

Олимпиадная работа по химии

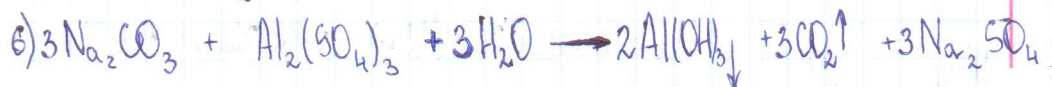
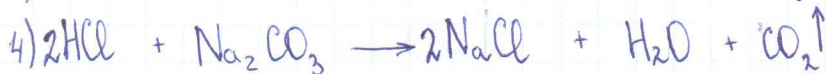
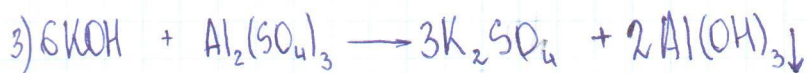
10 В класс

Пышкина Мария Сергеевна

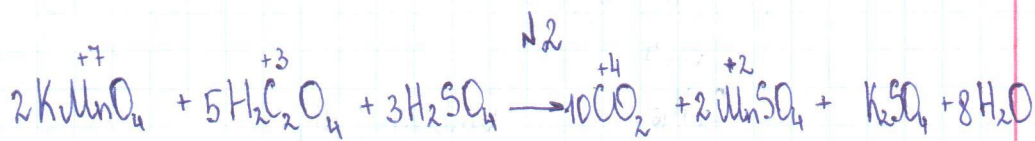
10.10

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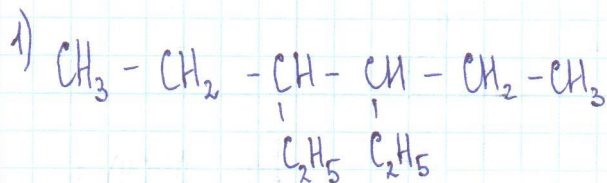
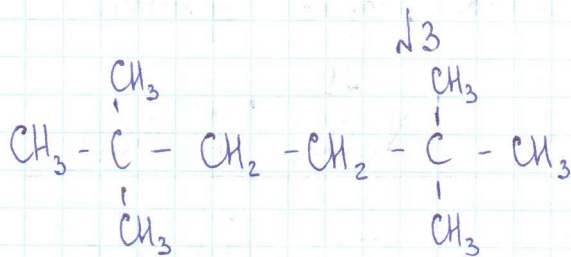
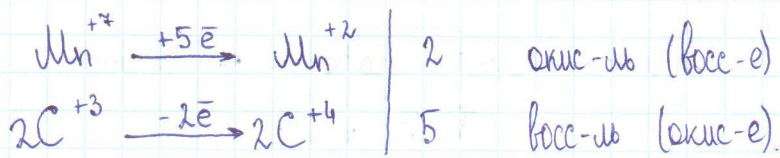
	KOH	HCl	<sup>N1</sup> Na <sub>2</sub> CO <sub>3</sub>	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>
KOH	—	—	—	↓ Al(OH) <sub>3</sub> осадок
HCl	—	—	↑ CO <sub>2</sub>	—
Na <sub>2</sub> CO <sub>3</sub>	—	↑ CO <sub>2</sub>	—	↑ CO <sub>2</sub> , Al(OH) <sub>3</sub> ↓
Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	↓ Al(OH) <sub>3</sub> осадок	—	↑ CO <sub>2</sub> , Al(OH) <sub>3</sub> ↓	—



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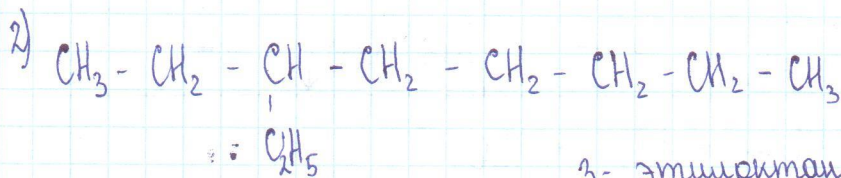


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3,4-гидропентан

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3-этилгептан

Дано:

$$M(\text{C}_n\text{H}_{2n+2}) = 2,5M(\text{Ar})$$

$$M(\text{C}_n\text{H}_{2n+2}) = ?$$

n4

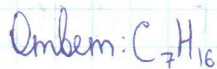
Решение

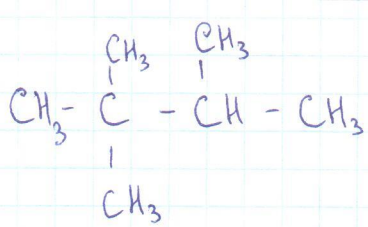
$$M(\text{C}_n\text{H}_{2n+2}) = 12n + 2n + 2 = 14n + 2$$

$$M(\text{C}_n\text{H}_{2n+2}) = 2,5M(\text{Ar}) = 2,5 \cdot 40 \text{ г/моль} = 100 \text{ г/моль}$$

$$14n + 2 = 100$$

$$n = 7$$



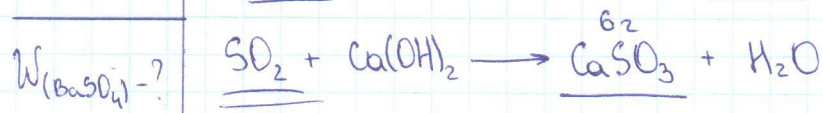
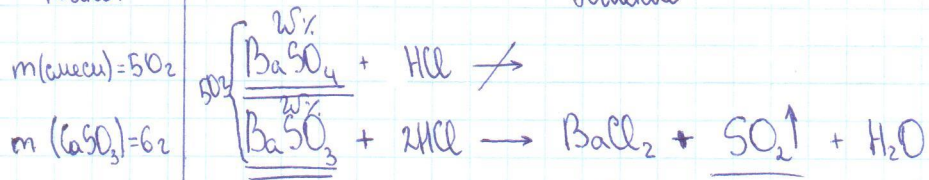


2,2,3-триметилбутан

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Дано:

№5  
Решение



$$D(\text{CaSO}_3) = \frac{62}{120 \text{ моль}} = 0,05 \text{ моль}$$

$$D(\text{CaSO}_3) = D(\text{SO}_2) = 0,05 \text{ моль}$$

$$D(\text{SO}_2) = D(\text{BaSO}_3) = 0,05 \text{ моль}$$

$$m(\text{BaSO}_3) = D \cdot M = 0,05 \text{ моль} \cdot 217 \text{ г/моль} = 10,852$$

$$W(\text{BaSO}_3) = \frac{10,852}{502} \cdot 100\% = 21,7\%$$

$$W(\text{BaSO}_4) = 100\% - 21,7\% = 78,3\%$$

Ответ: 21,7%, 78,3%

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Умова:

25 грамів  
BaCl