

Table S1. Top 5 publishers, collaborating countries, and funding sponsors of the remaining 20 subject areas.

No	Subject area	Number of articles	Top 5 publishers (percentage of total)	Top 5 collaborating countries (number of articles, percentage of total)	Top 5 funding sponsors (number of articles, percentage of total funding for a subject area)
6	Biochemistry, genetics, and molecular biology	2602	Zhengzhou University (15.52%) Oriental Scientific Publishing Company (6.76%) Research Journal of Pharmaceutical, Biological and Chemical Sciences (5.41%) Elsevier (5.14%) Foundation for Environmental Protection and Research (4.38%)	The Russian Federation (431, 16.56%), The United States of America (267, 10.26%), Germany (122, 4.68%), The United Kingdom (113, 4.34%), China (89, 3.42%)	Ministry of Education and Science of the Republic of Kazakhstan (277, 10.64%), National Institute of Health (71, 2.72%), US Department of Health and Human Services (68, 2.61%), Nazarbayev University (47, 1.8%), Russian Foundation for basic research (46, 1.76%)
7	Mathematics	2320	Springer (10.56%) Elsevier (4.82%) Little Lion Scientific (3.18%) Taylor and Francis Inc. (3.14%) Pleiades journals (3.06%)	The Russian Federation (438, 18.87%), The United States of America (125, 5.38%), The United Kingdom (114, 4.91%), Turkey (79, 3.40%), Germany (66, 2.84%)	Ministry of Education and Science of the Republic of Kazakhstan (379, 16.33%), Nazarbayev University (71, 2.71%), Engineering and Physical Sciences Research Council (62, 2.67%), Russian Foundation for basic research (55, 2.37%), UK research and innovation (50, 2.15%)
8	Environmental science	2060	IJESE (11.6%) Elsevier (7.47%) Springer (6.01%) Foundation for Environmental Protection and Research (5.53%) ASERS Publishing House (5.97%)	The Russian Federation (316, 15.39%), The United States of America (136, 6.6%), The United Kingdom (120, 5.82%), Germany (97, 4.70%), China (93, 4.51%)	Ministry of Education and Science of the Republic of Kazakhstan (183, 8.88%), Nazarbayev University (51, 2.47%), European Commission (29, 1.40%), National Natural Science Foundation of China (25, 1.21%), Chinese Academy of Sciences (21, 1.01%)

9	Agricultural and biological sciences	1951	Springer (12.90%) Foundation for Environmental Protection and Research (5.84%) Oriental Scientific Publishing Company (5.63%) EM International (5.17%) Elsevier (4.25%)	The Russian Federation (367, 18.80%), The United States of America (185, 9.48%), China (120, 6.15%), Germany (106, 5.43%), The United Kingdom (101, 5.17%)	Ministry of Education and Science of the Republic of Kazakhstan (219, 11.22%), National Natural Science Foundation of China (31, 1.58%), Russian foundation for basic research (31, 1.58%), Chinese Academy of Science (28, 1.43%), Russian Science Foundation (21, 1.07%)
10	Earth and planetary sciences	1799	National Academy of Sciences of the Republic of Kazakhstan (27.84%) Elsevier (7.44%) Springer (5.72%) Maik Nauka-Interperiodica Publishing (2.89%) Natsional'nyi Hirnychiy Universytet (2.89%) Pleiades Publishing (2.83%)	The Russian Federation (452, 25.12%), The United States of America (161, 8.94%), China (130, 7.22%), Germany (123, 6.83%), Ukraine (76, 4.22%)	Ministry of Education and Science of the Republic of Kazakhstan (155, 8.61%), National Natural Science Foundation of China (52, 2.89%), Russian foundation for basic research (50, 2.77%), Nazarbayev University (36, 2%), National Science Foundation (35, 1.94%)
11	Chemical Engineering	1793	al-Farabi Kazakh State National University (13.77%) Elsevier (10.20%) MDPI AG (6.07%) University of Chemical Technology and Metallurgy (6.02%) Pleiades Publishing (4.29%)	The Russian Federation (316, 17.62%), The United States of America (107, 5.96%), China (102, 5.68%), The United Kingdom (68, 3.79%), Germany (58, 3.23%)	Ministry of Education and Science of the Republic of Kazakhstan (310, 17.28%), Nazarbayev University (69, 3.84%), National Natural Science Foundation of China (45, 2.50%), European Commission (23, 1.28%), Ministry of Education and Science of the Russian Federation (21, 1.17%)
12	Medicine	1924	Elsevier (7.79%) BioMed Central (4.78%) Springer (4.46%) Lifescience Global (3.06%) Oxford University Press (2.39%)	The Russian Federation (391, 20.32%), The United States of America (391, 20.32%), The United Kingdom (250, 12.99%), Germany (193, 10.03%), Italy (192, 9.97%), Japan (153, 7.95%)	Ministry of Education and Science of the Republic of Kazakhstan (121, 6.28%), National Institutes of Health (105, 5.45%), U.S. Department of Health and Human Services (92, 4.78%), Medical Research Council (40, 2.07%), European Commission (34, 1.76%), Ministry of Education, Culture, Sports, Science and Technology (34, 1.76%)

13	Economics, economics, and finance	1663	ASERS Publishing House (28.14%) National Academy of Management (13.28%) Mediterranean Center of Social and Educational Research (5.77%) Entrepreneurship and Sustainability Center (5.11%) Econjournals (4.63%)	The Russian Federation (135, 8.11%), The United States of America (48, 2.88%), The United Kingdom (29, 1.74%), Turkey (22, 1.32%), Kyrgyzstan (16, 0.96%)	Ministry of Education and Science of the Republic of Kazakhstan (51, 3.06%), Nazarbayev University (11, 0.66%), European Commission (6, 0.36%), Government of Canada (3, 0.18%), Johnson Space Center (3, 0.18%), Ministry of Education (3, 0.18%), Ministry of Education and Science of the Russian Federation (3, 0.18%), Ministry of Education, Culture, Sports, Science and Technology (3, 0.18%), Ministry of Finance (3, 0.18%), National Institutes of Health (3, 0.18%)
14	Arts and humanities	1539	Universidad del Zulia (23.70%) Serials Publications (12.28%) Canadian Center of Science and Education (7.21%) Mediterranean Center of Social and Educational Research (6.23%) Ecozone, OAIMDD (3.70%)	The Russian Federation (154, 10%), The United States of America (53, 3.44%), The United Kingdom (26, 1.68%), Turkey (19, 1.23%), Germany (15, 0.97%), China (14, 0.90%)	Ministry of Education and Science of the Republic of Kazakhstan (25, 1.62%), Kazan Federal University (20, 1.29%), Eesti Teadusagentuur (13, 0.84%), National Science Foundation (10, 0.64%), Nazarbayev University (9, 0.58%)
15	Computer science	1206	Institute of Electrical and Electronics Engineers Inc. 133 (11.02%) Elsevier (7.21%) Little Lion Scientific (6.13%) MDPI AG (5.80%) Springer (4.56%)	The Russian Federation (161, 13.34%), The United States of America (77, 6.38%), Ukraine (69, 5.72%), China (63, 5.22%), India (51, 4.22%)	Ministry of Education and Science of the Republic of Kazakhstan (161, 13.34%), Nazarbayev University (73, 6.05%), National Natural Science Foundation of China (18, 1.49%), Russian Foundation for Basic Research (17, 1.40%), European Commission (13, 1.07%)
16	Business, management, and accounting	1190	Revista Espacios (18.99%) ASERS Publishing House (15.54%) Entrepreneurship and Sustainability Center (7.14%) Allied Business Academies (6.72%) Emerald Group Holdings Ltd. (4.62%)	The Russian Federation (140, 11.76%), The United States of America (47, 3.94%), The United Kingdom (43, 3.61%), Ukraine (23, 1.93%), Turkey (20, 1.68%)	Ministry of Education and Science of the Republic of Kazakhstan (41, 3.44%), European Commission (7, 0.58%), Nazarbayev University (5, 0.42%), Government of Canada (4, 0.33%), Ministry of Education and Science of the Russian Federation (4, 0.33%), Government Council on Grants, Russian Federation (3, 0.25%), Natural Sciences and Engineering Research Council of Canada (3, 0.25%), Russian Foundation for Basic Research (3, 0.25%)

17	Energy	1149	Elsevier (15.31%) Springer (5.65%) MDPI AG (5.57%) Econjournals (4.78%) E.A.Buketov Karaganda State University Publish House (4.43%)	The Russian Federation (257, 22.36%), The United States of America (88, 7.65%), China (54, 4.69%), Japan (46, 40%), Ukraine (31, 2.69%)	Ministry of Education and Science of the Republic of Kazakhstan (161, 14.01%), Nazarbayev University (41, 3.56%), Ministry of Education and Science of the Russian Federation (21, 1.82%), National Natural Science Foundation of China (17, 1.47%), Ministry of Education, Culture, Sports, Science and Technology (15, 1.30%)
18	Pharma cology, toxicolo gy, and pharma ceutics	927	Elsevier (16.18%) BioMed Central (9.92%) Springer (9.27%) Lifescience Global (6.36%) Oxford University Press (4.96%)	The Russian Federation (126, 13.59%), The United States of America (48, 5.17%), Poland (30, 3.23%), The United Kingdom (28, 3.02%), Italy (27, 2.91%)	Ministry of Education and Science of the Republic of Kazakhstan (58, 6.25%), National Institutes of Health (10, 1.07%), U.S. Department of Health and Human Services (10, 1.07%), European Commission (5, 0.53%), Ministry of Education and Science of the Russian Federation (4, 0.43%), National Institute of General Medical Sciences (4, 0.43%), National Natural Science Foundation of China (4, 0.43%)
19	Immun ology and microbi ology	448	Elsevier (8.92%) Springer (6.47%) American Society for Microbiology (6.02%) Blackwell Publishing Ltd (4.46%) BioMed Central Ltd (4.01%)	The Russian Federation (102, 22.76%), The United States of America (86, 19.19%), The United Kingdom (44, 9.82%), France (43, 9.59%), Germany (43, 9.59%), Switzerland (38, 8.48%)	Ministry of Education and Science of the Republic of Kazakhstan (75, 16.74%), National Institutes of Health (19, 4.24%), U.S. Department of Health and Human Services (18, 4.01%), UK Research and Innovation (14, 3.12%), Medical Research Council (11, 2.45%)

20	Decision sciences	372	Revista Espacios (60.75%) ExcelingTech (7.79%) Elsevier (5.10%) LLC CPC Business Perspectives (2.68%) Taylor and Francis Ltd. (2.41%)	The Russian Federation (35, 9.40%), The United States of America (17, 4.56%), France (9, 2.41%), Turkey (9, 2.41%), The United Kingdom (9, 2.41%), Canada (7, 1.88%)	Ministry of Education and Science of the Republic of Kazakhstan (10, 2.68%), Nazarbayev University (7, 1.88%), European Commission (3, 0.80%), Government of Canada (3, 0.80%), Natural Sciences and Engineering Research Council of Canada (3, 0.80%), Engineering and Physical Sciences Research Council (2, 0.53%), National Natural Science Foundation of China (2, 0.53%), University of Ottawa (2, 0.53%), Al-Farabi Kazakh National University (1, 0.26%), Beijing Council of Science and Technology (1, 0.26%)
21	Veterinary	176	Elsevier (14.20%) National Centre for Agrarian Sciences (7.39%) Nexus Academic Publishers (7.95%) Agricultural Academy, Bulgaria (5.11%) Blackwell Publishing Ltd (4.54%)	The Russian Federation (19, 10.79%), The United States of America (16, 9.09%), Poland (14, 7.95%), Bulgaria (13, 7.38%), Switzerland (10, 5.68%)	Ministry of Education and Science of the Republic of Kazakhstan (26, 14.77%), UK Research and Innovation (4, 2.27%), Università di Pisa (4, 2.27%), Biotechnology and Biological Sciences Research Council (3, 1.70%), European Commission (3, 1.70%), Zoologische Gesellschaft Frankfurt (3, 1.70%), Centre for Dengue Research, University of Sri Jayewardenepura (2, 1.13%), International Fund for Agricultural Development (2, 1.13%), Natural Environment Research Council (2, 1.13%), Norges Forskningsråd (2, 1.13%)
22	Psychology	162	Lifescience Global (36.40%) Springer (11.11%) Routledge (7.40%) Elsevier (4.93%) Association for the Development of Science, Engineering and Education (3.08%) Blackwell Publishing Ltd (3.08%)	The United States of America (39, 24.07%), The Russian Federation (18, 11.11%), The United Kingdom (12, 7.40%), Germany (11, 6.79%), Italy (11, 6.79%), Australia (9, 5.55%), Saudi Arabia (9, 5.55%)	National Institutes of Health (11, 6.79%), U.S. Department of Health and Human Services (10, 6.17%), Ministry of Education and Science of the Republic of Kazakhstan (6, 3.70%), Eunice Kennedy Shriver National Institute of Child Health and Human Development (5, 3.08%), National Institute on Drug Abuse (4, 2.46%)

23	Neuroscience	153	Lifescience Global (38.50%) Elsevier (9.15%) Springer (6.53%) PeerJ Inc. (5.88%) Hindawi Publishing Corporation (4.57%)	The United States of America (21, 13.72%), The Russian Federation (17, 11.11%), China (13, 8.49%), Italy (13, 8.49%), Germany (10, 6.53%), The United Kingdom (9, 5.88%)	Ministry of Education and Science of the Republic of Kazakhstan (13, 8.49%), National Institutes of Health (9, 5.88%), U.S. Department of Health and Human Services (9, 5.88%), Chinese Academy of Sciences (6, 3.92%), Eunice Kennedy Shriver National Institute of Child Health and Human Development (4, 2.61%), Medical Research Council (3, 1.96%), Nazarbayev University (3, 1.96%), UK Research and Innovation (3, 1.96%), West Light Foundation of the Chinese Academy of Sciences (3, 1.96%)
24	Health professions	153	Tche Quimica Group (52.94%) Editura Universitatii din Pitesti (7.84%) SPER Publications (5.88%) Oxford University Press (4.57%) Routledge (3.26%)	The Russian Federation (38, 24.83%), The United States of America (5, 3.26%), India (4, 2.61%), The United Kingdom (4, 2.61%), Germany (3, 1.96%), Japan (3, 1.96%), Kyrgyzstan (3, 1.96%), Lithuania (3, 1.96%), Australia (2, 1.30%), Bulgaria (2, 1.30%)	Ministry of Education and Science of the Republic of Kazakhstan (22, 14.37%), Nazarbayev University (3, 1.96%), Government Council on Grants, Russian Federation (2, 1.30%), Japan Society for the Promotion of Science (2, 1.30%), National Institute of Allergy and Infectious Diseases (2, 1.30%), National Institutes of Health (2, 1.30%), Russian Foundation for Basic Research (2, 1.30%), U.S. Department of Health and Human Services (2, 1.30%), Al-Farabi Kazakh National University (1, 0.65%), Deanship of Scientific Research, King Saud University (1, 0.65%)
25	Nursing	96	SET Publisher (10.41%) Elsevier (6.25%) Blackwell Publishing Ltd (6.25%) Asian Network for Scientific Information (6.25%) Springer (5.20%)	The United States of America (22, 22.91%), Saudi Arabia (13, 13.50%), The United Kingdom (11, 11.45%), The Russian Federation (10, 10.41%), Iran (7, 7.29%)	Ministry of Education and Science of the Republic of Kazakhstan (7, 7.29%), Deanship of Scientific Research, King Saud University (3, 3.12%), King Saud University (3, 3.12%), Ministeriet Sundhed Forebyggelse (3, 3.12%), National Institutes of Health (3, 3.12%), U.S. Department of Health and Human Services (3, 3.12%), Egészségügyi Tudományos Tanács (2, 2.08%), Fonds National de la Recherche Luxembourg (2, 2.08%), Ministry of Education, Culture, Sports, Science and Technology (2, 2.08%),

