Thermodynamics of Folding

Thermodynamics of Folding: $\Delta G = \Delta H - T\Delta S$

- ΔG = 1.86 kcal/mol at 54 °C
- ΔH = -35.10 kcal/mol
- ΔS = -112.9 cal/(K·mol)
- T_m = 37.5 °C assuming a 2 state model.
- linear DNA folding.
- Ionic conditions: [Na^+] = 0.05 M, [Mg^{++}] = 0 M.
- Standard errors are roughly ±5%, ±10%, ±11% and 2-4 °C for free energy, enthalpy, entropy and T_m, respectively.

Structure 2
0F_CGTGT_end
ΔG = 1.86

Structural element	δG	Information
External loop	-0.07	0 ss bases & 1 closing helices.
Stack	-0.70	External closing pair is a ^{1}-T ^{30}
Stack	-0.70	External closing pair is c ^{2}-G ^{29}
Stack	-0.70	External closing pair is a ^{3}-T ^{28}
Stack	-1.35	External closing pair is c ^{4}-G ^{27}
Helix	-3.45	5 base pairs.
Hairpin loop	5.38	Closing pair is g ^{5}-C ^{26}