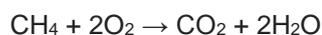


Question #48274, Chemistry, Other

Calculate the heat of reaction using the average bond dissociation energies given in the introduction and your answer to Part B for the reaction



Solvation

Energy of bonds:

C—H 357.98kJ/mol

O₂ 494.04kJ/mol

H₂O 460,2 kJ/mol

CO₂ 732 kJ/mol

$$Q = E_f - E_b$$

Q is heat of reaction, kJ/mol;

E_f is energy of bonds are formed during reaction, kJ/mol;

E_b is energy of bonds are broken during reaction, kJ/mol.

$$Q = (4 * 357.98 + 2 * 494.04) - (2 * 460.2 + 732) = 767.6 \text{ kJ/mol}$$