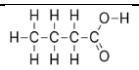
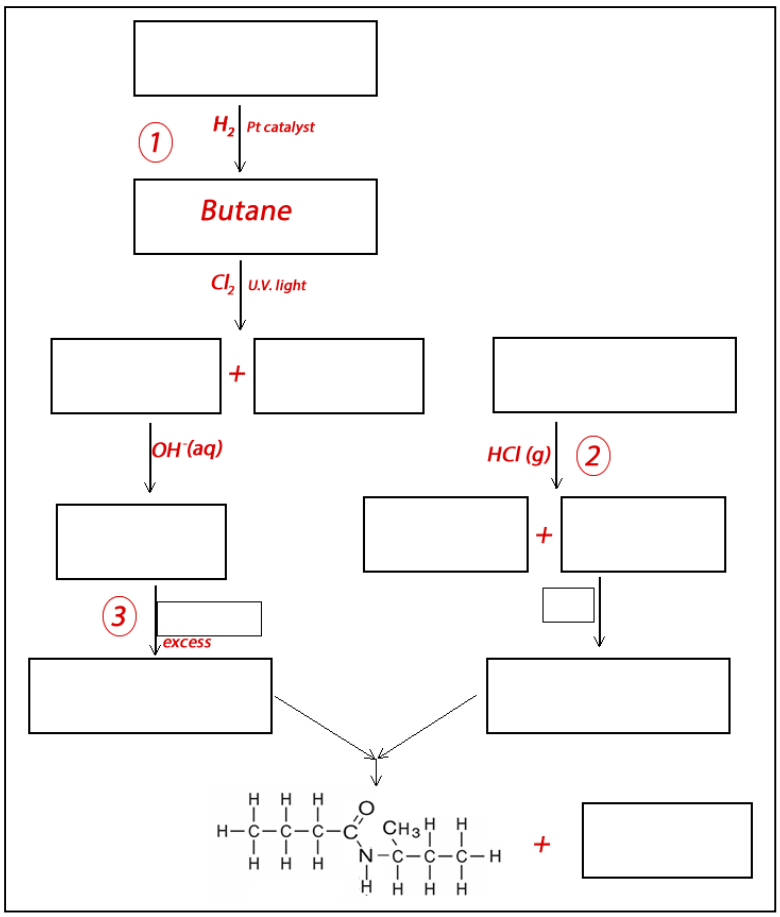
Friday worksheet – organic

1) The table below represents available organic substances and inorganic reagents.
a. Selecting from the available items in the table complete the pathways shown below by placing the corresponding letter of the substance in the appropriate box in the diagram. Not all substances are required and some can be used more than once.

Letter	substance
A	Acidified MnO_4^- solution
B	But-2-ene
C	Butane
D	But-1-ene
E	1-chlorobutane
F	2-chlorobutane
G	2-chlorobut-1-ene
H	HCl
I	H_2O
J	NH_3
K	Butan-1-amine
L	Butan-2-amine
M	
N	Pentan-2-amine
O	Butan-1-ol
P	Butan-2-ol
Q	Propanoic acid
S	Ethanoic acid



b. Reaction "1" represents two types of reactions. Name each reaction and justify your answer for each.

c. Give the name of the type of reaction that is represented by:

- 2 _____
- 3 _____

2) Consider the organic compound 2,5-dimethyl-2-ethylhexanoic acid. Give the condensed and skeletal formulae of this compound in the space provided below.

Condensed	Skeletal

3) Consider the organic molecule with the semi-structural formula $(CH_3)_2CH(CH_2)_4CH_3$.

i. Give the IUPAC name for this molecule

ii. Draw its structural formula in the space provided.

4) 16.8 g of an alkene that contains two double bonds per molecule reacted completely with 32.0 g of bromine, Br_2.
The molar mass of bromine, Br_2, is 160 g mol^{-1}.
What is the formula mass of the alkene in g/mol?