# Identification Data

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**Reference ID:** 20001.0

**Title:** Ligand structure and diluent nature in defining improved Am3+ and Cm3+ separation using diglycolamides: a combined solvent extraction and DFT study

**Authors:** AS Kanekar; A Bhattacharyya; RK Mohapatra

**Year:** 2024

**Journal:** Dalton Transactions

**DOI:** DOI: 10.1039/D3DT03261B  
**URL**: https://xlink.rsc.org/?DOI=D3DT03261B

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**Reference ID:** 20002.0

**Title:** Radiometric evaluation of diglycolamide resins for the chromatographic separation of actinium from fission product lanthanides

**Authors:** V Radchenko; T Mastren; CAL Meyer; AS Ivanov; VS Bryantsev; R Copping; D Denton; JW Engle; JR Griswold; K Murphy; JJ Wilson; A Owens; L Wyant; ER Birnbaum; J Fitzsimmons; D Medvedev; CS Cutler; LF Mausner; MF Nortier; KD John; S Mirzadeh; ME Fassbender

**Year:** 2017

**Journal:** Tantla

**DOI:** DOI: 10.1016/j.talanta.2017.07.057  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S0039914017307798

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**Reference ID:** 20003.0

**Title:** Metal–carbon bonding in early lanthanide substituted cyclopentadienyl complexes probed by pulsed EPR spectroscopy

**Authors:** LE Nodaraki; J Liu; A-M Ariciu; F Ortu; MS Oakley; L Birnoschi; GK Gransbury; PJ Cobb; J Emerson-King; NF Chilton; DP Mills; EJL McInnes; F Tuna

**Year:** 2024

**Journal:** Chemical Science

**DOI:** DOI: 10.1039/D3SC06175B  
**URL**: https://xlink.rsc.org/?DOI=D3SC06175B

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**Reference ID:** 20004.0

**Title:** Solvent extraction of intra-lanthanides using mixture of TBP and TODGA in ionic liquid

**Authors:** AN Turanov; VK Karandashev; M Boltoeva

**Year:** 2024

**Journal:** Hydrometallurgy

**DOI:** DOI: 10.1016/j.hydromet.2020.105367  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S0304386X19308473

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**Reference ID:** 20005.0

**Title:** THE ACTINIDE-LANTHANIDE SEPARATION CONCEPT

**Authors:** GJ Lumetta; AV Gelis; JC Carter; CM Nicer; MR Smoot

**Year:** 2014

**Journal:** Solvent Extraction and Ion  
Exchange

**DOI:** DOI: 10.1080/07366299.2014.895638  
**URL**: http://www.tandfonline.com/doi/abs/10.1080/07366299.2014.895638

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**Reference ID:** 20006.0

**Title:** TODGA-DOHyA: Physicochemical Insights into a Stable Solvent System for Nuclear Reprocessing

**Authors:** P Narayanan; S Mishra; K Rama Swami; T Prathibha; D Narasimhan; RL Gardas; KA Venkatesan

**Year:** 2024

**Journal:** Journal of Chemical & Engineering Data

**DOI:** DOI: 10.1021/acs.jced.3c00359  
**URL**: https://pubs.acs.org/doi/10.1021/acs.jced.3c00359

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**Reference ID:** 20007.0

**Title:** Influence of Aqueous Phase Acidity on Ln(III) Coordination by N,N,N′,N′‑Tetraoctyldiglycolamide

**Authors:** AA Peroutka; X Wang; MJ Servis; JC Shafer

**Year:** 2024

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.4c01006  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.4c01006

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**Reference ID:** 20008.0

**Title:** NEW INSIGHT INTO THE AMERICIUM/CURIUM SEPARATION BY SOLVENT EXTRACTION USING DIGLYCOLAMIDES

**Authors:** S Chapron; C Marie; G Arrachart; M Miguirditchian; S Pellet-Rostaing

**Year:** 2015

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2014.1000792  
**URL**: http://www.tandfonline.com/doi/full/10.1080/07366299.2014.1000792

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**Reference ID:** 20009.0

**Title:** Coordination Chemistry with f‑Element Complexes for an Improved Understanding of Factors That Contribute to Extraction Selectivity

**Authors:** AEV Gorden; MA DeVore II; BA Maynard

**Year:** 2012

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/ic300887p  
**URL**: https://pubs.acs.org/doi/10.1021/ic300887p

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**Reference ID:** 20010.0

**Title:** Theoretical Study of Am(III) and Eu(III) Separation by a Bipyridyl Phosphate Ligand

**Authors:** X Zhang; L Ye; W Chen; X Zhang; W Chen; M Chen; P Huang

**Year:** 2024

**Journal:** ACS Omega

**DOI:** DOI: 10.1021/acsomega.3c09940  
**URL**: https://pubs.acs.org/doi/10.1021/acsomega.3c09940

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**Reference ID:** 20011.0

**Title:** Remarkable Improvement in Am 3+ and Cm 3+ Separation Using a Cooperative Counter Selectivity Strategy by a Combination of Branched Diglycolamides and Hydrophilic Polyaza-heterocycles

**Authors:** RB Gujar; AS Kanekar; A Bhattacharyya; NS Karthikeyan; C Ravichandran; SR Toleti; RJM Egbernik; J Juskens; W Verboom; PK Mohapatra

**Year:** 2024

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.4c01081  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.4c01081

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**Reference ID:** 20012.0

**Title:** UV-Vis-NIR absorption spectra of lanthanide oxides and fluorides

**Authors:** M Runowski; N Stopikowska; S Lis

**Year:** 2020

**Journal:** Dalton Transactions

**DOI:** DOI: 10.1039/C9DT04921E  
**URL**: https://xlink.rsc.org/?DOI=C9DT04921E

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**Reference ID:** 20014.0

**Title:** Thermodynamics of the solvent extraction of thorium and europium nitrates by neutral phosphorylated ligands

**Authors:** MR Yaftian; R Taheri; AA Zamani; D Matt

**Year:** 2004

**Journal:** Journal of Radioanalytical and Nuclear Chemistry

**DOI:** DOI: 10.1023/B:JRNC.0000046777.74156.6f  
**URL**: http://link.springer.com/10.1023/B:JRNC.0000046777.74156.6f

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**Reference ID:** 20015.0

**Title:** Extraction of actinides using N, N, N′,N′-tetraoctyl diglycolamide (TODGA): a thermodynamic study

**Authors:** SA Ansari; PN Pathak; M Husain; AK Prasad; VS Parmar; VK Manchanda

**Year:** 2004

**Journal:** Radiochemica Acta

**DOI:** DOI: 10.1524/ract.2006.94.6.307  
**URL**: https://www.degruyter.com/document/doi/10.1524/ract.2006.94.6.307/html

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**Reference ID:** 20016.0

**Title:** Nitric Acid Extraction into a TODGA Solvent Modified with 1-Octanol

**Authors:** D Woodhead; F McLachlan; R Taylor; U Mullich; A Geist; A Wilden; G Modolo

**Year:** 2019

**Journal:** Solvent Extraction and Ion  
Exchange

**DOI:** DOI: 10.1080/07366299.2019.1625201  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2019.1625201

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**Reference ID:** 20017.0

**Title:** A highly efficient solvent system containing TODGA in room temperature ionic liquids for actinide extraction

**Authors:** S Panja; PK Mohapatra; SC Tripathi; PM Gandhi; P Janardan

**Year:** 2012

**Journal:** Separation and Purification Technology

**DOI:** DOI: 10.1016/j.seppur.2012.06.015  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S1383586612003346

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**Reference ID:** 20018.0

**Title:** Bis-(1,2,4-triazin-3-yl) ligand structure driven selectivity reversal between Am3+ and Cm3+: solvent extraction and DFT studies

**Authors:** A Bhattacharyya; SA Ansari; NS Karthikeyan; C Ravichandran; B Venkatachalapathy; TS Rao; H Seshadri; PK Mohapatra

**Year:** 2021

**Journal:** Dalton Transactions

**DOI:** DOI: 10.1039/d1dt00307k  
**URL**: https://pubs.rsc.org/en/content/articlehtml/2021/dt/d1dt00307k

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**Reference ID:** 20019.0

**Title:** Solvent Extraction of Palladium(II) from Aqueous Chloride Medium by Triphenylphosphine, Triphenylphosphine Oxide or Triphenylphosphine Sulphide in Benzene

**Authors:** NE El-Hefny; JA Daoud

**Year:** 2013

**Journal:** Journal of Physical Science

**DOI:** DOI:   
**URL**: http://web.usm.my/jps/24-2-13/24-2-3.pdf

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**Reference ID:** 20020.0

**Title:** Selective Separation of Americium(III), Curium(III), and Lanthanide(III) by Aqueous and Organic Competitive Extraction

**Authors:** Q Wu ; H Hao; Y Liu ; LT Sha ; WJ Wang; WQ Shi; Z Wang; ZY Yan

**Year:** 2024

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.3c03331  
**URL**: https://pubs.acs.org/doi/full/10.1021/acs.inorgchem.3c03331

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**Reference ID:** 20021.0

**Title:** Ultra-Efficient Americium/Lanthanide Separation through Oxidation State Control

**Authors:** Z Wang; J-B Lu; X Dong; Q Yan; X Feng; H-S Hu; S Wang; J Chen; J Li; C Xu

**Year:** 2022

**Journal:** Journal of the American Chemical Society

**DOI:** DOI: 10.1021/jacs.2c00594  
**URL**: https://pubs.acs.org/doi/10.1021/jacs.2c00594

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**Reference ID:** 20022.0

**Title:** Selective Extraction of Uranium(VI) from Thorium(IV) Using New Unsymmetrical Acidic Phenanthroline Carboxamide Ligands

**Authors:** S Wang; X Yang; L Xu; Y Miao; X Yang; C Xiao

**Year:** 2023

**Journal:** Industrial & Engineering Chemistry Research

**DOI:** DOI: 10.1021/acs.iecr.3c02101  
**URL**: https://pubs.acs.org/doi/10.1021/acs.iecr.3c02101

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**Reference ID:** 20023.0

**Title:** Selective Separation of Am(III)/Eu(III) by the QL-DAPhen Ligand under High Acidity: Extraction, Spectroscopy, and Theoretical Calculations

**Authors:** S Wang; C Wang; X-F Yang; J-P Yu; W-Q Tao; S-L Yang; P Ren; L-Y Yuan; Z-F Chai; W-Q Shi

**Year:** 2021

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.1c02916  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.1c02916

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**Reference ID:** 20024.0

**Title:** A Simple yet Efficient Hydrophilic Phenanthroline-Based Ligand for Selective Am(III) Separation under High Acidity

**Authors:** D Tian; Y Liu; Y Kang; Y Zhao; P Li; C Xu; L Wang

**Year:** 2023

**Journal:** ACS Central Science

**DOI:** DOI: 10.1021/acscentsci.3c00504  
**URL**: https://pubs.acs.org/doi/10.1021/acscentsci.3c00504

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**Reference ID:** 20025.0

**Title:** Selective Complexation and Separation of Uranium(VI) from Thorium(IV) with New Tetradentate N,O-Hybrid Diamide Ligands: Synthesis, Extraction, Spectroscopy, and Crystallographic Studies

**Authors:** Y Wang; Y Yang; Y Wu; J Li; B Hu; Y Cai; L Yuan; W Feng

**Year:** 2023

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.2c04384  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.2c04384

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**Reference ID:** 20026.0

**Title:** Influence of uranyl complexation on the reaction kinetics of the dodecane radical cation with used nuclear fuel extraction ligands (TBP, DEHBA, and DEHiBA)

**Authors:** CC Barros; CD Pilgrim; AR Cook; SP Mezyk; TS Grimes; GP Horne

**Year:** 2021

**Journal:** Physical Chemistry Chemical Physics

**DOI:** DOI: 10.1039/D1CP03797H  
**URL**: https://xlink.rsc.org/?DOI=D1CP03797H

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**Reference ID:** 20027.0

**Title:** Extraction Behavior of Ln(III) Ions by T2EHDGA/nDodecane from Nitric Acid and Sodium Nitrate Solutions

**Authors:** E Campbell; VE Holfeltz; GB Hall; KL Nash; GJ Lumetta; TG Levitskaia

**Year:** 2018

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2018.1447261  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2018.1447261

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**Reference ID:** 20028.0

**Title:** The Effect of Organic Diluent on the Extraction of Eu(III) by HEH[EHP]

**Authors:** T Lecrivain; A Kimberlin; DE Dodd; S Miller; I Hobbs; E Campbell; F Heller; J Lapka; M Huber; KL Nash

**Year:** 2019

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2019.1639371  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2019.1639371

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**Reference ID:** 20029.0

**Title:** Synthesis and characterization of new unsymmetrical diglycolamide extractants for  lanthanide ion partitioning: part one—straight‑chain alkyl derivatives

**Authors:** BG Tokheim; SS Kelly; RC Ronald; KL Nash

**Year:** 2020

**Journal:** Journal of Radioanalytical and Nuclear Chemistry

**DOI:** DOI: 10.1007/s10967-020-07368-2  
**URL**: https://link.springer.com/10.1007/s10967-020-07368-2

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**Reference ID:** 20030.0

**Title:** Nitric Acid and Water Extraction by T2EHDGA in n-Dodecane

**Authors:** EL Campbell; VE Holfeltz; GB Hall; KL Nash; GJ Lumetta; TG Levitskaia

**Year:** 2017

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2017.1400161  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2017.1400161

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**Reference ID:** 20031.0

**Title:** Characterization of Lanthanide Complexes with Bis-1,2,3-triazolebipyridine Ligands Involved in Actinide/Lanthanide Separation

**Authors:** JM Muller; SS Galley; TW Albrecht-Schmitt; KL Nash

**Year:** 2016

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.6b02005  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.6b02005

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**Reference ID:** 20032.0

**Title:** Isolation and Purification of Actinides Using N,O-Hybrid Donor Ligands for Closing the Nuclear Fuel Cycle

**Authors:** M Alyapyshev; V Babain; D Kirsanov

**Year:** 2022

**Journal:** Energies

**DOI:** DOI: 10.3390/en15197380  
**URL**: https://www.mdpi.com/1996-1073/15/19/7380

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**Reference ID:** 20033.0

**Title:** Development of Highly Selective Ligands for Separations of Actinides from Lanthanides in the Nuclear Fuel Cycle

**Authors:** FW Leis; MJ Hudson; LM Harwood

**Year:** 2011

**Journal:** Synlett

**DOI:** DOI: 10.1055/s-0030-1289557  
**URL**: http://www.thieme-connect.de/DOI/DOI?10.1055/s-0030-1289557

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**Reference ID:** 20034.0

**Title:** Ligands for f-element extraction used in the nuclear fuel cycle

**Authors:** A Leoncini; J Huskens; W Verboom

**Year:** 2017

**Journal:** Che. Soc. Rev.

**DOI:** DOI: 10.1039/C7CS00574A  
**URL**: https://xlink.rsc.org/?DOI=C7CS00574A

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**Reference ID:** 20035.0

**Title:** A novel highly selective ligand for separation of actinides and lanthanides in the nuclear fuel cycle. Experimental verification of the theoretical prediction

**Authors:** HV Lavrov; NA Ustynyuk; PI Matveev; IP Gloriozov; SS Zhokhov

**Year:** 2017

**Journal:** Dalton Trans.

**DOI:** DOI: 10.1039/C7DT01009E  
**URL**: https://xlink.rsc.org/?DOI=C7DT01009E

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**Reference ID:** 20036.0

**Title:** Characterizing Diamylamylphosphonate (DAAP) as an Americium Ligand for Nuclear Fuel-Cycle Applications

**Authors:** BJ Mincher; NC Schmitt; RD Tollotson; G Elias; BM White; JD Law

**Year:** 2014

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2013.850288  
https://doi.org/10.1080/07366299.2013.850288

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**Reference ID:** 20037.0

**Title:** Insights into the Complexation Mechanism of a Promising Lipophilic PyTriLigand for Actinide Partitioning from Spent Nuclear Fuel

**Authors:** F Galluccio; E Macerta; P Webling; C Adam; E Mossini; W Panzeri; M Mariani; A Mele; A Geist; PJ Panak

**Year:** 2022

**Journal:** Inorganic Chemistry

**DOI:** DOI: 10.1021/acs.inorgchem.2c02332  
**URL**: https://pubs.acs.org/doi/10.1021/acs.inorgchem.2c02332

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**Reference ID:** 20038.0

**Title:** Hydrophilic Clicked 2,6-Bis-triazolyl-pyridines Endowed with High Actinide Selectivity and Radiochemical Stability: Toward a Closed Nuclear Fuel Cycle

**Authors:** E Macerta; E Mossini; S Scaravaggi; M Mariani; A Mele; W Panzeri; N Boubals; L Berthon; M-C Charbonnel; F Sansone; A Arduini; A Casnati

**Year:** 2016

**Journal:** J. Am. Chem. Soc.

**DOI:** DOI: 10.1021/jacs.6b03106  
**URL**: https://pubs.acs.org/doi/10.1021/jacs.6b03106

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**Reference ID:** 20039.0

**Title:** Amides and diamides as promising extractants in the back end of the nuclear fuel cycle: an overview

**Authors:** VK Manchanda; PN Pathak

**Year:** 2004

**Journal:** Separation and Purification Technology

**DOI:** DOI: 10.1016/j.seppur.2003.09.005  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S1383586603002569

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**Reference ID:** 20040.0

**Title:** Organophosphorus Extractants: A Critical Choice for Actinides/Lanthanides Separation in Nuclear Fuel Cycle

**Authors:** X Yang; L Xu; A Zhang; C Xiao

**Year:** 2023

**Journal:** Chemistry A European J

**DOI:** DOI: 10.1002/chem.202300456  
**URL**: https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/chem.202300456

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**Reference ID:** 20041.0

**Title:** Understanding the separation of trivalent lanthanides and actinides using multiple diglycolamide-containing ligands: a review

**Authors:** A Bhattacharyya; PK Mohapatra; W Verboom

**Year:** 2024

**Journal:** Radiochimica Acta

**DOI:** DOI: 10.1515/ract-2023-0264  
**URL**: https://www.degruyter.com/document/doi/10.1515/ract-2023-0264/html

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**Reference ID:** 20042.0

**Title:** Chemistry of Diglycolamides: Promising Extractants for Actinide Partitioning

**Authors:** SA Ansari; P Pathak; PK Mohapatra; VK Manchanda

**Year:** 2012

**Journal:** Chem. Rev.

**DOI:** DOI: 10.1021/cr200002f  
**URL**: https://pubs.acs.org/doi/10.1021/cr200002f

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**Reference ID:** 20043.0

**Title:** Applications of Diglycolamide Based Solvent Extraction Processes in Spent Nuclear Fuel Reprocessing, Part 1: TODGA

**Authors:** D Wittaker; A Geist; G Modolo; R Taylor; M Satsfield; A Wilden

**Year:** 2018

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2018.1464269  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2018.1464269

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**Reference ID:** 20044.0

**Title:** Solvent extraction systems for mutual separation of Am(III) and Cm(III) from nitric acid solutions. A review of recent state-of-the-art

**Authors:** P Matveev; PK Mohapatra; SN Kalmykov; V Petrov

**Year:** 2021

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2020.1856998  
**URL**: https://www.tandfonline.com/doi/full/10.1080/07366299.2020.1856998

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**Reference ID:** 20045.0

**Title:** Elucidating the speciation of extracted lanthanides by diglycolamides

**Authors:** AA Peroutka; SS Galley; J Shafer

**Year:** 2023

**Journal:** Coordination Chemistry Reviews

**DOI:** DOI: 10.1016/j.ccr.2023.215071  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S0010854523000607

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**Reference ID:** 20046.0

**Title:** A COMPARATIVE STUDY OF DONOR PROPERTIES OF SULPHOXIDES AND PHOSPHINE OXIDES IN SOLVENT EXTRACTION

**Authors:** R Shanker; KS Venkateswarlu

**Year:** 1970

**Journal:** J. inorg,nucl.Chem

**DOI:** DOI: https://doi.org/10.1016/0022-1902(70)80466-3  
**URL**: https://www.sciencedirect.com/science/article/pii/0022190270804663

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**Reference ID:** 20047.0

**Title:** Complexation thermodynamics of diglycolamide with f-elements: solvent extraction and density functional theory analysis

**Authors:** SM Ali; S Pahan; A Bhattacharyya; PK Mohapatra

**Year:** 2016

**Journal:** Physical Chemistry Chemical Physics

**DOI:** DOI: 10.1039/C6CP00825A  
**URL**: https://xlink.rsc.org/?DOI=C6CP00825A

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**Reference ID:** 20048.0

**Title:** An europium(III) diglycolamide complex: insights into the coordination chemistry of lanthanides in solvent extraction

**Authors:** MR Antonio; DR McAlister; EP Horwitz

**Year:** 2015

**Journal:** Dalton Trans.

**DOI:** DOI: 10.1039/C4DT01775G  
**URL**: https://xlink.rsc.org/?DOI=C4DT01775G

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**Reference ID:** 20049.0

**Title:** Selective Extraction of Am(III) from PUREX Raffinate: The AmSel System

**Authors:** C Wagner; U Müllich; A Geist; PJ Panak

**Year:** 2016

**Journal:** Solvent Extraction and Ion Exchange

**DOI:** DOI: 10.1080/07366299.2015.1129192  
**URL**: http://www.tandfonline.com/doi/full/10.1080/07366299.2015.1129192

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**Reference ID:** 20050.0

**Title:** Solvent extraction, separation and recovery of dysprosium (Dy) and neodymium (Nd) from aqueous solutions: Waste recycling strategies for permanent magnet processing

**Authors:** H-S Yoon; C-J Kim; K-W Chung; S-D Kim; J-Y Lee; JR Kumar

**Year:** 2016

**Journal:** Hydrometallurgy

**DOI:** DOI: 10.1016/j.hydromet.2016.01.028  
**URL**: https://linkinghub.elsevier.com/retrieve/pii/S0304386X16300287

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