Thermodynamics of Folding

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

- $\Delta G = 1.12$ kcal/mol at 54 °C
- $\Delta H = -45.00$ kcal/mol
- $\Delta S = -140.9$ cal/(K·mol)
- $T_m = 46$ °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 3
24Jun24-07-34-37
$\Delta G = 1.12$

Structural element	δG	Information
External loop	0.00	3 ss bases & 1 closing helices.
Stack	-1.35	External closing pair is c [1]-G [23]
Stack	-0.70	External closing pair is g [2]-C [22]
Stack	-0.70	External closing pair is t [3]-A [21]
Stack	-0.70	External closing pair is g [4]-C [20]
Helix	-3.45	5 base pairs.
Hairpin loop	4.57	Closing pair is t [5]-A [19]