

771
J80/mn

Journal of
RADIOANALYTICAL *and*
NUCLEAR CHEMISTRY

*An international journal dealing with all aspects
and applications of nuclear chemistry*



Journal of Radioanalytical and Nuclear Chemistry

An International Journal Dealing with All Aspects and Applications of Nuclear Chemistry

Volume 298 · Number 2 · November 2013

Sedimentation and lateral transport of ^{210}Pb over the East China Sea Shelf

Z. Fang · W. Yang · X. Zhang · M. Chen · D. Fan · Q. Ma · R. Zhang · M. Zheng · Y. Qiu 739

Application of non-linear heterogeneity-based isotherm models for characterizing sorption of Cs and Se on mudrocks

C.-P. Lee · C.-Y. Liu · M.-C. Wu · C.-H. Pan · T.-L. Tsai · T.-Y. Lin · H.-J. Wei · L.-C. Men 749

Novel method to assessing and the impact of alpha emitter's concentration of the uterus on women fertility in Iraqi Kurdistan region

N.F. Salih · M.S. Jaafar 755

Utilization of a mixed-bed column for the removal of iodine from radioactive process waste solutions

C. Decamp · S. Happel 763

Uranium leaching using mixed organic acids produced by *Aspergillus niger*

Y. Wang · G. Li · D. Ding · Z. Zhou · Q. Deng · N. Hu · Y. Tan 769

Extraction and DFT study on the complexation of the methylammonium cation with a hexaarylbenzene-based receptor

E. Makrlík · P. Toman · P. Vaňura · R. Rathore 775

Separation and recovery of ruthenium: a review

P. Swain · C. Mallika · R. Srinivasan · U.K. Mudali · R. Natarajan 781

A method for the replacement of ^{137}Cs with ^{40}K as a non-hazardous radioactive tracer for open-source decommissioning research applications

A.J. Parker · C. Boxall · M.J. Joyce 797

Formulas and differentials for a plutonium hydrolysis constant

G.L. Silver 803

Radiation stability of several polymeric supports used for radionuclide transport from nuclear wastes using liquid membranes

P.K. Mohapatra · D.R. Raut · A.K. Ghosh · A.V.R. Reddy · V.K. Manchanda 807

Study of size, type and the kerma approximation for thermoluminescent dosimetry

K. Karimi-Shahri · L. Rafat-Motavalli · H. Miri-Hakimabad 813

Potential use of the activation energy value calculated from the thermoluminescence glow curves to detect irradiated food

V. Correcher · J. Garcia-Guinea 821

Adsorption of thorium(IV) from aqueous solution by non-living biomass of mangrove endophytic fungus *Fusarium* sp. #ZZF51

S.K. Yang · N. Tan · X.M. Yan · F. Chen · Y.C. Lin 827

Application of modified multiwall carbon nanotubes as a sorbent for zirconium (IV) adsorption from aqueous solution

R. Yavari · R. Davarkhah 835

A study of the Arrhenius behavior of the co-precipitation of radium, barium and strontium sulfate

H. Hedström · H. Ramebäck · C. Ekberg 847

Activation cross-sections of longer lived products of proton induced nuclear reactions on cobalt up to 70 MeV

F. Ditrói · F. Tárkányi · S. Takács · A. Hermanne · H. Yamazaki · M. Baba · A. Mohammadi 853

Rapid determination of radiostrontium in seawater samples

S.L. Maxwell · B.K. Culligan · R.C. Utsey 867

Simultaneous separation of simulated radionuclides strontium and neodymium using in situ hydrotalcite synthesis

S. Yu · C. Zha · F. Lu · X. Wei · K. Wang 877

Beryllium-7 in near-surface atmospheric aerosols in mid-latitude (40°N) city Beijing, China

K. Tan · Y. Yang · X. Zhu · Y. Li · S. Chen · H. Yu · X. Jiao · N. Gai · Y. Huang 883

Biosorption of strontium from aqueous solutions onto spent coffee grounds

D. Imessaoudene · S. Hanini · A. Bouzidi 893

Interactions between U(VI) and bovine serum albumin

Y. Yang · Y. Feng · Y. Wang · L. Wang · W. Shi 903

- Investigation of the Cr(VI) removal from aqueous solutions by stabilized iron-nanoparticles using ^{51}Cr -tracer**
A. Bampaiti · F. Noli · P. Misaelides 909
- Study of the gamma spectrum of ^{16}N with a BGO detector, for the purpose of calibration and of determining the fluorine grade of mineral samples**
M.P. Castro-García · T. Alonso-Sánchez · M.A. Rey-Ronco 915
- Amine-modified maleic anhydride containing terpolymers for the adsorption of uranyl ion in aqueous solutions**
S. Şimşek · E. Yılmaz · A. Boztuğ 923
- Research on a pellet co-precipitation micro-filtration process for the treatment of liquid waste containing strontium**
X. Luo · G. Zhang · X. Wang · P. Gu 931
- Method to assess the radionuclide inventory of irradiated graphite waste from gas-cooled reactors**
B. Poncet · L. Petit 941
- Removal of uranium(VI) from aqueous solution using sponge iron**
Z. Yi · J. Xu · M. Chen · W. Li · J. Yao · H. Chen · F. Wang 955
- A novel approach towards development of real time chemical dosimetry using pulsating sensor-based instrumentation**
N. Malathi · P. Sahoo · K. Praveen · N. Murali 963
- Decontamination of uranium-contaminated concrete**
S.-S. Kim · W.-S. Kim · G.-N. Kim · H.-M. Park · U.-R. Park · J.-K. Moon 973
- Presence of uranium and plutonium in marine sediments from gulf of Tehuantepec, Mexico**
E. Ordóñez-Regil · M.G. Almazán-Torres · J.A. Sanchez-Cabeza · A.C. Ruiz-Fernández 981
- Further development of a cosmic veto gamma-spectrometer**
J.L. Burnett · A.V. Davies · J.L. McLarty 987
- A multi-method approach for determination of radionuclide distribution in trinitite**
C. Wallace · J.J. Bellucci · A. Simonetti · T. Hainley · E.C. Koeman · P.C. Burns 993
- U/Th dating of carbonate deposits from Chafarinas Islands, Spain**
A. Martínez-Aguirre · J.M. Alcaraz-Pelegrina 1005
- Use of chromatographic pre-concentration for routine uranium bioassay analysis by ICP-MS**
H. Kurosaki · A.A. Tucker · S.E. Iden · S.M. Sexton · B.D. Gonzalez · G.R. Rao 1017
- An approach to physical characterization of fundamental ion exchange and adsorption behaviours of tuffaceous minerals in aqueous solutions of some environmental pollutants**
E. Chmielewska 1023
- Adsorption equilibrium and kinetic studies of strontium on Mg-bentonite, Fe-bentonite and illite/smectite**
M. Galamboš · A. Krajňák · O. Rosskopfová · E. Viglašová · R. Adamcová · P. Rajec 1031
- Radiation graft post-polymerization of sodium styrene sulfonate onto polyethylene**
N.K. Kitaeva · V.R. Duflo · N.S. Ilicheva 1041
- Separation of no-carrier-added ^{109}Cd from natural silver target using RTIL 1-butyl-3-methylimidazolium hexafluorophosphate**
K. Ghosh · M. Maiti · S. Lahiri 1049
- Preparation of sol-gel materials doped with ionic liquid and extractant for cerium(III) extraction**
L. Zhang · E. Chen · X. Yu 1055
- Photo-neutron cross-section measurement in the 8 and 10 MeV bremsstrahlung induced reaction of ^{238}U**
H. Naik · R. Crasta · S.V. Suryanarayana · G. Sanjeev · B.S. Shivashankar · H.G. Raj Prakash · N. Karunakara · H.M. Somashekarappa · M. Kumar · V.T. Nimje · K.C. Mittal · A. Goswami 1065
- γ Radiolysis of C_{60} fullerene in water and water/ammonia mixtures: relevance of fullerene fate in ices of interstellar medium**
S. Iglesias-Groth · Y. Hafez · G. Angelini · F. Cataldo 1073
- Measurement of natural radioactivity in soil from Peshawar basin of Pakistan**
M. Tufail · M. Asghar · M. Akram · S. Javied · K. Khan · S.A. Mujahid 1085
- Influence of the environment in ^{40}K concentration in Brazilian common beans**
R.M. Mingote · R.A. Nogueira · E. Ribeiro 1097
- Labeling of ursodeoxycholic acid with technetium-99m for hepatobiliary imaging**
M.H. Sanad · M. El-Tawoosy 1105

- A comparative study of the adsorption of uranium on commercial and natural (Cypriot) sea sand samples**
M. Efsthathiou · I. Pashalidis 1111
- Spectral interference study of uranium on other analytes by using CCD based ICP-AES**
A. Sengupta · V.C. Adya · S.V. Godbole 1117
- Effect of pH, ionic strength, foreign ions and temperatures on the sorption of Eu(III) on attapulgite-iron oxide magnetic composites**
C. Lei · X. Tian · B. Ma 1127
- Synthesis of phosphorus-modified poly(styrene-co-divinylbenzene) chelating resin and its adsorption properties of uranium(VI)**
Q. Cao · Y. Liu · X. Kong · L. Zhou · H. Guo 1137
- Synthesis of selectively deuterated and tritiated lupane derivatives with cytotoxic activity**
M. Vlk · M. Urban · T. Elbert · J. Sarek 1149
- Innovative concept for a major breakthrough in atmospheric radioactive xenon detection for nuclear explosion monitoring**
G. Le Petit · A. Cagniant · M. Morelle · P. Gross · P. Achim · G. Douysset · T. Taffary · C. Moulin 1159
- Synthesis, radiochemistry and stability of the conjugates of technetium-99m complexes with Substance P**
E. Gniazdowska · P. Koźmiński · L. Fuks 1171
- The preparation of the ^{239}Np tracer from ^{243}Am and the purification of the stock solution**
J. Strišovská · V. Drábová · J. Kuruc 1179
- Preparation of $^{99\text{m}}\text{Tc}$ -MIBI complex under ultrasound irradiation**
A. Doroudi · S.M. Saadati · H.H. Pour · F. Ahmadi · M. Erfani · S. Rezaee · M.J. Khodayar · H. Samaee · B. Etesami 1185
- Environmental dose rate distribution along the Romanian Black Sea Shore**
R.M. Margineanu · O.G. Dului · A.M. Blebea-Apostu · C. Gomoiu · S. Bercea 1191
- Effect of environmental parameters on the sequestration of radionickel by Mg_2Al layered double hydroxide**
D. Zhao · Y. Ding · S. Chen · H. Xuan · Y. Chen 1197
- Environmental radioactivity measurements in north-western Greece following the Fukushima nuclear accident**
K. Ioannides · K. Stamoulis · C. Papachristodoulou 1207
- Preparation and biological distribution of $^{99\text{m}}\text{Tc}$ -cefazolin complex, a novel agent for detecting sites of infection**
M. El-Tawoosy 1215
- Rapid separation of nickel for ^{59}Ni and ^{63}Ni activity measurement in radioactive waste samples**
C.H. Lee · K.S. Choi · B.C. Song · Y.-K. Ha · K. Song 1221
- $^{99\text{m}}\text{Tc}$ -ceftriaxone, as a targeting radiopharmaceutical for scintigraphic imaging of infectious foci due to *Staphylococcus aureus* in mouse model**
A. Fazli · M. Salouti · M. Mazidi 1227
- Characterization of corrosion products deposited on fuel rods in a boiling water reactor (BWR-6) plant using hydrogen water chemistry (HWC)**
T.-L. Tsai · T.-Y. Lin · T.-Y. Su · T.-J. Wen · L.-C. Men 1235
- Characterization of black volcanites from the Limay river basin, Patagonia, Argentina, using energy dispersive X-ray fluorescence spectrometry: an aid to infer human group mobility**
O.M. Palacios · K. Van Meel · R. Van Grieken · L.-M. Marcó P. · C. Vázquez 1245
- k0-INAA of Venezuelan ceramics and complete statistical analysis to establish their provenance**
F. Pino · A.M. Sajo-Castelli · H. Barros · P. Vermaercke · L. Sneyers · L. Sajo Bohus · Ma.M. Mackowiak de Antczak · A. Antczak 1257
- Production, quality control and pharmacokinetic studies of ^{177}Lu -zoledronate for bone pain palliation therapy**
M. Nikzad · A.R. Jalilian · S. Shirvani-Arani · A. Bahrami-Samani · H. Golchoubian 1273
- $^{140}\text{La}/^{140}\text{Ba}$ ratio dating of a nuclear release**
S. Ihanola · H. Toivonen · M. Moring 1283
- A method for bulk hydrogen analysis based on transmission and back scattering of fast neutrons**
A. El Abd · A.M. Abdel-Monem · A.M. Osman 1293
- Investigation of mass attenuation coefficients of water, concrete and bakelite at different energies using the FLUKA Monte Carlo code**
N. Demir · U.A. Tarim · M.-A. Popovici · Z.N. Demirci · O. Gurler · I. Akkurt 1303
- Separation of bulk Y from $^{89}\text{Y}(n,p)$ produced ^{89}Sr by extraction chromatography using TBP coated XAD-4 resin**
D. Saha · E. Senthil Vadivu · R. Kumar · C.R. Venkata Subramani 1309
- Formation of Tc metal in 12 M HCl using Zn as a reductant**
E. Mausolf · E. Johnstone · F. Poineau · S. Nguyen · S. Jones · T. Hartmann · E. Buck · K. Czerwinski 1315

Radionuclides and heavy metal concentrations as complementary tools for studying the impact of industrialization on the environment

K. Szarlowicz · W. Reczynski · R. Misiak · B. Kubica 1323

Uranium electrodeposition for alpha spectrometric source preparation

O.A. Dumitru · R.Cs. Begy · D.C. Nita · L.D. Bobos · C. Cosma 1335

Probability of cell transformation effect per mSv induced by α -particle radiation

B. Luković · D. Nikezić · Lj. Plećeović 1341

Development of a sparging chamber for field radon analysis

R.N. Peterson · J.A. Breier · L.R. Harmon · J. Brusa · P.R. Hutchins 1347

Determination of air-loop volume and radon partition coefficient for measuring radon in water sample

K.Y. Lee · W.C. Burnett 1359

Rapid fusion method for determination of plutonium isotopes in large rice samples

S.L. Maxwell · B.K. Culligan · J.B. Hutchison 1367

Adsorption of uranium(VI) from aqueous solution by diethylenetriamine-functionalized magnetic chitosan

J. Xu · M. Chen · C. Zhang · Z. Yi 1375

Cross-section measurement of some deuteron induced reactions on ^{160}Gd for possible production of the therapeutic radionuclide ^{161}Tb

F. Tárkányi · A. Hermanne · S. Takács · F. Ditrói · J. Csikai · A.V. Ignatyuk 1385

Detection of uranium with a wireless sensing method by using salophen as receptor and magnetic nanoparticles as signal-amplifying tags

M. Yang · L. Liao · G. Zhang · B. He · X. Xiao · Y. Lin · C. Nie 1393

Development of a method for high LET irradiation of liquid systems

J. Pearson · O. Jan · A. Wariner · G.E. Miller · M. Nilsson 1401

Nondestructive real-time radioisotope imaging system for visualizing ^{14}C -labeled chemicals supplied as CO_2 in plants using *Arabidopsis thaliana*

R. Sugita · N.I. Kobayashi · A. Hirose · Y. Ohmae · K. Tanoi · T.M. Nakanishi 1411

A study of the extraction of plutonium from planchets by Aridus-ICP-SFMS

H. Hernández-Mendoza · A. Yllera 1417

Labeling of scorpion venom with $^{99\text{m}}\text{Tc}$ and its biodistribution

A.M. Amin 1421

Synthesis, characterization, and application of titanate nanotubes for Th(IV) adsorption

J. Liu · M. Luo · Z. Yuan · A. Ping 1427

An approach in exploring the fundamental dosimetric characteristics for a long shelf life irradiated acrylamide-based gel

C.-M. Chiang · B.-T. Hsieh · J.-I. Shieh · K.-Y. Cheng · L.-L. Hsieh 1435

Measurement of isomeric yield ratios for the $^{\text{nat}}\text{Ho}(\gamma, xn)^{164\text{m,g}}\text{Ho}$ reactions in the bremsstrahlung energy region from 45 to 65 MeV

N. Van Do · P.D. Khue · K.T. Thanh · N.T. Hien · G. Kim · M.-W. Lee · M.-H. Cho 1447

Calcium supplements as additional source of trace elements in health and disease Part 1: adequacy and safety of chelated calcium supplements

S. Waheed · S. Rahman · N. Siddique · Y. Faiz 1453

Further articles can be found at www.springerlink.com

Indexed/abstracted in *Analytical Abstracts*; *Chemical Abstracts*; *Chemistry Citation Index*; *Chemistry Database*; *Current Contents/Physical, Chemical and Earth Sciences*; *Excerpta Medica/EMBASE*; *INSPEC Information Services*; *Medical Documentation Service*; *Metals Abstracts/METADEX*; *Meteorological and Geostrophysical Abstracts*; *Reaction Citation Index*; *Referativnyi Zhurnal*, *Science Citation Index*; *Science Citation Index Expanded (SciSearch)*; *SCOPUS*; *The ISI Alerting Services*

Instructions for Authors for *J Radioanal Nucl Chem* are available at www.springer.com/10967