

CHEM 121 Biological Chemistry Problem Set 4

1) Write the formulas and draw the structures for the following compounds:

- a) ethane b) propene c) butane d) cis-2-butene
e) trans-2-butene f) 1,2-butadiene g) pentene h) cis-2-pentene
i) trans-2-pentene j) hexane k) cis-2-hexene l) trans-4-octene
m) trans-6-eicosene n) cis-8-eicosene o) cis-2-trans-5-cis-7-cis-9 eicosatetraene

2) Write out the following reactions with their products using structures:

- a) propene + HCl b) propene + HBr
c) propene + HBr with peroxides d) 2-butene + HF
e) 2-butene + HBr f) 2-butene + HBr with peroxides
g) butene + HBr h) butene + HBr with peroxides
i) hexene + HCl j) hexene + HF
k) hexene + HI (THINK!) l) hexene + HBr
m) hexene + HBr with peroxides n) octene + HBr
o) octene + HBr with peroxides p) octene + HCl

3) Write out the following acid-catalyzed reactions with their catalyst and products using structures:

- a) propene + water b) butene + water
c) pentene + water d) hexene + water
e) heptene + water f) octene + water

4) Name the organic products in #'s 2 and 3, above, using IUPAC nomenclature