Sep-25-2023 10:21 PM 1/2

Specific Heat

$q = C \cdot m \cdot \Delta T$

$\Delta T = T_{final} - T_{ini}$

q = heat (J)

C = specific heat ($J/g \cdot ^\circ C$)

m = mass (g)

ΔT = change in Temp ($^\circ C$)

q = − exothermic + endot.

6. $C = 0.454\ J/g \cdot ^\circ C$ $q = \_\_ J$

$m = 30.5\ g$ $\Delta T = -10.8^\circ C$

$q = C \cdot m \cdot \Delta T$

$q = 0.454\ J/g \cdot ^\circ C \cdot 30.5\ g \cdot -10.8^\circ C$

$q = -149.55\ J$

exothermic (lose heat)

Sep-25-2023 10:22 PM 2

Specific Heat

$q = C \cdot m \cdot \Delta T$

$\Delta T = T_{final} - T_{ini}$

$T_{final} = 56.4^\circ C$ $T_{ini} = 34.2^\circ C$

$\Delta T = T_{final} - T_{ini}$

$= 56.4^\circ C - 34.2^\circ C$

$\Delta T = 22.2^\circ C$

7. $C_{Sn} = 0.560\ J/g \cdot ^\circ C$

$m = 14.2\ g$ $\Delta T = 22.2^\circ C$

$q = \_\_\_\_ J$ $q = C \cdot m \cdot \Delta T$

$q = 0.560\ J/g \cdot ^\circ C \cdot 14.2\ g \cdot 22.2^\circ C$

$q = +176.53\ J$

(endothermic, gain q)