

posed of the same elements, have different properties. Sometimes the physical properties alone are different; we then have *physical isomerism*.

When the chemical properties themselves are modified, this is denominated *chemical isomerism*. Of the latter, two kinds are recognized.

I. *Polymerism*; cyanogen and paracyanogen are examples of this variety of isomerism; the latter is to be considered as cyanogen, CN condensed, thus $(CN)_n$; it is a polymeride of cyanogen. The weight of the molecule of these two substances is therefore different.

II. *Metamerism*. At other times the isomerism results from a different grouping of elements in the compound, the molecular weight remaining the same.

We will illustrate this by two examples :

a) Methyl acetate,

and b) Ethyl formiate.

Acetic acid = $H-O-C_2H_3O$.

Methyl hydrate, or methyl alcohol = $H-O-CH_3$.

When these two bodies react they furnish water and methyl acetate, $CH_3-O-C_2H_3O=C_3H_6O_2$.

Formic acid = $H-O-CHO$.

Ethyl hydrate, or ethyl alcohol = $H-O-C_2H_5$.

Now formic acid contains CH_2 less than acetic acid, and hydrate of ethyl contains one molecule of CH_2 more than does hydrate of methyl. As these substances in reacting lose one molecule of water, it is therefore clear that the compound obtained will have, like the preceding one, the formula $C_3H_6O_2$. But these