ORGANIC CHEMISTRY II PROBLEMS, USING WADE 8

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- ### Organic Chemistry (8th Edition) by L. G. Wade Jr
- ### Organic Chemistry (7th Edition) by L. G. Wade Jr

Other Textbooks:

Chapter Topic	Wade Chap	Wade 8 Problems In the Chapter	Wade 8 Problems Back of the Chapter
Structure and Synthesis of Alcohols	10	1, 5d, 6, 8, 10, 12a,b,d, 13-16, 17 (esters only), 18-20, 22-26	31, 33a-d, 34b,c, 35a,c, 36b,c, 37 (review from chapter 8), 38a-l, 39, 40, 42, 43
Reactions of Alcohols	11	1a,b,d, 2, 3, 4.1,2, 5a,b, 6, 9, 10, 11, 12a, 13, 14, 22, 23, 26a, 33, 34, 35, 36, 37, 38	40 (do the bromides only), 41 (skip g), 42, 43, 44, 48a, b, c, f, g, h, 49, 50, 52, 53, 56
Nuclear Magnetic Resonance Spectroscopy	13	2, 3, 4, 5, 6, 7, 9, 11, 13a, 15, 16, 18, 22, 24a-e, 25, 27, 29, 30, 32	33, 34, 35 (skip d), 36, 38, 39, 40, 41, 43, 44, 49
Infrared Spectroscopy	12	4, 5	16
Ketones and Aldehydes	18	1a,b, 6, 7, 8, 9, 11, 17a, 18, 20a, 21, 23, 24, 25, 26a,b,d, 27, 28, 29, 30, 31, 32, 33a-d, 34a-c, 36a	38a-c, e-g, l, 39a,e, 40, 41, 43, 44, 47a,c,d, 49, 50a,b,d,e, 51a-f,h, 52, 53a-g, i-l, 54a-e, 55a,c,d,e,f 57, 58, 59, 64a-d, 65
Alpha Substitutions and Condensations of Enols and Enolate	22	(Enols, Halogenation) 1, 2, 3, 5, 10, 11, 12, 13, 14, (Aldol) 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 30,32, (Claisen) 34a, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, (alkylation-decarboxylation) 46, 47, 49, 50, Ch 18.15, 16 (Wittig)	60, 61, 62, 63, 64, 65, 66 (Basically draw the dicarbonyl precursor), 67, 68 (skip c,g), 69a, d, e, 70, 71, 73a-c
Amines	19	1,2(skip b,d), 3a-c, 5b,c, 6a-c, 15, 16, 17, 26, 27, 28, 30a-c, e-g, 31	32a-e, 33, 35a,c,d 36a, h,i, j,l,m (NaBH(OAc)$_3$ = NaBH3CN), p, q, 37f, 39a,d,g, 42
Carboxylic Acids	20	1b-d,g, 2a-c, 3, 4, 5, 6, 11 b,c,d,f, 12, 13, 15b,c, 16a,b, 18, 19, 20, 21, 23, 24	25 (not d,g, i), 26a,b,c,f,g, (IUPAC only), 27a,e,f,h,I, 28, 29 (skip b), 30a,d,e, 31, 32a,c,d, 33, 35a-e,i,j,k, 36a-c,e,f, 37, 38, 39, 41, 42, 44, 47
Carboxylic Acid Derivatives	21	1a-c, 6-14,16, 18, 31, 32a,b	42a-c, 43a,c,d,e,f, 44, 45a,e,f, 46, 47 (saponification is NaOH/H2O hydrolysis), 48a,b, 49a,b,d, e, 50a,b,c,e,f,g,h, j, l, 54a,c,d,f,j, 55, 57a-c

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

Video	Topic	Reading Assignment
	Chemistry 360, Jasperse, Wade 8 (43 class days, 39 lectures)	
	TEST 1 LECTURES. Alcohol Chemistry. Synthesis, Reactions, Retrosynthesis	
1	Intro; Structure, Nomenclature, Properties, Weak Acidity of Alcohols	10.1-10.6
2	Synthesis of Alcohols; Organometallic Reactions.	10.7-10.9
3	Synthesis of Alcohols; Organometallic Reactions.	10.7-10.9
4	Side Reactions; Reduction of Carbonyl Compounds	10.10-10.11
5	Oxidation of Alcohols	11.1-11.3
6	Conversion of Alcohols to Tosylates or Halides; Uses of Tosylates and Halides	11.5-11.9
7	Miscellaneous; Chemical Tests; Multistep Synthesis	11.10, 11.14
8	Retrosynthetic Analysis	
9	Catchup, Multistep Synthesis Problems	Catchup
10	Review for Test 1	---
	Additional Practice Sets/Videos: Retrosynthesis Problems; Acid-Base Practice; Mechanisms Problems	
	Test 1 Practice Tests: V1, V2, V3, V4	
	TEST 2 LECTURES. NMR and Spectroscopy	
11	1H NMR Overview: Chemical Shift, Integration, and Splitting; 1H NMR Problem Solving	13.5-8
12	H-NMR Interpretation and Problem Solving	13.5-8
13	Overlap, Symmetry, Integration, Splitting, Spectrum Prediction	13.5-8
14	More Problem Solving; Complex Splitting; Stereochemical Nonequivalence of Protons	13.9-10
15	13C NMR; Infrared Spectroscopy	13.12-14
16	Spectroscopy Catchup, Integrated Problems	catchup
	Additional Practice Sets/Videos: Jasperse NMR Problems (>40 pages)	
	Test 2 Practice Tests: V1, V2, V3, V4	
	TEST 3 LECTURES. Carbonyls Chemistry; Enolates.	
17	Ketones/Aldehydes. Nomenclature, Properties, Intro.	18.1-7
18	Synthesis of Ketones/Aldehydes.	18.7-11
19	Reactions of Ketones/Aldehydes	18.13-18
20	Reactions of Ketones/Aldehydes	18.19-20
21	Catchup; Enols and Enolates Intro. Acid/Base Considerations; Proton as Electrophile	22.1-2, 22.15
22	Enols and Enolates Intro. Acid/Base Considerations; Proton as Electrophile	22.1-2, 22.15
23	Halogenation; Alkylation; Double Activation; Ester Hydrolysis; Decarboxylation	22.3, 5, 15-17
24	The Aldol Reaction (Aldehyde/Ketone as Electrophile)	22.7-11
25	Claisen Reaction (Ester as Electrophile)	22.12-17
26	Catchup	
27	The Wittig Reaction and Alkene Synthesis; Catchup	18.12
28	Catchup, Integrated Practice Problems.	Catchup
	Additional Practice Sets/Videos: Mechanism Practice (Many); Retrosynthesis Practice	
	Test 3 Practice Tests: V1, V2, V3	
	TEST 4 LECTURES	
29	Amines. Intro, Nomenclature, Properties; Basicity of Amines; Structural Factors; Salts	19.1-7
30	Reactions of Amines	19.9-12, 16-17
31	Diazonium Chemistry; Amine Synthesis by Reductive Amination of Carbonyls	19.16-18
32	More Synthesis of Amines	19.18
33	Carboxylic Acids: Nomenclature; Properties; *ACIDITY*; Salts; Soap; SYNTHESIS	20.1-5
34	Acid Synthesis; Reactions	20.8-11
35	Reactions of Acids: Nucleophilic Acyl Substitution; Carboxylic Acid Derivatives	20.13-15; 21.1-3
36	Interconversions Among Acids and Derivatives; Synthesis and Mechanism; Catchup	21.5-7
37	Interconversions Among Acids and Derivatives; Synthesis and Mechanism; Catchup	21.5-7
38	Practice Problems	-
39	Significant Special Topics; Preview of ACS Final Exam	Practice
	Additional Practice Sets/Videos: Acid-Base Practice (Easy); Acid-Base Practice (Less Easy); Mechanisms, Retrosynthesis + Synthesis Design	
	Test 4 Practice Tests: V1, V2, V3	
	Final Exam, Cumulative.	Final Exam