

The general expression for enthalpy is derived to be: $dh = c_PdT + v(1 - \beta T)dP$.

Evaluate this expression for an ideal gas.

For an ideal gas $\beta = \frac{1}{T} \rightarrow dh = c_PdT + v(1 - \frac{1}{T}T)dP = dh = c_PdT + v(1 - 1)dP = dh = c_PdT$