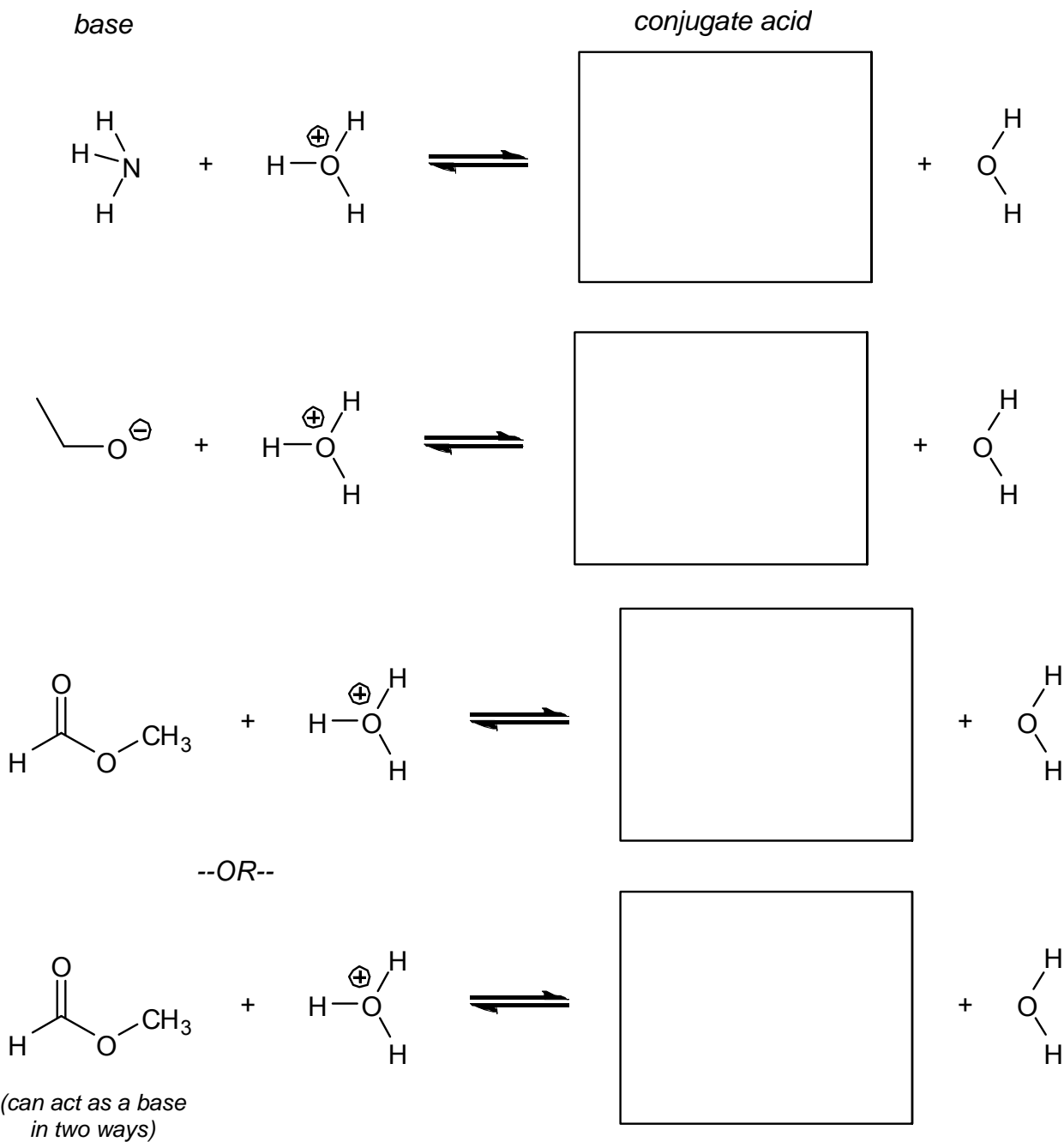


Workshop 4
Mechanisms of Lewis Acids and Bases (by “Electron Pushing”)

1. Lewis bases **donate** electrons to proton donors. For each acid-base equilibrium drawn below, draw double-barbed arrows (\rightleftharpoons) that (i) show how each of the bases could donate electrons to capture a proton from H_3O^+ , and (ii) show where the electrons that used to be bound to the proton go. Then, draw the structures of the conjugate acid products on the right-hand side of the equilibria.



The base shown in the last two reactions on the previous page has basic electron pairs on two different atoms, which yield two different conjugate acids. One of those conjugate acid products is stabilized by resonance, and is thus favored. Which one?

2. Lewis acids **accept** electrons from bases. For the acid-base equilibria drawn below, draw double-barbed arrows that show how each of the acids could release a proton to an electron pair from OH^- . Make sure that your arrows show the motion of *electrons*, not protons. Then, draw the structures of the conjugate base products.

