

**O'ZBEKISTON RESPUBLIKASI SOG'LIQNI SAQLASH
VAZIRLIGI**

TOSHKENT FARMATSEVTIKA INSTITUTI

Toksikologik, organik va biologik kimyo kafedrasи

ORGANIK KIMYO FANIDAN

REFERAT

ALDEGIDO VA KETOKISLOTALAR

**Bajardi: Farmatsiya fakulteti
2 kurs 2/1 guruh talabasi
Dustkulov J.**

Tekshirdi: prof. A.Karimov

Toshkent-2014

REJA

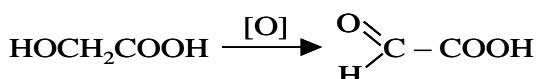
- 1. Tuzilishi va olinishi usullari**
- 2. Fizik va kimyoviy xossalari**
- 3. Ayrim vakillari**

ALDEGID VA KETOKISLOTALAR

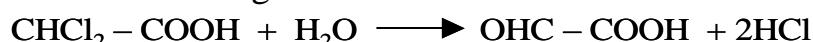
Tuzilishida bir vaqtning o'zida karbonil va karboksil guruhlari ishtirok etadigan birikmalar aldegidokislotalar yoki ketonokislotalar deyiladi. Karboksil va karbonil guruhlarini o'zaro holatiga qarab ular α -, β -, γ - va x.k. Aldegido- va ketonokislotalarga bo'linadilar. Ular empirik va sistematik nomenklaturalar bo'yicha nomlanadlilar. Quyida aldegid- va ketonokislotalarni nomlashga misol keltiramiz.

$\text{H} - \text{CO} - \text{COOH}$	глиоксил кислота; оксоэтан кислота
$\text{CH}_3 - \text{CO} - \text{COOH}$	пироузум кислота; 2-оксипропан кислота
$\text{CH}_3 - \text{CO} - \text{CH}_2 - \text{COOH}$	ацетосирка кислота; 3-оксибутан кислота
$\text{OHC} - \text{CH}_2 - \text{COOH}$	формил сирка кислота; 3-оксипропан кислота

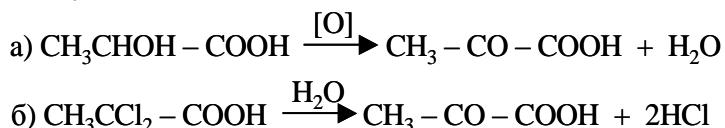
Olinish usullari. Gliksil kislota tabiatda g'o'r mevalar tarkibida uchraydi. Uni etil spirtini, glikolin yoki glikol kislotani oksidlاب hosil qilish mumkin:



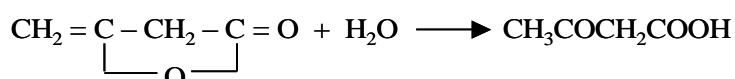
2) Dixlor sirkasi kislotani gidrolizlab olish mumkin:



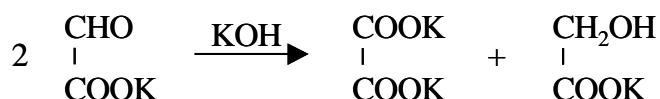
Pirouzum kislotani uzum kislotadan, sut kislotadan yoki 2,2- dixlorpropan kislotadan olish mumkin:



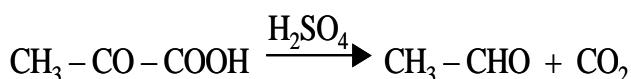
Atsetosirkasi kislota uning efirlarini gidrolizlab yoki diketenga suv ta'sir ettirib olinishi mumkin:



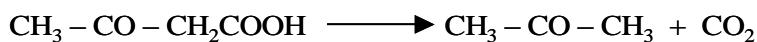
Xossalari. Gliksil kislota aldegidlar va kislotalar uchun xos bo'lган reaksiyalarga kirisha oladi. Uning kaliyli tuzi ishqor ishtirokida Kanitssaro reaksiyasiga kirisha oladi:



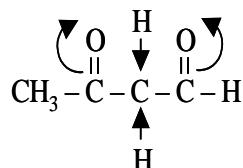
Pirouzum kislota sulfat kislota ishtirokida qizdirilganda sirkasi aldegid va CO_2 ga parchalanadi:



Atsetosirka kislota va uning tuzlari beqaror birikmalar bo'lib qizdirilganda oson parchalanadi:

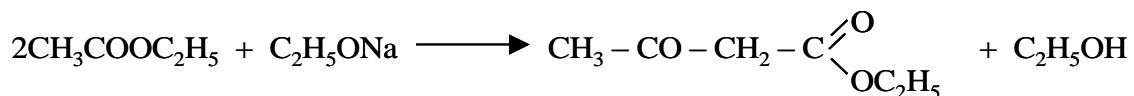
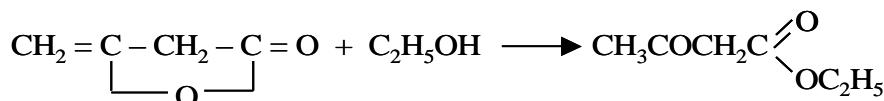


Atsetosirka kislota va uning tuzlarining beqarorligi sababi karbonil va karboksil guruhlar ta'sirida o'ta tutashishning vujudga kelishi va δ -bog'larining zaiflashuvi hisoblanadi, ya'ni



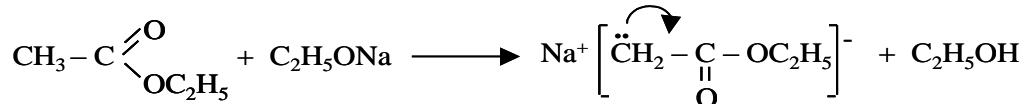
Atsetosirka kislotaning etil efiri organik sintezda muhim rol o'yaydi.

Atsetosirka efiri 181°C da qaynaydigan yoqimli hidga ega bo'lgan suyuqlik. Uni diketenga etil spirti ta'sir ettirib yoki etilatsetatdan olish mumkin:

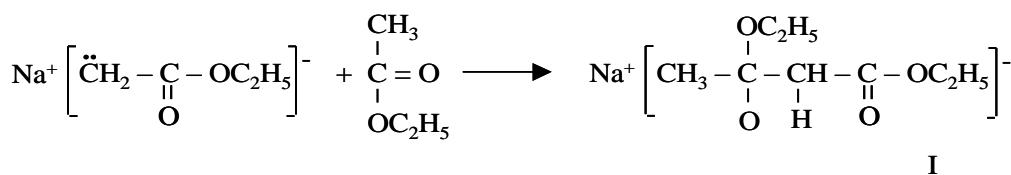


Bu reaksiyaning mexanizmini quyidagicha ta'savvur etish mumkin.

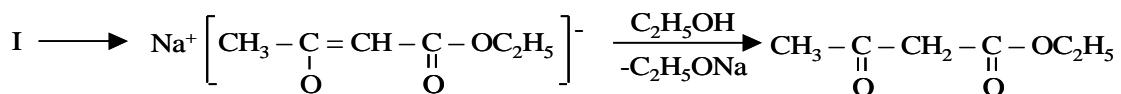
Natriy etilat ta'sirida etilatsetat metallorganik kompleksni hosil qiladi:



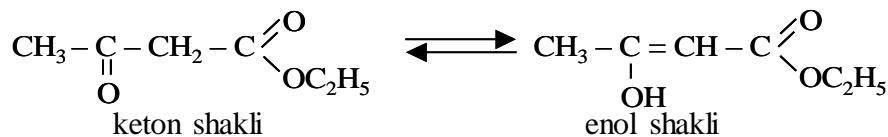
Bu kompleks bir molekula etilatsetatni biriktirib oladi:



I kompleksdagi karboksil ta'sirida protonlashgan vodorod va yarim atsetaldagi efir qoldig'i etil spirti hosil qilib ajralib chiqadi:

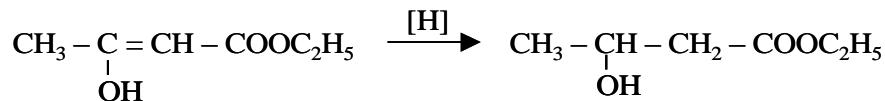


Atsetosirka efiri keto-enol tautomeriyaga uchray oladi:



Erituvchi sifatida geksan ishlatalganda yenol shakli 46,4 % ni tashkil etadi. Keton va yenol shakllarini bir-biridan ajratib olish mumkin. Atsetosirka efirning yenol shakli keton shakliga qaraganda beqaror. Atsetosirka efiri kimyoviy reaksiyalarga keton va yenol shakllarida reaksiyaga kirisha oladi.

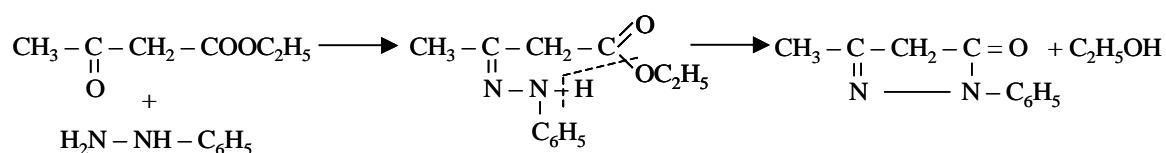
1) aktiv vodorod bilan qaytarish:



2) sinil kislotaning birikishi:

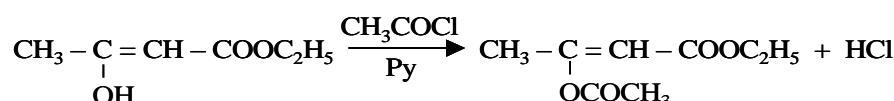


3) atsetosirka efirga fenilgidrazin bilan ta'sir ettirilganda metilfenilpirazolon hosil bo'ladi:

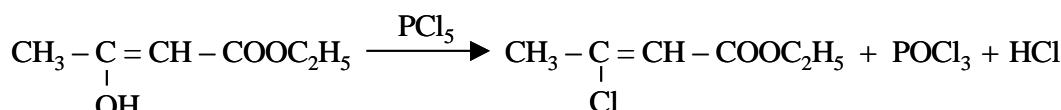


Enol shaklidagi reaksivalari:

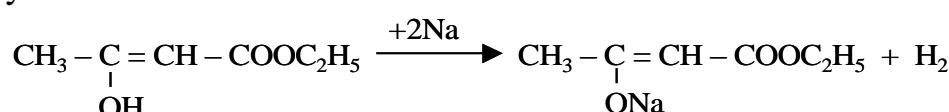
1. Piridin eritmasında atsetillash:



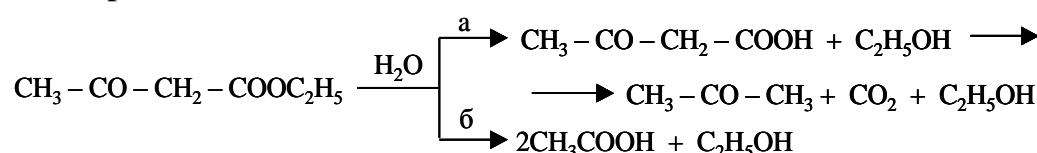
2. RCl₅ ta'siri:



3. Natriy atsetosirkalari efirini hosil bo'lishi:



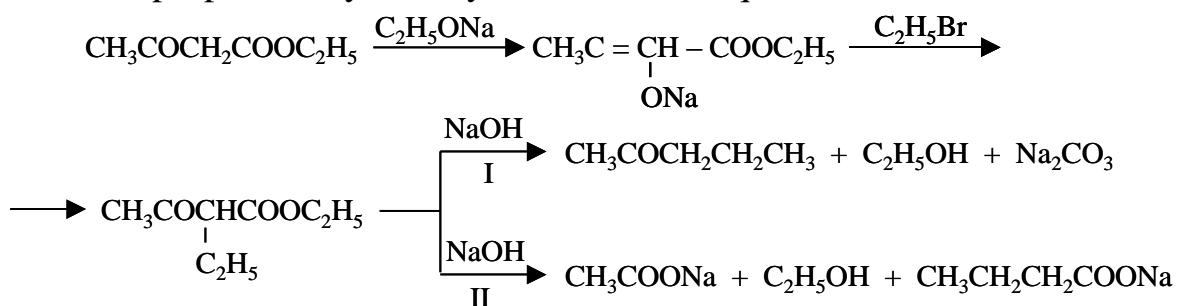
Atsetosirka efiri β -keton kislota efiri sifatida ishqor ta'sirida C–C bog'lanishdan parchalanadi:



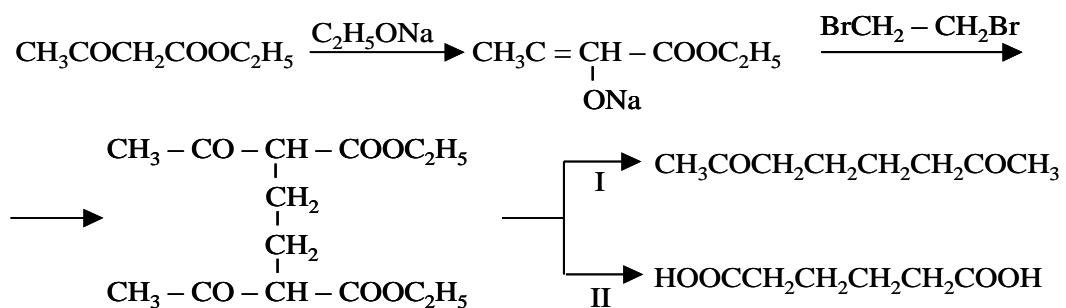
Suyultirilgan ishqorlar keton ajratib (a) parchalaydi, konsentrلagan ishqorlar ishtirokida kislota (b) ajratib parchalaydi.

Atsetosirka effirining organik sintezda ishlatalishi. Atsetosirka efiri organik sintezda turli birikmalar – ketonlar, kislotlar, diketonlar, ikki asosli kislotalar olishda katta ahamiyatga ega. Quyida atsetosirka kislotadan foydalaniб olinadigan mahsulotlarga misollar keltiramiz.

Metil propil keton yoki moy kislotani sintez qilish:



Diketonlar yoki ikki asosli kislotalarni sintez qilish:



Adabiyotlar ro'yxati

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