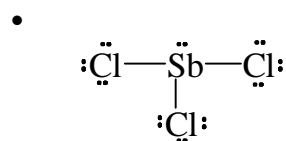
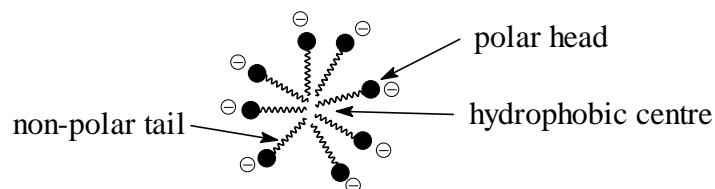


CHEM1405 (Vet. Science) - 2002

2002-J-2

- $\text{Bi}_2(\text{SO}_4)_3(\text{s}) \rightarrow 2\text{Bi}^{3+}(\text{aq}) + 3\text{SO}_4^{2-}(\text{aq})$
- - NH₄Br copper(II) chloride-6-water
 - potassium permanganate
 - TiO₂
- $-23.5 \text{ kJ mol}^{-1}$
- Long chain fatty acids consist of a polar head and a non-polar tail. When dispersed in water they arrange themselves spherically so that the polar (hydrophilic) heads are interacting with the polar water molecules and the non-polar (hydrophobic) tails are interacting with each other. This arrangement is called a micelle.



2002-J-3

- $k = 0.210 \text{ hour}^{-1}$ $t_{1/2} = 3.30 \text{ hour}$
6.60 hour

The appropriate second order rate law is $\text{Rate} = k[\text{sucrose}][\text{water}]$.


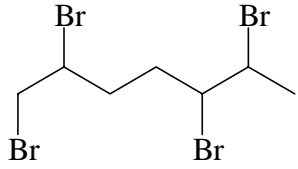
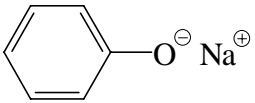
The concentration of water (present in vast excess as the solvent) does not change over time, thus giving a pseudo first order rate law: $\text{Rate} = k_1[\text{sucrose}]$ where $k_1 = k[\text{water}]$.

2002-J-4

- $2.00 \times 10^{-9} \text{ M}^2$
- $5.4 \times 10^{-5} \text{ M}$
- $\text{C}_6\text{H}_5\text{CH}_2\text{CO}_2^-(\text{aq}) + \text{H}_3\text{O}^+(\text{aq}) \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{COOH}(\text{aq}) + \text{H}_2\text{O}$
 $\text{C}_6\text{H}_5\text{CH}_2\text{COOH}(\text{aq}) + \text{OH}^-(\text{aq}) \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{CO}_2^-(\text{aq}) + \text{H}_2\text{O}$

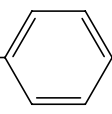
2002-J-5

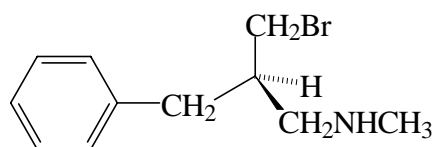
•

	dilute HCl	
		
		
	CH ₃ OH	
		
	Cr ₂ O ₇ ²⁻ / H ⁺	
	excess CH ₃ OH	

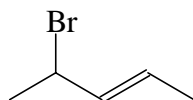
2002-J-6

•

CH ₂ Br	CH ₂ NHCH ₃	CH ₂ - 	H
--------------------	-----------------------------------	--	---



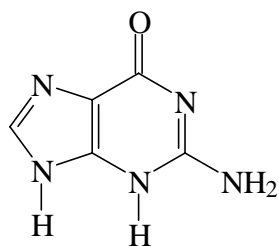
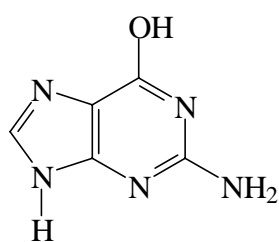
•



- 1,4-dibromo-2,3-dimethylheptane

2002-J-6 (cont.)

•



2002-J-7

•

