

1

- a) $\Delta H_f^\circ(\text{glucosa}) = -671,2 \text{ kJ/mol}$
 b) $E = 9452,22 \text{ kJ}$

2

- a) $\Delta H_r = -138,65 \text{ kJ}$
 b) $M = 0,205 \text{ mol/L}$

3

- a) $\Delta H_c(\text{C} + \text{O}_2 \rightarrow \text{CO}_2) = -394 \text{ kJ/mol}$
 $\Delta H_c(\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}) = -1561,3 \text{ kJ/mol}$
 b) $\Delta H_c(\text{C} + \text{O}_2 \rightarrow \text{CO}_2) = -32833,33 \text{ kJ/kg}$
 $\Delta H_c(\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}) = -52043,33 \text{ kJ/kg}$

4

- a) $\Delta H_{comb} = -1309 \text{ kJ/mol}$
 b) $\Delta H_f^\circ(\text{C}_2\text{H}_4) = 38,4 \text{ kJ/mol}$
 c) $\Delta S = 4,152 \text{ J/K}$