

Strukturivalemid

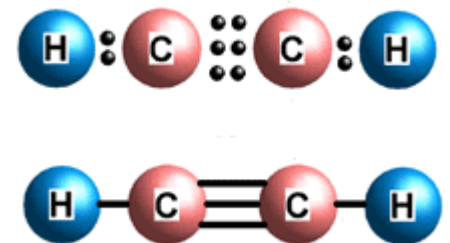
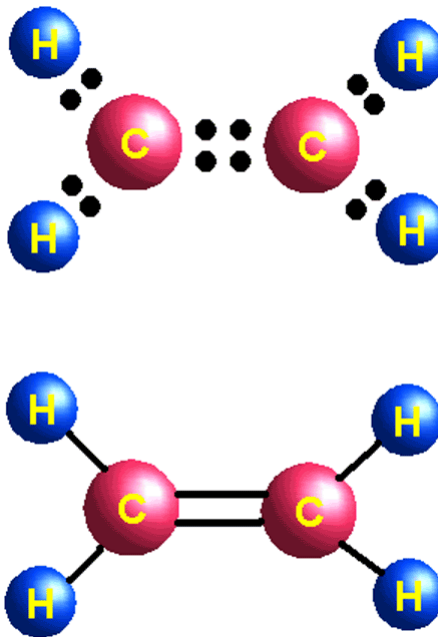
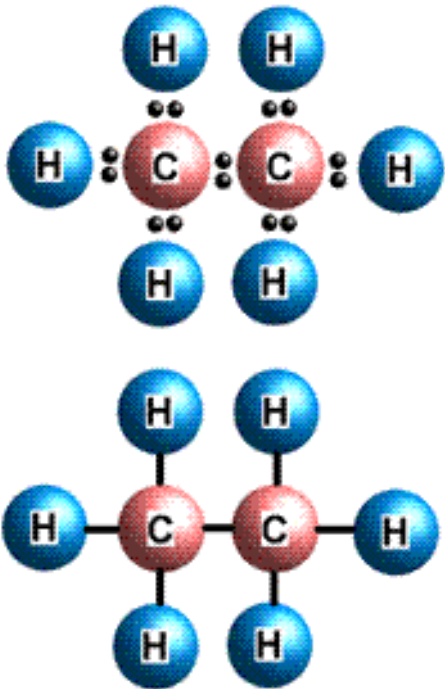
Neeme Katt

Kovalentne side

- Molekulid koosnevad aatomitest, mis on omavahel seotud kovalentse sidemega
- **Kovalentne side** on ühiste elektronipaaride abil tekkinud side
 - Ühine elektronipaar tekib väliskihi üksikutest elektronidest
 - Esineb mittemetalli aatomite vahel

<http://mudelid.5dvision.ee/keemside>

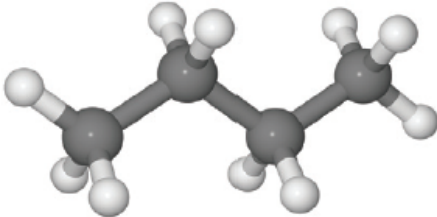
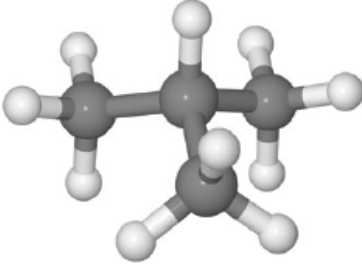
Üksik-, kaksik- ja kolmikside



Süsinikuühendite valemid

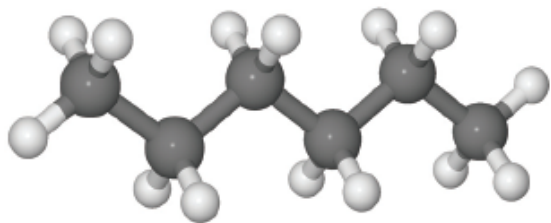
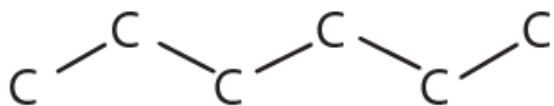
- Summaarne valem ehk molekulivalem väljendab molekuli koostist
 - mis elementide aatomid,
 - mis arvul
- Struktuurivalemid väljendavad molekuli ehitust
 - mis aatomid,
 - mis järjekorras,
 - milliste keemiliste sidemetega

Süsinikuühendite valemid

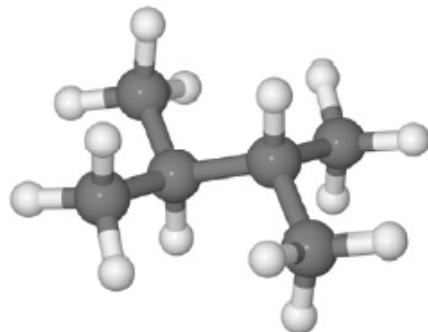
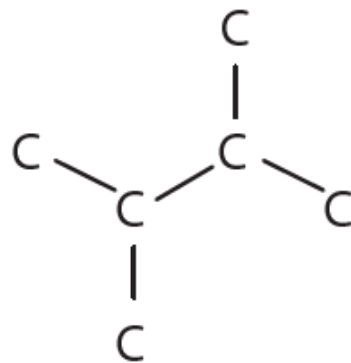
Nimetus	butaan	isobutaan
Summaarne valem	C_4H_{10}	C_4H_{10}
Molekulimudel		
Struktuurivalem	$ \begin{array}{cccc} & H & H & H & H \\ & & & & \\ H & - C & - C & - C & - C - H \\ & & & & \\ & H & H & H & H \end{array} $	$ \begin{array}{ccccc} & H & & H & & H \\ & & & & & \\ H & - C & - & C & - & C - H \\ & & & & & \\ & H & & H & & H \\ & & & H & & & C & & H \\ & & & & & & & & \\ & & & & & & H & & \end{array} $
Lihtsustatud struktuurivalem	$CH_3-CH_2-CH_2-CH_3$	$ \begin{array}{c} CH_3-CH-CH_3 \\ \\ CH_3 \end{array} $

Süsinikahel

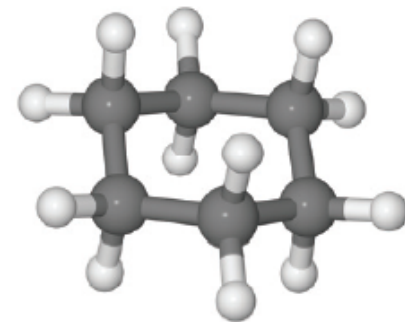
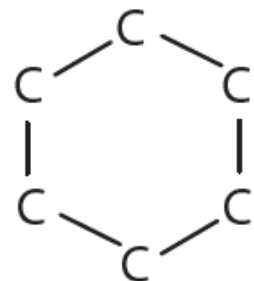
Hargnemata ehk
lineaarne süsinikahel



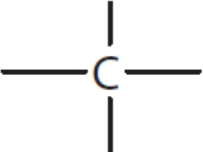
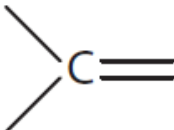
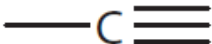

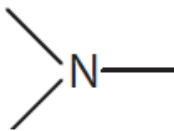
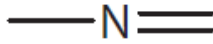



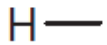
Hargnenud
süsinikahel



Tsükliline
süsinikahel



HONC tüüpilised sidemed

Element	Tüüpiline sidemete arv	Võimalikud sidemed
C	4	   
N	3	  
O	2	 
H	1	

Süsinikuühendite paljusus

Summaarne valem	Erinevate ainete arv
C_4H_{10}	2
C_7H_{16}	9
$C_{10}H_{22}$	75
$C_{15}H_{32}$	4 347
$C_{25}H_{52}$	36 797 588

Süsinikuühendite paljususe põhjused

C aatomid võivad

- moodustada püsivaid ahelad, milles omavahel on seotud erinev arv süsiniku aatomeid
- esineda erineva kujuga süsinikahelatenä (hargnemata, hargnenud, tsüklilised)
- moodustada püsivaid sidemeid paljude teiste elementide aatomitega
- moodustada nii üksik-, kaksik- kui ka kolmiksidemeid

Öppevideo

- <https://www.youtube.com/watch?v=NdCuztHzuLA>