

Selected Publications of Marie-Paule Pileni

1. Pileni, M. P.; Braun, A. M.; Gratzel, M., Light-Driven Redox Processes in Functional Micellar Units .3. Zn-Tetraphenylporphyrin Sensitized Reactions in Methyl Viologene Surfactant Assemblies. *Photochemistry and Photobiology* **1980**, *31*, 423-427.
2. Pileni, M. P.; Hickel, B.; Ferradini, C.; Pucheault, J., Hydrated Electron in Reverse Micelles. *Chemical Physics Letters* **1982**, *92*, 308-312.
3. Pileni, M. P.; Zemb, T.; Petit, C., Solubilization by Reverse Micelles - Solute Localization and Structure Perturbation. *Chemical Physics Letters* **1985**, *118*, 414-420.
4. Petit, C.; Brochette, P.; Pileni, M. P., Hydrated Electron in Reverse Micelles .3. Distribution and Location of Probes Such as Ions and Hydrophilic Proteins. *Journal of Physical Chemistry* **1986**, *90*, 6517-6521.
5. Brochette, P.; Petit, C.; Pileni, M. P., Cytochrome-C in Sodium Bis(2-Ethylhexyl) Sulfosuccinate Reverse Micelles - Structure and Reactivity. *Journal of Physical Chemistry* **1988**, *92*, 3505-3511.
6. Luisi, P. L.; Giomini, M.; Pileni, M. P.; Robinson, B. H., Reverse Micelles as Hosts for Proteins and Small Molecules. *Biochimica Et Biophysica Acta* **1988**, *947*, 209-246.
7. Petit, C.; Pileni, M. P., Synthesis of Cadmium-Sulfide Insitu in Reverse Micelles and in Hydrocarbon Gels. *Journal of Physical Chemistry* **1988**, *92*, 2282-2286.
8. Petit, C.; Lixon, P.; Pileni, M. P., Synthesis of Cadmium-Sulfide Insitu in Reverse Micelles .2. Influence of the Interface on the Growth of the Particles. *Journal of Physical Chemistry* **1990**, *94*, 1598-1603.
9. Huruguen, J. P.; Authier, M.; Greffe, J. L.; Pileni, M. P., Percolation Process Induced by Solubilizing Cytochrome-C in Reverse Micelles. *Langmuir* **1991**, *7*, 243-249.
10. Petit, C.; Lixon, P.; Pileni, M. P., Structural Study of Bimetallic Bis(2-Ethylhexyl) Sulfosuccinate Aggregates. *Langmuir* **1991**, *7*, 2620-2625.
11. Motte, L.; Petit, C.; Boulanger, L.; Lixon, P.; Pileni, M. P., Synthesis of Cadmium-Sulfide Insitu in Cadmium Bis(Ethyl-2-Hexyl) Sulfosuccinate Reverse Micelle - Polydispersity and Photochemical-Reaction. *Langmuir* **1992**, *8*, 1049-1053.
12. Pileni, M. P.; Motte, L.; Petit, C., Synthesis of Cadmium-Sulfide Insitu in Reverse Micelles - Influence of the Preparation Modes on Size, Polydispersity, and Photochemical-Reactions. *Chemistry of Materials* **1992**, *4*, 338-345.
13. Lisiecki, I.; Pileni, M. P., Synthesis of Copper Metallic Clusters Using Reverse Micelles as Microreactors. *Journal of the American Chemical Society* **1993**, *115*, 3887-3896.
14. Petit, C.; Lixon, P.; Pileni, M. P., In-Situ Synthesis of Silver Nanocluster in Aot Reverse Micelles. *Journal of Physical Chemistry* **1993**, *97*, 12974-12983.
15. Pileni, M. P., Reverse Micelles as Microreactors. *Journal of Physical Chemistry* **1993**, *97*, 6961-6973.
16. Pileni, M. P., Water-in-Oil Colloidal Droplets Used as Microreactors. *Advances in Colloid and Interface Science* **1993**, *46*, 139-163.
17. Pileni, M. P.; Lisiecki, I., Nanometer Metallic Copper Particle Synthesis in Reverse Micelles. *Colloids and Surfaces a-Physicochemical and Engineering Aspects* **1993**, *80*, 63-68.

18. Cizeron, J.; Pileni, M. P., Solid-Solution of Cd₂Zn_{1-Y}Sn_Y Nanosize Particles Made in Reverse Micelles. *Journal of Physical Chemistry* **1995**, *99*, 17410-17416.
19. Lisiecki, I.; Bjorling, M.; Motte, L.; Ninham, B.; Pileni, M. P., Synthesis of Copper Nanosize Particles in Anionic Reverse Micelles - Effect of the Addition of a Cationic Surfactant on the Size of the Crystallites. *Langmuir* **1995**, *11*, 2385-2392.
20. Lisiecki, I.; Pileni, M. P., Copper Metallic Particles Synthesized in-Situ in Reverse Micelles - Influence of Various Parameters on the Size of the Particles. *Journal of Physical Chemistry* **1995**, *99*, 5077-5082.
21. Motte, L.; Billoudet, F.; Pileni, M. P., Self-Assembled Monolayer of Nanosized Particles Differing by Their Sizes. *Journal of Physical Chemistry* **1995**, *99*, 16425-16429.
22. Moumen, N.; Veillet, P.; Pileni, M. P., Controlled Preparation of Nanosize Cobalt Ferrite Magnetic Particles. *Journal of Magnetism and Magnetic Materials* **1995**, *149*, 67-71.
23. Tanori, J.; Pileni, M. P., Change in the Shape of Copper Nanoparticles in Ordered Phases. *Advanced Materials* **1995**, *7*, 862-864.
24. Levy, L.; Hochepied, J. F.; Pileni, M. P., Control of the Size and Composition of Three Dimensionally Diluted Magnetic Semiconductor Clusters. *Journal of Physical Chemistry* **1996**, *100*, 18322-18326.
25. Lisiecki, I.; Billoudet, F.; Pileni, M. P., Control of the Shape and the Size of Copper Metallic Particles. *Journal of Physical Chemistry* **1996**, *100*, 4160-4166.
26. Motte, L.; Billoudet, F.; Lacaze, E.; Pileni, M. P., Self-Organization of Size-Selected Nanoparticles into Three-Dimensional Superlattices. *Advanced Materials* **1996**, *8*, 1018-1020.
27. Moumen, N.; Bonville, P.; Pileni, M. P., Control of the Size of Cobalt Ferrite Magnetic Fluids: Mossbauer Spectroscopy. *Journal of Physical Chemistry* **1996**, *100*, 14410-14416.
28. Moumen, N.; Pileni, M. P., New Syntheses of Cobalt Ferrite Particles in the Range 2-5 nm: Comparison of the Magnetic Properties of the Nanosized Particles in Dispersed Fluid or in Powder Form. *Chemistry of Materials* **1996**, *8*, 1128-1134.
29. Moumen, N.; Pileni, M. P., Control of the Size of Cobalt Ferrite Magnetic Fluid. *Journal of Physical Chemistry* **1996**, *100*, 1867-1873.
30. Cizeron, J.; Pileni, M. P., Solid Solution of Cd₂Zn_{1-Y}Sn_Y Nanosized Particles: Photophysical Properties. *Journal of Physical Chemistry B* **1997**, *101*, 8887-8891.
31. Feltin, N.; Pileni, M. P., New Technique for Synthesizing Iron Ferrite Magnetic Nanosized Particles. *Langmuir* **1997**, *13*, 3927-3933.
32. Levy, L.; Feltin, N.; Ingert, D.; Pileni, M. P., Three Dimensionally Diluted Magnetic Semiconductor Clusters Cd_{1-Y}Mn_Y with a Range of Sizes and Compositions: Dependence of Spectroscopic Properties on the Synthesis Mode. *Journal of Physical Chemistry B* **1997**, *101*, 9153-9160.
33. Motte, L.; Billoudet, F.; Lacaze, E.; Douin, J.; Pileni, M. P., Self-Organization into 2d and 3d Superlattices of Nanosized Particles Differing by Their Size. *Journal of Physical Chemistry B* **1997**, *101*, 138-144.
34. Pileni, M. P., Nanosized Particles Made in Colloidal Assemblies. *Langmuir* **1997**, *13*, 3266-3276.

35. Taleb, A.; Petit, C.; Pileni, M. P., Synthesis of Highly Monodisperse Silver Nanoparticles from Aot Reverse Micelles: A Way to 2d and 3d Self-Organization. *Chemistry of Materials* **1997**, *9*, 950-959.
36. Tanori, J.; Pileni, M. P., Control of the Shape of Copper Metallic Particles by Using a Colloidal System as Template. *Langmuir* **1997**, *13*, 639-646.
37. Motte, L.; Pileni, M. P., Influence of Length of Alkyl Chains Used to Passivate Silver Sulfide Nanoparticles on Two- and Three-Dimensional Self-Organization. *Journal of Physical Chemistry B* **1998**, *102*, 4104-4109.
38. Petit, C.; Taleb, A.; Pileni, M. P., Self-Organization of Magnetic Nanosized Cobalt Particles. *Advanced Materials* **1998**, *10*, 259-261.
39. Pileni, M. P., Optical Properties of Nanosized Particles Dispersed in Colloidal Solutions or Arranged in 2d or 3d Superlattices. *New Journal of Chemistry* **1998**, *22*, 693-702.
40. Pileni, M. P.; Gulik-Krzywicki, T.; Tanori, J.; Filankembo, A.; Dedieu, J. C., Template Design of Microreactors with Colloidal Assemblies: Control the Growth of Copper Metal Rods. *Langmuir* **1998**, *14*, 7359-7363.
41. Taleb, A.; Petit, C.; Pileni, M. P., Optical Properties of Self-Assembled 2d and 3d Superlattices of Silver Nanoparticles. *Journal of Physical Chemistry B* **1998**, *102*, 2214-2220.
42. Feltin, N.; Levy, L.; Ingert, D.; Pileni, M. P., Magnetic Properties of 4-Nm Cd_{1-Y}Mn_y Nanoparticles Differing by Their Compositions, Y. *Journal of Physical Chemistry B* **1999**, *103*, 4-10.
43. Ngo, A. T.; Bonville, P.; Pileni, M. P., Nanoparticles of Coxley Square O-Z(4): Synthesis and Superparamagnetic Properties. *European Physical Journal B* **1999**, *9*, 583-592.
44. Petit, C.; Taleb, A.; Pileni, M. P., Cobalt Nanosized Particles Organized in a 2d Superlattice: Synthesis, Characterization, and Magnetic Properties. *Journal of Physical Chemistry B* **1999**, *103*, 1805-1810.
45. Pileni, M. P.; Ninham, B. W.; Gulik-Krzywicki, T.; Tanori, J.; Lisiecki, I.; Filankembo, A., Direct Relationship between Shape and Size of Template and Synthesis of Copper Metal Particles. *Advanced Materials* **1999**, *11*, 1358-1362.
46. Taleb, A.; Russier, V.; Courty, A.; Pileni, M. P., Collective Optical Properties of Silver Nanoparticles Organized in Two-Dimensional Superlattices. *Physical Review B* **1999**, *59*, 13350-13358.
47. Filankembo, A.; Pileni, M. P., Is the Template of Self-Colloidal Assemblies the Only Factor That Controls Nanocrystal Shapes? *Journal of Physical Chemistry B* **2000**, *104*, 5865-5868.
48. Hocepied, J. F.; Bonville, P.; Pileni, M. P., Nonstoichiometric Zinc Ferrite Nanocrystals: Syntheses and Unusual Magnetic Properties. *Journal of Physical Chemistry B* **2000**, *104*, 905-912.
49. Hocepied, J. F.; Pileni, M. P., Magnetic Properties of Mixed Cobalt-Zinc Ferrite Nanoparticles. *Journal of Applied Physics* **2000**, *87*, 2472-2478.
50. Lisiecki, I.; Filankembo, A.; Sack-Kongehl, H.; Weiss, K.; Pileni, M. P.; Urban, J., Structural Investigations of Copper Nanorods by High-Resolution TEM. *Physical Review B* **2000**, *61*, 4968-4974.

51. Maillard, M.; Motte, L.; Ngo, A. T.; Pileni, M. P., Rings and Hexagons Made of Nanocrystals: A Marangoni Effect. *Journal of Physical Chemistry B* **2000**, *104*, 11871-11877.
52. Motte, L.; Lacaze, E.; Maillard, M.; Pileni, M. P., Self-Assemblies of Silver Sulfide Nanocrystals on Various Substrates. *Langmuir* **2000**, *16*, 3803-3812.
53. Ngo, A. T.; Pileni, M. P., Nanoparticles of Cobalt Ferrite: Influence of the Applied Field on the Organization of the Nanocrystals on a Substrate and on Their Magnetic Properties. *Advanced Materials* **2000**, *12*, 276-279.
54. Pileni, M. P., Ii-Vi Semiconductors Made by Soft Chemistry - Syntheses and Optical Properties. *Catalysis Today* **2000**, *58*, 151-166.
55. Russier, V.; Petit, C.; Legrand, J.; Pileni, M. P., Collective Magnetic Properties of Cobalt Nanocrystals Self-Assembled in a Hexagonal Network: Theoretical Model Supported by Experiments. *Physical Review B* **2000**, *62*, 3910-3916.
56. Silly, F.; Gusev, A. O.; Taleb, A.; Charra, F.; Pileni, M. P., Coupled Plasmon Modes in an Ordered Hexagonal Monolayer of Metal Nanoparticles: A Direct Observation. *Physical Review Letters* **2000**, *84*, 5840-5843.
57. Taleb, A.; Silly, F.; Gusev, A. O.; Charra, F.; Pileni, M. P., Electron Transport Properties of Nanocrystals: Isolated, and "Supra"-Crystalline Phases. *Advanced Materials* **2000**, *12*, 633-637.
58. Legrand, J.; Ngo, A. T.; Petit, C.; Pileni, M. P., Domain Shapes and Superlattices Made of Cobalt Nanocrystals. *Advanced Materials* **2001**, *13*, 58-62.
59. Maillard, M.; Motte, L.; Pileni, M. P., Rings and Hexagons Made of Nanocrystals. *Advanced Materials* **2001**, *13*, 200-204.
60. Ngo, A. T.; Bonville, P.; Pileni, M. P., Spin Canting and Size Effects in Nanoparticles of Nonstoichiometric Cobalt Ferrite. *Journal of Applied Physics* **2001**, *89*, 3370-3376.
61. Ngo, A. T.; Pileni, M. P., Assemblies of Ferrite Nanocrystals: Partial Orientation of the Easy Magnetic Axes. *Journal of Physical Chemistry B* **2001**, *105*, 53-58.
62. Pileni, M. P., Nanocrystal Self-Assemblies: Fabrication and Collective Properties. *Journal of Physical Chemistry B* **2001**, *105*, 3358-3371.
63. Pileni, M. P., Magnetic Fluids: Fabrication, Magnetic Properties, and Organization of Nanocrystals. *Advanced Functional Materials* **2001**, *11*, 323-336.
64. Pileni, M. P., Mesostructured Fluids in Oil-Rich Regions: Structural and Templating Approaches. *Langmuir* **2001**, *17*, 7476-7486.
65. Pinna, N.; Weiss, K.; Sack-Kongehl, H.; Vogel, W.; Urban, J.; Pileni, M. P., Triangular Cds Nanocrystals: Synthesis, Characterization, and Stability. *Langmuir* **2001**, *17*, 7982-7987.
66. Pinna, N.; Weiss, K.; Urban, J.; Pileni, M. P., Triangular Cds Nanocrystals: Structural and Optical Studies. *Advanced Materials* **2001**, *13*, 261-264.
67. Courty, A.; Lisiecki, I.; Pileni, M. P., Vibration of Self-Organized Silver Nanocrystals. *Journal of Chemical Physics* **2002**, *116*, 8074-8078.
68. Maillard, M.; Giorgio, S.; Pileni, M. P., Silver Nanodisks. *Advanced Materials* **2002**, *14*, 1084-1086.
69. Arbouet, A.; Voisin, C.; Christofilos, D.; Langot, P.; Del Fatti, N.; Vallee, F.; Lerme, J.; Celep, G.; Cottancin, E.; Gaudry, M., et al., Electron-Phonon Scattering in Metal Clusters. *Physical Review Letters* **2003**, *90*.

70. Filankembo, A.; Giorgio, S.; Lisiecki, I.; Pileni, M. P., Is the Anion the Major Parameter in the Shape Control of Nanocrystals? *Journal of Physical Chemistry B* **2003**, *107*, 7492-7500.
71. Germain, V.; Li, J.; Ingert, D.; Wang, Z. L.; Pileni, M. P., Stacking Faults in Formation of Silver Nanodisks. *Journal of Physical Chemistry B* **2003**, *107*, 8717-8720.
72. Hutter, E.; Pileni, M. P., Detection of DNA Hybridization by Gold Nanoparticle Enhanced Transmission Surface Plasmon Resonance Spectroscopy. *Journal of Physical Chemistry B* **2003**, *107*, 6497-6499.
73. Lisiecki, I.; Albouy, P. A.; Pileni, M. P., Face-Centered Cubic "Supracrystals" of Cobalt Nanocrystals. *Advanced Materials* **2003**, *15*, 712-716.
74. Lisiecki, I.; Pileni, M. P., Synthesis of Well-Defined and Low Size Distribution Cobalt Nanocrystals: The Limited Influence of Reverse Micelles. *Langmuir* **2003**, *19*, 9486-9489.
75. Maillard, M.; Giorgio, S.; Pileni, M. P., Tuning the Size of Silver Nanodisks with Similar Aspect Ratios: Synthesis and Optical Properties. *Journal of Physical Chemistry B* **2003**, *107*, 2466-2470.
76. Petit, C.; Russier, V.; Pileni, M. P., Effect of the Structure of Cobalt Nanocrystal Organization on the Collective Magnetic Properties. *Journal of Physical Chemistry B* **2003**, *107*, 10333-10336.
77. Pileni, M. P., The Role of Soft Colloidal Templates in Controlling the Size and Shape of Inorganic Nanocrystals. *Nature Materials* **2003**, *2*, 145-150.
78. Lalatonne, Y.; Richardi, J.; Pileni, M. P., Van Der Waals Versus Dipolar Forces Controlling Mesoscopic Organizations of Magnetic Nanocrystals. *Nature Materials* **2004**, *3*, 121-125.
79. Salzemann, C.; Lisiecki, I.; Brioude, A.; Urban, J.; Pileni, M. P., Collections of Copper Nanocrystals Characterized by Different Sizes and Shapes: Optical Response of These Nanoobjects. *Journal of Physical Chemistry B* **2004**, *108*, 13242-13248.
80. Salzemann, C.; Lisiecki, L.; Urban, J.; Pileni, M. P., Anisotropic Copper Nanocrystals Synthesized in a Supersaturated Medium: Nanocrystal Growth. *Langmuir* **2004**, *20*, 11772-11777.
81. Brioude, A.; Jiang, X. C.; Pileni, M. P., Optical Properties of Gold Nanorods: Dda Simulations Supported by Experiments. *Journal of Physical Chemistry B* **2005**, *109*, 13138-13142.
82. Brioude, A.; Pileni, M. P., Silver Nanodisks: Optical Properties Study Using the Discrete Dipole Approximation Method. *Journal of Physical Chemistry B* **2005**, *109*, 23371-23377.
83. Courty, A.; Mermet, A.; Albouy, P. A.; Duval, E.; Pileni, M. P., Vibrational Coherence of Self-Organized Silver Nanocrystals in F.C.C. Supra-Crystals. *Nature Materials* **2005**, *4*, 395-398.
84. Germain, V.; Brioude, A.; Ingert, D.; Pileni, M. P., Silver Nanodisks: Size Selection Via Centrifugation and Optical Properties. *Journal of Chemical Physics* **2005**, *122*.
85. Salzemann, C.; Urban, J.; Lisiecki, I.; Pileni, M. P., Characterization and Growth Process of Copper Nanodisks. *Advanced Functional Materials* **2005**, *15*, 1277-1284.
86. Darugar, Q.; Qian, W.; El-Sayed, M. A.; Pileni, M. P., Size-Dependent Ultrafast Electronic Energy Relaxation and Enhanced Fluorescence of Copper Nanoparticles. *Journal of Physical Chemistry B* **2006**, *110*, 143-149.

87. Jiang, X. C.; Brioude, A.; Pileni, M. P., Gold Nanorods: Limitations on Their Synthesis and Optical Properties. *Colloids and Surfaces a-Physicochemical and Engineering Aspects* **2006**, *277*, 201-206.
88. Pileni, M. P., Reverse Micelles Used as Templates: A New Understanding in Nanocrystal Growth. *Journal of Experimental Nanoscience* **2006**, *1*, 13-27.
89. Salzemann, C.; Brioude, A.; Pileni, M. P., Tuning of Copper Nanocrystals Optical Properties with Their Shapes. *Journal of Physical Chemistry B* **2006**, *110*, 7208-7212.
90. Courty, A.; Henry, A. I.; Goubet, N.; Pileni, M. P., Large Triangular Single Crystals Formed by Mild Annealing of Self-Organized Silver Nanocrystals. *Nature Materials* **2007**, *6*, 900-907.
91. Jiang, X. C.; Pileni, M. P., Gold Nanorods: Influence of Various Parameters as Seeds, Solvent, Surfactant on Shape Control. *Colloids and Surfaces a-Physicochemical and Engineering Aspects* **2007**, *295*, 228-232.
92. Pileni, M. P., Self-Assembly of Inorganic Nanocrystals: Fabrication and Collective Intrinsic Properties. *Accounts of Chemical Research* **2007**, *40*, 685-693.
93. Pileni, M. P., Control of the Size and Shape of Inorganic Nanocrystals at Various Scales from Nano to Macrodomains. *Journal of Physical Chemistry C* **2007**, *111*, 9019-9038.
94. Muskens, O. L.; Bachelier, G.; Del Fatti, N.; Vallee, F.; Brioude, A.; Jiang, X. C.; Pileni, M. P., Quantitative Absorption Spectroscopy of a Single Gold Nanorod. *Journal of Physical Chemistry C* **2008**, *112*, 8917-8921.
95. Pileni, M. P., Supracrystals of Inorganic Nanocrystals: An Open Challenge for New Physical Properties. *Accounts of Chemical Research* **2008**, *41*, 1799-1809.
96. Portales, H.; Goubet, N.; Saviot, L.; Adichtchev, S.; Murray, D. B.; Mermet, A.; Duval, E.; Pileni, M. P., Probing Atomic Ordering and Multiple Twinning in Metal Nanocrystals through Their Vibrations. *Proceedings of the National Academy of Sciences of the United States of America* **2008**, *105*, 14784-14789.
97. Alphandery, E.; Ding, Y.; Ngo, A. T.; Wang, Z. L.; Wu, L. F.; Pileni, M. P., Assemblies of Aligned Magnetotactic Bacteria and Extracted Magnetosomes: What Is the Main Factor Responsible for the Magnetic Anisotropy? *Acs Nano* **2009**, *3*, 1539-1547.
98. Goubet, N.; Richardi, J.; Albouy, P. A.; Pileni, M. P., Which Forces Control Supracrystal Nucleation in Organic Media? *Advanced Functional Materials* **2011**, *21*, 2693-2704.
99. Goubet, N.; Portales, H.; Yan, C.; Arfaoui, I.; Albouy, P. A.; Mermet, A.; Pileni, M. P., Simultaneous Growths of Gold Colloidal Crystals. *Journal of the American Chemical Society* **2012**, *134*, 3714-3719.
100. Goubet, N.; Yan, C.; Polli, D.; Portales, H.; Arfaoui, I.; Cerullo, G.; Pileni, M. P., Modulating Physical Properties of Isolated and Self-Assembled Nanocrystals through Change in Nanocrystallinity. *Nano Letters* **2013**, *13*, 504-508.