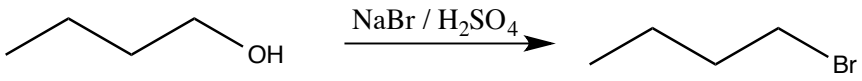
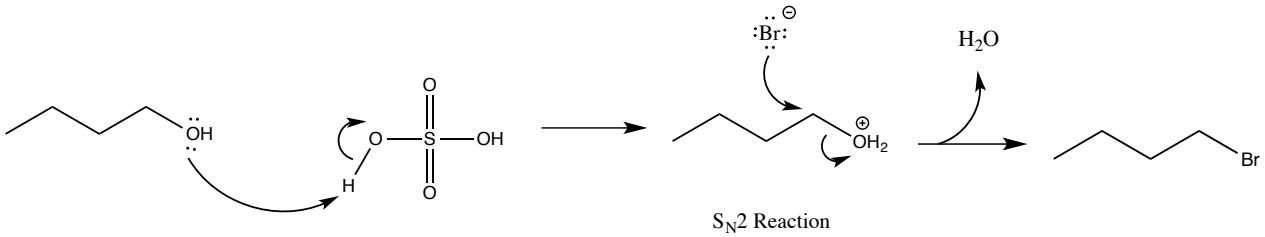
***Chem 343 – Organic Reactions***
***Chapter 10***
*Prepared by José Laboy, MS*
*http://www.chem.wisc.edu/areas/clc (Resource page)*

Reaction of a 1° Alcohol with Hydrogen Halides



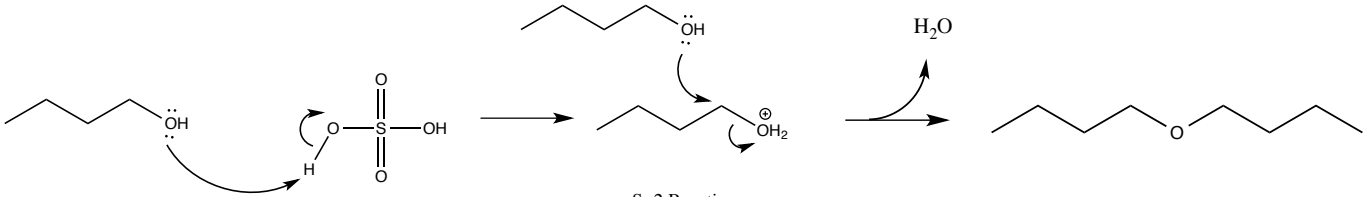

Mechanism




SN2 Reaction

Sometimes the reagent is shown as HBr, etc. Works well with NaCl / $H_2SO_4$ and NaBr / $H_2SO_4$. There's always the alkene by an E2 mechanism.

Ether formation is also a side product of the reaction as shown below. To avoid this side product the use of excess reagent guarantees a higher yield of the 1° alkyl halide. Remember protonated alcohols are very poor nucleophiles.




SN2 Reaction