PAKET 8

PELATIHAN ONLINE

2019

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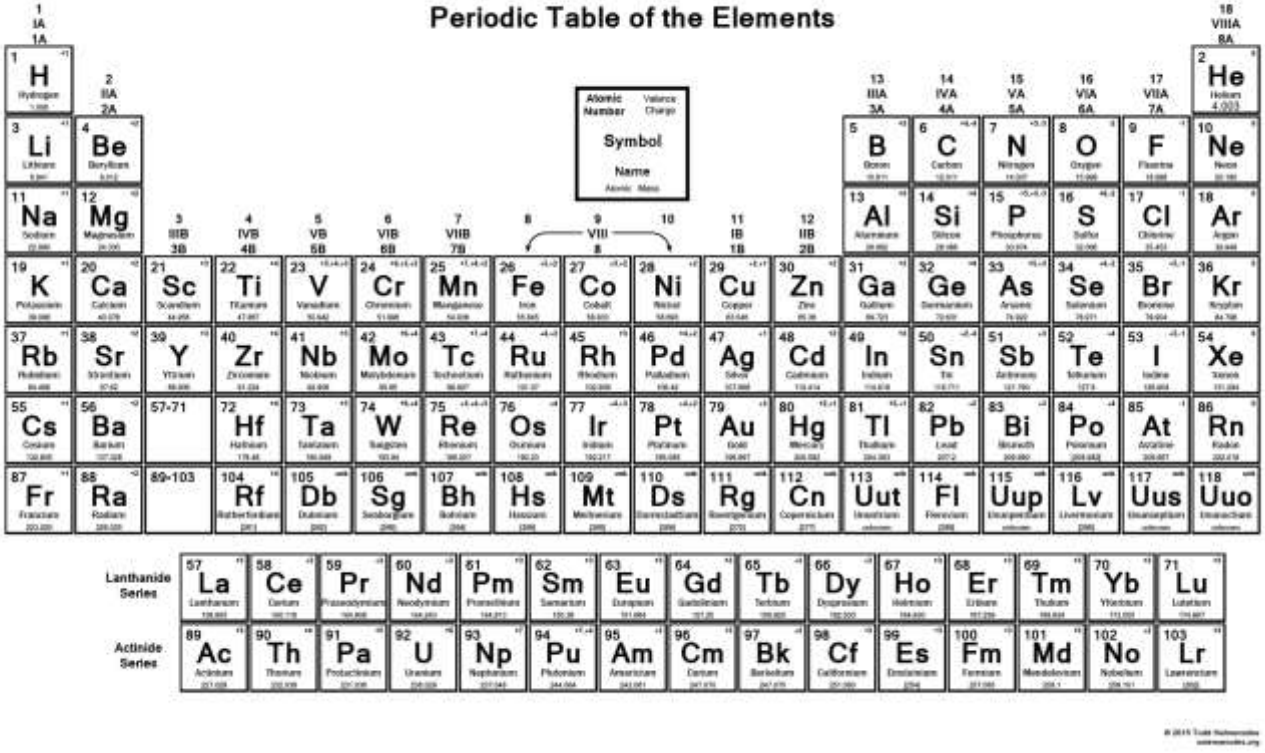
PELATIHAN ONLINE 2019
KIMIA – PAKET 8

Kimia Organik, SN dan E ft Alkena



Materi Singkat

Reaksi SN dan E

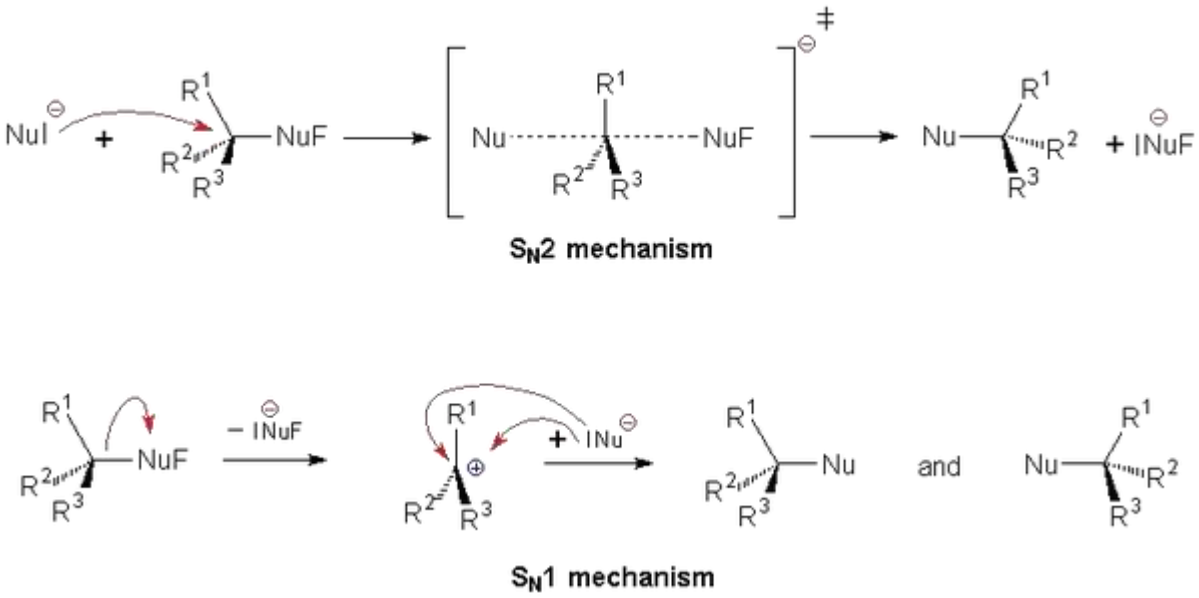
Reaksi SN merupakan singkatan dari reaksi Substitusi Nukleofilik, pada reaksi ini nukleofil yang ada dalam suatu senyawa akan diganti dengan nukleofil lain yang lebih kuat

Reaksi E merupakan singkatan dari reaksi eliminasi, pada reaksi ini akan terjadi pelepasan gugus dari senyawa organik membentuk ikatan rangkap

Reaksi SN dan E terbagi melalui 2 mekanisme, yakni SN1 dan SN2 serta E1 dan E2

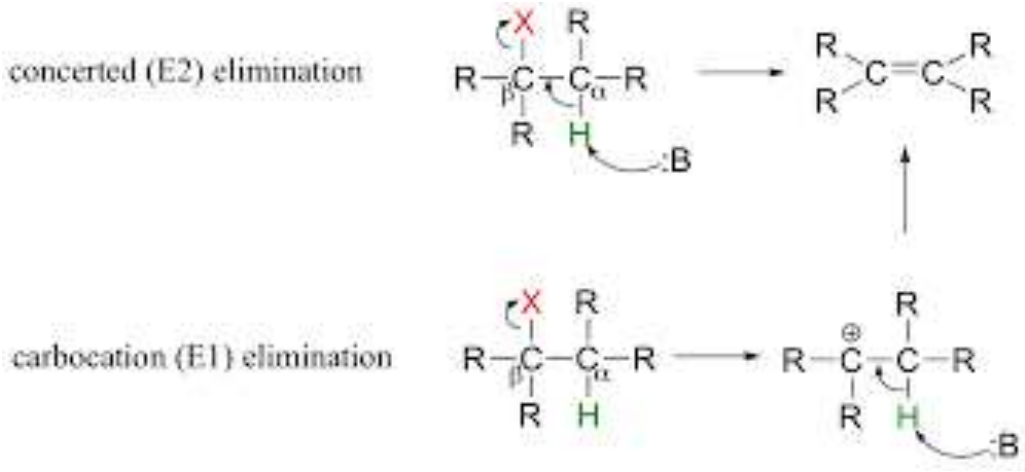
Reaksi SN1 terdiri dari 2 tahap yakni pelepasan gugus pergi membentuk karbokation, dilanjutkan serangan nukleofil baru. Pada mekanisme ini, kiralitas dari senyawa organik awal akan hilang akibat terbentuknya intermediet karbokation yang planar

Reaksi SN2 terdiri dari 1 tahap yakni serangan langsung terhadap senyawa organik . Pada mekanisme ini, kiralitas senyawa organik akan terbalik akibat adanya inversi oleh nukleofil (nukleofil baru menyerang dari arah berlawanan dari nukleofil yang akan lepas).



Gambar 1: Mekanisme SN1 dan SN2, sumber : https://www.quora.com/Why-steric-hindrance-doesnt-affect-Sn1-reaction

Reaksi eliminasi juga serupa yakni terbagi menjadi dua mekanisme, E1 dan E2 di mana E1 akan terdiri dari 2 tahap yakni pembentukan karbokation dilanjutkan tahap II yakni penyerangan oleh nukleofil sendangkan E2 terdiri dari 1 tahap yakni serangan langsung oleh nukleofil



Gambar 2: Mekanisme reaksi E1 dan E2, sumber : https://chem.libretexts.org/Textbook_Maps/Organic_Chemistry/Book%3A_Organic_Chemistry_with_a_Biological_Emphasis_(Soderberg)/14%3A_Reactions_with_stabilized_carbanion_intermediates%2C_part_II/14.3%3A_Elimination_by_the_E1_and_E2_mechanisms

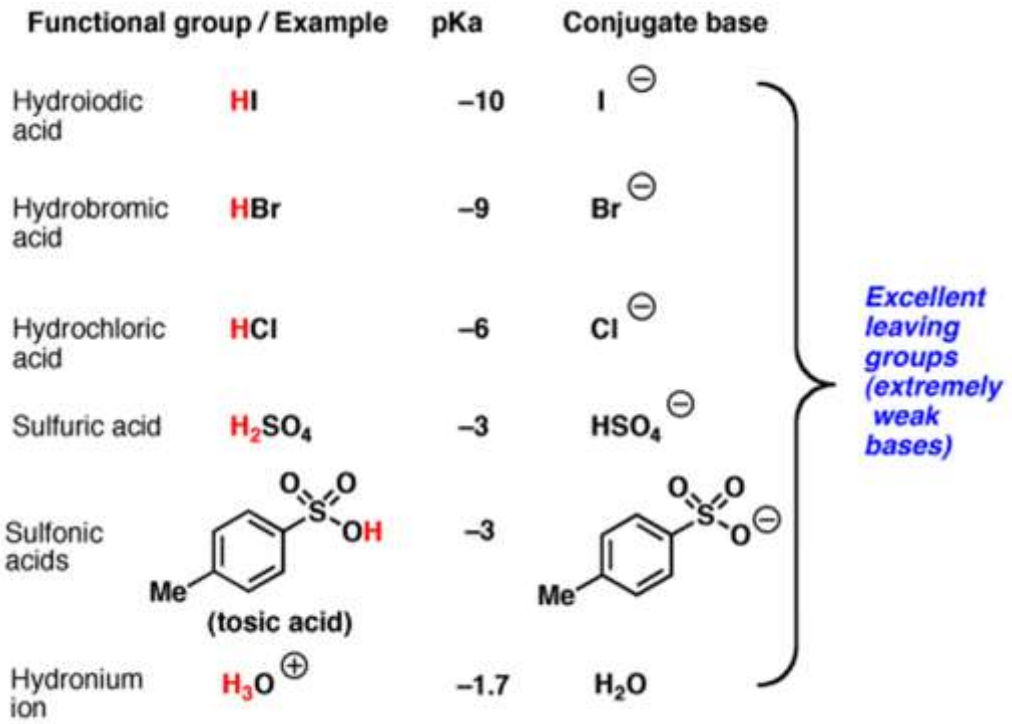
Sekilas kedua mekanisme ini terlihat mirip, perbedaan mencolok akan terlihat di mana karbokation dapat mengalami penataan ulang

TIPS MENGERJAKAN SOAL

#8 Gugus pergi yang baik (GLG)

Dalam reaksi di senyawa organik, dikenal istilah Good Leaving Group (GLG), gugus-gugus ini penting untuk diketahui untuk mempermudah pengenalan bagian mana dari senyawa yang bisa disubstitusi. Pada umumnya, GLG merupakan basa-basa lemah sehingga ketika lepas dari suatu senyawa maka ia tidak akan bertindak sebagai nukleofil dominan

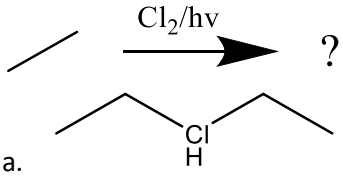
Berikut adalah beberapa daftar dari gugus lepas beserta kemudahan atau kesukaran lepasnya



Gambar 3: Beberapa daftar gugus lepas yang baik, sumber : https://www.masterorganicchemistry.com/tips/what-makes-a-good-leaving-group/

SOAL

1. Tentukan produk dari reaksi berikut!



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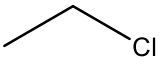
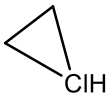
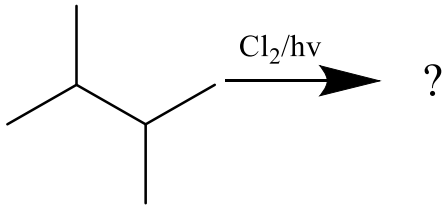
b. 

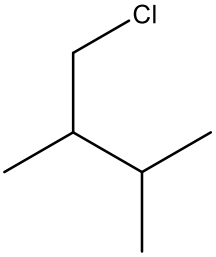
c. 

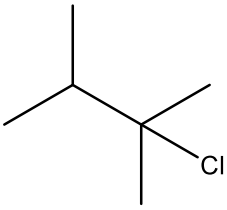
d.

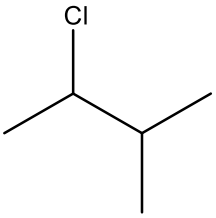
e. $2CO_2$

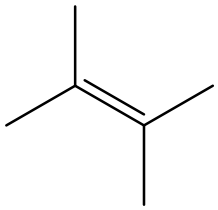
2. Tentukan produk dari reaksi berikut!

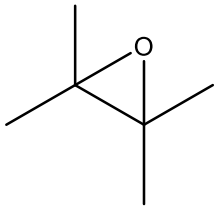


a. 

b. 

c. 

d. 

e. 

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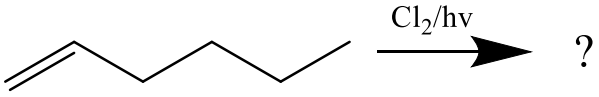
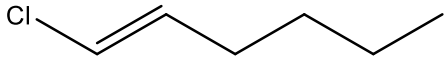
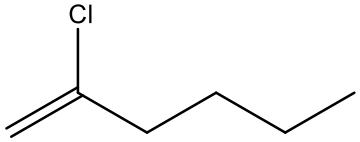
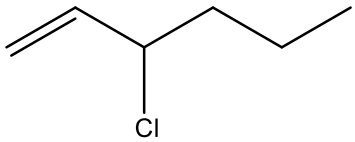
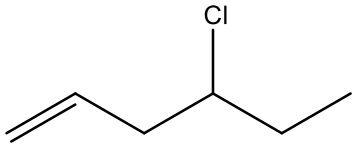


a. 

b. 

c. 

d. 

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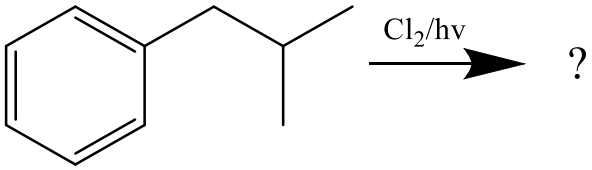
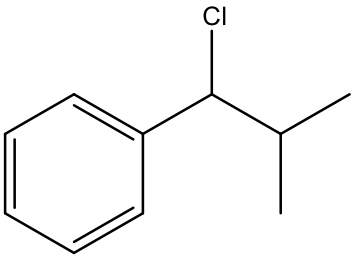
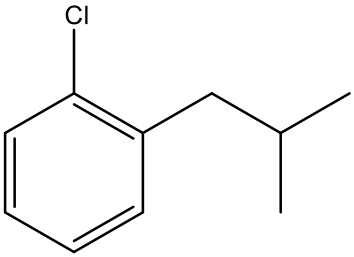
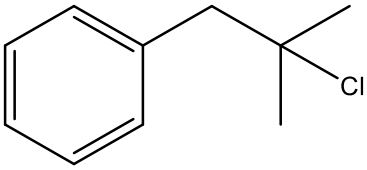
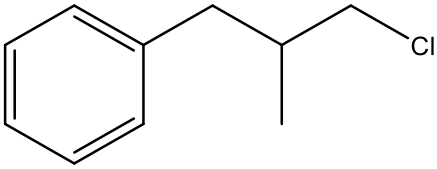
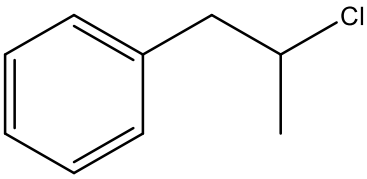


a. 

b. 

c. 

d. 

e. 

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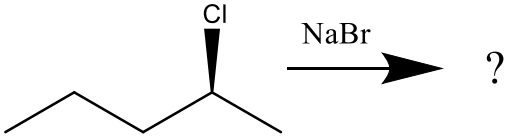
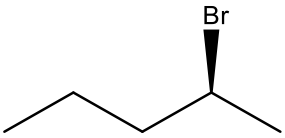
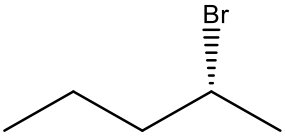
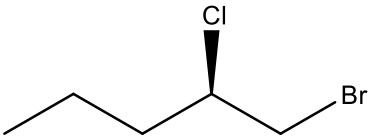
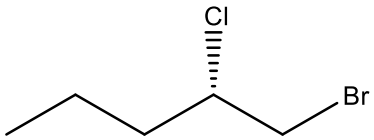
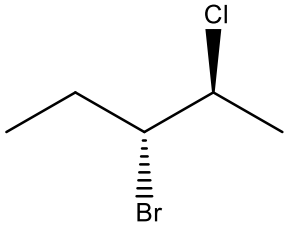


a. 

b. 

c. 

d. 

e. 

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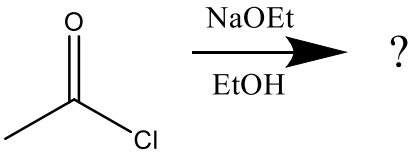
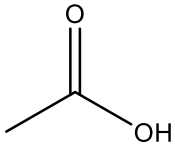
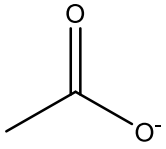
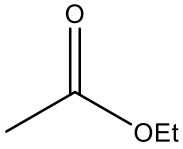
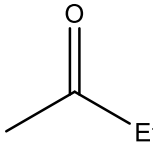
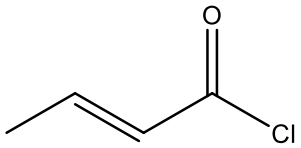


a. 

b. 

c. 

d. 

e. 

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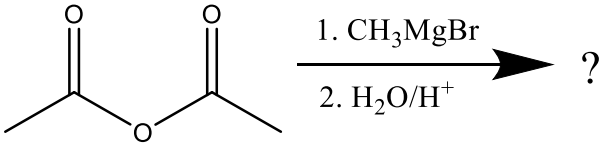
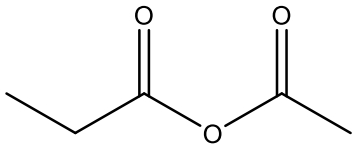
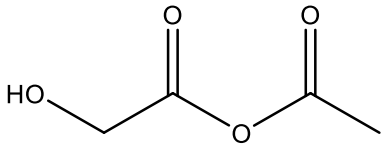
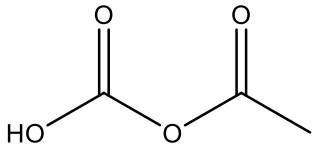
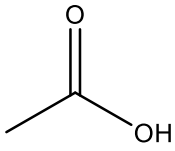
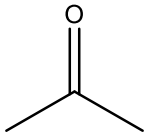


a. 

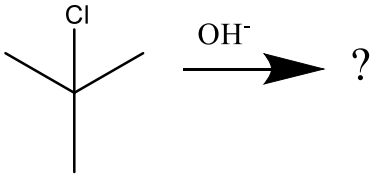
b. 

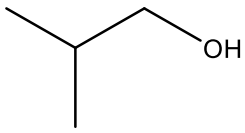
c. 

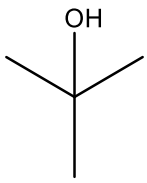
d. 

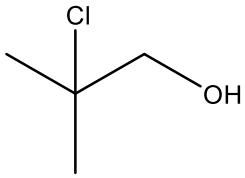
e. 

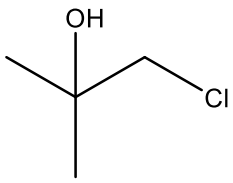
8. Tentukan produk dari reaksi berikut!

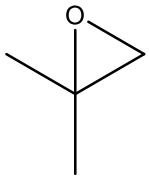


a. 

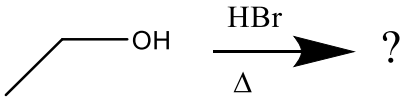
b. 

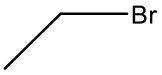
c. 

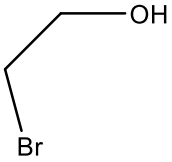
d. 

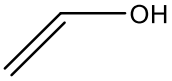
e. 

9. Tentukan produk dari reaksi berikut!

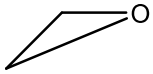


a. 

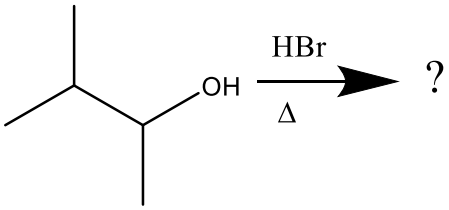
b. 

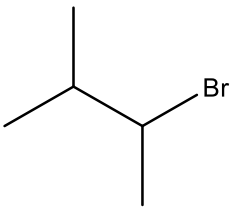
c. 

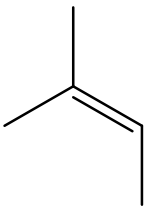
d.

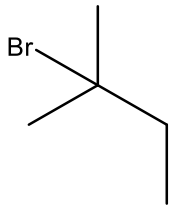
e. 

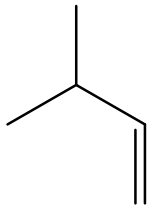
10. Tentukan produk dari reaksi berikut!

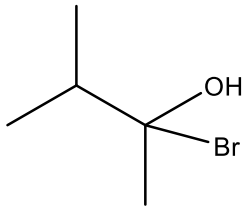


a. 

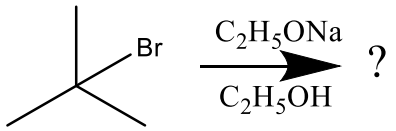
b. 

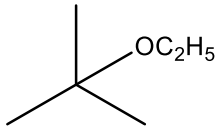
c. 

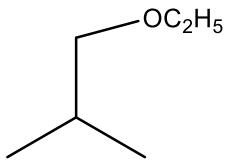
d. 

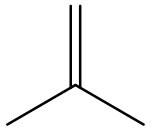
e. 

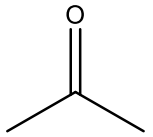
11. Tentukan produk dari reaksi berikut!

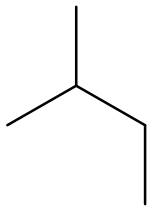


a. 

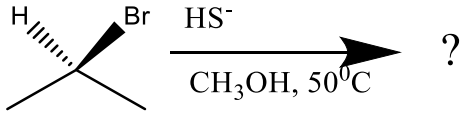
b. 

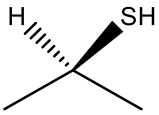
c. 

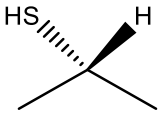
d. 

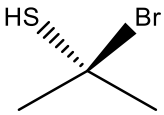
e. 

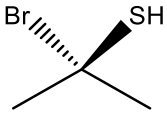
12. Tentukan produk dari reaksi berikut!

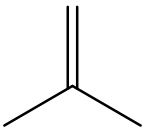


a. 

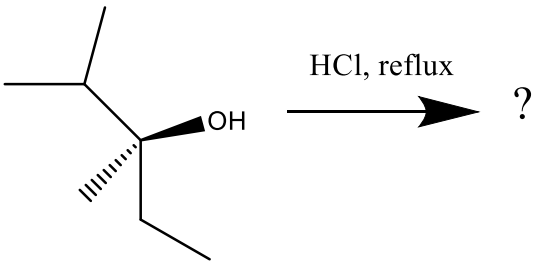
b. 

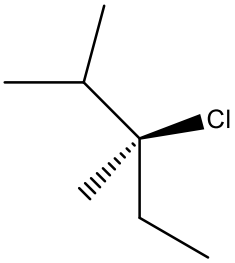
c. 

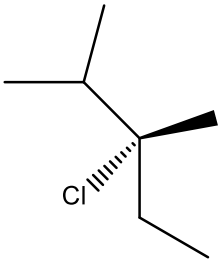
d. 

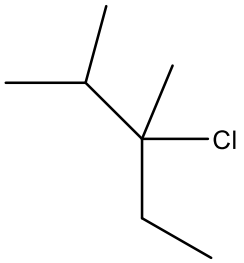
e. 

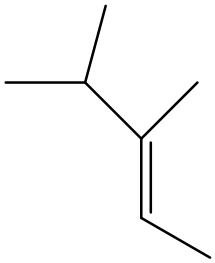
13. Tentukan produk dari reaksi berikut!

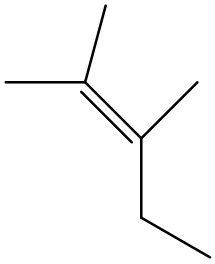


a. 

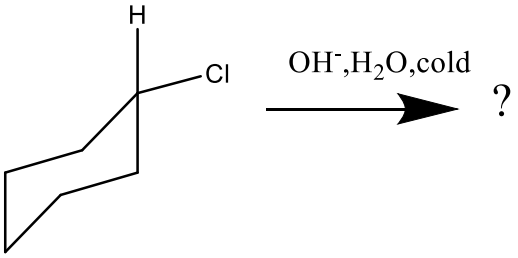
b. 

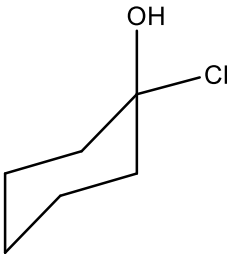
c. 

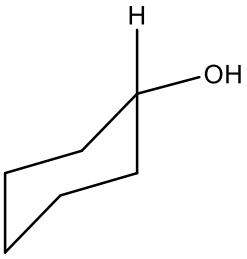
d. 

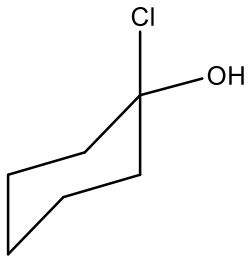
e. 

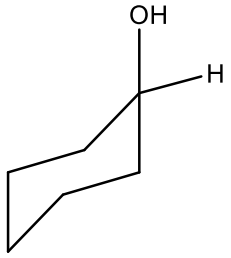
14. Tentukan produk dari reaksi berikut!

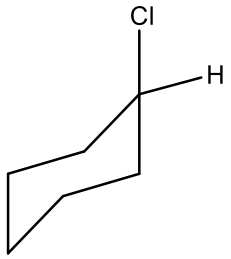


a. 

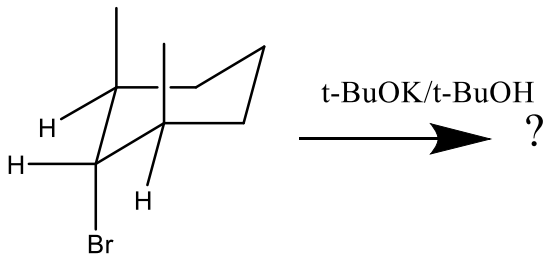
b. 

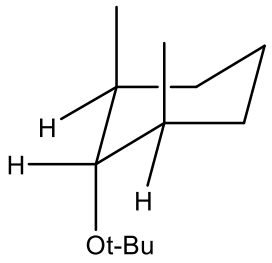
c. 

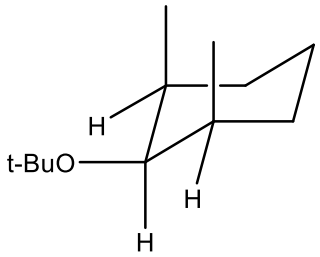
d. 

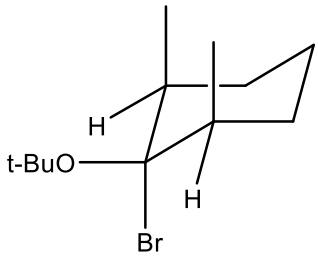
e. 

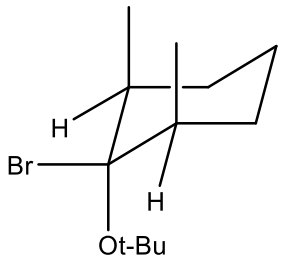
15. Tentukan produk dari reaksi berikut!



a. 

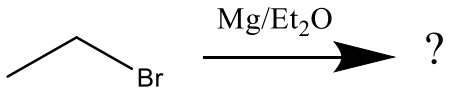
b. 

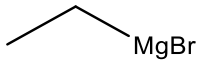
c. 

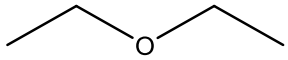
d. 

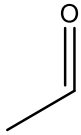
e. Tidak terjadi reaksi

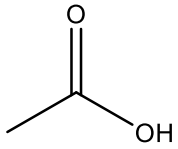
16. Tentukan produk dari reaksi berikut!

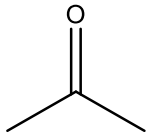


a. 

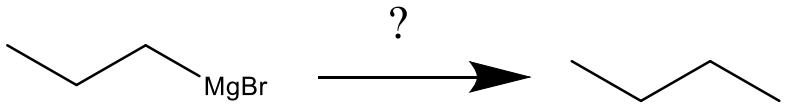
b. 

c. 

d. 

e. 

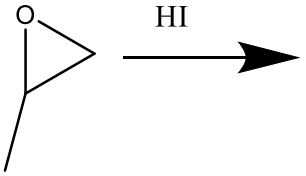
17. Tentukan produk dari reaksi berikut!

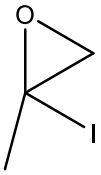


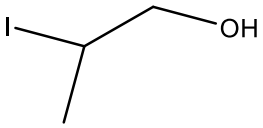
a. CH_3MgBr
b. CH_3OH
c. CH_3I
d. CCl_4

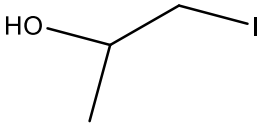
e. CH_3OCH_3

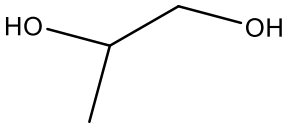
18. Tentukan produk dari reaksi berikut!

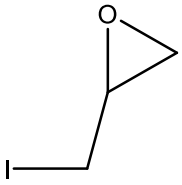


a. 

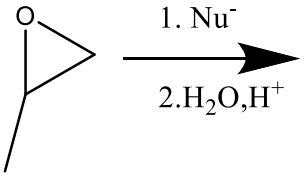
b. 

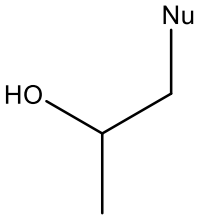
c. 

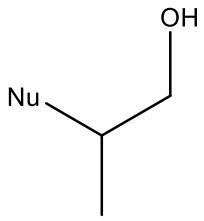
d. 

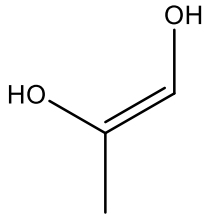
e. 

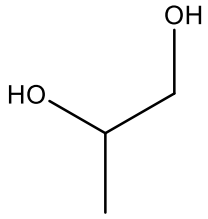
19. Tentukan produk dari reaksi berikut!

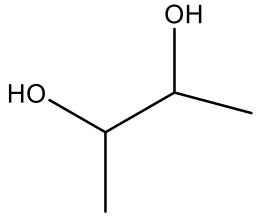


a. 

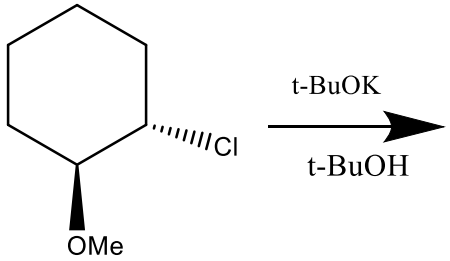
b. 

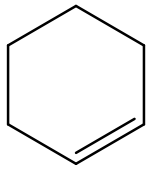
c. 

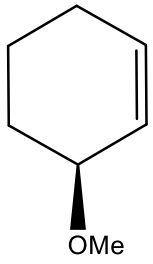
d. 

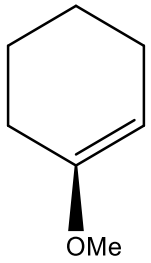
e. 

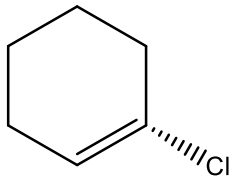
20. Tentukan produk dari reaksi berikut!

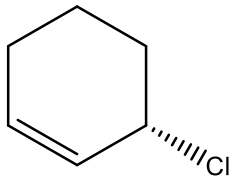


a. 

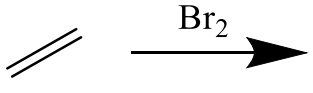
b. 

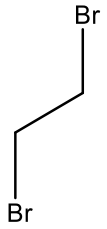
c. 

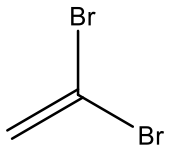
d. 

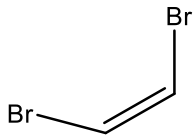
e. 

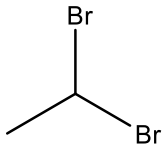
21. Tentukan produk dari reaksi berikut!

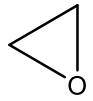


a. 

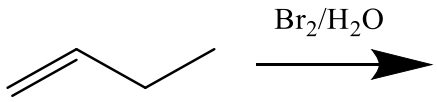
b. 

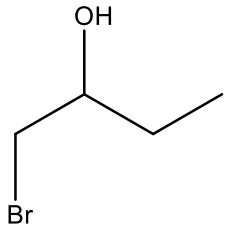
c. 

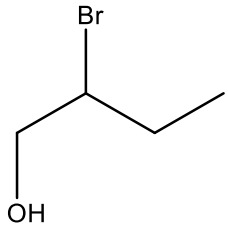
d. 

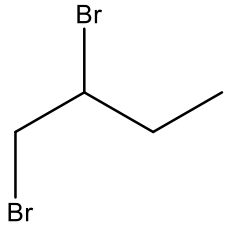
e. 

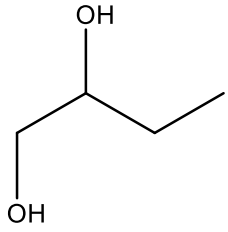
22. Tentukan produk dari reaksi berikut!

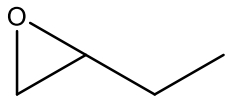


a. 

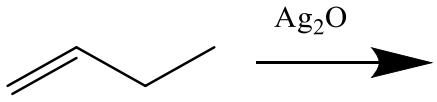
b. 

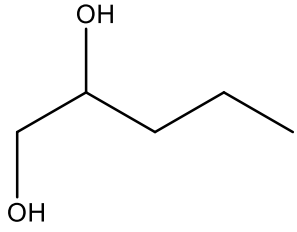
c. 

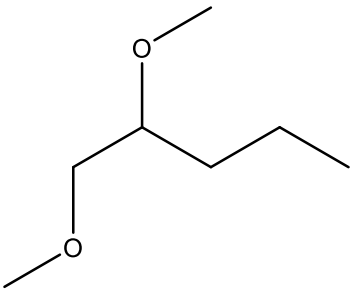
d. 

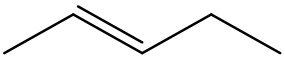
e. 

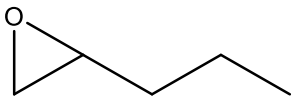
23. Tentukan produk dari reaksi berikut!

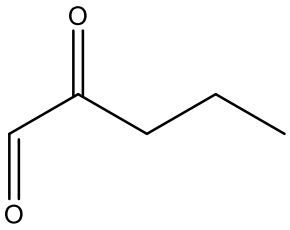


a. 

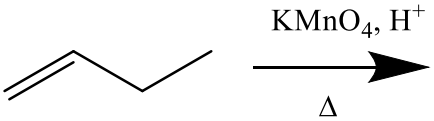
b. 

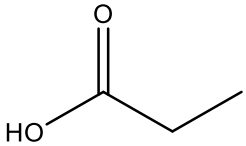
c. 

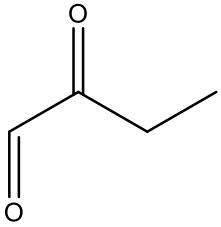
d. 

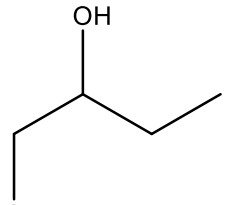
e. 

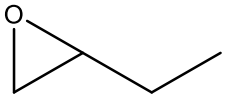
24. Tentukan produk dari reaksi berikut!

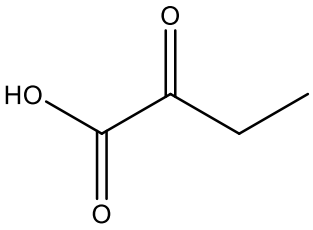


a. CO_2 + 

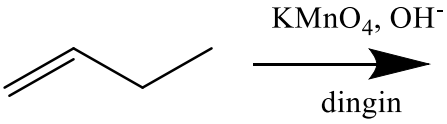
b. 

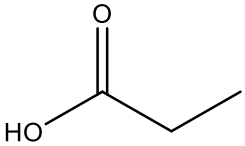
c. 

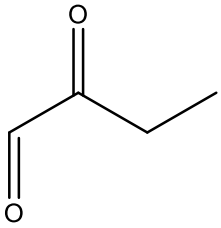
d. 

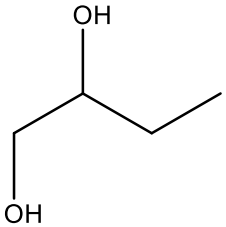
e. 

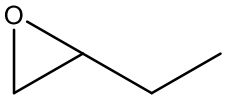
25. Tentukan produk dari reaksi berikut!

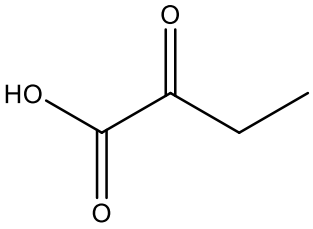


a. CO_2 + 

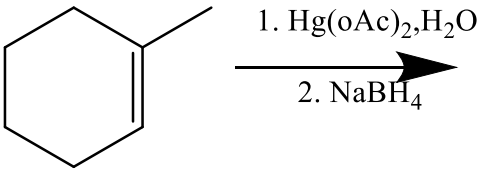
b. 

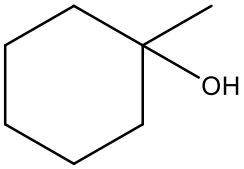
c. 

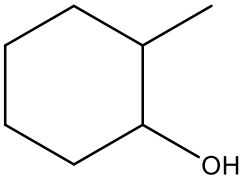
d. 

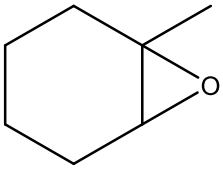
e. 

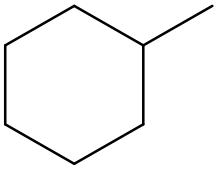
26. Tentukan produk dari reaksi berikut!

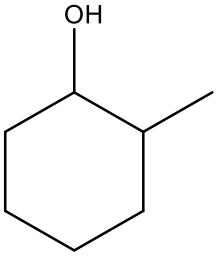


a. 

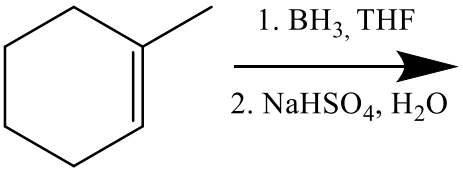
b. 

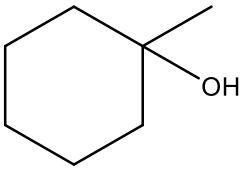
c. 

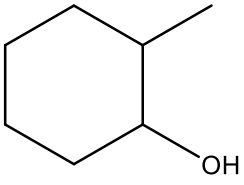
d. 

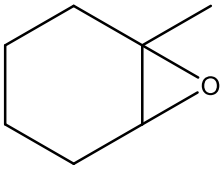
e. 

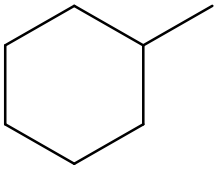
27. Tentukan produk dari reaksi berikut!

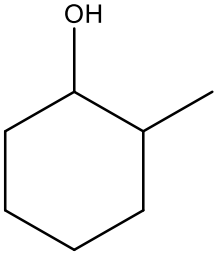


a. 

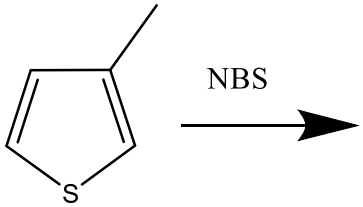
b. 

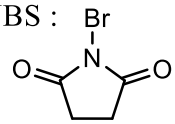
c. 

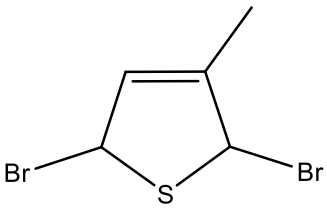
d. 

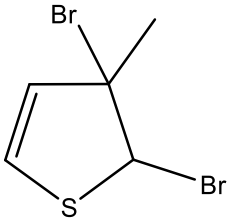
e. 

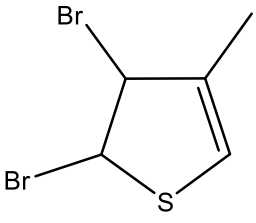
28. Tentukan produk dari reaksi berikut!

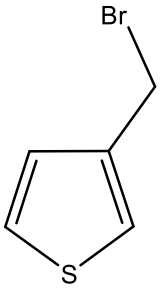


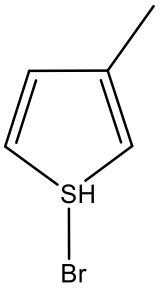
NBS : 

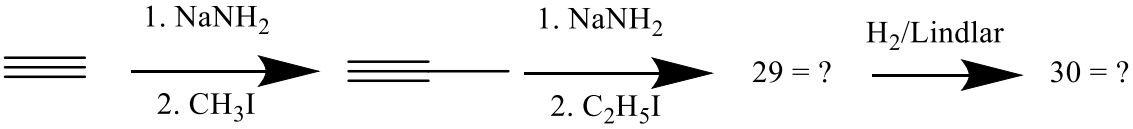
a. 

b. 

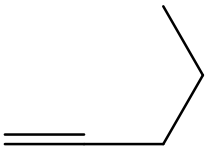
c. 

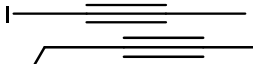
d. 

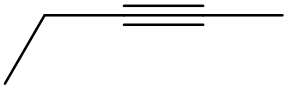
e. 

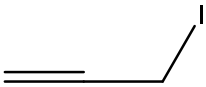


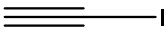
29. Pilih jawaban yang sesuai untuk melengkapi reaksi di atas!

a. 

b. 

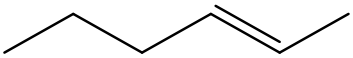
c. 

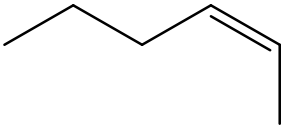
d. 

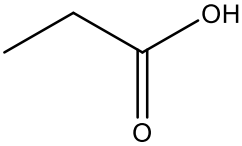
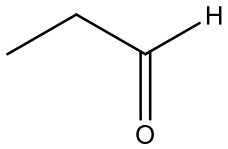
e. 

30. Pilih jawaban yang sesuai untuk melengkapi reaksi di atas!

a.

b. 

c. 

d. 

e.