

**Mixed carbon substrates: a necessary nuisance or a missed opportunity?**

Liu, N., Santala, S. & Stephanopoulos, G., 1 Apr 2020, In : CURRENT OPINION IN BIOTECHNOLOGY. 62, p. 15-21 7 p.  
Research output: Contribution to journal > Review Article > Scientific > peer-review

**Linking volatile and non-volatile compounds to sensory profiles and consumer liking of wild edible Nordic mushrooms**

Aisala, H., Manninen, H., Laaksonen, T., Linderborg, K. M., Myoda, T., Hopia, A. & Sandell, M., 30 Jan 2020, In : Food Chemistry. 304, 125403.

Research output: Contribution to journal > Article > Scientific > peer-review

**Power production and microbial community composition in thermophilic acetate-fed up-flow and flow-through microbial fuel cells**

Dessi, P., Chatterjee, P., Mills, S., Kokko, M., Lakaniemi, A-M., Collins, G. & Lens, P. N. L., 1 Dec 2019, In : Bioresource Technology. 294, 122115.

Research output: Contribution to journal > Article > Scientific > peer-review

**Programmable responsive hydrogels inspired by classical conditioning algorithm**

Zhang, H., Zeng, H., Priimägi, A. & Ikkala, O., 1 Dec 2019, In : Nature Communications. 10, 1, 3267.

Research output: Contribution to journal > Article > Scientific > peer-review

**Anaerobic treatment of LCFA-containing synthetic dairy wastewater at 20°C: Process performance and microbial community dynamics**

Singh, S., Rinta-Kanto, J. M., Kettunen, R., Tolvanen, H., Lens, P., Collins, G., Kokko, M. & Rintala, J., 15 Nov 2019, In : Science of the Total Environment. 691, p. 960-968 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Lewis Base-Catalyzed Modification of Ortho-Substituted Phenols**

Assoah, B., 15 Nov 2019, Tampere University. 76 p. (Tampere University Dissertations; vol. 160)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Miniature CoCr laser welds under cyclic shear: Fatigue evolution and crack growth**

Kanerva, M., Besharat, Z., Pärnänen, T., Jokinen, J., Honkanen, M., Sarlin, E., Göthelid, M. & Schlenzka, D., 1 Nov 2019, In : Journal of the Mechanical Behavior of Biomedical Materials. 99, p. 93-103 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effects of elevated pressures on the activity of acidophilic bioleaching microorganisms**

Hajdu-Rahkama, R., Ahoranta, S., Lakaniemi, A-M. & Puhakka, J. A., 15 Oct 2019, In : Biochemical Engineering Journal. 150, 107286.

Research output: Contribution to journal > Article > Scientific > peer-review

**Utilizing mixed-mineralogy ferroan magnesite tailings as the source of magnesium oxide in magnesium potassium phosphate cement**

Ismailov, A., Merilaita, N., Solismaa, S., Karhu, M. & Levänen, E., 9 Oct 2019, In : Construction and building materials. 231, 117098.

Research output: Contribution to journal > Article > Scientific > peer-review

**Controlled Orientations of Neighboring Tetracene Units by Mixed Self-Assembled Monolayers on Gold Nanoclusters for High-Yield and Long-Lived Triplet Excited States through Singlet Fission**

Saegusa, T., Sakai, H., Nagashima, H., Kobori, Y., Tkachenko, N. V. & Hasobe, T., 18 Sep 2019, In : Journal of the American Chemical Society. 141, 37, p. 14720-14727 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effects of anode materials on electricity production from xylose and treatability of TMP wastewater in an up-flow microbial fuel cell**

Haavisto, J., Dessì, P., Chatterjee, P., Honkanen, M., Noori, M. T., Kokko, M., Lakaniemi, A. M., Lens, P. N. L. & Puhakka, J. A., 15 Sep 2019, In : Chemical Engineering Journal. 372, p. 141-150 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effects of nanofibrillated cellulose hydrogels on adipose tissue extract and hepatocellular carcinoma cell spheroids in freeze-drying**

Auvinen, V.-V., Merivaara, A., Kiiskinen, J., Paukkonen, H., Laurén, P., Hakkarainen, T., Koivuniemi, R., Sarkanen, R., Ylikomi, T., Laaksonen, T. & Yliperttula, M., 15 Sep 2019, In : *Cryobiology*.

Research output: Contribution to journal > Article > Scientific > peer-review

**Antibacterial polymer fibres by rosin compounding and melt-spinning**

Kanerva, M., Puolakka, A., Takala, T. M., Elert, A. M., Mylläri, V., Jönkkäri, I., Sarlin, E., Seitsonen, J., Ruokolainen, J., Saris, P. & Vuorinen, J., Sep 2019, In : *Materials Today Communications*. 20, 100527.

Research output: Contribution to journal > Article > Scientific > peer-review

**Critical Sensitizer Quality Attributes for Efficient Triplet–Triplet Annihilation Upconversion with Low Power Density Thresholds**

Durandin, N., Isokuortti, J., Efimov, A., Vuorimaa-Laukkanen, E., Tkachenko, N. V. & Laaksonen, T., 26 Aug 2019, In : *Journal of Physical Chemistry C*. 123, 37, p. 22865–22872

Research output: Contribution to journal > Article > Scientific > peer-review

**Nano-structured TiO<sub>2</sub> grown by low-temperature reactive sputtering for planar perovskite solar cells**

Alberti, A., Smecca, E., Sanzaro, S., Bongiorno, C., Giannazzo, F., Mannino, G., La Magna, A., Liu, M., Vivo, P., Listorti, A., Calabro', E., Matteocci, F. & Di Carlo, A., 16 Aug 2019, In : *ACS Applied Energy Materials*. 2, 9, p. 6218–6229 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Chlorine induced high-temperature corrosion mechanisms in HVOF and HVOF sprayed Cr<sub>3</sub>C<sub>2</sub>-based hardmetal coatings**

Fantozzi, D., Matikainen, V., Uusitalo, M., Koivuluoto, H. & Vuoristo, P., 14 Aug 2019, In : *Corrosion Science*. 108166.

Research output: Contribution to journal > Article > Scientific > peer-review

**Alkane and wax ester production from lignin-related aromatic compounds**

Salmela, M., Lehtinen, T., Efimova, E., Santala, S. & Santala, V., 1 Aug 2019, In : *Biotechnology and Bioengineering*. 116, 8, p. 1934–1945 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Photochemistry of dithiophosphate Ni(S<sub>2</sub>P(i-Bu)<sub>2</sub>)<sub>2</sub> complex in CCl<sub>4</sub>. Transient species and TD-DFT calculations**

Solovyev, A. I., Mikheyli, A. V., Plyusnin, V. F., Shubin, A. A., Grivin, V. P., Larionov, S. V., Tkachenko, N. V. & Lemmetyinen, H., 1 Aug 2019, In : *Journal of Photochemistry and Photobiology A: Chemistry*. 381, 111857.

Research output: Contribution to journal > Article > Scientific > peer-review

**Pyrolytic behavior of lignocellulosic-based polysaccharides**

Ghalibaf, M., Doddapaneni, T. R. K. C. & Alén, R., Jul 2019, In : *Journal of Thermal Analysis and Calorimetry*. 137, 1, p. 121–131

Research output: Contribution to journal > Article > Scientific > peer-review

**Photocontrol of Supramolecular Azo-Containing Block Copolymer Thin Films during Dip-Coating: Toward Nanoscale Patterned Coatings**

Vapaavuori, J., Grosrenaud, J., Siiskonen, A., Priimägi, A., Pellerin, C. & Bazuin, C. G., 28 Jun 2019, In : *ACS Applied Nano Materials*. 2, 6, p. 3526–3537 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Photoreversible Soft Azo Dye Materials: Toward Optical Control of Bio-Interfaces**

Chang, V. Y., Fedele, C., Priimägi, A., Shishido, A. & Barrett, C. J., 29 May 2019, In : *Advanced Optical Materials*. p. 1900091

Research output: Contribution to journal > Article > Scientific > peer-review

**Lasing in Ni Nanodisk Arrays**

Pourjamal, S., Hakala, T. K., Nečada, M., Freire-Fernández, F., Kataja, M., Rekola, H., Martikainen, J. P., Törmä, P. & Van Dijken, S., 28 May 2019, In : *ACS Nano*. 13, 5, p. 5686–5692 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Photoinduced Charge Transfer Processes at Organic-Semiconductor Interfaces**

Virkki, K., 24 May 2019, Tampere University. 55 p. (Tampere University Dissertations; vol. 67)

Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Bioinspired Light Robots from Liquid Crystal Networks**

Wani, O., 17 May 2019, Tampere University. 70 p. (Tampere University Dissertations; vol. 64)

Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Dopant-free hole-transporting materials via thionation approach towards stable and efficient perovskite solar cells**

Liu, M. & Vivo, P., 12 May 2019.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

### **Long-term performance evaluation of an anoxic sulfur oxidizing moving bed biofilm reactor under nitrate limited conditions**

Khanongnuch, R., Di Capua, F., Lakaniemi, A-M., Rene, E. R. & Lens, P., 29 Apr 2019, In : Environmental Science: Water Research & Technology. 5, 6, p. 1072-1081

Research output: Contribution to journal › Article › Scientific › peer-review

### **Halide Perovskite Nanocrystals for Next-Generation Optoelectronics**

Liu, M., Zhang, H., Gedamu, D., Fourmont, P., Rekola, H., Hiltunen, A., Cloutier, S. G., Nechache, R., Priimägi, A. & Vivo, P., 23 Apr 2019, In : Small. 1900801.

Research output: Contribution to journal › Review Article › Scientific › peer-review

### **H<sub>2</sub>S removal and microbial community composition in an anoxic biotrickling filter under autotrophic and mixotrophic conditions**

Khanongnuch, R., Di Capua, F., Lakaniemi, A-M., Rene, E. R. & Lens, P., 5 Apr 2019, In : Journal of Hazardous Materials. 367, p. 397-406

Research output: Contribution to journal › Article › Scientific › peer-review

### **GIS-data related route optimization, hierarchical clustering, location optimization, and kernel density methods are useful for promoting distributed bioenergy plant planning in rural areas**

Laasasenaho, K., Lensu, A., Lauhanen, R. & Rintala, J., 1 Apr 2019, In : Sustainable Energy Technologies and Assessments. 32, p. 47-57 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Impacts of short-term temperature fluctuations on biohydrogen production and resilience of thermophilic microbial communities**

Okonkwo, O., Escudié, R., Bernet, N., Mangayil, R., Lakaniemi, A-M. & Trably, E., 29 Mar 2019, In : International Journal of Hydrogen Energy. 44, 16, p. 8028-8037

Research output: Contribution to journal › Article › Scientific › peer-review

### **Thiocyanate precursor impact on the formation of cobalt complexes: Synthesis and characterization**

Hannachi, A., Valkonen, A., Rzaigui, M. & Smirani, W., 15 Mar 2019, In : Polyhedron. 161, p. 222-230

Research output: Contribution to journal › Article › Scientific › peer-review

### **Synthetic metabolic pathway for the production of 1-alkenes from lignin-derived molecules**

Luo, J., Lehtinen, T., Efimova, E., Santala, V. & Santala, S., 11 Mar 2019, In : Microbial Cell Factories. 18, 1, 13 p., 48.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Vertical stratification of bacteria and archaea in sediments of a small boreal humic lake**

Rissanen, A. J., Peura, S., Mpamah, P. A., Taipale, S., Tirola, M., Biasi, C., Mäki, A. & Nykänen, H., 1 Mar 2019, In : FEMS Microbiology Letters. 366, 5

Research output: Contribution to journal › Article › Scientific › peer-review

**Quantitative Sequential Photoenergy Conversion Process from Singlet Fission to Intermolecular Two-Electron Transfers Utilizing Tetracene Dimer**

Nakamura, S., Sakai, H., Nagashima, H., Kobori, Y., Tkachenko, N. V. & Hasobe, T., 11 Jan 2019, In : ACS Energy Letters. 4, 1, p. 26-31 6 p.

Research output: Contribution to journal › Letter › Scientific › peer-review

**The economics of renewable  $\text{CaC}_2$  and  $\text{C}_2\text{H}_2$  production from biomass and  $\text{CaO}$**

Pääkkönen, A., Tolvanen, H. & Kokko, L., 1 Jan 2019, In : Biomass and Bioenergy. 120, p. 40-48 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**An Artificial Nocturnal Flower via Humidity-Gated Photoactuation in Liquid Crystal Networks**

Wani, O. M., Verpaalen, R., Zeng, H., Priimagi, A. & Schenning, A. P. H. J., Jan 2019, In : Advanced Materials. 31, 2, 1805985.

Research output: Contribution to journal › Article › Scientific › peer-review

**A Pentacene-based Nanotube Displaying Enriched Electrochemical and Photochemical Activities**

Kuroda, K., Yazaki, K., Tanaka, Y., Akita, M., Sakai, H., Hasobe, T., Tkachenko, N. V. & Yoshizawa, M., Jan 2019, In : Angewandte Chemie - International Edition. 58, 4, p. 1115-1119

Research output: Contribution to journal › Article › Scientific › peer-review

**Charge carrier dynamics in tantalum oxide overlayers and tantalum doped hematite photoanodes**

Ruoko, T-P., Hiltunen, A., Iivonen, T., Ulkuniemi, R., Lahtonen, K., Ali-Löyty, H., Mizohata, K., Valden, M., Leskelä, M. & Tkachenko, N. V., Jan 2019, In : Journal of Materials Chemistry A. 7, 7, p. 3206-3215 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Acetotrophic Activity Facilitates Methanogenesis from LCFA at Low Temperatures: Screening from Mesophilic Inocula**

Singh, S., Rinta-Kanto, J., Kettunen, R., Lens, P., Collins, G., Kokko, M. & Rintala, J., 2019, In : ARCHAEA. 2019, 1751783.

Research output: Contribution to journal › Article › Scientific › peer-review

**Bio-hydrogen Production from Sewage Sludge: Screening for Pretreatments and Semi-continuous Reactor Operation**

El-Qelish, M., Chatterjee, P., Dessì, P., Kokko, M., El-Gohary, F., Abo-Aly, M. & Rintala, J., 2019, In : Waste and Biomass Valorization.

Research output: Contribution to journal › Article › Scientific › peer-review

**Charge transfer dynamics in  $\text{CsPbBr}_3$  perovskite quantum dots-anthraquinone/fullerene ( $\text{C}_{60}$ ) hybrids**

Mandal, S., George, L. & Tkachenko, N. V., 2019, In : Nanoscale. 11, 3, p. 862-869 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Effect of macro- and micro-nutrients addition during anaerobic mono-digestion of grass silage in leach-bed reactors**

Jagadabhi, P. S., Kaparaju, P., Väisänen, A. & Rintala, J., 2019, In : Environmental Technology. 40, 4, p. 418-429 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Exclusive occurrence of photoinduced energy transfer and switching of its direction by rectangular  $\pi$ -extension of nanographenes**

Umeyama, T., Hanaoka, T., Yamada, H., Namura, Y., Mizuno, S., Ohara, T., Baek, J., Park, J., Takano, Y., Stranius, K., Tkachenko, N. V. & Imahori, H., 2019, In : Chemical Science. 10, 27, p. 6642-6650 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Influence of titanium dioxide surface activation on the performance of mesoscopic perovskite solar cells**

Masood, M. T., Weinberger, C., Qudsia, S., Rosqvist, E., Sandberg, O., Nyman, M., Sänden, S., Vivo, P., Aitola, K., Lund, P. D., Österbacka, R. & Smått, J-H., 2019, In : Thin Solid Films. 686, 137418.

Research output: Contribution to journal › Article › Scientific › peer-review

**Low-dimensional formamidinium lead perovskite architectures via controllable solvent intercalation**

Shin, M., Kim, J., Jung, Y. K., Ruoko, T-P., Priimagi, A., Walsh, A. & Shin, B., 2019, In : Journal of Materials Chemistry C. 7, 13, p. 3945-3951 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Metabolic profiling of water-soluble compounds from the extracts of dark septate endophytic fungi (DSE) isolated from scots pine (*Pinus sylvestris* L.) seedlings using UPLC–orbitrap–MS**

Tienaho, J., Karonen, M., Muilu-Mäkelä, R., Wähälä, K., Denegri, E. L., Franzén, R., Karp, M., Santala, V. & Sarjala, T., 2019, In : *Molecules*. 24, 12, 2330.

Research output: Contribution to journal › Article › Scientific › peer-review

**Multiphoton Excitation of CsPbBr<sub>3</sub> Perovskite Quantum Dots (PQDs): How Many Electrons Can One PQD Donate to Multiple Molecular Acceptors?**

Mandal, S. & Tkachenko, N. V., 2019, In : *Journal of Physical Chemistry Letters*. p. 2775-2781 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**O<sub>2</sub>-requiring molecular reporters of gene expression for anaerobic microorganisms**

Guglielmetti, S., Santala, V., Mangayil, R., Ciranna, A. & Karp, M. T., 2019, In : *Biosensors and Bioelectronics*. 123, p. 1-6 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoreactions of macrocyclic dyes on (1010) wurtzite surface – Interplay between conformation and electronic effects**

Golovanova, V. V., Nazarchuk, B. V., Postnyi, O. V., Rantala, T. T., Tkachenko, N. V. & Golovanov, V. V., 2019, In : *Ukrainian Journal of Physics*. 64, 1, p. 63-71 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Storing of exoelectrogenic anolyte for efficient microbial fuel cell recovery**

Haavisto, J. M., Lakaniemi, A-M. & Puhakka, J. A., 2019, In : *Environmental Technology*. 40, 11

Research output: Contribution to journal › Article › Scientific › peer-review

**Structure and Dynamics of Thermosensitive pDNA Polyplexes Studied by Time-Resolved Fluorescence Spectroscopy**

Fliervoet, L. A. L., Lisitsyna, E. S., Durandin, N. A., Kotsis, I., Maas-Bakker, R. F. M., Yliperttula, M., Hennink, W. E., Vuorimaa-Laukkanen, E. & Vermonden, T., 2019, In : *Biomacromolecules*.

Research output: Contribution to journal › Article › Scientific › peer-review

**Sustainability of bioenergy in finland and globally – fact check**

Vakkilainen, E., Kontinen, J., Orasuo, V. & Aalto, P., 2019, *27th European Biomass Conference and Exhibition, EUBCE 2019*. ETA-Florence Renewable Energies, p. 1634-1635 2 p. (European Biomass Conference and Exhibition Proceedings).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Synthesis of 6,12-disubstituted methanodibenzo[b,f][1,5]dioxocins: Pyrrolidine catalyzed self-condensation of 2'-Hydroxyacetophenones**

Assoah, B., Riihonen, V., Vale, J. R., Valkonen, A. & Candeias, N. R., 2019, In : *Molecules*. 24, 13, 2405.

Research output: Contribution to journal › Article › Scientific › peer-review

**Volatile fatty acid adsorption on anion exchange resins: kinetics and selective recovery of acetic acid**

Eregowda, T., Rene, E. R., Rintala, J. & Lens, P. N. L., 2019, In : *Separation Science and Technology (Philadelphia)*.

Research output: Contribution to journal › Article › Scientific › peer-review

**Zinc phthalocyanine activated by conventional indoor light makes a highly efficient antimicrobial material from regular cellulose**

Grammatikova, N. E., George, L., Ahmed, Z., Candeias, N. R., Durandin, N. A. & Efimov, A., 2019, In : *Journal of Materials Chemistry B*. 7, 28, p. 4379-4384

Research output: Contribution to journal › Article › Scientific › peer-review

**Reversible photodoping of TiO<sub>2</sub> nanoparticles**

Joost, U., Sutka, A., Oja, M., Smits, K., Doebelin, N., Loot, A., Järvekülg, M., Hirsimäki, M., Valden, M. & Nommiste, E., 26 Dec 2018, In : *Chemistry of Materials*. 30, 24, p. 8968-8974

Research output: Contribution to journal › Article › Scientific › peer-review

**Bioengineering optimization and microbial characterization of elemental sulfur-fueled denitrifying biofilms**

Kostrzytsia, A., 6 Dec 2018, 142 p.

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Experimental and Modeling Assessment of the Main Bio-physical-chemical mechanisms and Kinetics in High-solids Anaerobic Digestion of Organic Waste**

Pastor Poquet, V., 5 Dec 2018, 237 p.

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Optimization of fermentative biohydrogen production by *Thermotoga neapolitana***

Dreschke, G., 5 Dec 2018, 124 p.

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Highly Efficient Energy Transfer Cassettes by Assembly of Boronic Acid Derived Salicylidenehydrazone Complexes**

Santos, F. M. F., Dominguez, Z., Alcaide, M. M., Matos, A. I., Florindo, H. F., R. Candeias, N., Gois, P. M. P. & Pischel, U., Dec 2018, In : ChemPhotoChem. 2, 12, p. 1038-1045

Research output: Contribution to journal › Article › Scientific › peer-review

**Aminobenzylated 4-Nitrophenols as Antibacterial Agents Obtained from 5-Nitrosalicylaldehyde through a Petasis Borono-Mannich Reaction**

Rimpiläinen, T., Andrade, J., Nunes, A., Ntungwe, E., Fernandes, A. S., Vale, J. R., Rodrigues, J., Gomes, J. P., Rijo, P. & Candeias, N. R., 29 Nov 2018, In : ACS Omega. 3, 11, p. 16191-16202 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Liquid Crystal Polymer Networks and Elastomers for Light-Fueled Robotics**

Zeng, H., Lahikainen, M., Wani, O. M., Berdin, A. & Priimagi, A., 19 Nov 2018, *Photoactive Functional Soft Materials*. Li, Q. (ed.). John Wiley & Sons, Ltd, p. 197-226 30 p.

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

**High-Yield Generation of Triplet Excited States by an Efficient Sequential Photoinduced Process from Energy Transfer to Singlet Fission in Pentacene-Modified CdSe/ZnS Quantum Dots**

Sakai, H., Inaya, R., Tkachenko, N. V. & Hasobe, T., 16 Nov 2018, In : Chemistry - A European Journal. 24, 64, p. 17062-17071 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Understanding Dissolution and Crystallization with Imaging: A Surface Point of View**

Novakovic, D., Isomäki, A., Pleunis, B., Fraser-Miller, S. J., Peltonen, L., Laaksonen, T. & Strachan, C. J., 5 Nov 2018, In : Molecular Pharmaceutics. 15, 11, p. 5361-5373 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Production and Synthetic Modifications of Shikimic Acid**

Candeias, N. R., Assoah, B. & Simeonov, S. P., 24 Oct 2018, In : Chemical Reviews. 118, 20, p. 10458-10550 93 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Decane-1,2-diol derivatives as potential antitumor agents for the treatment of glioblastoma**

Viswanathan, A., Zhurina, A., Assoah, B., Paakkunainen, A., Musa, A., Kute, D., Saravanan, K. M., Yli-Harja, O., Candeias, N. R. & Kandhavelu, M., 15 Oct 2018, In : European Journal of Pharmacology. 837, p. 105-116

Research output: Contribution to journal › Article › Scientific › peer-review

**Reconfigurable photoactuator through synergistic use of photochemical and photothermal effects**

Lahikainen, M., Zeng, H. & Priimagi, A., 8 Oct 2018, In : Nature Communications. 9, 9 p., 4148.

Research output: Contribution to journal › Article › Scientific › peer-review

**Quantification of bio-anode capacitance in bioelectrochemical systems using Electrochemical Impedance Spectroscopy**  
Heijne, A. T., Liu, D., Sulonen, M., Sleutels, T. & Fabregat-Santiago, F., 1 Oct 2018, In : *Journal of Power Sources*. 400, p. 533-538 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Removal and recovery of uranium(VI) by waste digested activated sludge in fed-batch stirred tank reactor**

Jain, R., Peräniemi, S., Jordan, N., Vogel, M., Weiss, S., Foerstendorf, H. & Lakaniemi, A-M., 1 Oct 2018, In : *Water Research*. 142, p. 167-175 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Electro-concentration for chemical-free nitrogen capture as solid ammonium bicarbonate**

Jermakka, J., Thompson Brewster, E., Ledezma, P. & Freguia, S., 12 Sep 2018, In : *Separation and Purification Technology*. 203, p. 48-55 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Entangled and colloidally stable microcrystalline cellulose matrices in controlled drug release**

Dong, Y., Paukkonen, H., Fang, W., Kontturi, E., Laaksonen, T. & Laaksonen, P., 5 Sep 2018, In : *International Journal of Pharmaceutics*. 548, 1, p. 113-119 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Post operation inactivation of acidophilic bioleaching microorganisms using natural chloride-rich mine water**

Bomberg, M., Miettinen, H., Wahlström, M., Kaartinen, T., Ahoranta, S., Lakaniemi, A-M. & Kinnunen, P., 1 Sep 2018, In : *Hydrometallurgy*. 180, p. 236-245 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Recent progress in biohydrometallurgy and microbial characterisation**

Kaksonen, A. H., Boxall, N. J., Gumulya, Y., Khaleque, H. N., Morris, C., Bohu, T., Cheng, K. Y., Usher, K. M. & Lakaniemi, A-M., 1 Sep 2018, In : *Hydrometallurgy*. 180, p. 7-25 19 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced Energy Transfer in ZnCdSeS Quantum Dot-Phthalocyanines Hybrids**

Mandal, S., Garcia Iglesias, M., Ince, M., Torres, T. & Tkachenko, N. V., 31 Aug 2018, In : *ACS Omega*. 3, 8, p. 10048-10057 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**FLIM reveals alternative EV-mediated cellular up-take pathways of paclitaxel**

Saari, H., Lisitsyna, E., Rautaniemi, K., Rojalín, T., Niemi, L., Nivaro, O., Laaksonen, T., Yliperttula, M. & Vuorimaa-Laukkanen, E., 28 Aug 2018, In : *Journal of Controlled Release*. 284, p. 133-143 11 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Optimization of Fin Arrays Cooled by Forced or Natural Convection**

Lampio, K., 24 Aug 2018, Tampere University of Technology. 71 p. (Tampere University of Technology. Publication; vol. 1558)

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Methods to design optimum heat sink geometries**

Karvinen, R. & Lampio, K., 10 Aug 2018, *International Heat Transfer Conference, IHTC-16, August 10-15, 2018, Beijing, China*. p. 5041-5048 8 p. IHTC16-23247

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**A new method to optimize natural convection heat sinks**

Lampio, K. & Karvinen, R., Aug 2018, In : *Heat and Mass Transfer/Waerme- und Stoffuebertragung*. 54, 8, p. 2571-2580

Research output: Contribution to journal › Article › Scientific › peer-review

**Selenate removal in biofilm systems: Effect of nitrate and sulfate on selenium removal efficiency, biofilm structure and microbial community**

Tan, L. C., Espinosa-Ortiz, E. J., Nancharaiyah, Y. V., van Hullebusch, E. D., Gerlach, R. & Lens, P. N., Aug 2018, In : Journal of Chemical Technology and Biotechnology. 93, 8, p. 2380-2389  
Research output: Contribution to journal > Article > Scientific > peer-review

**Design aspects of all atomic layer deposited TiO<sub>2</sub>-Fe<sub>2</sub>O<sub>3</sub> scaffold-absorber photoanodes for water splitting**

Hiltunen, A., Ruoko, T-P., Iivonen, T., Lahtonen, K., Ali-Löytty, H., Sarlin, E., Valden, M., Leskelä, M. & Tkachenko, N., 31 Jul 2018, In : Sustainable Energy & Fuels. 2, 9, p. 2124-2130  
Research output: Contribution to journal > Article > Scientific > peer-review

**Comparison of electron injection and recombination on TiO<sub>2</sub> nanoparticles and ZnO nanorods photosensitized by phthalocyanine**

Virkki, K., Tervola, E., Ince, M., Torres, T. & Tkachenko, N. V., 11 Jul 2018, In : Royal Society Open Science. 5, 7, 180323.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Halogen-bond driven self-assembly of triangular macrocycles**

Szell, P. M. J., Siiskonen, A., Catalano, L., Cavallo, G., Terraneo, G., Priimägi, A., Bryce, D. L. & Metrangolo, P., 7 Jul 2018, In : New Journal of Chemistry. 42, 13, p. 10467-10471 5 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Metabolic pairing of aerobic and anaerobic production in a one-pot batch cultivation**

Salmela, M., Lehtinen, T., Efimova, E., Santala, S. & Mangayil, R., 3 Jul 2018, In : Biotechnology for Biofuels. 11, 1, 187.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Pectin and Mucin Enhance the Bioadhesion of Drug Loaded Nanofibrillated Cellulose Films**

Laurén, P., Paukkonen, H., Lipiäinen, T., Dong, Y., Oksanen, T., Räikkönen, H., Ehlers, H., Laaksonen, P., Yliperttula, M. & Laaksonen, T., 1 Jul 2018, In : Pharmaceutical Research. 35, 7, 145.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Multiexciton Dynamics Depending on Intramolecular Orientations in Pentacene Dimers: Recombination and Dissociation of Correlated Triplet Pairs**

Sakai, H., Inaya, R., Nagashima, H., Nakamura, S., Kobori, Y., Tkachenko, N. V. & Hasobe, T., 21 Jun 2018, In : Journal of Physical Chemistry Letters. 9, 12, p. 3354-3360 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Light-Activated Antimicrobial Materials Based on Perylene Imides and Phthalocyanines**

George, L., 6 Jun 2018, Tampere University of Technology. 92 p. (Tampere University of Technology. Publication; vol. 1554)  
Research output: Book/Report > Doctoral thesis > Collection of Articles

**Effects of wastewater constituents and operational conditions on the composition and dynamics of anodic microbial communities in bioelectrochemical systems**

Kokko, M., Epple, S., Gescher, J. & Kerzenmacher, S., 1 Jun 2018, In : Bioresource Technology. 258, p. 376-389 14 p.  
Research output: Contribution to journal > Review Article > Scientific > peer-review

**Lewis Base Catalyzed Intramolecular Reduction of Salicylaldehydes by Pinacol-Derived Chlorohydrosilane**

Assoah, B., Vale, J. R., Kalenius, E., Veiros, L. & Rafael Candeias, N., 1 Jun 2018, In : European Journal of Organic Chemistry. 2018, 23, p. 2910-2917  
Research output: Contribution to journal > Article > Scientific > peer-review

**Photo-antimicrobial efficacy of zinc complexes of porphyrin and phthalocyanine activated by inexpensive consumer LED lamp**

George, L., Hiltunen, A., Santala, V. & Efimov, A., 1 Jun 2018, In : Journal of Inorganic Biochemistry. 183, p. 94-100 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review



**Effect of Co-Adsorbate and Hole Transporting Layer on the Photoinduced Charge Separation at the TiO<sub>2</sub>-Phthalocyanine Interface**

Virkki, K., Tervola, E., Medel, M., Torres, T. & Tkachenko, N. V., 31 May 2018, In : ACS Omega. 3, 5, p. 4947-4958 12 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Mesophilic and thermophilic biohydrogen and bioelectricity production from real and synthetic wastewaters**

Dessi, P., 23 May 2018, Université Paris-Est. 89 p.  
Research output: Book/Report › Doctoral thesis › Collection of Articles

**Inoculum pretreatment differentially affects the active microbial community performing mesophilic and thermophilic dark fermentation of xylose**

Dessi, P., Porca, E., Frunzo, L., Lakaniemi, A-M., Collins, G., Esposito, G. & Lens, P. N. L., 10 May 2018, In : International Journal of Hydrogen Energy. 43, 19, p. 9233-9245  
Research output: Contribution to journal › Article › Scientific › peer-review

**Crystallization Kinetics of an Amorphous Pharmaceutical Compound Using Fluorescence-Lifetime-Imaging Microscopy**

Rautaniemi, K., Vuorimaa-Laukkanen, E., Strachan, C. J. & Laaksonen, T., 7 May 2018, In : Molecular Pharmaceutics. 15, 5, p. 1964-1971 8 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Investigating the kinetics and biofuel properties of *Alstonia congensis* and *Ceiba pentandra* via torrefaction**

Oluoti, K., Doddapaneni, T. R. K. C. & Richards, T., 1 May 2018, In : Energy. 150, p. 134-141 8 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Free amino acids and 5'-nucleotides in Finnish forest mushrooms**

Manninen, H., Rotola-Pukkila, M., Aisala, H., Hopia, A. & Laaksonen, T., May 2018, In : Food Chemistry. 247, p. 23-28 6 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Anaerobic digestion of 30–100-year-old boreal lake sedimented fibre from the pulp industry: Extrapolating methane production potential to a practical scale**

Kokko, M., Koskue, V. & Rintala, J., 15 Apr 2018, In : Water Research. 133, p. 218-226 9 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Nutrient management via struvite precipitation and recovery from various agroindustrial wastewaters: Process feasibility and struvite quality**

Taddeo, R., Honkanen, M., Kolppo, K. & Lepistö, R., 15 Apr 2018, In : Journal of Environmental Management. 212, p. 433-439 7 p.  
Research output: Contribution to journal › Article › Scientific › peer-review

**Composite Hydrogels Using Bioinspired Approach with in Situ Fast Gelation and Self-Healing Ability as Future Injectable Biomaterial**

Khan, M., Koivisto, J., Hukka, T., Hokka, M. & Kellomäki, M., 11 Apr 2018, In : ACS Applied Materials & Interfaces. 10, 14, p. 11950-11960  
Research output: Contribution to journal › Article › Scientific › peer-review

**Process Integration Approaches to Improve the Techno-Economic Feasibility of Torrefaction Process**

Doddapaneni, T. R. K. C., 6 Apr 2018, Tampere University of Technology. 84 p. (Tampere University of Technology. Publication; vol. 1539)  
Research output: Book/Report › Doctoral thesis › Collection of Articles

**Metabolic Engineering of *Acinetobacter baylyi* ADP1 for Improved Growth and Wax Ester Production Using Components of Lignocellulosic Hydrolysates as Carbon Sources**

Kannisto, M., 23 Mar 2018, Tampere University of Technology. 64 p. (Tampere University of Technology. Publication; vol. 1532)  
Research output: Book/Report › Doctoral thesis › Collection of Articles

**Thermal Isomerization of Hydroxyazobenzenes as a Platform for Vapor Sensing**

Poutanen, M., Ahmed, Z., Rautkari, L., Ikkala, O. & Priimägi, A., 20 Mar 2018, In : ACS Macro Letters. 7, 3, p. 381-386 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Modeling of Charge Transfer at Dye-Semiconductor Interfaces in p-Type Solar Cells**

Kontkanen, O. V., 2 Mar 2018, Tampere University of Technology. 117 p. (Tampere University of Technology. Publication; vol. 1530)

Research output: Book/Report > Doctoral thesis > Monograph

**Techno-economic analysis of a power to biogas system operated based on fluctuating electricity price**

Pääkkönen, A., Tolvanen, H. & Rintala, J., Mar 2018, In : Renewable Energy. 117, p. 166-174 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Critical role and modification of surface states in hematite films for enhancing oxygen evolution activity**

Pyeon, M., Ruoko, T-P., Leduc, J., Goenuellue, Y., Deo, M., Tkachenko, N. V. & Mathur, S., 28 Feb 2018, In : Journal of Materials Research. 33, 4, p. 455-466 12 p.

Research output: Contribution to journal > Review Article > Scientific > peer-review

**UV-Blocking Synthetic Biopolymer from Biomass-Based Bifuran Diester and Ethylene Glycol**

Kainulainen, T. P., Sirviö, J. A., Sethi, J., Hukka, T. I. & Heiskanen, J. P., 21 Feb 2018, In : Macromolecules. 51, 5, p. 1822-1829 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Pot-economy autooxidative condensation of 2-Aryl-2-lithio-1,3-dithianes**

Vale, J. R., Rimpiläinen, T., Sievänen, E., Rissanen, K., Afonso, C. A. M. & Candeias, N. R., 16 Feb 2018, In : Journal of Organic Chemistry. 83, 4, p. 1948-1958 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Quantitative Real-time PCR Monitoring Dynamics Of Thermotoga Neapolitana In Synthetic Co-Culture For Biohydrogen Production**

Okonkwo, O., Lakaniemi, A-M., Santala, V., Karp, M. & Mangayil, R., 8 Feb 2018, In : International Journal of Hydrogen Energy. 43, 6, p. 3133-3141 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Controlled Growth of Supported ZnO Inverted Nanopyramids with Downward Pointing Tips**

Barreca, D., Carraro, G., Maccato, C., Altantzis, T., Kaunisto, K. & Gasparotto, A., Feb 2018, In : Crystal Growth and Design. 18, 4, p. 2579-2587 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Ultralong 20 Milliseconds Charge Separation Lifetime for Photoilluminated Oligophenylenevinylene-Azafullerene Systems**

Rotas, G., Stranius, K., Tkachenko, N. & Tagmatarchis, N., Feb 2018, In : Advanced Functional Materials. 28, 7, 1702278.

Research output: Contribution to journal > Article > Scientific > peer-review

**Concentration-dependent photophysical switching in mixed self-assembled monolayers of pentacene and perylene diimide on gold nanoclusters**

Kato, D., Sakai, H., Araki, Y., Wada, T., Tkachenko, N. V. & Hasobe, T., 1 Jan 2018, In : Physical Chemistry Chemical Physics. 20, 13, p. 8695-8706 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Ortho-Fluorination of azophenols increases the mesophase stability of photoresponsive hydrogen-bonded liquid crystals**

Saccone, M., Kuntze, K., Ahmed, Z., Siiskonen, A., Giese, M. & Priimägi, A., 1 Jan 2018, In : Journal of Materials Chemistry C. 6, 37, p. 9958-9963 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **A Bioscreening Technique for Ultraviolet Irradiation Protective Natural Substances**

Tienaho, J., Poikulainen, E., Sarjala, T., Muilu-Mäkelä, R., Santala, V. & Karp, M., 2018, In : Photochemistry and Photobiology. 94, 6, p. 1273-1280

Research output: Contribution to journal › Article › Scientific › peer-review

### **Adsorption of furfural from torrefaction condensate using torrefied biomass**

Doddapaneni, T. R. K. C., Jain, R., Praveenkumar, R., Rintala, J., Romar, H. & Kontinen, J., 2018, In : Chemical Engineering Journal. 334, p. 558-568 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Archaea are prominent members of the prokaryotic communities colonizing common forest mushrooms**

Rinta-Kanto, J. M., Pehkonen, K., Sinkko, H., Tamminen, M. V. & Timonen, S., 2018, In : Canadian Journal of Microbiology. 64, 10, p. 716-726 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Bio-electrochemical conversion of industrial wastewater-COD combined with downstream methanol synthesis-an economic and life cycle assessment**

Streeck, J., Hank, C., Neuner, M., Gil-Carrera, L., Kokko, M., Pauliuk, S., Schaadt, A., Kerzenmacher, S. & White, R. J., 2018, In : Green Chemistry. 20, 12, p. 2742-2762 21 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Composition and role of the attached and planktonic microbial communities in mesophilic and thermophilic xylose-fed microbial fuel cells**

Dessi, P., Porca, E., Haavisto, J., Lakaniemi, A-M., Collins, G. & Lens, P. N. L., 2018, In : RSC Advances. 8, 6, p. 3069-3080 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Conjugated Heat Transfer Simulation of a Fin-and-Tube Heat Exchanger**

Välikangas, T. & Karvinen, R., 2018, In : Heat Transfer Engineering. 39, 13-14, p. 1192-1200 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Effect of elevated nitrate and sulfate concentrations on selenate removal by mesophilic anaerobic granular sludge bed reactors**

Tan, L. C., Nancharaiyah, Y. V., van Hullebusch, E. D. & Lens, P. N. L., 2018, In : Environmental Science: Water Research & Technology. 4, 2, p. 303-314

Research output: Contribution to journal › Article › Scientific › peer-review

### **Effect of N/S ratio on anoxic thiosulfate oxidation in a fluidized bed reactor: Experimental and artificial neural network model analysis**

Khanongnuch, R., Di Capua, F., Lakaniemi, A-M., Rene, E. R. & Lens, P. N. L., 2018, In : Process Biochemistry. 68, p. 171-181

Research output: Contribution to journal › Article › Scientific › peer-review

### **Effects of Biomass Type, Carbonization Process, and Activation Method on the Properties of Bio-Based Activated Carbons**

Siipola, V., Tamminen, T., Kalli, A., Lahti, R., Romar, H., Rasa, K., Keskinen, R., Hyvaluoma, J., Hannula, M. & Wikberg, H., 2018, In : BioResources. 13, 3, p. 5976-6002 27 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Efficient photon upconversion at remarkably low annihilator concentrations in a liquid polymer matrix: when less is more**

Durandin, N. A., Isokuorppi, J., Efimov, A., Vuorimaa-Laukkanen, E., Tkachenko, N. V. & Laaksonen, T., 2018, In : Chemical Communications. 54, 99, p. 14029-14032 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Electronic waste as a secondary source of critical metals: Management and recovery technologies**

Işildar, A., Rene, E. R., van Hullebusch, E. D. & Lens, P. N. L., 2018, In : Resources, Conservation and Recycling. 135, p. 296-312

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Fin-and-tube heat exchanger enhancement with a combined herringbone and vortex generator design**

Väläkangas, T., Singh, S., Sørensen, K. & Condra, T., 2018, In : International Journal of Heat and Mass Transfer. 118, p. 602-616 15 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Gammaproteobacterial methanotrophs dominate methanotrophy in aerobic and anaerobic layers of boreal lake waters**

Rissanen, A. J., Saarenheimo, J., Tirola, M. A., Peura, S., Aalto, S. L., Karvinen, A. & Nykänen, H., 2018, In : Aquatic Microbial Ecology. 81, 3, p. 257-276 20 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **High resolution E-jet printed temperature sensor on artificial skin**

Vuorinen, T., Laurila, M. M., Mangayil, R., Karp, M. & Mäntysalo, M., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 839-842 4 p. (IFMBE Proceedings; vol. 65).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Identification of feasible pathway information for c-di-GMP binding proteins in cellulose production**

Hassan, S. S., Mangayil, R., Aho, T., Yli-Harja, O. & Karp, M., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 667-670 4 p. (IFMBE Proceedings; vol. 65).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials**

Zeng, H., Wasylczyk, P., Wiersma, D. S. & Priimagi, A., 2018, In : Advanced Materials. 30, 24, 1703554.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **On the molecular optical nonlinearity of halogen-bond-forming azobenzenes**

Virkki, M., Maurice, A., Forni, A., Sironi, M., Dichiarante, V., Brevet, P. F., Metrangolo, P., Kauranen, M. & Priimagi, A., 2018, In : Physical Chemistry Chemical Physics. 20, 45, p. 28810-28817 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Pathvalue: Pathways with value**

Losoi, P. & Aho, T., 2018, *EMBEC and NBC 2017 - Joint Conference of the European Medical and Biological Engineering Conference EMBEC 2017 and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2017*. Springer Verlag, p. 583-586 4 p. (IFMBE Proceedings; vol. 65).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Photoinduced Charge Separation in Semiconductor-Quantum-Dot/Organic-Molecule Hybrids**

Tkachenko, N., 2018, In : ChemPhotoChem. 2, 3, p. 112-120 9 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

#### **Programming Photoresponse in Liquid Crystal Polymer Actuators with Laser Projector**

Wani, O. M., Zeng, H., Wasylczyk, P. & Priimagi, A., 2018, In : Advanced Optical Materials. 6, 1, 1700949.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Sediment diffusion method improves wastewater nitrogen removal in the receiving lake sediments**

Aalto, S. L., Saarenheimo, J., Ropponen, J., Juntunen, J., Rissanen, A. J. & Tirola, M., 2018, In : Water Research. 138, p. 312-322

Research output: Contribution to journal › Article › Scientific › peer-review

**Simultaneous removal of tetrathionate and copper from simulated acidic mining water in bioelectrochemical and electrochemical systems**

Sulonen, M. L. K., Kokko, M. E., Lakaniemi, A-M. & Puhakka, J. A., 2018, (Unpublished) In : Hydrometallurgy. 176, p. 129-138 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Stable blue phase polymeric Langmuir-Schaefer films based on unsymmetrical hydroxyalkadiynyl N-arylcarbamate derivatives**

Alekseev, A., Ihalainen, P., Ivanov, A., Domnin, I., Rosqvist, E., Lemmetyinen, H., Vuorimaa-Laukkanen, E., Peltonen, J. & Vyaz'min, S., 2018, In : Thin Solid Films. 645, p. 108-118 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Supramolecular design principles for efficient photoresponsive polymer-azobenzene complexes**

Vapaavuori, J., Bazuin, C. G. & Priimagi, A., 2018, In : Journal of Materials Chemistry C. 6, 9, p. 2168-2188 21 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Techno-economic evaluation of integrating torrefaction with anaerobic digestion**

Doddapaneni, T. R. K. C., Praveenkumar, R., Tolvanen, H., Rintala, J. & Kontinen, J., 2018, In : Applied Energy. 213, p. 272-284 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Thermophilic versus mesophilic dark fermentation in xylose-fed fluidised bed reactors: Biohydrogen production and active microbial community**

Dessi, P., Porca, E., Waters, N. R., Lakaniemi, A-M., Collins, G. & Lens, P. N. L., 2018, In : International Journal of Hydrogen Energy. 43, 11, p. 5473-5485

Research output: Contribution to journal › Article › Scientific › peer-review

**Cellulose Nanofiber Alignment Using Evaporation-Induced Droplet-Casting, and Cell Alignment on Aligned Nanocellulose Surfaces**

Skogberg, A., Mäki, A-J., Mettänen, M., Lahtinen, P. & Kallio, P., 11 Dec 2017, In : Biomacromolecules. 18, 12, p. 3936-3953 18 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Technology Development and Techno-Economic Analysis of Hydrogen Production by Thermal Decomposition of Methane**

Keipi, T., 8 Dec 2017, Tampere University of Technology. 68 p. (Tampere University of Technology. Publication; vol. 1519)

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Time-Resolved Fluorescence Spectroscopy Reveals Fine Structure and Dynamics of Poly(L-lysine) and Polyethylenimine Based DNA Polyplexes**

Lisitsyna, E. S., Ketola, T-M., Morin-Picardat, E., Liang, H., Hanzlíková, M., Urtti, A., Yliperttula, M. & Vuorimaa-Laukkanen, E., 7 Dec 2017, In : Journal of Physical Chemistry B. 121, 48, p. 10782-10792 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photodynamic self-disinfecting surface using pyridinium phthalocyanine**

George, L., Müller, A., Röder, B., Santala, V. & Efimov, A., 1 Dec 2017, In : Dyes and Pigments. 147, p. 334-342 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Comparison of *Scenedesmus acuminatus* and *Chlorella vulgaris* cultivation in liquid digestates from anaerobic digestion of pulp and paper industry and municipal wastewater treatment sludge**

Tao, R., Kinnunen, V., Praveenkumar, R., Lakaniemi, A-M. & Rintala, J. A., Dec 2017, In : Journal of Applied Phycology. 29, 6, p. 2845-2856 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Carbazole-based small molecule electron donors: Syntheses, characterization, and material properties**

Sippola, R. J., Hadipour, A., Kastinen, T., Vivo, P., Hukka, T. I., Aernouts, T. & Heiskanen, J. P., 8 Nov 2017, In : Dyes and Pigments. 150, p. 79-88 10 p., j.dyepig.2017.11.014.

Research output: Contribution to journal › Article › Scientific › peer-review

**Multimodal Nonlinear Optical Imaging for Sensitive Detection of Multiple Pharmaceutical Solid-State Forms and Surface Transformations**

Novakovic, D., Saarinen, J., Rojalín, T., Antikainen, O., Fraser-Miller, S. J., Laaksonen, T., Peltonen, L., Isomaki, A. & Strachan, C. J., 7 Nov 2017, In : *Analytical Chemistry*. 89, 21, p. 11460-11467 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Azopolymer photopatterning for directional control of angiogenesis**

Fedele, C., De Gregorio, M., Netti, P. A., Cavalli, S. & Attanasio, C., 1 Nov 2017, In : *Acta Biomaterialia*. 63, p. 317-325 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect of hydraulic retention time on continuous electricity production from xylose in up-flow microbial fuel cell**

Haavisto, J. M., Kokko, M. E., Lay, C-H. & Puhakka, J. A., 1 Nov 2017, In : *International Journal of Hydrogen Energy*. 42, p. 27494-27502

Research output: Contribution to journal > Article > Scientific > peer-review

**Modelling recovery of ammonium from urine by electro-concentration in a 3-chamber cell**

Thompson Brewster, E., Jermakka, J., Freguia, S. & Batstone, D. J., 1 Nov 2017, In : *Water Research*. 124, p. 210-218 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Nanofibrillar cellulose hydrogels and reconstructed hydrogels as matrices for controlled drug release**

Paukkonen, H., Kunnari, M., Laurén, P., Hakkarainen, T., Auvinen, V-V., Oksanen, T., Koivuniemi, R., Yliperttula, M. & Laaksonen, T., 30 Oct 2017, In : *International Journal of Pharmaceutics*. 532, 1, p. 269-280 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**A demand-based nutrient utilization approach to urban biogas plant investment based on regional crop fertilization**

Tampio, E., Lehtonen, E., Kinnunen, V., Mönkäre, T., Ervasti, S., Kettunen, R., Rasi, S. & Rintala, J., 15 Oct 2017, In : *Journal of Cleaner Production*. 164, p. 19-29 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect of natural convection and radiation inside of a hollow beam in a standard fire**

Välikangas, T., Pajunen, S., Baczkiewicz, J., Singh, S. & Sørensen, K., 27 Sep 2017, *Proceedings of the 58th Conference on Simulation and Modelling (SIMS 58) Reykjavik, Iceland, September 25th – 27th, 2017*. Jonsson, M. T. (ed.). Linköping: Linköping University Electronic Press, Vol. 138. p. 121-127 7 p. 16. (Linköping Electronic Conference Proceedings; no. 138).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**New Evidence for the Mechanism of Action of a Type-2 Diabetes Drug Using a Magnetic Bead-Based Automated Biosensing Platform**

Uddin, R., Nur-E-Habiba, N., Rena, G., Hwu, E. T. & Boisen, A., 22 Sep 2017, In : *ACS Sensors*. 2, 9, p. 1329-1336 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Bioelectrochemical Recovery of Energy and Metals from Simulated Mining Waters**

Sulonen, M., 15 Sep 2017, Tampere University of Technology. 98 p. (Tampere University of Technology. Publication; vol. 1485)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Hole-Transporting Materials for Printable Perovskite Solar Cells**

Vivo, P., Salunke, J. K. & Priimagi, A., 15 Sep 2017, In : *Materials*. 10, 9

Research output: Contribution to journal > Article > Scientific > peer-review

**Understanding selenium biogeochemistry in engineered ecosystems: Transformation and analytical methods**

Jain, R., Van Hullebusch, E. D., Lenz, M. & Farges, F., 2 Sep 2017, *Bioremediation of Selenium Contaminated Wastewater*. Springer International Publishing, p. 33-56 24 p.

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

#### **Comparison of liposomal drug formulations for transdermal iontophoretic drug delivery**

Malinovskaja-Gomez, K., Espuelas, S., Garrido, M. J., Hirvonen, J. & Laaksonen, T., 30 Aug 2017, In : *European Journal of Pharmaceutical Sciences*. 106, p. 294-301 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Locomotion of light-driven soft microrobots through a hydrogel via local melting**

Palagi, S., Mark, A. G., Melde, K., Qiu, T., Zeng, H., Parmeggiani, C., Martella, D., Wiersma, D. S. & Fischer, P., 3 Aug 2017, *International Conference on Manipulation, Automation and Robotics at Small Scales, MARSS 2017 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Effects of different nickel species on autotrophic denitrification driven by thiosulfate in batch tests and a fluidized-bed reactor**

Di Capua, F., Milone, I., Lakaniemi, A-M., Hullebusch, E. D. V., Lens, P. N. L. & Esposito, G., 1 Aug 2017, In : *Bioresource Technology*. 238, p. 534-541 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Nanofibrillar cellulose-alginate hydrogel coated surgical sutures as cell-carrier systems**

Laurén, P., Somersalo, P., Pitkänen, I., Lou, Y. R., Urtti, A., Partanen, J., Seppälä, J., Madetoja, M., Laaksonen, T., Mäkitie, A. & Yliperttula, M., 1 Aug 2017, In : *PLoS ONE*. 12, 8, e0183487.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Photoresponsive Polymer Hydrogel Coatings that Change Topography**

Stumpel, J. E., ter Schiphorst, J. & Schenning, A. P. H. J., 21 Jul 2017, *Responsive Polymer Surfaces: Dynamics in Surface Topography*. Liu, D. & Broer, D. (eds.). Wiley-VCH, p. 159-173

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

#### **Effect of alkylaminophenols on growth inhibition and apoptosis of bone cancer cells**

Doan, P., Nguyen, T., Yli-Harja, O., Candeias, N. R. & Kandhavelu, M., 17 Jul 2017, In : *European Journal of Pharmaceutical Sciences*. 107, p. 208-216 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Long-Range Observation of Exciplex Formation and Decay Mediated by One-Dimensional Bridges**

Baek, J., Umeyama, T., Stranius, K., Yamada, H., Tkachenko, N. V. & Imahori, H., 29 Jun 2017, In : *Journal of Physical Chemistry C*. 121, 25, p. 13952-13961 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes**

Rissanen, A. J., Karvinen, A., Nykänen, H., Peura, S., Tiirola, M., Mäki, A. & Kankaala, P., 15 Jun 2017, In : *FEMS Microbiology Ecology*. 93, 7

Research output: Contribution to journal > Article > Scientific > peer-review

#### **The role of inorganics in modelling of biomass gasification**

Konttinen, J., Kramb, J., DeMartini, N. & Gomez-Barea, A., 13 Jun 2017, *EUBCE 2017 Online Conference Proceedings*. Ek, L., Ernrooth, H., Scarlat, N., Grassi, A. & Helm, P. (eds.). ETA-Florence Renewable Energies, p. 443-447 5 p.

(European biomass conference and exhibition proceedings).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Self-Regulating Iris Based on Light-Actuated Liquid Crystal Elastomer**

Zeng, H., Wani, O. M., Wasylczyk, P., Kaczmarek, R. & Priimägi, A., 7 Jun 2017, In : *Advanced Materials*.

Research output: Contribution to journal > Article > Scientific > peer-review

**CFD based reactivity parameter determination for biomass particles of multiple size ranges in high heating rate devolatilization**

Niemelä, N. P., Tolvanen, H., Saarinen, T., Leppänen, A. & Joronen, T., 1 Jun 2017, In : Energy. 128, p. 676-687 12 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Impact of film thickness of ultra-thin dip-coated compact TiO<sub>2</sub> layers on the performance of mesoscopic perovskite solar cells**

Masood, M. T., Weinberger, C., Sarfraz, J., Rosqvist, E., Sandén, S., Sandberg, O., Vivo, P., Hashmi, G., Lund, P. D., Österbacka, R. & Smått, J.-H., 31 May 2017, In : ACS Applied Materials and Interfaces. 9, 21, p. 17906-17913  
Research output: Contribution to journal > Article > Scientific > peer-review

**Charge Carrier Dynamics in Solar Water Oxidation**

Ruoko, T.-P., 24 May 2017, Tampere University of Technology. 49 p. (Tampere University of Technology. Publication; vol. 1473)  
Research output: Book/Report > Doctoral thesis > Collection of Articles

**Biohydrogen production from xylose by fresh and digested activated sludge at 37, 55 and 70 °C**

Dessi, P., Lakaniemi, A.-M. & Lens, P. N. L., 15 May 2017, In : Water Research. 115, p. 120-129 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**The effects of calcium and potassium on CO<sub>2</sub> gasification of birch wood in a fluidized bed**

Kramb, J., Gómez-Barea, A., DeMartini, N., Romar, H., Doddapaneni, T. R. K. C. & Kontinen, J., 15 May 2017, In : Fuel. 196, p. 398-407 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Photoinduced Electron Injection from Zinc Phthalocyanines into Zinc Oxide Nanorods: Aggregation Effects**

Virkki, K., Hakola, H., Urbani, M., Tejerina, L., Ince, M., Martínez-Díaz, M. V., Torres, T., Golovanova, V., Golovanov, V. & Tkachenko, N. V., 4 May 2017, In : Journal of Physical Chemistry C. 121, 17, p. 9594-9605 12 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Alkyl thiophene vinylene electropolymerization in C<sub>8</sub>mimPF<sub>6</sub>, potential use in solar cells**

Rojas, V., Martinez, F., Bernede, J. C., Guenadez, L. C., Efimov, A. & Lemmetyinen, H., May 2017, In : Materials Sciences and Applications. 8, 5, p. 405-417 13 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Elucidation of Compression-Induced Surface Crystallization in Amorphous Tablets Using Sum Frequency Generation (SFG) Microscopy**

Mah, P. T., Novakovic, D., Saarinen, J., van Landeghem, S., Peltonen, L., Laaksonen, T., Isomäki, A. & Strachan, C. J., May 2017, In : Pharmaceutical Research. 34, 5, p. 957-970 14 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Crystallisation-enhanced bulk hole mobility in phenothiazine-based organic semiconductors**

Shinde, D. B., Salunke, J. K., Candeias, N. R., Francesca, T., Massimo, G., Wadgaonkar, P. P., Priimagi, A., Nadia, C. & Vivo, P., 12 Apr 2017, In : Scientific Reports. 7, 10 p., 46268.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Building up colors: multilayered arrays of peryleneimides on flat surfaces and on mesoporous layers**

George, L., Efimova, E., Sariola-Leikas, E., Lahtonen, K., Valden, M., Vivo, P., Hakola, H., Hiltunen, A. & Efimov, A., 7 Apr 2017, In : ChemPlusChem.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Halogen bonding stabilizes a cis-azobenzene derivative in the solid state: A crystallographic study**

Saccone, M., Siiskonen, A., Fernandez-Palacio, F., Priimägi, A., Terraneo, G., Resnati, G. & Metrangolo, P., 1 Apr 2017, In : ACTA CRYSTALLOGRAPHICA SECTION B : STRUCTURAL SCIENCE, CRYSTAL ENGINEERING AND MATERIALS. 73, 2, p. 227-233 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review



### High-rate autotrophic denitrification in a fluidized-bed reactor at psychrophilic temperatures

Di Capua, F., Milone, I., Lakaniemi, A-M., N.L. Lens, P. & Esposito, G., Apr 2017, In : Chemical Engineering Journal. Research output: Contribution to journal > Article > Scientific > peer-review

### Hydrophobin-nanofibrillated cellulose stabilized emulsions for encapsulation and release of BCS class II drugs

Paukkonen, H., Ukkonen, A., Szilvay, G., Yliperttula, M. & Laaksonen, T., 30 Mar 2017, In : European Journal of Pharmaceutical Sciences. 100, p. 238-248 11 p. Research output: Contribution to journal > Article > Scientific > peer-review

### Hexaphyrin as a Potential Theranostic Dye for Photothermal Therapy and <sup>19</sup>F Magnetic Resonance Imaging

Higashino, T., Nakatsuji, H., Fukuda, R., Okamoto, H., Imai, H., Matsuda, T., Tochio, H., Shirakawa, M., Tkachenko, N. V., Hashida, M., Murakami, T. & Imahori, H., 24 Mar 2017, In : ChemBioChem. 18, 10, p. 951-959 9 p. Research output: Contribution to journal > Article > Scientific > peer-review

### Hierarchical Self-Assembly of Halogen-Bonded Block Copolymer Complexes into Upright Cylindrical Domains

Milani, R., Houbenov, N., Fernandez-Palacio, F., Cavallo, G., Luzio, A., Haataja, J., Giancane, G., Saccone, M., Priimägi, A., Metrangolo, P. & Ikkala, O., 9 Mar 2017, In : Chem. 2, 3, p. 417-426 10 p. Research output: Contribution to journal > Article > Scientific > peer-review

### Twin-layer biosensor for real-time monitoring of alkane metabolism

Lehtinen, T., Santala, V. & Santala, S., 1 Mar 2017, In : FEMS Microbiology Letters. 364, 6, fnx053. Research output: Contribution to journal > Article > Scientific > peer-review

### UV exposure in artificial and natural weathering: A comparative study

Heikkilä, A., Kazadzis, S., Meinander, O., Vaskuri, A., Kärhä, P., Mylläri, V., Syrjälä, S. & Koskela, T., 22 Feb 2017, *RADIATION PROCESSES IN THE ATMOSPHERE AND OCEAN (IRS2016): Proceedings of the International Radiation Symposium (IRC/IAMAS)*. American Institute of Physics, 110004. (AIP conference proceedings; vol. 1810). Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### Periodic Surface Structures Induced by a Single Laser Beam Irradiation

Noga, J., Sobolewska, A., Bartkiewicz, S., Virkki, M. & Priimägi, A., 13 Feb 2017, In : Macromolecular Materials and Engineering. 302, 2. Research output: Contribution to journal > Article > Scientific > peer-review

### Benchmarking DFT methods with small basis sets for the calculation of halogen-bond strengths

Siiskonen, A. & Priimägi, A., 1 Feb 2017, In : Journal of Molecular Modeling. 23, 2, 50. Research output: Contribution to journal > Article > Scientific > peer-review

### Anaerobic batch conversion of pine wood torrefaction condensate

Doddapaneni, T. R. K. C., Praveenkumar, R., Tolvanen, H., Palmroth, M. R. T., Konttinen, J. & Rintala, J., Feb 2017, In : Bioresource Technology. 225, p. 299-307 9 p. Research output: Contribution to journal > Article > Scientific > peer-review

### High-rate thiosulfate-driven denitrification at pH lower than 5 in fluidized-bed reactor

Di Capua, F., Lakaniemi, A-M., Puhakka, J. A., Lens, P. N. L. & Esposito, G., Feb 2017, In : Chemical Engineering Journal. 310, Part 1, p. 282-291 10 p. Research output: Contribution to journal > Article > Scientific > peer-review

### The Role of Inorganics in Biomass Gasification: Catalytic Effects on Char Reactions and Toxic Emissions

Kramb, J., 13 Jan 2017, Tampere University of Technology. 81 p. (Tampere University of Technology. Publication; vol. 1450) Research output: Book/Report > Doctoral thesis > Collection of Articles

**Enhancing the activity of iron-oxidising bacteria: A case study with process liquors from heap bioleaching of a complex sulphide ore**

Ahoranta, S. H., Peltola, M. K., Lakaniemi, A-M. & Puhakka, J. A., Jan 2017, In : Hydrometallurgy. 167, p. 163-172  
Research output: Contribution to journal > Article > Scientific > peer-review

**The Orange Side of Disperse Red 1: Humidity-Driven Color Switching in Supramolecular Azo-Polymer Materials Based on Reversible Dye Aggregation**

Schoelch, S., Vapaavuori, J., Rollet, F-G. & Barrett, C. J., Jan 2017, In : Macromolecular Rapid Communications. 38, 1  
Research output: Contribution to journal > Article > Scientific > peer-review

**A comparison of fate and toxicity of selenite, biogenically and chemically synthesized selenium nanoparticles to zebrafish (*Danio rerio*) embryogenesis**

Mal, J., Veneman, W. J., Nancharaiah, Y. V., van Hullebusch, E. D., Peijnenburg, W. J. G. M., Vijver, M. G. & Lens, P. N. L., 2017, In : Nanotoxicology. 11, 1, p. 1-34 34 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**A light-driven artificial flytrap**

Wani, O. M., Zeng, H. & Priimägi, A., 2017, In : Nature Communications. 8, 15546.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Base catalysed N-functionalisation of boroxazolidones**

J., R., Mannoja, J., Nguyen, T., N., A., N. M., K., Franzén, R. G., Kandhavelu, M. & Candeias, N. R., 2017, In : RSC Advances. 7, 33, p. 20620-20627 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Bioelectrochemical Systems for Heavy Metal Removal and Recovery**

Modestra, J. A., Velvizhi, G., Krishna, K. V., Arunasri, K., Lens, P. N. L., Nancharaiah, Y. & Venkata Mohan, S., 2017, *Sustainable Heavy Metal Remediation: Volume 1: Principles and Processes*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 165-198 34 p. (Environmental Chemistry for a Sustainable World).

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Biological removal of selenate and ammonium by activated sludge in a sequencing batch reactor**

Mal, J., Nancharaiah, Y. V., van Hullebusch, E. D. & Lens, P. N. L., 2017, In : Bioresource Technology. 229, p. 11-19 9 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Biological Sulphate Reduction**

Kijjanapanich, P. & Lens, P. N. L., 2017, *Sustainable Heavy Metal Remediation: Volume 2: Case studies*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 115-132 18 p. (Environmental Chemistry for a Sustainable World).

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Biorecovery of Metals from Electronic Waste**

Iildar, A., van de Vossenber, J., Rene, E. R., van Hullebusch, E. D. & Lens, P. N. L., 2017, *Sustainable Heavy Metal Remediation: Volume 2: Case studies*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 241-278 38 p. (Environmental Chemistry for a Sustainable World).

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Biosynthesis of CdSe nanoparticles by anaerobic granular sludge**

Mal, J., Nancharaiah, Y. V., Bera, S., Maheshwari, N., Van Hullebusch, E. D. & Lens, P. N. L., 2017, In : Environmental Science: Nano. 4, 4, p. 824-833 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Controlling azobenzene photoswitching through combined ortho-fluorination and -amination**

Ahmed, Z., Siiskonen, A., Virkki, M. & Priimägi, A., 2017, In : Chemical Communications. 53, 93, p. 12520-12523 4 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Cultivation of *Scenedesmus acuminatus* in different liquid digestates from anaerobic digestion of pulp and paper industry biosludge**

Tao, R., Lakaniemi, A.-M. & Rintala, J. A., 2017, In : *Bioresource Technology*. 245, A, p. 706-713 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Difference in the core-shell dynamics of polyethyleneimine and poly(L-lysine) DNA polyplexes**

Vuorimaa-Laukkanen, E., Lisitsyna, E. S., Ketola, T.-M., Morin-Pickardat, E., Liang, H., Hanzlíková, M. & Yliperttula, M., 2017, In : *European Journal of Pharmaceutical Sciences*. 103, p. 122-127  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Effects of orientation at the phthalocyanine-CdSe interface on the electron transfer characteristics**

Golovanov, V. V., Nazarchuk, B. V., Golovanova, V. V., Tkachenko, N. V. & Rantala, T. T., 2017, In : *Physical Chemistry Chemical Physics*. 19, 16, p. 10511-10517 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Evaluation of long-term post process inactivation of bioleaching microorganisms**

Bomberg, M., Miettinen, H., Wahlström, M., Kaartinen, T., Ahoranta, S., Lakaniemi, A.-M. & Kinnunen, P., 2017, *22nd International Biohydrometallurgy Symposium*. Trans Tech Publications Ltd, p. 57-60 4 p. (Solid State Phenomena; vol. 262 SSP).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Fate of metallic engineered nanomaterials in constructed wetlands: prospection and future research perspectives**

Auvinen, H., Gagnon, V., Rousseau, D. P. L. & du Laing, G., 2017, In : *Reviews in Environmental Science and Bio-Technology*. 16, 2, p. 207-222 16 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Fluorescence spectroscopy "knife" for polyplex "cakes": taste the filling**

Vuorimaa-Laukkanen, E., Lisitsyna, E. S., Ketola, T.-M., Morin-Pickardat, E., Liang, H., Hanzlíková, M., Urtti, A., Yliperttula, M. L., Lisitsyna, E. & Laaksonen, T., 2017.  
Research output: Other conference contribution > Paper, poster or abstract > Scientific

### **Influence of TiO<sub>2</sub> compact layer precursor on the performance of perovskite solar cells**

Vivo, P., Ojanperä, A., Smått, J.-H., Sánden, S., Hashmi, S. G., Kaunisto, K., Ihalainen, P., Masood, M. T., Österbacka, R., Lund, P. D. & Lemmetyinen, H., 2017, In : *Organic Electronics*. 41, p. 287-293  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Leaching and Recovery of Metals**

Sethurajan, M., Lens, P. N. L., Horn, H. A., Figueiredo, L. H. A. & van Hullebusch, E. D., 2017, *Sustainable Heavy Metal Remediation: Volume 2: Case studies*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 161-206 46 p. (Environmental Chemistry for a Sustainable World).  
Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

### **Leaching and Recovery of Molybdenum from Spent Catalysts**

Vemic, M., Bordas, F., Guibaud, G., Lens, P. N. L. & van Hullebusch, E. D., 2017, *Sustainable Heavy Metal Remediation: Volume 2: Case studies*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 207-239 33 p. (Environmental Chemistry for a Sustainable World).  
Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

### **Light-Driven, Caterpillar-Inspired Miniature Inching Robot**

Zeng, H., Wani, O. M., Wasylczyk, P. & Priimägi, A., 2017, In : *Macromolecular Rapid Communications*. 39, 1, p. 1700224  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Metal Recovery from Industrial and Mining Wastewaters**

Gómez, D. K. V. & Lens, P. N. L., 2017, *Sustainable Heavy Metal Remediation: Volume 2: Case studies*. Rene, E. R., Sahinkaya, E., Lewis, A. & Lens, P. N. L. (eds.). Cham: Springer International Publishing, p. 81-114 34 p. (Environmental Chemistry for a Sustainable World).

**Microbial community response on wastewater discharge in boreal lake sediments**

Saarenheimo, J., Aalto, S. L., Rissanen, A. J. & Tiirola, M., 2017, In : *Frontiers in Microbiology*. 8, 750.

Research output: Contribution to journal › Article › Scientific › peer-review

**Molding Optical Waveguides with Nematicons**

Karimi, N., Virkki, M., Alberucci, A., Buchnev, O., Kauranen, M., Priimägi, A. & Assanto, G., 2017, In : *Advanced Optical Materials*. 5, 14, 5 p., 1700199.

Research output: Contribution to journal › Article › Scientific › peer-review

**Occurrence of photoinduced charge separation by the modulation of the electronic coupling between pyrene dimers and chemically converted graphenes**

Umeyama, T., Baek, J., Mihara, J., Tkachenko, N. V. & Imahori, H., 2017, In : *Chemical Communications*. 53, p. 1025-1028

Research output: Contribution to journal › Article › Scientific › peer-review

**Optimization of convectively cooled heat sinks**

Lampio, K. & Karvinen, R., 2017, In : *Microelectronics Reliability*. 79, p. 473-479

Research output: Contribution to journal › Article › Scientific › peer-review

**Optimizing ammonium adsorption on natural zeolite for wastewaters with high loads of ammonium and solids**

Taddeo, R., Prajapati, S. & Lepistö, R., 2017, In : *Journal of Porous Materials*. 24, 6, p. 1545-1554 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Orientational optical nonlinearities in polymer-stabilized dye-doped liquid crystals**

Wang, J., Aihara, Y., Kinoshita, M., Mamiya, J., Priimägi, A. & Shishido, A., 2017, In : *The Japanese Liquid Crystal Society journal EKISHO*. 21, 1, p. 57-67 11 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Origin and fate of methane in the Eastern Tropical North Pacific oxygen minimum zone**

Chronopoulou, P.-M., Shelley, F., Pritchard, W. J., Maanoja, S. T. & Trimmer, M., 2017, In : *ISME Journal*. 11, p. 1386-1399 14 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced Electron Transfer in 9-Substituted 10-Methylacridinium Ions**

Tsudaka, T., Kotani, H., Ohkubo, K., Nakagawa, T., Tkachenko, N. V., Lemmetyinen, H. & Fukuzumi, S., 2017, In : *Chemistry: A European Journal*. 23, 6, p. 1306-1317

Research output: Contribution to journal › Article › Scientific › peer-review

**Photophysical properties of porphyrin dimer-single-walled carbon nanotube linked systems**

Baek, J., Umeyama, T., Mizuno, S., Tkachenko, N. V. & Imahori, H., 2017, In : *Journal of Physical Chemistry C*. 121, 39

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoresponsive ionic liquid crystals assembled: Via halogen bond: En route towards light-controllable ion transporters**

Saccone, M., Palacio, F. F., Cavallo, G., Dichiarante, V., Virkki, M., Terraneo, G., Priimägi, A. & Metrangolo, P., 2017, In : *Faraday Discussions*. 203, p. 407-422 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Release of Potassium during Devolatilization of Spruce Bark**

Wang, L., Moilanen, A., Lehtinen, J., Kontinen, J. & Matas, B. G., 2017, In : *Energy Procedia*. 105, p. 1295-1301 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Shape change of biogenic elemental selenium nanomaterials from nanospheres to nanorods decreases their colloidal stability**

Jain, R., Jordan, N., Tsushima, S., Hübner, R., Weiss, S. & Lens, P. N. L., 2017, In : *Environmental Science: Nano*. 4, 5, p. 1054-1063 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Structural and Photophysical Properties of Pentacene Alkanethiolate Monolayer-Protected Gold Nanoclusters and Nanorods: Supramolecular Intercalation and Photoinduced Electron Transfer with C60**

Kato, D., Sakai, H., Saegusa, T., Tkachenko, N. V. & Hasobe, T., 2017, In : Journal of Physical Chemistry C. 121, 16, p. 9043-9052 10 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Structural characterization, spectroscopic, thermal, AC conductivity and dielectric properties and antimicrobial studies of  $(C_8H_{12}N)_2[SnCl_6]$**

Mathlouthi, M., Valkonen, A., Rzaigui, M. & Smirani, W., 2017, In : PHASE TRANSITIONS. 90, 4, p. 399-414 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Supramolecular control of liquid crystals by doping with halogen-bonding dyes**

Vapaavuori, J., Siiskonen, A., Dichiarante, V., Forni, A., Saccone, M., Pilati, T., Pellerin, C., Shishido, A., Metrangolo, P. & Priimagi, A., 2017, In : RSC Advances. 7, 64, p. 40237-40242 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Surface-Relief Gratings in Halogen-Bonded Polymer–Azobenzene Complexes: A Concentration-Dependence Study**

Stumpel, J. E., Saccone, M., Dichiarante, V., Lehtonen, O., Virkki, M., Metrangolo, P. & Priimagi, A., 2017, In : Molecules. 22, 11

Research output: Contribution to journal › Article › Scientific › peer-review

**Sustainable Heavy Metal Remediation: Volume 2: Case studies**

Rene, E. R. (ed.), Sahinkaya, E. (ed.), Lewis, A. (ed.) & Lens, P. N. L. (ed.), 2017, Springer International Publishing. 278 p. (Environmental Chemistry for a Sustainable World)

Research output: Book/Report › Anthology › Scientific › peer-review

**Synthesis of new acylsilanes**

Rafael Candeias, N. & Campos Do Vale, J., 2017.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

**Synthesis of phenol-derivatives and biological screening for anticancer activity**

Karjalainen, A., Doan, P., Sandberg, O., Chandraseelan, J. G., Yli-Harja, O., R. Candeias, N. & Kandhavelu, M., 2017, In : Anti-Cancer Agents in Medicinal Chemistry. 17, 12, p. 1710-1720

Research output: Contribution to journal › Article › Scientific › peer-review

**Synthesis, Structural Characterization, Hirshfeld Surface and Antioxidant Activity Analysis of a Novel Organic Cation Antimonate Complex**

Lahbib, I., Valkonen, A., Rzaigui, M. & Smirani, W., 2017, In : Journal of Cluster Science. 28, 4, p. 2239-2252 14 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**The impact of long-term water level draw-down on microbial biomass: A comparative study from two peatland sites with different nutrient status**

Mpamah, P. A., Taipale, S., Rissanen, A. J., Biasi, C. & Nykänen, H. K., 2017, In : EUROPEAN JOURNAL OF SOIL BIOLOGY. 80, p. 59-68 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Vapor Phase Fabrication of Nanoheterostructures Based on ZnO for Photoelectrochemical Water Splitting**

Barreca, D., Carraro, G., Gasparotto, A., Maccato, C., Altantzis, T., Sada, C., Kaunisto, K., Ruoko, T-P. & Bals, S., 2017, In : Advanced Materials Interfaces. 4, 18, 1700161.

Research output: Contribution to journal › Article › Scientific › peer-review

**Controlling the shape of Janus nanostructures through supramolecular modification of ABC terpolymer bulk morphologies**

Hiekkataipale, P., Löbbling, T. I., Poutanen, M., Priimägi, A., Abetz, V., Ikkala, O. & Gröschel, A. H., 19 Dec 2016, In : Polymer. 107, p. 456-465

Research output: Contribution to journal › Article › Scientific › peer-review

**Influence of torrefaction pretreatment on the pyrolysis of Eucalyptus clone: A study on kinetics, reaction mechanism and heat flow**

Doddapaneni, T. R. K. C., Konttinen, J., Hukka, T. I. & Moilanen, A., 15 Dec 2016, In : *Industrial Crops and Products*. 92, p. 244-254 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Remarkable Dependence of Exciplex Decay Rate on Through-Space Separation Distance Between Porphyrin and Chemically Converted Graphene**

Umeyama, T., Hanaoka, T., Baek, J., Higashino, T., Abou-Chahine, F., Tkachenko, N. & Imahori, H., 7 Dec 2016, In : *Journal of Physical Chemistry C*. 120, 49, p. 28337-28344

Research output: Contribution to journal › Article › Scientific › peer-review

**The effect of low-temperature pretreatment on the solubilization and biomethane potential of microalgae biomass grown in synthetic and wastewater media**

Kinnunen, V. & Rintala, J., 1 Dec 2016, In : *Bioresource Technology*. 221, p. 78-84 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Anaerobic digestion of microalgae and pulp and paper biosludge**

Kinnunen, V., 25 Nov 2016, Tampere University of Technology. 67 p. (Tampere University of Technology. Publication; vol. 1434)

Research output: Book/Report › Doctoral thesis › Collection of Articles

**Efficient Light-Induced Phase Transitions in Halogen-Bonded Liquid Crystals**

Fernandez-Palacio, F., Poutanen, M., Saccone, M., Siiskonen, A., Terraneo, G., Resnati, G., Ikkala, O., Metrangolo, P. & Priimägi, A., 22 Nov 2016, In : *Chemistry of Materials*. 28, 22, p. 8314-8321 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Magnesium aminoclay enhances lipid production of mixotrophic *Chlorella* sp. KR-1 while reducing bacterial populations**

Kim, B., Praveenkumar, R., Lee, J., Nam, B., Kim, D. M., Lee, K., Lee, Y. C. & Oh, Y. K., 1 Nov 2016, In : *Bioresource Technology*. 219, p. 608-613 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Mild pressure induces rapid accumulation of neutral lipid (triacylglycerol) in *Chlorella* spp.**

Ramasamy, P., Kim, B., Lee, J., Vijayan, D., Lee, K., Nam, B., Jeon, S. G., Kim, D. M. & Oh, Y. K., 1 Nov 2016, In : *Bioresource Technology*. 220, p. 661-665 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Two-step bioleaching of copper and gold from discarded printed circuit boards (PCB)**

Işildar, A., van de Vossenberg, J., Rene, E. R., van Hullebusch, E. D. & Lens, P. N. L., Nov 2016, In : *Waste Management*. 57, p. 149-157

Research output: Contribution to journal › Article › Scientific › peer-review

**Recombinant antibodies for specific detection of clostridial [Fe-Fe] hydrogenases**

Mangayil, R., Karp, M., Lamminmäki, U. & Santala, V., 27 Oct 2016, In : *Scientific Reports*. 6, 9 p., 36034.

Research output: Contribution to journal › Article › Scientific › peer-review

**Elimination of arsenic-containing emissions from gasification of chromated copper arsenate wood**

Kramb, J., Konttinen, J., Backman, R., Salo, K. & Roberts, M., 1 Oct 2016, In : *Fuel*. 181, p. 319-324 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Impacts of sulfur source and temperature on sulfur-driven denitrification by pure and mixed cultures of *Thiobacillus***

Di Capua, F., Ahoranta, S. H., Papirio, S., Lens, P. N. L. & Esposito, G., 1 Oct 2016, In : *Process Biochemistry*. 51, 10, p. 1576-1584

Research output: Contribution to journal › Article › Scientific › peer-review

### **Fossil Feedstock-free Preparation of Hydroquinone**

Rafael Candeias, N. & Assoah, B., 23 Sep 2016.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

### **Utilization of Food Waste via Anaerobic Digestion: From Feedstock to Biogas and Fertilizers**

Tampio, E., 10 Sep 2016, Tampere University of Technology. 75 p. (Tampere University of Technology. Publication; vol. 1405)

Research output: Book/Report > Doctoral thesis > Collection of Articles

### **Photoinduced hole transfer in QD-phthalocyanine hybrids**

Arvani, M., Virkki, K., Abou-Chahine, F., Efimov, A., Schramm, A., Tkachenko, N. V. & Lupo, D., 5 Sep 2016, In : Physical Chemistry Chemical Physics. 18, 39, p. 27414-27421

Research output: Contribution to journal > Article > Scientific > peer-review

### **Long-term stability of bioelectricity generation coupled with tetrathionate disproportionation**

Sulonen, M. L. K., Lakaniemi, A. M., Kokko, M. E. & Puhakka, J. A., 1 Sep 2016, In : Bioresource Technology. 216, p. 876-882 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Selenium: environmental significance, pollution, and biological treatment technologies**

Tan, L. C., Nancharaiyah, Y. V., van Hullebusch, E. D. & Lens, P. N. L., 1 Sep 2016, In : Biotechnology Advances. 34, 5, p. 886-907 22 p.

Research output: Contribution to journal > Review Article > Scientific > peer-review

### **Vesi-insinöörit arvojen välittäjinä: Infrastruktuurien hallinta muodostaa kivijalan kestäväälle tulevaisuudelle**

Heino, O., 1 Sep 2016, In : Kuntatekniikka. 75, 5, p. 14-15 2 p.

Research output: Contribution to journal > Article > Professional

### **Higher Cd adsorption on biogenic elemental selenium nanoparticles**

Jain, R., Dominic, D., Jordan, N., Rene, E. R., Weiss, S., van Hullebusch, E. D., Hübner, R. & Lens, P. N. L., Sep 2016, In : ENVIRONMENTAL CHEMISTRY LETTERS. 14, 3, p. 381-386 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Multicomponent Petasis-borono Mannich Preparation of Alkylaminophenols and Antimicrobial Activity Studies**

Neto, Í., Andrade, J., Pinto Reis, C., Salunke, J. K., Priimagi, A., R. Candeias, N. & Rijo, P., Sep 2016, In : CHEMMEDCHEM. 11, 18, p. 2015-2023

Research output: Contribution to journal > Article > Scientific > peer-review

### **Methodological approaches for fractionation and speciation to estimate trace element bioavailability in engineered anaerobic digestion ecosystems: An overview**

van Hullebusch, E. D., Guibaud, G., Simon, S., Lenz, M., Yekta, S. S., Feroso, F. G., Jain, R., Duester, L., Roussel, J., Guillon, E., Skjellberg, U., Almeida, C. M. R., Pechaud, Y., Garuti, M., Frunzo, L., Esposito, G., Carliell-Marquet, C., Ortner, M. & Collins, G., 17 Aug 2016, In : Critical Reviews in Environmental Science and Technology. 46, 16, p. 1324-1366 43 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Structural photoactivation of a full-length bacterial phytochrome**

Björling, A., Berntsson, O., Lehtivuori, H., Takala, H., Hughes, A. J., Panman, M., Hoernke, M., Niebling, S., Henry, L., Henning, R., Kosheleva, I., Chukharev, V., Tkachenko, N. V., Menzel, A., Newby, G., Khakhulin, D., Wulff, M., A. Ihalainen, J. & Westenhoff, S., 12 Aug 2016, In : Science Advances. 2, 8, 9 p., e1600920.

Research output: Contribution to journal > Article > Scientific > peer-review

### **The red, purple and blue modifications of polymeric unsymmetrical hydroxyalkadiynyl-N-arylcarbamate derivatives in Langmuir-Schaefer films**

Alekseev, A., Ihalainen, P., Ivanov, A., Domnin, I., Klechkovskaya, V., Orekhov, A., Lemmetyinen, H., Vuorimaa-Laukkanen, E., Peltonen, J. & Vyaz'min, S., 1 Aug 2016, In : Thin Solid Films. 612, p. 463-471 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Characterization and Potential Use of Source-Separated Urine**

Jaatinen, S., 1 Jul 2016, Tampere University of Technology. 95 p. (Tampere University of Technology. Publication; vol. 1391)

Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Liquid fertilizer products from anaerobic digestion of food waste: Mass, nutrient and energy balance of four digestate liquid treatment systems**

Tampio, E., Marttinen, S. & Rintala, J., Jul 2016, In : Journal of Cleaner Production. 125, p. 22–32 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Structurally Controlled Dynamics in Azobenzene-Based Supramolecular Self-Assemblies in Solid State**

Poutanen, M., Ikkala, O. & Priimägi, A., 14 Jun 2016, In : Macromolecules. 49, 11, p. 4095–4101 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Indocyanine Green-Loaded Liposomes for Light-Triggered Drug Release**

Lajunen, T., Kontturi, L-S., Viitala, L., Manna, M., Cramariuc, O., Róg, T., Bunker, A., Laaksonen, T., Viitala, T., Murtomäki, L. & Urtti, A., 6 Jun 2016, In : Molecular Pharmaceutics. 13, 6, p. 2095–2107 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Photoactive ZnO-Organic Nanostructures: Development and Characterization**

Hakola, H., 27 May 2016, Tampere University of Technology. 60 p. (Tampere University of Technology. Publication; vol. 1385)

Research output: Book/Report › Doctoral thesis › Collection of Articles

### **Electronic structure of p-type perylene monoimide-based donor–acceptor dyes on the nickel oxide (100) surface: a DFT approach**

Kontkanen, O. V., Niskanen, M., Hukka, T. I. & Rantala, T. T., May 2016, In : Physical Chemistry Chemical Physics. 18, 21, p. 14382–14389

Research output: Contribution to journal › Article › Scientific › peer-review

### **Photoexcitation and electron transfer at inorganic–organic interface — a DFT approach**

Niskanen, M. O., Kontkanen, O. V., Hukka, T. I. & Rantala, T. T., May 2016. 1 p.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

### **Synthesis and biological screening for cytotoxic activity of N-substituted indolines and morpholines**

Doan, P., Karjalainen, A., Chandraseelan, J. G., Sandberg, O., Yli-Harja, O., Rosholm, T., Franzén, R., R. Candeias, N. & Kandhavelu, M., May 2016, In : European Journal of Medicinal Chemistry. 120, p. 296–303

Research output: Contribution to journal › Article › Scientific › peer-review

### **Effect of Hole Transporting Material on Charge Transfer Processes in Zinc Phthalocyanine Sensitized ZnO Nanorods**

Hakola, H., Sariola-Leikas, E., Efimov, A. & Tkachenko, N. V., 21 Apr 2016, In : Journal of Physical Chemistry C. 120, 13, p. 7044–7051 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Syntheses, Charge Separation, and Inverted Bulk Heterojunction Solar Cell Application of Phenothiazine-Fullerene Dyads**

Blanco, G. D., Hiltunen, A. J., Lim, G. N., KC, C. B., Kaunisto, K. M., Vuorinen, T. K., Nesterov, V. N., Lemmetyinen, H. J. & D'Souza, F., 20 Apr 2016, In : ACS Applied Materials and Interfaces. 8, 13, p. 8481–8490 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Effect of temperature and concentration of precursors on morphology and photocatalytic activity of zinc oxide thin films prepared by hydrothermal route**

Heinonen, S., Nikkanen, J. P., Hakola, H., Huttunen-Saarivirta, E., Kannisto, M., Hyvärinen, L., Järveläinen, M. & Levänen, E., 15 Apr 2016, *3rd International Conference on Competitive Materials and Technology Processes (IC-CMTP3)*. ( IOP Conference Series: Materials Science and Engineering; vol. 123).



**Coordination networks incorporating halogen-bond donor sites and azobenzene groups**

Fernandez-Palacio, F., Saccone, M., Priimägi, A., Terraneo, G., Pilati, T., Metrangolo, P. & Resnati, G., 7 Apr 2016, In : *CrystEngComm*. 18, 13, p. 2251-2257 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Arsenic removal from acidic solutions with biogenic ferric precipitates**

Ahoranta, S. H., Kokko, M. E., Papirio, S., Özkaya, B. & Puhakka, J., 5 Apr 2016, In : *Journal of Hazardous Materials*. 306, p. 124-132

Research output: Contribution to journal > Article > Scientific > peer-review

**Long-Lived Triplet Excited States of Bent-Shaped Pentacene Dimers by Intramolecular Singlet Fission**

Sakuma, T., Sakai, H., Araki, Y., Mori, T., Wada, T., Tkachenko, N. V. & Hasobe, T., 31 Mar 2016, In : *Journal of Physical Chemistry A*. 120, 11, p. 1867-1875 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Quenching nematicon fluctuations via photo-stabilization**

Karimi, N., Alberucci, A., Virkki, M., Priimägi, A., Kauranen, M. & Assanto, G., 31 Mar 2016, In : *Photonics Letters of Poland*. 8, 1, p. 2-4 3 p.

Research output: Contribution to journal > Letter > Scientific > peer-review

**Agronomic characteristics of five different urban waste digestates**

Tampio, E., Salo, T. & Rintala, J., 15 Mar 2016, In : *Journal of Environmental Management*. 169, p. 293-302 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Phenothiazine and carbazole substituted pyrene based electroluminescent organic semiconductors for OLED devices**

Salunke, J. K., Wong, F. L., Feron, K., Manzhos, S., Lo, M. F., Shinde, D., Patil, A., Lee, C. S., Roy, V. A. L., Sonar, P. & Wadgaonkar, P. P., 7 Feb 2016, In : *Journal of Materials Chemistry C*. 4, 5, p. 1009-1018 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Intrinsic Properties of Two Benzodithiophene-Based Donor-Acceptor Copolymers Used in Organic Solar Cells: A Quantum-Chemical Approach**

Kastinen, T., Niskanen, M., Risko, C., Cramariuc, O. & Hukka, T. I., 3 Feb 2016, In : *Journal of Physical Chemistry A*. 120, 7, p. 1051-1064 14 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Cell-based bioreporter assay coupled to HPLC micro-fractionation in the evaluation of antimicrobial properties of the basidiomycete fungus *Pycnoporus cinnabarinus***

Järvinen, P., Nybond, S., Marcourt, L., Ferreira Queiroz, E., Wolfender, J. L., Mettälä, A., Karp, M., Vuorela, H., Vuorela, P., Hatakka, A. & Tammela, P., 21 Jan 2016, In : *Pharmaceutical Biology*. 54, 6, p. 1-8 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Advanced Solid Fuel Characterization for Reactivity and Physical Property Comparison**

Tolvanen, H., 19 Jan 2016, Tampere University of Technology. 66 p. (Tampere University of Technology. Publication; vol. 1359)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Synthesis of Benzothiadiazole Derivatives by Applying C-C Cross-Couplings**

Heiskanen, J. P., Vivo, P., Saari, N. M., Hukka, T. I., Kastinen, T., Kaunisto, K., Lemmetyinen, H. J. & Hormi, O. E. O., 15 Jan 2016, In : *Journal of Organic Chemistry*. 81, 4, p. 1535-1546 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Plasma-Assisted Fabrication of Fe<sub>2</sub>O<sub>3</sub> - Co<sub>3</sub>O<sub>4</sub> Nanomaterials as Anodes for Photoelectrochemical Water Splitting**

Carraro, G., Maccato, C., Gasparotto, A., Kaunisto, K., Sada, C. & Barreca, D., 1 Jan 2016, In : *Plasma Processes and Polymers*. 13, 1, p. 191-200 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Charge separation and charge recombination photophysical studies in a series of perylene-C<sub>60</sub> linear and cyclic dyads**  
Pla, S., Niemi, M., Martín-Gomis, L., Fernández-Lázaro, F., Lemmetyinen, H., Tkachenko, N. V. & Sastre-Santos, A.,  
Jan 2016, In : *Physical Chemistry Chemical Physics*. 18, 5, p. 3589-3606 17 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Color Bricks: Building Highly Organized and Strongly Absorbing Multicomponent Arrays of Terpyridyl Perylenes on Metal Oxide Surfaces**

Sariola-Leikas, E., Ahmed, Z., Vivo, P., Ojanperä, A., Lahtonen, K., Saari, J., Valden, M., Lemmetyinen, H. & Efimov, A.,  
Jan 2016, In : *Chemistry: A European Journal*. 22, 4, p. 1501-1510

Research output: Contribution to journal › Article › Scientific › peer-review

**Toward the prediction of porous membrane permeability from morphological data**

Nurra, C., Pitol, L., Carraud, R., Pertuz, S., Puig, D., Garcia, M. A., Salvado, J. & Torras, C., Jan 2016, In : *Polymer Engineering and Science*. 56, 1, p. 118-124

Research output: Contribution to journal › Article › Scientific › peer-review

**Alginate microgels created by selective coalescence between core drops paired with an ultrathin shell**

Lee, T. Y., Ramasamy, P., Oh, Y. K., Lee, K. & Kim, S. H., 2016, In : *Journal of Materials Chemistry B*. 4, 19, p. 3232-3238 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Anaerobes in bioelectrochemical systems**

Kokko, M. E., Mäkinen, A. E. & Puhakka, J. A., 2016, *Anaerobes in Biotechnology*. Springer Berlin Heidelberg, p. 263-292 29 p. (Advances in Biochemical Engineering/Biotechnology; vol. 156).

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

**Are Sphagnum-species potential antagonists for pathogens?**

Kuovi, A.-T., Karp, M., Franzén, R., Sarjala, T., Muilu-Mäkelä, R., Aro, T., Tienaho, J. & Silvan, N., 2016, *XIV Meeting of the IOBC-WPRS Working Group Biological Control of Fungal and Bacterial Plant Pathogens Biocontrol and Microbial Ecology*. 067

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

**A study on raw, torrefied, and steam-exploded wood: Fine grinding, drop-tube reactor combustion tests in N<sub>2</sub>/O<sub>2</sub> and CO<sub>2</sub>/O<sub>2</sub> atmospheres, particle geometry analysis, and numerical kinetics modeling**

Tolvanen, H., Keipi, T. & Raiko, R., 2016, In : *Fuel*. 176, p. 153-164

Research output: Contribution to journal › Article › Scientific › peer-review

**A Three-Component Assembly Promoted by Boronic Acids Delivers a Modular Fluorophore Platform (BASHY Dyes)**

Santos, F. M. F., Rosa, J. N., Candeias, N. R., Carvalho, C. P., Matos, A. I., Ventura, A. E., Florindo, H. F., Silva, L. C., Pischel, U. & Gois, P. M. P., 2016, In : *Chemistry: A European Journal*. 22, 5, p. 1631-1637

Research output: Contribution to journal › Article › Scientific › peer-review

**Biological and Bioelectrochemical Recovery of Critical and Scarce Metals**

Nancharaiyah, Y. V., Mohan, S. V. & Lens, P. N. L., 2016, In : *Trends in Biotechnology*. 34, 2, p. 137-155 19 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Biomass-Based and Oxidant-Free Preparation of Hydroquinone from Quinic Acid**

Assoah, B., Veiros, L. F., Afonso, C. A. M. & R. Candeias, N., 2016, In : *European Journal of Organic Chemistry*. 2016, 22, p. 3856-3861 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Chemical and bacterial leaching of metals from a smelter slag in acid solutions**

Kaksonen, A. H., Särkijärvi, S., Puhakka, J. A., Peuraniemi, E., Junnikkala, S. & Tuovinen, O. H., 2016, In : *Hydrometallurgy*. 159, p. 46-53

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Compact hematite buffer layer as a promoter of nanorod photoanode performances**

Milan, R., Cattarin, S., Comisso, N., Baratto, C., Kaunisto, K., Tkachenko, N. V. & Concina, I., 2016, In : Scientific Reports. 6, 10 p., 35049.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Controllable Electronic Structures and Photoinduced Processes of Bay-Linked Perylenediimide Dimers and a Ferrocene-Linked Triad**

Horinouchi, H., Sakai, H., Araki, Y., Sakanoue, T., Takenobu, T., Wada, T., Tkachenko, N. V. & Hasobe, T., 2016, In : Chemistry: A European Journal. 22, 28, p. 9631-9641

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Downstream integration of microalgae harvesting and cell disruption by means of cationic surfactant-decorated Fe<sub>3</sub>O<sub>4</sub> nanoparticles**

Seo, J. Y., Ramasamy, P., Kim, B., Seo, J. C., Park, J. Y., Na, J. G., Jeon, S. G., Park, S. B., Lee, K. & Oh, Y. K., 2016, In : Green Chemistry. 18, 14, p. 3981-3989 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Effect of source-separated urine storage on estrogenic activity detected using bioluminescent yeast *Saccharomyces cerevisiae***

Jaatinen, S., Kivistö, A., Palmroth, M. & Karp, M., 2016, In : Environmental Technology. 37, 17, p. 2172-2182

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Enhanced adsorption of orthophosphate and copper onto hydrochar derived from sewage sludge by KOH activation**

Spataru, A., Jain, R., Chung, J. W., Gerner, G., Krebs, R. & Lens, P. N. L., 2016, In : RSC Advances. 6, 104, p. 101827-101834 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Formation and stability of porphyrin and phthalocyanine self-assembled monolayers on ZnO surfaces**

Hakola, H., Sariola-Leikas, E., Jäntti, P., Mokus, T., Stranius, K., Efimov, A. & Tkachenko, N. V., 2016, In : Journal of Porphyrins and Phthalocyanines. 20, 08n11, p. 1264-1271 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **High Water-Splitting Efficiency through Intentional In and Sn Codoping in Hematite Photoanodes**

Kaouk, A., Ruoko, T-P., Pyeon, M., Gönüllü, Y., Kaunisto, K., Lemmetyinen, H. & Mathur, S., 2016, In : Journal of Physical Chemistry C. 120, 49, p. 28345-28353 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **High-Yield Excited Triplet States in Pentacene Self-Assembled Monolayers on Gold Nanoparticles through Singlet Exciton Fission**

Kato, D., Sakai, H., Tkachenko, N. V. & Hasobe, T., 2016, In : Angewandte Chemie (International Edition). 55, 17, p. 5230-5234

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Homologation Reaction of Ketones with Diazo Compounds**

Candeias, N. R., Paterna, R. & Gois, P. M. P., 2016, In : Chemical Reviews. 116, 5, p. 2937-2981 45 p.

Research output: Contribution to journal > Review Article > Scientific > peer-review

#### **Metathesis Reactions on Solid-Phase: Towards New Synthesis Challenges**

Franzen, R. G., 2016, In : Topics in Catalysis. 59, 13, p. 1143-1150 8 p.

Research output: Contribution to journal > Review Article > Scientific > peer-review

#### **On describing the optoelectronic characteristics of poly(benzodithiophene-: Co -quinoxaline)-fullerene complexes: The influence of optimally tuned density functionals**

Kastinen, T., Niskanen, M., Risko, C., Cramariuc, O. & Hukka, T. I., 2016, In : Physical Chemistry Chemical Physics. 18, 39, p. 27654-27670 17 p.

**Photoinduced nonlinear optical response in azobenzene-functionalized molecular glass**

Virkki, M., Tuominen, O., Kauranen, M. & Priimägi, A., 2016, In : *Optics Express*. 24, 5, p. 4964-4971 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoresponsive liquid-crystalline polymer films bilayered with an inverse opal structure**

Akamatsu, N., Aizawa, M., Tatsumi, R., Hisano, K., Priimägi, A. & Shishido, A., 2016, In : *JOURNAL OF PHOTOPOLYMER SCIENCE AND TECHNOLOGY*. 29, 1, p. 145-148 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Porphyrin-Based Donor-Acceptor Dyads: Engineering the Linker and Tuning the Photoinduced Electron Transfer**

Tkachenko, N. V., Efimov, A. & Lemmetyinen, H., 2016, *Handbook of Porphyrin Science : With Applications to Chemistry, Physics, Materials Science, Engineering, Biology and Medicine — Volume 42: Towards Tuned Properties of Porphyrinoids*. Kadish, K. M., Smith, K. M. & Guillard, R. (eds.). World Scientific Publishing, Vol. 42. p. 121-171 51 p.

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

**Sorption of zinc onto elemental selenium nanoparticles immobilized in *Phanerochaete chrysosporium* pellets**

Espinosa-Ortiz, E. J., Shakya, M., Jain, R., Rene, E. R., van Hullebusch, E. D. & Lens, P. N. L., 2016, In : *Environmental Science and Pollution Research*. 23, 21, p. 21619–21630 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Superfluorinated Ionic Liquid Crystals Based on Supramolecular, Halogen-Bonded Anions**

Cavallo, G., Terraneo, G., Monfredini, A., Saccone, M., Priimägi, A., Pilati, T., Resnati, G., Metrangolo, P. & Bruce, D. W., 2016, In : *Angewandte Chemie (International Edition)*. 55, 21, p. 6300-6304

Research output: Contribution to journal › Article › Scientific › peer-review

**The effect of urine storage on antiviral and antibiotic compounds in the liquid phase of source-separated urine**

Jaatinen, S. T., Palmroth, M. R. T., Rintala, J. A. & Tuhkanen, T. A., 2016, In : *Environmental Technology*. 37, 17, p. 2189-2198

Research output: Contribution to journal › Article › Scientific › peer-review

**The Halogen Bond**

Cavallo, G., Metrangolo, P., Milani, R., Pilati, T., Priimägi, A., Resnati, G. & Terraneo, G., 2016, In : *Chemical Reviews*. 116, 4, p. 2478-2601 123 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Use of laboratory anaerobic digesters to simulate the increase of treatment rate in full-scale high nitrogen content sewage sludge and co-digestion biogas plants**

Tampio, E., Ervasti, S., Paavola, T. & Rintala, J., 2016, In : *Bioresource Technology*. 220, p. 47-54 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Preparation and antimicrobial characterization of silver-containing packaging materials for meat**

Kuuliala, L., Pippuri, T., Hultman, J., Auvinen, S-M., Kolppo, K., Nieminen, T., Karp, M., Björkroth, J., Kuusipalo, J. & Jääskeläinen, E., 1 Dec 2015, In : *Food Packaging and Shelf Life*. 6, p. 53-60 8 p., 67.

Research output: Contribution to journal › Article › Scientific › peer-review

**Graphene-intercalated Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> heterojunctions for efficient photoelectrolysis of water**

Kaouk, A., Ruoko, T. P., Gönüllü, Y., Kaunisto, K., Mettenböcker, A., Gurevich, E., Lemmetyinen, H., Ostendorf, A. & Mathur, S., 13 Nov 2015, In : *RSC Advances*. 5, 123, p. 101401-101407 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Organic Molecular Films as Light-Emitting and Light-Confining Material in Rolled-Up AlInP Semiconductor Microtube Resonators**

Kietzmann, S., Strelow, C., Tavares, L., Penttinen, J-P., Hakkarainen, T. V., Schramm, A., Osadnik, A., Lützen, A., Kjelstrup-Hansen, J., Mews, A. & Kipp, T., 27 Oct 2015, In : *ACS Photonics*. 2, 11, p. 1532-1538 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photomechanical Energy Transfer to Photopassive Polymers through Hydrogen and Halogen Bonds**

Vapaavuori, J., Heikkinen, I. T. S., Dichiarante, V., Resnati, G., Metrangolo, P., Sabat, R. G., Bazuin, C. G., Priimagi, A. & Pellerin, C., 27 Oct 2015, In : *Macromolecules*. 48, 20, p. 7535-7542 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Changes in global gene expression of *Vibrio parahaemolyticus* induced by cold- and heat-stress**

Urmersbach, S., Aho, T., Alter, T., Hassan, S. S., Autio, R. & Huehn, S., 23 Oct 2015, In : *BMC Microbiology*. 15, 1, 229.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Regenerative Astaxanthin Extraction from a Single Microalgal (*Haematococcus pluvialis*) Cell Using a Gold Nano-Scalpel**

Ramasamy, P., Gwak, R., Kang, M., Shim, T. S., Cho, S., Lee, J., Oh, Y. K., Lee, K. & Kim, B., 14 Oct 2015, In : *ACS Applied Materials and Interfaces*. 7, 40, p. 22702-22708 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Characterization of thermally aged polyetheretherketone fibres: Mechanical, thermal, rheological and chemical property changes**

Mylläri, V., Ruoko, T-P., Vuorinen, J. & Lemmetyinen, H., 1 Oct 2015, In : *Polymer Degradation and Stability*. 120, p. 419-426 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Cultivation of *Nannochloropsis* for eicosapentaenoic acid production in wastewaters of pulp and paper industry**

Polishchuk, A., Valev, D., Tarvainen, M., Mishra, S., Kinnunen, V., Antal, T., Yang, B., Rintala, J. & Tyystjärvi, E., 1 Oct 2015, In : *Bioresource Technology*. 193, p. 469-476 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Measuring the green color of vegetables from digital images using image analysis**

Manninen, H., Paakki, M., Hopia, A. & Franzén, R., 1 Oct 2015, In : *LWT: Food Science and Technology*. 63, 2, p. 1184-1190 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Effects of anode potentials on bioelectrogenic conversion of xylose and microbial community compositions**

Kokko, M. E., Mäkinen, A. E., Sulonen, M. L. K. & Puhakka, J. A., 5 Sep 2015, In : *Biochemical Engineering Journal*. 101, p. 248-252 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Measuring synthesis yield in graphene oxide synthesis by modified hummers method**

Frankberg, E. J., George, L., Efimov, A., Honkanen, M., Pessi, J. & Levänen, E., 2 Sep 2015, In : *Fullerenes Nanotubes and Carbon Nanostructures*. 23, 9, p. 755-759 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Gene expression profiles of *Vibrio parahaemolyticus* in the early stationary phase**

Meng, L., Alter, T., Aho, T. & Huehn, S., 1 Sep 2015, In : *Letters in Applied Microbiology*. 61, 3, p. 231-237 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Searching for a robust strategy for minimizing alkali chlorides in fluidized bed boilers during burning of high SRF-energy-share fuel**

Bajamundi, C. J. E., Vainikka, P., Hedman, M., Silvennoinen, J., Heinanen, T., Taipale, R. & Konttinen, J., 1 Sep 2015, In : *Fuel*. 155, p. 25-36 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Fe<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> nanosystems by a hybrid PE-CVD/ALD approach: controllable synthesis, growth mechanism, and photocatalytic properties**

Barreca, D., Carraro, G., Warwick, M. E. A., Kaunisto, K., Gasparotto, A., Gombac, V., Sada, C., Turner, S., Van Tendeloo, G., Maccato, C. & Fornasiero, P., 28 Aug 2015, In : *CrystEngComm*. 17, 32, p. 6219-6226 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Fluorescent Protein Based FRET Pairs with Improved Dynamic Range for Fluorescence Lifetime Measurements**

George Abraham, B., Sarkisyan, K. S., Mishin, A. S., Santala, V., Tkachenko, N. V. & Karp, M., 3 Aug 2015, In : PLoS ONE. 10, 8, 15 p., e0134436.

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced Electron Transfer in CdSe/ZnS Quantum Dot-Fullerene Hybrids**

Virkki, K., Demir, S., Lemmetyinen, H. & Tkachenko, N. V., 23 Jul 2015, In : Journal of Physical Chemistry C. 119, 31, p. 17561-17572 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Subpicosecond to Second Time-Scale Charge Carrier Kinetics in Hematite-Titania Nanocomposite Photoanodes**

Ruoko, T. P., Kaunisto, K., Bärtsch, M., Pohjola, J., Hiltunen, A., Niederberger, M., Tkachenko, N. V. & Lemmetyinen, H., 8 Jul 2015, In : Journal of Physical Chemistry Letters. 6, 15, p. 2859-2864 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Synthesis and study of electrochemical and optical properties of substituted perylenemonoimides in solutions and on solid surfaces**

Ahmed, Z., George, L., Hiltunen, A., Lemmetyinen, H., Hukka, T. & Efimov, A., 7 Jul 2015, In : Journal of Materials Chemistry A. 3, 25, p. 13332-13339 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**A comparison of rheology and FTIR in the study of polypropylene and polystyrene photodegradation**

Mylläri, V., Ruoko, T-P. & Syrjäälä, S., 1 Jul 2015, In : Journal of Applied Polymer Science. 132, 28, 6 p., 42246.

Research output: Contribution to journal › Article › Scientific › peer-review

**Molecular interactions on single-walled carbon nanotubes revealed by high-resolution transmission microscopy**

Umeyama, T., Baek, J., Sato, Y., Suenaga, K., Abou-Chahine, F., Tkachenko, N. V., Lemmetyinen, H. & Imahori, H., Jul 2015, In : Nature Communications. 6, 9 p., 7732.

Research output: Contribution to journal › Article › Scientific › peer-review

**Synthesis and Photophysical Properties of Two Diazaporphyrin-Porphyrin Hetero Dimers in Polar and Nonpolar Solutions**

Abou-Chahine, F., Fujii, D., Imahori, H., Nakano, H., Tkachenko, N. V., Matano, Y. & Lemmetyinen, H., 18 Jun 2015, In : Journal of Physical Chemistry Part B. 119, 24, p. 7328-7337 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Catalytic effect of Ca and K on CO<sub>2</sub> gasification of spruce wood char**

Perander, M., DeMartini, N., Brink, A., Kramb, J., Karlström, O., Hemming, J., Moilanen, A., Kontinen, J. & Hupa, M., 15 Jun 2015, In : Fuel. 150, p. 464-472 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Polymorph crystal packing effects on charge transfer emission in the solid state**

He, X., Benniston, A. C., Saarenpää, H., Lemmetyinen, H., Tkachenko, N. V. & Baisch, U., 1 Jun 2015, In : Chemical Science. 6, 6, p. 3525-3532 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Laser-pointer-induced self-focusing effect in hybrid-aligned dye-doped liquid crystals**

Wang, J., Aihara, Y., Kinoshita, M., Mamiya, J., Priimagi, A. & Shishido, A., 6 May 2015, In : Scientific Reports. 5, 7 p., 9890.

Research output: Contribution to journal › Article › Scientific › peer-review

**Biomimetic collagen I and IV double layer Langmuir-Schaefer films as microenvironment for human pluripotent stem cell derived retinal pigment epithelial cells**

Sorkio, A. E., Vuorimaa-Laukkanen, E. P., Hakola, H. M., Liang, H., Ujula, T. A., Valle-Delgado, J. J., Österberg, M., Yliperttula, M. L. & Skottman, H., 1 May 2015, In : Biomaterials. 51, p. 257-269 13 p.

**Gene expression profiles of *Vibrio parahaemolyticus* in viable but non-culturable state**

Meng, L., Alter, T., Aho, T. & Huehn, S., May 2015, In : FEMS Microbiology Ecology. 91, 5, 12 p., 035.

Research output: Contribution to journal > Article > Scientific > peer-review

**Light induced cytosolic drug delivery from liposomes with gold nanoparticles**

Lajunen, T., Viitala, L., Kontturi, L-S., Laaksonen, T., Liang, H., Vuorimaa-Laukkanen, E., Viitala, T., Le Guevel, X., Yliperttula, M., Murtomaki, L. & Urtti, A., 10 Apr 2015, In : Journal of Controlled Release. 203, p. 85-98 14 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Crystal structure of 2-methylpiperazine-1,4-dium bis(hydrogen maleate)**

Wecharine, I., Valkonen, A., Rzaigui, M., Sta, W. S. & Smith, G., 1 Mar 2015, In : Acta Crystallographica Section E : Structure Reports Online. 71, 3, p. o193-o194

Research output: Contribution to journal > Article > Scientific > peer-review

**Photocurrent Generation and Charge Recombination in Multilayer Stacks of Hole Transporting Layer, Electron Donor-Acceptor Dyad and Electron Transporting Layer**

Alekseev, A. S., Lemmetyinen, H. & Tolkki, A., Mar 2015, In : Journal of Nanoelectronics and Optoelectronics. 9, 6, p. 741-749 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Encapsulation of secondary and tertiary ammonium salts by resorcinarenes and pyrogallarenes: The effect of size and charge concentration**

Beyeh, N. K., Pan, F., Valkonen, A. & Rissanen, K., 7 Feb 2015, In : CrystEngComm. 17, 5, p. 1182-1188 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Integrated in vitro-in silico screening strategy for the discovery of antibacterial compounds**

Nybond, S., Ghemtio, L., Nawrot, D. A., Karp, M., Xhaard, H. & Tammela, P., 1 Feb 2015, In : Assay and Drug Development Technologies. 13, 1, p. 25-33 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Glycerol as an Efficient Medium for the Petasis Borono-Mannich Reaction**

Rosholm, T., Gois, P. M. P., Franzen, R. & R. Candeias, N., Feb 2015, In : ChemistryOpen. 4, 1, p. 39-46 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Supramolecular hierarchy among halogen and hydrogen bond donors in light-induced surface patterning**

Saccone, M., Dichiarante, V., Forni, A., Goulet-Hanssens, A., Cavallo, G., Vapaavuori, J., Terraneo, G., Barrett, C. J., Resnati, G., Metrangolo, P. & Priimägi, A., 28 Jan 2015, In : Journal of Materials Chemistry C. 3, p. 759-768 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Photophysical Study of a Self-Assembled Donor-Acceptor Two-Layer Film on TiO<sub>2</sub>**

Stranius, K., George, L., Efimov, A., Ruoko, T-P., Pohjola, J. & Tkachenko, N. V., 27 Jan 2015, In : Langmuir. 31, 3, p. 944-952 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Controlled Regioselective Amination of Peryleneimides**

George, L., Ahmed, Z., Lemmetyinen, H. & Efimov, A., 14 Jan 2015, In : European Journal of Organic Chemistry. 2015, 3, p. 584-590 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Aryl end-capped quaterthiophenes applied as anode interfacial layers in inverted organic solar cells**

Heiskanen, J. P., Manninen, V. M., Pankov, D., Omar, W. A. E., Kastinen, T., Hukka, T. I., Lemmetyinen, H. J. & Hormi, O. E. O., 1 Jan 2015, In : Thin Solid Films. 574, p. 196-206 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Photophysical properties of Sn (IV)tetraphenylporphyrin-pyrene dyad with a $\beta$ -vinyl linker

Reeta, P. S., Khetubol, A., Jella, T., Chukharev, V., Abou-Chahine, F., Tkachenko, N. V., Giribabu, L. & Lemmetyinen, H., 1 Jan 2015, In : Journal of Porphyrins and Phthalocyanines. 19, 1-3, p. 288-300 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Branched thiophene oligomer/polymer bulk heterojunction organic solar cell

Martinez, F., Neculqueo, G., Vasquez, S. O., Lemmetyinen, H., Efimov, A. & Vivo, P., 2015, *Materials Research Society Symposium Proceedings*. MATERIALS RESEARCH SOCIETY, Vol. 1737. p. 19-25 7 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### Combination of a novel electrode material and artificial mediators to enhance power generation in an MFC

Taskan, E., Özkaya, B. & Hasar, H., 2015, In : Water Science and Technology. 71, 3, p. 320-328 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Fe<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> Nano-heterostructure Photoanodes for Highly Efficient Solar Water Oxidation

Bañera, D., Carraro, G., Gasparotto, A., Maccato, C., Warwick, M. E. A., Kaunisto, K., Sada, C., Turner, S., Gönüllü, Y., Ruoko, T-P., Borgese, L., Bontempi, E., Van Tendeloo, G., Lemmetyinen, H. & Mathur, S., 2015, In : Advanced Materials Interfaces. 2, 17

Research output: Contribution to journal > Article > Scientific > peer-review

### Halogen-bonded photoresponsive materials

Saccone, M., Cavallo, G., Metrangolo, P., Resnati, G. & Priimägi, A., 2015, *Halogen Bonding II: Impact on Materials Chemistry and Life Sciences*. Springer International Publishing, p. 147-166 20 p. (Topics in Current Chemistry; vol. 359).

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

### Halogen bonding enhances nonlinear optical response in poled supramolecular polymers

Virkki, M., Tuominen, O., Forni, A., Saccone, M., Metrangolo, P., Resnati, G., Kauranen, M. & Priimägi, A., 2015, In : Journal of Materials Chemistry C. 3, p. 3003-3006 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Microvesicle- and exosome-mediated drug delivery enhances the cytotoxicity of Paclitaxel in autologous prostate cancer cells

Saari, H., Lázaro-Ibáñez, E., Viitala, T., Vuorimaa-Laukkanen, E., Siljander, P. & Yliperttula, M., 2015, In : Journal of Controlled Release. 220, p. 727-737 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Nano-graphite cold cathodes for electric solar wind sail

Kleshch, V. I., Smolnikova, E. A., Orekhov, A. S., Kalvas, T., Tarvainen, O., Kauppinen, J., Nuottajärvi, A., Koivisto, H., Janhunen, P. & Obraztsov, A. N., 2015, In : Carbon. 81, p. 132-136 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Role of the bridge in photoinduced electron transfer in porphyrin-fullerene dyads

Pelado, B., Abou-Chahine, F., Calbo, J., Caballero, R., delaCruz, P., Junquera-Hernández, J. M., Ortí, E., Tkachenko, N. V. & Langa, F., 2015, In : Chemistry: A European Journal. 21, 15, p. 5814-5825 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Synthesis of fluorescent naphthoquinolizines via intramolecular houben-hoesch reaction

Stasyuk, A. J., Smoleń, S., Glodkowska-Mrowka, E., Brutkowski, W., Cyrański, M. K., Tkachenko, N. & Gryko, D. T., 2015, In : Chemistry - An Asian Journal. 10, 3, p. 553-558 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Van der Waals interactions are critical in Car-Parrinello molecular dynamics simulations of porphyrin-fullerene dyads

Karilainen, T., Cramariuc, O., Kuisma, M., Tappura, K. & Hukka, T. I., 2015, In : Journal of Computational Chemistry. 36, 9, p. 612-621 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review



**$\pi$ -Expanded  $\alpha,\beta$ -unsaturated ketones: Synthesis, optical properties, and two-photon-induced polymerization**

Nazir, R., Bourquard, F., Balčiūnas, E., Smoleň, S., Gray, D., Tkachenko, N. V., Farsari, M. & Gryko, D. T., 2015, In : ChemPhysChem. 16, 3, p. 682–690 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Monoisomeric phthalocyanine-fullerene dyads with e- and cis-3 addition pattern; synthesis, modeling, photovoltage and solar cell experiments**

Ranta, J., Niskanen, M., Kaunisto, K., Manninen, V., Mundy, M. E., Virkki, K., Hakola, H., Hukka, T. I. & Lemmetyinen, H., Dec 2014, In : Journal of Porphyrins and Phthalocyanines. 18, 12, p. 1108-1124 17 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Photochemistry of self-assembled donor-acceptor architectures for photoactive supramolecular devices**

Stranius, K., 26 Nov 2014, Tampere: Tampere University of Technology. 147 p. (Tampere University of Technology. Publication; vol. 1269)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Molecular modifications of active and anode buffer layers of bulk heterojunction solar cell**

Manninen, V., 23 May 2014, Tampere University of Technology. (Tampere University of Technology. Publication; vol. 1214)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Binding Affinity and Mechanism of Polymer-DNA Polyplexes for Gene Delivery**

Ketola, T-M. C., 31 Jan 2014, Tampere University of Technology. 64 p. (Tampere University of Technology. Publication; no. 1187)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Are two azo groups better than one? Investigating the photoresponse of polymer-bisazobenzene complexes**

Vapaavuori, J., Goulet-Hanssens, A., Heikkinen, I. T. S., Barrett, C. J. & Priimägi, A., 2014, In : Chemistry of Materials. 26, 17, p. 5089-5096 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Charge-Transfer Dynamics in Poly(3-hexylthiophene):Perylenediimide-C-60 Blend Films Studied by Ultrafast Transient Absorption**

Kaunisto, K. M., Vivo, P., Dubey, R. K., Chukharev, V. I., Efimov, A., Tkachenko, N. V. & Lemmetyinen, H. J., 2014, In : Journal of Physical Chemistry C. 118, 20, p. 10625-10630 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Deprotonation of resorcinarenes by mono- and diamine bases: complexation and intermolecular interactions in the solid state**

Beyeh, N. K., Valkonen, A. & Rissanen, K., 2014, In : CrystEngComm. 16, 18, p. 3758-3764 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Dynamics of time-resolved photoluminescence in GaInNAs and GaNAsSb solar cells**

Gubanov, A., Polojärvi, V., Aho, A., Tukiainen, A., Tkachenko, N. V. & Guina, M., 2014, In : Nanoscale Research Letters. 9, 80.

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect of mutual position of electron donor and acceptor on photoinduced electron transfer in supramolecular chlorophyll-fullerene dyads**

Stranius, K., Iashin, V., Nikkonen, T., Muuronen, M., Helaja, J. & Tkachenko, N., 2014, In : Journal of Physical Chemistry A. 118, 8, p. 1420-1429 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Electricity generating capacity and performance deterioration of a microbial fuel cell fed with beer brewery wastewater**

Köroglu, E. O., Özkaya, B., Denktas, C. & Cakmakci, M., 2014, In : Journal of Bioscience and Bioengineering. 118, 6, p. 672-678 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Excited State Intramolecular Proton Transfer in $\pi$ -Expanded Phenazine-Derived Phenols**

Piechowska, J., Virkki, K., Sadowski, B., Lemmetyinen, H., Tkachenko, N. V. & Gryko, D. T., 2014, In : Journal of Physical Chemistry A. 118, 1, p. 144-151 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Femtosecond spectroscopy of the dithiolate Cu(II) and Ni(II) complexes**

Plyusnin, V. F., Pozdnyakov, I. P., Grivin, V. P., Solovyev, A. I., Lemmetyinen, H., Tkachenko, N. V. & Larionov, S. V., 2014, In : DALTON TRANSACTIONS. 43, 47, p. 17766-17774 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Formation of a stable polymer blue phase under UV irradiation of Langmuir-Schaefer films of diin N-arylcarbamate derivative**

Alekseev, A. S., Domnin, I. N., Ivanov, A. B., Vuorimaa-Laukkanen, E., Lemmetyinen, H. & Tereshchenko, N. A., 2014, In : Bulletin of the Lebedev Physics Institute. 41, 6, p. 160-164 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **High-modulation-depth surface relief gratings using s-s polarization configuration in supramolecular polymer-azobenzene complexes**

Sobolewska, A., Bartkiewicz, S. & Priimagi, A., 2014, In : Journal of Physical Chemistry C. 118, 40, p. 23279-23284 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Light-driven surface patterning of supramolecular polymers with extremely low concentration of photoactive molecules**

Koskela, J. E., Vapaavuori, J., Ras, R. H. A. & Priimagi, A., 2014, In : ACS Macro Letters. 3, p. 1196-1200 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Modeling of photoactive conjugated donor-acceptor copolymers: the effect of the exact HF exchange in DFT functionals on geometries and gap energies of oligomer and periodic models**

Niskanen, M. & Hukka, T. I., 2014, In : Physical Chemistry Chemical Physics. 16, p. 13294-13305 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Monoisomeric phthalocyanines and phthalocyanine-fullerene dyads with polar side chains: synthesis, modeling, and photovoltage**

Ranta, J., Kaunisto, K., Niskanen, M., Efimov, A., Hukka, T. I. & Lemmetyinen, H., 2014, In : Journal of Physical Chemistry C. 118, 5, p. 2754-2765 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Organic-inorganic azafullerene-gold C59N-Au nanohybrid: Synthesis, characterization, and properties**

Rotas, G., Niemi, M., Tkachenko, N. V., Zhao, S., Shinohara, H. & Tagmatarchis, N., 2014, In : Chemistry: A European Journal. 20, 45, p. 14729-14735 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Photo-induced electron transfer at nanostructured semiconductor-zinc porphyrin interface**

Hakola, H., Pyymaki Perros, A., Myllyperkiö, P., Kurotobi, K., Lipsanen, H., Imahori, H., Lemmetyinen, H. & Tkachenko, N. V., 2014, In : Chemical Physics Letters. 592, p. 47-51 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Recognition of N-Alkyl and N-Aryl acetamides by N-Alkyl ammonium resorcinarene chlorides**

Beyeh, N. K., Ala-Korpi, A., Cetina, M., Valkonen, A. & Rissanen, K., 2014, In : Chemistry: A European Journal. 20, 46, p. 15144-15150 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **ROFRET: A Molecular-Scale Fluorescent Probe Displaying Viscosity-Enhanced Intramolecular Förster Energy Transfer**

Bai, S., Benniston, A. C., Whittle, V. L., Lemmetyinen, H. & Tkachenko, N. V., 2014, In : ChemPhysChem. 115, 14, p. 3089-3096 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Slow charge recombination and enhanced photoelectrochemical properties of Diazaporphyrin-Fullerene linked dyad**

Yamamoto, M., Takano, Y., Matano, Y., Stranius, K., Tkachenko, N. V., Lemmetyinen, H. & Imahori, H., 2014, In : Journal of Physical Chemistry C. 118, 4, p. 1808-1820 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Solid state anion-pi interactions involving polyhalides**

Giese, M., Albrecht, M., Bohnen, C., Repenko, T., Valkonen, A. & Rissanen, K., 2014, In : DALTON TRANSACTIONS. 43, 4, p. 1873-1880 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Spectroscopic study of a synthesized Alq3 end-capped oligothiophene applied in organic solar cells**

Manninen, V. M., Heiskanen, J. P., Kaunisto, K. M., Hormi, O. E. O. & Lemmetyinen, H. J., 2014, In : RSC Advances. 4, 17, p. 8846-8855 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Subcellular localization of bacteriophage PRD1 proteins in Escherichia coli**

Karttunen, J., Mäntynen, S., Ihalainen, T. O., Lehtivuori, H., Tkachenko, N. V., Vihinen-Ranta, M., Ihalainen, J. A., Bamford, J. K. H. & Oksanen, H. M., 2014, In : Virus Research. 179, p. 44-52 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis and characterization of monoisomeric phthalocyanines, phthalocyanine-fullerene dyads, and phthalocyanine-silicon complexes**

Ranta, J., 2014, Tampere: Tampere University of Technology. 160 p. (Tampere University of Technology. Publication; vol. 1254)

Research output: Book/Report > Doctoral thesis > Collection of Articles

**Synthesis and properties of a meso- tris-ferrocene appended zinc(II) porphyrin and a critical evaluation of its dye sensitised solar cell (DSSC) performance**

Sirbu, D., Turta, C., Benniston, A. C., Abou-Chahine, F., Lemmetyinen, H., Tkachenko, N. V., Wood, C. & Gibson, E., 2014, In : RSC Advances. 4, p. 22733-22742 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Tetraiodoethynyl resorcinarene cavitands as multivalent halogen bond donors**

Turunen, L., Beyeh, N. K., Pan, F., Valkonen, A. & Rissanen, K., 2014, In : Chemical Communications. 50, 100, p. 15920-15923 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**The effect of diketopyrrolopyrrole (DPP) group inclusion in p-cyanophenyl end-capped oligothiophene used as a dopant in P3HT:PCBM BHJ solar cells**

Manninen, V. M., Heiskanen, J. P., Pankov, D., Kastinen, T., Hukka, T. I., Hormi, O. E. O. & Lemmetyinen, H. J., 2014, In : Photochemical & Photobiological Sciences. 13, 10, p. 1456-1468 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**The effect of thiophene substituents of fulleropyrrolidine acceptors on the performance of inverted organic solar cells**

Kaunisto, K. M., Subbaiyan, N. K., Bikram K.C., C., Chukharev, V. I., Hakola, H. M., Vuorinen, T. K., Manninen, V. M., Tkachenko, N. V., Lemmetyinen, H. J. & D'Souza, F., 2014, In : Synthetic Metals. 195, p. 193-200 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**The effects of UV irradiation to polyetheretherketone fibres: Characterization by different techniques**

Mylläri, V., Ruoko, T. P. & Järvelä, P., 2014, In : Polymer Degradation and Stability. 109, p. 278-284 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**The Wolff Rearrangement**

Candeias, N. R., Trindade, A. F., Gois, P. M. P. & Afonso, C. A. M., 2014, *Comprehensive Organic Synthesis II (Second Edition)*. Oxford: Elsevier, p. 944-991 48 p.

**Ultrafast photophysical processes for Fe(III)-carboxylates**

Pozdnyakov, I. P., Melnikov, A. A., Tkachenko, N., Chekalin, S. V., Lemmetyinen, H. & Plyusnin, V. F., 2014, In : DALTON TRANSACTIONS. 43, 47, p. 17590-17595 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Porphyrin adsorbed on the (1010) surface of the wurtzite structure of ZnO-conformation induced effects on the electron transfer characteristics**

Niskanen, M., Kuisma, M., Cramariuc, O., Golovanov, V., Hukka, T. I., Tkachenko, N. & Rantala, T. T., 28 Oct 2013, In : Physical Chemistry Chemical Physics. 15, 40, p. 17408-17418 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Bis(aryl)acenaphthenequinonediimine substituent effect on the properties and coordination environment of ligands and their bis-chelate AgI complexes**

Papanikolaou, P., Gdaniec, M., Wicher, B., Akrivos, P. D. & Tkachenko, N., 2013, In : European Journal of Inorganic Chemistry. 2013, 29, p. 5196-5205 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Chain processes in the photochemistry of PtIV halide complexes in aqueous solutions**

Glebov, E. M., Kolomeets, A. V., Pozdnyakov, I. P., Grivin, V. P., Plyusnin, V. F., Tkachenko, N. V. & Lemmetyinen, H., 2013, In : Russian Chemical Bulletin. 62, 7, p. 1540-1548 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Charge transfer properties of a donor-acceptor dyad based on an expanded acridinium cation**

Benniston, A. C., He, X., Lemmetyinen, H. & Tkachenko, N. V., 2013, In : RSC Advances. 3, 15, p. 4995-5002 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Chlorophyll tailored 20-trifluoroacetamide and its azacrown derivative as pH sensitive colorimetric sensor probe with response to AcO<sup>-</sup>, F<sup>-</sup> and CN<sup>-</sup> ions**

Iashin, V., Koso, T. V., Stranius, K., Muuronen, M., Heikkinen, S., Kavakka, J., Tkachenko, N. V. & Helaja, J., 2013, In : RSC Advances. 3, 29, p. 11485-11488 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Complexation enhanced excited-state deactivation by lithium ion coordination to a borondipyromethene (Bodipy) donor-bridge-acceptor dyad**

Benniston, A. C., Yang, S., Lemmetyinen, H. & Tkachenko, N. V., 2013, In : European Journal of Organic Chemistry. 2013, 30, p. 6859-6869 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Conjugated donor-acceptor (D-A) copolymers in inverted organic solar cells - a combined experimental and modelling study**

Manninen, V., Niskanen, M., Hukka, T. I., Pasker, F., Claus, S., Höger, S., Baek, J., Umeyama, T., Imahori, H. & Lemmetyinen, H., 2013, In : Journal of Materials Chemistry A. 1, 25, p. 7451-7462 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Demonstrating the mechanism and efficacy of water-induced shape memory and the influence of water on the thermal properties of oriented poly(d,l-lactide)**

Paakinaho, K., Hukka, T. I., Kastinen, T. & Kellomäki, M., 2013, In : Journal of Applied Polymer Science. 130, 6, p. 4209-4218 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Determination of preferential molecular orientation in porphyrin-fullerene dyad ZnDHD6ee monolayers by the X-ray standing-wave method and X-ray reflectometry**

Seregin, A. Y., Dyakova, Y. A., Yakunin, S. N., Makhotkin, I. A., Alekseev, A. S., Klechkovskaya, V. V., Terechenko, E. Y., Tkachenko, N. V., Lemmetyinen, H., Feigin, L. A. & Kovalchuk, M. V., 2013, In : Crystallography Reports. 58, 6, p. 934-938 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Dipyrroldinyl-substituted perylene diimide as additive for poly(3-hexylthiophene): [6,6]-Phenyl C61 butyric acid methylester bulk-heterojunction blends**

Vivo, P., Dubey, R., Lehtonen, E., Kivistö, H., Vuorinen, T. & Lemmetyinen, H., 2013, In : *Thin Solid Films*. 548, p. 398-405 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Direct evidence of significantly different chemical behavior and excited-state dynamics of 1,7- and 1,6-regioisomers of pyrroldinyl-substituted perylene diimide**

Dubey, R. K., Niemi, M., Kaunisto, K., Efimov, A., Tkachenko, N. V. & Lemmetyinen, H., 2013, In : *Chemistry: A European Journal*. 19, 21, p. 6791-6806

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect of anion coordination on electron transfer in double-linked zinc phthalocyanine-fullerene dyad**

Al-Subi, A. H., Efimov, A., Niemi, M., Tkachenko, N. V. & Lemmetyinen, H., 2013, In : *Chemical Physics Letters*. 572, p. 96-100 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Excited-state interaction of red and green perylene diimides with luminescent Ru(II) polypyridine complex**

Dubey, R. K., Niemi, M., Kaunisto, K., Stranius, K., Efimov, A., Tkachenko, N. & Lemmetyinen, H., 2013, In : *Inorganic Chemistry*. 52, p. 9761-9773 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Fluorescence properties of the chromophore-binding domain of bacteriophytochrome from *Deinococcus radiodurans***

Lehtivuori, H., Rissanen, I., Takala, H., Bamford, J., Tkachenko, N. V. & Ihalainen, J. A., 2013, In : *Journal of Physical Chemistry Part B*. 117, p. 11049-11057

Research output: Contribution to journal > Article > Scientific > peer-review

**Homoleptic Bis(aryl)acenaphthenequinonediimine-CuI complexes - synthesis and characterization of a family of compounds with improved light-gathering characteristics**

Papanikolaou, P., Akrivos, P. D., Czapik, A., Wicher, B., Gdaniec, M. & Tkachenko, N., 2013, In : *European Journal of Inorganic Chemistry*. 2013, 13, p. 2418-2431 14 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Hydrolytic degradation of composites of poly(L-lactide-co-epsilon-caprolactone) 70/30 and beta-tricalcium phosphate**

Ahola, N., Veiranto, M., Rich, J., Efimov, A., Hannula, M., Seppälä, J. & Kellomäki, M., 2013, In : *Journal of Biomaterials Applications*. 28, 4, p. 529-543

Research output: Contribution to journal > Article > Scientific > peer-review

**Independent versus cooperative binding in polyethylenimine-DNA and poly(L-lysine)-DNA polyplexes**

Ketola, T-M., Hanzlikova, M., Leppänen, L., Ravina, M., Bishop, C. J., Green, J. J., Urtti, A., Lemmetyinen, H., Yliperttula, M. & Vuorimaa-Laukkanen, E., 2013, In : *Journal of Physical Chemistry Part B*. 117, 36, p. 10405-10413 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Influence of plasma chemistry on impurity incorporation in AlN prepared by plasma enhanced atomic layer deposition**

Pyymäki Perros, A., Hakola, H., Sajavaara, T., Huhtio, T. & Lipsanen, H., 2013, In : *Journal of Physics D: Applied Physics*. 46, 50, 8 p., 505502.

Research output: Contribution to journal > Article > Scientific > peer-review

**Molecular dipole effects on tuning electron transfer in a porphine-quinone complex: A DFT and TDDFT study**

Cramariuc, O., Aittala, P. & Hukka, T., 2013, In : *Journal of Molecular Modeling*. 19, 2, p. 697-704

Research output: Contribution to journal > Article > Scientific > peer-review

**Molecular weight distribution of a full-scale landfill leachate treatment by membrane bioreactor and nanofiltration membrane**

Campagna, M., Cakmakci, M., Busra Yaman, F. & Özkaya, B., 2013, In : Waste Management. 33, 4, p. 866-870 5 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Photophysics of bis(ethylxanthato)nickel(II) [Ni(EtOCS<sub>2</sub>)<sub>2</sub>] complex studied by femtosecond pump-probe spectroscopy**  
Plyusnin, V. F., Kolomeets, A. V., Budkina, D. S., Pozdnyakov, I. P., Tkachenko, N. & Lemmetyinen, H., 2013, In : Journal of Photochemistry and Photobiology, A: Chemistry. 251, 1, p. 57-62 6 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Plasma-assisted chemical vapor deposition of Fe:TiO<sub>2</sub> films for photoelectrochemical hydrogen production**  
Mettenböcker, A., Merod, V., Singh, A. P., Lemmetyinen, H. & Mathur, S., 2013, *Nanostructured Materials and Nanotechnology V - 36th International Conference on Advanced Ceramics and Composites, ICACC 2012, Daytona Beach, FL, USA, 22.-27.1.2013*. American Ceramic Society, p. 81-88 8 p. (Ceramic Engineering and Science Proceedings; vol. 33, no. 7).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Probing the excited state dynamics of a new family of Cu(I)-complexes with an enhanced light absorption capacity: excitation-wavelength dependent population of states through branching**  
Papanikolaou, P. & Tkachenko, N. V., 2013, In : Physical Chemistry Chemical Physics. 15, 31, p. 13128-13136 9 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Ring-expansion reaction of isatins with ethyl diazoacetate catalyzed by dirhodium(II)/DBU metal-organic system: En route to viridicatin alkaloids**  
Paterna, R., Andre, V., Duarte, M. T., Veiros, L. F., Rafael Candeias, N. & Gois, P. M. P., 2013, In : European Journal of Organic Chemistry. 2013, 28, p. 6280-6290 11 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Sequential photoinduced energy and electron transfer directed improved performance of the supramolecular solar cell of a zinc porphyrin - zinc phthalocyanine conjugate modified TiO<sub>2</sub> surface**  
KC, C. B., Stranius, K., D'Souza, P., Subbaiyan, N. K., Lemmetyinen, H., Tkachenko, N. V. & D'Souza, F., 2013, In : Journal of Physical Chemistry C. 117, p. 763-773 11 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Short synthesis of the natural product 3 $\beta$ -hydroxy-labd-8(17)-en-15-oic acid via microbial transformation of labdanolic acid**  
Frija, L. M. T., Garcia, H., Rodrigues, C., Martins, I., Rafael Candeias, N., Andre, V., Duarte, M. T., Pereira, S. C. & Afonso, C. A. M., 2013, In : Phytochemistry Letters. 6, 2, p. 165-169 5 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Studies on the structure of coumarin-modified dextran nanoparticles by fluorescence spectroscopy**  
Wondraczek, H., Kotiaho, A., Niemi, M., Fardim, P. & Heinze, T., 2013, In : Carbohydrate Polymers. 97, 1, p. 45-51 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Study of structural order in porphyrin-fullerene dyad ZnDHD6ee monolayers by electron diffraction and atomic force microscopy**  
D'yakova, Y. A., Suvorova, E. I., Orekhov, A. S., Orekhov, A. S., Alekseev, A. S., Gainutdinov, R. V., Klechkovskaya, V. V., Tereschenko, E. Y., Tkachenko, N. V., Lemmetyinen, H., Feigin, L. A. & Kovalchuk, M. V., 2013, In : Crystallography Reports. 58, 6, p. 927-933 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Supramolecular assemblies of bay-substituted perylene diimides in solution and on a solid substrate**  
Sariola-Leikas, E., Niemi, M., Lemmetyinen, H. & Efimov, A., 2013, In : Organic and Biomolecular Chemistry. 11, p. 6397-6406 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**The Effect and Role of Carbon Atoms in Poly( $\beta$ -amino ester)s for DNA Binding and Gene Delivery**  
Bishop, C. J., Ketola, T.-M., Tzeng, S. Y., Sunshine, J. C., Urtti, A., Lemmetyinen, H., Vuorimaa-Laukkanen, E., Yliperttula, M. & Green, J. J., 2013, In : Journal of the American Chemical Society. 135, 18, p. 6951-6957 7 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

### **Triarylamine-substituted imidazole- and quinoxaline-fused push-pull porphyrins for dye-sensitized solar cells**

Hayashi, H., Touchy, A. S., Kinjo, Y., Kurotobi, K., Toude, Y., Ito, S., Saarenpää, H., Tkachenko, N., Lemmetyinen, H. & Imahori, H., 2013, In : *ChemSusChem*. 6, 3, p. 508-517 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Tuning the Förster overlap integral: energy transfer over 20 Ångstroms from a pyrene-based donor to borondipyrromethene (Bodipy)**

Bai, D., Benniston, A. C., Hagon, J., Lemmetyinen, H., Tkachenko, N. V. & Harrington, R. W., 2013, In : *Physical Chemistry Chemical Physics*. 15, 24, p. 9854-9861 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Algorithm for In Silico Optimization of Production Strains**

Heikkinen, E., Larjo, A., Santala, V., Yli-Harja, O. & Aho, T., 2012, *Proceedings of Ninth International Workshop on Computational Systems Biology, WCSB 2012, 4-6 June, Ulm, Germany. TICSP Series*. Larjo, A., Schober, S., Farhan, M., Bossert, M. & Yli-Harja, O. (eds.). Tampere: Tampere University of Technology, p. 1-4 4 p. (International Workshop on Computational Systems Biology; vol. 61).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **A Photoconductive, Thiophene-Fullerene Double-Cable Polymer, Nanorod Device**

Imahori, H., Kitaura, S., Kira, A., Hayashi, H., Nishi, M., Hirao, K., Isoda, S., Tsujimoto, M., Takano, M., Zhe, Z., Miyato, Y., Noda, K., Matsushige, K., Stranius, K., Tkachenko, N. V., Lemmetyinen, H., Qin, L., Hurst, S. J. & Mirkin, C. A., 2012, In : *Journal of Physical Chemistry Letters*. 3, 4, p. 478-481

Research output: Contribution to journal > Article > Scientific > peer-review

### **Asymmetric Intramolecular C-H Insertion of alpha-Diazoacetamides in Water by Dirhodium(II) Catalysts Derived from Natural Amino Acids**

Rafael Candeias, N., Carias, C., Gomes, L. F. R., Andre, V., Teresa Duarte, M., Gois, P. M. P. & Afonso, C. A. M., 2012, In : *Advanced Synthesis and Catalysis*. 354, 16, p. 2921-2927

Research output: Contribution to journal > Article > Scientific > peer-review

### **Azafullerene C59N-Phthalocyanine Dyad: Synthesis, Characterisation and Photoinduced Electron Transfer**

Rotas, G., Ranta, J., Efimov, A., Niemi, M., Lemmetyinen, H., Tkachenko, N. V. & Tagmatarchis, N., 2012, In : *ChemPhysChem*. 13, 5, p. 1246-1254

Research output: Contribution to journal > Article > Scientific > peer-review

### **Car-parrinello molecular dynamics study of a porphyrin-fullerene electron donor-acceptor dyad**

Karilainen, T., Cramariuc, O., Tappura, K. & Hukka, T., 2012, *Physics Days 2012, the 46th annual meeting of the Finnish Physical Society, 13.-15.3.2012, Joensuu, Finland*. Joensuu: University of Eastern Finland; Suomen fyysikköseura, p. 1-1 1 p. (Physics Days / Fysiikan päivät : Annual Meeting of the Finnish Physical Society).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

### **Diaryl-Substituted Perylene Bis(imides): Synthesis, Separation, Characterization and Comparison of Electrochemical and Optical Properties of 1,7- and 1,6-Regioisomer**

Dey, S., Efimov, A. & Lemmetyinen, H., 2012, In : *European Journal of Organic Chemistry*. p. 2367-2374

Research output: Contribution to journal > Article > Scientific > peer-review

### **Directed electron transfer in Langmuir-Schäfer layers of porphyrin-fullerene and phthalocyanine-fullerene dyads in inverted organic solar cells**

Tolkkii, A., Kaunisto, K., Efimov, A., Kivistö, H., Storbacka, L., Savikoski, R., Huttunen, K., Lehtimäki, S. & Lemmetyinen, H., 2012, In : *Physical Chemistry Chemical Physics*. 14, p. 3498-3504

Research output: Contribution to journal > Article > Scientific > peer-review

### **Donor-acceptor alternating copolymer based on thermally converted isothianaphthene dimer and thiazolothiazole subunits**

Umeyama, T., Hirose, K., Noda, K., Matsushige, K., Shishido, T., Saarenpää, H., Tkachenko, N. V., Lemmetyinen, H., Ono, N. & Imahori, H., 2012, In : *Journal of Physical Chemistry C*. 116, 33, p. 17414-17423

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect of halide binding on intramolecular exciplex of double-linked zinc porphyrin-fullerene dyad**

Al-Subi, A. H., Niemi, M., Ranta, J., Tkachenko, N. V. & Lemmetyinen, H., 2012, In : Chemical Physics Letters. 531, p. 164-168

Research output: Contribution to journal > Article > Scientific > peer-review

**Effect on Charge Transfer and Charge Recombination by Insertion of a Naphthalene-Based Bridge in Molecular Dyads Based on Borondipyrromethene (Bodipy)**

Benniston, A. C., Clift, S., Hagon, J., Lemmetyinen, H., Tkachenko, N. V., Clegg, W. & Harrington, R. W., 2012, In : ChemPhysChem. 13, 16, p. 3672-3681

Research output: Contribution to journal > Article > Scientific > peer-review

**Effects of Carbon-Metal-Carbon Linkages on the Optical, Photophysical, and Electrochemical Properties of Phosphametallacycle-Linked Coplanar Porphyrin Dimers**

Matano, Y., Matsumoto, K., Hayashi, H., Nakao, Y., Kumpulainen, T., Chukharev, V., Tkachenko, N. V., Lemmetyinen, H., Shimizu, S., Kobayashi, N., Sakamaki, D., Ito, A., Tanaka, K. & Imahori, H., 2012, In : Journal of the American Chemical Society. 134, 3, p. 1825-1839

Research output: Contribution to journal > Article > Scientific > peer-review

**Excited State Intramolecular Proton Transfer in Electron-Rich and Electron-Poor Derivatives of 10-Hydroxybenzo[h]quinoline**

Piechowska, J., Huttunen, K., Wrobel, Z., Lemmetyinen, H., Tkachenko, N. V. & Gryko, D. T., 2012, In : Journal of Physical Chemistry A. 116, 39, p. 9614-9620

Research output: Contribution to journal > Article > Scientific > peer-review

**Exploring Förster electronic energy transfer in a decoupled anthracenyl-based borondipyrromethene (bodipy) dyad**

Bai, D., Benniston, A. C., Hagon, J., Lemmetyinen, H., Tkachenko, N. V., Clegg, W. & Harrington, R. W., 2012, In : Physical Chemistry Chemical Physics. 14, 13, p. 4447-4456

Research output: Contribution to journal > Article > Scientific > peer-review

**Hydrogen-Bonding Effects on the Formation and Lifetimes of Charge-Separated States in Molecular Triads**

Hankache, J., Niemi, M., Lemmetyinen, H. & Wenger, O. S., 2012, In : Journal of Physical Chemistry A. 116, 31, p. 8159-8168

Research output: Contribution to journal > Article > Scientific > peer-review

**Intramolecular C-H insertion catalyzed by dirhodium(II) complexes using CO<sub>2</sub> as the reaction media**

Zakrzewska, M. E., Cal, P. M. S. D., Candeias, N. R., Bogel-Lukasik, R., Afonso, C. A. M., Ponte, M. N. & Gois, P. M. P., 2012, In : Green Chemistry Letters and Reviews. 5, 2, p. 211-240 30 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Large Stokes Shift Fluorescent Dyes Based on a Highly Substituted Terephthalic Acid Core**

Benniston, A. C., Winstanley, T. P. L., Lemmetyinen, H., Tkachenko, N. V., Harrington, R. W. & Wills, C., 2012, In : Organic Letters. 14, 6, p. 1374-1377

Research output: Contribution to journal > Article > Scientific > peer-review

**Making expensive dirhodium(II) catalysts cheaper: Rh(II) recycling methods**

Candeias, N. R., Afonso, C. A. M. & Gois, P. M. P., 2012, In : Organic and Biomolecular Chemistry. 10, 17, p. 3357-3378 22 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Meteorological parameters as an important factor on the energy recovery of landfill gas in landfills**

Uyanik, I., Özkaya, B., Demir, S. & Cakmakci, M., 2012, In : Journal of Renewable and Sustainable Energy. 4, 6, 063135.

Research output: Contribution to journal > Article > Scientific > peer-review

**Modulation of visible room temperature phosphorescence by weak magnetic fields**

Mani, T., Tanabe, M., Yamauchi, S., Tkachenko, N. V. & Vinogradov, S. A., 2012, In : Journal of Physical Chemistry Letters. 3, 21, p. 3115-3119



Research output: Contribution to journal › Article › Scientific › peer-review

#### **N-1-Functionalized Indole-Phosphane Oxazoline (IndPHOX) Ligands in Asymmetric Allylic Substitution Reactions**

Wang, Y., Vaismaa, M. J. P., Rissanen, K. & Franzen, R., 2012, In : *European Journal of Organic Chemistry*. 2012, 8, p. 1569-1576

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Nature's Nonlinear Optical Antennas**

Huttunen, M. J., Virkki, M., Bautista, G., Vuorimaa-Laukkanen, E., Der, A., Lemmetyinen, H. & Kauranen, M., 2012, *CLEO 2012, San Jose, California, USA, 6-11 May 2012. Technical Digest*. OSA, p. 1-2 2 p. QM4F.8. (Conference on Lasers and Electro-Optics).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Organometallic tris(8-hydroxyquinoline)aluminum complexes as buffer layers and dopants in inverted organic solar cells**

Tolkki, A., Kaunisto, K., Heiskanen, J. P., Omar Walaa, A. E., Huttunen, K., Lehtimäki, S., Hormi, O. E. O. & Lemmetyinen, H., 2012, In : *Thin Solid Films*. 520, 13, p. 4475-4481

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photochemical properties and sensor applications of modified yellow fluorescent protein (YFP) covalently attached to the surfaces of etched optical fibers (EOFs)**

Veselov, A. A., George Abraham, B., Lemmetyinen, H., Karp, M. T. & Tkachenko, N. V., 2012, In : *Analytical and Bioanalytical Chemistry*. 402, 3, p. 1149-1158

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photoinduced charge shift and charge recombination through an alkylnyl spacer for an expanded acridinium-based dyad**

Benniston, A. C., Hagon, J., He, X., Clegg, W., Harrington, R. W., Tkachenko, N. & Lemmetyinen, H., 2012, In : *Physical Chemistry Chemical Physics*. 14, 9, p. 3194-3199

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photoinduced Electron Transfer in Linear Triarylamine-Photosensitizer-Anthraquinone Triads with Ruthenium(II), Osmium(II), and Iridium(III)**

Hankache, J., Niemi, M., Lemmetyinen, H. & Wenger, O. S., 2012, In : *Inorganic Chemistry*. 51, 11, p. 6333-6344

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photolysis and Quantum-Chemical Calculations of the Nalidixic Acid Radical States**

Polischuk, A. V., Emelina, T. B., Cramariuc, O., Chukharev, V. I., Karaseva, T. E. & Karasev, V. E., 2012, In : *Russian Journal of General Chemistry*. 82, 2, p. 323-328

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Photophysics of Fe(III)-tartrate and Fe(III)-citrate complexes in aqueous solutions**

Pozdnyakov, I. P., Kolomeets, A. V., Plyusnin, V. F., Melnikov, A. A., Kompanets, V. O., Chekalin, S. V., Tkachenko, N. V. & Lemmetyinen, H., 2012, In : *Chemical Physics Letters*. 530, p. 45-48

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Preparation and Photophysical and Photoelectrochemical Properties of a Covalently Fixed Porphyrin-Chemically Converted Graphene Composite**

Umeyama, T., Mihara, J., Tezuka, N., Matano, Y., Stranius, K., Chukharev, V., Tkachenko, N. V., Lemmetyinen, H., Noda, K., Matsushige, K., Shishido, T., Liu, Z., Hirose-Takai, K., Suenaga, K. & Imahori, H., 2012, In : *Chemistry: A European Journal*. 18, 14, p. 4250-4257

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Processing and sustained in vitro release of rifampicin containing composites to enhance the treatment of osteomyelitis**

Ahola, N., Veiranto, M., Männistö, N., Karp, M., Rich, J., Efimov, A., Seppälä, J. & Kellomäki, M., 2012, In : *Biomatter*. 2, 4, p. 1-13 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Quantitative Analysis of Intramolecular Exciplex and Electron Transfer in a Double-Linked Zinc Porphyrin-Fullerene Dyad**  
Al-Subi, A., Niemi, M., Tkachenko, N. & Lemmetyinen, H., 2012, In : Journal of Physical Chemistry A. 116, 39, p. 9653-9661

Research output: Contribution to journal > Article > Scientific > peer-review

**Redox processes in photochemistry of Pt(IV) hexahaloid complexes**

Glebov, E. M., Kolomeets, A. V., Pozdnyakov, I. P., Plyusnin, V. F., Grivin, V. P., Tkachenko, N. & Lemmetyinen, H., 2012, In : RSC Advances. 2, 13, p. 5768-5778

Research output: Contribution to journal > Article > Scientific > peer-review

**Rh-IndOlefOx catalyzed conjugate addition/Heck-type coupling of organoboronics to a lactam or a lactone**

Kuuloja, N., Vaismaa, M. & Franzen, R., 2012, In : Tetrahedron. 68, 10, p. 2313-2318

Research output: Contribution to journal > Article > Scientific > peer-review

**Self-Assembled Porphyrins on Modified Zinc Oxide Nanorods: Development of Model Systems for Inorganic-Organic Semiconductor Interface Studies**

Saarenpää, H., Sariola-Leikas, E., Pyymaki Perros, A., Kontio, J. M., Efimov, A., Hayashi, H., Lipsanen, H., Imahori, H., Lemmetyinen, H. & Tkachenko, N. V., 2012, In : Journal of Physical Chemistry C. 116, 3, p. 2336-2343

Research output: Contribution to journal > Article > Scientific > peer-review

**Syntheses and Excitation Transfer Studies of Near-Orthogonal Free-Base Porphyrin – Ruthenium Phthalocyanine Dyads and Pentad**

Jacobs, R., Stranius, K., Maligaspe, E., Lemmetyinen, H., Tkachenko, N. V., Zandler, M. E. & D'Souza, F., 2012, In : Inorganic Chemistry. 51, 6, p. 3656-3665

Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis and characterization of tris-(5-amino-8-hydroxyquinoline)aluminum complexes and their use as anode buffer layers in inverted organic solar cells**

Manninen, V. M., Omar, W. A. E., Heiskanen, J. P., Lemmetyinen, H. J. & Hormi, O. E. O., 2012, In : Journal of Materials Chemistry. 22, 43, p. 22971-22982

Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis of 2-Aryl-Substituted Chromans by Intramolecular C-O Bond Formation**

Wang, Y. & Franzen, R., 2012, In : Synlett. 6, p. 925-929

Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis of porphyrinoids with silane anchors and their covalent self-assembling and metallation on solid surface**

Sariola-Leikas, E., Hietala, M., Veselov, A., Okhotnikov, O., Semjonov, S. L., Tkachenko, N. V., Lemmetyinen, H. & Efimov, A., 2012, In : Journal of Colloid and Interface Science. 369, 1, p. 58-70

Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis of titanate nanostructures using amorphous precursor material and their adsorption/photocatalytic properties**

Ylhäinen, E. K., Nunes, M. R., Silvestre, A. J. & Monteiro, O. C., 2012, In : Journal of Materials Science. 47, 10, p. 4305-4312

Research output: Contribution to journal > Article > Scientific > peer-review

**The fluorine effect: photophysical properties of borondipyromethene (bodipy) dyes appended at the meso position with fluorinated aryl groups**

Alamiry, M. A. H., Benniston, A. C., Hagon, J., Winstanley, T. P. L., Lemmetyinen, H. & Tkachenko, N. V., 2012, In : RSC Advances. 2, 11, p. 4944-4950

Research output: Contribution to journal > Article > Scientific > peer-review

**Vectorial Photoinduced Charge Transfer in Langmuir-Blodgett Films of Porphyrin-Based Donor-Acceptor Systems**

Tkachenko, N. V. & Lemmetyinen, H., 2012, *Multiporphyrin Arrays : Fundamentals and Applications*. Dongho, K. (ed.). Singapore: PAN STANFORD PUBLISHING, p. 537-586

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Construction of bispirooxindoles containing three quaternary stereocentres in a cascade using a single multifunctional organocatalyst**

Tan, B., Candeias, N. R. & Barbas, C. F., Jun 2011, In : *Nature Chemistry*. 3, 6, p. 473-477 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Core-Structure-Motivated Design of a Phosphine-Catalyzed [3+2] Cycloaddition Reaction: Enantioselective Syntheses of Spirocyclopenteneoxindoles**

Tan, B., Candeias, N. R. & Barbas, C. F., 6 Apr 2011, In : *Journal of the American Chemical Society*. 133, 13, p. 4672-4675 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**1,7- And 1,6-Regioisomers of Diphenoxy and Dipyrrolidinyl Substituted Perylene Diimides: Synthesis, Separation, Characterization, and Comparison of Electrochemical and Optical Properties**

Dubey, R. K., Efimov, A. & Lemmetyinen, H., 2011, In : *Chemistry of Materials*. 23, 3, p. 778-788

Research output: Contribution to journal > Article > Scientific > peer-review

**Anaerobic H<sub>2</sub> production at elevated temperature (60 °C) by enriched mixed consortia from mesophilic sources**

Karadag, D., 2011, In : *International Journal of Hydrogen Energy*. 36, 1, p. 458-465

Research output: Contribution to journal > Article > Scientific > peer-review

**A solid phase extraction technique for HPLC analysis of short chain fatty acid fluxes during microbial degradation of plant polymers**

Carver, S., Munster, U. & Tuovinen, O. H., 2011, In : *Journal of Liquid Chromatography and Related Technologies*. 34, 15, p. 1546-1555

Research output: Contribution to journal > Article > Scientific > peer-review

**Bay Region Borylation of Perylene Bisimides**

Dey, S., Efimov, A. & Lemmetyinen, H., 2011, In : *European Journal of Organic Chemistry*. 2011, 30, p. 5955-5958

Research output: Contribution to journal > Article > Scientific > peer-review

**Biohydrogen production in alkalithermophilic conditions: *Thermobrachium celere* as a case study**

Ciranna, A., Santala, V. & Karp, M., 2011, In : *Bioresource Technology*. 102, 18, p. 8714-8722

Research output: Contribution to journal > Article > Scientific > peer-review

**Carbon Nanotube Wiring of Donor-Acceptor Nanograins by Self-Assembly and Efficient Charge Transport**

Umeyama, T., Tezuka, N., Kawashima, F., Seki, S., Matano, Y., Yoshihide, N., Shishido, T., Nishi, M., Hirao, K., Lehtivuori, H., Tkachenko, N. V., Lemmetyinen, H. & Imahori, H., 2011, In : *Angewandte Chemie (International Edition)*. 50, 20, p. 4615-4619

Research output: Contribution to journal > Article > Scientific > peer-review

**Comparison of sea surface microlayer and subsurface water bacterial communities in the Baltic sea**

Lindroos, A., Szabo, H. M., Nikinmaa, M. & Leskinen, P., 2011, In : *Aquatic Microbial Ecology*. 65, 1, p. 29-42

Research output: Contribution to journal > Article > Scientific > peer-review

**Covalent phthalocyanine-fullerene dyads: synthesis, electron transfer in solutions and molecular films**

Tkachenko, N. V., Efimov, A. & Lemmetyinen, H., 2011, In : *Journal of Porphyrins and Phthalocyanines*. 15, 9-10, p. 780-790

Research output: Contribution to journal > Article > Scientific > peer-review

**Dynamics of Photoinduced Charge Transfer of Fullerene Based Donor-Acceptor Systems: From Solution to Organized Molecular Films**

Tkachenko, N. V. & Lemmetyinen, H., 2011, *Handbook of Carbon Nano Materials, Volume 2: Electron Transfer and Applications*. D'Souza, F. & Kadish, K. M. (eds.). Singapore: World Scientific Publishing, p. 405-440

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Effect of Anion Ligation on Electron Transfer of Double-Linked Zinc Porphyrin - Fullerene Dyad**

Al-Subi, A. H., Niemi, M., Tkachenko, N. V. & Lemmetyinen, H., 2011, In : Journal of Physical Chemistry A. 115, 15, p. 3263-3271

Research output: Contribution to journal > Article > Scientific > peer-review

**Effects of fullerene encapsulation on structure and photophysical properties of porphyrin-linked single-walled carbon nanotubes**

Umeyama, T., Mihara, J., Hayashi, H., Kadota, N., Chukharev, V., Tkachenko, N., Lemmetyinen, H., Yoshida, K., Isoda, S. & Imahori, H., 2011, In : Chemical Communications. 47, 42, p. 11781-11783

Research output: Contribution to journal > Article > Scientific > peer-review

**Electronic Structure Manipulation of (Benzothiazole)zinc Complexes: Synthesis, Optical and Electrochemical Studies of 5-Substituted Derivatives**

Dey, S., Efimov, A., Giri, C., Rissanen, K. & Lemmetyinen, H., 2011, In : European Journal of Organic Chemistry. 2011, 31, p. 6226-6232

Research output: Contribution to journal > Article > Scientific > peer-review

**Enhanced performance and stability of inverted organic solar cells by using novel zinc-benzothiazole complexes as anode buffer layer**

Dey, S., Vivo, P., Efimov, A. & Lemmetyinen, H., 2011, In : Journal of Materials Chemistry. 21, p. 15587-15592

Research output: Contribution to journal > Article > Scientific > peer-review

**Excitation energy transfer in the LHC-II trimer: from carotenoids to chlorophylls in space and time**

Martiskainen, J., Kananavicius, R., Linnanto, J., Lehtivuori, H., Keraenen, M., Aumanen, V., Tkachenko, N. & Korppi-Tommola, J., 2011, In : Photosynthesis Research. 107, 2, p. 195-207

Research output: Contribution to journal > Article > Scientific > peer-review

**Fused Alq3 derivatives: syntheses and photophysical characteristics**

Heiskanen, J. P., Tolkki, A. E., Lemmetyinen, H. J. & Hormi, O. E. O., 2011, In : Journal of Materials Chemistry. 21, p. 14766-14775

Research output: Contribution to journal > Article > Scientific > peer-review

**Indole-olefin-oxazoline (IndOleOx)-ligands: synthesis and utilization in asymmetric Rh-catalyzed conjugate addition**

Kuuloja, N., Tois, J. & Franzen, R., 2011, In : Tetrahedron : Asymmetry. 22, 4, p. 468-475

Research output: Contribution to journal > Article > Scientific > peer-review

**Optical, Electrochemical, and Photovoltaic Effects of an Electron-Withdrawing Tetrafluorophenylene Bridge in a Push -Pull Porphyrin Sensitizer Used for Dye-Sensitized Solar Cells**

Mathew, S., Iijima, H., Toude, Y., Umeyama, T., Matano, Y., Ito, S., Tkachenko, N. V., Lemmetyinen, H. & Imahori, H., 2011, In : Journal of Physical Chemistry C. 115, 29, p. 14415-14424

Research output: Contribution to journal > Article > Scientific > peer-review

**Photochemical processes for dithiocarbamate metal complexes. Photochemistry of Ni(II)(n-Bu<sub>2</sub>NCS<sub>2</sub>)<sub>2</sub> complex in CCl<sub>4</sub>**

Kolomeets, A. V., Plyusnin, V. F., Grivin, V. P., Larionov, S. V. & Lemmetyinen, H., 2011, In : Journal of Photochemistry and Photobiology, A: Chemistry. 220, 2-3, p. 164-172

Research output: Contribution to journal > Article > Scientific > peer-review

**Photochemistry of Dithiocarbamate Cu(II) Complex in CCl<sub>4</sub>**

Plyusnin, V. F., Kolomeets, A. V., Grivin, V. P., Larionov, S. V. & Lemmetyinen, H., 2011, In : Journal of Physical Chemistry A. 115, 10, p. 1763-1773

Research output: Contribution to journal > Article > Scientific > peer-review

**Photochromic processes in di(mercaptoquinolino)Ni(II) complex and perfluordiphenyl disulfide solutions**

Vorobyev, D. Y., Kolomeets, A. V., Ivanov, Y. V., Bogdanchikov, G. A., Grivin, V. P., Plyusnin, V. F., Larionov, S. V. & Lemmetyinen, H., 2011, In : Photochemical & Photobiological Sciences. 10, 7, p. 1196-1202

Research output: Contribution to journal › Article › Scientific › peer-review

**Photocurrent generation in fullerene-phthalocyanine composite by in situ cationic polymerization**

Lintinen, K., Storbacka, L., Efimov, A., Tolkki, A., Tkachenko, N. & Lemmetyinen, H., 2011, In : *Solar Energy Materials and Solar Cells*. 95, 3, p. 909-916

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced electron transfer in a directly linked meso-triphenylamine zinc porphyrin-quinone dyad**

Wijesinghe, C. A., Niemi, M., Tkachenko, N. V., Subbaiyan, N. K., Zandler, M. E., Lemmetyinen, H. & DSouza, F., 2011, In : *Journal of Porphyrins and Phthalocyanines*. 15, 5-6, p. 391-400

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced intra- and intermolecular electron transfer in solutions and in solid organized molecular assemblies**

Lemmetyinen, H., Tkachenko, N. V., Efimov, A. & Niemi, M., 2011, In : *Physical Chemistry Chemical Physics*. 13, p. 397-412

Research output: Contribution to journal › Article › Scientific › peer-review

**Photoinduced processes in chromophore-gold nanoparticle assemblies**

Kotiaho, A., Lahtinen, R. & Lemmetyinen, H., 2011, In : *Pure and Applied Chemistry*. 83, 4, p. 813-821

Research output: Contribution to journal › Article › Scientific › peer-review

**Photophysics and photoelectrochemical properties of nanohybrids consisting of fullerene-encapsulated single-walled carbon nanotubes and poly(3-hexylthiophene)**

Tezuka, N., Umeyama, T., Matano, Y., Shishido, T., Yoshida, K., Ogawa, T., Isoda, S., Stranius, K., Chukharev, V., Tkachenko, N. V., Lemmetyinen, H. & Imahori, H., 2011, In : *Energy & Environmental Science*. 4, 3, p. 741-750

Research output: Contribution to journal › Article › Scientific › peer-review

**Poly(b-amino ester)-DNA complexes: Time-resolved fluorescence and cellular transfection studies**

Vuorimaa, E., Ketola, T-M., Green, J. J., Hanzlikova, M., Lemmetyinen, H., Langer, R., Anderson, D. G., Urtti, A. & Yliperttula, M., 2011, In : *Journal of Controlled Release*. 154, 2, p. 171-176

Research output: Contribution to journal › Article › Scientific › peer-review

**Preparation of triethylammonium tetra-arylborates (TETABs): coupling partners for the Suzuki reaction**

Kuuloja, N., Kylmäälä, T. M., Tois, J. E., Sjöholm, R. E. & Franzen, R. G., 2011, In : *Synthetic Communications*. 41, 7, p. 1052-1063

Research output: Contribution to journal › Article › Scientific › peer-review

**Role of Polyplex Intermediate Species on Gene Transfer Efficiency: Polyethylenimine-DNA Complexes and Time-Resolved Fluorescence Spectroscopy**

Ketola, T-M., Hanzlikova, M., Urtti, A., Lemmetyinen, H., Yliperttula, M. & Vuorimaa, E., 2011, In : *Journal of Physical Chemistry Part B*. 115, 8, p. 1895-1902

Research output: Contribution to journal › Article › Scientific › peer-review

**Self-assembled monolayers (SAMs) of porphyrin deposited inside photonic crystal fibre (PCF)**

Veselov, A. A., Thur, C., Efimov, A., Guina, M., Lemmetyinen, H. & Tkachenko, N. V., 2011, In : *Physica Status Solidi A: Applications And Materials Science*. 208, 8, p. 1858-1861

Research output: Contribution to journal › Article › Scientific › peer-review

**Structure of porphyrin-fullerene dyad monolayer on the water surface and solid substrate**

Dyakovaa, Y. A., Suvorova, E. I., Orekhov, A. S., Alekseev, A. S., Klechkovskaya, V. V., Tereshchenko, E. Y., Tkachenko, N. V., Lemmetyinen, H., Feigin, L. A. & Kovalchuka, M. V., 2011, In : *Crystallography Reports*. 56, 1, p. 157-163 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Study of PEGylated Lipid Layers as a Model for PEGylated Liposome Surfaces: Molecular Dynamics Simulation and Langmuir Monolayer Studies**

Stepniewski, M., Pasenkiewicz-Gierula, M., Rog, T., Danne, R., Orłowski, A., Karttunen, M., Urtti, A., Yliperttula, M., Vuorimaa, E. & Bunker, A., 2011, In : *Langmuir*. 27, 12, p. 7788-7798  
Research output: Contribution to journal > Article > Scientific > peer-review

**Synthesis and photovoltaic properties of thiopheneimide-fused thiophene alternating copolymers with different alkyl side chains**

Umeyama, T., Odoi, M., Yoshikawa, O., Sagawa, T., Yoshikawa, S., Evgenia, D., Tezuka, N., Matano, Y., Stranius, K., Tkachenko, N., Lemmetyinen, H. & Imahori, H., 2011, In : *Journal of Materials Chemistry*. 21, 33, p. 12454-12461  
Research output: Contribution to journal > Article > Scientific > peer-review

**The excited states of a porphine-quinone complex under an external electrostatic field calculated by TDDFT**

Aittala, P. J., Cramariuc, O. & Hukka, T. I., 2011, In : *Chemical Physics Letters*. 501, 4-6, p. 226-231  
Research output: Contribution to journal > Article > Scientific > peer-review

**Ultrafast excitation transfer and charge stabilization in a newly assembled photosynthetic antenna-reaction center mimic composed of boron dipyrin, zinc porphyrin and fullerene**

D'Souza, F., Wijesinghe, C. A., El-Khouly, M. E., Hudson, J., Niemi, M., Lemmetyinen, H., Tkachenko, N. V., Zandler, M. E. & Fukuzumi, S., 2011, In : *Physical Chemistry Chemical Physics*. 13, p. 18168-18178  
Research output: Contribution to journal > Article > Scientific > peer-review

**Ultrafast pump-probe spectroscopy of IrCl6<sup>2-</sup> complex in alcohol solutions**

Glebov, E. M., Kolomeets, A. V., Pozdnyakov, I. P., Plyusnin, V. F., Tkachenko, N. V. & Lemmetyinen, H., 2011, In : *Photochemical & Photobiological Sciences*. 10, 10, p. 1709-1714  
Research output: Contribution to journal > Article > Scientific > peer-review

**Utilization of IndPHOX-ligands in palladium-catalysed asymmetric allylic aminations**

Wang, Y., Vaismaa, M., Hämäläinen, A., Tois, J. & Franzen, R., 2011, In : *Tetrahedron : Asymmetry*. 22, 5, p. 524-529  
Research output: Contribution to journal > Article > Scientific > peer-review

**Photopolymerizable liquid fullerene, phthalocyanine and porphyrin derivatives: synthesis, analysis and photocurrent generation**

Lintinen, K., 3 Dec 2010, Tampere: Tampere University of Technology. 96 p. (Tampere University of Technology. Publication; vol. 942)  
Research output: Book/Report > Doctoral thesis > Collection of Articles

**Computational study of charge transfer in a porphine: quinone complex and novel alkoxypridylindolizine derivatives**

Aittala, P., 26 Nov 2010, Tampere: Tampere University of Technology. 87 p. (Tampere University of Technology. Publication; vol. 936)  
Research output: Book/Report > Doctoral thesis > Monograph

**Multilayered thin films for organic photovoltaics**

Vivo, P., 29 Oct 2010, Tampere: Tampere University of Technology. 86 p. (Tampere University of Technology. Publication; vol. 918)  
Research output: Book/Report > Doctoral thesis > Monograph

**Boronic Acids and Esters in the Petasis-Borono Mannich Multicomponent Reaction**

Candeias, N. R., Montalbano, F., Cal, P. M. S. D. & Gois, P. M. P., Oct 2010, In : *Chemical Reviews*. 110, 10, p. 6169-6193 25 p.  
Research output: Contribution to journal > Literature review > Scientific > peer-review