

# Homework 14

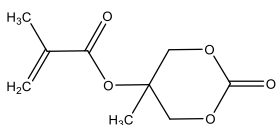
**Due:** Monday 5/6/19 by 5PM...in the Box

**Read:** Chapter 29

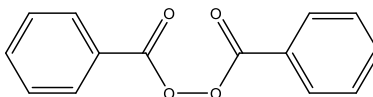
**Do:** Do the MCAT Practice on Page 1286, 29.7, 29.15, 29.32, 29.38b&d.

## Supplemental Problems:

1. The degree of polymerization of a linear polyethylene sample is 142. What is the  $M_n$  of the sample??
2. We have discovered an additive that enables living free radical polymerization of the monomer shown below. I am sorry, but the structure of the additive is confidential but if I add the appropriate amount of the secret substance that insures living type kinetics to a polymerization flask together with 10 millimoles of benzoyl peroxide (shown below) and 1.2 kilograms of the monomer and run the reaction until 50% of the monomer has reacted, what degree of polymerization do you predict. Show your work. Calculators are not required to work this problem.



Monomer



Benzoyl peroxide