



REFERENCES

- Arbuni, A., Pochini, A., Reverberi, S., and Ungaro, R. (1986). The preparation and properties of a new lipophilic sodium selective ether ester ligand derived from p-t-butylcalix(4)arene. Tetrahedron, 42, 2089-2100.
- Arakawa, R. (1998). ESI mass analysis of polynuclear Ruthenium (II) complexes, J. Mass Spectrom. Soc. Jpn., 46 (2), 219-227.
- Burke, W. J. (1949). 3,4-dihydro-1,3,2H-benzoxazine. Reaction of p-substituted phenols with N,N-dimethylolamines. J. Am. Chem. Soc., 71, 609-612.
- Cram, D. J. (1988). The design of molecular host,guests, and their complexes (Noble Lecture). Angew. Chem. Int. Ed. Engl., 27, 1009-1020.
- Cram, D. J. (1992). Molecular container compounds. Nature, 356, 29-36.
- Cram, D. J., and Ho, S. P. (1986). Host-Guest complexation. 39. Cryptahemispherands are highly selective and strongly binding hosts for alkali metal ions. J. Am. Chem. Soc., 108, 2998-3005.
- Cram, D. J., and Cram, J. M. (1974). Host-guest chemistry: Complexes between organic compounds simulate the substrate selectivity of enzymes. Science, 183, 803-809.
- Cram, D. J., Lein, G. M., Kaneda, T. K., Helgeson, R. C., Knoble, C. B., Maverick, E., and Trueblood, K. N. (1981). J. Am. Chem. Soc., 103, 6228.
- Gutsche, C. D., Iqbal, M. and Alam, I. (1987) The interaction of calixarenes and amines. J. Am. Chem. Soc., 109, 4314-4320.
- Halmilton, A. D., Tecila, P., Dixon, R. P., Slobodkin, G., Alavi, D. S., and Waldeck, D. H. (1990). J. Am. Chem. Soc., 112, 9408.

- Hiraoka, M. (Ed.). (1982). Crown Compounds, their characteristics and applications Kodansha, Elsevier. 45-50.
- Iwamoto, T., Kiyoki, M. and Murphy, A. (1987) Bull. Chem. Soc. Jpn., 51, 390.
- Ishida, H., and Dunkers, J. (1995). Vibrational assignments of 3-alkyl-3,4-dihydro-6-methyl-2H-1,3-benzoxazines in the finger print region. Spectrochimica Acta, 51A, 855-867.
- Ishida, H., and Low, H. Y. (1997). Macromolecules, 30, 1099
- Izatt, S. R., Hawkins, R.T., Christensen, J.J. and Izatt, R.M. (1985) J. Am. Chem. Soc., 107, 63-66.
- Knop, A., and Pilato, I. A. (1985) Phenolic Resin, Berlin: Spring.
- Lamsa, M., Huuskonen, J., Rissanen, K., and Pursiainen, J. (1998) X-ray and NMR studies on the host-guest inclusion complex formation between crown ethers and pyridinium compounds. Chem. Eur. J., 4 (1), 84-92.
- Lehn, J. M. (Ed.). (1995). Supramolecular Chemistry Weinheim: VCH. 1099.
- Lindsey, J. S. (1991). New J. Chem., 15, 153.
- Marchand, A. P., Chong, H. S., and Alihodzic, S. (1999). Synthesis and alkali metal picrate extraction capabilities of novel, cage-functionalized, pyridine containing crown ethers and cryptands. Tetrahedron, 55, 9687-9696.
- Marchand, A. P., and Chong, H. S. (1999). Synthesis and alkali metal picrate extraction capabilities of novel, cage-functionalized, diaza (17-crown-5) ethers. Tetrahedron, 55, 9697-9706.
- Morrison, R. T., and Boyd, R. N. (1983) Organic Chemistry. 4th ed. Boston, London, Allyn and Bacon, Inc., 1983.
- Murakami, H., Kikuchi, J., and Hisawda, Y. (Eds.). (1991) Inclusion Compounds. Oxford, Oxford University Press.

- Ning, X. and Ishida, H. (1994) Phenolic materials via reing opening polymerization: synthesis and characterization of bisphenol-A based benzoxazine benzoxazines and their polymer. J. of Polym. Sci.: Part A: Polym. Chem., 32, 1121-1129.
- Okada, Y., Ishii, F., Kasai, Y., and Nishimura, J. (1993). A new type ionophore made from a rigid calixarene analog. Tetrahedron Letters, 34 (12), 1971-1974.
- Pedersen, C. J. (1967). Cyclic polyethers and their complexes with metal salts. J. Am. Chem. Soc., 89, 7017-7036.
- Pedersen, C. J. (1968). Ionic complexes of macrocyclic polyethers. Fed. Proc. Fed. Am. Soc. Exp. Biol., 27, 1305-1309.
- Pedersen, C. J. (1988). The discovery of crown ether (Noble Lecture). Angew. Chem. Int. Ed. Engl., 27, 1021-1027.
- Pedersen, C. J., and Frendorff, H. K. (1972). Macroyclic polyethers and their complexes. Angew. Chem. Internat. Edit., 11, 16-25.
- Phongtamrug, S. (1988). Study on the benzoxazine monomers and their application for ion extraction material.. Master's Thesis, Chulalongkorn University, 1988.
- Pulpoka, B., Asfari, Z., and Vicens, J. (1996). Synthesis of unsymmetrical calix[4]arene cryptand crown-6 in 1,3-alternate conformation. Tetraahedron letters, 37, 6315-6318.
- Sawada, M., Shizuma, M., Takai, Y., Asachi, H., Takeda, T., and Uchiyama, T. (1998). Measurement of chiral amino acid discrimination by cyclic oligosaccharides: a direct FAB mass spectrometric approach. Chem. Commun., 1453-1454.
- Shiina, S., and Kinumaki, A., (1997). Differences in fragmentation between $[M+H]^+$ and $[M+Li]^+$ ions in fast atom bombardment mass spectrometry. J. Mass Spectrom. Soc. Jpn., 45 (1), 57-69.

Siripattanasarakit, W. (1997) A novel type of ion extraction material using host-guest properties of polybenzoxazine local structure. Master's Thesis, Chulalongkorn University.

Smid, J. (1972) Structure of ion pair solvation complexes. Angew. Chem. internat. Edit., 11, 112-127.

Takeda, Y., Kimura, T., Kudo, Y., Matsuda, H., Inoue, Y., and Hakushi, T. (1989). Solvent extraction of uni- and bivalent metal picrates with 16-crown-5 into benzene. Bull. Chem. Soc. Jpn., 62, 2885-2889.

Techakamolsuk, P. (1999) Synthesis and application of structurally controlled benzoxazine as a host-guest compound. Master's Thesis, Chulalongkorn University, 1999.

Ungaro, R., Arduni, A., Casnati, A., and Ugozzoli, F. (1996). New synthetic recognition of ions and neutral molecules. Pure&Appl. Chem., 68, 1213-1218.

Whitesides, G. M., Mathias, J. P., and Seto, C. T. (1991). Science, 254, 1312

Yamagishi, T., Tani, K., Shirano, K., Ishida, S., and Nakamoto, Y. (1996). Metal cation extraction properties of linear all-ortho phenolic oligomers. J. of Polym. Sci.: Part A: Polym. Chem., 34, 687-693.



CURRICULUM VITAE

Name: Mr. Pittaya Takolpuckdee

Date of Birth: 19 March 1975

University Education:

1992-1995 Diploma in Analytical Chemistry
Chulalongkorn University

1995-1997 Bachelor Degree of Science in Chemistry
Department of Chemistry
Chulalongkorn University