O‘ZBEKISTON RESPULIKASI OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

QO‘QON DAVLAT PEDAGOGIKA INSTITUTI

“KIMYO TA’LIMI, FAN VA ISHLAB CHIQARISH INTEGRATSIYALARI”

mavzusidagi I-xalqaro ilmiy-amaliy konferensiya materiallar

II-SHO‘BA

TO‘PLAMI

2024-YIL 22 MAY

QO‘QON - 2024

2. S.Y. Zhang *et al.* Syntheses, structural diversities and magnetic properties of four new Co(II) coordination polymers with phthalic acid derivativesPolyhedron (2013)

3. H. Flores *et al.* Standard molar enthalpies of formation of crystalline stereoisomers of aldono-1,4-lactones J. Chem. Thermodyn. (2004)

4. S.P. Verevkin Thermochemistry of amines: strain in six-membered rings from experimental standard molar enthalpies of formation of morpholines and piperazines J. Chem. Thermodyn. (1998)

5. J.M. Solano-Altamirano *et al.* Dens toolkit: a comprehensive open-source package for analyzing the electron density and its derivative scalar and vector fields Comput. Phys. Commun. (2015)

6. A. Rojas *et al.* Enthalpies of sublimation of ferrocene and nickelocene measured by calorimetry and the method of Langmuir J. Chem. Thermodyn. (2011)

7. V.L.S. Freitas *et al.* The effect of ketone groups on the energetic properties of phthalan derivatives J. Chem. Thermodyn. (2016)

8. M.A.V. Ribeiro da Silva *et al.* Enthalpies of combustion, vapour pressures, and enthalpies of sublimation of three methoxy-nitrobenzoic acids. Vapour pressures and enthalpies of sublimation of the three nitrobenzoic acids J. Chem. Thermodyn. (1999)

9. H.K. Zhao *et al.* Equilibrium solubility of 3- and 4-nitrophthalic acids in water J. Chem. Eng. Data (2007)

10. R.R. Li *et al.* Solid-liquid equilibria of ternary 4-nitro-2-benzofuran-1,3-dione + 5-nitro-2-benzofuran-1,3-dione + 2-propanone at 283.15 K and 323.15 K J. Chem. Eng. Data (2013)

SYNTHESIS AND CHEMICAL PROPERTIES OF 4,4,4-TRIFLUORO-1-(P-TOLYL)-1,3-BUTANEDIONE

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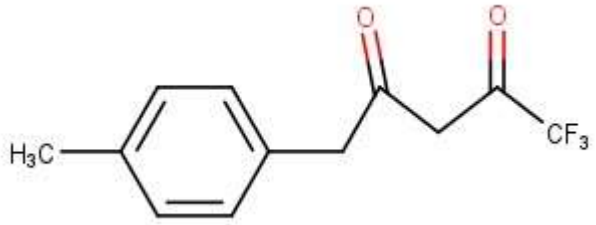
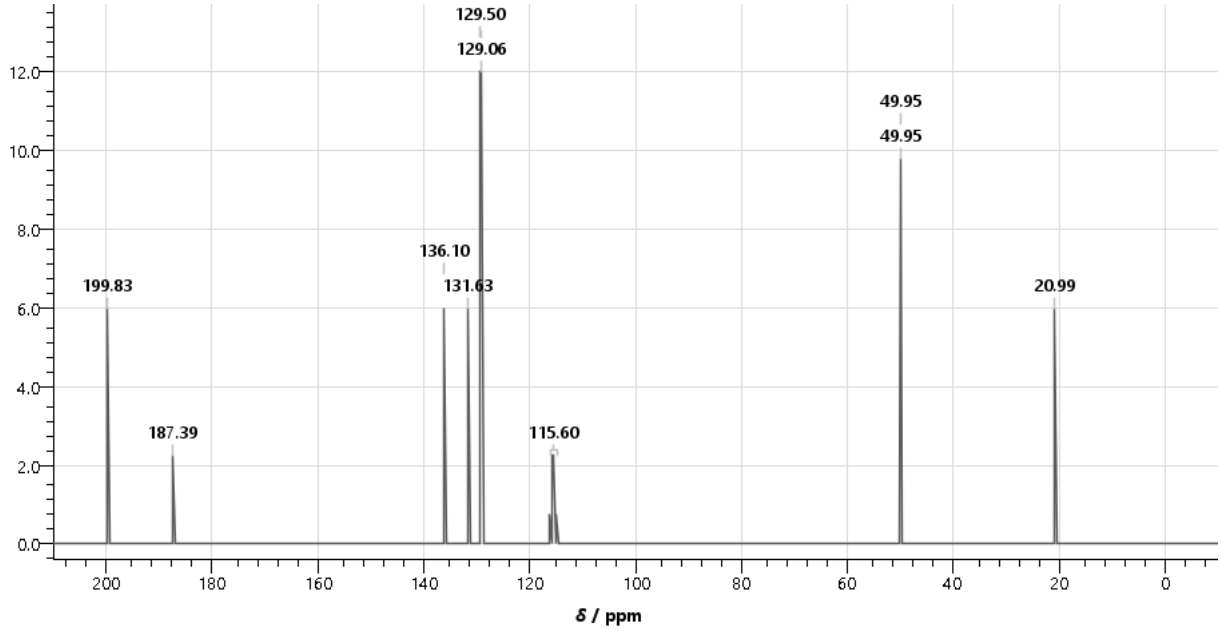
Today, researchers are paying special attention to dicarbonyl compounds containing fluorine substituents and their derivatives, because the practical use of such compounds is determined by their important properties. The presence of a fluorine atom in the molecule and high extraction ability allow them to be used as chelating reagents in gas-liquid spectrophotometric chromatography and fluorescent analysis. Complexes of fluorinated β-dicarbonyl compounds with lanthanoids (mainly europium and praseodymium) are widely used as "shifting" reagentsin NMR spectroscopy[1,2].

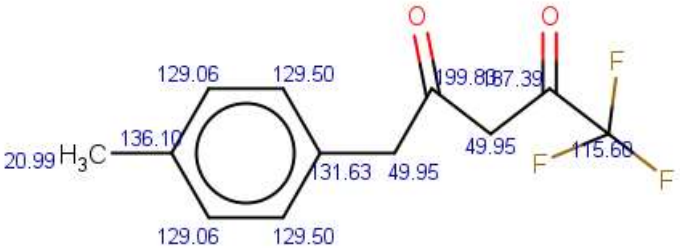
To a solution of ethyl trifluoroacetate (6.32 g, 44.5 mmol) and 28% sodium methoxide-methanol solution (9.4 g, 49 mmol) in tert-butylmethyl ether (10 mL) was added 4-acetylpyridine (16, added. 4.90 g, 40.4 mmol) was added to tert-butyl methyl ether (20 mL) at room temperature and the mixture was stirred for 22 hours[3].

A 10% aqueous solution of citric acid was added until the reaction solution reached pH 4. The precipitate was collected by filtration, washed with water and dried to give 4,4,4-trifluoro-1-(p-tolyl)-1,3-butanedione (5.46 g, 62%) is formed.



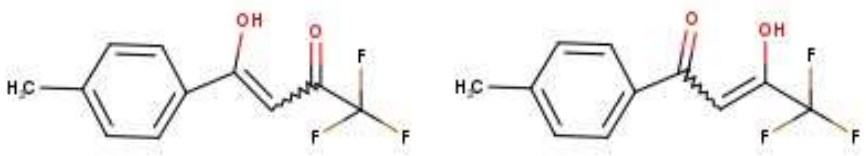
The resulting substance is slightly soluble in chloroform and slightly soluble in methanol. The solubility in water at 20 ℃ is 526.4 mg/l.





Atom numbers	Chemical shift	Net intensity	Multiplet information	Quality
7	20.99 ppm	1	s	good
8	49.95 ppm	1	s	medium
10	49.95 ppm	1	s	rough
15	115.60 ppm	1	q	medium
2, 6	129.06 ppm	2	s	good
3, 5	129.50 ppm	2	s	medium
4	131.63 ppm	1	s	medium
1	136.10 ppm	1	s	good
11	187.39 ppm	1	q	good
9	199.83 ppm	1	s	good

4,4,4-trifluoro-1-(p-tolyl)-1,3-butanedione has two different tautomeric forms. The productivity of both of them is 66% and 34%, respectively.



References

1. Kobrakov K.I., Parpiyev N.A., Umarov B.B.,Avezov Q.G’., Tursunov M.A., Ftorli β-diketonlar atsilgidrazonlari kompleks birikmalarining katalitik xossalari ., Buxoro davlat universiteti ilmiy axboroti., 2012/4(48)
2. Tursunov, M. A., B. B. Umarov, and K. G. Avezov."Synthesis and Crystal Structure of Nikel (II) and Zinc (II) Complexes with Benzoylacetic Aldehyde Derivatives." Moscow university chemistry bulletin 74.3 (2019): 138- 142.
3. https://www.chemicalbook.com/ChemicalProductProperty_EN_CB4148676.htm

ATROF-MUHIT OBYEKTLARIDAN KOBALT(II) IONLARINI SORBSION-SPEKTROSKOPIK ANIQLASH

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Annotatsiya

Ushbu tezisda kobalt(II) ionini atrof muhit obyektlaridan “Yashil kimyo” tamoyillariga to’liq javob bergan holda chiqindi suvlar tarkibidan ajratib olish va aniqlash usuli haqida ma’lumot berilgan. Bunda polimer tolaga kobalt ioni uchun sellektiv bo’lgan reogent immobillanib, metall kompleks holda ajratib olish bosqichlari yoritilgan.

Kalit so`zlar: sorbent, kobalt, immobillash, spektroskopiya, ipak fibroin, reagent,

Dunyoda ishlab chiqarishning jadal rivojlanishi atrof-muhit obyektlarining turli xil ifloslanish va zararlanish oqibatlarini olib kelmoqda. Bunday ifloslanishlarning eng zararlisi og’ir metllar bilan zararlanish bo’lib, o’simliklarda vegetatsiya davriga, hayvonlar mutatsiyasiga, odamlarda jiddiy kasalliklarga sabab bo’lmoqda.

Bularning oldini olish uchun esa chiqindisiz texnologiyani yaratish, zavodlarda, ochiq havzalarda tukiladigan chiqindilarni maksimal darajada tozalash, zararlantirish chora-tadbirlarini ishlab chiqish, tadqiqotchi olimlar oldiga qo’yilgan asosiy maqsadlardan biridir.

Og’ir metallar qatoriga kobalt ionlari ham kirib, uning organizmga keragidan ortiq yig’ilishi, nerv-asab tizimi kasalliklariga, yurak yetishmovchiligi, miya faoliyatini buzilishi kabi bir qator simptomik belgilarini namoyon qilishi aniqlangan. Ishlab chiqarish korxonalari chiqindi suv tarkibidagi kobalt (II) ionlarini aniqlashda va ajratib olishdagi eng samarali usul sorbsion spektroskopik usul bo’lib, bu “Yashil kimyo” tamoyillariga to’la javob beradi.

Chiqindi suv tarkibidan kobalt (II) ionini aniqlash uchun dastlab ionga muvofiq keluvchi ligand va shu ligandga birikuvchi sorbent tola tanlash talab qilinadi. Shuningdek, bu jarayonlar barchasi kuchli kislotali muhitda olib boriladi, chunki bizga ma’lumki, zavod chiqindi suvlari asosan kuchli kislotali muhitda bo’ladi. Usulni qo’llash uchun biz Navoiy viloyati hududida joylashgan “Navoiazot AJ” ga qarashli chiqindi suvini na’muna sifatida tanladik. Na’munani avval tarkibini TSR taxlil yordamida tekshirdik. Natijada tarkibida 0,115mg/l Co (II) ioni borligini aniqladik. Shuningdek pH metrda chiqindi suvining muhitini pH=2,8 ekanligini aniqlab oldik.