### **WORKSHEET VII\_Keys**

#### 1. Name the following compounds

Α

2-bromo-3-cyclopentylaziridine

C

4-chloro-2-methoxypiperidine

E

N-benzyl-N-ethylpropan-1-amine

G

$$\begin{array}{c} \text{CH}_2\text{CH}_3\\ \text{N-CH}_2\text{CH}_2\text{CH}_3 \end{array}$$

N-ethyl-N-propylcyclohexanamine

ı

(E)-5,8-diaminonon-6-en-1-yn-3-ol

В

4-chloro-2-ethoxy-3-isopropylpyridine

D

3-bromo-4-ethylpyrrole

F

4-bromo-3-ethylpyrrolidin-2-ol

H

4-amino-3-chloro-N-ethyl-N-methylbutanal

J

4-amino-2-methoxy-N,N-dimethyl benzoic acid

6-amino-3-ethyl-5-methoxy piperidin-2-ol

## L

5-chloro-2-cyclohexyl-4-methoxy-*N*-methylheptan-3-amine

### M

4,6-diamino-5-methoxy-3-methyl oct-7-en-2-one

# 0

2-chloro-*N*-ethyl-5-methoxy-*N*-(2-methylbutyl)-4-nitroaniline

### N

3-methyl-1-(2-methylbutyl)azetidine

### P

3-ethyl-*N*-isopropyl-*N*-methyl hexan-2-amine

2. Give the major product(s) of each of the following reaction

### Α

В

C

D

$$\begin{array}{c|c} & H_2 & H_2 \\ \hline & C & C & C & T \\ & H & 2. & Ag_2O / H_2O \\ \hline & 3. & heat \end{array}$$

Ε

$$CH_2Br \xrightarrow{1. NaN_3} CH_2NH_2$$
  
2. LiAlH<sub>4</sub>  
3. H<sub>2</sub>O

F

$$\begin{array}{c|c}
 & 1. & NH_2NH_2 \\
\hline
 & 2. & heat
\end{array}$$

G

$$\begin{array}{c}
O \\
C \\
-NH_2
\end{array}
\xrightarrow{Br_2 / OH^-}
\begin{array}{c}
-NH_2
\end{array}$$

Н

J

OCH<sub>3</sub>O + H<sub>2</sub>N 
$$\frac{2. \text{LiAlH}_4}{3. \text{H}_2\text{O}}$$
 OMe N H

K

L

MeO 
$$\longrightarrow$$
 NH  $\xrightarrow{1. \text{CH}_3\text{Br excess}}$  MeO  $\longrightarrow$  N  $\longrightarrow$  N=2. Ag<sub>2</sub>O, H<sub>2</sub>O, Heat

3. How would you achieve the following transformation?

Α

Br 
$$\frac{1. \text{ NaN}_3}{2. \text{ LiAlH}_4}$$
  $\frac{1. \text{ NaN}_3}{3. \text{ H}_2\text{O}}$ 

В

C

D

$$\begin{array}{c|c} O & 1. & NH_2 \\ \hline 2. & LiAlH_4 \\ 3. & H_3O^+ \end{array}$$

E

F

G

$$\begin{array}{c|c} & \text{NH}_2 \\ \hline & \text{HCI} \end{array} \begin{array}{c} & \text{N}_2^{\oplus} \\ \hline & \text{CuCN} \end{array} \begin{array}{c} & \text{CN} \\ \hline & 1. \text{ LiAlH}_4 \\ \hline & 2. \text{ H}_3\text{O}^+ \end{array} \begin{array}{c} & \text{CH}_2\text{NH}_2 \\ \hline \end{array}$$

Н

1

J

Br 
$$\xrightarrow{\text{NaCN}}$$
  $\longrightarrow$  CN  $\xrightarrow{\text{1. LiAlH}_4}$   $\longrightarrow$  CH<sub>2</sub>NH<sub>2</sub>

Κ

$$CH_2CH_2Br \xrightarrow{1. \text{NaN}_3} CH_2CH_2NH_2$$

$$3.H_3O^+$$