

Organic Chemistry

Set 27: Naming Hydrocarbons and Drawing

- 1. (a) pentane
 - (b) but-2-ene
 - (c) 2-methylbutane
 - (d) 1,1,2-trichloroethane
 - (e) trans-1,2-dimethylethene
 - (f) 5-ethyl-3-methyloctane
 - (g) 2,2-dimethylpropane
 - (h) 2-methylpent-1-ene
 - (i) 1,1,1-trifluoropentane
 - (j) 5-methyl-cis-hex-2-ene

(b)
$$CC\ell_2F_2$$

(e)
$$CH_3$$
 $C\ell$ (f) CH_2 = $CHCH_2$ CHCCH $_3$

$$\overset{H}{\underset{CH_{3}CH_{2}}{\text{CH}_{2}CH_{2}CH_{3}}}} = \overset{CH_{2}CH_{2}CH_{3}}{\underset{H}{\text{CH}_{3}CH_{2}}}$$

(g)
$$CH_3$$
 $CHC\ell_2$

 $\label{eq:charge_continuous} \text{3.} \quad \text{(a)} \quad \text{(i)} \quad \text{pentane} \qquad \quad \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

$$\begin{array}{ccc} \text{2-methylbutane} & \text{CH}_3\text{CH}_2\text{CHCH}_3 \\ & \text{CH}_3 \\ \\ \text{2.2-dimethylpropane} & \text{I} \end{array}$$

(d)

(h)

2,2-dimethylpropane
$$\begin{array}{c} \text{CH}_3 \\ \text{I} \\ \text{CH}_3 \text{CCH}_3 \\ \text{I} \\ \text{CH}_3 \end{array}$$

(ii) pent-1-ene CH₃CH₂CH₂CH=CH₂

cis-pent-2-ene
$$CH_3$$
 CH_2CH_3

2-methylbut-1-ene
$$CH_3$$
 $CH_3CH_2C=CH_2$

3-methylbut-1-ene
$$CH_3$$

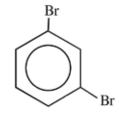
 $CH_3CHCH = CH_2$

2-methylbut-2-ene
$$CH_3$$
 CH_3C = $CHCH_3$

$$\begin{array}{c} \text{1-bromo-2-methylpropane} \ CH_3 CHCH_2 Br \\ CH_3 \end{array}$$

2-bromo-2-methylpropane
$$CH_3CBrCH_3$$
 CH_3

- 4. (a) ethylbenzene
 - (b) 3-chlorocyclopentene
 - (c) propylcyclohexane
 - (d) 3-bromo-5-chlorocycloheptene
 - (e) 1-fluorocyclopentene
 - (f) 1,2-dimethylbenzene



(f)

(a) but-1-ene CH_2 = $CHCH_2CH_3$ 6.

$$C=C$$
 CH_3
 CH_3

trans-but-2-ene H

$$C=C$$
 CH_3
 H

2-methylpropene $\begin{array}{c} CH_3 \\ CH_3C=CH_2 \end{array}$

(b) 1,2-dichlorobenzene

1,3-dichlorobenzene

1,4-dichlorobenzene

$$\mathcal{C}_{\ell}^{\ell}$$