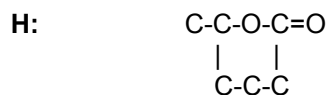
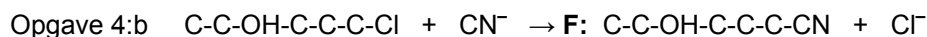
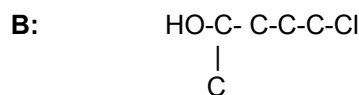
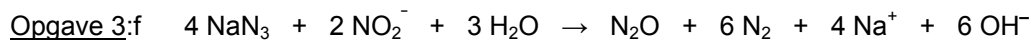
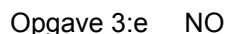
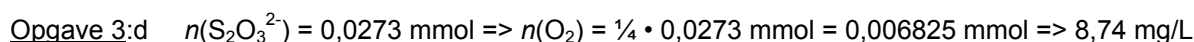
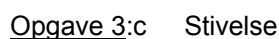
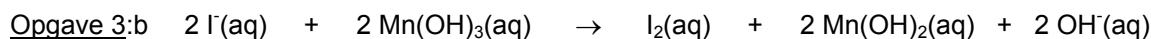
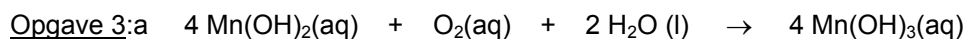
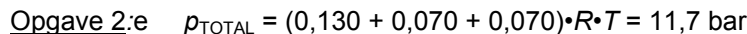
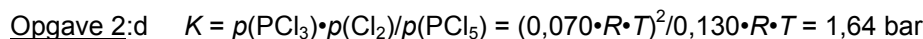
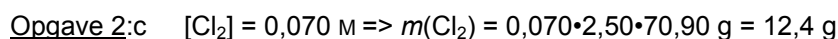
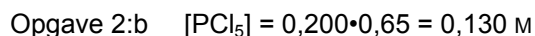
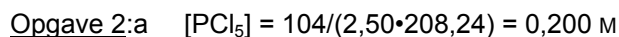
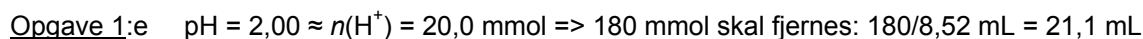
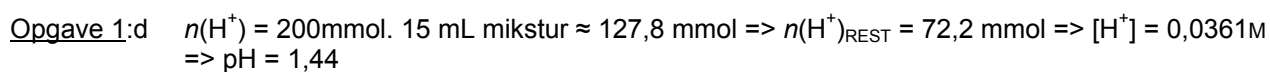
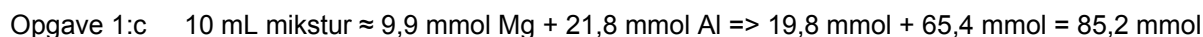
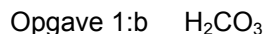
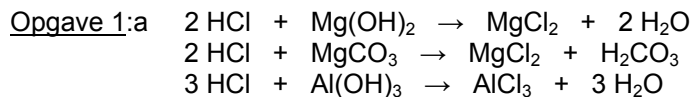
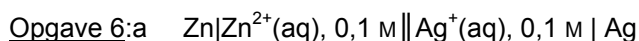
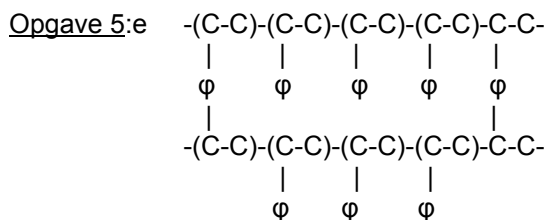
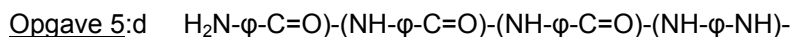
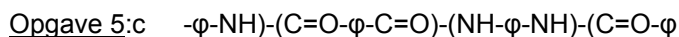
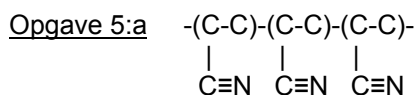


UOFFICIEL FACITLISTE

KEMIOLYMPIADE

1. runde opgaver





Opgave 6:b
$$U_0 = e_{\text{Ag}} - e_{\text{Zn}} = 740,8 \text{ mV} - (-791,5 \text{ mV}) = 1532,3 \text{ mV}$$

Opgave 6:c
$$e_{\text{Ag}} = 1080 \text{ mV} - 791,5 \text{ mV} = 288,5 \text{ mV} \Rightarrow [\text{Ag}^+] = 2,14 \cdot 10^{-9} \text{ M}$$

Opgave 6:d
$$e_{\text{Zn}} = -1507 \text{ mV} + 288,5 \text{ mV} = -1218,5 \text{ mV} \Rightarrow [\text{Zn}^{2+}] = 3,35 \cdot 10^{-16} \text{ M}$$

$$\text{og } [\text{OH}^-] = 90/100 = 0,900 \text{ M. } K_o = [\text{Zn}^{2+}] \cdot [\text{OH}^-]^2 = 3,0 \cdot 10^{-16} \text{ M}$$

Opgave 7:a
$$n(\text{C}) = 5,396 \text{ mol}, n(\text{H}) = 13,453 \text{ mol}, n(\text{O}) = 1,350 \text{ mol} \Rightarrow (\text{C}_4\text{H}_{10}\text{O}_1)_x$$

Opgave 7:b Pga. et kogepunkt på 100 °C kan der kun være en enhed i molekylet altså: $\text{C}_4\text{H}_{10}\text{O}$

Opgave 7:c -O- eller -O-H

Opgave 7:d Pga. det store og bredde bånd ved $3300\text{-}3400 \text{ cm}^{-1}$ må der være tale om en alkohol.

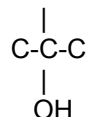
C-C-C-C-O-H butan-1-ol

C-C-C-C butan-2-ol



C-C-C-O-H 2-methylpropan-1-ol

C 2-methylpropan-2-ol



Opgave 7:e $^1\text{H-NMR}$ -spektret viser tre toppe hhv. singlet, triplet og kvartet med intensitetsforholdet 6:6:4. Der kan kun være tale om en keton (aldehyd top mangler).

Den eneste mulighed er: C-C-C=O

butanon.

