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**PUBLICATIONS**

**I. BOOKS**

1. "Vibrational Spectroscopy of Biomolecules and Polymers" V.G. Gregoriou and M. Braiman, Editors, Taylor & Francis Co, New York, NY, (2006).
2. "Polymer Spectroscopy" V.G. Gregoriou Editor, Wiley-VCH, Weinheim, Germany (2004).
3. "Modern Infrared Spectroscopy: Principles and Applications" A.A. Christy, Y. Ozaki, and V.G. Gregoriou, Elsevier Science, Amsterdam, the Netherlands (2001).

**II. CHAPTERS IN BOOKS**

1. "Fourier Transform Infrared Spectroscopy" V.G. Gregoriou and S.E. Rodman in "Characterization of Materials" J. Wiley & Sons, New York, NY (2004).
2. "Study of the Viscoelastic Behavior of Liquid Crystalline Polyurethanes Using Static and Dynamic FT-IR Spectroscopy" V.G. Gregoriou, S.E. Rodman, B.R. Nair and P.T. Hammond, in "Vibrational Spectroscopy of Polymers and Biomolecules" V.G. Gregoriou and M. Braiman Editors, Marcel Dekker, New York, NY p. 1-34 (2006).
3. "Vibrational Spectroscopy of Thin Organic Films" V.G. Gregoriou, and S.E. Rodman, in "Handbook of Vibrational Spectroscopy" P.R. Griffiths and J. Chalmers Editors, J. Wiley & Sons, New York, N.Y. Vol. 4, p. 2670-2693 (2002).

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## **II. REFEREED RESEARCH PAPERS**

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2. "Time-Resolved Vibrational Spectroscopy of an Electric Field-Induced Transition in a Nematic Liquid Crystal by use of Step-Scan 2D FT-IR" V.G. Gregoriou, J.L. Chao, H. Toriumi and R.A. Palmer, *Chem. Phys. Lett.* **179**, 491 (1991).
3. "Nonlinear Multivariate Calibration using Principal Components Regression and Artificial Neural Networks" P.J. Gemperline, J.R. Long and V.G. Gregoriou, *Anal. Chem.* **63**, 2313 (1991).
4. "Time-Resolved Vibrational Spectroscopy of Liquid Crystals and Polymer Films using Step-Scan 2D FT-IR" V.G. Gregoriou, J.L. Chao, H. Toriumi, C. Marcott, I. Noda and R.A. Palmer, *Proc. SPIE - Int. Soc. Opt. Eng.* **1575**, 209 (1991).
5. "Polymer Characterization by Step-Scan FT-IR Spectroscopy" R.A. Palmer, R.M. Dittmar, V.G. Gregoriou and J.L. Chao, *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **32**, 673 (1991).
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7. "Dynamic Rheo-optical Characterization of a Low-Density Polyethylene/Perdeuterated High-Density Polyethylene Blend by Two-Dimensional Step-scan FT-IR Spectroscopy" V.G. Gregoriou, C. Marcott, I. Noda, A. Dowery and R.A. Palmer, *J. Polym. Sci.-B Polym. Phys.* **31**, 1769 (1993).
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11. "Dynamic FT-IR Spectroscopy of Polymer Films and Liquid Crystals" V.G. Gregoriou and R.A. Palmer, *Macromol. Chem. Macromol. Symp.* **94**, 75 (1995)
12. "FT-IR Difference Spectroscopy of Hemoglobins A and Kempsey: Evidence That a Key Quaternary Interaction Induces Protonation of Asp b99" V.G. Gregoriou, V. Jayaraman, X. Hu, and T.G. Spiro, *Biochem.* **34**, 6876 (1995).
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15. "Infrared Studies of Novel Optically Responsive Materials; Orientation Characteristics of Sulfonated Polystyrene/Poly(diallyldimethylammonium chloride) Ionic Polymer Multilayers on Patterned Self-Assembled Monolayers" V.G. Gregoriou, R. Hapanowicz, S. L. Clark, and P.T. Hammond, *Appl. Spectrosc.* **51**, 311 (1997).
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- 18.** "The Effect of Ionic Strength Variation on Patterned Self-Assembled Monolayers Using Infrared Reflection Absorption Spectroscopy" " V.G. Gregoriou, R. Hapanowicz, PY. Chen, S.L. Clark and P.T. Hammond *Annu. Tech. Conf. - Soc. Plast. Eng.* **57**, 2485 (1999).
- 19.** "FT-IR Studies of Side Chain Liquid Crystalline Thermoplastic Elastomers" B.R. Nair, V.G. Gregoriou and P.T. Hammond, *Polymer* **41**, 2961 (2000).
- 20.** "Applications of Two-Dimensional Correlation (2D) FT-IR Spectroscopy to Polymeric Materials Characterization" V.G. Gregoriou, S.E. Rodman, B.R.Nair, and P.T. Hammond *Amer. Inst. Phys.* **503**, 55 (2000).
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- 23.** "Morphological Properties of Polymeric Films Deposited on Patterned Self-Assembled Monolayers" V.G. Gregoriou and P.T. Hammond *Japan. Phys.* **111**, 175 (2000).
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- 26.** "Quantitative Depth Profile Analysis of Micron Thick Multi-Layered Thin Coatings Using Step-Scan FT-IR Photoacoustic Spectroscopy" V.G. Gregoriou, and S.E. Rodman, *Anal Chem.* **74** (10), 2361 (2002).
- 27.** "Correlation of the Molecular Orientation and Photonic Properties of Rigid-Flexible Aromatic Polyethers Using FT-IR Linear Dichroism and Photoluminescence Spectroscopic Techniques" C. Chochos, G. Kandilioti, V. Deimede and V.G. Gregoriou *J. Macromol. Science A*, **39**(11) 1317 (2002).
- 28.** "Two-Dimensional Correlation Infrared Analysis (2D-IR) Based on Dynamic Infrared Spectroscopy as a Probe of the Viscoelastic Behavior of Side Chain Liquid Crystalline Polyurethanes" V.G. Gregoriou, S.E. Rodman, B.R.Nair, and P.T. Hammond, *J. Phys. Chem. B.* **106**, 11108 (2002) .
- 29.** "Molecular Composition and Orientation of Interstitial versus Surface Silicon Oxides for Si(111)/SiO<sub>2</sub> and Si(100)/SiO<sub>2</sub> Interfaces using FT-IR and X-ray Photoelectron Spectroscopies" V.G. Gregoriou, G. Kandilioti, A. Siokou, S. Kennou and V. Papaethimiou *Appl. Spectrosc.* **57**, 628 (2003).
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- 31.** "Characterization of Polypropylene Nanocomposites for Industrial Applications" A. Korakianiti, V. Papaefthimiou, T. Daflou, S. Kennou, V.G. Gregoriou *Macromol. Chem. Macromol. Symp.* **205**, 71 (2004).
- 32.** "Spectroscopic Characterization of Micro-phase Separated Blends of Polystyrene/Polymethyl methacrylate (PS/PMMA) Blends" A. Korakianiti, S. Walsh, V.G. Gregoriou *Macromol. Chem. Macromol. Symp.* **205**, 163 (2004).
- 33.** "Synthesis and Characterization of Conjugated Polymers and their Blends for Optoelectronic Applications" S.P. Economopoulos, G.K. Govaris, C.L. Chochos, A.K. Andreopoulou, N.Tzanetos, J.K. Kallitsis, P. Yianoulis and V.G. Gregoriou *Macromol. Chem. Macromol. Symp.* **205**, 19 (2004).

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- 37.** "Vibrational Spectroscopic Study on the Origin of Stress Oscillation During Step-wise Stretching in Poly (ethylene terephthalate) (PET)" G. Kandilioti, G. Govaris and V.G. Gregoriou *Appl. Spectrosc.* **58** (2004).
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- 39.** "Bulk Heterojunction Photovoltaic Cells From Polymer Mixtures With Soluble Oxadiazole and Quinoline Polymers as Electron Acceptors" S. Economopoulos, C.L. Chochos, G.K. Govaris, P. Yiannoulis, J.K. Kallitsis, and V.G. Gregoriou, in *Materials for Photovoltaics*, edited by Michael Durstock, Daniel Friedman, Russell Gaudiana, and Angus Rockett (Mater. Res. Soc. Symp. Proc. **836** Warrendale, PA, 2005), L5.16
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- 45.** "Synthesis and Optical Properties of New End-functionalized Polyquinolines" S.P. Economopoulos, A.K. Andreopoulou, V.G. Gregoriou and J.K. Kallitsis *Chem. Mater.* **17** 1063 (2005).
- 46.** "High-density polyethylene layered silicate nanocomposites: effect of mechanical stretching on the crystal-to-crystal transformations, morphology, and extent of exfoliation" S. Tzavalas, K. Macchiarola, V.G. Gregoriou *Journal of Polymer Science, Part B: Polymer Physics* **44** 914 (2006).
- 47.** "Synthesis and optical properties on a series of polyethers incorporating terfluorene segments and methylene spacers" C.L. Chochos, D. Papakonstandopoulou, S.P. Economopoulos, V.G. Gregoriou, J.K. Kallitsis *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry* **43** 419 (2006).
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- 49.** "Thermally Stable Blue Emitting Terfluorene Block Copolymers" C.L. Chochos, J.K. Kallitsis, P.E. Keivanidis, S. Balushev, V.G. Gregoriou, *Journal of Physical Chemistry B* **110** 4657 (2006).
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- 54.** "Synthesis of a Soluble n-Type Cyano Substituted Polythiophene Derivative: A Potential Electron Acceptor in Polymeric Solar Cells" C.L. Chochos, S.P. Economopoulos, V. Deimede, V.G. Gregoriou, M.T. Lloyd, G.G. Malliaras, J.K. Kallitsis *Journal of Physical Chemistry C* **111** 10732 (2007).
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- 65.** "The Role of Ethynylene Bond on the Optical and Electronic Properties of Diketopyrrolopyrrole Copolymers" P. Pattanasattayavong, M. Sygletou, E. Kymakis, E. Stratakis, F. Yan, V. G. Gregoriou, T. D. Anthopoulos, C. L. Chochos, *RSC Advances* **4** 58404, (2014).
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## **V. ABSTRACTS IN CONFERENCE PROCEEDINGS**

**1.** "Wavelength Selection and Nonlinear Response in Multivariate Spectroscopic Assays" V.G. Gregoriou and P.J. Gemperline, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abstr.#812, March 1990, New York, NY.

**2.** "Applications of Step-Scan FT-IR" R.A. Palmer, C.J. Manning, V.G. Gregoriou and J.L. Chao, Gordon Conference on Vibrational Spectroscopy, June 1990, Wolfeboro, NH.

**3.** "Time-Resolved Vibrational Spectroscopy of Electric Field-Induced Transitions in Liquid Crystals and Liquid Crystal Polymers by use of Step-Scan 2D FT-IR" V.G. Gregoriou, R.A. Palmer, J.L. Chao and H. Toriumi, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abstr.#978, March 1991, Chicago, IL.

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**5.** "Time-Resolved Vibrational Spectroscopy of Liquid Crystals and Polymer Films using Step-scan 2D FT-IR " V.G. Gregoriou, J.L. Chao , H. Toriumi, C. Marcott, I. Noda and R.A. Palmer 8th International Conference on FT Spectroscopy, September 1991, Lubeck, Germany.

**6.** "Applications of Step-Scan FT-IR to Photoacoustic/Photothermal and Dynamic Spectroscopy" V.G. Gregoriou, R.A. Palmer, R.M. Dittmar and J.L. Chao, 43<sup>th</sup> Southeastern Regional ACS Meeting, November 1991, Richmond, VA.

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- 8.** "Time-resolved FT-IR Investigation of the Reorientation Behavior of Liquid Crystals under the Influence of Electric Fields" R.A. Palmer, V.G. Gregoriou, H. Toriumi and J.L. Chao, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#447, March 1992, New Orleans, LA.
- 9.** "Dynamic Rheo-Optical Characterization of Polymer films using Step-Scan FT-IR" R.A. Palmer, V.G. Gregoriou and J.L. Chao, National ACS Meeting, April 1992, San Francisco, CA.
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- 11.** "Investigation of Sub-molecular Liquid Crystal Dynamics by Use of Step-Scan and Stroboscopic Continuous-Scan FT-IR" V.G. Gregoriou, H. Toriumi, J.L. Chao and R.A. Palmer, FACSS Meeting, Abst.#313, September 1992, Philadelphia, PA.
- 12.** "Time-Resolved Vibrational Studies of Heme Proteins" S.E. Plunkett, M.W. Schauer, V.G. Gregoriou, R.A. Palmer, R.B. Dyer, P.O. Stoutland, K.A. Peterson, T. Causgrove, K.A. Bagley and W.H. Woodruff, FACSS Meeting, Abst.#565, September 1992, Philadelphia, PA.
- 13.** "Rheo-optical Characterization of Compatible Polymer Blends by Use of Step-Scan 2D FT-IR" V.G. Gregoriou, R.A. Palmer, B. Jasse, L. Monnerie, and J.L. Chao 44th Southeastern Regional ACS Meeting - 26th Middle Atlantic Regional Meeting, December 1992, Washington, DC.
- 14.** "Time-Resolved Step-Scan FT-IR of Protein Dynamics" M.W. Schauer, S.E. Plunkett, V.G. Gregoriou, R.A. Palmer, J.L. Chao, R.B. Dyer and W.H. Woodruff 44th Southeastern Regional ACS Meeting - 26th Middle Atlantic Regional Meeting, December 1992, Washington, DC.
- 15.** "Step-Scan FT-IR: Versatile Tool for Dynamic Vibrational Spectroscopy" R.A. Palmer, R.M. Dittmar, V.G. Gregoriou and S.E. Plunkett 44th Southeastern Regional ACS Meeting - 26th Middle Atlantic Regional Meeting, December 1992, Washington, DC.
- 16.** "Time-Resolved Phase-Resolved and 2D Step-Scan FT-IR Spectroscopy" R.A. Palmer, V.G. Gregoriou, S.E. Plunkett, R.M. Dittmar, J.L. Chao, C. Marcott, I. Noda and A. Dowery Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#179, March 1993, Atlanta, GA.

- 17.** "Dynamic FT-IR Spectroscopy of Liquid Crystals and Polymer Films" V.G. Gregoriou, M.W. Schauer, J.L. Chao and R.A. Palmer 1st International Symposium on Advanced Infrared Spectroscopy, March 1993, Tokyo, Japan.
- 18.** "Investigation of Time-Dependent Phenomena by Use of Step-Scan FT-IR" R.A. Palmer, J.L. Chao, R.M. Dittmar, V.G. Gregoriou and S.E. Plunkett 1st International Symposium on Advanced Infrared Spectroscopy, March 1993, Tokyo, Japan.
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- 20.** "Rheo-optical Characterization of Polymer Films using Dynamic FT-IR Spectroscopy" V.G. Gregoriou 11th European Symposium on Polymer Spectroscopy, July 1994, Valladolid, Spain.
- 21.** "FT-IR Spectroscopy of Hemoglobin: Markers of the Quaternary Interaction and the Bohr Effect" V.G. Gregoriou, V. Jayaraman and T.G. Spiro, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#642, March 1995, New Orleans, LA.
- 22.** "Characterizing ultra-thin coatings using step-scan FT-IR photoacoustic spectroscopy" V.G. Gregoriou Bio-Rad 1995 FT-IR Users Meeting, June 1995, Boston, MA.
- 23.** "Application of step-scan FT-IR photoacoustic spectroscopy to thin coatings characterization" V.G. Gregoriou, and A.N. Papas, FACSS Meeting, October 1995, Cincinnati, OH.
- 24.** "Characterization of polymeric materials using Raman microscopy" V.G. Gregoriou, and S. Kulkarni, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#732, March 1996, Chicago, IL.
- 25.** "Applications of Photoacoustic step-scan FT-IR to Polymeric Materials " V.G. Gregoriou 12th European Symposium on Polymer Spectroscopy, July 1996, Lyon, France.
- 26.** "Infrared Studies of Novel Optically Responsive Materials " V.G. Gregoriou, P. T. Hammond, and W.Y. Zheng, 2nd International Symposium on Advanced Infrared Spectroscopy, June 1996, Durham, NC.

- 27.** "Sub-micron Resolution Depth Profiling of Thin Coatings using Step-scan Photoacoustic FT-IR Spectroscopy" V.G. Gregoriou, 2nd International Symposium on Advanced Infrared Spectroscopy, June 1996, Durham, NC.
- 28.** "Static and Dynamic FT-IR Spectroscopy of Hemoglobin" V.G. Gregoriou, X. Hu, V. Jayaraman, and T.G. Spiro, 2nd International Symposium on Advanced Infrared Spectroscopy, June 1996, Durham, NC.
- 29.** "Sub-micron Resolution Depth Profiling of Thin Coatings using Step-scan Photoacoustic FT-IR Spectroscopy" V.G. Gregoriou, 9th International Conference on Photoacoustic & Photothermal Phenomena, Nanjing, China, 1996.
- 30.** "Depth Profiling of Thin Coatings using Step-scan Photoacoustic FT-IR spectroscopy" R. Hapanowicz and V.G. Gregoriou, HET Conference, Utrecht, Holland, 1996.
- 31.** "Angular Dependence in Linear Dichroism: A Reevaluation of the Theory" J.J. Cael, W. Dalzell, G. Trapani, and V.G. Gregoriou, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#1204, March 1997, Atlanta, GA.
- 32.** "Orientation characteristics of Ionic Polymer Multilayers on Patterned Self-Assembled Monolayers Studied by PM IRRAS" V.G. Gregoriou, R. Hapanowicz, S.L. Clark and P.T. Hammond, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#389, March 1997, Atlanta, GA.
- 33.** "Angular Dependence in Linear Dichroism: A Reevaluation of the Theory" J.J. Cael, W. Dalzell, G. Trapani, and V.G. Gregoriou, 11<sup>th</sup> International Conference on FT Spectroscopy, August 1997, Athens, GA.
- 34.** "Effect of ionic strength variations to the orientation characteristics of ionic polymer multilayers on patterned self-assembled monolayers using infrared reflection absorption spectroscopy" V.G. Gregoriou, R. Hapanowicz, S.L. Clark and P.T. Hammond, 11th International Conference on FT Spectroscopy, August 1997, Athens, GA.
- 35.** "Theoretical Studies on Angular Dependence in Linear Dichroism" J.J. Cael, W. Dalzell, G. Trapani, and V.G. Gregoriou, 24<sup>th</sup> FACSS Meeting, October 1997, Providence, RI.

- 36.** "Applications of Step-Scan FT/IR Spectroscopy to the Characterization of Optically Responsive Materials" V.G. Gregoriou, 24<sup>th</sup> FACSS Meeting, October 1997, Providence, RI.
- 37.** "Simultaneous Multiple Modulation Spectroscopy for the Dynamic Rheology of Polymers" M.J. Smith, P.Y. Chen, R. Qian, and V.G. Gregoriou, 3rd International Symposium on Advanced Infrared Spectroscopy, July 1998, Vienna, Austria.
- 38.** "Infrared Studies of Novel Side-Chain Liquid Crystalline Polyurethane Systems" V.G. Gregoriou, M.J. Smith, P.Y. Chen, B. Nair and P.T. Hammond, 3rd International Symposium on Advanced Infrared Spectroscopy, July 1998, Vienna, Austria.
- 39.** "Studies of Optically Responsive Materials by Step-scan Multiple Modulation Spectroscopy" M.J. Smith, P.Y. Chen, and V.G. Gregoriou, 25<sup>th</sup> FACSS Meeting, October 1998, Austin, TX.
- 40.** "Dynamic Infrared Studies of Novel Side Chain Liquid Crystalline Polyurethane Systems" V.G. Gregoriou, M.J. Smith, B. Nair, and P.T. Hammond, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#1256, March 1999, Orlando, FL.
- 41.** "The effect of Ionic Strength Variation on Patterned Self-Assembled Monolayers using Infrared Reflection Absorption Spectroscopy" V.G. Gregoriou, R. Hapanowicz, P.Y. Chen, S.L. Clark, and P.T. Hammond, ANTEC, 99, Abstr. #46, May 1999, New York, NY.
- 42.** "Applications of Photoacoustic Step-Scan FT-IR Spectroscopy to Thin Coatings Characterization" V.G. Gregoriou, Gordon Research Conference on Photoacoustic and Photothermal Phenomena, June 1999, New London, NH.
- 43.** "FT-IR Studies of Side Chain Liquid Crystalline Thermoplastic Elastomers" V. G. Gregoriou, B.R. Nair, and P.T. Hammond, 12<sup>th</sup> International Conference on FT Spectroscopy, August 1999, Tokyo, Japan.
- 44.** "Morphological Properties of Polymeric Films Deposited on Patterned Self-Assembled Monolayers", V.G. Gregoriou and P.T. Hammond, 12<sup>th</sup> International Conference on FT Spectroscopy, August 1999, Tokyo, Japan.
- 45.** "2D FT-IR Spectroscopic Studies of the Orientational Behavior of Side Chain Liquid Crystalline Thermoplastic Elastomers" V.G. Gregoriou, M.J. Smith, B. Nair, and P.T. Hammond, 2DCOS, September 1999, Kobe-Sanda, Japan.

- 46.** "Molecular Conformation of Patterned Self-Assembled Monolayers using Infrared Spectroscopy" V.G. Gregoriou and P.T. Hammond, 26<sup>th</sup> FACSS Meeting, October 1999, Vancouver, Canada.
- 47.** "Industrial Applications of Photoacoustic Depth Profiling" V.G. Gregoriou, 26<sup>th</sup> FACSS Meeting, October 1999, Vancouver, Canada.
- 48.** "Static and Dynamic FT-IR Spectroscopy of Liquid Crystal Polyurethanes" V.G. Gregoriou, M.J. Smith, B. Nair, and P.T. Hammond, 26<sup>th</sup> FACSS Meeting, October 1999, Vancouver, Canada.
- 49.** "Micro-Raman Imaging of Polymeric Materials" V.G. Gregoriou, S.E. Rodman, M. Pavlosky, and S. Brown, 38<sup>th</sup> Annual EAS Meeting, November 1999, Somerset, NJ, 1999.
- 50.** "Coupled mechano-optic behavior in side-chain liquid-crystalline thermoplastic elastomers" B.R. Nair, V.G. Gregoriou, P.T. Hammond, 219<sup>th</sup> ACS National Meeting, March 2000, San Francisco, CA.
- 51.** "Characterization of an Industrial Multilayer Thin Coating by Photoacoustic Spectroscopy" S.E. Rodman and V.G. Gregoriou, 27<sup>th</sup> FACSS Meeting, September 1999, Nashville, USA.
- 52.** EAS 2000 V.G. Gregoriou, and S.E. Rodman, 39<sup>th</sup> Annual EAS Meeting, October 2000, Atlantic City, NJ, 2000.
- 53.** "Dynamic FT-IR Investigation of the Viscoelastic Behavior of Side-Chain Liquid Crystalline Polyurethanes" PittCON 2001 V.G. Gregoriou, S.E. Rodman, B.R. Nair, and P.T. Hammond, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, Abst.#944, March 2001, New Orleans, LA., USA
- 54.** "Depth Profiling Studies of Multilayered Thin Films Using Step-Scan FT-IR Spectroscopy" V.G. Gregoriou and S.E. Rodman 3<sup>rd</sup> Greek National Chemical Engineering Conference, May 2001, Athens, Greece.
- 55.** "Static and Dynamic Infrared Characterization of the Viscoelastic Behavior of Liquid Crystalline Polyurethanes" V.G. Gregoriou, B.R. Nair, and P.T. Hammond, 3<sup>rd</sup> Greek National Chemical Engineering Conference, May 2001, Athens, Greece.

- 56.** "Dynamic FT-IR Spectroscopy of Optically Active Materials" V.G. Gregoriou, S.L. Clark, B.R. Nair, and P.T. Hammond, Eighth International Conference on Composites Engineering ICCE/8, July 2001, Tenerife, Spain.
- 57.** "The Viscoelastic Behavior of Novel Side Chain Liquid Crystalline Polyurethanes as Monitored by Dynamic FT-IR Spectroscopy and 2D-IR" V.G. Gregoriou, B.R. Nair, and P.T. Hammond 14th European Symposium on Polymer Spectroscopy (ESOPS 14), September 2001, Dresden, Germany.
- 58.** "Spectroscopic Characterization of Surfaces and Interfaces in Organic Light Emitting Diodes" V.G. Gregoriou, G. Kandilioti, E. Siokou, S. Kennou and V. Papaeuthimiou 28<sup>th</sup> FACSS Meeting, October 2001, Detroit, MI, USA.
- 59.** "Characterization of the Surfaces and Interfaces of Organic Light Emitting Diodes (OLED's)" V.G. Gregoriou, Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2002, New Orleans, LA., USA
- 60.** "Molecular Orientation and Strain Induced Crystallization of Syndiotactic Polypropylene (sPP) using FT-IR and Raman Spectroscopic Methods" V.G. Gregoriou, G. Kandilioti, C. Gatos and C. Galiotis 29<sup>th</sup> FACSS Meeting, October 2002, Providence, RI, USA.
- 61.** "Molecular Composition and Orientation of Interstitial versus Thin Film Silicon Oxides for Si(111)/SiO<sub>2</sub> and Si(100)/SiO<sub>2</sub> Surfaces using FT-IR and XPS Spectroscopic Methods" V.G. Gregoriou, G. Kandilioti, S. Kennou and V. Papaeuthimiou, 29<sup>th</sup> FACSS Meeting, October 2002, Providence, RI, USA.
- 62.** "FT-IR Studies of Uniaxially Drawn Poly(ethylene terephthalate) V.G. Gregoriou, G. Govaris and G. Kandilioti, 30<sup>th</sup> FACSS Meeting, October 2002, Providence, RI, USA.
- 63.** "Correlation of the Molecular Orientation and Photonic Properties of Rigid-Flexible Polymers Using FT-IR Linear Dichroism and Photoluminescence Spectroscopic Techniques" V.G. Gregoriou, C. Chochos, G. Kandilioti and V. Deimede 29<sup>th</sup> FACSS Meeting, October 2002, Providence, RI, USA.
- 64.** "Phase Transformations of the Molecular Chains in Syndiotactic Polypropylene via Elongation and Heating" G. Kandilioti, C. Gatos, C. Galiotis and V.G. Gregoriou 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.

- 65.** "Molecular Composition and Orientation of Interstitial versus Thin Film Silicon Oxides for Si(111)/SiO<sub>2</sub> and Si(100)/SiO<sub>2</sub> Surfaces using FT-IR and XPS Spectroscopic Methods" G. Kandilioti, A. Siokou, S. Kennou and V. Papaauthimiou 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.
- 66.** "Synthesis and Characterization of Conjugated Polymers and Their Mixtures for Opto-electronic Applications" S. Economopoulos, G. Govaris, C. Chochos, K. Andreopoulou, G. Kallitsis, P. Yianoulis, V.G. Gregoriou 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.
- 67.** "Correlation of the Molecular Orientation and Photonic Properties of Rigid-Flexible Aromatic Polyethers Using FT-IR and Photoluminescence Spectroscopic Techniques" C. Chochos, G. Kandilioti, V. Deimende, V.G. Gregoriou, 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.
- 68.** "Study of the Molecular Orientation and Induced Crystallinity of PET using FT-IR Spectroscopy" G. Govaris, G. Kandilioti, V.G. Gregoriou, 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.
- 69.** "Spectroscopic Study of the Miscibility Behavior of PS/PMMA Mixtures" A. Korakianiti, S. Walsh, V.G. Gregoriou 19<sup>th</sup> National Greek Chemical Conference, November 2002, Heraklion, Crete, Greece.
- 70.** "Synthesis and Characterization of Conjugated Polymers and Their Mixtures for Opto-electronic Applications" V.G. Gregoriou, S. Economopoulos, G. Govaris, C. Chochos, K. Andreopoulou, G. Kallitsis, P. Yianoulis, 1<sup>st</sup> National Plastics Conference, March 2003, Athens, Greece.
- 71.** "Spectroscopic Studies of the Molecular Orientation of Polyethylene Terephthalate (PET) and Syndiotactic Polypropylene (sPP)" V.G. Gregoriou, G. Kandilioti, G. Govaris, C. Gatos, and C. Galiotis 1<sup>st</sup> National Plastics Conference, March 2003, Athens, Greece.
- 72.** "Synthesis and Characterization of Conjugated Polymers and Their Mixtures for Opto-electronic Applications" V.G. Gregoriou, G. Govaris, C. Chochos, S. Economopoulos, K. Andreopoulou, G. Kallitsis, P. Yianoulis, 4<sup>th</sup> Greek National Chemical Engineering Conference, May 2003, Patras, Greece.

- 73.** "Studies of the Nanophase Separated Blends of PS/PMMA" A. Korakianiti, G. Kandilioti, S. Walsh, V.G. Gregoriou, 4<sup>th</sup> Greek National Chemical Engineering Conference, May 2003, Patras, Greece.
- 74.** "Studies of the Influence of Mechanical and Thermal Processes on the Orientation and the Conformation of the Molecular Chains of SPP and PET" G. Kandilioti, G. Govaris, C. Gatos, and C. Galiotis and V.G. Gregoriou, 4<sup>th</sup> Greek National Chemical Engineering Conference, May 2003, Patras, Greece.
- 75.** "Angular Dependence in Linear Dichroism; a Reevaluation of the Theory" V.G. Gregoriou, S. Bollas and S. Tsavalas, 4<sup>th</sup> Greek National Chemical Engineering Conference, May 2003, Patras, Greece.
- 76.** "Spectroscopic Study of Chain Conformations, Molecular Orientation and Strain-Induced Crystallization of PET and sPP During Mechanical Stretching" V.G. Gregoriou, G. Candilioti, G. Govaris, K.G. Gatos and C. Galiotis, 15<sup>th</sup> European Symposium on Polymer Spectroscopy, June 2003, Heraklion, Greece.
- 77.** "Characterization of Polypropylene Nanocomposites for Industrial Applications" A. Korakianiti, V. Papaefthimiou, T. Daflou, S. Kennou, V.G. Gregoriou, 15<sup>th</sup> European Symposium on Polymer Spectroscopy, June 2003, Heraklion, Greece.
- 78.** "Spectroscopic Characterization of Phase Separated Blends of Polystyrene / Polymethylmethacrylate (PS/PMMA)" A. Korakianiti, G. Kandilioti, S. Walsh and V. Gregoriou 15<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 15, June 2003, Heraklion, Greece.
- 79.** "Spectroscopic Study of the Molecular Composition and Orientation of the Interstitial and Surface Silicon Oxides Developed on Si(111) and Si (100) Substrates" G. Korakianiti, A. Siokou, V. Papaefthimiou, S. Kennou, V.G. Gregoriou, 15<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 15, June 2003, Heraklion, Greece.
- 80.** "Fourier Transform Infrared Dichroism Studies on Polyurethanes" Y. Koc, PT. Hammond, B. Lendl, V.G. Gregoriou 15<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 15, June 2003, Heraklion, Greece.

- 81.** "Synthesis and Characterization of Conjugated Polymers and their Blends for Optoelectronic Applications" S.P. Economopoulos, G.K. Govaris, C.L. Chochos, A.K. Andreopoulou, N.Tzanetos, J.K. Kallitsis, P. Yianoulis and V.G. Gregoriou ESOPS 15, June 2003, Heraklion, Greece.
- 82.** "Chain Conformational Transformations in Syndiotactic Polypropylene Induced by Stress or Heating" V.G. Gregoriou, K.G. Gatos, G. Kandilioti, C. Galiotis, 22<sup>nd</sup> Conference on Spectroscopy of Partially Ordered Macromolecular Systems, July 2003, Prague, Czech Republic.
- 83.** "Two-Dimensional Correlation Infrared Analysis (2D-IR) Based on Dynamic Infrared Spectroscopy as a Probe of the Viscoelastic Behavior of Side Chain Liquid Crystalline Polyurethanes" V.G. Gregoriou, 2<sup>nd</sup> International Symposium on Two-Dimensional Correlation Spectroscopy (2DCOS), August 2003, Nottingham, UK.
- 84.** "Investigation of the Molecular Composition and Orientation of the Si/SiO<sub>x</sub>/TiO<sub>2</sub> Interfaces Using Reflection-Absorption Infrared and X-ray Photoelectron Spectroscopies" V.G. Gregoriou, G. Kandilioti, A. Siokou, and S. Ntais, 30<sup>th</sup> FACSS Meeting, October 2003, FT. Lauderdale, FL, USA.
- 85.** "Study of Micro-Phase Separated Blends of Polystyrene/methyl methacrylate (PS/PMMA)" A. Korakianiti, G. Kandilioti, S. Walsh<sup>1</sup>, V. Gregoriou 30<sup>th</sup> FACSS Meeting, October 2003, FT. Lauderdale, FL, USA.
- 86.** "Spectroscopic Characterization of Polypropylene Nanocomposites" A. Korakianiti, V. Papaefthimiou, T. Daflou, S. Kennou, V. Gregoriou 30<sup>th</sup> FACSS Meeting, October 2003, FT. Lauderdale, FL, USA.
- 87.** "Vibrational spectroscopic investigation of Polymer-Clay Nanocomposites" V.G. Gregoriou, A. Korakianiti, S. Bollas, S. Tzavalas Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2004, Chicago, IL, USA
- 88.** "A New Theoretical Model on the Angular Dependence in Infrared Linear Dichroism" V.G. Gregoriou, S. Bollas, S. Tzavalas Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2004, Chicago, IL, USA
- 89.** "Characterization of conjugated polymers and their blends for use in flexible photovoltaic cells" V.G. Gregoriou, S.P. Economopoulos, G.K. Govaris, C.L. Chochos, A.K. Andreopoulou, N.Tzanetos, J.K. Kallitsis and P. Yianoulis Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2004, Chicago, IL, USA

- 90.** "Spectroscopic and Mechanical Characterization of Isotactic and Syndiotactic Polypropylene Nanocomposites" S. Bollas, A. Korakianiti, G. Kandilioti and V.G. Gregoriou 11th European Conference on Composite Materials, May 2004, Rhodes, Greece.
- 91.** "Rod-Coil Block Copolymers Containing Conjugated Rigid Segments: Synthesis and Optical Properties" J.K. Kallitsis, V.G.Gregoriou, C.L. Chochos, P.K. Tsolakis and N.P. Tzanetos 6<sup>th</sup> International Symposium on Functional pi-Electron Systems, June 2004, Cornell, NY, USA.
- 92.** "Bulk Heterojunction Photovoltaic Cells From Polymer Mixtures and Copolymers Utilizing Oxadiazoles and Quinolines as Electron Acceptors" V.G.Gregoriou, C.L. Chochos, S.P. Economopoulos, G.K. Govaris, A.K. Andreopoulou, N.P. Tzanetos, V. Deimede, J.K. Kallitsis, P. Yiannoulis 6<sup>th</sup> International Symposium on Functional pi-Electron Systems, June 2004, Cornell, NY, USA.
- 93.** "FT-IR spectroscopic investigation on the origin of the low energy PL emission bands in fluorenes used for OLED applications" C.L. Chochos, J.K. Kallitsis, and V.G.Gregoriou 31<sup>st</sup> FACSS Meeting, October 2004, Portland, OR, USA.
- 94.** "FT-IR spectroscopic characterization of Polymer Nanocomposites" V.G.Gregoriou, S. Bollas, A. Korakianiti, S. Tzavalas and G. Kandilioti 31<sup>st</sup> FACSS Meeting, October 2004, Portland, OR, USA.
- 95.** "On the origin of Color Degradation in Polyfluorenes – Block Copolymer Approach for Stable Blue Light Emission" V.G.Gregoriou, C.L. Chochos, G. Kandilioti and J.K. Kallitsis Materials Research Society (MRS) 2004 Meeting, November 2004, Boston, MA, USA.
- 96.** "Spectroscopic and Mechanical Characterization of Nanocomposites of Syndiotactic Polypropylene and Polyethylene" V.G.Gregoriou, S. Bollas, S. Tzavalas and G. Kandilioti Materials Research Society (MRS) 2004 Meeting, November 2004, Boston, MA, USA.
- 97.** "Bulk heterojunction Photovoltaic Cells from Polymer Mixtures and Copolymers with Soluble Oxadiazole and Quinoline Polymers as Electron Acceptors" V.G.Gregoriou, C.L. Chochos, G. Govaris, P. Yiannoulis and J.K. Kallitsis and J.K. Kallitsis Materials Research Society (MRS) 2004 Meeting, November 2004, Boston, MA, USA.
- 98.** "Conformational Transformation Behaviour in Syndiotactic Polypropylene and High Density Polyethylene Nanocomposites upon Mechanical and Thermal Treatments Studied by Vibrational Spectroscopy and X-Ray Diffraction" V.G.Gregoriou, G. Kandilioti, S. Bollas S. Tzavalas Functional & Nanostructured Materials Workshop, Nanofun-Poly, January, 2005, Dresden, Germany.

- 99.** "Spectroscopic Studies on the Origin of Color Degradation in Polyfluorenes" V.G.Gregoriou, C.L. Chochos, G. Kandilioti, J.K. Kallitsis Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2005, Orlando, FL, USA.
- 100.** "Spectroscopic and Mechanical Analysis of Syndiotactic Polypropylene and High Density Polyethylene Clay Nanocomposites" V.G.Gregoriou, G. Kandilioti, S. Tzavalas, S. Bollas Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2005, Orlando, FL, USA.
- 101.** "Studies of the Phase Transformation in Syndiotactic Polypropylene and High Density Polyethylene Nanocomposites during Mechanical and Thermal Treatment using Vibrational Spectroscopy and XRD" G. Kandilioti, S. Tzavalas, J. Kallitsis, and V.G. Gregoriou 5<sup>th</sup> Greek National Chemical Engineering Conference, May 2005, Thessaloniki, Greece.
- 102.** "Copolymers that Contain Terfluorene Blocks for Stable Blue Light Emission" C. Chochos. N. Tzanetos, J. Kallitsis and V.G. Gregoriou 5<sup>th</sup> Greek National Chemical Engineering Conference, May 2005, Thessaloniki, Greece.
- 103.** "Polymer blends for Use in Plastic Photovoltaic Cells; Study and Correlation between Morphology and Efficiency" S. Economopoulos, C.L. Chochos, G. K. Govaris, K. Andreopoulou, D.E. Mouzakis, P. Yiannoulis, J.K. Kallitsis and V.G. Gregoriou 5<sup>th</sup> Greek National Chemical Engineering Conference, May 2005, Thessaloniki, Greece.
- 104.** "Synthesis and Spectroscopic Characterization of Stable Blue Emitters Based on Rod-Coil Block Copolymers Incorporating Terfluorene Segments for PLED applications" C.L. Chochos, N.P. Tzanetos, S.P. Economopoulos, J.K. Kallitsis, V.G. Gregoriou 16<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 16, May 2005, Kerkrade, The Netherlands.
- 105.** "Blends of Sulfonated Polysulfone and Poly (ethylene oxide) grafted-polyethersulfone as Proton Exchange Membranes for Fuel Cell Applications" V.A. Deimede, J.K. Kallitsis, G. Kandilioti, V.G. Gregoriou 16<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 16, May 2005, Kerkrade, The Netherlands.
- 106.** "Vibrational Spectroscopic Studies of Polymeric Nanocomposites based on Layered Silicate Nanoclays and Carbon Nanotubes" V.G. Gregoriou, G. Kandilioti, S.Tzavalas, D.E. Mouzakis, S. Bollas and A. Korakianiti 16<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 16, May 2005, Kerkrade, The Netherlands.

- 107.** "Bulk Heterojunction Photovoltaic Cells from Polymer Mixtures with Soluble Oxadiazole and Quinoline Polymers as Electron Acceptors" S. Economopoulos, C.L. Chochos, G. K. Govaris, P. Yiannoulis, J.K. Kallitsis and V.G. Gregoriou 16<sup>th</sup> European Symposium on Polymer Spectroscopy ESOPS 16, May 2005, Kerkrade, The Netherlands.
- 108.** "Using Vibrational Spectroscopy to Characterize Olefinic Nanocomposites of Layered Silicate Nanoclays and Carbon Nanotubes" V.G. Gregoriou International Conference on Advanced Vibrational Spectroscopy ICAVS-3, August 2005, Lake Lawn, Wisconsin, USA
- 109.** "Vibrational Spectroscopic Studies of Polymeric Nanocomposites based on Layered Silicate Nanoclays and Carbon Nanotubes" V.G. Gregoriou 31<sup>st</sup> FACSS Meeting, October 2005, Quebec City, Canada.
- 110.** "Synthesis and Characterization of New Rod-Coil Block Copolymers Incorporating Terfluorene Segments and Hole/Electron Transporting Moieties for Stable Blue Light Emission" C.L. Chochos, N. P. Tzanetos, S.P. Economopoulos, V.G. Gregoriou, J. K. Kallitsis Materials Research Society (MRS) 2005 Meeting, December 2005, Boston, MA, USA.
- 111.** "UV-radiation induced degradation in syndiotactic polypropylene (sPP) nanocomposites" G. Kandilioti, D.E. Mouzakis, S. Tzavalas, A. Elenis, V.G. Gregoriou Materials Research Society (MRS) 2005 Meeting, December 2005, Boston, MA, USA.
- 112.** "Vibrational Spectroscopic Studies of Polymeric Nanocomposites based on Layered Silicate Nanoclays and Carbon Nanotubes" V.G. Gregoriou, G. Kandilioti, S. Tzavalas, D.E. Mouzakis, S. Bollas, A. Korakianiti ESIS 2006 Lyon, France.
- 113.** "Vibrational Spectroscopic Characterization of Poly(Ethylene Terephthalate) Nanotube Composites" S.Tzavalas, V. Drakonakis, D.E. Mouzakis, D. Fischer, V.G. Gregoriou 32<sup>nd</sup> FACSS Meeting, October 2006, Orlando, FL, USA.
- 114.** "Polyethylene Terephthalate Nanotube Composites: A Spectroscopic Study" V.G. Gregoriou, S. Tzavalas, V. Drakonakis, D.E. Mouzakis, D. Fischer Pittsburgh Conference in Analytical Chemistry and Applied Spectroscopy, March 2007, Chicago, IL, USA.
- 115.** "A Spectroscopy Study of Polyethylene Terephthalate Nanotube Composites" V.G. Gregoriou, S. Tzavalas, V. Drakonakis, D.E. Mouzakis, D. Fischer International Conference on Advanced Vibrational Spectroscopy ICAVS-4, June 2007, Corfu, Greece.

- 116.** "Angular Dependence in Linear Dichroism; a Reevaluation of the Theory" V.G. Gregoriou, S. Bollas and S. Tsavalas, International Conference on Advanced Vibrational Spectroscopy ICAVS-4, June 2007, Corfu, Greece.
- 117.** "Synthesis and Characterization of Nanocomposite Membranes as Electrolytes for Fuel Cells" I. Kalamaras, G. Kandilioti, V. Deimede, V.G. Gregoriou, J. Kallitsis, International Conference on Advanced Vibrational Spectroscopy ICAVS-4, June 2007, Corfu, Greece.
- 118.** "Synthesis and Characterization of Proton Exchange Membrane Nanocomposites for High Temperature Fuel Cells" I. Kalamaras, V.G. Gregoriou, J. Kallitsis, 7<sup>th</sup> Hellenic Polymer Society Symposium, September 2008, Ioannina, Greece.
- 119.** "Development of New Nanocomposite Polymer Electrolytes for Application in Fuel Cell Devices" I. Kalamaras, M.K. Daletou, V.G. Gregoriou, J.K. Kallitsis, 7<sup>th</sup> Greek National Conference in Chemical Engineering, May 2009, Patras, Greece.
- 120.** "Sulfonated Aromatic Polyethers Containin Pyridine Units as Membranes for High Temperature PEM Fuel Cells" I. Kalamaras, M.K. Daletou, J.K. Kallitsis and V.G. Gregoriou, 8<sup>th</sup> Hellenic Polymer Society Symposium, October 2010, Crete, Greece.
- 121.** "Novel membranes based on aromatic polyethers containing pyridine units for use in high temperature fuel cells" I. Kalamaras, M.K. Daletou, J.K. Kallitsis and V.G. Gregoriou International Conference on Advanced Vibrational Spectroscopy ICAVS-6, June 2011, San Francisco, CA, USA.
- 122.** "Using Infrared Spectroscopy as a Tool to Monitor the Extent of Intercalation and Exfoliation in Polymer Clay Nanocomposites" S. Tzavalas and V.G. Gregoriou International Conference on Advanced Vibrational Spectroscopy ICAVS-6, June 2011, San Francisco, CA, USA.
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