

①

	$2 \text{SO}_2 + \text{O}_2 \rightarrow 2 \text{SO}_3$		
m_0	0,47	0,26	0
Δm	$\frac{-2.0,07}{-}$	$\frac{-1.0,07}{-}$	$\frac{+2.0,07}{+}$
$m_{S'}$	0,33	0,19	0,14
Δm	$\frac{-2.0,02}{-}$	$\frac{-1.0,02}{-}$	$\frac{+2.0,02}{+}$
$m_{10'}$	0,29	0,17	0,18
Δm	—	—	—
$m_{20'}$	0,29	0,17	0,18

ne varie plus : équilibre atteint

Aucun des réactifs ne réagit complètement : réaction incomplète

②

	$2 \text{N}_2 + \text{O}_2 \rightarrow 2 \text{N}_2\text{O}$		
a) m_0	0,44	0,38	0
Δm	$\frac{-2.0,13}{-}$	$\frac{-1.0,13}{-}$	$\frac{+2.0,13}{+}$
m_5	0,18	0,25	0,26
Δm	$\frac{-2.0,04}{-}$	$\frac{-1.0,04}{-}$	$\frac{+2.0,04}{+}$
m_{30}	0,10	0,21	0,34
Δm	—	—	—
m_{60}	0,10	0,21	0,34

ne varie plus

b) Aucun des réactifs ne réagit complètement : réaction incomplète

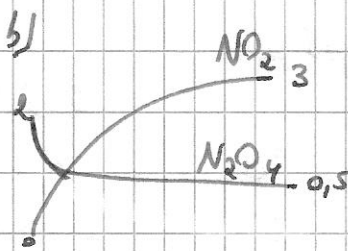
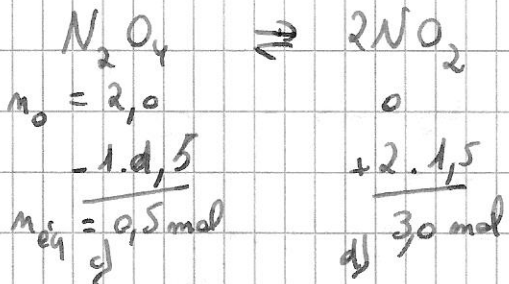
c) $m_{40} = m_{80} = m_{30} = m_{60}$: équilibre atteint

③

	$\text{H}_2 + \text{Br}_2 \rightarrow 2 \text{HBr}$		
m_0	0,8 = 0,8	0	0
b) Δm	$\frac{-1.0,8}{-}$	$\frac{-1.0,8}{-}$	$\frac{+2.0,8}{+}$
m_f	0	0	1,6 mol

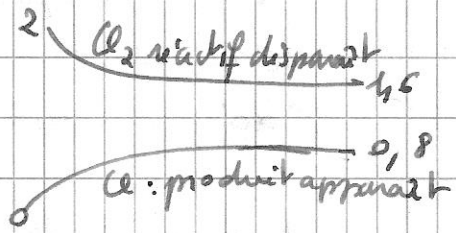
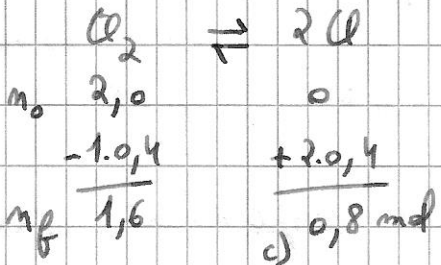
a) Au moins 1 réactif réagit complètement : réaction complète

4)

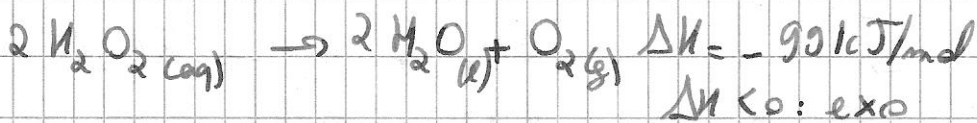


a) Au un réactif ne réagit complètement: réaction incomplète

5)

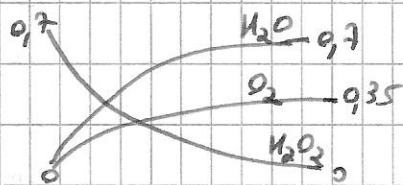
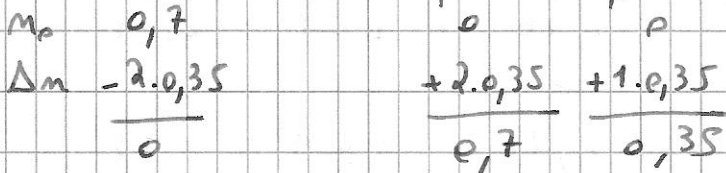


6)

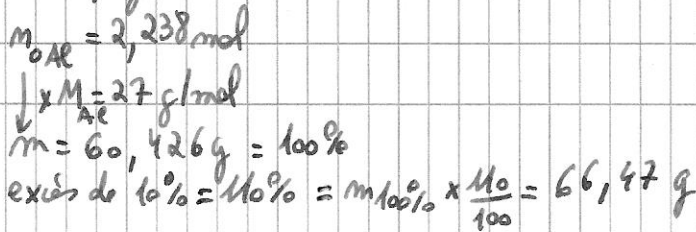
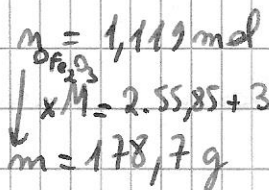
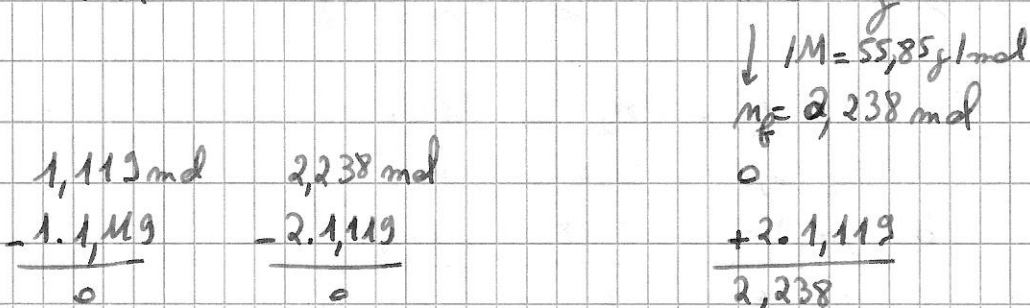
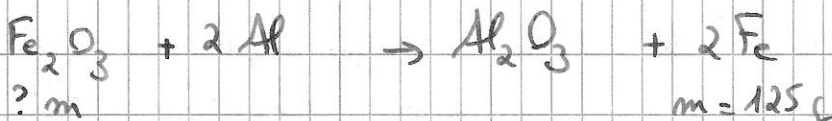


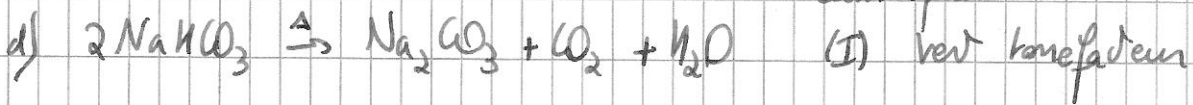
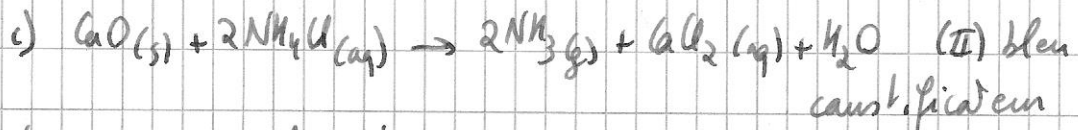
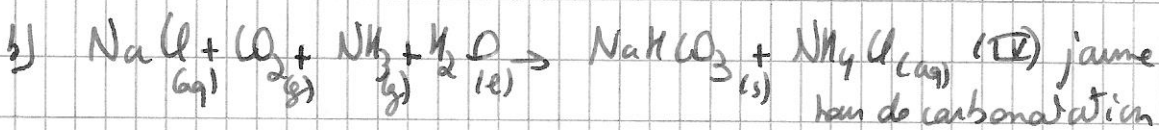
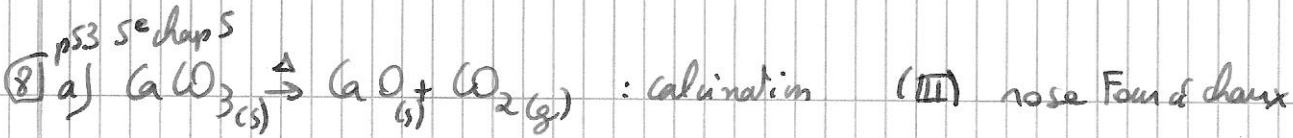
$\Delta n_g = 1$ entropie favorable enthalpie favorable
 0 gaz \rightarrow 1 gaz

réaction spontanée: 1 facteur suffit.

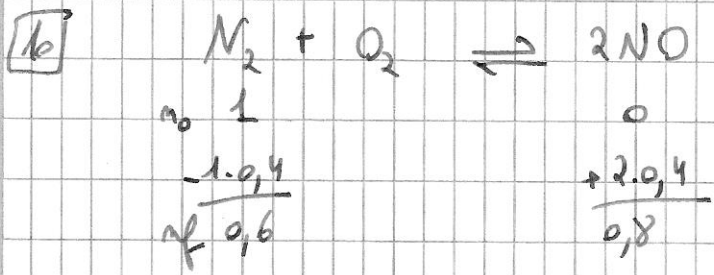
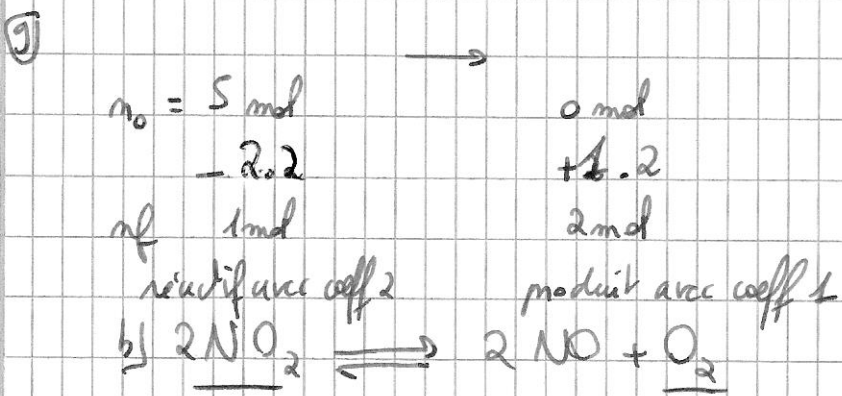


7)





CO_2 produit en a) et d) et utilisé en b)
III I IV eau de carbonatation



Aucun réactif ne réagit complètement : réaction incomplète