

LITERATURE AND PATENT REVIEWS

It has been suggested by several subscribers that it would be of great value to list in each issue several publications and patents available on the subject matter covered by this journal. It is not the purpose of this new section to include all the literature, but to make the reader aware of the wide number of other publications and the variety of studies being carried out in laboratories around the world.

If anyone wishes to see specific publications included in the list, please forward the reference or references to any of the editors.

Your suggestions and comments will always be welcome.

The Editors

HOWARD H. WEETALL

MEIR WILCHEK

PEDRO CUATRECASAS

KLAUS MOSBACH

Immobilized enzyme macrokinetics in the case of complex product inhibition

Authors: Koestner, A.; Tammeraid, I. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 3-9 (1979). Language: Russian.

Study of the interaction between L-lactate dehydrogenase isoenzymes and immobilized 8-substituted adenosine 5'-monophosphate by means of affinity electrophoresis

Authors: Nakamura, Kazuyuki; Kuwahara, Akira; Ogata, Hatanori; Takeo, Kazusuke. Location: Sch. Med., Yamaguchi Univ., Ube, 755, Japan. Journal: J. Chromatogr. 192(2) : 351-62 (1980).

Polymethylglutamate as a new matrix for covalently immobilized enzymes: preparation and properties of urease and uricase

Authors: Minamoto, Yoshiki; Yugari, Yasumi. Location: Cent. Res. Lab., Ajinomoto Co., Inc., Kawasaki, 210, Japan. Journal: Biotechnol. Bioeng. 22(6) : 1225-35 (1980).

Properties of soluble and immobilized *Aspergillus niger* beta-xylosidase

Authors: Oguntimein, G. B.; Reilly, P. J. Location: Dept. Chem. Eng., Iowa State Univ., Ames, IA 50011. Journal: Biotechnol. Bioeng. 22(6) : 1143-54 (1980).

Purification and immobilization of *Aspergillus niger* beta-xylosidase

Authors: Orguntimein, G. B.; Reilly, P. J. Location: Dept. Chem. Eng., Iowa State U., Ames, IA 50011. Journal: Biotechnol. Bioeng. 22(6) : 1127-42 (1980).

Immobilization of *N*-deoxyribosyltransferase

Author: Gaevaya, L. V. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 75-79 (1979). Language: Russian.

Effect of monomers on penicillin amidase under incorporation in polyacrylamide gel

Authors: Mandel, M.; Lepp, E.; Siimer, E. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 55-63 (1979). Language: Russian.

Reevaluation of measurement of serum free thyroxine by equilibrium dialysis based on computation analysis of the interaction between thyroxine and its binding proteins

Authors: Yamamoto, T.; Doi, Kei; Ichihara, Kyoshi; Miyai, Kiyoshi. Location: Cent. Adult. Dist., Kishiwada Tokushukai Hosp., Osaka, Japan. Journal: J. Clin. Endocrinol. Metab. 50(5) : 882-88 (1980).

Stereoselective catalysis by iron(III) complex ions supported on asymmetric polymers: oxidation of ascorbic acid in aqueous solution

Authors: Barteri, M.; Pispisa, Basilio; Primiceri, Maria. Location: Inst. Chim. Fis., Univ. Roma, Rome, Italy. Journal: J. Inorg. Biochem. 12(2) : 167-71 (1980).

A computer-automated reactor system for immobilized and soluble enzymes

Authors: Potter, C. A.; Danielson, N. D.; Brandt, V. O. Location: Dept. Chem., Univ. Georgia, Athens, GA 30602. Journal: Chem. Biomed. Environ. Instrum. 10(1) : 37-54 (1980).

Immobilization of *Bacillus mesentericus* protease on silochromes

Authors: Davidenko, T. I.; Chuenko, A. V.; Bondarchuk, A. A. Location: Fiz.-Khim. Inst., Odessa, U.S.S.R. Journal: Khim. Prir. Soedin. 80(1) : 104-9 (1980). Language: Russian.

A comparative study on alpha-glucan phosphorylases from plant and animal: interrelationship between the polysaccharide and pyridoxal phosphate binding sites by affinity electrophoresis

Author: Shimomura, Shoji; Fukui, Toshio. Location: Inst. Sci. Ind. Res., Osaka Univ., Suita, 565, Japan. Journal: Biochemistry 19(11) : 2287-94 (1980).

Enzymes immobilized on synthetic pulp

Authors: Manecke, Georg; Vogt, Hans-Guenter. Location: Inst. Org. Chem., Freien Univ. Berlin, Berlin, D-1000/33, F.R.G. Journal: Angew. Makromol. Chem. 85 : 41-77 (1980). Language: German.

Macrokinetics of immobilized enzymes in the case of complex inhibition by products

Authors: Kestner, A.; Tammeraid, I. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. In-ta 465 : 3-9 (1979). Language: Russian.

Determination of enzyme kinetic parameters by continuous addition of substrate to a single reaction mixture and analysis by a tangent-slope procedure. II. Application of the method to soluble and immobilized enzymes

Authors: LeBlond, David J.; Ashendel, Curtis L.; Wood, Willis, A. Location: Dep. Biochem., Michigan State University, East Lansing, MI 48824. Journal: Anal. Biochem. 104(2) : 370-85 (1980).

Enzymic and electrochemical methods for the regeneration of coenzymes

Authors: Malinauskas, J.; Kulis, J.; Kuliene, V. Location: U.S.S.R. Journal: Tr. VNII Prikl. Enzimol. 79(4) : 123-35 (1979). Language: Russian.

Studies on the immobilization and stabilization of glucose oxidase and catalase

Author: Wasserman, Bruce P. Location: Univ. Massachusetts, Amherst, MA. Citation: Diss. Abstr. Int. B. 40(10), 4801, p. 1-158 (1980).

Properties of horse cytochrome c and beef cytochrome c oxidase modified by the covalent attachment of triazine monomethoxypolyethylene glycol

Author: Karol, Robert J. Location: Rutgers, State University, New Brunswick, NJ. Citation: Diss. Abstr. Int. B. 40(10) : 4787, p. 1-143 (1980).

Study of the immobilization of aminoacylase in polyacrylamide gel by radiopolymerization

Author: Aruniit, H. Location: U.S.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 41-46 (1979). Language: Russian.

Characteristics of polymer-modified inorganic carriers

Authors: Kipper, H.; Egorov, Kh. R.; Kivisilla, K. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 33-39 (1979). Language: Russian.

Role of phospholipids in the immobilization of highly purified cytochrome p. 450

Authors: Eremin, A. N.; Kisei, M. A.; Usanov, S. A.; Metelitsa, D. I.; Akhrem, A. A. Location: Inst. Biorg. Khim. Minsk, U.S.S.R. Journal: Dokl. Akad. Nauk BSSR; 24(5) : 465-67 (1980).

Hysteresis, oscillations, and pattern formation in immobilized enzyme systems

Authors: Hervagault, J. F.; Friboulet, A.; Kernevez, J. P.; Thomas, D. Location: Lab. Technol. Enzymat., CNRS, Compiègne, F-60206, France. Journal: Ber. Bunsenges. Phys. Chem. 84(4) : 358-62 (1980).

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Authors: Schell, H. D.; Gozia, Ofelia. Location: Lab. Enzimol., Inst. Stiinte Biol., Bucharest, Romania. Journal: Stud. Cercet. Biochim. 22(2) : 187-93 (1979). Language: Romanian.

Synthesis of a partial sequence of proinsulin using the a chain of natural insulin. II. Synthesis of a peptide corresponding to positions 53-81 of bovine proinsulin

Authors: Aiba, Hiroko; Shimonishi, Yasutsugu. Location: Inst. Protein Res., Osaka Univ., Suita 565, Japan. Journal: Bull. Chem. Soc. Jpn. 53(1) : 192-96 (1980).

Some ester derivatives of 2-methylalanine as intermediates in peptide synthesis.

Author: Stewart, Frederick H. C. Location: Div. Protein Chem., CSIRO, Parkville, 3052, Australia. Journal: Aust. J. Chem. 33(1) : 121-29 (1980).

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Author: Christensen, Thorkild. Location: Dan. Inst. Protein Chem., Hoersholm, DK-2970, Denmark. Journal: Acta Chem. Scand., Ser. B.; B33(10) : 863-66 (1979).

Economical aspects of continuous operation with biocatalysis

Authors: Flaschel, E.; Wandrey, Christian. Location: Ec. Polytech. Fed., Lausanne, Switzerland. Journal: Enzyme Eng. 4 : 83-88 (1978).

Reaction engineering aspects of continuous operation with biocatalysts

Authors: Wandrey, Christian; Flaschel, E. Location: Ec. Polytech. Red., Lausanne, Switzerland. Journal: Enzyme Eng. 4 : 77-81 (1978).

Preparation of luminous materials containing immobilized luminous bacterial cells.

Authors: Makiguchi, Nobuyoshi; Arita, Masanobu; Asai, Yoshiyuki. Location: Res. Cent., Mitsui Toatsu Chem. Inc., Yokohama, 247, Japan. Journal: J. Ferment. Technol. 58(2) : 167-69 (1980).

Improvement of glucose sensor performance with immobilized glucose oxidase-glucose isomerase system

Authors: Gondo, Shinichiro; Morishita, Michio; Osaki, Tomoe. Location: Fukuoka Inst. Technol., Fukuoka, 811-02, Japan. Journal: Biotechnol. Bioeng. 22(6) : 1287-91 (1980).

Production of L-tryptophan

Authors: Bartoli, Francesco; Bianchi, G. E.; Zaccardelli, D.-Location: Lab. Biochem. Processes, Snamprogetti, S.p.A., Monterotondo, Italy. Journal: Enzyme Eng. 4 : 279-80 (1978).

Change in the amount of reduced extract and glycerol content in sherry production using immobilized yeasts

Author: Khoroshilova, V. G. Location: Mosk. Filial., Vses. Nauchno-Issled. Inst. Viuodel. Vinograd., Moscow, U.S.S.R. Journal: Pishch. Prom-st., Ser. 1, 12 : 22-25 (1979). Language: Russian.

Preparation, properties, and use of immobilized milk-curdling enzymic preparations

Authors: Friedental, M.; Siimer, E. Location: U.S.S.R. Journal: Tr. Tallin Politekh. In-ta, 465 : 65-74 (1979). Language: Russian.

Immobilized glucose-oxidase/catalase: deactivation in a differential reactor

Author: Prenosil, J. E. Location: Tech. Chem. Lab., Fed. Inst. Technol., Zurich, Switzerland. Journal: Enzyme Eng. 4 : 99-100 (1978).

Effect of design on the performance of immobilized glucose isomerase reactor system

Authors: Kim, S. M.; Lee, S. B.; Ryu, Dewy, Y. Location: Korea Adv. Inst. Sci., Seoul, South Korea. Journal: Enzyme Eng. 4 : 101-3 (1978).

Design considerations and operational strategies of a commercial glucose isomerase reactor system

Author: Venkatasubramanian, K. Location: H. J. Neinz Co., Pittsburgh, Pa. Journal: Enzyme Eng. 4 : 283-86 (1978).

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Authors: Vieth, Wolf, R.; Venkatasubramanian, K. Location: Dept. Chem. Biochem. Eng., Rutgers, State University, New Brunswick, N.J. Journal: Enzyme Eng. 4 : 307-16 (1978).

Steroid conversion using immobilized living microorganisms

Authors: Larsson, P. O.; Ohlson, S.; Mosbach, Klaus. Location: Chem. Cent., University of Lund, Lund, Sweden. Journal: Enzyme Eng. 4 : 317-22 (1978).

In situ immobilization of heavy metal ions in soils

Authors: Smeulders, F.; Sinnaeve, J.; Cremers, A. Location: Inst. Toepass. Atoomenerg. Landbouw, Wageningen, 6700, The Netherlands. Journal: Inf. Ser.-N. Z. Dep. Sci. Ind. Res., 134 (Issue Plant Nutr., v2): 475-82 (1978).

Preparation, properties, and use of immobilized milk-curdling enzyme preparations. Part I. Properties of rennet preparation VNIIMS.

Authors: Friedental, M. K.; Siimer, E. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. Inst. 465 : 65-74 (1979). Language: Russian.

Affinity photo-release purification of cobalamin-binding proteins

Authors: Jacobsen, D.; Montejano, Y. Location: Dept. Biochem., Scripps Clin. Res. Found., La Jolla, CA 92037. Journal: Vitam. B12, Proc. Eur. Symp., 3rd, p. 949-54 (1979).

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Authors: Kumakura, Minoru; Yoshida, Masaru; Kaetsu, Isao. Location: Japan. Jpn. Kokai Tokkyo Koho; Patent No: 80-34058. Assignee: Japan Atomic Energy Research Institute.

Immobilization of N-deoxyribosyl transferase

Author: Gaevaya, L. V. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. In-ta, 465 : 75-79 (1979). Language: Russian.

Preparation of membranes for enzyme immobilization

Author: Kaede, Kunio; Takizawa, Koichi, Location: Japan. Jpn. Kokai Tokkyo Koho; Patent No: 80 37135. Assignee: Tateishi electronics Co., Ltd.

The pH-dependence of a reaction with immobilized enzymes

Author: Kestner, A. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. In-ta, 465 : 19-25 (1979). Language: Russian.

Effect of monomers on penicillin amidase in incorporation into polyacrylamide gel

Authors: Mandel, M.; Lepp, E.; Siimer, E. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. In-ta, 465 : 55-63 (1979). Language: Russian.

Operational stability of immobilized proteases

Authors: Erin, A. E.; Kreen, M. Location: U.S.S.R. Journal: Tr. Tallin. Politekh. In-ta; 465 : 47-54 (1979). Language: Russian.

Immobilized enzyme preparation

Authors: Corcoran, Eugene Gerard; Bentley, John; Thompson, M. W. Location: England. Eur. Pat. Appl. Patent No. 8498; Country Brit. Assignee: Imperial Chemical Industries Ltd.

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Authors: Kulis, J.; Laurinavicius, F.; Malinauskas, A. Location: U.S.S.R. Patent No. 724513. Assignee: Institute of Biochemistry, Academy of Sciences Lithuanian S.S.R. Language: Russian.

Immobilized enzyme product

Location: Denmark. Patent No. 724513. Assignee: Institute of Biochemistry, Academy of Sciences, Lithuanian S.S.R.

Detection of soluble fibrin in plasma using fibrogen Sepharose columns

Authors: Lund, P. L.; Brosstad, F.; Kierulf, P. Location: Cent. Lab., Ulleval Hosp., Oslo, Norway. Journal: Proc. Sero Symp., 15, Haemostasis Thromb., p. 619-23 (1979).

Immobilized enzyme composition for diagnostic use

Author: Fusee, M. C. Location: U.S.A. Patent No. 878137. Assignee: Grace, W. R., and Co.

Affinity chromatography of fibrin monomer

Authors: Heene, D. L.; Matthias, F. R.; Reinicke, R.; Lasch, H. G. Location: Zent. Innere Med., Justus-Liebig Univ., Giessen, Fed. Rep. of Germany. Journal: Proc. Serono Symp., 15, Haemostasis Thromb., p. 151-58 (1979).

A quick-reference summary of recent literature on molecular immobilization and bioaffinity phenomena: Survey No. 6

Authors: Sturgeon, Catharine M.; Kennedy, John F. Location: Dep. Clin. Chem. Univ. Edinburgh, Edinburgh, EH1 1ED, Scotland. Journal: Enzyme Microb. Technol. 2(2) : 155-60 (1980).

Insolubilized methylated albumin conjugates for autoimmune disease fluoroimmunoassays

Author: Rippe, Delfin F. Location: U.S.A. Patent No. 80-00026. Assignee: American Hospital Supply Corp.

Immobilized microbial cells and their applications

Authors: Chibata, Ichiro; Tosa, Tetsuya. Location: Res. Lab. Appl. Biochem., Tanabe Seiyaku Co., Ltd. Osaka, Japan. Journal: Trends Biochem. Sci. (pers. ed.); 5(4) : 88-90 (1980).

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Author: Hui, David Yiu-Kwan. Location: Indiana Univ., Bloomington, Ind. Citation: Diss. Abstr. Int. B 1980 40(10) : p. 4785-86 (1980).

Use of immobilized lactoperoxidase to label L cell proteins involved in adhesion to polystyrene

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Authors: Hiramatsu, Kazuko; Sakai, H.; Endoh, M.; Arimori, S. Location: Dep. Intern. Med., Tokai Univ., Kanagawa, Japan. Journal: Immunology 39 : 311-16 (1980).

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Authors: Repke, Heinrich; Matthies, Hansjuergen; Dittrich, Guenther; Werchan, Hans Georg. Location: Inst. Pharmakol. Toxikol., Med. Akad. Magdeburg, G.D.R. Journal: Z. Chem. 20 : 60 (1980). Language: German.

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Authors: Uitendaal, Martin P.; DeJong, Jan W.; Harmsen, Eef; Keijzer, Elisabeth. Location: Throaxcent, Erasmus Univ., Rotterdam, the Netherlands. Journal: Adv. Exp. Med. Biol. 122B; Purine Metab. Man-3: Biochem., Immunol., Cancer Res., 409-141 (1980).

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Authors: Mason, J. R.; Pirt, S. J.; Somerville, H. J. Location: Shell Res. Ltd., Sittingbourne/Kent, England. Journal: Enzyme Eng. 4 : 343-44 (1978).

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Authors: Chibata, Ichiro; Tosa, T.; Sato, T.; Yamamoto, K.; Takata, I.; Nishida, Y. Location: Res. Lab. Appl. Biochem., Tanabe Seiyaku Co., Ltd., Osaka, Japan. Journal: *Enzyme Eng.* 4 : 335-37 (1978).

Microbial cells immobilized and living on solid supports and their application to fermentation processes

Author: Kennedy, John F. Location: Dep. Chem., Univ. Birmingham, Birmingham, England. Journal: *Enzyme Eng.* 4 : 323-28 (1978).

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Authors: Ooshima, Hiroshi; Harano, Yoshio. Location: Fac. Eng., Osaka City Univ., Osaka, Japan. Journal: *Shokubai* 21 : 434-44 (1979). Language: Japanese.

The latest trend on immobilization of enzymes and microorganisms and its practical application

Authors: Chibata, Ichiro; Tosa, Tetsuya. Location: Tanabe Seiyaku Co., Ltd., Osaka, Japan. Journal: *Shokubai* 21 : 426-33 (1979). Language: Japanese.

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Authors: Bowers, Larry D.; Carr, Peter W. Location: Med. Sch., Univ. Minnesota, Minneapolis, MN 55455. Journal: *Adv. Biochem. Eng.* 15 : 89-129 (1980).

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Author: Turkova, J. Location: Inst. Org. Chem. biochem., Czech. Acad. Sci., Prague, 166 10/6, Czechoslovakia. Journal: *Proc. FEBS Meet.*, 61, Ind. Clin. Enzymol., p. 65-76 (1980).

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Fractionation of immunoglobulins by affinity chromatography with insolubilized concanavalin A

Authors: Loewenstein, H.; Boeg-Hansen, T. C.; Weeke, B. Location: Protein Lab., Univ. Copenhagen, Copenhagen, N. DK-2200, Denmark. Journal: Protides Biol. Fluids 27 : 611-14 (1980).

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Authors: Fagnani, Roberto; Braatz, James A. Location: Lab. Immunodiagnosis, Natl. Cancer Inst., Bethesda, MD 20205. Journal: J. Immunol. Methods 33 : 313-22 (1980).

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Dynamics of enhanced protein ultrafiltration using an immobilized protease

Authors: Wang, Shaw S.; Davidson, Burton; Gillespie, Carrie; Harris, L. R.; Lent, Daniel S. Location: Dep. Chem. Biochem. Eng., Rutgers Univ., New Brunswick, NJ. Journal: J. Food Sci. 45 : 700-2 (1980).

Use of immobilized lactase in milk systems

Authors: Finocchiaro, Terry; Olson, Norman F.; Richardson, Thomas. Location: Dep. Food Sci., Univ. Wisconsin, Madison, WI 53706. Journal: Adv. Biochem. Eng. 15 : 71-88 (1980).

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Continuous production of L-isoleucine using immobilized growing *Serratia marcescens* cells

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Author: Takehara, Tadamichi. Location: Sch. Dent., Kyushu Univ., Fukuoka, Japan. Journal: Shika Kiso Igakkai Zasshi 21 : 543-51 (1979). Language: Japanese.

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Authors: Yocum, R. Rogers; Waxman, David J.; Strominger, Jack L. Location: Biol. Lab., Harvard Univ., Cambridge, MA 02138. Journal: Trends Biochem. Sci. (pers. ed.) 5 : 97-101 (1980).

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Authors: Strauss, M.; Khilko, S. N.; Tikhonenko, T. I.; Grissler, E. Location: Cent. Inst. Mol. Biol., Ger. Acad. Sci., Berlin, 1115, G.D.R. Journal: FEBS Lett. 113 : 33-36 (1980).

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Authors: Borregaard, Niels; Essmann, Viggo. Location: Dep. Med. Infect. Dis., Marselisborg Hosp., Aarhus, DK-8000, Denmark. Journal: Anal. Biochem. 105 : 53-57 (1980).

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Authors: Beeckmans, S.; Kanarek, L. Location: Lab. Chem. Proteinen, Vrije Univ. Brussel, Sint-Genesius-Rode, B-1640, Belgium. Journal: Arch. Int. Physiol. Biochim. 88 : B13-B15 (1980).

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Author: Andersson, Krisoffer K.; Balny, Claude; Douzou, Pierre; Bieth, Joseph G. Location: INSERM, Montpellier, 34033, France. Journal: *J. Chromatogr.* 192 : 236-69 (1980).

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Author: Holden, Joseph A.; Meredith, Gary S.; Kelley, William N. Location: Med. Cent., Univ. Michigan, Ann Arbor, MI 48109. Journal: *Adv. Exp. Med. Biol.* 122B, Purine Metab. Man-3, Biochem. Immunol. Cancer Res., pp. 123-39 (1980).

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Authors: Kricka, Larry J.; Carter, Timothy J.; Burt, Susannah, M.; Kennedy, John H.; Holder, Roger L. Halliday, M. Isla; Telford, Margaret E.; Wisdom, G. Brian. Location: Dep. Clin. Chem., Univ. Birmingham, Birmingham, B15 2TT, England. Journal: *Clin. Chem. (Winston-Salem, NC)* 26 : 741-44 (1980).

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Author: Munnecke, Douglas M. Location: Inst. Bodenbiol., Bundesforschungsanst. Landwirtsch., Braunschweig, F.R.G. Journal: *Enzyme Eng.*, 277-78 (1978).

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Authors: Sebillé, Bernard; Thuaud, Nicole; Tillement, Jean Paul. Location: Lab. Phys. Chim. Biopolym., Univ. Paris, Creteil, F-94010, France. Journal: *J. Chrom.* 193 : 522-23 (1980).

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