

Michael J. Benedik, Ph.D.

Vice Provost and Chief International Officer
Regents Professor of Biology
Texas A&M University
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<http://provost.tamu.edu/About/Leadership/Vice-Provost>

EDUCATION

University of Chicago - B.A. with Honors, 1976, Biology
Stanford University - Ph.D., 1982, Biology - Molecular Genetics

PROFESSIONAL APPOINTMENTS

Vice Provost (7/2015-present)
Chief International Officer (2018-present)
Dean of Faculties and Associate Provost (1/13-6/15)
Interim Dean of Faculties and Associate Provost (7/12-1/13)
Faculty Ombuds Officer, Texas A&M University (2010-2013)
Speaker of the Texas A&M Faculty Senate, 2011-12
Graduate Chair, Department of Biology, Texas A&M (2006-2010)
Vice-Chair, Faculty of Genetics, Texas A&M (2004-07)
Professor, Department of Biology, Texas A&M (2004-present)
Professor of Biology and Biochemistry (University of Houston) (2002-04)
Vice-Chair, Department of Biology and Biochemistry (University of Houston) (1994-99; 2000-03)
Director, Institute for Molecular Biology (University of Houston) (2001-03)
Visiting Scientist (sabbatical) NIH-NICHD, (1993-94)
Associate Director, Institute for Molecular Biology (University of Houston) (1990-2001)
Associate Professor of Biochemical and Biophysical Sciences (University of Houston) (1991-2002)
Assistant Professor of Biochemical and Biophysical Sciences (University of Houston) (1989-91)
Assistant Professor of Biology, Texas A&M University (1985-89)
Associate Director, Laboratory for Cloning and Gene Transfer, Department of Medical Biochemistry and Genetics,
Texas A&M College of Medicine (1984-85)
Staff Scientist, DNAX Research Institute of Molecular & Cellular Biology, (1982-1984) Palo Alto, CA

HONORS

Regents Professor, Texas A&M University, 2012
SEC Academic Leadership Development Fellow, 2012-13
American Society for Microbiology – International Professor for Africa, 2010
First scholar selected for the Great Program, Capitol Normal University, Beijing China, 2009

SIGNIFICANT ADMINISTRATIVE ACCOMPLISHMENTS

Vice Provost (July 2015-present):

As Vice Provost, I assist the Provost and the President with administering the entire academic enterprise at Texas A&M, working with the five Associate Provosts and Deans of the nineteen academic units.

My role operates without a specific portfolio, rather assisting in all areas of academic administration but with a specific focus on strategic planning, inter- and multi-disciplinary initiatives, and partnership development. In this vein, I served as leader or key contributor for many strategic initiatives and innovations:

Co-Chair of committee to create the new 10-year vision statement (Vision 2030) for the university.

Serves as Chief International Officer for the university:

- Led creation of the first international strategic plan to guide future efforts:
- Developed significant new strategic initiatives in Israel, China and Australia that are in progress.
- Strategies included forming international partnerships that furthered our research efforts while providing transformative student experiences.
- Texas A&M ranks as the #1 public university for the number of students who study abroad.

Promoted inter- and multi-disciplinary initiatives:

- Provided leadership vision and direct oversight of the university Global Grand Challenges initiatives to stimulate thematic projects that span multiple colleges on campus.
- Chair of working group to identify the barriers and solutions promoting multidisciplinary research and teaching on campus.
- Provides oversight for all interdisciplinary Faculties at Texas A&M.

Promoted innovation and entrepreneurship:

- Chair of task force that resulted in a new School of Innovation.
- Chair of working group that resulted in creation of a university-wide Entrepreneurship minor.
- Co-chair of faculty task force that created in a new Institute for Data Science.

Communications and Campaign initiatives:

- Served as key contributor of university communications and capital campaign strategies, providing perspective and guidance on overall theme and direction:
 - Served on communications leadership team for \$4B “Lead by Example” Capital Campaign.
 - Served as the academic affairs liaison on the first national branding campaign for the university, working to ensure focus on academic rigor rather than athletic programs.
- Managed and presented applications for funding from the Governors University Research Initiative (to recruit members of National Academy or Nobel Prize winners).
 - Eight grants were awarded totaling over \$30M permitting the successful recruitment of six new faculty with five more underway (netting \$25M to date).

Encouraged faculty engagement in developing university policies, for example:

- Co-chair of faculty task force to rewrite the university policy on Post-tenure review with the goal of improving performance and accountability. Led the group as they developed a new, potentially contentious policy with more structured approach that focused on accountability and performance with strictly defined possible punitive actions. Deftly facilitated the taskforce, encouraging inclusiveness and diverse views, but withholding my personal views or direction. This approach allowed the faculty task force members to design the policy as they

saw fit. Allowing the design by the rank and file faculty without the hand of administration made the policy more acceptable. Assisted in socializing the policy throughout the university.

Dean of Faculties and Associate Provost (2012-15):

Managed a 50 staff with an annual budget of \$5M: organizations reporting to me included the Faculty Senate, the Center for Teaching Excellence and Instructional Technology Services.

- Improved management operations and business practices:
 - Restructured Dean of Faculties office to improve service and efficiency by aligning resources.
 - Created an online hiring portal, bringing hiring and assessment into 21st century, improving time to hire and quality of applications/assessments.
 - Created campus-wide faculty database to allow better long-term faculty management including: performance, development and succession planning.
- Improved diversity and conflict management programs:
 - To improve our outreach and objective assessments in our hiring practices: developed training for faculty search committees to introduce effective recruiting strategies and provide implicit bias training (trained 200+ faculty per year for 3 years) improving our succession planning and diversity outcomes.
 - Oversaw all faculty grievances, including Academic Freedom, tenure denials, University Grievance Committee as well as Title IX and Title VII cases, reducing number of cases in process and providing significant faculty training to improve relationships and reduce complaints.
 - Served on both the leadership team and the internal advisory board for the Texas A&M Advance Center to promote success of women faculty in STEM fields.
 - Provided leadership and oversight of the Promotion and Tenure process:
 - Reviewed department and college guidelines for 16 academic colleges and over 100 departments, ensuring guidelines were consistent and transparent while supporting our goals of accountability and performance.
- Furthered faculty development:
 - Provided leadership for a significant rewrite of university rule on academic freedom.
 - Served for past 5 years as Texas A&M liaison and organizer to the SEC Academic Leadership Development Program
 - Helped design and implement grants programs (TOPS) to support innovative high impact interdisciplinary teaching experiences at scale.
 - Provided leadership and oversight of the two major teaching enhancement units, Center for Teaching Excellence and Instructional Technology Services (including the transition of ITS to Dean of Faculties). Worked to improve faculty competencies in both pedagogy and media use.
 - Redesigned undergraduate core curriculum to improve student success rate and retention.
- Facilitated major change initiatives – the mergers of a Law school (an external acquisition) and Health Science Centers (independently functioning centers) into the body of the university:
 - Created communication strategies and holding meetings to allay new faculty fears by engaging them in the merger solutions and clearly delineating how to align their independent policies within the university priorities, strategies and policies.
 - Created opportunities for staff cross-pollination and sharing of cultures.
 - Provided oversight for the revision and development of new policies and processes to embed these new organizations within the university policies.
- Facilities planning, oversight and management with proposed budgets and funding needs for out-years.
 - Serves on leadership committee that reviews and approves all proposals for facility changes.

- Serves on the leadership committee that conducts long - range planning for the university built environment including remodeling, expansions and demolitions.

PROFESSIONAL SERVICE ACTIVITIES

Regional Vice-President – Texas Branch AAUP (2012-2014)
Editorial Board, Bioengineered Bugs (now Bioengineered) (2010-present)
Editorial Board, Frontiers in Microbiology (2015-2018)
Editorial Board, Journal of Microbial and Biochemical Technology (2010-2014)
Editorial Board, Open Biotechnology (2007-2010)
Editor, Research Advances in Microbiology (2000-2004)
Associate Editor, GENE (1994-96)

UNIVERSITY SERVICE (recent)

Facilities Utilization and Planning Sub-Council, 2015-present
ADVANCE Center - Internal Advisory Board, 2013-2018
Council on Climate and Diversity, 2012-16
Task Force on Campus Carry, 2015-16
Chair, Task Force on Post-Tenure Review, 2015-16
Executive Committee for Texas A&M Capital Campaign Lead by Example
Chair, Search Advisory Committee for Vice President of IT and CIO, 2015-16
ADVANCE Center - Success Enhancement Co-Chair, 2013-16
SEC Academic Leadership Development Program Liaison, 2012-16
Co-Chair, Search Advisory Committee for Faculty Ombuds Officer, 2013
Speaker of the Texas A&M Faculty Senate, 2011-12
Texas A&M Faculty Senate, Executive Committee, 2009-2012
Texas A&M Faculty Senate, 2005-2012
Special Situations Team (crisis response), 2012-15
Student Affairs Advisory Panel, 2012-15
Student Success Center Advisory Committee, 2012
Search Committee for Dean of Texas A&M University Libraries, 2010-12
Athletics Council Advisory Committee, 2011-12
Texas A&M University Press Site Visit Review Team, 2011
Task Force on Export Control, 2010-11
Task Force on Scientific Misconduct, 2010
Research Standards Officer, 2009-10
Task Force for Faculty Performance Evaluations 2009-10
Committee on Academic Freedom, Responsibility and Tenure, 2008-2010
Chair, University Grievance Committee, 2005-2010

GRADUATE AND POSTGRADUATE RESEARCH SUPERVISION

Masters - 14
Doctoral chair or co-chair - 10
Postdocs or Visiting Scientists - 10

FORMAL TEACHING (recent)

MICR 351 Introductory Microbiology
 MICR 360 Microbial Biotechnology
 MICR 406 Bacterial Genetics
 BIOL 285 Seminar on Origins of People, Cultures and Languages
 BIOL 285 Seminar on Politics and People: Influences on Science
 UPAS 181 Sex and the Evolution of Human Behavior
 BIOL 689/609 Molecular Tools in Biology

RESEARCH GRANTS as PI or co-PI (38 grants funded)

Federal (NIH, NSF, Naval Research Office) \$4,161,131
 State - \$1,008,585
 Industrial or Private Foundation - \$816,000
 University (competitive) - \$250,398

PUBLICATIONS (~100)

- 1) Benedik, MJ and BT Sewell. (2018) Cyanide degrading nitrilases in nature. *Journal of General and Applied Microbiology* 64:90-93. doi: 10.2323/jgam.2017.06.002.
- 2) Park, JM, BT Sewell, MJ Benedik. (2017) Cyanide bioremediation: the potential of engineered nitrilases. *Applied Microbiology and Biotechnology* 101:3029-42. doi: 10.1007/s00253-017-8204-x.
- 3) Crum, MA, BT Sewell, MJ Benedik. (2016) *Bacillus Pumilus* cyanide dihydratase mutants with higher catalytic activity. *Frontiers in Microbiology* 7:1264. doi: 10.3389/fmicb.2016.01264.
- 4) Park, JM, CM Ponder, BT Sewell, MJ Benedik. (2016) Residue Y70 of the nitrilase cyanide dihydratase from *Bacillus pumilus* is critical for formation and activity of the spiral oligomer. *Journal of Microbiology and Biotechnology* 26(12):2179-2183. doi: 10.4014/jmb.1606.06035.
- 5) Park, JM, M. Andani, BT Sewell, MJ Benedik. (2016) Probing an interfacial surface in the cyanide dihydratase from *Bacillus pumilus*, a spiral forming nitrilase. *Frontiers in Microbiology* 6:1479 doi: 10.3389/fmicb.2015.01479.
- 6) Crum, MA, JM Park, BT Sewell, MJ Benedik. (2015) C-terminal hybrid mutant of *Bacillus pumilus* cyanide dihydratase dramatically enhances thermal stability and pH tolerance by reinforcing oligomerization. *Journal of Applied Microbiology* 118:881-9. doi: 10.1111/jam.12754.
- 7) Islam, S, MJ Benedik, TK Wood. (2015) Orphan toxin OrtT (YdcX) of *Escherichia coli* reduces growth during the stringent response. *Toxins (Basel)* 7:299-321. doi: 10.3390/toxins7020299.
- 8) Crum, MA, JM Park, AE Mulelu, BT Sewell, MJ Benedik. (2015) Probing C-terminal interactions of the *Pseudomonas stutzeri* cyanide-degrading CynD protein. *Applied Microbiology and Biotechnology* 99:3093-3102. doi: 10.1007/s00253-014-6335-x.
- 9) Kwan BW, DM Lord, W Peti, R Page, MJ Benedik, TK Wood. (2014) The MqsR/MqsA toxin/antitoxin system protects *Escherichia coli* during bile acid stress. *Environmental Microbiology* 17:3168-81. doi: 10.1111/1462-2920.12749.
- 10) Kwan BW, DO Osbourne, Y Hu, MJ Benedik, TK Wood. (2014) Phosphodiesterase DosP increases persistence by reducing cAMP which reduces the signal indole. *Biotechnology and Bioengineering* 112:588-600. doi: 10.1002/bit.25456.
- 11) Hu Y, BW Kwan, DO Osbourne, MJ Benedik and TK Wood. (2014) Toxin YafQ increases persister cell formation by reducing indole signaling. *Environmental Microbiology* 17(4):1275-85. doi: 10.1111/1462-2920.12567.
- 12) Vilo C, MJ Benedik, M Ilori, Q Dong. (2014) Draft genome sequence of *Cupriavidus* sp. strain SK-3, a 4-chlorobiphenyl- and 4-chlorobenzoic acid-degrading bacterium. *Genome Announcements*. 2014 Jul 3;2(4). doi: 10.1128/genomeA.00664-14.

- 13) Vilo C, MJ Benedik, M Ilori, Q Dong. (2014) Draft genome sequence of *Cupriavidus* sp. strain SK-4, a di-ortho-substituted biphenyl-utilizing bacterium isolated from polychlorinated biphenyl-contaminated sludge. *Genome Announcements*. 2014 May 22;2(3). doi:10.1128/genomeA.00474-14.
- 14) Guo Y, C Quiroga, Q. Chen, MJ McAnulty, MJ Benedik, TK Wood and X Wang. (2014) RalR (a DNase) and RalA (a small RNA) form a type I toxin-antitoxin system in *Escherichia coli*. *Nucleic Acids Research* 42:6448-62. doi: 10.1093/nar/gku279.
- 15) Cheng HY, VWC Soo, S Islam, MJ McAnulty, MJ Benedik and TK Wood. (2013) Toxin GhoT of the GhoT/GhoS TA system damages the cell membrane to reduce ATP and to reduce growth under stress. *Environmental Microbiology* 16:1741-54. doi: 10.1111/1462-2920.12373.
- 16) Martinez, AK, E Gordon, A Sengupta, NH Shirole, D Klepacki, B Martinez-Garriga, L Brown, MJ Benedik, C Yanofsky, A Mankin, N Vázquez-Laslop, MS Sachs and LR Cruz-Vera (2013) Interactions of the TnaC nascent peptide with rRNA in the exit tunnel enable the ribosome to respond to free tryptophan. *Nucleic Acids Research* 42:1245-56. doi: 10.1093/nar/gkt923.
- 17) Ilori, M., F Picardal, R Aramayo, SA Adebuseye, OS Obayori and MJ Benedik. (2013) Catabolic plasmid specifying polychlorinated biphenyl degradation in *Cupriavidus* sp. strain SK-4: mobilization and expression in a pseudomonad. *Journal of Basic Microbiology* doi: 10.1002/jobm.201200807.
- 18) Kwan, BW, JA Valenta, MJ Benedik and TK Wood. (2013) Arrested protein synthesis increases persister-like cell formation. *Antimicrobial Agents Chemotherapy* 57:1468-73. doi: 10.1128/AAC.02135-12.
- 19) Wang X, DM Lord, SH Hong, W Peti, MJ Benedik, R Page and TK Wood. (2013) Type II toxin/antitoxin MqsR/MqsA controls type V toxin/antitoxin GhoT/GhoS. *Environmental Microbiology* 15:1734-44. doi: 10.1111/1462-2920.12063.
- 20) Vilo, CA, MJ Benedik, DA Kunz, Q Dong (2012) Draft genome sequence of the cyanide-utilizing bacterium *Pseudomonas fluorescens* strain NCIMB 11764. *Journal of Bacteriology* 194:6618-19. doi: 10.1128/JB.01670-12.
- 21) Wang, X, DM Lord, H-Y Cheng, DO Osbourne, SH Hong, V Sanchez-Torres, C Quiroga, K Zheng, T Herrmann, W Peti, MJ Benedik, R Page and TK Wood (2012) A new type V toxin-antitoxin system where mRNA for toxin GhoT is cleaved by antitoxin GhoS. *Nature Chemical Biology* 8:855-61.
- 22) Hong, SH, X Wang, HF O'Connor, MJ Benedik and TK Wood (2012) Bacterial persistence increases as environmental fitness decreases. *Microbial Biotechnology* 5:509-22.
- 23) Martinez, AK, NH Shirole, S Murakami, MJ Benedik, MS Sachs, LR Cruz-Vera. (2012) Crucial elements that maintain the interactions between the regulatory TnaC peptide and the ribosome exit tunnel responsible for Trp inhibition of ribosome function. *Nucleic Acids Research* 40:2247-57.
- 24) Hu, Y, MJ Benedik and TK Wood. (2012) Antitoxin DinJ influences the general stress response through transcript stabilizer CspE. *Environmental Microbiology* 14:669-79.
- 25) Wang L, JM Watermeyer, AE Mulelu, BT Sewell and MJ Benedik (2012) Engineering pH tolerant mutants of a cyanide dihydratase. *Applied Microbiology and Biotechnology* 94:131-140.
- 26) Wang, X, Y Kim, SH Hong, Q Ma, BL Brown, M Pu, AM Tarone MJ. Benedik, W Peti, R Page and TK Wood. (2011) Antitoxin MqsA helps mediate the bacterial general stress response. *Nature Chemical Biology* 7:359-366.
- 27) Abou-Nader, M and MJ Benedik. (2010) Rapid generation of random mutant libraries. *Bioengineered Bugs* 1:337-340.
- 28) Dvoracek, CM, G Sukhonosova, MJ Benedik and JC Grunlan. (2009) Antimicrobial behavior of polyelectrolyte-surfactant thin film assemblies. *Langmuir* 25:10322-8
- 29) Ju J, Qi J, Xu S, Ohnishi K, Benedik MJ, Xue Y, Ma Y. (2009) Crystallization and preliminary X-ray study of alkaline alanine racemase from *Bacillus pseudofirmus* OF4. *Acta Crystallographica Section F Structural Biology Communications*. 65:166-8.
- 30) Thuku, RN, D Brady, MJ Benedik, BT Sewell (2009) Microbial nitrilases: versatile, spiral forming, industrial enzymes. *Journal of Applied Microbiology* 106:703-727.

- 31) Dent, KC, BW Weber, MJ Benedik, BT Sewell. (2008) The cyanide hydratase from *Neurospora crassa* forms a helix which has a dimeric repeat. *Applied Microbiology and Biotechnology* 82:271-278.
- 32) Basile, LJ, RC Willson, BT Sewell and MJ Benedik (2008) Genome mining of cyanide degrading nitrilases from filamentous fungi. *Applied Microbiology and Biotechnology* 80:427-435.
- 33) Woodward JD, BW Weber, MP Scheffer, MJ Benedik, A Hoenger, BT Sewell. (2008) Helical structure of unidirectionally shadowed metal replicas of cyanide hydratase from *Gloeocercospora sorghi*. *Journal of Structural Biology* 161:111-119.
- 34) Strych U, M Davlieva, JP Longtin, EL Murphy, H Im, MJ Benedik, KL Krause. (2007) Purification and preliminary crystallization of alanine racemase from *Streptococcus pneumoniae*. *BMC Microbiology* 7(1):40
- 35) Nawarathna D, JR Claycomb, JH Miller, MJ Benedik. (2005). Nonlinear dielectric spectroscopy of live cells using superconducting quantum interference devices. *Applied Physics Letters* 86: 023902
- 36) Sewell, BT, RN Thuku, X Zhang and MJ Benedik. (2005). Oligomeric structure of nitrilases, effect of mutating interfacial residues on activity. *Annals of the N.Y. Academy of Science* 1056:153-159.
- 37) Jandhyala, DM, RC Willson BT Sewell and MJ Benedik. (2005) Comparison of cyanide-degrading nitrilases. *Applied Microbiology and Biotechnology*. 68:327-335.
- 38) LeMagueres P, H Im, J Ebalunode, U Strych, M Benedik, J Briggs, H Kohn and KL Krause. (2005) The 1.9 Å crystal structure of alanine racemase from *Mycobacterium tuberculosis* contains a conserved entryway into the active site. *Biochemistry* 44:1471-1481.
- 39) Prodan C, F Mayo, JR Claycomb, JH Miller, MJ Benedik (2004). Low-frequency, low-field dielectric spectroscopy of living cell suspensions. *Journal of Applied Physics* 95:3754-3756.
- 40) Gibbs, PR, R Riddle, L Marchal, MJ Benedik and RC Willson (2003) Purification and characterization of 2'-aminobiphenyl-2,3-Diol 1,2-dioxygenase from *Pseudomonas* sp. LD2. *Protein Expression and Purification* 32:35-43.
- 41) Sewell, BT, MN Berman, PM Meyers, D Jandhyala and MJ Benedik. (2003) The cyanide degrading nitrilase from *Pseudomonas stutzeri* AK61 is a twofold symmetric, 14-subunit spiral. *Structure* 11:1413-22.
- 42) LeMagueres P, H Im, A Dvorak, U Strych, MJ Benedik and KL Krause. (2003) Crystal structure at 1.45 Å resolution of alanine racemase from a pathogenic bacterium, *Pseudomonas aeruginosa*, contains both internal and external aldimine forms. *Biochemistry*. 42:14752-14761.
- 43) Kim, MG, U Strych, KL Krause, MJ Benedik and H Kohn. (2003) Evaluation of amino-substituted heterocyclic derivatives as alanine racemase inhibitors. *Medicinal Chemistry Research* 12:130-138.
- 44) Jandhyala, D., M. Berman, P. Meyers, T. Sewell, R.C. Willson and M.J. Benedik. (2003) CynD, the cyanide dihydratase from *Bacillus pumilus*: Gene cloning and structural studies. *Applied Environmental Microbiology* 69:4794-4805.
- 45) Samartzidou, H, M Mehrazin, Z Xu, MJ Benedik and AH Delcour. (2003) Cadaverine inhibition of porin plays a role in cell survival at acidic pH. *Journal of Bacteriology*. 185:13-19.
- 46) Kim, MG, U Strych, KL Krause, MJ Benedik and H Kohn. (2003) N(2)-Substituted D,L-Cycloserine derivatives: synthesis and evaluation as alanine racemase inhibitors. *The Journal of Antibiotics (Toyko)* 56:160-168.
- 47) Riddle, R, PR Gibbs, RC Willson and MJ Benedik (2003). Purification and Properties of 2-hydroxy-6-oxo-6-(2'-aminophenyl)hexa-2,4-dienoic acid hydrolase involved with microbial degradation of carbazole. *Protein Expression and Purification*. 28:182-189.
- 48) Riddle, R, PR Gibbs, RC Willson and MJ Benedik (2003) Recombinant carbazole-degrading strains for enhanced petroleum processing. *Journal of Industrial Microbiology and Biotechnology*. 30:6-12.
- 49) Strych, U and MJ Benedik. (2002) Mutant analysis shows that alanine racemases from *Pseudomonas aeruginosa* and *Escherichia coli* are dimeric. *Journal of Bacteriology* 184:4321-25.
- 50) Marty, KB, C Williams, LJ Guynn, MJ Benedik and SR Blanke. (2002) Characterization of a cytotoxic

- factor in the culture filtrates of *Serratia marcescens*. *Infection and Immunity* 70:1121-1128.
- 51) Berkmen, M and M.J. Benedik (2002) Multi-copy repression of *Serratia marcescens* nuclease expression by *dinI*. *Current Microbiology* 44: 44-48.
 - 52) M. N. Filimonova, V. P. Gubskaya, I. A. Nuretdinov, M. J. Benedik, N. A. Cherepanova and I. B. Leshchinskaya. 2001. study of the mechanism of action of *p*-chloromercuribenzoate on endonuclease from the bacterium *Serratia marcescens*. *Biochemistry (Moscow)* 66:323-327.
 - 53) Strych, U., R. Penland, M. Jimenez, K. Krause and M. Benedik. 2001. Characterization of the alanine racemases from two mycobacteria. *FEMS Microbiology Letters* 196:93-98.
 - 54) Strych, U., H. Huang, K. Krause and M. Benedik. 2000. Characterization of the alanine racemases from *Pseudomonas aeruginosa* PAO1. *Current Microbiology* 41:290-294
 - 55) Balasundaram, D., M.J. Benedik, M. Morphew, V.D. Dang and H.L. Levin. 1999. Nup124p Is a nuclear pore factor of *Schizosaccharomyces pombe* that is important for nuclear import and activity of retrotransposon *Tf1*. *Molecular and Cellular Biology* 19:5768-5784.
 - 56) Riddle, R.R., R.C. Willson and M.J. Benedik. 1999. Temperature- and solvent-tolerant mutants of filamentous bacteriophage helper M13 KO7. *Biotechnology Letters*. 21:87-90.
 - 57) Dang, V. D., M.J. Benedik, K. Ekwall, J. Choi, R. C. Allshire and H. L. Levin. 1999. a new member of the *sin3* family of corepressors is essential for cell viability and required for retroelement propagation in fission yeast. *Molecular and Cellular Biology* 19:2351-2365.
 - 58) Strych, U., W. Dai and M.J. Benedik. 1999. The NucE and NucD lysis proteins are not essential for secretion of the *Serratia marcescens* extracellular nuclease. *Microbiology* 145:1209-1216.
 - 59) Benedik, M.J., P.R. Gibbs, R.R. Riddle and R.C. Willson. 1998. Microbial denitrogenation of fossil fuels. *Trends in Biotechnology* 16:390-395.
 - 60) Filimonova, MN, Benedik, MJ, Urazov, N and Leshchinskaya, IB 1998. *Serratia marcescens* nucleases are polydisperse at pH optimum. *Applied Biochemistry and Microbiology (Moscow)*. 35: 20-24.
 - 61) Guynn, L.J. W.P. Dai and M.J. Benedik. 1998. Nuclease overexpression mutants of *Serratia marcescens*. *Journal of Bacteriology* 180:2262-2264.
 - 62) Benedik, M.J. and U. Strych. 1998. *Serratia marcescens* and its extracellular nuclease. *FEMS Microbiology Letters*. 165:1-13.
 - 63) Filimonova, M.N., Gubskaya, V.P., Nuretdinov, I.A., Benedik, M.J., Bogomolnaya, L.M. andreeva, M.A., Leshchinskaya, I.B. 1997. Isoforms of *Serratia marcescens* nuclease. The role of Mg⁺⁺ ions in mechanism of hydrolysis. *Biokhimiia (Moscow)* 62:1148-1154.
 - 64) Berkmen, M., M.J. Benedik and U. Bläsi. 1997. The *Serratia marcescens* NucE protein functions as a holin in *Escherichia coli*. *Journal of Bacteriology* 179:6522-6524
 - 65) Suh, Y. S. and M.J. Benedik. 1997. Secretion of nuclease across the outer membrane of *Serratia marcescens* and its energy requirements. *Journal of Bacteriology* 179:677-683.
 - 66) Liu, NZ, M.J. Benedik and AH Delcour. 1997. Disruption of polyamine modulation by a single amino acid substitution on the L3 loop of the OmpC porin channel. *Biochimica et Biophysica Acta* 1326:201-212.
 - 67) Suh, Y.S., Jin, S., Ball, T.K. and Benedik, M.J. 1996. Two-step secretion of the *Serratia marcescens* extracellular nuclease. *Journal of Bacteriology* 178:3771-3778.
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 - 69) Chen, Y.C., Y. Suh, E. Riise, B. Kartman, S. Jin and M.J. Benedik. 1996. Inhibition of *Serratia marcescens* nuclease secretion by a truncated nuclease peptide. *Gene* 172:9-16.
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- of the *Serratia marcescens* extracellular nuclease. *Applied Environmental Microbiology* 61: 4083-4088.
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