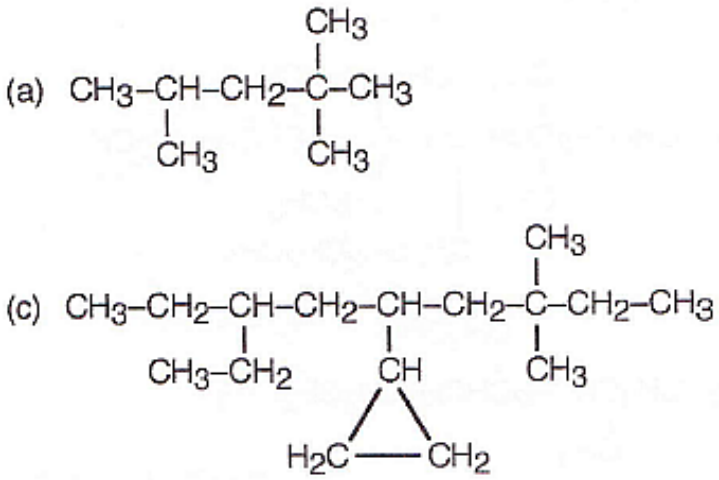
Chimie BI – chimie organique – les alcanes

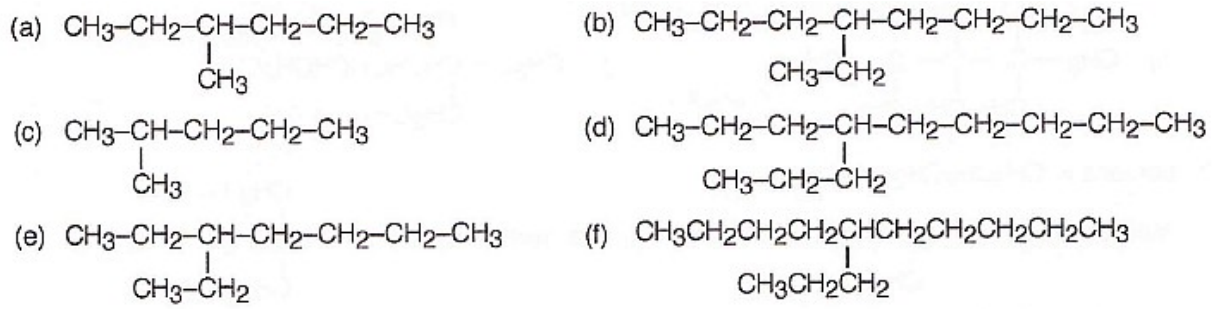
1. Détermine le nombre de carbones présents dans la plus longue chaine et nomme-la.
   a. 7 ; heptane
   b. 7 ; heptane
   c. 8 ; octane
   d. 10 ; décane

2. Nomme les hydrocarbures suivants :
   a. 3-méthylhexane
   b. 4-éthylheptane
   c. 3-éthyloctane
   d. 2-méthylhexane
   e. 4-méthylnonane
   f. 3-méthylheptane

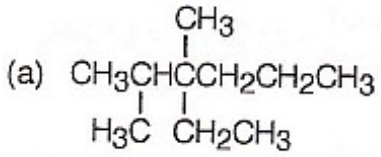
3. Ré-écris les formules pour faire apparaître les atomes d'hydrogène :

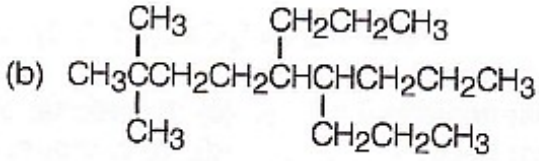


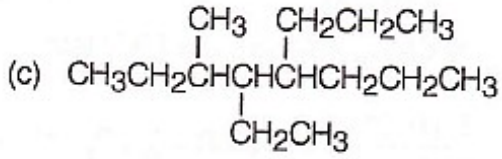
4. Dessine les hydrocarbures suivants :

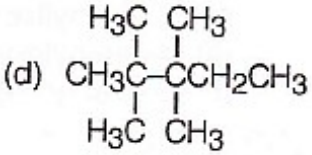


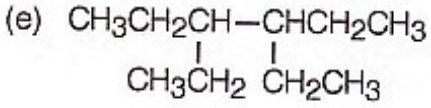
5. Qu'est-ce qui ne fonctionne pas dans les molécules suivantes :
   a. devrait être : 2-méthylheptane
   b. devrait être hexane
   c. le deuxième carbone devrait avoir 2 H
   d. le deuxième carbone ne devrait pas avoir d'hydrogène
6. Nomme les molécules suivantes :
   a. 3,4-diméthylheptane
   b. 3,4,4,5-tétraéthylheptane
   c. 2,2,7,7-tétraméthyloctane
   d. 5-éthyl-3,4-diméthylheptane ou 3-éthyl-4,5-diméthylheptane
   e. 4-méthyl-4-éthyloctane
   f. 2,2,5-triméthyloctane
   g. 4,6-diméthylnonane
   h. décane
   i. 4,5-diéthyl-3,7-diméthylnonane
   j. 3,3,4,5-tétraméthyloctane
   k. 4-éthyl-3-méthyl-5-propyloctane
   l. 3,6-diéthyl-5,8-diméthyldécane ou 5,8-diéthyl-3,6-diméthyldécane
7. Dessine les molécules suivantes :

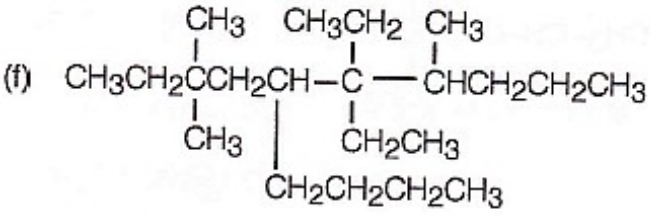


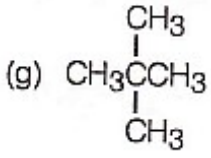


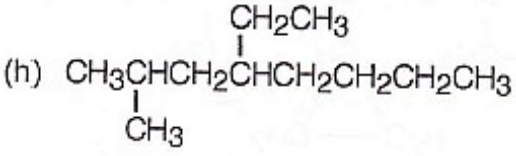


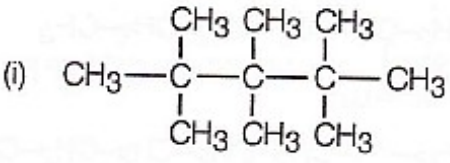


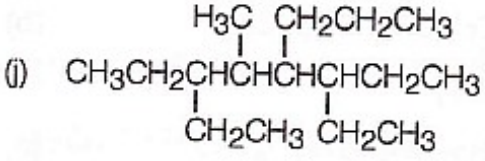




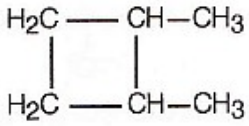


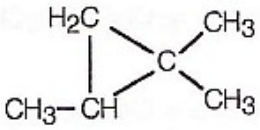


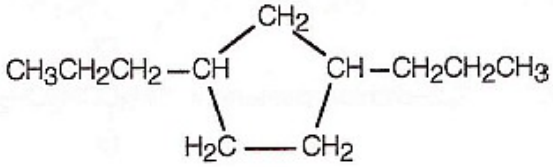


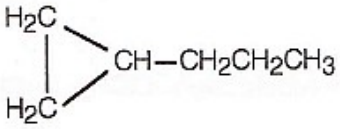


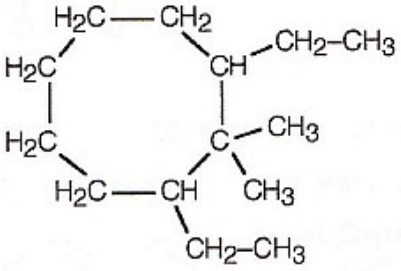
8. Nomme les composés suivants :
   a. éthylcyclohexane
   b. 1,3-diméthylcyclobutane
   c. méthylcyclopropane
   d. 1-éthyl-1,3-diméthylcyclopentane
   e. 2-éthyl-1,3-diméthylcyclooctane
9. Dessine les molécules suivantes :

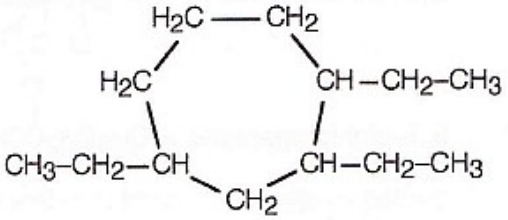
(a) 

(b) 

(c) 

(d) 

(e) 

(f) 

Chimie BI – chimie organique – les alcènes et les alcynes

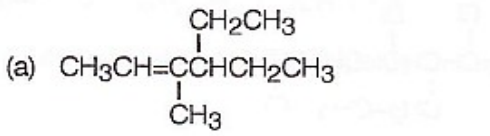
1. Représente le diagramme structural condensé pour les molécules suivantes :

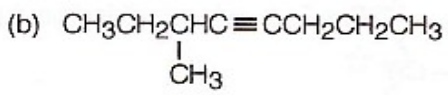
(a) $CH_2{=}CHCH_2CH_2CH_2CH_3$ (b) $CH_3CH_2CH_2C{\equiv}CCH_2CH_2CH_2CH_3$

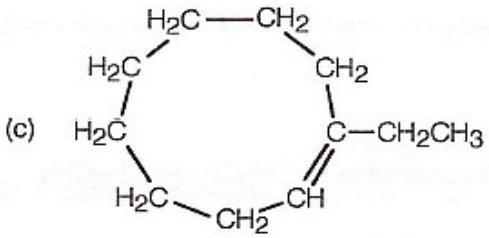
(c) $CH_3CH_2CH{=}CHCH_2CH_2CH_2CH_2CH_2CH_3$ (d) $CH_3C{\equiv}CCH_2CH_2CH_2CH_3$

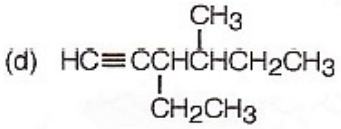
(e) $CH_3CH{=}CHCH_2CH_2CH_2CH_2CH_3$ (f) $HC{\equiv}CCH_2CH_2CH_2CH_2CH_2CH_3$

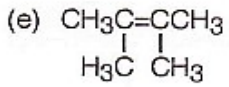
2. Nomme les molécules suivantes :
   a. hex-3-ène
   b. hept-1-yne
   c. dec-4-yne
   d. hept-3-ène
3. Représente le diagramme structural condensé pour les molécules suivantes :

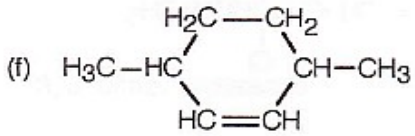


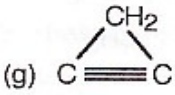


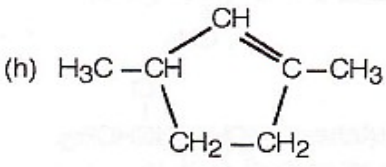








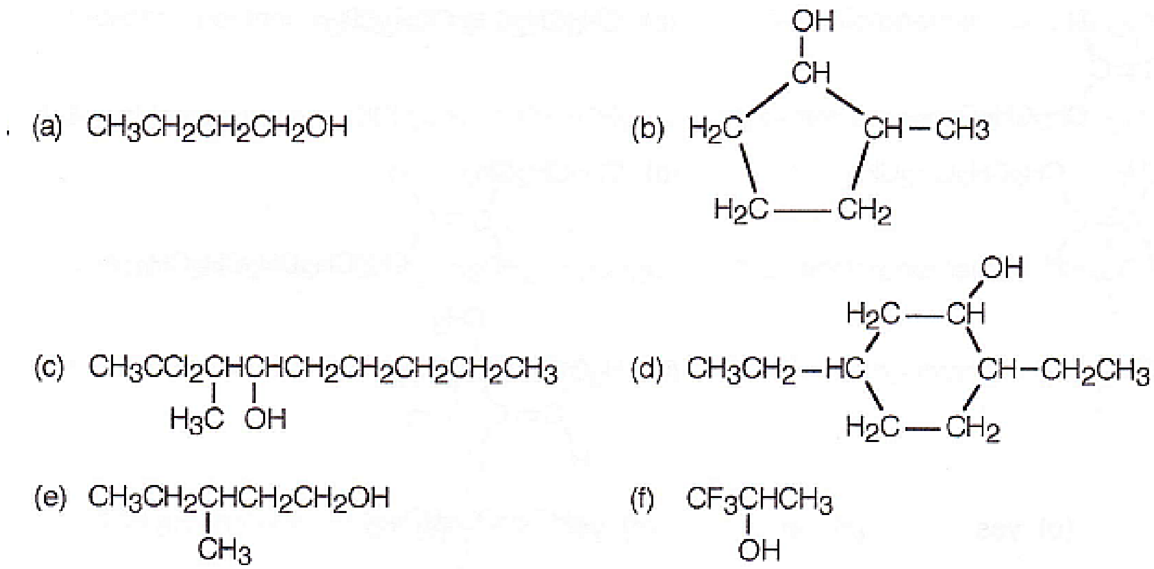




4. Nomme les molécules suivantes :
   a. 5-éthyl-6,6-diméthylhept-3-ène
   b. 3,6-diéthyl-2-métyloct-4-yne
   c. 1,3,4-triméthylcyclobut-1-ène
   d. 5,6-diméthylcyclooct-1-yne
   e. 3-méthylhex-3-ène
   f. 3-méthylcyclohex-1-ène

Chimie BI – chimie organique – alcools, esters, cétones, composés aromatiques, acides carboxyliques

1. Dessine les molécules suivantes :



2. Nomme les molécules suivantes :
   a. propan-2-ol
   b. 4,4,4-trifluorobutan-2-ol
   c. 3-méthylbutan-1-ol
   d. 2-méthylpropan-2-ol
   e. 2-chlorocyclobutan-1-ol
   f. 2,3-diméthylcyclopropan-1-ol
3. Nomme les molécules suivantes :
   a. propanoate de méthyle
   b. méthanoate de propyle
   c. butanoate d'éthyle
   d. éthanoate d'hexyle
   e. pentanoate de butyle
4. Dessine les molécules suivantes :

(a) $CH_3CH_2CH_2CH_2COOCH_2CH_2CH_3$

(b) $CH_3CH_2CH_2CH_2CH_2COOCH_3$

(c) $CH_3CH_2COOCH_2CH_3$

(d) $CH_3CH_2CH_2COOCH_2CH_2CH_2CH_3$

(e) $HCOOCH_2CH_2CH_2CH_2CH_2CH_3$

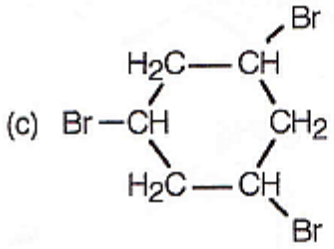
5. Nomme les molécules suivantes :
   a. chloroéthane
   b. 1,3-dibromopropane
   c. 1-iodo-4-méthylpentane
   d. 1,1-dichloro-2-fluoroéthane
   e. 1,1-dichloro-2-éthylcyclohexane

6. Dessine les molécules suivantes :

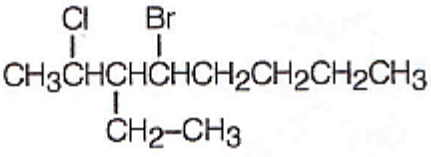
(a) $CHCl_3$

(b) $ClCH_2CH_2Cl$

(c)



(d)



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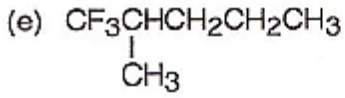


7. Nomme et dessine les 8 isomères de $C_5H_{11}Cl$.

1-chloropentane = $ClCH_2CH_2CH_2CH_2CH_3$

2-chloropentane = $CH_3CH(Cl)CH_2CH_2CH_3$

3-chloropentane = $CH_3CH_2CH(Cl)CH_2CH_3$

1-chloro-2-methylbutane = $ClCH_2CH(CH_3)CH_2CH_3$

2-chloro-2-methylbutane = $CH_3C(Cl)(CH_3)CH_2CH_3$

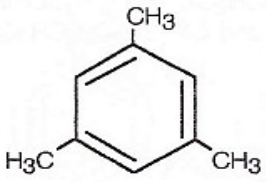
chlorodimethylpropane = $ClCH_2C(CH_3)_2CH_3$

3-chloro-2-methylbutane = $CH_3CH(Cl)CH(CH_3)CH_3$
(or 2-chloro-3-methylbutane)

1-chloro-3-methylbutane = $ClCH_2CH_2CH(CH_3)CH_3$

8. Dessine les molécules suivantes :

(a)



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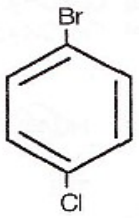

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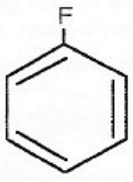

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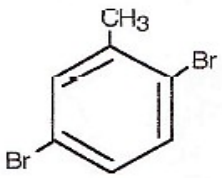

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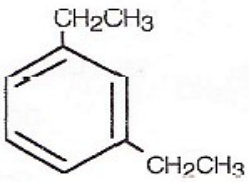
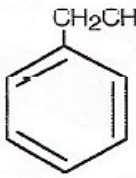
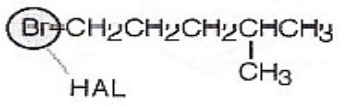


(f)



9. Nomme les molécules suivantes :
   a. éthylbenzène
   b. 1-bromo-4-méthylbenzène ou 4-bromo-1-méthylbenzène
   c. hexachlorobenzène
   d. 1,2-diméthylbenzène
   e. 1-éthyl-3,5-diméthylbenzène ou 3-éthyl-1,5-diméthylbenzène ou 5-éthyl-1,3-diméthylbenzène
   f. 1-éthyl-4-méthylbenzène ou 4-éthyl-1-méthylbenzène

10. Identifie dans chacune des molécules suivantes les groupes fonctionnels :



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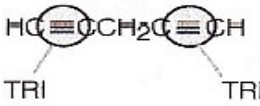

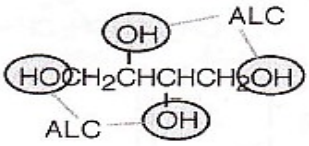

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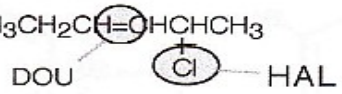

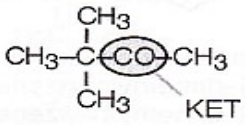

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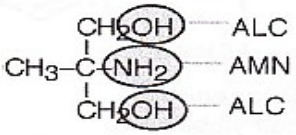

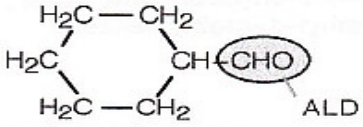

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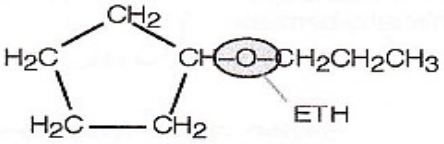
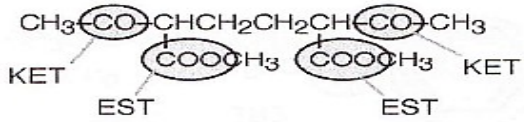


(i)


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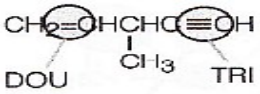
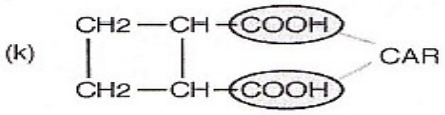


(k)


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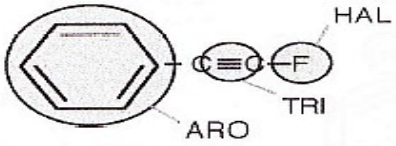

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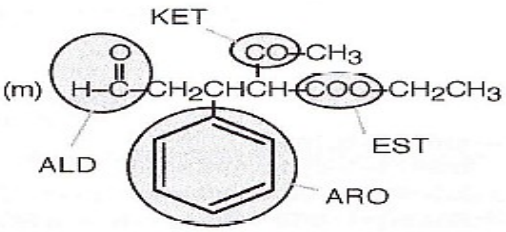

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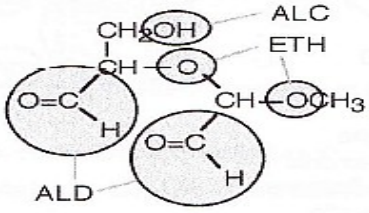

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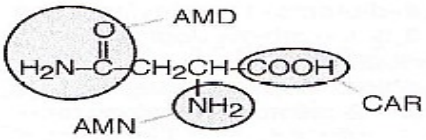

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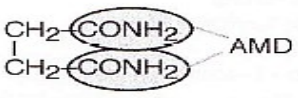

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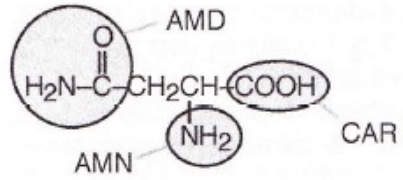

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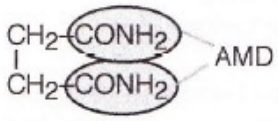

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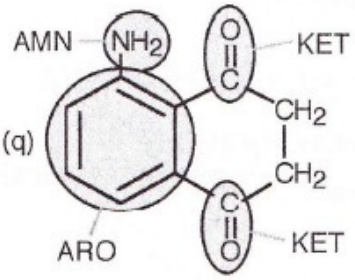

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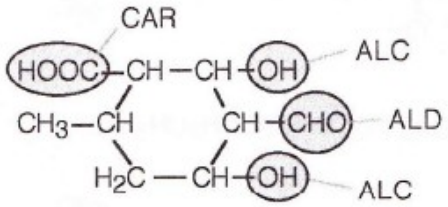

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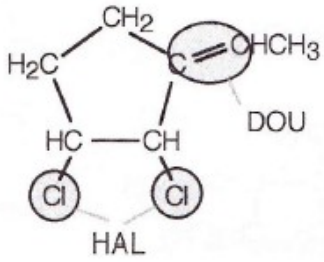

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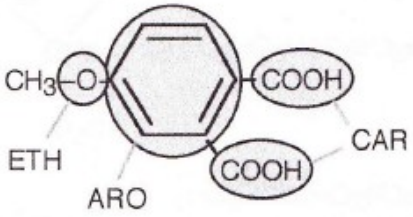

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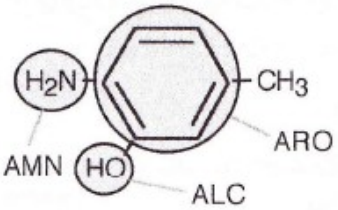

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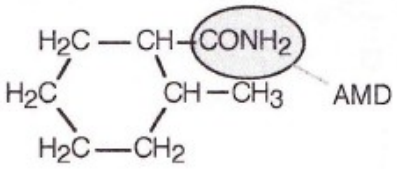

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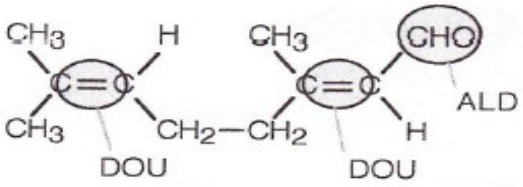

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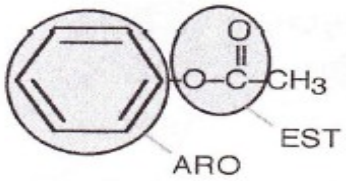

(y)