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KIMYOVIIY

BOG'LANISH

Ma'ruzachi: Qamariddin O'rinovich Ko

**Ma'ruzachi: Qamariddin O'rinovich Komilov**

## **REJA:**

**1. Kimyoviy bog'lanish tushunchasi.**

**2. Kimyoviy bog'lanish turlari.**

**3. Molekula tuzulishi.**

**Molekulalararo uchlar.**

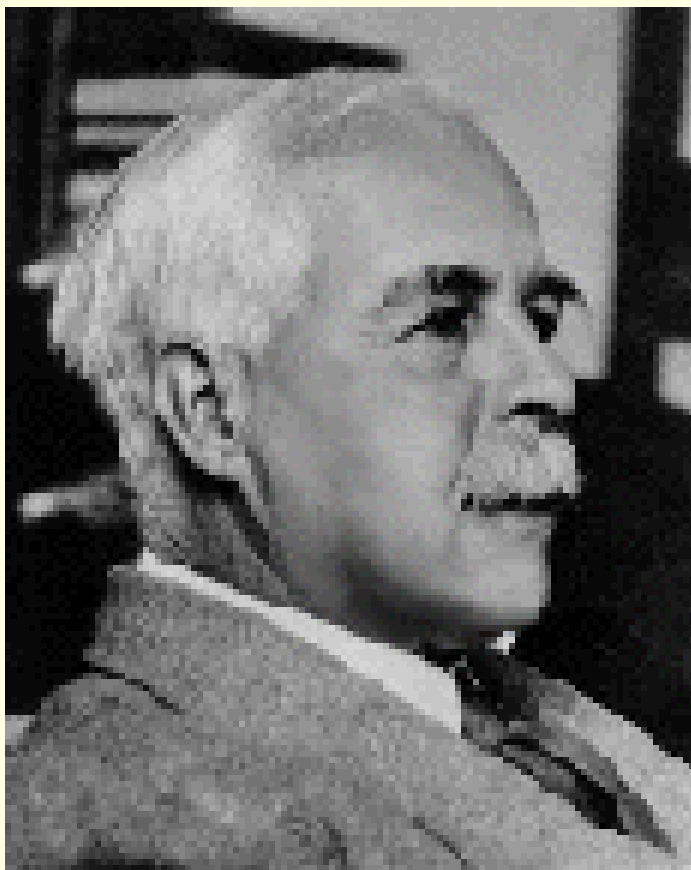
Kovalent bog`lanish, qutbli va qutbsiz kovalent bog`lanishlar, qutbli va qutbsiz molekulalar, ion, vodorod, metall va koordinatsion bog`lanishlar, dipol, dipol sistema, dipol uzunligi, dipol moment, bog`ning uzunligi, bog`lanish energiyasi, bog`ning to`yinganligi va yo`naluvchanligi, valent elektronlar, donor-aktseptor bog`lanish, kation va anionlar, qutblangan va qutblanmagan molekulalar, elektron va orientatsion qutblanishlar, Van-der-Vals kuchlar, orientatsion, induksion va dispersion kuchlar.

Tayanch iboralar

1807 yilda ingliz fizigi G.Devi atomlarni o`zaro birikib molekulani hosil qilishida elektrokimyoviy nazariyasini yaratdi. Keyinchalik bu nazariya 1812-1818 yillarda I.Ya.Bertselius tomonidan rivojlantirildi. Ular bu nazariyani quyidagicha tushuntirishdi: hamma atomlarda 2 ta qutb bor musbat (Q) va manfiy (-) qutblar. Ba'zi atomlarda musbat qutb kuchliroq bo`lsa, boshqalarida manfiy qutb kuchliroq. Shu qutblarning o`zaro tortishishi hisobiga atomlar birikadi deb qaraldi

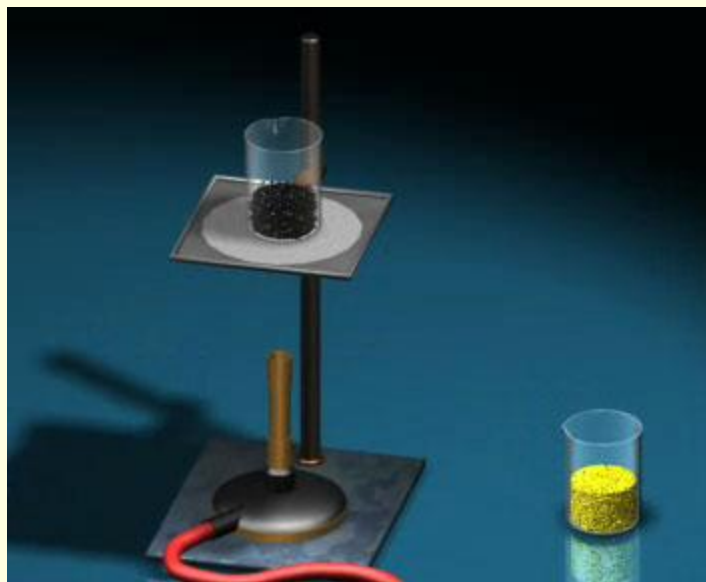
# Jilbert Lyuis

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1916 yil  
Kovalent bog`lanishlar  
nazariyasi.

Kimyoviy boglanish – bu birikmalar hosil bolishida atomlar aro tasir etuvchi va ularni birgalikda ushlab turuvchi kuchga aytiladi.



*Elementlar orasida  
kimyoviy boglanishni hosil  
bolishini qanday  
kuzatamiz?*

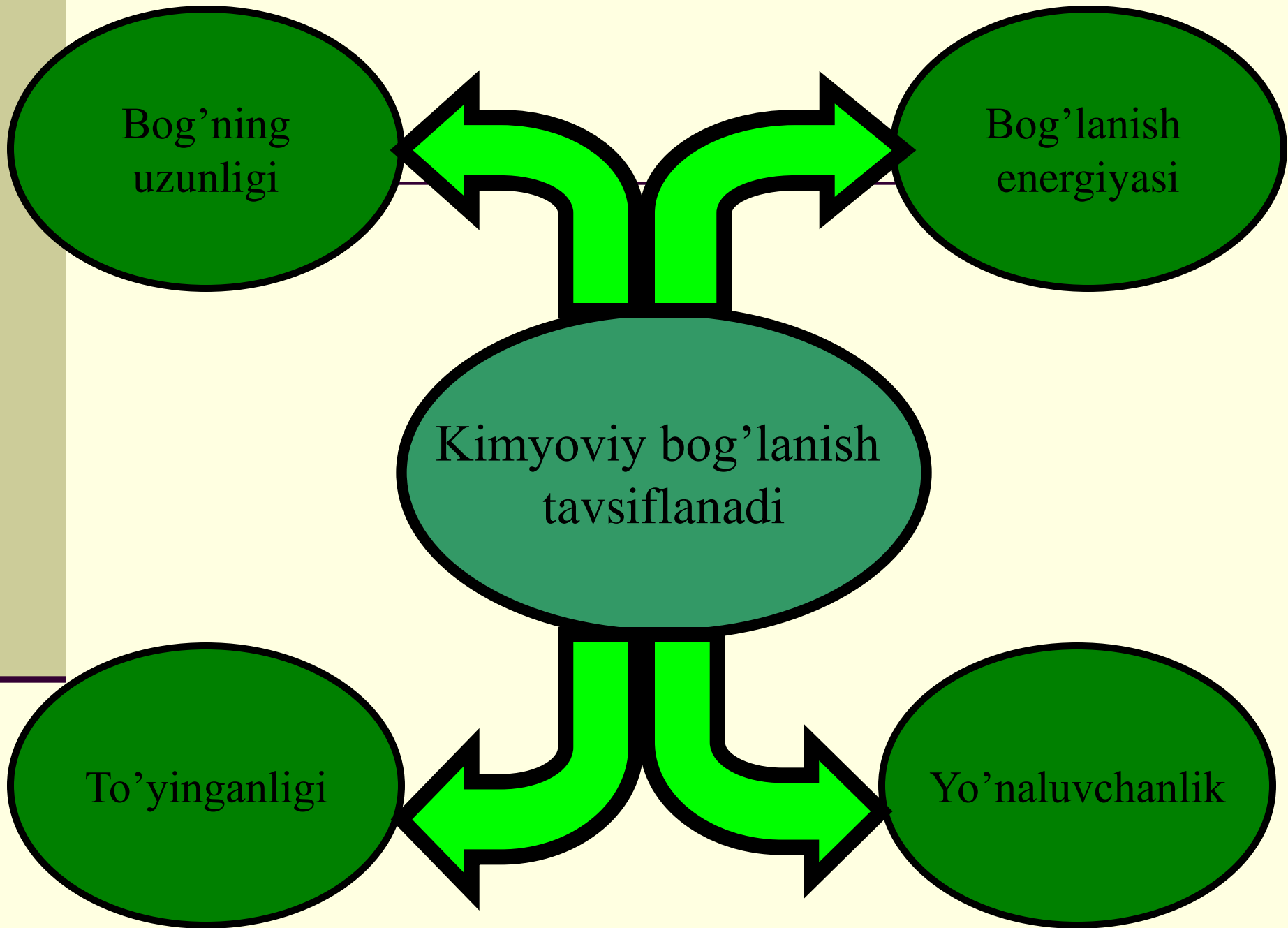
Bog'ning  
uzunligi

Bog'lanish  
energiyasi

Kimyoviy bog'lanish  
tavsiflanadi

To'yinganligi

Yo'naluvchanlik



# Kimyoviy bog'lanishlar turlari.

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graph TD; A[Kimyoviy bog'lanishlar turlari.] --> B[Kovalent bog'lanish]; A --> C[Donor akseptor (Koordinasiyon) bog'lanish]; A --> D[Metall bog'lanish]; A --> E[Vodorod bog'lanish]; A --> F[Ion bog'lanish];
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Kovalent bog'lanish

Donor akseptor  
(Koordinasiyon)  
bog'lanish

Metall bog'lanish

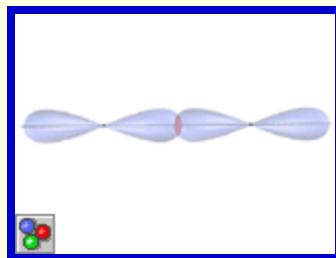
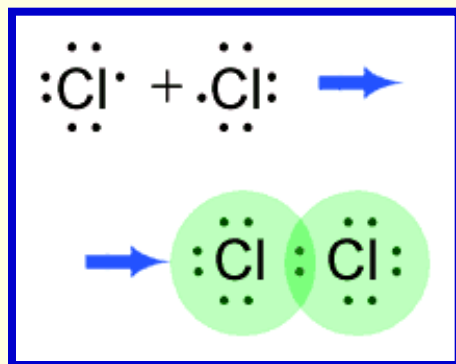
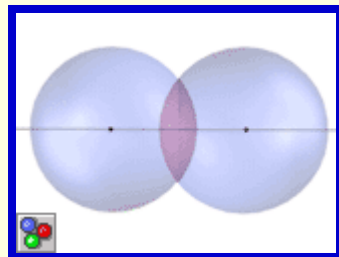
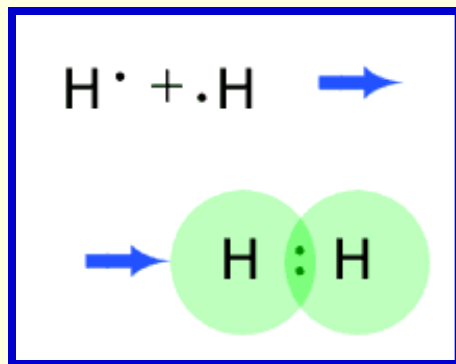
Vodorod bog'lanish

Ion bog'lanish

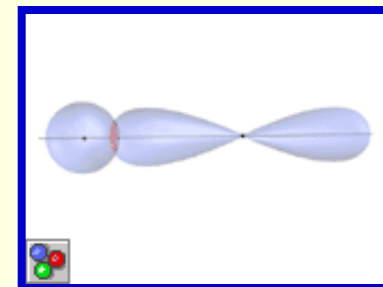
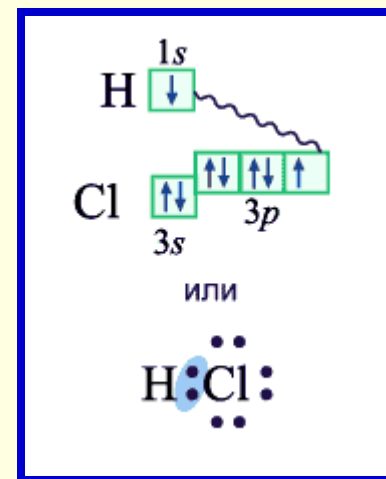


# Kovalent boglanish

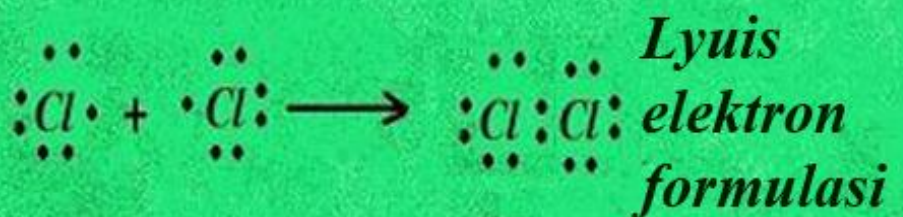
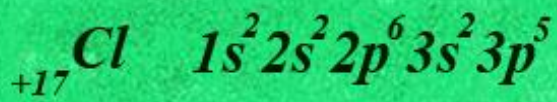
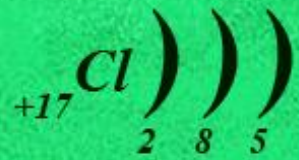
qutbsiz



qutbli

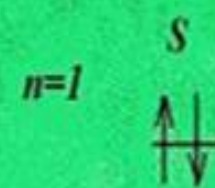
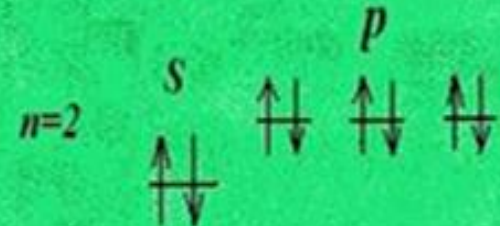
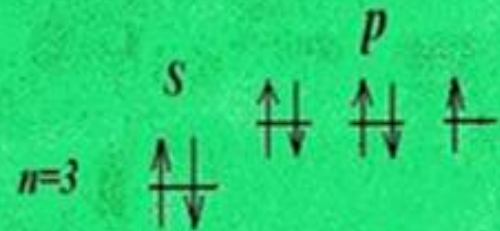
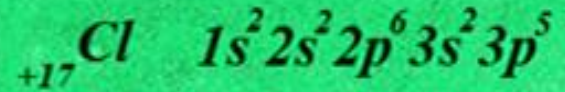
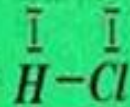
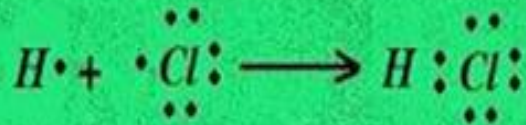
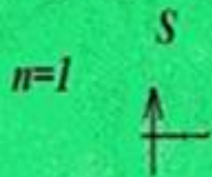
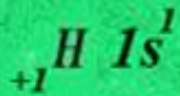


# Kovalent bog`lanishning hosil bo`lishi Cl<sub>2</sub>





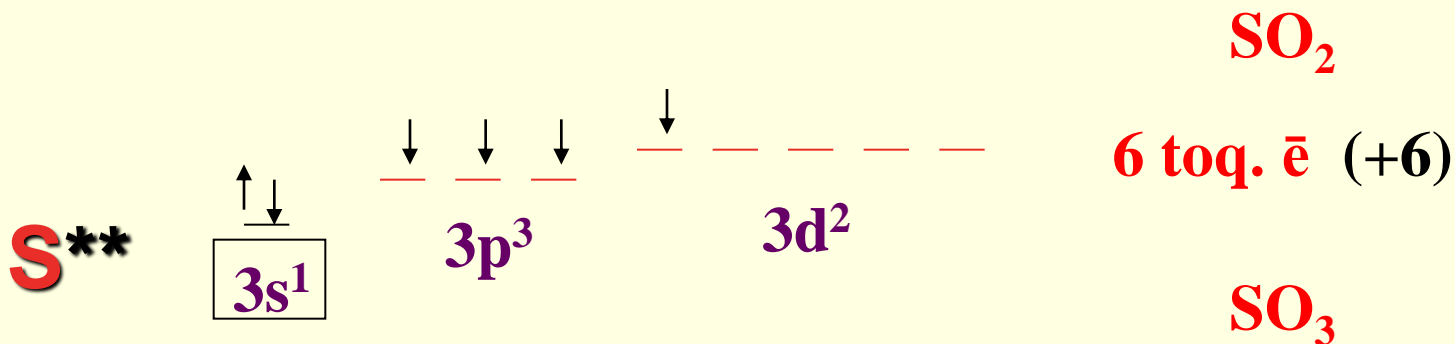
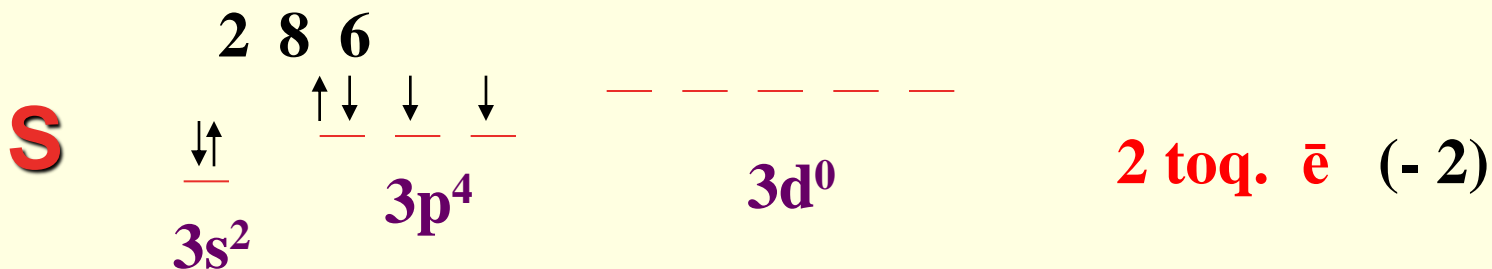
# Qutubli kovalent bog`lanishning hosil bo`lishi (HCl)



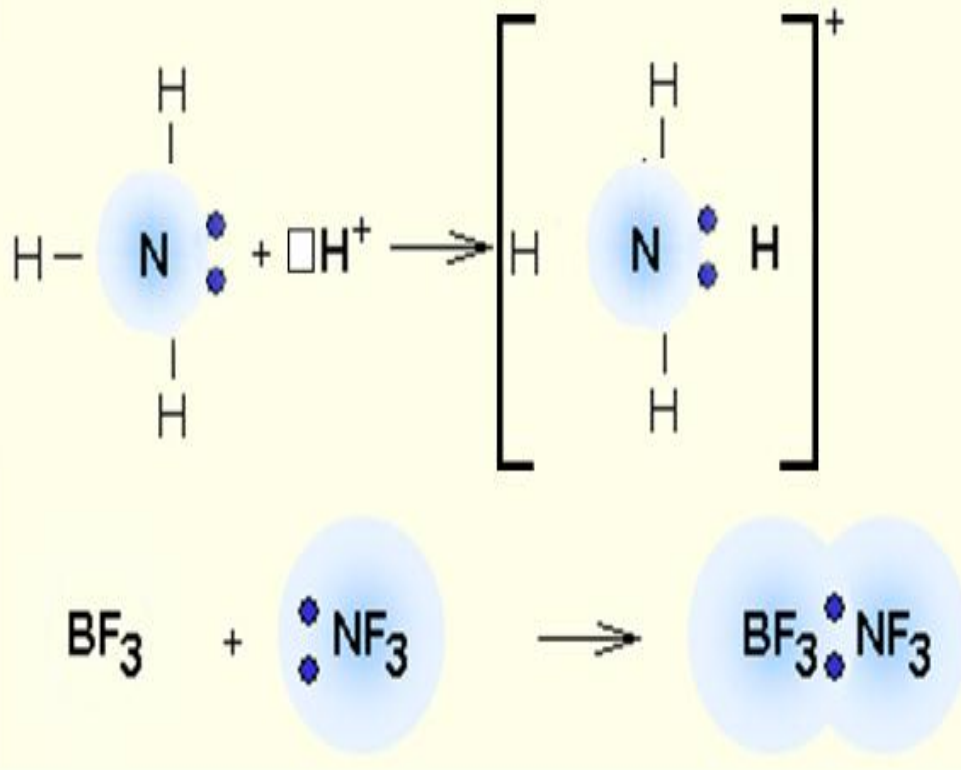
# Oksidlanish darajasi qiymatlari

**S +16 )))**

**$1s^2 2s^2 2p^6 3s^2 3p^4 3d^0$**



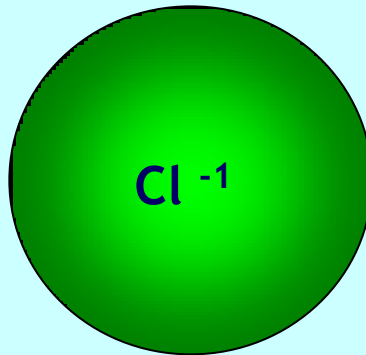
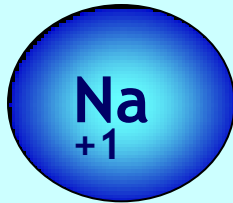
# Donor-akseptor bog`lanish



*Donor akseptor bog`lanish qutubli kovalent bog`lanishdan qanday farqlanadi?*

O`zining elektron juftini beradigan atom yoki ion, **donor**. Bu elektron juftni o`zining bo`sh orbitaliga qabul qiladigan atom yoki ion, **akseptor** deyiladi.

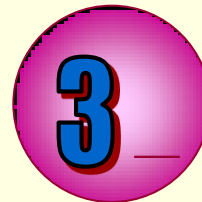
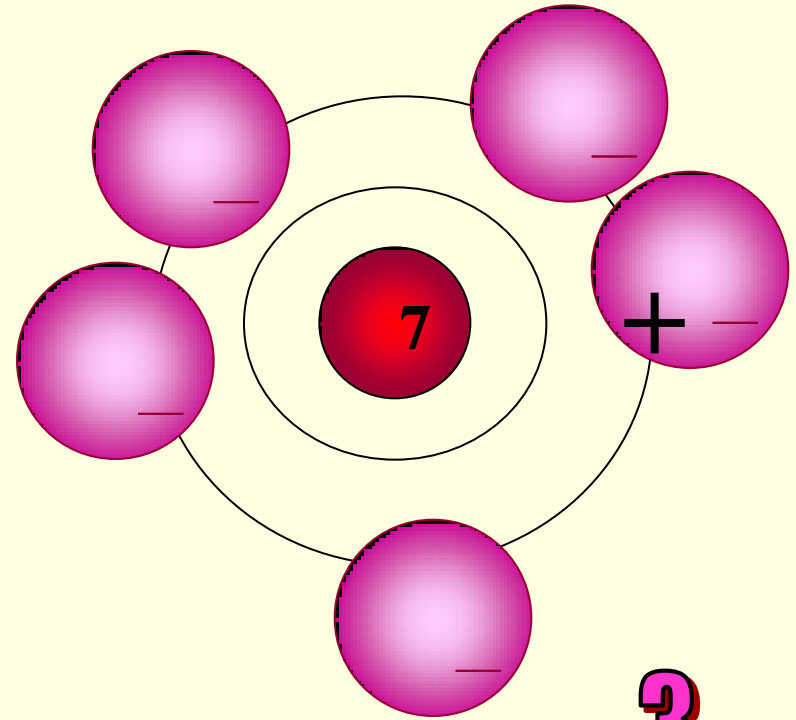
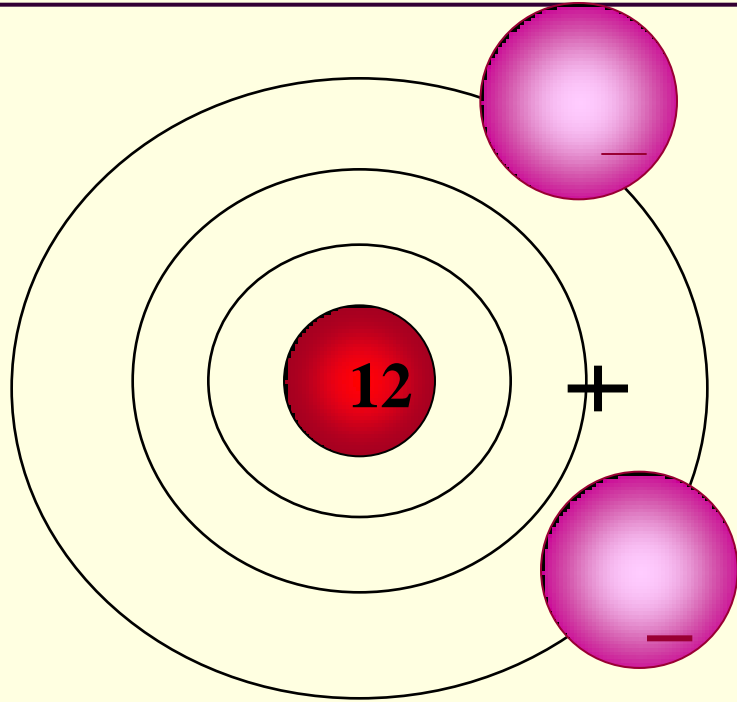
# Ion boglanish



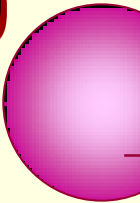
- *Qutbli kovalent boglanish bilan ion boglanish qanday farqlanadi?*

**Ion boglanish – bu qarama-qarshi zaryadlangan ionlarning bir-biriga elektrostatik kuchlar vositasida tortilishi natijasida vujudga kelgan boglanishdir.**

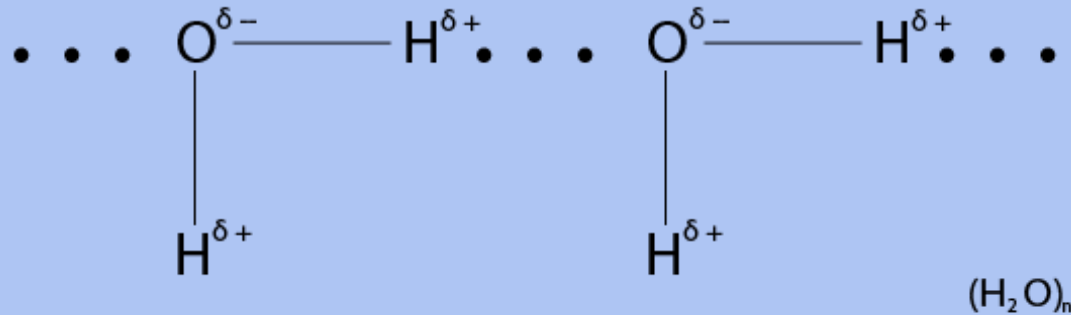
# Ionlar hosil bolishi



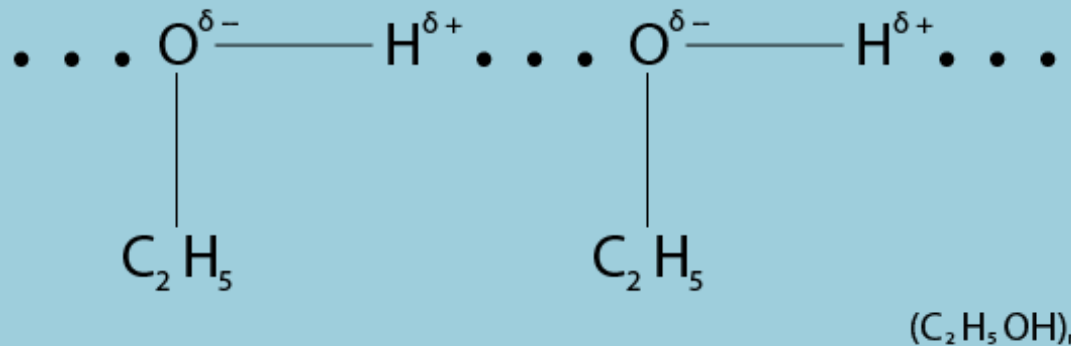
**2**



# Vodorod bog`lanish



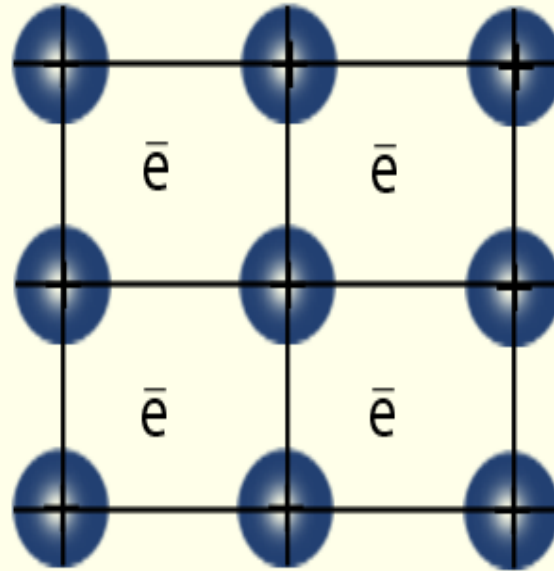
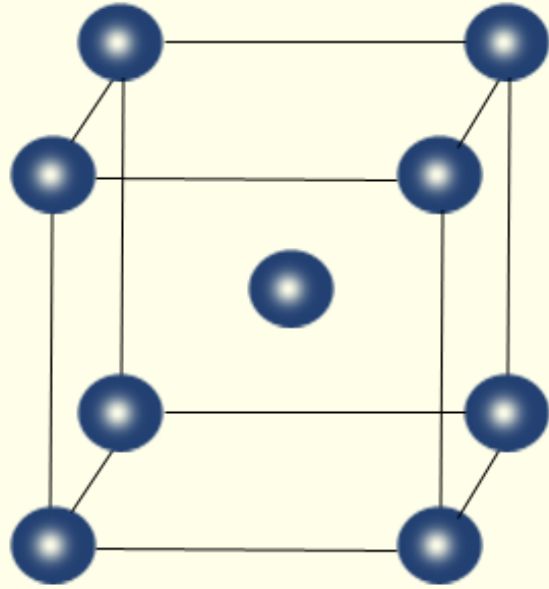
- *Qutbli kovalent va ion bog`lanish bilan vodorod bog`lanish qanday farqlanadi?*



Molekulada vodorod atomi bilan elektromanfiyroq ( F, O, N, Cl, S) element atomi orasidagi bog`lanishga **vodorod bog`lanish** deyiladi.



# Metall bogʻlanish



- *Metall bogʻlanish ion bogʻlanishda n qanday farqlanadi?*

**Metallning kristal panjara tugunlarida musbat zaryadli ionlari joylasgan boʻlib ion shari ichida erkin elektronlar harakat qiladi, valent elektronlar metall ionlarini bir-biri bilan bogʻlab turadi.**

# Molekulalarning tuzilishi.



Qutblangan molekular  
(ularning ikkita –  
musbat va manfiy qutbi bo`ladi).

Qutblanmagan molekular simmetrik  
tuzilgan, shu sababli ularda elektr  
zaryadlari bir-birini kompensatsiyalaydi.

Ion molekular qarama-qarshi zaryadli ionlardan (kation  
va anion) tarkib topgan bo`ladi. Masalan:  
NaCl, KCl, MgF<sub>2</sub>, MgS, CaCl<sub>2</sub> va boshqalar.

Molekulalararo yoki  
Van-der-Vals kuchlar deyiladi.

Molekulalar elektroneytral yoki  
to`yingan bo`lsada, ularning  
bir-biriga yaqinlashti-  
rilganda molekulalar orasida  
tortishish kuchlari vujudga  
keladi.

# Van-der-Vals kuchlari.

```
graph TD; A[Van-der-Vals kuchlari.] --> B[Orientatsion]; A --> C[Induksion]; A --> D[Dispersion];
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**Orientatsion**

**Induksion**

**Dispersion**

# HULOSA.

Xulosa qilib, bugungi ma'ruzada kimyoviy bog`lanishning turlari, ya'ni kovalent, ion, vodorod, koordinatsion va metall bog`lanishlar, molekulalarning tuzilishi, molekulalararo kuchlar, ya'ni orientatsion, induksion va dispersion kuchlar, shuningdek, kovalent bo`lanish, qutbli va qutbsiz kovalent bog`lanishlar, qutbli va qutbsiz molekulalar, ion, vodorod, metall va koordinatsion bog`lanishlar, dipol, dipol sistema, dipol uzunligi, dipol moment, bog`ning uzunligi, bog`lanish energiyasi, bog`ning to`yinganligi va yo`naluvchanligi, valent elektronlar, donor-aktseptor bog`lanish, kation va anionlar, qutblangan va qutblanmagan molekulalar, elektron va orientatsion qutblanishlar, Van-der-Vaals kuchlar, orientatsion, induksion va dispersion kuchlar, kabi tayanch tushunchalarning mazmun-mohiyati bo`yicha nazariy bilimlarga ega bo`ldik. Ushbu nazariy bilimlarni mavzu b`yicha amaliy mashg`ulotlarda mustahkamlab boramiz. Bundan tashkari  $\tau$ ,  $\pi$ ,  $d$ ,  $\delta$  delta boglanish xam mavjud.

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E'TIBORINGIZ UCHUN RAHMAT!