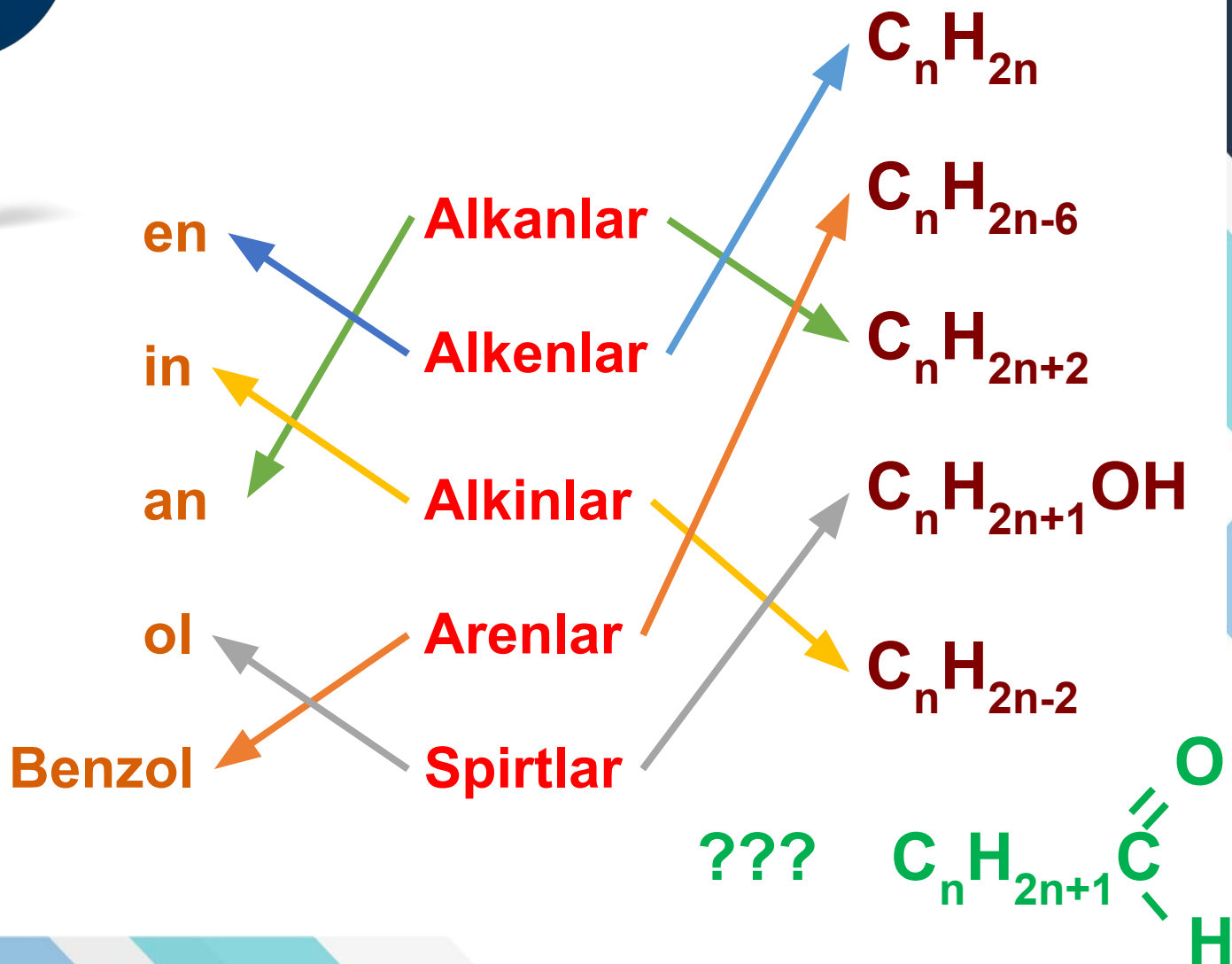


Mavzu: Aldegidlar

*Uchtepa tuman 229-maktab kimyo
fani o'qituvchisi Narbayeva F.K.*

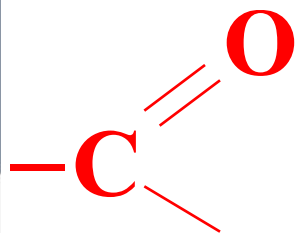


Topshiriq

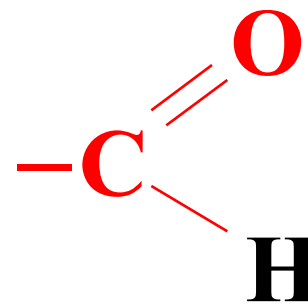


Tarkibida **karbonil guruh** tutgan birikmalar oksobirikmalar deyiladi. Oksobirikmalar sinfiga **aldegid** va **ketonlar** kiradi.

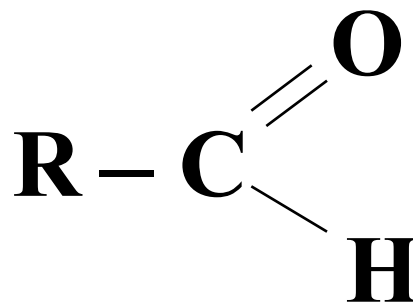
Aldegidlar – tarkibida aldegid guruhini tutgan organik birikmalardir.



Karbonil guruhi



Aldegid guruhi



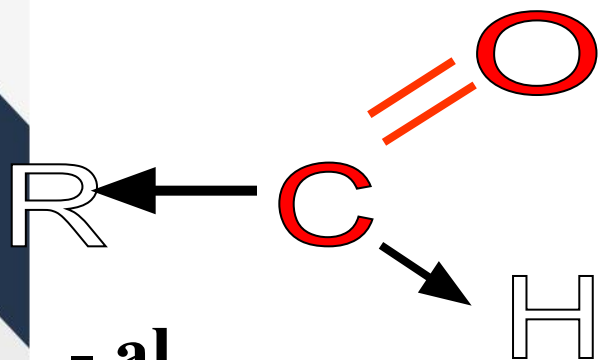
**Aldegidlar umumiy
formulasi**

Aldegidlar va ketonlar

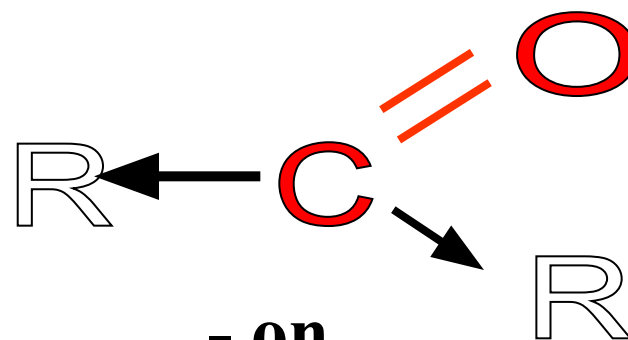
Aldegidlar



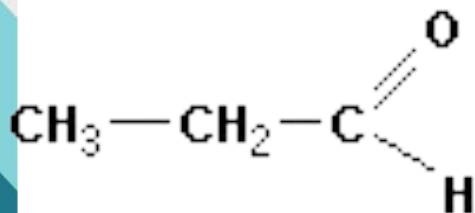
Ketonlar



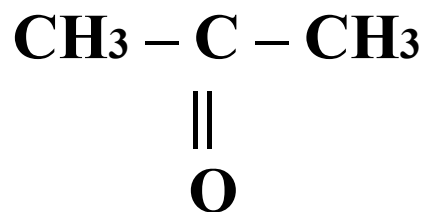
- al



- on



Propanal



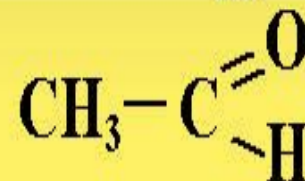
Propanon

Aldegidlar

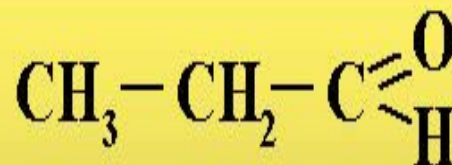
Metanal (formaldegid)



Etanal (atsetaldegid)



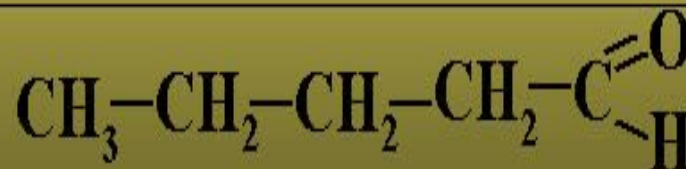
Propanal



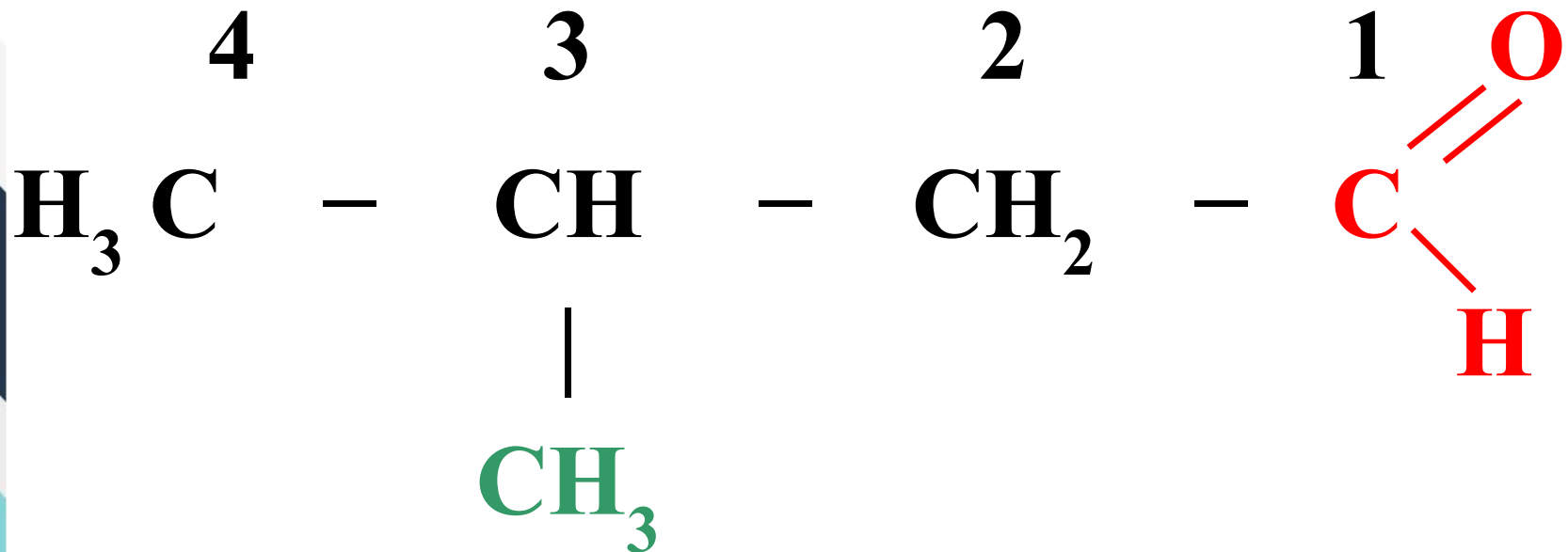
Butanal



Pentanal



Aldegidlar



3-metilbutanal

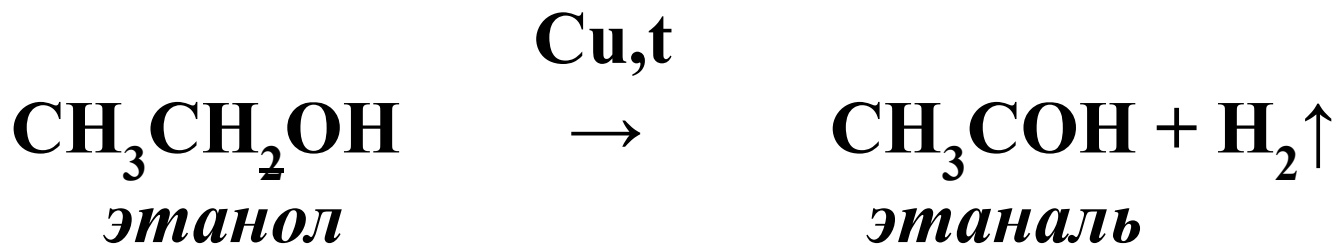
Aldegidlar

| Izomeriya turi | Izomeriyalar formulalari | |
|--|---|--|
| Uglerod skeleti bo'yicha C_4 dan boshlanadi | $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-C}\begin{array}{l} \text{=O} \\ \backslash \text{H} \end{array}$ <p>Butanal</p> | $\text{CH}_3\text{-CH}\begin{array}{l} \text{=O} \\ \backslash \text{H} \\ \\ \text{CH}_3 \end{array}$ <p>2-metilpropanal</p> |
| Ketonlar bilan sinflararo izomeriya C_3 dan boshlanadi | $\text{CH}_3\text{-CH}_2\text{-C}\begin{array}{l} \text{=O} \\ \backslash \text{H} \end{array}$ <p>Propanal</p> | $\text{CH}_3\text{-C}\begin{array}{c} \text{=O} \\ \\ \text{O} \end{array}\text{-CH}_3$ <p>Propanon Atseton</p> |

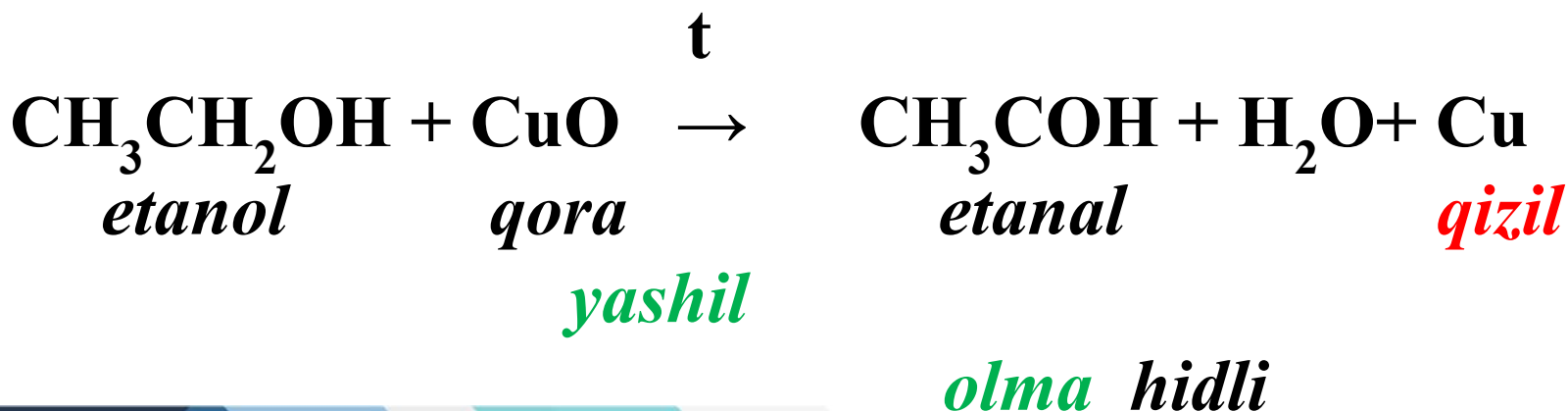
Aldegidlarning olinishi

Birlamchi spirtlarni oksidlab

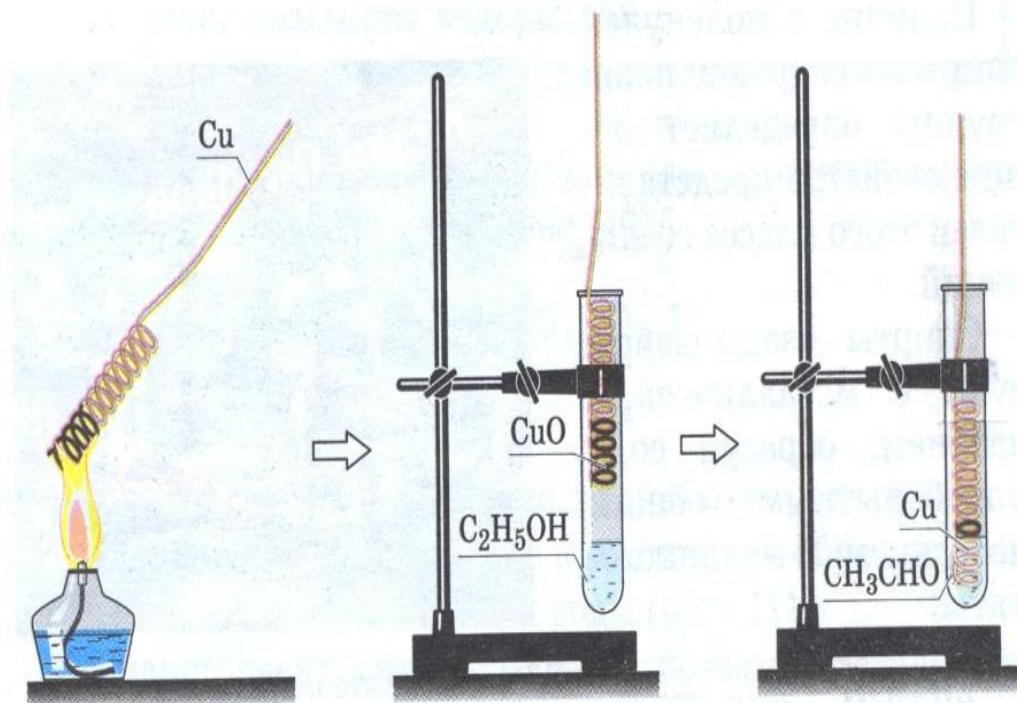
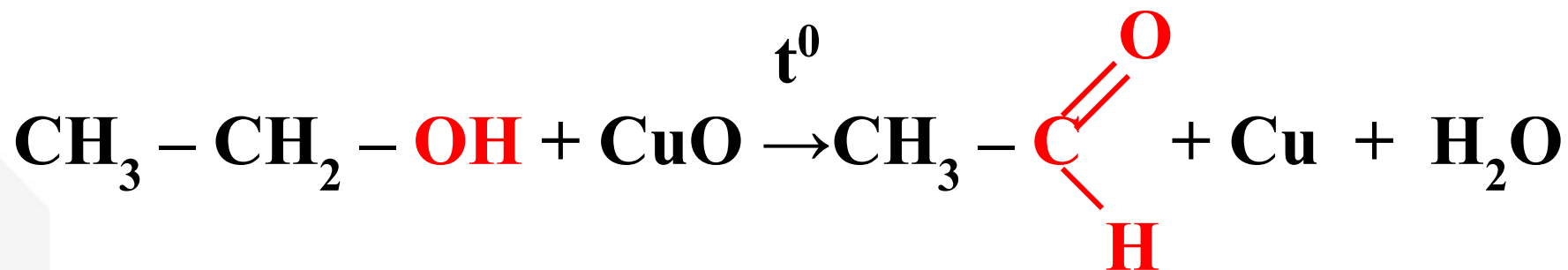
Sanoatda:



Laboratoriyada:

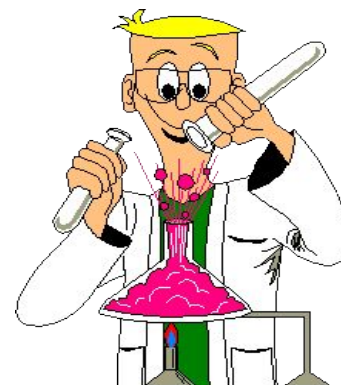
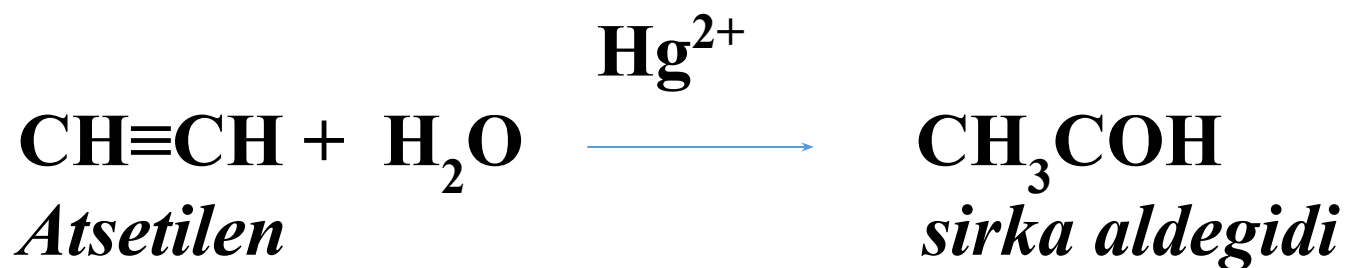


Aldegidlarning olinishi



Aldegidlarning olinishi

Kucherov reaksiyasi:



Aldegidlarning xossalari

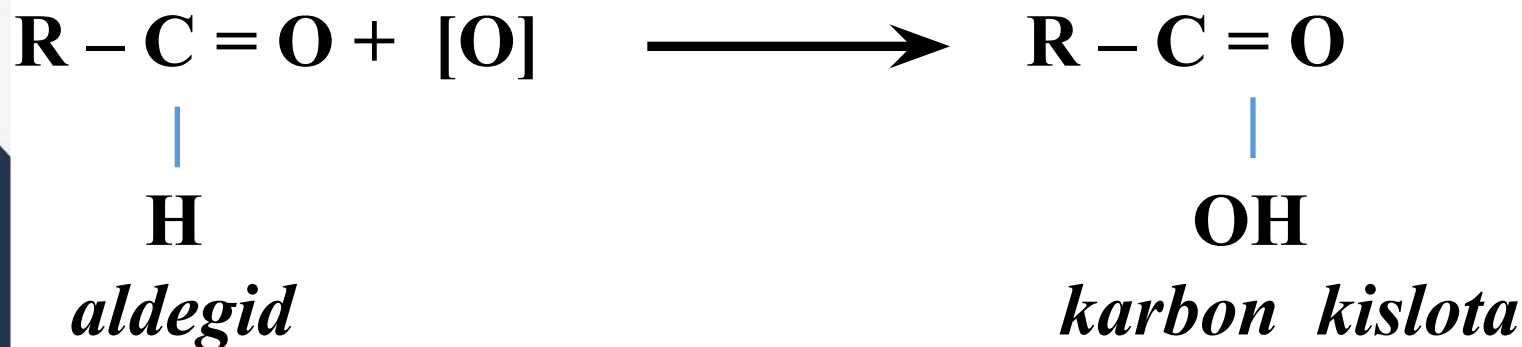
Fizikaviy xossalari

- C_1 – o'tkir hidli gaz;
- $C_2 - C_3$ – o'tkir hidli suyuqlik;
- $C_4 - C_6$ – badbo'y hidli suyuqlik;
- $>C_6$ – suvda erimaydigan, gullar hidiga ega, qattiq (attorchilikda ishlatiladi)

$HCOH$, CH_3COH – suvda juda yaxshi eriydi, mos keluvchi spirlarga nisbatan qaynash harorati past.

Aldegidlarning xossalari

Oksidlanish reaksiyasi

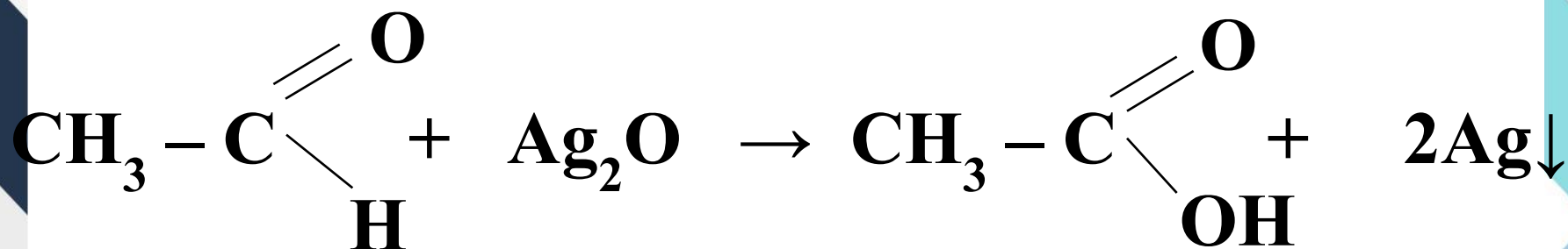


HCOOH - metan (chumoli) kislota

CH₃COOH - etan (sirka) kislota

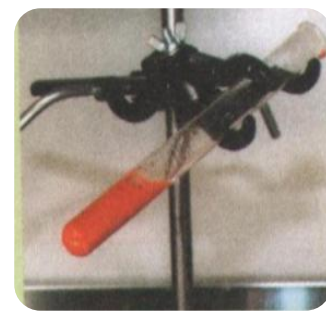
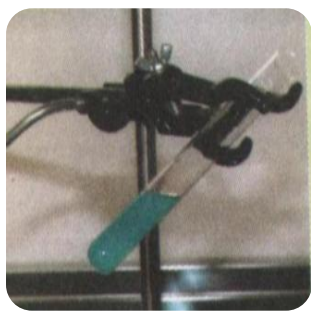
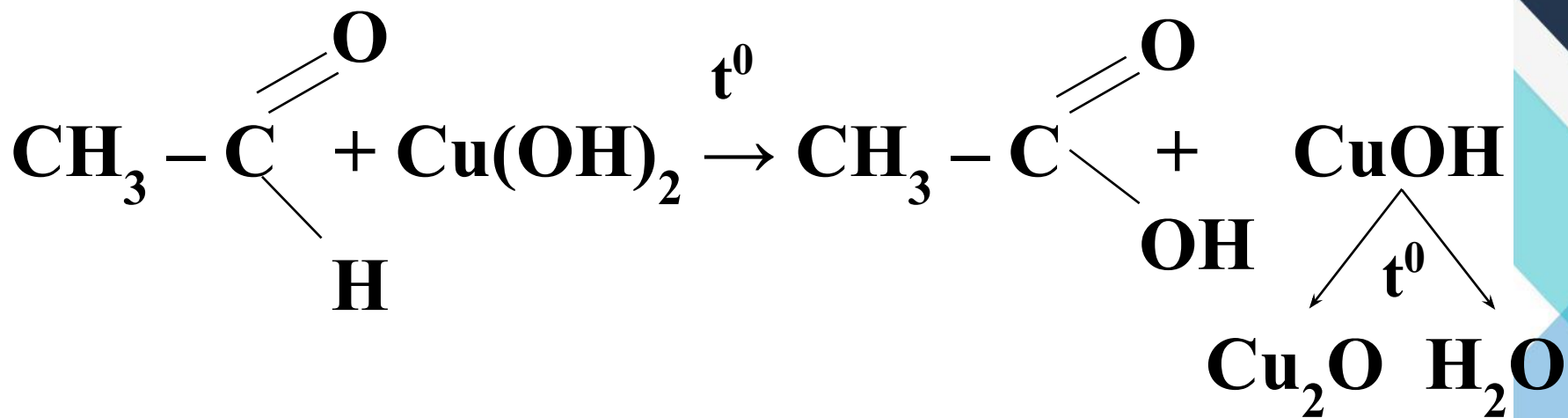
Aldegidlarning xossalari

Aldegidlarning kumush oksidining ammiakdagi eritmasi bilan **oksidlanish** reaksiyasi «**kumush ko'zgu**» reaksiyasi deyiladi. Bu reaksiya aldegidlar uchun **sifat** reaksiyadir.



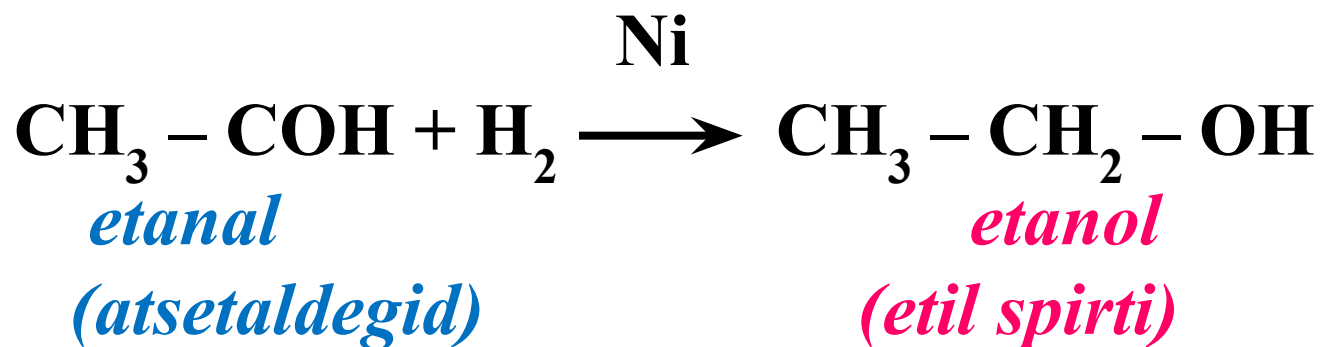
Aldegidlarning xossalari

Aldegidlarning mis (II)-gidroksid bilan **oksidlanish** reaksiyasi ham aldegidlar uchun sifat reaksiyadir.



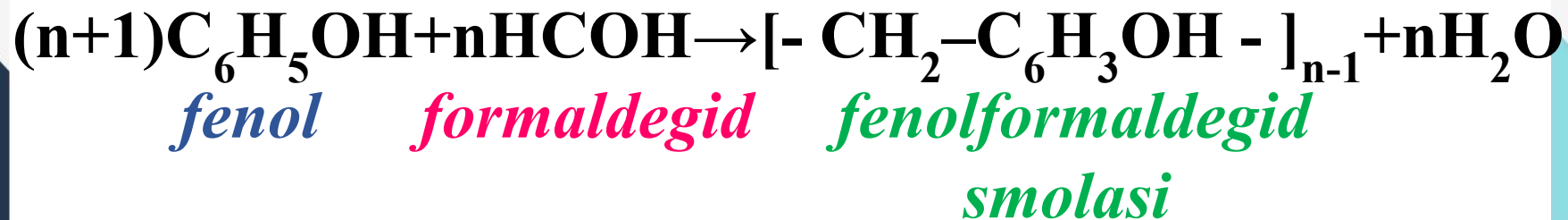
Aldegidlarning xossalari

Qaytarilish reaksiyasi



Aldegidlarning xossalari

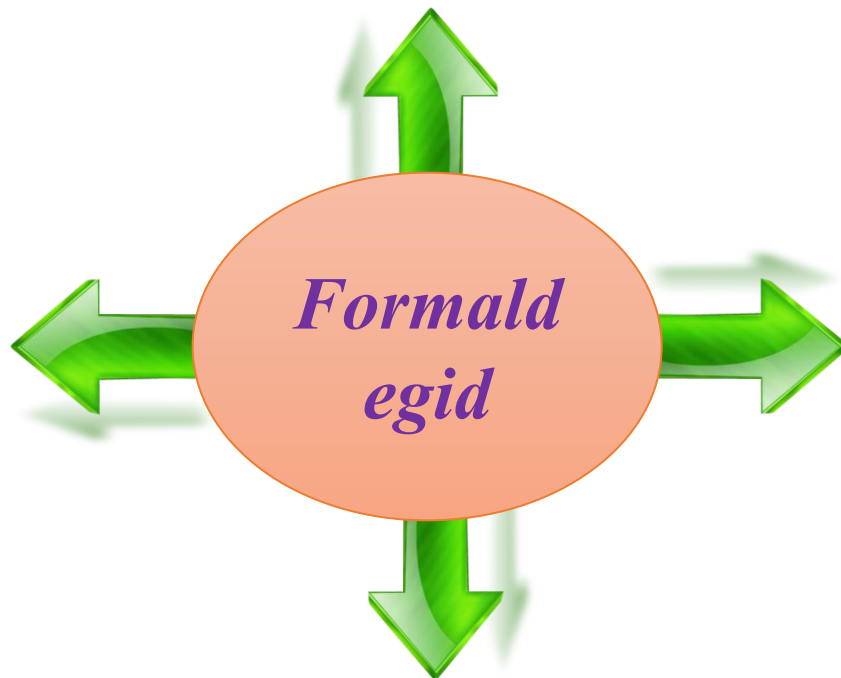
Polikondensatsiya reaksiyasi



Aldegidlarning ishlatilishi

**Fenolformaldegid
smolasi olishda**

**Qishloq
xo'jaligida**

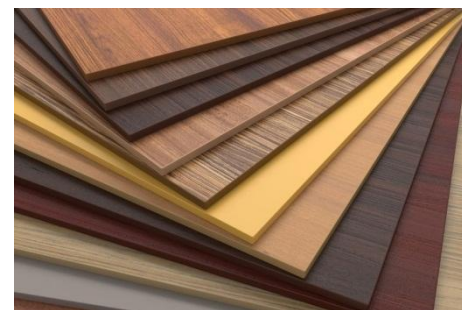
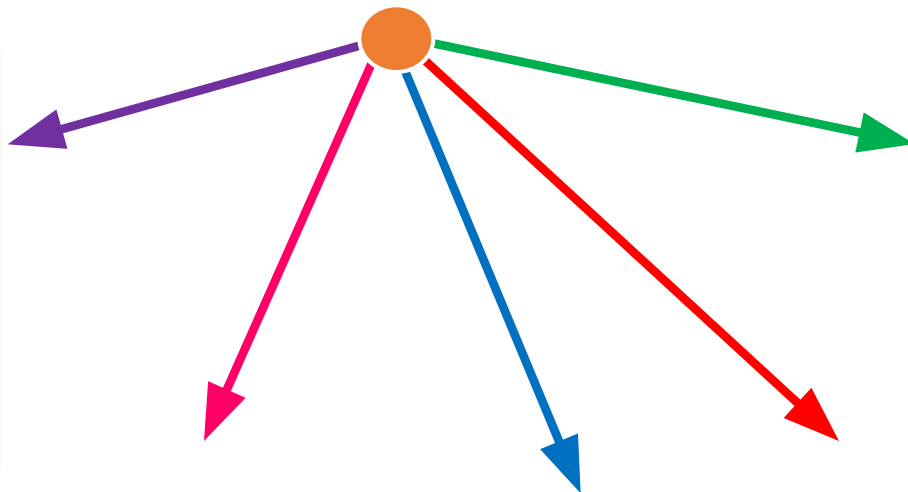


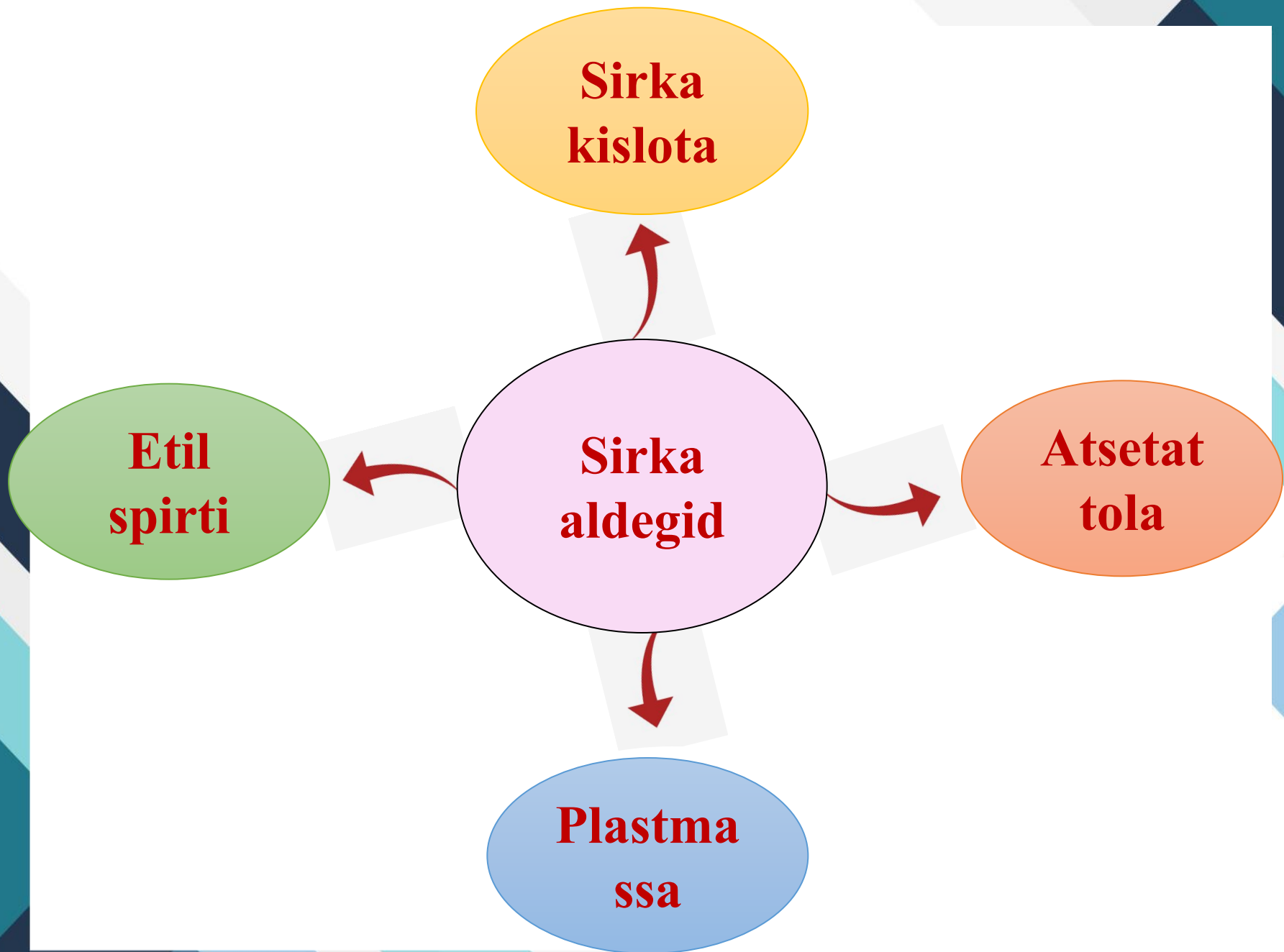
Tibbiyotda

**Teri ishlab
chiqarishda**

Aldegidlarning ishlatilishi

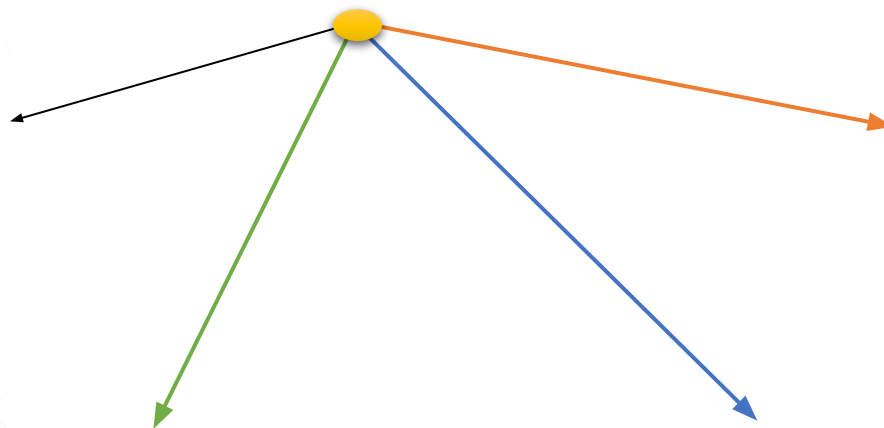
Formaldegid





Aldegidlarning ishlatilishi

Atsetaldegid



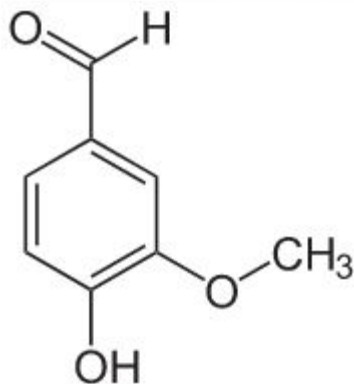
Aldegidlar tabiatda



Vanilin

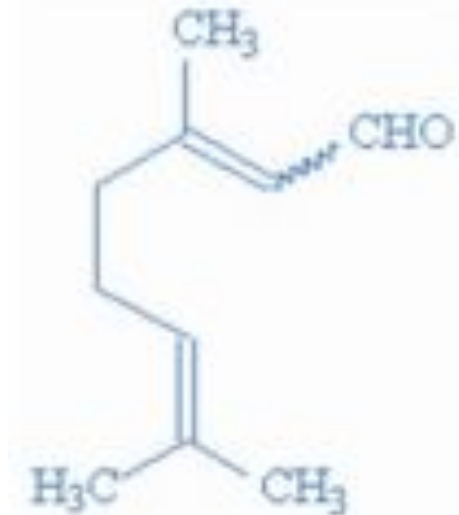
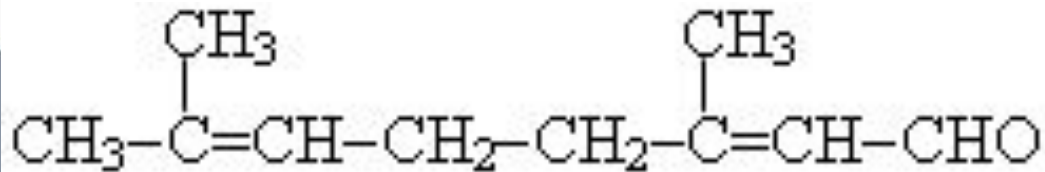
Vanil mevasida o'ziga xos hid beruvchi aromatik aldegid **vanilin** mavjud.

Vanilindan attorlikda, konditer mahsulotlari ishlab chiqarishda ishlatiladi.



Aldegidlar tabiatda

Sitral



Sitrus hidi bu dien aldegidlari bilan bog'liq. Ulardan uy kimyoviy moddalari, kosmetika va parfyumeriya moddalarining hidlari sifatida ishlatiladi.

Aldegidlar tabiatda

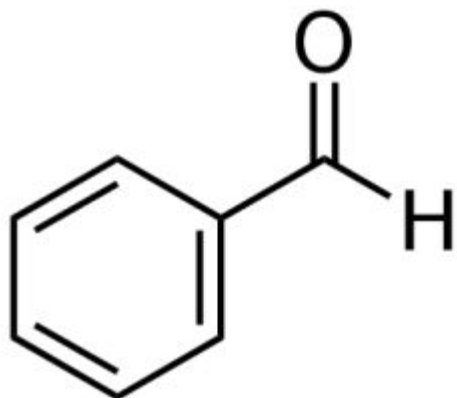
Dolchin aldegidi



Dolchin aldegidi dolchin yog'ida mavjud bo'lib, dolchin daraxtining qobig'ini haydash yo'li bilan olinadi. U tayoqcha yoki kukun shaklida oshxonada ishlatiladi.

Aldegidlar tabiatda

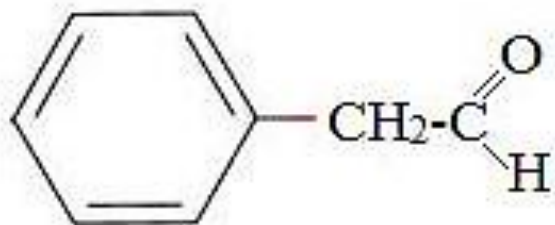
Benzaldegid



Benzaldegid - achchiq bodom hidli suyuqlik. U o'rik va shaftoli urug'ida uchraydi.

Aldegidlar tabiatda

Feniletanal



Benzaldegid bilan solishtirganda feniletanal gul hidining retseptorlari bilan yaxshi mos keladi. Feniletanal hidi giatsint hidi kabidir.



Test

1. (Aldegidlaning umumiy formulasi:



2. Aldegidlaning funksional guruhi:



3. Formaldegidning formulasi:



4. Formulasi - CH_3COH :



5. Aldegidlarning vodorod bilan (Ni katalizatori yordamida) qaytarilganda olinadigan mahsulot:

- A. Murakkab efirlar C. Bir atomli spirtlar
B. Karbon kislotalar D. Ketonlar

6. «Kumush ko'zgu» reaksiyasiga kirishadi:

- A. Fenol C. Etanal
B. Metanal D. Etanol

7. Etanolning oksidlanish mahsuloti:

- A. Atseton C. Sirka aldegid
B. Sirka kislota D. Dietil efiri

8. $\text{CH}_3\text{COH} + 2\text{Cu}(\text{OH})_2 \downarrow \rightarrow \dots$ Reaksiyaning davomi:

- A. $\text{HCOOH} + \text{Cu}_2\text{O} \downarrow + 2\text{H}_2\text{O}$
B. $\text{CH}_3\text{COOH} + \text{Cu}_2\text{O} \downarrow + 2\text{H}_2\text{O}$