

Station 1

Nitromethane burns according to the reaction:



- a) What mass of H_2O is produced when 0.150g of CH_3NO_2 is burned?
- b) What combined volume of gas at STP is produced if 0.316g of CH_3NO_2 is burned?
- c) What volume of $\text{O}_2 (\text{g})$ at STP is required to produce 0.250g of CO_2 ?

Not so great

Feel a bit unsure

Confident

Super confident

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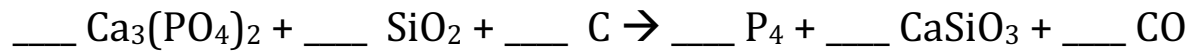
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Station 2

Consider the following reaction:



a) What mass of P_4 is produced when 41.5g of $\text{Ca}_3(\text{PO}_4)_2$, 26.5 g of SiO_2 and 7.80 g of C are reacted?

b) How many grams of each excess reactant will remain unreacted?

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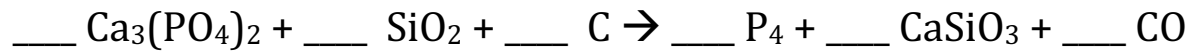
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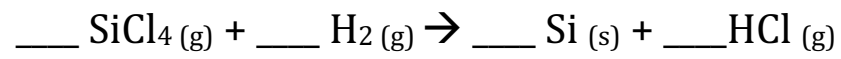
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Station 3

A sample of high purity silicon is prepared by strongly heating a mixture of hydrogen and silicon tetrachloride in a sealed tube:



If exactly 1.00g of silicon is produced and the reaction is a 73.8% yield, what mass of each of SiCl₄ and H₂ must react?

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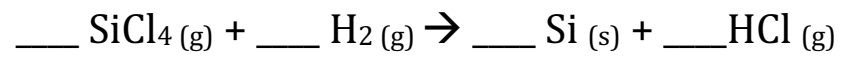
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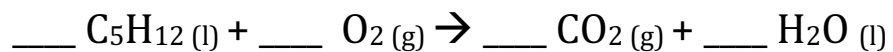


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Station 4

What volume of CO_2 (g) at STP can be made when 0.0250 L of C_5H_{12} (l) (density = 626.0 g/L), is reacted with 40.0 L of O_2 (g) at STP, according to the reaction:

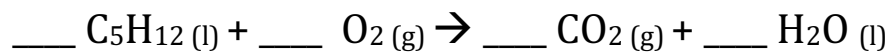


How much of the excess reactant will be left over?

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