

CHEMISTRY 342 PROBLEMS

These assume you are using McMurry version 7.

<u>Chapter</u>		<u>Recommended Book Problems</u>
	Test 1	
17	Alcohol Chemistry, including Formation by Grignard Reactions, Redox, Halogenation, and Retrosynthesis	2, 3, 5, 6-10, 13 (or H ₂ SO ₄ , heat), 14, 15, 25a-e, 30, 33, 34, 36, 40, 41
	Test 2	
13	NMR Spectroscopy	3, 6 (assume decoupled C-13 spectra for all C-13 problems), 7, 14, 16a-e, 17, 19, 21, 33, 38, 40-44, 50-52, 54, 56-58
12	IR Spectroscopy	7a,c
	Test 3	
19	Aldehydes and Ketones: Addition Reactions and Mechanisms	1a,b,d-f, 2a,b,e,f, 3a,b, 4, 5, 10 (ethylamine part), 11, 14, 16a-e, 30a-h, 32a,c-e, 34a-e,h, 37, 39, 40
22	Enolate Chemistry	1, 7a-c, 10, 13, 16a,c,f, 20, 21, 22a,b, 23a,b,d, 26, 27, 28a-c, 35
23	More Enolate Chemistry	1, 3, 5, 8, 11, 14, 28a-c, 29, 35, 37, 39 (major)
	Test 4	
24	Amines	2, 4, 5 (stronger), 6, 8, 11, 18c, 30, 31, 32a-d, 35a-c, 40a-c,e,f
20	Acids	1a-d, 2a,b,d, 3, 9, 10, 21b,d,f,g, 21a-d, 25b,c, 26a,c, 27a-c, 28, 39, 43a-b
21	Acid Derivatives	1c,f, 2a, 3, 4, 5, 7, 9, 11, 12, 14, 15, 32d,g, 33d, 36a,c-e,g,h, 37-39 (parts e-g for each)

	Chemistry 342, Jasperse, McMurry Volume 7	Reading
Date	Topic	Assignment
June 13	No Class	
June 14	Structure, Nomenclature, Properties, Acidity of Alcohols, Synthesis Review	17.1-3
June 15	Synthesis of Alcohols; Grignard Reactions	10.7, 17.5
June 16	Synthesis of Alcohols; Grignard Reactions	17.5
June 17	Grignard Reactions; Reduction Reactions	17.5, 17.4
	Skip: 16.7-8	
June 20	Oxidation of Alcohols	
June 21	Halogenation of Alcohols	10.6, 17.6
June 22	Synthesis and Retrosynthesis	
June 23	Catchup, Multistep Synthesis Problems	Catchup
June 24	Catchup, Multistep Synthesis Problems	Catchup
	Skip: 17.8-11	
June 27	¹ H NMR Overview: Chemical Shift, Integration, and Splitting; ¹ H NMR Problem Solving	13.1-3, 8-11
June 28	¹ H NMR Problem Solving	13.8-11
June 29	Test #1	Test 1
June 30	¹ H NMR Problem Solving	13.8-11
July 1	¹³ C NMR	13.4-5
July 4	No Class	17.6
July 5	Infrared Spectroscopy	12.6-8
July 6	Integrated Practice Problems	Practice
July 7	Ketones/Aldehydes. Nomenclature, Properties, Intro, Synthesis	19.1-2
July 8	Synthesis and Reactions of Ketones/Aldehydes.	19.2, 4-7
July 11	Reactions of Ketones/Aldehydes	19.4-10
July 12	Test 2.	Test
July 13	Reactions of Ketones/Aldehydes	19.4-10
July 14	Reactions of Ketones/Aldehydes	19.4-10
July 15	Enols and Enolates Intro. Acid/Base Considerations; Proton as Electrophile	22.1, 5-6
	Skip: 19.11-14	
July 18	Halogenation; Alkylation; Ester Hydrolysis; Decarboxylation	22.5,7
July 19	The Aldol Reaction (Aldehyde/Ketone as Electrophile)	23.1-6
July 20	Claisen Reaction (Ester as Electrophile);	23.7-9
July 21	The Wittig Reaction; Catchup.	19.11
July 22	Catchup, Integrated Practice Problems.	Catchup
	Skip: 22.4, 23.10-13	
July 25	Amines, Nomenclature, Properties, Basicity	24.1-4
July 26	Amines, Basicity	24.3-4
July 27	Test #3 Covering Chapters 19, 22, and 23.	Test 3
July 28	Reactions and Synthesis of Amines	24.6-8
July 29	Carboxylic Acid Nomenclature and Acidity	20.1,2,4
	Skip: 24.5, 9-10	
Aug 1	Reactions and Synthesis of Acids	20.5, 21.1-7
Aug 2	Interconversions Among Acids and Derivatives	21.1-7
Aug 3	Interconversions Among Acids and Derivatives	21.1-7
Aug 4	Practice Problems	-
Aug 5	Test 4. Chapters 13, 12	Test
	Skip: 20:3, 9-10, ch 21: 8-10	