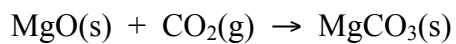


- What is the value of the enthalpy change for the following reaction?



Data:	Compound	MgO(s)	CO ₂ (g)	MgCO ₃ (s)
	$\Delta_f H^\circ / \text{kJ mol}^{-1}$	-602	-394	-1096

Using $\Delta H^\circ = \sum \Delta_f H^\circ (\text{products}) - \sum \Delta_f H^\circ (\text{reactants})$, the enthalpy change is:

$$\begin{aligned}\Delta H^\circ &= \Delta_f H^\circ (\text{MgCO}_3(\text{s})) - [\Delta_f H^\circ (\text{MgO}(\text{s})) + \Delta_f H^\circ (\text{CO}_2(\text{g}))] \\ &= (-1096 - [-394 - 602]) \text{ kJ mol}^{-1} = -100. \text{ kJ mol}^{-1}\end{aligned}$$

Answer: -100. kJ mol⁻¹

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.