

B. Eksplorasi



Model 7 persamaan kimia dan persamaan termokimia

Persamaan Kimia

- $$\text{C}_{(s)} + \text{O}_{2(g)} \rightarrow \text{CO}_{2(g)}$$
- $$\text{S}_{(s)} + \text{O}_{2(g)} \rightarrow \text{SO}_{2(g)}$$
- $$\text{CH}_{4(g)} + 2\text{O}_{2(g)} \rightarrow \text{CO}_{2(g)} + 2\text{H}_2\text{O}_{(l)}$$

Persamaan Termokimia

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|--|------------------------------------|
| $\text{C}_{(s)} + \text{O}_{2(g)} \rightarrow \text{CO}_{2(g)}$ | $\Delta H = -393,5 \text{ kJ/mol}$ |
| $2\text{C}_{(s)} + 2\text{O}_{2(g)} \rightarrow 2\text{CO}_{2(g)}$ | $\Delta H = -787 \text{ kJ}$ |
| $\text{CO}_{2(g)} \rightarrow \text{C}_{(s)} + \text{O}_{2(g)}$ | $\Delta H = +393,5 \text{ kJ/mol}$ |
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|--|------------------------------------|
| $\text{S}_{(s)} + \text{O}_{2(g)} \rightarrow \text{SO}_{2(g)}$ | $\Delta H = -296,9 \text{ kJ/mol}$ |
| $2\text{S}_{(s)} + 2\text{O}_{2(g)} \rightarrow 2\text{SO}_{2(g)}$ | $\Delta H = -593,8 \text{ kJ}$ |
| $\text{SO}_{2(g)} \rightarrow \text{S}_{(s)} + \text{O}_{2(g)}$ | $\Delta H = +296 \text{ kJ/mol}$ |
- | | |
|--|------------------------------------|
| $\text{CH}_{4(g)} + 2\text{O}_{2(g)} \rightarrow \text{CO}_{2(g)} + 2\text{H}_2\text{O}_{(l)}$ | $\Delta H = -890,5 \text{ kJ/mol}$ |
| $2\text{CH}_{4(g)} + 4\text{O}_{2(g)} \rightarrow 2\text{CO}_{2(g)} + 4\text{H}_2\text{O}_{(l)}$ | $\Delta H = -1.781 \text{ kJ}$ |

C. Pembentukan Konsep



Berdasarkan model 7 di atas, jawablah pertanyaan berikut ini!

- Jelaskanlah perbedaan persamaan kimia dan persamaan termokimia!

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- Jika persamaan termokimia dibalik bagaimanakah nilai perubahan entalpi (ΔH)? Jelaskanlah jawaban Anda!

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- Jika persamaan termokimia dibagi atau dikali dengan faktor n bagaimanakah nilai perubahan entalpi (ΔH)? Jelaskanlah jawaban Anda!

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