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1.) Use the values of ∆Hof given below to calculate (in kJ) ∆Horxn for the following reaction:

**C2H5OH (l)+ 3O2(g) → 2CO2(g) + 3H2O(g)**

|  |  |
| --- | --- |
| Given: | ∆Hof (kJ/mol)  |
| **C2H5OH (l)**  | **-278** |
| **O2(g)**  | **0** |
| **CO2(g)**  | **-394** |
| **H2O(g)**  | **-242** |

2.) The graph below shows the heating curve of water. Use this graph to answer the following question.
How much **heat (q)** is required to heat 16 g of ice at -13.0oC (Celsius) to 16 g of water at 65.0oC?

spec. heat of H2O = 4.184 J/goC
spec. heat of ice = 2.087 J/goC
Heat of Fusion = 6.02 kJ/mol
1 mol of water = 18.0g

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