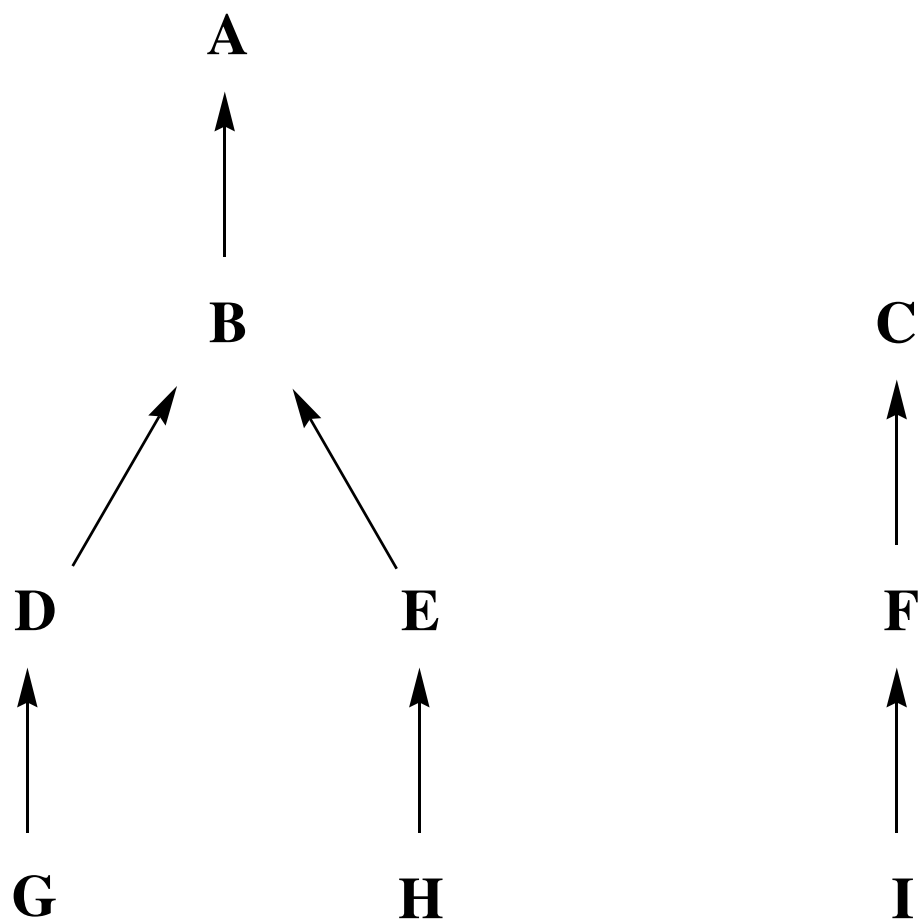


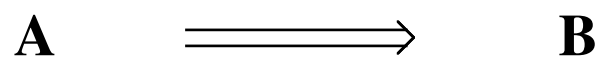
Chemistry 333

Organic Synthesis

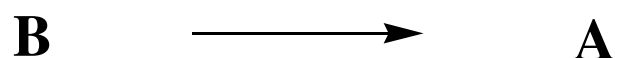
1. retrosynthetic analysis



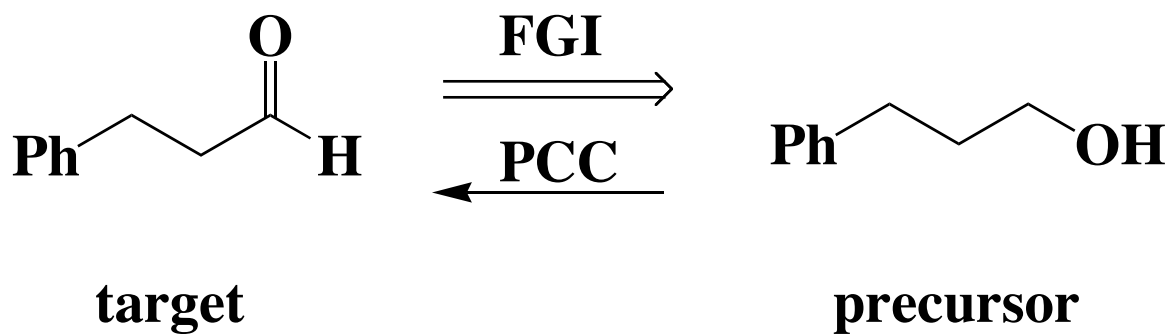
retrosynthetic direction:



synthetic direction:



an example:



2. efficiency

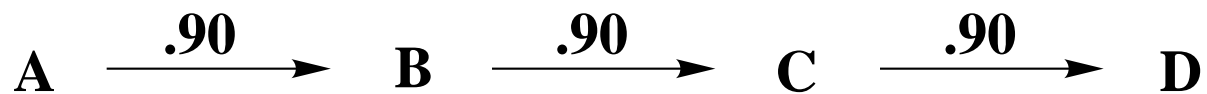
avoid product mixtures

obtain highest yields

use fewest number of steps

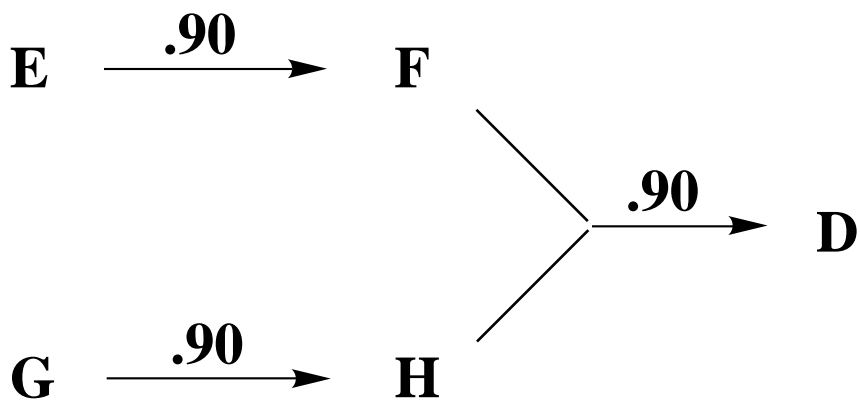
use convergent syntheses

linear:



overall yield: $(.90)(.90)(.90) = .73$

convergent:

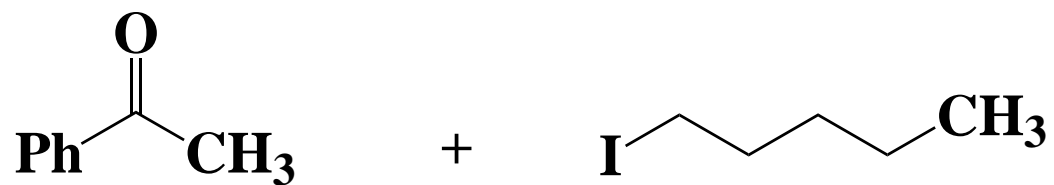
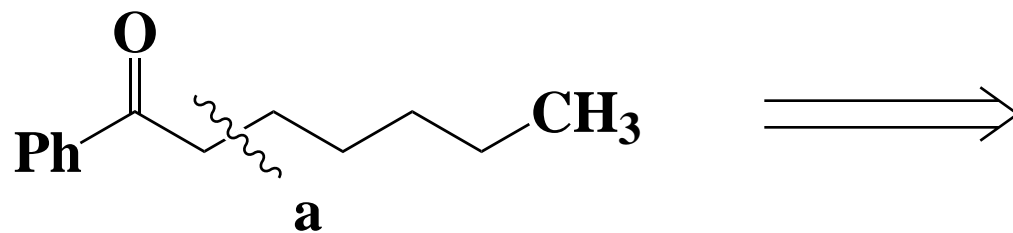


overall yield: $(.90)(.90) = .81$

3. carbon framework

**Construction of the C - C framework often
is one of the most difficult tasks.**

4. nearby functional groups



5. oxidation levels

6. stereochemistry

a. relative

b. absolute

7. regiochemistry

8. functional group compatibility

