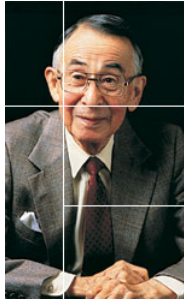
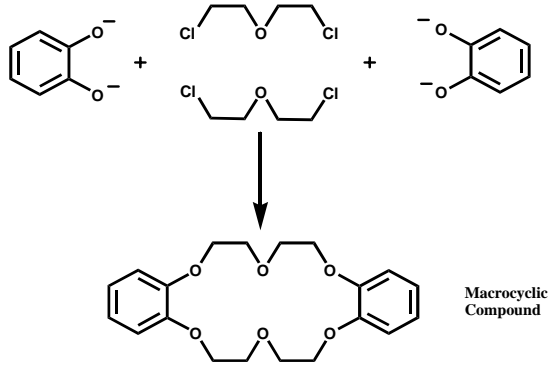


分子認識ゲルの基本技術の発見



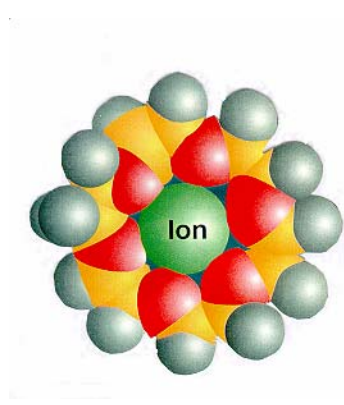
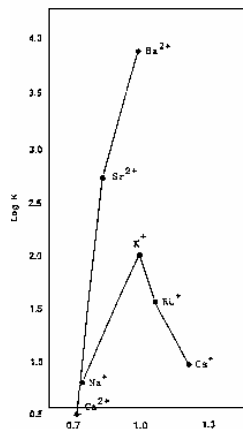
Pedersen 博士

PEDERSEN'S NOBEL PRIZE CONTRIBUTION



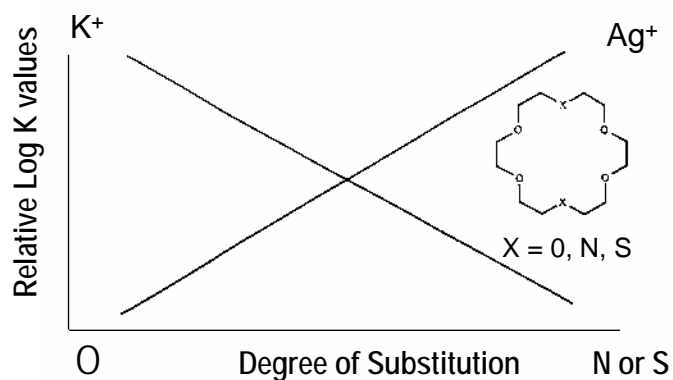
Macrocyclic Compound

分子サイズの認識



Selectivity of 18C6: $\log K$ values for reaction of 18C6 with metal cations in water at 25° C vs. the ratio of the ionic cation radius to the 18C6 cavity radius. The low K value for Ca^{2+} is reported as <0.5 .

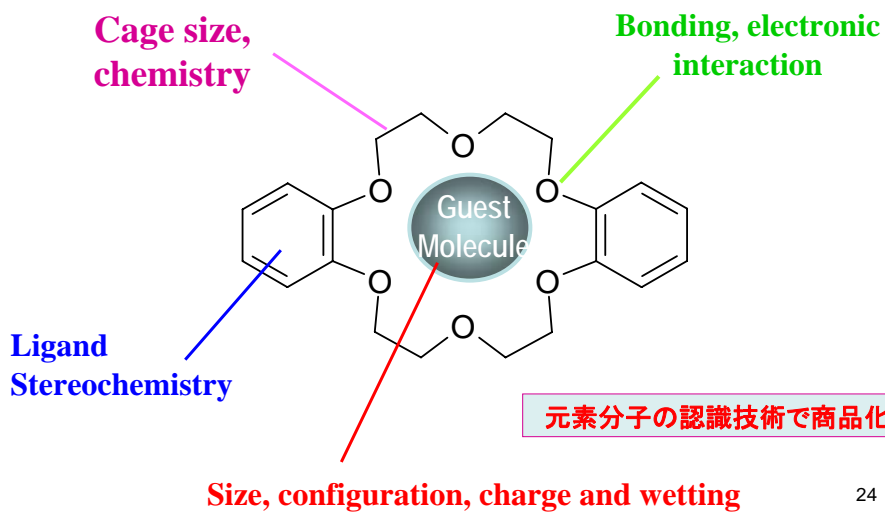
元素選択性



Change of selectivity as measured by log K for M^+ -ligand donor atom. Where $X=O$, K^+ forms the most stable complex. Where $X=N$ or S , Ag^+ forms the most stable complex.

23

Molecular Recognition Technology (分子認識 MRT) とは？



24

商品化された分子認識固相抽出製品の対応元素一覧

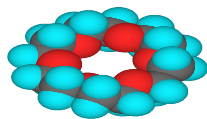
	IA	IIA	IIIA	IVA	VA	VIA	VIIA	VIII								IR	IIR	IIIR	IVR	VR	VIR	VIIR	0
1	H																					He	
2	Li	Be														B	C	N	O	F		Ne	
3	Na	Mg														Al	Si	P	S	Cl		Ar	
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br					Kr	
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I					Xe	
6	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At					Rn	
7	Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Uun	Uuu	Uub			Uuq		Uuh					Uuo	

La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Fr

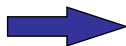
 AnaLig Series
 青字 AnaLigで専用ゲルがあるもの
 Comarcial Bench Work

MRT AnaLig® Solid Phase of Silica Gel の特徴

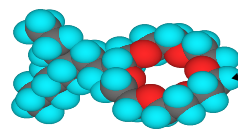
Ligand Design/Synthesis



Ligand



Ligand Attachment



Solid Support

Covalently Attached Ligand

System Incorporation

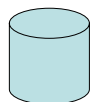


Solvent Extraction

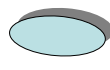


Solid-Phase Particles

(e.g., styrene, acrylate, silica)



Columns



Membranes






Analytical Systems

- Preconcentration
- Environmental
- Precious & base metals
- Radionuclides

MRT GEL Powder

Metal Separation with MRT
Using useful column format



Open Column Format

SPE Column Format

27

MRT Products Line



3M Empore™
Ion Separation Cartridge

AnaLig®

3M Empore™
Radium Rad Disks
for Selective Separation
with AnaLig™

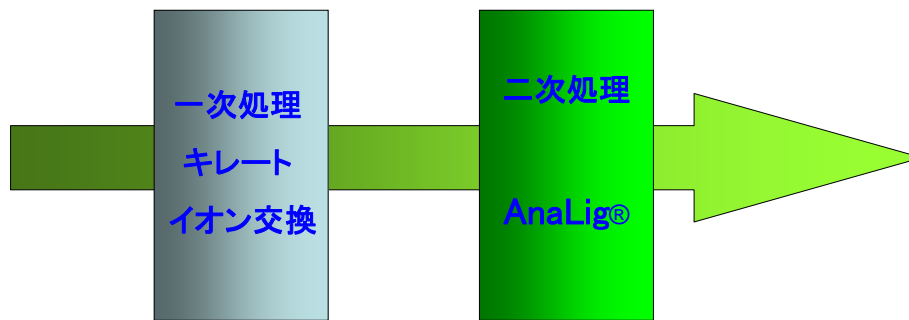
3M Empore™
Strontium Rad Disks
for Selective Separation and Counting
with AnaLig™

3M Empore™ Disk

28

MRT AnaLig[®]の利用で

タンデム固相抽出：高度な精製



全段で汚れをカット：AnaLig[®]を長期再生利用²⁹

分子認識固相抽出評価例

- MRT-SPEを利用した高マトリックス中からのPbの抽出
- MRT-SPEを利用した環境水中Hgの抽出