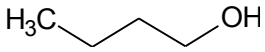
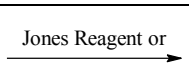
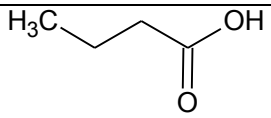
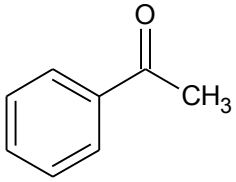
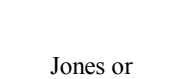
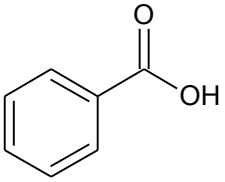
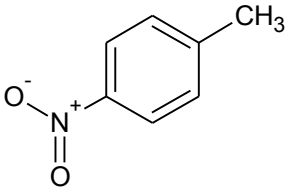
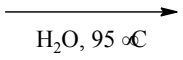
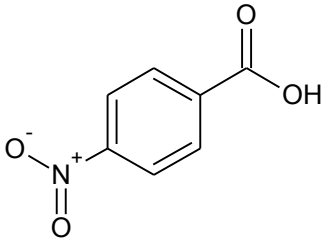
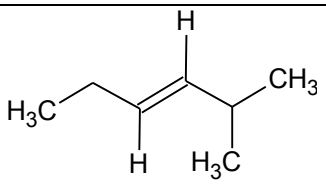
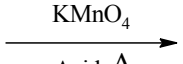
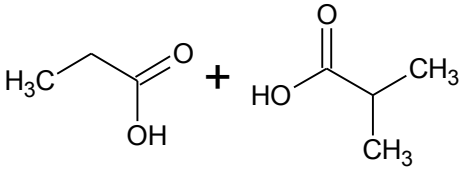
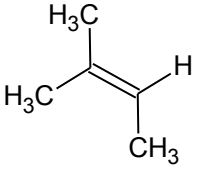
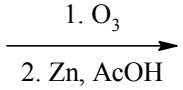
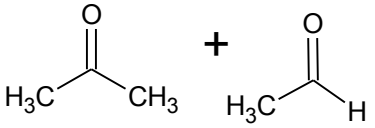
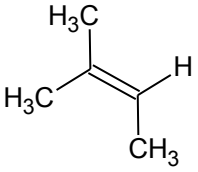
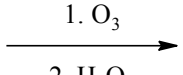
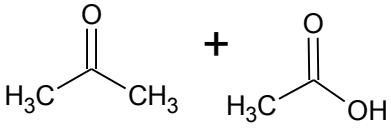
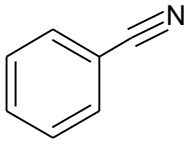
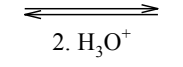
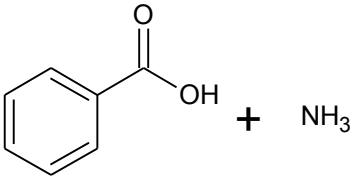
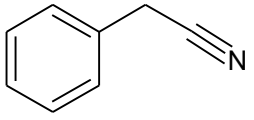
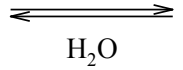
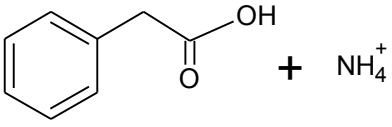
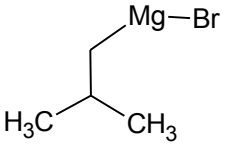
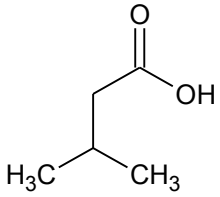
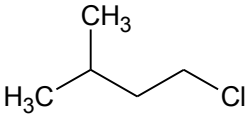
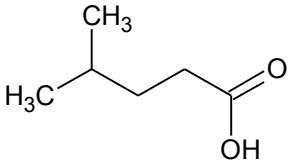
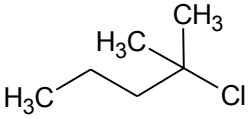
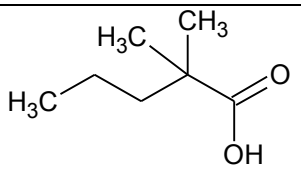
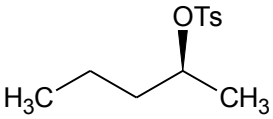
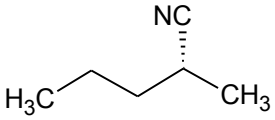
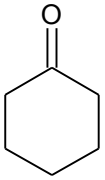
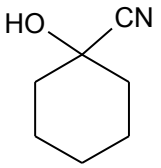
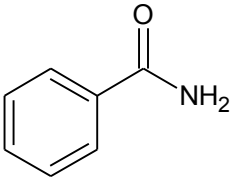
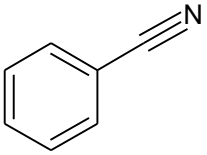
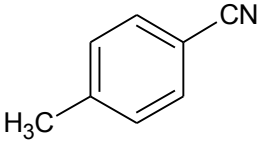
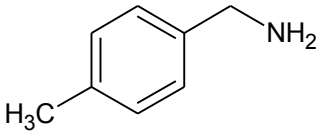
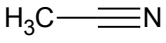
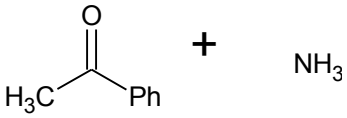
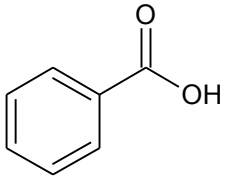
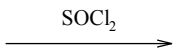
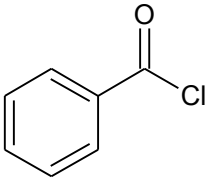
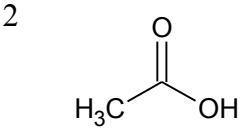
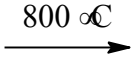
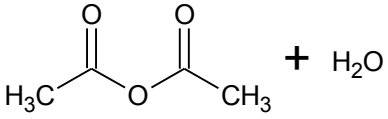
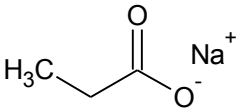
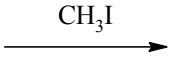
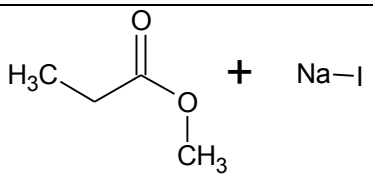
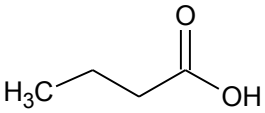
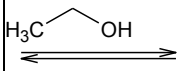
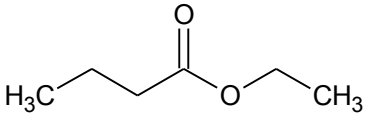
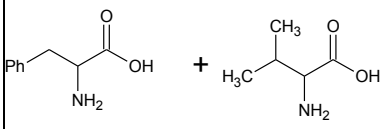
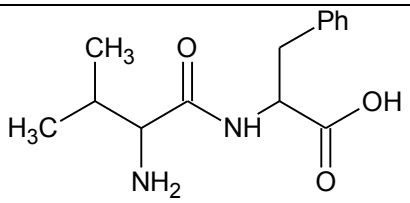
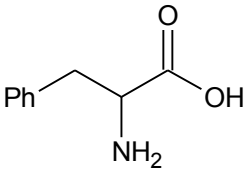
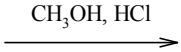
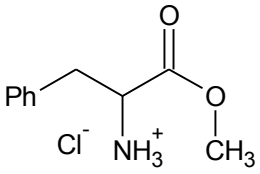
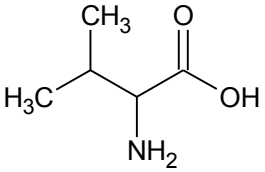
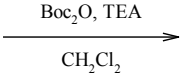
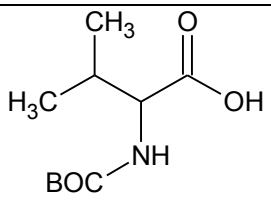
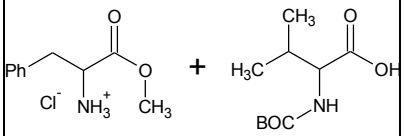
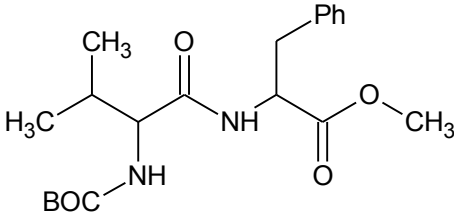
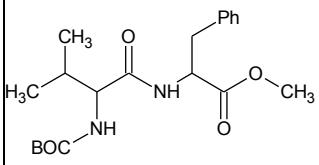
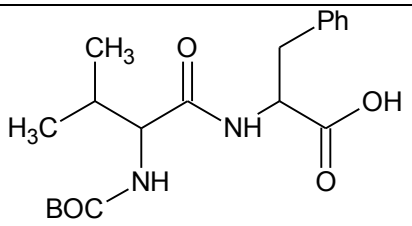
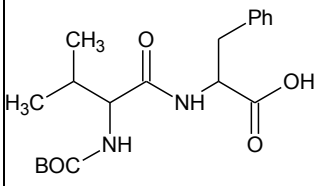
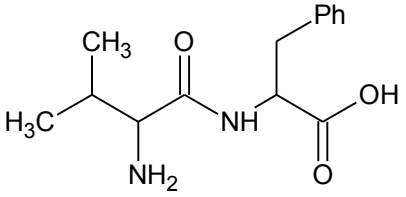
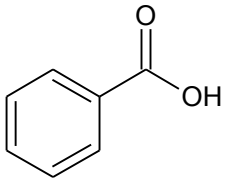
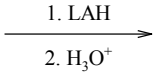
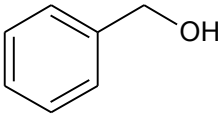
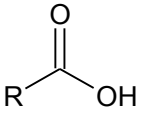
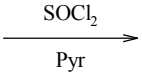
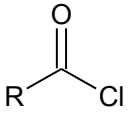
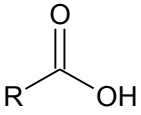
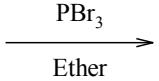
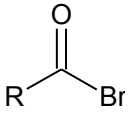
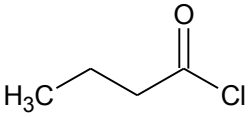
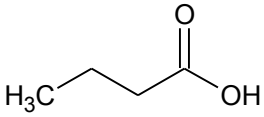
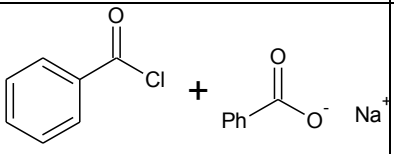
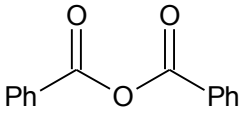
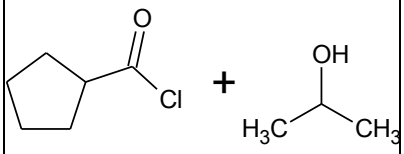
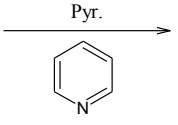
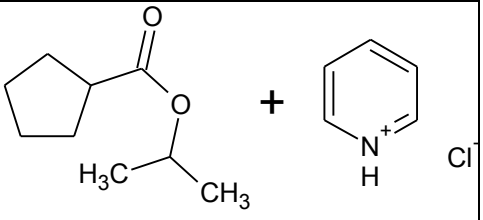
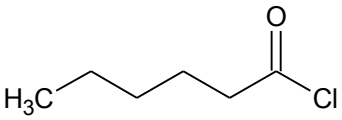
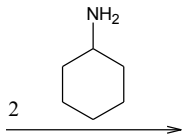
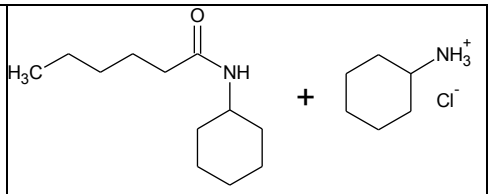
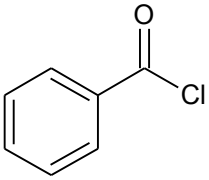
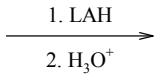
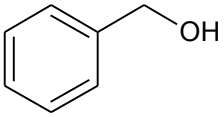
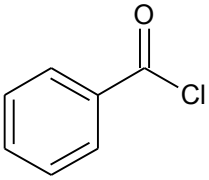
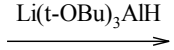
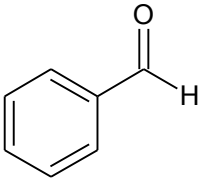
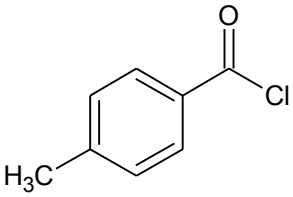
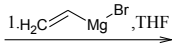
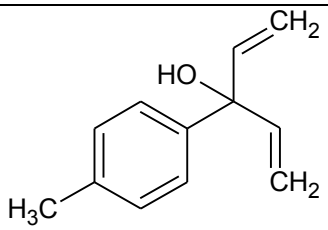
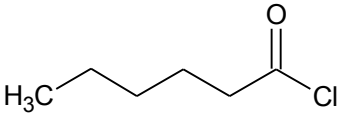
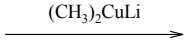
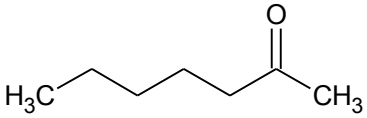
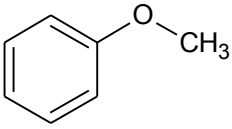
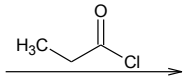
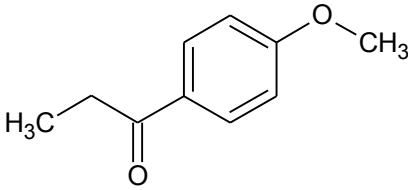
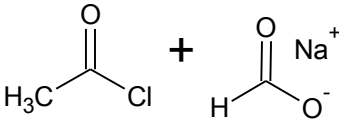
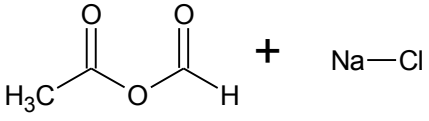
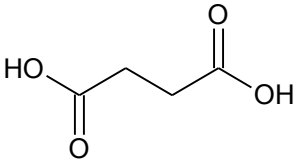
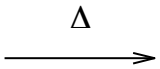
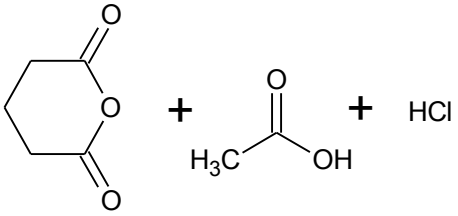
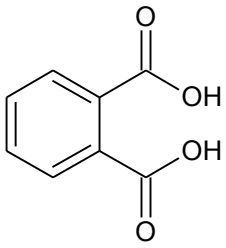
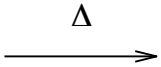
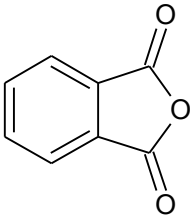
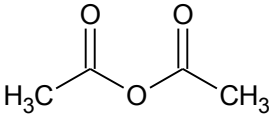
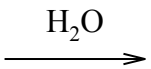
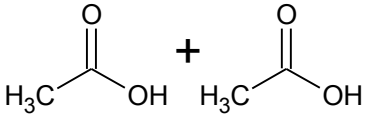
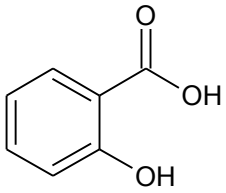
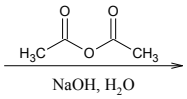
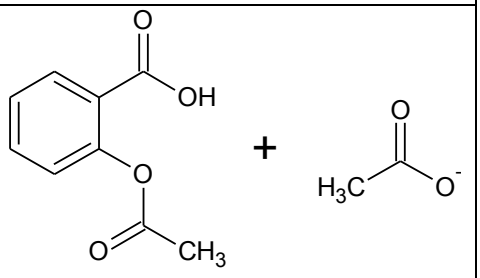
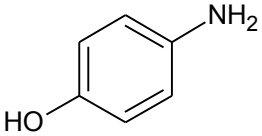
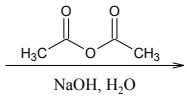
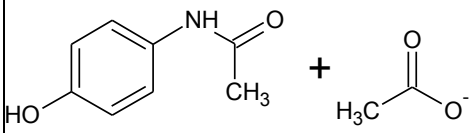
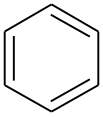
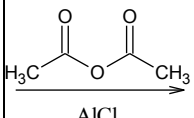
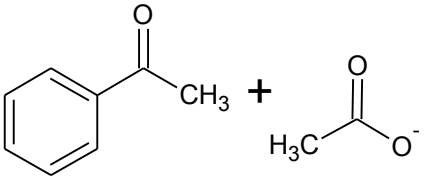
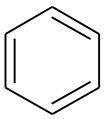
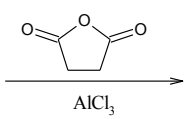
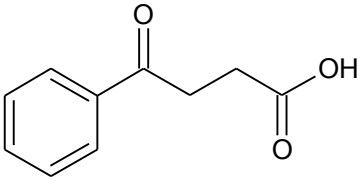
1	Oxidation of Primary Alcohol			
2	Oxidation of Aldehydes			
3	Oxidative Cleavage of Aryl Benzenes			
4	Oxidative Cleavage of Alkenes			
5	Oxidative Cleavage of Alkenes			
6	Oxidative Cleavage of Alkenes			
7	Hydrolysis of Nitriles (Base Catalyzed)			
8	Hydrolysis of Nitriles (Acid Catalyzed)			

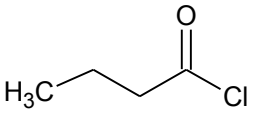
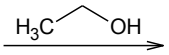
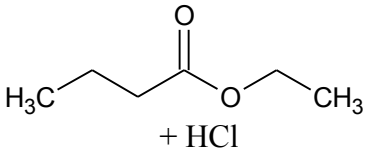
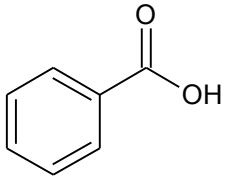
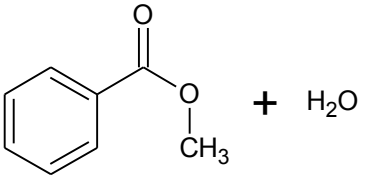
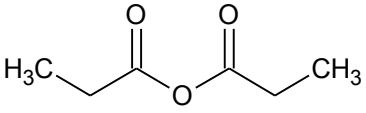
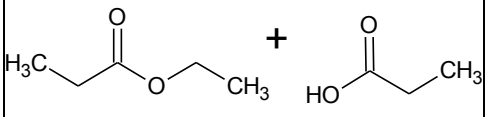
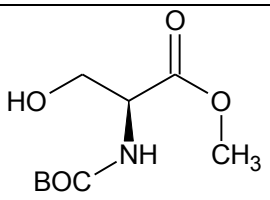
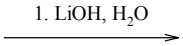
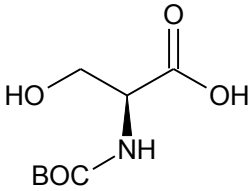
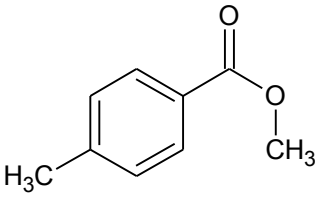
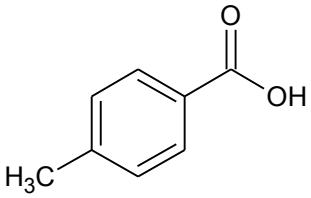
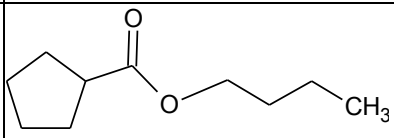
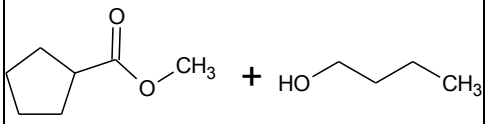
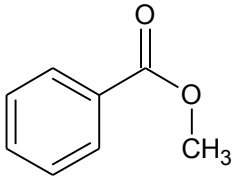
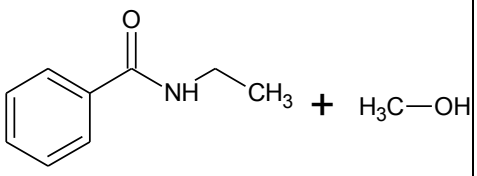
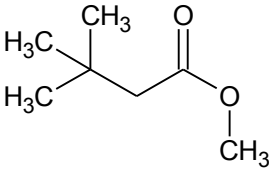
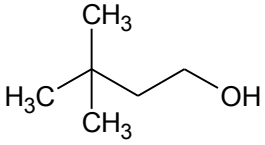
9	Carboxylation of Grignard Reagents		1. CO_2 2. H^+	
10	Carboxylation of Grignard Reagents		1. NaCN, DMF 2. H_2SO_4, H_2O	
11	Carboxylation of Grignard Reagents		1.Mg, THF 2. CO_2 3. H^+	
12	Prep. Of Nitriles from Alkyl halides/ good L.G.		NaCN DMSO	
13	Prep. Of Nitriles from Carbonyls		HCN	 cyanohydrin
14	Prep. Of Nitriles from Amides		$SOCl_2$, benzene 80 ∝C	 + SO_2 + 2 HCl
15	LAH Red'n of Nitriles		1. LAH, ether 2. H_3O^+	
16	Grignard Rxn of Nitriles		1. PhMgBr, THF 2. Dilute HCl	 + NH_3

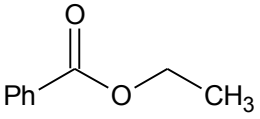
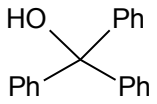
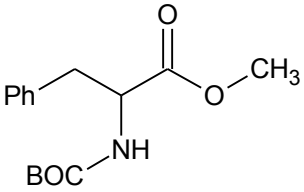
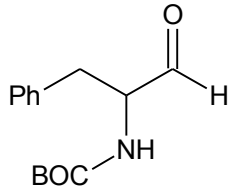
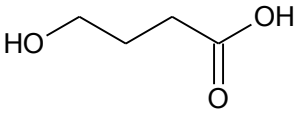
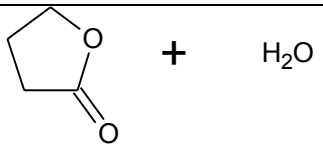
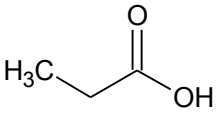
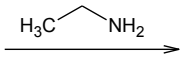
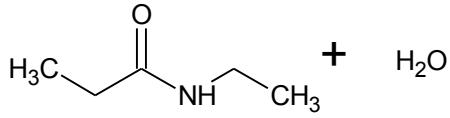
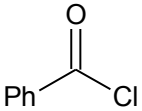
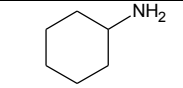
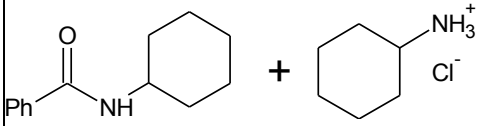
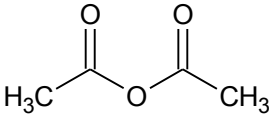
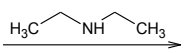
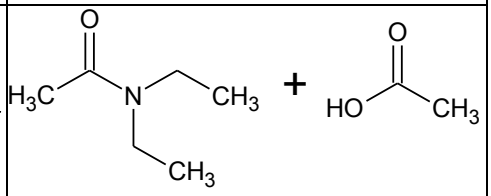
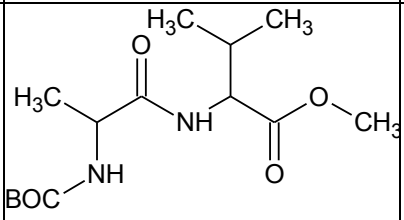
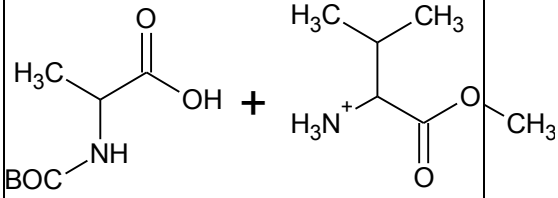
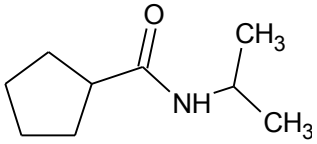
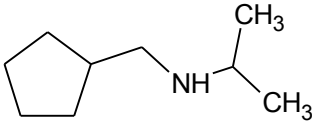
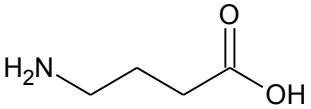
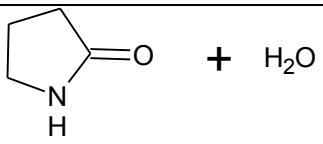
17	Formation of Acid Chlorides from Carboxylic Acids			
18	Formation of Acid Anhydrides from -COOH			
19	Formation of Esters from -COOH (S_N2)			
20	Fischer Esterification (1985—Nobel prize 1902)			
21	Formation of Amides from -COOH			
22	Formation of Amides from –COOH (methyl ester protecting group)			
23	Formation of Amides from –COOH (Boc protecting group)			
24	Peptide Formation			

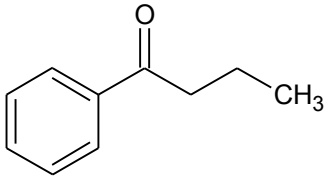
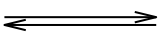
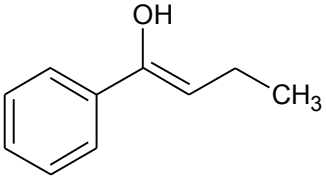
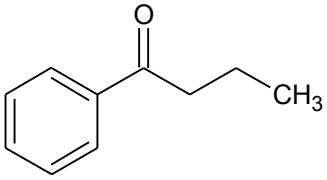
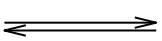
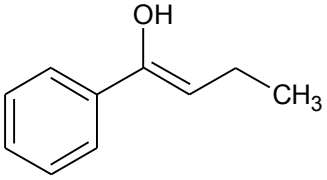
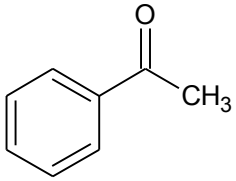
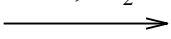
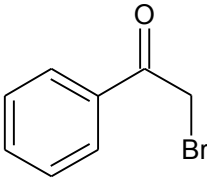
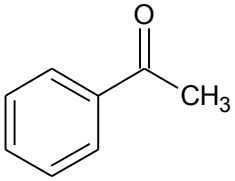
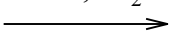
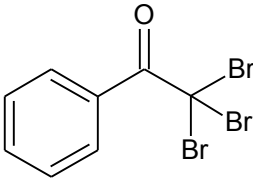
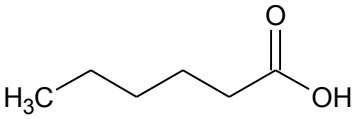
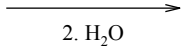
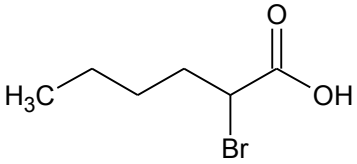
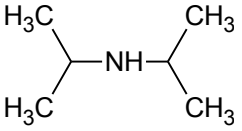
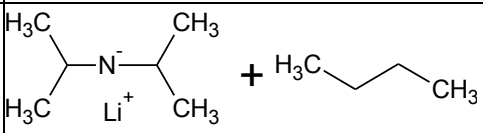
25	Deprotection (methyl ester removal)			
26	Deprotection (Boc removal)			
27	Formation of Alcohols			
28	Prep. Of Acid Halides			
29	Prep of Acid Halides			
30	Hydrolysis of Acid Halides			
31	Formation of anhydrides from acid halides			
32	Formation of Esters from acid halides (alcoholysis)			

33	Formation of Amides			
34	Hydride Red'n of Acid Halides			
35	Hydride Red'n of Acid Halides			
36	Grignard Reagents with Acid Chlorides			
37	Gilman Reagent with Acid Chlorides			
38	Friedel-Crafts Acylation of Acid Chlorides			
39	Prep of Acid Anhydrides			

40	Prep of Cyclic Acid Anhydrides			
41	Prep of Cyclic Acid Anhydrides			
42	Hydrolysis of Acid Anhydrides			
43	Ester Formation from Anhydrides			
44	Amide formation from Anhydrides			
45	Friedel-Crafts Acylation of Anhydrides			
46	Friedel-Crafts Acylation of Cyclic Anhydrides			

47	Prep of Esters			
48	Prep of Esters			
49	Prep of Esters			
50	Hydrolysis of esters (base catalyzed) (saponification)			
51	Hydrolysis of Esters (Acid Catalyzed)			
52	Transester-ification of Esters			
53	Amide formation from Esters			
54	Alcohol Formation from Esters			

55	Alcohol Formation from Esters		1. PhMgBr, THF 2. Dilute HCl	
56	Selective Red'n of Esters		1. DIBAL-H, -78 ∝C 2. H_3O^+	
57	Formation of Lactones from Esters		H^+	
58	Prep of Amides			
59	Prep of Amides			
60	Prep of Amides			
61	Hydrolysis of Amides		H_3O^+ or OH^- Δ	
62	Red'n of Amides		1. LAH 2. H_3O^+	
63	Formation of Lactams from Amides		Δ	

64	Acid Catalyzed keto-enol tautomerization			
65	Base Catalyzed keto-enol tautomerization			
66	Acidic α-halogenation of CHOs/ketones			
67	Basic α-halogenation of CHOs/ketones			
68	α-halogenation of carb. Acids			
69	LDA Formation			
70	Rxn of Enolates