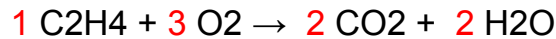


Example Problem

Try to calculate the thermodynamic quantities using the following equation. The coefficients are the red digits. The reactants and products are shown.



Reactants: 1 C₂H₄, 3 O₂

Products: 2 CO₂ , 2 H₂O

On the Heroku App:

You can enter the formulas exactly as they are written:

C₂H₄

O₂

CO₂

H₂O

You will be prompted for the coefficients. This is what the output should look like.

```
The reactants are: ['1 of C2H4 ethene g', '3 of O2 oxygen g']
The products are: ['2 of CO2 carbon dioxide g', '2 of H2O water l']
The enthalpy change (dH) is: -1408.0 kJ per mol
The free energy change (dG) is: -1330.0 kJ per mol
The entropy change (dS) is: -0.2668000000000001 kJ per mol per Kelvin
```

This is the output on the Textual version.

```
Reactants:
ethene C2H4 g
oxygen O2 g
```

```
Products:
carbon dioxide CO2 g
water H2O l
```

```
['C2H4 ethene g', 'O2 oxygen g']
['CO2 carbon dioxide g', 'H2O water l']
The enthalpy change (dH) is: -1408.0 kJ per mol
The free energy change (dG) is: -1330.0 kJ per mol
The entropy change (dS) is: -0.2668000000000001 kJ per mol per Kel
```