Appendix I

List of Published Papers

Janu,V.C., Bahuguna,G., Laishram,D., Shejale,K.P., and Kumar,N. (2018) Surface fluorination of α-Fe_2O_3 using selectfluor for enhancement in photoelectrochemical properties, *Solar Energy Materials and Solar Cells*, Vol. 174, pp. 240–247

Bahuguna,G., Janu,V.C., Uniyal,V., Kambhala,N., Angappane,S., Sharma,R.K., and Gupta,R. (2017) Electrophilic fluorination of α-Fe_2O_3 nanostructures and influence on magnetic properties, *Materials & Design*, Vol. 135, pp. 84–91

Appendix II

References

Abdi,S., Nasiri,M., Mesbahi,A., and Khani,M.H. (2017) Investigation of uranium (VI) adsorption by polypyrrole, *Journal of Hazardous Materials*, Vol. 332, issue VI, pp. 132–139

Amatucci,G.G., and Pereira,N. (2007) Fluoride based electrode materials for advanced energy storage devices, *Journal of Fluorine Chemistry*, Vol. 128, pp. 243–262

Amayri,S., Arnold,T., Reich,T., Foerstendorf,H., Geipel,G., Bernhard,G., and Massanek,A. (2004) Spectroscopic characterization of the uranium carbonate andersonite $Na_2Ca[UO_2(CO_3)_3].6H_2O$, *Environmental Science and Technology*, Vol. 38, issue 22, pp. 6032–6036

Ameen,S., Akhtar,M.S., Seo,H., Soon,Y., and Shik,H. (2012) Influence of Sn doping on ZnO nanostructures from nanoparticles to spindle shape and their photoelectrochemical properties for dye sensitized solar cells, *Chemical Engineering Journal*, Vol. 187, pp. 351–356

Anirudhan,T.S., Bringle,C.D., and Rijith,S. (2010) Removal of uranium (VI) from aqueous solutions and nuclear industry effluents using humic acid-immobilized zirconium-pillared clay, *Journal of Environmental Radioactivity*, Vol. 101, issue 3, pp. 267–276

Annamalai,A., Shinde,P.S., Jeon,T.H., Lee,H.H., Kim,H.G., Choi,W., and Jang,J.S. (2016) Fabrication of superior α-Fe_2O_3 nanorod photoanodes through ex-situ Sn-doping for solar water splitting, *Solar Energy Materials and Solar Cells*, Vol. 144, pp. 247–255

Anrman,J.O., Muntavt,J.C., and Foner,S. (1965) Magnetic anisotropy in antiferromagnetic corundum-type sesquioxides, Vol. 138, issue 1958, pp. 1958–1963

Bahuguna,G., Janu,V.C., Uniyal,V., Kambhala,N., Angappane,S., Sharma,R.K., and Gupta,R. (2017) Electrophilic fluorination of α-Fe_2O_3 nanostructures and influence on magnetic properties, *Materials & Design*, Vol. 135, pp. 84–91

Bai,H., Liu,Z., and Sun,D.D. (2011) Hierarchical ZnO/Cu "corn-like" materials with high photodegradation and antibacterial capability under visible light., *Physical chemistry chemical physics : PCCP*, Vol. 13, issue 13, pp. 6205–10

Banks,R.E., Besheesh,M.K., Mohialdin-khaffaf,S.N., and Sharif,I. (1996) N-Halogeno compounds. Part 18. 1-Alky1-4-fluoro-l,4- diazoniabicyclo[2.2.2]octane salts: user-friendly site-selective electrophilic fluorinating agents of the N-fluoroammonium class, *J. Chem. Soc., Perkin Trans*, Vol. 1, pp. 2069–2076

Banks,R.E., and Syvretb,R.G. (1992) l-Alkyl-4-fluoro-l,4-diazoniabicyclo[2.2.2]octane salts: A novel family of electrophilic fluorinating agents, *J. Chem. Soc., Chem. Commun*, pp. 595–596

Bargar,J.R., Reitmeyer,R., Lenhart,J.J., and Davis,J.A. (2000) Characterization of U(VI) - carbonato ternary complexes on hematite: EXAFS and electrophoretic mobility measurements, *Geochimica et Cosmochimica Acta*, Vol. 64, issue 16, pp. 2737–2749

Bassi,P.S., Antony,R.P., Boix,P.P., Fang,Y., Barber,J., and Wong,L.H. (2016) Crystalline Fe_2O_3/Fe_2TiO_5 heterojunction nanorods with efficient charge separation and hole injection as photoanode for solar water oxidation, *Nano Energy*, Vol. 22, issue February, pp. 310–318

Bassi,P.S., Gurudayal, Wong,L.H., and Barber,J. (2014) Iron based photoanodes for solar fuel production, *Physical Chemistry Chemical Physics*, Vol. 16, issue 24, p. 11834

Bayramoglu,G., and Arica,M.Y. (2016) MCM-41 silica particles grafted with polyacrylonitrile: Modification in to amidoxime and carboxyl groups for enhanced uranium removal from aqueous medium, *Microporous and Mesoporous Materials*, Vol. 226, pp. 117–124

Beattie,I.R., and Gilson,T.R. (1970) The single-crystal Raman spectra of nearly opaque materials. Iron(III) oxide and chromium(III) oxide, *J. Chem. SOC. A*, issue 0, pp. 980–986

Benjamin,M.M., Sletten,R.S., Bailey,R.P., and Bennett,T. (1996) Sorption and filtration of metals using iron-oxide-coated sand, *Water Research*, Vol. 30, issue 11, pp. 2609–2620

Bharathi,S., Nataraj,D., Seetha,M., Mangalaraj,D., Ponpandian,N., Masuda,Y., Senthil,K., and Yong,K. (2010) Controlled growth of single-crystalline, nanostructured dendrites and snowflakes of α-Fe2O3: Influence of the surfactant on the morphology and investigation of morphology dependent magnetic properties, *CrystEngComm*, Vol. 12, issue 2, pp. 373–382

Bhatnagar,A., and Jain,A.K. (2005) A comparative adsorption study with different industrial wastes as adsorbents for the removal of cationic dyes from water, *Journal of Colloid and Interface Science*, Vol. 281, issue 1, pp. 49–55

Bhowmik,R.N., and Saravanan,A. (2010) Surface magnetism, Morin transition, and magnetic dynamics in antiferromagnetic α-Fe_2O_3 (hematite) nanograins, *Journal of Applied Physics*, Vol. 107, issue 5

Brezesinski,T., Groenewolt,M., Antonietti,M., and Smarsly,B. (2006) Crystal-to-crystal phase transition in self-assembled mesoporous iron oxide films, *Angew. Chem. Int. Ed.*, Vol. 45, issue 5, pp. 781–784

Butler,M.A., and Ginley,D.S. (1978) Prediction of flatband potentials at semiconductor-electrolyte interfaces from atomic electronegativities, *J. Electrochem. Soc.*, Vol. 125, issue 2, pp. 228–232

Cai,J., Li,S., Liu,Y., Gao,M., Wang,D., and Qin,G. (2016) Orientation modulated charge transport in hematite for photoelectrochemical water splitting, *Functional Materials Letters*, Vol. 9, p. 1650047

Cao,M., Liu,T., Gao,S., Sun,G., Wu,X., Hu,C., and Zhong,L.W. (2005) Single-crystal dendritic micro-pines of magnetic α-Fe_2O_3: Large-scale synthesis, formation mechanism, and properties, *Angewandte Chemie - International Edition*, Vol. 44, pp. 2–6

Catalano,J.G., and Brown,G.E. (2005) Uranyl adsorption onto montmorillonite: Evaluation of binding sites and carbonate complexation, *Geochimica et Cosmochimica Acta*, Vol. 69, issue 12, pp. 2995–3005

Cesar,I., Sivula,K., Kay,A., Zboril,R., and Grätzel,M. (2009) Influence of feature size, film thickness, and silicon doping on the performance of nanostructured hematite photoanodes for solar water splitting, *Journal of Physical Chemistry C*, Vol. 113, pp. 772–782

Chamritski,I., and Burns,G. (2005) Infrared- and Raman-active phonons of magnetite, maghemite, and hematite: A computer simulation and spectroscopic study, *J. Phys. Chem. B*, Vol. 109, issue 11, pp. 4965–4968

Chanda,M., and Rampel,G.L. (1992) Removal of uranium from acidic sulfate solution by ion exchange on poly(4-vinylpyridine) and polybenzimidazole in protonated sulfate form, *Reactive Polymers*, Vol. 17, issue 2, pp. 159–174

Chen,L.F., Ong,C.K., Neo,C.P., Varadan,V. V, and Varadan,V.K. (2004) "Microwave electronics measurement and materials characterization," ed., 2004

Chen,N., and Gu,M. (2012) Microstructure and microwave absorption properties of Y-substituted Ni-Zn ferrites, *Open Journal of Metal*, Vol. 02, issue 02, pp. 37–41

Chen,X., Ren,X., Liu,Z., Zhuang,L., and Lu,J. (2013) Promoting the photoanode efficiency for water splitting by combining hematite and molecular Ru catalysts, *Electrochemistry Communications*, Vol. 27, pp. 148–151

Chen,Y.Y., Yu,S.H., Yao,Q.Z., Fu,S.Q., and Zhou,G.T. (2018) One-step synthesis of Ag_2O@$Mg(OH)_2$ nanocomposite as an efficient scavenger for iodine and uranium, *Journal of Colloid and Interface Science*, Vol. 510, pp. 280–291

Cherepy,N.J., Liston,D.B., Lovejoy,J.A., Deng,H., and Zhang,J.Z. (1998) Ultrafast studies of photoexcited electron dynamics in γ- and α-Fe_2O_3 Semiconductor Nanoparticles, *The Journal of Physical Chemistry B*, Vol. 102, issue 5, pp. 770–776,

Chernyshova,I. V., Hochella,M.F., and Madden,A.S. (2007) Size-dependent structural transformations of hematite Nanoparticles. 1. Phase transition, *Physical Chemistry Chemical Physics*, Vol. 9, issue 14, pp. 1736–1750

Chi,F., Zhang,S., Wen,J., Xiong,J., and Hu,S. (2018) Highly efficient recovery of uranium from seawater using an electrochemical approach, *Industrial and Engineering Chemistry Research*, Vol. 57, issue 23, pp. 8078–8084

Chiang,T.H., Lyu,H., Hisatomi,T., Goto,Y., Takata,T., Katayama,M., Minegishi,T., and Domen,K. (2018) Efficient photocatalytic water splitting using Al-doped $SrTiO_3$ co-loaded with molybdenum oxide and rhodium-chromium oxide, *ACS Catalysis*, Vol. 8, issue 4, pp. 2782–2788

Chung,H.K., Kim,W.H., Park,J., Cho,J., Jeong,T.Y., and Park,P.K. (2015) Application of Langmuir and Freundlich isotherms to predict adsorbate removal efficiency or required amount of adsorbent, *Journal of Industrial and Engineering Chemistry*, Vol. 28, pp. 241–246

Congiu,M., De Marco,M.L., Bonomo,M., Nunes-Neto,O., Dini,D., and Graeff,C.F.O. (2017) Pristine and Al-doped hematite printed films as photoanodes of p-type dye-sensitized solar cells, *J Nanopart Res*, Vol. 19:7, pp. 1-14

Cornell,R.M., and Schwertmann,U. (2003) "The iron oxides: structure, reactions, occurences and uses," ed., 2003

Cui,H., Zhao,W., Yang,C., Yin,H., Lin,T., Shan,Y., Xie,Y., Gu,H., and Huang,F. (2014) Black TiO_2 nanotube arrays for high-efficiency photoelectrochemical water-splitting, *Journal of Materials Chemistry A*, Vol. 2, issue 23, pp. 8612–8616

Cui,H., Zhu,G., Xie,Y., Zhao,W., Yang,C., Lin,T., Gu,H., and Huang,F. (2015) Black nanostructured Nb_2O_5 with improved solar absorption and enhanced photoelectrochemical water splitting, *J. Mater. Chem. A*, Vol. 3, issue 22, pp. 11830–11837

Dabirian,A., and Krol,R. Van De. (2015) High-temperature ammonolysis of thin film Ta_2O_5 photoanodes: Evolution of structural, optical, and photoelectrochemical properties, *Chem. Mater.*, Vol. 27, issue 3, pp. 708–715, 2015

Darezereshki,E., Bakhtiari,F., Alizadeh,M., Behrad Vakylabad,A., and Ranjbar,M. (2012) Direct thermal decomposition synthesis and characterization of hematite (α-Fe2O3) nanoparticles, *Materials Science in Semiconductor Processing*, Vol. 15, issue 1, pp. 91–97

Deraz,N.M., and Alarifi,A. (2012) Novel processing and magnetic properties of hematite/maghemite nano-particles, *Ceramics International*, Vol. 38, issue 5, pp. 4049–4055

Duff,M.C., and Amrhein,C. (1994) Uranium (VI) adsorption on goethite and soil in carbonate solutions, *Soil Sci. Soc. Am. J.*, issue VI, pp. 1393–1400

Duff,M.C., Amrhein,C., Bertsch,P.M., and Hunter,D.B. (1997) The chemistry of uranium in evaporation pond sediment in the San Joaquin Valley, California, USA, using X-ray fluorescence and XANES techniques, *Geochimica et Cosmochimica Acta*, Vol. 61, issue 1, pp. 73–81

Duff,M.C., Coughlin,J.U., and Hunter,D.B. (2002) Uranium co-precipitation with iron oxide minerals, *Geochimica et Cosmochimica Acta*, Vol. 66, issue 20, pp. 3533–3547

Dunn,H.K., Feckl,J.M., Müller,A., Fattakhova-Rohlfing,D., Morehead,S.G., Roos,J., Peter,L.M., Scheu,C., and Bein,T. (2014) Tin doping speeds up hole transfer during light-driven water oxidation at hematite photoanodes, *Phys. Chem. Chem. Phys.*, Vol. 16, issue 44, pp. 24610–24620

Fan,X., Liu,Y., Chen,S., Shi,J., Wang,J., Fan,A., Zan,W., Li,S., Goddard,W.A., and Zhang,X.M. (2018) Defect-enriched iron fluoride-oxide nanoporous thin films bifunctional catalyst for water splitting, *Nature Communications*, Vol. 9, issue 1

de Faria,D.L.A., Silva,S.V., and de Oliveira,M.T. (1997) Raman microspectroscopy of some iron oxides and oxyhydroxides, *Journal of Raman Spectroscopy*, Vol. 28, pp. 873–878

Feng,Y.B., Qiu,T., and Shen,C.Y. (2007) Absorbing properties and structural design of microwave absorbers based on carbonyl iron and barium ferrite, *Journal of Magnetism and Magnetic Materials*, Vol. 318, issue 1–2, pp. 8–13

Figoli,A., Hoinkis,J., and Bundschuh,J. (2016) Membrane technologies for water treatment: Removal of toxic trace elements with emphasis on arsenic, fluoride and uranium, *Membrane Technologies for Water Treatment*, issue 4, pp. 1–284

Fujishima,A., and Honda,K. (1972) Electrochemical photolysis of water at a semiconductor electrode, *Nature*, Vol. 238, pp. 37–38

Fungaro,D.A., Yamaura,M., and Craesmeyer,G.R. (2012) Uranium removal from aqueous solution by zeolite from fly ash-iron oxide magnetic nanocomposite, *International Review of Chemical Engineering*, Vol. 4, issue 3, pp. 353–358

Gao,M., Zhu,G., and Gao,C. (2014) A review: Adsorption materials for the removal and recovery of uranium from aqueous solutions, *Energy Environ. Focus*, Vol. 3, issue 3, pp. 219–226

Gasparotto,A., Barreca,D., Bekermann,D., Devi,A., Fischer,R.A., Fornasiero,P., Gombac,V., Lebedev,O.I., Maccato,C., Montini,T., Van Tendeloo,G., and Tondello,E. (2011) F-Doped Co_3O_4 photocatalysts for sustainable H2 generation from Water/Ethanol., *Journal of American Chemical Society*, Vol. 133, pp. 19362–19365

Ghasemi Torkabad,M., Keshtkar,A.R., and Safdari,S.J. (2017) Uranium membrane separation from binary aqueous solutions of UO_2^{2+}-K^+ and UO_2^{2+}-Ca^{2+} by the nanofiltration process, *Separation Science and Technology*, Vol. 52, issue 6, pp. 1095–1105

Goodenough,J.B. (1971) Metallic oxides, *Progress in Solid State Chemistry*, Vol. 5, pp. 145–399

Green,A.E., Chiang,C.-Y., Greer,H.F., Waller,A., Ruszin,A., Webster,J., Niu,Z., Self,K., and Zhou,W. (2017) Growth mechanism of dendritic hematite via hydrolysis of ferricyanide, *Crystal Growth & Design*, Vol. 17, pp. 800–808

Grimes,C.A., Varghese,O.K., and Ranjan,S. (2008) "Light, water, hydrogen: The solar generation of hydrogen by water photoelectrolysis," *Springer*, ed., 2008

Gu,B., Liang,L., Dickey,M.J., Yin,X., and Dai,S. (1998) Reductive precipitation of uranium (VI) by zero-valent iron, *Environmental Science and Technology*, Vol. 32, issue 21, pp. 3366–3373

Guo,Z., Li,Y., and Wu,W. (2009) Sorption of U(VI) on goethite: Effects of pH, ionic strength, phosphate, carbonate and fulvic acid, *Applied Radiation and Isotopes*, Vol. 67, issue 6, pp. 996–1000

Gurudayal,G., Chiam,S.Y., Kumar,M.H., Bassi,P.S., Seng,H.L., Barber,J., and Wong,L.H. (2014) Improving the efficiency of hematite nanorods for photoelectrochemical water splitting by doping with manganese, *ACS Applied Materials and Interfaces*, Vol. 6, issue 8, pp. 5852–5859

Han,M., Qin,J., and Deng,L. (2012) Microwave permeability of nanocrystalline alloys $(Fe_{0.67}Co_{0.33})_{78}Nb_6B_{15}Cu_1$ and $(Fe_{0.67}Co_{0.33})_{78}Nb_6Al_6B_9Cu_1$, *Journal of Alloys and Compounds*, Vol. 543, pp. 79–83

Hardee,K.L., and Bard,A.J. (1976) Semiconductor Electrodes: V . The application of chemically vapor deposited iron oxide films to photosensitized electrolysis, *J. Electrochem. Soc.*, Vol. 123, issue 7, pp.

1024–1026
Hart,J.J., and Syvret,R.G. (1999) Industrial scale production of Selectfluor™ fluorination agent: from initial concept to full scale commercial production in a 5 year period, *Journal of Fluorine Chemistry*, Vol. 100, pp. 157–161
Ho,C.H., and Doern,D.C. (1985) The sorption of uranyl species on a hematite sol, *Canadian Journal of Chemistry*, Vol. 63, issue 5, pp. 1100–1104
Ho,K.-I., Huang,C.-H., Liao,J.-H., Zhang,W., Li,L.-J., Lai,C.-S., and Su,C.-Y. (2014) Fluorinated graphene as high performance dielectric materials and the applications for graphene nanoelectronics., *Scientific Reports*, Vol. 4, p. 5893
Ho,Y.S., and McKay,G. (1999) Pseudo-second order model for sorption processes, *Process Biochemistry*, Vol. 34, issue 5, pp. 451–465
Hu,Y.-S., Kleiman-Shwarsctein,A., Stucky,G.D., and McFarland,E.W. (2009) Improved photoelectrochemical performance of Ti-doped α-Fe_2O_3 thin films by surface modification with fluoride., *Chemical communications*, pp. 2652–2654
IAEA. (1992) "Chemical precipitation processes for the treatment of aqueous radioactive waste.," ed., 1992
Ilaiyaraja,P., Deb,A.K.S., Sivasubramanian,K., Ponraju,D., and Venkatraman,B. (2013) Adsorption of uranium from aqueous solution by PAMAM dendron functionalized styrene divinylbenzene, *Journal of Hazardous Materials*, Vol. 250–251, pp. 155–166
Ilton,E.S., and Bagus,P.S. (2011) XPS determination of uranium oxidation states, *Surface and Interface Analysis*, Vol. 43, issue 13, pp. 1549–1560
Iordanova,N., Dupuis,M., and Rosso,K.M. (2005) Charge transport in metal oxides: A theoretical study of hematite α-Fe_2O_3, *The Journal of Chemical Physics*, Vol. 122, p. 144305
Janu,V.C., Bahuguna,G., Laishram,D., Shejale,K.P., and Kumar,N. (2018) Surface fluorination of α-Fe_2O_3 using selectfluor for enhancement in photoelectrochemical properties, *Solar Energy Materials and Solar Cells*, Vol. 174, pp. 240–247
Jelinska,A., Bienkowski,K., Jadwiszczak,M., Pisarek,M., Strawski,M., Kurzydlowski,D., Solarska,R., and Augustynski,J. (2018) Enhanced photocatalytic water splitting on very thin WO_3 films activated by high-temperature annealing, *ACS Catalysis*, Vol. 8, issue 11, pp. 10573–10580
Karthikeyan,K., Amaresh,S., Lee,S.N., Aravindan,V., and Lee,Y.S. (2014) Fluorine-doped Fe_2O_3 as High Energy Density Electroactive material for hybrid supercapacitor applications, *Chem. Asian J*, Vol. 9, issue 3, pp. 852–857
Katsoyiannis,I.A. (2007) Carbonate effects and pH-dependence of uranium sorption onto bacteriogenic iron oxides : Kinetic and equilibrium studies, *Journal of Hazardous Materials*, Vol. 139, pp. 31–37
Kausar,A., and Bhatti,H.N. (2013) Adsorptive removal of uranium from wastewater: A review, *J.Chem.Soc.Pak.*, Vol. 35, issue 3, pp. 1041–1052
Kennedy,J.H., and Frese,K.W. (1978) Photooxidation of water at α-Fe_2O_3 electrodes, *Journal of The Electrochemical Society*, Vol. 125, pp. 709–714
Khan,S.U.M., and Akikusa,J. (1999) Photoelectrochemical splitting of water at nanocrystalline n-Fe_2O_3 thin-film electrodes, *Journal of Physical Chemistry B*, Vol. 103, pp. 7184–7189
Khaselev,O., and Turner,J.A. (1998) A monolithic photovoltaic-photoelectrochemical device for hydrogen production via water splitting, *Science*, Vol. 280, issue 5362, pp. 425–427
Kim,C.H., Chun,H.J., Kim,D.S., Kim,S.Y., Park,J., Moon,J.Y., Lee,G., Yoon,J., Jo,Y., Jung,M.-H., Jung,S. Il, and Lee,C.J. (2006) Magnetic anisotropy of vertically aligned α-Fe_2O_3 nanowire array, *Applied Physics Letters*, Vol. 89, issue 22, p. 223103
Kim,H., and Choi,W. (2007) Effects of surface fluorination of TiO_2 on photocatalytic oxidation of gaseous acetaldehyde, *Applied Catalysis B: Environmental*, Vol. 69, pp. 127–132
Kim,J.Y., Jang,J.W., Youn,D.H., Magesh,G., and Lee,J.S. (2014) A stable and efficient hematite photoanode in a neutral electrolyte for solar water splitting: Towards stability engineering, *Advanced Energy Materials*, Vol. 4, issue 13, pp. 1–7
Kim,K.Y., Kim,W.S., J,J.H., and Ju,Y.D. (1996) Wide band type electromagnetic wave absorber, United States Patents
Knut,R., Lagerqvist,U., Palmgren,P., Pal,P., Svedlindh,P., Pohl,A., and Karis,O. (2015) Photoinduced reduction of surface states in Fe:ZnO, *Journal of Chemical Physics*, Vol. 142, issue 20
Komulainen,H., Väisänen,S.B., Penttilä,I.M., Kurttio,P., Pekkanen,J., Mäkeläinen,I., Auvinen,A., Saha,H., and Salonen,L. (2010) Renal effects of uranium in drinking water., *Environmental Health Perspectives*, Vol. 110, issue 4, pp. 337–342
Krol,R. Van de, and Grätzel,M. (2012) "Photoelectrochemical hydrogen production," ed., 2012
Kunat,M., Girol,S.G., Burghaus,U., and Wöll,C. (2003) The interaction of water with the oxygen-

terminated, polar surface of ZnO, *The Journal of Physical Chemistry B*, Vol. 107, issue 51, pp. 14350–14356

Kuncham,K., Nair,S., Durani,S., and Bose,R. (2017) Efficient removal of uranium(VI) from aqueous medium using ceria nanocrystals: an adsorption behavioural study, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 313, issue 1, pp. 101–112

Lal,G.S., Pez,G.P., and Syvret,R.G. (1996) Electrophilic NF fluorinating agents, *Chemical Reviews*, Vol. 96, issue 5, pp. 1737–1756

Lamb,A.C.M., Grieser,F., and Healy,T.W. (2016) The adsorption of uranium (VI) onto colloidal TiO_2, SiO_2 and carbon black, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, Elsevier B.V., Vol. 499, issue VI, pp. 156–162

Lee,K.Y., Kim,K.W., Baek,Y.J., Chung,D.Y., Lee,E.H., Lee,S.Y., and Moon,J.K. (2014) Biosorption of uranium(VI) from aqueous solution by biomass of brown algae Laminaria japonica, *Water Science and Technology*, Vol. 70, issue 1, pp. 136–143

Lee,M.H., Park,J.H., Han,H.S., Song,H.J., Cho,I.S., Noh,J.H., and Hong,K.S. (2014) Nanostructured Ti-doped hematite (α-Fe_2O_3) photoanodes for efficient photoelectrochemical water oxidation, *International Journal of Hydrogen Energy*, Elsevier Ltd, Vol. 39, issue 30, pp. 17501–17507

Lenhart,J.J., and Honeyman,B.D. (1999) Uranium (VI) sorption to hematite in the presence of humic acid, *Geochimica et Cosmochimica Acta*, Vol. 63, issue 19, pp. 2891–2901

Li,L., Huang,F., Yuan,Y., Hu,J., Tang,Q., and Tang,S. (2013) Preparation and sorption performance of magnetic 18-crown-6/Fe_3O_4 nanocomposite for uranium(VI) in solution, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 298, issue 1, pp. 227–235

Li,Q., Bian,J., Zhang,N., and Ng,D.H.L. (2015) Loading $Ni(OH)_2$ on the Ti-doped hematite photoanode for photoelectrochemical water splitting, *Electrochimica Acta*, Vol. 155, pp. 383–390

Lian,J., Duan,X., Ma,J., Peng,P., Kim,T., and Zheng,W. (2009) Hematite (α-Fe_2O_3) with various morphologies: Ionic liquid-assisted synthesis, formation mechanism, and properties, *ACS Nano*, Vol. 3, pp. 3749–3761

Liao,L., Zhang,Q., Su,Z., Zhao,Z., Wang,Y., Li,Y., Lu,X., Wei,D., Feng,G., Yu,Q., Cai,X., Zhao,J., Ren,Z., Fang,H., Robles-Hernandez,F., Baldelli,S., and Bao,J. (2014) Efficient solar water-splitting using a nanocrystalline CoO photocatalyst, *Nat Nano*, Vol. 9, pp. 69–73

Lin,C.Y., Lai,Y.H., Mersch,D., and Reisner,E. (2012) Cu_2O|NiO_x nanocomposite as an inexpensive photocathode in photoelectrochemical water splitting, *Chem. Sci.*, Vol. 3, issue 12, pp. 3482–3487

López,J.A., Moreno,C.D., Murillo,J., and Echegoyen,L. (2017) Xps study of the oxidation state of uranium dioxide, *Journal of Nuclear Physics, Material Sciences, Radiation and Applications*, Vol. 5, issue 1, pp. 237–242

Lu,S., Zhu,K., Guo,H., Wang,H., Zhang,N., Alsaedi,A., Hayat,T., Li,Y., and Sun,Y. (2019) The influence of humic acid on U(VI) sequestration by calcium titanate, *Chemical Engineering Journal*, Elsevier, Vol. 368, issue February, pp. 598–605

Lv,B., Liu,Z., Tian,H., Xu,Y., Wu,D., and Sun,Y. (2010) Single-crystalline dodecahedral and octodecahedral α-Fe_2O_3 particles synthesized by a fluoride anion-assisted hydrothermal method, *Advanced Functional Materials*, Vol. 20, issue 22, pp. 3987–3996

Lv,H., Liang,X., Cheng,Y., Zhang,H., Tang,D., Zhang,B., Ji,G., and Du,Y. (2015) Coin-like α-Fe_2O_3@$CoFe_2O_4$ core-shell composites with excellent electromagnetic absorption performance, *ACS Applied Materials and Interfaces*, Vol. 7, issue 8, pp. 4744–4750

Machala,L., Tuček,J., and Zbořil,R. (2011) Polymorphous transformations of nanometric iron(III) oxide: A review, *Chemistry of Materials*, Vol. 23, issue 14, pp. 3255–3272

Mahmoud,M.A. (2018) Adsorption of U(VI) ions from aqueous solution using silicon dioxide nanopowder, *Journal of Saudi Chemical Society*, Vol. 22, issue 2, pp. 136–145

Manos,M.J., and Kanatzidis,M.G. (2012) Layered metal sulfides capture uranium from seawater, *Journal of the American Chemical Society*, Vol. 134, issue 39, pp. 16441–16446

Massey,M.J., Baier,U., Merlin,R., and Weber,W.H. (1990) Effects of pressure and isotopic substitution on the Raman spectrum of α-Fe2O3: Identification of two-magnon scattering, *Physical Review B*, Vol. 41, issue 11, pp. 7822–7827

Mathuthu,M., Mokhine,N.D., and Stassen,E. (2019) Organic solvent extraction of uranium from alkaline nuclear waste, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 319, issue 3, pp. 687–693

Mayer,M.T., Du,C., and Wang,D. (2012) Hematite/Si nanowire dual-absorber system for photoelectrochemical water splitting at low applied potentials, *J. Am. Chem. Soc.*, Vol. 134, issue 30, p. 12406−12409

Meshram,M.R., Agrawal,N.K., Sinha,B., and Misra,P.S. (2004) Characterization of M-type barium

hexagonal ferrite-based wide band microwave absorber, *Journal of Magnetism and Magnetic Materials*, Vol. 271, issue 2–3, pp. 207–214

Micheli,D., Vricella,A., Pastore,R., and Marchetti,M. (2014) Synthesis and electromagnetic characterization of frequency selective radar absorbing materials using carbon nanopowders, *Carbon*, Elsevier Ltd, Vol. 77, pp. 756–774

Michielssen,E., Sajer,J.-M., Ranjithan,S., and Mittra,R. (1993) Design of lightweight, broad-band microwave absorbers using genetic algorithms, *IEEE Transactions on MIicrowave Theory and Techniques*, Vol. 41, issue 6/7, pp. 1024–1031

Mishra,S., Dwivedi,J., and Sankararamakrishnan,N. (2015) Studies on salophen anchored micro / meso porous activated carbon fibres for the removal and recovery of uranium, *RSC Adv.*, Vol. 5, pp. 33023–33036

Morin,F.J. (1950) Magnetic susceptibility of α-Fe_2O_3 and α-Fe_2O_3 with added titanium, *Physical Review*, Vol. 78, pp. 819–820

Morin,F.J. (1954) Electrical Properties of alpha Fe_2O_3, *Physical Review*, Vol. 93, pp. 1195–1199

Murphy,A.B., Barnes,P.R.F., Randeniya,L.K., Plumb,I.C., Grey,I.E., Horne,M.D., and Glasscock,J.A. (2006) Efficiency of solar water splitting using semiconductor electrodes, *International Journal of Hydrogen Energy*, Vol. 31, issue 14, pp. 1999–2017

Murphy,R.J., Lenhart,J.J., and Honeyman,B.D. (1999) The sorption of thorium (IV) and uranium (VI) to hematite in the presence of natural organic matter, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, Vol. 157, issue 1–3, pp. 47–62

Naito,Y., and Suetake,K. (1971) Application of ferrite to electromagnetic wave absorber and its characteristics, *IEEE Transactions on Microwave Theory and Techniques*, Vol. MTT-19, issue 1, pp. 65–72

Nakatani,Y., and Matsuoka,M. (1982) Effects of sulfate ion on gas sensitive properties of α-Fe_2O_3 ceramics, *Japanese Journal of Applied Physics*, Vol. 21, issue 12, pp. L758–L760

Nakau,T. (1960) Electrocal Conductivity of Fe_2O_3, *j. Phys. Soc. Japan*, Vol. 15, p. 727

Narayanan,K.B., and Han,S.S. (2016) One-pot green synthesis of hematite (α-Fe_2O_3) nanoparticles by ultrasonic irradiation and their in-vitro cytotoxicity on human keratinocytes CRL-2310, *Journal of Cluster Science*, Vol. 27, issue 5, pp. 1763–1775

Nyffeler,P.T., Durón,S.G., Burkart,M.D., Vincent,S.P., and Wong,C.H. (2004) Selectfluor: Mechanistic insight and applications, *Angewandte Chemie - International Edition*, Vol. 44, issue 2, pp. 192–212

Ohlan,A., Singh,K., Chandra,A., and Dhawan,S.K. (2010) Microwave absorption behavior of core-shell structured poly (3,4-ethylenedioxy thiophene)-barium ferrite nanocomposites, *ACS Applied Materials and Interfaces*, Vol. 2, issue 3, pp. 927–933

Osmanlioglu,A.E. (2002) Immobilization of radioactive waste by cementation with purified kaolin clay, *Waste Management*, Vol. 22, issue 5, pp. 481–483

Panjan,M., Jovanovic,Đ., Stanojevic,B., Markovic,D., Tadic,M., Citakovic,N., and Spasojevic,V. (2012) Synthesis, morphology and microstructure of pomegranate-like hematite (α-Fe_2O_3) superstructure with high coercivity, *Journal of Alloys and Compounds*, Vol. 543, pp. 118–124

Park,H., and Choi,W. (2004) Effects of TiO_2 surface fluorination on photocatalytic reactions and photoelectrochemical behaviors, *The Journal of Physical Chemistry B*, Vol. 108, pp. 4086–4093

Pourabdollahi,H., and Zarei,A.R. (2017) Hydrothermal synthesis of carbonyl iron-carbon nanocomposite: characterization and electromagnetic performance, *Results in Physics*, Vol. 7, pp. 1978–1986

Prim,S.R., Folgueras,M. V., de Lima,M.A., and Hotza,D. (2011) Synthesis and characterization of hematite pigment obtained from a steel waste industry, *Journal of Hazardous Materials*, Elsevier B.V., Vol. 192, issue 3, pp. 1307–1313

Rabung,T., Geckeis,H., Kim,J. Il, and Beck,H.P. (1998) Sorption of Eu(III) on a natural hematite: Application of a surface complexation model, *Journal of Colloid and Interface Science*, Vol. 208, issue 1, pp. 153–161

Raff,O., and Wilken,R.D. (1999) Removal of dissolved uranium by nanofiltration, *Desalination*, Vol. 122, issue 2–3, pp. 147–150

Rahman,G., and Joo,O.S. (2012) Photoelectrochemical water splitting at nanostructured α-Fe_2O_3 electrodes, *International Journal of Hydrogen Energy*, Vol. 37, issue 19, pp. 13989–13997

Rana,K., Thakur,P., Tomar,M., Gupta,V., and Thakur,A. (2018) Investigation of cobalt substituted M-type barium ferrite synthesized via co-precipitation method for radar absorbing material in Ku-band (12–18 GHz), *Ceramics International*, Vol. 44, issue 6, pp. 6370–6375

Ranjithkumar,V., Sangeetha,S., and Vairam,S. (2014) Synthesis of magnetic activated carbon/α-Fe_2O_3 nanocomposite and its application in the removal of acid yellow 17 dye from water, *Journal of Hazardous Materials*, Vol. 273, pp. 127–135

Rodríguez-Fernández,A., Blanco,J.A., Lovesey,S.W., Scagnoli,V., Staub,U., Walker,H.C., Shukla,D.K., and

Strempfer,J. (2013) Chiral properties of hematite α-Fe2O3 inferred from resonant Bragg diffraction using circularly polarized x rays, *Physical Review B - Condensed Matter and Materials Physics*, Vol. 88, issue 9, pp. 3–8

Rudzinski,W., and Plazinski,W. (2007) Theoretical description of the kinetics of solute adsorption at heterogeneous solid / solution interfaces On the possibility of distinguishing between the diffusional and the surface reaction kinetics models, *Journal of Physical Chemistry C*, Vol. 111, pp. 15100–15110

Rufus,A., Sreeju,N., and Philip,D. (2016) Synthesis of biogenic hematite (α-Fe_2O_3) nanoparticles for antibacterial and nanofluid applications, *RSC Advances*, Vol. 6, issue 96, pp. 94206–94217

Salama,W., Aref,M. El, and Gaupp,R. (2015) Spectroscopic characterization of iron ores formed in different geological environments using FTIR, XPS, Mössbauer spectroscopy and thermoanalyses, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, Elsevier B.V., Vol. 136, issue PC, pp. 1816–1826

Saleh,T.A., Naeemullah, Tuzen,M., and Sarı,A. (2017) Polyethylenimine modified activated carbon as novel magnetic adsorbent for the removal of uranium from aqueous solution, *Chemical Engineering Research and Design*, Vol. 117, pp. 218–227

Sarkar,D., Khan,G.G., Singh,A.K., and Mandal,K. (2012) Enhanced electrical , optical , and magnetic properties in multifunctional ZnO/α-Fe_2O_3 semiconductor nanoheterostructures by Heterojunction Engineering, *The Journal of Physical Chemistry C*, Vol. 116, pp. 23540–23546

Schindler,M., Hawthorne,F.C., Freund,M.S., and Burns,P.C. (2009a) XPS spectra of uranyl minerals and synthetic uranyl compounds. I: The U 4f spectrum, *Geochimica et Cosmochimica Acta*, Elsevier Ltd, Vol. 73, issue 9, pp. 2471–2487

Schindler,M., Hawthorne,F.C., Freund,M.S., and Burns,P.C. (2009b) XPS spectra of uranyl minerals and synthetic uranyl compounds. II: The O 1s spectrum, *Geochimica et Cosmochimica Acta*, Elsevier Ltd, Vol. 73, issue 9, pp. 2488–2509

Scientific,T.F. (2018) Material Safety Data Sheet, *Puredrill Tm/Mc Ia-35Lv*, Rev 4.0

Sepulveda-Guzman,S., Reeja-Jayan,B., de la Rosa,E., Torres-Castro,A., Gonzalez-Gonzalez,V., and Jose-Yacaman,M. (2009) Synthesis of assembled ZnO structures by precipitation method in aqueous media, *Materials Chemistry and Physics*, Vol. 115, issue 1, pp. 172–178

Shahpari,M., Behjat,A., Khajaminian,M., and Torabi,N. (2015) The influence of morphology of hematite (α-Fe_2O_3) counter electrodes on the efficiency of dye-sensitized solar cells, *Solar Energy*, Vol. 119, pp. 45–53

Shan,C., Ma,Z., and Tong,M. (2014) Efficient removal of trace antimony(III) through adsorption by hematite modified magnetic nanoparticles, *Journal of Hazardous Materials*, Vol. 268, pp. 229–236

Shejale,K.P., Laishram,D., and Sharma,R.K. (2016) High-performance dye-sensitized solar cell using dimensionally controlled titania synthesized at sub-zero temperatures, *RSC Adv.*, Vol. 6, pp. 23459–23466

Shi,R., Ye,H.F., Liang,F., Wang,Z., Li,K., Weng,Y., Lin,Z., Fu,W.F., Che,C.M., and Chen,Y. (2018) Interstitial P-doped CdS with long-lived photogenerated electrons for photocatalytic water splitting without sacrificial agents, *Advanced Materials*, Vol. 30, issue 6, pp. 1–6

Shinar,R., and Kennedy,J.H. (1982) Photoactivity of doped α-Fe_2O_3 electrodes, *Solar Energy Materials*, Vol. 6, issue 3, pp. 323–335

Shuibo,X., Chun,Z., Xinghuo,Z., Jing,Y., Xiaojian,Z., and Jingsong,W. (2009) Removal of uranium (VI) from aqueous solution by adsorption of hematite, *Journal of Environmental Radioactivity*, Vol. 100, issue 2, pp. 162–166

Simon,F.G., Biermann,V., and Peplinski,B. (2008) Uranium removal from groundwater using hydroxyapatite, *Applied Geochemistry*, Vol. 23, issue 8, pp. 2137–2145

Sivula,K., Formal,F. Le, and Grätzel,M. (2009) WO_3-Fe_2O_3 photoanodes for water splitting: A host scaffold, guest absorber approach, *Chemistry of Materials*, Vol. 21, issue 13, pp. 2862–2867

Sivula,K., Formal,F. Le, and Grätzel,M. (2011) Solar water splitting: Progress using hematite (α-Fe_2O_3) photoelectrodes, *ChemSusChem*, Vol. 4, issue 4, pp. 432–449

Sophronov,V.L., Kalaev,M.E., Makaseev,Y.N., Sachkov,V.I., and Verkhoturova,V. V. (2016) Study on the process of Fe (III) oxide fluorination, *IOP Conference Series: Materials Science and Engineering*, Vol. 110, p. 012069

Spasojević,V., Remškar,M., Tadić,M., Pirnat,J., Marković,D., Kusigerski,V., and Jagličić,Z. (2006) Synthesis and magnetic properties of concentrated α-Fe_2O_3 nanoparticles in a silica matrix, *Journal of Alloys and Compounds*, Vol. 441, issue 1–2, pp. 291–296

Stafiej,A., and Pyrzynska,K. (2007) Adsorption of heavy metal ions with carbon nanotubes, *Separation and*

Purification Technology, Vol. 58, issue 1, pp. 49–52

Su,J., Minegishi,T., and Domen,K. (2017) Efficient hydrogen evolution from water using CdTe photocathodes under simulated sunlight, *Journal of Materials Chemistry A*, Vol. 5, issue 25, pp. 13154–13160

Sun,G., Dong,B., Cao,M., Wei,B., and Hu,C. (2011) Hierarchical dendrite-like magnetic materials of Fe_3O_4, γ-Fe_2O_3, and Fe with high performance of microwave absorption, *Chem. Mater*, Vol. 23, issue 6, pp. 1587–1593

Sunder,S., Cramer,J.J., and Miller,N.H. (1996) Geochemistry of the cigar lake uranium deposit: XPS Studies, *Radiochimica Acta*, Vol. 74, pp. 303–307

Suresh,R., Giribabu,K., Manigandan,R., Stephen,A., and Narayanan,V. (2014) Fabrication of Ni-Fe_2O_3 magnetic nanorods and application to the detection of uric acid, *RSC Advances*, Vol. 4, issue 33, pp. 17146–17155

Tadić,M., Čitaković,N., Panjan,M., Stojanović,Z., Marković,D., and Spasojević,V. (2011) Synthesis, morphology, microstructure and magnetic properties of hematite submicron particles, *Journal of Alloys and Compounds*, Vol. 509, issue 28, pp. 7639–7644

Tadic,M., Panjan,M., Damnjanovic,V., and Milosevic,I. (2014) Magnetic properties of hematite (α-Fe_2O_3) nanoparticles prepared by hydrothermal synthesis method, *Applied Surface Science*, Vol. 320, pp. 183–187

Tanuma,T., Okamoto,H., Ohnishi,K., Morikawa,S., and Suzuki,T. (2010) Partially fluorinated metal oxide catalysts for a friedel-crafts-type reaction of dichlorofluoromethane with tetrafluoroethylene, *Catalysis Letters*, Vol. 136, issue 1–2, pp. 77–82

Tauc,J., Grigorovici,R., and Vancu,A. (1966) Optical properties and electronic structure of amorphous germanium, *Phys. Stat. Sol.*, Vol. 15, issue 2, pp. 627–637, 1966

Teja,A.S., and Koh,P.Y. (2009) Synthesis, properties, and applications of magnetic iron oxide nanoparticles, *Progress in Crystal Growth and Characterization of Materials*, Vol. 55, issue 1–2, pp. 22–45

Tuller,H.L. (2017) Solar to fuels conversion technologies: A perspective, *Materials for Renewable and Sustainable Energy*, Vol. 6, issue 1, pp. 1–16

Tullock,C.W., and Coffman,D.D. (1960) Synthesis of Fluorides by Metathesis with Sodium Fluoride, *Journal of Organic Chemistry*, Vol. 25, issue 11, pp. 2016–2019

US Environmental Protection Agency. (2018) 2018 Edition of the Drinking Water Standards and Health Advisories Tables

Vayssieres,L. (2009) On Solar Hydrogen & Nanotchnology, *Wiley*, John Wiley & Sons (Asia) Pte Ltd, ed.

Vinoy,K.J., and Jha,R.M. (1995) Trends in radar absorbing materials technology, *Sadhana*, Vol. 20, issue 5, p. Pp. 815-850

Wang,B., Chen,J.S., Wu,H.B., Wang,Z., and Lou,X.W. (2011) Quasiemulsion-templated formation of α-Fe_2O_3 hollow spheres with enhanced lithium storage properties, *Journal of the American Chemical Society*, Vol. 133, pp. 17146–17148

Wang,B.S., Li,R.Y., Zhang,Z.Y., Xing-Wang, Wu,X.L., Cheng,G.A., and Zheng,R.T. (2019) An overlapping ZnO nanowire photoanode for photoelectrochemical water splitting, *Catalysis Today*, Vol. 321, pp. 100–106

Wang,C., Zhang,Y., Li,Y., Liu,J., and Wu,Q. (2017) Synthesis of fluorine-doped α-Fe_2O_3 nanorods toward enhanced lithium storage capability, *Nanotechnology*, Vol. 28, p. 065401

Wang,G., Liu,J., Wang,X., Xie,Z., and Deng,N. (2009) Adsorption of uranium (VI) from aqueous solution onto cross-linked chitosan, *Journal of Hazardous Materials*, Vol. 168, issue 2–3, pp. 1053–1058

Wang,H., Fu,F., Zhang,F., Wang,H.-E., Kershaw,S. V., Xu,J., Sun,S.-G., and Rogach,A.L. (2012) Hydrothermal synthesis of hierarchical SnO_2 microspheres for gas sensing and lithium-ion batteries applications: Fluoride-mediated formation of solid and hollow structures, *Journal of Materials Chemistry*, Vol. 22, pp. 2140–2148

Wang,L., Zhou,X., Nguyen,N.T., Hwang,I., and Schmuki,P. (2016) Strongly enhanced water splitting performance of Ta_3N_5 nanotube photoanodes with subnitrides, *Adv. Mater.*, Vol. 28, issue 12, pp. 2432–2438

Wang,Y., Cheng,G., Zhang,Y., Ke,H., and Zhu,C. (2015) Synthesis of fluorinated SnO_2 3D hierarchical structures assembled from nanosheets and their enhanced photocatalytic activity, *RSC Adv.*, Vol. 5, pp. 88079–88086

Wang,Z., Bi,H., Liu,J., Sun,T., and Wu,X. (2008) Magnetic and microwave absorbing properties of polyaniline/γ-Fe_2O_3 nanocomposite, *Journal of Magnetism and Magnetic Materials*, Vol. 320, issue 16, pp. 2132–2139

Wang,Z., Luan,D., Madhavi,S., Ming Li,C., and Lou,X.W. (David). (2011) α-Fe_2O_3 nanotubes with superior lithium storage capability, *Chem. Commun.*, Vol. 47, issue 28, pp. 8061–8063

Wei,J., Zhang,Z., Wang,B., Wang,T., and Li,F. (2010) Microwave reflection characteristics of surface-modified $Fe_{50}Ni_{50}$ fine particle composites, *Journal of Applied Physics*, Vol. 108, issue 123908, pp. 1–5

WHO. (2011) Guidelines for Drinking-water Quality, *World Health Organization*, Geneva, Switzerland Vol. Fourth

WHO. (2017) Guidelines for Drinking‐water Quality, *World Health Organization*, Geneva, Switzerland Vol. Fourth, Pp. 178

Xi,L., Bassi,P.S., Chiam,S.Y., Mak,W.F., Tran,P.D., Barber,J., Chye Loo,J.S., and Wong,L.H. (2012) Surface treatment of hematite photoanodes with zinc acetate for water oxidation, *Nanoscale*, Vol. 4, issue 15, p. 4430

Xing,C., Wang,D., Wang,H., Li,Z., Mao,D., and Lai,X. (2009) Direct hydrothermal synthesis of single-crystalline hematite nanorods assisted by 1,2-propanediamine, *Nanotechnology*, Vol. 20, issue 24, p. 245603

Yang,J., and Volesky,B. (1999) Biosorption of uranium on Sargassum biomass, *Water Research*, Vol. 33, issue 15, pp. 3357–3363

Yang,S., Qian,J., Kuang,L., and Hua,D. (2017) Ion-Imprinted mesoporous silica for selective removal of uranium from highly acidic and radioactive effluent, *ACS Applied Materials and Interfaces*, Vol. 9, issue 34, pp. 29337–29344

Yang,W., Xu,X., Li,Z., Yang,F., Zhang,L., Li,Y., Wang,A., and Chen,S. (2016) Construction of efficient counter electrodes for dye-sensitized solar cells: Fe_2O_3 nanoparticles anchored onto graphene frameworks, *Carbon*, Vol. 96, pp. 947–954

Yang,Y., Ma,H., Zhuang,J., and Wang,X. (2011) Morphology-controlled synthesis of hematite nanocrystals and their facet effects on gas-sensing properties, *Inorganic Chemistry*, Vol. 50, issue 20, pp. 10143–10151

Yang,Y., Zhang,K., Lin,H., Li,X., Chan,H.C., Yang,L., and Gao,Q. (2017) MoS2-Ni3S2 Heteronanorods as Efficient and Stable Bifunctional Electrocatalysts for Overall Water Splitting, *ACS Catalysis*, Vol. 7, issue 4, pp. 2357–2366

Yi,X., He,J., Guo,Y., Han,Z., Yang,M., Jin,J., Gu,J., Ou,M., and Xu,X. (2018) Encapsulating Fe_3O_4 into calcium alginate coated chitosan hydrochloride hydrogel beads for removal of Cu(II) and U(VI) from aqueous solutions, *Ecotoxicology and Environmental Safety*, Vol. 147, issue September 2017, pp. 699–707

Yi,X., Xu,Z., Liu,Y., Guo,X., Ou,M., and Xu,X. (2017) Highly efficient removal of uranium (VI) from wastewater by polyacrylic acid hydrogels, *RSC Adv.*, Vol. 7, issue 11, pp. 6278–6287

Yilmaz,C., and Unal,U. (2016) Morphology and crystal structure control of α-Fe_2O_3 films by hydrothermal-electrochemical deposition in the presence of Ce^{3+} and/or acetate, F^- ions, *RSC Advances*, Royal Society of Chemistry, Vol. 6, pp. 8517–8527

Youngblood,W.J., Lee,S.H.A., Maeda,K., and Mallouk,T.E. (2009) Visible light water splitting using dye-sensitized oxide semiconductors, *Accounts of Chemical Research*, Vol. 42, issue 12, pp. 1966–1973, 2009

Youssef,W. (2017) Uranium adsorption from aqueous solution using sodium bentonite activated clay, *J Chem Eng Process Technol*, Vol. 08, issue 04, p. 1000349

Youssef,W.M. (2017) Uranium adsorption from aqueous solution using sodium bentonite activated clay, *Journal of Chemical Engineering & Process Technology*, Vol. 08, issue 04

Yu,J., Li,Z., Liu,Q., Wang,J., Wei,H., Zhang,M., and Liu,L. (2013) Uranium (VI) adsorption on alumina hollow microspheres synthesized via a facile self-templating process, *RSC Advances*, Vol. 3, issue 18, pp. 6621–6626

Yu,J., Qi,L., and Jaroniec,M. (2010) Hydrogen production by photocatalytic water splitting over Pt/TiO_2 nanosheets with exposed (001) facets, *The Journal of Physical Chemistry C*, Vol. 114, issue 001, pp. 13118–13125

Yu,J., and Wang,J. (2016) Removal of uranium from aqueous solution by carbon nanotubes, *Health Physics*, Vol. 111, issue 4, pp. 367–373

Yu,J.C., Yu,J., Ho,W., Jiang,Z., and Zhang,L. (2002) Effects of F-doping on the photocatalytic activity and microstructures of nanocrystalline TiO_2 powders, *Chem. Mater.*, Vol. 14, issue 9, pp. 3808–3816, 2002

Yuping Duan,H.G. (2017) "Microwave Absorbing Materials," ed., 2017

Zalkind,S., Rafailov,G., Halevy,I., Livneh,T., Rubin,A., Maimon,H., and Schweke,D. (2017) Uranium oxidation kinetics monitored by in-situ X-ray diffraction, *Journal of Nuclear Materials*, Vol. 485, pp. 202–206

Zeng,H., Singh,A., and Basak,S. (2009) Nanoscale size effects on uranium (VI) adsorption to hematite, *Environmental Science and Technology*, Vol. 43, issue Vi, pp. 1373–1378, 2009

Zhao,D., Wang,X., Yang,S., Guo,Z., and Sheng,G. (2012) Impact of water quality parameters on the

sorption of U(VI) onto hematite, *Journal of Environmental Radioactivity*, Vol. 103, issue 1, pp. 20–29

Zhong,Y., Shao,Y., Ma,F., Wu,Y., Huang,B., and Hao,X. (2017) Band-gap-matched CdSe QD/WS_2 nanosheet composite: Size-controlled photocatalyst for high-efficiency water splitting, *Nano Energy*, Vol. 31, pp. 84–89

Zhou,H., Nanda,J., Martha,S.K., Adcock,J., Idrobo,J.C., Baggetto,L., Veith,G.M., Dai,S., Pannala,S., and Dudney,N.J. (2013) Formation of iron oxyfluoride phase on the surface of nano-Fe_3O_4 conversion compound for electrochemical energy storage, *Journal of Physical Chemistry Letters*, Vol. 4, issue 21, pp. 3798–3805

Zhou,S., Chen,B., Li,Y., Guo,J., Cai,X., Qin,Z., Bai,J., and Na,P. (2013) Synthesis, characterization, thermodynamic and kinetic investigations on uranium (VI) adsorption using organic-inorganic composites: Zirconyl- molybdopyrophosphate-tributyl phosphate, *Science China Chemistry*, Vol. 56, issue 11, pp. 1516–1524

Zhu,L.P., Wang,L.L., Bing,N.C., Huang,C., Wang,L.J., and Liao,G.H. (2013) Porous fluorine-doped γ-Fe_2O_3 hollow spheres: synthesis, growth mechanism, and their application in photocatalysis, *ACS Applied Materials and Interfaces*, Vol. 5, issue 23, pp. 12478–12487

Zhu,M., Sun,Z., Fujitsuka,M., and Majima,T. (2018) Z-Scheme photocatalytic water splitting on a 2D heterostructure of black phosphorus/bismuth vanadate using visible light, *Angew. Chem. Int. Ed.*, Vol. 57, issue 8, pp. 2160–2164

Ziegler,J., Fertig,D., Kaiser,B., Jaegermann,W., Blug,M., Hoch,S., and Busse,J. (2011) Preparation and characterization of GaP semiconductor electrodes for photoelectrochemical water splitting, *Energy Procedia*, Vol. 22, pp. 108–113