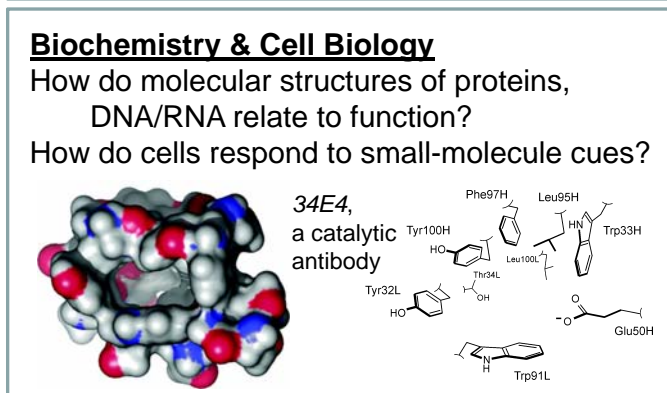
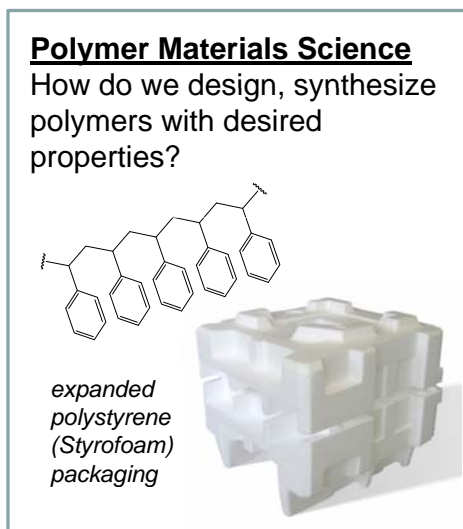
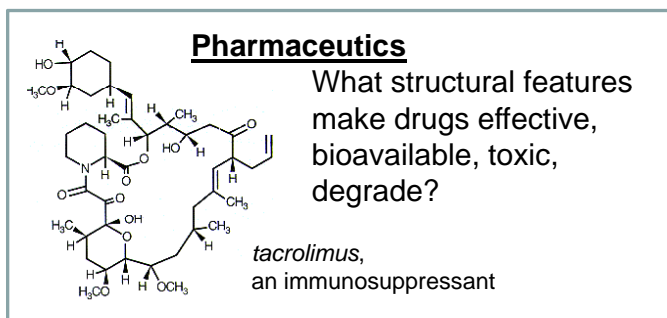


Why Study Organic Chemistry?

Because I'm required to, okay, but also:



These and more depend on understanding bonding, structure, reactivity of organic molecules.

Organic Chemistry is About Valence Electrons

Valence electrons: Electrons in outermost atomic shell.

Valence electrons are available for bonding and reactions; They dictate the shapes of molecules, character of bonds between atoms, reactivity of groups of atoms.

Question: How many valence electrons are associated with an atom?

Answer: Use the Periodic Table.

Using the Periodic Table to Determine Atom Valency

		Group														
		1	2			3	4	5	6	7	8					
Period	1	H									He					
	2	Li	Be			B	C	N	O	F	Ne					
	3	Na	Mg			Al	Si	P	S	Cl	Ar					
	4	K	Ca									Ga	Ge	As	Se	Br

Each element has one more electron than the element on its left.

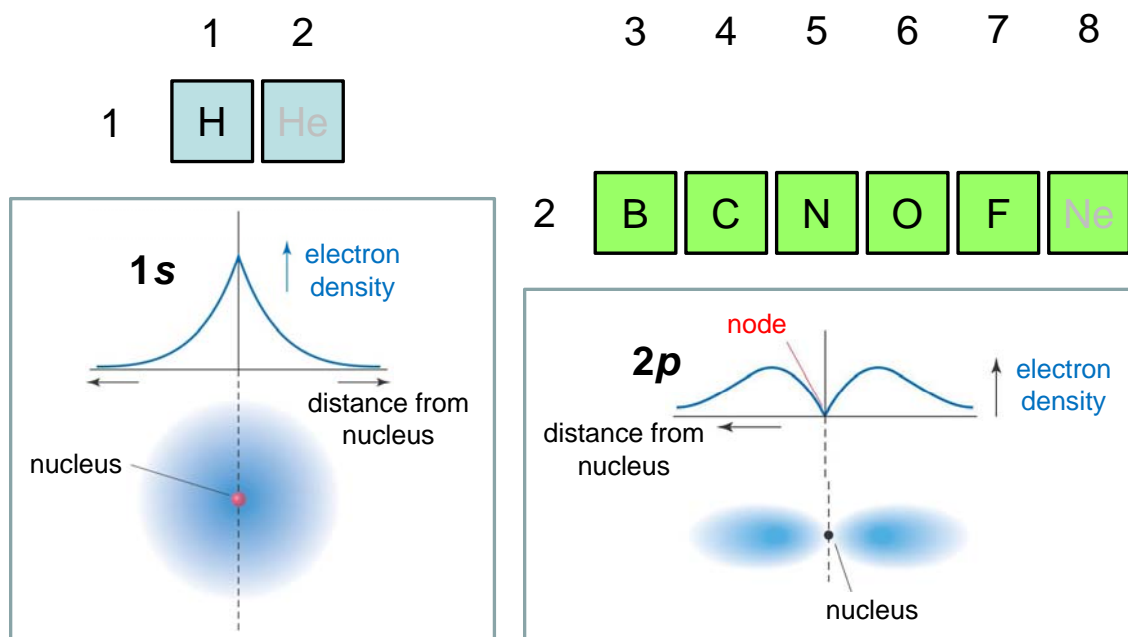
Can understand electron distribution using "Aufbau" principle.

Using the Periodic Table to Determine Atom Valency

		Group														
		1	2			3	4	5	6	7	8					
Period	1	H									He					
	2	Li	Be			B	C	N	O	F	Ne					
	3	Na	Mg			Al	Si	P	S	Cl	Ar					
	4	K	Ca									Ga	Ge	As	Se	Br
		s-block		d-block				p-block								

Using the Periodic Table to Determine Atom Valency

From General Chemistry:



Using the Periodic Table to Determine Atom Valency

		Group									
		1	2		3	4	5	6	7	8	
1											
2						C					
3											
4											

What is the electronic configuration of carbon (C)?

Using the Periodic Table to Determine Atom Valency

		Group																	
		1	2					3	4	5	6	7	8						
Period	1	1s ²																	
	2	2s ²												2p ²					
	3																		
	4																		

What is the electronic configuration of carbon (C)?

How many electrons are in the valence (outer) shell of carbon?

Using the Periodic Table to Determine Atom Valency

		Group																
		1	2					3	4	5	6	7	8					
Period	1	H																
	2														C			
	3																Cl	
	4																	

How many electrons are in the valence (outer) shell of these elements?