



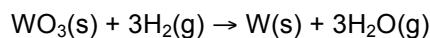
THERMODYNAMICS (F)

- 1 Calculate the entropy change for the vaporisation of methanol (CH_3OH) given this data.

enthalpy of vaporisation of methanol = +35.2 kJ mol⁻¹

boiling point of methanol = +64.7 °C

2 Tungsten can be extracted from tungsten oxide by reaction with hydrogen. The reaction is not feasible at room temperature. Calculate the temperature at which this reaction becomes feasible.



substance	WO₃(s)	H₂(g)	W(s)	H₂O(g)
$\Delta_f H^\circ \text{ (kJ mol}^{-1}\text{)}$	-840			-242
S° (J mol ⁻¹ K ⁻¹)	+83.3	+131	+33	+189