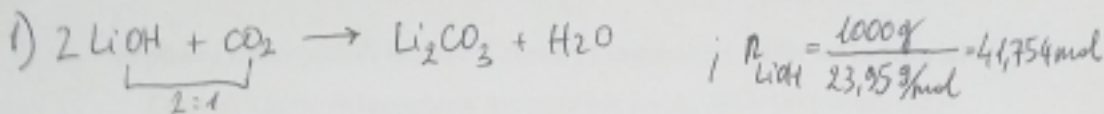
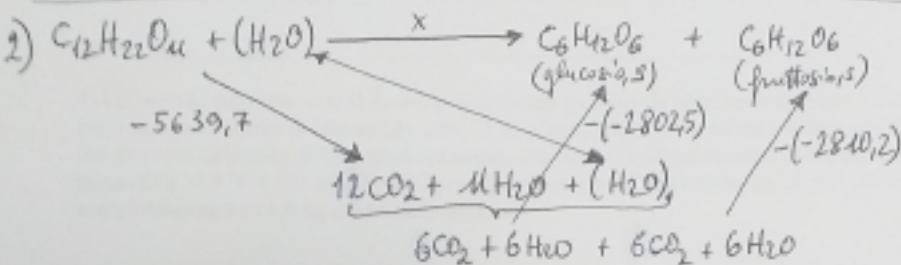


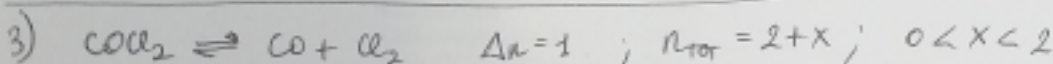
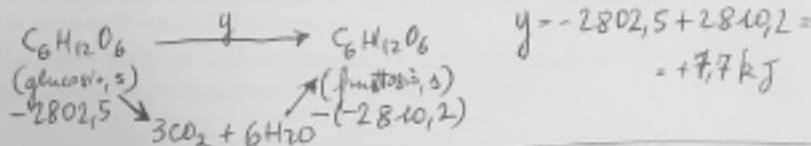
Soluzioni della Prova Scritta del 9 Febbraio 2018



$n_{\text{CO}_2} = \frac{1}{2} n_{\text{LiOH}} = 20,877\text{mol} \rightarrow V_{\text{CO}_2} = \frac{nRT}{P} = \frac{20,877 \cdot 0,0821 \cdot 293,05}{754/760} = 518,7\text{L}$



$x = -5639,7 + 2802,5 + 2810,2 = -27,0\text{kJ}$



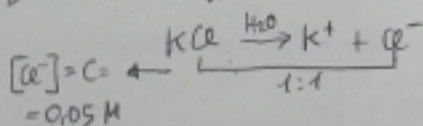
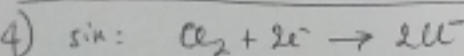
i	2	ϕ	ϕ
eq	$2-x$	x	x
	(0,599)	(1,401)	(1,401)

$K_c = \frac{[\text{CO}][\text{Cl}_2]}{[\text{COCl}_2]} = 0,329 = \frac{x^2}{2-x} \cdot \frac{1}{10} \rightarrow$

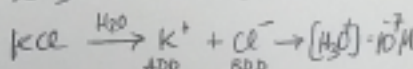
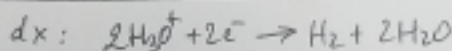
$\rightarrow 3,29 = \frac{x^2}{2-x} \rightarrow x^2 + 3,29x - 6,58 = 0 \rightarrow x = \frac{-3,29 + \sqrt{(3,29)^2 + 26,32}}{2} = 1,402\text{mol}$

$[\text{CO}] = [\text{Cl}_2] = \frac{1,401\text{mol}}{10\text{L}} = 1,401\text{mol/L}$

$[\text{COCl}_2] = \frac{0,599}{10\text{L}} = 0,0599\text{mol/L}$



$E_{\text{sin}} = 1,36 + \frac{0,0592}{2} \log \frac{1}{(0,05)^2} = 1,437\text{V}$



$E_{\text{dx}} = 0 + \frac{0,0592}{2} \log \frac{(10^{-7})^2}{1} = -0,414\text{V}$

$\Delta E = E^{\ominus} - E^{\oplus} = 1,437 - (-0,414) = 1,851\text{V}$