

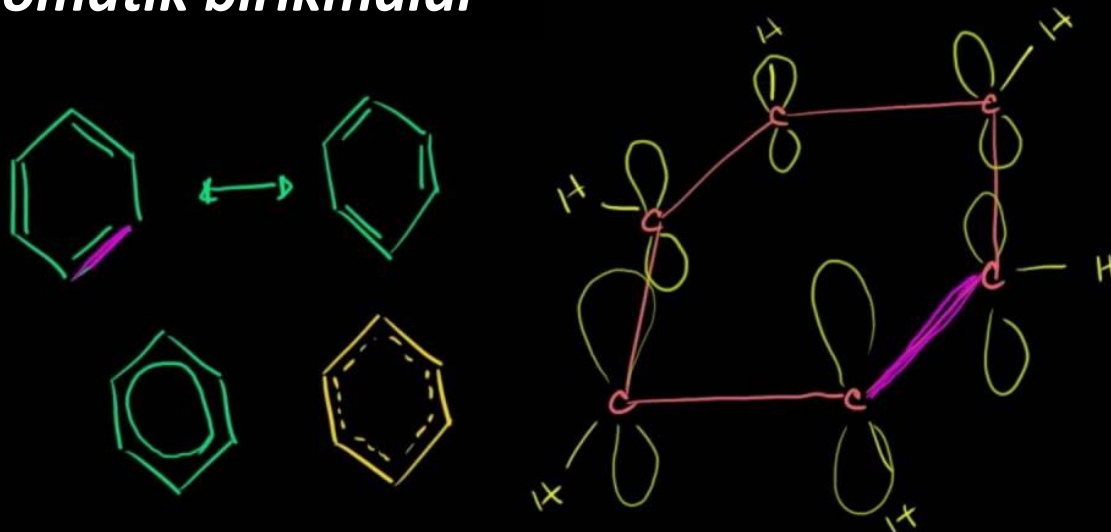


Aromatik uglevodorodlar. Olinishi va xossalari

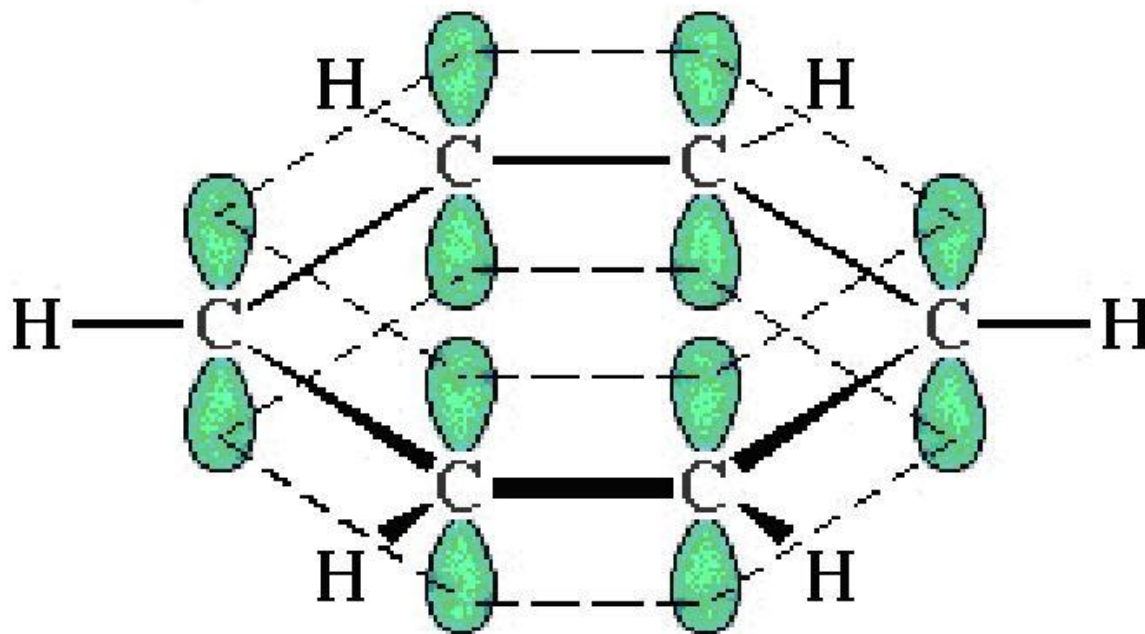
*10-sinf Kimyo fani darsligi
asosida 16-mavzu*

*Molekulasida atomlarning o'ziga xos bog'lanishli siklik guruhi –benzol yadrosi mavjud bo'lgan birikmalarga **aromatik birikmalar** deyiladi.*

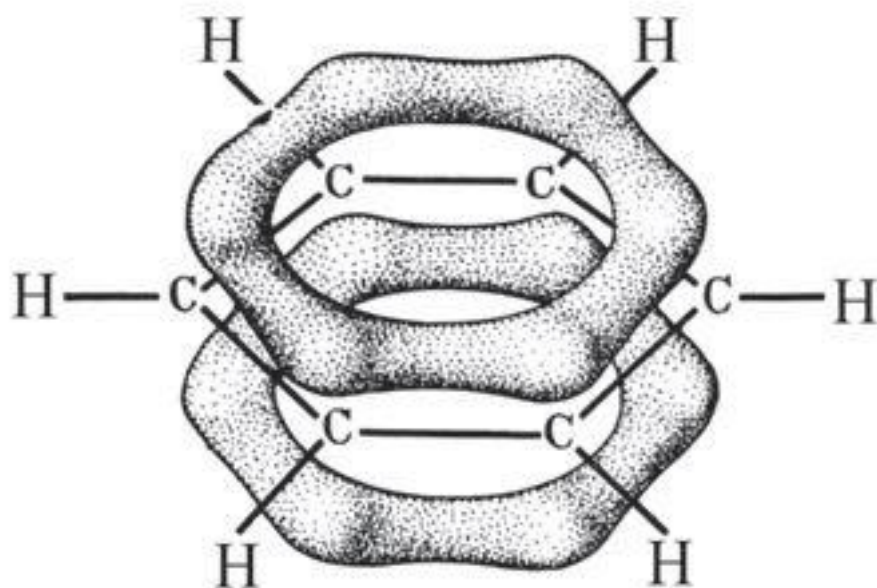
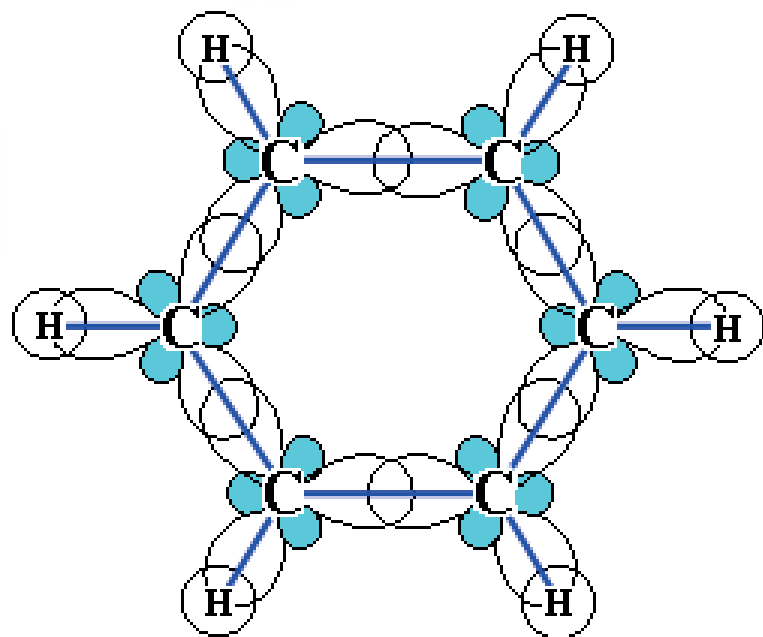
Aromatic birikmalar



***Aromatik uglevodorodlarning dastlabki vakili benzol
(C₆H₆) molekulasining tuzilishini aks ettiruvchi
formulani birinchi boʻlib nemis kimyogari
A.Kekule taklif etgan.***

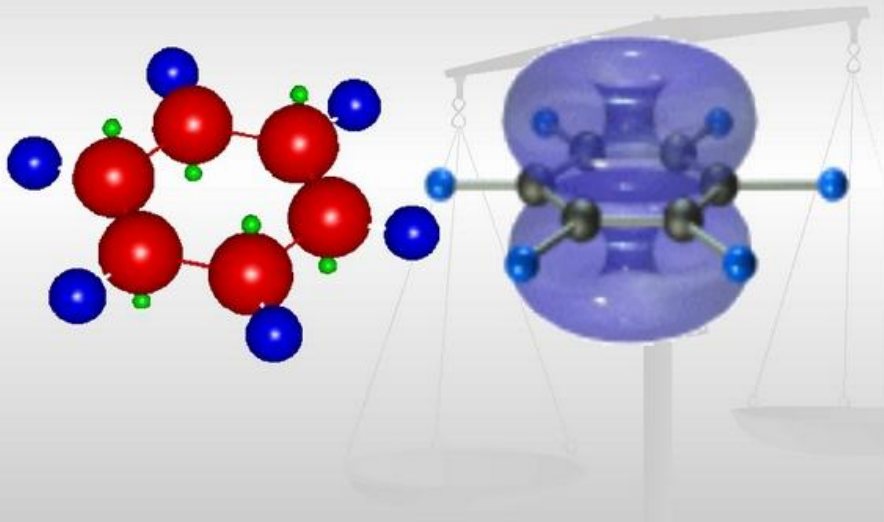


Zamonaviy fizik usullar yordamida benzol molekulası siklik tuzilishga ega ekanligi va undagi oltita uglerod atomining hammasi bir tekislikda joylashganligi aniqlandi.

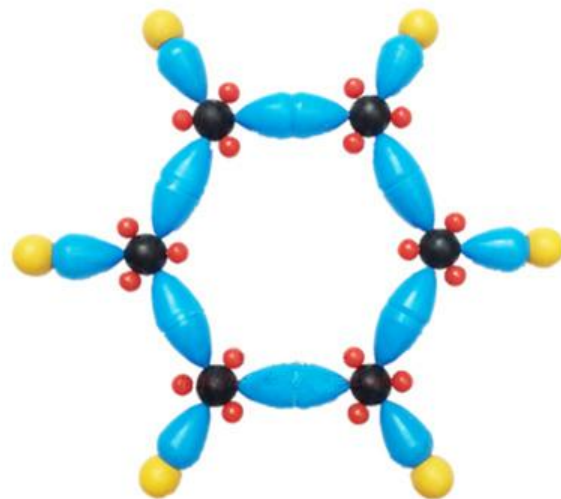


Nomenklatura va izomeriyasi.

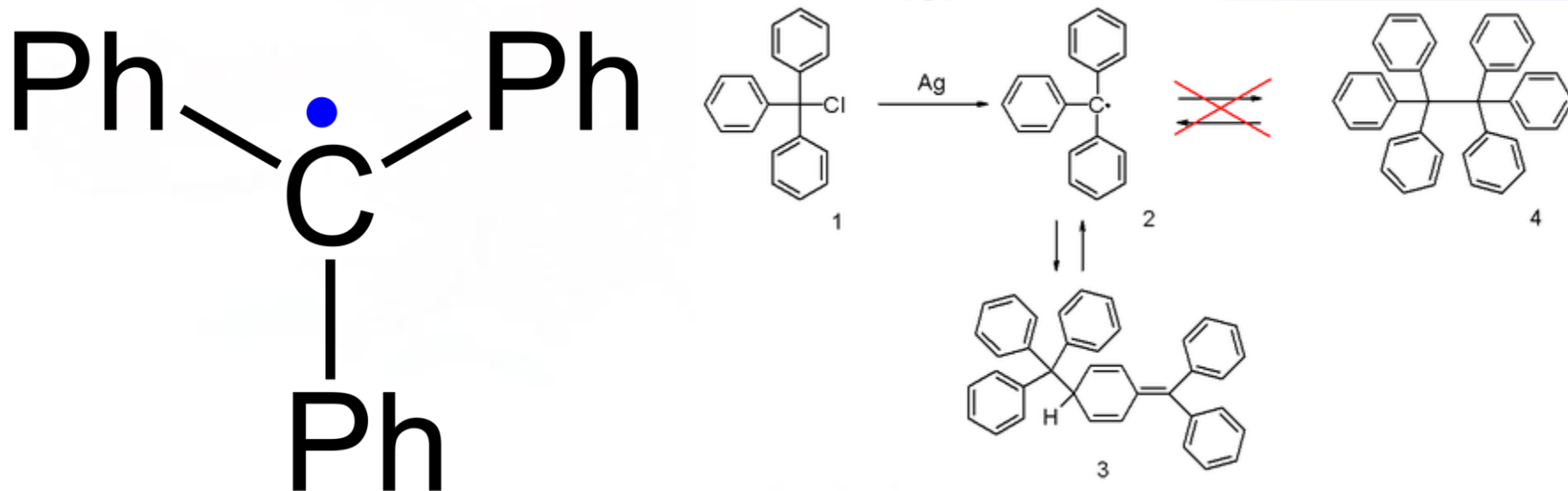
Benzol molekulası



Benzol molekulasidagi vodorod atomlari turli radikallarga almashganda benzolning gomologlari hosil bo'ladi.



Agar benzol yadrosidan bitta vodorod atomi chiqarilsa, fenil (C_6H_5-) radikali, toluol tarkibidagi metil radikalidan bitta vodorod atomi chiqarilsa, benzyl ($C_6H_5CH_2-$) radikali hosil bo'лади.



Olinishi

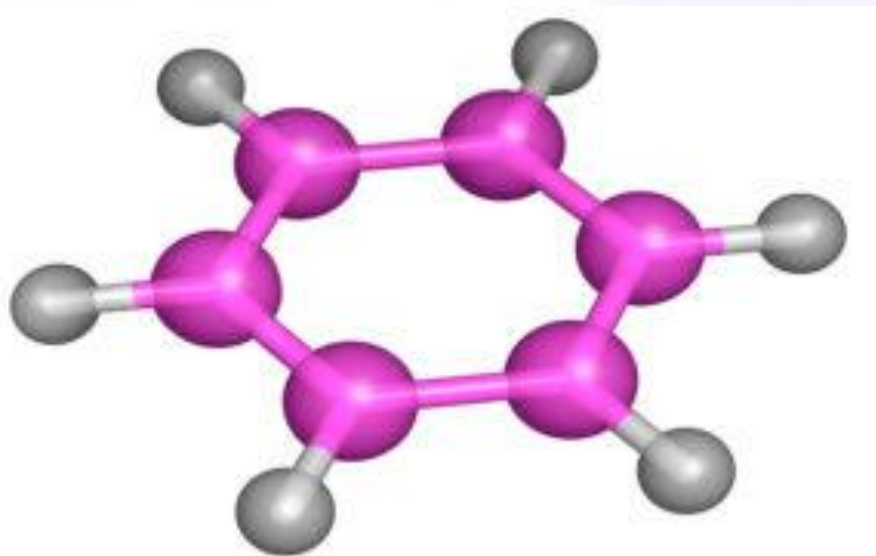
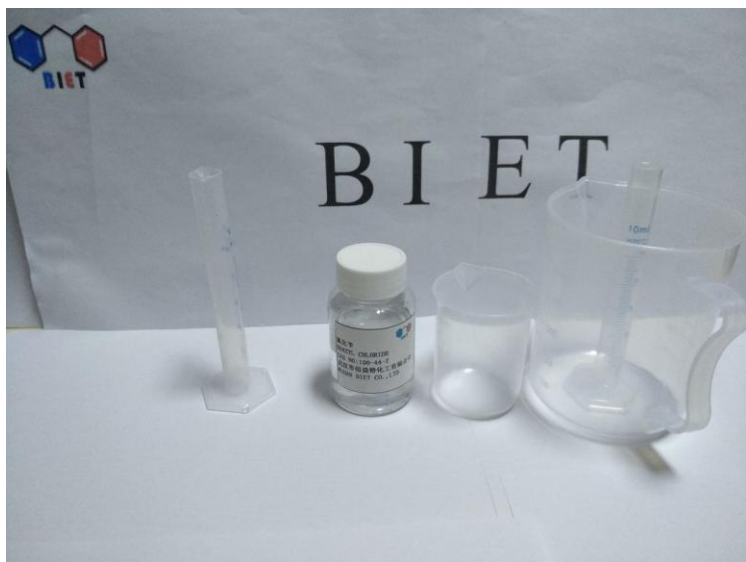


1. Benzol temperatura ta'sirida siklogeksanni katalizator ishtirokida degidrogenlab olinadi.

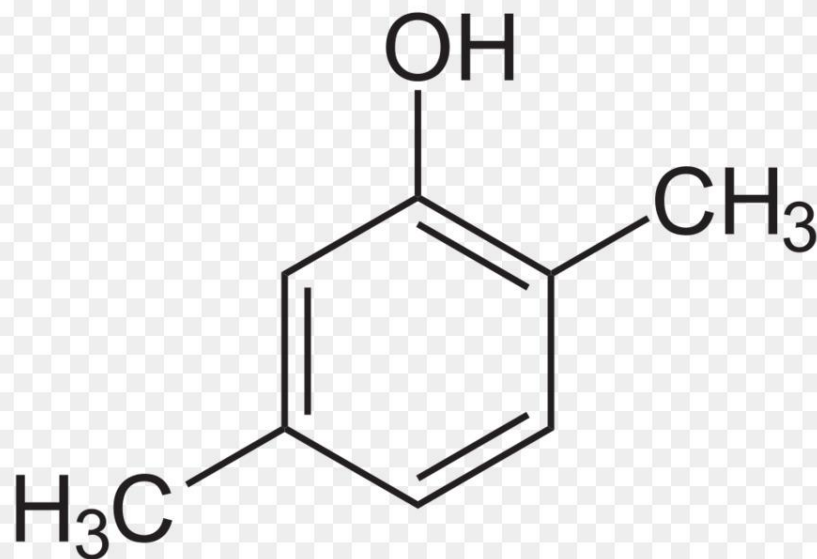
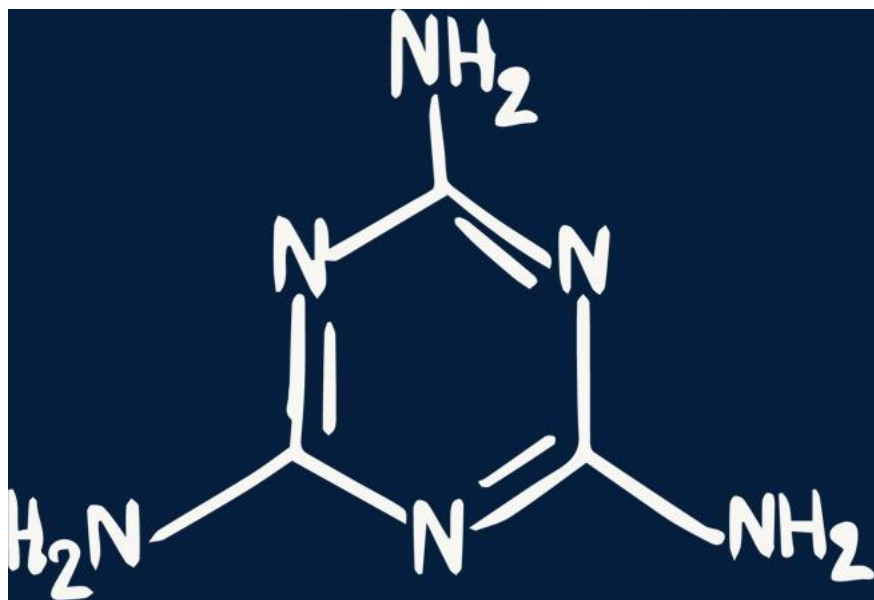
2. Asetilen yuqori haroratda aktivlangan ko'mir ustidan o'tkazilsa, trimerlanib benzolni hosil qiladi.

FIZIK XOSSALARI.

Benzol – rangsiz, suvda erimaydigan, o'ziga xos hidli suyuqlik. Qaynash harorati nisbatan past, sovutilganda oson qotib, oq kristall moddaga aylanadi.

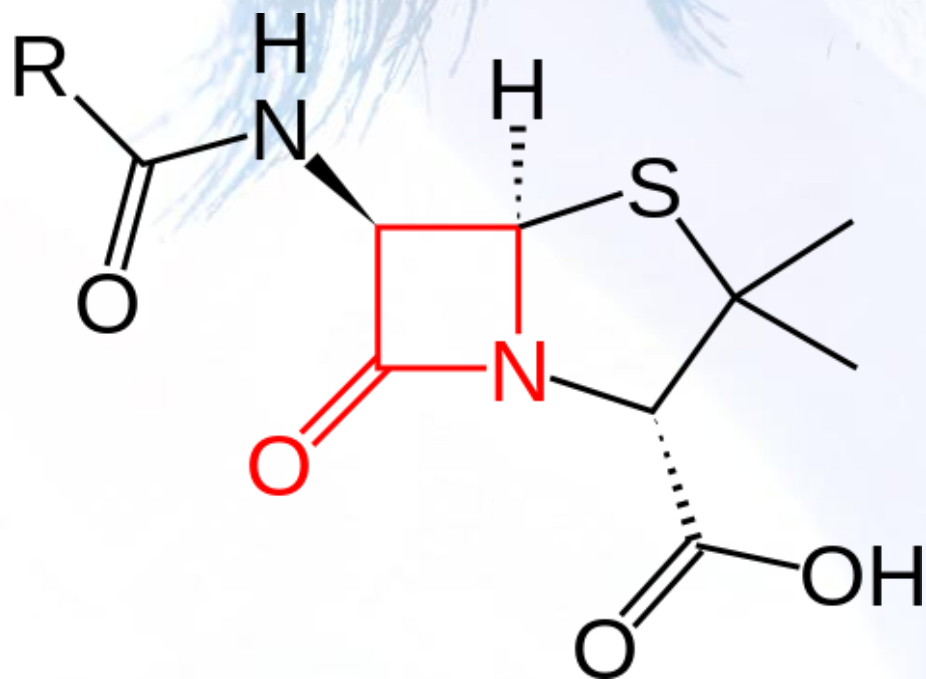


Aromatik uglevodorodlarning nisbiy molekulyar massasi ortib borgan sari, ularning qaynash harorati ham ortib boradi.



KIMYOViy XOSSALARI.

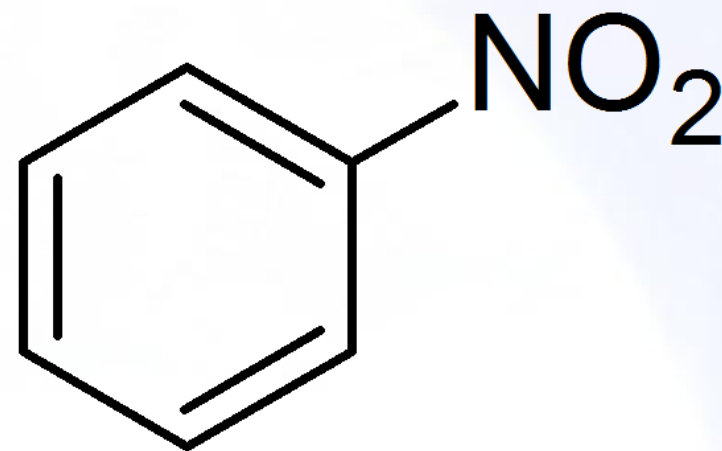
Benzol yadrosi ancha mustahkam bo'lib u odatdagi sharoitda boshqa moddalar bilan reaksiyaga kirishmaydi.



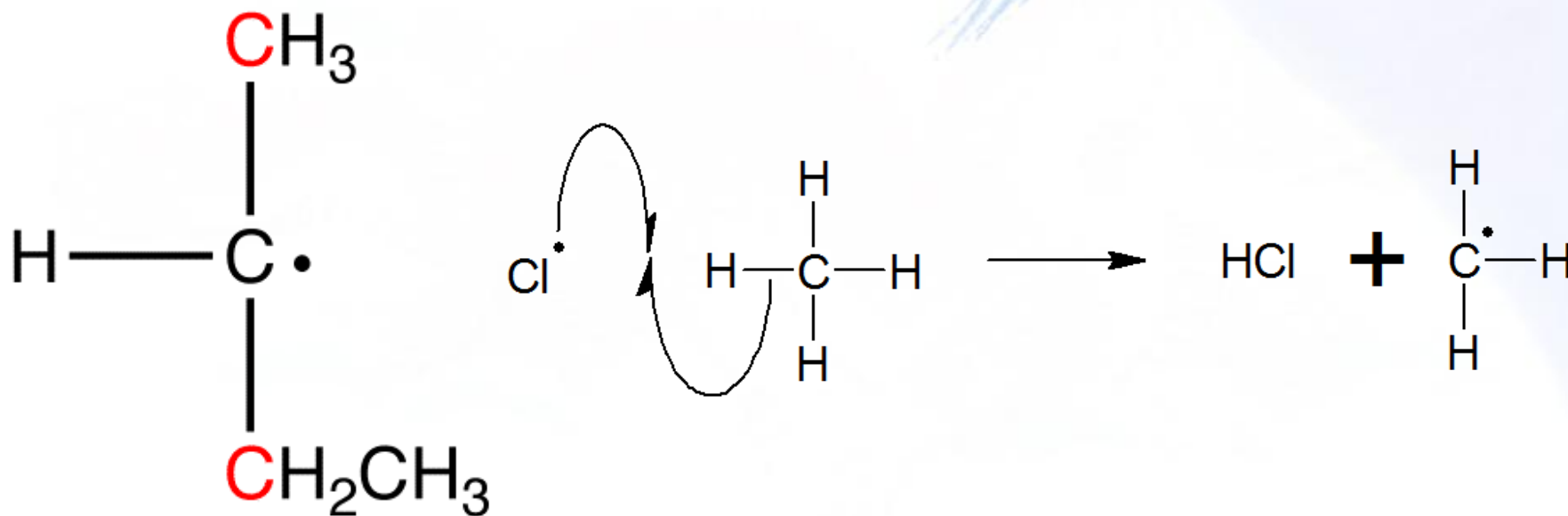
1. Katalizator – temir (III) xlorid ishtirokida va temperatura ta'siri ostida benzol galogenlar bilan almashinish reaksiyasiga kirishadi.



**2. Benzolga konsentrlangan sulfat kislota ishtirokida nitrat kislota ta'sir ettirilsa nitrobenzol hosil bo'ladi.
(Reaksiya qizdirish bilan boradi)**

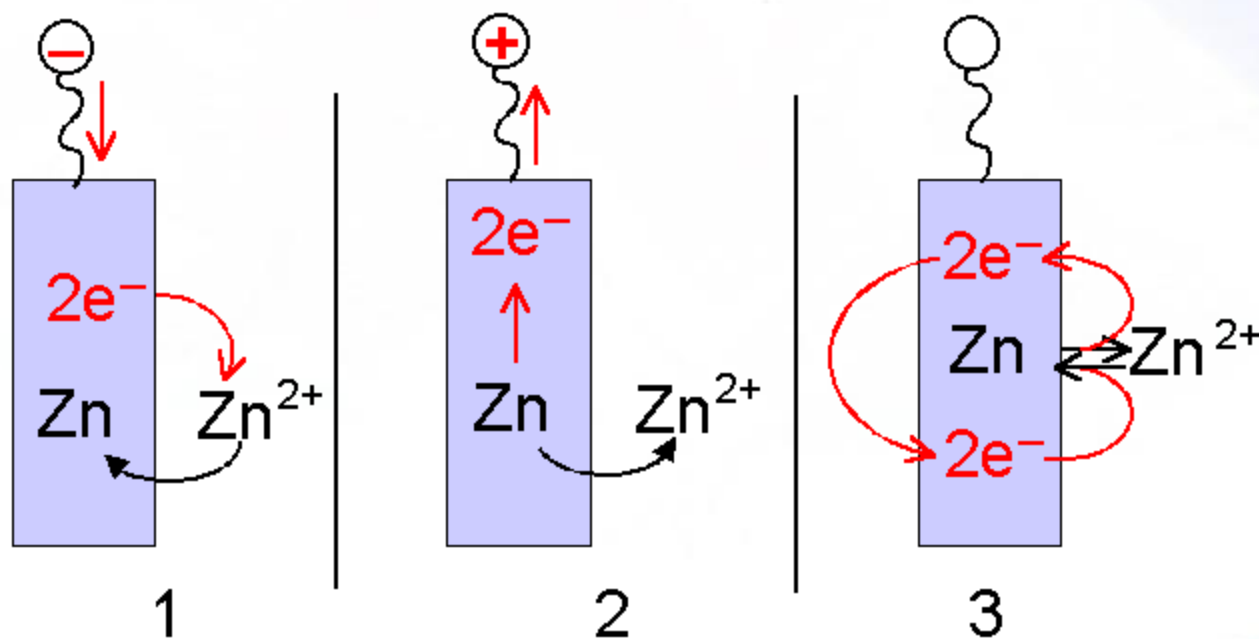


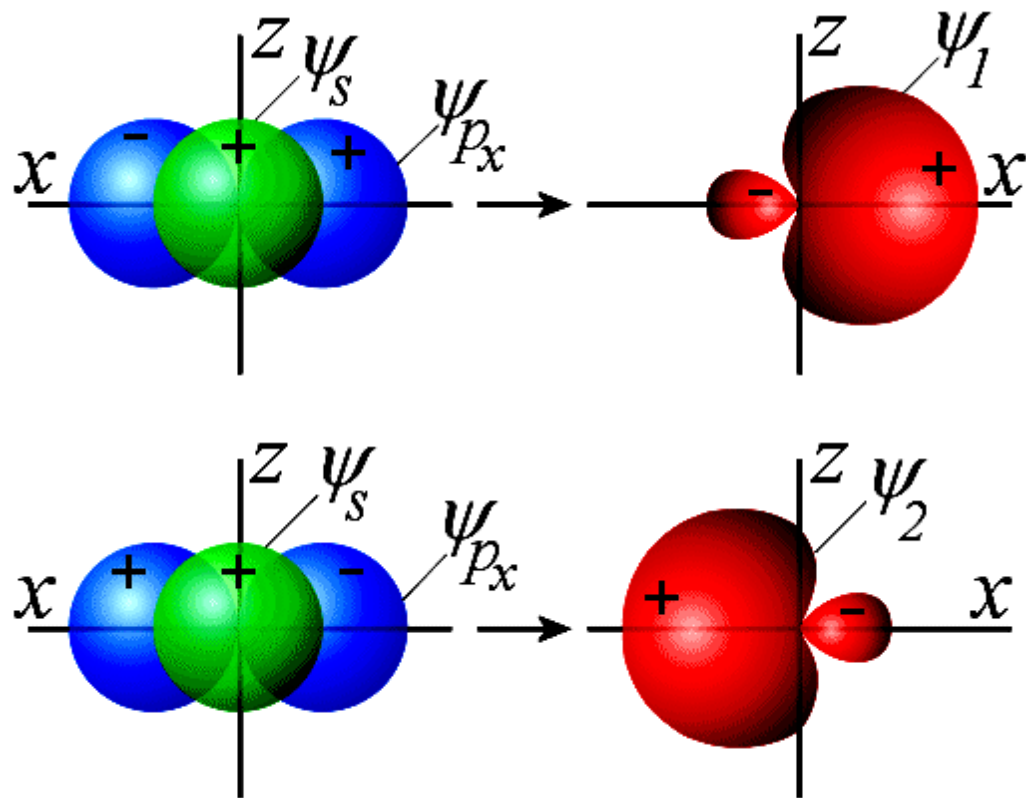
Yon zanjirdagi alkil radikallari elektron zichlikni benzol tomon siljitishi tufayli, halqadagi elektron bulutlarning bir tekis taqsimlanishi buziladi va 2,4,6-holatdagi uglerod atomlarida elektron zichliklari ortadi



Oksidlanish reaksiyasi

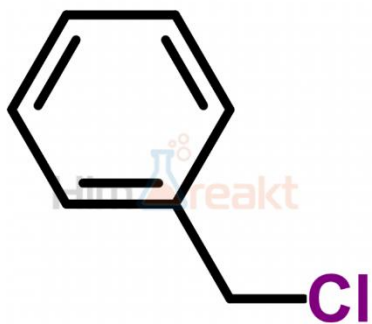
Benzol oksidlanishga ancha chidamli. Undan farq qilib, benzol gomologlari ancha oson oksidlanish reaksiyasiga kirishadi.





***Benzol gomologlariga
kuchli oksidlovchilar
ta'sir ettirilganda
(KMnO_4) faqat yon
zanjir oksidlanadi.***

Birikish reaksiyalari.



Benzol quyosh nuri ta'sirida birikish reaksiyasiga kirishadi. Benzol xlor bilan birikib geksaxlorsiklogeksan (geksaxloran) hosil qiladi.

