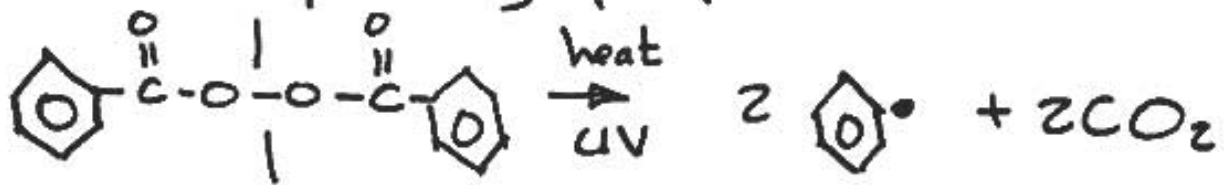
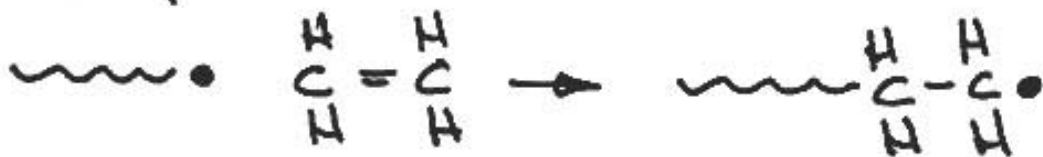


Free Radical Addition - mechanisms

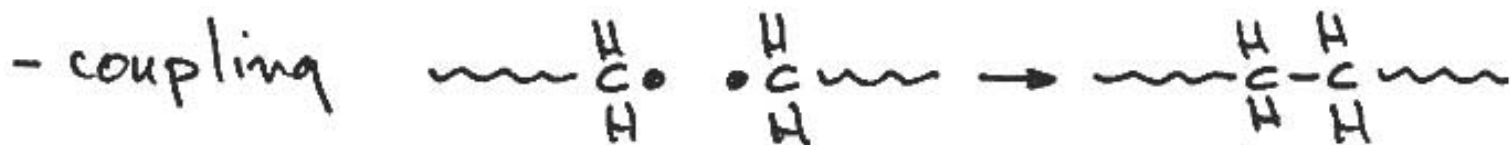
- Initiation eg benzoyl peroxide (BPO)



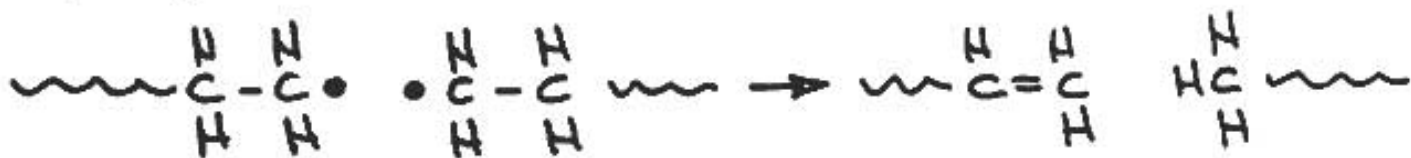
- Propagation



- Termination



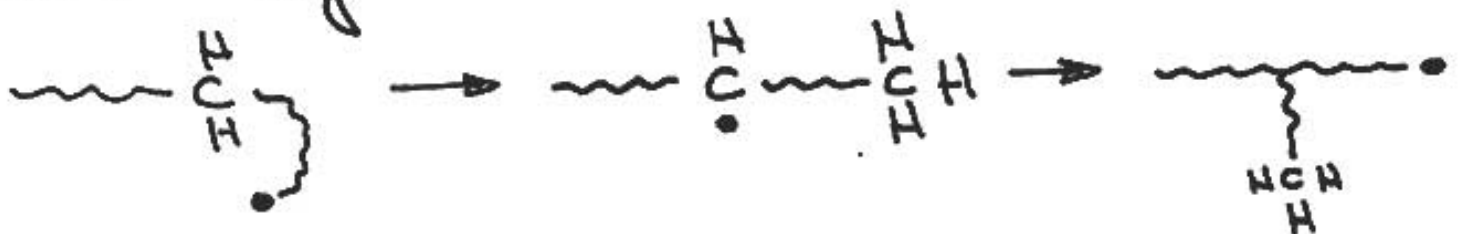
- disproportionation



- Chain transfer

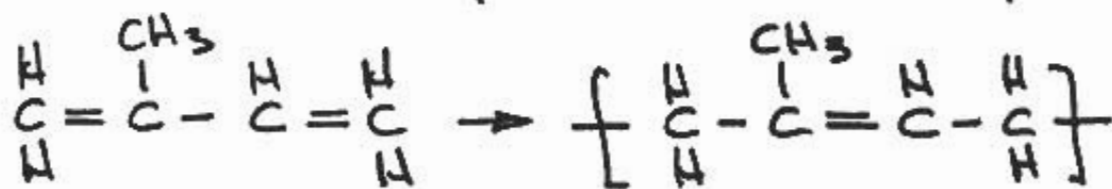


- Backbiting

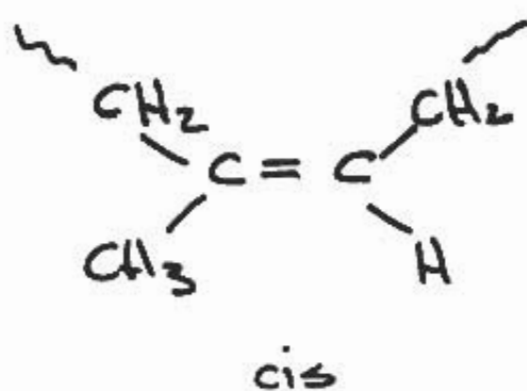
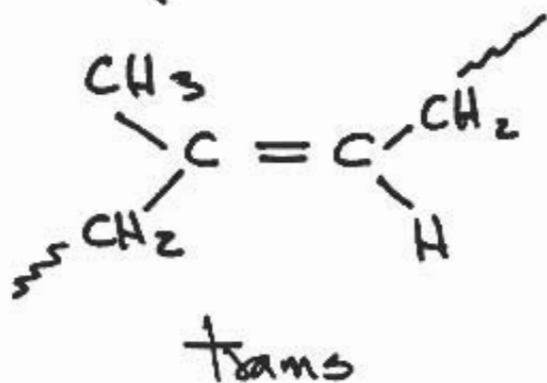


Stereochemical Control

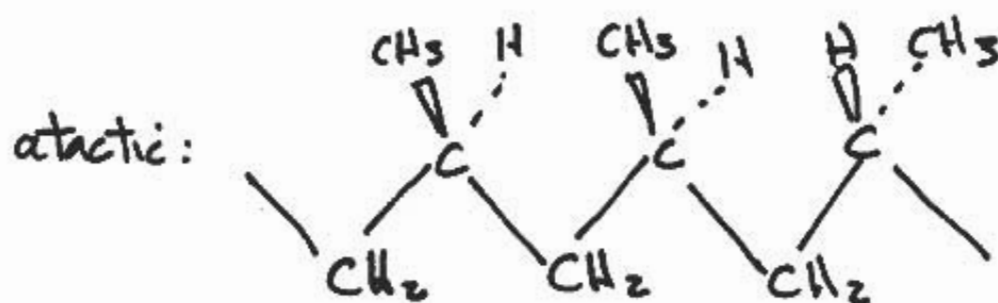
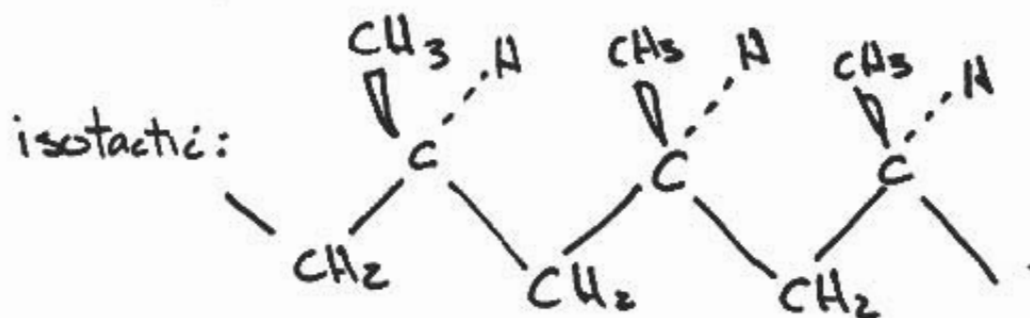
- 1,3 diene polymerization eq isoprene



2 conformations:



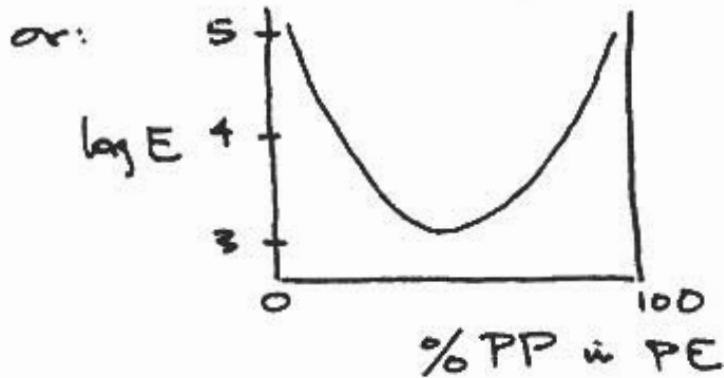
- Tacticity eq PP



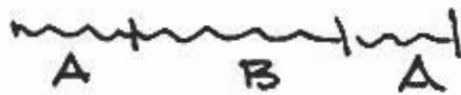
- Ziegler-Natta catalysts

Copolymerization

- Random eg LLDPE



- Block



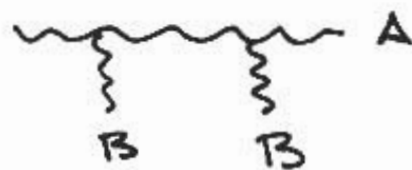
eg A - styrene
B - butadiene

phase
segregation:



physical
crosslinks

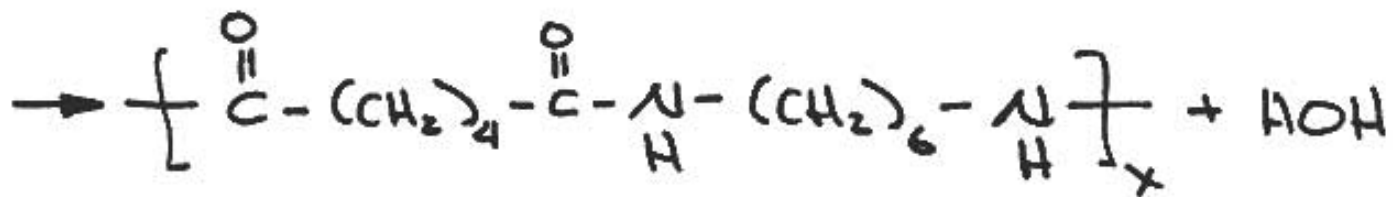
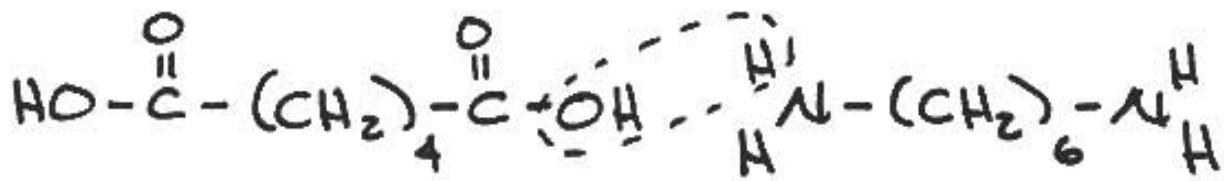
- Graft



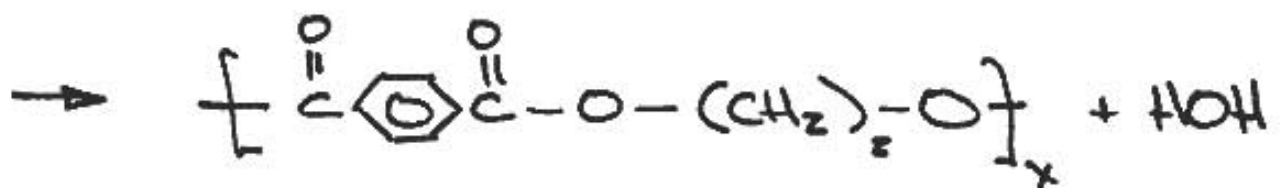
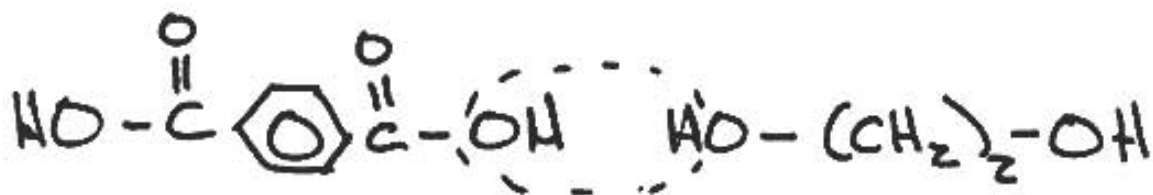
eg HIPS: polystyrene
+ butadiene
+ butadiene w/ polystyrene graft

Condensation Polymers

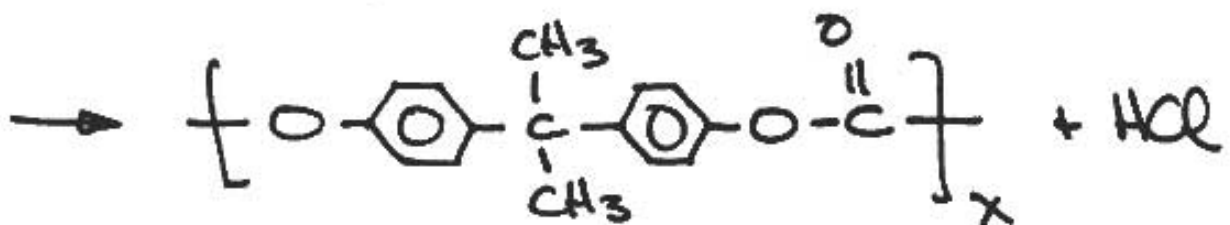
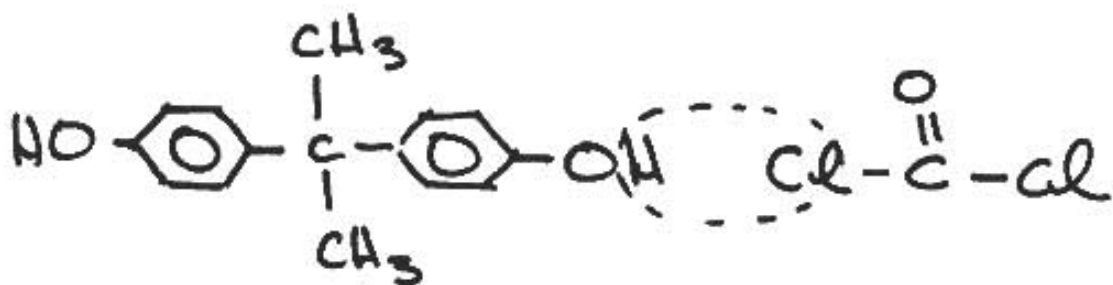
- polyamides eq nylon 66



- polyesters eq PET

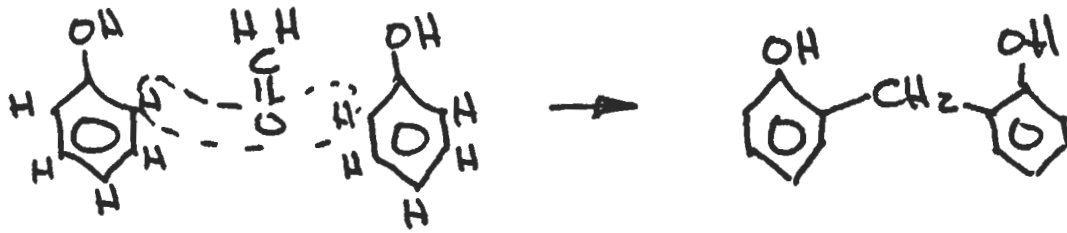


- polycarbonates eq PC-BPA

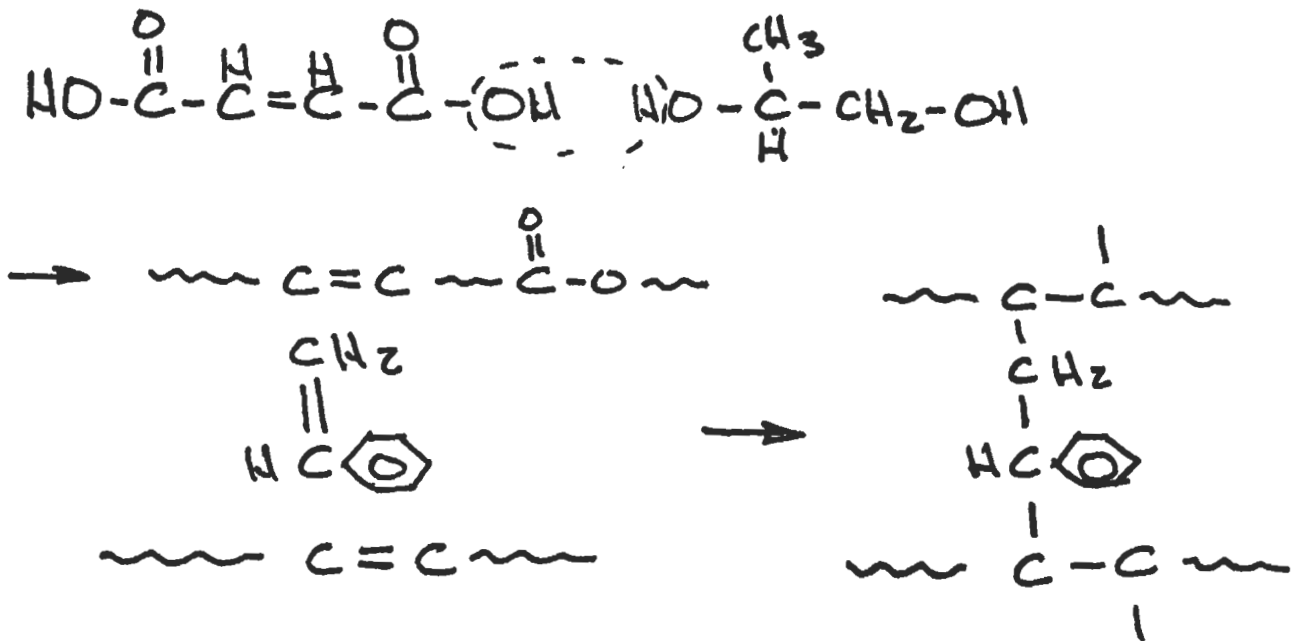


Thermosetting Resins

- phenolics



- Unsaturated polyesters



- epoxy eq DGEBA

