Table S1 The results of the analysis of countries' contributions using CiteSpace

Freq	Burst	BurstBegin	BurstEnd	Degree	Centrality	Sigma	Label	Author	Year
345	0			19	0.69	1	People's R China	People's R China	2013
51	0			11	0.17	1	USA	USA	2013
29	0			12	0.23	1	South Korea	South Korea	2013
29	0			7	0.02	1	India	India	2013
27	0			5	0.10	1	Iran	Iran	2016
16	0			4	0.04	1	Brazil	Brazil	2013
14	0			5	0.08	1	Egypt	Egypt	2017
13	2.54	2018	2019	7	0.10	1.27	Spain	Spain	2013
11	0			8	0.16	1	Taiwan	Taiwan	2017
11	0			3	0.01	1	Canada	Canada	2014
8	0			5	0.02	1	Australia	Australia	2013
8	0			2	0	1	Mexico	Mexico	2015
7	2.93	2018	2019	8	0.09	1.28	France	France	2018
7	0			8	0.19	1	Italy	Italy	2015
7	2.59	2016	2018	6	0.21	1.63	England	England	2016
7	0			5	0.02	1	Saudi Arabia	Saudi Arabia	2015
7	2.84	2014	2017	2	0	1	Singapore	Singapore	2014
6	0			4	0	1	Japan	Japan	2015
5	0			8	0.03	1	U Arab Emirates	U Arab Emirates	2020
4	0			4	0.08	1	Russia	Russia	2013
3	0			2	0	1	Serbia	Serbia	2019
3	0			2	0	1	Pakistan	Pakistan	2022
2	0			3	0	1	Netherlands	Netherlands	2018
2	0			2	0	1	Greece	Greece	2020
2	0			2	0.08	1	Tunisia	Tunisia	2023
2	0			1	0	1	Poland	Poland	2021
2	0			1	0	1	Denmark	Denmark	2020
2	0			0	0	1	Morocco	Morocco	2023
1	0			3	0	1	Lebanon	Lebanon	2023
1	0			3	0	1	Algeria	Algeria	2023
1	0			2	0	1	Philippines	Philippines	2019
1	0			2	0	1	Malaysia	Malaysia	2018
1	0			2	0	1	Chile	Chile	2016
1	0			2	0	1	Iraq	Iraq	2018
1	0			1	0	1	South Africa	South Africa	2023
1	0			1	0	1	Germany	Germany	2013
1	0			1	0	1	Indonesia	Indonesia	2023
1	0			1	0	1	Turkiye	Turkiye	2023
1	0			0	0	1	Turkey	Turkey	2019
1	0			0	0	1	Vietnam	Vietnam	2019
1	0			0	0	1	Slovenia	Slovenia	2019
1	0			0	0	1	Ethiopia	Ethiopia	2023
1	0			0	0	1	Lithuania	Lithuania	2013

Table S2 The results of the analysis of countries' contributions using VOSviewer

Id	Country	Documents	%Document	Citations	Citation per document	GDP	Total link strength
32	People's R China	345	55.12	10037	29.09		56
53	USA	52	8.31	2050	39.42		39
44	South Korea	29	4.63	426	14.69		20
16	India	29	4.63	1378	47.52		8
18	Iran	27	4.31	550	20.37		4
3	Brazil	16	2.56	451	28.19		7
45	Spain	14	2.24	415	29.64		7
9	Egypt	14	2.24	189	13.50		11
48	Taiwan	12	1.92	397	33.08		9
5	Canada	12	1.92	275	22.92		5
2	Australia	10	1.60	367	36.70		13
39	Saudi Arabia	9	1.44	220	24.44		9
10	England	9	1.44	356	39.56		10
27	Mexico	8	1.28	83	10.38		4
22	Italy	8	1.28	279	34.88		6
12	France	8	1.28	442	55.25		8
41	Singapore	7	1.12	529	75.57		4
52	U Arab Emirates	6	0.96	138	23.00		10
23	Japan	6	0.96	47	7.83		4
40	Serbia	5	0.80	31	6.20		2
		626					

Table S3 The results from analyzing the contributions of institutions using CiteSpace

Freq	Burst	BurstBegin	BurstEnd	Degree	Centrality	Sigma	Label
22	0			12	0.12	1	Chinese Academy of Sciences
13	3.52	2019	2020	3	0	1.01	Tianjin University
9	0			6	0.09	1	Egyptian Knowledge Bank (EKB)
8	0			4	0.05	1	Zhejiang University
8	0			2	0	1	Harbin Institute of Technology
8	0			2	0	1	Nankai University
7	0			2	0.02	1	Xi'an University of Architecture & Technology
7	0			2	0	1	Tiangong University
6	0			2	0	1	Xi'an Jiaotong University
5	0			2	0	1	Centre National de la Recherche Scientifique (CNRS)
5	0			1	0	1	Hunan University
5	0			1	0	1	Beijing University of Technology
5	0			1	0	1	Beijing University of Chemical Technology
5	0			0	0	1	Indian Institute of Technology System (IIT System)
5	0			0	0	1	Yangzhou University
4	0			3	0.03	1	Nanjing University
4	0			7	0.02	1	University of Chinese Academy of Sciences
4	0			1	0	1	China University of Mining & Technology
4	0			1	0	1	Zhejiang University of Technology
4	0			1	0	1	Jilin Normal University
3	0			2	0	1	Ecole nationale superieure de chimie de Montpellier
3	0			2	0	1	Universite de Montpellier
3	0			2	0	1	Peking University
3	0			1	0	1	Sichuan University
3	0			0	0	1	University of Barcelona
3	0			0	0	1	Amirkabir University of Technology
3	0			0	0	1	Guangxi University
3	0			0	0	1	Dalian University of Technology
2	0			3	0	1	Kunming University of Science & Technology
2	0			3	0	1	Fujian Institute of Research on the Structure of Matter
2	0			3	0	1	Research Center for Eco-Environmental Sciences (RCEES)
2	0			3	0	1	Institute of Process Engineering
2	0			3	0	1	Tsinghua University
2	0			2	0	1	University of Puerto Rico Rio Piedras
2	0			2	0	1	University of Sharjah
2	0			2	0	1	Minia University
2	0			2	0	1	Fudan University
2	0			2	0	1	Shaanxi University of Science & Technology
2	0			2	0	1	University of Puerto Rico
2	0			2	0	1	University of Puerto Rico Medical Sciences Campus
2	0			2	0	1	East China Jiaotong University

2	0	1	0	1	Jadavpur University
2	0	1	0	1	Indian Institute of Engineering Science Technology Shibpur (IIEST)
2	0	1	0	1	University of Quebec
2	0	1	0	1	University of Science & Technology of China
2	0	1	0	1	POWERCHINA Huadong Engineering Corporation Limited
2	0	1	0	1	Shandong Normal University
2	0	1	0	1	Chongqing University
2	0	1	0	1	Institut national de la recherche scientifique (INRS)
2	0	1	0	1	Dongguan University of Technology
2	0	0	0	1	Harvard University
2	0	0	0	1	Seoul National University (SNU)
2	0	0	0	1	Kongju National University
2	0	0	0	1	Anhui Normal University
2	0	0	0	1	China University of Geosciences
2	0	0	0	1	Beijing Normal University
2	0	0	0	1	Donghua University
2	0	0	0	1	Nanjing University of Science & Technology
2	0	0	0	1	Southwest University of Science & Technology - China
2	0	0	0	1	Tongji University
2	0	0	0	1	Shanghai University
2	0	0	0	1	Dalian Maritime University
2	0	0	0	1	Universidade de Sao Paulo
2	0	0	0	1	Jiaxing University
2	0	0	0	1	Shenzhen University
2	0	0	0	1	King Saud University

Table S4 Co-authorship and citations of authors in the field nanostructured electrooxidative technology

Id	Author	Documents	Citations	Total link strength	Average citation per document
2027	Xu, Li	9	358	43	39.78
191	Chang, Limin	9	337	71	37.44
383	Duan, Xiaoyue	9	337	71	37.44
2069	Yan, Wei	8	306	35	38.25
1817	Wang, Hong	8	203	27	25.38
902	Li, Jianxin	8	92	17	11.50
2437	Zhu, Kai	7	364	52	52.00
1592	Sires, Ignasi	7	298	7	42.57
637	Hu, Xiang	7	135	32	19.29
1679	Sun, Zhirong	7	124	36	17.71
167	Cao, Dianxue	6	559	68	93.17
2138	Ye, Ke	6	559	68	93.17
423	Fang, Wenyan	6	247	69	41.17
1803	Wang, Fengwu	6	247	69	41.17
2028	Xu, Mai	6	247	69	41.17
2431	Zhu, Chuangao	6	247	69	41.17
154	Brillas, Enric	6	240	5	40.00
2021	Xu, Hao	6	125	28	20.83
266	Cheng, Kui	5	412	51	82.40
1810	Wang, Guiling	5	412	51	82.40
1242	Meng, Xiaoyang	5	314	35	62.80
1688	Tang, Bo	5	308	19	61.60
1995	Xie, Junfeng	5	308	19	61.60
575	Han, Weiqing	5	241	28	48.20
2408	Zhou, Minghua	5	240	23	48.00
1091	Liu, Yanbiao	5	223	9	44.60
1078	Liu, Wei	5	202	47	40.40
240	Chen, Wei	5	184	41	36.80
1148	Luo, Lin	5	181	59	36.20
1415	Qian, Guangfu	5	181	59	36.20
2154	Yin, Shibin	5	181	59	36.20
1216	Martinez-Huitle, Carlos A.	5	172	2	34.40
1978	Xia, Yijing	5	159	39	31.80
228	Chen, Min	5	105	22	21.00
1245	Mengelizadeh, Nezamaddin	5	97	2	19.40
380	Duan, Pingzhou	5	85	30	17.00
268	Cheng, Shaoan	5	67	15	13.40

Table S5 Keyword network summary table

Freq	Burst	BurstBegin	BurstEnd	Degree	Centrality	Sigma	PageRank	Label
182	0			41	0.03	1	0	electrochemical oxidation
138	0			56	0.10	1	0	degradation
121	0			64	0.11	1	0	electrooxidation
120	0			55	0.10	1	0	oxidation
114	0			40	0.06	1	0	removal
105	0			45	0.06	1	0	waste water
94	0			40	0.04	1	0	performance
82	6.23	2013	2018	30	0.02	1.13	0	waste water treatment
80	0			43	0.07	1	0	nanoparticles
71	0			49	0.08	1	0	organic pollutants
58	0			62	0.09	1	0	electrochemical degradation
55	0			42	0.05	1	0	anode
54	0			48	0.08	1	0	electrocatalytic oxidation
49	0			37	0.03	1	0	advanced oxidation processes
46	0			31	0.03	1	0	mechanism
45	0			32	0.02	1	0	catalysts
43	0			53	0.07	1	0	waste-water
40	0			36	0.04	1	0	electrode
40	2.91	2014	2017	31	0.03	1.08	0	electrodes
39	5.57	2015	2018	51	0.05	1.32	0	anodic oxidation
39	5.17	2014	2016	48	0.05	1.3	0	carbon nanotube
37	0			39	0.04	1	0	fabrication
36	0			43	0.06	1	0	carbon nanotubes
35	0			34	0.03	1	0	kinetics
34	0			35	0.04	1	0	wastewater treatment
34	0			30	0.03	1	0	water
33	0			41	0.05	1	0	efficient
32	5.68	2013	2017	33	0.03	1.16	0	phenol
30	0			37	0.04	1	0	catalyst
30	0			26	0.03	1	0	reduction
28	2.59	2014	2018	29	0.03	1.09	0	anodic-oxidation
28	0			22	0.02	1	0	generation
27	0			47	0.08	1	0	boron doped diamond
27	0			43	0.06	1	0	acid
27	0			38	0.04	1	0	nanosheets
27	0			33	0.03	1	0	adsorption
27	0			19	0.01	1	0	oxygen evolution
26	0			35	0.06	1	0	aqueous-solution
23	0			31	0.03	1	0	hydrogen production
23	0			31	0.03	1	0	carbon
22	0			37	0.04	1	0	mineralization

22	2.52	2016	2021	26	0.02	1.05	0	oxide
21	0			30	0.03	1	0	hydroxyl radicals
21	2.87	2020	2023	21	0	1.01	0	urea oxidation reaction
20	0			35	0.03	1	0	highly efficient
18	0			33	0.04	1	0	activated carbon
18	0			30	0.02	1	0	pbo2 electrode
18	0			30	0.01	1	0	hydrogen evolution
18	0			16	0	1	0	electrocatalytic degradation
17	0			45	0.05	1	0	evolution
17	0			29	0.02	1	0	electrocatalysts
17	0			29	0.02	1	0	arrays
17	3.05	2019	2021	22	0.01	1.02	0	hydrogen evolution reaction
15	0			14	0	1	0	pollutants
14	0			23	0.01	1	0	dye
14	2.84	2019	2021	17	0.01	1.02	0	hydrogen
12	0			27	0.03	1	0	electrocatalytic activity
12	3.38	2018	2019	21	0.01	1.04	0	graphene
12	0			16	0.01	1	0	advanced oxidation
11	0			23	0.02	1	0	urea electrooxidation
11	0			21	0.02	1	0	nanocomposite
11	2.58	2018	2021	24	0.01	1.02	0	aqueous-solutions
11	2.67	2021	2023	19	0.01	1.03	0	oxygen
11	0			17	0.01	1	0	nickel
11	3.2	2020	2021	16	0.01	1.03	0	ni
10	0			25	0.02	1	0	anodes
10	0			24	0.02	1	0	electrochemical advanced oxidation
10	0			21	0.02	1	0	pharmaceuticals
10	0			23	0.01	1	0	foam

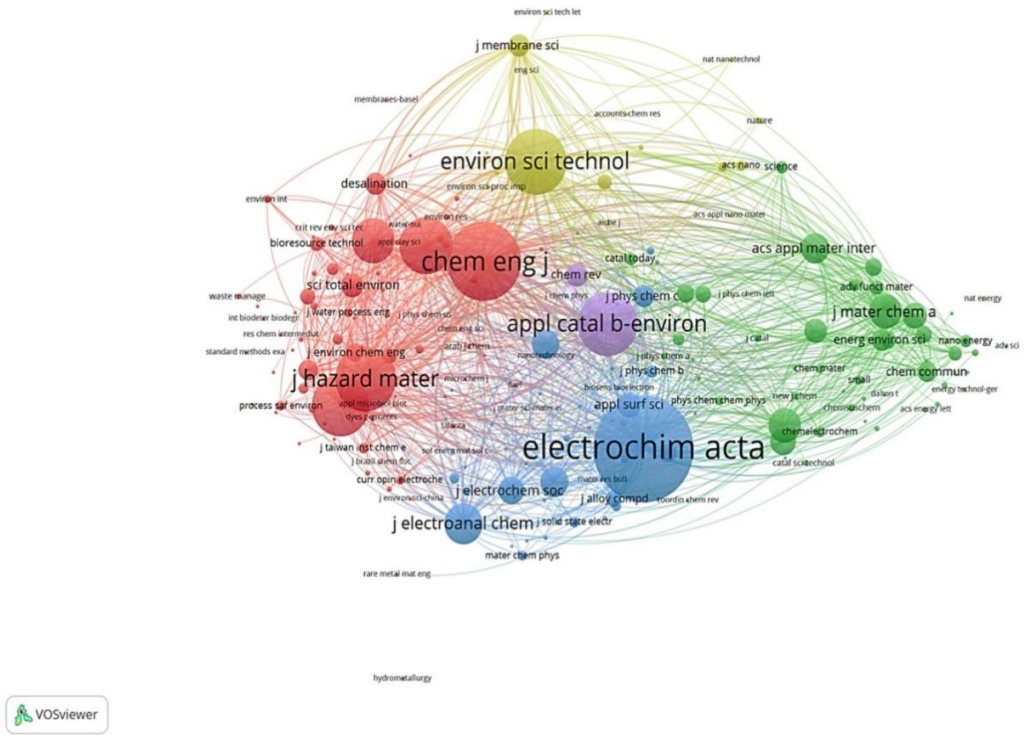

Figure. S1. The journal co-citation network map

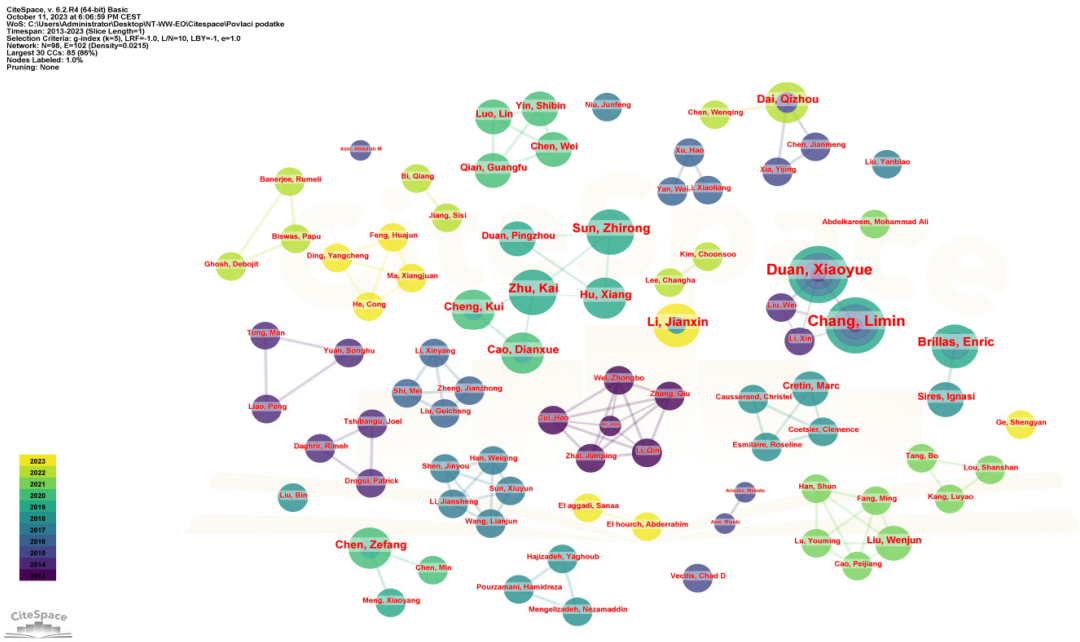

Figure. S2. Co-authorship network map

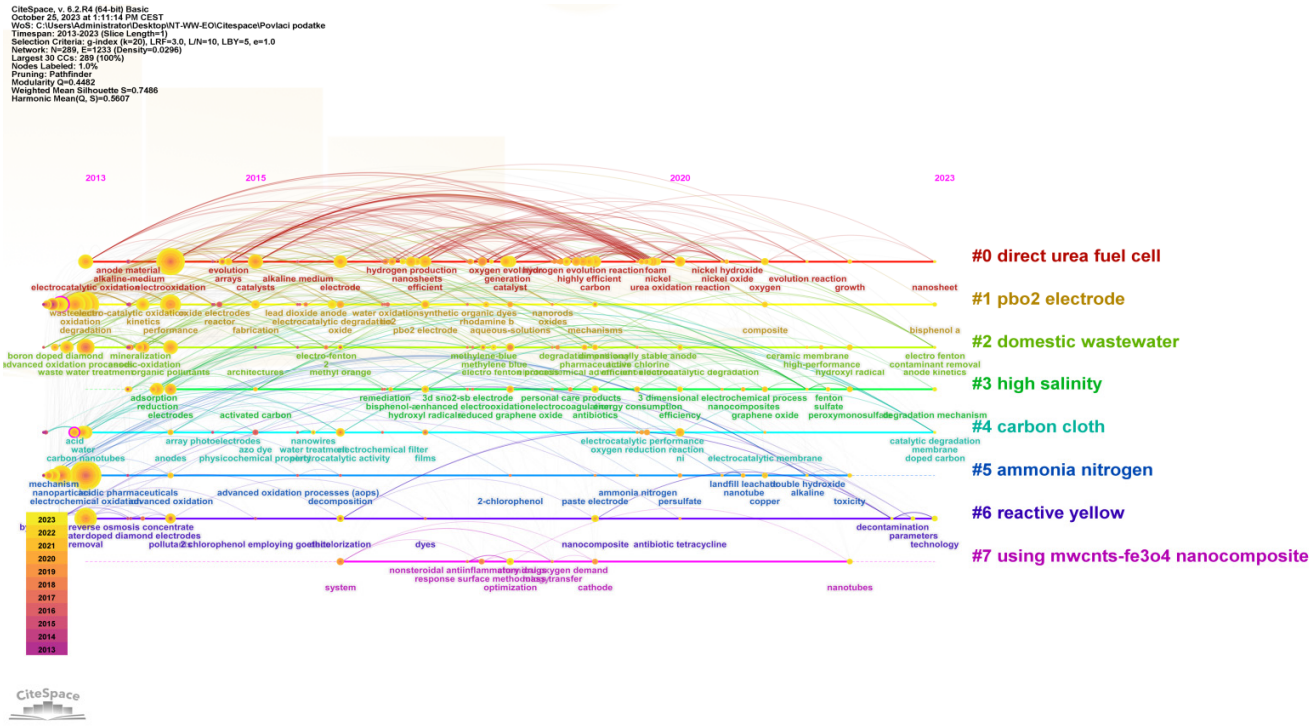

Figure. S3. Timeline map.