

CHEMISTRY 360 PROBLEMS

These assume you are using Carey version 8.

Chapter Topic	Carey 8 Chapter	Wade 6 Chapter	Carey 8 Problems	Wade 6 Problems
Alcohol basics and halogenation	4	10	5, 7, 10, 23,a,c-h, 24b,f,i, 39a,d, 40a,c	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
Grignard reactions	14		3, 4, 5a, 6, 8, 16a, 18b,d,h,km, 19, 20a,b,d,e	1a,b,d, 2, 3, 5 (skip KMnO ₄), 6, 9, 10, 11, 12a, 13, 14, 22, 23, 27a,b, 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
Esters with Grignards or LiAlH ₄	19		15, 17	
Lots of Alcohol reactions	15	11	2, 3, 10, 18a-c,f, 19a-e, 22a-d, 23a,c, 24b,c, 25a-c, 26a-e, 27d-f,h, 28a-f, 30a,c	
Spectroscopy, NMR	13	13	5, 6, 7, 9, 11, 12, 16, 18, 21, 32a-c, 33a-d, 35, 37, 43, 45, 46, 53, 55, 57	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
Spectroscopy, IR	13	12		4, 5, 16
Aldehydes, Ketones	17	18	1a,c, 2, 3, 5, 6, 10, 11a, 12, 14a-d, 23a, 26a,b,d,g-k,q,r, 27a,b,d,g-k,q,r, 28a,d, 29a,e, 31a-f, 33, 35, 36, 37a, 38a,b, 39a-d, 40, 44d,e, 48, 49	1a,b, 6, 7, 8, 9, 10, 11a,b, 12, 16, 17, 18a, 19, 21, 22, 24, 25, 26, 27a,b,d, 28, 29, 30, 31, 32, 33, 34a-d, 35a-c, 37a-c, 39a-c, e-g, l, 40, 43, 44, 49, 50, 51a-f,h, 52, 56a-g, i-l, 57, 58,59 61a-e, 64a-d, 65, 66
Enolates	20	22	1, 2, 3, 5, 6, 7, 9, 10, 13, 14a,b, 16, 18, 19, 20, 22, 23, 24, 27, 28, 29, 30, 39, 47a, 48, 52a,b, 53, 54c, 55, 58, 60a-g, 61, 62a,d,e, 64a,b, 69, 73, 74, 77a,b,e,f, 78b-e Decarbox: Ch 18: 11, 12 Wittig: Ch 17: 17, 18, 20, 44b,c	(Enols, Halogenation) 1, 2, 3, 4, 5, 6, 8a,c,d, 9b,d,e, (LDA alkylation) 13, (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, (Michael) 55, 56, 57, 59, 61, 62, 63, 64, 65, 66, 67, 68 (skip e), 69a, d, e, 70, 71, 73a-c
Amines	21	19	1, 2, 3, 6, 13, 23a-c, 24a-g,i,j, 27a,b,d, 29a-c,e, 29, 34a,c,g, 36a-g,j, 37a-f, 38a, 39a-c, 42a	1,2(skip b,d), 3a-c, 5b,c, 6a-c, 15, 16, 17, 25b,d,f,g, 26, 27, 28, 30a-c, e-g, 31, 36a-e, 37, 39a,c,d, 41a,b,h,i, j,l,m, 42 (skip e), 44a,d,g, 47, 48, 50a-c, 51a,c
Acids	18	20	3, 5a-c,f, 7, 8, 9, 10, 13a,b,e-j, 14a,c,d, 15, 16a,d, 17a-d,f, 19a,c,e,f, 20a,b,d,e, 21, 24a-c,e,f, 28, 30a, 34, 35, 37	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, 26 (not d,g, i), 28a,e,f,h,i, 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, 43, 47, 48, 49, 50
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Chemistry 360, Jasperse, Carey Volume 8	Carey 8	Wade 6
Topic	Reading	Readings
Intro; Structure, Nomenclature, Properties, Synthesis Review	4.3-6,	10.1-10.6
Synthesis of Alcohols; Grignard Reactions	14.6, 19.12	10.7-10.9
Synthesis of Alcohols; Grignard Reactions	14.6,9; 16.12	10.7-10.9
Grignard Reactions; Reduction Reactions	14.9; 15.2,4	10.10-10.11
Skip: 14.7,8,10-16		
Acidity of Alcohols, Oxidation of Alcohols	1.14,16; 15.9	11.1-11.3
Halogenation of Alcohols	4.7-14	11.5-11.9
Synthesis and Retrosynthesis	14.9	11.10, 11.14
Integrated practice problems		
1H NMR Overview: Chemical Shift, Integration, and Splitting; 1H NMR Problem Solving	13.1-12, 13.25	13.5-8
Test #1 Conjugated Systems, Aromatics, Aromatic Reactions		Test 1
1H NMR Problem Solving	13.1-12, 13.25	13.5-8
More Problem Solving; Complex Splitting; Stereochemical Nonequivalence of Protons	13.1-12, 13.25	13.9-10
13C NMR; Infrared Spectroscopy	13.14-22	13.12-13; 12.11-12
Spectroscopy Catchup, Integrated Problems		catchup
Ketones/Aldehydes. Nomenclature, Properties, Intro.	17.1-6	18.1-7
Test #2 Spectroscopy, NMR		Test 2
Synthesis of Ketones/Aldehydes.	17.4-6	18.7-11
Reactions of Ketones/Aldehydes	17.6-10	18.12, 14-17, 18-19
Reactions of Ketones/Aldehydes	17.6-10	18.20-21
Catchup; Enols and Enolates Intro. Acid/Base Considerations; Proton as Electrophile	20.1,2,13	22.1-2, 22.15
Enols and Enolates Intro. Acid/Base Considerations; Proton as Electrophile	20.1,2,13	22.1-2, 22.15
Halogenation; Alkylation; Double Activation; Ester Hydrolysis; Decarboxylation	20.14, 20.9-12, 18.16	22.3, 5, 15-17
The Aldol Reaction (Aldehyde/Ketone as Electrophile)	20.3-4	22.7-11
Claisen Reaction (Ester as Electrophile)	20.5-8	22.12-17
Catchup		
The Wittig Reaction and Alkene Synthesis; Catchup	17.12-17.13	18.13
Catchup, Integrated Practice Problems.		Catchup
Amines. Intro, Nomenclature, Properties; Basicity of Amines; Structural Factors; Salts	21.1-5	19.1-7
Test #3 Aldehydes, Ketones, Enolates		
Reactions of Amines	21.11-12	19.10-13, 17-18
Diazonium Chemistry; Amine Synthesis by Reductive Amination of Carbonyls	21.16-17,	19.17-19
More Synthesis of Amines	21.6-7, 21.9-10	19.19
Carboxylic Acids: Nomenclature; Properties; *ACIDITY*; Salts; Soap; SYNTHESIS	18.1-7, 18.10-12	20.1-5
Acid Synthesis; Reactions	18.13-15	20.8-11
Reactions of Acids: Nucleophilic Acyl Substitution; Carboxylic Acid Derivatives	19.1-11, 19.15-16	20.13-15; 21.1-3
Interconversions Among Acids and Derivatives; Synthesis and Mechanism; Catchup	19.1-11, 19.15-16	21.5-7
Interconversions Among Acids and Derivatives; Synthesis and Mechanism; Catchup	19.1-11, 19.15-16	21.5-7
No Class, Easter Monday		-
Practice Problems		-
Test #4 Amines, Acids, and Acid Derivatives		Test 4
Significant Special Topics; Preview of ACS Final Exam; Course Evaluations		Practice