20-80 kV - Publications by SALVE authors with an impact factor > 10

2013

1. Angelova, P., Vieker, H., Weber, N.-E., Matei, D., Reimer, O., Meier, I., … Turchanin, A. (2013). A universal scheme to convert aromatic molecular monolayers into functional carbon nanomembranes. ACS nano, 7(8), 6489–97. doi:10.1021/nn402652f
2. Ermakova, A., Pramanik, G., Cai, J.-M., Algara-Siller, G., Kaiser, U., Weil, T., … Jelezko, F. (2013). Detection of a Few Metallo-Protein Molecules Using Color Centers in Nanodiamonds. Nano letters, 13(7), 3305–3309. doi:10.1021/nl4015233
3. Huang, P. Y., Kurasch, S., Alden, J. S., Shekhawat, A., Alemi, A. A., Mceuen, P. L., … Muller, D. A. (2013). Imaging Atomic Rearrangements in Two-Dimensional Silica Glass: Watching Silica's Dance. Science, 342, 224–227. doi:10.1126/science.1242248
4. Lehtinen, O., Kurasch, S., Krasheninnikov, a V, & Kaiser, U. (2013). Atomic scale study of the life cycle of a dislocation in graphene from birth to annihilation. Nature communications, 4, 2098. doi:10.1038/ncomms3098
5. Matei, D. G., Weber, N.-E., Kurasch, S., Wundrack, S., Woszczyna, M., Grothe, M., … Turchanin, A. (2013). Functional single-layer graphene sheets from aromatic monolayers. Advanced materials, 25(30), 4146–51. doi:10.1002/adma.201300651

2012

6. Chamberlain, T. W., Biskupek, J., Rance, G. a, Chuvilin, A., Alexander, T. J., Bichoutskaia, E., … Khlobystov, A. N. (2012). Size, structure, and helical twist of graphene nanoribbons controlled by confinement in carbon nanotubes. ACS nano, 6(5), 3943–53. doi:10.1021/nn300137j
7. Huang, P. Y., Kurasch, S., Srivastava, A., Skakalova, V., Kotakoski, J., Krasheninnikov, A. V, … Kaiser, U. (2012). Direct Imaging of a Two-Dimensional Silica Glass on Graphene. Nano Letters, 12(2), 1081–6. doi:10.1021/nl204423x
8. Kurasch, S., Kotakoski, J., Lehtinen, O., Skákalová, V., Smet, J., Krill, C. E., … Kaiser, U. (2012). Atom-by-atom observation of grain boundary migration in graphene. Nano letters, 12(6), 3168–73. doi:10.1021/nl301141g

9. Li, X.-H., Kurasch, S., Kaiser, U., & Antonietti, M. (2012). Synthesis of monolayer-patched graphene from glucose. Angewandte Chemie (International ed. in English), 51(38), 9689–92. doi:10.1002/anie.201203207
10. Susi, T., Kotakoski, J., Arenal, R., Kurasch, S., Jiang, H., Skakalova, V., … Meyer, J. C. (2012). Atomistic description of electron beam damage in nitrogen-doped graphene and single-walled carbon nanotubes. ACS nano, 6(10), 8837–8846. doi:10.1021/nn4034629
11. Zoberbier, T., Chamberlain, T. W., Biskupek, J., Kuganathan, N., Eyhusen, S., Bichoutskaia, E., … Khlobystov, A. N. (2012). Interactions and reactions of transition metal clusters with the interior of single-walled carbon nanotubes imaged at the atomic scale. Journal of the American Chemical Society, 134(6), 3073–9. doi:10.1021/ja208746z

2011

12. Chamberlain, T. W., Meyer, J. C., Biskupek, J., Leschner, J., Santana, A., Besley, N. A., … Khlobystov, A. N. (2011). Reactions of the inner surface of carbon nanotubes and nanoprotrusion processes imaged at the atomic scale. Nature Chemistry, 3, 732–737. doi:10.1038/NCHEM.1115
13. Chuvilin, A, Bichoutskaia, E., Chamberlain, T. W., Rance, G. A., Kuganathan, N., Biskupek, J., … Khlobystov, A. N. (2011). Self-assembly of a sulphur-terminated graphene nanoribbon within a single-walled carbon nanotube. Nature Materials, 10, 687–692. doi:10.1038/NMAT3082
14. Meyer, J. C., Kurasch, S., Park, H. J., Skakalova, V., Künzel, D., Groß, A., … Kaiser, U. A. (2011). Experimental analysis of charge redistribution due to chemical bonding by high-resolution transmission electron microscopy. Nature Materials, 10, 209–215. doi:10.1038/NMAT2941
15. Westenfelder, B., Meyer, J. C., Biskupek, J., Kurasch, S., Scholz, F., Krill, C. E., & Kaiser, U. (2011). Transformations of Carbon AdsorbatesonGraphene Substrates under Extreme Heat. Nano Letters, 5123–5127.

2010

16. Chuvilin, Andrey, Kaiser, U., Bichoutskaia, E., Besley, N. A., & Khlobystov, A. N. (2010). Direct transformation of graphene to fullerene. Nature chemistry, 2(6), 450–453. Retrieved from http://www.nature.com/doifinder/10.1038/nchem.644
17. Chuvilin, Andrey, Khlobystov, A. N., Obergfell, D., Haluska, M., Yang, S., Roth, S., & Kaiser, U. (2010). Observations of chemical reactions at the atomic scale: dynamics of metal-mediated fullerene coalescence and

nanotube rupture. Angewandte Chemie (International ed. in English), 49(1), 193–6. doi:10.1002/anie.200902243
18. Gómez-Navarro, C., Meyer, J. C., Sundaram, R. S., Chuvilin, A., Kurasch, S., Burghard, M., … Kaiser, U. (2010). Atomic structure of reduced graphene oxide. Nano Letters, 10(4), 1144–1148. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20199057

2009

19. Meyer, J. C., Chuvilin, A., Algara-Siller, G., Biskupek, J., & Kaiser, U. (2009). Selective sputtering and atomic resolution imaging of atomically thin boron nitride membranes. Nano letters, 9(7), 2683–9. doi:10.1021/nl9011497

20-80 kV - Publications by other authors with an impact factor > 10

2013

1. Cui, C., Gan, L., Heggen, M., Rudi, S., & Strasser, P. (2013). Compositional segregation in shaped Pt alloy nanoparticles and their structural behaviour during electrocatalysis. Nature materials, 12(8), 765–71. doi:10.1038/nmat3668
2. Kabalah-Amitai, L., Mayzel, B., Kauffmann, Y., Fitch, A. N., Bloch, L., Gilbert, P. U. P. a, & Pokroy, B. (2013). Vaterite crystals contain two interspersed crystal structures. Science, 340(6131), 454–7. doi:10.1126/science.1232139
3. Kim, K., Coh, S., Kisielowski, C., Crommie, M. F., Louie, S. G., Cohen, M. L., & Zettl, a. (2013). Atomically perfect torn graphene edges and their reversible reconstruction. Nature communications, 4, 2723. doi:10.1038/ncomms3723
4. Koh, A. L., Gidcumb, E., Zhou, O., & Sinclair, R. (2013). Observations of Carbon Nanotube Oxidation in an Aberration-Corrected Environmental Transmission Electron Microscope. ACS Nano, 7(3), 2566–2572.
5. Lartigue, L., Alloyeau, D., Kolosnjaj-Tabi, J., Javed, Y., Guardia, P., Riedinger, A., … Gazeau, F. (2013). Biodegradation of iron oxide nanocubes: high-resolution in situ monitoring. ACS nano, 7(5), 3939–52. doi:10.1021/nn305719y

6. Murdock, A. T., Koos, A., Britton, T. Ben, Houben, L., Batten, T., Zhang, T., … Grobert, N. (2013). Controlling the orientation, edge geometry, and thickness of chemical vapor deposition graphene. ACS nano, 7(2), 1351–1359. doi:10.1021/nn3049297
7. Nicotra, G., Ramasse, Q. M., Deretzis, I., La Magna, A., Spinella, C., & Giannazzo, F. (2013). Delaminated graphene at silicon carbide facets: atomic scale imaging and spectroscopy. ACS nano, 7(4), 3045–52. doi:10.1021/nn305922u
8. Pylypenko, S., Borisevich, A., More, K. L., Corpuz, A. R., Holme, T., Dameron, A. a., … O'Hayre, R. (2013). Nitrogen: unraveling the secret to stable carbon-supported Pt-alloy electrocatalysts. Energy & Environmental Science, 6(10), 2957. doi:10.1039/c3ee40189h
9. Qiu, H., Xu, T., Wang, Z., Ren, W., Nan, H., Ni, Z., … Wang, X. (2013). Hopping Transport through Defect-induced Localized States in Molybdenum Disulfide. Nature Communications, 4, 2642. doi:10.1038/ncomms3642
10. Rasool, H. I., Ophus, C., Klug, W. S., Zettl, a, & Gimzewski, J. K. (2013). Measurement of the intrinsic strength of crystalline and polycrystalline graphene. Nature communications, 4, 2811. doi:10.1038/ncomms3811
11. Robertson, A. W., Montanari, B., He, K., Allen, C. S., Wu, Y. a, Harrison, N. M., … Warner, J. H. (2013). Structural reconstruction of the graphene monovacancy. ACS nano, 7(5), 4495–502. doi:10.1021/nn401113r
12. Robertson, A. W., Montanari, B., He, K., Kim, J., Allen, C. S., Wu, Y. a, … Warner, J. H. (2013). Dynamics of single Fe atoms in graphene vacancies. Nano Letters, 13(4), 1468–75. doi:10.1021/nl304495v
13. Warner, J H, Liu, Z., He, K., Robertson, A. W., & Suenaga, K. (2013). Sensitivity of Graphene Edge States to Surface Adatom Interactions. Nano Letters, In Press.
14. Warner, Jamie H, Fan, Y., Robertson, A. W., He, K., Yoon, E., & Lee, G. Do. (2013). Rippling Graphene at the Nanoscale through Dislocation Addition. Nano Letters, In Press. doi:10.1021/nl402902q
15. Warner, Jamie H, Lee, G.-D., He, K., Robertson, A. W., Yoon, E., & Kirkland, A. I. (2013). Bond length and charge density variations within extended arm chair defects in graphene. ACS nano, 7(11), 9860–6. doi:10.1021/nn403517m

2012

16. Chisholm, M. F., Duscher, G., & Windl, W. (2012). Oxidation resistance of reactive atoms in graphene. Nano Letters, 12(9), 4651–5. doi:10.1021/nl301952e
17. Hughes, J. M., Hernandez, Y., Aherne, D., Doessel, L., Müllen, K., Moreton, B., … Coleman, J. N. (2012). High quality dispersions of

hexabenzocoronene in organic solvents. Journal of the American Chemical Society, 134(29), 12168–79. doi:10.1021/ja303683v
18. Li, Y., Zhou, W., Wang, H., Xie, L., Liang, Y., Wei, F., … Dai, H. (2012). An oxygen reduction electrocatalyst based on carbon nanotube-graphene complexes. Nature nanotechnology, 7(6), 394–400. doi:10.1038/nnano.2012.72
19. Pennycook, T. J., McBride, J. R., Rosenthal, S. J., Pennycook, S. J., & Pantelides, S. T. (2012). Dynamic fluctuations in ultrasmall nanocrystals induce white light emission. Nano Letters, 12(6), 3038–3042. doi:10.1021/nl3008727
20. Polking, M. J., Han, M.-G., Yourdkhani, A., Petkov, V., Kisielowski, C. F., Volkov, V. V, … Ramesh, R. (2012). Ferroelectric order in individual nanometre-scale crystals. Nature materials, 11(8), 700–9. doi:10.1038/nmat3371
21. Ramasse, Q. M., Zan, R., Bangert, U., Boukhvalov, D. W., Son, Y., & Novoselov, K. S. (2012). Direct Experimental Evidence of Metal-Mediated Etching of Suspended Graphene. ACS nano, 6(5), 4063–4071. doi:10.1021/nn300452y
22. Robertson, A. W., Allen, C. S., Wu, Y. a, He, K., Olivier, J., Neethling, J., … Warner, J. H. (2012). Spatial control of defect creation in graphene at the nanoscale. Nature communications, 3(1144), 1–7. doi:10.1038/ncomms2141
23. Rossouw, D., Botton, G. a, Najafi, E., Lee, V., & Hitchcock, A. P. (2012). Metallic and semiconducting single-walled carbon nanotubes: differentiating individual SWCNTs by their carbon 1s spectra. ACS nano, 6(12), 10965–72. doi:10.1021/nn3045227
24. Salafranca, J., Gazquez, J., Pérez, N., Labarta, A., Pantelides, S. T., Pennycook, S. J., … Varela, M. (2012). Surfactant organic molecules restore magnetism in metal-oxide nanoparticle surfaces. Nano Letters, 12(5), 2499–503. doi:10.1021/nl300665z
25. Suenaga, K., Okazaki, T., Okunishi, E., & Matsumura, S. (2012). Detection of photons emitted from single erbium atoms in energy-dispersive X-ray spectroscopy. Nature Photonics, 6(July), 545–548. doi:10.1038/NPHOTON.2012.148
26. Wang, H., Wang, Q., Cheng, Y., Li, K., Yao, Y., Zhang, Q., … Zhang, X. X. (2012). Doping monolayer graphene with single atom substitutions. Nano Letters, 12(1), 141–4. doi:10.1021/nl2031629
27. Wang, W. L., Bhandari, S., Yi, W., Bell, D. C., Westervelt, R., & Kaxiras, E. (2012). Direct imaging of atomic-scale ripples in few-layer graphene. Nano Letters, 12(5), 2278–82. doi:10.1021/nl300071y
28. Warner, J. H., Margine, E. R., Mukai, M., Robertson, A. W., Giustino, F., & Kirkland, A. I. (2012). Dislocation-driven deformations in graphene. Science, 337(6091), 209–12. doi:10.1126/science.1217529
29. Warner, J. H., Mukai, M., & Kirkland, A. I. (2012). Atomic Structure of ABC Rhombohedral Stacked Trilayer Graphene. ACS nano, 6(6), 0–6. doi:10.1021/nn3017926

30. Wu, Y. A., Fan, Y., Speller, S., Creeth, G. L., Sadowski, J. T., He, K., … Warner, J. H. (2012). Large Single Crystals of Graphene on Melted Copper using Chemical Vapour Deposition. ACS nano, 6(6), 5010–5017. doi:10.1021/nn3016629
31. Yoshida, H., Kuwauchi, Y., Jinschek, J. R., Sun, K., Tanaka, S., Kohyama, M., … Takeda, S. (2012). Visualizing Gas Molecules Interacting with Supported Nanoparticulate Catalysts at Reaction Conditions. Science, 335(6066), 317–319. doi:10.1126/science.1213194
32. Yuk, J. M., Park, J., Ercius, P., Kim, K., Hellebusch, D. J., Crommie, M. F., … Alivisatos, A. P. (2012). High-Resolution EM of Colloidal Nanocrystal Growth Using Graphene Liquid Cells. Science, 336(6077), 61–64. doi:10.1126/science.1217654
33. Zan, R., Ramasse, Q. M., Bangert, U., & Novoselov, K. S. (2012). Graphene reknits its holes. Nano Letters, 12, 3936–3940. doi:10.1021/nl300985q
34. Zhou, W., Lee, J., Nanda, J., Pantelides, S. T., Pennycook, S. J., & Idrobo, J.-C. (2012). Atomically localized plasmon enhancement in monolayer graphene. Nature nanotechnology, 7(3), 161–5. doi:10.1038/nnano.2011.252
35. Zhu, Y., Li, X., Cai, Q., Sun, Z., Casillas, G., Jose-Yacaman, M., … Tour, J. M. (2012). Quantitative analysis of structure and bandgap changes in graphene oxide nanoribbons during thermal annealing. Journal of the American Chemical Society, 134(28), 11774–80. doi:10.1021/ja304471x

2011

36. Allen, C. S., Ito, Y., Robertson, A. W., Shinohara, H., & Warner, J. H. (2011). Two-dimensional coalescence dynamics of encapsulated metallofullerenes in carbon nanotubes. ACS nano, 5(12), 10084–9. doi:10.1021/nn204003h
37. Huang, P. Y., Ruiz-Vargas, C. S., Van Der Zande, A. M., Whitney, W. S., Levendorf, M. P., Kevek, J. W., … Muller, D. A. (2011). Grains and grain boundaries in single-layer graphene atomic patchwork quilts. Nature, 469(7330), 389–392. Retrieved from http://www.nature.com/doifinder/10.1038/nature09718
38. Jeon, K.-J., Moon, H. R., Ruminski, A. M., Jiang, B., Kisielowski, C., Bardhan, R., & Urban, J. J. (2011). Air-stable magnesium nanocomposites provide rapid and high-capacity hydrogen storage without using heavy-metal catalysts. Nature Materials, 10(4), 286–290. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21399630
39. Kim, J. S., Borisenko, K. B., Nicolosi, V., & Kirkland, A. I. (2011). Controlled Radiation Damage and Edge Structures in Boron Nitride Membranes. ACS nano, 5(5), 3977–3986. doi:10.1021/nn2005443

40. Kim, K., Lee, Z., Regan, W., Kisielowski, C., Crommie, M. F., & Zettl, A. (2011). Grain boundary mapping in polycrystalline graphene. ACS nano, 5(3), 2142–6. doi:10.1021/nn1033423
41. Lin, Y.-C., Jin, C., Lee, J.-C., Jen, S.-F., Suenaga, K., & Chiu, P.-W. (2011). Clean transfer of graphene for isolation and suspension. ACS nano, 5(3), 2362–2368. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21351739
42. Liu, Z., Suenaga, K., Wang, Z., Shi, Z., Okunishi, E., & Iijima, S. (2011). Identification of active atomic defects in a monolayered tungsten disulphide nanoribbon. Nature communications, 2, 213. Retrieved from http://www.nature.com/doifinder/10.1038/ncomms1224
43. Mao, Y., Wang, W. L., Wei, D., Kaxiras, E., & Sodroski, J. G. (2011). Graphene structures at an extreme degree of buckling. ACS nano, 5(2), 1395–1400.
44. Polking, M. J., Urban, J. J., Milliron, D. J., Zheng, H., Chan, E., Caldwell, M. A., … Alivisatos, A. P. (2011). Size-dependent polar ordering in colloidal GeTe nanocrystals. Nano Letters, 11(3), 1147–1152. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21338071
45. Radmilovic, V., Ophus, C., Marquis, E. a, Rossell, M. D., Tolley, a, Gautam, a, … Dahmen, U. (2011). Highly monodisperse core-shell particles created by solid-state reactions. Nature materials, 10(9), 710–5. doi:10.1038/nmat3077
46. Ran, K., Zuo, J.-M., Chen, Q., & Shi, Z. (2011). Electron beam stimulated molecular motions. ACS nano, 5(4), 3367–72. doi:10.1021/nn2006909
47. Robertson, A. W., Bachmatiuk, A., Wu, Y. a, Schäffel, F., Büchner, B., Rümmeli, M. H., & Warner, J. H. (2011). Structural distortions in few-layer graphene creases. ACS nano, 5(12), 9984–91. doi:10.1021/nn203763r
48. Robertson, A. W., Bachmatiuk, A., Wu, Y. A., Schäffel, F., Rellinghaus, B., Büchner, B., … Warner, J. H. (2011). Atomic Structure of Interconnected Few-Layer Graphene Domains. ACS Nano, 5(Xx), 6610–6618. doi:10.1021/nn202051g
49. Schäffel, F., Wilson, M., & Warner, J. H. (2011). Motion of Light Adatoms and Molecules on the Surface of Few-Layer Graphene. ACS Nano, 5(12), 9428–9441.
50. Urban, K. W. (2011). The challenges of graphene. Nature Materials, 10(3), 165–166. doi:10.1038/nmat2964
51. Van Aert, S., Batenburg, K. J., Rossell, M. D., Erni, R., & Van Tendeloo, G. (2011). Three-dimensional atomic imaging of crystalline nanoparticles. Nature, 470(7334), 374–377. Retrieved from http://www.nature.com/doifinder/10.1038/nature09741
52. Warner, J. H., Plant, S. R., Young, N. P., Porfyrakis, K., Kirkland, A. I., & Briggs, G. A. D. (2011). Atomic Scale Growth Dynamics of Nanocrystals within Carbon Nanotubes. ACS nano, 5(2), 1410–1417. doi:10.1021/nn1031802
53. Warner, J. H., Young, N. P., Kirkland, A. I., & Briggs, G. A. D. (2011). Resolving strain in carbon nanotubes at the atomic level. Nature Materials, 10(9), 1–5. doi:10.1038/nmat3125

54. Xie, L., Wang, H., Jin, C., Wang, X., Jiao, L., Suenaga, K., & Dai, H. (2011). Graphene nanoribbons from unzipped carbon nanotubes: atomic structures, Raman spectroscopy, and electrical properties. Journal of the American Chemical Society, 133(27), 10394–10397. Retrieved from http://arxiv.org/abs/1106.3675
55. Zheng, H., Rivest, J. B., Miller, T. A., Sadtler, B., Lindenberg, A., Toney, M. F., … Alivisatos, A. P. (2011). Observation of transient structural-transformation dynamics in a Cu2S nanorod. Science, 333(6039), 206–209. Retrieved from http://www.sciencemag.org/cgi/doi/10.1126/science.1204713
56. Zhu, Y., Murali, S., Stoller, M. D., Ganesh, K. J., Cai, W., Ferreira, P. J., … Ruoff, R. S. (2011). Carbon-Based Supercapacitors Produced by Activation of Graphene. Science, 332(6037), 1537–1541. doi:10.1126/science.1200770

2010

57. Koshino, M., Niimi, Y., Nakamura, E., Kataura, H., Okazaki, T., Suenaga, K., & Iijima, S. (2010). Analysis of the reactivity and selectivity of fullerene dimerization reactions at the atomic level. Nature chemistry, 2(2), 117–124. Retrieved from http://www.nature.com/doifinder/10.1038/nchem.482
58. Krivanek, O. L., Chisholm, M. F., Nicolosi, V., Pennycook, T. J., Corbin, G. J., Dellby, N., … Pennycook, S. J. (2010). Atom-by-atom structural and chemical analysis by annular dark-field electron microscopy. Nature, 464(7288), 571–574. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20336141
59. Nam, K. T., Shelby, S. a, Choi, P. H., Marciel, A. B., Chen, R., Tan, L., … Zuckermann, R. N. (2010). Free-floating ultrathin two-dimensional crystals from sequence-specific peptoid polymers. Nature materials, 9(5), 454–60. doi:10.1038/nmat2742
60. Nicholls, R. J., Sader, K., Warner, J. H., Plant, S. R., Porfyrakis, K., Nellist, P. D., … Cockayne, D. J. H. (2010). Direct imaging and chemical identification of the encapsulated metal atoms in bimetallic endofullerene peapods. ACS nano, 4(7), 3943–3948. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20557070
61. Rümmeli, M. H., Bachmatiuk, A., Scott, A., Börrnert, F., Warner, J. H., Hoffman, V., … Büchner, B. (2010). Direct low-temperature nanographene CVD synthesis over a dielectric insulator. ACS nano, 4(7), 4206–10. doi:10.1021/nn100971s
62. Shiozawa, H., Kramberger, C., Pfeiffer, R., Kuzmany, H., Pichler, T., Liu, Z., … Silva, S. R. P. (2010). Catalyst and chirality dependent growth of carbon nanotubes determined through nano-test tube chemistry. Advanced Materials, 22(33), 3685–3689. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20535743

63. Sloan, J., Liu, Z., Suenaga, K., Wilson, N. R., Pandey, P. A., Perkins, L. M., … Shannon, I. J. (2010). Imaging the structure, symmetry, and surface-inhibited rotation of polyoxometalate ions on graphene oxide. Nano Letters, 10(11), 4600–4606. Retrieved from http://dx.doi.org/10.1021/nl1026452
64. Song, L., Ci, L., Lu, H., Sorokin, P. B., Jin, C., Ni, J., … Ajayan, P. M. (2010). Large scale growth and characterization of atomic hexagonal boron nitride layers. Nano Letters, 10(8), 3209–3215. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20698639
65. Suenaga, K., & Koshino, M. (2010). Atom-by-atom spectroscopy at graphene edge. Nature, 468(7327), 1088–1090. Retrieved from http://www.nature.com/doifinder/10.1038/nature09664
66. Wang, Z., Li, H., Liu, Z., Shi, Z., Lu, J., Suenaga, K., … Iijima, S. (2010). Mixed low-dimensional nanomaterial: 2D ultranarrow MoS2 inorganic nanoribbons encapsulated in quasi-1D carbon nanotubes. Journal of the American Chemical Society, 132(39), 13840–7. doi:10.1021/ja1058026
67. Warner, J. H., Rümmeli, M. H., Bachmatiuk, A., & Büchner, B. (2010). Atomic resolution imaging and topography of boron nitride sheets produced by chemical exfoliation. ACS nano, 4(3), 1299–1304. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20148574
68. Warner, J. H., Rümmeli, M. H., Bachmatiuk, A., Wilson, M., & Büchner, B. (2010). Examining co-based nanocrystals on graphene using low-voltage aberration-corrected transmission electron microscopy. ACS nano, 4(1), 470–476. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20020749

2009

69. Girit, C. O., Meyer, J. C., Erni, R., Rossell, M. D., Kisielowski, C., Yang, L., … Zettl, A. (2009). Graphene at the edge: stability and dynamics. Science, 323(5922), 1705–8. doi:10.1126/science.1166999
70. Lee, Z., Jeon, K.-J., Dato, A., Erni, R., Richardson, T. J., Frenklach, M., & Radmilovic, V. (2009). Direct imaging of soft-hard interfaces enabled by graphene. Nano Letters, 9(9), 3365–3369. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19591495
71. Suenaga, K., Sato, Y., Liu, Z., Kataura, H., Okazaki, T., Kimoto, K., … Kondo, Y. (2009). Visualizing and identifying single atoms using electron energy-loss spectroscopy with low accelerating voltage. Nature Chemistry, 1(5), 415–418. Retrieved from http://www.nature.com/doifinder/10.1038/nchem.282
72. Warner, J. H., Ito, Y., Rümmeli, M. H., Büchner, B., Shinohara, H., & Briggs, G. A. D. (2009). Capturing the motion of molecular nanomaterials encapsulated within carbon nanotubes with ultrahigh temporal resolution. ACS nano, 3(10), 3037–3044. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19743832

73. Warner, J. H., Rümmeli, M. H., Ge, L., Gemming, T., Montanari, B., Harrison, N. M., … Briggs, G. A. D. (2009). Structural transformations in graphene studied with high spatial and temporal resolution. Nature Nanotechnology, 4(8), 500–504. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19662011
74. Warner, J. H., Rümmeli, M. H., Gemming, T., Büchner, B., & Briggs, G. A. D. (2009). Direct imaging of rotational stacking faults in few layer graphene. Nano Letters, 9(1), 102–106. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19072722
75. Warner, J. H., Schäffel, F., Zhong, G., Rümmeli, M. H., Büchner, B., Robertson, J., & Briggs, G. A. D. (2009). Investigating the diameter-dependent stability of single-walled carbon nanotubes. ACS nano, 3(6), 1557–1563.
76. Wilson, N. R., Pandey, P. A., Beanland, R., Young, R. J., Kinloch, I. A., Gong, L., … Sloan, J. (2009). Graphene oxide: structural analysis and application as a highly transparent support for electron microscopy. ACS nano, 3(9), 2547–2556. Retrieved from http://dx.doi.org/10.1021/nn900694t

2008

77. Bar Sadan, M., Houben, L., Wolf, S. G., Enyashin, A., Seifert, G., Tenne, R., & Urban, K. (2008). Toward atomic-scale bright-field electron tomography for the study of fullerene-like nanostructures. Nano Letters, 8(3), 891–6. doi:10.1021/nl073149i
78. Meyer, J. C., Kisielowski, C., Erni, R., Rossell, M. D., Crommie, M. F., & Zettl, A. (2008). Direct imaging of lattice atoms and topological defects in graphene membranes. Nano Letters, 8(11), 3582–3586. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18563938
79. Sato, Y., Yanagi, K., Miyata, Y., Suenaga, K., Kataura, H., & Iijima, S. (2008). Chiral-angle distribution for separated single-walled carbon nanotubes. Nano Letters, 8(10), 3151–3154. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18729412

2007

80. Suenaga, K., Wakabayashi, H., Koshino, M., Sato, Y., Urita, K., & Iijima, S. (2007). Imaging active topological defects in carbon nanotubes. Nature Nanotechnology, 2, 358–360. doi:10.1038/nnano.2007.141

100-3000 kV - Publications with an impact factor > 10

2013

1. Fickenscher, M., Shi, T., Jackson, H. E., Smith, L. M., Yarrison-Rice, J. M., Zheng, C., … Jagadish, C. (2013). Optical, structural, and numerical investigations of GaAs/AlGaAs core-multishell nanowire quantum well tubes. Nano Letters, 13(3), 1016–22. doi:10.1021/nl304182j
2. Geaney, H., Mullane, E., Ramasse, Q. M., & Ryan, K. M. (2013). Atomically abrupt silicon-germanium axial heterostructure nanowires synthesized in a solvent vapor growth system. Nano Letters, 13(4), 1675–80. doi:10.1021/nl400146u
3. Kim, Y. J., Tao, R., Klie, R. F., & Seidman, D. N. (2013). Direct Atomic-Scale Imaging of Hydrogen and Oxygen Interstitials in Pure Niobium Using Atom-Probe Microscopy. ACS Nano, 7(1), 732–739.
4. Kim, Y.-M., Kumar, A., Hatt, A., Morozovska, A. N., Tselev, A., Biegalski, M. D., … Borisevich, A. Y. (2013). Interplay of octahedral tilts and polar order in BiFeO3 films. Advanced Materials, 25(17), 2497–504. doi:10.1002/adma.201204584
5. Kuwauchi, Y., Takeda, S., Yoshida, H., Sun, K., Haruta, M., & Kohno, H. (2013). Stepwise Displacement of Catalytically Active Gold Nanoparticles on Cerium Oxide. Nano Letters, 13, 3073–3077. doi:10.1021/nl400919c
6. Lartigue, L., Alloyeau, D., Kolosnjaj-Tabi, J., Javed, Y., Guardia, P., Riedinger, A., … Gazeau, F. (2013). Biodegradation of iron oxide nanocubes: high-resolution in situ monitoring. ACS nano, 7(5), 3939–52. doi:10.1021/nn305719y
7. Li, L., Gao, P., Nelson, C. T., Jokisaari, J. R., Zhang, Y., Kim, S.-J., … Pan, X. (2013). Atomic scale structure changes induced by charged domain walls in ferroelectric materials. Nano Letters, 13(11), 5218–23. doi:10.1021/nl402651r
8. Li, M., Cullen, D. a, Sasaki, K., Marinkovic, N. S., More, K., & Adzic, R. R. (2013). Ternary electrocatalysts for oxidizing ethanol to carbon dioxide: making ir capable of splitting C-C bond. Journal of the American Chemical Society, 135(1), 132–141. doi:10.1021/ja306384x
9. Lubk, a, Rossell, M. D., Seidel, J., Chu, Y. H., Ramesh, R., Hÿtch, M. J., & Snoeck, E. (2013). Electromechanical coupling among edge dislocations, domain walls, and nanodomains in BiFeO3 revealed by unit-cell-wise strain and polarization maps. Nano Letters, 13(4), 1410–5. doi:10.1021/nl304229k
10. Manfrinato, V. R., Zhang, L., Su, D., Duan, H., Hobbs, R. G., Stach, E. a, & Berggren, K. K. (2013). Resolution limits of electron-beam lithography

toward the atomic scale. Nano Letters, 13(4), 1555–8. doi:10.1021/nl304715p
11. Matsumoto, T., Ishikawa, R., Tohei, T., Kimura, H., Yao, Q., Zhao, H., … Ikuhara, Y. (2013). Multivariate statistical characterization of charged and uncharged domain walls in multiferroic hexagonal YMnO3 single crystal visualized by a spherical aberration-corrected STEM. Nano Letters, 13(10), 4594–601. doi:10.1021/nl402158c
12. Mizoguchi, T., Findlay, S. D., Masuno, A., Saito, Y., Yamaguchi, K., Hiroyuki, I., & Ikuhara, Y. (2013). Atomic-Scale Identi fi cation of Individual Lanthanide Dopants in Optical Glass Fiber. ACS nano, 7(6), 5058–5063.
13. Nie, A., Gan, L.-Y., Cheng, Y., Asayesh-Ardakani, H., Li, Q., Dong, C., … Yassar, R. S. (2013). Atomic-scale observation of lithiation reaction front in nanoscale SnO2 materials. ACS nano, 7(7), 6203–11. doi:10.1021/nn402125e
14. Prabhudev, S., Bugnet, M., Bock, C., & Botton, G. A. (2013). Strained Lattice with Persistent Atomic Order in Pt 3 Fe 2 Intermetallic. ACS Nano, 7(7), 6103–6110. doi:10.1021/nn4019009
15. Pratt, A., Lari, L., Hovorka, O., Shah, A., Woffinden, C., Tear, S. P., … Kröger, R. (2013). Enhanced oxidation of nanoparticles through strain-mediated ionic transport. Nature Materials, 13, 26–30. doi:10.1038/namt3785
16. Reddy, K. M., Liu, P., Hirata, A., Fujita, T., & Chen, M. W. (2013). Atomic structure of amorphous shear bands in boron carbide. Nature communications, 4(2483), 1–5. doi:10.1038/ncomms3483
17. Rossell, M. D., Abakumov, A. M., Ramasse, Q. M., & Erni, R. (2013). Direct evidence of stacking disorder in the mixed ionic-electronic conductor Sr4Fe6O12+δ. ACS nano, 7(4), 3078–85. doi:10.1021/nn3058449
18. Sanchez, S. I., Small, M. W., Bozin, E. S., Wen, J.-G., Zuo, J.-M., & Nuzzo, R. G. (2013). Metastability and structural polymorphism in noble metals: the role of composition and metal atom coordination in mono- and bimetallic nanoclusters. ACS nano, 7(2), 1542–57. doi:10.1021/nn305314m
19. Ustarroz, J., Hammons, J. a, Altantzis, T., Hubin, A., Bals, S., & Terryn, H. (2013). A generalized electrochemical aggregative growth mechanism. Journal of the American Chemical Society, 135(31), 11550–61. doi:10.1021/ja402598k
20. Wang, R., He, X., He, L., Wang, F., Xiao, R., Gu, L., … Chen, L. (2013). Atomic Structure of Li2MnO3 after Partial Delithiation and Re-Lithiation. Advanced Energy Materials, 3(10), 1358–1367. doi:10.1002/aenm.201200842
21. Zheng, C., Wong-Leung, J., Gao, Q., Tan, H. H., Jagadish, C., & Etheridge, J. (2013). Polarity-driven 3-fold symmetry of GaAs/AlGaAs core multishell nanowires. Nano Letters, 13(8), 3742–8. doi:10.1021/nl401680k
22. Zheng, J., Gu, M., Xiao, J., Zuo, P., Wang, C., & Zhang, J.-G. (2013). Corrosion/Fragmentation of Layered Composite Cathode and Related

Capacity/Voltage Fading during Cycling Process. Nano Letters, 13(8), 3824–30. doi:10.1021/nl401849t

2012

23. Bar Sadan, M., Barthel, J., Shtrikman, H., & Houben, L. (2012). Direct imaging of single Au atoms within GaAs nanowires. Nano Letters, 12(5), 2352–6. doi:10.1021/nl300314k
24. Bertoni, G., Grillo, V., Brescia, R., Ke, X., Bals, S., Catellani, A., … Manna, L. (2012). Direct determination of polarity, faceting, and core location in colloidal core/shell wurtzite semiconductor nanocrystals. ACS nano, 6(7), 6453–61. doi:10.1021/nn302085t
25. Bhatta, U. M., Ross, I. M., Sayle, T. X. T., Sayle, D. C., Parker, S. C., Reid, D., … Möbus, G. (2012). Cationic surface reconstructions on cerium oxide nanocrystals: An aberration-corrected HRTEM study. ACS nano, 6(1), 421–30. Retrieved from http://dx.doi.org/10.1021/nn2037576
26. Bocher, L., Gloter, A., Crassous, A., Garcia, V., March, K., Zobelli, A., … Stéphan, O. (2012). Atomic and electronic structure of the BaTiO3/Fe interface in multiferroic tunnel junctions. Nano Letters, 12(1), 376–82. doi:10.1021/nl203657c
27. Cantoni, C., Gazquez, J., Granozio, F. M., Oxley, M. P., Varela, M., Lupini, A. R., … Maccariello, D. (2012). Electron Transfer and Ionic Displacements at the Origin of the 2D Electron Gas at the LAO/STO Interface: Direct Measurements with Atomic-Column Spatial Resolution. Advanced Materials, 1, 3952–3957. doi:10.1002/adma.201200667
28. De La Mata, M., Magen, C., Gazquez, J., Utama, M. I. B., Heiss, M., Lopatin, S., … Arbiol, J. (2012). Polarity assignment in ZnTe, GaAs, ZnO, and GaN-AlN nanowires from direct dumbbell analysis. Nano Letters, 12(5), 2579–86. doi:10.1021/nl300840q
29. Den Hertog, M. I., González-Posada, F., Songmuang, R., Rouviere, J. L., Fournier, T., Fernandez, B., & Monroy, E. (2012). Correlation of polarity and crystal structure with optoelectronic and transport properties of GaN/AlN/GaN nanowire sensors. Nano Letters, 12(11), 5691–6. doi:10.1021/nl302890f
30. Fujita, T., Guan, P., McKenna, K., Lang, X., Hirata, A., Zhang, L., … Chen, M. (2012). Atomic origins of the high catalytic activity of nanoporous gold. Nature materials, 11(9), 775–80. doi:10.1038/nmat3391
31. Gan, L., Heggen, M., Rudi, S., & Strasser, P. (2012). Core − Shell Compositional Fine Structures of Dealloyed PtxNi1-x Nanoparticles and Their Impact on Oxygen Reduction Catalysis. Nano Letters, 12, 5423–5430.
32. Goris, B., Bals, S., Van den Broek, W., Carbó-Argibay, E., Gómez-Graña, S., Liz-Marzán, L. M., & Van Tendeloo, G. (2012). Atomic-scale

determination of surface facets in gold nanorods. Nature materials, 11(11), 930–5. doi:10.1038/nmat3462
33. He, M.-R., Yu, R., & Zhu, J. (2012). Subangstrom profile imaging of relaxed ZnO($10\bar{1}0$) surfaces. Nano Letters, 12(2), 704–8. doi:10.1021/nl2036172
34. Hossein-Babaei, F., Koh, A. L., Srinivasan, K., Bertero, G. A., & Sinclair, R. (2012). Aberration-corrected transmission electron microscopy of the intergranular phase in magnetic recording media. Nano Letters, 12(5), 2595–8. doi:10.1021/nl301274x
35. Liao, H.-G., Cui, L., Whitelam, S., & Zheng, H. (2012). Real-time imaging of Pt3Fe nanorod growth in solution. Science, 336(6084), 1011–1014. doi:10.1126/science.1219185
36. Lopez-Haro, M., Cies, J. M., Trasobares, S., Perez-Omil, J. A., Delgado, J. J., Bernal, S., … Calvino, J. J. (2012). Imaging Nanostructural Modifications Induced by Electronic Metal - Support Interaction Effects at Au|Cerium-Based Oxide Nanointerfaces. ACS Nano, 6(8), 6812–6820.
37. Lu, J., Aydin, C., Browning, N. D., & Gates, B. C. (2012). Imaging isolated gold atom catalytic sites in zeolite NaY. Angewandte Chemie, n/a–n/a. doi:10.1002/ange.201107391
38. Lu, X., Sun, Y., Jian, Z., He, X., Gu, L., Hu, Y., … Tsukimoto, S. (2012). New Insight into the Atomic Structure of Electrochemically Delithiated O3-Li (1 −. Nano Letters, 2(i), 1–6.
39. Lu, X., Zhao, L., He, X., Xiao, R., Gu, L., Hu, Y.-S., … Ikuhara, Y. (2012). Lithium storage in Li4Ti5O12 spinel: the full static picture from electron microscopy. Advanced Materials, 24(24), 3233–8. doi:10.1002/adma.201200450
40. Moorthy, S. K. E., Rousseau, O., Viret, M., & Kociak, M. (2012). Nanoscale chemical and structural characterization of transient metallic nanowires using aberration-corrected STEM-EELS. Nano Letters, 12(6), 2732–9. doi:10.1021/nl204374v
41. Scholl, J. a, Koh, A. L., & Dionne, J. a. (2012). Quantum plasmon resonances of individual metallic nanoparticles. Nature, 483(7390), 421–7. doi:10.1038/nature10904
42. Schuster, F., Furtmayr, F., Zamani, R., Magén, C., Morante, J. R., Arbiol, J., … Stutzmann, M. (2012). Self-assembled GaN nanowires on diamond. Nano Letters, 12(5), 2199–204. doi:10.1021/nl203872q
43. Scott, M. C., Chen, C.-C., Mecklenburg, M., Zhu, C., Xu, R., Ercius, P., … Miao, J. (2012). Electron tomography at 2.4-ångström resolution. Nature, 483(7390), 444–7. doi:10.1038/nature10934
44. Shibata, N., Findlay, S. D., Kohno, Y., Sawada, H., Kondo, Y., & Ikuhara, Y. (2012). Differential phase-contrast microscopy at atomic resolution. Nature Physics, 8(8), 611–615. doi:10.1038/nphys2337
45. Surrey, a, Pohl, D., Schultz, L., & Rellinghaus, B. (2012). Quantitative measurement of the surface self-diffusion on Au nanoparticles by aberration-corrected transmission electron microscopy. Nano Letters, 12(12), 6071–7. doi:10.1021/nl302280x

46. Van Aert, S., Turner, S., Delville, R., Schryvers, D., Van Tendeloo, G., & Salje, E. K. H. (2012). Direct observation of ferrielectricity at ferroelastic domain boundaries in CaTiO3 by electron microscopy. Advanced Materials, 24(4), 523–7. doi:10.1002/adma.201103717
47. Walsh, M. J., Yoshida, K., Kuwabara, A., Pay, M. L., Gai, P. L., & Boyes, E. D. (2012). On the structural origin of the catalytic properties of inherently strained ultrasmall decahedral gold nanoparticles. Nano Letters, 12(4), 2027–31. doi:10.1021/nl300067q
48. Wang, D., Yu, Y., Xin, H. L., Hovden, R., Ercius, P., Mundy, J. a, … Abruña, H. D. (2012). Tuning oxygen reduction reaction activity via controllable dealloying: a model study of ordered Cu3Pt/C intermetallic nanocatalysts. Nano Letters, 12(10), 5230–8. doi:10.1021/nl302404g
49. Wang, Z. W., & Palmer, R. E. (2012a). Mass spectrometry and dynamics of gold adatoms observed on the surface of size-selected Au nanoclusters. Nano Letters, 12(1), 91–5. doi:10.1021/nl2037112
50. Wang, Z. W., & Palmer, R. E. (2012b). Experimental evidence for fluctuating, chiral-type Au55 clusters by direct atomic imaging. Nano Letters, 12(11), 5510–4. doi:10.1021/nl303429z
51. Xin, H. L., Mundy, J. A., Liu, Z., Cabezas, R., Hovden, R., Kourkoutis, L. F., … Muller, D. A. (2012). Atomic-resolution spectroscopic imaging of ensembles of nanocatalyst particles across the life of a fuel cell. Nano Letters, 12(1), 490–7. doi:10.1021/nl203975u
52. Yankovich, A. B., Puchala, B., Wang, F., Seo, J.-H., Morgan, D., Wang, X., … Voyles, P. M. (2012). Stable p-type conduction from Sb-decorated head-to-head basal plane inversion domain boundaries in ZnO nanowires. Nano Letters, 12(3), 1311–6. doi:10.1021/nl203848t

2011

53. Aydin, C., Lu, J., Liang, A. J., Chen, C.-Y., Browning, N. D., & Gates, B. C. (2011). Tracking iridium atoms with electron microscopy: first steps of metal nanocluster formation in one-dimensional zeolite channels. Nano Letters, 11(12), 5537–41. doi:10.1021/nl2034305
54. Du, W., Wang, Q., Saxner, D., Deskins, N. A., Su, D., Krzanowski, J. E., … Teng, X. (2011). Highly active iridium/iridium-tin/tin oxide heterogeneous nanoparticles as alternative electrocatalysts for the ethanol oxidation reaction. Journal of the American Chemical Society, 133(38), 15172–83. doi:10.1021/ja205649z
55. Gao, P., Nelson, C. T., Jokisaari, J. R., Baek, S.-H., Bark, C. W., Zhang, Y., … Pan, X. (2011). Revealing the role of defects in ferroelectric switching with atomic resolution. Nature communications, 2(591), 1–6. doi:10.1038/ncomms1600

56. Gu, L., Zhu, C., Li, H., Yu, Y., Li, C., Tsukimoto, S., … Ikuhara, Y. (2011). Direct observation of lithium staging in partially delithiated LiFePO4 at atomic resolution. Journal of the American Chemical Society, 133(13), 4661–4663. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21391668
57. Huang, R., Ikuhara, Y. H., Mizoguchi, T., Findlay, S. D., Kuwabara, A., Fisher, C. A. J., … Ikuhara, Y. (2011). Oxygen-vacancy ordering at surfaces of lithium manganese(III,IV) oxide spinel nanoparticles. Angewandte Chemie International Edition, 50(13), 3053–3057. doi:10.1002/anie.201004638
58. Ishikawa, R., Okunishi, E., Sawada, H., Kondo, Y., Hosokawa, F., & Abe, E. (2011). Direct imaging of hydrogen-atom columns in a crystal by annular bright-field electron microscopy. Nature Materials, 10(4), 278–281. Retrieved from http://dx.doi.org/10.1038/nmat2957
59. Jang, H. W., Felker, D. A., Bark, C. W., Wang, Y., Niranjan, M. K., Nelson, C. T., … Eom, C. B. (2011). Metallic and Insulating Oxide Interfaces Controlled by Electronic Correlations. Science, 331, 886–889.
60. Jia, C.-L., Urban, K. W., Alexe, M., Hesse, D., & Vrejoiu, I. (2011). Direct observation of continuous electric dipole rotation in flux-closure domains in ferroelectric Pb(Zr,Ti)O3. Science, 331(6023), 1420–1423. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21415348
61. Katz, M. B., Graham, G. W., Duan, Y., Liu, H., Adamo, C., Schlom, D. G., & Pan, X. (2011). Self-regeneration of Pd-LaFeO3 catalysts: new insight from atomic-resolution electron microscopy. Journal of the American Chemical Society, 133(45), 18090–3. doi:10.1021/ja2082284
62. Lu, X., Jian, Z., Fang, Z., Gu, L., Hu, Y.-S., Chen, W., … Chen, L. (2011). Atomic-scale investigation on lithium storage mechanism in TiNb2O7. Energy & Environmental Science, 4(8), 2638. doi:10.1039/c0ee00808g
63. Luo, J., Cheng, H., Asl, K. M., Kiely, C. J., & Harmer, M. P. (2011). The role of a bilayer interfacial phase on liquid metal embrittlement. Science, 333(6050), 1730–3. doi:10.1126/science.1208774
64. Nelson, C. T., Gao, P., Jokisaari, J. R., Heikes, C., Adamo, C., Melville, A., … Pan, X. (2011). Domain dynamics during ferroelectric switching. Science, 334(6058), 968–71. doi:10.1126/science.1206980
65. Nelson, C. T., Winchester, B., Zhang, Y., Kim, S., Melville, A., Adamo, C., … Pan, X. (2011). Spontaneous Vortex Nanodomain Arrays at Ferroelectric Heterointerfaces. Nano Letters, 11, 828–834.
66. Serpell, C. J., Cookson, J., Ozkaya, D., & Beer, P. D. (2011). Core@shell bimetallic nanoparticle synthesis via anion coordination. Nature Chemistry, 3, 478–483. doi:10.1038/nchem.1030
67. Small, M. W., Sanchez, S. I., Menard, L. D., Kang, J. H., Frenkel, A. I., & Nuzzo, R. G. (2011). The atomic structural dynamics of γ-Al2O3 supported Ir-Pt nanocluster catalysts prepared from a bimetallic molecular precursor: a study using aberration-corrected electron microscopy and X-ray absorption spectroscopy. Journal of the American Chemical Society, 133(10), 3582–3591. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21341654

68. Velazquez-Salazar, J. J., Esparza, R., Mejia-Rosales, S. J., Estrada-Salas, R., Ponce, A., Deepak, F. L., … Jose-Yacaman, M. (2011). Experimental Evidence of Icosahedral and Decahedral Packing in One-Dimensional Nanostructures. ACS Nano, 5(8), 6272–6278. doi:10.1021/nn202495r
69. Xu, B., Fell, C. R., Chi, M., & Meng, Y. S. (2011). Identifying surface structural changes in layered Li-excess nickel manganese oxides in high voltage lithium ion batteries: A joint experimental and theoretical study. Energy & Environmental Science, 4(6), 2223. doi:10.1039/c1ee01131f
70. Yin, F., Wang, Z. W., & Palmer, R. E. (2011). Controlled formation of mass-selected Cu-Au core-shell cluster beams. Journal of the American Chemical Society, 133(27), 10325–10327. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21657273

2010

71. Chang, L. Y., Barnard, A. S., Gontard, L. C., & Dunin-Borkowski, R. E. (2010). Resolving the structure of active sites on platinum catalytic nanoparticles. Nano Letters, 10(8), 3073–3076. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20666362
72. Kulkarni, A., Chi, M., Ortalan, V., Browning, N. D., & Gates, B. C. (2010). Atomic resolution of the structure of a metal-support interface: triosmium clusters on MgO(110). Angewandte Chemie (International ed. in English), 49(52), 10089–92. doi:10.1002/anie.201005105
73. Marshall, A. F., Goldthorpe, I. A., Adhikari, H., Koto, M., Wang, Y.-C., Fu, L., … McIntyre, P. C. (2010). Hexagonal close-packed structure of Au nanocatalysts solidified after Ge nanowire vapor-liquid-solid growth. Nano Letters, 10(9), 3302–3306. Retrieved from http://dx.doi.org/10.1021/nl100913d
74. Ortalan, V., Uzun, A., Gates, B. C., & Browning, N. D. (2010a). Direct imaging of single metal atoms and clusters in the pores of dealuminated HY zeolite. Nature Nanotechnology, 5(7), 506–510. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20495553
75. Ortalan, V., Uzun, A., Gates, B. C., & Browning, N. D. (2010b). Towards full-structure determination of bimetallic nanoparticles with an aberration-corrected electron microscope. Nature Nanotechnology, 5(12), 843–847. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21102466
76. Shah, A. B., Ramasse, Q. M., Zhai, X., Wen, J. G., May, S. J., Petrov, I., … Zuo, J.-M. (2010). Probing interfacial electronic structures in atomic layer LaMnO(3) and SrTiO(3) superlattices. Advanced Materials, 22(10), 1156–60. doi:10.1002/adma.200904198
77. Soultanidis, N., Zhou, W., Psarras, A. C., Gonzalez, A. J., Iliopoulou, E. F., Kiely, C. J., … Wong, M. S. (2010). Relating n-pentane isomerization

activity to the tungsten surface density of WO(x)/ZrO2. Journal of the American Chemical Society, 132(38), 13462–13471.

2009

78. Bowers, M. J., McBride, J. R., Garrett, M. D., Sammons, J. a, Dukes, A. D., Schreuder, M. a, … Rosenthal, S. J. (2009). Structure and ultrafast dynamics of white-light-emitting CdSe nanocrystals. Journal of the American Chemical Society, 131(16), 5730–1. doi:10.1021/ja900529h
79. Krogstrup, P., Yamasaki, J., Sørensen, C. B., Johnson, E., Wagner, J. B., Pennington, R., … Nygård, J. (2009). Junctions in axial III-V heterostructure nanowires obtained via an interchange of group III elements. Nano Letters, 9(11), 3689–3693. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19842690
80. Ling, T., Xie, L., Zhu, J., Yu, H., Ye, H., Yu, R., … Ma, X. (2009). Icosahedral face-centered cubic Fe nanoparticles: facile synthesis and characterization with aberration-corrected TEM. Nano Letters, 9(4), 1572–6. doi:10.1021/nl8037294
81. Rodriguez-Manzo, J. A., & Banhart, F. (2009). Creation of individual vacancies in carbon nanotubes by using an electron beam of 1 A diameter. Nano Letters, 9(6), 2285–9. doi:10.1021/nl900463u
82. Shang, N., Papakonstantinou, P., Wang, P., Zakharov, A., Palnitkar, U., Lin, I.-N., … Stamboulis, A. (2009). Self-assembled growth, microstructure, and field-emission high-performance of ultrathin diamond nanorods. ACS nano, 3(4), 1032–1038. doi:10.1021/nn900167p
83. Shibata, N., Findlay, S. D., Azuma, S., Mizoguchi, T., Yamamoto, T., & Ikuhara, Y. (2009). Atomic-scale imaging of individual dopant atoms in a buried interface. Nature Materials, 8(8), 654–658. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19543277
84. Urban, K. W. (2009). Is science prepared for atomic-resolution electron microscopy? Nature Materials, 8(4), 260–262. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19308084
85. Uzun, A., Ortalan, V., Hao, Y., Browning, N. D., & Gates, B. C. (2009). Nanoclusters of Gold on a High-Area Support : Almost Uniform Nanoclusters Electron Microscopy. ACS nano, 3(11), 3691–3695.
86. Van Huis, M. A., Young, N. P., Pandraud, G., Creemer, J. F., Vanmaekelbergh, D., Kirkland, A. I., & Zandbergen, H. W. (2009). Atomic Imaging of Phase Transitions and Morphology Transformations in Nanocrystals. Advanced Materials, 21(48), 4992–4995. doi:10.1002/adma.200902561
87. Wang, J. X., Inada, H., Wu, L., Zhu, Y., Choi, Y., Liu, P., … Adzic, R. R. (2009). Oxygen reduction on well-defined core-shell nanocatalysts: particle

size, facet, and Pt shell thickness effects. Journal of the American Chemical Society, 131(47), 17298–17302. doi:10.1021/ja9067645
88. Zhou, W., Ross-Medgaarden, E. I., Knowles, W. V, Wong, M. S., Wachs, I. E., & Kiely, C. J. (2009). Identification of active Zr-WO(x) clusters on a ZrO2 support for solid acid catalysts. Nature chemistry, 1(9), 722–8. doi:10.1038/nchem.433
89. Zhu, Y., Inada, H., Nakamura, K., & Wall, J. (2009). Imaging single atoms using secondary electrons with an aberration-corrected electron microscope. Nature Materials, 8(10), 808–812. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19767737

2008

90. Allen, J. E., Hemesath, E. R., Perea, D. E., Lensch-Falk, J. L., Li, Z. Y., Yin, F., … Lauhon, L. J. (2008). High-resolution detection of Au catalyst atoms in Si nanowires. Nature nanotechnology, 3(3), 168–73. doi:10.1038/nnano.2008.5
91. Booth, T. J., Blake, P., Nair, R. R., Jiang, D., Hill, E. W., Bangert, U., … Geim, A. K. (2008). Macroscopic graphene membranes and their extraordinary stiffness. Nano Letters, 8(8), 2442–2446. doi:10.1021/nl801412y
92. Gass, M. H., Bangert, U., Bleloch, A. L., Wang, P., Nair, R. R., & Geim, A. K. (2008). Free-standing graphene at atomic resolution. (A. Moustafa, Ed.)Nature Nanotechnology, 3(11), 676–681. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18989334
93. Guan, L., Suenaga, K., & Iijima, S. (2008). Smallest carbon nanotube assigned with atomic resolution accuracy. Nano Letters, 8(2), 459–462. Retrieved from http://pubs.acs.org/doi/abs/10.1021/nl072396j
94. Herzing, A. A., Kiely, C. J., Carley, A. F., Landon, P., & Hutchings, G. J. (2008). Identification of active gold nanoclusters on iron oxide supports for CO oxidation. Science, 321(5894), 1331–1335. Retrieved from http://orca.cf.ac.uk/5984/
95. Jia, C.-L., Mi, S.-B., Urban, K., Vrejoiu, I., Alexe, M., & Hesse, D. (2008). Atomic-scale study of electric dipoles near charged and uncharged domain walls in ferroelectric films. Nature Materials, 7(1), 57–61. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18066068
96. Johnson, C. L., Snoeck, E., Ezcurdia, M., Rodríguez-González, B., Pastoriza-Santos, I., Liz-Marzán, L. M., & Hÿtch, M. J. (2008). Effects of elastic anisotropy on strain distributions in decahedral gold nanoparticles. Nature Materials, 7(2), 120–124. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18084296
97. Li, Z. Y., Young, N. P., Di Vece, M., Palomba, S., Palmer, R. E., Bleloch, A. L., … Yuan, J. (2008). Three-dimensional atomic-scale structure of size-

selected gold nanoclusters. Nature, 451(7174), 46–48. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18066049
98. Meyer, J. C., Girit, C. O., Crommie, M. F., & Zettl, A. (2008). Imaging and dynamics of light atoms and molecules on graphene. Nature, 454(7202), 319–322. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18633414
99. Muller, D. A., Kourkoutis, L. F., Murfitt, M., Song, J. H., Hwang, H. Y., Silcox, J., … Krivanek, O. L. (2008). Atomic-scale chemical imaging of composition and bonding by aberration-corrected microscopy. Science, 319(5866), 1073–1076. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18292338
100. Oh, S. H., Van Benthem, K., Molina, S. I., Borisevich, A. Y., Luo, W., Werner, P., … Pennycook, S. J. (2008). Point defect configurations of supersaturated Au atoms inside Si nanowires. Nano Letters, 8(4), 1016–1019. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18336008
101. Pyrz, W. D., Blom, D. A., Vogt, T., & Buttrey, D. J. (2008). Direct imaging of the MoVTeNbO M1 phase using an aberration-corrected high-resolution scanning transmission electron microscope. Angewandte Chemie International Edition, 47(15), 2788–2791. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18327760
102. Su, D. S., Jacob, T., Hansen, T. W., Wang, D., Schlögl, R., Freitag, B., & Kujawa, S. (2008). Surface chemistry of Ag particles: identification of oxide species by aberration-corrected TEM and by DFT calculations. Angewandte Chemie International Edition, 47(27), 5005–5008. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18512211

2007

103. Gontard, L. C., Chang, L.-Y., Hetherington, C. J. D., Kirkland, A. I., Ozkaya, D., & Dunin-Borkowski, R. E. (2007). Aberration-corrected imaging of active sites on industrial catalyst nanoparticles. Angewandte Chemie International Edition, 46(20), 3683–3685. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/17387674
104. Jia, C.-L., Nagarajan, V., He, J.-Q., Houben, L., Zhao, T., Ramesh, R., … Waser, R. (2007). Unit-cell scale mapping of ferroelectricity and tetragonality in epitaxial ultrathin ferroelectric films. Nature Materials, 6, 64–69.
105. Liu, Z., Yanagi, K., Suenaga, K., Kataura, H., & Iijima, S. (2007). Imaging the dynamic behaviour of individual retinal chromophores confined inside carbon nanotubes. Nature Nanotechnology, 2(7), 422–425. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18654326
106. Neiner, D., Okamoto, N. L., Condron, C. L., Ramasse, Q. M., Yu, P., Browning, N. D., & Kauzlarich, S. M. (2007). Hydrogen encapsulation in a silicon clathrate type I structure: Na5.5(H2)2.15Si46: synthesis and

characterization. Journal of the American Chemical Society, 129(45), 13857–13862. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/17958361
107. Nicolosi, V., Nellist, P. D., Sanvito, S., Cosgriff, E. C., Krishnamurthy, S., Blau, W. J., … Coleman, J. N. (2007). Observation of van der Waals driven self-assembly of MoSI nanowires into a low-symmetry structure using aberration-corrected electron microscopy. Advanced Materials, 19(4), 543–547. doi:10.1002/adma.200601867
108. Porter, A. E., Gass, M., Muller, K., Skepper, J. N., Midgley, P. A., & Welland, M. (2007). Direct imaging of single-walled carbon nanotubes in cells. Nature Nanotechnology, 2(11), 713–717. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18654411
109. Sato, Y., Suenaga, K., Okubo, S., Okazaki, T., & Iijima, S. (2007). Structures of D-5d-C-80 and I-h-Er3N@C-80 fullerenes and their rotation inside carbon nanotubes demonstrated by aberration-corrected electron microscopy. Nano Letters, 7(12), 3704–3708.

2006

110. Hirahara, K., Saitoh, K., Yamasaki, J., & Tanaka, N. (2006). Direct observation of six-membered rings in the upper and lower walls of a single-wall carbon nanotube by spherical aberration-corrected HRTEM. Nano Letters, 6(8), 1778–1783. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16895373
111. McBride, J., Treadway, J., Feldman, L. C., Pennycook, S. J., & Rosenthal, S. J. (2006). Structural basis for near unity quantum yield core/shell nanostructures. Nano Letters, 6(7), 1496–1501. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16834437
112. Mkhoyan, K. A., Batson, P. E., Cha, J., Schaff, W. J., & Silcox, J. (2006). Direct determination of local lattice polarity in crystals. Science, 312(5778), 1354. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16741114

2004

113. Jia, C. L., & Urban, K. (2004). Atomic-resolution measurement of oxygen concentration in oxide materials. Science, 303(5666), 2001–2004. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15044799
114. McBride, J. R., Kippeny, T. C., Pennycook, S. J., & Rosenthal, S. J. (2004). Aberration-corrected Z-contrast scanning transmission electron

microscopy of CdSe nanocrystals. Nano Letters, 4(7), 1279–1283. doi:10.1021/nl049406q

115. Nellist, P. D., Chisholm, M. F., Dellby, N., Krivanek, O. L., Murfitt, M. F., Szilagyi, Z. S., … Pennycook, S. J. (2004). Direct sub-angstrom imaging of a crystal lattice. Science, 305(5691), 1741. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15375260

116. Shibata, N., Pennycook, S. J., Gosnell, T. R., Painter, G. S., Shelton, W. A., & Becher, P. F. (2004). Observation of rare-earth segregation in silicon nitride ceramics at subnanometre dimensions. Nature, 428(6984), 730–733. Retrieved from http://www.nature.com/nature/journal/vaop/ncurrent/abs/nature02410.html

117. Wang, S., Borisevich, A. Y., Rashkeev, S. N., Glazoff, M. V, Sohlberg, K., Pennycook, S. J., & Pantelides, S. T. (2004). Dopants adsorbed as single atoms prevent degradation of catalysts. Nature Materials, 3(3), 143–146. Retrieved from http://arxiv.org/abs/cond-mat/0407260

2003

118. Jia, C. L., Lentzen, M., & Urban, K. (2003). Atomic-resolution imaging of oxygen in perovskite ceramics. Science, 299(5608), 870–873. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12574624

2002

119. Batson, P. E., Dellby, N., & Krivanek, O. L. (2002). Sub-ångstrom resolution using aberration corrected electron optics. Nature, 418(6898), 617–620. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12167855

1998

120. Haider, M., Uhlemann, S., Schwan, E., Rose, H., Kabius, B., & Urban, K. W. (1998). Electron microscopy image enhanced. Nature, 392, 768–769.