

# SHyNE Publications for Calendar Year 2016

## Internal User Papers (230)

- 1 Ahn, S., Thornburg, N. E., Li, Z., Wang, T. C., Gallington, L. C., Chapman, K. W., Notestein, J. M., Hupp, J. T. & Farha, O. K. Stable metal–organic framework-supported niobium catalysts. *Inorganic Chemistry* **55**, 11954-11961, (2016).
- 2 Arnold, H. N., Cress, C. D., McMorro, J. J., Schmucker, S. W., Sangwan, V. K., Jaber-Ansari, L., Kumar, R., Puntambekar, K. P., Luck, K. A., Marks, T. J. & Hersam, M. C. Tunable Radiation Response in Hybrid Organic–Inorganic Gate Dielectrics for Low-Voltage Graphene Electronics. *ACS Applied Materials & Interfaces* **8**, 5058-5064, (2016).
- 3 Aruda, K. O., Amin, V. A., Thompson, C. M., Lau, B., Nepomnyashchii, A. B. & Weiss, E. A. Description of the Adsorption and Exciton Delocalizing Properties of p-Substituted Thiophenols on CdSe Quantum Dots. *Langmuir* **32**, 3354-3364, (2016).
- 4 Audu, C. O., Nguyen, H. G. T., Chang, C.-Y., Katz, M. J., Mao, L., Farha, O. K., Hupp, J. T. & Nguyen, S. T. The dual capture of As V and As III by UiO-66 and analogues. *Chemical Science* **7**, 6492-6498, (2016).
- 5 Avila, J. R., Emery, J. D., Pellin, M. J., Martinson, A. B. F., Farha, O. K. & Hupp, J. T. Porphyrins as Templates for Site-Selective Atomic Layer Deposition: Vapor Metalation and in Situ Monitoring of Island Growth. *ACS Applied Materials & Interfaces* **8**, 19853-19859, (2016).
- 6 Avila, J. R., Katz, M. J., Farha, O. K. & Hupp, J. T. Barrier-Layer-Mediated Electron Transfer from Semiconductor Electrodes to Molecules in Solution: Sensitivity of Mechanism to Barrier-Layer Thickness. *The Journal of Physical Chemistry C* **120**, 20922-20928, (2016).
- 7 Aytun, T., Santos, P. J., Bruns, C. J., Huang, D., Koltonow, A. R., Olvera de la Cruz, M. & Stupp, S. I. Self-Assembling Tripodal Small-Molecule Donors for Bulk Heterojunction Solar Cells. *The Journal of Physical Chemistry C* **120**, 3602-3611, (2016).
- 8 Bachrach, M., Marks, T. J. & Notestein, J. M. C-N bond hydrogenolysis of aniline and cyclohexylamine over TaOx-Al2O3. *New Journal of Chemistry* **40**, 6001-6004, (2016).
- 9 Bahnon, E. S., Kassam, H. A., Moyer, T. J., Jiang, W., Morgan, C. E., Vercammen, J. M., Jiang, Q., Flynn, M. E., Stupp, S. I. & Kibbe, M. R. Targeted Nitric Oxide Delivery by Supramolecular Nanofibers for the Prevention of Restenosis After Arterial Injury. *Antioxid Redox Signal* **24**, 401-418, (2016).
- 10 Baik, S. I., Duhin, A., Phillips, P. J., Klie, R. F., Gileadi, E., Seidman, D. N. & Eliaz, N. Atomic-Scale Structural and Chemical Study of Columnar and Multilayer Re-Ni Electrodeposited Thermal Barrier Coating. *Advanced Engineering Materials* **18**, 1133-1144, (2016).
- 11 Banga, R. J., Krovi, S. A., Narayan, S. P., Sprangers, A. J., Liu, G., Mirkin, C. A. & Nguyen, S. T. Drug-Loaded Polymeric Spherical Nucleic Acids: Enhancing Colloidal Stability and Cellular Uptake of Polymeric Nanoparticles through DNA Surface-Functionalization. *Biomacromolecules*, (2016).
- 12 Barnaby, S. N., Ross, M. B., Thaner, R. V., Lee, B., Schatz, G. C. & Mirkin, C. A. Enzymatically Controlled Vacancies in Nanoparticle Crystals. *Nano Letters* **16**, 5114-5119, (2016).
- 13 Beletskiy, E. V., Wu, Y., Kung, M. C. & Kung, H. H. Addition of Sn–O i Pr across a C–C Bond: Unusual Insertion of an Alkene into a Main-Group-Metal–Alkoxide Bond. *Organometallics* **35**, 301-302, (2016).
- 14 Berns, E. J., Álvarez, Z., Goldberger, J. E., Boekhoven, J., Kessler, J. A., Kuhn, H. G. & Stupp, S. I. A tenascin-C mimetic peptide amphiphile nanofiber gel promotes neurite outgrowth and cell migration of neurosphere-derived cells. *Acta Biomaterialia* **37**, 50-58, (2016).
- 15 Binh, C. T. T., Adams, E., Vigen, E., Tong, T., Alsina, M. A., Gaillard, J.-F., Gray, K. A., Peterson, C. G. & Kelly, J. J. Chronic addition of a common engineered nanomaterial alters biomass, activity and composition of stream biofilm communities. *Environmental Science: Nano* **3**, 619-630, (2016).
- 16 Biswas, A., Sen, D., Sarkar, S. K., Sarita, Mazumder, S. & Seidman, D. N. Temporal evolution of coherent precipitates in an aluminum alloy W319: A correlative anisotropic small angle X-ray scattering, transmission electron microscopy and atom-probe tomography study. *Acta Materialia* **116**, 219-230, (2016).
- 17 Bonakdar, A., Rezaei, M., Dexheimer, E. & Mohseni, H. High-throughput realization of an infrared selective absorber/emitter by DUV microsphere projection lithography. *Nanotechnology* **27**, (2016).
- 18 Butun, S. & Aydin, K. Functional metal-insulator-metal top contacts for Si-based color photodetectors. *Journal of Applied Physics* **120**, (2016).
- 19 Cain, J. D., Hanson, E. D., Shi, F. & Dravid, V. P. Emerging opportunities in the two-dimensional chalcogenide systems and architecture. *Current Opinion in Solid State and Materials Science* **20**, 374-387, (2016).
- 20 Cain, J. D., Shi, F., Wu, J. & Dravid, V. P. Growth Mechanism of Transition Metal Dichalcogenide Monolayers: The Role of Self-Seeding Fullerene Nuclei. *ACS Nano* **10**, 5440-5445, (2016).
- 21 Call, A. V., Railsback, J. G., Wang, H. Q. & Barnett, S. A. Degradation of nano-scale cathodes: a new paradigm for

- selecting low-temperature solid oxide cell materials. *Phys. Chem. Chem. Phys.* **18**, 13216-13222, (2016).
- 22 Calta, N. P., L. Bud'ko, S., Rodriguez, A. P., Han, F., Chung, D. Y. & Kanatzidis, M. G. Synthesis, Structure, and Complex Magnetism of  $\text{Mlr}_2\text{In}_8$  (M = Eu, Sr). *Inorganic Chemistry* **55**, 3128-3135, (2016).
- 23 Calzada, R., Thompson, C. M., Westmoreland, D. E., Edme, K. & Weiss, E. A. Organic-to-Aqueous Phase Transfer of Cadmium Chalcogenide Quantum Dots Using a Sulfur-Free Ligand for Enhanced Photoluminescence and Oxidative Stability. *Chemistry of Materials* **28**, 6716-6723, (2016).
- 24 Chandra, K., Culver, K. S. B., Werner, S. E., Lee, R. C. & Odom, T. W. Manipulating the Anisotropic Structure of Gold Nanostars using Good's Buffers. *Chemistry of Materials* **28**, 6763-6769, (2016).
- 25 Chang, K. B., Edwards, B. W., Frazer, L., Lenferink, E. J., Stanev, T. K., Stern, N. P., Nino, J. C. & Poeppelmeier, K. R. Hydrothermal crystal growth, piezoelectricity, and triboluminescence of  $\text{KNaNbOF}_5$ . *Journal of Solid State Chemistry* **236**, 78-82, (2016).
- 26 Chen, B.-R., George, C., Lin, Y., Hu, L., Crosby, L., Hu, X., Stair, P. C., Marks, L. D., Poeppelmeier, K. R., Van Duyne, R. P. & Bedzyk, M. J. Morphology and oxidation state of ALD-grown Pd nanoparticles on  $\text{TiO}_2$ - and  $\text{SrO}$ -terminated  $\text{SrTiO}_3$  nanocuboids. *Surface Science* **648**, 291-298, (2016).
- 27 Chen, H., Narayan, A., Fang, L., Calta, N. P., Shi, F., Chung, D. Y., Wagner, L. K., Kwok, W.-K. & Kanatzidis, M. G. From complex magnetism ordering to simple ferromagnetism in two-dimensional  $\text{LaCrS}_3$  by hole doping. *Physical Review B* **94**, 134411, (2016).
- 28 Chen, P. C., Liu, X. L., Hedrick, J. L., Xie, Z., Wang, S. Z., Lin, Q. Y., Hersam, M. C., Dravid, V. P. & Mirkin, C. A. Polyelemental nanoparticle libraries. *Science* **352**, 1565-1569, (2016).
- 29 Chen, X., Guo, P., He, C., Dong, B., Ocola, L., Schaller, R., Chang, R. & Sun, C. Scaling the Artificial Polariton Bandgap at Infrared Frequencies Using Indium Tin Oxide Nanorod Arrays. *Advanced Optical Materials* **4**, 2077-2084, (2016).
- 30 Cheng, C., Cheng, T., Xiao, H., Krzyaniak, M. D., Wang, Y., McGonigal, P. R., Frascioni, M., Barnes, J. C., Fahrenbach, A. C. & Wasielewski, M. R. Influence of Constitution and Charge on Radical Pairing Interactions in Tris-radical Tricationic Complexes. *Journal of the American Chemical Society* **138**, 8288-8300, (2016).
- 31 Childers, A. S., Brodnik, N. R. & Faber, K. T. Interfacial frictional stresses and fracture toughness of biomorphic graphite/copper interfaces. *Materials Letters* **174**, 106-109, (2016).
- 32 Choe, S., Veliceasa, D., Bond, C. W., Harrington, D. A., Stupp, S. I., McVary, K. T. & Podlasek, C. A. Sonic hedgehog delivery from self-assembled nanofiber hydrogels reduces the fibrotic response in models of erectile dysfunction. *Acta Biomater* **32**, 89-99, (2016).
- 33 Çimen, Y., Peters, A. W., Avila, J. R., Hoffeditz, W. L., Goswami, S., Farha, O. K. & Hupp, J. T. Atomic Layer Deposition of Ultrathin Nickel Sulfide Films and Preliminary Assessment of Their Performance as Hydrogen Evolution Catalysts. *Langmuir* **32**, 12005-12012, (2016).
- 34 Clarke, S. M., Walsh, J. P. S., Amsler, M., Malliakas, C. D., Yu, T., Goedecker, S., Wang, Y., Wolverton, C. & Freedman, D. E. Discovery of a Superconducting Cu-Bi Intermetallic Compound by High-Pressure Synthesis. *Angewandte Chemie International Edition* **55**, 13446-13449, (2016).
- 35 Coakley, J., Radecka, A., Dye, D., Bagot, P. A. J., Stone, H. J., Seidman, D. N. & Isheim, D. Isothermal omega formation and evolution in the Beta-Ti alloy Ti-5Al-5Mo-5V-3Cr. *Philosophical Magazine Letters* **96**, 416-424, (2016).
- 36 Coakley, J., Rahman, K. M., Vorontsov, V. A., Ohnuma, M. & Dye, D. Effect of precipitation on mechanical properties in the  $\beta$ -Ti alloy Ti-24Nb-4Zr-8Sn. *Materials Science and Engineering: A* **655**, 399-407, (2016).
- 37 Contreras, C. A., Ignacio-de Leon, P. A. A. & Notestein, J. M. Synthesis of a family of peracid-silica materials and their use as alkene epoxidation reagents. *Microporous and Mesoporous Materials* **225**, 289-295, (2016).
- 38 Cui, B., Buchholz, D. B., Zeng, L., Bedzyk, M., Chang, R. P. H. & Grayson, M. Long-term Room Temperature Instability in Thermal Conductivity of  $\text{InGaZnO}$  Thin Films. *MRS Advances* **1**, 1631-1636, (2016).
- 39 Cui, B., Zeng, L., Keane, D., Bedzyk, M. J., Buchholz, D. B., Chang, R. P. H., Yu, X., Smith, J., Marks, T. J., Xia, Y., Facchetti, A. F., Medvedeva, J. E. & Grayson, M. Thermal Conductivity Comparison of Indium Gallium Zinc Oxide Thin Films: Dependence on Temperature, Crystallinity, and Porosity. *The Journal of Physical Chemistry C* **120**, 7467-7475, (2016).
- 40 da Silva, R. M., van der Zwaag, D., Albertazzi, L., Lee, S. S., Meijer, E. W. & Stupp, S. I. Super-resolution microscopy reveals structural diversity in molecular exchange among peptide amphiphile nanofibres. *Nat Commun* **7**, 11561, (2016).
- 41 De Luca, A., Dunand, D. C. & Seidman, D. N. Mechanical properties and optimization of the aging of a dilute Al-Sc-Er-Zr-Si alloy with a high Zr/Sc ratio. *Acta Materialia* **119**, 35-42, (2016).
- 42 Deria, P., Gómez-Gualdrón, D. A., Hod, I., Snurr, R. Q., Hupp, J. T. & Farha, O. K. Framework-Topology-Dependent Catalytic Activity of Zirconium-Based (Porphinato) zinc (II) MOFs. *Journal of the American Chemical Society* **138**, 14449-14457, (2016).
- 43 Desanker, M., Johnson, B., Seyam, A. M., Chung, Y.-W., Bazzi, H. S., Delferro, M., Marks, T. J. & Wang, Q. J. Oil-Soluble Silver-Organic Molecule for in Situ Deposition of Lubricious Metallic Silver at High Temperatures. *ACS Applied Materials & Interfaces* **8**, 13637-13645, (2016).

- 44 Ding, K., Gulec, A., Johnson, A. M., Drake, T. L., Wu, W., Lin, Y., Weitz, E., Marks, L. D. & Stair, P. C. Highly Efficient Activation, Regeneration, and Active Site Identification of Oxide-Based Olefin Metathesis Catalysts. *ACS Catalysis* **6**, 5740-5746, (2016).
- 45 Dolgonos, A., Mason, T. O. & Poepelmeier, K. R. Direct optical band gap measurement in polycrystalline semiconductors: A critical look at the Tauc method. *Journal of Solid State Chemistry* **240**, 43-48, (2016).
- 46 Dorvee, J. R., Gerkowicz, L., Bahmanyar, S., Deymier-Black, A. & Veis, A. Chondroitin sulfate is involved in the hypercalcification of the organic matrix of bovine peritubular dentin. *Archives of Oral Biology* **62**, 93-100, (2016).
- 47 Drake, T. L. & Stair, P. C. Vapor deposition of molybdenum oxide using bis (ethylbenzene) molybdenum and water. *Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films* **34**, 051403, (2016).
- 48 Dudnik, A. S., Aldrich, T. J., Eastham, N. D., Chang, R. P. H., Facchetti, A. & Marks, T. J. Tin-Free Direct C-H Arylation Polymerization for High Photovoltaic Efficiency Conjugated Copolymers. *Journal of the American Chemical Society* **138**, 15699-15709, (2016).
- 49 Duffy, P. K., Barnett, S. A. & Mason, T. O. A Hemispherical Electrolyte Probe for Screening of Solid Oxide Fuel Cell Cathode Materials. *Journal of the Electrochemical Society* **163**, F802-F807, (2016).
- 50 Edme, K., Bettis Homan, S., Nepomnyashchii, A. B. & Weiss, E. A. Ultrafast exciton decay in PbS quantum dots through simultaneous electron and hole recombination with a surface-localized ion pair. *Chemical Physics* **471**, 46-53, (2016).
- 51 Evmenenko, G., Fister, T. T., Buchholz, D. B., Li, Q., Chen, K.-S., Wu, J., Dravid, V. P., Hersam, M. C., Fenter, P. & Bedzyk, M. J. Morphological Evolution of Multilayer Ni/NiO Thin Film Electrodes during Lithiation. *ACS Applied Materials & Interfaces* **8**, 19979-19986, (2016).
- 52 Feng, Z., Chen, X., Fister, T. T., Bedzyk, M. J. & Fenter, P. Phase control of Mn-based spinel films via pulsed laser deposition. *Journal of Applied Physics* **120**, 015307, (2016).
- 53 Galloway, J. M., Kung, M. & Kung, H. H. Synthesis and characterization of bifunctional surfaces with tunable functional group pairs. *Surface Science* **648**, 284-290, (2016).
- 54 Gautier, R. & Poepelmeier, K. R. Packing of Helices: Is Chirality the Highest Crystallographic Symmetry? *Crystals* **6**, 106, (2016).
- 55 Geier, M., Moudgil, K., Barlow, S., Marder, S. & Hersam, M. Controlled n-Type Doping of Carbon Nanotube Transistors by an Organorhodium Dimer. *Nano Letters* **16**, 4329-4334, (2016).
- 56 Goering, A. W., McClure, R. A., Doroghazi, J. R., Albright, J. C., Haverland, N. A., Zhang, Y., Ju, K.-S., Thomson, R. J., Metcalf, W. W. & Kelleher, N. L. Metabologenomics: correlation of microbial gene clusters with metabolites drives discovery of a nonribosomal peptide with an unusual amino acid monomer. *ACS central science* **2**, 99, (2016).
- 57 Goswami, S., Ma, L., Martinson, A. B. F., Wasielewski, M. R., Farha, O. K. & Hupp, J. T. Toward Metal–Organic Framework-Based Solar Cells: Enhancing Directional Exciton Transport by Collapsing Three-Dimensional Film Structures. *ACS Applied Materials & Interfaces*, 30863-30870, (2016).
- 58 Grosso-Giordano, N. A., Eaton, T. R., Bo, Z., Yacob, S., Yang, C.-C. & Notestein, J. M. Silica support modifications to enhance Pd-catalyzed deoxygenation of stearic acid. *Applied Catalysis B: Environmental* **192**, 93-100, (2016).
- 59 Guo, P., Schaller, R. D., Ketterson, J. B. & Chang, R. P. H. Ultrafast switching of tunable infrared plasmons in indium tin oxide nanorod arrays with large absolute amplitude. *Nature Photonics* **10**, 267-273, (2016).
- 60 Guo, P., Schaller, R. D., Ocola, L. E., Diroll, B. T., Ketterson, J. B. & Chang, R. P. H. Large optical nonlinearity of ITO nanorods for sub-picosecond all-optical modulation of the full-visible spectrum. *Nature Communications* **7**, 12892, (2016).
- 61 Guo, P., Schaller, R. D., Ocola, L. E., Ketterson, J. B. & Chang, R. P. H. Gigahertz Acoustic Vibrations of Elastically Anisotropic Indium–Tin-Oxide Nanorod Arrays. *Nano Letters* **16**, 5639-5646, (2016).
- 62 Hanson, E. D., Shi, F., Chasapis, T. C., Kanatzidis, M. G. & Dravid, V. P. Two-dimensional bismuth-rich nanosheets through the evaporative thinning of Se-doped Bi<sub>2</sub>Te<sub>3</sub>. *Journal of Crystal Growth* **436**, 138-144, (2016).
- 63 Harris, R. D., Amin, V. A., Lau, B. & Weiss, E. A. Role of Interligand Coupling in Determining the Interfacial Electronic Structure of Colloidal CdS Quantum Dots. *ACS Nano* **10**, 1395-1403, (2016).
- 64 Hartnett, P. E., Margulies, E. A., Mauck, C. M., Miller, S. A., Wu, Y., Wu, Y.-L., Marks, T. J. & Wasielewski, M. R. Effects of crystal morphology on singlet exciton fission in diketopyrrolopyrrole thin films. *The Journal of Physical Chemistry B* **120**, 1357-1366, (2016).
- 65 Hartnett, P. E., Matte, H. S. S. R., Eastham, N. D., Jackson, N. E., Wu, Y., Chen, L. X., Ratner, M. A., Chang, R. P. H., Hersam, M. C., Wasielewski, M. R. & Marks, T. J. Ring-fusion as a perylene diimide dimer design concept for high-performance non-fullerene organic photovoltaic acceptors. *Chemical Science* **7**, 3543-3555, (2016).
- 66 Harutyunyan, B., Dannenhoffer, A., Kewalramani, S., Aytun, T., Fairfield, D. J., Stupp, S. I. & Bedzyk, M. J. Molecular Packing of Amphiphilic Nanosheets Resolved by X-ray Scattering. *The Journal of Physical Chemistry C*, (2016).
- 67 Haynes, A. S., Banerjee, A., Saouma, F. O., Otieno, C. O., Jang, J. I. & Kanatzidis, M. G. Phase Transition, Conformational Exchange, and Nonlinear Optical Third Harmonic Generation of ACsP<sub>2</sub>Se<sub>8</sub> (A = K, Rb, Cs). *Chemistry of Materials* **28**, 2374-2383, (2016).
- 68 Haynes, A. S., Lee, K. & Kanatzidis, M. G. One-Dimensional Zinc Selenophosphates: A<sub>2</sub>ZnP<sub>2</sub>Se<sub>6</sub> (A = K, Rb, Cs).

- Zeitschrift für anorganische und allgemeine Chemie* **642**, 1120-1125, (2016).
- 69 He, C., Weinberg, D. J., Nepomnyashchii, A. B., Lian, S. & Weiss, E. A. Control of the Redox Activity of PbS Quantum Dots by Tuning Electrostatic Interactions at the Quantum Dot/Solvent Interface. *Journal of the American Chemical Society* **138**, 8847-8854, (2016).
- 70 He, S., Xie, Z., Park, D. J., Liao, X., Brown, K. A., Chen, P.-C., Zhou, Y., Schatz, G. C. & Mirkin, C. A. Liquid-Phase Beam Pen Lithography. *Small* **12**, 988-993, (2016).
- 71 Helen Zha, R., Velichko, Y. S., Bitton, R. & Stupp, S. I. Molecular design for growth of supramolecular membranes with hierarchical structure. *Soft Matter* **12**, 1401-1410, (2016).
- 72 Henke, M. T., Soukup, A. A., Goering, A. W., McClure, R. A., Thomson, R. J., Keller, N. P. & Kelleher, N. L. New aspercryptins, lipopeptide natural products, revealed by HDAC inhibition in *Aspergillus nidulans*. *ACS Chemical Biology* **11**, 2117-2123, (2016).
- 73 Hestand, N. J., Kazantsev, R. V., Weingarten, A. S., Palmer, L. C., Stupp, S. I. & Spano, F. C. Extended-Charge-Transfer Excitons in Crystalline Supramolecular Photocatalytic Scaffolds. *J Am Chem Soc* **138**, 11762-11774, (2016).
- 74 Hlavaty, K. A., McCarthy, D. P., Saito, E., Yap, W. T., Miller, S. D. & Shea, L. D. Tolerance induction using nanoparticles bearing HY peptides in bone marrow transplantation. *Biomaterials* **76**, 1-10, (2016).
- 75 Hoffeditz, W. L., Son, H.-J., Pellin, M. J., Farha, O. K. & Hupp, J. T. Engendering Long-Term Air and Light Stability of a TiO<sub>2</sub>-Supported Porphyrinic Dye via Atomic Layer Deposition. *ACS Applied Materials & Interfaces* **8**, 34863-34869, (2016).
- 76 Hou, X., Ke, C., Zhou, Y., Xie, Z., Alingadh, A., Keane, D. T., Nassar, M. S., Botros, Y. Y., Mirkin, C. A. & Stoddart, J. F. Concurrent Covalent and Supramolecular Polymerization. *Chemistry-A European Journal* **22**, 12301-12306, (2016).
- 77 Hu, J., Liu, C.-H., Ren, X., Lauhon, L. J. & Odom, T. W. Plasmonic Lattice Lenses for Multiwavelength Achromatic Focusing. *ACS Nano*, (2016).
- 78 Huang, W., Zeng, L., Yu, X., Guo, P., Wang, B., Ma, Q., Chang, R. P. H., Yu, J., Bedzyk, M. J., Marks, T. J. & Facchetti, A. Metal Oxide Transistors via Polyethylenimine Doping of the Channel Layer: Interplay of Doping, Microstructure, and Charge Transport. *Advanced Functional Materials* **26**, 6179-6187, (2016).
- 79 Huang, Y. Y., Mao, Z. G., Noebe, R. D. & Seidman, D. N. The effects of refractory elements on Ni-excesses and Ni-depletions at  $\gamma(\text{f.c.c.})/\gamma'(\text{L1}_2)$  interfaces in model Ni-based superalloys: Atom-probe tomographic experiments and first-principles calculations. *Acta Materialia* **121**, 288-298, (2016).
- 80 Hujsak, K., Myers, B. D., Roth, E., Li, Y. & Dravid, V. P. Suppressing Electron Exposure Artifacts: An Electron Scanning Paradigm with Bayesian Machine Learning. *Microscopy and Microanalysis* **22**, 778-788, (2016).
- 81 Ignacio-de Leon, P. A. A., Contreras, C. A., Thornburg, N. E., Thompson, A. B. & Notestein, J. M. Catalyst structure and substituent effects on epoxidation of styrenics with immobilized Mn (tmtacn) complexes. *Applied Catalysis A: General* **511**, 78-86, (2016).
- 82 Jain, D., Isheim, D., Hunter, A. H. & Seidman, D. N. Multicomponent High-Strength Low-Alloy Steel Precipitation-Strengthened by Sub-nanometric Cu Precipitates and M<sub>2</sub>C Carbides. *Metallurgical and Materials Transactions A* **47**, 3860-3872, (2016).
- 83 Jakus, A. E., Rutz, A. L., Jordan, S. W., Kannan, A., Mitchell, S. M., Yun, C., Koube, K. D., Yoo, S. C., Whiteley, H. E., Richter, C.-P., Galiano, R. D., Hsu, W. K., Stock, S. R., Hsu, E. L. & Shah, R. N. Hyperelastic "bone": A highly versatile, growth factor-free, osteoregenerative, scalable, and surgically friendly biomaterial. *Science Translational Medicine* **8**, 358ra127, (2016).
- 84 Jakus, A. E. & Shah, R. N. Multi and mixed 3D-printing of graphene-hydroxyapatite hybrid materials for complex tissue engineering. *Journal of biomedical materials research. Part A*, (2016).
- 85 Jensen, S. C., Homan, S. B. & Weiss, E. A. Photocatalytic Conversion of Nitrobenzene to Aniline through Sequential Proton-Coupled One-Electron Transfers from a Cadmium Sulfide Quantum Dot. *Journal of the American Chemical Society* **138**, 1591-1600, (2016).
- 86 Jeon, I.-R., Sun, L., Negru, B., Van Duyne, R. P., Dincă, M. & Harris, T. D. Solid-State Redox Switching of Magnetic Exchange and Electronic Conductivity in a Benzoquinoid-Bridged MnII Chain Compound. *Journal of the American Chemical Society* **138**, 6583-6590, (2016).
- 87 Jeon, I.-R., Sun, L., Negru, B., Van Duyne, R. P., Dincă, M. & Harris, T. D. Solid-state redox switching of magnetic exchange and electronic conductivity in a benzoquinoid-bridged MnII chain compound. *J. Am. Chem. Soc* **138**, 6583-6590, (2016).
- 88 Jiang, B., Suen, R. M., Wertheim, J. A. & Ameer, G. A. Targeting Heparin to Collagen within Extracellular Matrix Significantly Reduces Thrombogenicity and Improves Endothelialization of Decellularized Tissues. *Biomacromolecules*, (2016).
- 89 Kang, J., Sangwan, V. K., Wood, J. D., Liu, X., Balla, I., Lam, D. & Hersam, M. C. Layer-by-Layer Sorting of Rhenium Disulfide via High-Density Isopycnic Density Gradient Ultracentrifugation. *Nano Letters* **16**, 7216-7223, (2016).
- 90 Kapoor, M., Isheim, D., Vaynman, S., Fine, M. E. & Chung, Y. W. Effects of increased alloying element content on NiAl-type precipitate formation, loading rate sensitivity, and ductility of Cu- and NiAl-precipitation-strengthened ferritic

- steels. *Acta Materialia* **104**, 166-171, (2016).
- 91 Ke, W., Stoumpos, C. C., Logsdon, J. L., Wasielewski, M. R., Yan, Y., Fang, G. & Kanatzidis, M. G. TiO<sub>2</sub>-ZnS Cascade Electron Transport Layer for Efficient Formamidinium Tin Iodide Perovskite Solar Cells. *Journal of the American Chemical Society*, 14998-15003, (2016).
- 92 Kenney, G. E., Goering, A. W., Ross, M. O., DeHart, C. J., Thomas, P. M., Hoffman, B. M., Kelleher, N. L. & Rosenzweig, A. C. Characterization of Methanobactin from *Methylosinus* sp LW4. *Journal of the American Chemical Society* **138**, 11124-11127, (2016).
- 93 Kenney, G. E., Sadek, M. & Rosenzweig, A. C. Copper-responsive gene expression in the methanotroph *Methylosinus trichosporium* OB3b. *Metallomics* **8**, 931-940, (2016).
- 94 Kennouche, D., Chen-Wiegart, Y.-c. K., Yakal-Kremiski, K. J., Wang, J., Gibbs, J. W., Voorhees, P. W. & Barnett, S. A. Observing the microstructural evolution of Ni-Yttria-stabilized zirconia solid oxide fuel cell anodes. *Acta Materialia* **103**, 204-210, (2016).
- 95 Kewalramani, S., Guerrero-García, G. I., Moreau, L. M., Zwanikken, J. W., Mirkin, C. A., de la Cruz, M. O. & Bedzyk, M. J. Electrolyte-Mediated Assembly of Charged Nanoparticles. *ACS central science* **2**, 219, (2016).
- 96 Kim, Y. J., Baik, S. I., Bertolucci-Coelho, L., Mazzaferro, L., Ramirez, G., Erdermir, A. & Seidman, D. N. Atom-probe tomography of tribological boundary films resulting from boron-based oil additives. *Scripta Materialia* **111**, 64-67, (2016).
- 97 Klet, R. C., Liu, Y., Wang, T. C., Hupp, J. T. & Farha, O. K. Evaluation of Brønsted acidity and proton topology in Zr- and Hf-based metal-organic frameworks using potentiometric acid-base titration. *Journal of Materials Chemistry A* **4**, 1479-1485, (2016).
- 98 Klet, R. C., Wang, T. C., Fernandez, L. E., Truhlar, D. G., Hupp, J. T. & Farha, O. K. Synthetic Access to Atomically Dispersed Metals in Metal-Organic Frameworks via a Combined Atomic-Layer-Deposition-in-MOF and Metal-Exchange Approach. *Chemistry of Materials* **28**, 1213-1219, (2016).
- 99 Kurouski, D., Large, N., Chiang, N., Greeneltch, N., Carron, K. T., Seidman, T., Schatz, G. C. & Van Duyne, R. P. Unraveling near-field and far-field relationships for 3D SERS substrates - a combined experimental and theoretical analysis. *Analyst* **141**, 1779-1788, (2016).
- 100 Langli, L., Jinsong, W., Qianqian, L., Vinayak, P. D., Kenneth, R. P., Qunli, R. & Junming, X. Reactions of graphene supported Co<sub>3</sub>O<sub>4</sub> nanocubes with lithium and magnesium studied by in situ transmission electron microscopy. *Nanotechnology* **27**, 085402, (2016).
- 101 Lee, K.-R., Bettis Homan, S., Kodaimati, M., Schatz, G. C. & Weiss, E. A. Near-Quantitative Yield for Transfer of Near-Infrared Excitons within Solution-Phase Assemblies of PbS Quantum Dots. *The Journal of Physical Chemistry C* **120**, 22186-22194, (2016).
- 102 Lee, W., Jung, W., Nagel, S. & Odom, T. Stretchable Superhydrophobicity from Monolithic, Three-Dimensional Hierarchical Wrinkles. *Nano Letters* **16**, 3774-3779, (2016).
- 103 Lee, W., Kang, J., Chen, K., Engel, C., Jung, W., Rhee, D., Hersam, M. & Odom, T. Multiscale, Hierarchical Patterning of Graphene by Conformal Wrinkling. *Nano Letters* **16**, 7121-7127, (2016).
- 104 Leitsch, E. K., Beniah, G., Liu, K., Lan, T., Heath, W. H., Scheidt, K. A. & Torkelson, J. M. Nonisocyanate Thermoplastic Polyhydroxyurethane Elastomers via Cyclic Carbonate Aminolysis: Critical Role of Hydroxyl Groups in Controlling Nanophase Separation. *ACS Macro Letters* **5**, 424-429, (2016).
- 105 Leng, H., Loy, J., Amin, V., Weiss, E. A. & Pelton, M. Electron Transfer from Single Semiconductor Nanocrystals to Individual Acceptor Molecules. *ACS Energy Letters* **1**, 9-15, (2016).
- 106 Li, P., Modica, Justin A., Howarth, Ashlee J., Vargas L, E., Moghadam, Peyman Z., Snurr, Randall Q., Mrksich, M., Hupp, Joseph T. & Farha, Omar K. Toward Design Rules for Enzyme Immobilization in Hierarchical Mesoporous Metal-Organic Frameworks. *Chem* **1**, 154-169, (2016).
- 107 Li, P., Moon, S.-Y., Guelta, M. A., Lin, L., Gómez-Gualdrón, D. A., Snurr, R. Q., Harvey, S. P., Hupp, J. T. & Farha, O. K. Nanosizing a Metal-Organic Framework Enzyme Carrier for Accelerating Nerve Agent Hydrolysis. *ACS Nano* **10**, 9174-9182, (2016).
- 108 Li, P., Vermeulen, N. A., Gong, X., Malliakas, C. D., Stoddart, J. F., Hupp, J. T. & Farha, O. K. Design and Synthesis of a Water-Stable Anionic Uranium-Based Metal-Organic Framework (MOF) with Ultra Large Pores. *Angewandte Chemie* **128**, 10514-10518, (2016).
- 109 Li, Q., Liu, H., Yao, Z., Cheng, J., Li, T., Li, Y., Wolverton, C., Wu, J. & Dravid, V. P. Electrochemistry of Selenium with Sodium and Lithium: Kinetics and Reaction Mechanism. *ACS Nano* **10**, 8788-8795, (2016).
- 110 Li, Q. Q., Wu, J. S., Xu, J. M. & Dravid, V. P. Synergistic sodiation of cobalt oxide nanoparticles and conductive carbon nanotubes (CNTs) for sodium-ion batteries. *Journal of Materials Chemistry A* **4**, 8669-8675, (2016).
- 111 Li, X., Lu, N., Brady, H. R. & Packman, A. I. Ureolytic Biomineralization Reduces *Proteus mirabilis* Biofilm Susceptibility to Ciprofloxacin. *Antimicrobial Agents and Chemotherapy* **60**, 2993-3000, (2016).
- 112 Li, Y., Cain, J. D., Hanson, E. D., Murthy, A. A., Hao, S., Shi, F., Li, Q., Wolverton, C., Chen, X. & Dravid, V. P. Au@MoS<sub>2</sub> Core-Shell Heterostructures with Strong Light-Matter Interactions. *Nano Letters*, (2016).

- 113 Li, Z., Butun, S. & Aydin, K. Lithography-free transmission filters at ultraviolet frequencies using ultra-thin aluminum  
films. *Journal of Optics* **18**, (2016).
- 114 Li, Z., Palacios, E., Butun, S. & Aydin, K. Ultrawide Angle, Directional Spectrum Splitting with Visible-Frequency  
Versatile Metasurfaces. *Advanced Optical Materials* **4**, 953-958, (2016).
- 115 Li, Z., Schweitzer, N. M., League, A. B., Bernales, V., Peters, A. W., Getsoian, A. B., Wang, T. C., Miller, J. T., Vjunov, A.,  
Fulton, J. L., Lercher, J. A., Cramer, C. J., Gagliardi, L., Hupp, J. T. & Farha, O. K. Sintering-Resistant Single-Site Nickel  
Catalyst Supported by Metal–Organic Framework. *Journal of the American Chemical Society* **138**, 1977-1982, (2016).
- 116 Lian, S., Weinberg, D. J., Harris, R. D., Kodaimati, M. S. & Weiss, E. A. Subpicosecond Photoinduced Hole Transfer from  
a CdS Quantum Dot to a Molecular Acceptor Bound Through an Exciton-Delocalizing Ligand. *ACS nano* **10**, 6372-6382,  
(2016).
- 117 Lim, J. K., Lee, O.-S., Jang, J.-W., Petrosko, S. H., Schatz, G. C. & Mirkin, C. A. Molecular Transport Junctions Created by  
Self-Contacting Gapped Nanowires. *Small* **12**, 4349-4356, (2016).
- 118 Liu, J., Kelley, M. S., Wu, W., Banerjee, A., Douvalis, A. P., Wu, J., Zhang, Y., Schatz, G. C. & Kanatzidis, M. G.  
Nitrogenase-mimic iron-containing chalcogels for photochemical reduction of dinitrogen to ammonia. *Proceedings of  
the National Academy of Sciences* **113**, 5530-5535, (2016).
- 119 Liu, L. & Harris, T. D. A structurally-characterized zinc 2,5-diminobenzoquinoid chain compound. *Inorganica Chimica  
Acta*.
- 120 Liu, Q., Coakley, J., Seidman, D. N. & Dunand, D. C. Precipitate Evolution and Creep Behavior of a W-Free Co-based  
Superalloy. *Metallurgical and Materials Transactions A* **47**, 6090-6096, (2016).
- 121 Liu, S., Tan, J. M., Gulec, A., Schweitzer, N. M., Delferro, M., Marks, L. D., Stair, P. C. & Marks, T. J. Direct Synthesis of  
Low-Coordinate Pd Catalysts Supported on SiO<sub>2</sub> via Surface Organometallic Chemistry. *ACS Catalysis* **6**, 8380-8388,  
(2016).
- 122 Liu, T. F., Vermeulen, N. A., Howarth, A. J., Li, P., Sarjeant, A. A., Hupp, J. T. & Farha, O. K. Adding to the Arsenal of  
Zirconium-Based Metal–Organic Frameworks: the Topology as a Platform for Solvent-Assisted Metal Incorporation.  
*European Journal of Inorganic Chemistry* **2016**, 4349-4352, (2016).
- 123 Liu, X., Chen, K.-S., Wells, S. A., Balla, I., Zhu, J., Wood, J. D. & Hersam, M. C. Scanning Probe Nanopatterning and  
Layer-by-Layer Thinning of Black Phosphorus. *Advanced Materials*, (2016).
- 124 Liu, X., Chen, X., Ma, H.-A., Jia, X., Wu, J., Yu, T., Wang, Y., Guo, J., Petitgirard, S., Bina, C. R. & Jacobsen, S. D. Ultrahard  
stitching of nanotwinned diamond and cubic boron nitride in C(2)-BN composite. *Scientific Reports* **6**, 30518, (2016).
- 125 Liu, Y., Buru, C. T., Howarth, A. J., Mahle, J. J., Buchanan, J. H., DeCoste, J. B., Hupp, J. T. & Farha, O. K. Efficient and  
selective oxidation of sulfur mustard using singlet oxygen generated by a pyrene-based metal–organic framework.  
*Journal of Materials Chemistry A* **4**, 13809-13813, (2016).
- 126 Liu, Y., Klet, R. C., Hupp, J. T. & Farha, O. Probing the correlations between the defects in metal–organic frameworks  
and their catalytic activity by an epoxide ring-opening reaction. *Chemical Communications* **52**, 7806-7809, (2016).
- 127 Liu, Z., Chen-Wiegart, Y.-c. K., Wang, J., Barnett, S. A. & Faber, K. T. Three-Phase 3D Reconstruction of a LiCoO<sub>2</sub>  
Cathode via FIB-SEM Tomography. *Microscopy and Microanalysis* **22**, 140-148, (2016).
- 128 Liu, Z., Samanta, A., Lei, J., Sun, J., Wang, Y. & Stoddart, J. F. Cation-Dependent Gold Recovery with  $\alpha$ -Cyclodextrin  
Facilitated by Second-Sphere Coordination. *Journal of the American Chemical Society* **138**, 11643-11653, (2016).
- 129 Liu, Z. C., Samanta, A., Lei, J. Y., Sun, J. L., Wang, Y. P. & Stoddart, J. F. Cation-Dependent Gold Recovery with  $\alpha$ -  
Cyclodextrin Facilitated by Second-Sphere Coordination. *Journal of the American Chemical Society* **138**, 11643-11653,  
(2016).
- 130 Luck, K. A., Arnold, H. N., Shastry, T. A., Marks, T. J. & Hersam, M. C. Suppression of Polyfluorene Photo-Oxidative  
Degradation via Encapsulation of Single-Walled Carbon Nanotubes. *The Journal of Physical Chemistry Letters* **7**, 4223-  
4229, (2016).
- 131 Luo, L. L., Wu, J. S., Li, Q. Q., Dravid, V. P., Poeppelmeier, K. R., Rao, Q. L. & Xu, J. M. Reactions of graphene supported  
Co<sub>3</sub>O<sub>4</sub> nanocubes with lithium and magnesium studied by in situ transmission electron microscopy. *Nanotechnology*  
**27**, (2016).
- 132 Ma, H., He, J., Xiong, D.-B., Wu, J., Li, Q., Dravid, V. & Zhao, Y. Nickel Cobalt Hydroxide @Reduced Graphene Oxide  
Hybrid Nanolayers for High Performance Asymmetric Supercapacitors with Remarkable Cycling Stability. *ACS Applied  
Materials & Interfaces* **8**, 1992-2000, (2016).
- 133 Mao, L., Tsai, H., Nie, W., Ma, L., Im, J., Stoumpos, C. C., Malliakas, C. D., Hao, F., Wasielewski, M. R., Mohite, A. D. &  
Kanatzidis, M. G. Role of Organic Counterion in Lead- and Tin-Based Two-Dimensional Semiconducting Iodide  
Perovskites and Application in Planar Solar Cells. *Chemistry of Materials* **28**, 7781-7792, (2016).
- 134 Mao, Z. G., Seidman, D. N. & Wolverton, C. Erratum: The effect of vibrational entropy on the solubility and stability of  
ordered Al<sub>3</sub>Li phases in Al-Li alloys (vol 1, 042103, 2013). *Apl Materials* **4**, (2016).
- 135 Masango, S. S., Hackler, R. A., Henry, A.-I., McAnally, M. O., Schatz, G. C., Stair, P. C. & Van Duyne, R. P. Probing the  
Chemistry of Alumina Atomic Layer Deposition Using Operando Surface-Enhanced Raman Spectroscopy. *The Journal  
of Physical Chemistry C* **120**, 3822-3833, (2016).

- 136 Masango, S. S., Hackler, R. A., Large, N., Henry, A. I., McAnally, M. O., Schatz, G. C., Stair, P. C. & Van Duyne, R. P. High-Resolution Distance Dependence Study of Surface-Enhanced Raman Scattering Enabled by Atomic Layer Deposition. *Nano Letters* **16**, 4251-4259, (2016).
- 137 Mason, J. A., Laramy, C. R., Lai, C. T., O'Brien, M. N., Lin, Q. Y., Dravid, V. P., Schatz, G. C. & Mirkin, C. A. Contraction and Expansion of Stimuli-Responsive DNA Bonds in Flexible Colloidal Crystals. *Journal of the American Chemical Society* **138**, 8722-8725, (2016).
- 138 Mauck, C. M., Hartnett, P. E., Margulies, E. A., Ma, L., Miller, C. E., Schatz, G. C., Marks, T. J. & Wasielewski, M. R. Singlet Fission via an Excimer-Like Intermediate in 3,6-Bis(thiophen-2-yl)diketopyrrolopyrrole Derivatives. *Journal of the American Chemical Society* **138**, 11749-11761, (2016).
- 139 McPhail, M. R., Campbell, G. P., Bedzyk, M. J. & Weiss, E. A. Structural Features of PbS Nanocube Monolayers upon Treatment with Mono- and Dicarboxylic Acids and Thiols at a Liquid–Air Interface. *Langmuir* **32**, 6666-6673, (2016).
- 140 Mesbah, A., Prakash, J., Rocca, D., Lebègue, S., Beard, J. C., Lewis, B. A. & Ibers, J. A. Syntheses, crystal structure, and electronic properties of the five ABaMQ 4 compounds RbBaPS 4, CsBaPS 4, CsBaVS 4, RbBaVSe 4, and CsBaVSe 4. *Journal of Solid State Chemistry* **233**, 217-220, (2016).
- 141 Moon, S. Y., Prousaloglou, E., Peterson, G. W., DeCoste, J. B., Hall, M. G., Howarth, A. J., Hupp, J. T. & Farha, O. K. Detoxification of Chemical Warfare Agents Using a Zr6-Based Metal–Organic Framework/Polymer Mixture. *Chemistry-A European Journal* **22**, 14864-14868, (2016).
- 142 Morgan, C. E., Dombrowski, A. W., Rubert Perez, C. M., Bahnson, E. S., Tsihlis, N. D., Jiang, W., Jiang, Q., Vercammen, J. M., Prakash, V. S., Pritts, T. A., Stupp, S. I. & Kibbe, M. R. Tissue-Factor Targeted Peptide Amphiphile Nanofibers as an Injectable Therapy To Control Hemorrhage. *ACS Nano* **10**, 899-909, (2016).
- 143 Mouat, A. R., Mane, A. U., Elam, J. W., Delferro, M., Marks, T. J. & Stair, P. C. Volatile Hexavalent Oxo-amidinate Complexes: Molybdenum and Tungsten Precursors for Atomic Layer Deposition. *Chemistry of Materials* **28**, 1907-1919, (2016).
- 144 Myers, B. D., Lin, Q. Y., Wu, H. X., Luijten, E., Mirkin, C. A. & Dravid, V. P. Size-Selective Nanoparticle Assembly on Substrates by DNA Density Patterning. *ACS Nano* **10**, 5679-5686, (2016).
- 145 Naik, G. & Krishnaswamy, S. Room-Temperature Humidity Sensing Using Graphene Oxide Thin Films. *Graphene* **5**, 1, (2016).
- 146 Nandwana, V., Ryoo, S.-R., Kanthala, S., De, M., Chou, S. S., Prasad, P. V. & Dravid, V. P. Engineered Theranostic Magnetic Nanostructures: Role of Composition and Surface Coating on Magnetic Resonance Imaging Contrast and Thermal Activation. *ACS Applied Materials & Interfaces* **8**, 6953-6961, (2016).
- 147 Nandy, K., Palmeri, M. J., Burke, C. M., An, Z., Nguyen, S. T., Putz, K. W. & Brinson, L. C. Stop Motion Animation Reveals Formation Mechanism of Hierarchical Structure in Graphene Oxide Papers. *Advanced Materials Interfaces* **3**, 1500666, (2016).
- 148 Nauert, S. L., Schax, F., Limberg, C. & Notestein, J. M. Cyclohexane oxidative dehydrogenation over copper oxide catalysts. *Journal of Catalysis* **341**, 180-190, (2016).
- 149 Newcomb, C. J., Sur, S., Lee, S. S., Yu, J. M., Zhou, Y., Snead, M. L. & Stupp, S. I. Supramolecular Nanofibers Enhance Growth Factor Signaling by Increasing Lipid Raft Mobility. *Nano Lett* **16**, 3042-3050, (2016).
- 150 Noh, H., Cui, Y., Peters, A. W., Pahls, D. R., Ortuño, M. A., Vermeulen, N. A., Cramer, C. J., Gagliardi, L., Hupp, J. T. & Farha, O. K. An Exceptionally Stable Metal–Organic Framework Supported Molybdenum (VI) Oxide Catalyst for Cyclohexene Epoxidation. *Journal of the American Chemical Society* **138**, 14720-14726, (2016).
- 151 O'Brien, M. N., Girard, M., Lin, H.-X., Millan, J. A., Olvera de la Cruz, M., Lee, B. & Mirkin, C. A. Exploring the zone of anisotropy and broken symmetries in DNA-mediated nanoparticle crystallization. *Proceedings of the National Academy of Sciences* **113**, 10485-10490, (2016).
- 152 Owczarek, M., Hujak, K. A., Ferris, D. P., Prokofjevs, A., Majerz, I., Szklarz, P., Zhang, H., Sarjeant, A. A., Stern, C. L., Jakubas, R., Hong, S., Dravid, V. P. & Stoddart, J. F. Flexible ferroelectric organic crystals. *Nature Communications* **7**, 13108, (2016).
- 153 Pan, B., Huang, J., Feng, Z., Zeng, L., He, M., Zhang, L., Vaughey, J. T., Bedzyk, M. J., Fenter, P., Zhang, Z., Burrell, A. K. & Liao, C. Polyanthraquinone-Based Organic Cathode for High-Performance Rechargeable Magnesium-Ion Batteries. *Advanced Energy Materials* **6**, 1600140, (2016).
- 154 Pazos, E., Sleep, E., Rubert Pérez, C. M., Lee, S. S., Tantakitti, F. & Stupp, S. I. Nucleation and Growth of Ordered Arrays of Silver Nanoparticles on Peptide Nanofibers: Hybrid Nanostructures with Antimicrobial Properties. *Journal of the American Chemical Society* **138**, 5507-5510, (2016).
- 155 Pellin, M. J., Yacout, A. M., Mo, K., Almer, J., Bhattacharya, S., Mohamed, W., Seidman, D., Ye, B., Yun, D., Xu, R. & Zhu, S. MeV per nucleon ion irradiation of nuclear materials with high energy synchrotron X-ray characterization. *Journal of Nuclear Materials* **471**, 266-271, (2016).
- 156 Perry, N. H., Stevanovic, V., Lim, L. Y. & Mason, T. O. Discovery of a ternary pseudobrookite phase in the earth-abundant Ti–Zn–O system. *Dalton Transactions* **45**, 1572-1581, (2016).
- 157 Peters, A. W., Li, Z., Farha, O. K. & Hupp, J. T. Toward Inexpensive Photocatalytic Hydrogen Evolution: A Nickel Sulfide

- Catalyst Supported on a High-Stability Metal–Organic Framework. *ACS Applied Materials & Interfaces* **8**, 20675–20681, (2016).
- 158 Prakash, J., Mesbah, A., Beard, J., Rocca, D., Lebègue, S., Malliakas, C. D. & Ibers, J. A. Two new ternary chalcogenides Ba<sub>2</sub>ZnQ<sub>3</sub> (Q= Se, Te) with chains of ZnQ<sub>4</sub> tetrahedra: syntheses, crystal structure, and optical and electronic properties. *Zeitschrift für Naturforschung B* **71**, 425–429, (2016).
- 159 Prakash, J., Mesbah, A., Beard, J. C., Malliakas, C. D. & Ibers, J. A. Syntheses, crystal structures, and resistivities of the two new ternary uranium selenides, Er<sub>3</sub>USe<sub>8</sub> and Yb<sub>3</sub>USe<sub>8</sub>. *Journal of Solid State Chemistry* **233**, 90–94, (2016).
- 160 Prakash, J., Suen, N.-T., Lee, M., Choi, E. S., Ibers, J. A. & Bobev, S. Cu<sub>3</sub>Ru<sub>6</sub>Sb<sub>8</sub>—a new ternary antimonide with a new structure type. *Inorganic Chemistry Frontiers* **3**, 1616–1623, (2016).
- 161 Prakash, J., Tarasenko, M. S., Mesbah, A., Lebègue, S. b., Malliakas, C. D. & Ibers, J. A. Synthesis, Crystal Structure, Theoretical, and Resistivity Study of BaUSe<sub>3</sub>. *Inorganic Chemistry* **55**, 7734–7738, (2016).
- 162 Preslar, A. T., Tantakitti, F., Park, K., Zhang, S., Stupp, S. I. & Meade, T. J. (19)F Magnetic Resonance Imaging Signals from Peptide Amphiphile Nanostructures Are Strongly Affected by Their Shape. *ACS Nano* **10**, 7376–7384, (2016).
- 163 Rammohan, N., MacRenaris, K. W., Moore, L. K., Parigi, G., Mastarone, D. J., Manus, L. M., Lilley, L. M., Preslar, A. T., Waters, E. A., Filicko, A., Luchinat, C., Ho, D. & Meade, T. J. Nanodiamond–Gadolinium(III) Aggregates for Tracking Cancer Growth In Vivo at High Field. *Nano Letters*, (2016).
- 164 Rao, Q., Guo, X., Fan, X., Dai, B., Wu, J., Gong, M. & Wu, C. Fluoridation of synthetic apatite: Effect on the formation of calcium-deficient hydroxyapatite and the properties of porous scaffold. *Ceramics International* **42**, 3442–3451, (2016).
- 165 Ren, X. C., Singh, A. K., Fang, L., Kanatzidis, M. G., Tavazza, F., Davydov, A. V. & Lauhon, L. J. Atom Probe Tomography Analysis of Ag Doping in 2D Layered Material (PbSe)<sub>5</sub>(Bi<sub>2</sub>Se<sub>3</sub>)<sub>3</sub>. *Nano Letters* **16**, 6064–6069, (2016).
- 166 Rickert, K., Boullay, P., Malo, S., Caignaert, V. & Poeppelmeier, K. R. A Rutile Chevron Modulation in Delafossite-Like Ga<sub>3–x</sub>In<sub>3Ti</sub>xO<sub>9+ x/2</sub>. *Inorganic chemistry* **55**, 4403–4409, (2016).
- 167 Rimoldi, M., Nakamura, A., Vermeulen, N. A., Henkels, J. J., Blackburn, A. K., Hupp, J. T., Stoddart, J. F. & Farha, O. K. A metal-organic framework immobilised iridium pincer complex. *Chemical Science* **7**, 4980–4984, (2016).
- 168 Robinson, E., Kaushal, S., Alaboson, J., Sharma, S., Belagodu, A., Watkins, C., Walker, B., Webster, G., McCarthy, P. & Ho, D. Combinatorial release of dexamethasone and amiodarone from a nano-structured parylene-C film to reduce perioperative inflammation and atrial fibrillation. *Nanoscale* **8**, 4267–4275, (2016).
- 169 Ross, M. B., Ashley, M. J., Schmucker, A. L., Singamaneni, S., Naik, R. R., Schatz, G. C. & Mirkin, C. A. Structure–Function Relationships for Surface-Enhanced Raman Spectroscopy-Active Plasmonic Paper. *The Journal of Physical Chemistry C* **120**, 20789–20797, (2016).
- 170 Salvant, J., Schussler, V., McKenna, C., Bruno, L., Ganio, M. & Walton, M. Investigation of an enameled glass mosque lamp: a 13th–14th-century Mamluk example or 19th-century European version? *Heritage Science* **4**, (2016).
- 171 Sarma, D., Islam, S. M., Subrahmanyam, K. S. & Kanatzidis, M. G. Efficient and selective heavy metal sequestration from water by using layered sulfide K<sub>2</sub>xSn<sub>4–x</sub>S<sub>8–x</sub> (x = 0.65–1; KTS-3). *Journal of Materials Chemistry A* **4**, 16597–16605, (2016).
- 172 Sarma, D., Malliakas, C. D., Subrahmanyam, K., Islam, S. M. & Kanatzidis, M. G. K<sub>2</sub>xSn<sub>4–x</sub>S<sub>8–x</sub> (x = 0.65–1): a new metal sulfide for rapid and selective removal of Cs<sup>+</sup>, Sr<sup>2+</sup> and UO<sub>2</sub><sup>2+</sup> ions. *Chemical Science* **7**, 1121–1132, (2016).
- 173 Sauza, D. J., Bocchini, P. J., Dunand, D. C. & Seidman, D. N. Influence of ruthenium on microstructural evolution in a model Co–Al–W superalloy. *Acta Materialia* **117**, 135–145, (2016).
- 174 Senkov, O., Isheim, D., Seidman, D. & Pilchak, A. Development of a Refractory High Entropy Superalloy. *Entropy* **18**, 102, (2016).
- 175 Shahjamali, M. M., Zhou, Y., Zaraee, N., Xue, C., Wu, J., Large, N., McGuirk, C. M., Boey, F., Dravid, V., Cui, Z., Schatz, G. C. & Mirkin, C. A. Ag–Ag<sub>2</sub>S Hybrid Nanoprisms: Structural versus Plasmonic Evolution. *ACS Nano* **10**, 5362–5373, (2016).
- 176 Shastry, T. A., Clark, S. C., Rowberg, A. J. E., Luck, K. A., Chen, K.-S., Marks, T. J. & Hersam, M. C. Enhanced Uniformity and Area Scaling in Carbon Nanotube–Fullerene Bulk-Heterojunction Solar Cells Enabled by Solvent Additives. *Advanced Energy Materials* **6**, 1501466–n/a, (2016).
- 177 Soe, C. M. M., Stoumpos, C. C., Harutyunyan, B., Manley, E. F., Chen, L. X., Bedzyk, M. J., Marks, T. J. & Kanatzidis, M. G. Room Temperature Phase Transition in Methylammonium Lead Iodide Perovskite Thin Films Induced by Hydrohalic Acid Additives. *ChemSusChem* **9**, 2656–2665, (2016).
- 178 Stalzer, M. M., Nicholas, C. P., Bhattacharyya, A., Motta, A., Delferro, M. & Marks, T. J. Single-Face/All-cis Arene Hydrogenation by a Supported Single-Site d<sup>0</sup> Organozirconium Catalyst. *Angewandte Chemie* **128**, 5349–5353, (2016).
- 179 Stephenson, C. J., Hupp, J. T. & Farha, O. K. Postassembly Transformation of a Catalytically Active Composite Material, Pt@ZIF-8, via Solvent-Assisted Linker Exchange. *Inorganic Chemistry* **55**, 1361–1363, (2016).
- 180 Stephenson, C. J., Whitford, C. L., Stair, P. C., Farha, O. K. & Hupp, J. T. Chemoselective Hydrogenation of Crotonaldehyde Catalyzed by an Au@ZIF-8 Composite. *ChemCatChem* **8**, 855–860, (2016).
- 181 Stine, A., Zhang, M., Ro, S., Clendennen, S., Shelton, M. C., Tyo, K. E. & Broadbelt, L. J. Exploring De Novo metabolic pathways from pyruvate to propionic acid. *Biotechnology progress*, (2016).



- 182 Stoumpos, C. C., Cao, D. H., Clark, D. J., Young, J., Rondinelli, J. M., Jang, J. I., Hupp, J. T. & Kanatzidis, M. G. Ruddlesden–Popper hybrid lead iodide perovskite 2D homologous semiconductors. *Chemistry of Materials* **28**, 2852-2867, (2016).
- 183 Sturdy, L. F., Yee, A., Casadio, F. & Shull, K. R. Quantitative characterization of alkyd cure kinetics with the quartz crystal microbalance. *Polymer* **103**, 387-396, (2016).
- 184 Subrahmanyam, K. S., Malliakas, C. D., Islam, S. M., Sarma, D., Wu, J. & Kanatzidis, M. G. High-Surface-Area Antimony Sulfide Chalcogenides. *Chemistry of Materials* **28**, 7744-7749, (2016).
- 185 Sun, W., Wu, W., McMahon, K. M., Rink, J. S. & Thaxton, C. S. Mosaic Interdigitated Structure in Nanoparticle-Templated Phospholipid Bilayer Supports Partial Lipidation of Apolipoprotein A-I. *Particle & Particle Systems Characterization* **33**, 300-305, (2016).
- 186 Sun, Z. Y., Hazut, O., Huang, B. C., Chiu, Y. P., Chang, C. S., Yerushalmi, R., Lauhon, L. J. & Seidman, D. N. Dopant Diffusion and Activation in Silicon Nanowires Fabricated by ex Situ Doping: A Correlative Study via Atom-Probe Tomography and Scanning Tunneling Spectroscopy. *Nano Letters* **16**, 4490-4500, (2016).
- 187 Syrigos, J. C. & Kanatzidis, M. G. Scandium Selenophosphates: Structure and Properties of  $K_4Sc_2(PSe_4)_2(P_2Se_6)$ . *Inorganic Chemistry* **55**, 4664-4668, (2016).
- 188 Tan, A. W. & Torkelson, J. M. Poly(methyl methacrylate) nanotubes in AAO templates: Designing nanotube thickness and characterizing the Tg-confinement effect by DSC. *Polymer* **82**, 327-336, (2016).
- 189 Tan, G., Shi, F., Hao, S., Zhao, L.-D., Chi, H., Zhang, X., Uher, C., Wolverton, C., Dravid, V. P. & Kanatzidis, M. G. Non-equilibrium processing leads to record high thermoelectric figure of merit in PbTe–SrTe. *Nature Communications* **7**, 12167, (2016).
- 190 Tantakitti, F., Boekhoven, J., Wang, X., Kazantsev, R. V., Yu, T., Li, J., Zhuang, E., Zandi, R., Ortony, J. H., Newcomb, C. J., Palmer, L. C., Shekhawat, G. S., de la Cruz, M. O., Schatz, G. C. & Stupp, S. I. Energy landscapes and functions of supramolecular systems. *Nature Materials* **15**, 469-476, (2016).
- 191 Taylor, S. L., Jakus, A. E., Shah, R. N. & Dunand, D. C. Iron and Nickel Cellular Structures by Sintering of 3D-Printed Oxide or Metallic Particle Inks. *Advanced Engineering Materials*, (2016).
- 192 Thornburg, N. E., Liu, Y., Li, P., Hupp, J. T., Farha, O. K. & Notestein, J. M. MOFs and their grafted analogues: regioselective epoxide ring-opening with Zr 6 nodes. *Catalysis Science & Technology* **6**, 6480-6484, (2016).
- 193 Thornburg, N. E., Nauert, S. L., Thompson, A. B. & Notestein, J. M. Synthesis– Structure–Function Relationships of Silica-Supported Niobium (V) Catalysts for Alkene Epoxidation with H<sub>2</sub>O<sub>2</sub>. *ACS Catalysis* **6**, 6124-6134, (2016).
- 194 V. Pillai, K., Gray, P. J., Tien, C.-C., Bleher, R., Sung, L.-P. & V. Duncan, T. Environmental release of core-shell semiconductor nanocrystals from free-standing polymer nanocomposite films. *Environmental Science: Nano* **3**, 657-669, (2016).
- 195 van Lith, R., Wang, X. & Ameer, G. Biodegradable Elastomers with Antioxidant and Retinoid-like Properties. *ACS Biomaterials Science & Engineering* **2**, 268-277, (2016).
- 196 Vissers, D. R., Isheim, D., Zhan, C., Chen, Z., Lu, J. & Amine, K. Understanding atomic scale phenomena within the surface layer of a long-term cycled 5 V spinel electrode. *Nano Energy* **19**, 297-306, (2016).
- 197 Wan, L., Wendner, R. & Cusatis, G. A novel material for in situ construction on Mars: experiments and numerical simulations. *Construction and Building Materials* **120**, 222-231, (2016).
- 198 Wang, B., Yu, X., Guo, P., Huang, W., Zeng, L., Zhou, N., Chi, L., Bedzyk, M. J., Chang, R. P. H., Marks, T. J. & Facchetti, A. Solution-Processed All-Oxide Transparent High-Performance Transistors Fabricated by Spray-Combustion Synthesis. *Advanced Electronic Materials* **2**, 1500427, (2016).
- 199 Wang, B., Zeng, L., Huang, W., Melkonyan, F. S., Sheets, W. C., Chi, L., Bedzyk, M. J., Marks, T. J. & Facchetti, A. Carbohydrate-Assisted Combustion Synthesis To Realize High-Performance Oxide Transistors. *Journal of the American Chemical Society* **138**, 7067-7074, (2016).
- 200 Wang, H., Gao, Z. & Barnett, S. A. Anode-Supported Solid Oxide Fuel Cells Fabricated by Single Step Reduced-Temperature Co-Firing. *Journal of The Electrochemical Society* **163**, F196-F201, (2016).
- 201 Wang, H. Q., Yakal-Kremski, K. J., Yeh, T., Rupp, G. M., Limbeck, A., Fleig, J. & Barnett, S. A. Mechanisms of Performance Degradation of (La,Sr)(Co,Fe)O<sub>3-delta</sub> Solid Oxide Fuel Cell Cathodes. *Journal of the Electrochemical Society* **163**, F581-F585, (2016).
- 202 Wang, H.-Y., Qin, Y., Li, H., Roman, L. J., Martásek, P., Poulos, T. L. & Silverman, R. B. Potent and Selective Human Neuronal Nitric Oxide Synthase Inhibition by Optimization of the 2-Aminopyridine-based Scaffold with a Pyridine Linker. *J. Med. Chem.* **59**, 4913-4925, (2016).
- 203 Ward, M. D., Chan, I. Y., Malliakas, C. D., Lee, M., Choi, E. S. & Ibers, J. A. Synthesis, structure, and magnetic characterization of Cr 4 US 8. *Journal of Solid State Chemistry* **233**, 67-74, (2016).
- 204 Wei, T. R., Tan, G. J., Zhang, X. M., Wu, C. F., Li, J. F., Dravid, V. P., Snyder, G. J. & Kanatzidis, M. G. Distinct Impact of Alkali-Ion Doping on Electrical Transport Properties of Thermoelectric p-Type Polycrystalline SnSe. *Journal of the American Chemical Society* **138**, 8875-8882, (2016).
- 205 Weinberg, D. J., He, C. & Weiss, E. A. Control of the Redox Activity of Quantum Dots through Introduction of

- Fluoroalkanethiolates into Their Ligand Shells. *Journal of the American Chemical Society* **138**, 2319-2326, (2016).
- 206 Wilke, C. M., Tong, T., Gaillard, J.-F. & Gray, K. A. Attenuation of Microbial Stress Due to Nano-Ag and Nano-TiO<sub>2</sub> Interactions under Dark Conditions. *Environmental Science & Technology* **50**, 11302-11310, (2016).
- 207 Wood, C. D., Ajdari, A., Burkhart, C. W., Putz, K. W. & Brinson, L. C. Understanding competing mechanisms for glass transition changes in filled elastomers. *Composites Science and Technology* **127**, 88-94, (2016).
- 208 Wu, Y.-L., Horwitz, N. E., Chen, K.-S., Gomez-Gualdrón, D. A., Luu, N. S., Ma, L., Wang, T. C., Hersam, M. C., Hupp, J. T. & Farha, O. K. G-quadruplex organic frameworks. *Nature Chemistry*, (2016).
- 209 Xiao, J., Chen, S., Yi, J., Zhang, H. F. & Ameer, G. A. A Cooperative Copper Metal–Organic Framework–Hydrogel System Improves Wound Healing in Diabetes. *Advanced Functional Materials*, (2016).
- 210 Xiong, W. & Olson, G. B. Cybermaterials: materials by design and accelerated insertion of materials. *NPJ Computational Materials* **2**, 24, (2016).
- 211 Yacob, S., Kilos, B. A., Barton, D. G. & Notestein, J. M. Vapor phase ethanol carbonylation over Rh supported on zeolite 13X. *Applied Catalysis A: General* **520**, 122-131, (2016).
- 212 Yan, A., Hua, Y. & Dravid, V. P. Locally enhanced surface plasmons and modulated “hot-spots” in nanoporous gold patterns on atomically thin MoS<sub>2</sub> with a comparison to SiO<sub>2</sub> substrate. *Applied Physics Letters* **108**, 091901, (2016).
- 213 Yan, J.-Y. & Olson, G. Molar volumes of bcc, hcp, and orthorhombic Ti-base solid solutions at room temperature. *Calphad* **52**, 152-158, (2016).
- 214 Yang, A., Hryn, A. J., Bourgeois, M. R., Lee, W.-K., Hu, J., Schatz, G. C. & Odom, T. W. Programmable and reversible plasmon mode engineering. *Proceedings of the National Academy of Sciences* **113**, 14201-14206, (2016).
- 215 Yang, C.-C., Yacob, S., Kilos, B. A., Barton, D. G., Weitz, E. & Notestein, J. M. Increased productivity in ethylene carbonylation by zeolite-supported molybdenum carbonyls. *Journal of Catalysis* **338**, 313-320, (2016).
- 216 Yang, R., Zaheri, A., Gao, W., Hayashi, C. & Espinosa, H. D. AFM Identification of Beetle Exocuticle: Bouligand Structure and Nanofiber Anisotropic Elastic Properties. *Advanced Functional Materials*, 1603993-n/a, (2016).
- 217 Yokoyama, T., Cao, D. H., Stoumpos, C. C., Song, T.-B., Sato, Y., Aramaki, S. & Kanatzidis, M. G. Overcoming Short-Circuit in Lead-Free CH<sub>3</sub>NH<sub>3</sub>SnI<sub>3</sub> Perovskite Solar Cells via Kinetically Controlled Gas–Solid Reaction Film Fabrication Process. *The Journal of Physical Chemistry Letters* **7**, 776-782, (2016).
- 218 Yu, H., Cantwell, J., Wu, H., Zhang, W., Poepelmeier, K. R. & Halasyamani, P. S. Top-Seeded solution crystal growth, morphology, optical and thermal properties of Ba<sub>3</sub>(ZnB<sub>5</sub>O<sub>10</sub>)PO<sub>4</sub>. *Crystal Growth & Design* **16**, 3976-3982, (2016).
- 219 Yu, J., Li, Q., Chen, N., Xu, C.-Y., Zhen, L., Wu, J. & Dravid, V. P. Carbon-Coated Nickel Phosphide Nanosheets as Efficient Dual-Electrocatalyst for Overall Water Splitting. *ACS Applied Materials & Interfaces* **8**, 27850-27858, (2016).
- 220 Yu, J., Li, Q., Li, Y., Xu, C.-Y., Zhen, L., Dravid, V. P. & Wu, J. Ternary Metal Phosphide with Triple-Layered Structure as a Low-Cost and Efficient Electrocatalyst for Bifunctional Water Splitting. *Advanced Functional Materials* **26**, 7644-7651, (2016).
- 221 Yu, Z., Tantakitti, F., Palmer, L. C. & Stupp, S. I. Asymmetric Peptide Nanoribbons. *Nano Letters* **16**, 6967-6974, (2016).
- 222 Yu, Z., Tantakitti, F., Yu, T., Palmer, L. C., Schatz, G. C. & Stupp, S. I. Simultaneous covalent and noncovalent hybrid polymerizations. *Science* **351**, 497-502, (2016).
- 223 Zha, R. H., Velichko, Y. S., Bitton, R. & Stupp, S. I. Molecular design for growth of supramolecular membranes with hierarchical structure. *Soft Matter* **12**, 1401-1410, (2016).
- 224 Zhang, H., Zhao, Y., Meng, T. & Shah, S. P. Surface Treatment on Recycled Coarse Aggregates with Nanomaterials. *Journal of Materials in Civil Engineering* **28**, (2016).
- 225 Zhang, W., Yu, H., Cantwell, J., Wu, H., Poepelmeier, K. R. & Halasyamani, P. S. LiNa<sub>5</sub>Mo<sub>9</sub>O<sub>30</sub>: Crystal Growth, Linear, and Nonlinear Optical Properties. *Chemistry of Materials* **28**, 4483-4491, (2016).
- 226 Zhao, B., Mei, Y., Schipma, Matthew J., Roth, Eric W., Bleher, R., Rappoport, Joshua Z., Wickrema, A., Yang, J. & Ji, P. Nuclear Condensation during Mouse Erythropoiesis Requires Caspase-3-Mediated Nuclear Opening. *Developmental Cell* **36**, 498-510, (2016).
- 227 Zhao, B., Xie, X., Xu, S., Pan, Y., Yang, B., Guo, S., Wei, T., Su, H., Wang, H. & Chen, X. From ScOOH to Sc<sub>2</sub>O<sub>3</sub>: Phase Control, Luminescent Properties, and Applications. *Advanced Materials* **28**, 6665-6671, (2016).
- 228 Zheng, J., Chen, L., Schwake, M., Silverman, R. B. & Krainc, D. Design and Synthesis of Potent Quinazolines as Selective β-Glucocerebrosidase Modulators. *J. Med. Chem.* **59**, 8508-8520, (2016).
- 229 Zhu, J., Liu, X., Geier, M., McMorrow, J., Jariwala, D., Beck, M., Huang, W., Marks, T. & Hersam, M. Layer-by-Layer Assembled 2D Montmorillonite Dielectrics for Solution-Processed Electronics. *Advanced Materials* **28**, 63-68, (2016).
- 230 Zhu, T. L., Fowler, D. E., Poepelmeier, K. R., Han, M. F. & Barnett, S. A. Hydrogen Oxidation Mechanisms on Perovskite Solid Oxide Fuel Cell Anodes. *Journal of the Electrochemical Society* **163**, F952-F961, (2016).

## External User Papers (26)

- 1 Ardagh, M. A., Bo, Z., Nauert, S. L. & Notestein, J. M. Depositing SiO<sub>2</sub> on Al<sub>2</sub>O<sub>3</sub>: a Route to Tunable Brønsted Acid

- Catalysts. *ACS Catalysis* **6**, 6156-6164, (2016).
- 2 Asadi, M., Kim, K., Liu, C., Addepalli, A. V., Abbasi, P., Yasaei, P., Phillips, P., Behranginia, A., Cerrato, J. M., Haasch, R., Zapol, P., Kumar, B., Klie, R. F., Abiade, J., Curtiss, L. A. & Salehi-Khojin, A. Nanostructured transition metal dichalcogenide electrocatalysts for CO<sub>2</sub> reduction in ionic liquid. *Science* **353**, 467-470, (2016).
- 3 Asadi, M., Kumar, B., Liu, C., Phillips, P., Yasaei, P., Behranginia, A., Zapol, P., Klie, R. F., Curtiss, L. A. & Salehi-Khojin, A. Cathode Based on Molybdenum Disulfide Nanoflakes for Lithium–Oxygen Batteries. *ACS Nano* **10**, 2167-2175, (2016).
- 4 Biswas, A., Sen, D., Sarkar, S. K., Sarita, Mazumder, S. & Seidman, D. N. Temporal evolution of coherent precipitates in an aluminum alloy W319: A correlative anisotropic small angle X-ray scattering, transmission electron microscopy and atom-probe tomography study. *Acta Materialia* **116**, 219-230, (2016).
- 5 Chen, X., Guo, P., He, C., Dong, B., Ocola, L. E., Schaller, R. D., Chang, R. P. H. & Sun, C. Scaling the Artificial Polariton Bandgap at Infrared Frequencies Using Indium Tin Oxide Nanorod Arrays. *Advanced Optical Materials* **4**, 2077-2084, (2016).
- 6 Cody, J. A., Dalecky, L. M., Juillerat, C. A., Alexander, G. C. B. & Shylanski, L. C. Ionothermal synthesis of new cobalt and chromium thiophosphate anions [Co(Co(P3S8)2)2]4<sup>-</sup> and [Cr(P3S9)2]3<sup>-</sup>. *Polyhedron* **114**, 399-402, (2016).
- 7 Hartshorne, M. I., McCormick, C., Schmidt, M., Novotny, P., Isheim, D., Seidman, D. N. & Taheri, M. L. Analysis of a New High-Toughness Ultra-high-Strength Martensitic Steel by Transmission Electron Microscopy and Atom Probe Tomography. *Metallurgical and Materials Transactions a-Physical Metallurgy and Materials Science* **47A**, 1517-1528, (2016).
- 8 Heck, P. R., Schmitz, B., Rout, S. S., Tenner, T., Villalon, K., Cronholm, A., Terfelt, F. & Kita, N. T. A search for H-chondritic chromite grains in sediments that formed immediately after the breakup of the L-chondrite parent body 470 Ma ago. *Geochimica et Cosmochimica Acta* **177**, 120-129, (2016).
- 9 Hono, K., Raabe, D., Ringer, S. P. & Seidman, D. N. Atom probe tomography of metallic nanostructures. *Mrs Bulletin* **41**, 23-29, (2016).
- 10 Jiang, Y. W., Carvalho-de-Souza, J. L., Wong, R. C. S., Luo, Z. Q., Isheim, D., Zuo, X. B., Nicholls, A. W., Jung, I. W., Yue, J. P., Liu, D. J., Wang, Y. C., De Andrade, V., Xiao, X. H., Navrazhnykh, L., Weiss, D. E., Wu, X. Y., Seidman, D. N., Bezanilla, F. & Tian, B. Z. Heterogeneous silicon mesostructures for lipid-supported bioelectric interfaces. *Nature Materials* **15**, 1023-1030, (2016).
- 11 Kokkori, M., Hubert, M.-O., Balcar, N., Barabant, G., Sutherland, K. & Casadio, F. Gloss paints in late paintings by Francis Picabia: a multi-analytical study. *Applied Physics A* **122**, 16, (2016).
- 12 Lee, E., Blauwkamp, J., Castro, F. C., Wu, J., Dravid, V. P., Yan, P., Wang, C., Kim, S., Wolverton, C., Benedek, R., Dogan, F., Park, J. S., Croy, J. R. & Thackeray, M. M. Exploring Lithium-Cobalt-Nickel Oxide Spinel Electrodes for ≥3.5 V Li-Ion Cells. *ACS Applied Materials & Interfaces* **8**, 27720-27729, (2016).
- 13 Loitsch, B., Jeon, N., Doblinger, M., Winnerl, J., Parzinger, E., Matich, S., Wurstbauer, U., Riedl, H., Abstreiter, G., Finley, J. J., Lauhon, L. J. & Koblmüller, G. Suppression of alloy fluctuations in GaAs-AlGaAs core-shell nanowires. *Applied Physics Letters* **109**, (2016).
- 14 Moutanabbir, O., Isheim, D., Mao, Z. G. & Seidman, D. N. Evidence of sub-10 nm aluminum-oxygen precipitates in silicon. *Nanotechnology* **27**, (2016).
- 15 Mukherjee, S., Watanabe, H., Isheim, D., Seidman, D. N. & Moutanabbir, O. Laser-Assisted Field Evaporation and Three-Dimensional Atom-by-Atom Mapping of Diamond Isotopic Homojunctions. *Nano Letters* **16**, 1335-1344, (2016).
- 16 Nagasako, N., Asahi, R., Isheim, D., Seidman, D. N., Kuramoto, S. & Furuta, T. Microscopic study of gum-metal alloys: A role of trace oxygen for dislocation-free deformation. *Acta Materialia* **105**, 347-354, (2016).
- 17 Pellin, M. J., Yacout, A. M., Mo, K., Almer, J., Bhattacharya, S., Mohamed, W., Seidman, D., Ye, B., Yun, D., Xu, R. Q. & Zhu, S. F. MeV per nucleon ion irradiation of nuclear materials with high energy synchrotron X-ray characterization. *Journal of Nuclear Materials* **471**, 266-271, (2016).
- 18 Rische, C. H., Goel, A., Radovic-Moreno, A. F. & Gryaznov, S. M. Antibacterial silver core spherical nucleic acids. *Materials Today Communications* **9**, 30-40, (2016).
- 19 Sarker, S., Chandra, D., Hirscher, M., Dolan, M., Isheim, D., Wermer, J., Viano, D., Baricco, M., Udovic, T. J., Grant, D., Palumbo, O., Paolone, A. & Cantelli, R. Developments in the Ni-Nb-Zr amorphous alloy membranes. *Applied Physics a-Materials Science & Processing* **122**, (2016).
- 20 Sarma, D., Islam, S. M., Subrahmanyam, K. & Kanatzidis, M. G. Efficient and selective heavy metal sequestration from water by using layered sulfide K<sub>2</sub>xSn<sub>4-x</sub>S<sub>8-x</sub> (x= 0.65–1; KTS-3). *Journal of Materials Chemistry A* **4**, 16597-16605, (2016).
- 21 Senkov, O. N., Isheim, D., Seidman, D. N. & Pilchak, A. L. Development of a Refractory High Entropy Superalloy. *Entropy* **18**, (2016).
- 22 Vissers, D. R., Isheim, D., Zhan, C., Chen, Z. H., Lu, J. & Amine, K. Understanding atomic scale phenomena within the surface layer of a long-term cycled 5 V spinel electrode. *Nano Energy* **19**, 297-306, (2016).
- 23 Vo, N. Q., Dunand, D. C. & Seidman, D. N. Role of silicon in the precipitation kinetics of dilute Al-Sc-Er-Zr alloys. *Materials Science and Engineering a-Structural Materials Properties Microstructure and Processing* **677**, 485-495,

- (2016).
- 24 Vo, N. Q., Sorensen, J., Klier, E. M., Sanaty-Zadeh, A., Bayansan, D., Seidman, D. N. & Dunand, D. C. Development of a Precipitation-Strengthened Matrix for Non-quenched Aluminum Metal Matrix Composites. *Jom* **68**, 1915-1924, (2016).
- 25 Wang, Z., Hou, X., Shen, J. & Li, T. Supported cobalt oxide nanocrystals: morphology control and catalytic performance for styrene oxidation. *RSC Advances* **6**, 89503-89509, (2016).
- 26 Wangoo, N., Swami, A., Kaur, S., Bansal, K. & Sharma, R. K. Development of a Colloidal Gold-Based Nanobioprobe for the Detection of Glycated Albumin. *BioNanoScience* **6**, 132-138, (2016).