ORGANIC CHEMISTRY I PROBLEMS, USING Brown/Iverson/Anslyn/Foote 9

- Organic Chemistry (9th Edition) by Brown/Iverson/Anslyn/Foote. Published by Cengage.
- Google for solutions manual:
- https://www.google.com/search?q=Solutions+Manual+Organic+Chemistry+9th+Edition+Wade+Simek&oq=Solutions&aqs=chrome.0.69i59j69i57j46i175i199i512l3j0i512l2j69i65.2879j0j4&sourceid=chrome&ie=UTF-8
- Other Textbooks: https://web.mnstate.edu/jasperse/Chem350/Other-Textbooks.html

Chapter Topic	Brown Chap	Brown 9 Problems Back of the Chapter Screened by Jasperse	Brown 9 Problems In the Chapter Not screened
Test 1			
Covalent Bonding and Shapes	**1**	24, 25, 27(skip b), 28, 29, 30, 31, 32, 38, 39, 40, 41, 42, 47, 48, 52, 53, 56, 58	
Acids and Bases	**4**	9a-d, 10a-c, 11-13, 39a,e,g	
Alkanes Cycloalkanes	**2**	16, 17, 19-24 (note: "constitutional" and "structural" isomerism means the same thing), 26, 27, 34(skip d), 35, 43-46, 47(skipd), 51	
Test 2			
Haloalkanes Halogenation Radical Rxns	**8**	8a-d,g Ch 4:20a-f	
Stereo chemistry	**3**	14,16-18, 21, 22, 23a, 25, 26, 27, 28-30 (skip the "how many stereoisomers are possible part), 31, 32, 34, 35, 36(skip c,f)	
Nucleophilic Substitution + Elimination	**9**	10a-c, 11a,c, 12a-c, 13a-e, 17a-c, 18, 22, 25(skip d), 28a-d, 35a-c, 38(skip f), 45(skip d)26, 27	
Test 3			
Alkenes Bonding Nomenc Properties	**5**	9, 15(skip h,j,m), 16b,d,f, 17a,c, 18, 19, 22, 26,	
Alkenes Reactions	**6**	15, 17, 19(skip d), 20, 21(skip e), 23, 26, 28, 32-35, 39, 41b, 42, 46, 49, 53, 55	
Test 4			
Dienes Conjugated Systems	**20**	14, 16 (more stable chemicals have higher heats of formation), 17, 18, 20, 21, 25a,d, 33a,b, 34, 50	
Benzene Aromaticity	**21**	8a-g, 9a-f,j, 15a-i, 16, 17b,d-i, 19,	
Aromatic Reactions	**22**	7b, 9d, 17a-c, 21a-d, 22, 23, 35, 38c-e,	

Schedule: Which Lecture Videos and Practice-Set Videos Go with Each Test

MSUM Videos	Organic Chemistry 1, Jasperse, Based on Brown Version 9		Reading
	TEST 1 LECTURES		
1	Intro. Why Carbon is Special, Normal bonding, Lewis Structures in Organic		1.1-2
2	1. Normal Bonding. 2. Formal Charge and Abnormal Bonding. 3. Electronegativity		1.2-5
3	1. Structural formulas: Full, Condensed, and Skeletal 2. Resonance Structures		1.8
4	1. Mechanism/Arrow-pushing. 2. Acid-Base Chemistry. 3. Anion Stability Patterns.		4.2-6
5	VSEPR 3D Shape. Drawing 3D; Hybridization; Pi bonds; Isomers,		1.4-7
6	Polarity IMF, Boiling Points, Solubility. Catchup. Functional Groups		2.2
7	Functional Groups. Alkane Nomenclature		1.3
8	Alkane Nomenclature. Newman Projections; Torsional and Steric Strain; Cycloalkanes		2.1-5
9	Cyclohexane Chairs, Cis-and-Trans, Structural Isomers		2.5-2.7
10	Catchup/Practice. First 38 minutes of video 10.		
	Additional Practice Sets/Videos: Mechanism Practice; Acid-Base Practice; 3D-Drawing Practice; Newman Projection Practice; Cyclohexane Practice		
	Test 1 Practice Tests: V1, V2, V3, V4		
	TEST 2 LECTURES		
10	Radical Halogenation; Mechanism; Radicals; Bond Energies; Reaction Energies. Last 12 minutes of Video.		8.4-6
11	Rate Laws, Transition States, Stability-Reactivity Principles		6.2, 4.5
12	Radical Brominations. Major product, mechanism, structure isomers. Stability patterns for carbon radicals, cations, and anions.		8.104
13	Chiral vs achiral, Enantiomers, Recognizing/Drawing Mirror Images.		3.1-2
14	Chiral Carbons; Attachment Priorities; R/S Designation; Drawing Chiral Molecules		3.3
15	Racemic Mixtures, Optical Activity, Meso, Molecules with More than One Chiral Center		3.4-9
16	Drawing Stereoisomers, Meso Compounds. Alkyl Halides Intro, Classification, and Naming		3.4-9, 8.1-3
17	The Sn2 Substitution Reaction.		9.1-4
18	The Sn1 Substitution Reaction.		9.1-4
19	SN1 Reactions in More Depth. Elimination Reactions		9.1-9
20	E1 and E2 Reactions in More Depth; Recognizing Which Reaction Will Occur. Catchup, Practice.		9.1-9
21	Catchup/Practice. First ??? minutes of video 21.		9.1-9
	Additional Practice Sets/Videos: Br2/hv Products/Mechanisms Practice; Introductory Mechanism Practice; Extra Stereochemistry Practice; Extra Mechanisms + Product Prediction Practice		
	Test 2 Practice Tests: V1, V2, V3, V4		
	TEST 3 LECTURES		
21	Intro to alkenes, Elements of Unsaturation (EU), Last ??? minutes of video 21		5.1-4
22	Hydrogenation + Isomers; Alkene Nomenclature. E/Z; Heats of Hydrogenation		5.1-4
23	Alkene Synthesis. From RX. Bulky Bases. From Alcohols via Acid-Catalyzed E1. Mechanism Recognition.		5.1-4
24	Addition reactions to Alkenes. Addition of HBr; Acid-Catalyzed HOH Addn.		6.1-8
25	Acid-Catalyzed HOH Addn; Indirect HOH Addn (Hydroboration-Oxidation). Synthesis Design		6.1-8
26	anti-Mark HBr and HOH addition; Synthesis Design, H2 addn; Br2 addn		6.1-8
27	Br2 and BrOH additions and mechanisms; epoxidation		6.1-8
28	Epoxidation, Dihydroxylation, Ozonolysis. Stereospecific Alkene Reactions. Synthetic Design.		6.1-8
29	Catchup/Practice. First ??? minutes of video 29.		6.1-8
	Additional Practice Sets/Videos: Test 3 Extra Practice 1; Test 3 Extra Mechanisms Practice; Test 3 Alkene Reactions Practice; Test 3 Extra Synthesis Practice (6 pages)		
	Test 3 Practice Tests: V1, V2, V3, V4		
	TEST 4 LECTURES		
29	Conjugation, Molecular Orbitals, Dienes, Allylic Cations, Additions to Dienes. Last ??? minutes of video.		20.1-2
30	More allylic cations/radicals/conjugation and Applications;		20.1-2
31	Diels-Alder Reaction; Aromaticity		20.4-5
32	Aromaticity; Huckel's Rule and Complex Aromatics		21.1-3
33	Complex Aromaticity, Application, Nomenclature		21.1-3
34	Electrophilic Aromatic Substitution: Intro, Mech, Kinetic Effects		22.1-2
35	Reactions in Detail: Halogenation, Nitration, Sulfonation, Alkylation, Acylation		22.1-2
36	Catchup; Addition to Disubstituted Benzenes; Synthetic Applications		22.1-2
37	Side Chain Reactions; Retrosynthesis; Synthetic Applications; Practice		22.1-2
38	Review for Test 4		22.1-2
39	More allylic cations/radicals/conjugation and Applications;		22.1-2
	Additional Practice Sets/Videos: HBr Addn to Dienes + NBS Allylic Bromination; Conjugation-Allylic-Diels-Alder Practice; Aromatic Substitution Mechanisms (Products Provided); Aromatic Substitution Product Prediction/Mechanisms/Synthesis Design		
	Test 4 Practice Tests: V1, V2, V3, V4		
	Final Exam, Cumulative.		Final Exam