

522. Meza, I., Hua, H., Gagnon, K., Mulchandani, A., Gonzalez-Estrella, J., Burns P.C., Lezama-Pacheco, J.S., Ali, A.-M. S., Spilde, M., Peterson, E. & Cerrato, J.M. (2023): Removal of aqueous uranyl and arsenate mixtures after reaction of limestone,  $\text{PO}_4^{3-}$ , and  $\text{Ca}^{2+}$ . *Environmental Science & Technology*.
521. Felton, D.E., Kohlgruber, T.A., Tucker, Z.D., Gulotty, E.M., Ashfeld, B.L. & Burns, P.C. (2023): Utilizing ionic liquids as bifunctional reagents for the ionothermal synthesis of uranyl compounds. *Crystal Growth and Design*.
520. Perry, S.N., Rodriguez, V.G. & Burns, P.C. (2023): Nanoscale calcium uranyl carbonate clusters in water. *Chemical Geology* V641, 121766.
519. Olds, T.A., Kampf, A.R., Perry, S.L., Guo, X., Marty, J., Rose, T.P. & Burns, P.C. (2023): Navrotskyite, a new sodium and potassium uranyl-sulfate mineral from the Blue Lizard mine, Red Canyon, White Canyon District, San Juan County, Utah. *Journal of Geosciences*.
518. Olds, T.A., Plasil, J., Kampf, A.R., Burns, P.C., Marty, J. & McCloy, J.S. (2023): Bobfinchite,  $\text{Na}[(\text{UO}_2)_8\text{O}_3(\text{OH})_{11}].10\text{H}_2\text{O}$ , a new Na-bearing member of the schoepite family.
517. Roach, J.M., Manukyan, K.V., Dede, S., Burns, P.C. & Aprahamian, A. (2023): Combustion synthesis of  $\text{Eu}_2\text{O}_3$  nanomaterials with tunable phase composition and morphology. *Journal of Solid State Chemistry* 326, 124235.
516. Meza, I., Jemison, N., Gonzalez-Estrella, J., Burns, P.C., Rodriguez, V., Sigmon, G.E., Szymanowski, J.E.S., Ali, A.-M., Gagnon, K., Cerrato, J.M. & Lichtner, P. (2023): Kinetics of Na- and K-uranyl arsenate dissolution. *Chemical Geology* 636, 121642.
515. Benjamin, S.E., LaVerne, J.A., Sigmon, G.E. & Burns, P.C. (2023): Investigation of radiation effects in the uranyl mineral metaschoepite. *Inorganic Chemistry* 62, 22601-11610.
514. Dede, S., Essenmacher, S.D., Gastis, P., Manukyan, K.V., Kuvin, S.A., Lee, H.Y., Roach, J.M., Burns, P.C. & Aprahamian, A. (2023): Electrospraying deposition and characterization of potassium chloride targets for nuclear science measurements. *Nuclear Instruments and Methods in Physics Research, A* 10.1016/j.nima.2023.168472
513. Sockwell, A.K., Sweet, T.F.M., Barth, B., Isbill, S.B., DiBlasi, N.A., Szymanowski, J.E.S., Sigmon, G.E., Oliver, A.G., Miskowiec, A.J., Burns, P.C. & Hixon, A.E. (2023): Insight into the structural ambiguity of actinide(IV) oxalate sheet structures: a case for alternate coordination geometries. *Chemistry – A European Journal* 29, e202301164
512. Rodriguez, V.G. & Burns, P.C. (2023): Electrospray ionization tandem mass spectrometry with collision-induced dissociation of uranyl peroxide nanoclusters containing various uranyl bridging ligands. *Chemistry a European Journal* 29, e202300794
511. Dede, S., Manukyan, K.V., Roach, J.M., Robertson, D., Burns, P.C. & Aprahamian, A. (2023): Irradiation-enhanced interactions at  $\text{UO}_2/\text{Al}_2\text{O}_3/\text{Al}$  interfaces. *Journal of Physical Chemistry C*. 127, 9850-9857.
510. Morrison, S.M., Prabhu, A., Eleish, A., Hazen, R.M., Golden, J.J., Downs, R.T., Perry, S., Burns, P.C., Ralph, J. & Fox, P. (2023): Predicting new mineral occurrences and planetary analog environments via mineral association analysis. *PNAS Nexus* 2, 1-13.
509. Felton, D.E., Galeas, B.E. & Burns, P.C. (2023): Cation directed formation of uranyl phosphonoacetate frameworks comprised of cross-linked chains. *Journal of Solid State Chemistry* 323, 124023.

508. Rodriguez, V.G., Culbertson, H.J., Sigmon, G.E. & Burns, P.C. (2023): Electrochemistry of uranyl peroxide solutions during electrospray ionization. *Inorganic Chemistry* 62, 4456-4466.
507. Olds, T.A., Lussier, A.J., Petricek, V., Plasil, J., Kampf, A.R., Oliver, A.G., Burns, P.C., Dembowski, M. & Stelle, I.M. (2023): Shinkolobweite, from the Shinkolobwe mine, Democratic Republic of Congo: A new mineral containing uranium in the rare pentavalent oxidation state. *The Canadian Journal of Mineralogy and Petrology* 61, 999-1020.
506. Sordyl, J., Rakovan, J., Burns, P.C., Topolska, J., Wlodek, A., Szymanowski, J.E.S., Sigmon, G.E., Majka, J. & Manecki, M. (2023): Single crystal analysis of La-doped pyromorphite  $Pb_5(PO_4)_3Cl$ . *American Mineralogist*. <https://doi.org/10.2138/am-2022-8664>.
505. Benjamin, S.E., LaVerne, J.A., Sigmon, G.E. & Burns, P.C. (2022): Ozone-facilitated formation of uranyl peroxide in humid conditions. *Inorganic Chemistry* 61, 20977-20985.
504. Meza, I., Gonzalez-Estrella, J., Burns, P.C., Rodriguez, V., Velasco, C.A., Sigmon, G., Szymanowski, J., Forbes, T.Z., Applegate, L.M., Ali, A.-M. S., Lichtner, P. & Cerrato, J.M. (2023): Solubility and thermodynamic investigation of meta-autunite group uranyl arsenate solids with monovalent cations sodium and potassium. *Environmental Science and Technology* 57, 255-265.
503. Majumdar, A., Manukyan, K., Tan, W., Dede, S., Roach, J.M., Couture, A., Burns, P.C. & Aprahamian, A. (2023): Neutron capture of  $UO_2$  targets prepared by spin-coating-assisted combustion synthesis. *Nuclear Instruments and Methods in Physics Research A* 1045, 167551.
502. Tyumentseva, O.S., Korniyakov, I.V., Kasatkin, A.V., Plasil, J., Krzhizhanovskaya, M.G., Krivovichev, S.V., Burns, P.C., & Gurzhiy, V.V. (2022): One of Nature's puzzles is assembled: analog of the Earth's most complex mineral, ewingite, synthesized in a laboratory. *Materials* 15, 6643.
501. Hastings, A.M., Fairley, M., Wasson, M.C., Campisi, D., Sarkar, A., Emory, Z.C., Gilson, S.E., Brunson, K., Fast, D.B., Nyman, M., Burns, P.C., Gagliardi, L., Islamoglu, T., Farha, O.K., Hixon, A.E., LaVerne, J.A. (2022): The role of metal selection in the radiation stability of isostructural M-UiO-66 metal-organic frameworks. *Chemistry of Materials* 34, 8403-8417.
500. Sweet, T.F.M., Felton, D.E., Szymanowski, J.E.S. & Burns, P.C. (2022): Targeting diverse bridging motifs with actinide borosulfates and establishing an unconventional structural hierarchy. *Inorganic Chemistry*. 61, 15953-15960. Selected as ACS Editor's Choice Article and featured on the cover of the journal.
499. Felton, D.E., Fairley, M., Arteaga, A., Nyman, M., LaVerne, J.A. & Burns, P.C. (2022): Gamma ray induced formation of uranyl peroxide cage clusters. *Inorganic Chemistry* 61, 11916-11922.
498. Dede, S., Manukyan, K.V., Roach, J.M., Majumdar, A., Burns, P.C. & Aprahamian, A. (2022): Irradiation-induced amorphization of  $UO_2$  films prepared by spraying-assisted combustion synthesis. *Applied Surface Science* 603, 154437.
497. Julien, P.A., Castle, G., Theriault, J., Kohlgruber, T.A., Oliver, A.G. & Burns, P.C. (2022): Assembly of uranyl-peroxides from ball milled solids. *Inorganic Chemistry* 61, 11319-11324.
496. Kohlgruber, T.A., Felton, D.E., Traustason, H. & Burns, P.C. (2022): Exploring the role of organic functional groups in the ionothermal synthesis of uranyl phosphate materials. *Zeitschrift fur Anorganische und Allgemeine Chemie* <https://doi.org/10.1002/zaac.202200162>.
495. Pizio, B., Zhang, L., Burns, P.C. & Manecki, M. (2022): Thermodynamic characterization of synthetic lead-arsenate apatites with different halogen substitutions. *American Mineralogist* 108, 675-685.

494. Spano, T.L., Olds, T.A., Hall, S.M., Kampf, A.R., Burns, P.C. & Marty, J. (2023): Finchite,  $\text{Sr}(\text{UO}_2)_2(\text{V}_2\text{O}_8)\cdot 5\text{H}_2\text{O}$ , a new uranyl sorovanadate with the francavillite anion topology. *American Mineralogist*. 108, 383-388.
493. Kampf, A.R., Olds, T.A., Plasil, J., Burns, P.C., Skoda, R. & Marty, J. (2022): Paramarkeyite, a new calcium uranyl carbonate mineral from the Markey mine, San Juan County, Utah, USA. *Mineralogical Magazine* 86, 27-36.
492. Kohlgruber, T.A., Perry, S.N., Sigmon, G.E., Oliver, A.E. & Burns, P.C. (2022): Hydrogen bond network and bond valence analysis on uranyl sulfate compounds with organic-based interstitial cations. *Journal of Solid State Chemistry* 307, 122871.
491. Fairley, M., Felton, D., Sigmon, G.E., Szymanowski, J.E.S., Poole, N., Nyman, M., Burns, P.C. & LaVerne, J.A. (2022): Radiation induced solid state transformations of uranyl peroxides. *Inorganic Chemistry* 61, 882-889.
490. Fairley, M., Gilson, S.E., Hanna, S.L., Mishra, A., Knapp, J., Idrees, K.B., Chheda, S., Traustason, H., Islamoglu, T., Burns, P.C., Gagliardi, L., Farha, O.K. & LaVerne, J.A. (2021): Linker contribution towards stability of metal-organic frameworks under ionizing radiation. *Chemistry of Materials* 33, 9285-9294.
489. Roach, J.M., Manukyan, K.V., Majumdar, A., Dede, S., Oliver, A.G., Burns, P.C. & Aprahamian, A. (2021): Hyper-stoichiometric uranium dioxides: rapid synthesis and irradiation-induced structural changes. *Inorganic Chemistry* 60, 18938-18949.
488. Yang, Y., Zhou, Y., Chen, J., Kohlgruber, T., Smith, T., Wang, S-Q., Szymanowski, J.E.S., Burns, P.C. & Liu, T. (2021): Standalone 2-D nanosheets and the consequent hydrogel and coacervate phases formed by 2.5-nm spherical  $\text{U}_{60}$  molecular clusters in dilute aqueous solution. *The Journal of Physical Chemistry B* 125, 12392-12397.
487. Gilson, S.E., Fairley, M., Hanna, S.L., Szymanowski, J.E.S., Julien, P., Chen, Z-J., Farha, O.K., LaVerne, J.A. & Burns, P.C. (2021): Unusual metal-organic framework topology and radiation resistance through neptunyl coordination chemistry. *Journal of the American Chemical Society* 143, 17354-17359.
486. Majumdar, A., Manukyan, K., Dede, S., Roach, J., Robertson, D., Burns, P.C. & Aprahamian, A. (2021): Irradiation-driven restructuring of  $\text{UO}_2$  thin films: Amorphization and crystallization. *ACS Applied Materials & Interfaces* 13, 35153-35164.
485. Traustason, H., Caranto, K. & Burns, P.C. (2021): Calorimetric study of functionalized uranyl peroxide nanoclusters and their monomeric building block. *European Journal of Inorganic Chemistry* 28, 2840-2845.
484. Gilson, S.E. & Burns, P.C. (2021): The crystal and coordination chemistry of neptunium in all its oxidation states: an expanded structural hierarchy of neptunium compounds. *Coordination Chemistry Reviews* 445, 213994.
483. Traustason, H., Lobeck, H.L., Julien, P.A., Xu, M., Dembowski, M. & Burns, P.C. (2021): Prediction of solution behavior via calorimetric measurements allows for detailed elucidation of polyoxometalate transformation. *Inorganic Chemistry* 60, 6753-6763.
482. Mei, L., Wu, Q., Wu, S., Liu, Y., Hu, K., Geng, J., Liu, Y., Zhang, Z., Liang, Y., Chai, Z., Burns, P.C. & Shi, W. (2021): High-temperature in-situ hydrothermal peroxide formation and synthesis of a uranyl

peroxo complex facilitated by a highly-conjugated aromatic carboxylate ligand. *Inorganic Chemistry* 60, 2133-2137.

481. Kohlgruber, T.A., Senchyk, G.A., Rodriguez, V.G., Mackley, S.A., Dab Bo, F., Aksenov, S.M., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2021): Ionothermal synthesis of uranyl vanadate nanoshell heteropolyoxometalates. *Inorganic Chemistry* 60, 3355-3364.
480. Olds, T.A., Kampf, A.R., Rakovan, J., Burns, P.C., Mills, O.P. & Laughlin-Yurs, C. (2021): Hydroxypyromorphite, modern description and characterization of a mineral important to lead-remediation. *American Mineralogist* 106, 922-929.
479. Kohlgruber, T.A., Felton, D.E., Perry, S.N., Oliver, A.G. & Burns, P.C. (2021): Effect of ionothermal conditions on crystallization of organically templated uranyl sulfate compounds. *Crystal Growth and Design* 21, 861-868.
478. Kampf, A.R., Olds, T.A., Plásil, J., Marty, J., Perry, S.N., Corcoran, L. and Burns, P.C. (2021): Seaborgite,  $\text{LiNa}_6\text{K}_2(\text{UO}_2)(\text{SO}_4)_5(\text{SO}_3\text{OH})(\text{H}_2\text{O})$ , the first uranyl mineral containing lithium. *American Mineralogist* 106, 105-111.
477. Olds, T.A., Kampf, A.R., Del Bo, F., Burns, P.C., Guo, X. & McLoy, J.S. (2020): Jeankempite,  $\text{Ca}_5(\text{AsO}_4)_2(\text{AsO}_3\text{OH})_2(\text{H}_2\text{O})_7$ , a new arsenate mineral from the Mohawk Mine, Keweenaw County, Michigan, USA. *Mineralogical Magazine* 84, 959-969.
476. Traustason, H., Bell, N.L., Caranto, K., Auld, D.C., Lockey, D.T., Kokot, A., Szymanowski, J.E.S., Cronin, L. & Burns, P.C. (2020): Reactivity, formation, and solubility of polyoxometalates probed by calorimetry. *Journal of the American Chemical Society* 142, 20463-20469.
475. Burns, P.C. (2020): Complex minerals preserve natural geochemically important nanoscale metal-oxide clusters. *Acta Crystallographica* 76, 512-513.
474. Gilson, S.E., Fairley, M., Julien, P., Oliver, A.G., Hanna, S.L., Arntz, G., Farha, O.K., LaVerne, J.A. & Burns, P.C. (2020): Unprecedented radiation resistant thorium-binaphthol metal-organic framework. *Journal of the American Chemical Society* 142, 13299-13304.
473. Kampf, A.R., Olds, T.A., Plásil, J., Burns, P.C. & Marty, J. (2020): Natromarkeyite and pseudomarkeyite, two new calcium uranyl carbonate minerals from the Markey mine, San Juan County, Utah, USA. *Mineralogical Magazine* 84, 753-765.
472. Xu, M., Eckard, P. & Burns, P.C. (2020): Organic-functionalization of uranyl peroxide clusters to impact solubility. *Inorganic Chemistry* 59, 9881-9888.
471. Konevnik, Yu.V., Zakharova, E.V., Shiryaev, A.A., Olds, T.A. & Burns, P.C. (2020): Mineral-specific heterogeneous neptunium sorption onto geological repository rocks in oxic and anoxic conditions and various temperatures. *Chemical Geology* 454, 119654.
470. Zhang, L., Aksenov, S.M., Kokot, A.M., Perry, S.N., Olds, T.A. & Burns, P.C. (2020): Crystal chemistry and structural complexity of uranium(IV) sulfates: Synthesis of  $\text{U}_3\text{H}_2(\text{SO}_4)_7(\text{H}_2\text{O})_5 \cdot 3\text{H}_2\text{O}$  and  $\text{U}_3(\text{UO}_2)_{0.2}(\text{SO}_4)_6(\text{OH})_{0.4} \cdot 2.3\text{H}_2\text{O}$  with framework structures by photochemical reduction of uranyl. *Inorganic Chemistry* 59, 5813-5817.
469. Zhang, L., Perry, S.N., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2020): Thermochemical studies of  $X(\text{NpO}_2)(\text{PO}_4)(\text{H}_2\text{O})_3$  ( $X = \text{K}^+, \text{Rb}^+$ ), neptunium analogs of the autunite/meta-autunite group. *Journal of Solid State Chemistry* 287, 121373.
468. Lewis, S.R., Simonetti, A., Corcoran, L., Simonetti, S.S., Dorais, C. & Burns, P.C. (2020): The role of continental crust in the formation of uraninite-based ore deposits. *Minerals* 10, 136.

467. Dembowski, M., Hickam, S., Pilgrim, C.D., Spano, T., Hamlin, D., Casey, W.H. & Burns, P.C. (2020): Dynamics of cation-induced conformational changes in nanometer-size uranyl peroxide clusters. *Inorganic Chemistry* 59, 2495-2502.
466. Burns, P.C. (2020): Hydrated uranium oxides. In: Konings, Rudy JM and Stoller, Roger E. (eds.) *Comprehensive Nuclear Materials 2<sup>nd</sup> edition* vol. 6, pp. 557-587. Oxford: Elsevier.
461. Lobeck, H.L., Balboni, E., Parker, C.J., Kohlgruber, T.A., Xu, M., Boukdad, S., Ridder, H.M., Traustason, H., Isner, J.K., Dzik, E.A. & Burns, P.C. (2020): Dissolution of poorly soluble uranyl phosphate phases in the meta-autunite group in uranyl peroxide cage cluster forming conditions. *American Mineralogist* 105, 182-193.
465. Gurshiy, V.V., Korniyakov, I.V., Szymanowski, J.E.S., Felton, D., Tyumentseva, O.S., Krzhizhanovskaya, M.G., Krivovichev, S.V. & Burns, P.C. (2020): Chemically-induced structural variations, thermal behavior and calorimetry studies of a family of  $\text{Cs}_2[(\text{UO}_2)_2(\text{TO}_4)_3]$  ( $T = \text{S}, \text{Se}, \text{Cr}, \text{Mo}$ ) compounds. *Journal of Solid State Chemistry* 282, 121077.
464. Plásil, J., Kampf, A.R., Olds, T.A., Sejkora, J., Skoda, R., Burns, P.C. & Cejka, J. (2020): The new K, Pb-bearing uranyl oxide mineral kroupaite: crystal-chemical implications for the structures of uranyl-oxide hydroxy-hydrates. *American Mineralogist* 105, 561-568.
463. Gao, Y., Zhang, T., Szymanowski, J.E.S., Burns, P.C. and Liu, T. (2019): Inhomogeneous distribution of cationic surfactants around anionic molecular clusters. *Chemistry – A European Journal* 25, 15741-15745.
462. Li, H., Shen, Y., Yang, P., Szymanowski, J.E.S., Chen, J., Gao, Y., Burns, P.C., Kortz, U. & Liu, T. (2019): Isotope and hydrogen bond effects on the self-assembly process of macroions in dilute solution. *Chemistry – A European Journal* 25, 16288-16293.
460. Adelani, P.O., Sigmon, G.E., Szymanowski, J.E.S. & Burns, P.C. (2019): High nuclearity uranyl cages using rigid aryl phosphonate ligands. *European Journal of Inorganic Chemistry* 2019, 5052-5058.
459. Fairley, M., Myers, N., Szymanowski, J.E.S., Sigmon, G.E., Burns, P.C. & LaVerne, J.A. (2019): Stability of solid uranyl peroxides under irradiation. *Inorganic Chemistry* 58, 14112-14119.
458. Kohlgruber, T.A., Mackley, S.A., Dal Bo, F., Aksenov, S.M. & Burns, P.C. (2019): The role of 1-ethyl-3-methylimidazolium diethyl phosphate ionic liquid in uranyl phosphate compounds. *Journal of Solid State Chemistry* 279, 120938.
457. Adelani, P.O., Sigmon, G.E., Szymanowski, J.E.S. & Burns, P.C. (2019): Hybrid uranyl-phosphonate coordination nanocage. *Inorganic Chemistry* 58, 12662-12668.
456. Corcoran, L., Simonetti, A., Spano, T.L., Lewis, S.R., Dorais, C., Simonetti, S. & Burns, P.C. (2019): Multivariate analysis of geochemical composition of uranium-rich samples. *Minerals* 9, 537.
455. Hickam, S., Ray, D., Szymanowski, J.E.S., Li, Ru-Ye, Dembowski, M., Smith, P., Gagliardi, L. & Burns, P.C. (2019): Neptunyl peroxide chemistry: synthesis and spectroscopic characterization of a neptunyl triperoxide compound,  $\text{Ca}_2[\text{NpO}_2(\text{O}_2)_3] \cdot 9\text{H}_2\text{O}$ . *Inorganic Chemistry* 58, 12264-12271.
454. Zhang, Z., Wu, Q., Zhai, F., Huang, X., Yuan, L., Chai, Z., Burns, P.C. and Shi, W. (2019): Interactions of phosphorylated cyclohexapeptides with uranyl: insights from experiments and theoretical calculations. *Journal of Radioanalytical and Nuclear Chemistry* 322, 677-689.
453. Xu, M., Traustason, H., Dal Bo, F., Hickam, S., Chong, S., Zhang, L., Oliver, A.G. & Burns, P.C. (2019): Supramolecular assembly of geometrically unstable hybrid organic-inorganic uranyl peroxide

- cage clusters and their transformations. *Journal of the American Chemical Society* 141, 12780-12788.
452. Gilson, S., Li, P., Szymanowski, J.E.S., White, J., Ray, D., Gagliardi, L., Farha, O. and Burns, P.C. (2019): In situ formation of unprecedented neptunium-oxide wheel clusters stabilized in a metal-organic framework. *Journal of the American Chemical Society* 141, 11842-11846.
451. Chong, S. Aksenov, S.M., Perry, S.N., Dimakopoulou, F., Dal Bo, F. & Burns, P.C. (2019): Framework polymorphism and modular crystal structures of uranyl vanadates of divalent cations: synthesis and characterization of M(UO<sub>2</sub>)V<sub>2</sub>O<sub>7</sub> (M = Ca, Sr) and Sr<sub>3</sub>(UO<sub>2</sub>)(V<sub>2</sub>O<sub>7</sub>)<sub>2</sub>. *Zeitschrift für anorganische und allgemeine Chemie* 645, 981-987.
450. Aksenov, S.M., Borovikova, E.Yu., Mironov, V.S., Yamnova, N.A., Volkov, A.S., Ksenofontov, D.A., Gurbanova, O.A., Dimitrova, O.V., Deyneko, D.V., Zvereva, E.A., Maximova, O.V., Krivovichev, S.V., Burns, P.C. & Vasiliev, A.N. (2019): Rb<sub>2</sub>CaCu<sub>6</sub>(PO<sub>4</sub>)<sub>4</sub>O<sub>2</sub>, a novel oxophosphate with a shchurovskyite-type topology: synthesis, structure, magnetic properties, and crystal chemistry of rubidium copper phosphates. *Acta Crystallographica* B75, 903-913.
449. Dorais, C., Simonetti, A., Corcoran, L., Spano, T.L. & Burns, P.C. (2019): Happy Jack uraninite: a new reference material for high spatial resolution analysis of U-rich matrices. *Geostandards and Geoanalytical Research* 44, 125-132.
448. Lobeck, H.L., Traustason, H., Julien, P.A., FitzPatrick, J.R., Mana, S., Szymanowski, J.E.S. & Burns, P.C. (2019): In situ Raman spectroscopy of uranyl peroxide nanoscale cage clusters under hydrothermal conditions. *Dalton Transactions* 48, 7755-7765.
447. Lobeck, H.L., Isner, J.K. & Burns, P.C. (2019): Transformation of the uranyl peroxide studtite, [(UO<sub>2</sub>)(O<sub>2</sub>)(H<sub>2</sub>O)<sub>2</sub>](H<sub>2</sub>O)<sub>2</sub>, to soluble nanoscale cage clusters. *Inorganic Chemistry* 58, 6781-6789.
446. Zhang, L., Lobeck, H.L., Dzik, E.A., Sigmon, G.E. & Burns, P.C. (2019): Thermochemical study of tetravalent metal sulfate tetrahedrals: A<sup>4+</sup>(SO<sub>4</sub>)<sub>2</sub>(H<sub>2</sub>O)<sub>4</sub> (A<sup>4+</sup> = Zr, Ce, U). *Journal of Solid State Chemistry* 276, 56-60.
445. Hickam, S., Breier, J., Cripe, Y., Cole, E. & Burns, P.C. (2019): The effects of H<sub>2</sub>O<sub>2</sub> concentration on formation of uranyl peroxide species probed by dissolution of uranium nitride and uranium dioxide. *Inorganic Chemistry* 58, 5858-5864.
444. Aksenov, S.M., Mackley, S.A., Deyneko, D.V., Taroev, V.K., Tauson, V.L., Rastsvetaeva, R.K. & Burns, P.C. (2019): Crystal chemistry of compounds with lanthanide based microporous heteropolyhedral frameworks: synthesis, crystal structures, and luminescence properties of novel potassium cerium and erbium silicates. *Microporous & Mesoporous Materials* 284, 25-35.
443. Petrova, D.A., Deyneko, D.V., Aksenov, S.M., Stefanovich, S.Y., Baryshnikova, O.V., Fedotov, S.S., Burns, P.C., Kosmyna, M.B., Shekhovtsov, A.N. and Lazoryak, B.I. (2019): Ferroelectricity, ionic conductivity and structural paths for large cations migration in Ca<sub>10.5-x</sub>Pb<sub>x</sub>(VO<sub>4</sub>)<sub>7</sub> single crystals, x = 1.9, 3.5, 4.9. *CrystEngComm* 21, 1309-1319.
442. Korniyakov, I.V., Gurzhiy, V.V., Szymanowski, J.E.S., Zhang, L., Perry, S.N., Krivovichev, S.V. & Burns, P.C. (2019): A novel family of Np(VI) oxysalts: crystal structures, calorimetry, thermal behavior, and comparison with U(VI) compounds. *Crystal Growth & Design* 19, 2811-2819.
441. Arteaga, A., Zhang, L., Hickam, S., Dembowski, M., Burns, P.C. & Nyman, M. (2019): Uranyl peroxide capsule self-assembly in slow motion. *Chemistry a European Journal* 25, 6087-3091.

440. Spano, T.L., Simonetti, A., Corcoran, L., Smith, P.A., Lewis, S. & Burns, P.C. (2019): Comparative chemical and structural analyses of two uranium dioxide fuel pellets. *Journal of Nuclear Materials* 518, 149-161.
439. Dal Bo, F., Aksenov, S.M. & Burns, P.C. (2019):  $Mg[(UO_2)_2(Ge_2O_6(OH)_2] \cdot (H_2O)_{4.4}$ , a novel compound with mixed germanium coordination: cation disordering and topological features of  $\beta$ - $U_3O_8$  type sheets. *Zeitschrift fur Krisallographie* 234, 383-393.
438. Smith, P. & Burns, P.C. (2019): Ligand mediated morphology of the two-dimensional uranyl aqua sulfates:  $[UO_2(X)(SO_4)(H_2O)]$ ; ( $X = Cl^-$  or  $(CH_3)_3NCH_2COO^-$ ). *Zeitschrift für anorganische und allgemeine Chemie* 645, 504-508.
437. Zhang, L., Dembowski, M., Arteaga, A., Hickam, S., Martin, N.P., Zakharov, L.N., Nyman, M. and Burns, P.C. (2019): Energetic trends in monomer building blocks for uranyl peroxide clusters. *Inorganic Chemistry* 58, 439-445.
436. Traustason, H., Aksenov, S.M. & Burns, P.C. (2019): The lithium-water configuration encapsulated by uranyl peroxide cage cluster  $U_{24}$ . *CrystEngComm* 21, 390-393.
435. Fal Bo, F., Kohlgruber, T., Szymanowski, J.E.S., Aksenov, S.M. and Burns, P.C. (2018):  $Rb_2[Ca(NpO_2)_2(PO_4)_2]$ , the first mixed alkali-alkaline earth metals neptunyl(V) phosphate: Crystal chemistry and sheet stereoisomerism. *Crystal Growth and Design* 18, 7254-7258.
434. Fal Bo, F., Aksenov, S.M. and Burns, P.C. (2018): A novel family of microporous uranyl germanates: framework topology and complexity of the crystal structures. *Journal of Solid State Chemistry* 271, 126-134.
433. Gurshiy, V.V., Mrzhizhanovskaya, M.G., Izatulina, A.R., Sigmon, G.E., Krivovichev, S.V. & Burns, P.C. (2018): Structure refinement and thermal stability studies of the uranyl carbonate mineral andersonite,  $Na_2Ca[(UO_2)(CO_3)_3](5+x)H_2O$ . *Minerals* 8, 586.
432. Olds, T.A., Plasil, J., Kampf, A.R., Dal Bo, F. and Burns, P.C. (2018): Paddlewheelite, a new uranyl carbonate from the Jachymov District, Bohemia, Czech Republic. *Minerals* 8, 511.
431. Ling, J., Zhang, H., Qiu, J., Stoffer, M., Burgess, D. and Burns, P.C. (2018): Pyrophosphate and methylenediphosphonate incorporated uranyl peroxide cage clusters. *Crystal Growth and Design* 18, 7720-7729.
430. Deyneko, D.V., Nikiforov, I.V., Lazoryak, B.I., Spassky, D.A., Leonidov, I.I., Stefanovich, S.Y., Petrova, D.A., Aksenov, S.M. & Burns, P.C. (2018): New whitlockite-type red phosphors  $Ca_8MgSm_1-x(PO_4)_7:xEu^{3+}$  for WLED application. *Journal of Alloys and Compounds* 776, 897-903.
429. Lewis, S.R., Simonetti, A., Corcoran, L., Spano, T., Chung, B.W., Teslich, N.E. & Burns, P.C. (2018): Characterization of uraninite using a FIB-SEM approach and its implications for LA-ICP-MS analyses. *Journal of Radioanalytical and Nuclear Chemistry* 318, 1389-1400.
428. Smith, P.A., Aksenov, S.M., Jablonski, S. and Burns, P.C. (2018): Structural unit charge density and molecular cation templating effects on orientational geometric isomerism and interlayer spacing in 2-D uranyl sulfates. *Journal of Solid State Chemistry* 266, 286-296.
427. Sharifironizi, M., Szymanowski, J.E.S., Qiu, J., Castillo, S., Hickam, S. & Burns, P.C. (2018): Charge density influence on enthalpy of formation of uranyl peroxide cage cluster salts. *Inorganic Chemistry* 57, 11456-11462.

426. Chernyatieva, A.P., Aksenov, S.M., Krivovichev, S.V., Yamnova, N.A. & Burns, P.C. (2018): Synthesis and crystal structure of  $\text{Rb}_{1.5}(\text{NH}_4)_{0.5}\{\text{Cu}(\text{P}_2\text{O}_7)\}$ : comparison crystal chemistry and topological-symmetrical analysis in the terms of extended OD-theory. *Crystallography Reports* (in Russian).
425. Yamnova, N.A., Aksenov, S.M., Volkov, A.S., Gurbanova, O.A., Dimitrova, O.V. and Burns, P.C. (2017): A novel sodium and chromium borophosphate  $\text{Na}\{\text{Cr}[\text{BP}_2\text{O}_7(\text{OH})_3]\}$ : synthesis, crystal structure, hydrogen bonding and comparison crystal chemistry. *Crystallography Reports* (in Russian).
424. Olds, T.A., Plasil, J., Kampf, A.R., Burns, P.C., Nash, B.P., Marty, J., Rose, T.P. & Carlson, S.M. (2018): Redcanyonite,  $(\text{NH}_4)_2\text{Mn}[(\text{UO}_2)_4\text{O}_4(\text{SO}_4)_2](\text{H}_2\text{O})_4$ , a new zippeite group mineral from the Blue Lizard Mine, San Juan County, Utah, USA. *Mineralogical Magazine* 10.1180/minmag/2017.081.094
423. Burns, P.C. & Nyman, M. (2018): Captivation with encapsulation: a dozen years of exploring uranium peroxide clusters. *Dalton Transactions* 47, 5916-5927.
422. Smith, P.A., Hickam, S.M., Szymanowski, J.E.S. and Burns, P.C. (2018): Mixed-valent cyanoplatinates featuring neptunyl-neptunyl cation-cation interactions. *Inorganic Chemistry* 57, 9504-9514.
421. Hickam, S., Aksenov, S.M., Dembowski, M., Perry, S.N., Traustason, H., Russell, M. & Burns, P.C. (2018): Complexity of uranyl peroxide cluster speciation from alkali-directed oxidative dissolution of uranium dioxide. *Inorganic Chemistry* 57, 9296-9305.
420. Dzik, E.A., Lobeck, H.L., Zhang, L. & Burns, P.C. (2018): High-temperature calorimetric measurements of thermodynamic properties of uranyl arsenates of the meta-autunite group. *Chemical Geology* 493, 353-358.
419. Dal Bo, F., Aksenov, S.M., Hatert, F. & Burns, P.C. (2018): Synthesis, IR spectroscopy and crystal structure of  $[(\text{UO}_2)_2\{\text{Be}(\text{H}_2\text{O})_2(\text{PO}_4)_2\}].(\text{H}_2\text{O})$ , the first compound with a trimer beryllophosphate anion. *Zeitschrift fur Krisallographie* 233, 391-398.
418. Chu, Y., Haso, F., Gao, Y. Szymanowski, J.E.S., Burns, P.C. & Liu, T. (2018): Expanding the Schulze-Hardy rule to nanometer-scaled hydrophilic macroions. *Chemistry – A European Journal* 24, 5479-5483.
417. Aksenov, S.M., Yamnova, N.A., Borovikova, E.Y., Volkov, A.S., Dimitrova, O.V., Gurbanova, O.A., Deyneko, D.V., Dal Bo, F. & Burns, P.C. (2018):  $\text{Bi}_3(\text{PO}_4)_3$ , the simplest bismuth(III) oxophosphate: synthesis, IR spectroscopy, crystal structure and structural complexity. *Inorganic Chemistry* 57, 6799-6802.
416. Xie, J., Neal, H.A., Szymanowski, J.E.S., Burns, P.C., Alam, T.M., Nyman, M. & Gagliardi, L. (2018): Resolving confined  $^7\text{Li}$  dynamics of uranyl peroxide capsule  $\text{U}_{24}$ . *Inorganic Chemistry* 57, 5514-5525.
415. Liu, Y., Szymanowski, J.E.S., Sigmon, G., Morris, D., Hixon, A., Migliori, A. & Burns, P.C. (2018): Measurement of the effective capacitance of solutions containing nanoscale uranyl peroxide cage clusters ( $\text{U}_{60}$ ) reveals cluster effects. *Journal of Radioanalytical and Nuclear Chemistry* 315, 341-346.
414. Smith, P.A., Spano, T.L. and Burns, P.C. (2018): Synthesis and structural characterization of a series of uranyl-betaine coordination complexes. *Zeitschrift fur Krisallographie* 233, 507-513.
413. Burns, P.C. (2018): Polyoxometalates. *Encyclopedia of Inorganic and Bioinorganic Chemistry*.

412. Sharifironizi, M., & Burns, P.C. (2018): Investigation of the structural stability of zippeite-group minerals using high-temperature calorimetry. *Canadian Mineralogist* 56, 7-14.
411. Plasil, J., Petricek, V., Locock, A., Skoda, R. & Burns, P.C. (2018): The (3+3) commensurately modulated structure of the uranyl silicate mineral swamboite-(Nd). *Zeitschrift fur Krisallographie* 233, 223-231.
410. Zhang, L., Dzik, E.A., Szymanowski, J.E.S., Sigmon, G.E., Navrotsky, A. & Burns, P.C. (2018): Experimental thermochemistry of neptunium oxides:  $\text{Np}_2\text{O}_5$  and  $\text{NpO}_2$ . *Journal of Nuclear Materials* 501, 398-403.
409. Balboni, E., Spano, T., Cook, N., Simonetti, A. & Burns, P.C. (2017): Rare earth fractionation in uranium ore and its U(VI) alteration minerals. *Applied Geochemistry* 87, 84-92.
408. Zhang, Z.-H., Senchyk, G., Liu, Y., Spano, T., Szymanowski, J.E.S. & Burns, P.C. (2017): Porous uranium diphosphonate frameworks with trinuclear units templated by organic ammonium hydrolyzed from amine solvents. *Inorganic Chemistry* 56, 13249-13256.
407. Olds, T.A., Plasil, J., Kampf, A.R., Spano, T., Haynes, P., Carlson, S.M., Burns, P.C., Simonetti, A., Mills, O.P. & Skoda, R. (2018): Leesite,  $\text{K}(\text{H}_2\text{O})_2[(\text{UO}_2)_4\text{O}_2(\text{OH})_5].3\text{H}_2\text{O}$ , a new K-bearing schoepite family mineral from the Jomac mine, San Juan County, Utah, USA. *American Mineralogist* 103, 143-150.
406. Oliveri, A.F., Callahan, J.R., Colla, C.A., Qiu, J., Burns, P.C. & Casey, W.H. (2017): Cation-directed isomerization of the  $\text{U}_{28}$  uranyl-peroxide cluster. *European Journal of Inorganic Chemistry* 5429-5433.
405. Olds, T.A., Sadergaski, L.R., Plasil, J., Kampf, A.R., Burns, P.C., Steele, I.M., Marty, J., Carlson, S.M & Mills, O.P. (2017): Leósziládite, the first Na,Mg-containing uranyl carbonate from the Markey Mine, San Juan County, Utah, USA. *Mineralogical Magazine* 10.1180/minmag.2016.080.149.
404. Schindler, M., Lussier, A., Bellrose, J., Rouvimov, S., Burns, P.C. & Kyser, K. (2017): Mobilization and agglomeration of uraninite nanoparticles: A nano-mineralogical study of samples from the Matoush uranium ore deposit. *American Mineralogist* 102, 1776-1787.
403. Falaise, C., Hickam, S., Burns, P.C. & Nyman, M. (2017): From aqueous speciation to supramolecular assembly in alkaline earth-uranyl polyoxometalates. *Chemical Communications* 53, 9550-9553.
402. Olds, T.A., Plasil, J., Kampf, A.R., Simonetti, A., Sadergaski, L.R., Chen, Y. & Burns, P.C. (2017): Ewingite: Earth's most complex mineral. *Geology* 45, 1007-1010.
401. Dzik, E.A., Lobeck, H.L., Zhang, L. & Burns, P.C. (2017): Thermodynamic properties of phosphate members of the meta-autunite group: a high-temperature calorimetric study. *Journal of Chemical Thermodynamics* 114, 165-171.
400. Dembowski, M., Colla, C.A., Yu, P., Qiu, J., Casey, W.H. & Burns, P.C. (2017): The propensity of uranium-peroxide systems to preserve nano-sized assemblies. *Inorganic Chemistry* 56, 9602-9608.
399. Olds, T.A., Dembowski, M., Wang, X., Hoffman, C., Alam, T.M., Hickam, S., Pellegrini, K.L., Junhong, H. & Burns, P.C. (2017): Single-crystal time-of-flight neutron diffraction and magic angle spinning NMR spectroscopy resolve the structure and  $^1\text{H}$  and  $^7\text{Li}$  dynamics of the uranyl peroxide nanocluster  $\text{U}_{60}$ . *Inorganic Chemistry* 56, 9676-9683.

398. Spano, T.L., Simonetti, A., Balboni, E., Dorais, C. & Burns, P.C. (2017): Trace element and U isotopic analysis of uraninite and ore concentrate: Applications for nuclear forensic investigations. *Analytical Chemistry* 84, 277-285.
397. Turner, K., Szymanowski, J., Zhang, F., Lin, Y., McGrail, B., Mao, W., Burns, P.C. & Ewing, R.C. (2017): Uranyl peroxide nanoclusters at high-pressure. *Journal of Materials Research* 10.1557/jmr.2017.301.
396. Dzik, E.A., Lobeck, H.L., Zhang, L. & Burns, P.C. (2017): Thermodynamic characterization of synthetic autunite. *American Mineralogist*. doi.org/10.2138/am-2017-6109
395. Koeman, E.C., McNamara, B.K., Smith, F.N., Simonetti, A. & Burns, P.C. (2017): Developing methodologies for source attribution: Glass phase separation in Trinitite using NF<sub>3</sub>. *Radiochimica Acta* 105, 417-430.
394. Gao, Y., Dembowski, M., Szymanowski, J.E.S., Yin, W., Chuang, S.S.C., Burns, P.C., Liu, T. (2017): A spontaneous structural transition of {U<sub>24</sub>Pp<sub>12</sub>} clusters triggered by alkali counterion replacement in dilute solution. *Chemistry a European Journal* 23, 7915-7919.
393. Spano, T.L., Simonetti, A., Wheeler, T., Carpenter, G., Freet, D., Dorais, C., Balboni, E. & Burns, P.C. (2017): A novel nuclear forensic tool involving deposit type normalized rare earth element signatures. *Terra Nova* 10.1111/ter.12275.
392. Liu, Y., Becker, B., Burdine, B., Sigmon, G. & Burns, P.C. (2017): Photocatalytic decomposition of Rhodamine B on uranium-doped mesoporous titanium dioxide. *RSC Advances* 7, 21273-21280.
391. Dembowski, M., Colla, C.A., Hickam, S., Oliveri, A.F., Szymanowski, J.E.S., Oliver, A.E., Casey, W.H. & Burns, P.C. (2017): Hierarchy of pyrophosphate-functionalized uranyl peroxide nanocluster synthesis. *Inorganic Chemistry* 56, 5478-5487.
390. Qiu, J., Sining, D., Szymanowski, J.E.S., Dobrowolska, M. & Burns, P.C. (2017): Uranyl-peroxide clusters incorporating iron trimers and bridging by bisphosphonate- and carboxylate-containing ligands. *Inorganic Chemistry* 56, 3738-3741.
389. Qiu, J., Spano, T., Dembowski, M., Kokot, A.M., Szymanowski, J.E.S. & Burns, P.C. (2017): Sulfate-centered sodium-ocosahedron-templated uranyl peroxide phosphate cages with uranyl bridged by  $\eta\text{-}\mu^1\colon\mu^2$  Peroxide. *Inorganic Chemistry* 56, 1874-1880.
388. Spano, T.L., Dzik, E.A., Sharifironizi, M., Dustin, M.K., Turner, M. & Burns, P.C. (2017): Thermodynamic investigation of uranyl vanadate minerals: Implications for structural stability. *American Mineralogist* 102, 1149-1153.
387. Kacmaz, H. & Burns, P.C. (2017): Uranyl phosphates and associated minerals in the Koprubasi (Manisa) uranium deposit, Turkey. *Ore Geology Reviews* 84, 102-115.
386. Dembowski, M., Bernales, V., Qiu, J., Hickam, S., Gasper, G., Gagliardi, L. & Burns, P.C. (2017): Computationally-guided assignment of unexpected Signals in the Raman spectra of uranyl triperoxide complexes. *Inorganic Chemistry* 56, 1574-1580.
385. Peruski, K.M., Bernales, V., Dembowski, M., Lobeck, H.L., Pellegrini, K.L., Sigmon, G.E., Hickam, S.M., Wallace, C.M., Szymanowski, J.E.S., Balboni, E., Gagliardi, L. & Burns, P.C. (2017): Uranyl Peroxide Cage Cluster Solubility in Water and the Role of the Electrical Double Layer. *Inorganic Chemistry* 56, 1333-1339.

384. Neal, H.A., Szymanowski, J.E.S., Fein, J.B., Burns, P.C. & Nyman, M. (2017): Benchmarking uranyl peroxide capsule chemistry in organic media. *European Journal of Inorganic Chemistry* DOI: 10.1002/ejic.201601291.
383. Lussier, A.J., Rouvimov, S., Burns, P.C. & Simonetti, A. (2017): Nuclear-blast induced quartz and zircon nanotectures in Trinitite. *American Mineralogist* 102, 445-460.
382. Olds, T.A., Plasil, J., Kampf, A.R., Skoda, R., Burns, P.C., Cejka, J., Bourgoin, V. & Boulliard, J-C. (2017): Gauthierite,  $KPb[(UO_2)_7O_5(OH)_7] \cdot 8H_2O$ , a new uranyl-oxide hydrate mineral from Shinkolobwe with a novel uranyl-anion sheet-topology. *European Journal of Mineralogy* 29, 129-141.
381. Sharifironizi, M., Szymanowski, J.E.S., Sigmon, G.E., Navrotsky, A., Fein, J.B. & Burns, P.C. (2016): Thermodynamic studies of zippeite, a uranyl sulfate common in mine wastes. *Chemical Geology* 447, 54-58.
380. Guo, X., Lipp, C., Tiferet, E., Lanzirotti, A., Newville, M., Engelhard, M.H., Wu, D., Ilton, E.S., Sutton, S.R., Xu, H., Burns, P.C. & Navrotsky, A. (2016): Structure and thermodynamic stability of  $UTa_3O_{10}$ , a U(V)-bearing compound. *Dalton Transactions* 45, 18892-18899.
379. Balboni, E., Jones, N., Spano, T., Simonetti, A. & Burns, P.C. (2016): Chemical and Sr isotope characterization of North American uranium ores: nuclear forensics applications. *Applied Geochemistry* 74, 24-32.
378. Flynn, S.L., Szymanowski, J.E.S., Dembrowski, M., Burns, P.C. & Fein, J.B. (2016): Experimental measurements of U<sub>24</sub>Py nanocluster behavior in aqueous solutions. *Radiochimica Acta* 104, 853-864.
377. Qiu, J., Dembowski, M., Szymanowski, J.E.S., Toh, W. & Burns, P.C. (2016): Time-resolved X-ray scattering and Raman spectroscopic formation of a uranium-vanadium-peroxide cage cluster. *Inorganic Chemistry* 55, 7061-7067.
376. Guo, X., Wu, D., Xu, H., Burns, P.C. & Navrotsky, A. (2016): Thermodynamic studies of studtite thermal decomposition pathways via amorphous intermediates  $UO_3$ ,  $U_2O_7$ , and  $UO_4$ . *Journal of Nuclear Materials* 478, 158-163.
375. Dembowski, M., Olds, T.A., Pellegrini, K.L., Hoffman, C., Wang, X., Junhong, H., Hickam, S., Oliver, A.G. & Burns, P.C. (2016): Solution <sup>31</sup>P NMR study of the acid-catalyzed formation of a highly charged  $\{U_{24}Pp_{12}\}$  nanocluster  $[(UO_2)_{24}(O_2)_{24}(P_2O_7)_{12}]^{48-}$  and its structural characterization in the solid state using single crystal neutron diffraction. *Journal of the American Chemical Society* 138, 8547-8553.
374. Mei, L., Wu, Q., An, S., Xie, Z., Yuan, L., Hu, K., Zhao, Y., Chai, Z., Burns, P.C. & Shi, W. (2016): An unprecedented two-fold nested super-polyrotaxane from sulphate-directed hierarchical polythreading of uranyl polyrotaxane moieties. *Chemistry – A European Journal* 22, 11329-11338.
373. Ma, H., Wang, H., Burns, P.C., McNamara, B.K., Buck, E.C. & Na, C. (2016): Synthesis and preservation of graphene-supported uranium dioxide nanocrystals. *Journal of Nuclear Materials* 475, 113-122.
372. Gao, Y., Szymanowski, J.E.S., Sun, X., Burns, P.C. & Liu, T. (2016): Thermal responsive ion selectivity of uranyl peroxide nanocages: An inorganic mimic of  $K^+$  ion channels. *Angewandte Chemie International Edition* 55, 6887-6891.

371. Liu, Y., Czarnecki, A., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2016): Extraction behaviors of uranyl peroxy cage clusters by mesoporous silica SBA-15. *Journal of Radioanalytical and Nuclear Chemistry* 310, 453-462.
370. Miro, P., Vlaisavljevich, B., Gil, A., Burns, P.C., Nyman, M. & Bo, C. (2016): Self-assembly of uranyl-peroxide nanocapsules in basic peroxidic environments. *Chemistry – A European Journal* 22, 8571-8578.
369. Dustin, M.K., Koeman, E.C., Simonetti, A., Torrano, Z. & Burns, P.C. (2016): Comparative investigation between in-situ laser ablation – vs. bulk sample (solution mode)-ICP-MS analysis of Trinitite post-detonation materials. *Applied Spectroscopy* 70, 1446-1455.
368. Hickam, S. & Burns, P.C. (2016): Oxo clusters of 5f elements. *Structure and Bonding* 173, 121-153.
367. Sigmon, G.E., Szymanowski, J.E.S., Carter, K.P., Cahill, C.L. & Burns, P.C. (2016): Hybrid lanthanide-actinide peroxide cage clusters. *Inorganic Chemistry* 55, 2682-2684.
366. Odoh, S.O., Shamblin, J., Colla, C.A., Hickam, S., Lobeck, H.L., Lopez, R.A.K., Olds, T., Szymanowski, J.E.S., Sigmon, G.E., Neufeld, J., Casey, W.H., Lang, M., Gagliardi, L. & Burns, P.C. (2016): Structure and reactivity of X-ray amorphous uranyl peroxide,  $\text{U}_2\text{O}_7$ . *Inorganic Chemistry* 55, 3541-3546.
365. Wyllie, E.M., Peruski, K.M., Prizio, S.E., Bridges, A.N.A., Rudisell, T.S., Hobbs, D.T., Phillip, W.A. & Burns, P.C. (2016): Processing used nuclear fuel with nanoscale control of uranium and ultrafiltration. *Journal of Nuclear Materials* 473, 125-130.
364. Oliveri, A., Pilgram, C.D., Qiu, J., Colla, C.A., Burns, P.C. & Casey, W.H. (2016): Dynamic phosphonic bridges in aqueous uranyl clusters. *European Journal of Inorganic Chemistry* 797-801.
363. Soltis, J.A., Wallace, C.M., Penn, R.L. & Burns, P.C. (2016): Cation-dependent hierarchical assembly of U60 nanoclusters into macro-ion assemblies imaged via cryogenic transmission electron microscopy. *Journal of the American Chemical Society* 138, 191-198.
362. Lussier, A.J., King-Lopez, R. & Burns, P.C. (2016): A revised and expanded structure hierarchy of natural and synthetic hexavalent uranium compounds. *Canadian Mineralogist* 54, 177-283.
361. Gao, Y., Haso, F., Szymanowski, J.E.S., Zhou, J., Hu, L., Burns, P.C. & Liu, T. (2015): Selective permeability of uranyl peroxide nanoscages towards different monovalent counterions: Influences from surface pores and hydration shells. *Chemistry – A European Journal* 21, 18787-18790.
360. Meredith, N.A., Sigmon, G.E., Simonetti, A. and Burns, P.C. (2015): Structural and morphological influences on neptunium incorporation in uranyl molybdates. *Crystal Growth & Design* 15, 5293-5300.
359. Mei, L., Wang, L., Yuan, L., An, S., Zhao, Y., Chai, Z., Burns, P.C. and Shi, W. (2015): Supramolecular inclusion-based molecular integral rigidity: a feasible strategy for controlling the structural connectivity of uranyl polyrotaxane networks. *Chemical Communications* 51, 11990-11993.
358. Wang, H., Grant, D.J., Burns, P.C., Gagliardi, L. & Na, C. (2015): Infrared signature of cation- $\pi$  interaction between calcite and aromatic hydrocarbons. *Langmuir* 31, 5820-5826.
357. Guo, X., Szenknect, S., Mesbah, A., Labs, S., Clavier, N., Poinsot, C., Ushakov, S.V., Curtius, H., Bosbach, D., Ewing, R.C., Burns, P.C., Dacheaux, N. & Navrotsky, A. (2015): Thermodynamics of

formation of coffinite,  $\text{USiO}_4$ . *Proceedings of the National Academy of Science of the United States of America* 112, 6551-6555.

356. Senchyk, G., Wylie, E.M., Prisio, S., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2015): Hybrid uranyl-vanadium nano-wheels. *Chemical Communications* 50, 10134-10137.
355. Koeman, E.C., Simonetti, A. & Burns, P.C. (2015): Sourcing of lead and copper inclusions from trinitite post-detonation material. *Analytical Chemistry* 87, 5380-5386.
354. Balboni, E. & Burns, P.C. (2015): Hydrothermal syntheses and characterization of uranyl tungstates with electro-neutral structural units. *Zeitschrift fur Krisallographie* 230, 499-505.
353. Krylova, G., Yashan, H., Hauck, J.G., Burns, P.C., McGinn, P.J. & Na, C. (2015): Microwave-assisted solution-liquid-solid synthesis of single-crystal copper indium sulfide nanowires. *Crystal Growth and Design* 15, 2859-2866.
352. Qiu, J., Vlaisavljevich, B., Jouffret, L., Nguyen, K., Szymanowski, J.E.S., Gagliardi, L. & Burns, P.C. (2015): Cation templating and electronic structure effects in uranyl cage clusters probed by the isolation of peroxide-bridged uranyl dimers. *Inorganic Chemistry* 54, 4445-4455.
351. Donohue, P.H., Simonetti, A., Koeman, E.C., Mana, S. and Burns, P.C. (2015): Nuclear forensic applications involving high spatial resolution analysis of trinitite cross-sections. *Journal of Radioanalytical and Nuclear Chemistry* 306, 457-467.
350. Flynn, S.L., Szymanowski, J.E.S., Gao, Y., Liu, T., Burns, P.C. & Fein, J.B. (2015): Experimental measurements of U<sub>60</sub> nanocluster solubility in aqueous solution. *Geochimica Cosmochimica Acta* 156, 94-105.
349. Balboni, E., Morrison, J.M., Wang, Z., Engelhard, M.H. & Burns, P.C. (2015): Incorporation of Np(V) and U(VI) in carbonate and sulfate minerals crystallized from aqueous solution. *Geochimica Cosmochimica Acta* 151, 133-149.
348. Wu, T., Wang, H., Jing, B., Liu, F., Burns, P.C. & Na, C. (2015): Multi-body coalescence in Pickering emulsions. *Nature Communications* 6, 5929.
347. Adelani, P.O., Martinez, N.A., Cook, N.D. & Burns, P.C. (2015): Uranyl-organic hybrids designed from hydroxyphosphonate. *European Journal of Inorganic Chemistry* 2015, 340-347.
346. Liu, Y., Czarnecki, A., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2015): Extraction of uranyl peroxy clusters from aqueous solution by mesoporous silica SBA-15. *Journal of Radioanalytical and Nuclear Chemistry* 303, 2257-2262.
345. Bellucci, J.J., Simonetti, A., Koeman, E.C., Wallace, C. & Burns, P.C. (2014): A detailed geochemical investigation of post nuclear detonation trinitite glass at high spatial resolution: delineating anthropogenic vs. natural components. *Chemical Geology*. 365, 69-86.
344. Ling, J., Hobbs, F., Prendergast, S., Adelani, P.O., Babo, J.M., Qiu, J., Weng, Z. and Burns, P.C. (2014): Hybrid uranium – transition metal oxide cage clusters. *Inorganic Chemistry* 53, 12877-12884.
343. Qiu, J., Ling, J., Sieradzki, C., Nguyen, K., Wylie, E.M., Szymanowski, J.E.S. & Burns, P.C. (2014): Expanding the crystal chemistry of uranyl peroxides: Four hybrid uranyl-peroxide structures containing EDTA. *Inorganic Chemistry* 53, 12084-12091.
342. Adelani, P.O., Cook, N.D. & Burns, P.C. (2014): Use of 2,2-bipyramidine for the preparation of  $\text{UO}_2^{2+}$ -3d diphosphonates. *Crystal Growth and Design* 14, 5692-5699.

341. Miro, P., Vlaisavljevich, B., Dzubak, A.L., Hu, S., Burns, P.C., Cramer, C.J., Spezia, R. & Gagliardi, L. (2014): Uranyl-peroxide nanocapsules in aqueous solution: Force field development and first applications. *Journal of Physical Chemistry C* 118, 24730-24740.
340. Weng, Z., Zhang, Z.-H., Olds, T. & Burns, P.C. (2014): Cu(I) and Cu(II) uranyl heterometallic hybrid materials. *Inorganic Chemistry* 53, 7993-7998.
339. McGrail, B.T., Pianowski, L.S. & Burns, P.C. (2014): Photochemical water oxidation and origin of nonaqueous uranyl peroxide complexes. *Journal of the American Chemical Society* 136, 4797-4800.
338. Qiu, J., Ling, J., Jouffret, L., Thomas, R., Szymanowski, J.E.S. & Burns, P.C. (2014): Water-soluble multi-cage super tetrahedral uranyl peroxide phosphate clusters. *Chemical Sciences* 5, 303-310.
337. Wylie, E., Peruski, K., Phillip, W. & Burns, P.C. (2014): Ultrafiltration of uranyl peroxide nanoclusters for the separation of uranium from aqueous solution. *ACS Applied Materials & Interfaces* 6, 473-479.
336. McGrail, B.T., Sigmon, G.E., Jouffret, L.J., Andrews, C.A. & Burns, P.C. (2014): Raman spectroscopic and ESI-MS characterization of uranyl peroxide cage clusters. *Inorganic Chemistry* 53, 1562-1569.
335. Adelini, P., Cook, N., Babo, J.-M. & Burns, P.C. (2014): Incorporation of Cu(II) ions into nanotubular uranyl diphosphonates. *Inorganic Chemistry* 53, 4169-4176.
334. Smith, P.A. & Burns, P.C. (2014): Ionothermal effects on low-dimensionality uranyl compounds using task specific ionic liquids. *CrystEngComm* 16, 7244-7250.
333. Krivovichev, S.V. & Burns, P.C. (2014): The modular structure of the novel uranyl sulfate sheet in  $[\text{Co}(\text{H}_2\text{O})_6]_3[(\text{UO}_2)_5(\text{SO}_4)_8(\text{H}_2\text{O})](\text{H}_2\text{O})_5$ . *Journal of Geosciences* 59, 135-143.
332. Mitchell, R.H., Burns, P.C., Knoght, K.S., Howard, C.J. & Chakhmouradian, A.R. (2014): Observations on the crystal structure of lueshite. *Physics and Chemistry of Minerals* 41, 393-401.
331. Oh, G. & Burns, P.C. (2014): Solid-state actinide acid phosphites from phosphorous acid melts. *Journal of Solid State Chemistry* 215, 50-56.
330. Wylie, E.M., Smith, P.A., Peruski, K.M., Smith, J.S., Dustin, M.K. & Burns, P.C. (2014): Effects of ionic liquid media on the cation selectivity of uranyl structural units in five new compounds produced using the ionothermal technique. *CrystEngComm* 16, 7236-7243.
329. Guo, Z., Lee, D., Liu, Y., Sun, F., Gau, H., Burns, P.C., Huang, L. & Luo, T. (2013): Tuning the thermal conductivity of solar cell polymers through side chain engineering. *Physical Chemistry Chemical Physics* 16, 7764-7771.
328. Balboni, E. & Burns, P.C. (2014): Cation-cation interactions and cation exchange in a series of isostructural framework uranyl tungstates. *Journal of Solid State Chemistry* 213, 1-8.
327. Qiu, J. & Burns, P.C. (2013): Clusters of actinides with oxide, peroxide, or hydroxide bridges. *Chemical Reviews* 113, 1097-1120.
326. Johnson, R.L., Ohlin, C.A., Pellegrini, K., Burns, P.C. & Casey, W.H. (2013): A nanometer-size uranyl cluster equilibrates with other metastable structures in solution. *Angewandte Chemie International Edition* 52, 7464-7467.
325. Adelani, P.O., Ozga, M., Wallace, C.M., Qiu, J., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2013): Hybrid uranyl-carboxyphosphonate cage clusters. *Inorganic Chemistry* 52, 7673-7679.

324. Qiu, J., Nguyen, K., Jouffret, L., Szymanowski, J.E.S. & Burns, P.C. (2013): Time resolved assembly of chiral uranyl peroxy cage clusters containing belts of polyhedra. *Inorganic Chemistry* 52, 337-345.
323. Adelani, P.O., Sigmon, G.E. & Burns, P.C. (2013): Hybrid uranyl-arsonate coordination nanocages. *Inorganic Chemistry* 52, 6245-6247.
322. Cantos, P.M., Jouffret, L.J., Wilson, R.E., Burns, P.C. & Cahill, C.L. (2013): A series of uranyl-4, 4'-biphenyldicarboxylates and an occurrence of a cation-cation interaction: Hydrothermal synthesis and *in situ* Raman studies. *Inorganic Chemistry* 52, 9487-9495.
321. Vlaisavljevich, B., Miro, P., Ma, D., Sigmon, G.E., Burns, P.C., Cramer, C.J. & Gagliardi, L. (2013): Synthesis and characterization of the first 2D neptunyl structure stabilized by side-on cation-cation interactions. *Chemistry, A European Journal* 19, 2937-2941.
320. Koeman, E., Simonetti, A., Chen, W. & Burns, P.C. (2013): Oxygen isotope composition of trinitite post-detonation materials. *Analytical Chemistry* 85, 11913-11919.
319. Chen, W., Simonetti, A. & Burns, P.C. (2013): A combined geochemical and geochronological investigation of niocalite from the Oka Carbonatite Complex, Canada. *Canadian Mineralogist* 51, 785-800.
318. Bellucci, J.J., Simonetti, A., Wallace, C., Koeman, E.C. and Burns, P.C. (2013): Lead isotopic composition of trinitite melt glass: evidence for the presence of Canadian industrial lead in the first atomic weapon test. *Analytical Chemistry* 85, 7588-7593.
317. Simonetti, A., Bellucci, J.J., Wallace, C., Koeman, E. & Burns, P.C. (2013): Nonproliferation and nuclear forensics: detailed, multi-analytical investigation of trinitite post-detonation materials. In *Uranium – Cradle to Grave*, P.C. Burns and G.E. Sigmon, Editors, Mineralogical Association of Canada Short Course Series V. 43, pages 395-416.
316. Burns, P.C. & Sigmon, G.E. (2013): Uranium – Cradle to Grave. In *Uranium – Cradle to Grave*, P.C. Burns and G.E. Sigmon, Editors, Mineralogical Association of Canada Short Course Series V. 43, pages 7-14.
315. Wallace, C., Bellecci, J.J., Simonetti, A., Hainley, T., Koeman, E.C. & Burns, P.C. (2013): A multi-method approach for determination of radionuclide distribution in trinitite: implications for explosion debris formation. *Journal of Radioanalytical and Nuclear Chemistry* 298, 993-1003.
314. Bellucci, J., Simonetti, A., Wallace, C., Koeman, E. & Burns, P.C. (2013): Isotopic fingerprinting of the world's first nuclear device using post-detonation materials. *Analytical Chemistry* 85, 4195-4198.
313. Liao, Z., Reinke, L.R., Szymanowski, J.E.S., Sigmon, G.E. & Burns, P.C. (2013): Cage clusters built from uranyl ions bridged through peroxy and 1-hydroxyethane-1,1-diphosphonic acid ligands. *Dalton Transactions* 42, 6793-6802.
312. Alessi, D., Szymanowski, J.E.S., Forbes, T.Z., Quicksall, A.N., Sigmon, G.E., Burns, P.C. & Fein, J.B. (2013): Neptunium release from Np(V)-incorporated soddyite and boltwoodite. *Journal of Nuclear Materials* 433, 233-239.
311. Wylie, E.M., Dustin, M.K., Smith, J.S. & Burns, P.C. (2013): Ionothermal synthesis of uranyl compounds that incorporate imidazole derivatives. *Journal of Solid State Chemistry* 197, 266-272.
310. Jouffret, L., Wylie, E.M. & Burns, P.C. (2013): Amine templating effect absent in uranyl sulfates synthesized with 1,4-diaminobutane. *Journal of Solid State Chemistry* 197, 160-165.

309. Bellucci, J.J., Wallace, C., Koeman, E.C., Simonetti, A., Burns, P., Kieser, J., Port, E., Walczak, T. (2013): Distribution and behavior of some radionuclides associated with the Trinity nuclear test. *Journal of Radioanalytical and Nuclear Chemistry* **295**, 2049-2057.
308. Adelani, P.O., Jouffret, L.J., Szymanowski, J.E.S. & Burns, P.C. (2012): Correlations and differences between uranium(VI) arsonates and phosphonates. *Inorganic Chemistry* **51**, 12032-12040.
307. Adelani, P. & Burns, P.C. (2012): One-dimensional uranyl-2,2'-bipyridine coordination polymer with cation-cation interactions:  $(\text{UO}_2)_2(2,2'\text{-bpy})(\text{CH}_3\text{CO}_2)(\text{O})(\text{OH})$ . *Inorganic Chemistry* **51**, 11177-11183.
306. Jouffret, L., Wylie, E.M. & Burns, P.C. (2012): Influence of the organic species and oxoanion in the synthesis of two uranyl sulfate hydrates,  $(\text{H}_3\text{O})_2[(\text{UO}_2)_2(\text{SO}_4)_3(\text{H}_2\text{O})].7\text{H}_2\text{O}$  and  $(\text{H}_3\text{O})[(\text{UO}_2)_2(\text{SO}_4)_3(\text{H}_2\text{O})].4\text{H}_2\text{O}$ , and a uranyl selenate-selenite  $[\text{C}_5\text{H}_6\text{N}][(\text{UO}_2)(\text{SeO}_4)(\text{HSeO}_3)]$ . *Zeitschrift fur Anorganische und Allgemeine Chemie* **638**, 1796-1803.
305. Miro, P., Ling, J., Qiu, J., Burns, P.C., Gagliardi, L. & Cramer, C.J. (2012): An experimental and computational study of wheel-shaped  $\{(\text{W}_5\text{O}_{21})_3[(\text{U}^{\text{VI}}\text{O}_2)_2(\text{O}_2)_3]^{30}\}$  polyoxometalate. *Inorganic Chemistry* **51**, 8784-8790.
304. Wylie, E.M., Dawes, C.M., Burns, P.C. (2012): Synthesis, structure, and spectroscopic characterization of three uranyl phosphates with unique structural units. *Journal of Solid State Chemistry* **196**, 482-488.
303. Grant, D.J., Weng, Z., Jouffret, L.J., Burns, P.C. & Gagliardi, L., (2012): Synthesis of a uranyl disulfide complex and quantum chemical studies of formation and topologies of hypothetical uranyl disulfide cage clusters. *Inorganic Chemistry* **51**, 7801-7809.
302. Lipp, C., Burns, P.C. & Schleid, T. (2012):  $\text{Pr}_5\text{F}(\text{SiO}_4)_2(\text{SeO}_3)_3$ : Another complex fluoride oxosilicate oxoselenate(IV). *Zeitschrift fur Anorganische und Allgemeine Chemie* **638**, 779-784.
301. Nyman, M. & Burns, P.C. (2012): A comprehensive comparison of transition-metal and actinyl polyoxometalates. *Chemical Society Reviews* **41**, 7354-7367.
300. Weng, Z., Wang, S., Ling, J., Morrison, J.M. & Burns, P.C. (2012):  $(\text{UO}_2)_2[\text{UO}_4(\text{trz})_2](\text{OH})_2$ : a U(VI) coordination intermediate between a tetraoxido core and a uranyl ion, with cation-cation interactions. *Inorganic Chemistry* **51**, 7185-7191.
299. Ling, J., Ozga, M., Stoffer, M. & Burns, P.C. (2012): Uranyl peroxide pyrophosphate cage clusters with oxalate and nitrate bridges. *Dalton Transactions* **41**, 7278-7284.
298. Unruh, D.K., Quicksall, A., Pressprich, L., Stoffer, M. & Burns, P.C. (2012): Synthesis, characterization, and crystal structures of uranyl compounds containing mixed chromium oxidation states. *Journal of Solid State Chemistry* **191**, 162-166.
297. Burns, P.C., Ewing, R.C. & Navrotsky, A. (2012): Nuclear fuel after a reactor accident. *Science* **335**, 1184-1188.
296. Ling, J., Qiu, J. & Burns, P.C. (2012): Uranyl peroxide oxalate cage and core-shell clusters containing 50 and 120 uranyl ions. *Inorganic Chemistry* **51**, 2403-2408.
295. Wyllie, M. & Burns, P.C. (2012): Crystal structures of six new uranyl selenate and selenite compounds and their relationship with uranyl mineral structures. *Canadian Mineralogist* **50**, 147-157.

294. Qiu, J., Ling, J., Sui, A., Szymanowski, J.E.S., Simonetti, A. & Burns, P.C. (2012): Time-resolved self-assembly of a fullerene-topology core-shell cluster containing 68 uranyl polyhedra. *Journal of the American Chemical Society* 134, 1810-1816.
293. Armstrong, C.R., Nyman, M., Shvareva, T., Sigmon, G.E., Burns, P.C. & Navrotsky, A. (2012): Uranyl peroxide enhanced nuclear fuel corrosion in seawater. *Proceedings of the National Academy of Sciences* 109, 1874-1877.
292. Unruh, D.K., Baranay, M., Pressprich, L., Stoffer, M. & Burns, P.C. (2012): Synthesis and characterization of uranyl chromate sheet compounds containing edge-sharing dimers of uranyl pentagonal bipyramids. *Journal of Solid State Chemistry* 186, 158-164.
291. Lipp, C. & Burns, P.C. (2011): Th<sub>2</sub>[BO<sub>4</sub>][PO<sub>4</sub>]: A rare example of an actinide borate-phosphate. *Canadian Mineralogist* 49, 1211-1220.
290. Jouffret, L., Krivovichev, S.V. and Burns, P.C. (2011): Polymorphism in alkali metal uranyl nitrates: synthesis and crystal structure of  $\gamma$ -K(UO<sub>2</sub>)(NO<sub>3</sub>)<sub>3</sub>. *Z. Anorg. Allg. Chem.* 637, 1475-1480.
289. Shvareva, T., Mazeina, L., Gorman-Lewis, D., Burns, P.C., Szymanowski, J.E.S., Fein, J.B. & Navrotsky, A. (2011): Thermodynamic characterization of boltwoodite and uranophane: Enthalpy of formation and aqueous solubility study. *Geochemical Cosmochimica Acta* 75, 5269-5282.
288. Unruh, D.K., Ling, J., Qiu, J., Pressprich, L., Baranay, M., Ward, M. & Burns, P.C. (2011): Complex nanoscale cage clusters built from uranyl polyhedra and phosphate tetrahedra. *Inorganic Chemistry* 50, 5509-5516.
287. Sigmon, G.E. & Burns, P.C. (2011): Rapid self-assembly of uranyl polyhedra into crown clusters. *Journal of the American Chemical Society* 133, 9137-9139.
286. Albrecht, A.J., Moore-Shay, L., Wei, R., Dawes, C., Szymanowski, J. & Burns, P.C. (2011): The crystal chemistry of four thorium sulfates. *Journal of Solid State Chemistry* (available online).
285. Burns, P.C. (2011): Nanoscale uranium-based cage clusters inspired by uranium mineralogy. *Mineralogical Magazine* 75, 1-25.
284. Schindler, M., Hawthorne, F.C., Mandaliev, P., Burns, P.C., Maurice, P.A. (2011): An integrated study of uranyl mineral dissolution processes: etch pit formation, effects of cations in solutions, and secondary precipitation. *Radiochimica Acta* 99, 79-94.
283. Morrison, J.M., Moore-Shay, L.J. & Burns, P.C. (2011): U(VI) Uranyl cation-cation interactions in framework germanates. *Inorganic Chemistry* 50, 2272-2277.
282. Ling, J., Qiu, J., Szymanowski, J.E.S. & Burns, P.C. (2011): Low symmetry uranyl phosphate cage clusters. *Chemistry, A European Journal* 17, 2571-2574.
281. Ling, J., Ward, M. & Burns, P.C. (2011): Hydrothermal syntheses and structures of the uranyl tellurates AgUO<sub>2</sub>(HTeO<sub>5</sub>) and Pb<sub>2</sub>UO<sub>2</sub>(TeO<sub>6</sub>). *Journal of Solid State Chemistry* 184, 401-404.
280. Forbes, T.Z., Horan, P., Devine, T., McInnis, D. & Burns, P.C. (2011): Alteration of dehydrated schoepite and soddyite to studtite, [(UO<sub>2</sub>)(O<sub>2</sub>)(H<sub>2</sub>O)<sub>2</sub>](H<sub>2</sub>O)<sub>2</sub>. *American Mineralogist* 96, 202-206.
279. Diwu, J., Wang, S., Liao, Z., Burns, P.C. & Albrecht-Schmitt, T.E. (2010): Cerium(VI), neptunium(IV), and plutonium(IV) 1,2-phenylenediphosphonates: Correlations and differences between early transuranium elements and their proposed surrogates. *Inorganic Chemistry* 49, 10074-10080.

278. Vlaisavljevich, B., Gagliardi, L. & Burns, P.C. (2010): Understanding the structure and formation of uranyl peroxide nanoclusters by quantum chemical calculations. *Journal of the American Chemical Society* 132, 14503-14508.
277. Gurzhiy, V.V., Krivovichev, S.V., Burns, P.C., Tananaev, I.G. & Myasoedov, B.F. (2010): Supramolecular templates for the synthesis of new nanostructured uranyl compounds: Crystal structure of  $[\text{NH}_3(\text{CH}_2)_9\text{NH}_3][(\text{UO}_2)(\text{SeO}_4)(\text{SeO}_2\text{OH})](\text{NO}_3)$ . *Radiochemistry* 52, 1-6.
276. Krivovichev, S.V., Gurzhiy, V.V., Burns, P.C., Tananaev, I.G. & Myasoedov, B.F. (2010): Partially ordered organic-inorganic nanocomposites in the system  $\text{UO}_2\text{SeO}_4\text{-H}_2\text{O-NH}_3(\text{CH}_2)_9\text{NH}_3$ . *Radiochemistry* 52, 7-11.
275. Ling, J., Wallace, C.M., Szymanowski, J.E.S. & Burns, P.C. (2010): Hybrid uranium-oxalate fullerene topology cage clusters. *Angewandte Chemie International Edition* 49, 7271-7273. Rated Very Important Paper by journal.
274. Ling, J., Qiu, J., Sigmon, G.E., Ward, M., Szymanowski, J.E.S. & Burns, P.C. (2010): Uranium pyrophosphate / methylenediphosphonate polyoxometalate cage clusters. *Journal of the American Chemical Society* 38, 13395-13402.
273. Ling, J., Morrison, J.M., Ward, M., Poinsatte-Jones, K. & Burns, P.C. (2010): Syntheses, structures, and characterization of open-framework uranyl germanates. *Inorganic Chemistry* 49, 7123-7128.
272. Unruh, D.K., Baranay, M., Baranay, M. & Burns, P.C. (2010): A U(VI) tetraoxido core coordinated by bidentate nitrate. *Inorganic Chemistry* 49, 6793-6795.
271. Burns, P.C., Ikeda, Y. & Czerwinski, K. (2010): Advances in actinide solid-state and coordination chemistry. *MRS Bulletin* 35, 868-876.
270. Unruh, D.K., Burtner, A., Pressprich, L., Sigmon, G.E. & Burns, P.C. (2010): Uranyl peroxide closed clusters containing topological squares. *Dalton Transactions* 39, 5807-5814.
269. Sigmon, G.E. & Burns, P.C. (2010): Crystal chemistry of thorium nitrates and chromates. *Journal of Solid State Chemistry* 183, 1604-1608.
268. Burns, P.C. (2010): From extended solids to nano-scale actinide clusters. *Comptes rendus Chimie* 13, 737-746.
267. Ling, J., Sigmon, G.E., Ward, M., Roback, N. & Burns, P.C. (2010): Synthesis, structures, and IR spectroscopic characterization of new uranyl sulfate/selenate 1D-chain, 2D-sheet and 3D-framework. *Zeitschrift fur Kristallographie* 225, 230-239.
266. Sigmon, G.E., Ling, J., Unruh, D.K., Moore-Shay, L., Ward, M., Weaver, B. & Burns, P.C. (2009): Uranyl-peroxide interactions favor nano-cluster self-assembly. *Journal of the American Chemical Society* 131, 16648-16649.
265. Sigmon, G.E., Weaver, B., Kubatko, K.A. & Burns, P.C. (2009): Crown and bowl-shaped clusters of uranyl polyhedra. *Inorganic Chemistry* 48, 10907-10909.
264. Gorman-Lewis, D., Shvareva, T., Kubatko, K.A., Burns, P.C., Wellman, D.M., McNamara, B., Szymanowski, J.E.S., Navrotsky, A. & Fein, J.B. (2009): Thermodynamic properties of autunite, uranyl hydrogen phosphate, and uranyl orthophosphate from solubility and calorimetric measurements. *Environmental Science and Technology* 43, 7416-7422.
263. Sigmon, G., Unruh, D.K., Ling, J., Weaver, B., Ward, M., Pressprich, L., Simonetti, A. & Burns, P.C. (2009): Symmetry vs. minimal pentagonal adjacencies in uranium-based polyoxometalate

- fullerene topologies. *Angewandte Chemie International Edition* 48, 2737-2740. Highlighted in *Nature* March 20, 2009.
262. Unruh, D., Burtner, A. & Burns, P.C. (2009): Monodentate peroxide coordination in trimers of U<sup>6+</sup> polyhedra. *Inorganic Chemistry* 48, 2346-2348.
261. Schindler, M., Freund, M., Hawthorne, F.C., Burns, P.C. and Maurice, P.A. (2009): Dissolution of uranophane: An AFM, XPS, SEM and ICP study. *Geochimica et Cosmochimica Acta* 73, 2510-2533.
260. Schindler, M., Hawthorne, F.C., Freund, M.S. and Burns, P.C. (2009): XPS spectra of uranyl-minerals and synthetic uranyl compounds II. The O 1s spectrum. *Geochimica et Cosmochimica Acta* 73, 2488-2509.
259. Schindler, M., Hawthorne, F.C., Freund, M.S. & Burns, P.C. (2009): XPS spectra of uranyl minerals and synthetic uranyl compounds I. The U 4f spectrum. *Geochimica et Cosmochimica Acta* 73, 2471-2487.
258. Forbes, T.Z., Wallace, C. & Burns, P.C. (2008): Neptunyl compounds: Polyhedral geometries, bond-valence parameters, and structural hierarchy. *Canadian Mineralogist* 46, 1623-1645.
257. Ling, Jie, Sigmon, G.E. & Burns, P.C. (2009) Syntheses, structure determination and charge-density matching of novel amino-templated uranyl selenates. *Journal of Solid State Chemistry* 182, 402-408.
256. Gorman-Lewis, D., Fein, J.B., Burns, P.C., Szymanowski, J.E.S. and Coverse, J. (2008): Solubility measurements of the uranyl oxide hydrate phases metaschoepite, compreignacite, Na-compreignacite, becquerelite and clarkeite. *Journal of Chemical Thermodynamics* 182, 980-990.
255. Forbes, T.Z. & Burns, P.C. (2009): Synthesis, structure determination, and infrared spectroscopy of (NpO<sub>2</sub>)<sub>2</sub>(SO<sub>4</sub>)(H<sub>2</sub>O)<sub>4</sub>: Prevalence of cation-cation interactions and cationic nets in neptunyl sulfate compounds. *Journal of Solid State Chemistry* 182, 43-48.
254. Smeaton, C., Weisnener, C.G., Burns, P.C., Fryer, B.J. and Fowle, D.A. (2008): Bacterial enhanced dissolution of meta-autunite. *American Mineralogist* 93, 1858-1864.
253. Chakhmouradian, A.R., Mitchell, R.H., Burns, P.C., Mikhailova, Y., Reguir, E.P. (2008): Marianoite, a new member of the cupidine mineral group from the Prairie Lake silicocarbonatite, Ontario. *Canadian Mineralogist* 46, 1023-1032.
252. Forbes, T.Z., McAlpin, G., Murphy, R. and Burns, P.C. (2008): Metal-oxygen isopolyhedra assembled into fullerene topologies. *Angewandte Chemie International Edition* 47, 2824-2827. (rated VIP paper by journal)
251. Gorman-Lewis, D., Burns, P.C. and Fein, J.B. (2008): Review of uranyl mineral solubility measurements. *Journal of Chemical Thermodynamics* 40, 335-352.
250. Vergasova, L.P., Krivovichev, S.V., Filatov, S.K., Britvin, S.N., Burns, P.C. and Anan'ev, W. (2007): Parageorgbokiite,  $\beta$ -Cu<sub>5</sub>O<sub>2</sub>(SeO<sub>3</sub>)<sub>2</sub>Cl<sub>2</sub>, a new mineral species from volcanic exhalations, Kamchatka Peninsula, Russia. *Geology of Ore Deposits* 49, 518-521.
249. Soderholm, L., Almond, P.M., Skanthakumar, S., Wilson, R.E. and Burns, P.C. (2007): The structure of a 38-plutonium oxide nanocluster: [Pu<sub>38</sub>O<sub>56</sub>Cl<sub>54</sub>(H<sub>2</sub>O)<sub>8</sub>]<sup>14-</sup>. *Angewandte Chemie International Edition* 47, 298-302. (rated VIP paper by journal)

248. Forbes, T.Z. and Burns, P.C. (2007): Synthesis, structure, and infrared spectroscopy of the first neptunyl silicates,  $\text{Li}_4(\text{NpO}_2)_4(\text{H}_2\text{Si}_2\text{O}_7)(\text{H}_2\text{SiO}_4)_2(\text{H}_2\text{O})_4$  and  $\text{K}_3(\text{NpO}_2)_3(\text{Si}_2\text{O}_7)$ . *Inorganic Chemistry* 47, 705-712.
247. Karimova, O. and Burns, P.C. (2007): Structural units in three uranyl perrhenates. *Inorganic Chemistry* 46, 10108-10113.
246. Klingensmith, A.L. and Burns, P.C. (2007): Neptunium substitution in synthetic uranophane and soddyite. *American Mineralogist* 92, 1946-1951.
245. Krivovichev, S.V., Burns, P.C., Tananaev, I.G., Myasoedov, B.F. (2007): Nanostructured actinide compounds. *J. Alloys and Compounds* 444, 457-463.
244. Krivovichev, S.V., Filatov, S.K., Burns, P.C. & Vergasova, L.P. (2007): The crystal structure of parageorgbokiite,  $\beta\text{-Cu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$ . *Canadian Mineralogist* 45, 929-934.
243. Schindler, M., Hawthorne, F.C., Burns, P.C. & Maurice, P.A. (2007): Dissolution of uranyl-oxide-hydroxy-hydrate minerals: III. Billietite. *Canadian Mineralogist* 45, 945-962.
242. Schindler, M., Hawthorne, F.C., Burns, P.C. & Maurice, P.A. (2007): Dissolution of uranyl-oxide-hydroxy-hydrate minerals: IV. Fourmarierite and synthetic  $\text{Pb}_2(\text{H}_2\text{O})[(\text{UO}_2)_{10}\text{UO}_{12}(\text{OH})_6(\text{H}_2\text{O})_2]$ . *Canadian Mineralogist* 45, 963-981.
241. Wilson, R.E., Skanthakumar, S., Burns, P.C. and Soderholm, L. (2007): Structure of the homoleptic thorium(IV) aqua ion  $[\text{Th}(\text{H}_2\text{O})_{10}]^{\text{Br}_4}$ . *Angewandte Chemie International Edition* 46, 8043-8045.
240. Forbes, T.Z., Goss, V., Jain, M. and Burns, P.C. (2007): Structure determination and infrared spectroscopy of  $\text{K}(\text{UO}_2)(\text{SO}_4)(\text{OH})(\text{H}_2\text{O})$  and  $\text{K}(\text{UO}_2)(\text{SO}_4)(\text{OH})$ . *Inorganic Chemistry* 46, 7163-7168.
239. Forbes, T.Z. & Burns, P.C. (2006): The crystal structures of  $X(\text{NpO}_2)(\text{PO}_4)(\text{H}_2\text{O})_3$  ( $X = \text{K}, \text{Na}, \text{Rb}, \text{NH}_4$ ) and their relationship to the autunite group. *Canadian Mineralogist* 45, 471-477.
238. Kubatko, K.A., Forbes, T.Z., Klingensmith, A.L. and Burns, P.C. (2007): Expanding the crystal-chemistry of uranyl peroxides: Synthesis and structures of di- and triperoxodioxouranium(VI) complexes. *Inorganic Chemistry* 46, 3657-3662.
237. Klingensmith, A.L., Deely, K.M., Kinman, W.S., Kelly, V. & Burns, P.C. (2006): Neptunium incorporation in sodium-substituted metaschoepite. *American Mineralogist* 92, 662-669.
236. Forbes, T.Z., Burns, P.C., Skanthakumar, S., Soderholm, L. (2007): Synthesis, structure and magnetism of  $\text{Np}_2\text{O}_5$ . *Journal of the American Chemical Society* 129, 2760-2761.
235. Wilson, R.E., Skanthakumar, S., Sigmon, G., Burns, P.C., Soderholm, L. (2007): Structures of dimeric hydrolysis products of thorium. *Inorganic Chemistry* 46, 2368-2372,
234. Giesting, P.A. and Burns, P.C. (2006): Uranyl-organic complexes: structure symbols, classification of carboxylates, and uranyl polyhedral geometries. *Crystallography Reviews* 12, 205-255.
233. Vergasova, L.P., Krivovichev, S.V., Filatov, S.K., Britvin, S.N., Burns, P.C. & Ananiev, V.V. (2006): Parageorgbokiite,  $\text{Cu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$  – a new mineral from volcanic exhalation (Kamchatka Peninsula, Russia). *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 135, 24-27.
232. Gorman-Lewis, D., Mazeina, L., Fein, J.B., Szymanski, J., Burns, P.C. and Navrotsky, A. (2007): Thermodynamic properties of soddyite from solubility and calorimetry measurements. *Journal of Chemical Thermodynamics* 39, 568-575.

231. Almond, P.M., Skanthakumar, S., Soderholm, L. & Burns, P.C. (2007): Cation-cation interactions and antiferromagnetism in  $\text{Na}[\text{Np}(\text{V})\text{O}_2(\text{OH})_2]$ : Synthesis, structure, and magnetic properties. *Chemistry of Materials* 19, 280-285.
230. Forbes, T.Z. & Burns, P.C. (2007): A neptunyl chloride hydrate containing cation-cation interactions and topological aspects of neptunyl structural units. *Journal of Solid State Chemistry* 180, 115-121.
229. Burns, P.C. & Klingensmith, A.L. (2006): Uranium mineralogy and neptunium mobility. *Elements* 2, 351-356.
228. Wilson, R.E., Almond, P.M., Burns, P.C. & Soderholm, L. (2006): Structure and synthesis of Pu(III) chlorides from aqueous solution. *Inorganic Chemistry* 45, 8483-8485.
227. Kubatko, K.A. & Burns, P.C. (2006): Cation-cation interactions in  $\text{Sr}_2(\text{UO}_2)_{20}(\text{UO}_6)_2\text{O}_{16}(\text{OH})_6(\text{H}_2\text{O})_6$  and  $\text{Cs}(\text{UO}_2)_9\text{U}_3\text{O}_{16}(\text{OH})_5$ . *Inorganic Chemistry* 45, 10277-10281.
226. Majzlan, J., Speziale, S., Duffy, T.S. & Burns, P.C. (2006): Single-crystal elastic properties of alunite,  $\text{KAl}_3(\text{SO}_4)_2(\text{OH})_6$ . *Physics and Chemistry of Minerals* 33, 567-573.
225. Forbes, T.Z. & Burns, P.C. (2006):  $\text{Ba}(\text{NpO}_2)(\text{PO}_4)(\text{H}_2\text{O})$ , its relationship to the uranophane group, and implications for Np incorporation in uranyl minerals. *American Mineralogist* 91, 1089-1093.
224. Kubatko, K.-A. & Burns, P.C. (2006): Expanding the crystal chemistry of actinyl peroxides: Open sheets of uranyl polyhedra in  $\text{Na}_5[(\text{UO}_2)_3(\text{O}_2)_4(\text{OH})_3](\text{H}_2\text{O})_{13}$ . *Inorganic Chemistry* 45, 6096-6098.
223. Schindler, M., Hawthorne, F.C., Burns, P.C. & Maurice, P.A. (2005): Dissolution of uranyl-oxide-hydroxyl-hydrate minerals: II. Becquerelite. *Canadian Mineralogist* 44, 1207-1225.
222. Krivovichev, S.V., Siidra, O.I., Nazarchuk, E.N., Burns, P.C. & Depmeier, W. (2006): Particular topological complexity of lead oxide blocks in  $\text{Pb}_{31}\text{O}_{22}\text{X}_{18}$  ( $\text{X} = \text{Br}, \text{Cl}$ ). *Inorganic Chemistry*, 45, 3846-3848.
221. Krivovichev, S.V., Filatov, S.K., Burns, P.C. & Vergasova, L.P. (2006): The crystal structure of allochalcoselite,  $\text{Cu}^+\text{Cu}^{2+}_5\text{PbO}_2(\text{SeO}_3)_2\text{Cl}_5$ , a mineral with well-defined  $\text{Cu}^+$  and  $\text{Cu}^{2+}$  positions. *Canadian Mineralogist* 44, 507-514.
220. Krivovichev, S.V. & Burns, P.C. (2006): The crystal structure of  $\text{Pb}_8\text{O}_5(\text{OH})_2\text{Cl}$ , A synthetic analogue of blixite? *Canadian Mineralogist* 44, 512-522.
219. Finch, R.J., Burns, P.C., Hawthorne, F.C. & Ewing, R.C. (2006): Refinement of the crystal-structure of billietite,  $\text{Ba}[(\text{UO}_2)_6\text{O}_4(\text{OH})_6](\text{H}_2\text{O})_7$ . *Canadian Mineralogist*, 44, 1197-1205.
218. Giesting, P., Porter, N. & Burns, P.C. (2006): A Series of sheet-structured Alkali Metal Uranyl Oxalate Hydroxides: Structures and IR spectra. *Zeitschrift fur Kristallographie* 221, 589-599.
217. Forbes, T.Z., Burns, P.C., Soderholm, L. & Skanthakumar, S. (2006): The crystal structures and magnetic properties of  $\text{NaK}_3(\text{NpO}_2)_4(\text{SO}_4)_4(\text{H}_2\text{O})_2$  and  $\text{NaNpO}_2\text{SO}_4\text{H}_2\text{O}$ : Cation-cation interactions in a neptunyl sulfate framework. *Chemistry of Materials* 18, 1643-1649.
216. Kubatko, K.-A., Helean, K.B., Navrotsky, A. & Burns, P.C. (2006): Thermodynamics of uranyl minerals: Enthalpies of formation of uranyl oxide hydrates. *American Mineralogist* 91, 658-666.
215. Giesting, P., Porter, N. & Burns, P.C. (2006): Uranyl oxalate hydrates: Structures and IR spectra. *Zeitschrift fur Kristallographie* 221, 252-259.

214. Hughes Kubatko, K.A. & Burns, P.C. (2006): A novel arrangement of silicate tetrahedra in the uranyl silicate sheet of oursinite,  $(Co_{0.8}Mg_{0.2})[(UO_2)(SiO_3OH)]_2(H_2O)_6$ . *American Mineralogist* 91, 333-336.
213. Filatov, S.K., Krivovichev, S.V., Aleksandrova, Y.V., Bubnova, R.S., Egorysheva, A.V., Burns, P., Kargin, Y.F. & Volkov, V.V. (2006): Crystal-structure refinement, thermal expansion, and chemical distortion of  $Bi_2Ga_4O_9$ . *Russian Journal of Inorganic Chemistry* 51, 787-883.
212. Burns, P.C. (2005):  $U^{6+}$  minerals and inorganic compounds: Insights into an expanded structural hierarchy of crystal structures. *Canadian Mineralogist* 43, 1839-1894.
211. Forbes, T.Z. & Burns, P.C. (2005): Structures and syntheses of four  $Np^{5+}$  sulfate chain structures: Divergence from  $U^{6+}$  crystal chemistry. *Journal of Solid State Chemistry* 178, 3445-3452.
210. Kubatko, K-A., Helean, K.B., Navrotsky, A. & Burns, P.C. (2005): Thermodynamics of uranyl minerals: Enthalpies of formation of rutherfordine,  $UO_2CO_3$ , andersonite,  $Na_2CaUO_2(CO_3)_3(H_2O)_5$ , and grimselite,  $K_3NaUO_2(CO_3)_3H_2O$ . *American Mineralogist* 90, 1284-1290.
209. Nazarchuk, E. V., Krivovichev, S. V., Burns, P. C. (2005): Crystal Structure of  $Tl_2[(UO_2)_2(MoO_4)_3]$  and Crystal Chemistry of the Compounds  $M_2[(UO_2)_2(MoO_4)_3]$  ( $M = Tl, Rb, Cs$ ). *Radiochemistry*, 47, 447-451.
208. Krivovichev, S.V., Locock, A.J. & Burns, P.C. (2005): Lone electron pair stereoactivity, cation arrangements and distortion of heteropolyhedral sheets in the structures of  $Tl_2[(UO_2)(AO_4)_2]$  ( $A = Cr, Mo$ ). *Zeitschrift fur Kristallographie* 220, 1-9.
207. Locock, A.J., Kinman, W.S. & Burns, P.C. (2005): The structure and composition of uranospathite,  $Al_{1-x}\square_x[(UO_2)(PO_4)]_2(H_2O)_{20+3x}F_{1-3x}$ ,  $x = 0 - 0.33$ , a non-centrosymmetric fluorine-bearing mineral of the autunite group, and a related synthetic lower hydrate,  $Al_{0.67}\square_{0.33}[(UO_2)(PO_4)]_2(H_2O)_{15.5}$ . *Canadian Mineralogist* 43, 989-1004.
206. Roberts, A.C., Gault, R.A., Paar, W.H., Cooper, M.A., Hawthorne, F.C., Burns, P.C., Cisneros, S. & Foord, E.E. (2005): Terlinguacreekite,  $Hg^{2+}_3O_2Cl_2$ , a new mineral species from the Perry pit, Mariposa mine, Terlingua mining district, Brewster county, Texas, U.S.A. *Canadian Mineralogist* 43, 1055-1060.
205. Krivovichev, S.V. & Burns, P.C. (2005): Crystal chemistry of uranyl molybdates. XI. Crystal structures of  $Cs_2[(UO_2)(MoO_4)_2]$  and  $Cs_2[(UO_2)(MoO_4)_2](H_2O)$ . *Canadian Mineralogist* 43, 713-720.
204. Locock, A.J. & Burns, P.C. (2005): Structures of strontium and barium-dominant compounds that contain the autunite-type sheet. *Canadian Mineralogist* 43, 721-733.
203. Burns, P.C., Hughes Kubatko, K.-A., Sigmon, G., Fryer, B.J., Gagnon, J.E., Antonio, M.R. & Soderholm, L. (2005): Actinyl peroxide nanospheres. *Angewandte Chemie International Edition* 44, 2135-2139.
202. Vergasova, L.P., Krivovichev, S.V., Britvin, S.N., Filatov, S.K., Burns, P.C. & Ananiev, V.V. (2005): Allohalcoselite,  $Cu^+Cu^{2+}_5PbO_2(SeO_3)_2Cl_5$  – a new mineral from volcanic exhalations. *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 134, 70-74.
201. Locock, A.J., Burns, P.C. & Flynn, T.M. (2005): The role of water in the structures of synthetic hallimondite,  $Pb_2[(UO_2)(AsO_4)_2](H_2O)_n$  and synthetic parsonsite,  $Pb_2[(UO_2)(PO_4)_2](H_2O)_n$ ,  $n \leq 0.5$ . *American Mineralogist* 90, 240-246.

200. Krivovichev, S.V., Cahill, C.L., Nazarchuk, E.V., Burns, P.C., Armbruster, T. & Depmeier, W. (2005): Chiral open-framework uranyl molybdates. 1. Topological diversity: synthesis and crystal structure of  $[(C_2H_5)_2NH_2]_2[(UO_2)_4(MoO_4)_5(H_2O)](H_2O)$ . *Microporous and Mesoporous Materials* 78, 209-215.
199. Krivovichev, S.V., Burns, P.C., Armbruster, T., Nazarchuk, E.V., & Depmeier, W. (2005): Chiral open-framework uranyl molybdates. 2. Flexibility of the U:Mo = 6:7 frameworks: synthesis and crystal structures of  $(UO_2)_{0.82}[C_8H_{20}N]_{0.36}[(UO_2)_6(MoO_4)_7(H_2O)_2](H_2O)_n$  and  $[C_6H_{14}N_2][(UO_2)_6(MoO_4)_7(H_2O)_2](H_2O)_m$ . *Microporous and Mesoporous Materials* 78, 217-224.
198. Krivovichev, S.V., Armbruster, T., Chernyshov, D.Yu., Burns, P.C., Nazarchuk, E.V., & Depmeier, W. & Burns, P.C. (2005): Chiral open-framework uranyl molybdates. 3. Synthesis, structure and  $C222_1 \rightarrow P2_12_12_1$  low-temperature phase transition of  $[C_6H_{16}N_2][(UO_2)_6(MoO_4)_7(H_2O)_2](H_2O)_2$ . *Microporous and Mesoporous Materials* 78, 225-234.
197. Krivovichev, S.V. & Burns, P.C. (2004): Crystal structure of synthetic alamosite  $Pb[SiO_3]$ . *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 133, 70-76.
196. Majzlan, J., Stevens, R., Boerio-Goates, J., Woodfield, B.F., Navrotsky, A., Burns, P.C., Crawford, M.K., Amos, T.G. (2004): Thermodynamic properties, low-temperature heat capacity anomalies, and single crystal X-ray refinement of hydronium jarosite,  $(H_3O)Fe_3(OH)_6(SO_4)_2$ . *Physics and Chemistry of Minerals* 31, 518-531.
195. Gadomski, D., Tysklind, M., Irvine, R.I., Burns, P.C. & Andersson, R. (2004): Vertical distribution of PCDDs in three ball clay cores from the US: Further indication of the "natural formation" pattern and possible dechlorination. *Environmental Science and Technology* 38, 4956-4963.
194. Filatov, S.K., Krivovichev, S.V., Burns, P.C., Vergasova, L.P. (2004): Crystal structure of filatovite,  $K[(Al,Zn)_2(As,Si)_2O_8]$ , the first arsenate of the feldspar group. *European Journal of Mineralogy* 16, 537-543.
193. Vergasova, L.P., Krivovichev, S.V., Britvin, S.N., Burns, P.C., Ananiev, V.V. (2004): Filatovite,  $K[(Al,Zn)_2(As,Si)_2O_8]$ , a new mineral species from the Tolbachik volcano, Kamchatka province, Russia. *European Journal of Mineralogy* 16, 533-536.
192. Locock, A.J., Burns, P.C., Duke, M.J.M. & Flynn, T.M. (2004): Monovalent cations in structures of the meta-autunite group. *Canadian Mineralogist* 42, 973-996.
191. Hughes Kubatko, K.A. & Burns, P.C. (2004): The crystal structure of a novel uranyl tricarbonate,  $K_2Ca_3[(UO_2)(CO_3)_3]_2(H_2O)_6$ . *Canadian Mineralogist* 42, 997-1004.
190. Locock, A.J. & Burns, P.C. (2004): Structures and synthesis of layered and framework amine-bearing uranyl arsenates and phosphates. *Journal of Solid State Chemistry* 177, 2675-2684.
189. Locock, A.J. & Burns, P.C. (2004): Revised  $Tl(I)-O$  bond valence parameters and the structures of thallous dichromate and thallous uranyl phosphate hydrate. *Zeitschrift fur Kristallographie* 219, 1-8.
188. Roberts, A.C., Burns, P.C., Gault, R.A., Criddle, A.J. & Feingloss, M.N. (2004): Peterwilliamsite,  $(Ni, Co, Cu)_{30}(As_2O_7)_{15}$ , a new mineral from Johanngeorgenstadt, Saxony, Germany: description and crystal structure. *Mineralogical Magazine* 68, 231-240.
187. Krivovichev, S.V. & Burns, P.C. (2004): The modular structure of the novel uranyl sulfate sheet in  $[Co(H_2O)_6]_3[(UO_2)_5(SO_4)_8(H_2O)](H_2O)_5$ . *Canadian Mineralogist* (accepted).
186. Krivovichev, S.V., Armbruster, T., Organova, N.I., Burns, P.C., Seredkin, M.V. & Chukanov, N.V.

- (2004): Incorporation of sodium into the chlorite structure: the crystal structure of glagolevite,  $\text{Na}(\text{Mg},\text{Al})_6[\text{Si}_3\text{AlO}_{10}](\text{OH},\text{O})_8$ . *American Mineralogist* 89, 1138-1141.
185. Krivovichev, S.V. & Burns, P.C. (2004): Gamma- $\text{UMo}_2\text{O}_8$  as a new polymorph of uranium dimolybdate containing tetravalent uranium. *Doklady Physics* 49, 76-77.
184. Krivovichev, S.V., Avdontseva, E. Yu & Burns, P.C. (2004): Synthesis and crystal structure of  $\text{Pb}_3\text{O}_2(\text{SeO}_3)$ . *Z. Anorg. Allg. Chem.* 630, 558-562.
183. Burns, P.C., Deely, K.M. & Skanthakumar, S. (2003): Neptunium incorporation into uranyl compounds that form as alteration products of spent nuclear fuel: Implications for geologic repository performance. *Radiochimica Acta* 92, 151-159.
182. Locock, A.J., Skanthakumar, S., Burns, P.C., Soderholm, L. (2004): Syntheses, structures, magnetic properties, and X-ray absorption spectra of carnotite-type uranyl chromium(V) oxides:  $\text{A}[(\text{UO}_2)_2\text{Cr}_2\text{O}_8](\text{H}_2\text{O})_n$  ( $\text{A} = \text{K}_2, \text{Rb}_2, \text{Cs}_2, \text{Mg}$ ;  $n = 0, 4$ ). *Chemistry of Materials* 16, 1384-1390.
181. Burns, P.C., Alexopoulos, C.M., Hotchkiss, P.J., Locock, A.J. (2004): An unprecedented uranyl phosphate framework in the structure of  $[(\text{UO}_2)_3(\text{PO}_4)\text{O}(\text{OH})(\text{H}_2\text{O})_2](\text{H}_2\text{O})$ . *Inorganic Chemistry* 43, 1816-1818.
180. Krivovichev S.V. & Burns P.C. (2004): Synthesis and crystal structure of  $\text{Cs}_4(\text{UO}_2)(\text{CO}_3)_3$ . *Radiochemistry (in Russian)* 46, 12-15.
179. Krivovichev S.V. & Burns P.C. (2004): Crystal structure of  $\text{K}(\text{UO}_2)(\text{NO}_3)_3$  and some features of the  $\text{M}(\text{UO}_2)(\text{NO}_3)_3$  compounds ( $\text{M} = \text{K}, \text{Cs}, \text{NH}_4$ ). *Radiochemistry* 46, 16-19.
178. Hughes Kubatko, K.A. & Burns, P.C. (2003): The Rb-analogue of grimselite,  $\text{Rb}_6\text{Na}_2[(\text{UO}_2)(\text{CO}_3)_3]_2(\text{H}_2\text{O})$ . *Acta Crystallographica C*60, i25-i26.
177. Krivovichev S.V. & Burns P.C. (2003): Crystal chemistry of uranyl molybdates. X. The crystal structure of  $\text{Ag}_{10}[(\text{UO}_2)_8\text{O}_8(\text{Mo}_5\text{O}_{20})]$ . *Canadian Mineralogist* 41, 1455-1462.
176. Britvin, S., Antonov, A.A., Krivovichev, S.V., Armbruster, T.A., Burns, P.C. & Chukanov, N.V. (2003): Fluorvesuvianite,  $\text{Ca}_{19}(\text{Al,MgFe}^{2+})_{13}[\text{SiO}_4]_{10}[\text{Si}_2\text{O}_7]_4\text{O}(\text{F},\text{OH})_9$ , a new mineral from Pitkaranta, Karelia, Russia: Description and crystal structure. *Canadian Mineralogist* 41, 1371-1380.
175. Burns, P.C. (2003): Recent advances in the understanding of uranium mineral structures and the crystal chemistry of uranium. *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 90-114.
174. Locock, A.L. & Burns, P.C. (2003): The structure of hügelite, an arsenate of the phosphuranylite group, and its relationship to dumontite. *Mineralogical Magazine* 67, 1109-1120.
173. Krivovichev, S.V. & Burns, P.C. (2003): The first sodium uranyl chromate,  $\text{Na}_4[(\text{UO}_2)(\text{CrO}_4)_3]$ : Synthesis and crystal structure determination. *Z Anorg Allg Chem* 629, 1965-1968.
172. Roberts, A.C., Cooper, M.A., Hawthorne, F.C., Stirling, J.A.R., Paar, W.H., Stanley, C.J., Dunning, G.E., Burns, P.C. (2003): Vasilyevite,  $(\text{Hg}_2)^{2+}_{10}\text{O}_6\text{I}_3\text{Br}_2\text{Cl}(\text{CO}_3)$ , a new mineral species from the Clear Creek Claim, San Benito County, California. *Canadian Mineralogist* 41, 1167-1172.
171. Krivovichev, S.V. & Burns, P.C. (2003): Crystal chemistry of uranyl molybdates. IX. A novel uranyl molybdate sheet in the structure of  $\text{Ti}_2[(\text{UO}_2)_2\text{O}(\text{MoO}_5)]$ . *Canadian Mineralogist* 41, 1225-1231.
170. Krivovichev, S.V. & Burns, P.C. (2003): Structural topology of potassium uranyl chromates: crystal structures of  $\text{K}_8[(\text{UO}_2)(\text{CrO}_4)_4](\text{NO}_3)_2$ ,  $\text{K}_5[(\text{UO}_2)(\text{CrO}_4)_3](\text{NO}_3)(\text{H}_2\text{O})_3$ ,  $\text{K}_4[(\text{UO}_2)_3(\text{CrO}_4)_5](\text{H}_2\text{O})_8$  and  $\text{K}_2[(\text{UO}_2)_2(\text{CrO}_4)_3(\text{H}_2\text{O})_2](\text{H}_2\text{O})_4$ . *Zeitschrift fur Kristallographie* 218, 725-752.

169. Krivovichev, S.V. & Burns, P.C. (2003): Geometrical isomerism in uranyl chromates II. Crystal structures of  $Mg_2[(UO_2)_3(CrO_4)_5](H_2O)_{17}$  and  $Ca_2[(UO_2)_3(CrO_4)_5](H_2O)_{19}$ . *Zeitschrift fur Kristallographie* 218, 683-702.
168. Locock, A.J. & Burns, P.C. (2003): Structures and synthesis of framework triuranyl diarsenate hydrates. *Journal of Solid State Chemistry* 176, 18-26.
167. Locock, A.L. & Burns, P.C. (2003): Structures and synthesis of framework Rb and Cs uranyl arsenates and their relationships with their phosphate analogues. *Journal of Solid State Chemistry* 175, 372-379.
166. Hughes Kubatko, K.A., Helean, K.B., Navrotsky, A., Burns, P.C. (2003): Stability of peroxide-containing uranyl minerals. *Science* 302, 1191-1193.
165. Krivovichev S.V. & Burns P.C. (2003): Chains of edge-sharing  $OPb_4$  tetrahedra in the structures of  $Pb_4O(VO_4)_2$  and related minerals and inorganic compounds. *Canadian Mineralogist* 41, 951-958.
164. Krivovichev S.V. & Burns P.C. (2003): Geometrical isomerism in uranyl chromates I. Crystal structures of  $(UO_2)(CrO_4)(H_2O)_2$ ,  $[(UO_2)(CrO_4)(H_2O)_2](H_2O)$  and  $[(UO_2)(CrO_4)(H_2O)_2]_4(H_2O)_9$ . *Zeitschrift fur Kristallographie* 218, 568-574.
163. Hoskin, P.W.O. & Burns, P.C. (2003): Ion-exchange between aqueous fluids and spent nuclear fuel alteration products: Implications for the mobility of Cs in the proposed repository at Yucca Mountain. *Mineralogical Magazine* 67, 689-696.
162. Shuvalov, R.R. & Burns, P.C. (2003): A monoclinic polymorph of uranyl dinitrate trihydrate,  $[(UO_2)(H_2O)_2(NO_3)_2](H_2O)$ . *Acta Crystallographica C* C59, i71-i73.
161. Hughes, K.-A., Burns, P.C. & Kolitsch, U. (2003): Crystal structure and crystal chemistry of uranosphaerite,  $Bi(UO_2)O_2OH$ . *Canadian Mineralogist* 41, 667-685.
160. Krivovichev, S.V. & Burns, P.C. (2003): Crystal chemistry of uranyl molybdates. VIII. Crystal structures  $Na_3Tl_3[(UO_2)(MoO_4)_4]$ ,  $Na_{13-x}Tl_{3+x}[(UO_2)(MoO_4)_3]_4(H_2O)_{6+x}$  ( $x = 0.1$ ),  $Na_3Tl_5[(UO_2)(MoO_4)_3]_2(H_2O)_3$  and  $Na_2[(UO_2)(MoO_4)_2](H_2O)_4$ . *Canadian Mineralogist* 41, 707-719.
159. Burns, P. C., Deely, Kathryn M. & Hayden, L.A. (2003): The crystal chemistry of the zippeite group. *Canadian Mineralogist* 41, 687-706.
158. Krivovichev, S.V. & Burns, P.C. (2003): Crystal chemistry of lead oxide phosphates: crystal structures of  $Pb_4O(PO_4)_2$ ,  $Pb_8O_5(PO_4)_2$  and  $Pb_{10}(PO_4)_6O$ . *Zeitschrift fur Kristallographie* 218, 357-.
157. Shuvalov, R.R. & Burns, P.C. (2003): A new polytype of orthoboric acid,  $H_3BO_3\text{-}3T$ . *Acta Crystallographica C* C59, i47-i49.
156. Burns, P.C. & Hughes, K.-A. (2003): Studtite,  $[(UO_2)(O_2)(H_2O)_2](H_2O)_2$ : The first structure of a peroxide mineral. *American Mineralogist* 88, 1165-1168.
155. Hughes, K-A. & Burns, P.C. (2003): A New Uranyl Carbonate Sheet in the Crystal Structure of fontanite,  $Ca[(UO_2)_3(CO_3)_2O_2](H_2O)_6$ . *American Mineralogist* 88, 962-966.
154. Brugger, J., Burns, P.C. & Meisser, N. (2003): Contribution to the mineralogy of acid drainage of uranium minerals: marecottite and the zippeite-group. *American Mineralogist* 88, 676-685.
153. Krivovichev, S.V. & Burns, P.C. (2003): Synthesis and crystal structure of  $Li_2[(UO_2)(MoO_4)_2]$ , a uranyl molybdate with chains of corner-sharing uranyl square bipyramids and  $MoO_4$  tetrahedra. *Solid State Sciences* 5, 481-485.

152. Yakovenchuk, V.N., Pakhomovsky, Y.A., Men'shikov, Y.P., Ivanyuk, G.Yu, Krivovichev, S.V. & Burns, P.C. (2003): Chlorbartonite,  $K_6Fe_{24}S_{26}(Cl,S)$ , a new mineral from a hydrothermal vein in the Khibina Massif, Kola Peninsula, Russia: Description and crystal structure. *Canadian Mineralogist* 41, 503-512.
151. Locock, A.J. & Burns, P.C. (2003): Crystal structures and synthesis of the copper members of the autunite and meta-autunite groups: torbernite, zeunerite, metatorbernite and meta zeunerite. *Canadian Mineralogist* 41, 489-502.
150. Locock, A.J. & Burns, P.C. (2003): The crystal structure of bergenite, a new geometrical isomer of the phosphuranylite group. *Canadian Mineralogist* 41, 91-101.
149. Krivovichev, S.V. & Burns, P.C. (2003): Combinatorial topology of uranyl molybdate sheets: Synthesis and crystal structures of  $(C_6H_{14}N_2)_3[(UO_2)_5(MoO_4)_8](H_2O)_4$  and  $(C_2H_{10}N_2)[(UO_2)(MoO_4)_2]$ . *Journal of Solid State Chemistry* 170, 106-117.
148. Krivovichev, S.V., Cahill, C.L. & Burns, P.C. (2003): A novel open framework uranyl molybdate: Synthesis and structure of  $(NH_4)_4[(UO_2)_5(MoO_4)_7](H_2O)_5$ . *Inorganic Chemistry* 42, 2459-2464.
147. Krivovichev, S.V. & Burns, P.C. (2003): A novel rigid uranyl tungstate sheet in the structures of  $Na_2[(UO_2)W_2O_8]$  and  $\alpha$ - and  $\beta$ - $Ag_2[(UO_2)W_2O_8]$ . *Solid State Sciences* 5, 373-381.
146. Krivovichev, S.V., Yakovenchuk, V.N., Burns, P.C., Pakhomovsky, Y.A. & Menshikov, Y.P. (2003): Cafetite,  $Ca[Ti_2O_5](H_2O)$ : crystal structure and revision of chemical formula. *American Mineralogist* 88, 424-429.
145. Burns, P. C. & Deely, Kathryn M. (2002): A topologically novel sheet of uranyl pentagonal bipyramids in the structure of  $Na[(UO_2)_4O_2(OH)_5](H_2O)_2$ . *Canadian Mineralogist* 40, 1579-1586.
144. Krivovichev, S.V. & Burns, P.C. (2002): Crystal chemistry of uranyl molybdates. VII. An iriginite-type sheet of polyhedra in the structure of  $[(UO_2)Mo_2O_7(H_2O)_2]$ . *Canadian Mineralogist* 40, 1571-1578.
143. Burns, P.C., Krivovichev, S.V. & Filatov, S.K. (2002): New  $Cu^{2+}$  coordination polyhedra in the crystal structure of burnsite,  $KCdCu_7O_2(SeO_3)_2Cl_9$ . *Canadian Mineralogist* 40, 1587-1596.
142. Brugger, J., Krivovichev, S.V., Kolitsch, U., Meisser, N., Andrut, M., Ansermet, S. & Burns, P.C. (2002): Description and crystal structure of manganolotharmeyerite,  $CaMn^{3+}_2(AsO_4)_2(OH)_2$ , from the Starlera Mn-deposit, Swiss Alps, and a redefinition of lotharmeyerite. *Canadian Mineralogist* 40, 1597-1608.
141. Locock, A.L. & Burns, P.C. (2003): The crystal structure of synthetic autunite,  $Ca[(UO_2)(PO_4)]_2(H_2O)_{11}$ . *American Mineralogist* 88, 240-244.
140. Hughes, K-A. & Burns, P.C. (2002): Uranyl nitrate trihydrate:  $UO_2(NO_3)_2(H_2O)_3$ . *Acta Crystallographica C* 59, i7-i8.
139. Krivovichev, S.V. & Burns, P.C. (2002): Crystal Chemistry of Rubidium Uranyl Molybdates: Crystal Structures of  $Rb_6[(UO_2)(MoO_4)_4]$ ,  $Rb_6[(UO_2)_2O(MoO_4)_4]$ ,  $Rb_2[(UO_2)(MoO_4)_2]$ ,  $Rb_2[(UO_2)_2(MoO_4)_3]$  and  $Rb_2[(UO_2)_6(MoO_4)_7(H_2O)_2]$ . *Journal of Solid State Chemistry* 168, 245-258.
138. Krivovichev, S.V. & Burns, P.C. (2002): Crystal structure of  $Pb_{10}O_7(OH)_4(SO_4)$  and the crystal chemistry of lead oxysulfate minerals and inorganic compounds. *Zeitschrift fur Kristallographie* 217, 451.

137. Krivovichev, S.V., Filatov, S.K. & Burns, P.C. (2002): Cuprite-like framework of  $\text{OCu}_4$  tetrahedra in the crystal structure of synthetic melanothallite,  $\text{Cu}_2\text{OCl}_2$ , and its negative thermal expansion. *Canadian Mineralogist* 40, 1185-1190.
136. Pakhomovsky, Y.A., Men'shikov, Y.P., Yakovenchuk, V.N., Ivanyuk, G.Y., Krivovichev, S.V. & Burns, P.C. (2002): Cerite-(La),  $(\text{La}, \text{Ce}, \text{Ca})_9(\text{Fe}^{3+}, \text{Mg}, \text{Sr})[(\text{SiO}_4)_6(\text{SiO}_3\text{OH})](\text{OH})_3$ , a new mineral from the Khibiny alkaline massif: occurrence and crystal structure. *Canadian Mineralogist* 40, 1177-1184.
135. Rookridge, S.J., Ketchum, L.H., Jr. & Burns, P.C. (2002): Clay removal in limestone and basaltic horizontal roughing filters. *Advances in Environmental Research* 7, 231-237.
134. Krivovichev, S.V. & Burns, P.C. (2002): Synthesis and Structure of  $\text{Ag}_6[(\text{UO}_2)_3\text{O}(\text{MoO}_4)_5]$ : A Novel Sheet of Triuranyl Clusters and  $\text{MoO}_4$  Tetrahedra. *Inorganic Chemistry* 41, 4108-4110.
133. Bubnova, R.S., Krivovichev, S.V., Shakhverdova, I.P., Filatov, S.K., Burns, P.C., Krzhizhanovskaya, M.G. & Polyakova, I.G. (2002): Synthesis, crystal structure and thermal behavior of  $\text{Rb}_3\text{B}_7\text{O}_{12}$ , a new compound. *Solid State Sciences* 4, 985-992.
132. Burns, P.C. & Hayden, L.A. (2002): A uranyl sulfate cluster in  $\text{Na}_{10}(\text{UO}_2)(\text{SO}_4)_4(\text{SO}_4)_2(\text{H}_2\text{O})_3$ . *Acta Crystallographica C* C58, i121-i123.
131. Locock, A.L. & Burns, P.C. (2002): Crystal structures of three framework alkali metal uranyl phosphate hydrates. *Journal of Solid State Chemistry* 167, 226-236.
130. Britvin, S.N., Rudashevsky, N.S., Krivovichev, S.V., Burns, P.C. & Polekhovsky, Y.S. (2002): Allabogdanite,  $(\text{Fe}, \text{Ni})_2\text{P}$ , a new mineral from the Onello meteorite: The occurrence and crystal structure. *American Mineralogist* 87, 1245-1249.
129. Li, Y & Burns, P.C. (2002): New structural arrangements in three Ca uranyl carbonate compounds with multiple anionic species. *Journal of Solid State Chemistry* 166, 219-228.
128. Krivovichev, S.V., Britvin, S.N., Burns, P.C. & Yakovenchuk, V.N. (2002): Crystal structure of rimkorolgite,  $\text{Ba}[\text{Mg}_5(\text{H}_2\text{O})_7(\text{PO}_4)_4](\text{H}_2\text{O})$ , and its comparison with bakhchisaraitsevite. *European Journal of Mineralogy* 14, 397-402.
127. Krivovichev, S.V., Finch, R.J. & Burns, P.C. (2002): Crystal chemistry of uranyl molybdates. V. Topologically distinct uranyl dimolybdate sheets in the structures of  $\text{Na}_2[(\text{UO}_2)(\text{MoO}_4)_2]$  and  $\text{K}_2[(\text{UO}_2)(\text{MoO}_4)_2](\text{H}_2\text{O})$ . *Canadian Mineralogist* 40, 193-200.
126. Hayden, L.A. & Burns, P.C. (2002): The sharing of an edge between a uranyl pentagonal bipyramid and sulfate tetrahedron in the structure of  $\text{KNa}_5[(\text{UO}_2)(\text{SO}_4)_4](\text{H}_2\text{O})$ . *Canadian Mineralogist* 40, 211-216.
125. Glatz, R.E., Li, Yaping, Hughes, K.A., Cahill, C.L. & Burns, P.C. (2002): Synthesis and structure of a new Ca uranyl oxide hydrate,  $\text{Ca}[(\text{UO}_2)_4\text{O}_3(\text{OH})_4](\text{H}_2\text{O})_2$ , and its relationship to becquerelite. *Canadian Mineralogist* 40, 217-224.
124. Krivovichev, S.V. & Burns, P.C. (2002): Crystal chemistry of uranyl molybdates. VI. New uranyl molybdate units in the structures of  $\text{Cs}_4[(\text{UO}_2)_3\text{O}(\text{MoO}_4)_2(\text{MoO}_5)]$  and  $\text{Cs}_6[(\text{UO}_2)(\text{MoO}_4)_4]$ . *Canadian Mineralogist* 40, 201-209.
123. Burns, P.C. & Li, Yaping (2002): The structures of becquerelite and Sr-exchanged becquerelite. *American Mineralogist* 87, 550-557.
122. Krivovichev, S.V. & Burns, P.C. (2002): Crystal chemistry of lead oxide chlorides. II. Crystal structure of  $\text{Pb}_7\text{O}_4(\text{OH})_4\text{Cl}_2$ . *European Journal of Mineralogy* 14, 135-139.

121. Locock, A.J. & Burns, P.C. (2002): The crystal structure of triuranyl diphosphate tetrahydrate. *Journal of Solid State Chemistry* 163, 275-280.
120. Hayden, L.A. & Burns, P.C. (2002): A novel uranyl sulfate cluster in the structure of  $\text{Na}_6(\text{UO}_2)(\text{SO}_4)_4(\text{H}_2\text{O})_2$ . *Journal of Solid State Chemistry* 163, 313-318.
119. Krivovichev, S.V., Cahill, C.L. & Burns, P.C. (2002): Synthesis and crystal structures of two topologically related modifications of  $\text{Cs}_2[(\text{UO}_2)_2(\text{MoO}_4)_3]$ . *Inorganic Chemistry* 41, 34-39.
118. Li, Yaping & Burns, P.C. (2001): The structures of two sodium uranyl compounds relevant to nuclear waste disposal. *Journal of Nuclear Materials* 299, 219-226.
117. Li, Yaping, Cahill, C.L. & Burns, P.C. (2001): Synthesis and structural characterization and topological rearrangement of a novel open framework U-O material:  $(\text{NH}_4)_3(\text{H}_2\text{O})_2\{[(\text{UO}_2)_{10}\text{O}_{10}(\text{OH})][(\text{UO}_4)(\text{H}_2\text{O})_2]\}$ . *Chemistry of Materials* 13, 4026-4031.
116. Krivovichev S.V., Filatov, S.K. and Burns P.C. (2001): The crystal structure of bradaczekite,  $\text{NaCu}_4(\text{AsO}_4)_3$ : Jahn-Teller distortion of copper coordination polyhedra in the alluaudite structure type. *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 130(5), 1-7.
115. Filatov, S.K., Vergasova, L.P., Gorskaya, M.G., Krivovichev, S.V., Burns, P.C. and Ananiev, V.V. (2001): Bradaczekite,  $\text{NaCu}_4(\text{AsO}_4)_3$ , a new mineral species from the Tolbachik volcano, Kamchatka Peninsula, Russia. *Canadian Mineralogist* 39, 1115-1119.
114. Burns, P.C. (2001): A new uranyl sulfate chain in the structure of uranopilite. *Canadian Mineralogist* 39, 1139-1146.
113. Li, Yaping & Burns, P.C. (2001): The crystal structure of synthetic grimselite,  $\text{K}_3\text{Na}[(\text{UO}_2)(\text{CO}_3)_3](\text{H}_2\text{O})$ . *Canadian Mineralogist* 39, 1147-1151.
112. Burns, P.C. (2001): A new uranyl silicate sheet in the structure of haiweeite and comparison to other uranyl silicates. *Canadian Mineralogist* 39, 1153-1160.
111. Krivovichev, S.V. & Burns, P.C. (2001): Crystal chemistry of lead oxide chlorides. I. Crystal structures of synthetic mendipite,  $\text{Pb}_3\text{O}_2\text{Cl}_2$ , and synthetic damaraite,  $\text{Pb}_3\text{O}_2(\text{OH})\text{Cl}$ . *European Journal of Mineralogy* 13, 801-809.
110. Mitchell, R.H. & Burns, P.C. (2001): The structure of fedorite: A re-appraisal. *Canadian Mineralogist* 39, 769-778.
109. Burns, P.C. & Percival, J.B. (2001): Alacranite: a new occurrence, new formula, and determination of the crystal structure. *Canadian Mineralogist* 39, 809-818.
108. Chukanov N.V., Pekov I.V., Zadov A.E., Krivovichev S.V., Burns P.C., Schneider J. (2001): Organovaite-Mn,  $\text{K}_2\text{Mn}(\text{Nb},\text{Ti})_4(\text{Si}_4\text{O}_{12})_2(\text{O},\text{OH})_4 \cdot 6\text{H}_2\text{O}$ , a new labuntsovite group mineral from Lovozero massif, Kola peninsula. *Zapiski Vsesoyuznogo Mineralogicheskogo Obschestva* 139(2), 46-53 (in Russian).
107. Krivovichev, S.V. & Burns, P.C. (2001): Crystal structure of  $\text{Pb}_3\text{O}_2(\text{OH})\text{Br}$ : a Br-analogue of damaraite. *Solid State Sciences* 3, 455-459.
106. Li, Yaping, Krivovichev, S.V. & Burns, P.C. (2001): Crystal chemistry of lead oxide hydroxide nitrates. II. The crystal structure of  $\text{Pb}_{13}\text{O}_8(\text{OH})_6(\text{NO}_3)_4$ . *Journal of Solid State Chemistry* 158, 74-77.
105. Krivovichev, S.V., Li, Yaping & Burns, P.C. (2001): Crystal chemistry of lead oxide hydroxide nitrates. III. The crystal structure of  $\text{Pb}_3\text{O}_2(\text{OH})(\text{NO}_3)$ . *Journal of Solid State Chemistry* 158, 78-81.

104. Finch, R.J., Hanchar, J.M., Hoskin, P.W.O. & Burns, P.C. (2001): Rare earth elements in synthetic zircon. 2. A single-crystal X-ray study of xenotime substitution. *American Mineralogist* 86, 681-689.
103. Cahill, C.L., Krivovichev, S.V., Burns, P.C., Bekenova, G.K. & Shabanova, T.A. (2001): The crystal structure of mitryaevaite,  $\text{Al}_5(\text{PO}_4)_2[(\text{P},\text{S})\text{O}_3(\text{OH},\text{O})]_2\text{F}_2(\text{OH})_2(\text{H}_2\text{O})_8 \cdot 6.58\text{H}_2\text{O}$ , determined from a microcrystal using synchrotron radiation. *Canadian Mineralogist* 39, 179-186.
102. Krivovichev, S.V. & Burns, P.C. (2001): Crystal chemistry of uranyl molybdates. III. New structural themes in  $\text{Na}_6[(\text{UO}_2)_2\text{O}(\text{MoO}_4)_4]$ ,  $\text{Na}_6[(\text{UO}_2)(\text{MoO}_4)_4]$  and  $\text{K}_6[(\text{UO}_2)_2\text{O}(\text{MoO}_4)_4]$ . *Canadian Mineralogist* 39, 207-214.
101. Krivovichev, S.V. & Burns, P.C. (2001): Crystal chemistry of uranyl molybdates. IV. The structures of  $M_2[(\text{UO}_2)_6(\text{MoO}_4)_7(\text{H}_2\text{O})_2]$  ( $M = \text{Cs}, \text{NH}_4$ ). *Canadian Mineralogist* 39, 215-226.
100. Jackson, Jennifer M. & Burns, P.C. (2001): A re-evaluation of the structure of weeksite, a uranyl silicate framework mineral. *Canadian Mineralogist* 39, 187-195.
99. Cahill, C.L. & Burns, P.C. (2001): Building unit and topological evolution in the hydrothermal DABCO-U-F system. *Inorganic Chemistry* 40, 1347-1351.
98. Li, Y., Krivovichev, S.V. & Burns, P.C. (2001): The crystal structure of  $\text{Na}_4(\text{UO}_2)(\text{CO}_3)_3$  and its relationship to schröckingerite. *Mineralogical Magazine* 65, 285-292.
97. Roberts, A.C., Burns, P.C., Gault, R.A., Criddle, A.J., Feinglos, M.N. & Stirling, J.A.R. (2001): Paganoite,  $\text{NiBi}(3+)\text{As}(5+)\text{O}_5$ , a new mineral from Johanngeorgenstadt, Saxony, Germany: description and crystal structure. *European Journal of Mineralogy* 13, 167-175.
96. Li, Yaping & Burns, P.C. (2000): Synthesis and crystal structure of a new Pb uranyl oxide hydrate with a framework structure that contains channels. *Canadian Mineralogist* 38, 1433-1441.
95. Hawthorne, F.C., Krivovichev, S.V. & Burns, P.C. (2000): The crystal chemistry of sulfate minerals. *Reviews in Mineralogy and Geochemistry* 40, 1-112.
94. Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of uranyl molybdates. II. The crystal structure of iriginitite. *Canadian Mineralogist* 38, 847-851.
93. Burns, P.C., McCracken, C.M.C. & Gault, R.A. (2000): Juabite,  $\text{CaCu}_{10}(\text{Te}^{4+}\text{O}_3)_4(\text{AsO}_4)_4(\text{OH})_2(\text{H}_2\text{O})_4$ : Crystal structure and revision of chemical formula. *Canadian Mineralogist* 38, 809-816.
92. Burns, P.C., Roberts, A.C., Stirling, J.A.R., Criddle, A.J. & Feinglos, M.N. (2000): Dukeite,  $\text{Bi}_{24}^{3+}\text{Cr}_{8}^{6+}\text{O}_{57}(\text{OH})_6(\text{H}_2\text{O})_3$ , a new mineral from Brejaúba, Minas Gerais, Brazil: Description and crystal structure. *American Mineralogist* 85, 1822-1827.
91. Burns, P.C., Pluth, J.J., Smith, J.V., Eng, P., Steele, I. & Housley, R.M. (2000): Quetzalcoatlite: New octahedral-tetrahedral structure from 5-micrometer crystal at the Advanced Photon Source-GSE-CARS facility. *American Mineralogist* 85, 604-607.
90. Burns, P.C. (2000): A new uranyl phosphate chain in the structure of parsonsite. *American Mineralogist* 85, 801-805.
89. Burns, P.C. & Hill, F.C. (2000): Implications of the synthesis and structure of the Sr analogue of curite. *Canadian Mineralogist* 38, 175-182.
88. Li, Y., Burns, P.C. & Gault, R.A. (2000): A new rare-earth element uranyl carbonate sheet in the structure of bijvoetite-(Y). *Canadian Mineralogist* 38, 153-162.

87. Burns, P.C., Smith, J.V. & Steele, I. (2000): Arizona porphyry copper/hydrothermal deposits I. The structure of chenevixite and luetheite. *Mineralogical Magazine* 64, 25-30.
86. Fayek, M., Burns, P.C., Guo, Y.X. & Ewing, R.C. (2000): Micro-structures associated with uraninite alteration. *Journal of Nuclear Materials* 277, 204-210.
85. Mitchell, R.H., Burns, P.C. & Chakhmouradian, A.R. (2000): The crystal structures of loparite-(Ce). *Canadian Mineralogist* 38, 145-152.
84. Burns, P.C. & Hill, F.C. (2000): A new uranyl sheet in  $K_5[(UO_2)_{10}O_8(OH)_9](H_2O)$ : New insights into sheet anion-topologies. *Canadian Mineralogist* 38, 163-174.
83. Krivovichev, S.V., Kir'yanova, E.V., Filatov, S.K. & Burns, P.C. (2000)  $\beta$ -K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>. *Acta Crystallographica C56*, 629-630.
82. Fouke, B.W., Farmer, J.D., Des Marais, D.J., Pratt, L., Sturchio, N.C., Burns, P.C. & Discipulo, M.K. (2000): Depositional facies and aqueous-solid geochemistry of travertine-depositing hot springs (Angel Terrace, Mammoth Hot Springs, Yellowstone National Park, USA). *Journal of Sedimentary Research* 70, 565-585.
81. Mitchell, R.H., Yakovenchuk, V.N., Chakhmouradian, A.R., Burns, P.C. & Pakhomovsky, Y.A. (2000): Henrymeyerite, a new hollandite-group Ba-Fe titanite from Kovdor, Russia. *Canadian Mineralogist* 38, 617-626.
80. Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of uranyl molybdates. I. The structure and formula of umohoite. *Canadian Mineralogist* 38, 717-726.
79. Li, Y. & Burns, P.C. (2000): Investigations of crystal-chemical variation in lead uranyl oxide hydrates. I. Curite. *Canadian Mineralogist* 38, 727-735.
78. Li, Y. & Burns, P.C. (2000): Investigations of crystal-chemical variation in lead uranyl oxide hydrates. II. Fourmarierite. *Canadian Mineralogist* 38, 737-749.
77. Li, Y. & Burns, P.C. (2000): Refinement of the structure of bandylite. *Canadian Mineralogist* 38, 713-715.
76. Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of basic lead carbonates. I. Crystal structure of synthetic shannonite, Pb<sub>2</sub>O(CO<sub>3</sub>). *Mineralogical Magazine* 64, 1043-1048.
75. Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of lead carbonates. II. Crystal structure and formula of synthetic "plumbonacrite". *Mineralogical Magazine* 64, 1049-1055.
74. Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of basic lead carbonates. III. Crystal structures of Pb<sub>3</sub>O<sub>2</sub>(CO<sub>3</sub>) and NaPb<sub>2</sub>(OH)(CO<sub>3</sub>)<sub>2</sub>. *Mineralogical Magazine* 64, 1056-1066.
73. Li, Yaping, Krivovichev, S.V. & Burns, P.C. (2000): Crystal chemistry of lead oxide hydrate nitrates. I. The crystal structure of [Pb<sub>6</sub>O<sub>4</sub>](OH)(NO<sub>3</sub>)(CO<sub>3</sub>). *Journal of Solid State Chemistry* 153, 365-370.
72. Cahill, C.L. & Burns, P.C. (2000): The structure of agrinierite: A Sr-containing uranyl oxide hydrate mineral. *American Mineralogist* 85, 1294-1297.
71. Burns, P.C., Olson, R.A., Finch, R.J., Hanchar, J.M. and Thibault, Y. (2000): KNa<sub>3</sub>(UO<sub>2</sub>)<sub>2</sub>(Si<sub>4</sub>O<sub>10</sub>)<sub>2</sub>(H<sub>2</sub>O)<sub>4</sub>, a new compound formed during vapor hydration of an actinide-bearing borosilicate waste glass. *Journal of Nuclear Materials* 278, 290-300.
70. Chen, Fanrong, Burns, P.C. & Ewing, R.C. (2000): Near-field behavior of <sup>99</sup>Tc during the oxidative alteration of spent nuclear fuel. *Journal of Nuclear Materials* 278, 225-232.

69. Chakhmourdian, A.R., Mitchell, R.H. & Burns, P.C. (2000): The A-site deficient ordered perovskite  $\text{Th}_{0.25}\square_{0.75}\text{NbO}_3$ : A re-investigation. *Journal of Alloys and Compounds* 307, 149-156.
68. Li, Y., Krivovichev, S.V. & Burns, P.C. (2000): The crystal structure of thornasite,  $\text{Na}_{12}\text{Th}_3[\text{Si}_8\text{O}_{19}]_4(\text{H}_2\text{O})_{18}$ : a novel interrupted silicate framework. *American Mineralogist* 85, 1521-1525.
67. Burns, P.C. (1999): The crystal chemistry of uranium. *Reviews in Mineralogy* 38, 23-90.
66. Burns, P.C. (1999): Cs boltwoodite obtained by ion exchange from single crystals: Implications for radionuclide release in a nuclear repository. *Journal of Nuclear Materials* 265, 218-223.
65. Burns, P.C. & Finch, R.J. (1999): Wyartite: crystallographic evidence for the first pentavalent-uranium mineral. *American Mineralogist* 84, 1456-1460.
64. Burns, P.C. (1999): A new sheet complex of uranyl polyhedra in the structure of wölsendorfite. *American Mineralogist* 84, 1661-1673.
63. Burns, P.C. & Hanchar, J.M. (1999): The structure of masuyite,  $\text{Pb}[(\text{UO}_2)_3\text{O}_3(\text{OH})_2](\text{H}_2\text{O})_3$ , and its relationship to protasite. *Canadian Mineralogist* 37, 1483-1491.
62. Burns, P.C. (1999): The crystal structure of edoyerite determined from a microcrystal. *Canadian Mineralogist* 37, 113-118.
61. Chen, Fanrong, Burns, P.C. & Ewing, R.C. (1999):  $^{75}\text{Se}$ : Geochemical and crystallo-chemical retardation mechanisms. *Journal of Nuclear Materials* 275, 81-94.
60. Grice, J.D., Burns, P.C. & Hawthorne, F.C. (1998): Borate minerals II: A hierarchy of structures based upon the borate fundamental building block. *Canadian Mineralogist*, 37, 731-762.
59. Hill, F.C. & Burns, P.C. (1999): Structure of a synthetic Cs uranyl oxide hydrate and its relationship to compreignacite. *Canadian Mineralogist* 37, 1283-1288.
58. Burns, P.C. (1998): CCD X-ray area detectors applied to the analysis of mineral structures. *Canadian Mineralogist* 36, 847-853.
57. Burns, P.C. (1998): The structure of boltwoodite and implications of solid-solution towards sodium boltwoodite. *Canadian Mineralogist* 36, 1069-1075.
56. Burns, P.C. (1998): The structure of compreignacite,  $\text{K}_2[(\text{UO}_2)_3\text{O}_2(\text{OH})_3]_2(\text{H}_2\text{O})_7$ . *Canadian Mineralogist* 36, 1061-1067.
55. Burns, P.C. (1998): The structure of richetite, a rare lead uranyl oxide hydrate. *Canadian Mineralogist* 36, 187-199.
54. Burns, P.C., Roberts, A.C. & Nikischer, A.J. (1998): The crystal structure of  $\text{Ca}[\text{Zn}_8(\text{SO}_4)_2(\text{OH})_{12}\text{Cl}_2](\text{H}_2\text{O})_9$ , a new phase from slag dumps at Val Varenna, Italy. *European Journal of Mineralogy* 10, 923-930.
53. Burns, P.C. (1998): The crystal structure of szenicsite,  $\text{Cu}_3\text{MoO}_4(\text{OH})_4$ . *Mineralogical Magazine* 62 461-469.
52. Novak, M., Burns, P.C. & Morgan, G.B. VI (1998): Fluorine variations in hambergite from granitic pegmatites. *Canadian Mineralogist* 36, 441-446.
51. Mitchell, R.H., Choi, J.B., Hawthorne, F.C., McCammon, C.A. & Burns, P.C. (1998): Latrappite: A re-investigation. *Canadian Mineralogist* 36, 107-116.

50. Burns, P.C. (1997): A new uranyl oxide hydrate sheet in the structure of vandendriesscheite: Implications for mineral paragenesis and the corrosion of spent nuclear fuel. *American Mineralogist* 82, 1176-1186.
49. Burns, P.C., Ewing, R.C. & Hawthorne, F.C. (1997): The crystal chemistry of hexavalent uranium: Polyhedral geometries, bond-valence parameters, and polymerization of polyhedra. *Canadian Mineralogist* 35, 1551-1570.
48. Burns, P.C., Ewing, R.C. & Miller, M.L. (1997): Incorporation mechanisms of actinide elements into the structures of U<sup>6+</sup> phases formed during the oxidation of spent nuclear fuel. *Journal of Nuclear Materials* 245, 1-9.
47. Burns, P.C., Finch, R.J., Hawthorne, F.C., Miller, M.L., & Ewing, R.C. (1997): The crystal structure of ianthinite, [U<sup>4+</sup><sub>2</sub> (UO<sub>2</sub>)<sub>4</sub>O<sub>6</sub>(OH)<sub>4</sub>(H<sub>2</sub>O)<sub>4</sub>](H<sub>2</sub>O)<sub>5</sub>: A possible phase for Pu<sup>4+</sup> incorporation during the oxidation of spent nuclear fuel. *Journal of Nuclear Materials* 249, 199-206.
46. Burns, P.C. & Carpenter, M.A. (1997): Phase transitions in the series boracite-trembachite-congolite: An infrared spectroscopic study. *Canadian Mineralogist* 35, 189-202.
45. Burns, P.C., Hawthorne, F.C., Libowitsky, E., Bordes, N. & Ewing, R.C. (1997): Donathite discredited: a mixture of two spinels. *Neues Jahrbuch für Mineralogie Monatshefte*, 163-174.
44. Hawthorne, F.C. & Burns, P.C. (1997): The crystal structure of jørgensenite. *Canadian Mineralogist* 35, 1509-1514.
43. Pauly, H., Hawthorne, F.C., Burns, P.C. & Della Ventura, G. (1997): Jørgensenite: Na<sub>2</sub>(Sr,Ba)<sub>14</sub>Na<sub>2</sub>Al<sub>12</sub>F<sub>64</sub>(OH,F)<sub>4</sub>, a new aluminofluoride mineral from Ivigtut, Greenland. *Canadian Mineralogist* 35, 175-179.
42. Burns, P.C., Miller, M.L. & Ewing, R.C. (1996): U<sup>6+</sup> minerals and inorganic phases: a comparison and hierarchy of structures. *Canadian Mineralogist* 34, 845-880.
41. Burns, P.C. & Carpenter, M.A. (1996): Phase transitions in the series boracite-trembachite-congolite: phase relations. *Canadian Mineralogist* 34, 881-892.
40. Burns, P.C., Hawthorne, F.C., Hofmeister, A.M. & Moret, S.L. (1996): A structural phase-transition in K(Mg<sub>1-x</sub>Cu<sub>x</sub>)F<sub>3</sub> perovskite. *Physics and Chemistry of Minerals* 23, 141-150.
39. Burns, P.C. & Hawthorne, F.C. (1996): Static and dynamic Jahn-Teller effects in Cu<sup>2+</sup> oxysalts. *Canadian Mineralogist* 34, 1089-1105.
38. Hawthorne, F.C., Burns, P.C. & Grice, J.D. (1996): The crystal chemistry of boron. *Mineralogical Society of America Reviews in Mineralogy* 33, 41-115.
37. Miller, M.L., Finch, R.J., Burns, P.C., & Ewing, R.C. (1996): Description and classification of uranium oxide hydrate sheet topologies. *Journal of Materials Research* 11, 3048-3056.
36. Burns, P.C. (1995): Borate clusters and fundamental building blocks containing four polyhedra: Why few clusters are utilized as fundamental building blocks. *Canadian Mineralogist* 33, 1167-1176.
35. Burns, P.C., Novak, M. & Hawthorne, F.C. (1995): Fluorine-hydroxyl variation in hambergite: A crystal-structure study. *Canadian Mineralogist* 33, 1205-1213.
34. Burns, P.C., Grice, J.D. & Hawthorne, F.C. (1995): Borate minerals I: polyhedral clusters and fundamental building blocks. *Canadian Mineralogist* 33, 1131-1151.

33. Burns, P.C. & Hawthorne, F.C. (1995): Coordination-geometry structural pathways in Cu<sup>2+</sup> oxysalt minerals. *Canadian Mineralogist* 33, 889-905. Translated into Chinese (1996) in *Journal of Geoscience Translations* 4.
32. Burns, P.C. & Hawthorne, F.C. (1995): Mixed-ligand Cu<sup>2+</sup>O<sub>6</sub> octahedra in minerals: Observed stereochemistry and Hartree-Fock calculations. *Canadian Mineralogist* 33, 1177-1188.
31. Burns, P.C. (1995): X-ray powder diffraction data for the identification of boracite-type minerals. *Powder Diffraction* 10, 250-260.
30. Burns, P.C., Cooper, M.A. & Hawthorne, F.C. (1995): Parakhinite, Cu<sup>2+</sup><sub>3</sub>PbTe<sup>6+</sup>O<sub>6</sub>(OH)<sub>2</sub>: Crystal structure and revision of chemical formula. *Canadian Mineralogist* 33, 33-40.
29. Burns, P.C. & Hawthorne, F.C. (1995): Hydrogen bonding in borcarite, an unusual borate-carbonate mineral. *Mineralogical Magazine* 59, 297-304 .
28. Burns, P.C. & Hawthorne, F.C. (1995): The crystal structure of sinkankasite, a complex heteropolyhedral sheet mineral. *American Mineralogist* 80, 620-627.
27. Burns, P.C., Cooper, M.A. & Hawthorne, F.C. (1995): Claringbullite: a Cu<sup>2+</sup> oxysalt with Cu<sup>2+</sup> in trigonal-prismatic coordination. *Canadian Mineralogist* 33, 633-639.
26. Burns, P.C. & Hawthorne, F.C. (1995): Rietveld refinement of the crystal structure of olivenite: a twinned monoclinic structure. *Canadian Mineralogist* 33, 885-888.
25. Burns, P.C., MacDonald, D.J. & Hawthorne, F.C. (1994): The crystal chemistry of manganese-bearing elbaite. *Canadian Mineralogist* 32, 31-41.
24. Burns, P.C. & Hawthorne, F.C. (1994): Structure and hydrogen bonding in preobrazhenskite, a complex heteropolyhedral borate. *Canadian Mineralogist* 32, 387-396.
23. Burns, P.C., Cooper, M.A. & Hawthorne, F.C. (1994): Jahn-Teller distorted Mn<sup>3+</sup>O<sub>6</sub> octahedra in fredrikssonite, the fourth polymorph of Mg<sub>2</sub>Mn<sup>3+</sup>(BO<sub>3</sub>)O<sub>2</sub>. *Canadian Mineralogist* 32, 397-403.
22. Burns, P.C. & Hawthorne, F.C. (1994): Refinement of the structure of hilgardite-1A. *Acta Crystallographica C*50, 653-655.
21. Burns, P.C. & Hawthorne, F.C. (1994): The crystal structure of humberstonite, a mixed sulfate-nitrate mineral. *Canadian Mineralogist* 32, 381-385.
20. Burns, P.C. & Hawthorne, F.C. (1994): Structure and hydrogen bonding in inderborite, a heteropolyhedral sheet structure. *Canadian Mineralogist* 32, 533-539.
19. Burns, P.C. & Hawthorne, F.C. (1994): Kaliborite: an example of a crystallographically symmetrical hydrogen bond. *Canadian Mineralogist* 32, 885-894.
18. Burns, P.C. & Hawthorne, F.C. (1994): Hydrogen bonding in tunellite. *Canadian Mineralogist* 32, 895-902.
17. Grice, J.D., Burns, P.C. & Hawthorne, F.C. (1994): Determination of the megastructures of the borate polymorphs, pringleite and ruitenbergite. *Canadian Mineralogist* 32, 1-14.
16. Boschmann, K., Burns, P.C., Hawthorne, F.C., Raudsepp, M. and Turnock, A.C. (1994): A-site disorder in synthetic fluor-edenite, a crystal structure study. *Canadian Mineralogist* 32, 21-30.

15. Burns, P.C. & Hawthorne, F.C. (1993): Edge-sharing Mn<sup>2+</sup>O<sub>4</sub> tetrahedra in the structure of akatoreite, Mn<sup>2+</sup><sub>9</sub>Al<sub>2</sub>Si<sub>8</sub>O<sub>24</sub>(OH)<sub>8</sub>. *Canadian Mineralogist* 31, 321-329.
14. Burns, P.C. & Hawthorne, F.C. (1993): Hydrogen positions in colemanite: an X-ray and structure energy study. *Canadian Mineralogist* 31, 297-304.
13. Burns, P.C. & Hawthorne, F.C. (1993): The crystal structure of dietzeite, Ca<sub>2</sub>(IO<sub>3</sub>)<sub>2</sub>CrO<sub>4</sub>·H<sub>2</sub>O, a heteropolyhedral framework structure. *Canadian Mineralogist* 31, 313-319.
12. Burns, P.C. & Hawthorne, F.C. (1993): Tolbachite, CuCl<sub>2</sub>, the first example of Cu<sup>2+</sup> octahedrally coordinated by Cl<sup>-</sup>. *American Mineralogist* 78, 187-189.
11. Burns, P.C. & Hawthorne, F.C. (1993): Hydrogen positions in meyerhofferite: an X-ray and structure energy study. *Canadian Mineralogist* 31, 305-312.
10. Burns, P.C., Hawthorne, F.C., MacDonald, D.J., Della Ventura, G. & Parodi, G.C. (1993): The crystal structure of stillwellite. *Canadian Mineralogist* 31, 147-152.
9. Burns, P.C. & Hawthorne, F.C. (1993): Rietveld refinement of the crystal structure of  $\alpha$ -CoSO<sub>4</sub>. *Powder Diffraction* 8, 54-56.
8. Hawthorne, F.C., MacDonald, D.J. & Burns, P.C. (1993): Reassignment of cation site-occupancies in tourmaline: Al/Mg disorder in the crystal structure of dravite. *American Mineralogist* 78, 265-270.
7. Roberts, A.C., Stirling, J.A.R., Grice, J.D., Burns, P.C., Roulston, B.V. & Jambor, J.L. (1993): Pringleite and ruitenbergite, two new polymorphs of Ca<sub>9</sub>B<sub>36</sub>O<sub>34</sub>(OH)<sub>24</sub>Cl<sub>4</sub>·13H<sub>2</sub>O, from Sussex, New Brunswick. *Canadian Mineralogist* 31, 795-800.
6. Burns, P.C., Hawthorne, F.C. & Stirling, J.A.R. (1992): Trembathite, (Mg,Fe)<sub>3</sub>B<sub>7</sub>O<sub>13</sub>Cl, a new borate mineral from the Salt Springs potash deposit, Sussex, New Brunswick. *Canadian Mineralogist*. 30, 445-448.
5. Burns, P.C., Eby, R.K. & Hawthorne, F.C. (1991): Liroconite, Cu<sub>2</sub>Al(AsO<sub>4</sub>)(OH)<sub>4</sub>(H<sub>2</sub>O)<sub>4</sub>, a heteropolyhedral framework oxy salt mineral. *Acta Crystallographica C*47, 916-919.
4. Burns, P.C. & Hawthorne, F.C. (1991): Rietveld refinement of the crystal structure of CuF<sub>2</sub>. *Powder Diffraction* 6, 156-158.
3. Sherriff, B.L., Fleet, M.E., & Burns, P.C. (1991): Tetrahedral site ordering in synthetic gallium albite; a <sup>29</sup>Si MAS NMR Study. *Journal of Solid State Chemistry* 94, 52-58.
2. Burns, P.C. & Fleet, M.E. (1990): Unit-cell dimensions and tetrahedral-site ordering in synthetic gallium albite (NaGaSi<sub>3</sub>O<sub>8</sub>). *Physics and Chemistry of Minerals* 17, 108-116.
1. Fleet, M.E. & Burns, P.C. (1990): Structure and twinning of cobaltite. *Canadian Mineralogist* 28, 719-724.