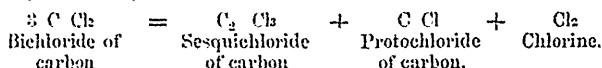
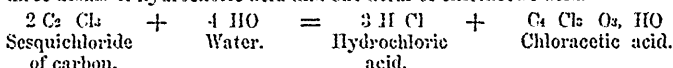


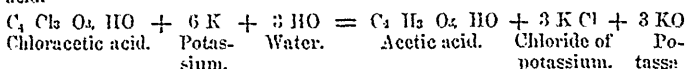
Submitted to the influence of a powerful heat, this bichloride splits into free chlorine and several other chlorides of carbon, amongst which the chloride of carbon *par excellence*, the solid sesquichloride discovered by Mr. Faraday under very different circumstances, claims our special attention.



If you expose these crystals covered with water, in which they are insoluble, to the direct action of sunlight, you will find that they gradually disappear, leaving an exceedingly sour liquid, which contains two acids, namely, hydrochloric acid and a substance very closely resembling acetic acid, but containing chlorine in the place of hydrogen: two atoms of the solid chloride of carbon and four atoms of water contain the elements of three atoms of hydrochloric acid and one atom of chloracetic acid.

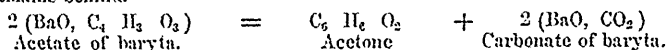


A simple substitution of hydrogen for chlorine completes this series of chemical re-actions resulting in the artificial construction of acetic acid. This substitution is effected by potassium (to moderate the action, an amalgam of this metal is generally employed,) which, seizing as it were the chlorine, and simultaneously decomposing water, removes the former, whose place is forthwith taken by the liberated hydrogen, thus forming pure acetic acid.

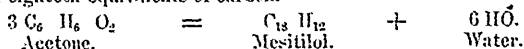


And thus, remarkably enough, we meet, after nearly half a century, with a new result, emanating from Davy's grand discovery, a fact which is particularly interesting, standing as we do on the very ground on which this discovery was made.

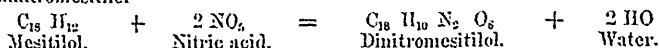
Acetic acid by no means concludes this remarkable series of constructive metamorphoses. When this acid is combined with alkaline bases, and submitted in the form of a salt to the action of heat, we obtain a new body in the form of a transparent, very inflammable liquid, called acetone, of a more complicated composition than acetic acid itself, while an alkaline carbonate remains behind.



Submitted to the action of sulphuric acid, acetone loses the elements of water, while a new complication takes place, not less than three atoms of this dehydrated acetone coalescing as it were in the new product of the re-action, which is known by the name of mesitol, and which contains not less than eighteen equivalents of carbon.



By treating this compound with fuming nitric acid, you succeed in introducing the elements of hyponitric acid into the place of hydrogen, and obtain dinitromesitol—



which, lastly, when submitted to the action of sulphuretted hydrogen, by virtue of a most curious process, with the details of which you will become acquainted by and by, is converted into nitromesidine, an organic body forming beautiful salts with the acids, and exhibiting, in its general character, the greatest analogy with those wonderful substances manufactured by the organism of plants, the vegetable alkaloids.