

**NOMALUM DORI VOSITALARI VA TURLI AGREGAT HOLATDAGI
ARALSHMALARNI SIFAT, MIQDORIY JIHATDAN ANIQLASHDA INFRA
QIZILSPEKTROSKIPIYA JIHOZINI QO'LLASH.****Karimov.J.S***Buxoro davlat tibbiyot instituti tibbiy kimyo kafedrasida assistenti*

Hozirgi kunga kelib zamonaviy tibbiyot rivojlanishi bilan kasalliklar va ular keltirib chiqaradigan simptomlar uchun kurashishda ishlatiladigan dori preparatlarining bir kasallik uchun bir necha turlari tavsiya qilinadi. Bu dori vositalari ishlab chiqariladigan farmasevtik kompaniyalar joylashgan joyi, nomdor varmasevtik kompaniya mahsuloti ekanligi, tasir etuvchi moddalarning turli miqdorlarda aralshtirilishi va qo'shimcha faol moddalar qoshilishi kabi bir qancha xususiyatlari bilan farqlanadi. Yuqorida aytib o'tilgan xususiyatlar dori preparatlar qo'llanish yo'riqnomasida ham yozilgan bo'lib ularning qo'llanilishi nojo'ya tasirlardan tortib organizmlarda boradigan biokimyoviy jarayonlardagi tasiri haqida ham to'liq tushuntirib beriladi.

Ko'pchilik dori preparatlari bir-biriga yaqin bo'lgan kimyoviy tarkibga ega bo'lib o'xshash kasalliklar uchun qo'llanilib kelmoqda. Ko'pchilik hollarda dori vositalarining tarkibini aniqlashga to'g'ri kelganda sifat va miqdoriy tahlil usullarini o'tkazishga va ko'plab jarayonlarni ma'lum ketmaketlikda amalga oshirishga to'g'ri keladi. Bu uchun uzoq vaqt va mehnat bilan birgalikda juda qimmatli bo'lgan standart eritmalar va maxsus xromatogroflar va boshqa analiz uchun zarur jihozlar talab etiladi.

Aytib o'tilgan tahlil usullarining qiyinligi va aniq natija olinishi uchun maxsus tayorgarlik, kimyoviy bilimlar bilan birgalikda qimmatli jihozlar va reaktivlarning yetishmasligi sababli har doim ham bu natijalarni olish osonlikcha va har qanday analiz o'tkaziladigan tashkilot oldida qiyinchiliklar tug'diradi.

Kelib chiqadigan kamchiliklar va noqulayliklarni oldini olish uchun yagona analiz usulidan va aniq bir jihozdan foydalanish anchagina qulayliklarni keltirishi aniq edi. Bu masalani hal qilish uchun anchagina hamyonbop qulay va oson ishlatish usuliga ega bo'lgan IR Spirit-X seriyali Fourier Transform infraqizil spektrofotometridan foydalanishni qollash maqsadida bir nechta tahlillarni amalga oshirdik.

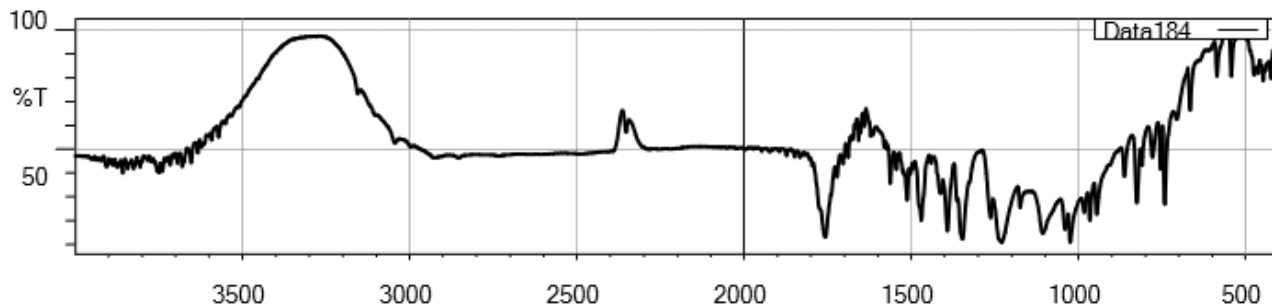
Tajribani amalga oshirish uchun 3 xil dori moddalari ishlatildi bular quyidagilar:

1. Furazolidon_50mg_10ta_Borisovskiy_Zavodi_Tibbiyot_Preparatlari_Belorusiya
2. Furasilin_20mg_10ta_Tatximfarmpreperat_Rossiya_Tatariston_Respublikasi
3. Furadonin_50mg_10ta_Borisovskiy_Zavodtibbiyot_Preparatlari_Belorusiya

Yuqorida keltirilgan dori vositalari yaxshilab maydalangandan so'ng IR Spirit-X seriyali Fourier Transform infraqizil spektrofotometrning maxsus aralashmalarni aniqlash uchun ishlatiladigan dasturi yordamida tahlil amalga oshirildi 550 dan ortiq moddalar bazasiga ega T- IRs Pharmaceuticals, T_FoodAdditives2, Organic2 filtirlari tanlab aniqlik bilan bir necha bor tajribalar amalga oshirildi.

Amalga oshirilgan analizlar natijasida quyidagi natijalar olindi:

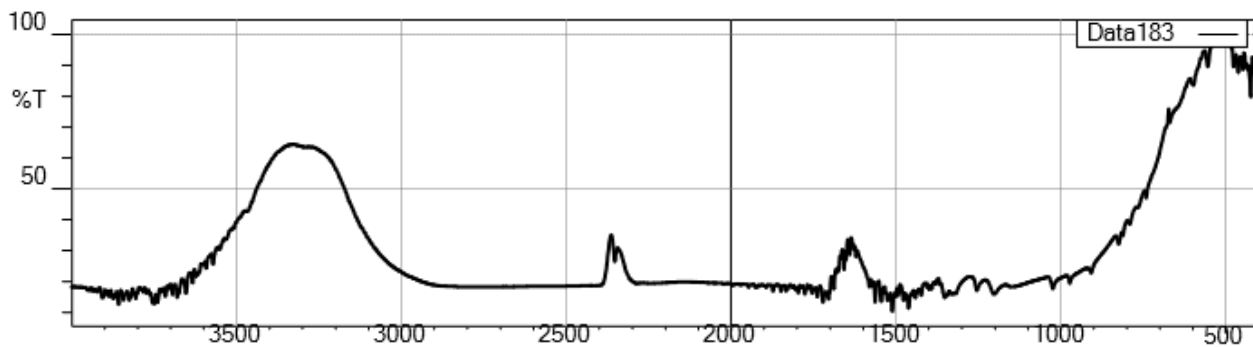
1. Furazolidon_50mg_10ta_Borisovskiy_Zavodi_Tibbiyot_Preparatlari_Belorusiya



QATR

	Score	Library	Name	Comment
1	641	27 - T-Organic2	AcetylCellulose	AcetylCellulose Transmission
2	631	25 - T_FoodAdditives2	T_Benzyl Acetate-4	Benzyl Acetate(Sales origin: TOKYO CHEMICAL INDUSTRY CO.,LTD.)@Between Salts(KBr)
3	626	131 - IRs Pharmaceuticals	Chloramphenicol Sodium Succinate	Chloramphenicol Sodium Succinate formula: C15H15Cl2N2NaO8 ATR/diamond molecular weight : 445.18
4	624	58 - IRs Pharmaceuticals	ENALAPRIL MALEATE	ENALAPRIL MALEATE Formula; C24H32N2O9 MW; 492.5248 (ASEAN REFERENCE STANDARD) CONTROL
5	618	21 - ATR-Organic2	D_MethylAcrylate	Methyl Acrylate DuraSampleIR
6	618	31 - T_FoodAdditives2	T_Silicone Resin-4	Silicone Resin(Product name: Silicone TSF-451-100Sales origin: GE Toshiba Silicones Ltd.)@Between Salts(KBr)
7	618	56 - ATR-Organic2	D_Y-12 Dis Azo Yellow	Dis Azo Yellow/C32H26Cl2N6O4, DuraSampleIR, Pig No. Y-12, CAS No.06358-85-6 SEIKAFast YELLOW 2300
8	616	30 - ATR-Organic2	D_DiethyleneGlycol	DiethyleneGlycol DuraSampleIR

2. Furasilin_20mg_10ta_Tatximfarmpreperat_Rossiya_Tatariston_Respublikasi



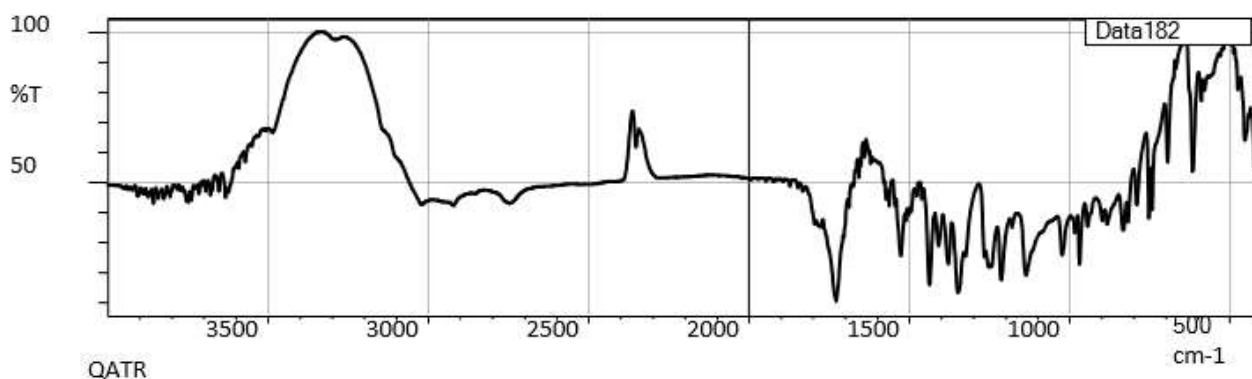
QATR

cm-1

	Score	Library	Name	Comment
1	663	177 - IRs Pharmaceuticals	Lysozyme Hydrochloride	Lysozyme Hydrochloride formula : C616H963N1930182S10.xHCl ATR/diamond molecular weight : unknown
2	642	152 - IRs Pharmaceuticals	Bleomycin Hydrochloride	Bleomycin Hydrochloride formula : C55H84ClN17O21S.HCl ATR/diamond molecular weight
3	642	37 - T-Organic2	HumicAcid	HumicAcid Transmission
4	632	125 - IRs Pharmaceuticals	Enviomycin Sulfate	Enviomycin Sulfate formula : C50H92N26O32S3 ATR/diamond molecular weight
5	625	94 - IRs Pharmaceuticals	BACITRACIN ZINC	BACITRACIN ZINC Formula; C63H98N14O14S MW; (ASEAN REFERENCE STANDARD) CONTROL NO.I 193041 (POTENCY 72 IU/MG)
6	621	39 - T-Organic2	T_Algin	Alginic Acid, Sodium Salt Transmission(Microscope)
7	619	41 - T_FoodAdditives2	T_Microcrystalline Cellulose_101-4	Microcrystalline Cellulose (Product name;VIVAPUR101CSales origin;TOAKASEI CO.,LTD.)@KBr Wafer

8	616	42 - T_FoodAdditives2	T_Microcrystalline Cellulose_102-4	Microcrystalline Cellulose (Product name;VIVAPUR102CSales origin;TOAKASEI CO.,LTD.)@KBr Wafer
9	614	23 - T-Organic2	EthyleneGlycol	EthyleneGlycol Transmission

3. Furadonin_50mg_10ta_Borisovskiy_Zavodtibbiyot_Preparatlari_Belorusiya

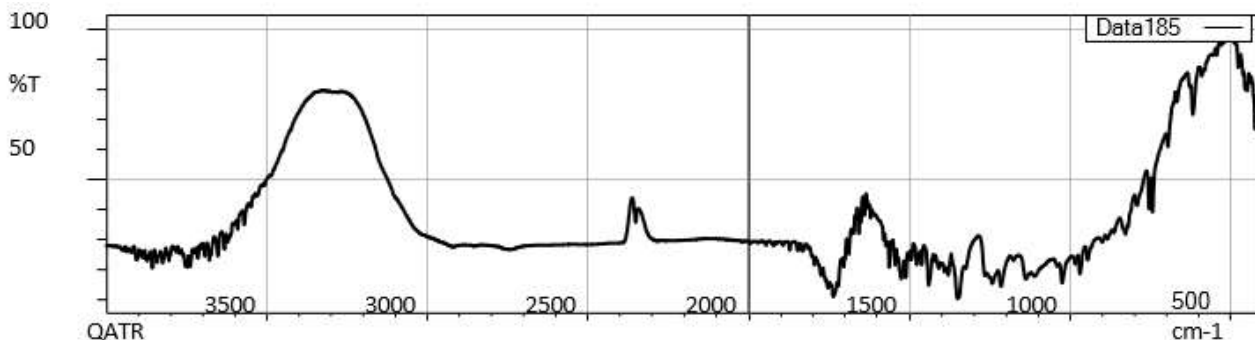


	Score	Library	Name	Comment
1	714	2 - T_FoodAdditives2	T_Acetaldehyde-4	Acetaldehyde (Sales origin;Sigma-Aldrich Corporation)@Between Salts(KBr)
2	656	18 - ATR-Organic2	D_DiethylAdipate	DiethylAdipate DuraSampleIR
3	609	26 - T_FoodAdditives2	T_Linalyl Acetate-4?	Linalyl Acetate(Sales origin;Wako Pure ChemicalIndustries, Ltd.)@Between Salts(KBr)
4	606	18 - T-Organic2	DimethylPhthalate	DimethylPhthalate Transmission
5	602	4 - ATR-Organic2	D_Starch	Soluble Starch DuraSampleIR
6	602	22 - T-Organic2	TerephthalicAcid Dimethyl Ester	TerephthalicAcid Dimethyl Ester Transmission
7	601	39 - T-Organic2	T_Algin	Alginic Acid, Sodium Salt Transmission(Microscope)
8	600	23 - T-Organic2	EthyleneGlycol	EthyleneGlycol Transmission
9	600	31 - ATR-Organic2	D_PropyleneGlycol	PropyleneGlycol DuraSampleIR

Olingan natijalarni asos qilgan holda bu dori maxsulotlari natijasida aynan shu moddalar bor deyish xato bo'lishi mumkin lekin xuddi shu turdagi dori tekshirilganda aynan shunday cho'qqilarni olsishimiz aniq. Aralashmalar tarkibida shu dorilar aralashtirganligini ham isbotlashning iloji yo'q va bizda shu modda aralishtirilgan aralashma bo'lsa ham biz bu aralashma tarkibida xuddi shunday qori qo'shilganligini aniq ayta olmaymiz.

Yuqorida keltirilgan xulosani isbotlashimiz uchun ayni shu 3 ta dori ning teng massada olingan aralashmasini ham tekshirib ko'rishimizning o'zi kifoya.

3. Aralshma



Score	Library	Name	Comment
1 639	37 - T-Organic2	HumicAcid	HumicAcid Transmission
2 635	58 - IRs Pharmaceuticals	ENALAPRIL MALEATE	ENALAPRIL MALEATE Formula: C ₂₄ H ₃₂ N ₂ O ₉ MW: 492.5248 (ASEAN REFERENCE STANDARD) CONTROL
3 628	21 - T_FoodAdditives2	T_Carboxymethyl Cellulose Sodium Salt-4	Carboxymethyl Cellulose Sodium Salt(Sales origin:Wako Pure Chemical Industries, Ltd.)@KBr Wafer
4 627	33 - T-Organic2	Fe Lactate	Fe(II) Lactate 3H ₂ O Transmission
5 625	177 - IRs Pharmaceuticals	Lysozyme Hydrochloride	Lysozyme Hydrochloride formula: C ₆₁₆ H ₉₆₃ N ₁₉₃ O ₁₈₂ S ₁₀ .xHCl ATR/diamond molecular weight: unknown
6 624	159 - IRs Pharmaceuticals	Vancomycin Hydrochloride	Vancomycin Hydrochloride formula: C ₆₆ H ₇₅ Cl ₂ N ₉ O ₂₄ .HCl ATR/diamond molecular weight: 1485.71
7 622	41 - T_FoodAdditives2	T_Microcrystalline Cellulose_101-4	Microcrystalline Cellulose(Product name;VIVAPUR101CSales origin:TOAKASEI CO.,LTD.)@KBr Wafer
8 621	25 - T-Organic2	PropyleneGlycol	PropyleneGlycol Transmission
9 620	42 - T_FoodAdditives2	T_Microcrystalline Cellulose_102-4	Microcrystalline Cellulose(Product name;VIVAPUR102CSales origin:TOAKASEI CO.,LTD.)@KBr Wafer
10 617	23 - T-Organic2	EthyleneGlycol	EthyleneGlycol Transmission

Xulosa sifatida shuni aytish mumkinki bu usul yordamida bir-xil tarkibli aralashmalarning bir-xil sifat va miqdoriy o'xshashligini isbotlash mumkin. Buning uchun aniqlanishi kerak bo'lgan turli agregat holatdagi aralshma yoki dori preparatlarini tarkibi sifatva miqdor jihatdan aniq bo'lgan aralshma tahlillari bilan solishtirib ko'rishimiz mumkin.

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