

CONTENTS

Preface	v
Welcome address, Nils Gralén	xiii
An attempt to concentrate speeches by extraction, L.-G. Sillén	xv
Summary of the Conference, D. Peppard	xvii
Section 1. <i>Complexing in aqueous solutions by solvent extraction</i>	
The use of solvent extraction of metal chelates for the investigation of complexation in aqueous solutions, J. Starý	1
Solvent extraction of hydroxo- and acido-complexes in the presence of a chelating agent. The phosphato- and the trichloroacetato-complexes of pentavalent protactinium, R. Guillaumont, R. Muxart, G. Bouissieres	11
Further studies on complex formation between Pa(V) and acetylacetone, J. O. Liljenzin, J. Rydberg	18
On the stability of chelate-complexes of polonium(IV), H. Koch, W. D. Falkenberg	26
Solvent extraction study of the hydrolysis of tellurium(IV) at very low concentration in acid perchlorate media, T. Sekine	32
The first hydrolysis constant of the scandium(III) ion measured by a solvent extraction technique, G. K. Schweitzer, D. C. Winkley	39
The effect of changes in the ionic medium on the stability constant of $\text{Eu}(\text{NO}_3)_2^{2+}$, G. R. Choppin, D. A. Kelly, E. H. Ward	46
The separation of the rare earths by solvent extraction and reversed-phase chromatography from complexed aqueous solutions, G. Werner	54
Solvent extraction of zinc sulphate complexes in aqueous solution, D. S. Flett	60
Investigation of the complex formation in nickel and iron with some α -dioximes by solvent extraction, V. Peshkova, V. Savostina, E. Astakhova-Ivanova	66
Determination of stability constants of chloride complexes of tri-valent thallium by solvent extraction, R. M. Walters, R. W. Dodson	71
Some NMR observations on three phase systems containing HMC1_4 , Z. B. Maksimovic	79
Application of solvent extraction techniques to the study of fast reaction techniques, H. Freiser	85

Section 2. *Chelate extraction and adduct formation*

Synergism in the solvent extraction of metal chelates, H. M. N. H. Irving	91
Synergism and destruction of synergism with several β -diketones and neutral adducts, S. M. Wang, D. Y. Park, N. C. Li	111
Synergism in the solvent extraction of alkali metal species, T. V. Healy	119
Mixed β -diketones, L. Newman, P. Klotz	128
The solvent extraction of hafnium(IV) and zirconium(IV) by <i>N</i> -benzoyl- <i>N</i> -phenylhydroxylamine and 2-thenoyltrifluoroacetone from strongly acidic solutions, J. Hála	135
Extraction of niobium, V. Pfeifer, H. Bildstein	142
Solvent extraction of palladium with resacetophenone oxime (RAPOX), K. S. Bhatki, A. T. Rane	147
Extraction of some metal caprates, M. Tanaka, N. Nakasuka, S. Goto	154
The solvent extraction of metal ions from aqueous solutions by carboxylic acids, M. J. Jaycock, A. D. Jones	160
Solvent extraction of anionic and cationic chelates, Yu. A. Zolotov, V. V. Bagreev, O. M. Petrukhin	168
Extraction of metal cations with chlorophosphonazo dal, B. Buděšínský, K. Haas	173

Section 3. *Neutral and acid phosphoryl compounds as extractants*

TBP - Meeting-point of science and technology, H. A. C. McKay	185
Problems in the physical chemistry of solvent extraction, A. M. Rozen	195
Extraction of uranium from uranyl sulphate and uranyl chloride solutions with tri- and dicaprylphosphates, E. Szabó, A. Balázs, L. Bakos	236
The extraction of elements of the gallium and arsenic subgroups with alkylphosphoric acids. The mechanism of extraction, I. S. Levin, I. A. Vorsina, A. A. Shatalova, N. A. Balakireva, T. F. Rodina, T. G. Azarenko, E. E. Zaev	243
The effect of diluent on the solvent extraction of Tb(III) and Eu(III) by di- <i>n</i> -octylphosphoric acid, Z. Kolařík	250
Extraction of Hf(IV) by some dialkyl phosphoric acids from perchlorate medium, O. Navratil	256
Complex formation between neutral organophosphorus compounds and di-alkylphosphoric acids and its effect in metal extraction, Djiet Hay Liem	264
Solvent extraction properties of methylenebis(dialkylphosphine oxides), J. W. O'Laughlin, C. V. Banks	270
Some novel phosphoryl compounds as extractants for zirconium, niobium and tantalum, H. Meider-Goričan	278
Activities of tributyl phosphate in tributyl phosphate-uranyl nitrate-water solutions, W. Davis Jr., J. Mrochek	283

Gas chromatographic studies in the extraction systems: TBP-diluent-nitric acid-water-nitrates of actinides and rare earths, A. Apelblat, A. Hornik	296
Dimerization of tri-n-butyl phosphate, Dj. M. Petković	305
Spectroscopic investigation of U(IV) and U(VI) extraction from hydrochloric acid solutions by neutral phosphororganic compounds, V. M. Vdovenko, A. A. Lipovsky	309
Phase equilibria in binary and ternary systems, A. V. Nikolayev, I. I. Yakovlev, Yu. A. Dyadin	313
Third phase formation between some actinide nitrates and 20% tri-n-butyl phosphate/odourless kerosene, A. L. Mills, W. R. Logan	322
Extraction of the platinum metals with tri-n-butyl phosphate, A. T. Casey, E. Davies, T. L. Meek, E. S. Wagner	327
The use of tartrates for the separation of uranium(VI) and plutonium(IV) by extraction with TBP, J. Ortega, L. Ramos Salvador, B. Lopez Perez	335
Solvent extraction studies of palladium with tri-n-butyl phosphate, A. K. De, A. K. Sen	343
 <i>Section 4. Alkyl ammonium salts and other ion-pairs as extractants</i>	
Amine extraction systems, R. M. Diamond	349
Mass action and non-ideality in extraction by amine sulfate, C. F. Coleman, J. W. Roddy	362
The extraction of sulfuric acid into benzene by tri-n-octylamine, A. S. Wilson	369
Extraction of nitric acid and water by trilaurylammonium nitrate solutions, D. Gourisse	373
Aggregation of long-chain amine salts studied by two-phase EMF titrations. Some results for the extraction of acetic acid by tri-laurylamine dissolved in heptane and o-xylene, E. Högfeldt, F. Fredlund	383
Association of long-chain tertiary amine salts in hydrocarbons. Osmometric measurements, G. Markovits, A. S. Kertes	390
Some thermodynamic quantities for the distribution of anions between benzene solutions of alkylammonium salts and aqueous electrolyte solutions, G. Scibona, J. F. Byrum, K. Kimura, J. W. Irvine Jr.	398
Observations on the aggregation of the tertiary alkylammonium salts, F. Orlandini, P. R. Danesi, S. Basol, G. Scibona	408
Extraction of HCl by di-isononylamine dissolved in chloroform, B. Warnqvist	416
Extraction of hydrobromic acid by trilaurylamine dissolved in o-xylene, M. A. Lodhi, E. Högfeldt	421
Base strengths of amines in liquid-liquid extraction systems, R. R. Grinstead	426
Extraction of the platinum metals by alkyl ammonium salts. Anion exchange extraction, L. M. Gindin, S. N. Ivanova, A. A. Mazurova, A. A. Vasilyeva, L. Ya. Mironova, A. P. Sokolov, P. P. Smirnov	433

Extraction of ferric thiocyanate complexes with trinonylamine, A. R. Burkin, N. M. Rice, M. J. Rogers	439
Solvation of extracted complex metal acids - II, C. V. Kopp, R. L. McDonald	447
Extraction of iron(III) by trilaurylammoniumchloride, L. Kuča, E. Högfeldt, L. G. Sillén	454
The determination of the stability constants of the chloro complexes of zinc(II) by extraction with tri-n-laurylammoniumchloride, P. J. D. Lloyd	458
Extraction of zinc chloride by trilaurylammonium chloride and tri- laurylamine in xylene, D. Dyrssen, M. De Jesus Tavares	465
Some important analytical relations concerning BiI_3 and I^- , D. Dyrss- sen, A.-C. Yen	470
Extraction of certain anionic metal chelates by long-chain alkyl am- monium compounds, T. Sato, M. L. Good	477
Quaternary ammonium nitrates as extractants for trivalent acti- nides, J. Van Ooyen	485
Relations between distribution ratios and molecular structure of niobium and tantalum extracting species with some novel extrac- tants, C. Djordjević	493
 Section 5. <i>Structural effects and interfacial phenomena</i>	
Some effects of structure in extractant molecules, T. H. Siddall, III	501
Organic oxides as extractants for metal anions, F. Krašovec, C. Klofutar	509
The application of the theory of regular solutions of Hildebrand and Scott to distribution data, B. Skytte-Jensen	517
Secondary droplet formation during drop coalescence, A. H. Brown, C. Hanson	522
Studies of interfacial diffusion in two-phase liquid systems, D. S. Brown, D. G. Tuck	532
Interface and transferring species in amine extraction of uranium, W. J. McDowell, C. F. Coleman	540
Interfacial phenomena and exchange kinetics in solvent extraction with a quaternary ammonium salt, G. Scibona, P. R. Danesi, F. Orlandini, B. Scuppa, M. Magini	547
 Section 6. <i>Molten phases, miscellaneous systems and techniques</i>	
Solvent extraction from molten salts, Y. Marcus	555
Mixed Zn(II) halide complexes in molten salt and aromatic solvent, M. Zangen	581
Coextraction of water and sodium polyiodides into nitrobenzene, L. M. Slater, M. Kukk	588
The study of the extraction exchange $\text{Cs}^+(\text{aq}) + \text{H}^+(\text{org}) \rightleftharpoons \text{Cs}^+(\text{org})$ + $\text{H}^+(\text{aq})$ between an aqueous phase and nitrobenzene, J. Rais, M. Kyrš	595

Systematic analysis by solvent extraction, part III, R. A. Chalmers, G. Svehla	600
Solvent extraction chemistry and construction of selective membranes, R. Bloch, O. Kedem, D. Vofsi	605
A rapid method for obtaining accurate partition data, H. Reinhardt, J. Rydberg	612
Characterization of extractive separation processes by means of an integral separation factor, G. Günzler, C. Fischer, P. Mühl	620
Extractive purification of molybdenum(VI) in hydrochloric acid solution. II. Removal of iron(III), P. Mühl, C. Fischer, G. Günzler	625
Use of solvent extraction for substoichiometric determinations of traces of metals, J. Ružička, J. Starý, A. Zeman	630
Section 7. <i>Industrial application of solvent extraction</i>	
Foreword, B. F. Warner	635
General discussion	635
Subject index	663