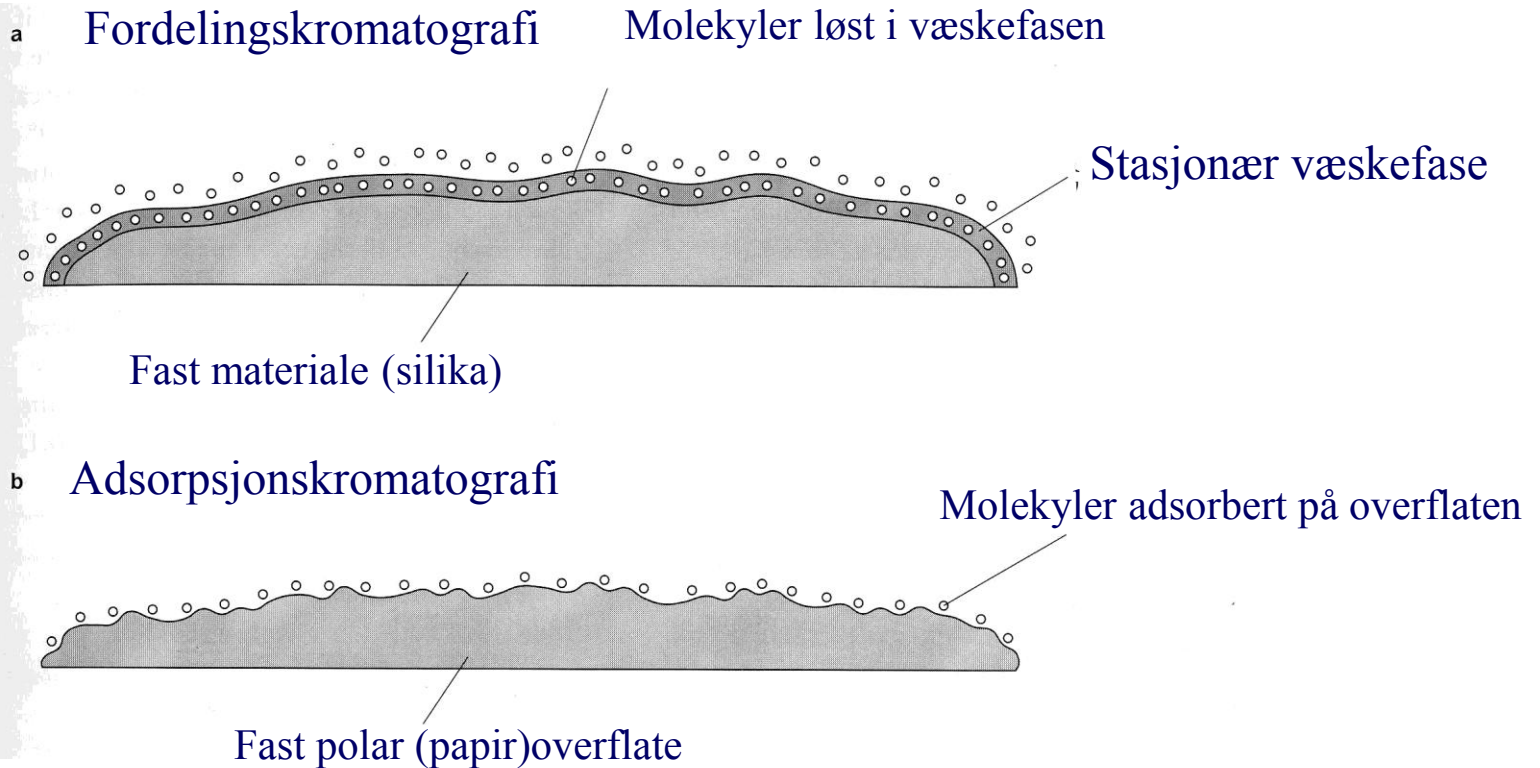


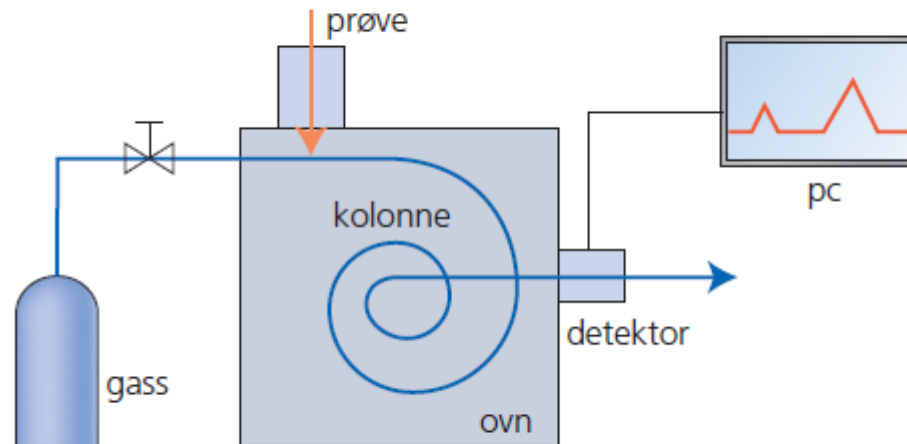
Moderne analysemetoder: GCMS

Truls Grønnberg

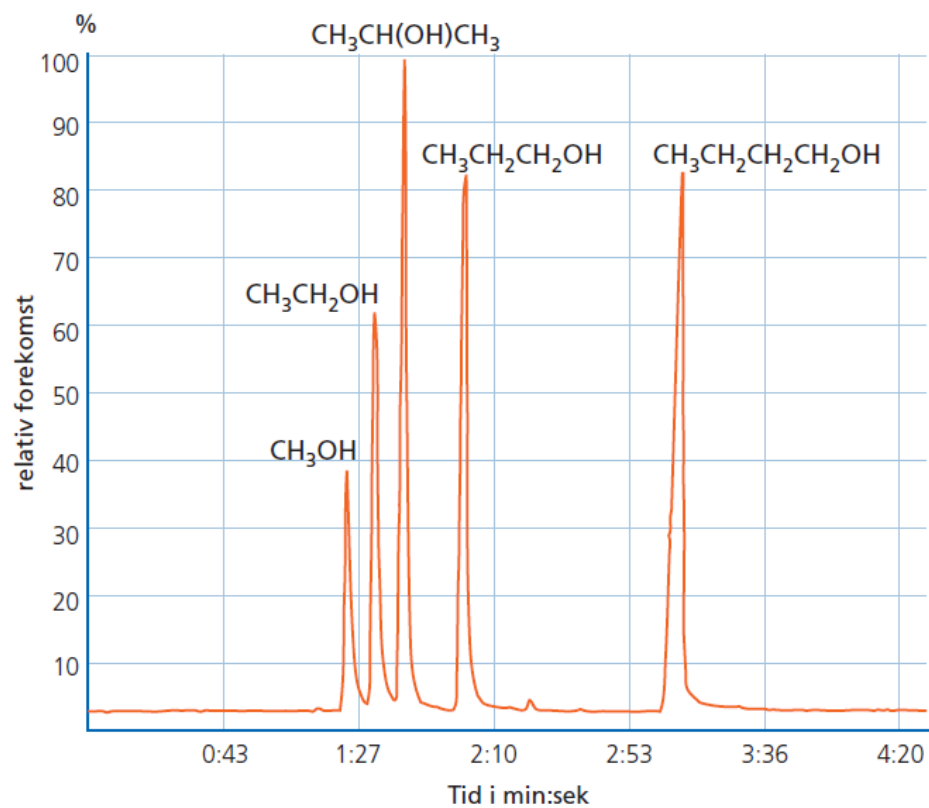
Grunnprinsipp for kromatografi



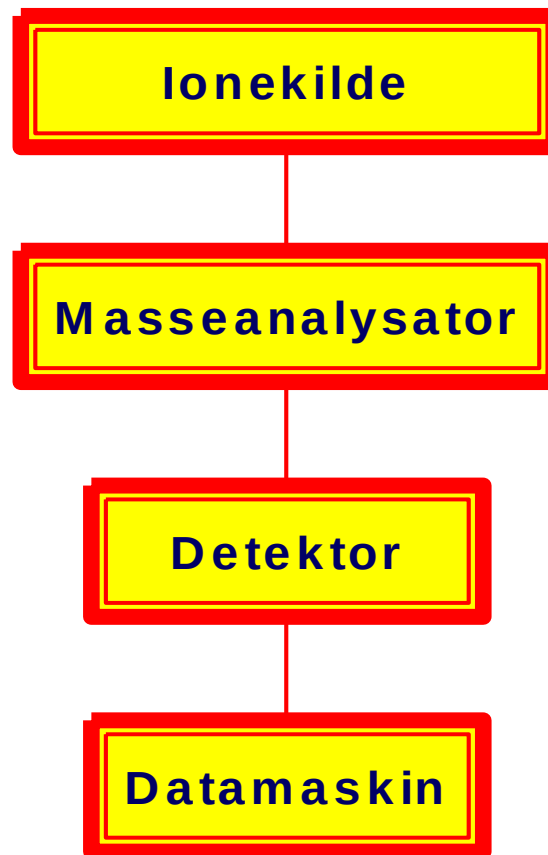
Prinsippskisse av en gasskromatograf



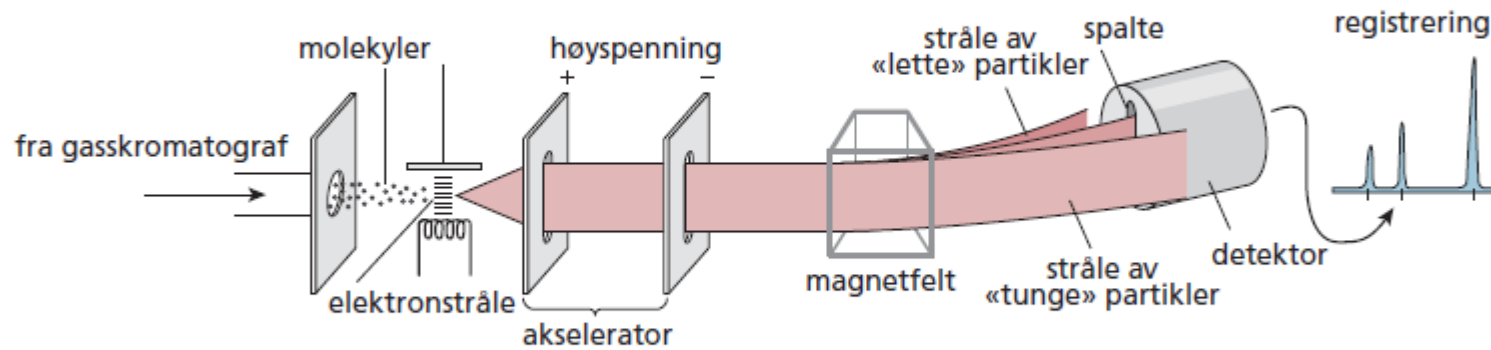
Gasskromatogram



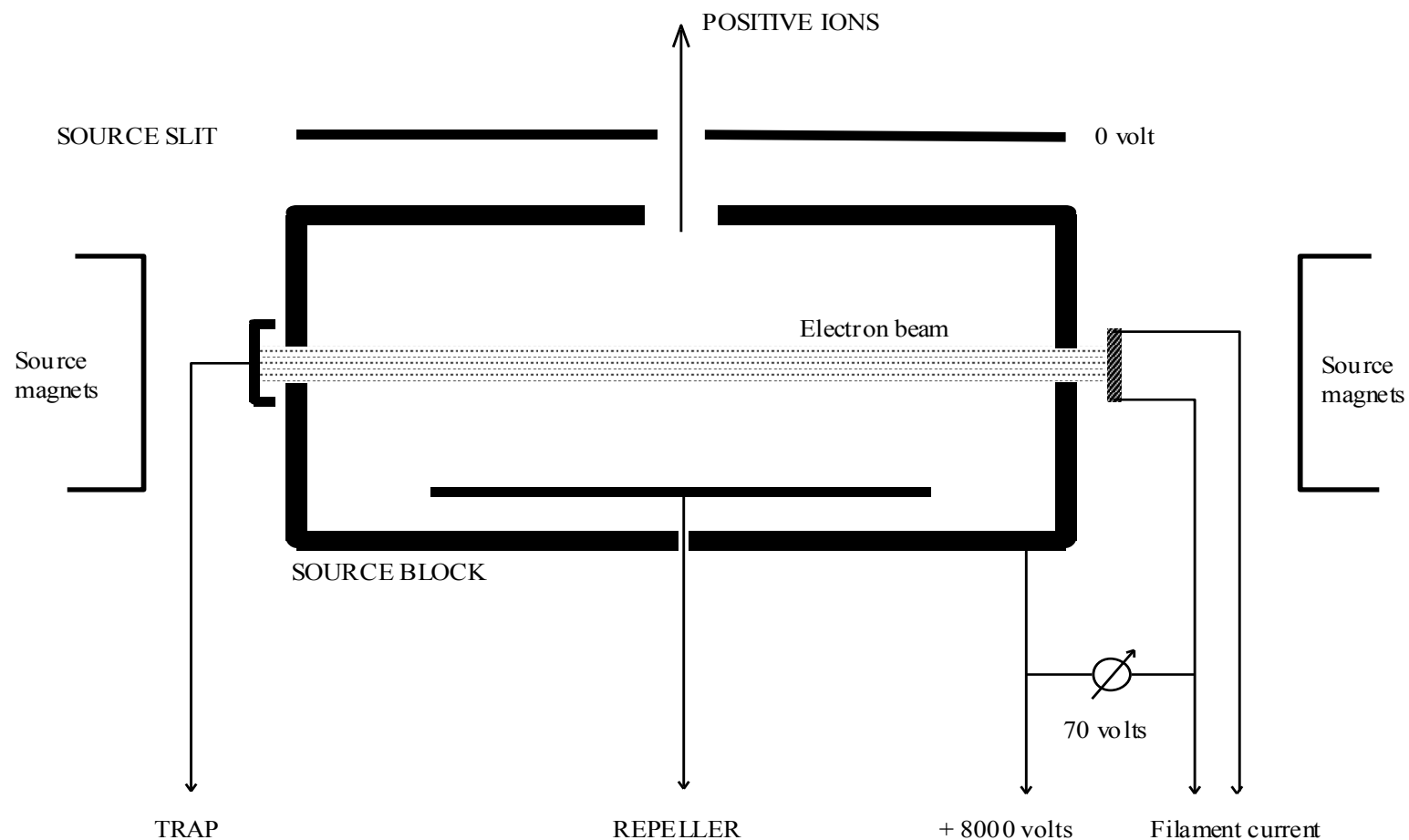
Skjematisk massespektrometer



Prinsippskisse av et massespektrometer



IONEKILDE FOR ELEKTRONIONISERING (EI)



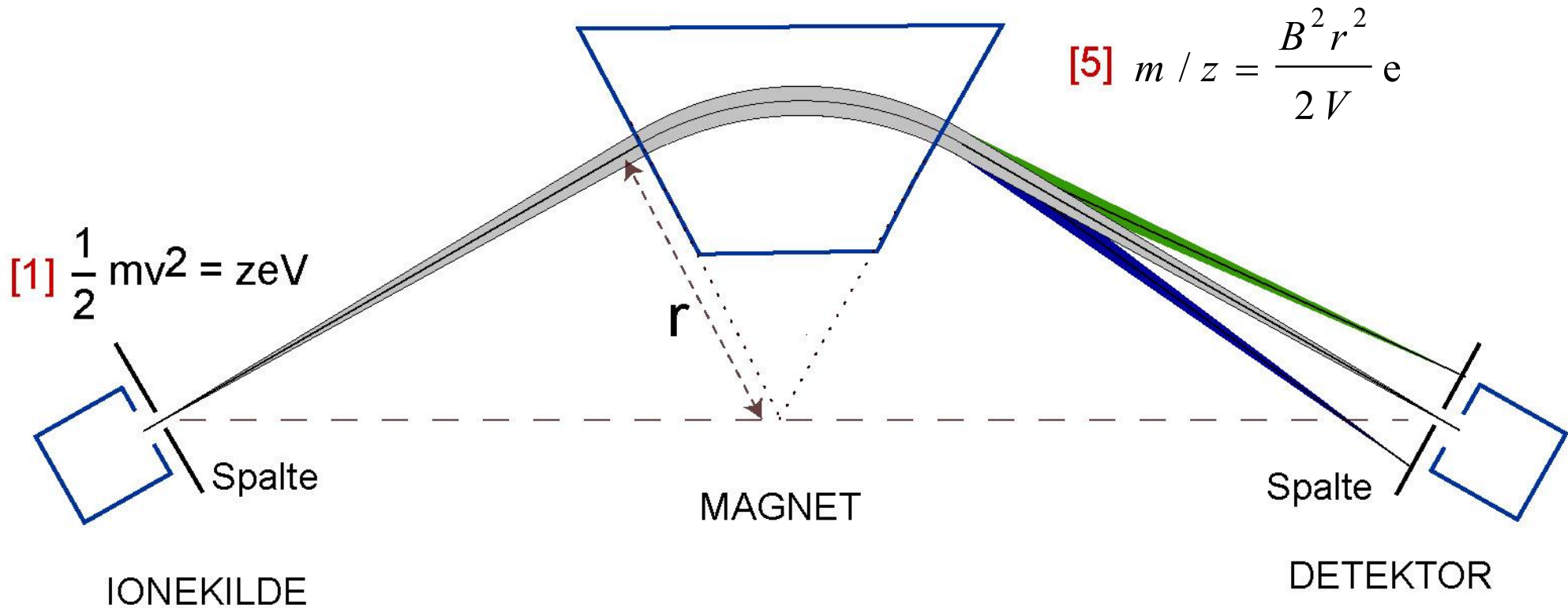
magnetsektor

[2] $F = zeVB$

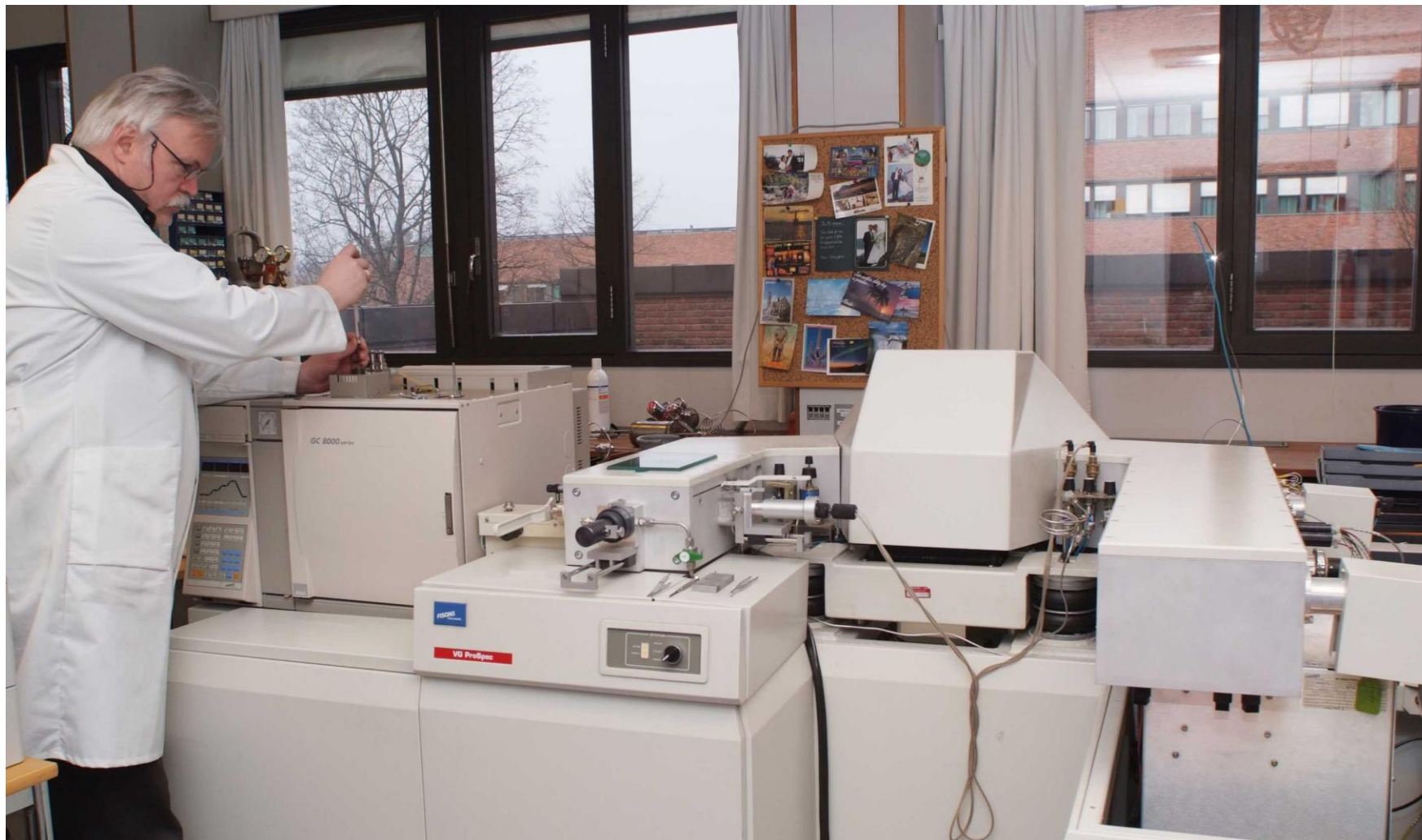
[3] $F = \frac{mv^2}{r}$

[4] $\frac{mv^2}{r} = zeVB$

[5] $m/z = \frac{B^2 r^2}{2V} e$



GCMS-intstrument ved Kjemisk institutt, UiO

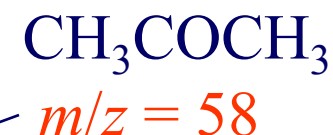
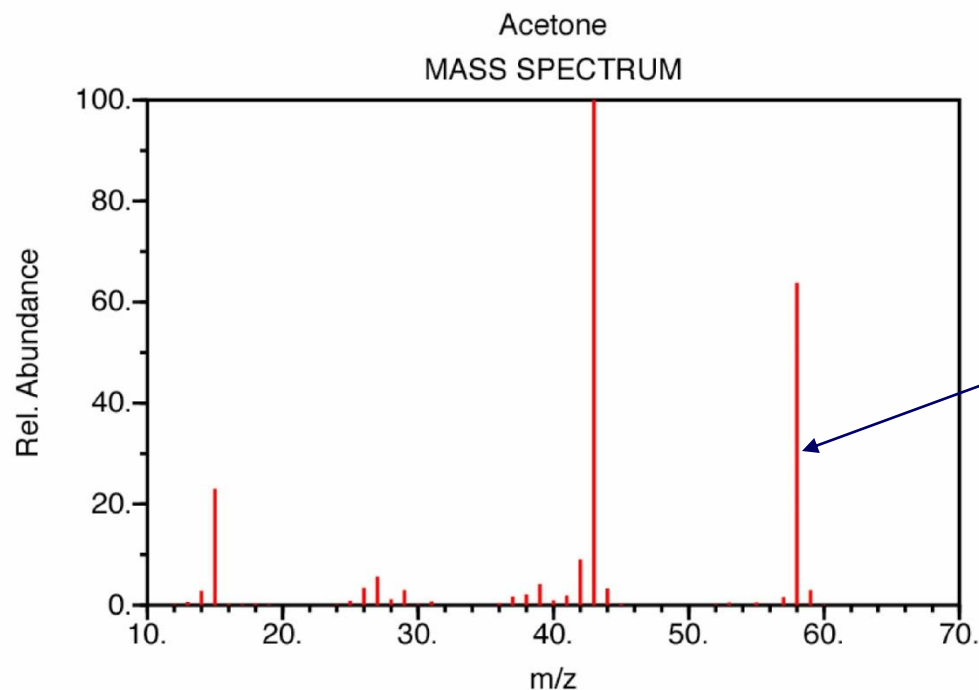


IONEKILDE FOR ELEKTRONISERING (EI)



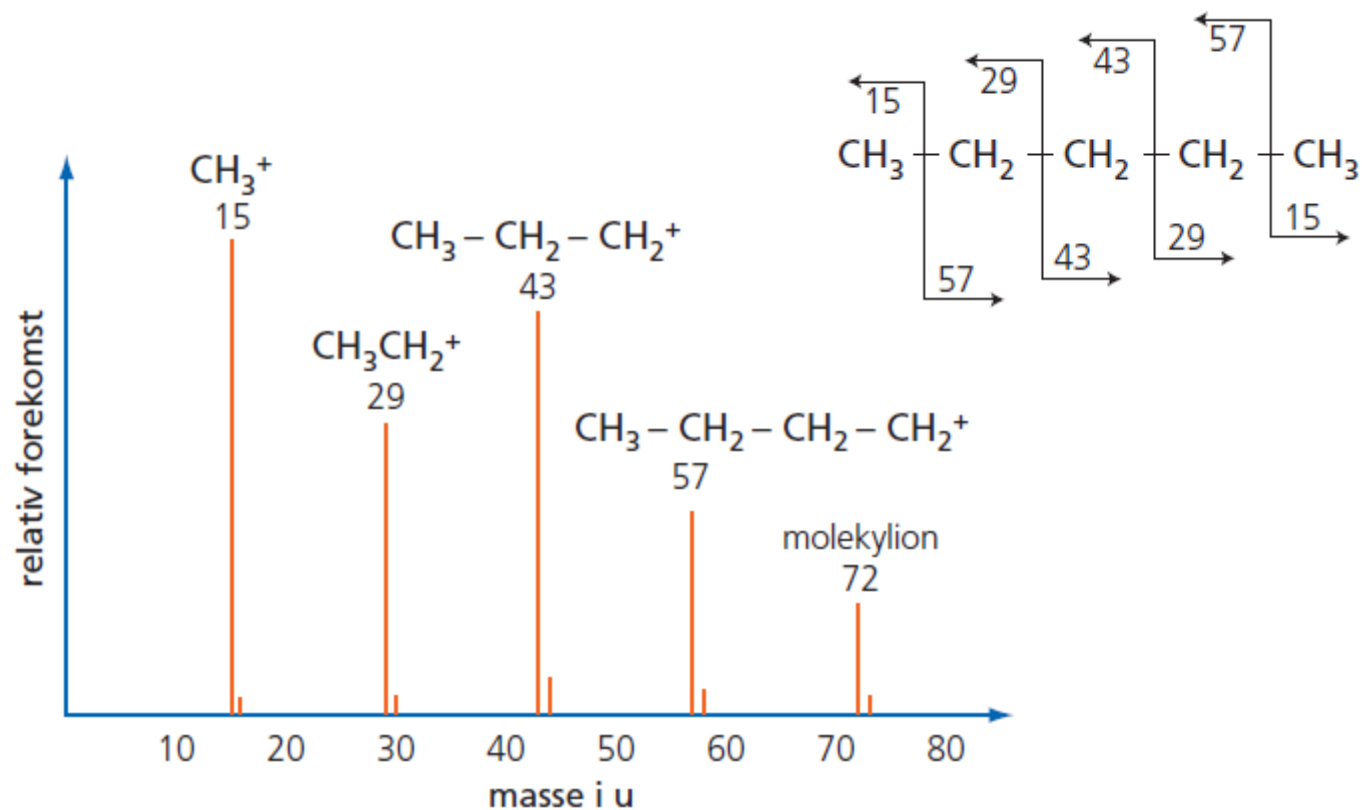
Massespektrum

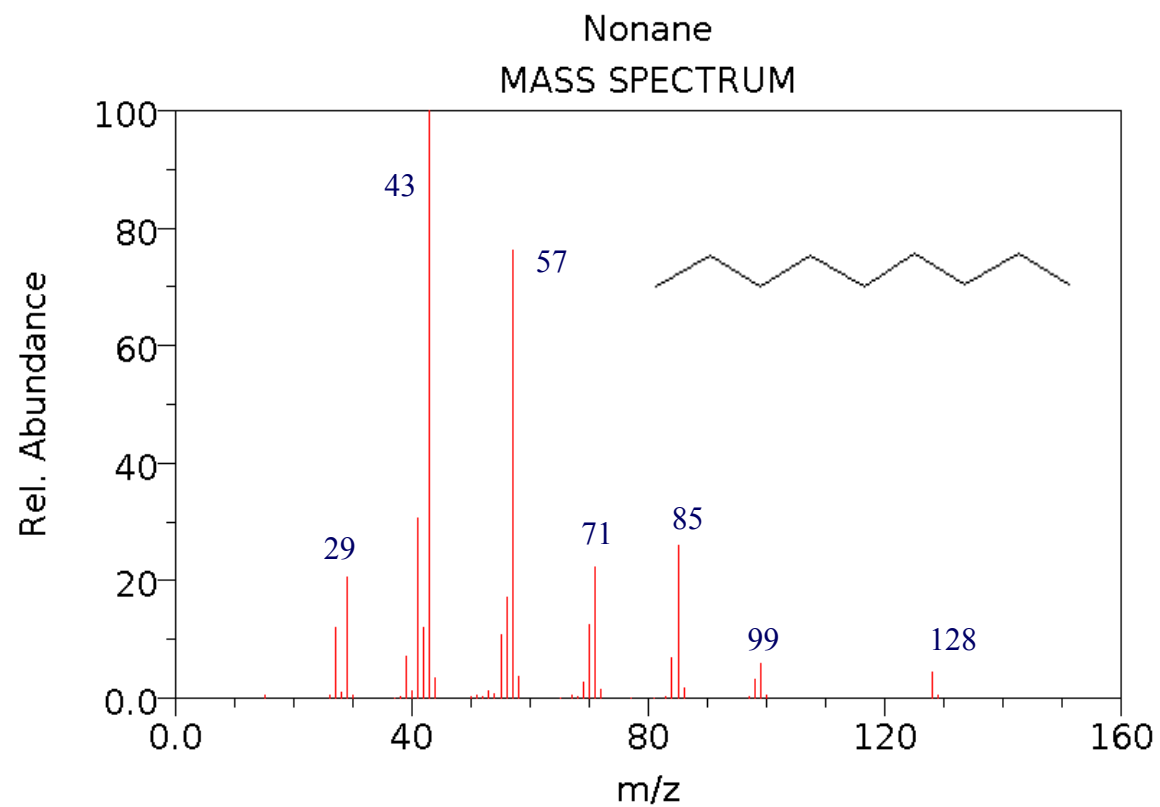
- Diagram som visert relativ forekomst av ioner med ulike m/z -verdier.
- Isotoper har nominelle m -verdier nær et heltall, og dermed har molekylmassene det samme.



Hydrokarboner

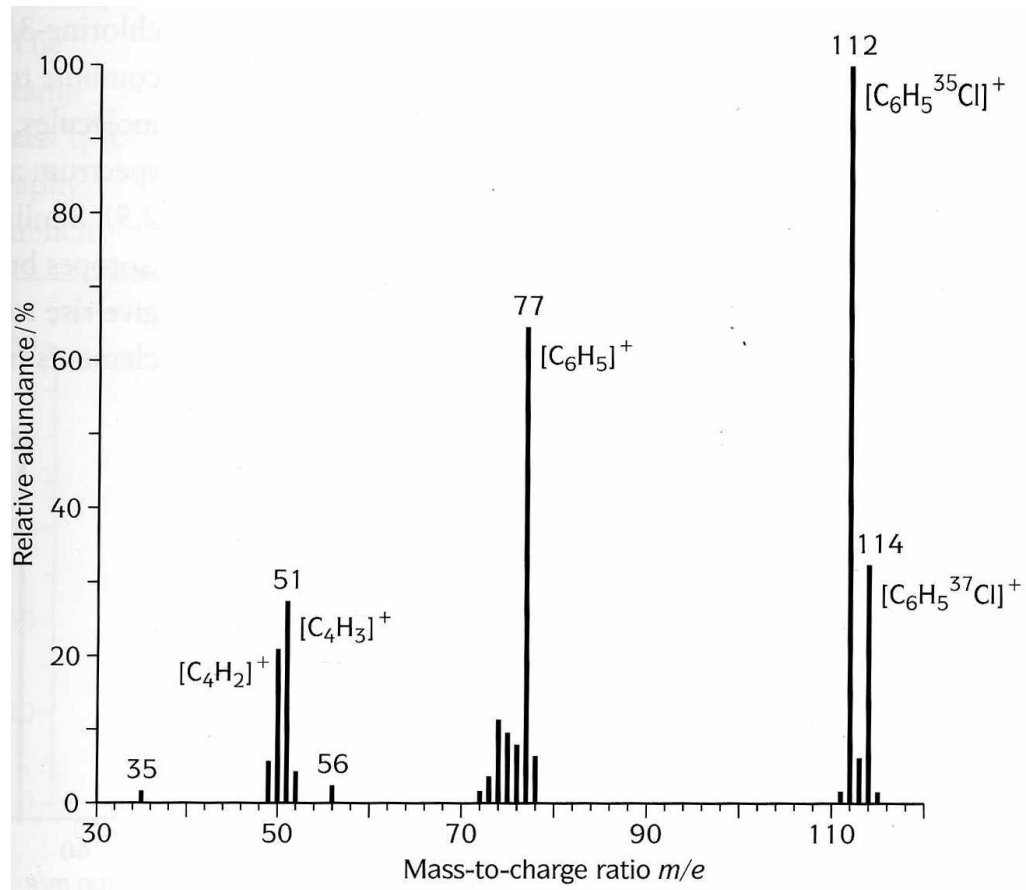
Pentan



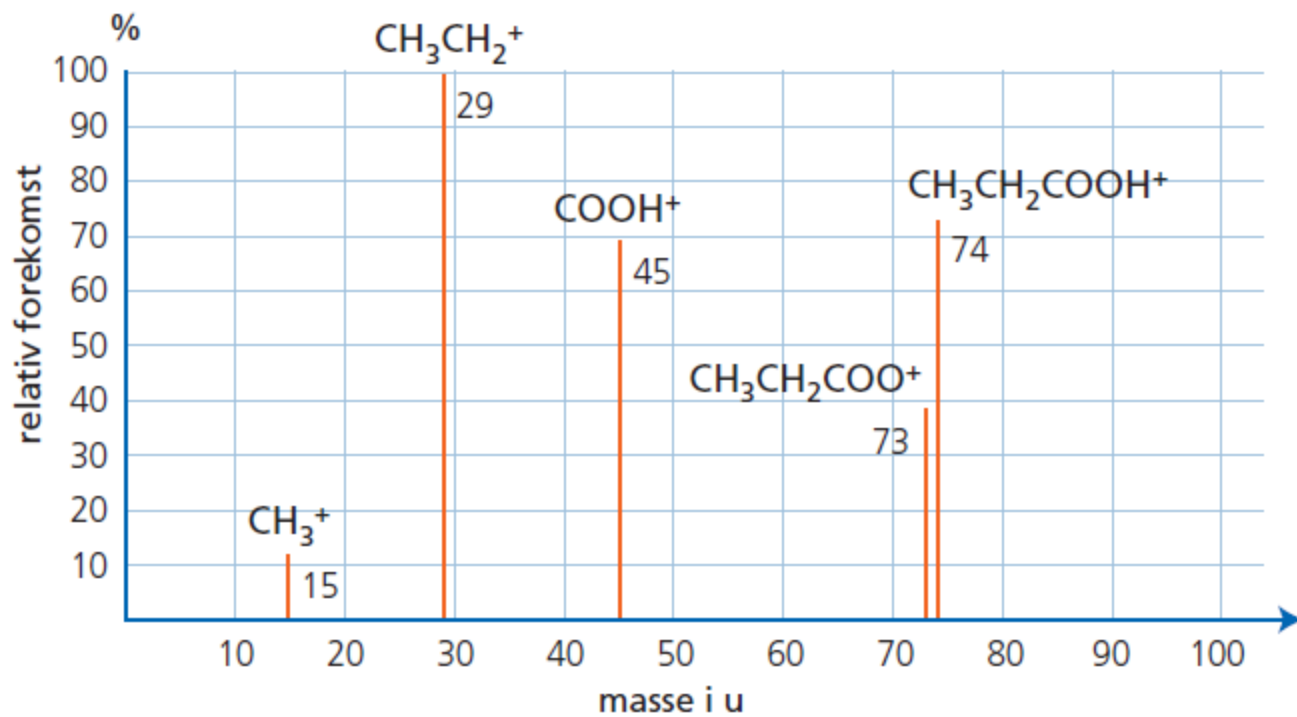
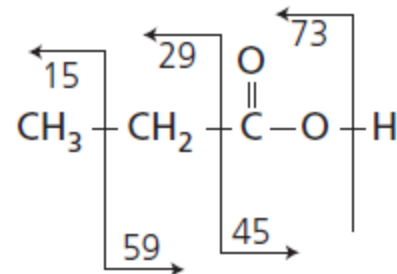


NIST Chemistry WebBook (<http://webbook.nist.gov/chemistry>)

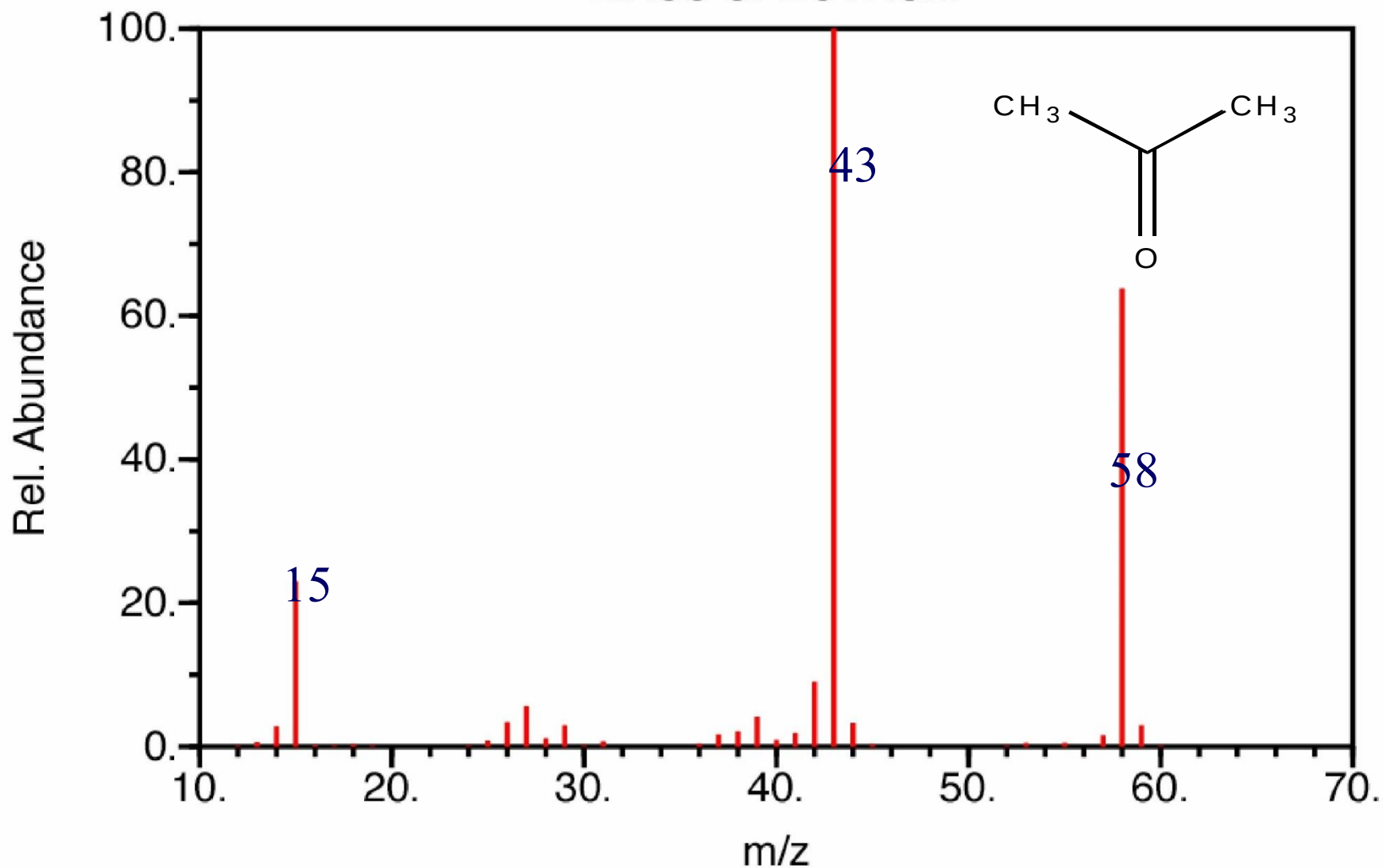
Massespekter av klorbenzen

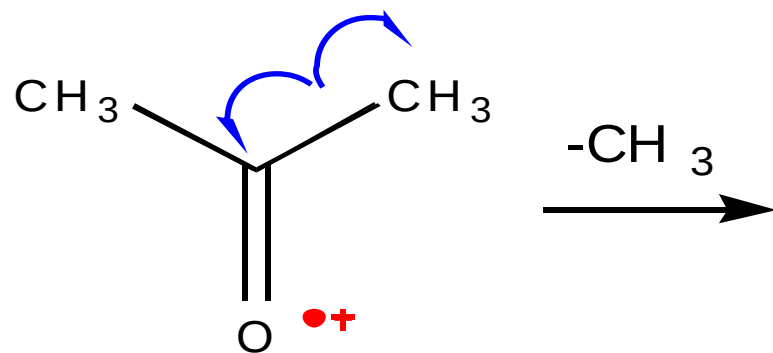


Propansyre

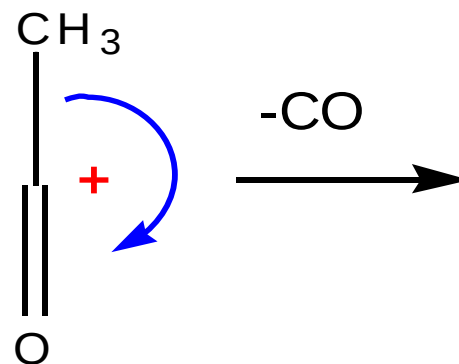


Acetone
MASS SPECTRUM

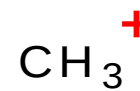




m/z 58

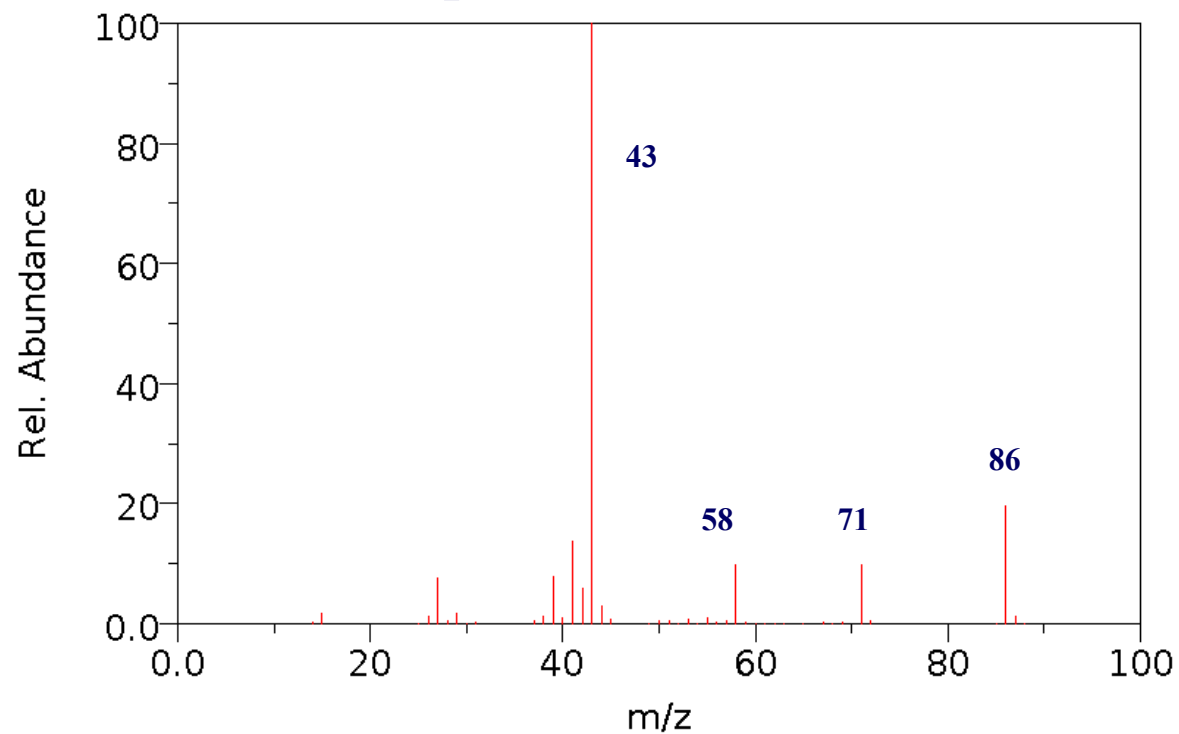


m/z 43



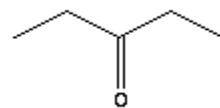
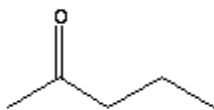
m/z 15

pentanone

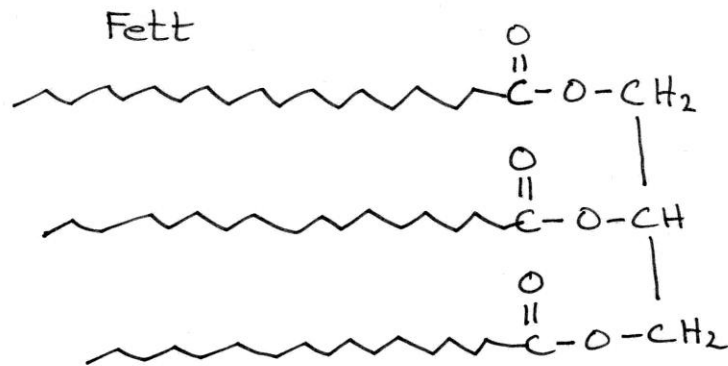


NIST Chemistry WebBook (<http://webbook.nist.gov/chemistry>)

Er det pentan-2-on eller pentan-3-on?

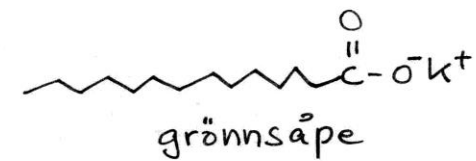
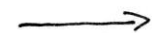


Biodiesel fra omestring av fett (kokosfett)

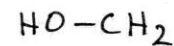
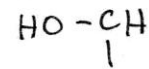
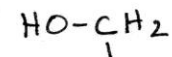
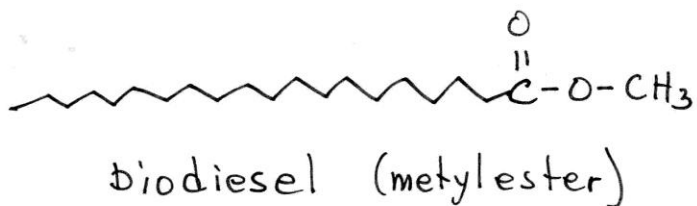


Forsåping

KOH, H₂O

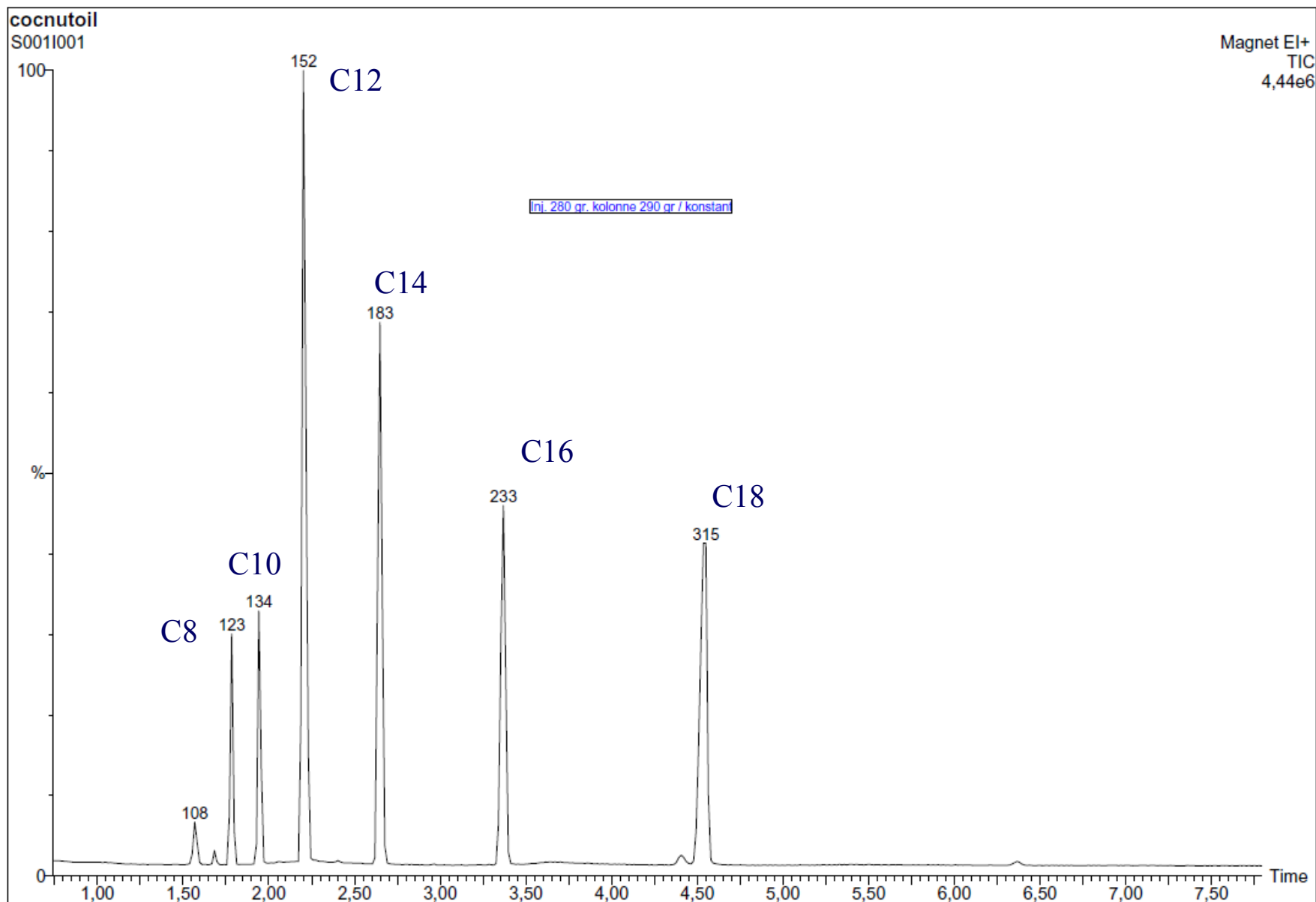


omestring
↓ KOH, CH₃OH

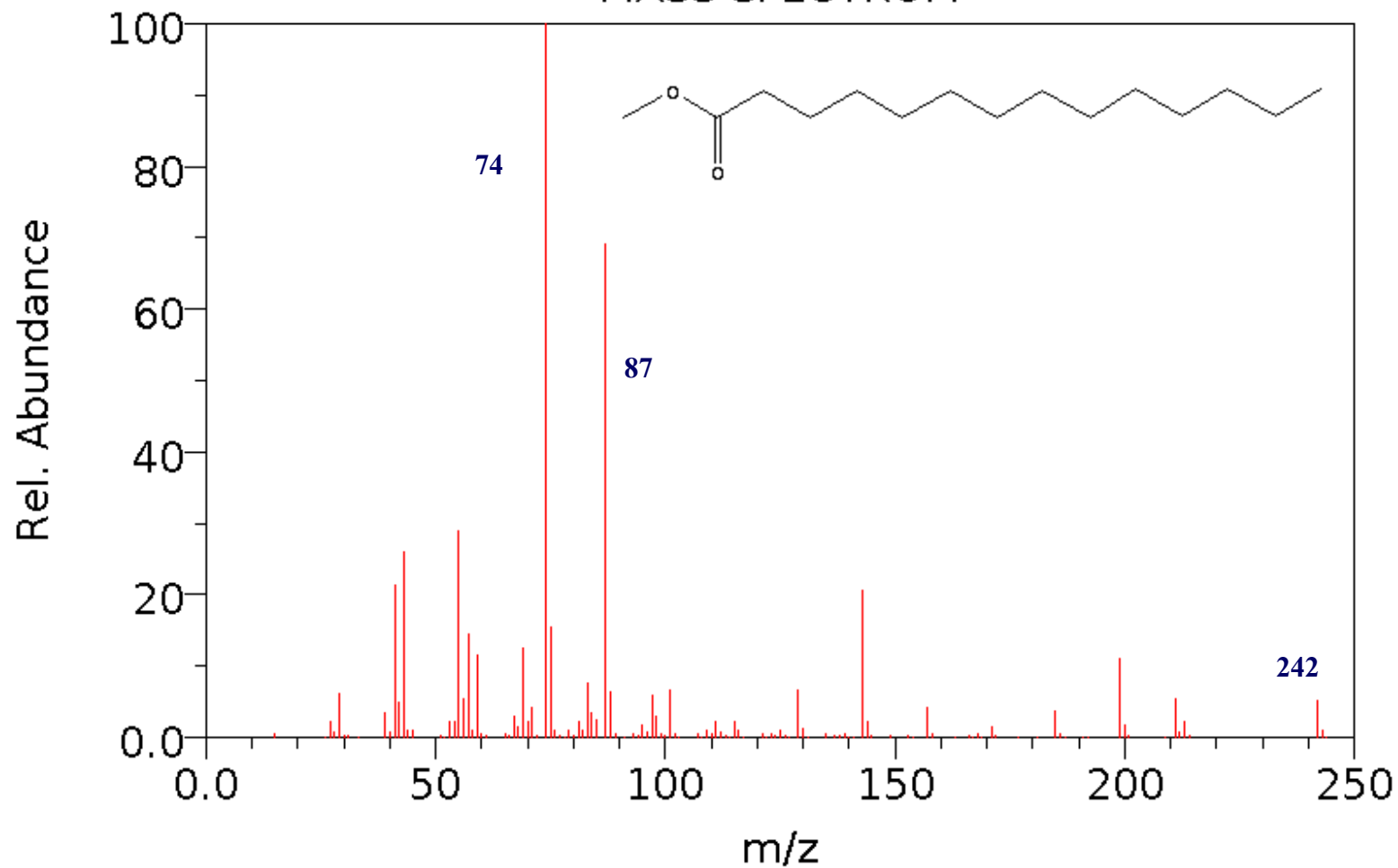


glyserol

Metylestere fra kokosfett (biodiesel)



Methyl tetradecanoate
MASS SPECTRUM



NIST Chemistry WebBook (<http://webbook.nist.gov/chemistry>)

McLafferty-fragmenteringen (-"omleiringen")

