

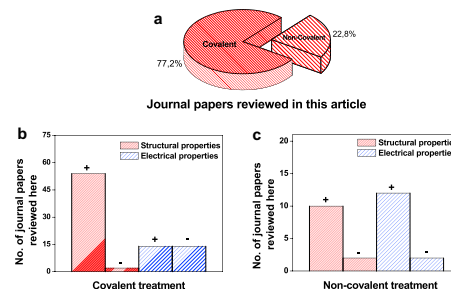
Polymer Vol. 51, No. 5, 2 March 2010

Contents

FEATURE ARTICLE

Assessing the strengths and weaknesses of various types of pre-treatments of carbon nanotubes on the properties of polymer/carbon nanotubes composites: A critical review

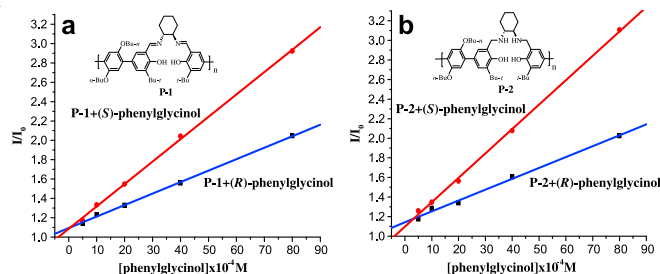
pp 975–993

Suryasarathi Bose^a, Rupesh A. Khare^b, Paula Moldenaers^{a,*}^a Department of Chemical Engineering and Leuven Materials Research Center, Katholieke Universiteit Leuven, Willem de Croylaan 46, B-3001 Leuven, Belgium^b Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology Bombay, Powai, Mumbai 400076, India

POLYMER COMMUNICATIONS

Fluorescence sensors based on chiral polymer for highly enantioselective recognition of phenylglycinol

pp 994–997

Ying Xu^a, Lifei Zheng^a, Xiaobo Huang^a, Yixiang Cheng^{a,*}, Chengjian Zhu^{b,**}^a Key Lab of Mesoscopic Chemistry of MOE, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, China^b State Key Laboratory of Coordination Chemistry, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, China

Mesomorphic phase in oriented poly(pentamethylene 2,6-naphthalate)

pp 998–1001

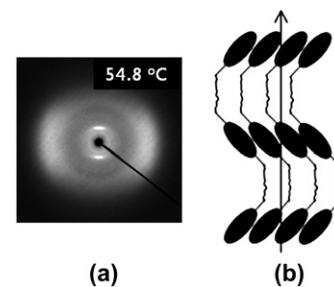
Thi Cuc Do^a, Hye-Jin Jeon^a, Hyun Hoon Song^{a,*}, Kohji Tashiro^b, Young Ho Kim^c, Moonhor Ree^d

^a Department of Advanced Materials, Hannam University, Daejeon, Republic of Korea

^b Department of Future Industry-Oriented Basic Science and Materials, Toyota Technological Institute, Nagoya, Japan

^c Department of Organic Materials and Fiber Engineering, Soongsil University, Seoul, Republic of Korea

^d Department of Chemistry, Pohang University of Science and Technology, Pohang, Republic of Korea



POLYMER PAPERS

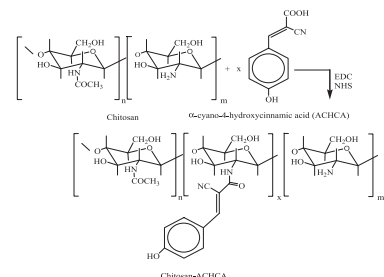
Synthesis and characterization of photo-crosslinkable hydrogel membranes based on modified chitosan

pp 1002–1009

M. Monier^{a,b,*}, Y. Wei^a, A.A. Sarhan^{b,*}, D.M. Ayad^b

^a Chemistry Department, College of Art and Science, Drexel University, Philadelphia, PA 19104, USA

^b Chemistry Department, Faculty of Science, Mansoura University, Mansoura, Egypt

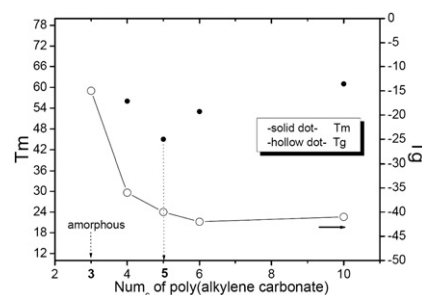


Controllable preparation of poly(alkylene carbonate)s and observation on their structure-related odd–even effect

pp 1010–1015

Wei Su, Jun Feng^{*}, Hua-Fen Wang, Xian-Zheng Zhang, Ren-Xi Zhuo

Key Laboratory of Biomedical Polymers of Ministry of Education & Department of Chemistry, Wuhan University, Wuhan 430072, PR China



Synthesis and electroluminescence properties of fluorene-co-diketopyrrolopyrrole-co-phenothiazine polymers

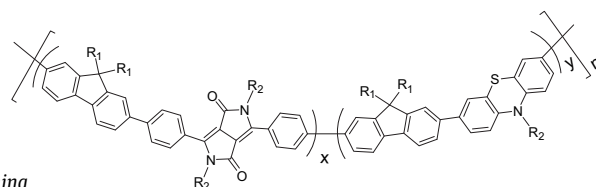
pp 1016–1023

Zhi Qiao^a, Junbiao Peng^b, Yi Jin^a, Qilin Liu^c, Jiena Weng^a, Zhicai He^b,
Shaohu Han^b, Derong Cao^{a,*}

^a School of Chemistry and Chemical Engineering, South China University of Technology, Guangzhou 510640, China

^b Institute of Polymer Optoelectronic Materials and Devices, South China University of Technology, Guangzhou 510640, China

^c Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Guangzhou 510650, China



Fluorene-co-DPP-co-Phenothiazine Polymers

Flu-DPP-Phen(50:0:2:49:8) (x:y=0.2:49.8)
Flu-DPP-Phen(50:2:48) (x:y=2:48)
Flu-DPP-Phen(50:10:40) (x:y=10:40)
Flu-DPP-Phen(50:20:30) (x:y=20:30)
Flu-DPP-Phen(50:30:20) (x:y=30:20)

Degradable blends of semi-crystalline and amorphous branched poly(caprolactone): Effect of microstructure on blend properties

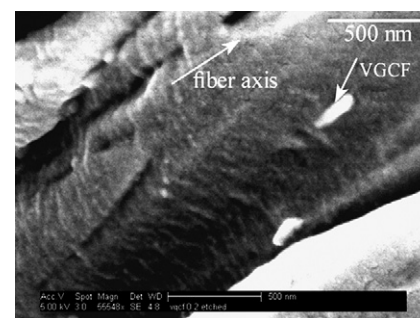
pp 1024–1032

Seema Agarwal*, Christian Speyerer

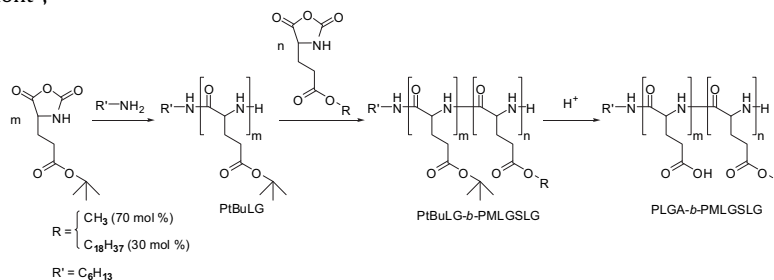
Philipps-Universität Marburg, Fachbereich Chemie, Hans Meerwein Strasse, D-35032 Marburg, Germany

**Annealing of drawn monofilaments of liquid crystalline polymer vectra/vapor grown carbon fiber nanocomposites**

pp 1033–1041

Estelle Kalfon-Cohen^{a,*}, Alessandro Pegoretti^b, Gad Marom^a^a Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, 91904 Jerusalem, Israel^b Department of Materials Engineering and Industrial Technologies, University of Trento, Via Mesiano 77, 38123, Italy**Double-brush Langmuir–Blodgett monolayers of α -helical diblock copolypeptides**

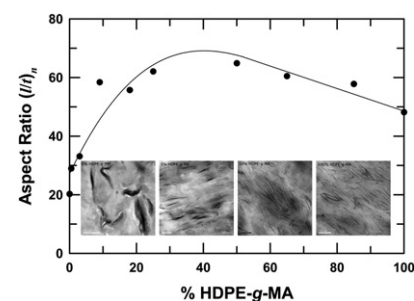
pp 1042–1055

Le-Thu T. Nguyen^a, Eltjo J. Vorenkamp^a, Christophe J.M. Daumont^b, Gerrit ten Brinke^a, Arend J. Schouten^{a,*}^a Department of Polymer Chemistry, Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands^b Department of Solid State Chemistry, Zernike Institute for Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands**Morphology and properties of nanocomposites based on HDPE/HDPE-g-MA blends**

pp 1056–1070

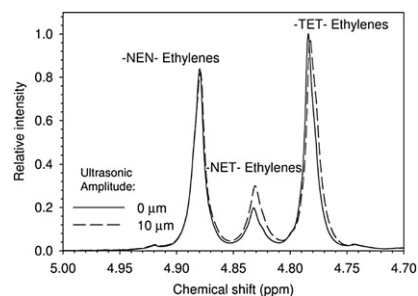
M.W. Spencer, Lili Cui, Youngjae Yoo, D.R. Paul*

Department of Chemical Engineering and Texas Materials Institute, The University of Texas at Austin, Austin, TX 78712, United States



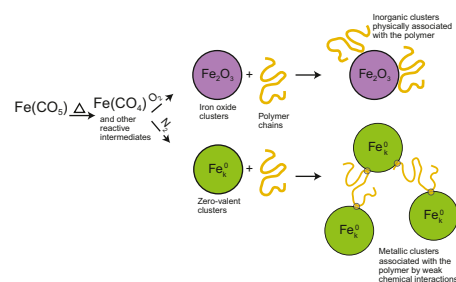
Fast in situ copolymerization of PET/PEN blends by ultrasonically-aided extrusion

pp 1071–1081

Kaan Gunes^a, Avraam I. Isayev^{a,*}, Xiaopeng Li^b, Chrys Wesdemiotis^b^a Institute of Polymer Engineering, The University of Akron, Akron, OH 44325-0301, USA^b Department of Chemistry, The University of Akron, Akron, OH 44325-3601, USA

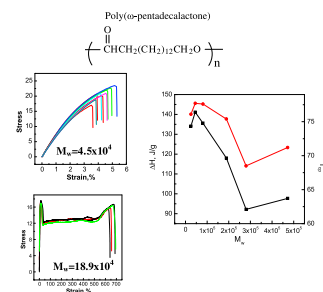
Physical gelation of cellulose acetate propionate solutions mediated by metal carbonyl complexes

pp 1082–1087

Grady A. Nunnery^a, Karl I. Jacob^b, Rina Tannenbaum^{a,c,*}^a School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA, USA^b Schools of Polymer, Textile, & Fiber Engineering and Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA, USA^c Department of Chemical Engineering, Technion – Israel Institute of Technology, Haifa, Israel

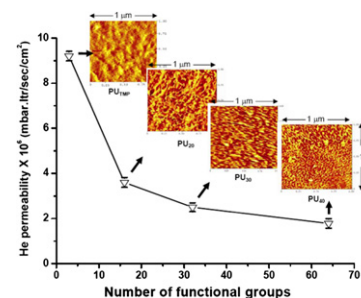
Effects of molecular weight on poly(ω -pentadecalactone) mechanical and thermal properties

pp 1088–1099

Jiali Cai^a, Chen Liu^a, Minmin Cai^a, Jie Zhu^b, Feng Zuo^b, Benjamin S. Hsiao^{b,**}, Richard A. Gross^{a,*}^a NSF I/UCRC for Biocatalysis and Bioprocessing of Macromolecules, The Polytechnic Institute of New York University, Six Metrotech Center, Brooklyn, NY 11201, USA^b Department of Chemistry, Stony Brook University, Stony Brook, NY 11794, USA

Preparation and properties of polyurethane nanocomposites of novel architecture as advanced barrier materials

pp 1100–1110

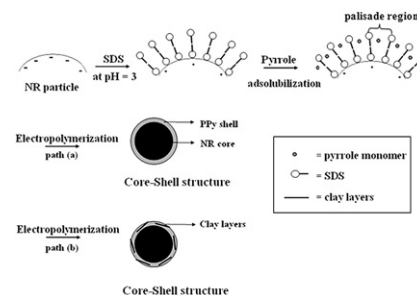
Pradip K. Maji^a, Nisith K. Das^b, Anil K. Bhowmick^{a,*}^a Rubber Technology Centre, Indian Institute of Technology, Kharagpur 721302, India^b Variable Energy Cyclotron Centre, Dept. of Atomic Energy, Govt. of India, 1/AF, Bidhan Nagar, Kolkata 700064, India

Fabrication and characterization of new semiconducting nanomaterials composed of natural layered silicates (Na^+ -MMT), natural rubber (NR), and polypyrrole (PPy)

pp 1111–1123

Tassawuth Pojanavaraphan, Rathanawan Magaraphan*

Polymer Processing and Polymer Nanomaterials Research Unit, The Petroleum and Petrochemical College, Chulalongkorn University, Soi Chula 12, Phayathai Road, Pathumwan, Bangkok 10330, Thailand

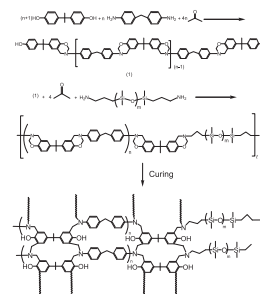


Morphology and thermomechanical properties of main-chain polybenzoxazine-*block*-polydimethylsiloxane multiblock copolymers

pp 1124–1132

Lei Wang, Sixun Zheng*

Department of Polymer Science and Engineering and State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, PR China



Physical effects of radiation processes in poly(aliphatic/aromatic-ester)s modified with e-beam radiation

pp 1133–1139

M. El Fray^{a,*}, G. Przybytniak^b, M. Piątek-Hnat^a, E.M. Kornacka^b

^a West Pomeranian University of Technology in Szczecin, Polymer Institute, Division of Biomaterials and Microbiological Technologies, ul. Pulaskiego 10, 70-322 Szczecin, Poland

^b Department of Radiation Chemistry and Technology, Institute of Nuclear Chemistry and Technology, ul. Dorodna 16, 03-195 Warsaw, Poland

The incorporation of carbon nanofibres to enhance the interlayer adhesion of hot compacted single-polymer polypropylene composites

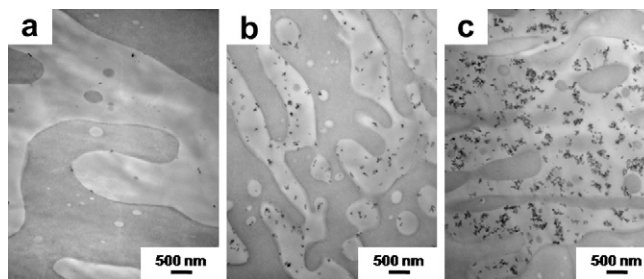
pp 1140–1146

Richard J. Foster, Peter J. Hine, Ian M. Ward*

Polymer and Complex Fluids Group, School of Physics and Astronomy, University of Leeds, Leeds LS2 9JT, UK

Effect of nanosilica on the co-continuous morphology of polypropylene/polyolefin elastomer blends

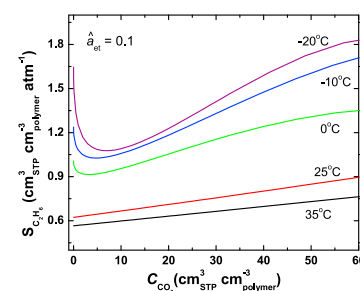
pp 1147–1155

S.H. Lee^a, M. Kontopoulou^{a,*}, C.B. Park^b^a Department of Chemical Engineering, Queen's University, Kingston, ON K7L3N6, Canada^b Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, ON M5S3G8, Canada**Carbon dioxide/ethane mixed-gas sorption and dilation in a cross-linked poly(ethylene oxide) copolymer**

pp 1156–1168

Cláudio P. Ribeiro, Jr., Benny D. Freeman^{*}

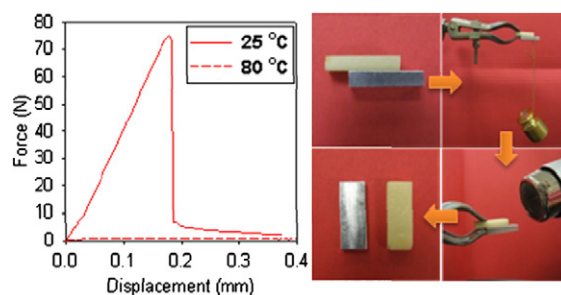
The University of Texas at Austin, Center for Energy and Environmental Resources, 10100 Burnet Road, Building 133, Austin, TX 78758, USA

**A thermally responsive, rigid, and reversible adhesive**

pp 1169–1175

Xiaofan Luo, Kathryn E. Lauber, Patrick T. Mather^{*}

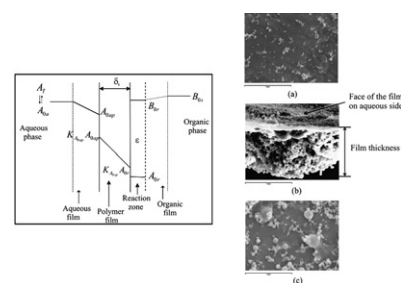
Syracuse Biomaterials Institute and Department of Biomedical and Chemical Engineering, Syracuse University, Syracuse, NY 13244, USA

**Understanding interfacial polycondensation: Experiments on polyurea system and comparison with theory**

pp 1176–1190

Sunil S. Dhumal, A.K. Suresh^{*}

Department of Chemical Engineering, Indian Institute of Technology, Bombay 400076, India

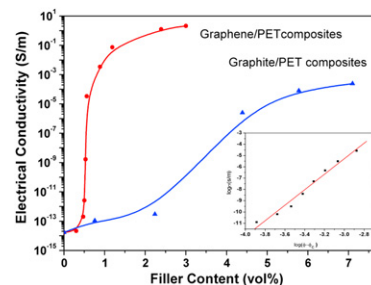


Electrically conductive polyethylene terephthalate/graphene nanocomposites prepared by melt compounding**pp 1191–1196**

Hao-Bin Zhang^a, Wen-Ge Zheng^{a,*}, Qing Yan^a, Yong Yang^a, Ji-Wen Wang^a, Zhao-Hui Lu^a,
Guo-Ying Ji^a, Zhong-Zhen Yu^{b,**}

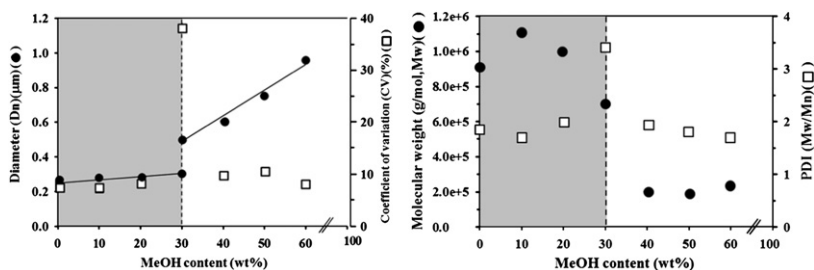
^a Ningbo Key Laboratory of Polymer Materials, Division of Polymers and Composites, Ningbo
Institute of Material Technology & Engineering, Chinese Academy of Sciences,
Ningbo 315201, China

^b Beijing Key Laboratory on Preparation and Processing of Novel Polymeric
Materials, Department of Polymer Engineering, College of Materials Science
and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

**Effect of homogeneity of methanol/water/monomer mixture on the mode of polymerization of MMA: Soap-free emulsion polymerization versus dispersion polymerization****pp 1197–1205**

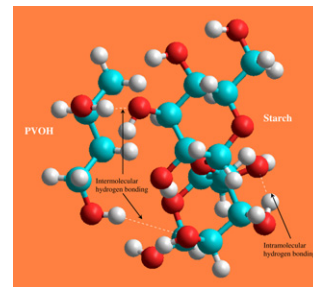
Gijung Kim, Samuel Lim, Byung H. Lee, Sang Eun Shim,
Soonja Choe^{*}

Department of Chemical Engineering, Inha University,
253 Yonghyundong, Namgu, Incheon 402-751 Republic of Korea



Computational modeling and experimental infrared spectroscopy of hydrogen bonding interactions in polyvinyl alcohol–starch blends

pp 1206–1211

Lee Tin Sin^{a,*}, W.A.W.A. Rahman^a, A.R. Rahmat^a, A.A. Samad^b^a Department of Polymer Engineering, Faculty of Chemical and Natural Resources Engineering, Universiti Teknologi Malaysia, 81310 UTM Skudai, Johor, Malaysia^b Department of Modern Languages, Faculty of Management and Human Resource Development, Universiti Teknologi Malaysia, 81310 UTM Skudai, Johor, Malaysia

*Corresponding author



Full text of this journal is available, on-line from **ScienceDirect**. Visit www.sciencedirect.com for more information.

Abstracted/indexed in: AGRICOLA, Beilstein, BIOSIS Previews, CAB Abstracts, Chemical Abstracts, Current Contents: Life Sciences, Current Contents: Physical, Chemical and Earth Sciences, Current Contents Search, Derwent Drug File, Ei compendex, EMBASE/Excerpta Medica, Medline, PASCAL, Research Alert, Science Citation Index, SciSearch. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®



ELSEVIER

ISSN 0032-3861

Author Index

- Agarwal, S. 1024
 Ayad, D. M. 1002

 Bhowmick, A. K. 1100
 Bose, S. 975
 Brinke, G. T. 1042

 Cai, J. 1088
 Cai, M. 1088
 Cao, D. 1016
 Cheng, Y. 994
 Choe, S. 1197
 Cui, L. 1056

 Das, N. K. 1100
 Daumont, C. J. M. 1042
 Dhumal, S. S. 1176
 Do, T. C. 998

 El Fray, M. 1133

 Feng, J. 1010
 Foster, R. J. 1140
 Freeman, B. D. 1156

 Gross, R. A. 1088
 Gunes, K. 1071

 Han, S. 1016
 He, Z. 1016
 Hine, P. J. 1140
 Hsiao, B. S. 1088
 Huang, X. 994

 Isayev, A. I. 1071

 Jacob, K. I. 1082
 Jeon, H.-J. 998
 Ji, G.-Y. 1191
 Jin, Y. 1016

 Kalfon-Cohen, E. 1033
 Khare, R. A. 975
 Kim, G. 1197
 Kim, Y. H. 998
 Kontopoulou, M. 1147
 Kornacka, E. M. 1133

 Lauber, K. E. 1169
 Lee, B. H. 1197
 Lee, S. H. 1147
 Li, X. 1071
 Lim, S. 1197
 Liu, C. 1088
 Liu, Q. 1016
 Lu, Z.-H. 1191
 Luo, X. 1169

 Magaraphan, R. 1111
 Maji, P. K. 1100
 Marom, G. 1033
 Mather, P. T. 1169
 Moldenaers, P. 975
 Monier, M. 1002

 Nguyen, L.-T. T. 1042
 Nunnery, G. A. 1082

 Park, C. B. 1147
 Paul, D. R. 1056
 Pegoretti, A. 1033
 Peng, J. 1016
 Piątek-Hnat, M. 1133
 Pojanavaraphan, T. 1111
 Przybytniak, G. 1133

 Qiao, Z. 1016

 Rahman, W. A. W. A. 1206
 Rahmat, A. R. 1206
 Ree, M. 998
 Ribeiro, C. P. 1156

 Samad, A. A. 1206
 Sarhan, A. A. 1002
 Schouten, A. J. 1042
 Shim, S. E. 1197
 Sin, L. T. 1206
 Song, H. H. 998
 Spencer, M. W. 1056
 Speyerer, C. 1024
 Su, W. 1010
 Suresh, A. K. 1176

 Tannenbaum, R. 1082
 Tashiro, K. 998

 Vorenkamp, E. J. 1042

 Wang, H.-F. 1010
 Wang, J.-W. 1191
 Wang, L. 1124
 Ward, I. M. 1140
 Wei, Y. 1002
 Weng, J. 1016
 Wesdemiotis, C. 1071

 Xu, Y. 994

 Yan, Q. 1191
 Yang, Y. 1191
 Yoo, Y. 1056
 Yu, Z.-Z. 1191

 Zhang, H.-B. 1191
 Zhang, X.-Z. 1010
 Zheng, L. 994
 Zheng, S. 1124
 Zheng, W.-G. 1191
 Zhu, C. 994
 Zhu, J. 1088
 Zhuo, R.-X. 1010
 Zuo, F. 1088