Francis Opoku

List of Publications by Year in descending order

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69 papers	1,960 citations	361045 20 h-index	264894 42 g-index
72 all docs	72 docs citations	72 times ranked	2366 citing authors

#	Article	IF	Citations
1	The role of magnetite/graphene oxide nano-composite as a high-efficiency adsorbent for removal of phenazopyridine residues from water samples, an experimental/theoretical investigation. Journal of Molecular Liquids, 2020, 298, 112040.	2.3	319
2	Recent Progress in the Development of Semiconductorâ€Based Photocatalyst Materials for Applications in Photocatalytic Water Splitting and Degradation of Pollutants. Advanced Sustainable Systems, 2017, 1, 1700006.	2.7	144
3	Groundwater quality assessment using statistical approach and water quality index in Ejisu-Juaben Municipality, Ghana. Environmental Earth Sciences, 2016, 75, 1.	1.3	137
4	Insights into the photocatalytic mechanism of mediator-free direct Z-scheme g-C3N4/Bi2MoO6(010) and g-C3N4/Bi2WO6(010) heterostructures: A hybrid density functional theory study. Applied Surface Science, 2018, 427, 487-498.	3.1	125
5	Heavy metal contamination assessment of groundwater quality: a case study of Oti landfill site, Kumasi. Applied Water Science, 2019, 9, 1.	2.8	116
6	Understanding the mechanism of enhanced charge separation and visible light photocatalytic activity of modified wurtzite ZnO with nanoclusters of ZnS and graphene oxide: from a hybrid density functional study. New Journal of Chemistry, 2017, 41, 8140-8155.	1.4	69
7	Pollution evaluation, sources and risk assessment of heavy metals in hand-dug wells from Ejisu-Juaben Municipality, Ghana. Environmental Systems Research, 2015, 4, .	1.5	65
8	MoS₂ Nanosheet/ZnS Composites for the Visible-Light-Assisted Photocatalytic Degradation of Oxytetracycline. ACS Applied Nano Materials, 2021, 4, 4721-4734.	2.4	61
9	Tuning the electronic and structural properties of Gd-TiO2-GO nanocomposites for enhancing photodegradation of IC dye: The role of Gd3+ ion. Applied Catalysis B: Environmental, 2019, 243, 106-120.	10.8	60
10	Risk assessment of mineral and heavy metal content of selected tea products from the Ghanaian market. Environmental Monitoring and Assessment, 2016, 188, 332.	1.3	53
11	Role of MoS₂and WS₂monolayers on photocatalytic hydrogen production and the pollutant degradation of monoclinic BiVO₄: a first-principles study. New Journal of Chemistry, 2017, 41, 11701-11713.	1.4	48
12	Heavy metals concentration and human health risk assessment in seven commercial fish species from Asafo Market, Ghana. Food Science and Biotechnology, 2019, 28, 569-579.	1.2	40
13	Tuning the electronic structures, work functions, optical properties and stability of bifunctional hybrid graphene oxide/Vâ€“doped NaNbO3 typeâ€“II heterostructures: A promising photocatalyst for H2 production. Carbon, 2018, 136, 187-195.	5.4	36
14	Mercury and hydroquinone content of skin toning creams and cosmetic soaps, and the potential risks to the health of Ghanaian women. SpringerPlus, 2016, 5, 319.	1.2	34
15	Assessment of pollution levels, potential ecological risk and human health risk of heavy metals/metalloids in dust around fuel filling stations from the Kumasi Metropolis, Ghana. Cogent Environmental Science, 2017, 3, 1412153.	1.6	30
16	Enhancing Charge Separation and Photocatalytic Activity of Cubic SrTiO₃ withÂPerovskiteâ€Type Materials MTaO₃ (M=Na, K) for Environmental Remediation: A Firstâ€Principles Study. ChemistrySelect, 2017, 2, 6304-6316.	0.7	29
17	Highly Selective and Sensitive Detection of Formaldehyde by Î²₁₂-Borophene/SnO₂ Heterostructures: The Role of an External Electric Field and In-Plain Biaxial Strain. Journal of Physical Chemistry A, 2020, 124, 2288-2300.	1.1	29
18	Developing a simple boxâ€“behnken experimental design on the removal of doxorubicin anticancer drug using Fe3O4/graphene nanoribbons adsorbent. Environmental Research, 2021, 200, 111522.	3.7	29

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19	Adsorption behaviour of Si anchored on g-C3N4/graphene van der Waals heterostructure for selective sensing of toxic gases: Insights from a first-principles study. Applied Surface Science, 2020, 525, 146590.	3.1	24
20	Electrochemical anticancer drug sensor for determination of raloxifene in the presence of tamoxifen using graphene-CuO-polypyrrole nanocomposite structure modified pencil graphite electrode: Theoretical and experimental investigation. Journal of Molecular Liquids, 2020, 311, 113314.	2.3	24
21	Photodegradation of Eosin Yellow Dye in Water under Simulated Solar Light Irradiation Using Laâ€“Doped ZnO Nanostructure Decorated on Graphene Oxide as an Advanced Photocatalyst. ChemistrySelect, 2018, 3, 1180-1188.	0.7	23
22	A comprehensive evaluation of surface water quality and potential health risk assessments of Sisa river, Kumasi. Groundwater for Sustainable Development, 2021, 15, 100654.	2.3	22
23	Concentrations, hydrochemistry and risk evaluation of selected heavy metals along the Jimi River and its tributaries at Obuasi a mining enclave in Ghana. Environmental Systems Research, 2015, 4, .	1.5	20
24	Charge transport, interfacial interactions and synergistic mechanisms in BiNbO₄/MWO₄ (M = Zn and Cd) heterostructures for hydrogen production: insights from a DFT+U study. Physical Chemistry Chemical Physics, 2017, 19, 28401-28413.	1.3	19
25	Determination of lead and cadmium contents in lipstick and their potential health risks to consumers. Journal Fur Verbraucherschutz Und Lebensmittelsicherheit, 2018, 13, 367-373.	0.5	18
26	Experimental and Computational Design of Highly Active Ceâ€“ZrO2â€“GO Photocatalyst for Eosin Yellow Dye Degradation: The Role of Interface and Ce3+ Ion. Catalysis Letters, 2019, 149, 1633-1650.	1.4	18
27	Defect-engineered two-dimensional layered gallium sulphide molecular gas sensors with ultrahigh selectivity and sensitivity. Applied Surface Science, 2021, 562, 150188.	3.1	18
28	Enhancing photocatalytic activity for hydrogen production and pollutant degradation by modifying tetragonal ZrO2 with monolayers slab surface of BiVO4, Ag3PO4, SrTiO3 and WO3: A first-principles study. Computational Materials Science, 2017, 138, 462-473.	1.4	16
29	Tuning the electronic, optical and structural properties of GaS/C2N van der Waals heterostructure for photovoltaic application: first-principle calculations. SN Applied Sciences, 2020, 2, 1.	1.5	16
30	Insights into the complementary behaviour of Gd doping in GO/Gd/ZnO composites as an efficient candidate towards photocatalytic degradation of indigo carmine dye. Journal of Materials Science, 2021, 56, 8511-8527.	1.7	16
31	Assessment of Total Mercury in Hair, Urine and Fingernails of Smallâ€“Scale Gold Miners in the Amansie West District, Ghana. Journal of Health and Pollution, 2019, 9, 190306.	1.8	16
32	Enhancing the photocatalytic hydrogen generation performance and strain regulation of the vertical GeI₂/C₂N van der Waals heterostructure: insights from first-principles study. Energy Advances, 2022, 1, 146-158.	1.4	15
33	Boosting the photocatalytic H₂ evolution activity of type-II g-GaN/Sc₂CO₂ van der Waals heterostructure using applied biaxial strain and external electric field. RSC Advances, 2022, 12, 7391-7402.	1.7	15
34	Remarkable Enhancement of Euâ€“TiO2â€“GO Composite for Photodegradation of Indigo Carmine: A Design Method Based on Computational and Experimental Perspectives. Catalysis Letters, 2021, 151, 1111-1126.	1.4	14
35	Phytocompounds, Heavy Metal and Mineral Contents in honey Samples from Selected Markets in the Kumasi Metropolis. Emerging Science Journal, 2018, 2, 287.	1.4	14
36	Evaluating Iso-Mukaadial Acetate and Ursolic Acid Acetate as Plasmodium falciparum Hypoxanthine-Guanine-Xanthine Phosphoribosyltransferase Inhibitors. Biomolecules, 2019, 9, 861.	1.8	13

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37	Metal Oxide Polymer Nanocomposites in Water Treatments. , 0, , .		12
38	Human health risk assessment of cyanide levels in water and tuber crops from Kenyasi, a mining community in the Brong Ahafo Region of Ghana. International Journal of Food Contamination, 2017, 4, .	2.2	12
39	Understanding the synergistic effects, optical and electronic properties of ternary Fe/C/Sâ€doped TiO₂ anatase within the DFT + U approach. International Journal of Quantum Chemistry, 2018, 118, e25505.	1.0	12
40	Electrochemical detection of amoxicillin on 2D graphene-gold nanoparticle-Lacasse bio-interfaces: Combined experimental and theoretical study. Chemical Physics Letters, 2021, 764, 138278.	1.2	12
41	Two-dimensional layered type-II MS₂/BiOCl (M = Zr, Hf) van der Waals heterostructures: promising photocatalysts for hydrogen generation. New Journal of Chemistry, 2021, 45, 20365-20373.	1.4	12
42	Mineral and proximate composition of the meat and shell of three snail species. Heliyon, 2021, 7, e08149.	1.4	12
43	Characterization of Beauty Salon Wastewater from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, and Its Surrounding Communities. Environmental Health Insights, 2016, 10, EHI.S40360.	0.6	11
44	Hybrid DFT study of MWCNT/Zr-doped SrTiO3 heterostructure: Hydrogen production, electronic properties and charge Carrier mediator role of Zr4+Âion. International Journal of Hydrogen Energy, 2018, 43, 22253-22264.	3.8	11
45	One-step synthesized 2D heteroatom doped graphene for high throughput electrochemical biosensing: A combined experimental and computational studies. Diamond and Related Materials, 2019, 100, 107592.	1.8	10
46	Tuning the electronic properties and interfacial interactions of WS2/ZrO2(001) heterostructures by an external electric field, interlayer coupling and monolayer to fewâ€“layer of WS2 sheets. Materials Chemistry and Physics, 2019, 224, 107-116.	2.0	9
47	Hierarchically assembled two-dimensional gold boron nitride-tungsten disulphide nanohybrid interface system for electrobiocatalytic applications. Materials Chemistry and Physics, 2019, 226, 129-140.	2.0	9
48	Heavy metal contamination and health risk assessment of mechanically milled delicacy called fufu. International Journal of Food Contamination, 2021, 8, .	2.2	9
49	Twoâ€dimensional CoOOH as a Highly Sensitive and Selective H₂S, HCN and HF Gas Sensor: A Computational Investigation. Electroanalysis, 2020, 32, 2764-2774.	1.5	8
50	Effect of van der Waals stacking in CdS monolayer on enhancing the hydrogen production efficiency of SiH monolayer. Materials Advances, 2022, 3, 4629-4640.	2.6	8
51	Theoretical study of the gas-phase decomposition of Pb[(C₆H₅)₂PSSe]₂ single-source precursor for the chemical vapour deposition of binary and ternary lead chalcogenides. Canadian Journal of Chemistry, 2015, 93, 317-325.	0.6	7
52	Theoretical studies of the decomposition of Zn[(iPr)2PSSe]2 single-source precursor in the gas phase for the chemical vapor deposition of binary and ternary zinc chalcogenides. Computational and Theoretical Chemistry, 2015, 1058, 1-11.	1.1	7
53	Quality of leachate from the Oti Landfill Site and its effects on groundwater: a case history. Environmental Earth Sciences, 2018, 77, 1.	1.3	7
54	Thermal decomposition of Zn[(C6H5)2PSSe]2 single-source precursor for the chemical vapour deposition of binary and ternary zinc chalcogenides: a theoretical study. SpringerPlus, 2015, 4, 266.	1.2	6

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55	Antimicrobial and Phytochemical Properties of Alstonia Boonei Extracts. , 2014, 04, .		6
56	Density functional theory (DFT) study of the gas-phase decomposition of the Cd[(iPr)2PSSe]2 single-source precursor for the CVD of binary and ternary cadmium chalcogenides. Journal of Molecular Modeling, 2014, 20, 2484.	0.8	5
57	High-Throughput 2D Heteroatom Graphene Bioelectronic Nanosculpture: A Combined Experimental and Theoretical Study. ACS Applied Materials & Interfaces, 2019, 11, 11238-11250.	4.0	5
58	Exploring the Optical, Structural and Electronic Properties of a Two-Dimensional GaSe/C2N van der Waals Heterostructure As a Photovoltaic Cell: A Computational Investigation. Journal of Electronic Materials, 2021, 50, 620-628.	1.0	5
59	Electro-catalytic amplified sensor for determination of N-acetylcysteine in the presence of theophylline confirmed by experimental coupled theoretical investigation. Scientific Reports, 2021, 11, 1006.	1.6	4
60	Quantum mechanical study of the kinetics, mechanisms and thermodynamics of the gas-phase decomposition of Pb[(iPr)2PSSe]2 single-source precursor. Journal of Organometallic Chemistry, 2015, 787, 33-43.	0.8	3
61	Composite 2D Nanointerfaces for Electrochemical Biosensing: An Experimental and Theoretical Study. ACS Applied Bio Materials, 2020, 3, 8676-8687.	2.3	3
62	Nanotechnology for Water and Wastewater Treatment Using Graphene Semiconductor Composite Materials. Environmental Chemistry for A Sustainable World, 2020, , 1-34.	0.3	3
63	A comprehensive understanding of the chemical vapour deposition of cadmium chalcogenides using Cd[(C6H5)2PSSe]2 single-source precursor: a density functional theory approach. Chemistry Central Journal, 2016, 10, 4.	2.6	2
64	Computational screening of vdWs heterostructures of BSe with MoSe2 and WSe2 as sustainable hydrogen production materials. Current Applied Physics, 2020, , .	1.1	1
65	Prospective of functionalized nanomaterials in environmental science: A nanotechnological approach. , 2021, , 13-60.		1
66	Mercury in Different Tissues of Grey Herons (Ardea cinerea) from the Volta Lake, Ghana. Journal of Marine Science: Research & Development, 2015, 06, .	0.4	0
67	SF6 decomposed gas sensing performance of van der Waals layered cobalt oxyhydroxide: insights from a computational study. Journal of Molecular Modeling, 2021, 27, 158.	0.8	0
68	2 Atomistic insight into the significantly enhanced photovoltaic cells of monolayer GaTe2 via two-dimensional van der Waals heterostructures engineering. , 2021, , 15-32.		0
69	Atomistic insight into the significantly enhanced photovoltaic cells of monolayer GaTe₂ via two-dimensional van der Waals heterostructures engineering. ChemistrySelect, 2022, 7, 629-644.	0.7	0