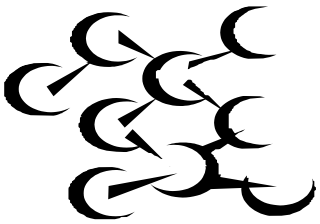
STAWA SET 24



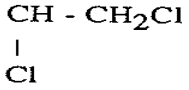
SET 24

1. Write systematic names for the following compounds:

(a) $H_3C - CH_2 - CH_2 - CH_2 - CH_3$

(b) $H_3CCH = CHCH_2CH_3$

(c)


(d)


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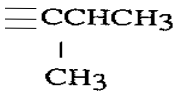

(f)


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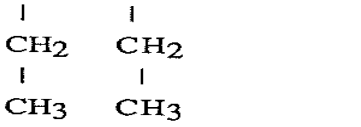

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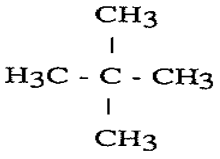
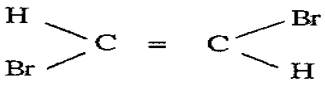


(i) $F_3CCH_2CH_2CH_2CH_3$

(j) $HC \equiv CCH_2CHBr_2$

(k)


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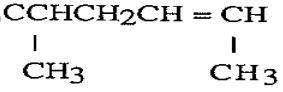
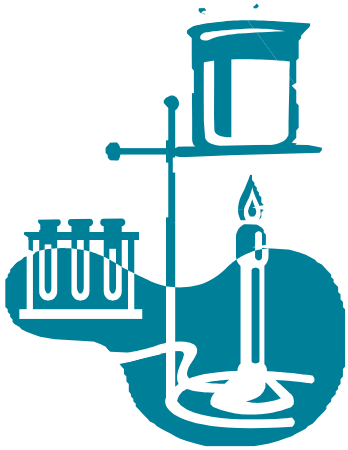


2. Draw structural formulae for the following:

(a) 2, 2, 4 - trimethylpentane

(b) dichlorodifluoromethane



(c) 3 - ethyl - 2 - methyl - 2 - pentene

(d) 4, 4 - diethyloctane

(e) 5, 5 - dichloro - 4 - methyl - 2 - hexyne

(f) *trans* - 3 - heptene

(g) 1, 1, - dichloro - ***cis*** - 2 - butene

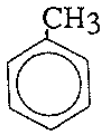
(h) 5 - ethyl - 3 - heptanone

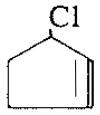
3. Draw structural formulae and write systematic names for

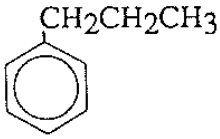
(a) all the isomers of
(i) pentane
(ii) pentene
(iii) pentyne

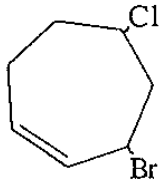
(b) four isomers of C_4H_9Br.

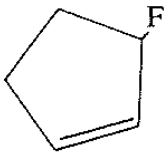
4. Write systematic names for the following compounds:

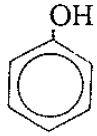
(a) 

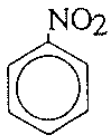
(b) 

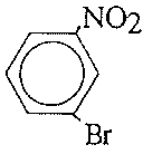
(c) 

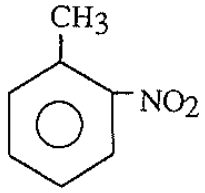
(d) 

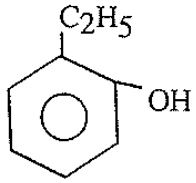
(e) 

(f) 

(g) 

(h) 

(i) 

(j) 

5. Draw structural formulae for the following:

(a) fluorocycloheptane

(b) 3 - methyl - cyclopentene

(c) butylbenzene

(d) 1, 2, - dinitrobenzene

(e) 1, 3 - dinitrobenzene

(f) 2, 4, 6, - trinitrotoluene ('TNT')

6. Write systematic names for the following compounds:

(a) $H_3CCH_2CH_2OH$

(b) H_3CCH_2CHO

(c)
$$\begin{array}{l} CH_3CHCH_2CHCH_2CH_3 \\ \quad\ |\qquad\ | \\ \quad CH_3\quad OH \end{array}$$

(d)
$$\begin{array}{l} H_3CCH_2CH_2CH_3 \\ \quad\ \| \\ \quad O \end{array}$$

(e) $H_2C = O$

(f) $H_3CCH_2CH_2NH_2$

(g)
$$\begin{array}{l} H_2CCH_2CH_2CHCHO \\ \quad\ |\qquad\ | \\ \quad CH_2\quad Cl \\ \quad\ | \\ \quad CH_3 \end{array}$$

(h)
$$\begin{array}{l} \qquad O \\ \qquad\ \| \\ H_3CCHCCH_2CHCH_3 \\ \quad\ |\qquad\ | \\ \quad CH_3\quad CH_3 \end{array}$$

(i) $H_3CCH_2CHCH_2NH_2$

|

CH_3

(j) $H_3CCHNH_2CH_3$

7. Draw the structural formulae for:

(a) 1 - pentanol
(b) 1, 2, 3, - propanetriol
(c) 4 - chloro - 4 - methyl - 1 - hexanol
(d) 3 - bromopropanol
(e) methanal
(f) butanone
(g) 6 - amino - 7 - bromo - 3 - heptanone
(h) 3 - methylbutanal
(i) 2 - ethyl - 1 - butanamine
(j) 5 - chloro - 3, 4 - dimethyl - 2 - pentanamine

8. Write systematic names for the following compounds:

(a) $H_3CCH_2CH_2C = O$

|

OH

(b) $ClCH_2CH_2C = O$

|

OH

(c) H_3CCH_2C - ONa

||

O

(d) $H_3CCH_2CH_2CH_2C$ - OCH_3

||

O

(e) H_2CCOCH_3

||

O

(f) $H_3CCHCH_2C = O$

| |

CH_3 OH

(g) $H_3CCH_2CNH_2$

||

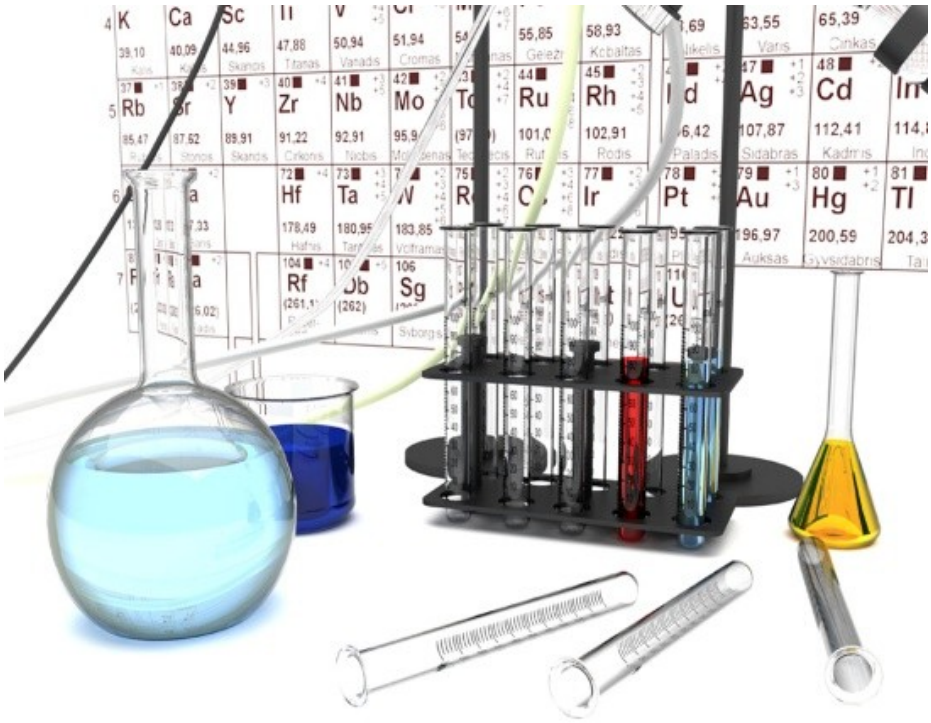
O

9. Draw the structural formulae for

(a) 2 - bromobutanoic acid
(b) heptanedioic acid
(c) methyl propanoate
(d) propyl methanoate
(e) potassium ethanoate
(f) ethanedioic acid (oxalic acid)
(g) propanamide
(h) methanamide

10. Draw structural formulae and write systematic names for:

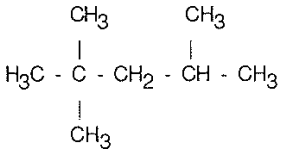
(a) all isomeric alcohols with formula C_4H_9OH
(b) one carboxylic acid and two esters with formula $C_4H_8O_2$
(c) two aldehydes and one ketone with formula C_4H_8O
(d) three isomers of dichlorobenzene
(e) Draw all the isomers of C_4H_8
(f) Draw all the isomers of $C_5H_{10}O$



Set 24 SOLUTIONS

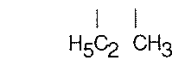
1. (a) pentane (b) 2-pentene
(c) 2 methylbutane (d) 1,1,2-trichloroethane
(e) 4-methyl-2-pentyne (f) 2-methyl-1-pentene
(g) 5-ethyl-3-methyloctane (h) dimethylpropane
(i) 1,1,1-trifluoropentane (j) 4,4-dibromo-1-butyne
(k) **trans**-1,2-dibromoethene (l) 5-methyl-2-hexene

2. (a)



(b) CCl_2F_2

(c)



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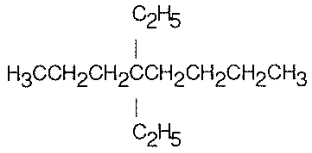

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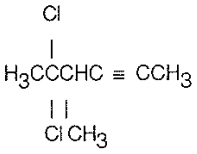

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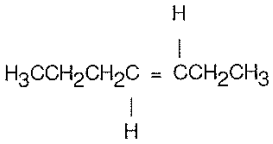

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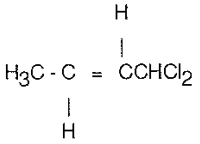

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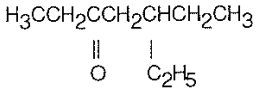
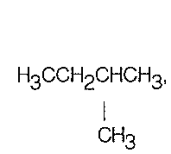
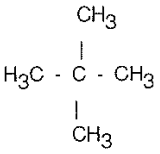


3. (a) (i) $H_3C(CH_2)_3CH_3$,





(ii) $H_3C(CH_2)_2CHCH_2$, $H_3CCH_2CHCHCH_3$, $H_3CCH_2C = CH_2$ (CH_3 branch), $H_3CCHCHCH_2$, (CH_3 branch), $H_3CCH = CCH_3$ (CH_3 branch)

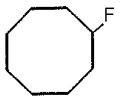
(iii) $H_3C(CH_2)_2C \equiv CH$, $H_3CCHC \equiv CCH_3$, $H_3CCHC \equiv CH$ (CH_3 branch)

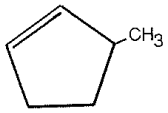
(b) $H_3C(CH_2)CH_2Br$, $H_3CCH_2CHCH_3$ (Br branch), H_3CCHCH_2Br (CH_3 branch)

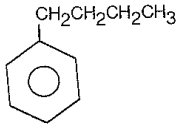
$H_3C - C(CH_3)(Br) - CH_3$

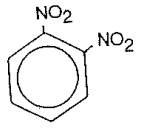
4.

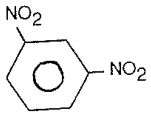
(a)	methylbenzene	(b)	3-chlorocyclopentene
(c)	propylbenzene	(d)	5-chloro-3-bromocyclopentene
(e)	3-fluorocyclopentene	(f)	phenol
(g)	nitrobenzene	(h)	1-bromo-3-nitrobenzene
(i)	2-nitrotoluene	(j)	2-ethylphenol

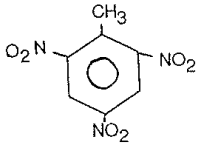
5. (a) 

(b) 

(c) 

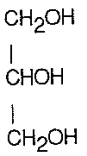
(d) 

(e) 

(f) 

6. (a) 1-propanol
(b) propanal
(c) 5-methyl-3-hexanol
(d) 2-pentanone
(e) methanal
(f) propanamine
(g) 2-chloro-4-methylhexanal
(h) 2,5,5-trimethyl-3-hexanone
(i) 2-methyl-1-butanamine
(j) 2-propanamine

7. (a) $H_3C(CH_2)_3CH_2OH$

(b)


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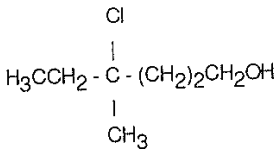
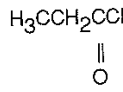


(d) $CH_2BrCH_2CH_2OH$

(e) HCHO

(f)


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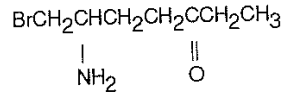

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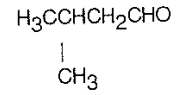

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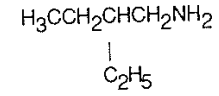

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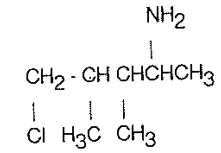
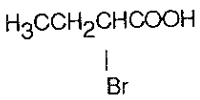


8. (a) butanoic acid
(b) 3-chloropropanoic acid
(c) sodium propanoate
(d) methyl pentanoate
(e) methyl ethanoate
(f) 3-methyl butanoic acid
(g) propanamide

9. (a)


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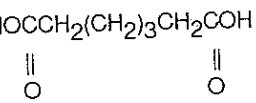

(c)


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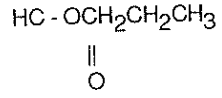


(e)


(f)

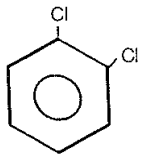
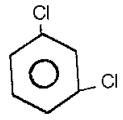

(g)


(h) $HC(=O)-NH_2$

10. (a) $H_3C(CH_2)_2CH_2OH$ 1-butanol; $H_3CCH(OH)CH_2CH_3$ 2-butanol; $H_3CCH(CH_3)CH_2OH$ 2-methyl-1-propanol; $H_3CC(OH)(CH_3)CH_3$ 2-methyl-2-propanol

(b) $H_3CCH_2CH_2C(=O)OH$ butanoic acid; $H_3CCH_2C(=O)OCH_3$ methyl propanoate; $H_3CC(=O)OC_2H_5$ ethyl ethanoate

(c) $H_3C(CH_2)_2CHO$ butanal; $H_3CCH(CH_3)CHO$ methyl propanal; $H_3CCH_2C(=O)CH_3$ 2-butanone

(d)  1,2-dichlorobenzene;  1,3-dichlorobenzene;  1,4-dichlorobenzene

(e) $H_3CCH_2CH=CH_2$ 1-butene; $H_3CCH=CHCH_3$ 2-butene; $H_3CC(CH_3)=CH_2$ methyl propene

(f) $H_3C(CH_2)_3CHO$ pentanal; $H_3CCH(CH_3)CH_2CHO$ 3-methyl butanal; $H_3CCH_2CH(CH_3)CHO$ 2-methyl butanal

$H_3CC(CH_3)(CH_3)CHO$ 2,2-dimethyl propanal; $H_3CCH_2CH_2C(=O)CH_3$ 2-pentanone; $H_3CCH(CH_3)C(=O)CH_3$ 3-methyl-2-butanone; $H_3CCH_2C(=O)CH_2CH_3$ 3-pentanone