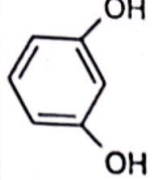
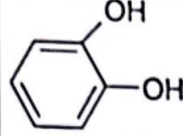
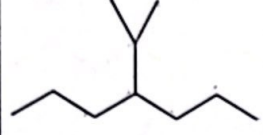
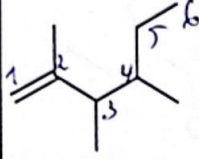
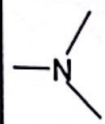
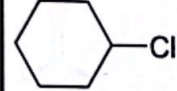
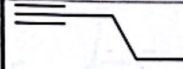
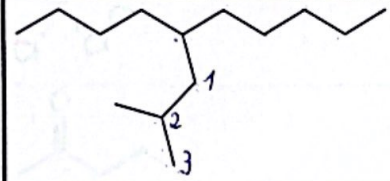
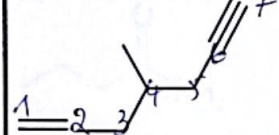
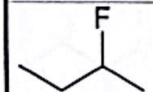
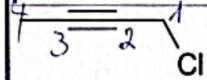
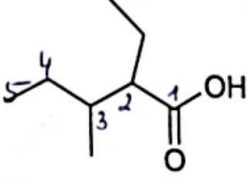
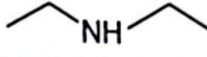
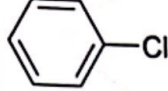
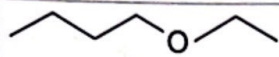
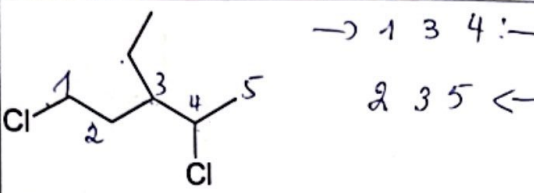
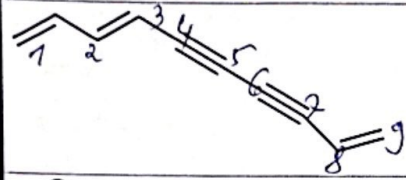
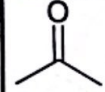
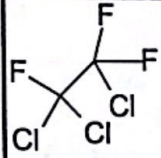
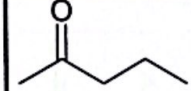
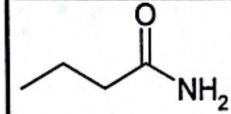
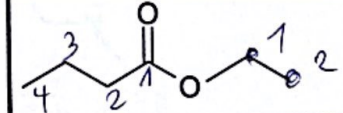
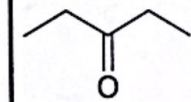
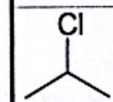


Geef van onderstaande verbindingen de naam of skeletnotatie.

Skeletnotatie	Naam
	2,3,3,4-tetramethylpentaan vertakt alkaan
	butaan zuur / butezuur carbonzuur
	aniline / aminobenzeen benzeenderivaat
	4,4-dimethylhex-2-een vertakt alkeen-alkadien
	oxaalzuur / ethaandicar- bonzuur C. 2 zuur
	2-chloor-4-methylhept-3-een halogeenaalkeen
	2-methylbuta-1,3-dien
	prop butaan-1,2,3-triol Alcohol
	3-methylpenta-1,4-dien
	cyclopentaan
	para-dihydroxybenzeen 1,4 - " " p - " "

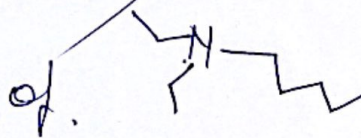
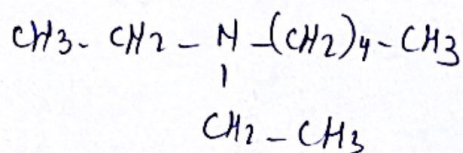
Skeletnotatie	Naam	2
	meta-dihydroxybenzeen 1,3 - " m - "	
	1,2 - " o of o - " o - "	
	(vertaakte zijketen) 4-propaan-2-ylheptaan of 4-isopropylheptaan	
	2,3,4-trimethylhexeen	
	N,N-dimethylmethaan-amine	
	chlorocyclohexaan.	
	pentyn	
	5-(2-methylpropaan-1-yl)decadan (vertaakte zijketen)	
	4-methylhepta-1,6-diyne (vertaakt alkadiyne)	
	2-fluorbutaan (halogeen-alkaan)	
	chlorobut-2-yn.	

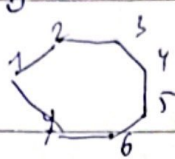
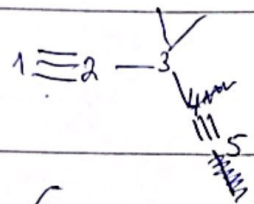



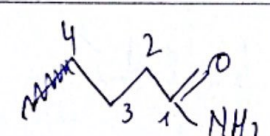
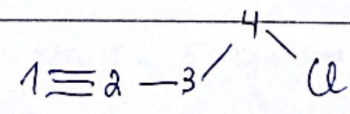
Skeletnotatie	Naam
	2-ethyl-3-methylpentanoic acid
	N-ethylethanamine
	Chlorobenzene
	ethoxybutane / butylethylether.
	1,4-dichloro-3-ethylpentane
	nona-1,2,8-triene-4,6-diyne
	propanone aceton / dimethylketon
	1,1,2-trichloro-1,2,2-trifluoroethane halogeenalkaan
	pentan-2-on methylpropylketon
	butanamide
	ester ethylbutanoaat. 2C's 4C's
	pentan-3-on diethylketon
	2-chloropropane

geen ~~e~~

Skeletnotatie	Naam
	butaonzuur ethaanzuur anhydride
	dimethylether methoxy-methaan
	ethanoylchloride (zuurchloride)
 $H-C(=O)-CH_2-CH_3$	propanal (aldehyde)
	ethaanamine
	4,5-dimethylheptanal
 niet kennen.	(propoxyfenolaat)
	pentanol
	4-ethyl-5,6-dimethyl- hepta-1,3-dien
	6,6-dimethylhepta-1,3-dien.
	4,5-dimethylheptan-2-on
	N,N-dimethylethaanamine
	3,9-dimethylundecaan lowest set of locants

Skeletnotatie	Naam
	4-ethyl-2,2,6-trimethylheptaan
	4,4-dimethylpentan-3-ol Alcohol / vertaakt alcohol
	ester methylpentanoaat
	butyranzuur ethaanzuur anhydride
	ethaanamidi
	butanoylbromidi
	Zuur natriumbutanoaat
	2,2,5-trimethylhexaan
	methoxypentaan
$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{NH}_2$	propylamine propaanamine
	4-(1-methylpropyl)-decaan 4-(1-methylpropaan-1-yl)-decaan op C1 van propaan in vertakking
	diethylpentylamine N,N-diethylpentaanamine
	2-ethyl-3-methylbutanal
	hexaan-2,4-dion diketon


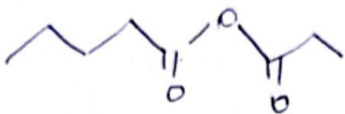

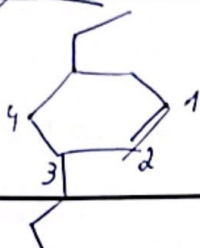


Skeletnotatie	Naam
$\text{CH}_3-\text{CH}_2-\text{CH}_2-\overset{\text{O}}{\underset{\text{ }}{\text{C}}}-\text{CH}_2-\text{CH}_3$	ethylpropylketon
	cycloheptaan
$\text{HOOC}-\text{COOH}$	oxaalzuur
$\left(\text{H}-\overset{\text{1}}{\underset{\text{ }}{\underset{\text{O}}{\text{C}}}}-\text{O} \right)_3 \text{Al}$	aluminiummethanoaat 1 C
	3,3-dimethylpenta-1,4-diyne
$\left(\text{CH}_3-(\text{CH}_2)_3-\overset{\text{1}}{\underset{\text{ }}{\underset{\text{O}}{\text{C}}}} \right)_2 \text{Mg}$	magnesiumpentanoaat
	chloorbenzeen
	4-ethyl-5-methyloctaan
 $\text{CH}_3-\overset{\text{O}}{\underset{\text{ }}{\text{C}}}-\text{CH}_3$	aceton $\text{CH}_3-\text{CO}-\text{CH}_3$
	butaanamide $\text{CH}_3-\text{CH}_2-\text{CH}_2-\overset{\text{O}}{\underset{\text{ }}{\text{C}}}-\text{NH}_2$
CH_3-NH_2 / $-\text{NH}_2$	methylamine methaanamine
	4-chloorbut-1-yn $\text{H}-\underset{\text{1}}{\text{C}} \equiv \underset{\text{2}}{\text{C}} - \underset{\text{3}}{\text{C}} \text{H}_2 - \underset{\text{4}}{\text{C}} \text{H}_2 - \text{Cl}$

Skeletnotatie	Naam
$\begin{array}{c} \text{H}-\text{C}-\text{O}-\text{H} \\ \\ \text{O} \end{array} \quad \text{O}=\text{C}-\text{OH}$	mierenzuur methaanzuur
	3-(1-methylethyl)decene 3-(2-methylpropaan -a-yl)decene
niet kennan	4-(2-ethylbutyl)octyn
	benzaldehyde
	methanol
	propanoylbromide
	2-ethyl-4-propyloctanal
	ethylpropanoaat
	2-joodpropaan
	hexylheptanoaat
	ethaanamide

3-ethyl-5-(~~propyl~~ propen⁻²⁻yl)-nonaan

Skeletnotatie	Naam
$\text{CH}_3-(\text{CH}_2)_7-\overset{\text{O}}{\underset{\text{1}}{\text{C}}}-\text{I}$	octanoylijodide 8
	ethaanzuuranhydride
	2-jood-2-methylbutaan
$\text{H}-\overset{\text{O}}{\underset{\text{1}}{\text{C}}}-\text{H}$	formaldehyde methanal formol.
	cis-1,2-dichloorpropen Z - dichloorpropen.
	trans-1,2-dichloorpropen
	ethylpropylether
	fenol
	3-ethyl-4-methylheptaanzuur
	propaan-1,2,3-triol
$\text{CH}_3-\overset{\text{O}}{\underset{\text{CH}_3}{\text{C}}}-\text{H}$	ethanal
$\text{H}_2\text{C}=\underset{\text{2}}{\text{C}}-\text{CH}=\text{CH}_2$	2-methylbuta-1,3-dieen
	heptaanamide

Skeletnotatie	Naam
$\text{CH}_3\text{-CH}_2\text{-OH}$ 	ethanol 9
	pentaanzuurpropaanzuuranhydride
	3,3-diethylheptaan-4-on
	5-ethyl-3-propylcyclohex-1-een

Naamgeving alkanen

A. Oefeningen op naamgeving

Teken de bindingen tussen de atomen en schrijf de naam van:			10
a.	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 \\ \\ \text{CH}_3 \end{array}$	butaan n-butaan	
b.	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH} - \text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	2-methylpentaan.	
c.	$\text{CH}_3 - (\text{CH}_2)_5 - \text{CH}_3$	heptaan	
d.	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH}_2 - \text{CH} \\ \quad \quad \quad \\ \text{CH}_2 \quad \quad \quad \text{CH}_3 \end{array}$	(4-ethylheptaan-1-yl)- 4-ethylheptaan	
e.	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH} \\ \quad \quad \quad \\ \text{CH}_2 \quad \quad \quad \text{CH}_3 \end{array}$	(3-ethylheptaan-1-yl)- 3-ethylheptaan	
f.	$\begin{array}{ccccccc} 7 & 6 & 5 & 4 & 3 & 2 & 1 \\ \text{CH}_3 & - \text{CH}_2 & - \text{CH} & - \text{CH}_2 & - \text{CH}_2 & - \text{CH}_2 & - \text{CH} \\ & & & & & & \\ & & \text{CH}_2 & & & & \\ & & \text{CH}_3 & & & & \end{array}$	(5-ethylheptaan-1-yl)-	
g.	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_3 \end{array}$	(3-propylheptaan-1-yl)-	

Verbante zijketen

verbakle afkenners

Verbind de C atomen en geef de naam van het alkyl		
a.		11
b.		$\begin{array}{ccccccc} 5 & 4 & 3 & 2 & 1 \\ \text{CH}_3 & -\text{CH}_2 & -\text{CH} & -\text{CH}_2 & -\text{CH} \\ & & \text{CH}_3 & & \end{array}$ <p>(3-methylpentaan-1-yl)</p>
c.		<p>(2,3,4-trimethylpentaan-1-yl)</p> $\begin{array}{ccccccc} & & & & & & \\ \text{CH}_3 & -\text{CH} & -\text{CH} & -\text{CH} & -\text{CH} & & \\ & \text{CH}_3 & \text{CH}_3 & \text{CH}_3 & & & \end{array}$
d.		$\begin{array}{ccccccc} 6 & 5 & 4 & 3 & 2 & 1 \\ \text{CH}_3 & -\text{CH} & -\text{CH}_2 & -\text{CH} & -\text{CH}_2 & -\text{CH} \\ & \text{CH}_3 & & \text{C}_2\text{H}_5 & & \end{array}$ <p>(3,5-dimethylhexaan-1-yl)-</p>
e.		<p>3-ethyl-3,4-dimethyl-1-yl</p> $\begin{array}{ccccccc} & & \text{CH}_3 & & & & \\ \text{CH}_3 & -\text{CH} & -\text{C} & -\text{CH}_2 & -\text{CH} & & \\ & & \text{CH}_3 & \text{C}_2\text{H}_5 & & & \end{array}$

Zelf-evaluatieoefeningen

12

1. Vul aan met waterstofatomen en schrijf de naam van de alkanen.

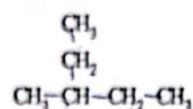
$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \quad \text{CH}_3 \end{array}$	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \end{array}$
$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH} - \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \quad \text{CH}_3 \end{array}$	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{C} - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \quad \text{CH}_3 \end{array}$	

2. Schrijf de structuurformule van de volgende alkanen. Schrijf ook de brutoformule.

Naam	Structuurformule	Brutoformule
1-pentyl	$\begin{array}{c} \text{CH}_3 - \text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	
3,4-dimethylheptaan	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \quad \text{CH} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	
2,3,4-trimethylheptaan	$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{C} - \text{CH} - \text{CH}_2 - \text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	
4-ethyl-2,3-dimethylheptaan	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_2 - \text{CH} - \text{CH} - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	
3-ethyl-2,4-dimethylheptaan	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_2 \quad \text{CH} \quad \text{CH} \quad \text{CH} - \text{CH}_2 - \text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \end{array}$	

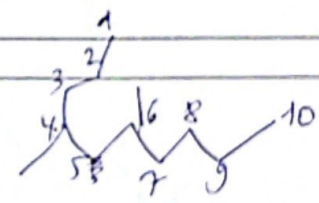
	$ \begin{array}{ccccccc} \text{CH}_3 & \text{CH} & \text{CH}_2 & \text{CH} & \text{CH}_2 & \text{CH}_2 & \text{CH} \\ & & & & & & \\ & \text{CH}_3 & & \text{C}_2\text{H}_5 & & & \end{array} $	13
	$ \begin{array}{ccccccc} & & & \text{C}_2\text{H}_5 & & & \\ \text{CH}_3 & \text{CH} & \text{CH} & \text{CH} & \text{CH} & \text{CH}_2 & \text{CH} \\ & & & & & & \\ & \text{CH}_2 & \text{CH}_2 & & \text{C}_2\text{H}_5 & & \end{array} $	

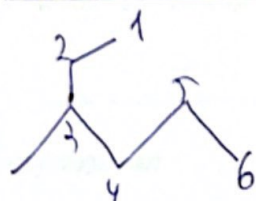
3. Schrijf de naam van het volgende alkaan.



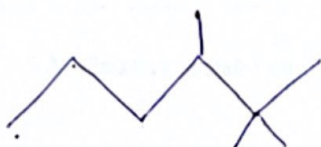
3-methylpentaan

4. Zijn de volgende namen correct? Verbeter indien nodig.

2-ethylpentaan 4,5,5-trimethylhexaan 2-methyl-4-ethylheptaan <i>ok</i> 5,7,7-trimethyl-3,3-diethylnonaan 2-propyl-4-methyloctaan	 4,6-dimethyloctaan
--	--



3-methylhexaan



2,2,3-trimethylhexaan.



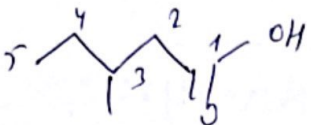
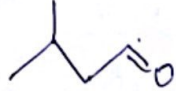
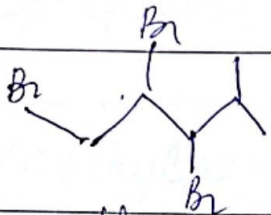
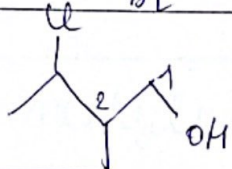

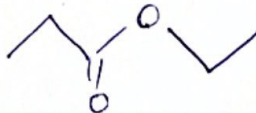
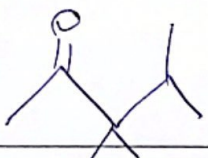


ok



3,3-diethyl-5,7,7-trimethylnonaan
ABC rangschikking

Oefeningen : naamgeving organische verbindingen

1,2-dichloorprop-1-een	
butoxypentaan	
3-methylpentaanzuur	
3-methylbutanal	
N,N 2,2-dimethylpropan-1-amine	
1,2,3-tribroom - 4 - methylpentaan	
3-chloor - 2 - methylbutanol	
2-amino - 3,4 - dimethylpentaan	
ethylpropanoaat	
3,3,4 - trimethylpentaan-2-on	

$\text{CH}_3-\overset{\text{O}}{\underset{\text{ }}{\text{C}}}-\text{CH}_2-\text{CH}_2-\text{CH}_3$	15 pentanon-2-on methylpropylketon
$\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CH}_2-\underset{\text{C}_2\text{H}_5, \text{CH}_3}{\underset{ }{\text{CH}}}-\underset{ }{\text{CH}}-\text{COOH}$	3-ethyl-4-methylheptanoanzuur
$\text{CH}_3-\underset{4}{\text{CH}_2}-\underset{3}{\text{CH}_2}-\underset{2}{\text{CH}_2}-\underset{1}{\text{CH}_2}-\text{COO}-\text{C}_2\text{H}_5$	ethyl pentanoaat
$\text{C}_3\text{H}_7-\text{O}-\text{C}_5\text{H}_{11}$	propoxypentanon pentylpropylether
$\text{C}_2\text{H}_5-\text{O}-\text{C}_2\text{H}_5$	diethylether ethoxyethaan
$\text{CH}_3-\text{CH}_2-\text{COOH}$	propaanzuur
$\text{CH}_3-\text{OOC}-\overset{1}{\text{C}}\overset{2}{\text{H}}\overset{3}{\text{C}}\overset{4}{\text{H}}\overset{5}{\text{C}}\text{H}_3$	methylpentanoaat
$\overset{3}{\text{CH}_3}-\overset{2}{\underset{\text{CH}_3}{\text{CH}}}-\overset{1}{\text{C}}\overset{\text{O}}{\text{=}}\text{H}$	2-methylpropanal
$\text{CHF}_2-\text{CHF}_2$	1,1,2,2-tetrafluorethaan

$ \begin{array}{ccccccc} & 6 & 5 & 4 & 3 & & \\ & & & \text{CH}_3 & & & \\ \text{CH}_3 & -\text{CH}_2 & -\text{CH} & =\text{C} & -\text{CH}_2 & -\text{CH} & =\text{CH}_2 & -\text{CH}_3 \\ & & & & & & & \\ & & \text{CH}_2 & & \text{CH}_2 & & & \\ & & & & & & & \\ & & \text{CH}_3 & & \text{CH}_2 & & & \\ & & & & & & & \\ & & & & \text{CH}_3 & & & \end{array} $	<p>16</p> <p>3-ethyl-4,6-dimethyl- 4-propyloctane.</p>
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3,3-dimethylpentene	
4-methylpent-2-yne	$ \begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3-\text{C}\equiv\text{C}-\text{CH}-\text{CH}_3 \end{array} $
2,2,4-trimethylhex-3-ene	
but-2-yne	$ \text{CH}_3-\text{C}\equiv\text{C}-\text{CH}_3 $
3-ethyl-2-methylpentene	
$ \begin{array}{c} \text{CH}_3-\text{CH}_2-\text{C}=\text{CH}_2 \\ \\ \text{CH}_3 \end{array} $	2-methylbutene.
$ \begin{array}{c} \text{CH}_3 \\ \\ \text{H}-\text{C}\equiv\text{C}-\text{CH}_2-\text{CH}-\text{CH}_2-\text{CH}_3 \\ \\ \text{C}_2\text{H}_5 \end{array} $	4-ethyl-5-methylheptyne
$ \begin{array}{c} \text{CH}_3-\text{CH}-\text{C}\equiv\text{C}-\text{CH}-\text{CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \quad \text{CH}_3 \end{array} $	2,5-dimethylhex-3-yne

$ \begin{array}{ccccccc} & & 3 & 2 & 1 & & \\ \text{CH}_3 & - & \text{CH}_2 & - & \text{CH} & - & \text{CH} = \text{CH}_2 \\ & & \downarrow & & & & \\ & & \text{C}_2\text{H}_5 & & & & \\ & & \downarrow & & & & \\ & & 6 & 5 & & & \end{array} $	3-ethylhexene 17
$ \begin{array}{ccccccc} & & & & \text{CH}_3 & & \\ \text{CH}_3 & - & \text{CH}_2 & - & \text{CH} & - & \text{C} = \text{CH}_2 \\ & & & & \downarrow & & \\ & & & & \text{C}_2\text{H}_5 & & \end{array} $	3-ethyl-2-methylpentene