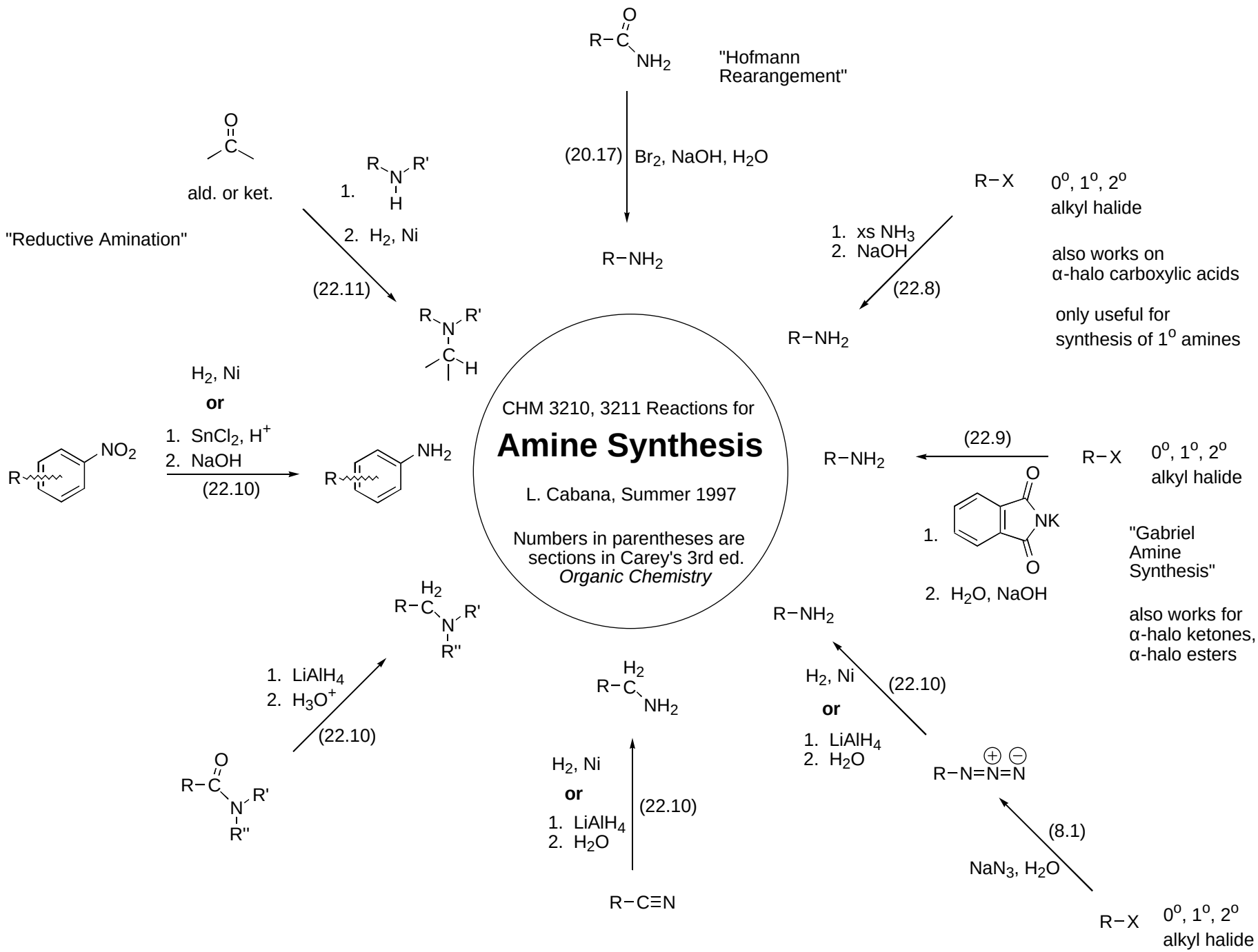
CHM 3210, 3211 Reactions for
Amine Synthesis
L. Cabana, Summer 1997
Numbers in parentheses are sections in Carey's 3rd ed. Organic Chemistry
"Hofmann Rearangement"
(20.17) Br2, NaOH, H2O
R−NH2
R−X
0o, 1o, 2o alkyl halide
1. xs NH3
2. NaOH
(22.8)
also works on α-halo carboxylic acids
only useful for synthesis of 1o amines
ald. or ket.
"Reductive Amination"
1.
2. H2, Ni
(22.11)
H2, Ni
or
1. SnCl2, H+
2. NaOH
(22.10)
(22.9)
"Gabriel Amine Synthesis"
2. H2O, NaOH
also works for α-halo ketones, α-halo esters
1. LiAlH4
2. H3O+
(22.10)
H2, Ni
or
1. LiAlH4
2. H2O
(22.10)
(8.1)
NaN3, H2O