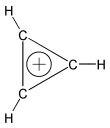
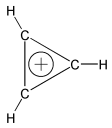


	Sa Oct 28	***Time changes***		
15	T Oct 31	Term Diagrams	RLC 7.5	
		Orgel Term-Splitting Diagrams		
		Spectra of $\mathbf{O}_h$ and $\mathbf{T}_d$ Symmetry		
		Tanabe-Sugano Diagrams		
16	R Nov 2	Spectra of Six-Coordinate Complexes of Lower Symmetry	RLC 7.6	PS #6
		Correlation Diagrams for $\mathbf{O}_h$ and Fields of Lower Symmetry		
	T Nov 7	**No Class – LHD travels**		
17	R Nov 9	Electric-Dipole Transitions		PS #7
		Effect of d-electron count		
		Selection Rules		
		Jahn-Teller Distortions-Revisited		
18	T Nov 14	Magnetic-Dipole Transitions		
		Optical Activity		
		Polarized Crystal Spectra		
19	R Nov 16	CATCH-UP		PS #8
		Multicenter Bonding		
		Boranes, Wade-Mingos		
20	T Nov 21	Vibrational and Normal Modes	RLC 6.1	
	R Nov 23	*Thanksgiving Holiday*		
21	T Nov 28	Selection Rules for Infrared and Raman Spectra	RLC 6.2	
22	R Nov 30	Non-linear molecules	RLC 6.3 – 6.4	PS #9
		Linear molecules		
23	T Dec 5	Square Planar Molecules ($\mathbf{D}_{4h}$)	RLC 6.2	
		Trigonal Bipyramidal Molecules ($\mathbf{D}_{3h}$)		
24	R Dec 7	**V. Symmetry-Controlled Reactions**		PS #10
		Simple Bimolecular Reactions		
		Cycloaddition Reactions		
		Oxidative Addition Reactions		
25	T Dec 12	Indirect Routes to Symmetry-Forbidden Reactions		
		Metal Catalysis of Symmetry-Forbidden Reactions		
	T Dec 19	*Final Exam*		



Syllabus

Lec #	Date	Topic	Readings	Due
1	T Sep 5	Symmetry in Chemistry – Fundamental Concepts	RLC 1.1 – 1.2	
		Definitions, Symmetry elements, Symmetry operations		
		Assigning Molecules to Point Groups		
2	R Sep 7	Properties of Groups	RLC 1.3 – 1.4	
		Group Multiplication Tables		
3	T Sep 12	Group Generators and Their Relations	RLC 1.5 – 1.7	
		Permutation Groups, Subgroups, Point Groups		
4	R Sep 14	Vectors, Matrices and Group Representations	RLC 2.1 – 2.3	PS #0
		Cartesian Vectors, Determinants, Matrices		
		Linear Transformations		
		Matrix Representations of Symmetry Groups		
5	T Sep 19	Character Tables	RLC 2.4 – 2.5	
		Properties of Irreducible Representations		
		Bases for Representations		
6	R Sep 21	Reduction of Reducible Representations	RLC 3.1 – 3.3	PS #1
		Finite Point Groups		
		Descending/Ascending Symmetry		
7	T Sep 26	Infinite Point Groups	RLC 3.4 – 3.5	
		Direct Products		
8	R Sep 28	Symmetry Properties of Atomic Orbitals	RLC 4.1 – 4.2	PS #2
		VBT and Hybrid Orbitals		
9	T Oct 3	SALCs and MOs	RLC 4.3 – 4.5	
		σ bonding D_{2h}, C_{3v}, T_d		
		Walsh diagrams		
10	R Oct 5	SALCs and MOs (part II)	RLC 5.1 – 5.2	PS #3
		TM complexes		
		σ-bonding in O_h, D_{4h} systems		
	T Oct 10	**No Class - University Monday Schedule**		
11	R Oct 12	Metal-Metal Bonding	RLC 5.3 – 5.4	PS #4
		σ, π, δ overlaps		
		single, double, triple, quadruple bonds		
12	T Oct 17	Ligand Field Theory	RLC 7.1 – 7.2	
		Jahn-Teller Distortions		
		d-Orbital Energies in Low Symmetry Fields		
	R Oct 19	*Midterm Exam Ch. 1 - 5*		
13	T Oct 24	Molecular Orbital Theory	RLC 7.3	
		π-bonding in $\mathbf{O}_h$, $\mathbf{T}_d$, $\mathbf{D}_{4h}$ systems		
14	R Oct 26	Free Ion Term Symbols	RLC 7.4	PS #5
		….. Atomic Spectra		