

$C_nH_xO_y$

$M(CO_2) = 44$, $A_r(C) = 12$

44 mg CO_2 – 12 mg C

6.32 mg CO_2 – “Z” mg C

$Z = 6.32 * 12 / 44 = 1.7236$ mg C

$M(H_2O) = 18$, $A_r(H) = 1$

18 mg H_2O – 2 mg H

2.58 mg H_2O – “K” mg H

$K = 2.58 * 2 / 18 = 0.2867$ mg H

2.78 mg – 0.2867 mg – 1.7236 mg = 0.7697 mg O

$A_r(C) = 12$, $A_r(H) = 1$, $A_r(O) = 16$

$n:x:y = 1.7236 / 12 : 0.2867 / 1 : 0.7697 / 16 = 0.14363 : 0.2867 : 0.0481 =$
 $= 0.14363 / 0.0481 : 0.2867 / 0.0481 : 0.0481 / 0.0481 = 2.986 : 5.96 : 1 \approx 3:6:1$

$n=3$, $x=6$, $y=1$

The **empirical formula** of ethyl butyrate is C_3H_6O

Formula of ethyl butyrate is $C_6H_{12}O_2$ or $CH_3CH_2CH_2COOC_2H_5$

it means $C_3H_6O * 2 = C_6H_{12}O_2$

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