What is the ΔH_o of the equation $2C_6H_6$ (l) + $15O_2 \rightarrow 12CO_2$ (g) + $6H_2O$ (g)? Given: ΔH_{fo} C_6H_6 = 49.00 kJ/mol, ΔH_{fo} CO_2 = –394 kJ/mol, ΔH_{fo} H_2O = –242 kJ/mol.

A. ΔH_o = –6,082 kJ
B. ΔH_o = –6,278 kJ
C. ΔH_{fo} = –6,082 kJ
D. ΔH_{fo} = –6,278 kJ
E. ΔH_{fo} = 6,278 kJ

$$49.00 \text{ kJ/mole} \quad\quad -394 \text{ kJ/mol} \quad -242 \text{kJ/mole}$$
$$2C_6H_6 \text{ (l)} + 15O_2 \rightarrow 12CO_2 \text{ (g)} + 6H_2O \text{ (g)}$$
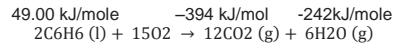
$$2 \text{ moles} \quad\quad 12 \text{ moles} \quad\quad 6 \text{ moles}$$

$$\Delta H_{fo} = 6 \times (-242) + 12 \times (-394) - 2 \times 49 = -6082 \text{kJ/mole}$$