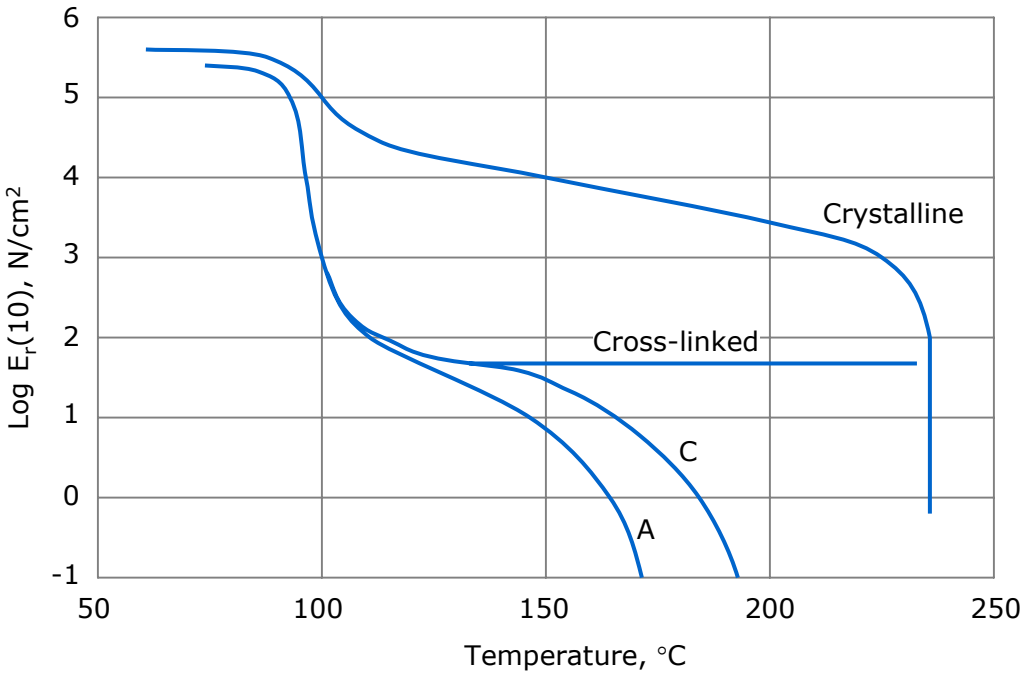
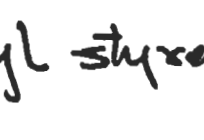
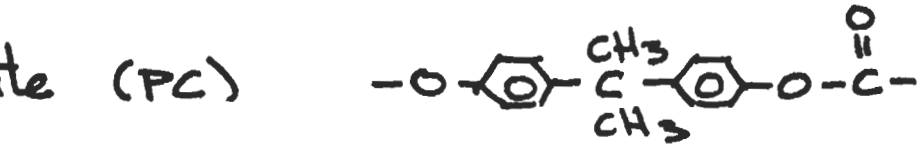
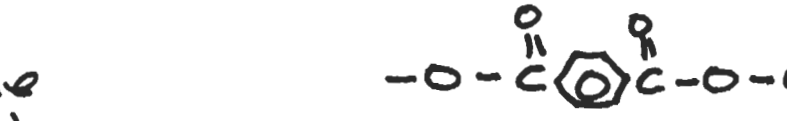
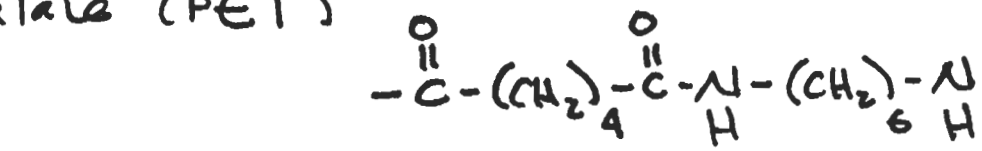
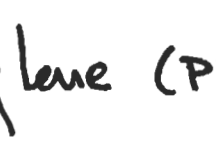
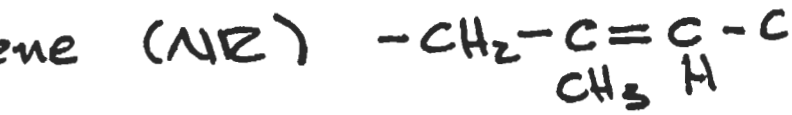
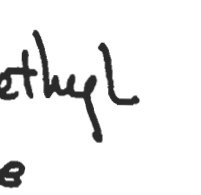
Lecture 4
Polymer Crystallinity

Example: Spherulites
See Figures 2.4 and 2.8 in McCrum, N.G. "Principles of polymer engineering" New York: Oxford University Press, 1997



after Arthur Tobolsky, *Properties and structure of polymers* (Wiley, 1960)

Glass Transitions

		T_g, °C
poly α-methyl styrene		175
polycarbonate (PC)		150
polyacrylonitrile (PAN)		104
polystyrene (PS)		100
polyvinyl chloride (PVC)		83
polyethylene terephthalate (PET)		69
nylon 66		50
polypropylene (PP)		-19
polyisoprene (NR)		-73
polyethylene (PE)		-80
poly-dimethyl siloxane		-123

See graphs of glass transition temperature in
Bicerano, Josef. *Prediction of Polymer Properties.*
New York: Marcel Dekker, 2002