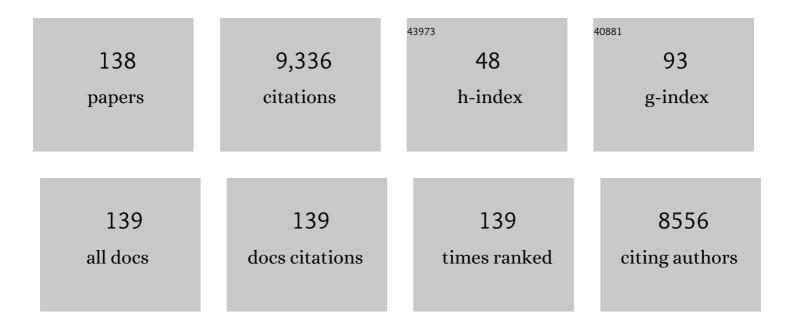
Jean-Philippe Steyer

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Life-Cycle Assessment of Biodiesel Production from Microalgae. Environmental Science & Technology, 2009, 43, 6475-6481.	4.6	1,239
2	Hydrogen production from agricultural waste by dark fermentation: A review. International Journal of Hydrogen Energy, 2010, 35, 10660-10673.	3.8	679
3	Dynamical model development and parameter identification for an anaerobic wastewater treatment process. Biotechnology and Bioengineering, 2001, 75, 424-438.	1.7	485
4	Temperature effect on microalgae: a crucial factor for outdoor production. Reviews in Environmental Science and Biotechnology, 2013, 12, 153-164.	3.9	332
5	Total solids content drives high solid anaerobic digestion via mass transfer limitation. Bioresource Technology, 2012, 111, 55-61.	4.8	320
6	Lignocellulosic Materials Into Biohydrogen and Biomethane: Impact of Structural Features and Pretreatment. Critical Reviews in Environmental Science and Technology, 2013, 43, 260-322.	6.6	318
7	Food waste valorization via anaerobic processes: a review. Reviews in Environmental Science and Biotechnology, 2016, 15, 499-547.	3.9	194
8	Microbial ecology of fermentative hydrogen producing bioprocesses: useful insights for driving the ecosystem function. FEMS Microbiology Reviews, 2017, 41, 158-181.	3.9	194
9	Impact of microalgae characteristics on their conversion to biofuel. Part II: Focus on biomethane production. Biofuels, Bioproducts and Biorefining, 2012, 6, 205-218.	1.9	179
10	Predictive Models of Biohydrogen and Biomethane Production Based on the Compositional and Structural Features of Lignocellulosic Materials. Environmental Science & Technology, 2012, 46, 12217-12225.	4.6	176
11	Inhibition of fermentative hydrogen production by lignocellulose-derived compounds in mixed cultures. International Journal of Hydrogen Energy, 2012, 37, 3150-3159.	3.8	167
12	Nonlinear adaptive control for bioreactors with unknown kinetics. Automatica, 2004, 40, 1379-1385.	3.0	154
13	Nutritional stress induces exchange of cell material and energetic coupling between bacterial species. Nature Communications, 2015, 6, 6283.	5.8	136
14	Biodiesel from microalgae – Life cycle assessment and recommendations for potential improvements. Renewable Energy, 2014, 71, 525-533.	4.3	129
15	Integrating microalgae production with anaerobic digestion: a biorefinery approach. Biofuels, Bioproducts and Biorefining, 2014, 8, 516-529.	1.9	129
16	Total solids content: a key parameter of metabolic pathways in dry anaerobic digestion. Biotechnology for Biofuels, 2013, 6, 164.	6.2	128
17	Coupling dark fermentation and microbial electrolysis to enhance bio-hydrogen production from agro-industrial wastewaters and by-products in a bio-refinery framework. International Journal of Hydrogen Energy, 2017, 42, 1609-1621.	3.8	124
18	Enhancement of methane production from sunflower oil cakes by dilute acid pretreatment. Applied Energy, 2013, 102, 1105-1113.	5.1	121

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19	Instrumentation and control of anaerobic digestion processes: a review and some research challenges. Reviews in Environmental Science and Biotechnology, 2015, 14, 615-648.	3.9	118
20	Biological pretreatments of biomass for improving biogas production: an overview from lab scale to full-scale. Renewable and Sustainable Energy Reviews, 2018, 90, 583-604.	8.2	108
21	Life cycle assessment of biomethane from offshoreâ€cultivated seaweed. Biofuels, Bioproducts and Biorefining, 2012, 6, 387-404.	1.9	91
22	Advanced control of anaerobic digestion processes through disturbances monitoring. Water Research, 1999, 33, 2059-2068.	5.3	89
23	Dry anaerobic digestion of food waste and cardboard at different substrate loads, solid contents and co-digestion proportions. Bioresource Technology, 2017, 233, 166-175.	4.8	87
24	Life cycle assessment of hydrogen production from biogas reforming. International Journal of Hydrogen Energy, 2016, 41, 6064-6075.	3.8	85
25	Effect of enzyme addition on fermentative hydrogen production from wheat straw. International Journal of Hydrogen Energy, 2012, 37, 10639-10647.	3.8	82
26	A new dynamic model for bioavailability and cometabolism ofÂmicropollutants during anaerobic digestion. Water Research, 2011, 45, 4511-4521.	5.3	81
27	A vision of European biogas sector development towards 2030: Trends and challenges. Journal of Cleaner Production, 2021, 287, 125065.	4.6	81
28	Prediction of anaerobic biodegradability and bioaccessibility of municipal sludge by coupling sequential extractions with fluorescence spectroscopy: Towards ADM1 variables characterization. Water Research, 2014, 50, 359-372.	5.3	80
29	Sub-dominant bacteria as keystone species in microbial communities producing bio-hydrogen. International Journal of Hydrogen Energy, 2013, 38, 4975-4985.	3.8	79
30	Recommendations for Life Cycle Assessment of algal fuels. Applied Energy, 2015, 154, 1089-1102.	5.1	78
31	Modified ADM1 disintegration/hydrolysis structures for modeling batch thermophilic anaerobic digestion of thermally pretreated waste activated sludge. Water Research, 2009, 43, 3479-3492.	5.3	77
32	GISCOD: General Integrated Solid Waste Co-Digestion model. Water Research, 2009, 43, 2717-2727.	5.3	74
33	A statistical comparison of protein and carbohydrate characterisation methodology applied on sewage sludge samples. Water Research, 2013, 47, 1751-1762.	5.3	71
34	Predictive and explicative models of fermentative hydrogen production from solid organic waste: Role of butyrate and lactate pathways. International Journal of Hydrogen Energy, 2014, 39, 7476-7485.	3.8	71
35	New mechanistic model to simulate microalgae growth. Algal Research, 2015, 12, 350-358.	2.4	69
36	Modeling microbial diversity in anaerobic digestion through an extended ADM1 model. Water Research, 2009, 43, 2787-2800.	5.3	68

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37	Specific inhibition of biohydrogen-producing Clostridium sp. after dilute-acid pretreatment ofÂsunflower stalks. International Journal of Hydrogen Energy, 2013, 38, 12273-12282.	3.8	68
38	Microalgae production in wastewater treatment systems, anaerobic digestion and modelling using ADM1. Algal Research, 2015, 10, 55-63.	2.4	67
39	Towards a generalized physicochemical framework. Water Science and Technology, 2012, 66, 1147-1161.	1.2	65
40	DRUM: A New Framework for Metabolic Modeling under Non-Balanced Growth. Application to the Carbon Metabolism of Unicellular Microalgae. PLoS ONE, 2014, 9, e104499.	1.1	59
41	The reuse of reclaimed water for irrigation around the Mediterranean Rim: a step towards a more virtuous cycle?. Regional Environmental Change, 2018, 18, 693-705.	1.4	58
42	Screening Escherichia coli, Enterococcus faecalis, and Clostridium perfringens as Indicator Organisms in Evaluating Pathogen-Reducing Capacity in Biogas Plants. Microbial Ecology, 2009, 58, 221-230.	1.4	57
43	Microalgae and cyanobacteria modeling in water resource recovery facilities: A critical review. Water Research X, 2019, 2, 100024.	2.8	57
44	A state of the art of metabolic networks of unicellular microalgae and cyanobacteria for biofuel production. Metabolic Engineering, 2015, 30, 49-60.	3.6	56
45	A new organic matter fractionation methodology for organic wastes: Bioaccessibility and complexity characterization for treatment optimization. Bioresource Technology, 2015, 194, 344-353.	4.8	55
46	ALBA: A comprehensive growth model to optimize algae-bacteria wastewater treatment in raceway ponds. Water Research, 2021, 190, 116734.	5.3	53
47	Data-driven techniques for fault detection in anaerobic digestion process. Chemical Engineering Research and Design, 2021, 146, 905-915.	2.7	53
48	Effects of grinding processes on anaerobic digestion of wheat straw. Industrial Crops and Products, 2015, 74, 450-456.	2.5	52
49	Kinetic modelling of anaerobic hydrolysis of solid wastes, including disintegration processes. Waste Management, 2015, 35, 96-104.	3.7	52
50	A fuzzy logic based diagnosis system for the on-line supervision of an anaerobic digestor pilot-plant. Biochemical Engineering Journal, 1999, 3, 171-183.	1.8	47
51	Solid-phase fluorescence spectroscopy to characterize organic wastes. Waste Management, 2011, 31, 1916-1923.	3.7	45
52	Mathematical modeling of unicellular microalgae and cyanobacteria metabolism for biofuel production. Current Opinion in Biotechnology, 2015, 33, 198-205.	3.3	45
53	New methods for impact assessment of biotic-resource depletion in life cycle assessment of fisheries: theory and application. Journal of Cleaner Production, 2014, 73, 63-71.	4.6	44
54	Distribution of Polycyclic Aromatic Hydrocarbons (PAHs) in sludge organic matter pools as a driving force of their fate during anaerobic digestion. Waste Management, 2016, 48, 389-396.	3.7	44

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55	Changes in hydrogenase genetic diversity and proteomic patterns in mixed-culture dark fermentation of mono-, di- and tri-saccharides. International Journal of Hydrogen Energy, 2011, 36, 11654-11665.	3.8	41
56	Comprehensive modeling of methanogenic biofilms in fluidized bed systems: Mass transfer limitations and multisubstrate aspects. Biotechnology and Bioengineering, 1995, 48, 725-736.	1.7	40
57	Two-Stage Alkaline–Enzymatic Pretreatments To Enhance Biohydrogen Production from Sunflower Stalks. Environmental Science & Technology, 2013, 47, 12591-12599.	4.6	40
58	Kinetic study of dry anaerobic co-digestion of food waste and cardboard for methane production. Waste Management, 2017, 69, 470-479.	3.7	40
59	Importance of ecological interactions during wastewater treatment using High Rate Algal Ponds under different temperate climates. Algal Research, 2019, 40, 101508.	2.4	40
60	A pseudo-stoichiometric dynamic model of anaerobic hydrogen production from molasses. Water Research, 2008, 42, 2539-2550.	5.3	39
61	Methanosarcina plays a main role during methanogenesis of high-solids food waste and cardboard. Waste Management, 2018, 76, 423-430.	3.7	38
62	High-solids anaerobic digestion model for homogenized reactors. Water Research, 2018, 142, 501-511.	5.3	38
63	Experimental determination by principal component analysis of a reaction pathway of biohydrogen production by anaerobic fermentation. Chemical Engineering and Processing: Process Intensification, 2008, 47, 1968-1975.	1.8	37
64	Robust Control of Volatile Fatty Acids in Anaerobic Digestion Processes. Industrial & Engineering Chemistry Research, 2008, 47, 7715-7720.	1.8	36
65	Optimal control of hydrogen production in a continuous anaerobic fermentation bioreactor. International Journal of Hydrogen Energy, 2010, 35, 10710-10718.	3.8	36
66	Combining chemical sequential extractions with 3D fluorescence spectroscopy to characterize sludge organic matter. Waste Management, 2014, 34, 2572-2580.	3.7	36
67	Microalgae-bacteria consortia in high-rate ponds for treating urban wastewater: Elucidating the key state indicators under dynamic conditions. Journal of Environmental Management, 2020, 261, 110244.	3.8	35
68	Threeâ€reaction model for the anaerobic digestion of microalgae. Biotechnology and Bioengineering, 2012, 109, 415-425.	1.7	34
69	Functional versus phylogenetic fingerprint analyses for monitoring hydrogen-producing bacterial populations in dark fermentation cultures. International Journal of Hydrogen Energy, 2011, 36, 3870-3879.	3.8	32
70	Methane production and fertilizing value of organic waste: Organic matter characterization for a better prediction of valorization pathways. Bioresource Technology, 2017, 241, 1012-1021.	4.8	32
71	On-line diagnosis and uncertainty management using evidence theory––experimental illustration to anaerobic digestion processes. Journal of Process Control, 2004, 14, 747-763.	1.7	30
72	Competition between planktonic and fixed microorganisms during the start-up of methanogenic biofilm reactors. Water Research, 2008, 42, 792-800.	5.3	30

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73	Development and application of a functional CE-SSCP fingerprinting method based on [Fe–Fe]-hydrogenase genes for monitoring hydrogen-producing Clostridium in mixed cultures. International Journal of Hydrogen Energy, 2010, 35, 13158-13167.	3.8	30
74	Development of membrane inlet mass spectrometry for examination of fermentation processes. Talanta, 2010, 83, 482-492.	2.9	30
75	Robust Data-Driven Soft Sensors for Online Monitoring of Volatile Fatty Acids in Anaerobic Digestion Processes. Processes, 2020, 8, 67.	1.3	30
76	Impact of microalgae characteristics on their conversion to biofuel. Part I: Focus on cultivation and biofuel production. Biofuels, Bioproducts and Biorefining, 2012, 6, 105-113.	1.9	29
77	Online estimation of VFA, alkalinity and bicarbonate concentrations by electrical conductivity measurement during anaerobic fermentation. Water Science and Technology, 2012, 65, 1281-1289.	1.2	28
78	Representativeness of environmental impact assessment methods regarding Life Cycle Inventories. Science of the Total Environment, 2018, 621, 1264-1271.	3.9	28
79	Performance of a membrane-coupled high-rate algal pond for urban wastewater treatment at demonstration scale. Bioresource Technology, 2020, 301, 122672.	4.8	28
80	Monitoring and control of the biogas process based on propionate concentration using online VFA measurement. Water Science and Technology, 2008, 57, 661-666.	1.2	27
81	Pattern analysis techniques to process fermentation curves: Application to discrimination of enological alcoholic fermentations. Biotechnology and Bioengineering, 2002, 79, 804-815.	1.7	26
82	How to take time into account in the inventory step: a selective introduction based on sensitivity analysis. International Journal of Life Cycle Assessment, 2014, 19, 320-330.	2.2	26
83	Circular Economy Applied to Organic Residues and Wastewater: Research Challenges. Waste and Biomass Valorization, 2022, 13, 1267-1276.	1.8	26
84	Nonparametric identification and adaptive control of an anaerobic fluidized bed digester. Control Engineering Practice, 2000, 8, 367-376.	3.2	25
85	Integrated Fault Detection and Isolation: Application to a Winery's Wastewater Treatment Plant. Applied Intelligence, 2000, 13, 59-76.	3.3	25
86	Application of optimized alkaline pretreatment for enhancing the anaerobic digestion of different sunflower stalks varieties. Environmental Technology (United Kingdom), 2013, 34, 2155-2162.	1.2	25
87	Fast characterization of solid organic waste content with near infrared spectroscopy in anaerobic digestion. Waste Management, 2017, 59, 140-148.	3.7	25
88	Coupling algal biomass production and anaerobic digestion: Production assessment of some native temperate and tropical microalgae. Biomass and Bioenergy, 2014, 70, 564-569.	2.9	23
89	Reversibility of hydrolysis inhibition at high hydrogen partial pressure in dry anaerobic digestion processes fed with wheat straw and inoculated with anaerobic granular sludge. Waste Management, 2019, 85, 498-505.	3.7	23
90	On the derivation of a simple dynamic model of anaerobic digestion including the evolution of hydrogen. Water Research, 2018, 134, 209-225.	5.3	22

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91	Optimization of WWTP control by means of multi-objective genetic algorithms and sensitivity analysis. Computer Aided Chemical Engineering, 2008, 25, 539-544.	0.3	21
92	Overview of the Oldest Existing Set of Substrate-optimized Anaerobic Processes: Digestive Tracts. Bioenergy Research, 2013, 6, 1063-1081.	2.2	21
93	Persistence and Potential Viable but Non-culturable State of Pathogenic Bacteria during Storage of Digestates from Agricultural Biogas Plants. Frontiers in Microbiology, 2016, 07, 1469.	1.5	21
94	Bioflocculation and settling studies of native wastewater filamentous cyanobacteria using different cultivation systems for a low-cost and easy to control harvesting process. Journal of Environmental Management, 2020, 256, 109957.	3.8	21
95	Sea-use impact category in life cycle assessment: state of the art and perspectives. International Journal of Life Cycle Assessment, 2014, 19, 994-1006.	2.2	19
96	Robust assessment of both biochemical methane potential and degradation kinetics of solid residues in successive batches. Waste Management, 2017, 70, 59-70.	3.7	19
97	Comparative assessment of evaporation models in algal ponds. Algal Research, 2018, 35, 283-291.	2.4	18
98	A tool to guide the selection of impact categories for LCA studies by using the representativeness index. Science of the Total Environment, 2019, 658, 768-776.	3.9	18
99	Impact of the microbial inoculum source on pre-treatment efficiency for fermentative H2 production from glycerol. International Journal of Hydrogen Energy, 2020, 45, 1597-1607.	3.8	18
100	Similar PAH Fate in Anaerobic Digesters Inoculated with Three Microbial Communities Accumulating Either Volatile Fatty Acids or Methane. PLoS ONE, 2015, 10, e0125552.	1.1	18
101	Anaerobic Biodegradation of Cellulose–Xylan–Lignin Nanocomposites as Model Assemblies of Lignocellulosic Biomass. Waste and Biomass Valorization, 2014, 5, 293-304.	1.8	17
102	Sea use impact category in life cycle assessment: characterization factors for life support functions. International Journal of Life Cycle Assessment, 2015, 20, 970-981.	2.2	16
103	Assessment of fungal and thermo-alkaline post-treatments of solid digestate in a recirculation scheme to increase flexibility in feedstocks supply management of biogas plants. Renewable Energy, 2020, 149, 641-651.	4.3	15
104	Fast ADM1 implementation for the optimization of feeding strategy using near infrared spectroscopy. Water Research, 2017, 122, 27-35.	5.3	14
105	Insights into bioflocculation of filamentous cyanobacteria, microalgae and their mixture for a low-cost biomass harvesting system. Environmental Research, 2021, 199, 111359.	3.7	14
106	Using timed automata and model-checking to simulate material flow in agricultural production systems—Application to animal waste management. Computers and Electronics in Agriculture, 2008, 63, 183-192.	3.7	13
107	Modelling hydrolysis: Simultaneous versus sequential biodegradation of the hydrolysable fractions. Waste Management, 2020, 101, 150-160.	3.7	13
108	Impact of xylan structure and lignin–xylan association on methane production from C5-sugars. Biomass and Bioenergy, 2014, 63, 33-45.	2.9	12

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109	Improvement of biohydrogen production from glycerol in micro-oxidative environment. International Journal of Hydrogen Energy, 2019, 44, 17802-17812.	3.8	12
110	Mitigating the variability of hydrogen production in mixed culture through bioaugmentation with exogenous pure strains. International Journal of Hydrogen Energy, 2020, 45, 2617-2626.	3.8	12
111	Fault detection and diagnosis in water resource recovery facilities using incremental PCA. Water Science and Technology, 2020, 82, 2711-2724.	1.2	12
112	Data-driven fault detection methods for detecting small-magnitude faults in anaerobic digestion process. Water Science and Technology, 2020, 81, 1740-1748.	1.2	12
113	Recirculation of solid digestate to enhance energy efficiency of biogas plants: Strategies, conditions and impacts. Energy Conversion and Management, 2021, 231, 113759.	4.4	12
114	Relating Near-Infrared Light Path-Length Modifications to the Water Content of Scattering Media in Near-Infrared Spectroscopy: Toward a New Bouguer–Beer–Lambert Law. Analytical Chemistry, 2021, 93, 6817-6823.	3.2	12
115	A tunable multivariable nonlinear robust observer for biological systems. Comptes Rendus - Biologies, 2005, 328, 317-325.	0.1	11
116	Data mining to support anaerobic WWTP monitoring. Control Engineering Practice, 2007, 15, 987-999.	3.2	11
117	Bioaerosol emissions from open microalgal processes and their potential environmental impacts: what can be learned from natural and anthropogenic aquatic environments?. Current Opinion in Biotechnology, 2015, 33, 279-286.	3.3	11
118	Ultrasonication affects the bio-accessibility of primary dairy cow manure digestate for secondary post-digestion. Fuel, 2021, 291, 120140.	3.4	10
119	Needles of Pinus halepensis as Biomonitors of Bioaerosol Emissions. PLoS ONE, 2014, 9, e112182.	1.1	9
120	Physical assessments of termites (Termitidae) under 2.45 GHz microwave irradiation. Scientific Reports, 2020, 10, 5197.	1.6	9
121	Unveiling non-linear water effects in near infrared spectroscopy: A study on organic wastes during drying using chemometrics. Waste Management, 2021, 122, 36-48.	3.7	9
122	Fast at-line characterization of solid organic waste: Comparing analytical performance of different compact near infrared spectroscopic systems with different measurement configurations. Waste Management, 2021, 126, 664-673.	3.7	9
123	Assessing practical identifiability during calibration and cross-validation of a structured model for high-solids anaerobic digestion. Water Research, 2019, 164, 114932.	5.3	8
124	Instrumentation for synchrotron-radiation macromolecular crystallography. Acta Crystallographica Section D: Biological Crystallography, 2006, 62, 12-18.	2.5	7
125	Influence of process dynamics on the microbial diversity in a nitrifying biofilm reactor: Correlation analysis and simulation study. Biotechnology and Bioengineering, 2016, 113, 1962-1974.	1.7	7
126	Nearâ€Infrared Spectrum Analysis to Determine Relationships between Biochemical Composition and Anaerobic Digestion Performances. Chemical Engineering and Technology, 2018, 41, 727-738.	0.9	7

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127	Modelling non-ideal bio-physical-chemical effects on high-solids anaerobic digestion of the organic fraction of municipal solid waste. Journal of Environmental Management, 2019, 238, 408-419.	3.8	7
128	Selecting the Most Relevant Variables for Anaerobic Digestion Imbalances: Two Case Studies. Water Environment Research, 2010, 82, 492-498.	1.3	6
129	Making water smart. Water Science and Technology, 2020, 82, v-vii.	1.2	5
130	Multivariable Robust Regulation of Alkalinities in Continuous Anaerobic Digestion Processes: Experimental Validation. Processes, 2021, 9, 1153.	1.3	4
131	Impact of 2.45 GHz Microwave Irradiation on the Fruit Fly, Drosophila melanogaster. Insects, 2020, 11, 598.	1.0	3
132	Agronomic characterization of anaerobic digestates with near-infrared spectroscopy. Journal of Environmental Management, 2022, 317, 115393.	3.8	3
133	Reply to the Comment on "Mathematical modeling of unicellular microalgae and cyanobacteria metabolism for biofuel production―by Baroukh et al. [Curr. Opin. Biotechnol. 2015, 33:198–205]. Current Opinion in Biotechnology, 2016, 38, 200-202.	3.3	2
134	Screening and Application of Ligninolytic Microbial Consortia to Enhance Aerobic Degradation of Solid Digestate. Microorganisms, 2022, 10, 277.	1.6	2
135	ADD CONTROL: advanced control solutions for waste water treatment. Reviews in Environmental Science and Biotechnology, 2011, 10, 3-7.	3.9	1
136	Improvements in the Robustness of Mid-Infrared Spectroscopy Models against Chemical Interferences: Application to Monitoring of Anaerobic Digestion Processes. AppliedChem, 2022, 2, 117-127.	0.2	1
137	Towards a Generalized Physicochemical Framework: WWTmod Workshop Position Paper. Proceedings of the Water Environment Federation, 2010, 2010, 1054-1071.	0.0	0
138	On-site substrate characterization in the anaerobic digestion context: A dataset of near infrared spectra acquired with four different optical systems on freeze-dried and ground organic waste. Data in Brief, 2021, 36, 107126.	0.5	0