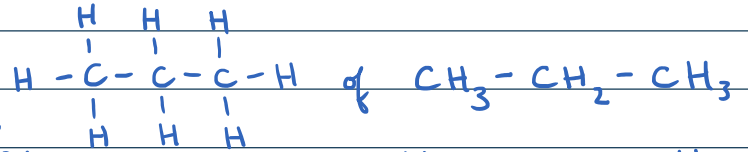
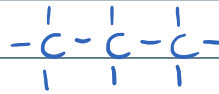


Koolwaterstoffen =  $C_n H_n$  vb.  $CH_4$ ;  $C_3H_8$ ;  $C_7H_{16}$

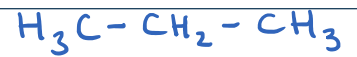
Structuurformules



toegestaan:

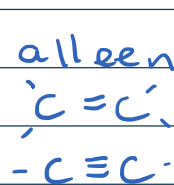


zelfde



fout:  $C - C - C$

onderscheid:



alleen  $-C - C-$   $C_n H_{2n+2}$

$C_n H_{2n}$

$C_n H_{2n-2}$

alk-

aan

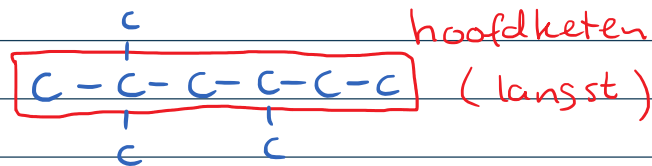
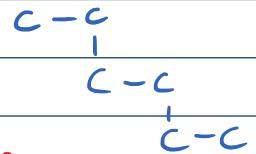
een

yn

C-keten



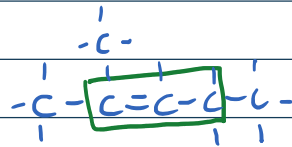
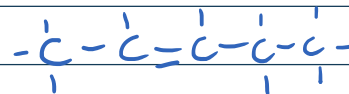
onvertakt



hoofdketen

(langst)

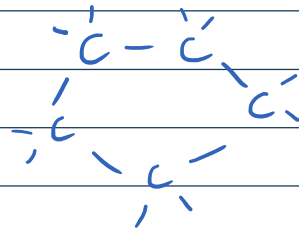
vertakt



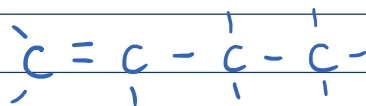
$C_n H_{2n+2}$ : verzadigd k.w.

$C_n H_{2n}$  } onverzadigd k.w.  
 $C_n H_{2n-2}$

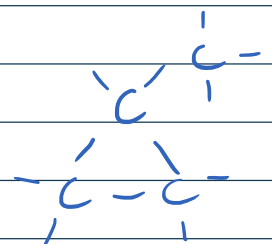
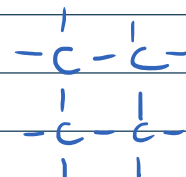
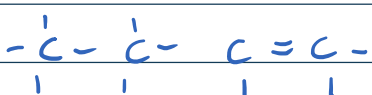
cycloalkaan  $C_n H_{2n}$

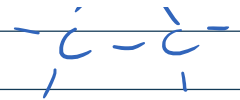
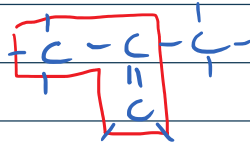
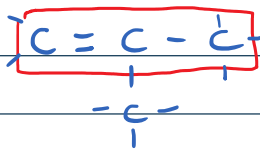
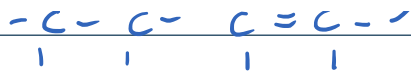


$C_4H_8$ : meerdere structuren mogelijk  
ISOMERIE



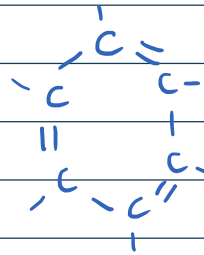
zelfde





$C=C$  korter  $C-C$

Benzeen:  $C_6H_6$



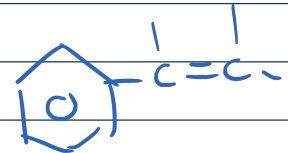
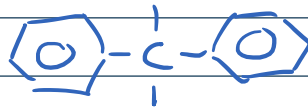
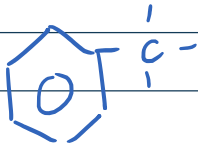
} alles dezelfde bindingslengte

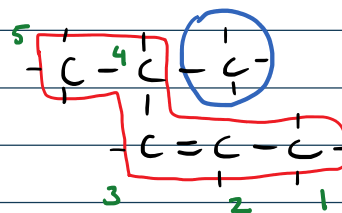
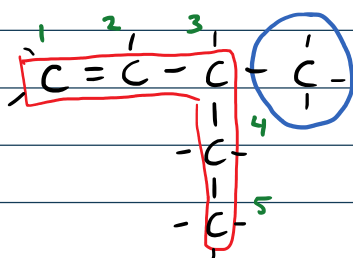
mengvorm tussen  $C-C$  en  $C=C$



"benzeenring"

→ aromatische k.w.-en





4-methyl pent-2-ene

- 4a Bepaal het aantal C-atomen

|    | meth | eth | prop | but | pent | hex |
|----|------|-----|------|-----|------|-----|
| C: | 1    | 2   | 3    | 4   | 5    | 6   |

66 D.

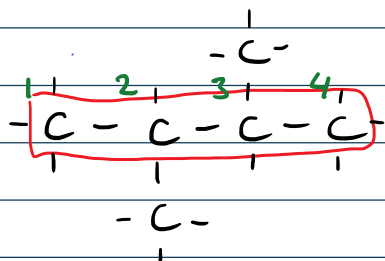
- 5 Nummer de hoofdketen zodanig dat uitgang laagste

- ## 6. Nummering toepassen

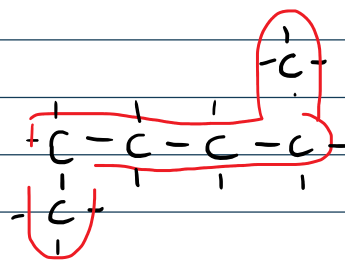
7. Eventuele zijgroepen benoemen (en nummeren)

zijgroep : -yl      bijv methyl -CH<sub>3</sub>  
                                   ethyl -CH<sub>2</sub>-CH<sub>3</sub>

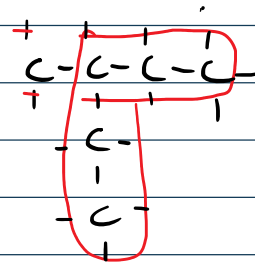
8. Zijkroep(en) voor de hoofdketen



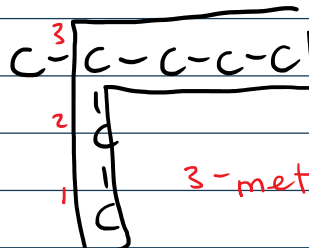
2,3-dimethylbutaan  
2x



hexaan



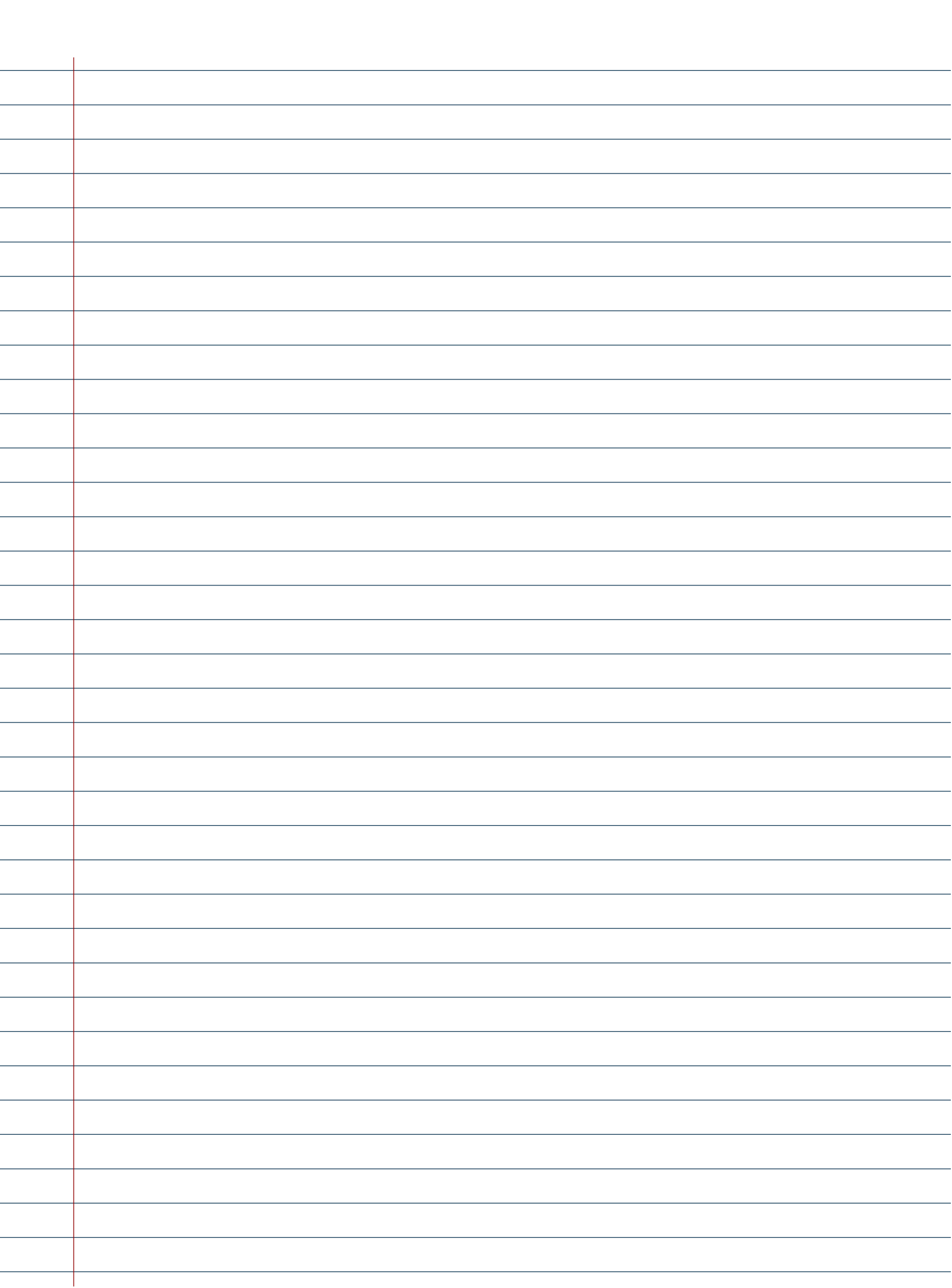
3-methylpentane



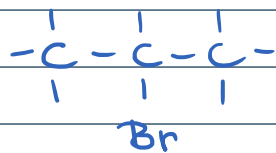
3-methylhexaan.

6.1 + 6.2

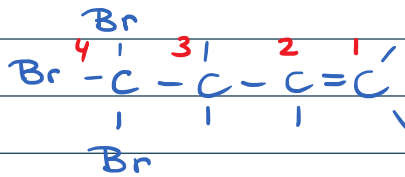
opgaven  $1^{\text{st}}/m g + 13, 14, 16$ .



Iedere H is te vervangen door F, Cl, Br, I → halogeenalkaan



2-broompropaan

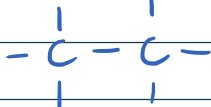


uitgang

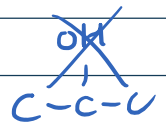


? ~~1,1,1~~-tribroom of 4,4,4-tribroom but-1-een

laagste nummer



1-broomcyclobutaan

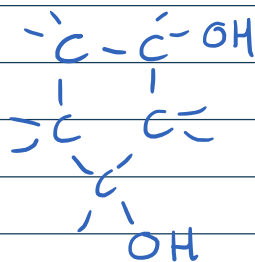
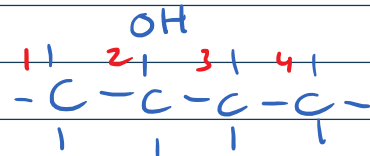


H vervangen door -O-H, dus

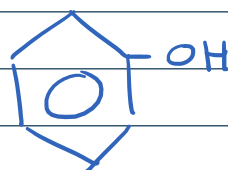
alcoholen ⇒

uitgang -ol

butaan-2-ol

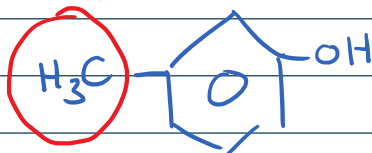


cyclopentaaan-1,3-diol



benzenol  
"fenol"

methyl

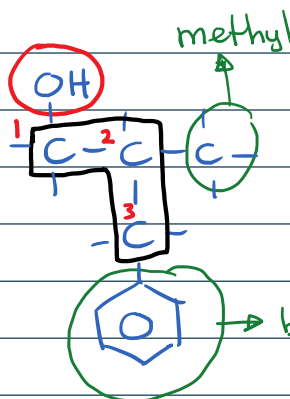


3-methyl fenol → OH

molecuul formule:



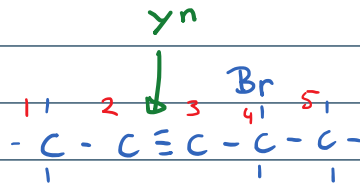
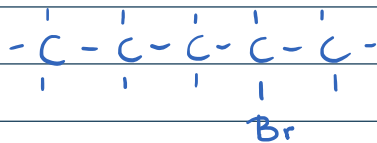
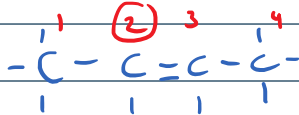
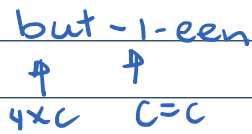
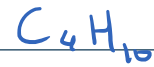
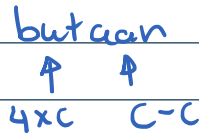
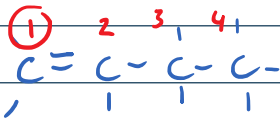
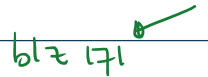
3-fenyl-2-methyl-propaan-1-ol



basis: propaan-1-ol

benzeenring als zijgroep: fenyl

blz 171



2-broom pentaan

4-bromo pent-2-yn

Voorvoegsel:

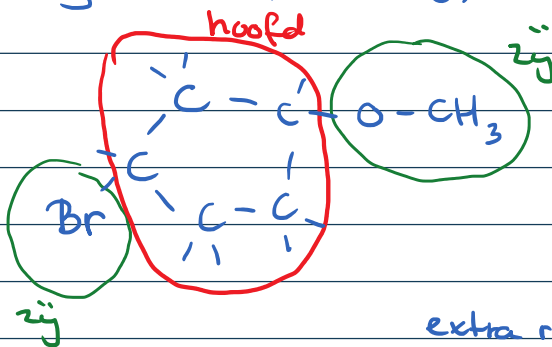
alkyl = methyl, ethyl etc.  
halogen = fluor, chlor etc.  
alkoxy = methoxy, ethoxy

$$=CH_3; =CH_2-CH_3$$

612 176.

$$-F; = a$$

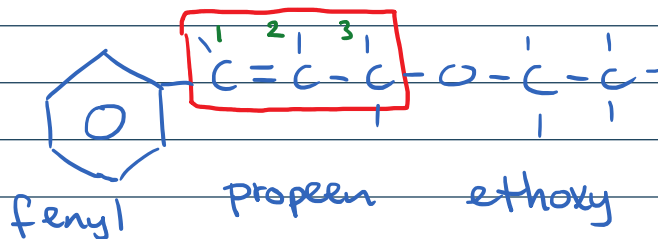
7

$$-O-CH_3; -O-CH_2-CH_3$$


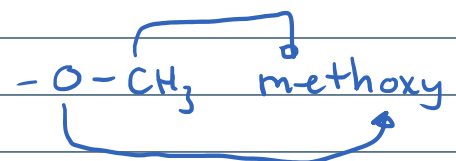
hoofddeelen: cyclopentaan  
zijgroep: broom  
: methoxy

extra regel: hoogste atoomnummer, wordt laagste nummer.

1-brom-3-methoxycyclopentan.

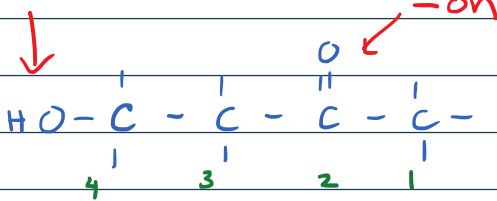


3-ethoxy-1-phenyl propene



### 3-ethoxy-1-phenylpropaan

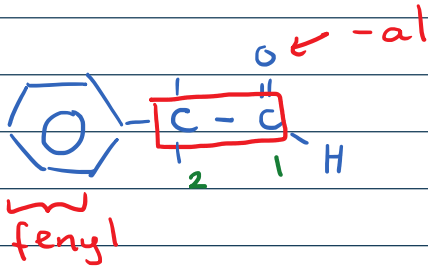
'hydroxy'



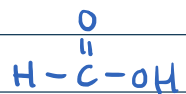
alkanen met alkoxy: ethers.  
blz 176

bepaalt nummering

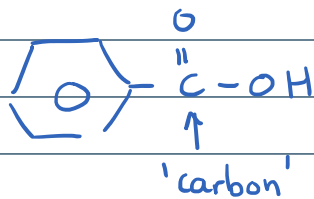
4-hydroxybutaan(-2-)on



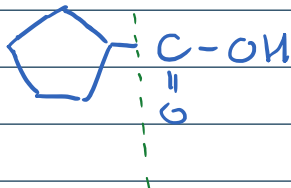
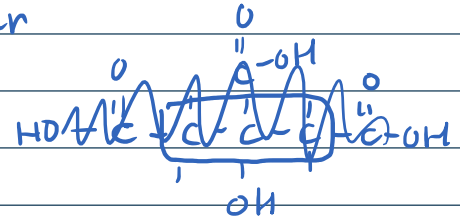
fenylethanal



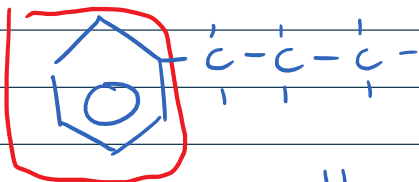
!



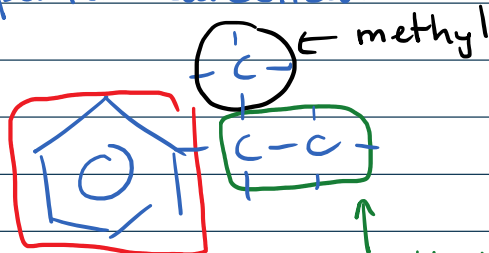
benzeencarbonsuur



cyclopentaaan carbonsuur

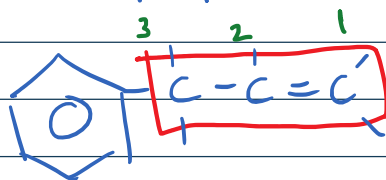


propylbenzeen

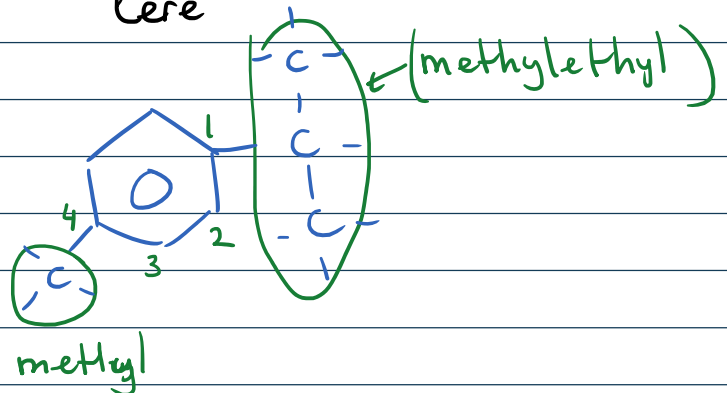


(methylethyl)benzeen  
lere

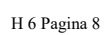
!



3-fenylpro



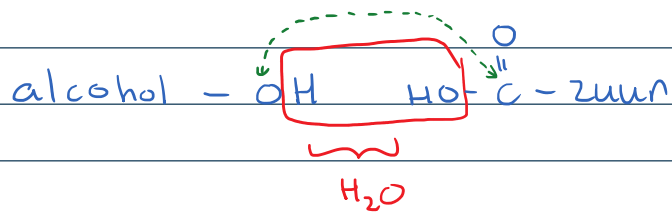
1-(methylethyl)-4-methylbenzeen



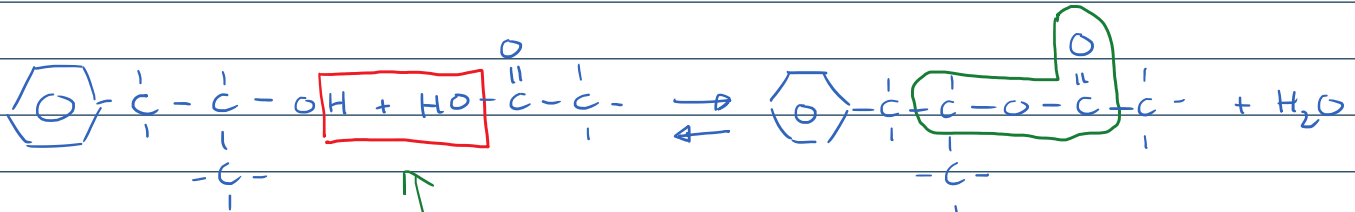
# 6.4

dinsdag 1 juni 2021

13:33



\*

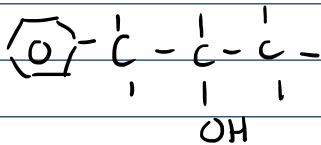


1-fenylpropan-2-ol

ethaanzuur

een ester = hydrofoob

tip: zet de OH-groepen bij elkaar.



Stel: je maakt een ester.

Hoe weet je of de reactie heeft plaatsgevonden?

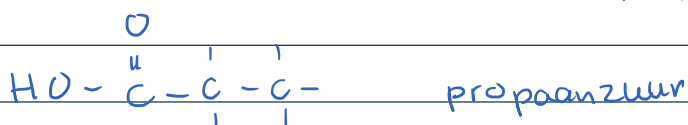
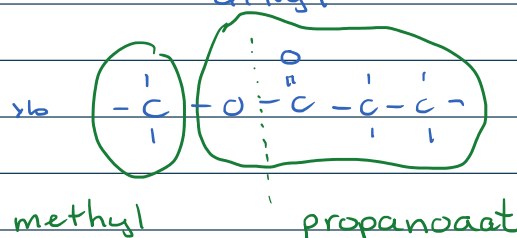
\* water toevoegen  $\rightarrow$  2 lagen systeem ester  $\rightarrow$  

\* destilleren  $\rightarrow$  1<sup>e</sup> fractie is ester (zie kookpunt)

\* ruiken  $\rightarrow$  fruitige geur

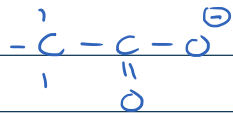
\* water aantonen met wit kopersulfaat  $\rightarrow$  wordt blauw

Naamgeving ester:

gedeelte alcohol  
alkylgedeelte zuur (bevat C=O)  
alkanoaat

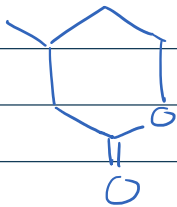
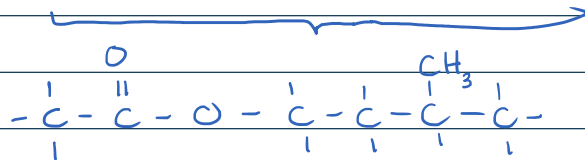
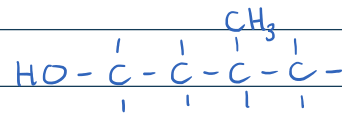
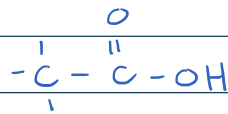


voorlopig niet:  
opg. 54, 55, 57



ethaanzuur: 0,57 mL

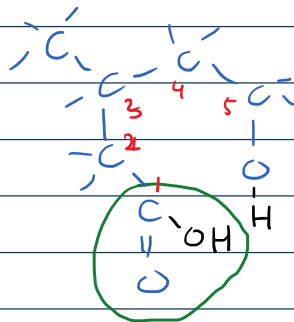
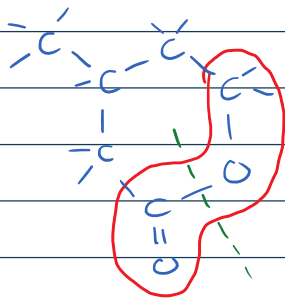
3-methylbutaan-1-ol: 1,09 mL



niet getekend: • C en H atomen

• bindingen tussen C en H

geef de molecuulformule:  $\text{C}_6\text{H}_{10}\text{O}_2$



5-hydroxy-3-methyl-  
pentaanzuur.