

The Rise of Platinum Open Access Journals with Both Impact Factors and Zero Article Processing Charges

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Abstract: It appears that open access (OA) academic publishing is better for science because it provides frictionless access to make significant advancements in knowledge. OA also benefits individual researchers by providing the widest possible audience and concomitant increased citation rates. OA publishing rates are growing fast as increasing numbers of funders demand it and is currently dominated by gold OA (authors pay article processing charges (APCs)). Academics with limited financial resources perceive they must choose between publishing behind pay walls or using research funds for OA publishing. Worse, many new OA journals with low APCs did not have impact factors, which reduces OA selection for tenure track professors. Such unpleasant choices may be dissolving. This article provides analysis with a free and open source python script to collate all journals with impact factors with the now more than 12,000 OA journals that are truly platinum OA (neither the author nor the readers pay for the peer-reviewed work). The results found platinum OA is growing faster than both academic publishing and OA publishing. There are now over 350 platinum OA journals with impact factors over a wide variety of academic disciplines, giving most academics options for OA with no APCs.

Keywords: open access; academic scholarship; data management; knowledge; data management practices; academic publishing; open source software; free software; knowledge mobilization; tenure; open access publishing



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1. Introduction

Academic publishing has been historically dominated by a handful of major publishers (Elsevier, Black & Wiley, Taylor & Francis, Springer Nature and SAGE), using subscription-based business models. Academic authors would provide content (e.g., articles, reviews, comments), peer-review, and often editing for free and then would pay to read typeset articles on an individual basis or part of a subscription often purchased by their institutional libraries. This model has two primary drawbacks. First, scientific progress is slowed by restricting access to copyrighted scientific literature behind paywalls [1,2]. This has divided scientists into those that can pay for access to the literature and those that cannot (often these are academics in the developing world) [3]. Second, the de facto monopolies set up by the handful of publishers of scientific peer-reviewed literature [4], driven by what some [5,6] termed excessive needs for profits [7,8] (e.g., Elsevier earned over 37%) [9], raised prices to the point that even the wealthy well-endowed Harvard University was challenged to pay for all of it [10].

One approach to solve this problem is the open access (OA) movement, which hopes to enable all academic literature to be freely accessible to everyone [11]. First, a handful of tiny OA publishers were derided and grouped together as ‘predatory publishers’ by representatives of the subscription-based academic publishing industry. While predatory publishers continue to try to exploit academics by charging authors publication fees with only a precursory (or no) check for quality [12], there is an unmistakable rise of legitimate OA publishing as it now makes up nearly a third of the peer-reviewed literature [13]. The

trend is clear that in the not-so-distant future [4] the peer-reviewed literature could be universally accessible to everyone [14,15] as many academics are calling for it [16]. The benefits of open access at any scale are well established in the literature and come in two main categories. First, OA publishing is a benefit to all of science as it provides a means of reviewing and accessing to relevant literature [17,18] for making significant advancements in knowledge [19,20]. Thus, OA increases both efficiency and effectiveness of science as a whole [21]. Second, from an individual academic’s point of view OA provides the pragmatic advantage of enabling the widest possible audience of their work by making it freely and easily on the Internet [4]. Most academics have eschewed greater financial wealth they could obtain in industry instead competing for prestige. The prestige is often governed by citations of their work and although contested before there is now no question that OA drives increased citation rates [22–26]. The data has become overwhelming that OA brings academics greater readership and citations, and the ethical case of OA all publicly funded research has become impossible to ignore. Poynder summarizes the academic publishing as whole: “ . . . it is no longer rational, or even necessary, for subscription paywalls to be built between researchers and research.” [27].

Funders have begun to demand OA [28] for these reasons, particularly public funders of science [2,29]. It is hard to argue that if the public funds research, they should have to pay a second time to read it. Simultaneously, over 850 universities and research organizations, have also mandated that researchers share their work open access [28]. This in itself has caused challenges for academics, which believe they are being forced to pay exorbitant author processing fees (APCs) [30] to either OA publishers or hybrid OA publishers (conventional journals that normally publish on the subscription model but charge an APC to make the same article OA). High APC values can be particularly damaging for some disciplines that are less well funded such as the humanities and social sciences (as compared to physical and medical sciences or engineering). Although academics have the green OA model (where they self-archive by uploading preprints or accepted versions of their papers into institutional repositories [31]) this can be complex to navigate because publishers have different rules and it is time consuming. Substantial APCs, reinforce the wealth-gap in academia—where academics are literally paying to publish. Wealthier universities can for example, pay for discounts or fund APCs for OA for their faculty members [32]. Diamond or platinum OA journals, where no APC is paid for OA are few, new and unknown to most academics [33]. The advantages and disadvantages of the various journal types are summarized in Table 1.

Table 1. Advantages and disadvantages of journal types.

Journal Type	Advantages	Disadvantages
Conventional Subscription	No cost to researchers directly	Paywall access slows knowledge dissemination, creates second-class academics with low access to literature
Green OA	No cost to researchers and Free reading of pre-prints	Extra effort needed by researchers, no central repository, more difficult to track, improvements lost from review
Gold OA	Free reading of typeset articles	Costs money that diverts funds from research/knowledge creation
Platinum OA	Free reading of typeset articles	Perceived lack of options for impact factor

Conventional publishers still have control of this situation, largely because it is perceived that they have monopoly on high impact factor journals [30,33]. Impact factor is a metric of an academic journal that is the yearly mean number of citations of articles

published in the last two years in a given journal, as indexed by Clarivate's Web of Science. There are several reasons that the value of using impact factors has been contested including: (i) using journal impact factors conceals the difference in article citation rates, (ii) they are determined by technicalities unrelated to the scientific quality, (iii) they are research field dependent, and (iv) they can be manipulated [34]. Despite these issues [34], impact factors are used a prestige metric for academics [35]. Academics are widely concerned [36] that because publication in high-impact factor journals is important for demonstrating expertise for grants, tenure, and promotion and many open access journals (because they are in general newer carry lower impact factor scores) that requiring open access would be onerous [30,33].

A few years ago, academics simply had no choice: they could either publish in a journal with an impact factor or publish OA. Now they can publish in an impact factor journal in the hybrid model or in a growing list of gold OA journals with impact factors, but they have to pay APCs, while diverting funds from research activities (e.g., researcher salaries, supplies, etc.). This may, however, be changing. The Directory of Open Access Journals lists over 17,300 journals that offer a means of OA and over 12,250 have no APCs [37]. Do any of these journals have impact factors? The aim of this study is to answer that question. This short note summarizes the results of using an open source python script to collate all journals with impact factors with journals that are truly platinum OA—e.g., neither the author nor the readers pay for the peer-reviewed work. The results are discussed in the context of OA academic publishing and steps needed to minimize the cost to science from the academic publishing process.

2. Materials and Methods

First, the impact factor (IF) list of 2020 provided by the Journal Citation Report (JCR), which contains over 12,000 journals was acquired [38]. The IF is calculated as:

$$IF\ 2020 = \frac{Citations\ in\ 2019 + Citations\ in\ 2018}{Papers\ Published\ in\ 2019 + Papers\ Published\ in\ 2018} \quad (1)$$

Similarly, the IF data for 2021 was acquired from [39]. Next, the Directory of Open Access Journal (DOAJ) data was acquired for OA journals [40]. A free and open source python script was deployed that uses Pandas [41] to take two csv files (one for IF and one for OA) and match them based off of a set of categories. It first takes in a set of data that includes journal IF categories in [38]. It then takes in a set of data from the DOAJ [40] that includes information about each journal including if it has APCs and fits a criterion for open access. The script then takes this file and filters out only the records that have no APC and are OA. Finally, it retrieves all records from the IF list that are also in the new reduced DOAJ list and writes them out to a file. The results of this file are evaluated manually to remove repeats and errors.

The python script under GNU General Public License v3.0 [42], input csv files, and the most recent update of the output.txt with new data are provided open access and at: <https://osf.io/mh4bx/> (accessed on 22 January 2022).

3. Results

The results of running the script for 2020 impact factors is shown in Table A1 in the Appendix A. As can be seen in Table A1, in 2020 there was 139 peer-reviewed OA journals with impact factors above 1.69 in a wide range of fields ranging from the 24th highest impact factor of all journals in *Living Reviews of Relativity* to the highly timely journals such as *Emerging Infectious Diseases*. The results of running the script for 2021 impact factors is shown in Table A2 in the Appendix A. As can be seen by Table A2, there are now 358 platinum OA journals with impact factors.

Based on the results of Table A1, roughly 1% of impact factor journals are platinum OA in 2020. This value should be treated as conservative as the input data for 2020 only included journals IF > 1.69. As can be seen by Table A2, there are now 358 platinum OA

journals with impact factors (2.9% of the total journals tracked for IF). Of these, 188 with impact factors above 1.69. This represents an increase of 90% for platinum OA journals with IF > 1.69 in a single year. The number of double-digit impact factor platinum OA journals increased from 5 to 7 between 2020 and 2021, which is a 40% increase. Similarly, the number of platinum OA journals with IF > 2 increased from 111 to 164, which is a 47% increase. It is clear that academics are increasingly choosing to publish in platinum OA journals. It can be presumed that these journals are being preferentially selected to conserve research funds to do research, but future work is needed to verify this.

4. Discussion

The results of this analysis must be treated with care. First, the outputs of the script can have errors due to the input. So, for example, the journal *Area*, was listed as OA in the 2020 and 2021 data sets, but on inspection of the current author page it is now a gold OA journal. This is likely due to the common practice of gold OA journals operating with zero APC in the beginning to become established. This normally continues until they gain an IF at which time either APC waivers are eliminated or markedly reduced or APCs are instituted. This could be the case for other journals in this analysis being mischaracterized as platinum OA as well. Authors aiming to publish in platinum OA journals should check the validity of the data in the DOAJ carefully themselves when selecting journals. Despite this caveat, there appears to be a clear trend of an increasing IF for platinum OA and their overall numbers and these trends are more rapid than the increase in publications overall (~4%/year [43]) and of the transition to OA (35% searchable by DOAJ [44]) as a whole.

Currently with platinum OA journals with impact factors making up only about 3% of platinum OA journals, they do not currently represent a major threat to conventional subscription or pure gold OA publishers. If growth rates of >40–90% continue in the IF of existing platinum OA and of the number of platinum OA, this may change rapidly. The conflict between subscription + green OA, hybrid OA and gold OA (APCs) is not yet resolved [45]. Platinum OA journals do not necessarily have the same negative incentives that for-profit journals have to drive up sales. It should be noted that many of the platinum OA journals in Tables A1 and A2 are published by for-profit academic publishers that are subsidized by either non-profit entities or governments. Thus, the profit incentive still exists as do concerns about the consequences of it.

In some ways, the profit seeking of academic publishers, previously visible only to university librarians negotiating subscription contracts, has become more visible to all academics. Furthermore, the often-shocking APC charges (e.g., *Nature Communications* charges US\$5,790 per article) [46]), recent profit-maximizing practices include: (1) conventional publishers rejecting articles at subscription journals while offering convenient ‘transfer services’ to ‘companion’ journals that charge APCs, (2) OA publishers that offer APC discounts, similarly rejecting papers to cancel waivers, while encouraging resubmission and (3) accepting lower quality papers using any OA business model to drive up APC profit. Such practices will likely continue to disappoint academics and accelerate their selection of platinum OA now that the results of this analysis show there are platinum OA with IFs. This again will likely put economic pressure on the current business models of scientific publishers. Such pressure is similar to the illegal ‘black OA’ offered by Sci-Hub [47]. Widespread platinum OA would provide a legal means to provide the same level of access to the peer-reviewed literature, but far more must be carried out to make scholars aware of it [48].

For this to occur there remains some technical hurdles. Although writing, reviewing and content editing are generally provided by academics as part of their service to the scientific community, academic publishers still provide publishing services such as electronic architecture for the journals, archiving, copy editing and type setting. The first two of these services has been developed as free and open source software by the Public Knowledge Project in the Open Journal Systems (OJS) [49] and the ubiquitous low-cost internet archiving available that enable open access repositories [50]. Over 25,000 journals already use

OJS worldwide [49]. Some journals, both subscription and OA, use templates to assist in type setting such as MDPI or the IEEE, which provided both Word and LaTeX templates. How these templates are used differs by journal and publisher. For example, MDPI, a gold OA publisher, normally copy edits templated articles and fixes author mistakes, while at least for some IEEE publications (which are normally subscription based although some gold OA) only add a copyright notice to templated articles before publication. For the costs of publishing to be reduced for all OA models an easy-to-use method for authors is needed to make typeset articles. Templates can be effective, but can also be 'broken' by authors, and markup of various kinds is harder to use than WYSIWYG editors such as Libre Office or Word. LaTeX, for example, normally demands a steep learning curve, but Overleaf, which is an open-source online real-time collaborative LaTeX editor [51], may offer a solution although more work is still needed to make it seamless for authors. There is an opportunity to do this with artificial intelligence (AI). Although many academics are good writers, copy editing remains an important service provided by academic publishers [52]. Efforts to provide copy editing using AI is already underway (e.g., Wordvice AI [53], Katalyst Tech. [54], or AuthorONE from Enago [55]) and may represent the last technical hurdle in a completely open source and zero cost method (ignoring the current free services provided by the academic community itself for writing, editing and reviewing manuscripts) of providing universal platinum OA to new articles. Finally, to automate the collection of legal preprints open source programs are needed to provide that same level of access to all pat work [56].

5. Conclusions

The results of this analysis show currently platinum OA journals with impact factors represent roughly 3% of all platinum OA journals. For many academics, this fact alone may be surprising as historically there were no OA journals with impact factors and more recently all of the OA that did have impact factors came only with large APCs. This resolves one of the major equity issues in academia (i.e., wealthy academics could afford APCs to enable their work to be read by others and still publish in journals with impact factors for tenure, while less well-endowed researchers were not able to share their work as readily or had to give up the prestige of publishing in IF journals). Now, faculty no longer need to choose between two sub-optimal situations, they can share their work with everyone and still publish in journals with IFs.

The results also show that platinum OA journals with impact factors are growing both in number and impact factor values faster than both academic publishing as a whole and the extremely fast growth in OA publishing. Specifically, in a single year the platinum OA journals with $IF > 1.69$ increased 90%, the number of platinum OA journals with $IF > 2$ increased 47%, and the number of double-digit impact factor platinum OA journals increased by 40%. This means that over time most of the literature can be expected to be OA as has been hypothesized by several researchers previously, but also that much of the OA literature will continue to shift to platinum OA. Based on the limited data set here it appears that in the foreseeable future these trends will continue. The growth in OA is being fueled by what is in the best interest of both authors and readers and the growth in platinum OA is being fueled by the limited resources of the authors. Both of these trends benefit knowledge sharing because platinum OA journals provide literature to the entire public for free without directly reducing researcher funds (and thus hampering research in other areas). This would be expected to increase the rate of discovery and thus help accelerate scientific progress in general. In addition, this growth in IF platinum OA journals can be viewed as positive for knowledge quality because although the value of impact factors are contested, they still provide some litmus test that the quality of the literature is being preserved if other academics find it useful enough to cite.

With there being a relatively broad selection of platinum OA journals to select from and the last remaining major barrier to their use (having an impact factor and thus being useful for the tenure and promotion process) being removed many more academics will be

able to move to OA, particularly those from non-wealthy labs. It can thus be concluded, that conventional subscription, hybrid and new OA-pure academic publishers will need to adapt their business models to compete with this disruptive innovation of platinum OA with IF, while still maintaining sustainability. Substantial future work is available in this area for academic publishers to adapt and flourish just as other sectors have needed to adapt when open source methodologies became common (e.g., with free and open source software now making up a major portion of the software industry).

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Appendix A

Table A1 shows the platinum open access journals with impact factors >1.69 in 2020 and can be found at <https://osf.io/mh4bx/> (accessed on 22 January 2022) and Table A2 provides platinum open access journals with impact factors in 2021.

Table A1. Platinum open access journals with impact factors > 1.69 in 2020.

Journal Name	Impact Factor
Living Reviews In Relativity	35.429
Living Reviews In Solar Physics	20.000
Journal Of Statistical Software	13.642
Nano-Micro Letters	12.264
Protein & Cell	10.164
Chemical Science	9.346
Earth System Science Data	9.197
Studies In Mycology	9.027
Environmental Health Perspectives	8.382
Journal Of Stroke	7.470
Acta Pharmaceutica Sinica B	7.097
Eurosurveillance	6.454
Green Energy & Environment	6.395
Emerging Infectious Diseases	6.259
European Respiratory Review	6.220
Journal Of Innovation & Knowledge	6.027
Journal Of High Energy Physics	5.875
Journal Of Materiomics	5.797
Journal Of Biomedical Science	5.762
Rheumatology	5.606
Virus Evolution	5.549
Journal Of Ginseng Research	5.487
Journal Of Physiotherapy	5.440
Digital Communications And Networks	5.382
Journal Of Computer-Mediated Communication	5.366
Friction	5.290
Journal Of Sport And Health Science	5.200
Scipost Physics	5.051
European Journal Of Psychology Applied To Legal Context	4.905
Regenerative Biomaterials	4.882

Table A1. Cont.

Journal Name	Impact Factor
Allergology International	4.806
Journal Of Food And Drug Analysis	4.727
Geochemical Perspectives Letters	4.452
Physics Letters B	4.384
Geoscience Frontiers	4.202
Hellenic Journal Of Cardiology	4.047
Psychosocial Intervention	4.026
Journal Of Orthopaedic Translation	3.986
Asian Journal Of Pharmaceutical Sciences	3.968
International Journal Of Mining Science And Technology	3.903
International Journal Of Health Policy And Management	3.821
International Soil And Water Conservation Research	3.770
Biomedical Journal	3.697
Journal Of Competitiveness	3.649
Perspectives In Ecology And Conservation	3.563
Cultural Anthropology	3.554
Bioimpacts	3.475
Crop Journal	3.395
Comunicar	3.375
Health Technology Assessment	3.370
Journal Of Gynecologic Oncology	3.304
Endocrinology And Metabolism	3.257
Rice Science	3.162
Csee Journal Of Power And Energy Systems	3.115
Journal Of Modern Power Systems And Clean Energy	3.090
Burns & Trauma	3.088
Express Polymer Letters	3.083
International Journal Of Educational Technology In Higher Education	3.080
Ultrasonography	3.075
Acta Orthopaedica	2.965
Financial Innovation	2.964
Matter And Radiation At Extremes	2.931
Nano Convergence	2.919
Journal Of Advanced Ceramics	2.889
Petroleum Exploration And Development	2.845
Oeno One	2.831
Journal Of Rock Mechanics And Geotechnical Engineering	2.829
Nuclear Physics B	2.817
Nucleus	2.792
Pulmonology	2.778
Journal Of Orthopaedics And Traumatology	2.767
Efsa Journal	2.740
Perioperative Medicine	2.740
Forest Ecosystems	2.696
Journal Of Pharmaceutical Analysis	2.673
Zoological Research	2.638
Defence Technology	2.637
Beilstein Journal Of Organic Chemistry	2.622
Area	2.617
Beilstein Journal Of Nanotechnology	2.612
International Journal Of Interactive Multimedia And Artificial Intelligence	2.561
Computational Linguistics	2.510
Croatian Journal Of Forest Engineering	2.500
Southern African Journal Of Hiv Medicine	2.500

Table A1. Cont.

Journal Name	Impact Factor
Moravian Geographical Reports	2.479
Food Science And Human Wellness	2.455
Electronics	2.412
Johnson Matthey Technology Review	2.349
International Review Of Social Psychology	2.326
Kona Powder And Particle Journal	2.326
Military Medical Research	2.325
International Review Of Research In Open And Distributed Learning	2.297
Bulletin Of Mathematical Sciences	2.241
Eye And Vision	2.241
Molecular Vision	2.202
Oceanologia	2.198
Journal Of The European Mathematical Society	2.190
Integrative Medicine Research	2.172
Judgment And Decision Making	2.163
Borsa Istanbul Review	2.130
Rivista Italiana Di Paleontologia E Stratigrafia	2.125
Food Technology And Biotechnology	2.115
Biochemia Medica	2.114
International Journal Of Implant Dentistry	2.111
Petroleum Science	2.096
Mycosphere	2.092
Educational Technology & Society	2.086
Photonic Sensors	2.073
International Journal Of Disaster Risk Science	2.048
Journal Of The Medical Library Association	2.042
Journal Of Hydrology And Hydromechanics	2.011
Revista Portuguesa De Pneumologia	1.973
Australasian Journal Of Educational Technology	1.956
Uppsala Journal Of Medical Sciences	1.955
Safety And Health At Work	1.945
Asian Pacific Journal Of Tropical Medicine	1.940
Asian Pacific Journal Of Tropical Biomedicine	1.903
Jornal Brasileiro De Pneumologia	1.870
South African Journal Of Science	1.866
Plant Diversity	1.864
Journal Of Taibah University For Science	1.863
Nuclear Engineering And Technology	1.846
Electronic Journal Of Qualitative Theory Of Differential Equations	1.827
Chinese Journal Of Mechanical Engineering	1.824
Progress In Orthodontics	1.822
Swiss Medical Weekly	1.822
Public Policy And Administration	1.811
Revista Brasileira De Reumatologia	1.810
Journal Of Applied Oral Science	1.797
International Neurourology Journal	1.794
Pediatrics And Neonatology	1.773
Investigative And Clinical Urology	1.750
Neotropical Ichthyology	1.741
International Journal Of Speleology	1.730
Journal Of Hydroinformatics	1.728
Journal Of Legal Analysis	1.727
Journal Of Causal Inference	1.720
Mediterranean Marine Science	1.709
Archives Of Control Sciences	1.697

Table A2. Platinum open access journals with impact factors in 2021.

Journal Title	2021 Impact Factor
Living Reviews In Relativity	40.429
Living Reviews In Solar Physics	17.417
Nano-Micro Letters	16.419
Studies In Mycology	16.097
Protein & Cell	14.870
Acta Pharmaceutica Sinica B	11.413
Earth System Science Data	11.333
Chemical Science	9.825
Journal Of Innovation & Knowledge	9.269
Environmental Health Perspectives	9.031
European Respiratory Review	8.839
Nano Convergence	8.526
Journal Of Biomedical Science	8.410
Green Energy & Environment	8.207
Virus Evolution	7.989
Rheumatology	7.580
Journal Of Sport And Health Science	7.179
Journal Of Physiotherapy	7.000
Journal Of Stroke	6.967
Emerging Infectious Diseases	6.883
Geoscience Frontiers	6.853
Digital Communications And Networks	6.797
Journal Of Advanced Ceramics	6.707
Asian Journal Of Pharmaceutical Sciences	6.598
Journal Of Statistical Software	6.440
Journal Of Materiomics	6.425
Regenerative Biomaterials	6.353
Eurosurveillance	6.307
Friction	6.167
Scipost Physics	6.093
Journal Of Food And Drug Analysis	6.079
Journal Of Ginseng Research	6.060
International Soil And Water Conservation Research	6.027
Comunicar	6.013
Allergology International	5.836
Journal Of High Energy Physics	5.810
Geochemical Perspectives Letters	5.567
Journal Of Computer-Mediated Communication	5.410
Journal Of Orthopaedic Translation	5.191
Egyptian Journal Of Remote Sensing And Space Sciences	5.188
Food Science And Human Wellness	5.154
Burns & Trauma	5.099
Japanese Dental Science Review	5.093
Psychosocial Intervention	5.083
International Journal Of Health Policy And Management	5.007
Sustainable Environment Research	4.980
Biomedical Journal	4.910
Physics Letters B	4.771
Journal Of Pharmaceutical Analysis	4.769
Journal Of Competitiveness	4.725
Perspectives In Ecology And Conservation	4.677
Bioresources And Bioprocessing	4.578
Zoological Research	4.560
Crop Journal	4.407
Journal Of Gynecologic Oncology	4.401

Table A2. Cont.

Journal Title	2021 Impact Factor
Ict Express	4.317
Geo-Spatial Information Science	4.288
Mycosphere	4.211
Nucleus	4.197
Express Polymer Letters	4.161
Petroleum Science	4.090
International Journal Of Mining Science And Technology	4.084
Health Technology Assessment	4.014
Endocrinology And Metabolism	4.010
Financial Innovation	3.985
Csee Journal Of Power And Energy Systems	3.938
Food Technology And Biotechnology	3.918
Applied Water Science	3.874
Bioimpacts	3.831
Petroleum Exploration And Development	3.803
Propulsion And Power Research	3.738
International Journal Of Disaster Risk Science	3.727
Acta Orthopaedica	3.717
Ultrasonography	3.675
Kidney Research And Clinical Practice	3.667
Beilstein Journal Of Nanotechnology	3.649
Forest Ecosystems	3.645
Pulmonology	3.575
Perioperative Medicine	3.535
Educational Technology & Society	3.522
Neurospine	3.492
Cultural Anthropology	3.439
Journal Of Ocean Engineering And Science	3.408
Public Policy And Administration	3.386
Borsa Istanbul Review	3.348
Efsa Journal	3.336
Rice Science	3.333
Military Medical Research	3.329
Epidemiology And Health	3.282
Journal Of Modern Power Systems And Clean Energy	3.265
Eye And Vision	3.257
Defence Technology	3.172
Research & Politics	3.141
Australasian Journal Of Educational Technology	3.067
Studies In Second Language Learning And Teaching	3.036
Horticultural Plant Journal	3.032
Brazilian Journal Of Psychiatry	3.000
Journal Of Causal Inference	3.000
Perspectives On Medical Education	2.947
Johnson Matthey Technology Review	2.920
Journal Of Orthopaedics And Traumatology	2.907
Kona Powder And Particle Journal	2.897
Beilstein Journal Of Organic Chemistry	2.883
Ecological Processes	2.849
Matter And Radiation At Extremes	2.845
International Neurourology Journal	2.835
Asia-Pacific Journal Of Ophthalmology	2.827
Underground Space	2.824
Survey Research Methods	2.806
Journal Of Analytical Science And Technology	2.769
Nuclear Physics B	2.759
Journal Of Legal Analysis	2.750
Progress In Orthodontics	2.750

Table A2. Cont.

Journal Title	2021 Impact Factor
Safety And Health At Work	2.707
Journal Of Applied Oral Science	2.698
Journal Of Electromagnetic Engineering And Science	2.696
Journal Of Taibah University For Science	2.688
Journal Of Movement Disorders	2.683
Jornal Brasileiro De Pneumologia	2.624
Judgment And Decision Making	2.543
Plant Diversity	2.528
Journal Of Hydrology And Hydromechanics	2.512
International Review Of Social Psychology	2.500
Voluntas	2.468
Photonic Sensors	2.433
Oceanologia	2.427
Economica	2.397
Electronics	2.397
Mathematics In Engineering	2.385
International Journal Of Implant Dentistry	2.384
Upsala Journal Of Medical Sciences	2.384
Journal Of Hydroinformatics	2.376
Indian Journal Of Medical Research	2.375
Integrative Medicine Research	2.368
Molecular Vision	2.367
Arthropod Systematics & Phylogeny	2.354
Nuclear Engineering And Technology	2.341
Andean Geology	2.327
Mediterranean Marine Science	2.319
Biochemia Medica	2.313
Oeno One	2.305
Prostate International	2.286
Area	2.280
Computational Linguistics	2.271
Moravian Geographical Reports	2.250
Advances In Rheumatology	2.235
Hong Kong Medical Journal	2.227
Annals Of Thoracic Medicine	2.219
Bulletin Of Mathematical Sciences	2.219
South African Journal Of Science	2.197
Swiss Medical Weekly	2.193
Investigative And Clinical Urology	2.186
Journal Of Curriculum Studies	2.183
Latin American Economic Review	2.161
Baltic Journal Of Economics	2.150
Neotropical Ichthyology	2.091
Croatian Journal Of Forest Engineering	2.088
Pediatrics And Neonatology	2.083
Angle Orthodontist	2.079
Demographic Research	2.046
Folia Neuropathologica	2.038
Balkan Medical Journal	2.021
Asia & The Pacific Policy Studies	2.014
Arquivos Brasileiros De Cardiologia	2.000
Egyptian Journal Of Biological Pest Control	1.995
Amfiteatru Economic	1.983
Chinese Journal Of Mechanical Engineering	1.936
Medical Principles And Practice	1.927
Dermatology Practical & Conceptual	1.926
Water Science And Technology	1.915
Journal Of Water And Climate Change	1.900

Table A2. Cont.

Journal Title	2021 Impact Factor
Anais Brasileiros De Dermatologia	1.896
Geologica Carpathica	1.875
Indian Journal Of Ophthalmology	1.848
Brazilian Journal Of Otorhinolaryngology	1.811
Processing And Application Of Ceramics	1.804
International Journal Of Communication	1.802
Quantitative Economics	1.782
Avian Research	1.774
Indian Journal Of Psychiatry	1.759
Rural And Remote Health	1.759
Rural And Remote Health	1.759
Vertebrate Zoology	1.757
Journal Of Water And Health	1.744
Acta Chimica Slovenica	1.735
Brodogradnja	1.708
Taiwanese Journal Of Obstetrics & Gynecology	1.705
Subterranean Biology	1.690
Journal Of Vector Borne Diseases	1.688
Knowledge And Management Of Aquatic Ecosystems	1.677
Journal Of Contemporary Brachytherapy	1.656
Grasas Y Aceites	1.650
Politics And Religion	1.650
California Agriculture	1.641
Physical Review Accelerators And Beams	1.639
Geofizika	1.636
Materiales De Construcción	1.619
Nordic Studies On Alcohol And Drugs	1.600
Anatolian Journal Of Cardiology	1.596
Endokrynologia Polska	1.582
Revista Da Sociedade Brasileira De Medicina Tropical	1.581
Scientia Marina	1.576
International Journal Of Speleology	1.566
Journal Of Pacific Rim Psychology	1.557
Nano	1.556
Asian Pacific Journal Of Tropical Biomedicine	1.545
Web Ecology	1.545
Annals Of Saudi Medicine	1.526
Annals Of Forest Research	1.516
Urology Journal	1.510
Chimia	1.509
Norwegian Journal Of Geology	1.508
Palaeontologia Electronica	1.500
Indian Journal Of Dermatology	1.494
Journal Of Postgraduate Medicine	1.476
Mathematical Modelling And Analysis	1.474
Kinesiology	1.452
Revista Latino-Americana De Enfermagem	1.442
Interfaces	1.434
Water Policy	1.434
Geologica Acta	1.432
Mires And Peat	1.425
Arquivos De Neuro-Psiquiatria	1.420
Wildfowl	1.417
Acta Montanistica Slovaca	1.413
Science Of Sintering	1.412
Journal Of Applied Fluid Mechanics	1.405
Journal Of Nematology	1.402

Table A2. *Cont.*

Journal Title	2021 Impact Factor
Annals Of Indian Academy Of Neurology	1.383
Agricultural And Food Science	1.375
Revista Portuguesa De Cardiologia	1.374
European Journal Of Taxonomy	1.372
Trabajos De Prehistoria	1.366
Annals Of Geophysics	1.362
Croatian Medical Journal	1.351
Etri Journal	1.347
Journal Of Spectral Theory	1.323
Brazilian Journal Of Pharmaceutical Sciences	1.321
Theoretical Economics	1.313
Brazilian Journal Of Cardiovascular Surgery	1.312
Polish Polar Research	1.308
Crop Breeding And Applied Biotechnology	1.282
Electronic Journal Of Differential Equations	1.282
Water Supply	1.275
Brazilian Journal Of Geology	1.259
Forest Systems	1.255
Journal Of The Serbian Chemical Society	1.240
Petrology	1.235
World Rabbit Science	1.233
Asian Pacific Journal Of Tropical Medicine	1.226
Fluoride	1.224
Videosurgery And Other Miniinvasive Techniques	1.195
Computer Science And Information Systems	1.167
Information Technology And Libraries	1.160
Metrology And Measurement Systems	1.155
Arkivoc	1.140
Psihologija	1.140
Journal Of Universal Computer Science	1.139
Algebraic Geometry	1.132
Condensed Matter Physics	1.128
Acta Amazonica	1.126
Dyna	1.113
Mljekarstvo	1.111
Journal Of Legal Studies	1.108
Veterinaria Italiana	1.101
Archives Of Control Sciences	1.088
Mathematical Communications	1.075
Polish Journal Of Pathology	1.072
Journal Of Research Of The National Institute Of Standards And Technology	1.034
Materials Science-Poland	1.022
Journal Of International Advanced Otolaryngology	1.017
Animal Biodiversity And Conservation	1.000
Fishery Bulletin	1.000
Journal Of Cytology	1.000
Sociobiology	0.983
New Medit	0.969
Revista Brasileira De Anestesiologia	0.964
Politikon	0.962
Revista De Metalurgia	0.959
Archives Of Biological Sciences	0.956
Revista De Estudios Sociales	0.953
Acta Botanica Croatica	0.943
Drvna Industrija	0.940
Social Analysis	0.933
Bangladesh Journal Of Pharmacology	0.930
Journal Of Theoretical And Applied Mechanics	0.927

Table A2. *Cont.*

Journal Title	2021 Impact Factor
Taiwania	0.925
Journal Of Official Statistics	0.920
Hong Kong Journal Of Occupational Therapy	0.917
Archives Of Clinical Psychiatry	0.909
Africa Spectrum	0.900
Croatica Chemica Acta	0.887
Malawi Medical Journal	0.875
Panoeconomicus	0.852
Studia Psychologica	0.850
Acta Herpetologica	0.848
Mediterranean Botany	0.842
Indian Journal Of Experimental Biology	0.818
Documenta Mathematica	0.815
International Journal Of Psychological Research	0.800
Journal Of Rehabilitation	0.796
Journal Of Apicultural Science	0.788
Acta Clinica Croatica	0.780
Earth Sciences Research Journal	0.779
Latin American Research Review	0.779
Geologica Belgica	0.773
Archives Of Metallurgy And Materials	0.767
Indian Journal Of Traditional Knowledge	0.757
Transylvanian Review Of Administrative Sciences	0.742
Revista Mvz Cordoba	0.738
Annali Di Botanica	0.722
Lingua	0.719
Geologia Croatica	0.717
Revista Mexicana De Biodiversidad	0.716
Discussiones Mathematicae Graph Theory	0.714
International Journal Of Odonatology	0.707
Electronic Journal Of Combinatorics	0.695
Bangladesh Journal Of Plant Taxonomy	0.679
Education As Change	0.667
International Journal Of Conflict And Violence	0.643
Journal Of Southern Hemisphere Earth Systems Science	0.629
Ethics & Global Politics	0.613
Tropical Grasslands-Forrajes Tropicales	0.611
Nauplius	0.610
Salud Colectiva	0.597
Caldasia	0.562
Geodetski Vestnik	0.551
Tempo Social	0.547
Sociologia	0.537
Movimento	0.523
History Of Geo- And Space Sciences	0.500
Historia Agraria	0.488
Hong Kong Journal Of Emergency Medicine	0.486
Magallania	0.469
Botanica Serbica	0.468
Culture & History Digital Journal	0.463
Logical Methods In Computer Science	0.438
Applied Economic Analysis	0.417
Engenharia Sanitaria E Ambiental	0.417
Acta Bioethica	0.408
Journal Of Nepal Medical Association	0.406
Sintagma	0.400
Tidsskrift For Samfunnsforskning	0.394
Agrociencia	0.391

Table A2. Cont.

Journal Title	2021 Impact Factor
Perfiles Latinoamericanos	0.383
Informes De La Construcción	0.375
Neurological Sciences And Neurophysiology	0.358
Austrian Journal Of Political Science	0.346
Adansonia	0.345
Serbian Astronomical Journal	0.333
Revija Za Socijalnu Politiku	0.265
Internasional Politik	0.264
Ljetopis Socijalnog Rada	0.243
Australasian Orthodontic Journal	0.226
Srpski Arhiv Za Celokupno Lekarstvo	0.207
Acta Histriae	0.161
B-Ent	0.082

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