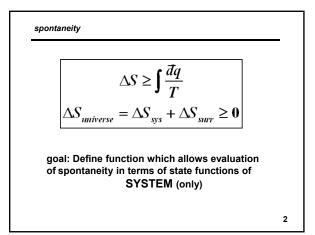
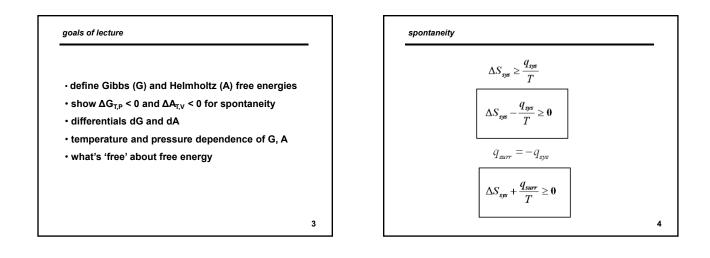
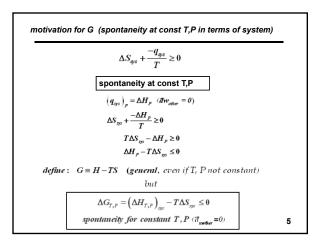
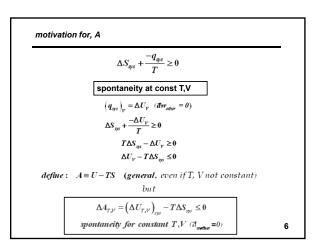
Chemistry 163B Free Energy E&R (≈ ch 6)

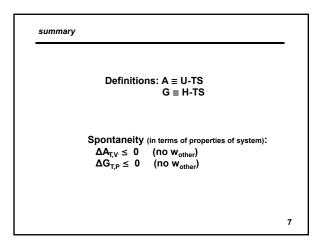


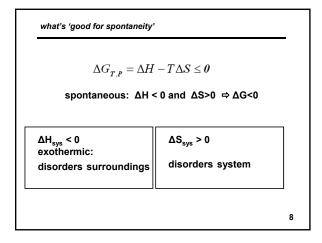


1









what's 'good for spontaneity'	'; similarly for ΔA at const T,V	_	
$\Delta A_{T,V} = \Delta U$	$-T\Delta S \leq 0$		
spontaneous: ΔU < 0; ΔS>0 ⇒ΔA<0			
ΔU _{sys} < 0 exothermic: disorders surroundings	ΔS _{sys} > 0 disorders system		
		9	

$\Delta G_{T,P} = \Delta H - T \Delta S$			
ΔН	ΔS	Spontaneous ??	
_	+	yes !!	
(exothermic: disorders surr)	(disorders sys)	5	
+	_	no !!	
(endothermic: orders surr)	(orders sys)	(reverse spontaneous)	
_	_	s) maybe !!	
(exothermic: disorders surr)	(orders sys)		
+	+	maybe !!	
(endothermic: orders surr)	(disorders sys)		

