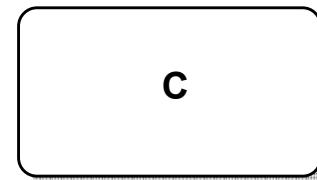
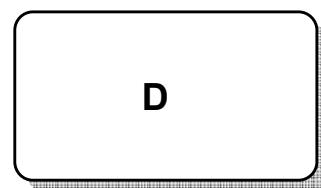
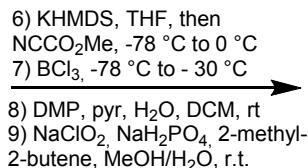


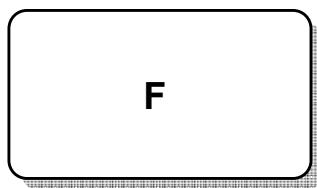
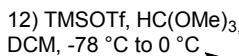
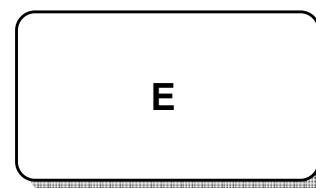
4) **X**, catecholborane,
DCM
5) **Y**, tBuLi, Et2O;
then MgBr2, THF, -78 °C;
then add **B**, PhMe, -78 °C to rt
hint: 4 is a kinetic resolution



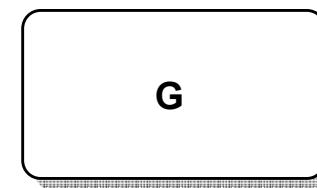
Name the reactions occurring in 4 and 5!



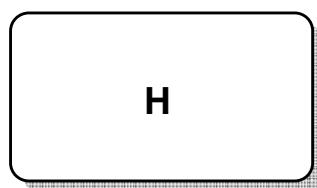
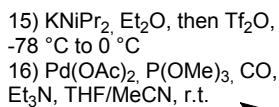
10) MOMCl, NEt3, DCM, r.t.
11) KHMDS, THF, then
NCCO2Me, -78 °C to 50 °C



13)MsCl, NEt3, THF, 0 °C,
then CH2N2, -50 °C
14) hν, tBuOH/Et2O, r.t.



Name the reaction occurring in 12!



17) HCO2H, r.t.

