حل مراجعة امتحانية شاملة وفق الهيكل الوزاري منهج بريدج الخطة 101-M

تم تحميل هذا الملف من موقع المناهج الإماراتية	
موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الثاني عشر المتقدم ⇦ كيمياء ⇦ الفصل الثالث ⇦ ملفات متنوعة ⇦ الملف	
تاريخ إضافة الملف على موقع المناهج: 2025-05-19 18:15:53	
ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس	المزيد من مادة كيمياء:
إعداد: ABDELSALAM MOHAMED	

التواصل الاجتماعي بحسب الصف الثاني عشر المتقدم					
صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف الثاني عشر المتقدم والمادة كيمياء في الفصل الثالث	
1	الهيكل الوزاري الجديد 2025 منهج بريدج الخطة 101-C
2	الهيكل الوزاري الجديد 2025 منهج انسباير الخطة 101-C
3	حل أسئلة الامتحان النهائي القسم الالكتروني
4	أسئلة الامتحان النهائي القسم الالكتروني بدون الحل
5	مذكرة شاملة في وحدة Hydrocarbons الكيمياء العضوية منهج انسباير

Chemistry

2024– 2025

الإمارات العربية المتحدة
وزارة التربية والتعليم

Trimester 3

Chemistry

HAMZA BIN ABDULMUTILIB SCHOOL

EOT COVERAGE FINAL REVISION

Grade 12 adv. M101

الدعم الأكاديمي في مادة الكيمياء

تم الاستعانة بالعديد من الأسئلة من ملزمة الأستاذ هشام الطوخي

DR MOHAMED ABDELSALAM

MOBILE 0502500589

What are the products that represent A and B in the reactions below?

ما النواتج التي تُمثل كلًا من A و B في التفاعلين أدناه؟

$$CH \equiv CCH_2CH_3 + H_2 \longrightarrow A$$

$$A + H_2 \longrightarrow B$$

A	B	
$CH_3CH_2CH_2CH_3$	$CH_2=CHCH_2CH_3$	1
$CH_2=CHCH_2CH_3$	$CH_3CH_2CH_2CH_3$	2
$CH_3CH_2CH_2CH_3$	$CH_3CH=CHCH_3$	3
$CH_3CH=CHCH_3$	$CH_3CH_2CH_2CH_3$	4

1

2

3

4

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Which of the following is **correct** regarding the organic reactions in the table below?

أي مما يأتي **صحيح** فيما يتعلق بالتفاعلات العضوية في الجدول أدناه؟

$RCOOH + R'OH \longrightarrow RCOOR' + H_2O$	1
$R-CH_3 + X_2 \longrightarrow R-CH_2X + HX$	2
$R-CH_2-CH_2-X \longrightarrow R-CH=CH_2 + HX$	3
$R-C\equiv C-H + H_2 \longrightarrow R-CH=CH_2$	4

The reaction **1** is condensation ,while the reaction **3** is elimination

التفاعل **1** تكثيف بينما التفاعل **3** حذف

The reaction **2** is substitution, while the reaction **4** is elimination

التفاعل **2** استبدال بينما التفاعل **4** حذف

The reaction **3** is condensation, while the reaction **2** is addition

التفاعل **3** تكثيف بينما التفاعل **2** إضافة

The reaction **4** is elimination, while the reaction **1** is condensation

التفاعل **4** حذف بينما التفاعل **1** تكثيف

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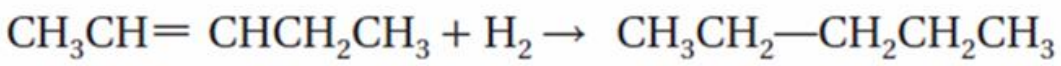
Which of the following organic reactions is an elimination reaction? أي تفاعل من التفاعلات العضوية التالية هو تفاعل حذف؟

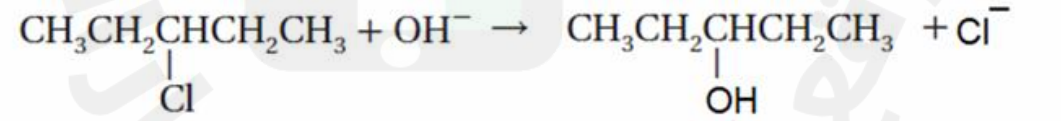
.a



.b

.c

.d



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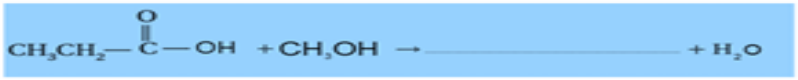
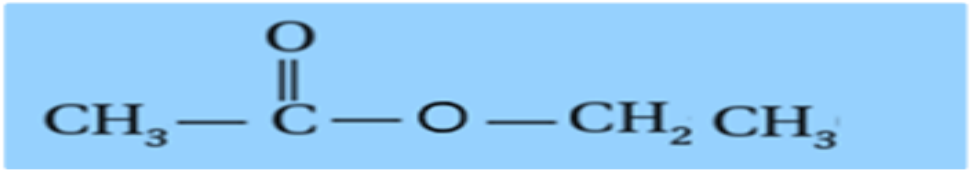
What is the formula for the product of the following condensation reaction?

ما صيغة ناتج تفاعل التكثيف التالي؟



.a



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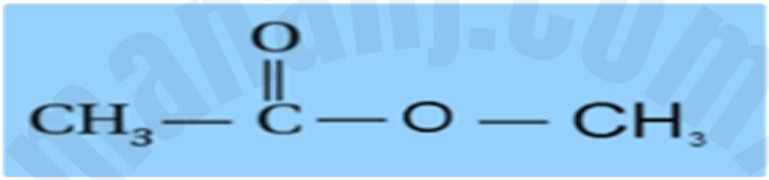

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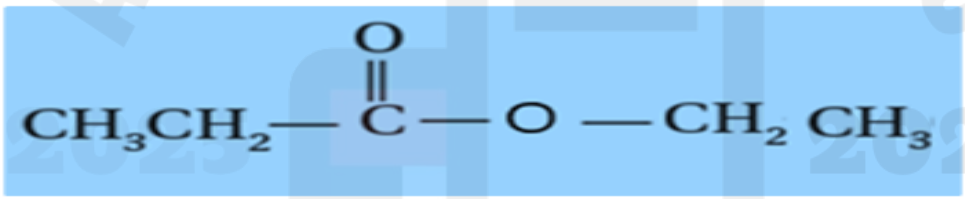
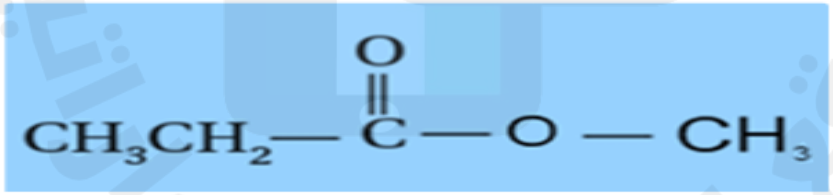


.d



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What type of organic reaction that takes place between carboxylic acid and alcohol in the following equation?

ما نوع التفاعل العضوي الذي يحدث بين الحمض الكربوكسيلي والكحول في المعادلة التالية؟

$$RCOOH + R'OH \rightarrow RCOOR' + H_2O$$

Learning Outcomes Covered

- CHM.5.6.02.005

a. Condensation تكثيف

b. Substitution استبدال

c. Addition إضافة

d. Elimination حذف

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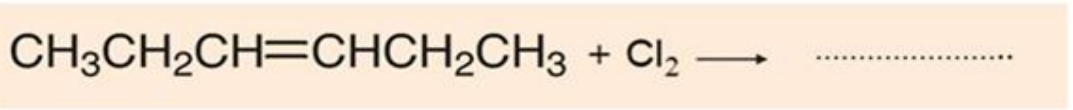
What is the product of the following organic reaction?

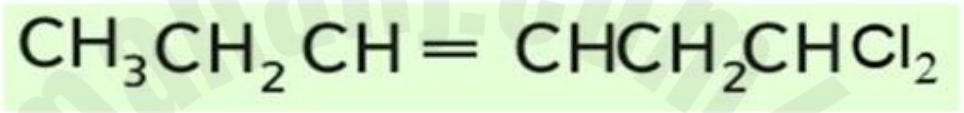
ما ناتج التفاعل العضوي التالي؟



Learning Outcomes Covered

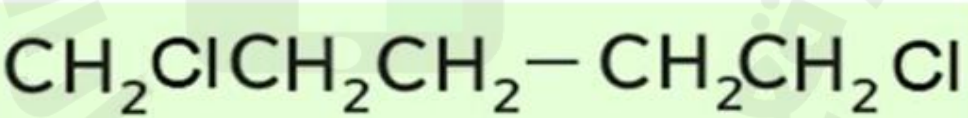
- CHM.5.6.02.005

a.



b.

c.



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What is the reaction that expresses the addition of hydrogen chloride to cyclobutene?

ما التفاعل الذي يُعبر عن إضافة كلوريد الهيدروجين إلى البيوتين الحلقي؟

Learning Outcomes Covered

- CHM.5.6.02.002

a.

b.

c.

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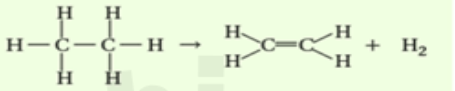
Regarding the reactions in the table below.

فيما يتعلق بالتفاعلات في الجدول أدناه.

Which of the following is **correct**?

أي مما يأتي **صحيح**؟

$R{-}CH_2{-}CH_2{-}X \rightarrow R{-}CH{=}CH_2 + HX$	1
$R{-}CH_2{-}CH_2{-}OH \rightarrow R{-}CH{=}CH_2 + H_2O$	2
$R{-}C{\equiv}C{-}H + H_2 \rightarrow R{-}CH{=}CH_2$	3
	4

Learning Outcomes Covered

- CHM.5.6.02.003

a. The reaction **1** is addition used to convert the liquid unsaturated fats into solid saturated fats

التفاعل **1** إضافة ويُستخدم لتحويل الدهون السائلة غير المشبعة إلى دهون صلبة مشبعة

b. The reaction **3** is an elimination and produces alkyne

التفاعل **3** حذف وينتج عنه ألكاين

c. The reaction **2** is addition and produces alkene

التفاعل **2** إضافة وينتج عنه ألكين

d. The reaction **4** is an elimination and produces alkene

التفاعل **4** حذف وينتج عنه ألكين

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Which of the following is true for the two reactions in the table below?

أي مما يأتي صحيح فيما يتعلق بالتفاعلين الواردين في الجدول أدناه؟

$R{-}CH{=}CH_2 + H_2 \rightarrow R{-}CH_2{-}CH_3$	1
$R{-}CH_2{-}CH_2{-}OH \rightarrow R{-}CH{=}CH_2 + H_2O$	2

Learning Outcomes Covered

- CHM.5.6.01.003
- CHM.5.6.01.005
- CHM.5.6.01.009
- CHM.5.6.01.011
- CHM.5.6.01.013
- CHM.5.6.01.016
- CHM.5.6.01.020
- CHM.5.6.01.021
- CHM.5.6.02.002
- CHM.5.6.02.003
- CHM.5.6.02.005
- CHM.5.6.02.006

a. 1 is an elimination reaction and is called a dehydration reaction

التفاعل رقم 1 حذف ويُسمى تفاعل نزع الماء

b. 1 is an addition reaction, one of its common uses is to convert liquid fats into solid fats

التفاعل رقم 1 إضافة ومن استخداماته الشائعة تحويل الدهون السائلة إلى دهون صلبة

c. 2 is an addition reaction, one of its common uses is to convert liquid fats into solid fats

التفاعل رقم 2 إضافة ومن استخداماته الشائعة تحويل الدهون السائلة إلى دهون صلبة

d. 2 is an elimination reaction and is called a dehydrogenation reaction

التفاعل رقم 2 حذف ويُسمى تفاعل نزع الهيدروجين

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1) What results from the reaction of ethene with water?

a. ethanol

b. ethane

c. chloroethane

d. 1,2-difluoroethane

2) What results from the reaction of ethene with hydrogen?

a. ethanol

b. ethane

c. chloroethane

d. 1,2-difluoroethane

3) What results from the reaction of ethene with hydrogen chloride?

a. ethanol

b. ethane

c. chloroethane

d. 1,2-difluoroethane

4) What results from the reaction of ethene with fluorine?

a. ethanol

b. ethane

c. chloroethane

d. 1,2-difluoroethane

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5) What type of organic reaction achieves the following conversion best?

alkyl halide → alkene

a. elimination
b. addition
c. substitution
d. condensation

6) What type of organic reaction achieves the following conversion best?

alcohol + carboxylic acid → ester

a. elimination
b. addition
c. substitution
d. condensation

7) What type of organic reaction achieves the following conversion best?

alkene → alkyl dihalide

a. elimination
b. addition
c. substitution
d. condensation

8) What type of organic reaction achieves the following conversion best?

alkyl halide → alcohol

a. elimination
b. addition
c. substitution
d. condensation

9) What type of organic reaction achieves the following conversion best?

alkene → alkane

a. elimination
b. addition
c. substitution
d. condensation

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10) What type of organic reaction achieves the following conversion best?

alkyl halide → alkene

a. elimination
b. addition
c. substitution
d. condensation

11) What type of organic reaction achieves the following conversion best?

amine + carboxylic acid → amide

a. elimination
b. addition
c. substitution
d. condensation

12) What type of organic reaction achieves the following conversion best?

alcohol → alkyl halide

a. elimination
b. addition
c. substitution
d. condensation

13) What type of organic reaction achieves the following conversion best?

alkene → alcohol

a. elimination
b. addition
c. substitution
d. condensation

14) What is the type of the following organic reaction?

propane + fluorine → 2-fluoropropane + hydrogen fluoride

a. elimination
b. addition
c. substitution
d. condensation

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15) What is the type of the following organic reaction?

2-propanol → propene + water

a. elimination
b. addition
c. substitution
d. condensation

16) What is the type of the following organic reaction?

cyclobutene + water → cyclobutanol

a. elimination
b. addition
c. substitution
d. condensation

17) What type of reaction converts an alcohol to an ester?

a. elimination
b. addition
c. substitution
d. condensation

18) What type of reaction converts an alcohol to an alkyl halide?

a. elimination
b. addition
c. substitution
d. condensation

19) What type of reaction converts an alcohol to an alkene?

a. elimination
b. addition
c. substitution
d. condensation

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20) What type of reaction converts an alcohol into an aldehyde?

alkyl halide → alkene

a. elimination
b. addition
c. substitution
d. condensation

21) What type of organic compound is formed by: adding hydrogen chloride to an alkene?

a. alkyl halide
b. alcohol
c. alkyl dihalide
d. alkane

22) What type of organic compound is formed by: adding water to an alkene?

a. ether
b. ester
c. alkane
d. alcohol

23) What type of organic compound is formed by: substitution of a hydroxyl group by a halogen atom?

a. alcohol
b. ether
c. carboxylic acid
d. ketone

24) What type of organic compound results from: a halogen replaces the hydrogen in an alkane?

a. alkyne
b. ester
c. alkyl halide
d. alcohol

25) What type of organic compound results from: elimination from an alkyl halide?

a. ether

b. alcohol

c. alkane

d. alkene

26) What type of organic compound results from: addition of hydrogen to an alkyne?

a. ester

b. alkene

c. amide

d. ether

27) What type of organic compound results from: condensation between an alcohol and a carboxylic acid?

a. alkane

b. ether

c. ester

d. amide

28) What type of organic compound results from: oxidation of ketone?

a. alcohol

b. ester

c. ether

d. there is no oxidation of the ketone

29) What type of organic compound results from: bromoethane is formed from ethane?

a. elimination

b. addition

c. substitution

d. condensation

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35) What is the type of the following organic reaction?

converting an alcohol into a carboxylic acid

a. elimination

b. addition

c. substitution

d. condensation

36) What is the result of adding water to 1-butene?

①	②	③
1-butanol	2-butanol	3-butanol

a. ① only

b. ② only

c. ① or ②

d. ③ only

37) What is the result of adding water to 2-butene?

①	②	③
1-butanol	2-butanol	3-butanol

a. ① only

b. ② only

c. ① or ②

d. ③ only

38) What equation descrides the following reaction? (substitution reaction between 2-chloropropane and water to form 2-propanol and hydrogen chloride)

a. $CH_3\overset{Cl}{\overset{|}{C}}HCH_3 + HCl \rightarrow CH_3\overset{OH}{\overset{|}{C}}HCH_3 + H_2O$

b. $CH_3\overset{Cl}{\overset{|}{C}}HCH_3 + H_2O \rightarrow CH_3\overset{OH}{\overset{|}{C}}HCH_3 + HCl$

c. $CH_3\overset{OH}{\overset{|}{C}}HCH_3 + H_2O \rightarrow CH_3\overset{Cl}{\overset{|}{C}}HCH_3 + HCl$

d. $CH_3\overset{OH}{\overset{|}{C}}HCH_3 + HCl \rightarrow CH_3\overset{Cl}{\overset{|}{C}}HCH_3 + H_2O$

39) What equation descrides the following reaction?

(addition reaction between 3-hexane and chlorine to form 3,4-dichlorhexane)

a. $CH_3CH_2CH{=}CHCH_2CH_3 + Cl_2 \rightarrow CH_3CH_2\overset{Cl}{\overset{|}{C}}H\overset{Cl}{\overset{|}{C}}HCH_2CH_3$

b. $CH_3CH_2\overset{Cl}{\overset{|}{C}}H\overset{Cl}{\overset{|}{C}}HCH_2CH_3 \rightarrow CH_3CH_2CH{=}CHCH_2CH_3 + Cl_2$

c. $CH_3CH{=}CHCH_2CH_2CH_3 + Cl_2 \rightarrow CH_3\overset{Cl}{\overset{|}{C}}H\overset{Cl}{\overset{|}{C}}HCH_2CH_2CH_3$

d. $CH_3\overset{Cl}{\overset{|}{C}}H\overset{Cl}{\overset{|}{C}}HCH_2CH_2CH_3 \rightarrow CH_3CH{=}CHCH_2CH_2CH_3 + Cl_2$

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) Which of the following reactions is a elimination reaction?

a. $CH_3CH{=}CHCH_2CH_3 + H_2 \rightarrow CH_3CH_2\text{-}CH_2CH_2CH_3$

b. $CH_2(OH)CH_2CH_2CH_3 \rightarrow CH_2{=}CHCH_2CH_3 + H_2O$

c. $CH_3\overset{O}{\overset{\|}{C}}\text{-}OH + NH_2\text{-}CH_3 \rightarrow CH_3\overset{O}{\overset{\|}{C}}\text{-}NH\text{–}CH_3 + H_2O$

d. $CH_3CH_3 + Cl_2 \rightarrow CH_3CH_2Cl + HCl$

The answers

1	a	2	b	3	c	4	d	5	a
6	d	7	b	8	c	9	b	10	a
11	d	12	c	13	b	14	c	15	a
16	b	17	d	18	c	19	a	20	d
21	a	22	d	23	a	24	c	25	d
26	b	27	c	28	d	29	c	30	b
31	a	32	b	33	d	34	a	35	d
36	c	37	b	38	b	39	a	40	c

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What is produced from the dehydrogenation (removal of H_2) of an alkane?

a. Ether
b. Alcohol
c. Alkyl halide
d. Alkene

What is produced from the hydrogenation (addition of H_2) of an alkene?

a. Ketone
b. Alkane
c. Ether
d. Alkane

What is produced from the dehydrohalogenation (removal of HCl) of ethyl chloride?

a. Ethyne
b. Ethen
c. Ethane
d. Ethanol

What is produced from the addition of H_2 to an alkyne?

a. Amide
b. Ester
c. Alkene
d. Alkane

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18. MAINIDEA Classify each reaction as substitution, elimination, addition, or condensation.

a. $CH_3CH = CHCH_2CH_3 + H_2 \rightarrow CH_3CH_2{-}CH_2CH_2CH_3$

b. $CH_3CH_2CH_2\underset{\displaystyle OH}{\underset{|}{C}}HCH_3 \rightarrow CH_3CH_2CH = CHCH_3 + H_2O$

19. Identify the type of organic reaction that would best accomplish each conversion.

a. alkyl halide ⟶ alkene

b. alkene ⟶ alcohol

c. alcohol + carboxylic acid ⟶ ester

d. alkene ⟶ alkyl dihalide

20. Complete each equation by writing the condensed structural formula for the product that is most likely to form.

a. $CH_3CH = CHCH_2CH_3 + H_2 \rightarrow$

b. $CH_3CH_2\underset{\displaystyle Cl}{\underset{|}{C}}HCH_2CH_3 + OH^- \rightarrow$

18. صنّف الفكرة الرئيسة كل تفاعل كاستبدال أو حذف أو إضافة أو تكثيف.

a. $CH_3CH = CHCH_2CH_3 + H_2 \rightarrow CH_3CH_2{-}CH_2CH_2CH_3$

b. $CH_3CH_2CH_2\underset{\displaystyle OH}{\underset{|}{C}}HCH_3 \rightarrow CH_3CH_2CH = CHCH_3 + H_2$

19. حدّد نوع التفاعل العضوي الذي يحقق كل من التحويلات التالية بشكل أفضل.

a. هاليد ألكيل ← ألكين

b. ألكين ← كحول

c. كحول + حمض كربوكسيلي ← إستر

d. ألكين ← ثنائي هاليد الألكيل

20. أكمل المعادلات التالية بكتابة الصيغ البنائية للنواتج المحتملة.

a. $CH_3CH = CHCH_2CH_3 + H_2 \rightarrow$

b. $CH_3CH_2\underset{\displaystyle Cl}{\underset{|}{C}}HCH_2CH_3 + OH^- \rightarrow$

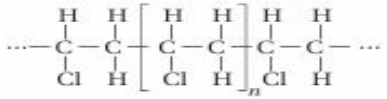
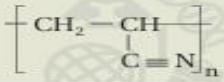
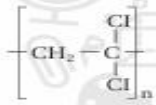
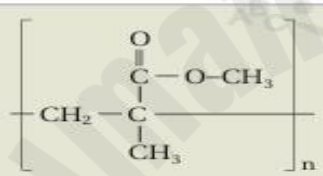
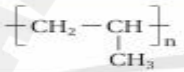
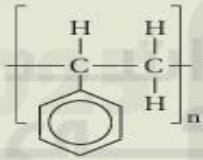
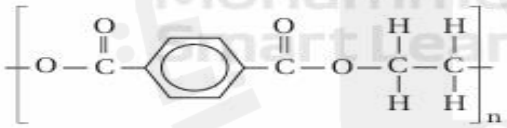
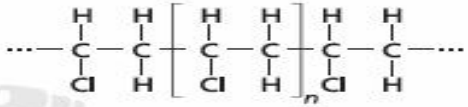
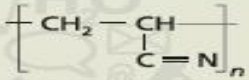
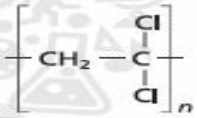
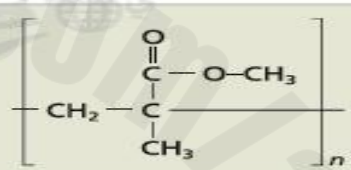
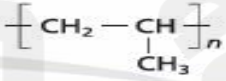
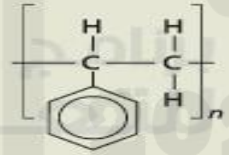
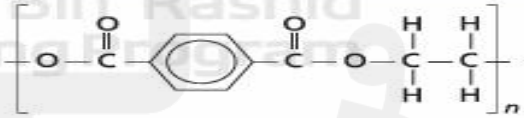
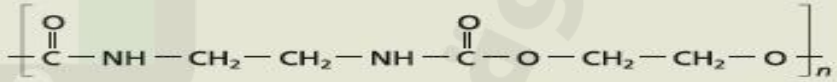
البوليمر	التطبيقات	الوحدة البنائية
بولي كلوريد الفينيل (PVC)	الأنابيب البلاستيكية، أوراق تغليف اللحوم، مواد التنجيد، الملابس المضادة للمطر، الألواح الجانبية الخارجية المثبّتة على المنازل، خراطيم الماء 	 بولي كلوريد الفينيل
بولي أكريلونيتريل	أقمشة الملابس ومواد التنجيد والسجّاد	
بولي فينيلدين كلوريد	تغليف الأطعمة، الأقمشة 	
بولي ميثيل ميثاكريلات	(زجاج الأكريليك) "غير قابل للكسر" للنوافذ، عدسات غير مكلفة، التحف الفنية 	
بولي بروبيلين (PP)	عبوات المشروبات، الحبال، الشبكات، أدوات المطبخ	
البوليستيرين (PS) وبلاستيك الستايرين	رغوة التغليف والعزل وأصص النبات وعبوات الأطعمة المخصّصة للاستعمال مرة واحدة وعمل النماذج 	
بولي إيثيلين رباعي فثالات (PETE)	زجاجات المشروبات الغازية، أسلاك الإطارات، الملابس، أشرطة التسجيل، الأدوات البديلة للأوعية الدموية	
بولي يورايثان	وسائد الأثاث الإسفنجية، الطلاء الخارجي المضاد للماء، أجزاء من الأحذية	

Table 14 Common Polymers

Polymer	Applications	Structural Unit
Polyvinyl chloride (PVC)	Plastic pipes, meat wrap, upholstery, rainwear, house siding, garden hose 	 Polyvinyl chloride
Polyacrylonitrile	Fabrics for clothing and upholstery, carpet	
Polyvinylidene chloride	Food wrap, fabrics 	
Polymethyl methacrylate	"Nonbreakable" (acrylic glass) windows, inexpensive lenses, art objects 	
Polypropylene (PP)	Beverage containers, rope, netting, kitchen appliances	
Polystyrene (PS) and styrene plastic	Foam packing and insulation, plant pots, disposable food containers, model kits 	
Polyethylene terephthalate (PETE)	Soft-drink bottles, tire cord, clothing, recording tape, replacements for blood vessels	
Polyurethane	Foam furniture cushions, waterproof coatings, parts of shoes	

What is the material used in the manufacture of compact discs (CDs)?
a. Polypropylene
b. Polyethylene
c. Polystyrene
d. Polycarbonate

Which of the following is not a chemically treated natural polymer?
a. Rubber
b. Plastics
c. Bio plastics
d. Cellulose

What is the first polymer prepared industrially and used in the manufacture of fuel devices and other devices?
a. Rubber
b. Plastics
c. Bio plastics
d. Cellulose

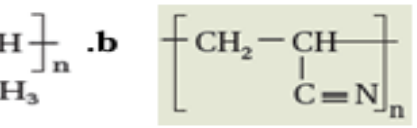
What term is given to the reaction that links monomers together to form polymers?
a. Polymerization
b. Oxidation
c. Dehydration
d. Hydrolysis

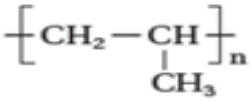
Which of the following polymers is produced by addition polymerization?
a. Polyvinyl alcohol
b. PETE
c. PP
d. Nylon

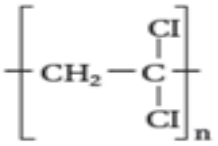
What is the polymerization reaction in which the reactants are molecules of the same substance?
a. Addition polymerization
b. Substitution polymerization
c. Condensation polymerization

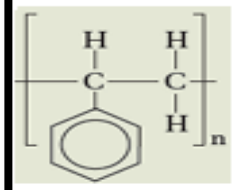
What is the polymerization reaction in which at least two different function groups combine with water lost?
a. Addition polymerization
b. Substitution polymerization
c. Condensation polymerization

98) ما الوحدة البنائية لبوليمر بولي أكريلونيتريل؟

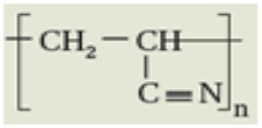
a. 

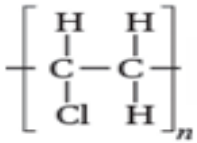
b. 

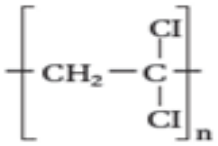
c. 

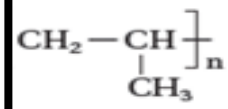
d. 

99) ما الوحدة البنائية لبوليمر بولي فينيلدين كلوريد؟

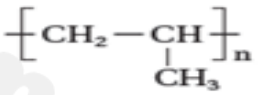
a. 

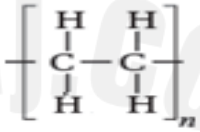
b. 

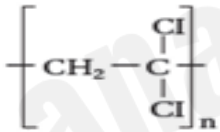
c. 

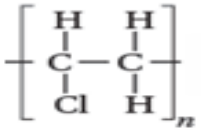
d. 

96) ما الوحدة البنائية لبوليمر بولي إيثيلين منخفض الكثافة LDPE؟

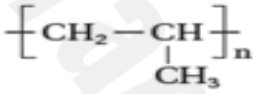
a. 

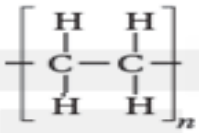
b. 

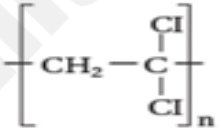
c. 

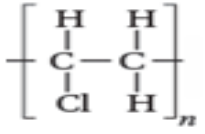
d. 

97) ما الوحدة البنائية لبوليمر بولي كلوريد الفينيل PVC؟

a. 

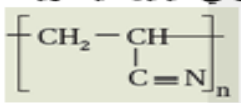
b. 

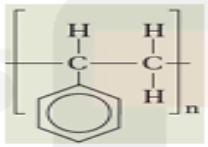
c. 

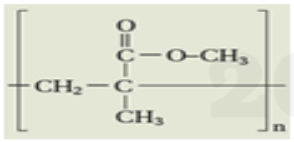
d. 

100) ما الوحدة البنائية لبوليمر بولي ميثيل ميثاكريلات؟

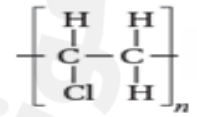
a. 

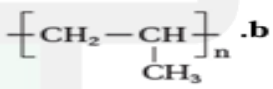
b. 

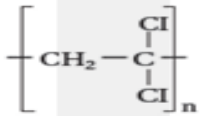
c. 

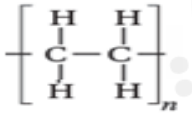
d. 

101) ما الوحدة البنائية لبوليمر بولي بروبيلين PP؟

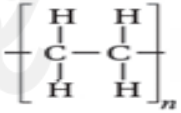
a. 

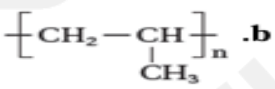
b. 

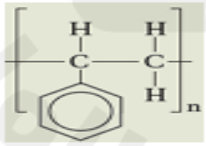
c. 

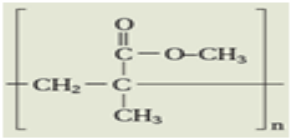
d. 

102) ما الوحدة البنائية لبوليمر البوليستيرين PS؟

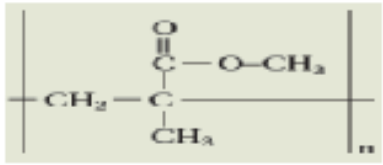
a. 

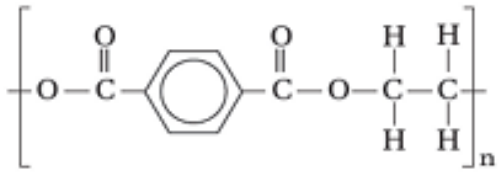
b. 

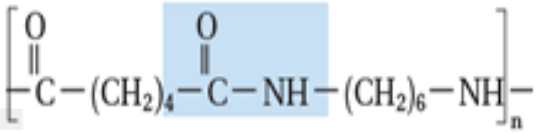
c. 

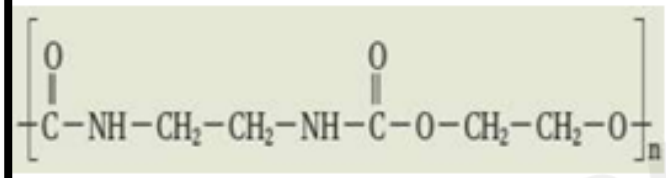
d. 

103) ما الوحدة البنائية لبوليمر بولي إيثيلين رباعي فثالات PETE؟

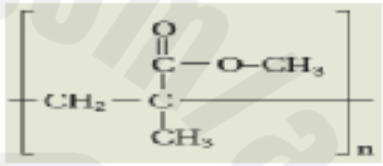
.a 

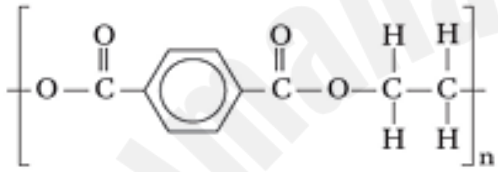
.b 

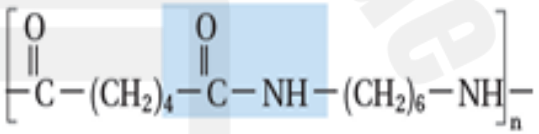
.c 

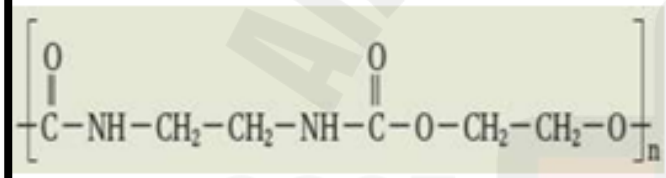
.d 

104) ما الوحدة البنائية لبوليمر بولي يور إيثان؟

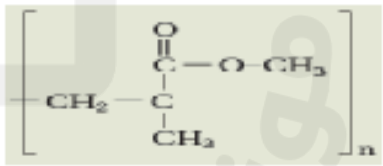
.a 

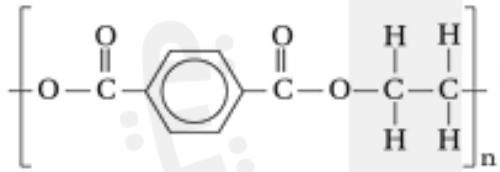
.b 

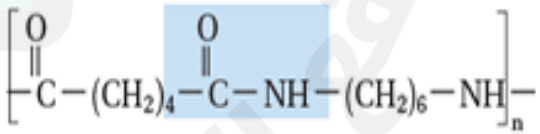
.c 

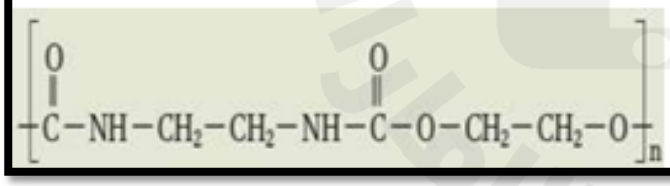
.d 

105) ما الوحدة البنائية لبوليمر النايلون 6,6؟

.a 

.b 

.c 

.d 

DR MOHAMED ABDELSALAM

MOBILE 0502500589

Which of the following polymers is used in the manufacture of plastic pipes, meat packaging sheets, rainwater drainage pipes, raincoats, and outdoor floor coverings?

a. Polyethylene
b. Polyvinyl chloride
c. Polytetrafluoroethylene
d. Polypropylene

Which of the following polymers is used in the manufacture of furniture padding, synthetic leather, and shoe soles?

a. Polyvinyl chloride
b. Polyurethane
c. Polytetrafluoroethylene
d. Polypropylene

Which polymer is used in food packaging?

a. Polyurethane
b. Polyvinyl chloride
c. Polytetrafluoroethylene
d. Polystyrene

Which of the following polymers is used in the manufacture of acrylic glass (shatter-resistant glass) for windows, lenses, and low-cost optical devices?

a. Polyvinylidene
b. Polybutylene
c. Poly (methyl methacrylate)
d. Polystyrene

Which of the following polymers is used in the manufacture of juice and mineral water containers, salad containers, and cooking oil bottles?

a. PVC
b. PS
c. PETE
d. PP

Which of the following polymers is used in the manufacture of tissue boxes, tissue paper lids, and disposable food containers?

a. PVC
b. PS
c. PETE
d. PP

Which of the following polymers is used in the manufacture of plastic containers for soft drinks and carbonated drinks?

a. PVC
b. PS
c. PETE
d. PP

Which of the following polymers is used in the manufacture of video and audio tapes, magnetic recording devices, and photographic films?

a. PVC
b. PS
c. PETE
d. PP

Which of the following polymers is used in the manufacture of sponge furniture cushions, exterior water-resistant paints, and parts of furniture?

a. Polyurethane
b. Polypropylene
c. Polyethylene used in irrigation pipe linings
d. Polyvinylidene chloride

Which of the following polymers is used in the manufacture of threads similar to silk threads?

a. Polyurethane
b. Polypropylene
c. Polystyrene
d. Nylon

Which of the following polymers is used in the manufacture of food containers, beverage cups, and insulation of electrical wires?

a. Polyvinyl chloride
b. Polypropylene
c. Polystyrene
d. Nylon

Which of the following polymers results from a reaction by condensation?

a. Polytetrafluoroethylene
b. Polybutadiene
c. Polyvinyl chloride
d. Polystyrene

What is the name of the process that results in the production of a polymer from small molecules like water?

a. Addition polymerization
b. Condensation polymerization
c. Oxidative polymerization
d. Thermal polymerization

Which of the following polymers is a type of thermoplastic?

a. Nylon
b. Polyacrylates
c. Polyethylene
d. Polystyrene

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Which of the following polymers is a type of thermoplastic?

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c. Polyethylene
d. Polystyrene

What is a polymer?
a. A small molecule used to build structures
b. A chemical element with high atomic mass
c. A large molecule made of repeating units
d. A substance that conducts electricity

What is a monomer?
a. A catalyst used in polymer reactions
b. A small molecule that joins to form a polymer
c. A type of fuel used in polymer synthesis
d. A byproduct of polymerization

What is a polymerization reaction?
a. A reaction that breaks down polymers
b. A process of freezing plastics
c. A reaction in which monomers bond to form polymers
d. A reaction that produces monomers from polymers

What happens in an addition polymerization reaction?
a. Monomers combine with loss of water
b. New atoms are added to the polymer from outside
c. All atoms in the monomers are retained in the polymer
d. A catalyst is removed from the reaction

Which type of polymerization involves the loss of a small molecule like water?
a. Radical polymerization
b. Condensation polymerization
c. Addition polymerization
d. Chain transfer reaction

DR MOHAMED ABDELSALAM

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Which of the following polymers can be melted and reshaped repeatedly?
a. Thermosetting polymer
b. Biopolymer
c. Thermoplastic polymer
d. Composite polymer

Which polymer type cannot be remelted after molding?
a. Thermoplastic
b. thermosetting
c. Condensation polymer
d. Addition polymer

Why are polymers widely used in modern materials?
a. They are expensive and rare
b. They conduct electricity well
c. They are easy to shape and inexpensive
d. They decompose quickly in nature

What helps identify the composition of plastics for recycling?
a. The size of the polymer
b. The molecular formula
c. The recycling code on the product
d. The density of the plastic

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Which of the following is a major advantage of polymers?
a. They conduct electricity
b. They are always biodegradable
c. They are lightweight and versatile
d. They have high metal content

Which polymer is commonly used in plastic bottles?
a. Nylon
b. PETE (Polyethylene Terephthalate)
c. PVC
d. PS (Polystyrene)

What is the primary source of raw materials for synthetic polymers?
a. Plants
b. Metals
c. Fossil fuels
d. Minerals

Which of the following is true about thermosetting plastics?
a. They can be reshaped many times
b. They melt easily
c. They harden permanently after molding
d. They are used only for packaging

What is the role of functional groups in condensation polymerization?
a. They speed up the cooling process
b. They allow monomers to bond and release a small molecule
c. They make polymers stronger by adding metal
d. They determine the color of the polymer

Which of the following would NOT be made from a thermoplastic?
a. Recyclable water bottles
b. Flexible tubing
c. Electrical insulation
d. Oven-safe handles that must not melt

What type of polymer is formed when two different monomers combine?
a. Homopolymer
b. Biopolymer
c. Copolymer
d. Isomer

Which polymer is known for being used in non-stick cookware?
a. PVC
b. PTFE (Polytetrafluoroethylene)
c. PETE
d. Nylon

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What happens during the polymerization process?

a. Polymers are broken into small units
b. Monomers link together to form long chains
c. Polymers are melted into metal
d. Water is added to dissolve the polymer

Which of the following is most likely to be a thermoplastic?

a. Bakelite
b. Silicone rubber
c. Polypropylene
d. Epoxy resin

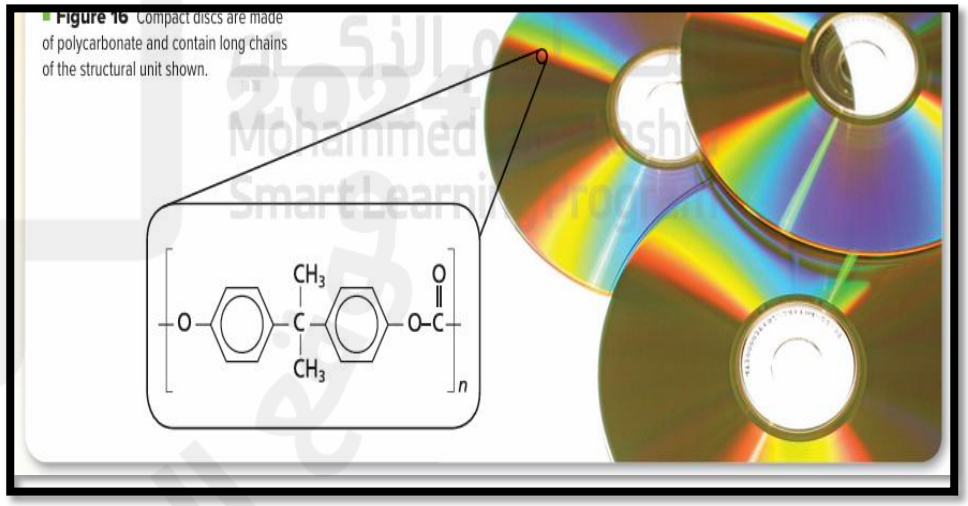
Compact discs are made of polycarbonate what is the monomer?

Poly carbonate

Carbonate

Carbon dioxide

Carbide



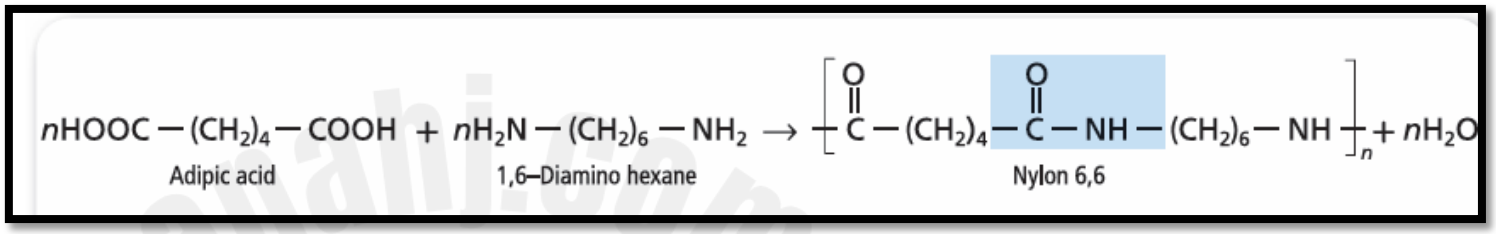
In Nylon 6, 6 carboxylic groups combine with amine groups to produce …….. With water lost?

Carboxylic acid

Aldehyde

Amide

Ketone



Why codes of plastic is very important in industry?

Recycling

Sorting plastic

Save time

All are correct

What is the range of polymers masses?

10,000-1,000,000

1000-10,

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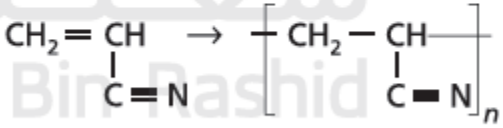
22. MAINIDEA Draw the structure for the polymer that could be produced from each of the following monomers by the method stated.

a. Addition **b.** Condensation

23. Label the following polymerization reaction as *addition* or *condensation*. Explain your answer.

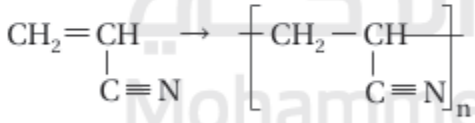


24. Identify Synthetic polymers often replace stone, wood, metals, wool, and cotton in many applications. Identify some advantages and disadvantages of using synthetic materials instead of natural materials.

22. الفكرة الرئيسة **ارسم** الصيغة البنائية للبوليمر الذي يُمكن أن ينتج من كل المونومرات التالية باستخدام الطريقة المذكورة.

a. الإضافة **b.** التكاثف

23. سمِّ تفاعل البلمرة التالي إمّا إضافة أو تكاثفًا. اشرح إجابتك.



24. حدِّد غالبًا ما تحل البوليمرات الصناعية محل الأحجار والأخشاب والفلزات والصوف والقطن في العديد من التطبيقات. حدّد بعض مزايا وعيوب استخدام المواد المُصنّعة بدلًا من المواد الطبيعية.

Polymer properties

1- Easy to synthesize

2- Most are inexpensive

3- Can be drawn into fibers and silk

4- Don’t rust

5- Durable more than some natural materials

6- Can be molded to different shapes

7- Polyethylene doesn’t react with water and insulator so it is suitable or food and beverages Preservation.

البلاستيك الحراري هو الذي يُمكن صهره وتشكيله عدة مرات إلى أشكال ثابتة عند التبريد. يُعدّ كل من البولي إيثيلين والنايلون أمثلة على بوليمرات البلاستيك الحراري. والبوليمر **المتصلب بالحرارة** هو الذي يُمكن تشكيله عند تحضيره أول مرة. ولكن بعد التبريد، لا يُمكن إعادة صهره. يُمكن شرح هذه الخاصية من خلال حقيقة أنّ البوليمرات

Polymers fall into two different categories, based on their melting characteristics. A **thermoplastic** polymer is one that can be melted and molded repeatedly into shapes that are retained when cooled. Polyethylene and nylon are examples of thermoplastic polymers. A **thermosetting** polymer is one that can be molded when it is first prepared, but after it cools, it cannot be remelted. This property is

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