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Index Abstracts

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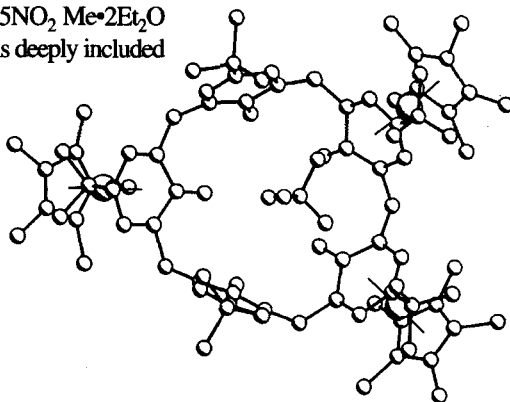
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Index Abstracts

Attachment of three "Cp* Ir²⁺" moieties to the outer surface of *p-t*-Butylcalix[5]arene results in the formation of the complex $[(\eta^5\text{-C}_5\text{Me}_5)_3\text{Ir}(\text{p-t-butylcalix[5]arene-H})][\text{BF}_4]_3 \cdot 0.5\text{NO}_2 \cdot \text{Me} \cdot 2\text{Et}_2\text{O}$ in which a tetrafluoroborate anion is deeply included within the calixarene cavity.

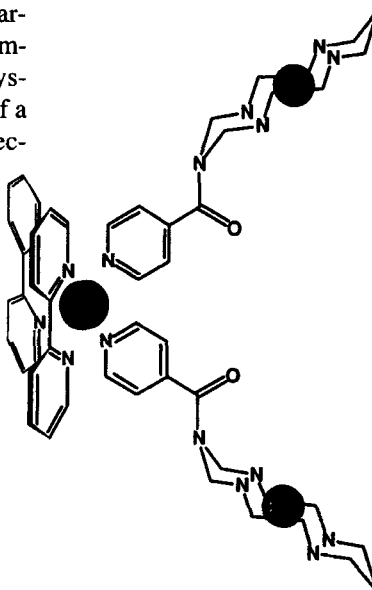


Jonathan W. Steed, Carl P. Johnson,
Ravindra K. Juneja, Jerry L. Atwood
and Robert S. Burkharter

Anion inclusion within the cavity of
 π -metalated *p-t*-butylcalix[5]arene

235-238

Whenever the supramolecular design requires a component providing a fast and reversible redox change, the use of a metallocyclam fragment as a subunit is recommended. In particular, metallocyclam subunits have been employed to build-up multi-electron redox systems and to switch on/off the fluorescence of a linked anthracene fragment, through an electron transfer mechanism

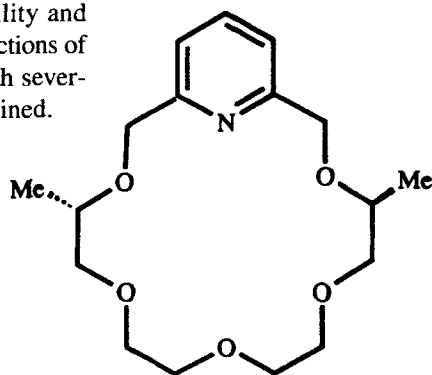


Giancarlo De Santis, Luigi Fabbrizzi,
Maurizio Licchelli, Carlo Mangano,
Piersandro Pallavicini, Antonio
Poggi, Donatella Sacchi and Angelo
Taglietti

Supramolecular assemblies contain-
ing metallocyclam subunits

239-250

Factors responsible for complex stability and enantiomeric recognition for the interactions of (S,S)-dimethylpyridino-18-crown-6 with several organic ammonium salts were examined.



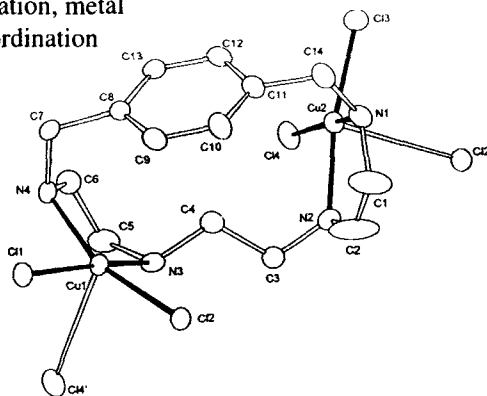
(S,S)-Me₂P18C6

Tingmin Wang, Jerald S. Bradshaw, Peter Huszthy and Reed M. Izatt

Various aspects of enantiomeric recognition of (S,S)-dimethylpyridino-18-crown-6 by several organic ammonium salts

251-255

p-Azacyclophanes are reviewed, especially with regard to synthesis, protonation, metal ion complexation and anion coordination

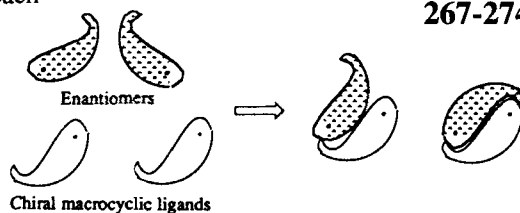


Enrique Garcia-Espana and Santiago V. Luis

Properties of metal centers in low-symmetry complexes of p-azacyclophanes

257-266

Three chiral diketopyridino-18-crown-6 type macrocycles have been shown to exhibit a high degree of enantiomeric recognition toward α -(1-naphthyl)ethylammonium perchlorate in various ratios of chloroform/methanol and 1,2-dichloroethane/methanol solvent mixtures (from 100% to 10% methanol component). The degree of the enantiomeric recognition changes noticeably with the methanol component of each binary solvent mixture.



Xian Xin Zhang, Reed M. Izatt, Cheng Y. Zhu and Jerald S. Bradshaw

Thermodynamic and NMR studies of solvent effect on enantiomeric recognition for chiral organic ammonium guests by chiral diketopyridino-18-crown-6 type ligands at 25.0°C

267-274

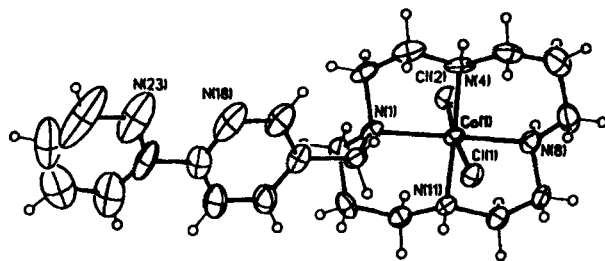
This article reviews the possibilities to use macrocyclic and open chain tertiary-poly-amine ligands as thermodynamic and kinetic stabilisers of low valent and as kinetic stabilisers of high valent transition metal complexes.

Gilad Golub, Israel Zilbermann, Haim Cohen and Dan Meyerstein

Tertiary-poly-amine ligands as stabilisers of transition metal complexes with uncommon oxidation states

275-279

A series of azamacrocycles which have been N-Functionalised with pendent pyridylmethyl-, bipyridylmethyl-, and terpyridylmethyl-arms have been synthesised and characterised, and some of their coordination chemistry is reported.

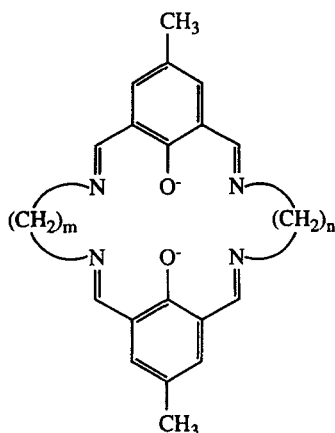


Nathaniel W. Alcock, Adam J. Clarke, William Errington, Ana Maria Josceanu, Peter Moore, Simon C. Rawle, Philippa Sheldon, Stephen M. Smith and Mary L. Turonek

Pyridyl-, bipyridyl-, and terpyridyl- functionalised azamacrocycles

281-291

Dinuclear $\text{Ni}_2(\text{II},\text{II})$ complexes with the formula $[\text{Ni}_2(\text{R}^{m,n})](\text{ClO}_4)_2$, where $(\text{R}^{m,n})^{2-}$ denotes the macrocycles containing two 2,6-bis(iminomethyl)-4-methylphenolate entities combined through two lateral chains, $-(\text{CH}_2)_m-$ and $-(\text{CH}_2)_n-$, at the imino nitrogens.

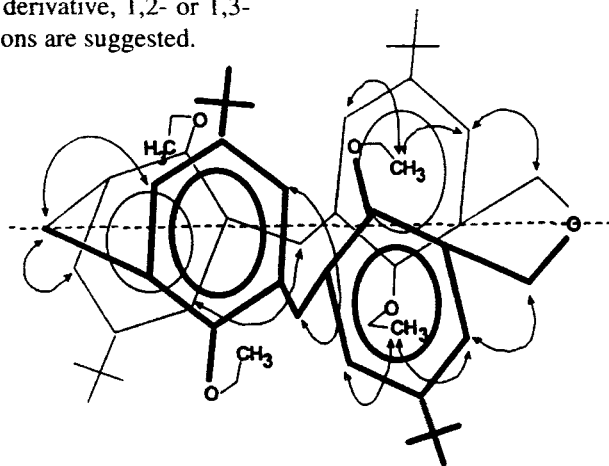


Hisashi Okawa, Yuichiro Aratake, Ken-ichiro Motoda, Masaaki Ohba, Hiroshi Sakiyama and Naohide Matsumoto

Dinuclear nickel complexes of phenol-based dinucleating macrocycles: Synthesis, structure, and properties

293-302

The tetramethyl and tetraethyl ethers, and the tetraacetate derivatives of *p*-*tert*-butyldihomooxalix[4]arene are reported. For the tetraacetate derivative, 1,2- or 1,3-alternate conformations are suggested.



Paula M. Marcos, Jose R. Ascenso, Roger Lamartine and J. L. C. Pereira

Synthesis and NMR conformational studies of *p*-*tert*-butyldihomooxalix[4]arene derivatives

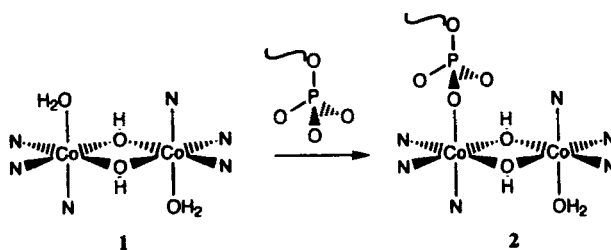
303-306

Two cobalt(III) complexes with tridentate ligands, the acyclic diethylenetriamine and macrocyclic 1,4,7-triazacyclononane, were examined as potential catalysts for the hydrolysis of adenosine 5'-triphosphate. Studies were performed at pH 4.5, where the two complexes were in the binuclear di- μ -hydroxo forms. For both complexes a rapid initial hydrolysis with first order dependence on the concentration of ATP was observed. Spectral investigations and ^{59}Co NMR studies indicate that the mechanism may involve the formation of a complex in which inorganic phosphate is coordinated to the cobalt.

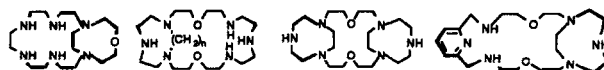
Paulos G. Yohannes, Paula Martin, Kathleen E. Heppert and Kristin Bowman-James

Nucleotide hydrolysis in the presence of μ -hydroxo-bridged-cobalt(III) complexes.

307-312



General routes to macropolycycles containing small rings and pyridine are described. The synthesis of four different macropolycyclic lactams, their reduction and deprotection are described.

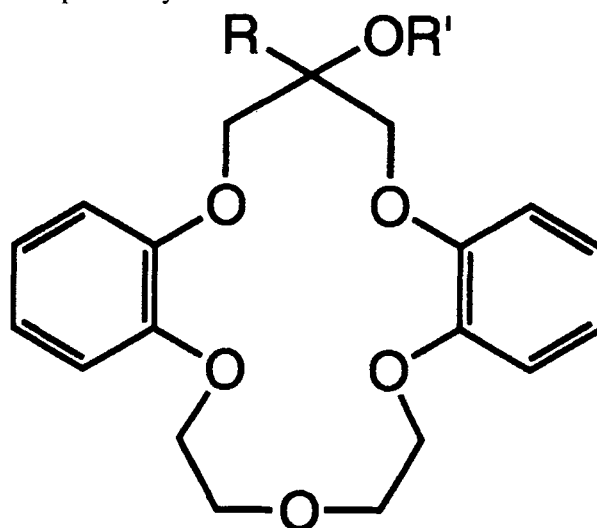


Ligang Qian, Zhong Sun, and Kristin Bowman-James

Synthesis of polyaza macropolycyclic ligands

313-325

Conformations of dibenzo-16-crown-5 lariat ethers in solution are probed by NMR spectroscopy.

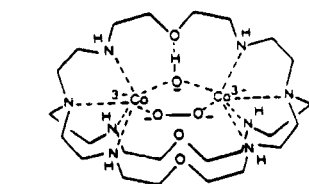


Richard A. Bartsch, Jong Seung Kim, Uriel Olsher and David M. Purkiss

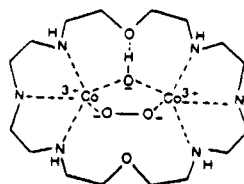
Conformational studies of dibenzo-16-crown-5 lariat ethers

327-331

The macrocyclic and macrobicyclic ligands OBISTREN and OBISDIEN, respectively, form dinuclear cobalt(II) complexes that combine reversibly with dioxygen. These dioxygen complexes can undergo many cycles of oxygenation and deoxygenation, and may be used for separation of pure oxygen from air.



μ -hydroxy- μ -peroxo-dicobalt OBISTREN cryptate



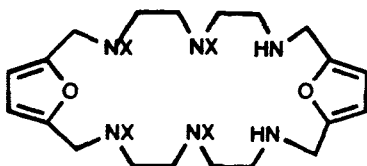
μ -hydroxy- μ -peroxo-dicobalt OBISDIEN complex

Arthur E. Martell, Ramunas J. Motekaitis, Dian Chen and Robert D. Hancock

Hydroxo-bridged dinuclear cobalt(II) complexes of OBISDIEN and OBISTREN as oxygen carriers

333-340

Polyammonium macrocycles containing sulfur and furan units in the macrocyclic ring have been synthesized and studied for ATPase activity. The macrocycles were found to be poor catalysts for ATP hydrolysis compared to other similar polyammonium macrocycles.



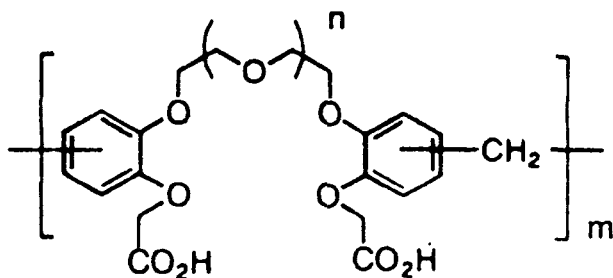
27 X=Ts 4 X=H

Ligang Qian, Zhong Sun and Kristin Bowman-James

Synthesis of macrocyclic ligands incorporating sulphur and furan subunits

341-346

New acyclic dibenzopolyether dicarboxylic acids and their polymers have been prepared for use in selective Pb(II) separation. Extraction and sorption behavior are examined in relation to their molecular structure.

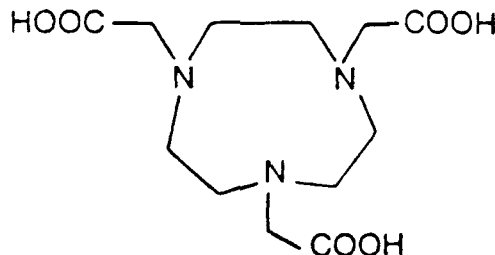


Takashi Hayashita, Kenji Yamasaki, Kenji Kunogi, Kazuhisa Hiratani, Xiaowu Huang, Youchan Jang, Derrick E. McGowen and Richard A. Bartsch

Proton-ionizable acyclic dibenzopolyethers and their polymers for use in selective lead(II) separation

347-352

Stability constants are presented and discussed for metal complexes of macrocyclic ligands containing three or four donor nitrogens, which are also substituted with pendant donors, which include acetate, phenolate, hydroxypyridyl, and thiolate groups. The simplest example of this series of ligands is NOTA, 1,4,7-triazacyclononane-*N,N',N''*-triacetic acid.

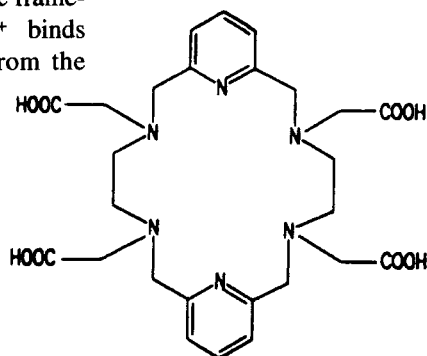


Arthur E. Martell, Ramunas J. Motekaitis, Eric T. Clarke, Rita Delgado, Yizhen Sun and Rong Ma

Stability constants of metal complexes of macrocyclic ligands with pendant donor groups

353-363

A new ultrachelating ligand, H_4PYTA , based on the $[18]aneN_6$ macrocyclic framework has been synthesized. $PYTA^{4+}$ binds well to a range of metal ions from the small Ga^{3+} to the large Pb^{2+} .

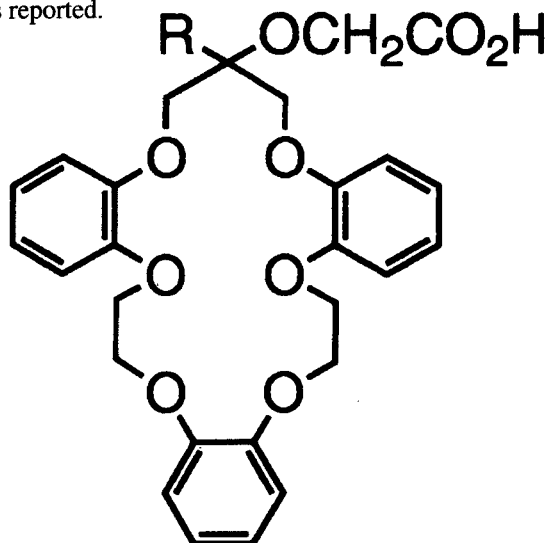


Lan Miao, Darin Bell, George L. Rothermel, Jr., L. Henry Bryant, Jr., P. Michelle Fitzsimmons, and Susan C. Jackels

Design and synthesis of an "ultrachelating" ligand based on an 18-membered ring hexaaza macrocycle

365-373

Three dibenzo-19-crown-6 lariat ether carboxylic acids are synthesized and the crystal structure of *sym*-(hydroxy)(propyl)tribenzo-19-crown-6 is reported.

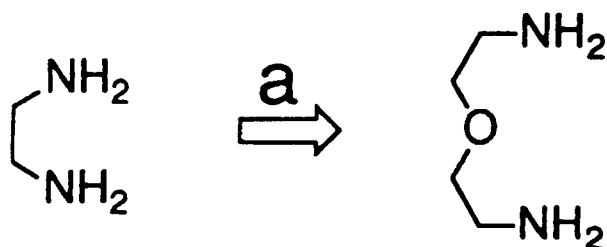


Youghan Jang, Xialoan Kou, N. Kent Dalley and Richard A. Bartsch

Synthesis and structures of tribenzo-19-crown-6 lariat ethers

375-382

The origin of selectivity enhancement for large metal ions that occurs on the addition of neutral oxygen donors to existing ligands in such a way as to form additional five-membered chelate rings is analyzed in terms of inductive and steric effects.

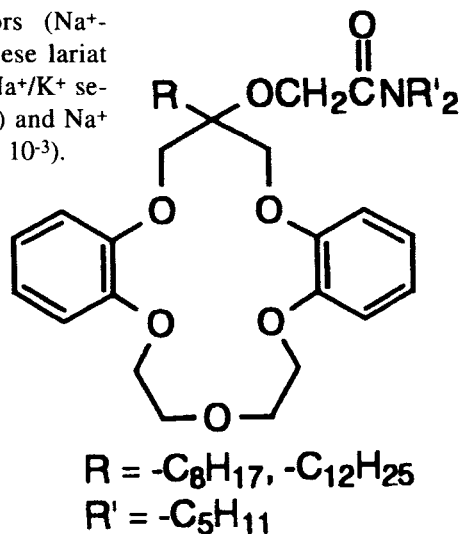


Benjamin P. Hay and Jim R. Rustad

Why the addition of neutral oxygen donor groups promotes selectivity for larger metal ions

383-390

Lipophilic dibenzo-16-crown-5 compounds with amide-containing side arms attached to the central carbon atom of the three-carbon bridge in the polyether ring have been applied to neutral carriers for sodium ion-selective field-effect transistors (Na⁺-ISFET's). ISFET's based on these lariat ether amides exhibit excellent Na⁺/K⁺ selectivities ($K_{Na^+, K^{Pot}} = 7 \times 10^{-3}$) and Na⁺/H⁺ selectivities ($K_{Na^+, H^{Pot}} = 3 \times 10^{-3}$).

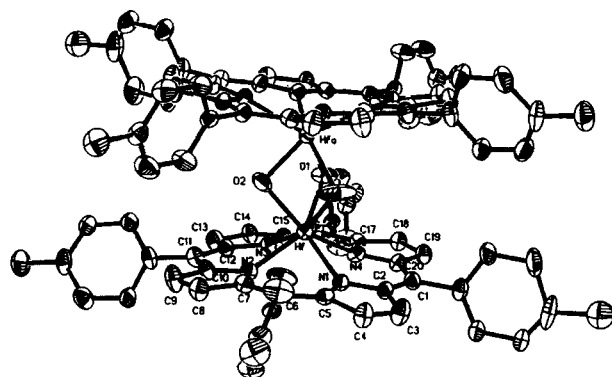


Akira Ohki, Kaoru Iwaki, Kensuke Naka, Satsuo Kamata, Shigeru Maeda, Jian-Ping Lu and Richard A. Bartsch

Sodium ion sensors based on dibenzo-16-crown-5 compounds with amide side arms

391-394

Syntheses and X-ray structures of a unique cofacial porphyrin complex [(TTP)HfO]₂ toluene and TTPVO mesitylene are reported, where TTP = *meso*-5,10,15,20 tetratolyl porphyrin dianion.

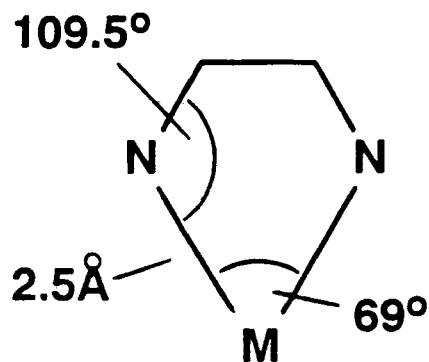


Dawood Afzal, Russell Baughman, Alan James and Mark Westmeyer

Synthesis and structural studies of early transition metalloporphyrin oxo complexes.1: X-ray structures of *meso*-5,10,15,20 tetratolyl hafnium(IV) μ -dioxo dimer complex and a *meso*-5,10,15,20 tetratolyl porphyrin vanadium(IV) oxo complex

395-399

The idea that the dominant architectural feature in controlling metal ion selectivity in both open-chain and macrocyclic ligands is the size of the chelate ring is discussed.



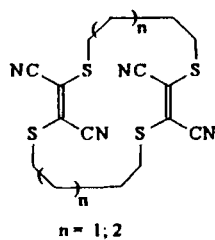
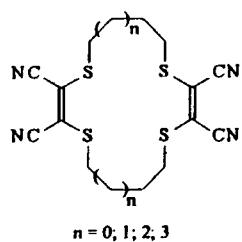
five-membered

Robert D. Hancock and Arthur E. Martell

Chelate ring geometry, and the metal ion selectivity of macrocyclic ligands. Some recent developments

401-407

Novel macrocyclic unsaturated tetrathioethers with two 1,2-dicyano-1,2-dithioethene units ((Z,Z)-(E,Z) and (E,E)-isomers) have been synthesized.



Anke Spannenberg, Dirk Abeln, Jürgen Kopf, Hans-Joachim Drexler and Hans-Jürgen Holdt

Macrocycles with 1,2-dicyano-1,2-dithioethene units

409-416