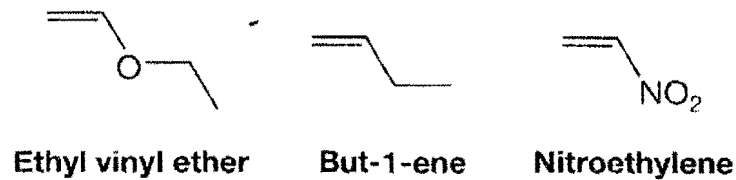
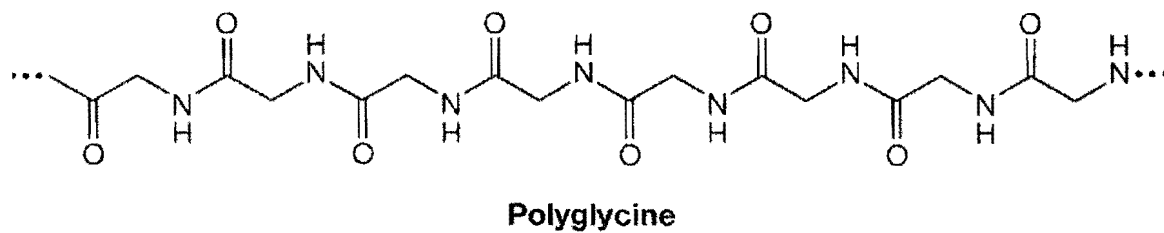


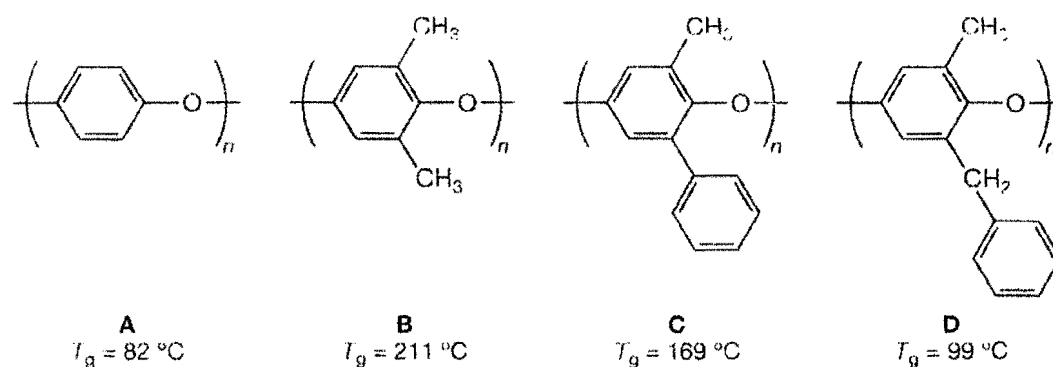
1. (a) Which monomers is most likely to undergo anionic polymerization? Justify your choice. (b) Which one is most likely to undergo cationic polymerization? Justify your choice. (25 pts)



2. Propose a synthesis for each of the following polymers. (25 pts)



3. Consider the following series of poly(phenylene oxide) polymers A-D, and their glass transition temperatures. Explain how the differences in structure can account for the differences in  $T_g$ . (25 pts)



4. Consider polycarbonate polymers E-G. Please explain (a) Which one has the highest  $T_g$ ? (b) Which one has the lowest  $T_g$ ? (25 pts)

