

Часть 1

Олимпиада: Химия 10 класс (1 часть)

Шифр: 21300848

ID профиля: 372563

Вариант 2

Учебник

N7

①

$$1) m = \frac{M \cdot I \cdot t}{z \cdot f}$$

$$M = \frac{m \cdot z \cdot f}{I \cdot t} = \frac{41,4 \cdot 2 \cdot 96500}{5 \cdot \frac{23160}{3}} = 207,2 \text{ /mol} - \underline{\text{Pb}}$$



$$m(\text{Pb}) = 200 - \frac{41,4}{207,2} \cdot \frac{1}{2} \cdot (9 \cdot 2 + 3 \cdot 32 + 2 \cdot 2) = 189,2_2$$

$$w(\text{Pb}(\text{NO}_3)_2) = \frac{41,4}{207,2} \cdot (209 + 2 \cdot (14 + 48)) \cdot 100\% = 35\%$$

$$w(\text{H}_2\text{O}) = 100 - 35 = 65\%$$

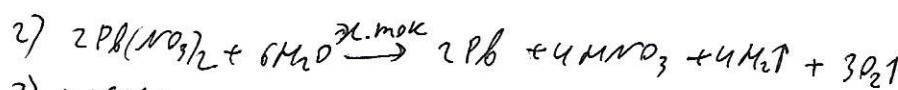
4) В п-ре находятся все элементы к-ны, кроме молибдена и ванадия.

$$m(\text{H-Vd}) = 200 - 91 \cdot (2 \cdot 207 + 4 \cdot 2 + 3 \cdot 32) = 148,2_2$$

$$w(\text{MNO}_3) = \frac{92 \cdot 2 \cdot (74 + 48)}{148,2} \cdot 100\% = 16,73\%$$

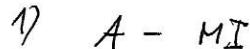
Ответ:

1) Pb

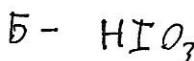


$$3) w(\text{Pb}(\text{NO}_3)_2) = 35\%$$

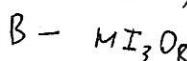
$$4) w(\text{MNO}_3) = 16,73\%$$



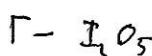
$$3 \cdot (7 + 12 + 16) - 18 = 510 \text{ моль}$$



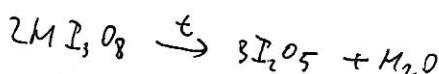
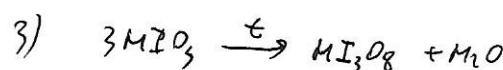
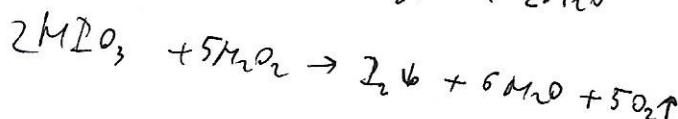
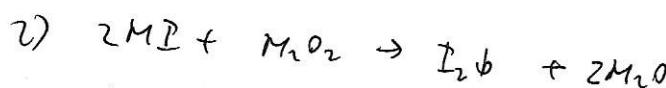
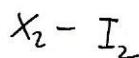
$$510 \cdot 0,494 : 3 = 726,92 \text{ моль}$$



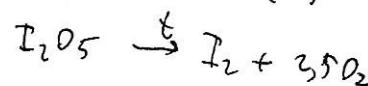
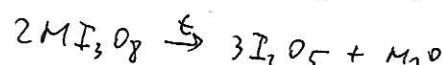
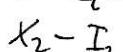
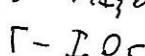
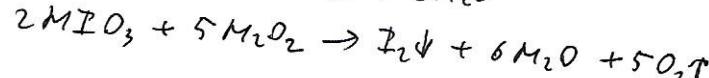
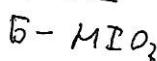
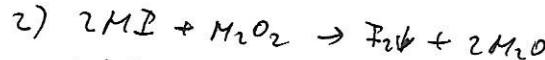
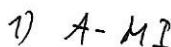
$$\frac{510}{(1+726,92)} = 2,9$$

Без бензо

Без бензо



Задача: № ~~Найти промежуточные и промежуточные стадии.~~



Übungsaufgabe

N3

(3)

- 1) 1. $2Li + 2NH_3 \rightarrow 2Li_2NH + H_2 \uparrow$ ($V_{(H_2)} = \frac{1}{2} V_{(2NH_3)}$) $\Delta V(Li) = 92 \text{ molar}$
 2. $4Li + 2NH_3 \rightarrow 2Li_2NH + 2H_2 \uparrow$ ($V_{(H_2)} = V_{(2NH_3)}$) $\Delta V(Li) = 94 \text{ molar}$
 3. $6Li + 2NH_3 \rightarrow 2Li_3N + 3H_2 \uparrow$ ($V_{(H_2)} = \frac{3}{2} V_{(2NH_3)}$) $\Delta V(Li) = 96 \text{ molar}$
 4. $8Li + 2NH_3 \rightarrow 2Li_4NH + 2H_2 \uparrow$ ($V_{(H_2)} = V_{(2NH_3)}$) $\Delta V(Li) = 98 \text{ molar}$
 5. $6Li + NH_3 \rightarrow Li_6NH_3$ ($V_{(NH_3)} > V_{(Li_6NH_3)} \cdot V_{(H_2)} = 0$) $\Delta V(Li) = 72 \text{ molar}$
- 2) 1. $LiNH_2$ $m = 4,6_2$
 2. Li_2NH $m = \frac{38}{4} : 4 \cdot 2 \cdot (2 \cdot 7 + 14 + 1) = 5,8_2$
 3. Li_3N $m = \frac{42}{4} : 8 \cdot 2 \cdot (3 \cdot 7 + 14) = 7_2$
 4. Li_4NH $m = \frac{56}{4} : 8 \cdot 2 \cdot (3 \cdot 7 + 14 + 1) = 8,4_2$
 5. Li_6NH_3 $m = 8,4 + \frac{348}{23,9} \cdot 14 = 73,8_2$

Antwort: ~~Bei einem weiteren Schritt~~

- 1) 1. $2Li + 2NH_3 \rightarrow 2Li_2NH + H_2 \uparrow$
 2. $4Li + 2NH_3 \rightarrow 2Li_2NH + 2H_2 \uparrow$
 3. $6Li + 2NH_3 \rightarrow 2Li_3N + 3H_2 \uparrow$
 4. $8Li + 2NH_3 \rightarrow 2Li_4NH + 2H_2 \uparrow$
 5. $6Li + NH_3 \rightarrow Li_6NH_3$
- 2) 1. $LiNH_2$ $m = 4,6_2$
 2. Li_2NH $m = 5,8_2$
 3. Li_3N $m = 7_2$
 4. Li_4NH $m = 8,4_2$
 5. Li_6NH_3 $m = 73,8_2$

Часть 2

Олимпиада: Химия 10 класс (2 часть)

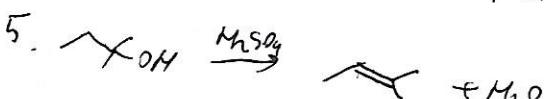
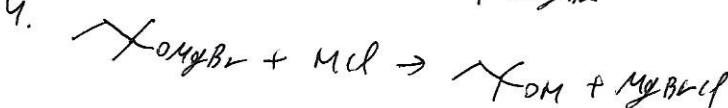
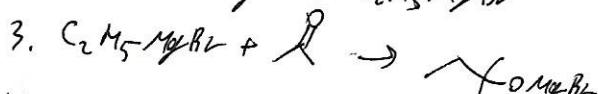
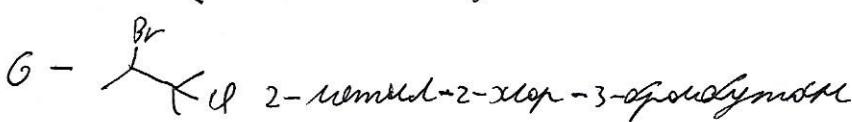
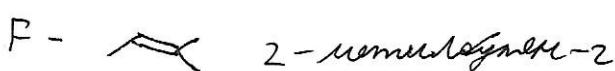
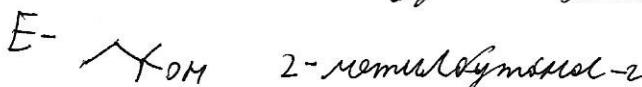
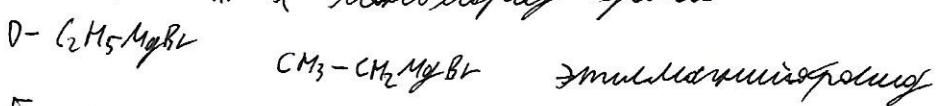
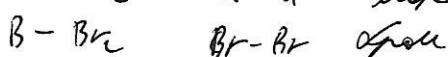
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Вариант 2

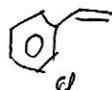
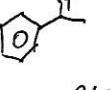
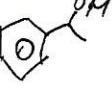
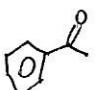
1) Определим $\text{M}(\text{C})$ из $\text{A}-\text{Cl}_2, \text{B}-\text{Br}_2$. $\frac{74,2}{130,2} = \frac{74,2}{35,5 \cdot 2}$

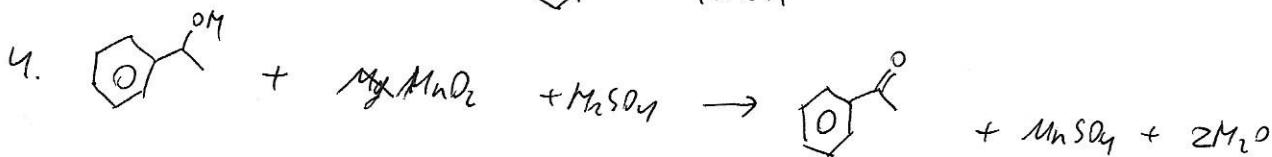
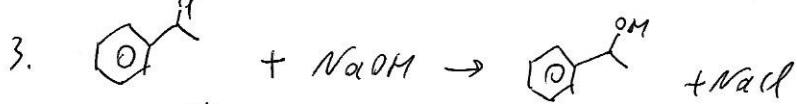
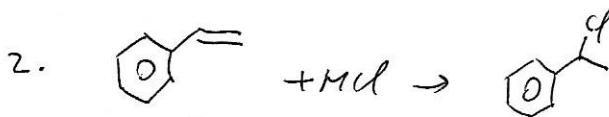
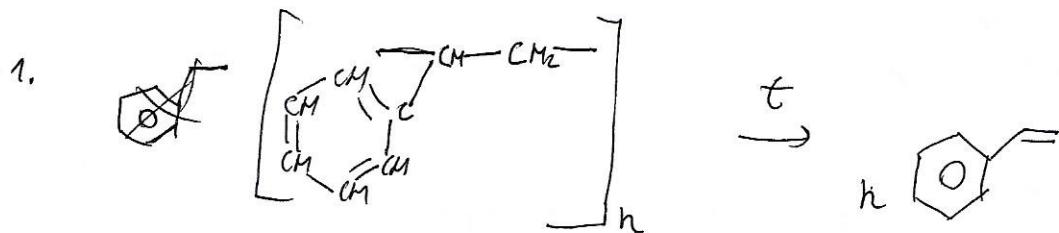
$$\text{M}(\text{C}) = 2 \cdot 39,8 = 79,6 \text{ моль} - \underline{\text{Br-Cl}}$$



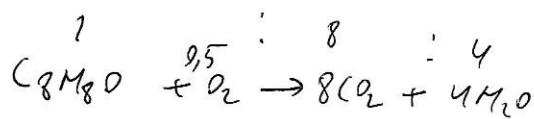
3) $m(G) = \frac{545}{102} \cdot 0,85 \cdot 0,8 \cdot (5 \cdot 12 + 10 + 35,5 + 39,8) = \underline{\underline{632}}$

Ошибки: 3) $m(G) = \underline{\underline{632}}$

- 1) A -  бензиловый
 2) B -  [1-хлорэтил]аллиловый
 3) C -  1-фенилэтанол-1
 4) D -  фенилакриловая кислота

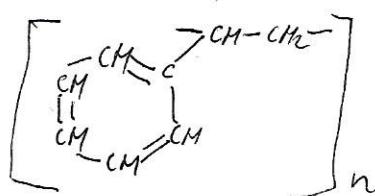


$$\frac{24}{120} = 0,2 \text{ моль}$$



$$\sqrt{(H_2O)} = \frac{14,4}{18} = 0,8 \text{ моль}$$

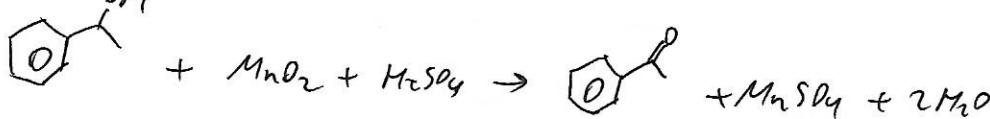
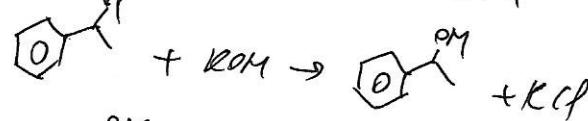
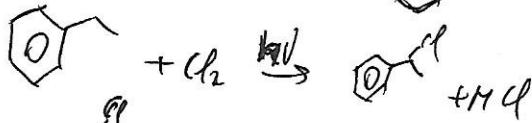
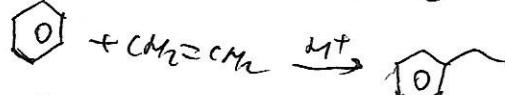
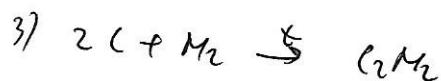
$$\sqrt{(O_2)} = \frac{39,84}{23,6} = 1,7 \text{ моль}$$



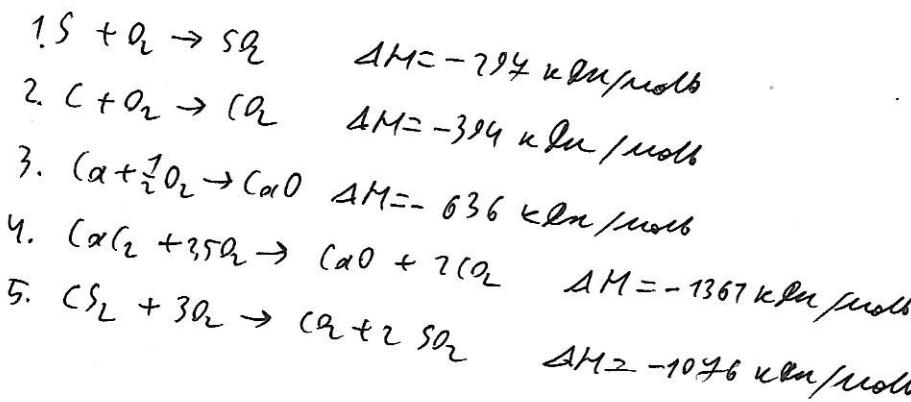
Murloben

15 (प्रयोगशाला)

(3)



Ок жокиңдағы әзіз салықтардың мөлдөмдүгөндөн бастау



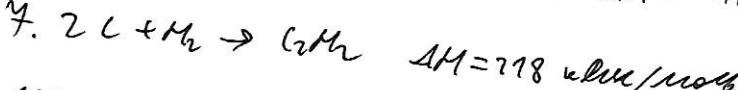
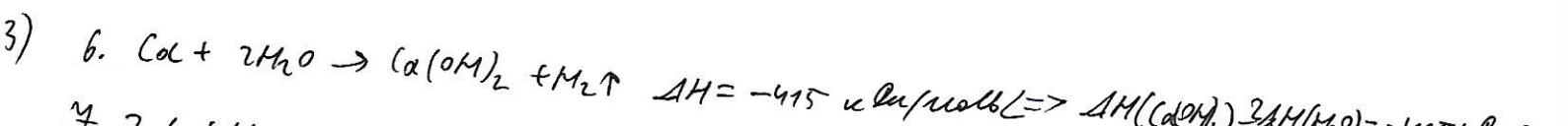
1) $\Delta H(CO_2) = \Delta H(3) + 2\Delta H(2) - \Delta H(4) = -63 - 63 \text{ кДж/моль}$

$Q = 63 \text{ кДж/моль}$ өткөрмекшілік

$\Delta H(S_2) = 2\Delta H(1) + \Delta H(2) - \Delta H(5) = 88 \text{ кДж/моль}$

$Q = -88 \text{ кДж/моль}$ өткөрмекшілік

2) Нарынгың насыхат тәсіл жасаудың м.к. ен аныттанған орнадасындағы мөлдөмдүгөндөн бастау.



$\Delta H = \Delta H(7) + \Delta H(6) - \Delta H(CO_2) = -134 \text{ кДж/моль}$

$(CO_2 + 2H_2O \rightarrow (COH)_2 + C_2M_2) \quad Q = 134 \text{ кДж/моль}$

4) Технологияның насыхаты не распределен в базе, а реаги-
рует с мел. Беда и нарынгың насыхаты - насыхат в.б., C_2 - гомология.
Технологияның насыхаты распределен в пыльни, а гомология
в гомологии, C_2 мало распределен в базе.

Олардың: 1) $Q(CO_2) = 63 \text{ кДж/моль}$
 $Q(S_2) = -88 \text{ кДж/моль}$

3) $Q(\text{пыльни}) = 134 \text{ кДж/моль}$