Bibliographic Information


Abstract

An accurate and selective flow injection anal. chemiluminescence (CL) method for the assay of perphenazine was explored. A 394 ppm K permanganate in 0.289 M H2SO4 soln. was used as the chemiluminogenic reagent. A photomultiplier tube was used as a detector at a total flow rate of 4.94 mL/min. Perphenazine was detd. using a linear calibration plot with the equation mV = -4.488 + 0.1162 C (where C is perphenazine concn. in ppm) for the concn. range of 50-350 ppm. The correlation coeff. was 0.9989 for 5 measurements and the relative std. deviation was <2.33%. A throughput over 110 samples/h can be reached. Three factors (flow rate, sulfuric acid and permanganate concns.) influenced the chemiluminescence intensity produced. Their interaction effects were investigated using a 23 factorial design chemometrical approach. The results revealed higher interactions between sulfuric acid and permanganate and less interactions for both reagents with the flow rate. An interference study indicated that the method is suitable for anal. of pharmaceutical prepns.

Bibliographic Information


Abstract

The application of differential electrolytic potentiometry as a detection system in flow injection anal. for pptn. reactions is described. Different combinations of electrodes were studied. The optimum conditions for the c.d. and the flow rate were elucidated. In the case of chloride, an Ag/AgCl-Pt pair is successful. For iodide a combination of Ag-Pt electrodes gave good results. The relation between the concn. of analyte and the measured signal is linear.

Bibliographic Information


Abstract

Corrosion inhibitors represent the most cost effective and flexible means of controlling internal
corrosion assocd. with oil and gas prodn. Tests were carried out to demonstrate the structure/effect relations which are effective in controlling the inhibition efficiency. To illustrate this approach, the substituent field effect at the para position of 1(benzyl)1-H-4,5-dibenzoyl-1,2,3-triazole (BDBT) on corrosion inhibition was studied. Mild steel rotating cylinder electrode in acid media was used in conjunction with Tafel polarization technique, a.c. impedance measurements and continuous linear polarization resistance method. The nitro group was found to cause a considerable decrease in the corrosion inhibition of the parent compd. BDBT. Owing to the induction effects of Br on the arom. ring the bromo deriv. has better inhibition protection than the Me deriv. The corrosion rate profiles obtained from online polarization technique showed that the inhibition capacity of the studied substituents at the para-position increases as follows: NO2 <CH3 <Br <H.

Bibliographic Information


Abstract

The applicability of differential electrolytic potentiometry as a detection system in flow injection anal. is studied. A computer-controlled injector which delivers precise vols. of sample solns. in a reproducible manner was developed. Conditions such as c.d., concns. of the solns., and the flow rate were optimized. Chloride in water was detd. by this system. The relation between chloride concn. and the measured signal was Nernstian for concns. >6 \( \mu \text{g Cl-}/\text{mL} \). For solns. below this concn., the relation is linear.

Bibliographic Information


Abstract

The recently synthesized compd. 1(benzyl)-1-H-4,5-dibenzoyl-1,2,3-triazole (BDBT) possesses a considerable no. of arom. systems. A significant no. of electrons are available on the three nitrogen atoms of the triazole ring. The inhibition effect of BDBT on the corrosion activity of mild steel in acid media has been investigated. Tafel polarization technique, AC impedance measurements and continuous linear polarization resistance method were employed in conjunction with a rotating cylinder electrode app. The corrosion rate of mild steel in 1% HCl was reduced by more than 95% in the presence of 50 ppm of BDBT. The BDBT has a mixed inhibition effect with a significant shift in the free corrosion potential to the cathodic direction. Film persistency tests showed that BDBT forms a stable film on the surface of the electrode.

Bibliographic Information

Abstract

The application of d.c. differential electrolytic potentiometry (d.c. DEP) to the titration of caffeine in acetic anhydride-toluene mixtures was studied. A very stable low current source was constructed to polarize the Sb electrodes. The behavior of these electrodes during the titration of caffeine was examined. Caffeine in commercial samples like tea, Pepsi as a beverage and Prontopyrin, a proprietary drug, was extracted in CHCl₃ and determined by d.c. DEP.

Bibliographic Information


Abstract

A simple, fast and accurate spectrophotometric flow-injection (FI) method suitable for the assay of vitamin C in formulations was carried out by injecting the drug into a flowing stream of iron(III) and then mixing with 1,10-phenanthroline in 0.05M H₂SO₄ media. The mixture was allowed to react in a 45-cm long coil and the resulting solution of tris, 1-10-phenanthroline-iron(II) complex was monitored at 510 nm. The method was adopted by fully investigating the kinetics of the reaction and proposing a suitable mechanism. A throughput of 100 samples/h was achieved with a relative standard deviation of 0.88% for vitamin C concentration range of 100-400 ppm.

Bibliographic Information


Abstract

An accurate specific flow injection spectrophotometric method for the determination of perphenazine in the range 50-250 ppm is introduced. In the method, 110 µL of the drug is injected through a stream of 0.2% (wt./vol.) potassium dichromate in 0.25 M sulfuric acid flowing on line as a carrier stream. The drug is oxidized on the flow to the red monocation radical, the peak absorbance of which is monitored at 525 nm. A throughput of up to 300 samples per h is attained. The mechanism of the reaction is suggested and the method is compared with the USP method.

Bibliographic Information


Abstract
Two simple and accurate kinetic methods, the fixed time and the fixed concn. methods, for the
detn. of caffeine involved the use of 3.20 x 10-3M Ce(IV) soln. and 8.0 x 10-2M sulfuric acid.
Reaction rates were followed at 405 nm; absorbance measurements for the fixed time method
were taken at 350 s; and a calibration equation was used for calcg. unknown concns. of caffeine.
For the fixed concn. method, time was measured at a fixed absorbance of 1.70 and another
calibration equation was used. The 2 methods were applied to the detn. of caffeine in proprietary
drugs, interferences were studied, and a statistical comparison with the results obtained by the
official British Pharmacopeial method was made.

Bibliographic Information

Synthesis and characterization of some acrylic monomer/sulfur dioxide copolymers.
Tsonis, Christos P.; Ali, S. Atrosf; Wazeer, Mohammed I. M.; Abdennabi, Abdul M.. Chem. Dep.,
193(9), 2175-87. CODEN: MACEAK ISSN: 0025-116X. Journal written in English. CAN
117:192456 AN 1992:592456 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The copolynm. of either acrolein (I), Me acrylate (II), acrylamide (III), or acrylonitrile (IV) with liq.
SO2 at low temp. and high diln. in the presence of tert-BuOOH gives high SO2 incorporation into
the resulting copolymers. Anal. of the compn. of these polysulfones, by elemental analyses and
13C NMR, shows that they consist mostly of triad monomer sequences. TGA of selected
samples demonstrates that their thermal stability, at ≤30% wt. loss, increases for different acrylic
comonomers as follows: I < III < II < IV. Preliminary flammability tests reveal that flame
retardancy increases with increasing SO2 content in the copolymer.

Bibliographic Information

English. CAN 116:119892 AN 1992:119892 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Uranium in phosphatic rocks is sepd. by adsorption on a strongly basic anion-exchange resin or
extd. by trioctylphosphine oxide. The extn. method is simpler and more applicable than the
anion-exchange method. The sepd. uranium is detd. spectrophotometrically by means of 2-(5-
bromo-2-pyridylazo)-5-diethylaminophenol. Samples from two different places which have
phosphatic beds were investigated. The uranium contents of those samples have been
successfully detd. and found to correlate with other chem. constituents.

Bibliographic Information

Differential electrolytic potentiometric titrations of some β-adrenergic blocking agents in
Miner., Dhahran, Saudi Arabia. Arabian Journal for Science and Engineering (1991), 16(2A),
1992:28288 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

β-Adrenergic blockers were detd. by d.c. differential electrolytic potentiometry based on acid-base
titrns. in Ac2O and toluene. The behavior of polarized Sb electrodes was also studied. Ac2O was a suitable solvent for the titrn. of weak bases if HClO4 was used as a titrant. The method gave a std. deviation of 7.07 x 10-3 mL.

Bibliographic Information


Abstract

Uranium was sepd. from phosphate rocks by adsorption on a strongly basic anion-exchange resin or extd. by tri-n-octylphosphine oxide. The extn. method is simpler and more applicable than the anion-exchange method. The sepd. uranium is detd. spectrophotometrically by means of 2-(5-bromo-2-pyridylazo)-5-(diethylamino)phenol. Samples from 2 different places which have phosphatic beds were investigated. The uranium contents of those samples was successfully detd. and correlates with other chem. constituents.

Bibliographic Information


Abstract

The copolymn. of SO2 with acrylic, 3-butenoic, 4-pentenoic, and 10-undecenoic acid was carried out using org. and aq. media in the presence of (CH3)3COOH/SO2 redox system. Elemental analyses, IR, and 13C-NMR revealed that the copolymers synthesized from the acrylic acid/SO2 system were of variable compn. in org. media, but only poly(acrylic acid) was formed in the presence of water. The other three alkenoic acid/SO2 systems always gave polysulfone copolymers of alternating structure regardless of the exptl. conditions employed. Thermal analyses (TGA and DTA) of selected samples gave Tg in the 73-101°C range, m.p. between 160 and 228°, and the total wt. loss in air from 31 to 97%. Flammability decreased as the S:C mole ratio increased. NMR showed that the complexation of SO2 with the C:C part of all alkenoic acids is low.

Bibliographic Information


Abstract

A spectrophotometric method for the detn. of microgram amts. of uranium(VI) is described. Uranium(VI) is extd. with chloroform from aq. soln. at pH 3.2 and forms a complex (1:1 metal to ligand) with 2,2'-[2,6-pyridinediylbis(methylidylenitrilo)]phenol. The red color developed is measured at 500 nm and the molar absorptivity is 1.19 x 104 L mol-1 cm-1. The effect of various
foreign ions is reported.

**Bibliographic Information**

**Differential electrolytic potentiometry: instrumentation and application of mark-space biased periodic current polarization in acid-base titrimetry in dimethylsulfoxide.**

**Abstract**

A polarization source which does not require a com. waveform generator was designed and employed in the technique of mark-space biased differential electrolytic potentiometry. The titrn. curves obtained indicate the adequate performance of this source in both aq. and nonaq. titrimetric reactions. The behavior of polarized Sb electrodes in DMSO was also investigated.

**Bibliographic Information**


**Abstract**

The suitability of the sensitive title technique to the detn. of phenols, arom. amines, and unsatd. compds., and L-ascorbic acid by titrn. with 0.1 mol Br/L was tested. The reactions were too slow for practical use.

**Bibliographic Information**


**Abstract**

The applications of d.c. and mark-space biased square wave differential electrolytic potentiometry alongside zero-current potentiometry to single and mixed halide pptn. titrns. with Ag+, to single halide pptn. or complexation titrns. with Hg2+ in anhyd. HOAc media were examd., using Ag, Ag amalgam, and Au amalgam electrodes. Hg+ offers no advantage over Ag which gives excellent results for single halides, particularly with Ag electrodes, and Cl- and Br- mixts. are fully resolved in the medium as well as Cl- and I-, particularly with Ag amalgam electrodes, whereas Br- and I-titrates to total halide only; Cl-, Br-, and I-mixts. are resolved, but not accurately. The Hg(II) titrns. are much improved in the anhyd. medium with respect to water; Au amalgam electrodes are favored.

**Bibliographic Information**

**Differential electrolytic potentiometry with periodic polarization. Part XXVIII. Direct and
Abstract

The use of Pb(OAc)₄ as an oxidative titrant in anhyd. AcOH was studied by d.c. and mark-space biased square wave periodic differential electrolytic potentiometry using 0.05M LiClO₄ as supporting electrolyte. The applicability of Pb(OAc)₄ was more restricted in anhyd. than in glacial AcOH due to slower reaction.

Bibliographic Information


Abstract

Applications of d.c. and mark-space biased square wave differential electrolytic potentiometry to bromination and oxidn. reactions in anhyd. AcOH were examd. A few oxidn. reactions, e.g., of I and ascorbic acid, are fast enough to permit direct titrnm. Other reactions, such as nuclear bromination of arom. hydroxy and amino compds., addn. to unsatd. aliph. moieties, and oxidn. of covalent Group 5A compds., require double excess backtitrnm. Of the 3 electrolytes examd., HClO₄, LiCl, and ACONa, the last gives the best results for arom. substitution, being alk. enough to allow the phenoxide ion intermediate to form. Certain oxidn. indicators of the diphenylamine and benzidine classes and aminotriphenylmethanes are not oxidized, but react by substitution, by nuclear bromination, and are cleanly detd. without interference from unstable oxidn. products.
Abstract

The applications of d.c. and mark-space bias square wave differential electrolytic potentiometric techniques to acid-base titrations in an Ac2O-AcOH mixed solvent were examined by using Sb-Sb oxide electrodes as indicator systems. The shapes of the titration curves were similar to those obtained from aqueous acid-base titrations, but the required current and percentage bias were much higher. Several compounds, which do not exhibit basic properties in water, were titrated successfully with HClO4. The advantage of using an aprotic solvent in conjunction with Ac2O is demonstrated.

Bibliographic Information


Abstract

Polyelectrolytes have been proposed as promising systems for the protection of stainless steels and for biomedical and drug release applications. Multilayer nanofilms with varying anion acidity were deposited on AISI316L stainless steel. The cationic polyelectrolyte was polyallylamine hydrochloride (PAH) whereas the anionic polyelectrolytes with increasing acidity were polyacrylic acid (PAA), polystyrene sulfonate-co-maleic acid and polystyrene sulfonate (PSS). Potentiodynamic polarisation showed an increase in corrosion potential Ecorr upon coating with multilayer nanofilms and a corresponding decrease in corrosion current. Transient currents were observed upon application of PSS due to its high acidic strength although it showed better pit recovery characteristics as shown in cyclic polarisation experiments. Constant potential experiments at 700 mV vs. Ag/AgCl for 12 h showed a suppressed current by 50% for the PAH/PSS coated steel compared to the uncoated specimen. The SEM images showed the existence of agglomerates, uncovered areas and corrosion products underneath channels on the coating.

Bibliographic Information


Abstract

A simple and rapid sequential injection spectrophotometric method for the determination of cyanide is proposed. The method is based on the reaction of cyanide with 2,2-dihydroxy-1,3-indanedione (Ninhydrin), which produces a red colored product that can be monitored at a wavelength of 600 nm. The linear range found is between 2.00 and 7.00 mg L⁻¹ with a detection limit of 0.16 mg L⁻¹.
1. The sampling rate was calculated to be 45 samples per h. The proposed method has precision and accuracy comparable with standard methods.

**Bibliographic Information**


**Abstract**

A simple differential electrolytic potentiometry (DEP) is coupled with the flow injection anal. (FIA) for the total cyanide detn. This simple and rapid method is based on the reaction of a silver nitrate with cyanide to form silver cyanide complex. Potassium nitrate was used as a supporting electrolyte. Platinum, gold and silver electrodes were tested and among them silver amalgam was found to be a suitable indicating system. The optimum c.d. for polarizing the electrodes was found to be 10-17 µA/cm². The sensitivity of the proposed method was further enhanced by shortening the coil length. The effect of flow rate and the vol. of reagents and sample on the sensitivity of the method were also studied. The interference of chloride, iodide, sulfate, carbonate, phosphate, chromium, cobalt, nickel and cadmium were studied. Linear working range is from 1 ppm to 60 ppm. The detection limit is 0.5 ppm with a sample throughput of 10 samples/h and the correlation coeff. is 0.999. The equation for potential measurement was: [Potential (V) = 0.24 + 0.0091 × C (ppm)]. The described FIA-DEP has the additional advantages, over the other methods, of minimizing time and amount of consumed reagents and improving the accuracy of the anal. due to computer control.

**Bibliographic Information**


**Abstract**

The corrosion properties of duplex-treated and nitrided Ti-6Al-4V have been investigated in 0.025, 0.25 and 2.5 M NaCl using electrochem. techniques, Positron Annihilation Spectroscopy (PAS), X-ray diffraction (XRD), SEM, and Energy Dispersive Spectrometry (EDS). The electrochem. results showed a three-fold increase in corrosion rate for every ten-fold increase in chloride concn. The morphol. and surface compn. studied by XRD showed the presence of TiN and Ti2N layers. SEM and EDS showed the presence of pitting and the presence of oxide and chloride products. At the lowest concn. of NaCl, no aluminum was detected in the surface layers while at the highest concn. no chloride byproducts were detected. PAS indicated that the damage caused by the NaCl changes in nature and becomes shallower as the concn. increases.

**Bibliographic Information**

**Levels of selected metals in canned fish consumed in Kingdom of Saudi Arabia.**  Ashraf, Waqar; Seddigi, Zaki; Abulkibash, Abdallah; Khalid, Mazen.  King Fahd University of Petroleum...
Abstract

In the present paper, seven heavy metals (Pb, Cd, Ni, Cu, Zn, Cr and Fe) in canned salmon, sardine and tuna fish were detd. by using at. absorption spectroscopy. Cadmium and lead levels were detd. by graphite tube AAS whereas Ni, Cu, Cr and Fe were detd. by flame AAS. Anal. results were validated by spiking the samples with various concns. of these metals for recovery. The metal contents, expressed in µg/g, wet wt., varied depending upon the specie studied. The levels of Pb ranged from 0.03-1.20 µg-g-1 with an av. of 0.313 µg-g-1 for salmon; 0.03-0.51 µg-g-1 with an av. of 0.233 µg-g-1 for tuna and 0.13-1.97 µg-g-1 with an av. of 0.835 µg-g-1 for sardines. The levels of Cd ranged from 0.02-0.38 µg-g-1 with an av. of 0.161 µg-g-1 for salmon; 0.07-0.64 µg-g-1 with an av. of 0.227 µg-g-1 for tuna and 0.010-0.690 µg-g-1 with an av. of 0.183 µg-g-1 for sardines. Comparative evaluation of these metals in three varieties of fish showed that av. concn. of lead in sardines is about 4 times and Ni about 3 times higher as compared to tuna. Generally, the levels of these metals follow the order sardine > salmon > tuna. The data generated in the present study compared well with the similar studies carried out in different parts of the world. The results indicate that canned fish, in general and tuna in particular, have concns. within permissible limits of WHO/FAO levels for these heavy metals. Therefore, their contribution to the total body burden of these metals can be considered as negligibly small.

Bibliographic Information


Abstract

The application of direct-current differential electrolytic potentiometry to the nonaq. titrn. of amino acids was investigated. The basic character of amino acids in acetic acid was enhanced to permit their direct titrn. with perchloric acid. A pair of antimony electrodes was used as an indicating system. The shapes of the titrn. curves obtained were almost sym. with sharp peaks. The optimum c.d. for those titrns. was found to be 1-2 µA/cm2. The procedure was applied successfully to the detn. of certain amino acids in drug formulations, and the results were favorably compared statistically with those obtained by official methods.

Bibliographic Information


Abstract

A simple and rapid differential electrolytic potentiometric titrn. method for the detn. of ciprofloxacin
was developed. The work is based on the fast complexation reaction between iron(III) and ciprofloxacin in a ratio of 1:3, resp., in sulfuric acid media of 0.09 mol dm-3. Among the electrodes tested silver amalgam electrodes were found to be a suitable indicating system. By applying a c.d. of 0.5 \( \mu \text{A cm}^{-2} \) to these electrodes and using iron(III) soln. of 0.097 mol dm-3 as a titrant, normal titrn. curves were obtained. The method was successfully applied for the detn. of ciprofloxacin in drug formulations as low as 4.0 ppm.

Bibliographic Information


Abstract

For the 1st time, promethazine hydrochloride chemiluminescence emission was monitored. The paper describes a new, specific, and highly sensitive flow injection (FI) method for the detn. of promethazine hydrochloride using both a peristaltic and a syringe pump. The method was based on the chemiluminescence emission intensity produced as a result of its oxidn. reaction with permanganate in sulfuric acid medium. Reaction variables were thoroughly investigated employing chemometrical methods with few no. of expts. The optimum system and chem. conditions were \( 2.1519 \times 10^{-4} \text{ mol l}^{-1} \) permanganate in 0.01 mol l-1 sulfuric acid when operating the peristaltic pump at a flow rate of 45 \( \mu \text{l s}^{-1} \) and injecting the drug by a syringe pump operated at a speed of 40 \( \mu \text{l s}^{-1} \). The method was found to be applicable in the concn. range of promethazine hydrochloride between 1.558 \( \times 10^{-5} \) and 1.8697 \( \times 10^{-3} \) mol l-1 with a linear calibration plot of 0.992 correlation coeff. and the following equation: \( I=92.74+0.08048C \). The method adopted proved to be highly suitable for the assay of promethazine hydrochloride in drug formulations without fear of interferences in dosage form.

Bibliographic Information


Abstract

The electroplating of cobalt on steel substrates from acidic baths contg. cobalt acetate and acetic acid was studied for the influences of bath compn., c.d. and temp. The influences of these parameters on the potentiodynamic cathodic polarization, cathodic current efficiency, anodic stripping voltammetry and the throwing power of these baths were studied. The surface morphol. of the as-plated cobalt was examd. by SEM and the crystal structure by x-ray diffraction.

Bibliographic Information

Abstract

For the first time, differential electropotentiometry (DEP) is coupled with the flow injection anal.
(FIA) technique for detection of oxidn.-redn. reactions, and is utilized for quant. detn. of vitamin C
in pharmaceutical prepns. using 1.0×10-3-M cerium(IV) in 0.50-M sulfuric acid as carrier. Two
similar platinum electrodes were employed and polarized by a const. current. Optimization by the
univariate method was carried out and the optimum conditions for c.d., flow rate, sample size and
concn. of sulfuric acid were 4 mA, 0.93 mL min-1, 140 µl and 0.25 M, resp. Vitamin C was detd.
in the concn. range 100-300 ppm with 0.9987 correlation coeff. and 1.9 std. deviation. The
method was applied to the detn. of vitamin C in pharmaceutical prepns. and no excipient was
found to pose any interference thus rendering the method suitable for detn. of the drug in
pharmaceutical prepns. The accuracy of the method was detd. by comparison with the BP std.
method.

Bibliographic Information

Electroplating of CoFe alloys from aqueous acetate baths. El Rehim, S. S. Abd; Khaled,
K.; Abulkibash, A. M. S.; Emad, M. Department of Chemistry, Faculty of Science, Ain Shams
University, Cairo, Egypt. Transactions of the Institute of Metal Finishing (2000), 78(1), 41-43.
Publisher: Institute of Metal Finishing, CODEN: TIMFA2 ISSN: 0020-2967. Journal written in
English. CAN 132:351117 AN 2000:286735 CAPLUS (Copyright (C) 2008 ACS on
SciFinder (R))

Abstract

Films of CoFe alloys have been deposited galvanostatically onto a steel electrode from solns.
contg. CO(AcO)2, FeSO4 and AcOH. The cathodic polarization, the deposition efficiency and the
compn. of the films were detd. as a function of c.d. and compn. of the bath. The codeposition
shows an anomalous behavior with Fe (the less noble) being the preferentially deposited metal.
This observation is interpreted in terms of suppression of Co (the more noble) deposition by a
surface Fe hydroxide pptd. during codeposition. The efficiency improves with increasing c.d. but
decreases with increasing HOAc concn. The morphol. of the deposits was examd. by SEM. In
most cases, smooth dense and uniform deposits with microcracks were obsd.

Bibliographic Information

Levels of selected metals in canned fish consumed in Kingdom of Saudi Arabia. Ashraf
Waqar; Seddigi Zaki; Abulkibash Abdallah; Khalid Mazen King Fahd University of Petroleum &
Minerals, Dhahran, Saudi Arabia. waqar@kfupm.edu.sa Environmental monitoring and
Article; (JOURNAL ARTICLE) written in English. PubMed ID 16917712 AN 2006492475
MEDLINE (Copyright (C) 2008 U.S. National Library of Medicine on SciFinder (R))

Abstract

In the present paper, seven heavy metals (Pb, Cd, Ni, Cu, Zn, Cr and Fe) in canned salmon,
sardine and tuna fish were determined by using atomic absorption spectroscopy. Cadmium and
lead levels were determined by graphite tube AAS whereas Ni, Cu, Cr and Fe were determined
by flame AAS. Analytical results were validated by spiking the samples with various
concentrations of these metals for recovery. The metal contents, expressed in microg/g, wet
weight, varied depending upon the specie studied. The levels of Pb ranged from 0.03-1.20
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average of 0.233 microg-g(-1) for tuna and 0.13-1.97 microg-g(-1) with an average of 0.835
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of 0.161 microg-g(-1) for salmon; 0.07-0.64 microg-g(-1) with an average of 0.227 microg-g(-1) for
tuna and 0.010-0.690 microg-g(-1) with an average of 0.183 microg-g(-1) for sardines.
Comparative evaluation of these metals in three varieties of fish showed that average
concentration of lead in sardines is about 4 times and Ni about 3 times higher as compared to
tuna. Generally, the levels of these metals follow the order sardine > salmon > tuna. The data
generated in the present study compared well with the similar studies carried out in different parts
of the world. The results indicate that canned fish, in general and tuna in particular, have
concentrations within permissible limits of WHO/FAO levels for these heavy metals. Therefore,
their contribution to the total body burden of these metals can be considered as negligibly small.

Bibliographic Information

**Differential electrolytic potentiometric determination of some amino acids in dosage
forms.** Al-Ghannam Sheikha M; Abulkibash Abdalla; Al-Olyyan Abeer M  Girls College of
Science, Department of Chemistry, PO Box 838, Dammam 31113, Saudi Arabia.
code: 9215446. ISSN:1060-3271. Journal; Article; (JOURNAL ARTICLE); (RESEARCH
SUPPORT, NON-U.S. GOV'T) written in English. PubMed ID 15287666 AN 2004384121
MEDLINE (Copyright (C) 2008 U.S. National Library of Medicine on SciFinder (R))

**Abstract**

The application of direct-current differential electrolytic potentiometry to the nonaqueous titration
of amino acids was investigated. The basic character of amino acids in acetic acid was
enhanced to permit their direct titration with perchloric acid. A pair of antimony electrodes was
used as an indicating system. The shapes of the titration curves obtained were almost
symmetrical with sharp peaks. The optimum current density for those titrations was found to be
1-2 microA/cm2. The procedure was applied successfully to the determination of certain amino
acids in drug formulations, and the results were favorably compared statistically with those
obtained by official methods.