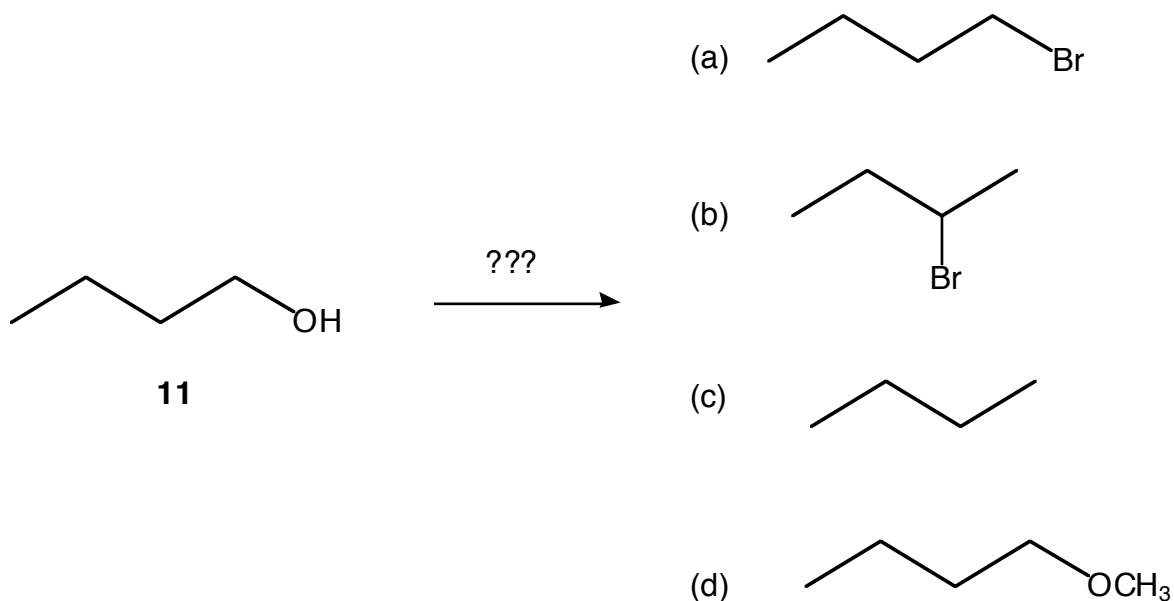


Problem 59, Chemistry 301X- 2006

How would you convert butyl alcohol (**11**) into the following products? You may use any reagent in the list below, as well as any inorganic reagent (no carbons) beside the ones listed below, and non-reactive solvents as needed (which you do not have to specify).

Be careful how you write multiple step syntheses: Number each step (1. molten lead
2. eye of newt). If you write: molten lead, eye of newt, the reader assumes that you mean to treat the starting material with those two reagents all at once.



Allowed reagents: Et₃N, and:

