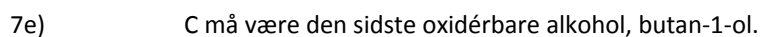
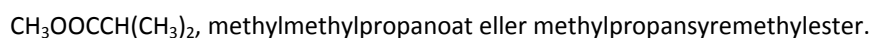
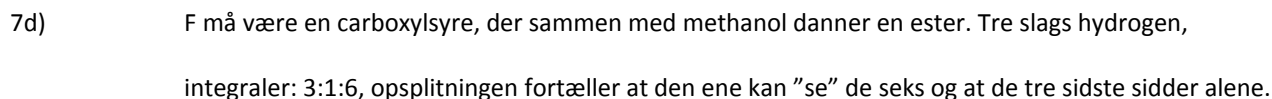
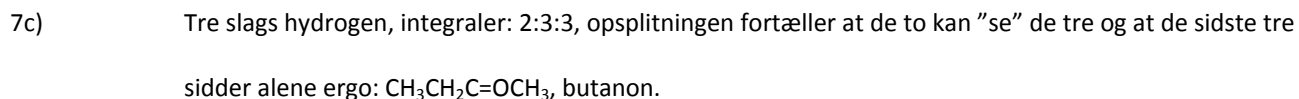
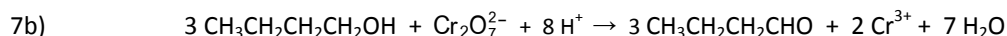
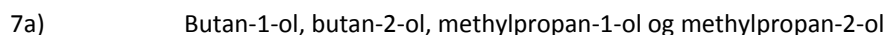
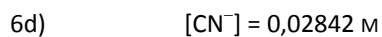
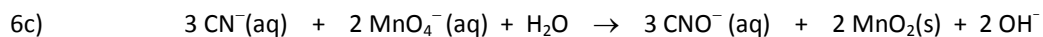
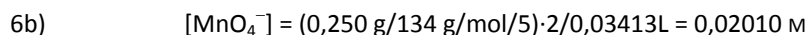
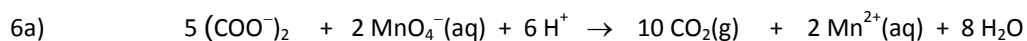
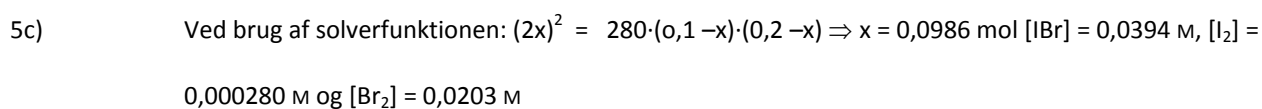
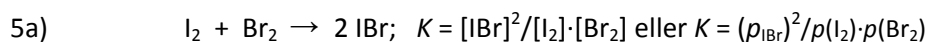
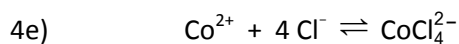
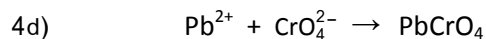
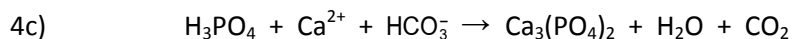


FACITLISTE

- 1a) $2 \text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{CO}_2 + \text{H}_2\text{O}$
- 1b) 0,05088 mol
- 1c) 1,108 g; 1,108 g CO_2 og H_2O svarer til 0,01786 mol af hver
- 1d) 1,108 g CO_2 og H_2O svarer til 0,01786 mol af hver dvs. at der har været 0,03571 mol NaHCO_3 eller 3,000 g og derfor må der have været 3,500 g Na_2CO_3 . I masse% bliver det hhv. 46,15 % og 53,85 %
- 2a) Empirisk formel $\text{C}_3\text{H}_2\text{Br}$ og molekylformel $\text{C}_6\text{H}_4\text{Br}_2$
- 2b) $\text{C}_6\text{H}_6 + 2 \text{Br}_2 \rightarrow \text{C}_6\text{H}_4\text{Br}_2 + 2 \text{HBr}$
- 2c) 4,33 g svarer til 0,05543 mol C_6H_6 hvilket giver 0,005543 mol $\text{C}_6\text{H}_4\text{Br}_2$ med massen 13,1 g
- 2d) 1,2-, 1,3- og 1,4-dibrombenzen. Næsten intet 1,3-, noget 1,2- og mest 1,4-dibrombenzen.
- 3a) $K = [\text{C}_6\text{H}_5\text{NH}_3^+][\text{OH}^-]/[\text{C}_6\text{H}_5\text{NH}_2]$
- 3b) $K_b = (8,8 \cdot 10^{-6} \text{ M})^2 / 0,180 \text{ M} = 4,30 \cdot 10^{-10} \text{ M}$
- 3c) Protolysegraden, $\alpha = 4,89 \cdot 10^{-3} \%$
- 3d) $\text{C}_6\text{H}_5\text{NH}_2 + \text{H}_3\text{O}^+ + \text{OH}^- + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_5\text{NH}_3^+ + 2 \text{H}_2\text{O} + \text{OH}^-$
- Derfor $K = 4,30 \cdot 10^{-10} \text{ M} / 1,00 \cdot 10^{-14} \text{ M} = 4,30 \cdot 10^4$
- 3e) Puffer $7,75 = 4,63 + \log(n(\text{C}_6\text{H}_5\text{NH}_3^+)/n(\text{C}_6\text{H}_5\text{NH}_2)) \Rightarrow n(\text{C}_6\text{H}_5\text{NH}_3^+)/n(\text{C}_6\text{H}_5\text{NH}_2) = 7,59 \cdot 10^{-4}$
- 3f) $7,59 \cdot 10^{-4} = n(\text{C}_6\text{H}_5\text{NH}_3^+)/n(\text{C}_6\text{H}_5\text{NH}_2) = n(\text{HCl})/n(\text{C}_6\text{H}_5\text{NH}_2) - n(\text{HCl}) \Rightarrow n(\text{HCl}) = 0,0341 \text{ mol}$
- $V_{\text{HCl}} = 0,682 \text{ mL}$
- 4a) $\text{BaO}_2 + \text{H}_2\text{O} \rightarrow \text{Ba}^{2+} + \text{HO}_2^- + \text{OH}^-$
- 4b) $\text{I}^- + \text{IO}_3^- + \text{H}^+ \rightarrow \text{I}_2 + \text{H}_2\text{O}$



8a) Linie 1 og 2 i tabellen viser at reaktionen er af 1^{ste} orden mht. $[I^-]$ og linie 1 og linie 3 viser at reaktionen er af 1^{ste} orden mht. $[ClO^-]$.

8b)
$$v = k \cdot [I^-]^1 \cdot [ClO^-]^1$$

8c)
$$k = 9,4 \cdot 10^{-3} / (0,012 \cdot 0,0013) = 602 \text{ s}^{-1} \cdot \text{M}^{-1}$$

8d) Den påvirker ikke hastigheden

8e) De rigtige er: 1, 4 og 5; de forkerte er 2, 3 og 6