

Polymer Vol. 49, No. 18, 26 August 2008

Contents

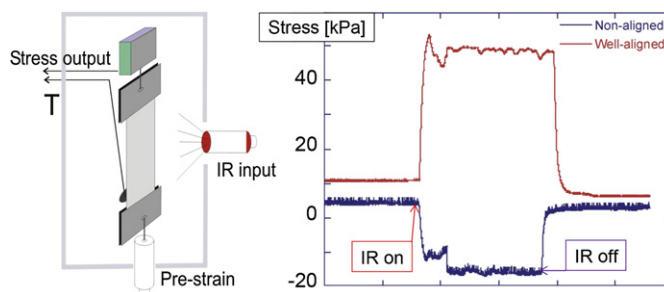
FEATURE ARTICLE

Polymers with aligned carbon nanotubes: Active composite materials

pp 3841–3854

S. V. Ahir, Y. Y. Huang, E. M. Terentjev*

Cavendish Laboratory, University of Cambridge, J.J. Thomson Avenue, Cambridge CB3 0HE, UK



POLYMER COMMUNICATION

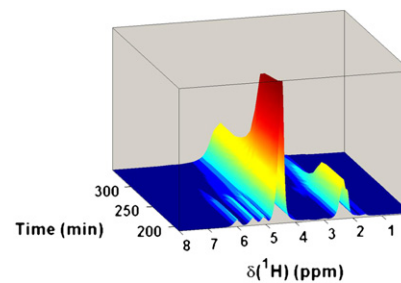
In situ ¹H NMR studies of free radical cryopolymerization

pp 3855–3858

Harald Kirsebom^a, Gabriel Rata^b, Daniel Topgaard^b, Bo Mattiasson^a, Igor Yu. Galaev^{a,*}

^a *Department of Biotechnology, Lund University, SE-221 00 Lund, Sweden*

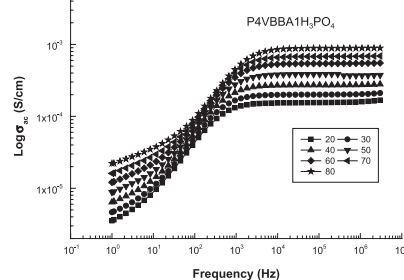
^b *Department of Physical Chemistry 1, Lund University, SE-221 00 Lund, Sweden*



POLYMER PAPERS

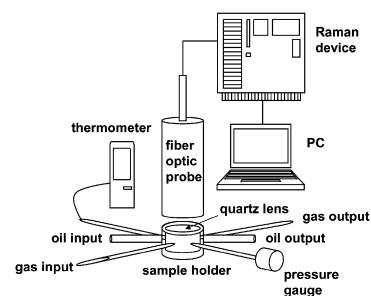
Synthesis and NMR studies of the polymer membranes based on poly(4-vinylbenzylboronic acid) and phosphoric acid

pp 3859–3864

Aslıhan Sezgin^a, Ümit Akbey^b, Michael Ryan Hansen^b, Robert Graf^b, Ayhan Bozkurt^{a,*}, Abdülhadi Baykal^a^a Department of Chemistry, Fatih University, 34500 Büyükcçekmece–İstanbul, Turkey^b Max-Planck-Institut for Polymer Research, Ackermannweg 10, D-55128 Mainz, Germany

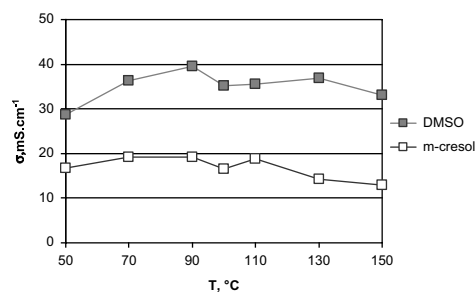
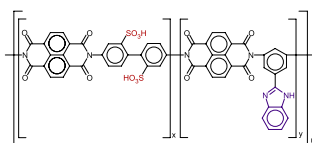
Online monitoring of synthesis and curing of phenol–formaldehyde resol resins by Raman spectroscopy

pp 3865–3874

Janne Monni^a, Pentti Niemelä^b, Leila Alvila^a, Tuula T. Pakkanen^{a,*}^a Department of Chemistry, University of Joensuu, P.O. Box 111, FI-80101 Joensuu, Finland^b VTT Technical Research Centre of Finland, Optical Instrument Center, P.O. Box 1100, FIN-90571 Oulu, Finland

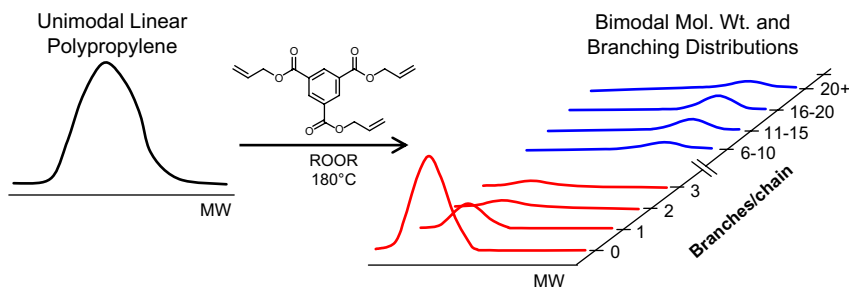
Sulfonated polynaphthalimides with benzimidazole pendant groups

pp 3875–3883

Yolanda Álvarez-Gallego^{a,b,*}, Bastian Ruffmann^a, Vasco Silva^a, Hugo Silva^a, Angel E. Lozano^b, José G. de la Campa^b, Suzana Pereira Nunes^a, Javier de Abajo^b^a Institute of Polymer Research, GKSS Research Centre, Max-Planck-Strasse 1, 21502 Geesthacht, Germany^b Instituto de Ciencia y Tecnología de Polímeros, CSIC, Juan de la Cierva 3, 28006 Madrid, Spain

Coagent-induced transformations of polypropylene microstructure: Evolution of bimodal architectures and cross-linked nano-particles

pp 3884–3891

J. Scott Parent^{a,*}, Saurav S. Sengupta^a, Michael Kaufman^a, Bharat I. Chaudhary^b^a Department of Chemical Engineering, Queen's University, Kingston, Ontario, Canada K7L 3N6^b The Dow Chemical Company, 1 Riverview Drive, Somerset, NJ 08873, USA

Using steered molecular dynamics simulations and single-molecule force spectroscopy to guide the rational design of biomimetic modular polymeric materials

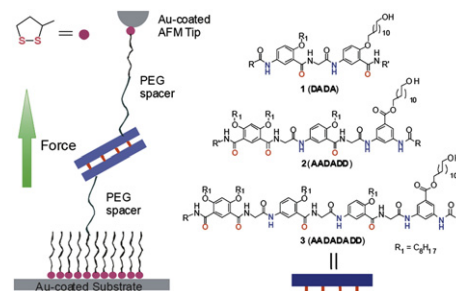
pp 3892–3901

Dora L. Guzmán^a, Jason T. Roland^a, Harindar Keer^a, Yen Peng Kong^c, Thorsten Ritz^{b,*}, Albert Yee^{c,*}, Zhibin Guan^{a,*}

^a Department of Chemistry, University of California, 1102 Natural Sciences 2, Irvine, CA 92697-2025, United States

^b Department of Physics, University of California, 4129 Frederick Reines Hall, Irvine, CA 92697-4575, United States

^c Department of Chemical Engineering and Materials Science, University of California, 916 Engineering Tower, Irvine, CA 92697-2575, United States



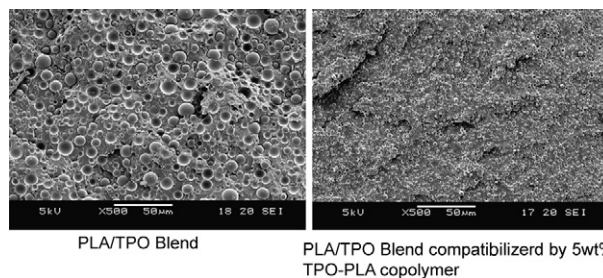
Synthesis and characterization of TPO–PLA copolymer and its behavior as compatibilizer for PLA/TPO blends

pp 3902–3910

Chang-Hong Ho^a, Chau-Hui Wang^b, Chin-I Lin^b, Yu-Der Lee^{a,*}

^a Department of Chemical Engineering, National Tsing Hua University, Hsinchu, 30013, Taiwan

^b Industrial Technology Research Institute, Hsinchu, 30013, Taiwan



Synthesis and incorporation in Langmuir films of oligophenylenevinylene dendrimers bearing a polar head group and different dendritic poly(benzyl ether) branches

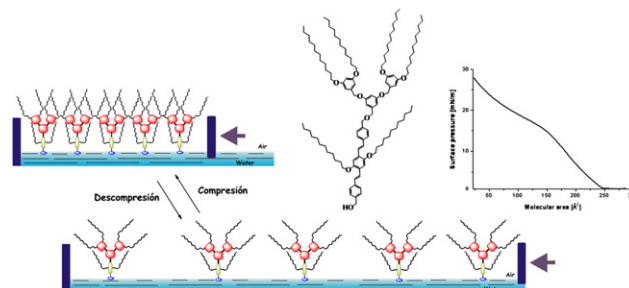
pp 3911–3922

Violeta Alvarez-Venicio^a, Baldemar Jiménez-Nava^a, María del Pilar Carreón-Castro^a, Ernesto Rivera^c, Irene Audelo Méndez^b, Alejandrina Acosta Huerta^b, Manuel Gutiérrez-Nava^{c,*}

^a Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México, Circuito Exterior Ciudad Universitaria, C.P. 04510 México D.F., Mexico

^b Facultad de Química, Universidad Nacional Autónoma de México, Ciudad Universitaria, C.P. 04510 México D.F., Mexico

^c Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México, Circuito Exterior Ciudad Universitaria, C.P. 04510 México D.F., Mexico



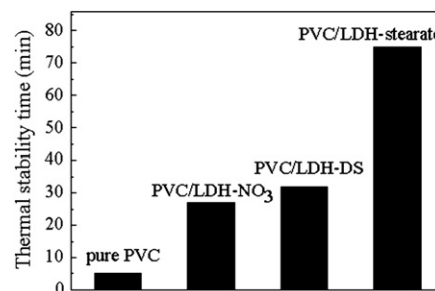
Preparation and characterization of poly(vinyl chloride)/layered double hydroxide nanocomposites with enhanced thermal stability

pp 3923–3927

Jun Liu^{a,b}, Guangming Chen^{a,*}, Jiping Yang^{b,*}

^a Beijing National Laboratory for Molecular Sciences (BNLMS), Laboratory of New Materials, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, PR China

^b School of Material Science and Engineering, Beihang University, Beijing 100083, PR China

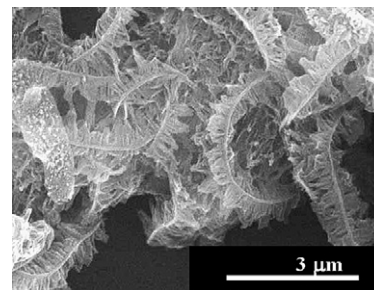


Preparation of brush-like crystals of poly[2,6-(1,4-phenylene)-benzobisimidazole]

pp 3928–3937

Jin Gong, Shin-ichiro Kohama, Kazuya Kimura, Shinichi Yamazaki, Kunio Kimura*

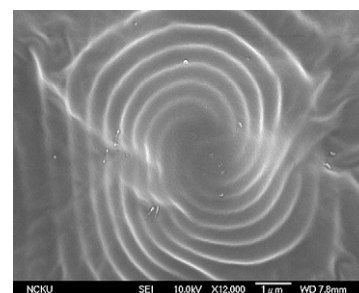
Graduate School of Environmental Science, Okayama University, 3-1-1 Tsushima-naka, Okayama 700-8530, Japan

**Synthesis and characterization of optically active liquid crystalline polyacrylates containing mesogenic phenylbenzoate groups**

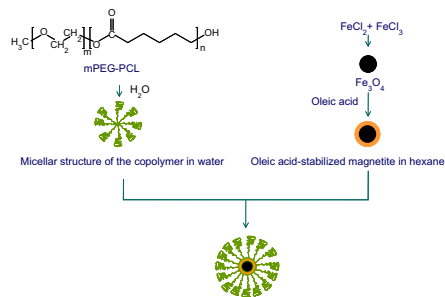
pp 3938–3949

Jui-Hsiang Liu*, Yu-Kan Wang, Chien-Chih Chen, Po-Chih Yang, Feng-Ming Hsieh, Yi-Hong Chiu

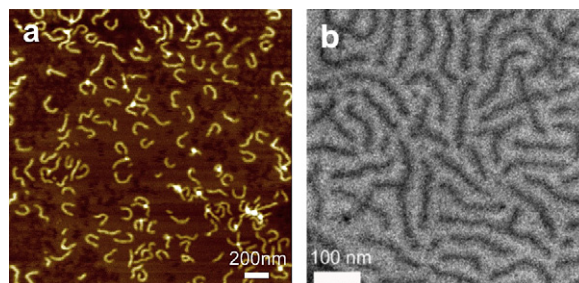
Department of Chemical Engineering, National Cheng Kung University, No. 1 University Road, Tainan 70101, Taiwan, ROC

**Magnetite nanoparticles stabilized with polymeric bilayer of poly(ethylene glycol) methyl ether–poly(ε-caprolactone) copolymers**

pp 3950–3956

Siraprapa Meerod^a, Gamolwan Tumcharern^b, Uthai Wichai^a, Metha Rutnakornpituk^{a,*}^a Department of Chemistry, Faculty of Science, Naresuan University, Phitsanulok 65000, Thailand^b National Nanotechnology Center, National Science and Technology Development Agency, Pathumthani 12120, Thailand**pH and salt responsive poly(*N,N*-dimethylaminoethyl methacrylate) cylindrical brushes and their quaternized derivatives**

pp 3957–3964

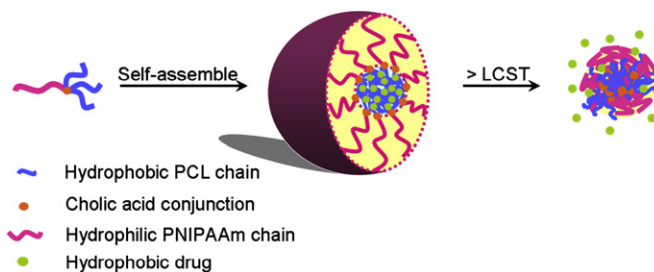
Youyong Xu^a, Sreenath Bolisetty^b, Markus Drechsler^a, Bing Fang^a, Jiayin Yuan^a, Matthias Ballauff^b, Axel H. E. Müller^{a,*}^a Makromolekulare Chemie II, Bayreuther Zentrum für Kolloide und Grenzflächen, Universität Bayreuth, D-95440 Bayreuth, Germany^b Physikalische Chemie I, Bayreuther Zentrum für Kolloide und Grenzflächen, Universität Bayreuth, D-95440 Bayreuth, Germany

Fabrication of star-shaped, thermo-sensitive poly(*N*-isopropylacrylamide)-cholic acid-poly(ϵ -caprolactone) copolymers and their self-assembled micelles as drug carriers

pp 3965–3972

Wen-Qin Chen, Hua Wei, Song-Lin Li, Jun Feng*, Jun Nie, Xian-Zheng Zhang*, Ren-Xi Zhuo

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



Crystalline-crystalline poly(3-hexylthiophene)-polyethylene diblock copolymers: Solidification from the melt

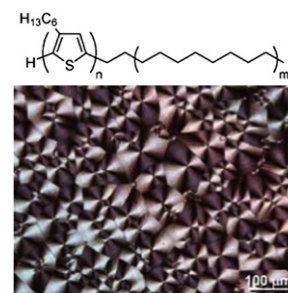
pp 3973–3978

Christian Müller^a, Christopher P. Radano^{b1}, Paul Smith^{a,c}, Natalie Stingelin-Stutzmann^{a,c,*}

^a Department of Materials, ETH Zürich, CH-8093 Zürich, Switzerland

^b Laboratory of Macromolecular and Organic Chemistry, Technische Universiteit Eindhoven,
5600 MB Eindhoven, The Netherlands

^c Centre for Materials Research, Queen Mary University of London, London E1 4NS, UK



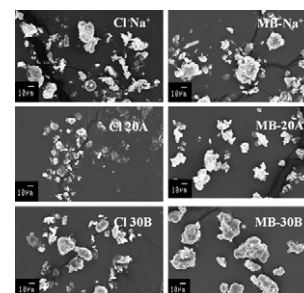
Synthesis of PCL/clay masterbatches in supercritical carbon dioxide

pp 3979–3986

L. Urbanczyk^a, C. Calberg^b, F. Stassin^a, M. Alexandre^a, R. Jérôme^a, C. Jérôme^a, C. Detrembleur^{a,*}

^a Center for Education and Research on Macromolecules (CERM), University of Liege, Building B6,
4000 Liège, Belgium

^b Department of Applied Chemistry, University of Liege, Building B6, 4000 Liège, Belgium



EPR kinetics in irradiated syndiotactic polystyrene at elevated temperatures

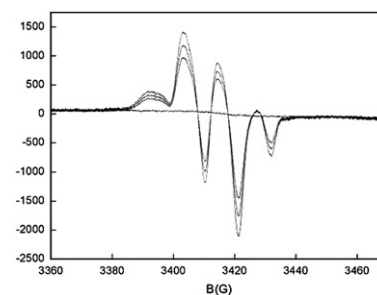
pp 3987–3992

Chiao-Chi Lin^a, Li-June Ming^{b,c1}, Chien-Chen Lee^a, Sanboh Lee^{a,*}

^a Department of Materials Science and Engineering, National Tsing Hua University, 101,
Section 2, Kuang Fu Road, Hsinchu 300, Taiwan

^b Department of Chemistry, University of South Florida, Tampa, FL 33620-5250, USA

^c Department of Chemistry, National Cheng Kung University, Tainan 701, Taiwan



Size effect on mechanical properties of micron-sized PS-DVB polymer particles

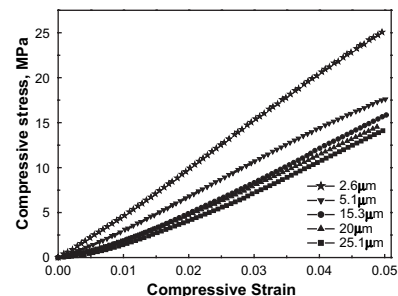
pp 3993–3999

J. Y. He^a, Z. L. Zhang^{a,*}, M. Midttun^a, G. Fonnum^b, G. I. Modahl^b, H. Kristiansen^c, K. Redford^c

^a NTNU Nanomechanical Laboratory, Norwegian University of Science and Technology, 7049 Trondheim, Norway

^b Invitrogen Dynal AS, P.O. Box 114, Smestad, 0309 Oslo, Norway

^c Conpart AS, 2013 Kjeller, Norway

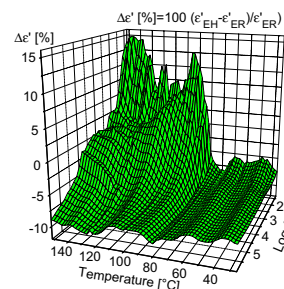


Electrical properties of a composite comprising epoxy resin and α -hematite nanorods

pp 4000–4008

Duško Dudić, Milena Marinović-Cincović, Jovan M. Nedeljković, Vladimir Djoković*

Vinča Institute of Nuclear Sciences, P.O. Box 522, 11001 Belgrade, Serbia

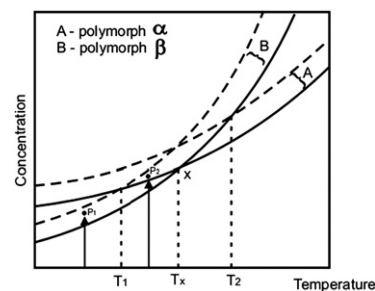


Effect of crystallization rate on the formation of the polymorphs of solution cast poly(vinylidene fluoride)

pp 4009–4016

Rinaldo Gregorio, Jr.*, Daniel Sousa Borges

Department of Materials Engineering, Federal University of São Carlos, Rod. Washington Luís, Km 235, 13565-905 São Carlos, Sao Paulo, Brazil



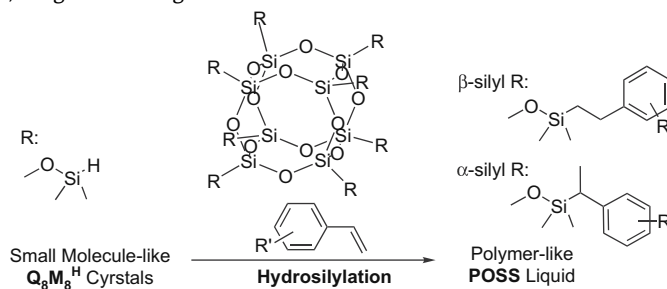
Synthesis and characterization of amorphous octakis-functionalized polyhedral oligomeric silsesquioxanes for polymer nanocomposites

pp 4017–4024

Yuung-Ching Sheen^a, Chu-Hua Lu^a, Chih-Feng Huang^a, Shiao-Wei Kuo^b, Feng-Chih Chang^{a,*}

^a Institute of Applied Chemistry, National Chiao Tung University, 30010 Hsinchu, Taiwan, ROC

^b Department of Materials Science and Engineering, National Sun Yat-Sen University, 804 Kaohsiung, Taiwan, ROC

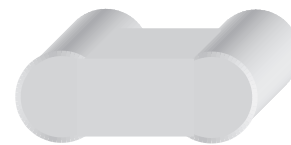


Characterization of electrospun poly(*N*-isopropyl acrylamide) fibers

pp 4025–4032

Danielle N. Rockwood^{a, b}, D. Bruce Chase^{a, c}, Robert E. Akins, Jr.^{a, d}, John F. Rabolt^{a, b, *}^a Department of Materials Science and Engineering, University of Delaware, 201 DuPont Hall, Newark, DE 19716, United States^b Delaware Biotechnology Institute, 15 Innovation Way, Newark, DE 19711, United States^c Corporate Center for Analytical Sciences, DuPont Experimental Station, Wilmington, DE 19880, United States^d Department of Biomedical Research, Alfred I. DuPont Hospital for Children, 1600 Rockland Road, Wilmington, DE 19803, United States

Narrow dog-bone



Flat dog-bone

*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 0040-4020

Author Index

- Ahir, S. V. 3841
 Akbey, Ü. 3859
 Akins, R. E., Jr. 4025
 Alexandre, M. 3979
 Álvarez-Gallego, Y. 3875
 Alvarez-Venicio, V. 3911
 Alvila, L. 3865
- Ballauff, M. 3957
 Baykal, A. 3859
 Bolisetty, S. 3957
 Borges, D. S. 4009
 Bozkurt, A. 3859
- Calberg, C. 3979
 Carreón-Castro, M. P. 3911
 Chang, F.-C. 4017
 Chase, D. B. 4025
 Chaudhary, B. I. 3884
 Chen, C.-C. 3938
 Chen, G. 3923
 Chen, W.-Q. 3965
 Chiu, Y.-H. 3938
- de Abajo, J. 3875
 de la Campa, J. G. 3875
 Detrembleur, C. 3979
 Djoković, V. 4000
 Drechsler, M. 3957
 Dudić, D. 4000
- Fang, B. 3957
 Feng, J. 3965
 Fonnum, G. 3993
- Galaev, I. Y. 3855
 Gong, J. 3928
 Graf, R. 3859
 Gregorio, R., Jr. 4009
 Guan, Z. 3892
 Gutiérrez-Nava, M. 3911
 Guzmán, D. L. 3892
- Hansen, M. R. 3859
 He, J. Y. 3993
 Ho, C.-H. 3902
 Hsieh, F.-M. 3938
- Huang, C.-F. 4017
 Huang, Y. Y. 3841
 Huerta, A. A. 3911
- Jérôme, C. 3979
 Jérôme, R. 3979
 Jiménez-Nava, B. 3911
- Kaufman, M. 3884
 Keer, H. 3892
 Kimura, Kazuya 3928
 Kimura, Kunio 3928
 Kirsebom, H. 3855
 Kohama, S.-i. 3928
 Kong, Y. P. 3892
 Kristiansen, H. 3993
 Kuo, S.-W. 4017
- Lee, C.-C. 3987
 Lee, S. 3987
 Lee, Y.-D. 3902
 Li, S.-L. 3965
 Lin, C.-C. 3987
 Lin, C.-I. 3902
 Liu, J. 3923
 Liu, J.-H. 3938
 Lozano, A. E. 3875
 Lu, C.-H. 4017
- Marinović-Cincović, M. 4000
 Mattiasson, B. 3855
 Meerod, S. 3950
 Méndez, I. A. 3911
 Midttun, M. 3993
 Ming, L.-J. 3987
 Modahl, G. I. 3993
 Monni, J. 3865
 Müller, A. H. E. 3957
 Müller, C. 3973
- Nedeljković, J. M. 4000
 Nie, J. 3965
 Niemelä, P. 3865
 Nunes, S. P. 3875
- Pakkanen, T. T. 3865
 Parent, J. S. 3884
- Rabolt, J. F. 4025
 Radano, C. P. 3975
 Rata, G. 3855
 Redford, K. 3993
 Ritz, T. 3892
 Rivera, E. 3911
 Rockwood, D. N. 4025
 Roland, J. T. 3892
 Ruffmann, B. 3875
 Rutnakornpituk, M. 3950
- Sengupta, S. S. 3884
 Sezgin, A. 3859
 Sheen, Y.-C. 4017
 Silva, H. 3875
 Silva, V. 3875
 Smith, P. 3973
 Stassin, F. 3979
 Stingelin-Stutzmann, N. 3973
- Terentjev, E. M. 3841
 Topgaard, D. 3855
 Tumcharern, G. 3950
- Urbanczyk, L. 3979
- Wang, C.-H. 3902
 Wang, Y.-K. 3938
 Wei, H. 3965
 Wichai, U. 3950
- Xu, Y. 3957
- Yamazaki, S. 3928
 Yang, J. 3923
 Yang, P.-C. 3938
 Yee, A. 3892
 Yuan, J. 3957
- Zhang, X.-Z. 3965
 Zhang, Z. L. 3993
 Zhuo, R.-X. 3965