DO NOT USE PENCIL ****** DO NOT STAPLE

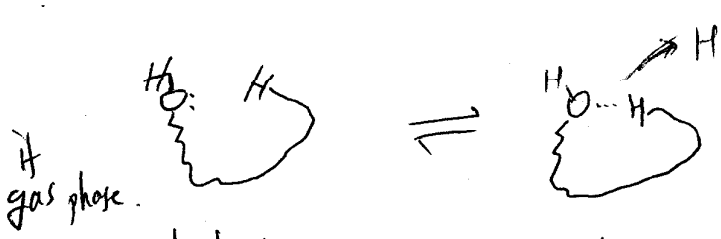
Submit a COPY of these notes to the GenChem Office

Course 565/665 Lecturer prof. Cavagnero

Day 4.16.04 Date 9:55 am.

Notes Taken By J. Hong. Total Number of Pages

enthalpy - entropy compensation



high S	low S	$\Delta S^\circ < 0$
high H	low	$\Delta H^\circ < 0$

ΔH° balances $T\Delta S^\circ$, this balance is not perfect.

if in solution. should consider water interaction with biopolymer surface. which show opposite effect to above gas phase ($\Delta S^\circ > 0$, $\Delta H^\circ > 0$)

For a protein to be stable, need $\Delta G^\circ_{UN} = -\Delta G^\circ_{fu} < 0$.

1 of 2

write on this side only - do not double side for genchem office

Course 565 / 665 Lecturer prof. Cavagnero
Day 4. 16. 04 Date 9:55 am.
Notes Taken By J. Hong. Total Number of Pages

$\Delta G^\circ_{UN} = -RT\ln K_{UN} < 0 \Rightarrow K_{UN} > 1.$

when $|\Delta H^\circ| > |T\Delta S^\circ|$: enthalpy driven

$|\Delta H^\circ| < |T\Delta S^\circ|$: entropy driven

From stability curve: unfolding: ① H-driven. ② S-driven (?).
③ H-driven (?) ④ S-driven

example: Given ΔC_p. ΔH°_m. T_m for a 2-state protein unfolding.
Q, $\Delta S^\circ_{T_1}$ at $T = T_1$?