Chimie durable

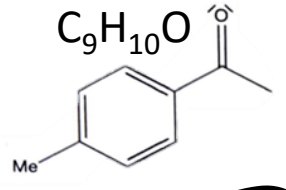
Agrégation 2020

Les 12 principes de la chimie verte

Synthèse d'une chalcone

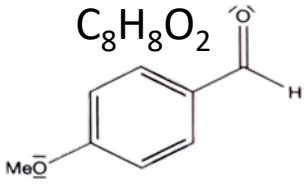
1,3 mL (10 mmol)
de 4-méthylacétophénone

$C_9H_{10}O$



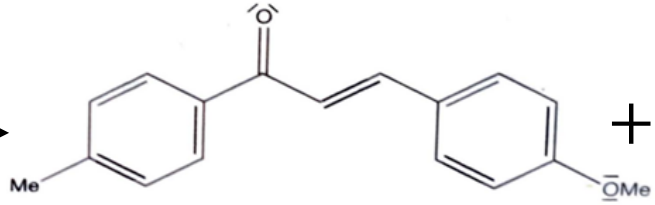
1,2 mL (10mmol)
de 4-méthoxybenzaldéhyde

$C_8H_8O_2$



NaoH(s)

On mélange



$+ H_2O$

$C_{17}H_{16}O_2(s)$

	$C_9H_{10}O$	$C_8H_8O_2$	$C_{17}H_{16}O_2$
Masse molaire (g/mol)	134	136	252

Procédé de Boots

$M_{ibuprofène}=M(C_{13}H_{18}O_2)=206.3 g.mol^{-1}$

$M_{acideéthanoïque}=M(C_2H_4O_2)= 60.1 g.mol^{-1}$

$M_{éthanol}=M(C_2H_5OH)=46.1 g\cdot mol^{-1}$

$M(C_3H_6O_3)=90.1 g\cdot mol^{-1}$

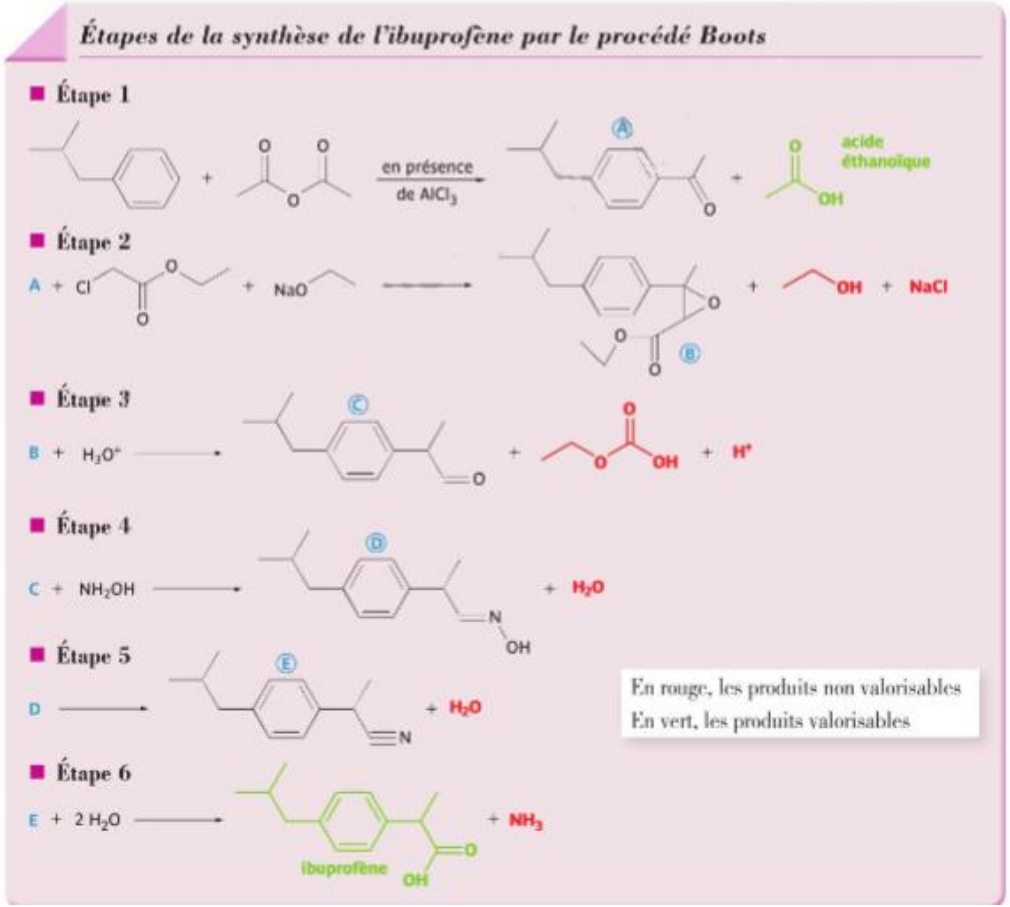
$M(H_2O)= 18 g\cdot mol^{-1}$

$M(NaCl)=58.4 g\cdot mol^{-1}$

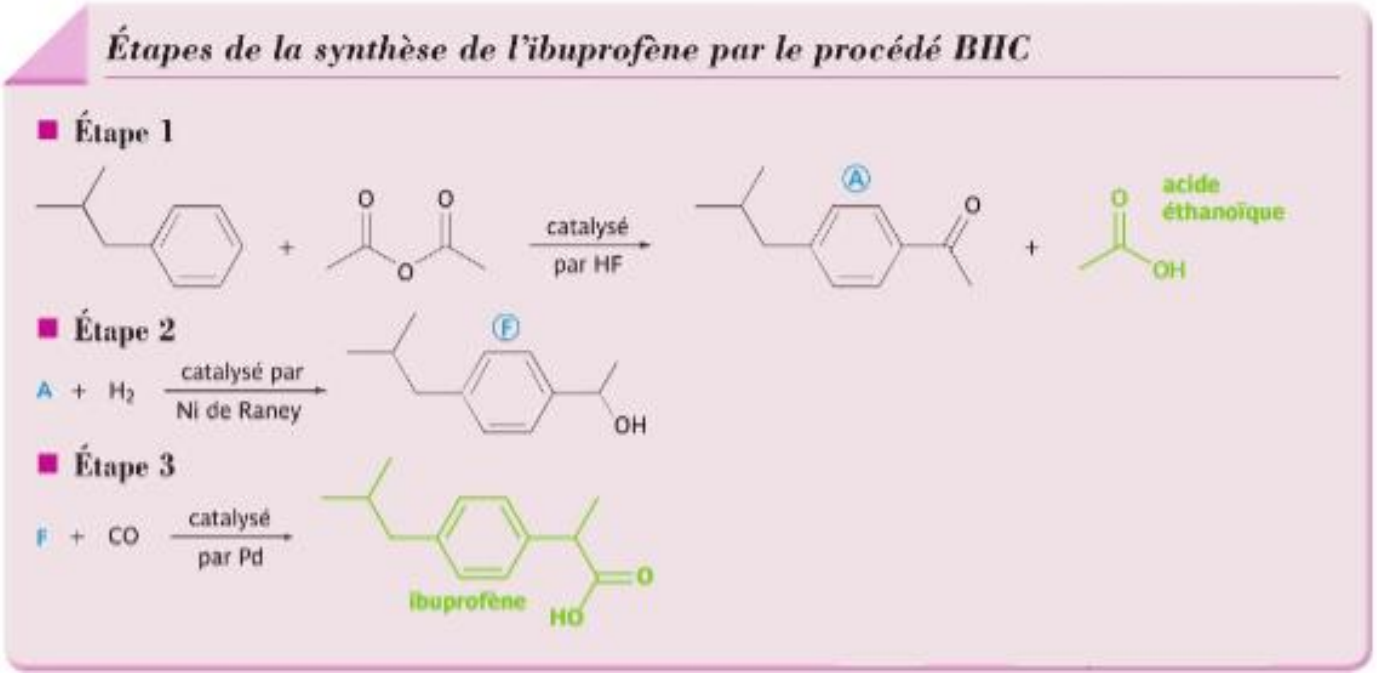
$M(NH_3)=17 g\cdot mol^{-1}$

$$EA_{Boots} = \frac{206,3+60,1}{206,3+60,1+46,1+90,1+2\times 18,0+1,0+58,4+17,0}$$

$$= 51,8\ \%$$



Procédé de BHC



Catalyse de la dismutation de H_2O_2

Solution de H_2O_2 à 30%

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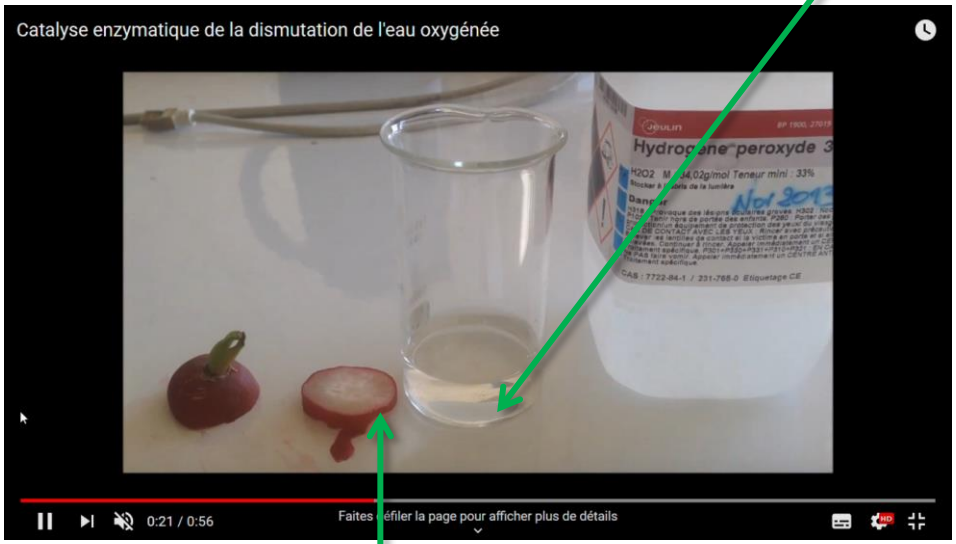
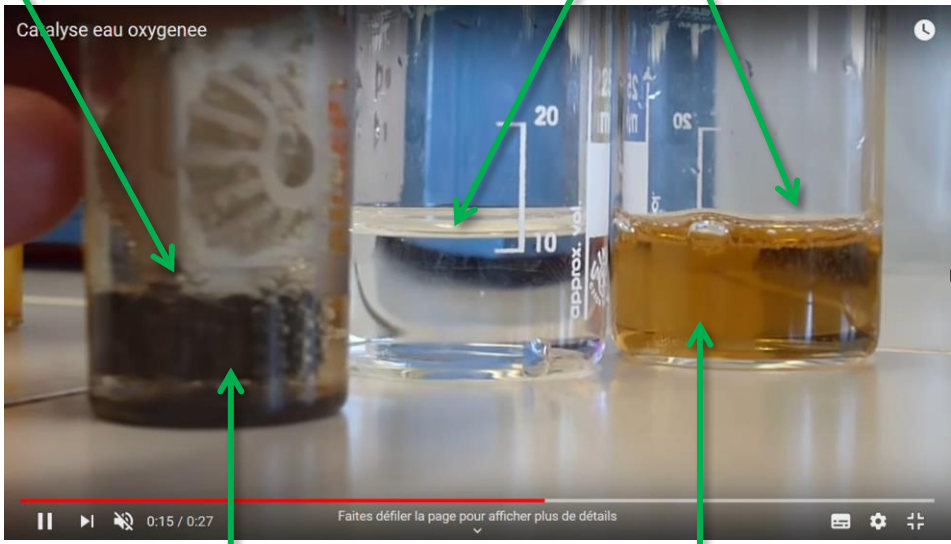




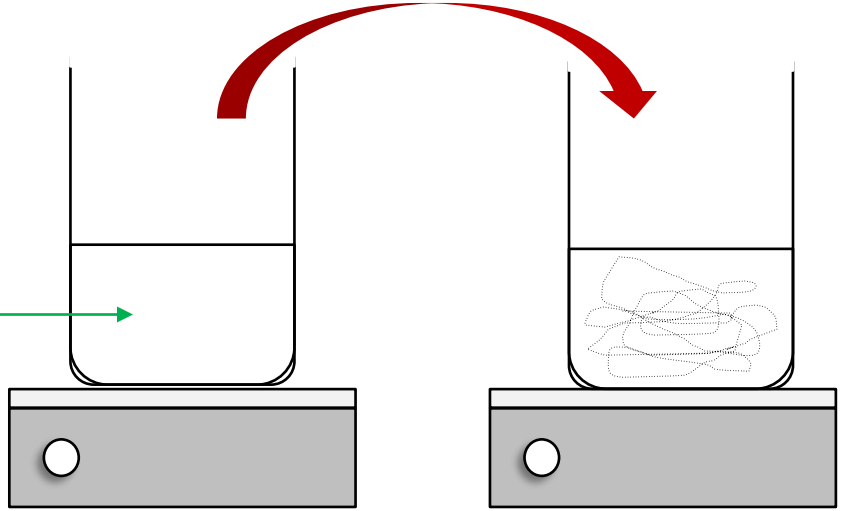
Navet (enzyme = Catalase)

platine

Solution Fe^{3+}

Extraction de la caséine du lait

- Acide acétique
- Chauffage à 40 °C



Lait
(250 mL)

Essorage pour
récupérer la
caséine précipitée

Merci