

**Luca - Publication List**

1. Sciscenko, I.; Luca, V.; Ramos, C. P.; Scott, T. B.; Montesinos, V. c. N.; Quici, N. Immobilization of nanoscale zerovalent iron in hierarchically channelled polyacrylonitrile for Cr(VI) remediation in wastewater. *J. Water Process Eng.* **2021**, *39*, 101704.
2. Telleria-Narvaez, A.; Talavera-Ramos, W.; Santos, L. D.; Arias, J.; Kinbaum, A.; Luca, V. Functionalized natural cellulose fibres for the recovery of uranium from seawater. *RSC Adv.* **2020**, *10*, 6654-6657.
3. Luca, V.; Veliscek-Carolan, J. New insights into the radiolytic stability of metal(iv) phosphonate hybrid adsorbent materials. *Phys. Chem. Chem. Phys.* **2020**, *22*, 17027-17032.
4. Luca, V.; Sizgek, D. G.; Sizgek, E.; Arrachart, G.; Rey, C.; Scales, N.; Aly, Z.; Drisko, G. L. Actinide and Lanthanide Adsorption onto Hierarchically Porous Carbons Beads: A High Surface Affinity for Pu. *Nanomaterials* **2019**, *9*, 1464-1475.
5. Castro, H. A.; Rodriguez, R. A.; Luca, V.; Bianchi, H. L. Pyrolysis and High Performance Plasma Treatment Applied to Spent Ion Exchange Resins. *J. Nuclear Eng. Radiat. Sci.* **2019**, *5*, 020901-020901-8.
6. Allevatto, F.; Luca, V. Low temperature pyrolysis of simulated spent cation exchange resins: Leaching and microstructural changes as a function of cation loading. *J. Mater. Res. (Submitted)* **2019**.
7. Scales, N.; Chen, J.; Aughterson, R. D.; Karatchevtseva, I.; Stopic, A.; Lumpkin, G. R.; Luca, V. Porous Zr<sub>2</sub>SC-carbon composite microspheres: Possible radiation tolerant sorbents and transmutation hosts for technetium-99. *Microporous Mesoporous Mater.* **2018**, *259*, 67-78.
8. Scales, N.; Chen, J.; Aughterson, R. D.; Karatchevtseva, I.; Stopic, A.; Lumpkin, G. R.; Luca, V. Porous ZrC-carbon microspheres as potential insoluble target matrices for production of <sup>188</sup>W/<sup>188</sup>Re. *J. Radioanal. Nucl. Chem.* **2018**, *318*, 835-847.
9. Manzini, A.; Alurralde, M.; Luca, V. Radiation response of cubic mesoporous silicate and borosilicate thin films. *Nucl. Instrum. Methods Phys. Res., Sect. B* **2018**, *415*, 54-63.
10. Curi, R. F.; Luca, V. In-column immobilization of Cs-saturated crystalline silicotitanates using phenolic resins. *Environ. Sci. Pollution Res.* **2018**, *25*, 6850-6858.
11. Violi, I. L.; Luca, V.; Soldati, A. L.; Troiani, H.; Soler-Illia, G. J. A. A.; Zelcer, A. Rapid preparation of block copolymer templated mesoporous Zr<sub>1-x</sub>Ce<sub>x</sub>O<sub>2</sub> thin films. *RSC Advances: RSC Adv.* **2017**, *7*, 26746-26755.
12. Veliscek-Carolan, J.; Rawal, A.; Luca, V.; Hanley, T. L. Zirconium phosphonate sorbents with tunable structure and function. *Microporous Mesoporous Mater.* **2017**, *252*, 90-104.
13. Luca, V.; Bianchi, H. L.; Allevatto, F.; Vaccaro, J. O.; Alvarado, A. Low temperature pyrolysis of simulated spent anion exchange resins. *J. Environ. Chem. Eng.* **2017**, *5*, 4165-4172.
14. Castro, H. A.; Luca, V.; Bianchi, H. L. Study of plasma off-gas treatment from spent ion exchange resin pyrolysis. *Environ. Sci. Pollut. Res.* **2017**, *25*, 21403-21410.
15. Manzini, A. M.; Alurralde, M. A.; Giménez, G.; Luca, V. The radiation response of mesoporous nanocrystalline zirconia thin films. *J. Nucl. Mater.* **2016**, *482*, 175-186.
16. Luca, V.; Tejada, J. J.; Vega, D.; Arrachart, G.; Rey, C. Zirconium(IV)-benzene Phosphonate Coordination Polymers: Lanthanide and Actinide Extraction and Thermal Properties. *Inorg. Chem.* **2016**, *55*, 7928-7943.
17. Luca, V.; Vaccaro, J.; Dos Santos, L. Towards Cleaner Methods for the Production of Mo-99 Using Refractory Ceramics and its Relevance to Actinide Partitioning and Transmutation. *Proc. Chem.* **2016**.
18. Violi, I. L.; Zelcer, A.; Bruno, M. M.; Luca, V.; Soler-Illia, G. J. A. A. Gold Nanoparticles Supported in Zirconia-Ceria Mesoporous Thin Films: A Highly Active Reusable Heterogeneous Nanocatalyst. *ACS*

- Appl. Mater. Interfaces* **2015**, *7*, 1114-1121.
- 19. Scales, N.; Chen, J.; Hanley, T. L.; Riley, D. P.; Lumpkin, G. R.; Luca, V. Hierarchically porous carbon-zirconium carbide spheres as potentially reusable transmutation targets. *Microporous and Mesoporous Materials* **2015**, *212*, 100-109.
  - 20. Luca, V.; Hanna, J. V. A versatile Zr(IV)-organophosphonate coordination polymer platform for the selective adsorption of lanthanides and actinides. *Hydrometallurgy* **2015**, *154*, 118-128.
  - 21. Veliscek-Carolan, J.; Hanley, T. L.; Luca, V. Zirconium organophosphonates as high capacity, selective lanthanide sorbents. *Sep. Purification Technol.* **2014**, *129*, 150-158.
  - 22. Fabian, C. P.; Luca, V.; Le, T. H.; Bond, A. M.; Chamelot, P.; Massot, L.; Caravaca, C.; Hanley, T. H.; Lumpkin, G. R. Cyclic Voltammetric Experiment - Simulation Comparisons of the Complex Mechanism Associated with Electrochemical Reduction of Zr<sup>4+</sup> in LiCl-KCl Eutectic Molten Salt. *J. Electrochem. Soc.* **2013**, *160*, H81-H86.
  - 23. Drisko, G. L.; Aquino, C.; Feron, P. H. M.; Caruso, R. A.; Harrisson, S.; Luca, V. One-Pot Preparation and CO<sub>2</sub> Adsorption Modeling of Porous Carbon, Metal Oxide, and Hybrid Beads. *ACS Appl. Mater. Interfaces* **2013**, *5*, 5009-5014.
  - 24. de los Reyes, M.; Majewski, P. J.; Scales, N.; Luca, V. Hydrolytic Stability of Mesoporous Zirconium Titanate Frameworks Containing Coordinating Organic Functionalities. *ACS Appl. Mater. Interfaces* **2013**, *5*, 4120-4128.
  - 25. Aly, Z.; Luca, V. Uranium extraction from aqueous solution using dried and pyrolyzed tea and coffee wastes. *J. Radioanal. Nucl. Chem.* **2013**, *295*, 889-900.
  - 26. Luca, V.; Bianchi, H. L.; Manzini, A. C. Cation immobilization in pyrolyzed simulated spent ion exchange resins. *J. Nucl. Mater.* **2012**, *424*, 1-11.
  - 27. Fabian, C. P.; Luca, V.; Chamelot, P.; Massot, L.; Caravaca, C.; Lumpkin, G. R. Experimental and Simulation Study of the Electrode Reaction Mechanism of La<sup>3+</sup> in LiCl-KCl Eutectic Molten Salt. *J. Electrochem. Soc.* **2012**, *159*, F63-F67.
  - 28. Thorogood, G. J.; Kennedy, B. J.; Avdeev, M.; Peterson, V. K.; Hanna, J. V.; Luca, V. Cation disorder in NaW<sub>2</sub>O<sub>6</sub>·nH<sub>2</sub>O post-ion exchange with K, Rb, Sr, and Cs. *J. Phys. Chem. Solids* **2011**, *72*, 692-700.
  - 29. Ide, A.; Drisko, G. L.; Scales, N.; Luca, V.; Schiesser, C. H.; Caruso, R. A. Monitoring bisphosphonate surface functionalization and acid stability of hierarchically porous titanium zirconium oxides. *Langmuir* **2011**, *27*, 12985-12995.
  - 30. Thorogood, G. J.; Kennedy, B. J.; Griffith, C. S.; Elcombe, M. M.; Avdeev, M.; Hanna, J. V.; Thorogood, S. K.; Luca, V. Structure and phase transformations in the titanosilicate, sitinakite. the importance of water. *Chem. Mater.* **2010**, *22*, 4222-4231.
  - 31. Luca, V.; Drabarek, E.; Griffith, C. S.; Tracey L. Hanley Understanding the supramolecular self-assembly of zirconium titanate mesophases formed from the poly(ethylene oxide) surfactant Brij-58. *Chem.Mater.* **2010**, *22*, 3832-3842.
  - 32. Griffith, C. S.; Reyes, M. D. L.; Scales, N.; Hanna, J. V.; Luca, V. Hybrid inorganic-organic adsorbents part 1: Synthesis and characterization of mesoporous zirconium titanate frameworks containing coordinating organic functionalities. *ACS Appl. Mater. Inter.* **2010**, *2*, 3436-3446.
  - 33. Drisko, G. L.; Zelcer, A.; Luca, V.; Caruso, R. A.; Soler-Illia, G. J. D. A. A. One-pot synthesis of hierarchically structured ceramic monoliths with adjustable porosity. *Chem. Mater.* **2010**, *22*, 4379-4385.
  - 34. Drisko, G. L.; Kimling, M. C.; Scales, N.; Ide, A.; Sizgek, E.; Caruso, R. A.; Luca, V. One-pot preparation and uranyl adsorption properties of hierarchically porous zirconium titanium oxide beads using phase separation processes to vary macropore morphology. *Langmuir* **2010**, *26*, 17581-17588.

35. Drisko, G. L.; Imperia, P.; De Los Reyes, M.; Luca, V.; Caruso, R. A. Size matters: Incorporation of poly(acrylic acid) and small molecules into hierarchically porous metal oxides prepared with and without templates. *Langmuir* **2010**, *26*, 14203-14209.
36. Araujo, P. Z.; Luca, V.; Bozzano, P. B.; Bianchi, H. L.; Soler-Illia, G. J. A.; Blesa, M. A. Aerosol-assisted production of mesoporous titania microspheres with enhanced photocatalytic activity: The basis of an improved process. *ACS Appl. Mater. Inter.* **2010**, *2*, 1663-1673.
37. Thorogood, G. J.; Kennedy, B. J.; Peterson, V. K.; Elcombe, M. M.; Kearley, G. J.; Hanna, J. V.; Luca, V. Anomalous lattice parameter increase in alkali earth aluminium substituted tungsten defect pyrochlores. *J. Solid State Chem.* **2009**, *182*, 457-464.
38. Sizgek, G. D.; Griffith, C. S.; Sizgek, E.; Luca, V. Mesoporous zirconium titanium oxides. Part 3. Synthesis and adsorption properties of unfunctionalized and phosphonate-functionalized hierarchical polyacrylonitrile-f-127-templated beads. *Langmuir* **2009**, *25*, 11874-11882.
39. Milne, N. A.; Skyllas-Kazacos, M.; Luca, V. Crystallite size dependence of lithium intercalation in nanocrystalline rutile. *J. Phys. Chem. C* **2009**, *113*, 12983-12995.
40. Luca, V.; Griffith, C. S.; Hanna, J. V. Microcrystalline Hexagonal Tungsten Bronze. 2. Dehydration Dynamics: Inorganic Chemistry. *Inorg. Chem.* **2009**, *48*, 5663-5676.
41. Luca, V.; Soler-Illia, G. J. A. A.; Angelomé, P. C.; Steinberg, P. Y.; Drabarek, E.; Hanley, T. L. Striving for order and compositional homogeneity in bulk mesoporous zirconium titanium mixed metal oxides from triblock copolymers and metal chlorides. *Microporous Mesoporous Mater.* **2009**, *118*, 443-452.
42. Luca, V. Comparison of Size-dependent structural and electronic properties of anatase and rutile nanoparticles. *J. Phys. Chem. C* **2009**, *113*, 6367-6380.
43. Lindsay, M. J.; Skyllas-Kazacos, M.; Luca, V. Anodically synthesized titania films for lithium batteries: Effect of titanium substrate and surface treatment. *Electrochim. Acta* **2009**, *54*, 3501-3509.
44. Griffith, C. S.; Luca, V.; Hanna, J. V.; Pike, K. J.; Smith, M. E.; Thorogood, G. S. Microcrystalline hexagonal tungsten bronze. 1. Basis of ion exchange selectivity for cesium and strontium. *Inorg. Chem.* **2009**, *48*, 5648-5662.
45. Drisko, G. L.; Luca, V.; Sizgek, E.; Scales, N.; Caruso, R. A. Template synthesis and adsorption properties of hierarchically porous zirconium titanium oxides. *Langmuir* **2009**, *25*, 5286-5293.
46. Drisko, G. L.; Cao, L.; Kimling, M. C.; Harrisson, S.; Luca, V.; Caruso, R. A. Pore size and volume effects on the incorporation of polymer into macro- and mesoporous zirconium titanium oxide membranes. *ACS Appl. Mater. Inter.* **2009**, *1*, 2893-2901.
47. Drabarek, E.; McLeod, T. I.; Hanna, J. V.; Griffith, C. S.; Luca, V. Tungstate-based glass-ceramics for the immobilization of radio cesium. *J. Nucl. Mater.* **2009**, *384*, 119-129.
48. Yang, B.; Luca, V. Enhanced long-wavelength transient photoresponsiveness of  $\text{WO}_3$  induced by tellurium doping. *Chem. Commun.* **2008**, 4454-4456.
49. Thorogood, G. J.; Kennedy, B. J.; Luca, V.; Blackford, M.; van de Geest, S. K.; Finnie, K. S.; Hanna, J. V.; Pike, K. J. Structure and dehydration of the pyrochlore system  $\text{NaW}_{2-y}\text{Mo}_y\text{O}_{6+\frac{y}{2}}\cdot n\text{H}_{2-z}\text{O}$  between 10 and 675 K. *J. Phys. Chem. Solids* **2008**, *69*, 1632-1640.
50. Sizgek, G. D.; Sizgek, E.; Griffith, C. S.; Luca, V. Mesoporous zirconium titanium oxides. Part 2: Synthesis, porosity, and adsorption properties of beads. *Langmuir* **2008**, *24*, 12323-12330.
51. Luca, V.; Bertram, W. K.; Sizgek, G. D.; Yang, B.; Cookson, D. Delineating the first few seconds of supramolecular self-assembly of mesostructured titanium oxide thin films through time-resolved small angle x-ray scattering. *Langmuir* **2008**, *24*, 10737-10745.
52. Griffith, C. S.; Sizgek, G. D.; Sizgek, E.; Scales, N.; Yee, P. J.; Luca, V. Mesoporous zirconium titanium oxides. Part 1: Porosity modulation and adsorption properties of xerogels. *Langmuir* **2008**, *24*, 12312-12322.

53. Griffith, C. S.; Luca, V.; Cochrane, J.; Hanna, J. V. Lanthanide/actinide ion-exchange and structural investigations of the layered phosphatoantimonic acid,  $H_3Sb_3P_2O_{14}\cdot ZH_2O$ . *Microporous Mesoporous Mater.* **2008**, *111*, 387-403.
54. Bourg, S.; Caravaca, C.; Finne, J.; De Angelis, G.; Malmbeck, R.; Lewin, B. G.; Uhlir, J.; Inoue, T.; Luca, V.; Madic, C. Pyrochemistry within Europart Assessment of the Studies on spent fuel treatment processes Collective Work. *Societe Francaise D'Energie Nucleaire - International Congress on Advances in Nuclear Power Plants - ICAPP 2007, "The Nuclear Renaissance at Work"* **2008**, *2*, 945-951.
55. Yang, B.; Zhang, Y.; Drabarek, E.; Barnes, P. R. F.; Luca, V. Enhanced Photoelectrochemical Activity of Sol-Gel Tungsten Trioxide Films through Textural Control: Chemistry of Materials. *Chem. Mater.* **2007**, *19*, 5664-5672.
56. Yang, B.; Barnes, P. R. F.; Zhang, Y.; Luca, V. Tungsten trioxide films with controlled morphology and strong photocatalytic activity via a simple sol-gel route. *Catal. Lett.* **2007**, *118*, 280-284.
57. Yang, B.; Barnes, P. R. F.; Bertram, W.; Luca, V. Strong Photoresponse of Nanostructured Tungsten Trioxide Films Prepared Via a Sol-Gel Route. *J. Mater. Chem.* **2007**, *17*, 2722-2729.
58. Secomb, R. J.; Griffith, C. S.; Brown, S. A.; Luca, V. The removal of polonium-210 and lead-210 from copper process streams by molybdenum-doped sodium tungstate. *Radiochim. Acta* **2007**, *95*, 727-731.
59. Luca, V.; Zhang, Y.; Drabarek, E.; Chronis, H. Cesium release from tungstate and titanate waste form materials in simulated canister corrosion product-containing solutions. *J. Am. Ceramic Soc.* **2007**, *90*, 2510-2516.
60. Luca, V.; Blackford, M. G.; Finnie, K. S.; Evans, P. J.; James, M.; Lindsay, M. J.; Skyllas-Kazacos, M.; Barnes, P. R. F. Sol-gel tungsten oxide/titanium oxide multilayer nanoheterostructured thin films: Structural and photoelectrochemical properties. *J. Phys. Chem. C* **2007**, *111*, 18479-18492.
61. Luca, V.; Bertram, W. K.; Widjaja, J.; Mitchell, D. R. G.; Griffith, C. S.; Drabarek, E. Synthesis of mesoporous zirconium titanates using alkycarboxylate surfactants and their transformation to dense ceramics. *Microporous Mesoporous Mater.* **2007**, *103*, 123-133.
62. Lindsay, M. J. ; Blackford, M. G.; Attard, D. J.; Luca, V.; Skyllas-Kazacos, M.; Griffith, C. S. Anodic titania films as anode materials for lithium ion batteries. *Electrochim. Acta* **2007**, *52*, 6401-6411.
63. Fuertes, M. C. ; Lopez-Alcaraz, F. J.; Marchi, M. C.; Troiani, H. E.; Luca, V.; Miguez, H.; Soler-Illia, G. J. D. A. A. Photonic crystals from ordered mesoporous thin-film functional building blocks. *Adv. Func. Mater.* **2007**, *17*, 1247-1254.
64. Yang, B.; Li, H.; Blackford, M.; Luca, V. Novel low density mesoporous  $WO_3$  films prepared by electrodeposition. *Current Appl. Phys.* **2006**, *6*, 436-439.
65. Thorogood, G. J.; Kennedy, B. J.; Luca, V. Structure of the Hydrated Pyrochlore  $NaW_2O_6\cdot H_2O$ . *Physica B - Cond. Matter* **2006**, *385*, 91-93.
66. Milne, N. A.; Griffith, C. S.; Hanna, J. V.; Skyllas-Kazacos, M.; Luca, V. Lithium Intercalation Into the Titanosilicate Sitinakite. *Chem. Mater.* **2006**, *18*, 3192-3202.
67. Luca, V. United States of America US Patent 0249461A1, 2006.
68. Luca, V.; Watson, J. N.; Ruschena, M.; Knott, R. B. Anionic surfactant templated titanium oxide mesophase: Synthesis, characterization, and mechanism of formation. *Chem. Mater.* **2006**, *18*, 1156-1168.
69. Luca, V.; Osborne, M.; Sizgek, D.; Griffith, C.; Araujo, P. Z. Photodegradation of Methylene Blue Using Crystalline Titanosilicate Quantum-Confining Semiconductor. *Chem. Mater.* **2006**, *18*, 6132-6138.
70. Luca, V.; Griffith, C. S.; Drabarek, E.; Chronis, H. Tungsten Bronze-Based Nuclear Waste Form Ceramics. Part 1. Conversion of Microporous Tungstates to Leach Resistant Ceramics. *J. Nucl. Mater.* **2006**, *358*, 139-150.

71. Luca, V.; Drabarek, E.; Chronis, H.; McLeod, T. Tungsten bronze-based nuclear waste form ceramics. Part 3: The system Cs<sub>0.3</sub>M<sub>x</sub>W<sub>1-x</sub>O<sub>3</sub> for the immobilization of radio cesium. *J. Nucl. Mater.* **2006**, *358*, 164-175.
72. Karatchevtseva, I.; Zhang, Z. M.; Hanna, J.; Luca, V. Electrosynthesis of Macroporous Polyaniline-V<sub>2</sub>O<sub>5</sub> Nanocomposites and Their Unusual Magnetic Properties. *Chem. Mater.* **2006**, *18*, 4908-4916.
73. Griffith, C. S.; Sebesta, F.; Hanna, J. V.; Yee, P.; Drabarek, E.; Smith, M. E.; Luca, V. Tungsten bronze-based nuclear waste form ceramics. Part 2: Conversion of granular microporous tungstate-polyacrylonitrile (PAN) composite adsorbents to leach resistant ceramics. *J. Nucl. Mater.* **2006**, *358*, 151-163.
74. Griffith, C. S.; Luca, V.; Sebesta, F.; Yee, P.; Drabarek, E. Leach resistant cesium and strontium-bearing wasteforms from hexagonal tungsten bronze-polyacrylonitrile composite adsorbers. *Mater. Res. Soc. Symp. Proc., Scientific Basis for Nuclear Waste Management* **2006**, *932*, 607-614.
75. Vance, E. R.; Begg, B. D.; Hanna, J. V.; Luca, V.; Hadley, J. H.; Hsu, F. H. *Environmental Issues and Waste Management Technologies in the Ceramic and Nuclear Industries X, Volume 168*, 168 ed. 2005; pp 199-206.
76. Luca, V.; Griffith, C. S.; Blackford, M. G.; Hanna, J. V. Structural and ion exchange properties of nanocrystalline Si-doped antimony pyrochlore. *J. Mater. Chem.* **2005**, *15*, 564-572.
77. Luca, V.; Cassidy, D.; Drabarek, E.; Murray, K.; Moubaraki, B. Cesium extraction from Cs<sub>0.8</sub>Ba<sub>0.4</sub>Ti<sub>8</sub>O<sub>16</sub> hollandite nuclear waste form ceramics in nitric acid solutions. *J. Mater. Res.* **2005**, *20*, 1436-1446.
78. Griffith, C. S.; Luca, V.; Yee, P.; Sebesta, F. Separation of Cesium and Strontium From Acidic Radioactive Waste Simulants Using a Microporous Tungstate/Polyacrylonitrile (Pan) Composite Adsorbent. *Sep. Sci. Technol.* **2005**, *40*, 1781-1796.
79. Luca, V.; Griffith, C. S.; Chronis, H.; Widjaja, J.; Li, H.; Scales, N. Cs<sup>+</sup> and Sr<sup>2+</sup> ion-exchange properties of microporous tungstates. *Mater. Res. Soc. Symp. Proc., Scientific Basis for Nuclear Waste Management*, 2004; pp 309-314.
80. Luca, V.; Drabarek, E.; Griffith, C. S.; Chronis, H.; Foy, J. The immobilization of cesium and strontium in ceramic materials derived from tungstate sorbents. *Mater. Res. Soc. Symp. Proc., Scientific Basis for Nuclear Waste Management*, 2004; pp 303-308.
81. Griffith, C. S.; Luca, V. Ion-Exchange Properties of Microporous Tungstates. *Chem. Mater.* **2004**, *16*, 4992-4999.
82. Luca, V.; Hanna, J. V.; Smith, M. E.; James, M.; Mitchell, D. R. G.; Bartlett, J. R. Nb-Substitution and Cs<sup>+</sup> Ion-Exchange in the Titanosilicate Sitinakite. *Microporous Mesoporous Mater.* **2002**, *55*, 1-13.
83. Howard, C. J.; Luca, V.; Knight, K. S. High-temperature phase transitions in tungsten trioxide-the last word? *J. Phys. Cond. Matter.* **2002**, *14*, 377-387.
84. Hanley, T. L.; Luca, V.; Pickering, I.; Howe, R. F. Structure of titania sol-gel films: A study by X-ray absorption spectroscopy. *J. Phys. Chem. B* **2002**, *106*, 1153-1160.
85. Luca, V.; Hunter, B.; Moubaraki, B.; Murray, K. S. Lithium Intercalation in Anatase-Structural and Magnetic Considerations. *Chem. Mater.* **2001**, *13*, 796-801.
86. Hanley, T.; Krishnandi, Y.; Eldewik, A.; Luca, V.; Howe, R. Nanosize effects in Titania based photocatalyst materials. *Ionics* **2001**, *7*, 319-326.
87. Barbe, C. J.; Mitchell, D. R. G.; Drabarek, E.; Bartlett, J. R.; Woolfrey, J. L.; Luca, V. Synthesis of mesoporous titanium phosphate. *Mater. Res. Soc. Symp. Proc.* **2001**, *628*, CC7.3.1-CC7.3.6.
88. Luca, V.; Thomson, S. Intercalation and polymerisation of aniline within a tubular aluminosilicate. *J. Mater. Chem.* **2000**, *10*, 2121-2126.
89. Finnie, K. S.; Luca, V.; Moran, P. D.; Bartlett, J. R.; Woolfrey, J. L. Vibrational spectroscopy and

- EXAFS study of  $\text{Ti}(\text{OC}_2\text{H}_5)_4$  and alcohol exchange in  $\text{Ti}(\text{iso-OC}_3\text{H}_7)_4$ . *J. Mater. Chem.* **2000**, *10*, 409-418.
90. Thomson, S.; Luca, V.; Howe, R. Framework Co(II) in CoAPO-5. *Phys. Chem. Chem. Phys.* **1999**, *1*, 615-619.
91. Luca, V.; MacLachlan, D. J.; Bramley, R. Electron Paramagnetic Resonance and Electron Spin Echo Study of Supported and Unsupported Vanadium Oxides. *Phys. Chem. Chem. Phys.* **1999**, *1*, 2597-2606.
92. Luca, V.; Hanley, T. L.; Roberts, N. K.; Howe, R. F. NMR and X-ray absorption study of lithium intercalation in micro- and nanocrystalline anatase. *Chem. Mater.* **1999**, *11*, 2089-2102.
93. Eldewik, A.; Luca, V.; Singh, N. K.; Howe, R. F. Iron substitution in the microporous titanosilicate ETS10. *Proceedings of the International Zeolite Conference, 12th, Baltimore, July 5-10, 1998*, 1999; pp 1507-1514.
94. Luca, V.; Djajanti, S.; Howe, R. F. Structural and electronic properties of sol-gel titanium oxides studied by X-ray absorption spectroscopy. *J. Phys. Chem. B* **1998**, *102*, 10650-10657.
95. Hanley, T. L.; Howe, R. F.; Luca, V.; Bartlett, J. R.; Woolfrey, J. L.; Pickering, I. Sol-gel processing and structural characterization of transition-metal-doped titania. *Ceramic Trans.* **1998**, *81*, 69-74.
96. Luca, V.; Thomson, S.; Howe, R. F. Spectroscopic investigation of vanadium speciation in vanadium-doped nanocrystalline anatase. *J. Chem. Soc. - Faraday Trans.* **1997**, *93*, 2195-2202.
97. Luca, V.; MacLachlan, D. J.; Morgan, K. Synthesis and Characterization of Porous Vanadium Silicates in Organic Medium. *Chem. Mater.* **1997**, *9*, 2720-2730.
98. Luca, V.; Hook, J. M. Study of the Structure and Mechanism of Formation through Self-Assembly of Mesostructured Vanadium Oxide. *Chem. Mater.* **1997**, *9*, 2731-2744.
99. Luca, V.; MacLachlan, D. J.; Bramley, R.; Morgan, K. Electron Paramagnetic Resonance and Electron Spin Echo Modulation Study of Surface Sites of the Porous Aluminosilicate MCM-41 Using Transition Metal Ion Probes. *J. Phys. Chem.* **1996**, *100*, 1793-1800.
100. Luca, V.; MacLachlan, D. J.; Howe, R. F.; Bramley, R. Synthesis and Characterization of a (Zn,Ti)-Substituted Layered Silicate. *J. Mater. Chem.* **1995**, *5*, 557-564.
101. Luca, V.; MacLachlan, D. J.; Hook, J. M.; Withers, R. Synthesis and Characterization of Mesostructured Vanadium Oxide. *Chem. Mater.* **1995**, *7*, 2220-2223.
102. Luca, V.; MacLachlan, D. J. Site occupancy in nontronite studied by acid dissolution and Mössbauer spectroscopy. *Clays Clay Miner.* **1992**, *40*, 1-7.
103. Luca, V.; Kevan, L.; Rhodes, C. N.; Brown, D. R. A synthetic zinc-substituted smectite clay alkylation catalyst. *Clay Miner.* **1992**, *27*, 515-519.
104. Luca, V.; Kevan, L. Orientation dependence of the electron spin resonance spectrum of Cu(II)-substituted fluorohectorite and hydroxyhectorite films and the effect of adsorbed ammonia and pyridine. *J. Phys. Chem.* **1992**, *96*, 3391-3394.
105. Kukkadapu, R. K.; Luca, V.; Kevan, L. Electron spin resonance and electron spin echo modulation study of activated palladium(2+)-doped, Al13-pillared laponite clay: evidence for the migration of palladium cations from an Al13-pillar to the laponite layer with increasing activation temperature. *J. Phys. Chem.* **1992**, *96*, 415-421.
106. Comets, J.-M. ; Luca, V.; Kevan, L. Solvation of Cu(II) in Cu(II)-exchanged synthetic fluorohectorite, synthetic hydroxyhectorite, synthetic beidellite, and montmorillonite studied by electron spin resonance and electron spin echo modulation. *J. Phys. Chem.* **1992**, *96*, 2645-2652.
107. Luca, V.; Chen, X.; Kevan, L. Characterization of copper(II)-substituted synthetic fluorohectorite clay and interaction with adsorbates by electron spin resonance, electron spin echo modulation, and infrared spectroscopies. *Chem. Mater.* **1991**, *3*, 1073-1081.
108. Luca, V. Iron-57 Mössbauer spectroscopic study of structural changes during dehydration of nontronite: effect of different exchangeable cations. *Clays Clay Miner.* **1991**, *39*, 478-489.

109. Luca, V. Detection of tetrahedral iron ion(3+) sites in nontronite and vermiculite by Mössbauer spectroscopy. *Clays Clay Miner.* **1991**, *39*, 467-477.
110. Luca, V.; Kukkadapu, R.; Kevan, L. Studies of the oxidation state and location of palladium species in Al13-pillared montmorillonite. *J. Chem. Soc., Faraday Trans.* **1991**, *87*, 3083-3089.
111. Luca, V.; Brown, D. R.; Kevan, L. Electron spin resonance and electron spin-echo modulation studies of silver ion solvation in silver-exchanged synthetic fluorohectorite and synthetic beidellite. *J. Phys. Chem.* **1991**, *95*, 10065-10070.
112. Brown, D. R.; Luca, V.; Kevan, L. Electron paramagnetic resonance and electron spin echo modulation analysis of the silver atom environment in g-irradiated silver-exchanged sodium montmorillonite and its Al13 pillared derivative. *J. Chem. Soc., Faraday Trans.* **1991**, *87*, 2749-2754.
113. Luca, V.; Cardile, C. M.; Meinhold, R. H. High-resolution multinuclear NMR study of cation migration in montmorillonite. *Clay Miner.* **1989**, *24*, 115-119.
114. Luca, V.; Cardile, C. M. Improved detection of tetrahedral iron(3+) in nontronite SWa-1 by Mössbauer spectroscopy. *Clay Miner.* **1989**, *24*, 555-559.
115. Luca, V.; Cardile, C. M. Cation migration in smectite minerals. Electron spin resonance of exchanged iron ion(3+) probes. *Clays Clay Miner.* **1989**, *37*, 325-332.
116. Luca, V.; Cardile, C. M. Thermally induced cation migration in sodium and lithium montmorillonite. *Phys. Chem. Miner.* **1988**, *16*, 98-103.
117. Luca, V. WO Patent 0296559, 20021205.
118. Luca, V. WO Patent 0236494, 20020510.