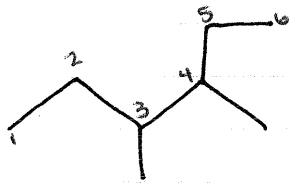
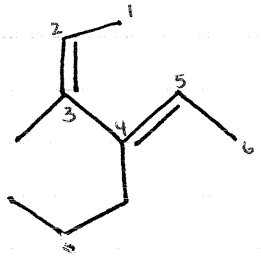
KEY

Organic Chemistry Review

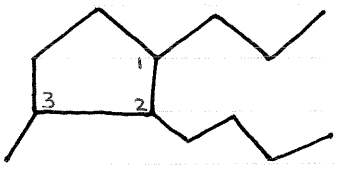
Name the following structures:

① 

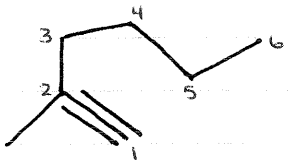
3,4 dimethyl hexane

② 

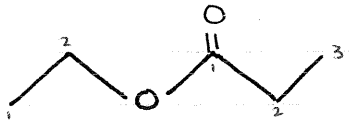
3 methyl 4 propyl hex-2,4 diene

③ 

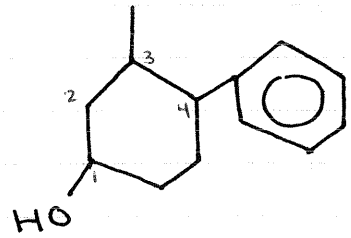
2 butyl 3 methyl 1 propyl cyclopentane

④ 

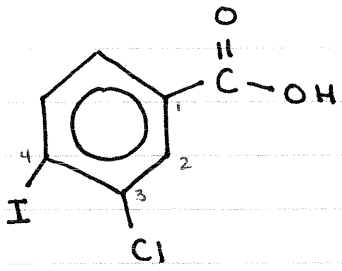
2 methyl hexyne

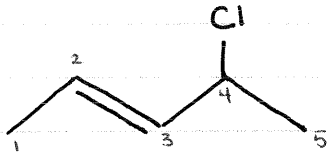
⑤ 

ethyl propanoate

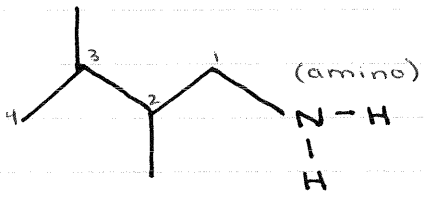
⑥ 

3 methyl 4 phenyl cyclohexanol

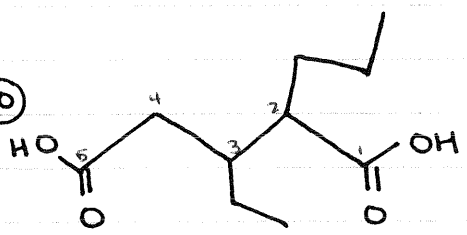
⑦ 

⑧ 

4 chloro pent-2-ene

⑨ 

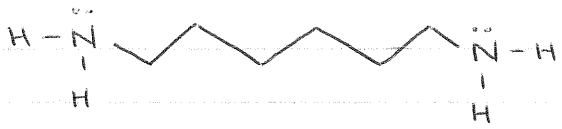
1 amino 2,3 dimethyl butane

⑩ 

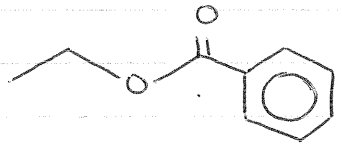
3 ethyl 2 propyl pentan 1,5 dioic acid

Draw the following structures:

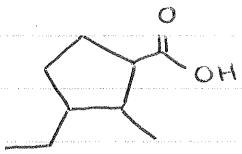
(11) 1,6 diamino hexane



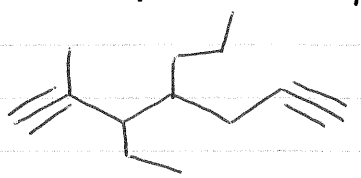
(12) ethyl benzoate



(13) 3 ethyl, 2 methyl cyclopentanoic acid

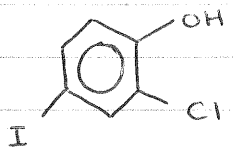


(14) 3 ethyl, 2 methyl, 4 propyl hept-1,7 diyne



and C has 5 bonds (my bad)

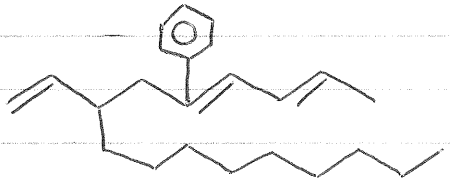
(15) 2 chloro, 4 iodo phenol



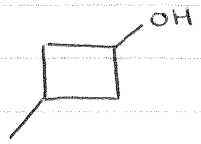
(16) 2 bromo cyclohexane

should be 1 Br.

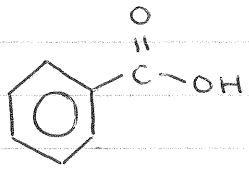
(17) 3 nonyl 5 phenyl non 1,5,7 triene



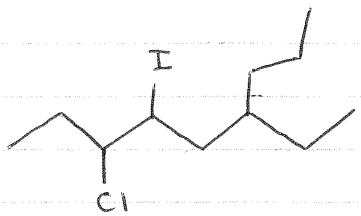
(18) 3 methyl cyclobutanol



(19) benzenoic acid



(20) 3 chloro, 4 iodo, 6 propyl octane

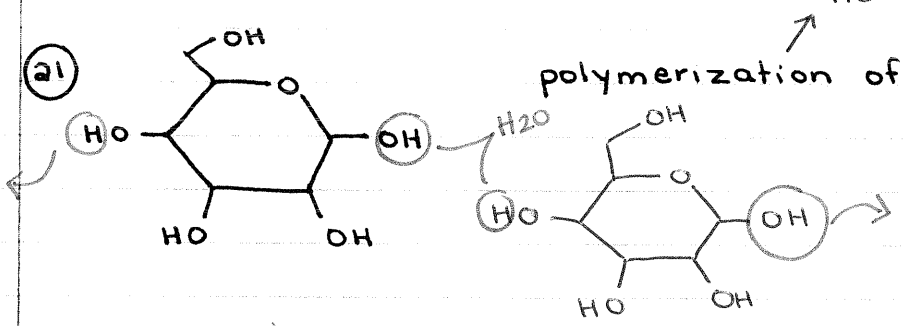


3 chloro 6 ethyl 4 iodo nonane

For each of the following reactions

1. name reactants
2. name products
3. draw products
4. show reaction arrows
5. label the type of reaction.

(21)

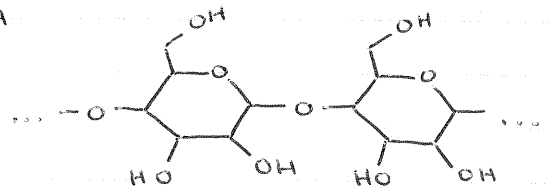


glucose

need more than 1

polymerization of homo monomer

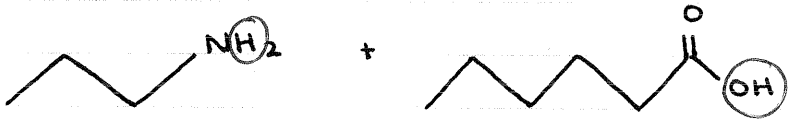
the same



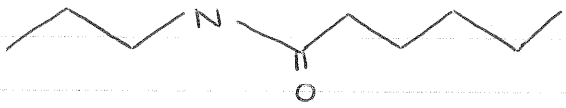
cellulose

condensation polymerization

(22)

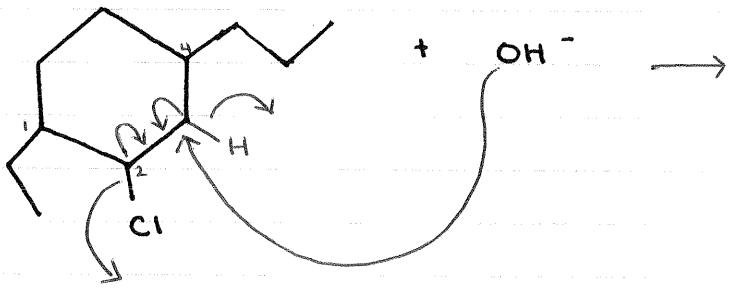


1 amino propane + hexanoic acid. → H_2O condensation



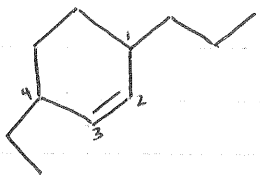
(can't name)

(23)



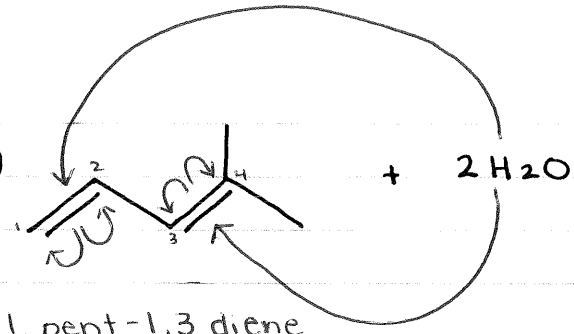
2 chloro, 1 ethyl, 4 propyl cyclohexane

elimination



4 ethyl 1 propyl cyclohex-2-ene

(24)

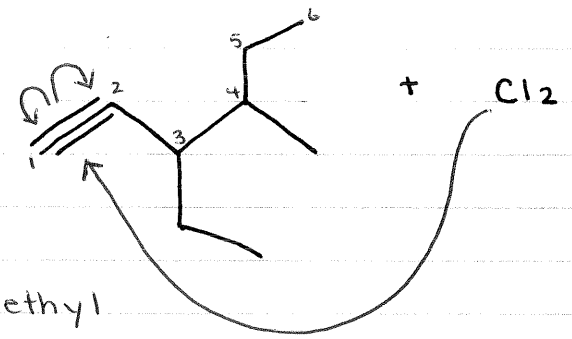


4 methyl pent-1,3 diene

4 methyl pentan-1,3 diol

Addition (Hydration)

(25)

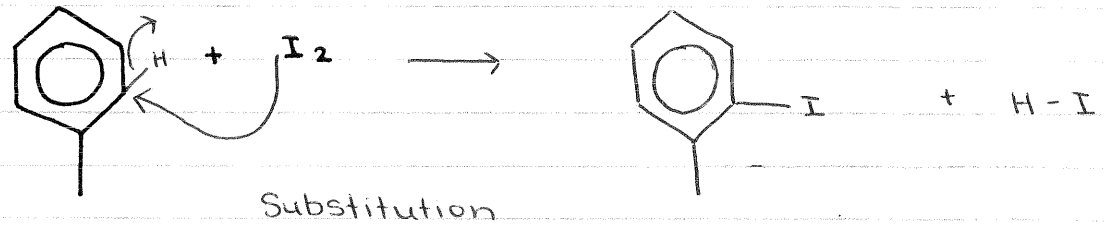


3 ethyl 4 methyl hexyne

1, 2 dichloro 3 ethyl 4 methy hexene

Addition (Halogenation)

(26)

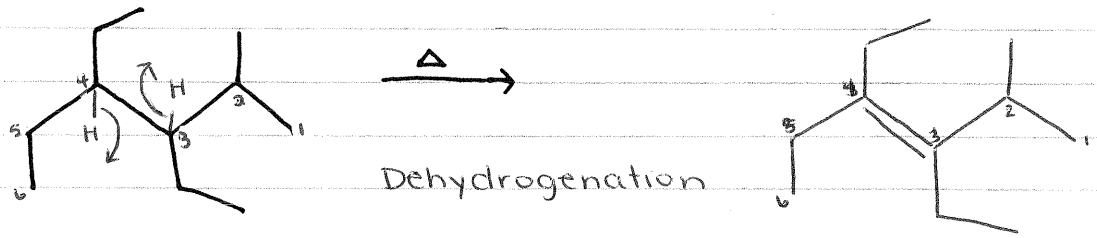


Substitution

toluene

2 iodo toluene

(27)



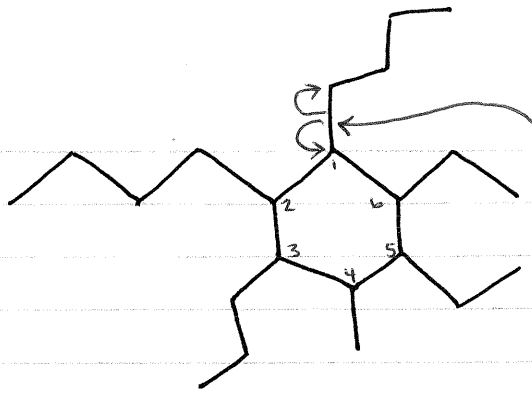
Dehydrogenation

3,4 diethyl 2 methyl hexane

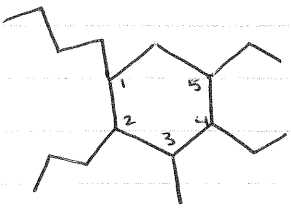
3,4 diethyl 2 methyl hex-3 ene

1 butyl
4,5 diethyl
3 methyl 2 propyl
cyclohexane

(28)



$\xrightarrow[H_2]{\Delta}$



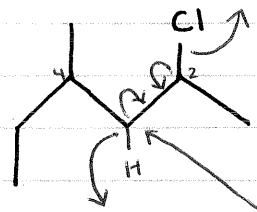
Cracking

+

1,2 dibutyl, 5,6 diethyl
4 methyl 3 propyl
cyclohexane

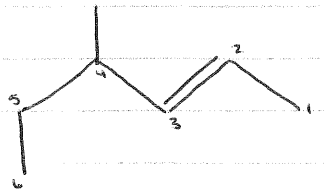
butane

(29)



+ OH^- ⟶

Elimination



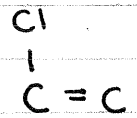
Cl^- +

H_2O

2 chloro 4 methyl hexane

4 methyl hex-2-ene

(30)

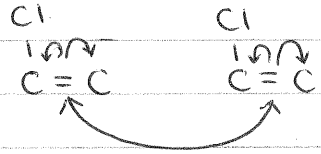


polymerization ↗ need multiple

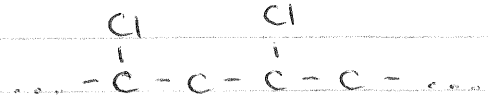
of a homo monomer

↓

of the same



⟶



vinyl chloride
(chloroethene)

polyvinyl chloride

Addition Polymerization.