

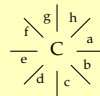
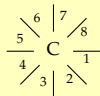
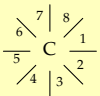
Chemical Formulas in ConTEXt

Examples


```
\chemical{X\RT{\oplus}{CH}} \chemical{X\LB{\oplus}{CH}}
\chemical{X\B {\oplus}{CH}} \chemical{X\RB{\oplus}{CH}}

\blank

\chemical{X\TL{\delta}{CH}} \chemical{X\L {\delta}{CH}}
\chemical{X\LC{\delta}{CH}} \chemical{X\BL{\delta}{CH}}
\chemical{X\TR{\delta}{CH}} \chemical{X\R {\delta}{CH}}
\chemical{X\RC{\delta}{CH}} \chemical{X\BR{\delta}{CH}}
\chemical{X\LT{\delta}{CH}} \chemical{X\T {\delta}{CH}}
\chemical{X\RT{\delta}{CH}} \chemical{X\LB{\delta}{CH}}
\chemical{X\B {\delta}{CH}} \chemical{X\RB{\delta}{CH}}
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical[ONE,SB,ZO,ZTN] [C]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical[ONE,SB,ZO,ZBN] [C]
```

```
\stopchemical
```

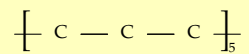
```
\hss
```

```
\startchemical
```

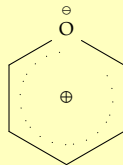
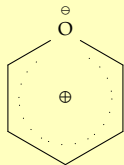
```
\chemical[ONE,SB,ZO,ZTT] [C,a,b,c,d,e,f,g,h]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\startchemical
\chemical
[ONE,ZT5,ZO,SB15,MOV1,ZO,SB15,MOV1,SB15,ZO,ZT1]
[\[,C,C,C,\]{5}]
\stopchemical
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical
```

```
[SIX,B1234,CD1..5,+SB5,-SB6,Z6,Z0]
```

```
[\T{\ominus}{0},\oplus]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

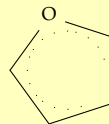
```
\chemical
```

```
[SIX,B1234,CCD1..5,+SB5,-SB6,Z6,Z0]
```

```
[\T{\ominus}{0},\oplus]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical[FIVE,B123,CD1235,+SB4,-SB5,Z5] [0]
```

```
\stopchemical
```

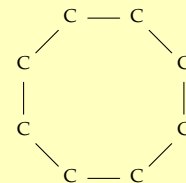
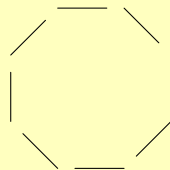
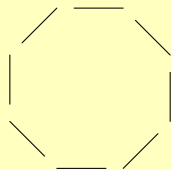
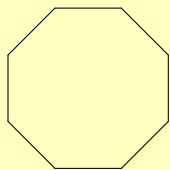
```
\hss
```

```
\startchemical
```

```
\chemical[FIVE,B123,CCD1235,+SB4,-SB5,Z5] [0]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical  
  \chemical[EIGHT,B]  
\stopchemical
```

```
\hss
```

```
\startchemical  
  \chemical[EIGHT,-SB]  
\stopchemical
```

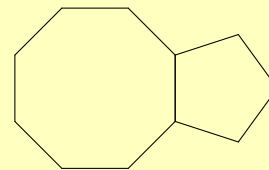
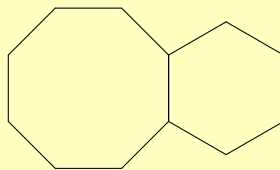
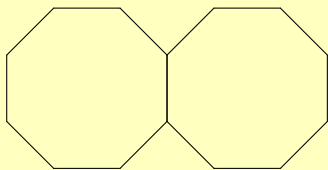
```
\hss
```

```
\startchemical  
  \chemical[EIGHT,+SB]  
\stopchemical
```

```
\hss
```

```
\startchemical  
  \chemical[EIGHT,SB,Z] [C,C,C,C,C,C,C,C]  
\stopchemical
```

```
\hss \egroup
```

```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical[EIGHT,B,MOV1,B]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical[EIGHT,B,ADJ1,SIX,B]
```

```
\stopchemical
```

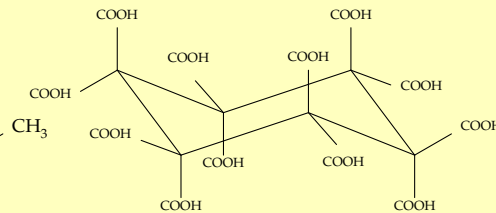
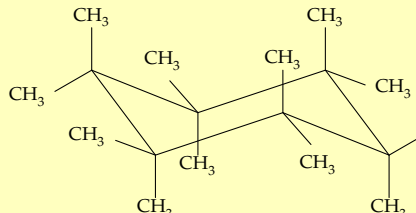
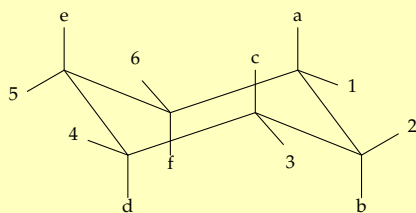
```
\hss
```

```
\startchemical
```

```
\chemical[EIGHT,B,ADJ1,FIVE,ROT3,B]
```

```
\stopchemical
```

```
\hss \egroup
```



```

\setupchemical
  [width=5000]

\hbox to \hsize \bgroup \hss

\startchemical[scale=small]
  \chemical
    [CHAIR,B,+R,-R,
      +RZ1,+RZ2,+RZ3,+RZ4,+RZ5,+RZ6,
      -RZ1,-RZ2,-RZ3,-RZ4,-RZ5,-RZ6]
    [a,b,c,d,e,f,1,2,3,4,5,6]
\stopchemical

\hss

\startchemical[scale=small]
  \chemical
    [CHAIR,B,+R,-R,
      +RZ1,+RZ2,+RZ3,+RZ4,+RZ5,+RZ6,
      -RZ1,-RZ2,-RZ3,-RZ4,-RZ5,-RZ6]
    [CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3,CH_3]
\stopchemical

\hss

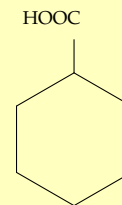
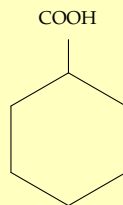
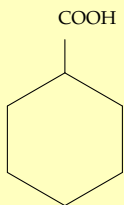
\startchemical[scale=small,size=small]
  \chemical
    [CHAIR,B,+R,-R,

```

```
+RZ1,+RZ2,+RZ3,+RZ4,+RZ5,+RZ6,  
-RZ1,-RZ2,-RZ3,-RZ4,-RZ5,-RZ6]  
[COOH,COOH,COOH,COOH,COOH,COOH,  
COOH,COOH,COOH,COOH,COOH,COOH]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical[SIX,B,R6,RZ6][\SL{COOH}]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical[SIX,B,R6,RZ6][\SM{COOH}]
```

```
\stopchemical
```

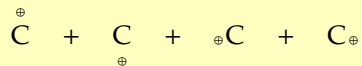
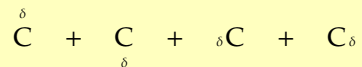
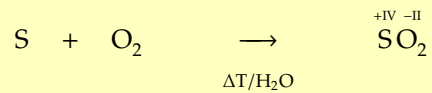
```
\hss
```

```
\startchemical
```

```
\chemical[SIX,B,R6,RZ6][\SR{HOOC}]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\startformula
\chemical{S}+\chemical{O_2}
\chemical{GIVES}{\Delta T / H_2O}
\chemical{\+{4}{S}\-2}{O_2}
```

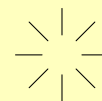
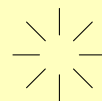
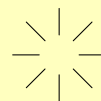
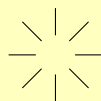
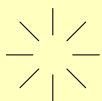
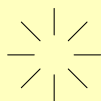
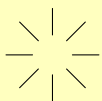
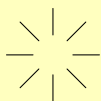
```
\stopformula
```

```
\startformula
\chemical{\T\delta{C}} +
\chemical{\B\delta{C}} +
\chemical{\L\delta{C}} +
\chemical{\R\delta{C}}
```

```
\stopformula
```

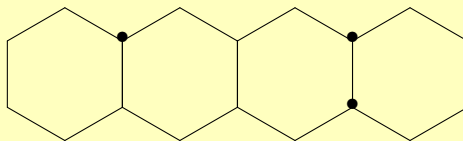
```
\startformula
\chemical{\T\oplus{C}} +
\chemical{\B\oplus{C}} +
\chemical{\L\oplus{C}} +
\chemical{\R\oplus{C}}
```

```
\stopformula
```



```
\setupchemical
  [height=fit,width=1500]
\hbox to \hsize \bgroup
\startchemical \chemical[ONE,SB] \stopchemical \hss
\startchemical \chemical[ONE,3OFF1,SB] \stopchemical \hss
\startchemical \chemical[ONE,MOV1,SB] \stopchemical \hss
\startchemical \chemical[ONE,3OFF1,MOV1,SB] \stopchemical \hss
\startchemical \chemical[ONE,MOV1,3OFF1,SB] \stopchemical \hss
\startchemical \chemical[ONE,MOV1,3OFF1,OFF0,SB] \stopchemical \hss
\startchemical \chemical[ONE,MOV1,3OFF1,MOV0,SB] \stopchemical \hss
\startchemical \chemical[ONE,MOV1,MOV0,SB] \stopchemical \hss
\egroup
```

cis-Decalin



trans-Decalin

```
\startformula
\startchemical[width=fit]
\chemical[SIX,B,Z1,MOV1,B] [\hbox{$\bullet$}]
\bottomtext{\sl trans}-Decalin}
\stopchemical
\startchemical[width=fit]
\chemical[SIX,B,Z12,MOV1,B] [\hbox{$\bullet$},\hbox{$\bullet$}]
\toptext{\sl cis}-Decalin}
\stopchemical
\stopformula
```

In display mode:

$$K_b = \frac{[\text{H}_3\text{O}^+][\text{OH}^-]}{[\text{H}_2\text{O}]}$$

In text mode: $\frac{K_b=[\text{H}_3\text{O}^+][\text{OH}^-]}{[\text{H}_2\text{O}]}$

With adjusted brackets: $\frac{K_b=[\text{H}_3\text{O}^+][\text{OH}^-]}{[\text{H}_2\text{O}]}$

In display mode:

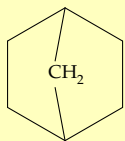
```
\startformula
```

```
K_b = {[[\chemical{H_3O^+}] [\chemical{OH^-}]]\over{[\chemical{H_2O}]}}
```

```
\stopformula
```

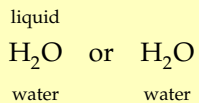
In text mode: $\$K_b = {[[\chemical {H_3O^+}] [\chemical {OH^-}]] \over {[\chemical {H_2O}]}}\$$

With adjusted brackets: $\$K_b = {\big[\chemical {H_3O^+}\big] \big[\chemical {OH^-}\big] \over {\big[\chemical {H_2O}\big]}}\$$



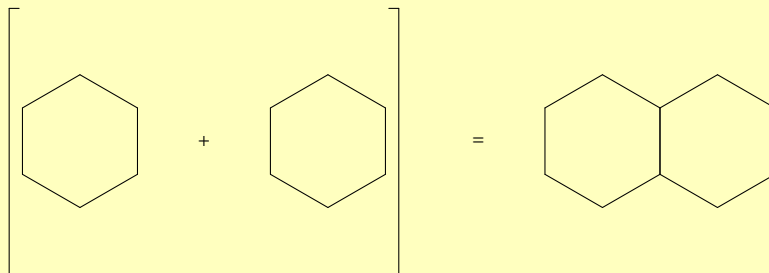
```
\startchemical  
  \chemical[SIX,B,MID,MIDZ] [\SL{CH_2}]  
\stopchemical
```

H₂O or H₂O when typeset in display mode becomes:



`\chemical{H_20}{liquid}{water}` or `$\chemical{H_20}{liquid}{water}$` when typeset in display mode becomes:

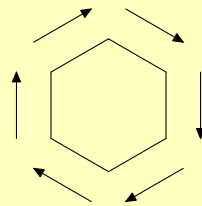
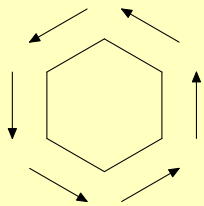
```
\startformula
\chemical{H_20}{liquid}{water} \hbox{or} \chemical{H_20}{water}
\stopformula
```



```

\startformula
  \startchemical[width=fit] \chemical[OPENCOMPLEX] \stopchemical
  \startchemical[width=fit] \chemical[SIX,B] \stopchemical
  \startchemical[width=2000] \chemical[PLUS] \stopchemical
  \startchemical[width=fit] \chemical[SIX,B] \stopchemical
  \startchemical[width=fit] \chemical[CLOSECOMPLEX] \stopchemical
  \startchemical[width=2000] \chemical[EQUAL] \stopchemical
  \startchemical[width=fit] \chemical[SIX,B,MOV1,B] \stopchemical
\stopformula

```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical  
  \chemical[SIX,B,AU]  
\stopchemical
```

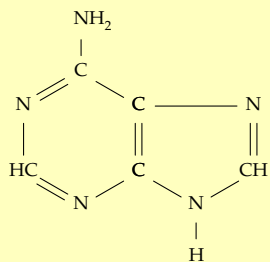
```
\hss
```

```
\startchemical  
  \chemical[SIX,B,AD]  
\stopchemical
```

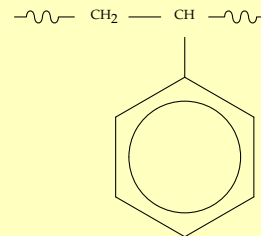
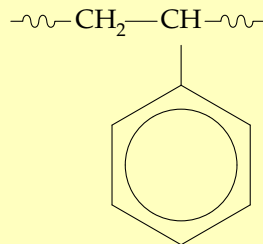
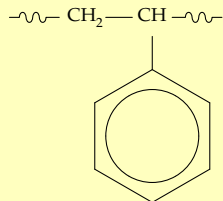
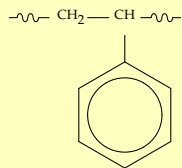
```
\hss \egroup
```

∴

```
\startchemical  
  \chemical[ONE,ZO,ES1,ED3,ET5][C]  
\stopchemical
```



```
\startchemical  
  \chemical[SIX,DB135,SB246,Z,SR6,RZ6] [C,C,N,HC,N,C,NH_2]  
  \chemical[SIX,MOV1,DB1,SB23,SS6,Z1..5,SR3,RZ3] [N,CH,N,C,C,H]  
\stopchemical
```



`\hbox to \hsize \bgroup \hss`

`\startchemical[scale=small,size=small]`

`\chemical[SIX,B,C,R6,PB:RZ6,ONE,CZO,OE1,SB5,MOV5,CZO,OFF5,OE5,PE] [CH,CH_2]`

`\stopchemical`

`\hss`

`\startchemical[scale=medium,size=medium]`

`\chemical[SIX,B,C,R6,PB:RZ6,ONE,CZO,OE1,SB5,MOV5,CZO,OFF5,OE5,PE] [CH,CH_2]`

`\stopchemical`

`\hss`

`\startchemical[scale=big,size=big]`

`\chemical[SIX,B,C,R6,PB:RZ6,ONE,CZO,OE1,SB5,MOV5,CZO,OFF5,OE5,PE] [CH,CH_2]`

`\stopchemical`

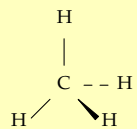
`\hss`

`\startchemical[scale=big,size=small]`

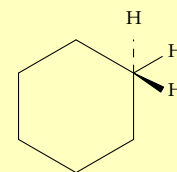
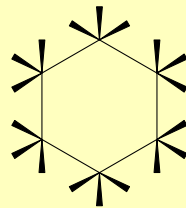
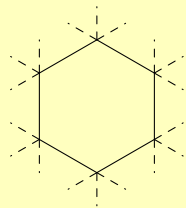
`\chemical[SIX,B,C,R6,PB:RZ6,ONE,CZO,OE1,SB5,MOV5,CZO,OFF5,OE5,PE] [CH,CH_2]`

`\stopchemical`

`\hss \egroup`



```
\startchemical  
  \chemical[ONE,SD1,SB4,BB2,SB7,Z01247][C,H,H,H,H]  
\stopchemical
```

```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical[SIX,B,-RD,RD,+RD]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical[SIX,B,-RB,RB,+RB]
```

```
\stopchemical
```

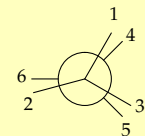
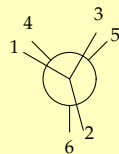
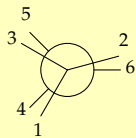
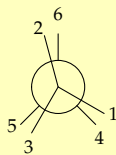
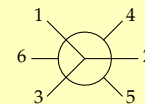
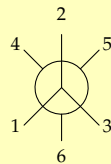
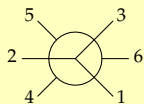
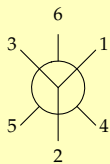
```
\hss
```

```
\startchemical
```

```
\chemical[SIX,B,-RD1,R1,+RB1,-RZ1,RZ1,+RZ1][H,H,H]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\setupchemical[scale=small]
```

```
\hbox to \hsize \bgroup \hss
```

```
\startchemical\chemical[NEWMAN,STAGGER,ROT1,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\startchemical\chemical[NEWMAN,STAGGER,ROT2,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\startchemical\chemical[NEWMAN,STAGGER,ROT3,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\startchemical\chemical[NEWMAN,STAGGER,ROT4,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\egroup
```

```
\blank
```

```
\hbox to \hsize \bgroup \hss
```

```
\startchemical\chemical[NEWMAN,ECLIPSE,ROT1,CB][1,2,3,4,5,6]\stopchemical\hss
```

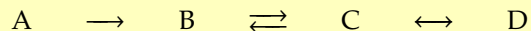
```
\startchemical\chemical[NEWMAN,ECLIPSE,ROT2,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\startchemical\chemical[NEWMAN,ECLIPSE,ROT3,CB][1,2,3,4,5,6]\stopchemical\hss
```

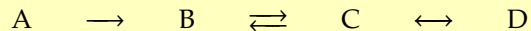
```
\startchemical\chemical[NEWMAN,ECLIPSE,ROT4,CB][1,2,3,4,5,6]\stopchemical\hss
```

```
\egroup
```

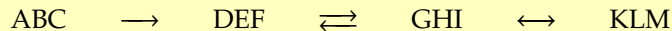
In display mode we get:



or split over more commands:



In text mode we get `ABC→DEF⇌GHI↔KLM` but in display mode we see:



In display mode we get:

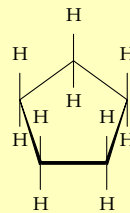
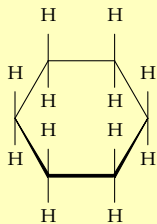
```
\startformula
  \chemical{A,GIVES,B,EQUILIBRIUM,C,MESOMERIC,D}
\stopformula
```

or split over more commands:

```
\startformula
  \chemical{A} \chemical{GIVES}
  \chemical{B} \chemical{EQUILIBRIUM}
  \chemical{C} \chemical{MESOMERIC}
  \chemical{D}
\stopformula
```

In text mode we get `$_\chemical{ABC,->,DEF,<->,GHI,<>,KLM}$` but in display mode we see:

```
\startformula
  \chemical{ABC} \chemical{->}
  \chemical{DEF} \chemical{<->}
  \chemical{GHI} \chemical{<>}
  \chemical{KLM}
\stopformula
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical
```

```
[SIX,FRONT,B,BB612,-R,+R,-RZ,+RZ]
```

```
[H,H,H,H,H,H,H,H,H,H,H,H,H]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

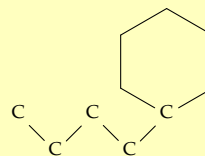
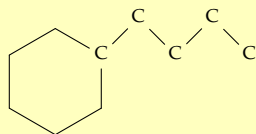
```
\chemical
```

```
[FIVE,FRONT,BB,-R,+R,-RZ,+RZ]
```

```
[H,H,H,H,H,H,H,H,H,H,H,H,H]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical[scale=small]
```

```
\chemical
```

```
[SIX,B2345,+SB6,-SB1]
```

```
[]
```

```
\chemical
```

```
[PB:Z1,ONE,CZO,
```

```
SB8,DIR8,CZO,
```

```
SB2,DIR2,CZO,
```

```
SB8,DIR8,CZO,
```

```
SB2,DIR2,CZO,PE]
```

```
[C,C,C,C,C,C]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical[scale=small]
```

```
\chemical
```

```
[SIX,B4561,+SB2,-SB3]
```

```
[]
```

```
\chemical
```

```
[PB:Z3,ONE,CZO,
```

```
SB4,DIR4,CZO,
```

```
SB6,DIR6,CZO,
```

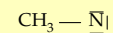
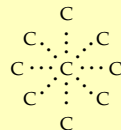
```
SB4,DIR4,CZO,
```

```
SB6,DIR6,CZO,PE]
```

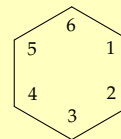
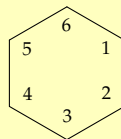
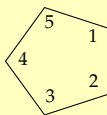
```
[C,C,C,C,C,C]
```

```
\stopchemical
```

```
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
\setupchemical
  [scale=small]
\startchemical
  \chemical[ONE,ZO,ES1357][C]
\stopchemical
\hss
\startchemical
  \chemical[ONE,ZO,ED1357][C]
\stopchemical
\hss
\startchemical
  \chemical[ONE,ZO,HB,Z][C,C,C,C,C,C,C,C]
\stopchemical
\hss
\startchemical
  \chemical[ONE,ZO,OFF1,SB1,MOV1,ZO,EP137][CH_3,N]
\stopchemical
\hss \egroup
```



```
\hbox to \hsize \bgroup \hss
```

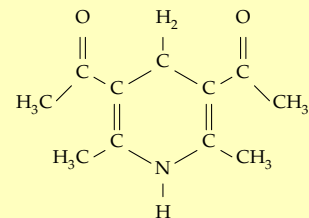
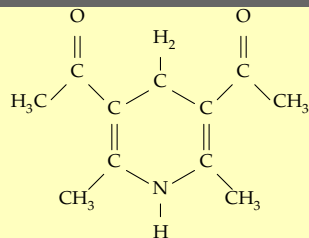
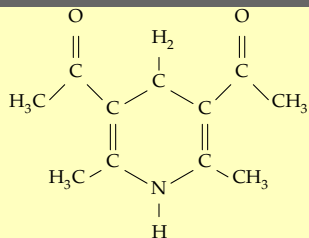
```
\startchemical\chemical[FOUR,B,ZN][C,C,C,C,C,C]\stopchemical \hss
```

```
\startchemical\chemical[FIVE,B,ZN][C,C,C,C,C,C]\stopchemical \hss
```

```
\startchemical\chemical[SIX,B,ZN][C,C,C,C,C,C]\stopchemical \hss
```

```
\startchemical\chemical[SIX,B,ZT][1,2,3,4,5,6]\stopchemical \hss
```

```
\egroup
```

`\hbox to \hsize \bgroup \hss`

`\startchemical[scale=small,width=fit,height=fit]`

`\chemical`

`[SIX,SB2356,DB14,Z2346,SR36,RZ36] [C,N,C,C,H,H_2]`

`\chemical`

`[PB:Z1,ONE,Z0,DIR8,Z0,SB24,DB7,Z27,PE] [C,C,CH_3,0]`

`\chemical`

`[PB:Z5,ONE,Z0,DIR6,Z0,SB24,DB7,Z47,PE] [C,C,H_3C,0]`

`\chemical`

`[SR24,RZ24] [CH_3,H_3C]`

`\stopchemical`

`\hss`

`\startchemical[scale=small,width=fit,height=fit]`

`\chemical`

`[SIX,SB2356,DB14,Z36,SR36,RZ36] [N,C,H,H_2]`

`\chemical`

`[PB:Z1,ONE,Z0,DIR8,Z0,SB24,DB7,Z27,PE] [C,C,CH_3,0]`

`\chemical`

`[PB:Z5,ONE,Z0,DIR6,Z0,SB24,DB7,Z47,PE] [C,C,H_3C,0]`

`\chemical`

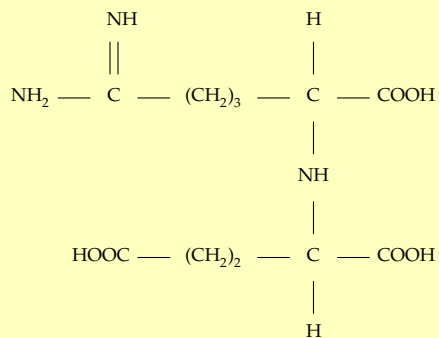
`[PB:Z2,ONE,Z0,DIR2,SB6,CZ0,PE] [C,CH_3]`

`\chemical`

```
[PB:Z4,ONE,Z0,DIR4,SB8,CZ0,PE] [C,CH_3]
\stopchemical
\hss
\startchemical[scale=small,width=fit,height=fit]
\chemical
[SIX,SB2356,DB14,Z,SR36,RZ36,SR1245,RZ24] [C,C,N,C,C,C,H,H_2,CH_3,H_3C]
\chemical
[PB:RZ1,ONE,Z0,SB2,DB7,Z27,PE] [C,CH_3,0]
\chemical
[PB:RZ5,ONE,Z0,SB4,DB7,Z47,PE] [C,H_3C,0]
\stopchemical
\hss \egroup
```



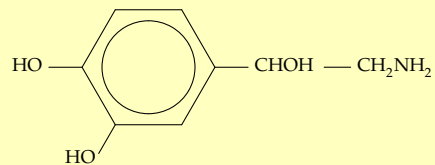
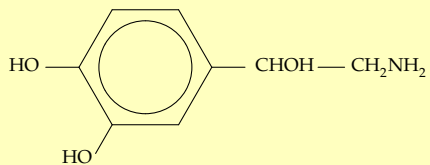
```
\chemical[OFF1,SB1,MOV1,OFF1,ZO,2OFF1,SB1,Z1] [\X\T{4}{CH_2},\X\T{5}{CH_3}]
\stopchemical
\hss \egroup
```



```

\startchemical [width=fit,height=fit,scale=big]
\chemical
  [ONE,SB15,DB7,Z057,30FF1,
  MOV1,Z0,30FF1,
  MOV1,Z017,SB1357,
  MOV3,Z0,
  MOV3,SB1357,Z013,30FF5,
  MOV5,Z0,30FF5,SB5,Z5]
[C,NH_2,NH,(CH_2)_3,C,COOH,H,NH,C,COOH,H,(CH_2)_2,HOOC]
\stopchemical

```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical
```

```
[SIX,ROT2,B,C,R236,RZ23,SUB1,ONE,OFF1,Z0,3OFF1,SB1,Z1]
```

```
[HO,HO,CHOH,CH_2NH_2]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

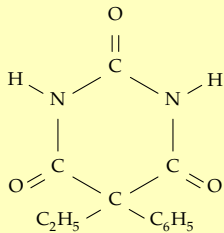
```
\chemical
```

```
[SIX,ROT2,B,C,R236,RZ23,PB:RZ6,ONE,Z0,3OFF1,SB1,Z1,PE]
```

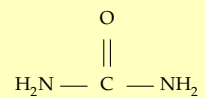
```
[HO,HO,CHOH,CH_2NH_2]
```

```
\stopchemical
```

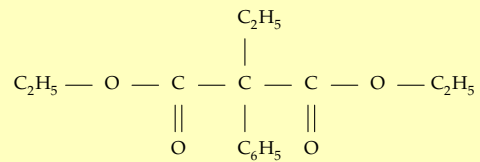
```
\hss \egroup
```



```
\startformula
\startchemical
\chemical
[SIX,SB1..6,Z1..6,
SR15,DR246,-SR3,+SR3,
RZ12,-RZ3,+RZ3,RZ456]
[N,C,C,C,N,C,H,O,C_6H_5,C_2H_5,O,H,O]
\stopchemical
\stopformula
```



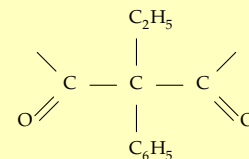
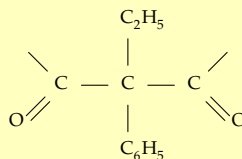
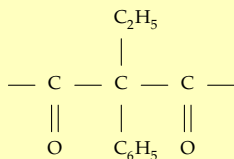
```
\startchemical  
  \chemical[ONE,SB15,DB7,Z0157][C,NH_2,H_2N,0]  
\stopchemical
```

```

\startchemical
\chemical
[ONE,Z05,SB15,
MOV1,Z03,SB1,DB3,
MOV1,Z037,SB137,
MOV1,Z03,SB1,DB3,
MOV1,Z01,SB1]
[0,C_2H_5,C,O,C,C_6H_5,C_2H_5,C,O,O,C_2H_5]
\stopchemical

```



```
\hbox to \hsize \bgroup \hss
```

```
\startchemical
```

```
\chemical
```

```
[ONE,Z03,SB15,DB3,
MOV1,Z037,SB137,
MOV1,Z03,SB1,DB3]
[C,O,C,C_6H_5,C_2H_5,C,O]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical
```

```
[ONE,Z04,SB16,DB4,
MOV1,Z037,SB137,
MOV1,Z02,SB8,DB2]
[C,O,C,C_6H_5,C_2H_5,C,O]
```

```
\stopchemical
```

```
\hss
```

```
\startchemical
```

```
\chemical
```

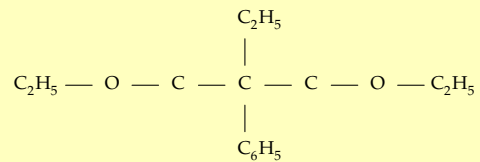
```
[ONE,Z04,SB16,DB4,
MOV1,Z037,SB137,
```

MOV1,Z02,SB8,DB2]

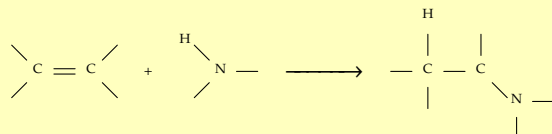
[C,0,C,C_6H_5,C_2H_5,C,0]

\stopchemical

\hss \egroup



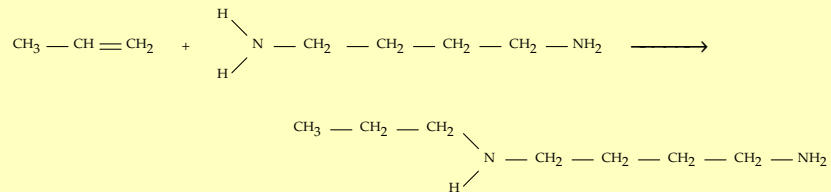
```
\startchemical
\chemical
[ONE,Z05,SB15,
MOV1,Z0,SB1,
MOV1,Z037,SB137,
MOV1,Z0,SB1,
MOV1,Z01,SB1]
[0,C_2H_5,C,C,C_6H_5,C_2H_5,C,O,C_2H_5]
\stopchemical
```



```

\startformula
\setupchemical
[width=fit,
height=fit,
scale=small,
size=small]
\startchemical
\chemical[ONE,ZO,DB1,SB46,MOV1,ZO,SB28][C,C]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical[ONE,ZO,SB146,Z6][N,H]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical[ONE,ZO7,SB1357,MOV1,ZO,SB27,PB:Z2,ONE,ZO,SB13,PE][C,H,C,N]
\stopchemical
\stopformula

```

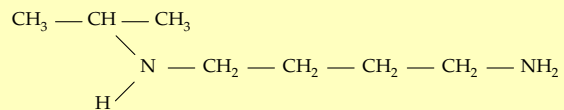


```

\setupchemical
[width=fit,
height=fit,
scale=small,
size=small]
\startformula
\displaylines
{\startchemical
\chemical[ONE,Z015,DB1,SB5][CH,CH_2,CH_3]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z046,SB146,OFF1,
MOV1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,Z1,SB1,PE]
[N,H,H,CH_2,CH_2,CH_2,CH_2,NH_2]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]

```

```
\stopchemical
\cr
\startchemical[boven=-2000]
\chemical
[ONE,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,30FF1,
PB:Z2,ONE,Z04,SB146,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,Z1,SB1,PE]
[CH_3,CH_2,CH_2,N,H,CH_2,CH_2,CH_2,CH_2,NH_2]
\stopchemical
\cr}
\stopformula
```



```

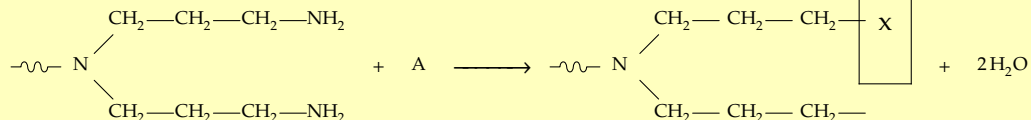
\setupchemical
[width=fit,
height=fit,
size=medium]
\startchemical
\chemical
[ONE,Z015,SB125,
DIR2,Z04,SB14,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0]
[CH,CH_3,CH_3,N,H,CH_2,CH_2,CH_2,CH_2,NH_2]
\stopchemical

```



```
MOV1,OFF1,Z0,2OFF1,SB1,  
MOV1,Z0,TB1,  
MOV1,Z0]  
[N,C,CH_2,CH_2,N,CH_2,CH_2,C,N,CH_2,CH_2,CH_2,CH_2,N,  
CH_2,CH_2,C,N,  
CH_2,CH_2,C,N]
```

```
\stopchemical
```

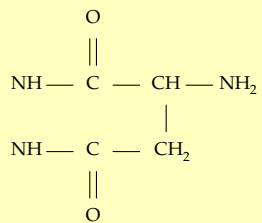


```

\def\SomeX
{\inframed[height=10ex,width=2em]{x}}
\startformula
\setupchemical
[width=fit,
height=fit]
\startchemical
\chemical
[ONE,OE5,ZO,
SAVE,
DIR8,ZO,SB14,
MOV1,ZO,SB1,
MOV1,ZO,SB1,
MOV1,ZO,
RESTORE,
DIR2,ZO,SB16,
MOV1,ZO,SB1,
MOV1,ZO,SB1,
MOV1,ZO]
[N,CH_2,CH_2,CH_2,NH_2,CH_2,CH_2,CH_2,NH_2]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical[ZO][A]
\stopchemical
\startchemical

```

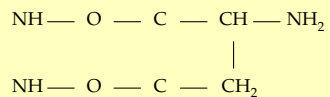
```
\chemical [SPACE,GIVES,SPACE,SPACE,SPACE]
\stopchemical
\startchemical
\chemical
  [ONE,OE5,ZO,
  SAVE,
  DIR8,OFF1,ZO,SB14,
  MOV1,OFF1,ZO,OFF1,SB1,
  MOV1,OFF1,ZO,OFF1,SB1,
  RESTORE,
  DIR2,ZO,SB16,
  MOV1,OFF1,ZO,OFF1,SB1,
  MOV1,OFF1,ZO,OFF1,SB1,
  DIR8,3OFF1,ZO]
  [N,CH_2,CH_2,CH_2,CH_2,CH_2,CH_2,\SomeX]
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE] []
\stopchemical
\startchemical
  \chemical [Z0] [2\,H_20]
\stopchemical
\stopformula
```



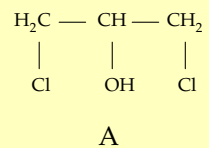
```

\setupchemical
  [width=fit,
   height=fit]
\startchemical
  \chemical
    [ONE,Z0,SB1,
     MOV1,Z07,SB1,DB7,
     MOV1,OFF1,Z0,OFF1,Z1,,SB13,
     MOV3,OFF1,Z0,OFF5,SB5,
     MOV5,Z03,SB5,DB3,
     MOV5,Z0]
    [NH,C,O,CH,NH_2,CH_2,C,O,NH]
\stopchemical

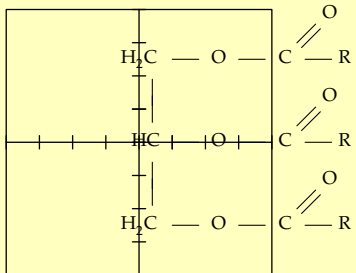
```



```
\setupchemical
[width=fit,
 height=fit]
\startchemical
\chemical
[ONE,Z0,SB1,
 MOV1,Z0,SB1,
 MOV1,Z0,SB1,
 MOV1,OFF1,Z0,OFF1,Z1,SB13,
 MOV3,OFF1,Z0,OFF5,SB5,
 MOV5,Z0,SB5,
 MOV5,Z0,SB5,
 MOV5,Z0]
[NH,O,C,CH,NH_2,CH_2,C,O,NH]
\stopchemical
```



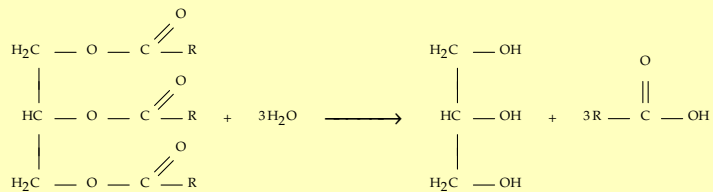
```
\setupchemical
  [width=fit]
\startchemical
  \chemical
    [ONE,Z0,OFF1,SB13,Z3,
     MOV1,OFF1,Z0,OFF1,SB13,Z3,
     MOV1,OFF1,Z0,SB3,Z3]
    [H_2C,C1,CH,OH,CH_2,C1]
  \bottext{A}
\stopchemical
```



```

\setupchemical
  [axis=on]
\startchemical
  \chemical
    [ONE,
  SAVE,
    OFF1,Z0,2OFF1,SB7,SB3,SB1,
    MOV1,Z0,SB1,
    MOV1,Z0,DB8,CZ8,SB1,Z1,
  RESTORE,
  SAVE,
    SUB4,ONE,Z0,2OFF1,SB3,SB1,
    MOV1,Z0,SB1,
    MOV1,Z0,DB8,CZ8,SB1,Z1,
  RESTORE,
    SUB2,ONE,Z0,2OFF1,SB7,SB1,
    MOV1,Z0,SB1,
    MOV1,Z0,DB8,CZ8,SB1,Z1]
  [HC,0,C,0,R,
  H_2C,0,C,0,R,
  H_2C,0,C,0,R]
\stopchemical

```

```

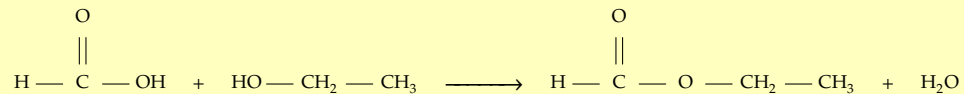
\startformula
\setupchemical
[scale=small,
size=small,
width=fit]
\startchemical
\chemical
[ONE,
SAVE,
OFF1,Z0,2OFF1,SB7,SB3,SB1,
MOV1,Z0,SB1,
MOV1,Z0,DB8,CZ8,SB1,Z1,
RESTORE,
SAVE,
SUB4,ONE,Z0,2OFF1,SB3,SB1,
MOV1,Z0,SB1,
MOV1,Z0,DB8,CZ8,SB1,Z1,
RESTORE,
SUB2,ONE,Z0,2OFF1,SB7,SB1,
MOV1,Z0,SB1,
MOV1,Z0,DB8,CZ8,SB1,Z1]
[HC,0,C,0,R,
H_{2}C,0,C,0,R,
H_{2}C,0,C,0,R]
\stopchemical

```

```

\startchemical
  \chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
  \chemical [Z0] [3\,H_20]
\stopchemical
\startchemical
  \chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
  \chemical
    [ONE,
    SAVE,
      OFF1,Z0,2OFF1,SB7,SB3,SB1,Z1,
    RESTORE,
    SAVE,
      SUB4,ONE,Z0,2OFF1,SB3,SB1,Z1,
    RESTORE,
      SUB2,ONE,Z0,2OFF1,SB7,SB1,Z1]
    [HC,OH,
      H_2C,OH,
      H_2C,OH]
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
  \chemical
    [ONE,Z0,SB1,MOV1,Z017,SB1,DB7] [3\,R,C,OH,0]
\stopchemical
\stopformula

```

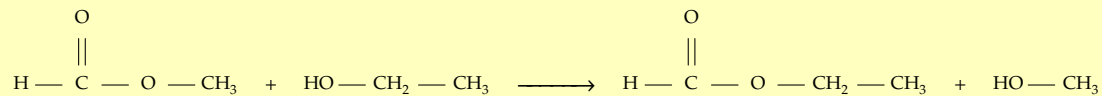


```

\startformula
\setupchemical
  [width=fit,
  height=fit]
\startchemical
\chemical[ONE,Z0157,SB15,DB7][C,OH,H,O]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE][ ]
\stopchemical
\startchemical
\chemical
  [ONE,Z0,SB1,
  MOV1,OFF1,Z0,2OFF1,SB1,
  MOV1,OFF1,Z0]
  [HO,CH_2,CH_3,]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
  [ONE,Z057,SB15,DB7,
  MOV1,Z0,SB1,
  MOV1,OFF1,Z0,2OFF1,Z1,SB1]
  [C,H,0,0,CH_2,CH_3]
\stopchemical
\startchemical

```

```
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [Z0] [H_20]
\stopchemical
\stopformula
```

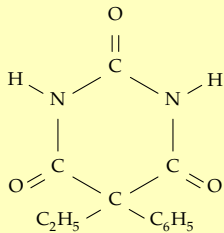


```

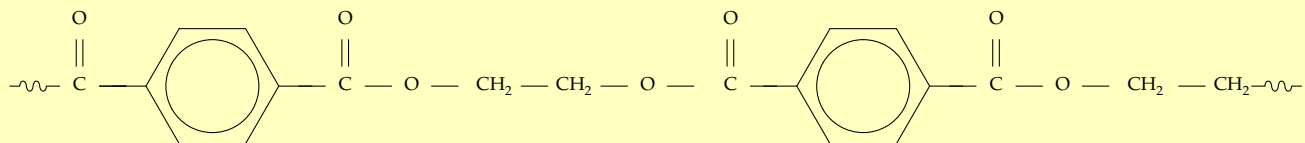
\startformula
\setupchemical
[width=fit,
height=fit]
\startchemical
\chemical
[ONE,Z057,SB15,DB7,MOV1,Z01,SB1][C,H,0,0,CH_3]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z0,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0]
[HO,CH_2,CH_3]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z057,SB15,DB7,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,2OFF1,Z1,SB1]
[C,H,0,0,CH_2,CH_3]
\stopchemical

```

```
\startchemical
  \chemical [SPACE,PLUS,SPACE] []
\stopchemical
\startchemical
  \chemical
    [ONE,ZO,SB1,MOV1,OFF1,ZO] [HO,CH_3]
\stopchemical
\stopformula
```



```
\startformula
\startchemical
\chemical
[SIX,SB1..6,Z1..6,
SR15,DR246,-SR3,+SR3,
RZ12,-RZ3,+RZ3,RZ456]
[N,C,C,C,N,C,H,O,C_6H_5,C_2H_5,O,H,O]
\stopchemical
\stopformula
```



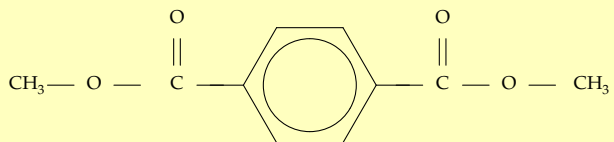
PET

```

\setupchemical
  [width=fit]
\definechemical
  [molecule]
  {\chemical
    [ONE,Z0,Z7,SB1,DB7,
     SUB1,SIX,ROT2,B,C,R36,
     SUB1,ONE,Z07,SB15,DB7,
     MOV1,Z0,SB1]
    [C,O,C,O,0]}
\startformula
  \startchemical
  \chemical
    [ONE,Z0,SB1,OE5]
  \chemical
    [molecule]
  \chemical
    [SUB1,ONE,Z0,OFF1,SB1,MOV1,OFF1,Z0,2OFF1,SB1,MOV1,Z0,SB1] [CH_2,CH_2,O]
  \chemical
    [SUB1,molecule]
  \chemical
    [SUB1,ONE,Z0,2OFF1,SB1,MOV1,OFF1,Z0,OE1] [CH_2,CH_2]
  \bottext{PET}

```


`\stopchemical`
`\stopformula`

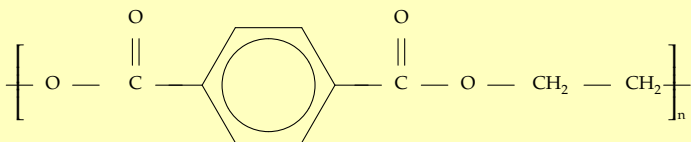


```

\setupchemical
  [width=fit,
   height=fit]
\definechemical
  [molecule]
  {\chemical
    [ONE,Z0,Z7,SB1,DB7,
     SUB1,SIX,ROT2,B,C,R36,
     SUB1,ONE,Z07,SB15,DB7,
     MOV1,Z0,SB1]
    [C,0,C,0,0]}
\startchemical
  \chemical
    [ONE,Z0,SB1,
     MOV1,Z0,SB1,
     SUB1,molecule,
     SUB1,ONE,Z0]
    [CH_3,0,CH_3]
\stopchemical

```

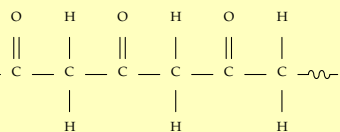
```
\setupchemical
[width=fit,
 height=fit]
\startchemical
\chemical
[ONE,ZO,SB1,
 MOV1,OFF1,ZO,2OFF1,SB1,
 MOV1,OFF1,ZO,2OFF1,SB1,
 MOV1,ZO]
[HO,CH_2,CH_2,OH]
\stopchemical
```



```

\setupchemical
[width=fit,
 height=fit]
\definechemical
[molecule]
{\chemical
[ONE,Z0,Z7,SB1,DB7,
SUB1,SIX,ROT2,B,C,R36,
SUB1,ONE,Z07,SB15,DB7,
MOV1,Z0,SB1]
[C,0,C,0,0]}
\startchemical
\chemical
[ONE,Z0,SB1,SB5,ZT5,
SUB1,molecule,
SUB1,ONE,Z0,2OFF1,SB1,
MOV1,2OFF1,Z0,2OFF1,SB1,ZT1]
[0,\Bigg\lbrack,CH_2,CH_2,\Bigg\rbrack_n]
\stopchemical

```



```
\startchemical[width=fit,height=fit,size=small,scale=small]
```

```
\chemical
```

```
[ONE,SB1,DB7,Z07,OE5,
```

```
MOV1,SB137,Z037,
```

```
MOV1,SB1,DB7,Z07,
```

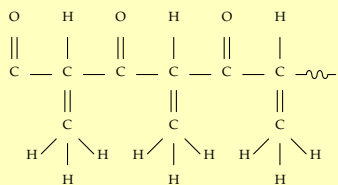
```
MOV1,SB137,Z037,
```

```
MOV1,SB1,DB7,Z07,
```

```
MOV1,SB37,Z037,OE1]
```

```
[C,O,C,H,H,C,O,C,H,H,C,O,C,H,H]
```

```
\stopchemical
```



```
\startchemical[width=fit,height=fit,size=small,scale=small]
```

```
\chemical
```

```
[ONE,SB1,DB7,Z07,OE5,
```

```
MOV1,SB17,DB3,Z07,
```

```
SAVE,
```

```
MOV3,ONE,Z0234,SB234,
```

```
RESTORE,
```

```
MOV1,SB1,DB7,Z07,
```

```
MOV1,SB17,DB3,Z07,
```

```
SAVE,
```

```
MOV3,ONE,Z0234,SB234,
```

```
RESTORE,
```

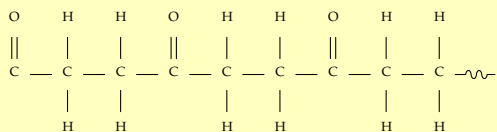
```
MOV1,SB1,DB7,Z07,
```

```
MOV1,SB7,DB3,Z07,OE1,
```

```
MOV3,ONE,Z0234,SB234]
```

```
[C,O,C,H,C,H,H,H,C,O,C,H,C,H,H,H,C,O,C,H,C,H,H,H]
```

```
\stopchemical
```



```
\startchemical[width=fit,height=fit,size=small,scale=small]
```

```
\chemical
```

```
[ONE,SB1,DB7,Z07,OE5,
```

```
MOV1,SB137,Z037,
```

```
MOV1,SB137,Z037,
```

```
MOV1,SB1,DB7,Z07,
```

```
MOV1,SB137,Z037,
```

```
MOV1,SB137,Z037,
```

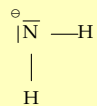
```
MOV1,SB1,DB7,Z07,
```

```
MOV1,SB137,Z037,
```

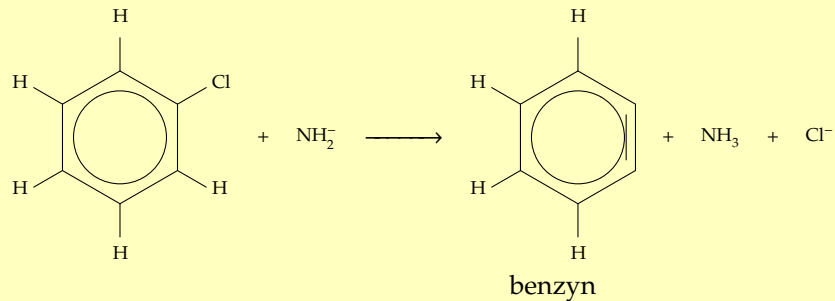
```
MOV1,SB37,Z037,OE1]
```

```
[C,O,C,H,H,C,H,H,C,O,C,H,H,C,H,H,C,O,C,H,H,C,H,H]
```

```
\stopchemical
```

```
\startchemical[width=fit]
\chemical
  [ONE,Z01,OFF1,SB13,EP57,MOV3,Z0]
  [\TL{\ominus}N,H,H]
\stopchemical
```

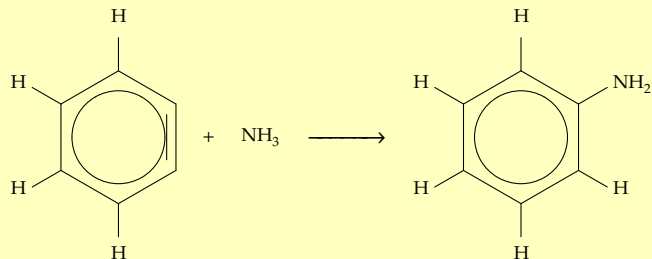


```

\startformula
  \setupchemical
    [width=fit,
     height=5000]
  \startchemical
    \chemical[SIX,C,B,R1..6,RZ1..6][Cl,H,H,H,H,H]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE][ ]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO][NH_{2}^{\{-}}]
  \stopchemical
  \startchemical
    \chemical[SPACE,GIVES,SPACE][ ]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,EB1,R3..6,RZ3..6][H,H,H,H]
    \bottext{benzyn}
  \stopchemical
  \startchemical

```

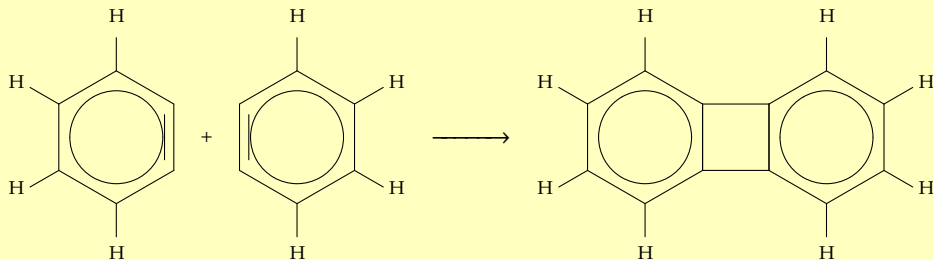
```
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO] [NH_{3}]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO] [Cl^{-}]
\stopchemical
\stopformula
```



```

\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical[SIX,C,B,EB1,R3..6,RZ3..6][H,H,H,H,H]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE][ ]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO][NH_3]
  \stopchemical
  \startchemical
    \chemical[SPACE,GIVES,SPACE][ ]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,R1..6,RZ1..6][NH_2,H,H,H,H,H]
  \stopchemical
\stopformula

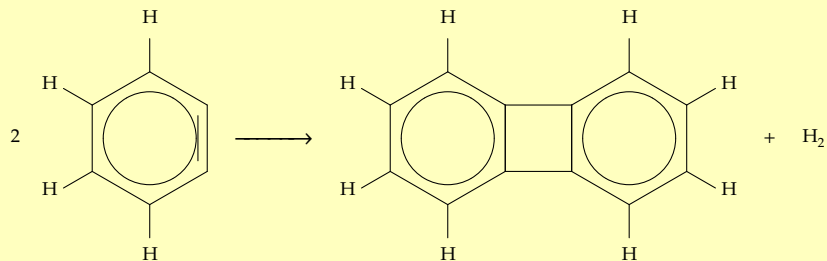
```



```

\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical[SIX,C,B,EB1,R3..6,RZ3..6] [H,H,H,H]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,EB4,R1236,RZ1236] [H,H,H,H]
  \stopchemical
  \startchemical
    \chemical[SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical
      [SIX,C,B,R3456,RZ3456,
       ADJ1,FOUR,B,ADJ1,
       SIX,C,B,R1236,RZ1236]
      [H,H,H,H,H,H,H,H]
  \stopchemical
\stopformula

```

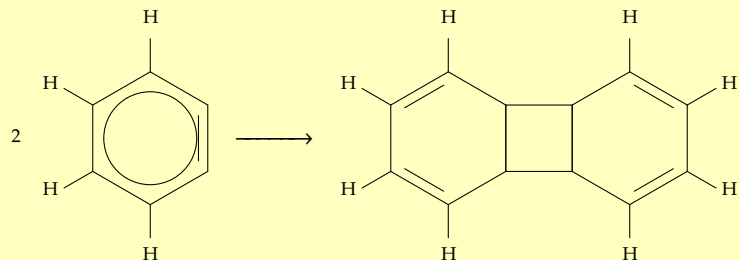


```

\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical [ONE,ZO,SPACE,SPACE] [2]
  \stopchemical
  \startchemical
    \chemical [SIX,C,B,EB1,R3..6,RZ3..6] [H,H,H,H]
  \stopchemical
  \startchemical
    \chemical [SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical
      [SIX,C,B,R3456,RZ3456,ADJ1,
       FOUR,B,ADJ1,
       SIX,C,B,R1236,RZ1236]
      [H,H,H,H,H,H,H,H]
  \stopchemical
  \startchemical
    \chemical [SPACE,PLUS,SPACE] []
  \stopchemical
  \startchemical

```

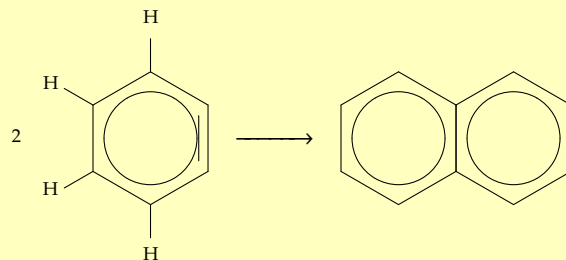
```
\chemical[ONE,ZO][H_2]
\stopchemical
\stopformula
```



```

\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical [ONE,ZO,SPACE,SPACE] [2]
  \stopchemical
  \startchemical
    \chemical [SIX,C,B,EB1,R3..6,RZ3..6] [H,H,H,H]
  \stopchemical
  \startchemical
    \chemical [SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical
      [SIX,B,EB35,R3456,RZ3456,
       ADJ1,FOUR,B,ADJ1,
       SIX,B,EB26,R1236,RZ1236]
      [H,H,H,H,H,H,H,H]
  \stopchemical
\stopformula

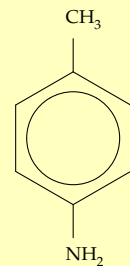
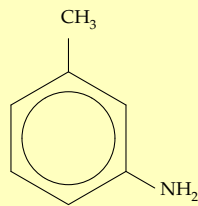
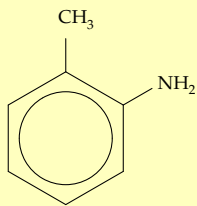
```

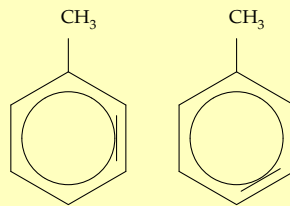
```

\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical[ONE,ZO,SPACE,SPACE] [2]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,EB1,R3..6,RZ3..6] [H,H,H,H]
  \stopchemical
  \startchemical
    \chemical[SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,ADJ1,SIX,C,B]
  \stopchemical
\stopformula

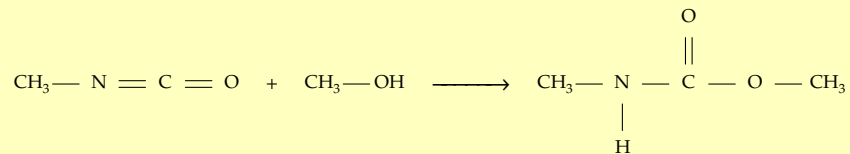
```



```
\startformula
  \setupchemical
    [width=fit,
     height=fit]
  \startchemical
    \chemical[SIX,C,B,R16,RZ16][NH_2,CH_3]
  \stopchemical
  \startchemical
    \chemical[SPACE,SPACE]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,R26,RZ26][NH_2,CH_3]
  \stopchemical
  \startchemical
    \chemical[SPACE,SPACE]
  \stopchemical
  \startchemical
    \chemical[SIX,C,B,R36,RZ36][NH_2,CH_3]
  \stopchemical
\stopformula
```



```
\startformula
\setupchemical
  [width=fit,
  height=fit]
\startchemical
\chemical[SIX,C,B,EB1,R6,RZ6][CH_3]
\stopchemical
\startchemical
\chemical[SPACE,SPACE][]
\stopchemical
\startchemical
\chemical[SIX,C,B,EB2,R6,RZ6][CH_3]
\stopchemical
\stopformula
```



```

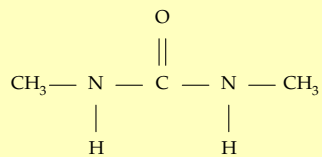
\startformula
\setupchemical
[width=fit,
height=fit]
\startchemical
\chemical
[ONE,ZO,SB1,
MOV1,ZO,DB1,
MOV1,ZO,DB1,
MOV1,ZO]
[CH_3,N,C,O]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,ZO,SB1,
MOV1,ZO]
[CH_3,OH]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,ZO,SB1,

```

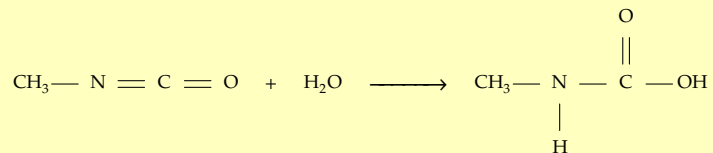
```
MOV1,Z0,SB13,Z3,  
MOV1,Z0,SB1,DB7,Z7,  
MOV1,Z0,SB1,  
MOV1,OFF1,Z0]  
[CH_3,N,H,C,O,O,CH_3]
```

```
\stopchemical
```

```
\stopformula
```



```
\startchemical[width=fit]
\chemical
[ONE,Z0,SB1,
MOV1,Z03,SB13,
MOV1,Z07,SB1,DB7,
MOV1,Z03,SB13,
MOV1,OFF1,Z0]
[CH_3,N,H,C,O,N,H,CH_3]
\stopchemical
```



```

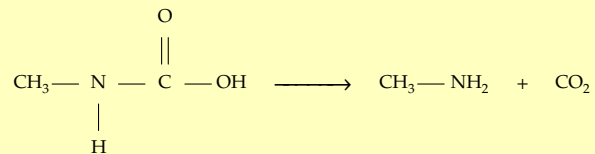
\startformula
\setupchemical
  [width=fit,
  height=fit]
\startchemical
\chemical
  [ONE,ZO,SB1,
  MOV1,ZO,DB1,
  MOV1,ZO,DB1,
  MOV1,ZO]
  [CH_3,N,C,O]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO,] [H_2O]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
  [ONE,ZO,SB1,
  MOV1,ZO,SB13,Z3,
  MOV1,ZO,SB1,DB7,Z7,
  MOV1,ZO]

```

[CH_3,N,H,C,O,OH]

\stopchemical

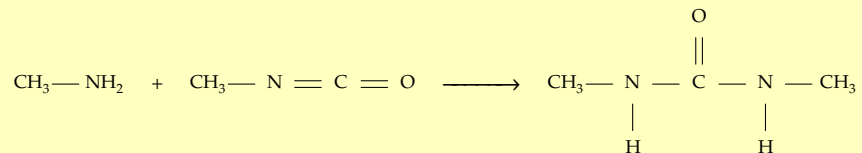
\stopformula



```

\startformula
\setupchemical
  [width=fit,
  height=fit]
\startchemical
\chemical
  [ONE,ZO,SB1,
  MOV1,ZO,SB13,Z3,
  MOV1,ZO,SB1,DB7,Z7,
  MOV1,ZO]
  [CH_3,N,H,C,O,OH]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO,SB1,Z1] [CH_3,NH_2]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO] [CO_2]
\stopchemical
\stopformula

```



```

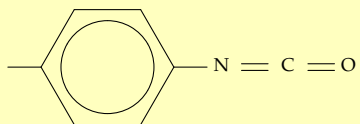
\startformula
  \setupchemical
    [width=fit]
  \startchemical
    \chemical[ONE,Z0,SB1,Z1][CH_3,NH_2]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE]
  \stopchemical
  \startchemical
    \chemical
      [ONE,Z0,SB1,
        MOV1,Z0,DB1,
        MOV1,Z0,DB1,
        MOV1,Z0]
      [CH_3,N,C,O]
  \stopchemical
  \startchemical
    \chemical[SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical
      [ONE,Z0,SB1,
        MOV1,Z03,SB13,

```

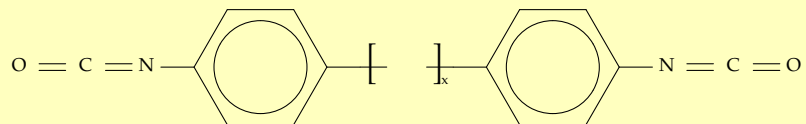
```
MOV1,Z07,SB1,DB7,  
MOV1,Z03,SB13,  
MOV1,OFF1,Z0]  
[CH_3,N,H,C,O,N,H,CH_3]
```

```
\stopchemical
```

```
\stopformula
```



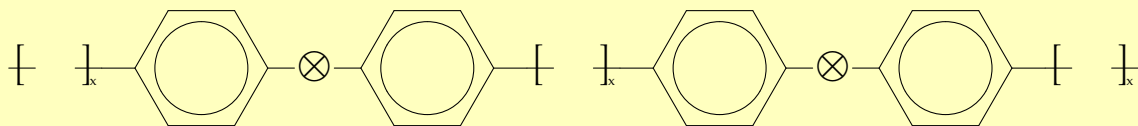
```
\startformula
  \setupchemical
    [width=fit]
  \startchemical
    \chemical[SIX,ROT2,B,C,R36,RZ36]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO,DB1,MOV1,Z01,DB1][N,C,O]
  \stopchemical
\stopformula
```



```

\startformula
  \setupchemical
    [width=fit]
  \startchemical
    \chemical[ONE,ZO,DB1,MOV1,ZO1,DB1][O,C,N]
  \stopchemical
  \startchemical
    \chemical[SIX,ROT2,B,C,R36,RZ3]
  \stopchemical
  \startchemical
    \chemical[ONE,SB15,ZT5,ZT1][\[, \]{x}]
  \stopchemical
  \startchemical
    \chemical[SIX,ROT2,B,C,R36,RZ6]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO,DB1,MOV1,ZO1,DB1][N,C,O]
  \stopchemical
\stopformula

```

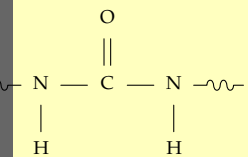


```

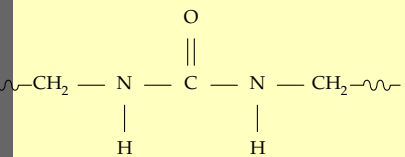
\startformula
  \setupchemical
    [width=fit]
  \startchemical
    \chemical[ONE,SB15,ZT5,ZT1][\[,\\{x}]
  \stopchemical
  \startchemical
    \chemical[SIX,ROT2,R3,B,C]
  \stopchemical
  \startchemical
    \chemical[ONE,SB15,Z0][{\bigotimes}]
  \stopchemical
  \startchemical
    \chemical[SIX,ROT2,R6,B,C]
  \stopchemical
  \startchemical
    \chemical[ONE,SB15,ZT5,ZT1][\[,\\{x}]
  \stopchemical
  \startchemical
    \chemical[SIX,ROT2,R3,B,C]
  \stopchemical
  \startchemical
    \chemical[ONE,SB15,Z0][{\bigotimes}]
  \stopchemical

```

```
\startchemical
  \chemical[SIX,ROT2,R6,B,C]
\stopchemical
\startchemical
  \chemical[ONE,SB15,ZT5,ZT1][\[, \]{x}]
\stopchemical
\stopformula
```



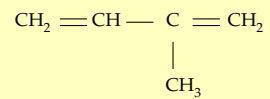
```
\startchemical[width=fit]
\chemical
[ONE,Z0,OE5,SB13,Z3,
MOV1,Z0,SB1,DB7,Z7,
MOV1,Z0,Z3,SB3,OE1]
[N,H,C,O,N,H]
\stopchemical
```

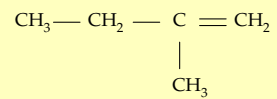
```

\startchemical[width=fit]
\chemical
[ONE,Z0,OE5,OFF1,SB1,
MOV1,Z0,SB13,Z3,
MOV1,Z07,SB1,DB7,
MOV1,Z03,SB13,
MOV1,OFF1,Z0,OE1]
[CH_2,N,H,C,O,N,H,CH_2]
\stopchemical

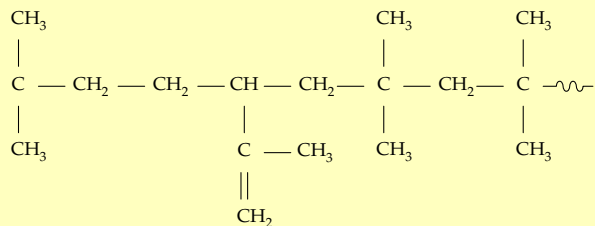
```



```
\startchemical[width=fit]
\chemical
  [ONE,Z0,OFF1,DB1,
  MOV1,Z0,SB1,
  MOV1,Z0,SB3,Z3,DB1,
  MOV1,OFF1,Z0]
  [CH_2,CH,C,CH_3,CH_2]
\stopchemical
```



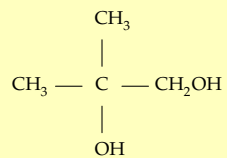
```
\startchemical[width=fit]
\chemical
  [ONE,Z0,SB1,
  MOV1,OFF1,Z0,2OFF1,SB1,
  MOV1,Z0,SB3,Z3,DB1,
  MOV1,OFF1,Z0]
  [CH_3,CH_2,C,CH_3,CH_2]
\stopchemical
```

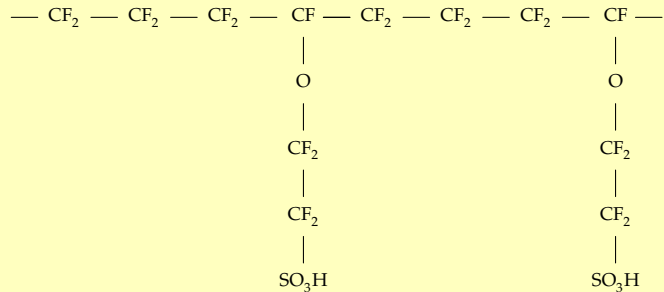
```

\startchemical[width=fit]
\chemical
  [ONE,Z0,OE5,SB137,Z37,
  MOV1,OFF1,Z0,2OFF1,SB1,
  MOV1,OFF1,Z0,2OFF1,SB1,
  MOV1,Z0,SB13,
SAVE,
  MOV1,OFF1,Z0,OFF1,SB1,
  MOV1,Z0,SB137,Z37,
  MOV1,OFF1,Z0,OFF1,SB1,
  MOV1,Z0,SB37,Z37,OE1,
RESTORE,
  MOV3,Z0,SB1,DB3,Z13]
[C,CH_3,CH_3,CH_2,CH_2,CH,CH_2,C,CH_3,CH_3,
CH_2,C,CH_3,CH_3,C,CH_3,CH_2]
\stopchemical

```



```
\startchemical[width=fit]
\chemical
  [ONE,SB1357,Z0,Z1357]
  [C,CH_2OH,OH,CH_3,CH_3]
\stopchemical
```



```

\definechemical
[molecule]
{\chemical
  [ONE,SB5,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,SB3,
  SAVE,
  MOV3,ZO,SB3,
  MOV3,ZO,SB3,
  MOV3,ZO,SB3,
  MOV3,ZO,
  RESTORE,
  OFF1,SB1,MOV1]
  [CF_2,CF_2,CF_2,CF,0,CF_2,CF_2,SO_3H]}

\startchemical[width=fit]
  \chemical[molecule, molecule]
\stopchemical

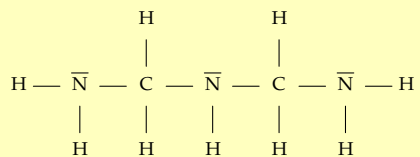
```



```

\stopchemical
\startchemical
  \chemical [SPACE]
\stopchemical
\startchemical
\chemical [ONE,SB1,SB3,SB5,Z0,Z1,Z3,Z5] [N,H,H,\bf H]
\stopchemical
\startchemical
  \chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
  \chemical
    [ONE,Z0,2OFF1,SB1,
     MOV1,OFF1,Z0,2OFF1,SB1,
     MOV1,SB1,SB3,Z0,Z3,
     MOV1,OFF1,Z0,2OFF1,SB1,
     MOV1,OFF1,Z0]
    [H_2N,CH_2,N,H,CH_2,NH_2]
  \bottext{compound A}
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
  \chemical [ONE,Z0] [2\,H_2O]
\stopchemical
\stopformula

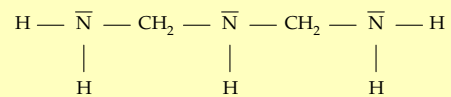
```



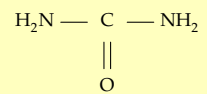
```

\startchemical[width=fit]
\chemical
[ONE,Z035,SB135,EP7,
MOV1,Z037,SB137,
MOV1,Z03,SB13,EP7,
MOV1,Z037,SB137,
MOV1,Z013,SB13,EP7]
[N,H,H,C,H,H,N,H,C,H,H,N,H,H]
\stopchemical

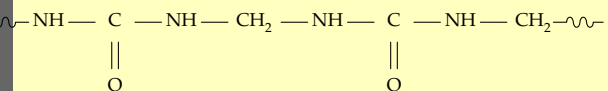
```



```
\startchemical[width=fit]
\chemical
[ONE,Z035,SB135,EP7,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,Z03,SB13,EP7,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,Z013,SB13,EP7]
[N,H,H,CH_2,N,H,CH_2,N,H,H]
\stopchemical
```



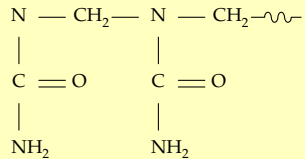
```
\startchemical[width=fit]
  \chemical[ONE,Z0,SB1,DB3,SB5,Z135][C,NH_2,O,H_2N]
\stopchemical
```



```

\startchemical[width=fit]
\chemical
[ONE,Z0,SB1,OE5,
MOV1,Z0,SB1,Z3,DB3,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,Z0,SB1,
MOV1,Z0,SB1,Z3,DB3,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,OE1]
[NH,C,O,NH,CH_2,NH,C,O,NH,CH_2]
\stopchemical

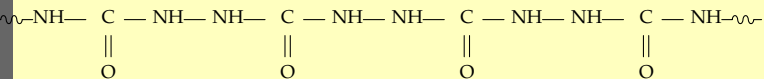
```



```

\startchemical[width=fit]
\chemical
  [ONE,Z0,SB1,SB3,OE5,
  SAVE,
  MOV3,Z013,DB1,SB3,
  RESTORE,
  MOV1,OFF1,Z0,2OFF,1SB1,
  MOV1,Z0,SB13,
  SAVE,
  MOV3,Z013,DB1,SB3,
  RESTORE,
  MOV1,OFF1,Z0,OFF1,OE1]
  [N,C,O,NH_2,CH_2,N,C,O,NH_2,CH_2]
\stopchemical

```



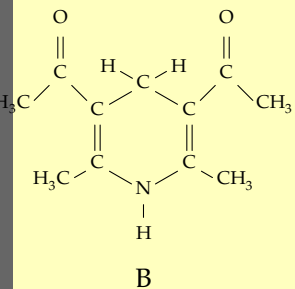
```
\startchemical[width=fit,scale=small,size=medium]
```

```
\chemical
```

```
[ONE,OFF1,ZO,OFF1,SB1,OE5,
MOV1,OFF1,ZO,OFF1,SB1,Z3,DB3,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,Z3,DB3,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,Z3,DB3,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,Z3,DB3,
MOV1,OFF1,ZO,OFF1,OE1]
```

```
[NH,C,O,NH,NH,C,O,NH,NH,C,O,NH,NH,C,O,NH]
```

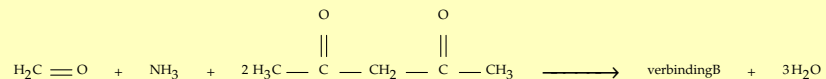
```
\stopchemical
```



```

\startchemical [scale=small,width=fit,top=3000,bottom=3000]
  \chemical [SIX,SB2356,DB14,Z2346,SR3,RZ3,-SR6,+SR6,-RZ6,+RZ6] [C,N,C,C,H,H,H]
  \chemical [PB:Z1,ONE,Z0,DIR8,Z0,SB24,DB7,Z27,PE] [C,C,CH_3,0]
  \chemical [PB:Z5,ONE,Z0,DIR6,Z0,SB24,DB7,Z47,PE] [C,C,H_3C,0]
  \chemical [SR24,RZ24] [CH_3,H_3C]
  \bottext{\crlf B} % ??
\stopchemical

```

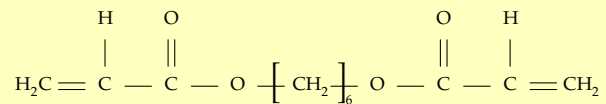



```

\startformula
  \setupchemical
    [width=fit,
     size=small,
     scale=small]
  \startchemical
    \chemical[ONE,ZO,OFF1,DB1,Z1][H_2C,O]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO][NH_3]
  \stopchemical
  \startchemical
    \chemical[SPACE,PLUS,SPACE]
  \stopchemical
  \startchemical
    \chemical[ONE,ZO][2\,\,]
  \stopchemical
  \startchemical
    \chemical
      [ONE,ZO,SB1,Z57,SB5,DB7,
       MOV1,OFF1,ZO,2OFF1,SB1,
       MOV1,ZO,SB1,Z17,DB7]

```

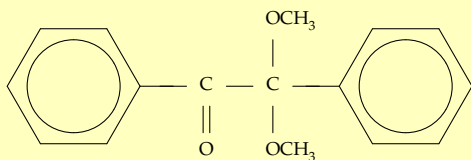
```
    [C,H_3C,0,CH_2,C,CH_3,0]
\stopchemical
\startchemical
  \chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
  \chemical [ONE,ZO] [verbinding B]
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE] []
\stopchemical
\startchemical
  \chemical [ONE,ZO] [3\,H_20]
\stopchemical
\stopformula
```



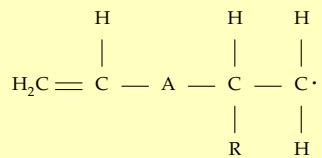
```

\startchemical[width=fit]
\chemical
  [ONE,Z0,SB1,Z57,DB5,SB7,
  MOV1,Z0,SB1,Z7,DB7,
  MOV1,Z0,SB1,
  MOV1,OFF1,Z0,OFF1,SB1,ZT1,ZT5,
  MOV1,Z0,SB1,
  MOV1,Z0,SB1,Z7,DB7,
  MOV1,Z0,DB1,Z17,SB7]
[C,H_2C,H,C,O,O,CH_2,\]{6},\[,O,C,O,C,CH_2,H]
\stopchemical

```



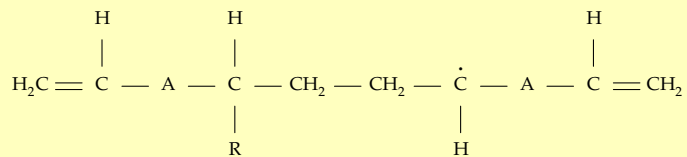
```
\startchemical[width=fit]
\chemical
[SIX,ROT2,B,C,R6,SUB1,
ONE,Z0,Z3,SB15,DB3,
MOV1,Z037,SB137,SUB1,
SIX,ROT2,B,C,R3]
[C,O,C,OCH_3,OCH_3]
\stopchemical
```



```

\startchemical[width=fit]
\chemical
[ONE,Z057,SB17,DB5,
MOV1,Z0,SB1,
MOV1,Z037,SB137,
MOV1,Z037,SB37,ES1]
[C,H_2C,H,A,C,R,H,C,H,H]
\stopchemical

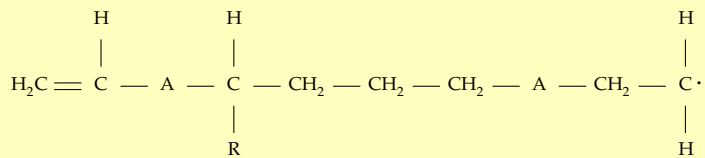
```



```

\startchemical[width=fit]
\chemical
[ONE,Z057,SB17,DB5,
MOV1,Z0,SB1,
MOV1,Z037,SB137,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,Z03,SB1,SB3,ES7,
MOV1,Z0,SB1,
MOV1,Z017,DB1,SB7]
[C,H_2C,H,A,C,R,H,CH_2,CH_2,C,H,A,C,CH_2,H]
\stopchemical

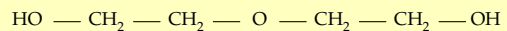
```



```

\startchemical[width=fit]
\chemical
[ONE,Z057,SB17,DB5,
MOV1,Z0,SB1,
MOV1,Z037,SB137,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,20FF1,SB1,
MOV1,Z037,SB37,ES1]
[C,H_2C,H,A,C,R,H,CH_2,CH_2,CH_2,A,CH_2,C,H,H]
\stopchemical

```



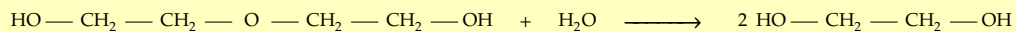
diethyleenglycol

```
\startchemical[width=fit,bottom=1000]
\chemical
  [ONE,ZO,OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,ZO,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,ZO]
  [HO,CH_2,CH_2,O,CH_2,CH_2,OH]
\bottomtext{diethyleenglycol}
\stopchemical
```


HO — CH₂ — CH₂ — OH

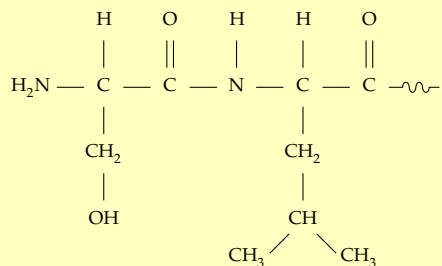
Sample A

```
\startchemical[width=fit,bottom=1000]
\chemical
  [ONE,ZO,OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO]
  [HO,CH_2,CH_2,OH]
\bottext{Sample A}
\stopchemical
```



```
\startformula
\setupchemical
  [width=fit]
\startchemical
  \chemical
    [ONE,ZO,SB1,
     MOV1,OFF1,ZO,2OFF1,SB1,
     MOV1,OFF1,ZO,2OFF1,SB1,
     MOV1,ZO,SB1,
     MOV1,OFF1,ZO,2OFF1,SB1,
     MOV1,OFF1,ZO,2OFF1,SB1,
     MOV1,ZO]
    [HO,CH_2,CH_2,O,CH_2,CH_2,OH]
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
  \chemical [ONE,ZO] [H_2O]
\stopchemical
\startchemical
  \chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
```

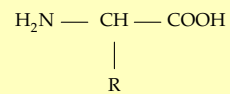
```
\chemical [ONE,ZO,SPACE] [2]
\stopchemical
\startchemical
\chemical
  [ONE,ZO,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,ZO]
  [HO,CH_2,CH_2,OH]
\stopchemical
\stopformula
```



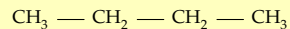
```

\startchemical[width=fit]
\chemical
[ONE,Z0,OFF1,SB1,
MOV1,Z07,SB137,
SAVE,
MOV1,Z07,SB1,DB7,
MOV1,Z07,SB17,
MOV1,Z07,SB137,
SAVE,
MOV1,Z07,OE1,DB7,
RESTORE,
MOV3,SB3,Z0,
MOV3,Z0,Z24,SB24,
RESTORE,
MOV3,,Z0,SB3,
MOV3,Z0]
[H_2N,C,H,C,O,N,H,C,H,C,O,
CH_2,CH,CH_3,CH_3,CH_2,OH]
\stopchemical

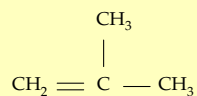
```



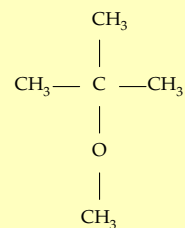
```
\startchemical[width=fit]
\chemical
  [ONE,Z0,OFF1,SB1,
  MOV1,OFF1,Z0,OFF1,SB13,Z13]
  [H_2N,CH,COOH,R]
\stopchemical
```



butaan



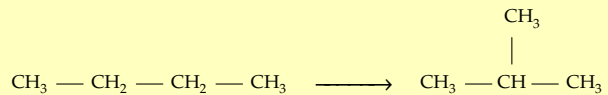
isobuteen



MTBE

```
\startformula
\startchemical[height=2000,width=fit]
\chemical
[ONE,Z0,OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0]
[CH_3,CH_2,CH_2,CH_3]
\bottext{butaan}
\stopchemical
\quad\quad\quad
\startchemical[height=2000,width=fit]
\chemical
[ONE,Z0,OFF1,DB1,
MOV1,Z07,SB17,
MOV1,OFF1,Z0]
[CH_2,C,CH_3,CH_3]
\bottext{isobuteen}
\stopchemical
```

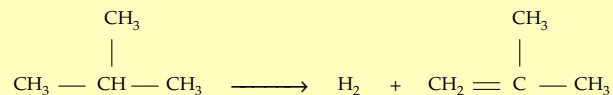
```
\quad\quad\quad
\startchemical[height=6000,width=fit]
\chemical
  [ONE,ZO,SB1,
  MOV1,ZO,Z7,SB137,
  SAVE,MOV1,ZO,RESTORE,
  MOV3,ZO,SB3,
  MOV3,ZO]
  [CH_3,C,CH_3,CH_3,0,CH_3]
\bottext{MTBE}
\stopchemical
\stopformula
```



```

\startformula
\setupchemical
[height=2000,
width=fit]
\startchemical
\chemical
[ONE,Z0,OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0]
[CH_3,CH_2,CH_2,CH_3]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z0,OFF1,SB1,
MOV1,Z07,SB17,
MOV1,OFF1,Z0]
[CH_3,CH,CH_3,CH_3]
\stopchemical
\stopformula

```

```

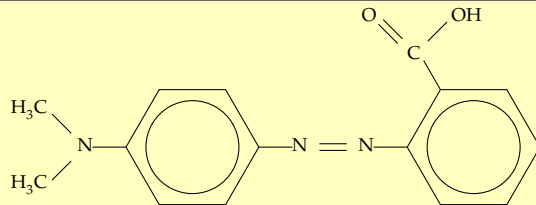
\startformula
\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,Z0,OFF1,SB1,
MOV1,OFF1,Z0,OFF1,Z7,SB17,
MOV1,OFF1,Z0]
[CH_3,CH,CH_3,CH_3]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical[ONE,Z0,SPACE][H_2]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z0,OFF1,DB1,
MOV1,Z07,SB17,
MOV1,OFF1,Z0]

```

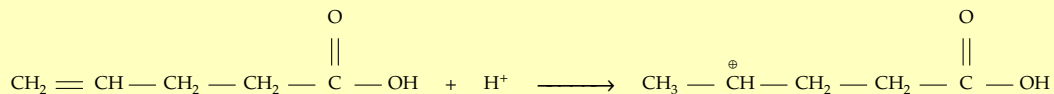
[CH_2,C,CH_3,CH_3]

\stopchemical

\stopformula



```
\startformula
\setupchemical[width=fit]
\startchemical
\chemical[ONE,Z046,SB46,][N,H_3C,H_3C]
\stopchemical
\startchemical
\chemical[SIX,ROT2,B,C,R36]
\stopchemical
\startchemical
\chemical[ONE,Z0,DB1,MOV1,Z0][N,N]
\stopchemical
\startchemical
\chemical
[SIX,ROT2,B,C,R34,
PB:RZ4,ONE,Z0,SB8,DB6,Z68,PE]
[C,O,OH]
\stopchemical
\stopformula
```



```

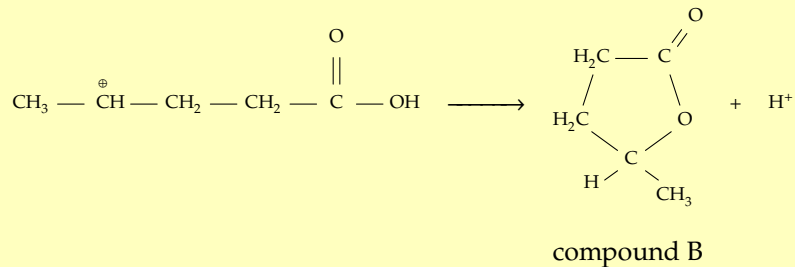
\startformula
\setupchemical
  [width=fit]
\startchemical
\chemical
  [ONE,ZO,OFF1,DB1,
  MOV1,OFF1,ZO,OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,OFF1,ZO,2OFF1,SB1,
  MOV1,ZO,SB1,DB7,Z1,Z7]
  [CH_2,CH,CH_2,CH_2,C,OH,0]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical [ONE,ZO] [H^+]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
  [ONE,ZO,OFF1,SB1,

```

```
MOV1,OFF1,Z0,OFF1,SB1,  
MOV1,OFF1,Z0,2OFF1,SB1,  
MOV1,OFF1,Z0,2OFF1,SB1,  
MOV1,Z0,SB1,DB7,Z1,Z7]  
[CH_3,\T{\oplus}CH,CH_2,CH_2,C,OH,0]
```

\stopchemical

\stopformula

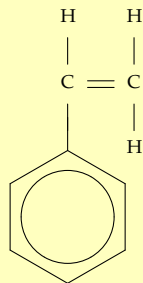


```

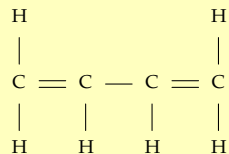
\startformula
\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB1,
MOV1,OFF1,ZO,2OFF1,SB1,
MOV1,OFF1,ZO,2OFF1,SB1,
MOV1,ZO,SB1,DB7,Z1,Z7]
[CH_3,\T{\oplus}CH,CH_2,CH_2,C,OH,0]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical [bottom=2500]
\chemical
[FIVE,ROT4,Z12345,SB,DR2,CRZ2,-SR4,+SR4,-RZ4,+RZ4]
[H_2C~~,C,O,C,H_2C~~,O,CH_3,H]
\bottomtext{compound B}
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]

```

```
\stopchemical
\startchemical
  \chemical[ONE,ZO] [H^+]
\stopchemical
\stopformula
```



styreen



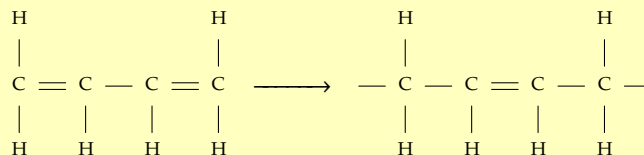
1,3-butadien

```

\startformula
  \setupchemical
    [width=fit,
     bottom=4000]
  \startchemical
    \chemical
      [ONE,Z0,DB1,SB3,SB7,Z7,
       MOV1,Z0,SB3,SB7,Z3,Z7,
       MOV0,SUB2,SIX,B,R6,C]
      [C,H,C,H,H]
    \bottext{styreen}
  \stopchemical
  \quad\quad\quad\quad\quad\quad
  \startchemical
    \chemical
      [ONE,Z0,DB1,SB3,SB7,Z3,Z7,
       MOV1,Z0,SB1,SB3,Z3,
       MOV1,Z0,DB1,SB3,Z3,
       MOV1,Z0,SB3,SB7,Z3,Z7]
      [C,H,H,C,H,C,H,C,H,H]
    \bottext{1,3-butadien}

```

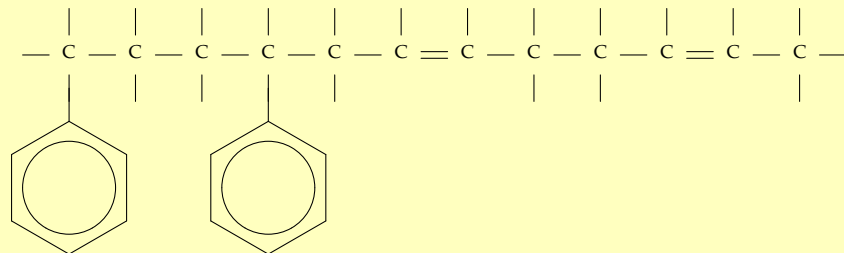

`\stopchemical`
`\stopformula`



```

\startformula
\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,ZO,DB1,Z37,SB37,
MOV1,ZO3,SB13,
MOV1,ZO3,DB1,SB3,
MOV1,ZO37,SB37]
[C,H,H,C,H,C,H,C,H,H]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,ZO37,SB1357,
MOV1,ZO3,DB1,SB3,
MOV1,ZO3,SB13,
MOV1,ZO37,SB137]
[C,H,H,C,H,C,H,C,H,H]
\stopchemical
\stopformula

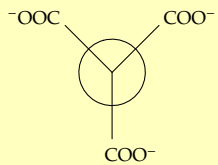
```



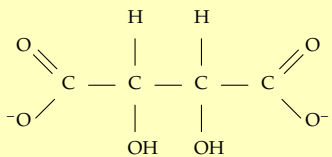
```

\setupchemical
[height=fit]
\startchemical
\chemical
[ONE,Z0,SB1357,
SAVE,
SUB2,SIX,B,C,R6,
RESTORE,
MOV1,Z0,SB137,
MOV1,Z0,SB137,
MOV1,Z0,SB137,
SAVE,
SUB2,SIX,B,C,R6,
RESTORE,
MOV1,Z0,SB137,
MOV1,Z0,DB1,SB7,
MOV1,Z0,SB17,
MOV1,Z0,SB137,
MOV1,Z0,SB137,
MOV1,Z0,DB1,SB7,
MOV1,Z0,SB17,
MOV1,Z0,SB137]
[C,C,C,C,C,C,C,C,C,C,C]
\stopchemical

```



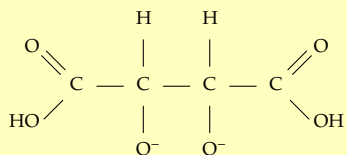
```
\setupchemical  
[height=fit]  
\startchemical  
  \chemical[NEWMAN,C,B123,Z123][\text{COO}^{\{-}\},\text{COO}^{\{-}\},^{\{-}\text{OOC}}  
\stopchemical
```



```

\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,Z0,SB14,DB6,Z46,
MOV1,Z0,SB137,Z37,
MOV1,Z0,SB137,Z37,
MOV1,Z0,SB2,DB8,Z28]
[C,^-0,0,C,OH,H,C,OH,H,C,O^-,0]
\stopchemical

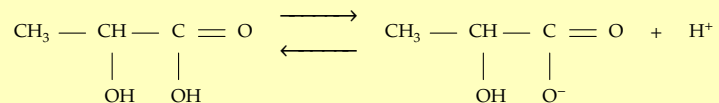
```



```

\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,Z0,SB14,DB6,Z46,
MOV1,Z0,SB137,Z37,
MOV1,Z0,SB137,Z37,
MOV1,Z0,SB2,DB8,Z28]
[C,H,O,O,C,O^-,H,C,O^-,H,C,OH,O]
\stopchemical

```

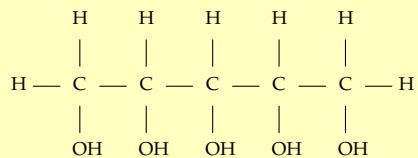


```

\startformula
\setupchemical
[width=fit]
\startchemical
\chemical
[ONE,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB13,Z3,
MOV1,ZO,DB1,SB3,Z3,
MOV1,ZO]
[CH_3,CH,OH,C,OH,0]
\stopchemical
\startchemical
\chemical[SPACE,EQUILIBRIUM,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,ZO,OFF1,SB1,
MOV1,OFF1,ZO,OFF1,SB13,Z3,
MOV1,ZO,DB1,SB3,Z3,
MOV1,ZO]
[CH_3,CH,OH,C,O^-,0]
\stopchemical
\startchemical
\chemical[SPACE,PLUS,SPACE]

```

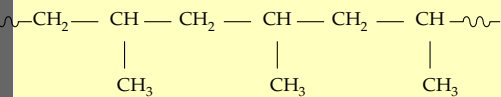
```
\stopchemical
\startchemical
  \chemical[ONE,OFF1,Z0] [H^+]
\stopchemical
\stopformula
```

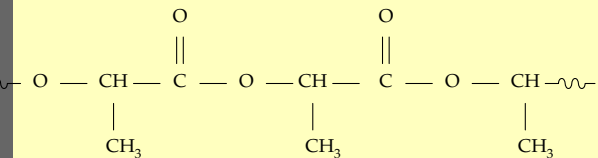
```

\startchemical[width=fit]
\chemical
[ONE,Z0357,SB1357,
MOV1,Z037,SB137,
MOV1,Z037,SB137,
MOV1,Z037,SB137,
MOV1,Z0137,SB137]
[C,OH,H,H,C,OH,H,C,OH,H,C,OH,H,C,OH,H,C,OH,H]
\stopchemical

```



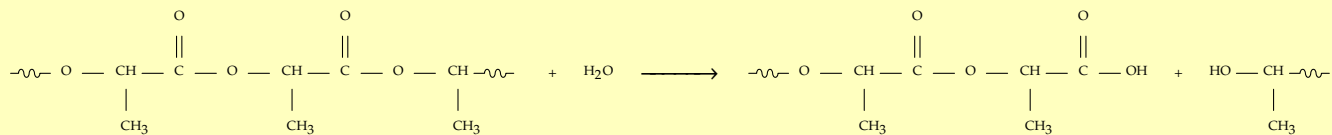
poloymer A



polymer B

```
\setupchemical
[width=fit,
height=fit,
bottom=2000]
\startchemical
\chemical
[ONE,OFF1,Z0,OFF1,SB1,OE5,
MOV1,OFF1,Z0,OFF1,SB1,Z3,SB3,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,OFF1,SB1,Z3,SB3,
MOV1,OFF1,Z0,2OFF1,SB1,
MOV1,OFF1,Z0,Z3,SB3,OE1]
[CH_2,CH,CH_3,CH_2,CH,CH_3,CH_2,CH,CH_3]
\bottomtext{poloymer A}
\stopchemical
\blank[3*big]
```

```
\startchemical
\chemical
[ONE,ZO,SB1,OE5,
MOV1,OFF1,ZO,OFF1,SB1,Z3,SB3,
MOV1,ZO,SB1,Z7,DB7,
MOV1,ZO,SB1,
MOV1,ZO,SB1,Z3,SB3,
MOV1,OFF1,ZO,OFF1,SB1,Z7,DB7,
MOV1,ZO,SB1,
MOV1,OFF1,ZO,Z3,SB3,OE1]
[O,CH,CH_3,C,O,O,CH,CH_3,C,O,O,CH,CH_3]
\bottext{polymer B}
\stopchemical
```



```

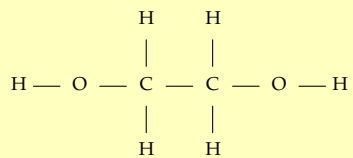
\startformula
\setupchemical
[width=fit,
height=2750,
scale=small,
size=small]
\startchemical
\chemical
[ONE,Z0,SB1,OE5,
MOV1,OFF1,Z0,OFF1,SB1,Z3,SB3,
MOV1,Z0,SB1,Z7,DB7,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,OFF1,SB1,Z3,SB3,
MOV1,Z0,SB1,Z7,DB7,
MOV1,Z0,SB1,
MOV1,OFF1,Z0,Z3,SB3,OE1]
[0,CH,CH_3,C,0,0,CH,CH_3,C,0,0,CH,CH_3]
\stopchemical
\quad\quad
\startchemical
\chemical[SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical[ONE,OFF1,Z0][H_2O]
\stopchemical
\startchemical
\chemical[SPACE,GIVES,SPACE]

```

```

\stopchemical
\quad\quad
\startchemical
  \chemical
    [ONE,Z0,SB1,OE5,
      MOV1,OFF1,Z0,OFF1,SB1,Z3,SB3,
      MOV1,Z0,SB1,Z7,DB7,
      MOV1,Z0,SB1,
      MOV1,OFF1,Z0,OFF1,Z3,SB3,SB1,
      MOV1,Z0,SB1,DB7,Z17]
    [O,CH,CH_3,C,O,O,CH,CH_3,C,OH,O]
\stopchemical
\startchemical
  \chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
  \chemical [ONE,OFF1,Z0,SB35,Z35,OE1] [CH,CH_3,HO]
\stopchemical
\stopformula

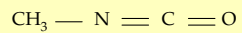
```



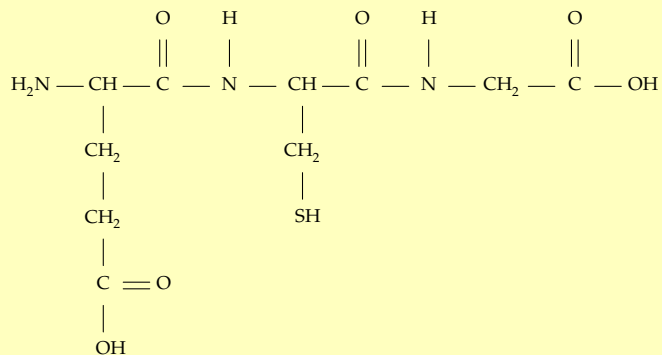
```
\startchemical[width=fit]
\chemical
[ONE,Z05,SB15,
MOV1,Z037,SB137,
MOV1,Z037,SB137,
MOV1,Z01,SB1]
[O,H,C,H,H,C,H,H,O,H]
\stopchemical
```



```
\chemical
  [ONE,Z03,SB13,
  MOV1,Z037,SB137,
  MOV1,Z037,SB137,
  MOV1,Z0,SB1,
  MOV1,Z0]
  [O,H,C,H,H,C,H,H,O,H]
\stopchemical
\startchemical[width=100]
  \chemical[SPACE]
\stopchemical
\startchemical
  \chemical[ONE,Z017,SB17,SD5][O,H,H]
\stopchemical
\stopformula
```

```
\startchemical[height=2000]
\chemical
  [ONE,DB1,SB5,Z0,Z5,
  MOV1,DB1,Z0,Z1]
  [N,CH_3,C,O]
\stopchemical
```



```

\startchemical
[width=fit]
\chemical
[ONE,OFF1,Z0,OFF1,Z5,SB135,
SAVE,
MOV3,Z0,SB3,
MOV3,Z0,SB3,
MOV3,Z013,DB1,SB3,
RESTORE,
MOV1,Z07,SB1,DB7,
MOV1,Z07,SB17,
MOV1,OFF1,Z0,OFF1,SB13,
SAVE,
MOV3,Z03,SB3,
RESTORE,
MOV1,Z07,SB1,DB7,
MOV1,Z07,SB17,
MOV1,OFF1,Z0,2OFF1,SB1,

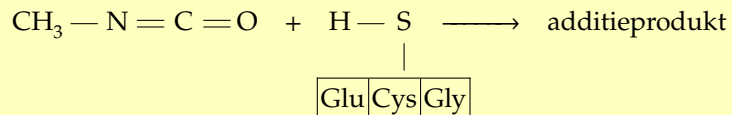
```

MOV1,Z017,SB1,DB7]

[CH,H_2N,CH_2,CH_2,C,O,OH,C,O,N,H,CH,CH_2,

SH,C,O,N,H,CH_2,C,OH,O]

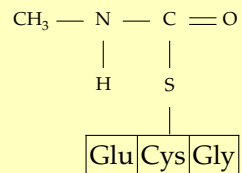
\stopchemical



```

\def\Subs
  {\hbox
    {\setbox0=\hbox\framed{Glu\hairline Cys\hairline Gly}%
      \hskip-.5\wd0\lower.5\ht0\box0}}
\startformula
  \setupchemical
    [width=fit,
     height=2000,
     size=big]
  \startchemical
    \chemical
      [ONE,Z05,DB1,SB5,MOV1,Z01,DB1] [N,CH_3,C,O]
  \stopchemical
  \startchemical
    \chemical [SPACE,PLUS,SPACE]
  \stopchemical
  \startchemical
    \chemical [ONE,Z035,SB35] [S,\Subs,H]
  \stopchemical
  \startchemical
    \chemical [SPACE,GIVES,SPACE]
  \stopchemical
  \startchemical
    \chemical [ONE,Z0] [additieprodukt]
  \stopchemical
\stopformula

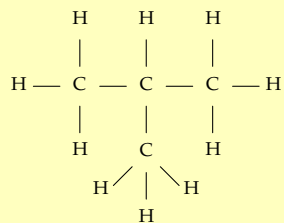
```



```

\def\Subs
{\hbox
{\setbox0=\hbox\framed{Glu\hairline Cys\hairline Gly}%
\hskip-.5\wd0\lower.5\ht0\box0}}
\startformula
\setupchemical
[width=fit,
height=1500]
\startchemical
\chemical
[ONE,Z035,SB135,
MOV1,Z01,DB1,SB3,
MOV0,MOV1,MOV3,Z03,SB3]
[N,H,CH_3,C,O,S,\Subs]
\stopchemical
\stopformula

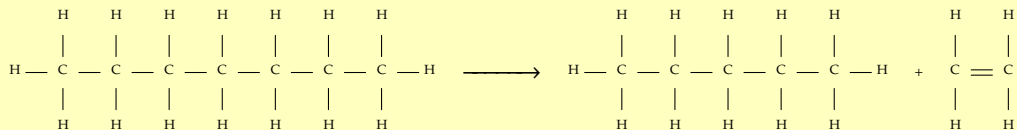
```



```

\startchemical[width=fit]
\chemical
  [ONE,Z0357,SB1357,
  MOV1,Z07,SB137,
  SAVE,MOV1,Z0137,SB137,RESTORE,
  MOV3,Z0234,SB234,]
  [C,H,H,H,C,H,C,H,H,H,C,H,H,H]
\stopchemical

```

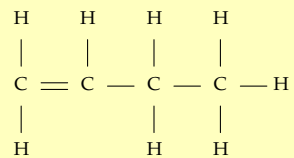


```

\startformula
\setupchemical
  [width=fit,
  scale=small,
  size=small]
\startchemical
\chemical
  [ONE,ZO,SB1357,Z357,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z137,]
  [C,H,H,H,C,H,H,C,H,H,C,H,H,C,H,H,C,H,H,C,H,H,C,H,H,H]
\stopchemical
\startchemical
\chemical [SPACE,GIVES,SPACE]
\stopchemical
\startchemical
\chemical
  [ONE,ZO,SB1357,Z357,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,
  MOV1,ZO,SB137,Z37,]

```

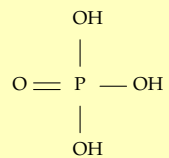
```
MOV1,Z0,SB137,Z137]
[C,H,H,H,C,H,H,C,H,H,C,H,H,C,H,H,H]
\stopchemical
\startchemical
\chemical [SPACE,PLUS,SPACE]
\stopchemical
\startchemical
\chemical
[ONE,Z0,DB1,SB37,Z37,
MOV1,Z0,SB37,Z37]
[C,H,H,C,H,H]
\stopchemical
\stopformula
```

```

\startformula
\startchemical[width=fit]
\chemical
[ONE,Z037,SB37,DB1,
MOV1,Z07,SB17,
MOV1,Z037,SB137,
MOV1,Z0137,SB137]
[C,H,H,C,H,C,H,H,C,H,H,H]
\stopchemical
\stopformula

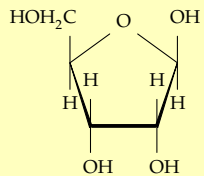
```



Phosphat

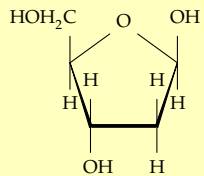
```
\definechemical [phosphat]
{\chemical [ONE,SB137,DB5,Z01357] [P,OH,OH,O,OH]}

\startchemical [height=6500,top=2000,bottom=2500,width=4000]
\chemical [phosphat]
\bottomtext {Phosphat}
\stopchemical
```



Ribose (R)

```
\definechemical[ribose]
{\chemical[FIVE,FRONT,BB125,+SB3,-SB4,Z4][0]
\chemical[FIVE,FRONT,+R1235,+RZ1235][H,H,\SR{HOH_2C},OH]
\chemical[FIVE,FRONT,-R1235,-RZ1235][OH,OH,H,H]}
\startchemical[height=6500,top=2000,bottom=2500,width=4500]
\chemical[ribose]
\bottomtext{Ribose (R)}
\stopchemical
```

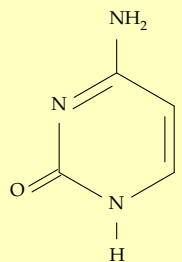


Desoxyribose (dR)

```

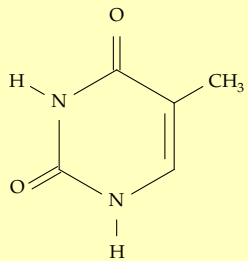
\definechemical [desoxyribose]
{\chemical [FIVE,FRONT,BB125,+SB3,-SB4,Z4] [0]
  \chemical [FIVE,FRONT,+R1235,+RZ1235] [H,H,\SR{HOH_2C},OH]
  \chemical [FIVE,FRONT,-R1235,-RZ1235] [H,OH,H,H]}
\startchemical [height=6500,top=2000,bottom=2500,width=4500]
  \chemical [desoxyribose]
  \bottext{Desoxyribose (dR)}
\stopchemical

```



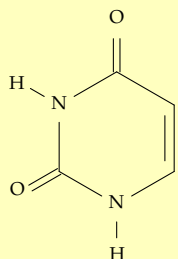
Cytosin (C)

```
\definechemical[cytosin]
{\chemical
[SIX,B1,EB1,+SB2,-SB3,+SB4,-SB5,EB5,B6,Z3,Z5,SR3,ER4,R6,RZ3,RZ4,RZ6]
[N,N,H,O,NH_2]}
\startchemical[height=6500,top=2000,bottom=2500,width=4500]
\chemical[cytosin]
\bottomtext{Cytosin (C)}
\stopchemical
```



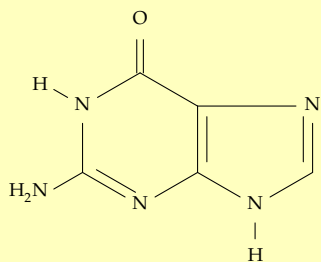
Thymin (T)

```
\definechemical[thymin]
{\chemical
[SIX,B1,EB1,+SB2,-SB3,+SB4,-SB5,B6,Z35,R1,SR3,ER4,SR5,ER6,RZ13456]
[N,N,CH_3,H,O,H,O,]}
\startchemical[height=6500,top=2000,bottom=2500,width=4500]
\chemical[thymin]
\bottomtext{Thymin (T)}
\stopchemical
```



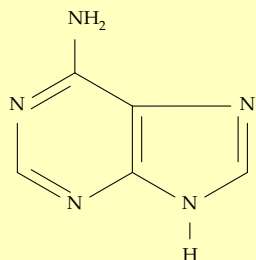
Uracil (U)

```
\definechemical[uracil]
{\chemical
[SIX,B1,EB1,+SB2,-SB3,+SB4,-SB5,B6,Z35,SR3,ER4,SR5,ER6,RZ3456]
[N,N,H,O,H,O,]}
\startchemical[height=6500,top=2000,bottom=2500,width=4500]
\chemical[uracil]
\bottomtext{Uracil (U)}
\stopchemical
```



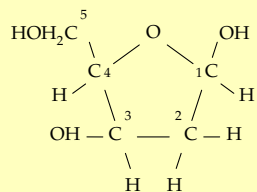
Guanin (G)

```
\definechemical [guanin]
{\chemical [SIX,B6,B1,+SB2,-SB3,EB3,+SB4,-SB5,Z35] [N,N]
 \chemical [SIX,R4,SR5,ER6,RZ456] [\SR{H_2N},H,O]
 \chemical [SIX,MOV1,-SB1,EB1,+SB2,-SB3,EB4,-SS6,Z13,SR3,RZ3] [N,N,H]}
\startchemical [height=6500,top=2000,bottom=2500,width=5000,left=2000]
 \chemical [guanin]
 \bottext{Guanin (G)}
\stopchemical
```

Adenin (A)

```
\definechemical [adenin]
{\chemical [SIX,B6,B1,+SB2,-SB3,EB3,+SB4,-SB5,EB5,Z35] [N,N]
 \chemical [SIX,R6,RZ6] [\SL{NH_2}]
 \chemical [SIX,MOV1,-SB1,EB1,+SB2,-SB3,EB4,-SS6,Z13,SR3,RZ3] [N,N,H]}
\startchemical [height=6500,top=2000,bottom=2500,width=4500,left=1500]
 \bottext{Adenin (A)}
 \chemical [adenin]
\stopchemical
```



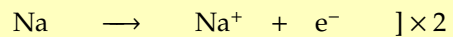
Desoxyribose (dR)

```

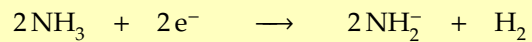
\definechemical[desoxyribose again]
{\chemical[FIVE,ROT2,SB12345,Z12345] [\TL{2}C, \TR{3}C, \R{4}C, O, \L{1}C]
 \chemical[FIVE,ROT2,+SR1235,+RZ1235] [H,OH, \TR{5}{HOH_2C},H]
 \chemical[FIVE,ROT2,-SR1235,-RZ1235] [H,H,H,OH]}

\startchemical[height=6500,top=2000,bottom=2500,width=5000]
 \chemical[desoxyribose again]
 \bottext{Desoxyribose (dR)}
\stopchemical

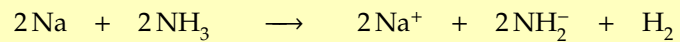
```



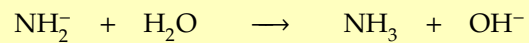
```
\startformula
\chemical{Na}
\chemical{GIVES}
\chemical{Na^{+}}
\chemical{PLUS}
\chemical{e^{-}} \quad \rbrack \times 2
\stopformula
```



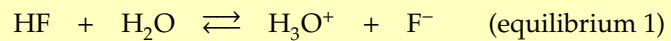
```
\startformula
\chemical{2\,NH_{3}}
\chemical{PLUS}
\chemical{2\,e^{-}}
\chemical{GIVES}
\chemical{2\,NH_{2}^{-}}
\chemical{PLUS}
\chemical{H_{2}}
\stopformula
```



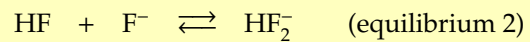
```
\startformula
\chemical{2\,Na}
\chemical{PLUS}
\chemical{2\,NH_{3}}
\chemical{GIVES}
\chemical{2\,Na^{+}}
\chemical{PLUS}
\chemical{2\,NH_{2}^{-}}
\chemical{PLUS}
\chemical{H_{2}}
\stopformula
```



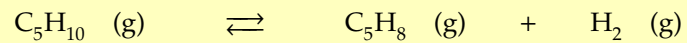
```
\startformula
\chemical{NH_{2}^{-}}
\chemical{PLUS}
\chemical{H_{2}O}
\chemical{GIVES}
\chemical{NH_{3}}
\chemical{PLUS}
\chemical{OH^{-}}
\stopformula
```



```
\startformula
\matrix
  {\chemical{HF}
   \quad
   \chemical{PLUS}
   \quad
   \chemical{H_{2}O}
   \quad
   \chemical{EQUILIBRIUM}
   \quad
   \chemical{H_{3}O^{+}}
   \quad
   \chemical{PLUS}
   \quad
   \chemical{F^{-}}
   &
   \quad
   \rm (equilibrium~1)
  \cr}
\stopformula
```



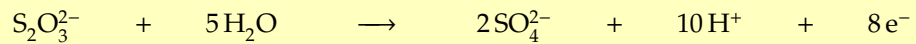
```
\startformula
\matrix
  {\chemical{HF}
   \quad
   \chemical{PLUS}
   \quad
   \chemical{F^{-}}
   \quad
   \chemical{EQUILIBRIUM}
   \quad
   \chemical{HF_{2}^{-}}}
  &
  \quad
  \rm (equilibrium~2)
  \cr
\stopformula
```

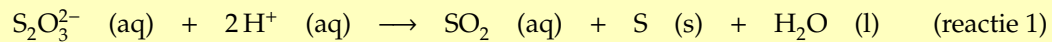
```
\startformula
\chemical{C_{5}H_{10}}\quad(g)}
\quad
\chemical{EQUILIBRIUM}
\quad
\chemical{C_{5}H_{8}}\quad(g)}
\quad
\chemical{PLUS}
\quad
\chemical{H_{2}}\quad(g)}
\stopformula
```



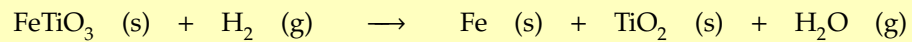
```
\startformula
\chemical{2\,S_{2}O_{3}^{2-}}
\quad
\chemical{GIVES}
\quad
\chemical{S_{2}O_{6}^{2-}}
\quad
\chemical{PLUS}
\quad
\chemical{2\,e^{-}}
\stopformula
```



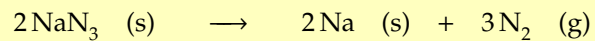
```
\startformula
\chemical{S_{2}O_{3}^{2-}}
\quad
\chemical{PLUS}
\quad
\chemical{5\,H_{2}O}
\quad
\chemical{GIVES}
\quad
\chemical{2\,SO_{4}^{2-}}
\quad
\chemical{PLUS}
\quad
\chemical{10\,H^{+}}
\quad
\chemical{PLUS}{ }
\quad
\chemical{8\,e^{-}}
\stopformula
```



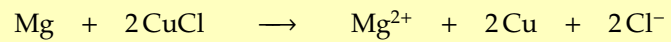
```
\startformula
\matrix
  {\chemical{S_{2}O_{3}^{2-}}\quad(aq)}
  \quad
  \chemical{PLUS}
  \quad
  \chemical{2\,H^{+}}\quad(aq)}
  \quad
  \chemical{GIVES}
  \quad
  \chemical{SO_{2}}\quad(aq)}
  \quad
  \chemical{PLUS}
  \quad
  \chemical{S}\quad(s)}
  \quad
  \chemical{PLUS}
  \quad
  \chemical{H_{2}O}\quad(l)}
  &
  \quad
  \rm (reactie~1) \quad \cr}
\stopformula
```



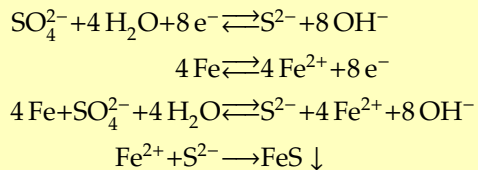
```
\startformula
\chemical{FeTiO_3\quad(s)}
\chemical{PLUS}
\chemical{H_2\quad(g)}
\chemical{GIVES}
\chemical{Fe\quad(s)}
\chemical{PLUS}
\chemical{TiO_2\quad(s)}
\chemical{PLUS}
\chemical{H_2O\quad(g)}
\stopformula
```



```
\startformula  
\chemical{2\,NaN_3\quad(s)}  
\chemical{GIVES}  
\chemical{2\,Na\quad(s)}  
\chemical{PLUS}  
\chemical{3\,N_2\quad(g)}  
\stopformula
```



```
\startformula  
  \chemical{Mg}  
  \chemical{PLUS}  
  \chemical{2\,CuCl}  
  \chemical{GIVES}  
  \chemical{Mg^{2+}}  
  \chemical{PLUS}  
  \chemical{2\,Cu}  
  \chemical{PLUS}  
  \chemical{2\,Cl^{-}}  
\stopformula
```



```

\startformula
\equalign
{\chemical{SO_4^{2-}}}
\chemical{PLUS}
\chemical{4\,H_2O}
\chemical{PLUS}
\chemical{8\,e^-}
&
\chemical{EQUILIBRIUM}
\chemical{S^{2-}}
\chemical{PLUS}
\chemical{8\,OH^-}
\cr
\chemical{4\,Fe}
&
\chemical{EQUILIBRIUM}
\chemical{4\,Fe^{2+}}
\chemical{PLUS}
\chemical{8\,e^-}
\cr
\chemical{4\,Fe}
\chemical{PLUS}
\chemical{SO_4^{2-}}
\chemical{PLUS}
\chemical{4\,H_2O}
&
\chemical{EQUILIBRIUM}

```



```
\chemical{S^{2-}}
\chemical{PLUS}
\chemical{4\,Fe^{2+}}
\chemical{PLUS}
\chemical{8\,OH^{-}}

\chemical{Fe^{2+}}
\chemical{PLUS}
\chemical{S^{2-}}

&

\chemical{GIVES}
\chemical{FeS\downarrow}{dark} \cr}
\stopformula
```