

Dr. Davies

Fall 2017

Chem 2320 - Organic II Chemistry

Tentative lecture schedule - **All in chapter problems are assigned!**

Week 1 - (Note: e/o means work every other problem, i.e. a,c,e,g...)

Date	Content	pp.	assigned problems
Mon. 8/28	Course introduction Intro. to spectroscopy Infrared spectroscopy	556-584	Ch.12 #12e/o,13e/o,14e/o,15,16,25,28,30
Tues. 8/29	Finish IR spectroscopy Mass spectrometry Fragmentation patterns	584-587 590-596	Ch.12 #17,18,19,21,24,26
Wed. 8/30	Isotope analysis NMR introduction Chemical shifts	587-590 607-620	Ch. 12 #20,27,29 Ch. 13 #33,35e/o
Fri. 9/1	Number of signals Spin-spin splitting	620-633	Ch.13 #34,38,47,53

Week 2

Date	Content	pp.	assigned problems
Mon. 9/4	Labor Day - No Class		
Tues. 9/5	Quiz #1		
Wed. 9/6	Low field / high field NMR Nonequivalent protons Time dependence NMR	634-647	Ch. 13 #36,37,39,45
Fri. 9/8	¹³ C NMR DEPT / Off reson 2D NMR	648-659	Ch. 13 #41,42,43,48,49,51e/o,54,56

Week 3

Date	Content	pp.	assigned problems
Mon. 9/11	Conjug. vs. Nonconjug. Molecular orbitals 1,2 vs 1,4 addition Allylic system	716-733	Ch.15 #27e/o,37
Tues. 9/12	Review		
Wed. 9/13	Exam #1 - Ch. 12 & 13		
Fri. 9/15	Diels-Alder reaction	734-742	Ch. 15 #25,29,30,31,33,34,35,41

Week 4

Date	Content	pp.	assigned problems
Mon. 9/18	Pericyclic rxns UV spectroscopy Colored compounds Last day to cancel classes	743-754	Ch. 15 #32,36,40e/o
Tues. 9/19	Aromatic Comp Arom.,anti/nonaromatic	764-782	Ch.16 #29,30,33,35,36,41,42,48
Wed. 9/20	Quiz #2		
Fri. 9/22	Polynuclear & Fused Heterocyclic cmpnds Nomenclature	783-794	Ch. 16 #26e/o,27e/o,32,34,39,40

Week 5

Date	Content	pp.	assigned problems
Mon. 9/25	Phys. prop. & Spect. Electrophilic arom. subst.	794-798 809-816	Ch. 16 Ch. 17 #67
Tues. 9/26	Directing groups Multiple substituents	817-830	Ch.17 #54,64
Wed. 9/27	Quiz #3		
Fri. 9/29	Friedel-Crafts reactions	830-838	Ch.17 #50,60e/o,66,76

Week 6

Date	Content	pp.	assigned problems
Mon. 10/2	Nucleophilic Ar. Subst Heck / Suzuki	839-849	Ch. 17 #55,58,61,62,68,70,72, 75
Tues. 10/3	Benzene derivatives Side chain rxns	849-859	Ch. 17 #52,53,57,59
Wed. 10/4	Catch up & Review		
Fri. 10/6	Exam #2 - Ch. 15, 16, & 17		

Week 7

Date	Content	pp.	Date
Mon. 10/9	Ketones / Aldehydes Intro. & nomenclature Synthesis	876-897	Ch.18 #38e/o,55,56,60
Tues. 10/10	Nucleophilic additions Cyanohydrins Imine derivatives	898-911	Ch. 18 #52e/o,67,69
Wed. 10/11	Quiz #4		
Fri. 10/13	Hydrates Acetals Wittig Reductions/Oxidation	911-925	Ch. 18 #37,39,40,41,47,48,49e/o,50bde,51, 53,54,57,63,65,66,70

Week 8

Date	Content	pp.	assigned problems
Mon. 10/16	Amines Nomenclature & classificat Basicity	941-954	Ch.19 #32bch,33,34,35,36,37,60
Tues. 10/17	EAS of pyrrole / pyridine NAS of pyridine Rxns of amines	960-966	Ch. 19 #54,55
Wed. 10/18	Quiz #5		
Fri. 10/20	Fall Break		

Week 9

Date	Content	pp.	assigned problems
Mon. 10/23	Elimination reactions diazonium salt reactions	967-979	Ch. 19 #51,52
Tues. 10/24	Amine synthesis	980-988	Ch. 19 #38,39,40,42,47,48,49
Wed. 10/25	Quiz #6		
Fri.10/27	Carboxylic acids Acidity & structure Synthesis review	1002-1021	Ch. 20 #25,26a-c,27e/o,28,29,30,32, 33,34,44,46

Week 10

Date	Content	pp.	assigned problems
Mon. 10/30	Catch up and review		
Tues. 10/31	Exam #3 - Ch. 18 Ketones and Ch. 19 Amines		
Wed. 11/1	Ester & Amide synthesis Red. & Alkylation of acids	1024-1033	Ch. 20 #35,36,37,39,41
Fri. 11/3	Acid derivatives Nomenclature	1043-1052	Ch. 21 #42e/o,43e/o

Week 11

Date	Content	pp.	assigned problems
Mon. 11/6	IR Interconvers. & reactivity	1053-1072	Ch. 21 #44,45,49,50,54e/o,57a,c,59
Tues. 11/7	Hydrolysis Red. & Organometallic Last Day to Withdraw	1073-1095	Ch. 21 #47
Wed. 11/8	Quiz #7		
Fri. 11/10	Thioesters Carbonic acid deriv.	1096-1099	Ch. 21 #51,63

Week 12

Date	Content	pp.	assigned problems
Mon. 11/13	Intro. to α substitution α halogenation HVZ reaction	1112-1117 1121-1128	Ch. 22 #65
Tues. 11/14	Alkylation Reactions Malonic & Acet. Ester	1117-1121 1146-1153	Ch. 22 #60,61,66,72,73a,78
Wed. 11/15	Quiz #8		
Fri. 11/17	Aldol reaction	1128-1138	Ch. 22 #62,83,84

Week 13

Date	Content	pp.	assigned problems
Mon. 11/20	Claisen & Diekmann	1139-1146	Ch. 22 #63,64,68,71,80bd
Tues. 11/21	Michael addition Robinson annulation	1154-1161	Ch. 22 #67,69,76,77
Wed. 11/22	Catch Up & Review		
Fri. 11/24	Thanksgiving Break		

Week 14

Date	Content	pp.	Date
Mon. 11/27	Catch up and review		
Tues. 11/28	Catch up and review		
Wed. 11/29	Exam #4 - Ch. 20, 21, & 22		
Fri. 12/1	Intro. to sugars Stereochem. Enediol reaction Oxidation	1172-1189	Ch. 23 #46,47e/o48e/o,49

Week 15

Date	Content	pp.	assigned problems
Mon. 12/4	Derivatives Osazones Chain length alteration	1190-1197	#50,51,52,57
Tues. 12/5	Quiz #9		
Wed 12/6	Review		
Fri 12/8	Review		
Mon 12/11	ACS National Standardized Final		