

Appendix A

List of search strategies that have been tested and combined for extracting the scientific publications that have been used for generating the data in this article

Table A.1 PubMed (see <https://pubmed.ncbi.nlm.nih.gov/advanced/>; specific details on the PubMed Data Element (Field) Descriptions can be found at <https://www.nlm.nih.gov/bsd/mms/medlineelements.html>)

Scope	PubMed search strategy
Patent information within COIS field	("patent*" [Conflict of Interest Statements] OR "inventor" [Conflict of Interest Statements] OR "inventors*" [Conflict of Interest Statements] OR "provisional*" [Conflict of Interest Statements] OR "intellectual property" [Conflict of Interest Statements] OR "coinventor*" [Conflict of Interest Statements] OR "Invention" [Conflict of Interest Statements])
COVID-19 literature	("sars-cov-2" [MeSH Terms] OR "sars-cov-2" [All Fields] OR "2019 ncov" [All Fields] OR "2019 novel coronavirus" [All Fields] OR "2019nCoV" [All Fields] OR "betacoronavir*" [All Fields] OR "Corona virus" [All Fields] OR "corona viruses" [All Fields] OR "coronavir*" [All Fields] OR "coronavirus 19" [All Fields] OR "coronavirus 2019" [All Fields] OR "coronavirus disease-19" [All Fields] OR "coronavirus disease-2019" [All Fields] OR "coronavirus infections" [All Fields] OR "coronavirus infections" [MeSH Terms] OR "coronavirus-2" [All Fields] OR "coronavirus" [All Fields] OR "coronavirus" [MeSH Terms] OR "coronavirus2" [All Fields] OR "cov 2" [All Fields] OR "Wuhan coronavirus" [All Fields] OR "CoV2" [All Fields] OR "covid 2019" [All Fields] OR "covid-19 nucleic acid testing" [All Fields] OR "covid-19 nucleic acid testing" [MeSH Terms] OR "covid-19 serological testing" [All Fields] OR "covid-19 serological testing" [MeSH Terms] OR "covid-19 testing" [All Fields] OR "covid-19 testing" [MeSH Terms] OR "COVID-19 Vaccines" [All Fields] OR "COVID-19 Vaccines" [MeSH Terms] OR "COVID-19" [All Fields] OR "COVID-19" [MeSH Terms] OR "covid-2019" [All Fields] OR "covid19" [All Fields] OR "covid2019" [All Fields] OR "MERS-COV" [All Fields] OR "mers" [All Fields] OR "Middle east respiratory" [All Fields] OR "ncov-19" [All Fields] OR "ncov-2019" [All Fields] OR "NCOV" [All Fields] OR "new corona virus" [All Fields] OR "new coronavirus" [All Fields] OR "novel corona virus" [All Fields] OR "novel coronavirus" [All Fields] OR "novel cov" [All Fields] OR "sars cov 2" [All Fields] OR "sars cov 2" [MeSH Terms] OR "SARS-Coronavirus-2" [All Fields] OR "sars-cov" [All Fields] OR "SARS-CoV2" [All Fields] OR "SARS" [All Fields] OR "sars2" [All Fields] OR "sarscov2" [All Fields] OR "severe acute

	respiratory coronavirus 2"[All Fields] OR "Severe Acute Respiratory Syndrome Coronavirus 2"[All Fields] OR "severe acute respiratory"[All Fields])
PubMed Dates (for exemplary ranges of dates)	(2020/01/01:2022/06/30[EDAT] (Date – Entry) (2020/01/01:2022/06/30[PDAT] (Date – Publication) (2020/01/01:2022/06/30[CRDT] (Date – Create)
Presence / absence of COIS information	AND / NOT hascois
Research domain (based on PubMed indexing)	("Indexing["MeshTerms])
Type of publication (based on PubMed indexing)	("Indexing[PT])
Name of journal (based on PubMed format)	("Indexing"[Journal])

Table A.2 Scholar Lens (see <https://www.lens.org/lens/search/scholar/structured>; specific details on search fields in Lens.org for scientific literature can be found at <https://support.lens.org/knowledge-base/scholar-field-definition/>).

Scope	Scholar Lens search strategy
COVID-19 scientific literature published in year 2020 that is cited in patent literature As of Mar 21 st , 2023: - <u>212224</u> (total) - 4938 (cited in patent) - <u>662</u> (including PubMed ID and with at least 5 patent citation) - <u>123</u> (including PubMed ID number and with at least 20 patent citations)	(year_published:2020 AND is_referenced_by_patent:true) AND ((title:(Covid) OR abstract:(Covid) OR keyword:(Covid) OR field_of_study:(Covid)) OR (title:(Covid19) OR abstract:(Covid19) OR keyword:(Covid19) OR field_of_study:(Covid19) OR title:(Covid2019) OR abstract:(Covid2019) OR keyword:(Covid2019) OR field_of_study:(Covid2019)) OR title:(sars-cov-2) OR abstract:(sars-cov-2) OR keyword:(sars-cov-2) OR field_of_study:(sars-cov-2) OR title:(sarscov) OR abstract:(sarscov) OR keyword:(sarscov) OR field_of_study:(coronavir*) OR field_of_study:(sars-cov-2) OR title:(coronavir*) OR abstract:(coronavir*) OR keyword:(coronavir*) OR field_of_study:(sarscov)) <i>Limited to "Journal article" or "Editorial" or "Letter" or "Preprint" as Publication type)</i>

Table A.3: Selection of search strategies for a selection of publishers' website. The https information corresponding to the search strategy is provided

Scope	Journal website search strategy
Nature	https://www.nature.com/search?q=patent*%20OR%20INVENTOR%20OR%20inventors%20OR%20invention%20OR%20coinvent*OR%20%22INTELLECTUAL%20PROPERTY%22%20&date_range=2020-2022&order=relevance&title=covid%20OR%20coronavir*%20OR%20%22corona%20virus%22%20OR%20%22covid-19%22%20OR%20%22covid%2019%22%20OR%20%22SARS-CoV-2%22%20OR%20%22SARS-CoV2%22%20OR%20%22sarscov2%22%20OR%20%222019%20ncov%22%20OR%20%222019-nCoV%22%20OR%20%222019nCoV%22%20OR%20%22covid2019%22%20OR%20%22covid%202019%22%20OR%20%22COVID2019%22%20OR%20%22severe%20acute%20respiratory%20syndrome%20coronavirus%20%22%20OR%20%222019%20novel%20coronavirus%22%20OR%20%22coronavirus%20disease%202019%22%20OR%20%22novel%20corona%20virus%22%20OR%20%22novel%20coronavirus%22%20OR%20%22new%20corona%20virus%22%20OR%20%22new%20coronavirus%22
Plos ONE	https://journals.plos.org/plosone/search?filterStartDate=2020-01-01&filterEndDate=20220630&resultsPerPage=60&unformattedQuery=competing_interest%3A(PATENT%20OR%20INTELLECTUAL%20PROPERTY%20OR%20INVENTOR%20OR%20INVENTORS)%20AND%20(title%3A(covid%20OR%20betacoronavirus%20OR%20sarbecoronavirus%20OR%20corona%20virus%20OR%20covid-19%20OR%20covid%20OR%20covid19%20OR%20SARS-CoV-2%20OR%20SARS-CoV2%20OR%20sarscov2%20OR%202019-nCoV%20OR%202019nCoV%20OR%20covid-2019%20OR%20%22COVID2019%22%20OR%20coronavirus)%20OR%20abstract%3A(covid%20OR%20betacoronavirus%20OR%20sarbecoronavirus%20OR%20corona%20virus%20OR%20covid-19%20OR%20covid%20OR%20covid19%20OR%20SARS-CoV-2%20OR%20SARS-CoV2%20OR%20sarscov2%20OR%202019-nCoV%20OR%202019nCoV%20OR%20covid-2019%20OR%20%22COVID2019%22%20OR%20coronavirus)%20OR%20abstract%3A(covid%20OR%20betacoronavirus%20OR%20sarbecoronavirus%20OR%20corona%20virus%20OR%20covid-19%20OR%20covid%20OR%20covid19%20OR%20SARS-CoV-2%20OR%20SARS-CoV2%20OR%20sarscov2%20OR%202019-nCoV%20OR%202019nCoV%20OR%20covid-2019%20OR%20%22COVID2019%22%20OR%20coronavirus)%20OR%20abstract%3A(covid%20OR%20betacoronavirus%20OR%20sarbecoronavirus%20OR%20corona%20virus%20OR%20covid19%20OR%20covid%20OR%20covid19%20OR%20SARS-CoV-2%20OR%20SARS-CoV2%20OR%20sarscov2%20OR%202019-nCoV%20OR%202019nCoV%20OR%20covid2019%20OR%20COVID2019%20OR%20coronavirus))&utm_content=a&utm_campaign=ENG-467

The Lancet	https://www.thelancet.com/action/doSearch?text1=covid+OR+coronavir*+OR+%22corona+virus%22+OR+%22covid-19%22+OR+%22covid+19%22+OR+%22covid19%22+OR+%22SARS-CoV-2%22+OR+%22SARS-CoV2%22+OR+%22sarscov2%22+OR+%222019+ncov%22+OR+%222019-nCoV%22+OR+%222019nCoV%22+OR+%22covid-2019%22+OR+%22covid+2019%22+OR+%22COVID2019%22+OR+%22severe+acute+respiratory+syndrome+coronavirus+2%22+OR+%222019+novel+coronavirus%22+OR+%22coronavirus+disease+2019%22+OR+%22novel+corona+virus%22+OR+%22novel+coronavirus%22+OR+%22new+corona+virus%22+OR+%22new+coronavirus%22&field1=AbstractTitleKeywordFilterField&text2=patent*+OR+INVENTOR+OR+inventors*+OR+inventor*+OR+%22INTELLECTUAL+PROPERTY%22+OR+coinvent*&field2=AllField&Ppub=&AfterMonth=1&AfterYear=2020&BeforeMonth=6&BeforeYear=2022&SeriesKey=lancet&pageSize=100&startPage=
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Appendix B

Table B.1: Examples of Conflict of Interest Statements in PubMed record related to COVID-19 (short COIS format; indexed by PMID and journal)

32540481	Respir Physiol Neurobiol
JG and AM are inventors of the patents protecting the use of FMSF technology.	
32788391	Arch Dis Child Fetal Neonatal Ed
MB has a patent (NeoHelp) with royalties paid.	
32790206	J Med Virol.
CWT is a patent holder in cPass. The other authors declare no competing interests.	
32793875	ChemRxiv
A Provisional Patent Application for COVCCF has filled by Cleveland Clinic.	
32904031	Crit Care Explor
The authors disclosed a patent pending (COVID-19 Treatment; #63044520)	
33088593	NPJ Vaccines
M.J.S., C.W. and D.K. are coinventors of the patent application "Coronavirus disease (COVID-19) vaccine". H.R. declares that there are no competing interests.	
33155524	J Biomol Struct Dyn
Two patents have been filed from the report.	
33408218	BMJ Open
AM, BT and MS hold a patent on IFI27.	
33471406	EMBO Mol Med
The authors have issued a patent application owned by CSIC.	
33519463	Front Pharmacol
GB filed a patent entitled "A TLR9 inhibitor for use in treatment of COVID-19," reference number 1043690. The remaining author declares that there are no commercial or financial relationships that could be construed as a potential conflict of interest to this work.	
33562203	Vaccines (Basel)
B.F.H. has patent applications on some of the concepts discussed in this review.	
33841880	Clin Transl Immunology
KJC, DW and PRY are inventors of the 'Molecular Clamp' patent, US 2020/0040042.	
33964171	Biotechnol Bioeng
GR has filed a provisional patent application.	
34061355	Br J Pharmacol
YRL, RB and CNM have a provisional patent on vitamin C use in sepsis (2020901120).	

34083527	Nat Commun
A patent application directed to subject matter described herein has been filed.	
34139362	Mol Cell Proteomics
A. L. and J. M. have a patent "Treatment of subjects suffering from COVID-19" pending. All authors declare that they have no conflicts of interest with the contents of this article.	
34163793	Chem Sci
A U.S. Patent application has been filed (No. 63/073863).	
34166794	Int J Infect Dis
S.O., H.Y., and K.S. have a patent pending.	
34253862	Exp Mol Med
T.K. holds a patent for tocilizumab and has received royalties for Actemra.	
34263736	J Clin Invest
BDS holds US patent 10,905,706, "Compositions and methods to accelerate resolution of acute lung inflammation"	
34325131	Biochem Biophys Res Commun
Patent has been filed for some of the antibodies presented here.	
34328683	Angew Chem Int Ed Engl
We have provisional patent filed on the aptamer sequences in this manuscript.	
34403037	Virol Sin
CFQ and JFL have filed a patent related to anti-SARS-CoV nanobody.	
34462731	iScience
U.H. has filed a provisional patent based on the findings in this study.	
34674152	Geroscience.
Dr. Tóth, Fagyas, Édes and Papp have a patent EP2664920A1 issued.	
35186439	Mol Ther Nucleic Acids.
M.S. and G.H. are inventors on a patent on RIG-I ligands.	
35284838	STAR Protoc
Mount Sinai has filed for patent protection for this assay.	
35383141	Signal Transduct Target Ther.
The pending patents of 35B5 and 32C7 have been licensed.	
35477929	Signal Transduct Target Ther.
G.M.P., K.P., and K.H. hold a patent on inhibition of SARS-CoV-2 PL ^{pro} .	
35768499	Cell Res
Patents about the 6M6 in this study are pending.	

Table B.2: Examples of Conflict of Interest Statements in PubMed record related to COVID-19 (full patent information COIS format; indexed by PMID and journal)

33052331	Res Sq
S.K.C. are inventors on a patent application on repurposed antiviral compounds for SARS-CoV-2 owned by Scripps Research and Sanford Burnham Prebys. US Patent Application Serial No. 63/010630, entitled Methods and Compositions for Antiviral Treatment relates to aspects of this work and was filed on 15 Apr 2020 (...) The other authors declare no competing interests.	
33378141	J Clin Psychiatry
Dr Feder is named co-inventor on an issued patent in the US, and several issued patents outside the US, filed by the Icahn School of Medicine at Mount Sinai (ISMMS) for the use of ketamine as a therapy for PTSD. This intellectual property has not been licensed. Dr Charney is named as co-inventor on patents filed by the Icahn School of Medicine at Mount Sinai (ISMMS) relating to the treatment for treatment-resistant depression, suicidal ideation, and other disorders. ISMMS has entered into a licensing agreement with Janssen Pharmaceuticals, Inc. and it has and will receive payments from Janssen under the license agreement related to these patents for the treatment of treatment-resistant depression and suicidal ideation. Consistent with the ISMMS Faculty Handbook (the medical school policy), Dr Charney is entitled to a portion of the payments received by the ISMMS. Since SPRAVATO has received regulatory approval for treatment-resistant depression, (...), Dr Charney, will be entitled to additional payments, beyond those already received, under the license agreement. Dr Charney is a named co-inventor on several patents filed by ISMMS for a cognitive training intervention to treat depression and related psychiatric disorders. The ISMMS has entered into a licensing agreement with Click Therapeutics, Inc. and has and will receive payments related to the use of this cognitive training intervention for the treatment of psychiatric disorders. In accordance with the ISMMS Faculty Handbook, Dr Charney has received a portion of these payments and is entitled to a portion of any additional payments that the medical school might receive from this license with Click Therapeutics. Dr Charney is a named co-inventor on a patent application filed by the ISMMS for the use of intranasally administered neuropeptide Y (NPY) for the treatment of mood and anxiety disorders. This intellectual property has not been licensed. (...)	
34021152	Nat Commun
S.G. and T.R. declare patents for proluciferins (hikarazines) synthesis and uses ("Imidazopyrazine derivatives, process for preparation thereof and their uses as luciferins", EP 3395803/WO 2018197727, 2018), and have applied for a patent that includes claims describing the LuLISA (EP20315224.4) used in this study. F.A. and P.C. have applied for a patent claiming the PNT ("High throughput methods and products for SARS-CoV-2 sero-neutralization assay" US 63/107,896). N.E., M.G., C.D. and S.v.d.W. declare patents pending for the SARS-associated coronavirus diagnostics ("Severe acute respiratory syndrome (SARS)-associated coronavirus diagnostics", US 10,948,490 B1) related to this study. S.v.d.W. and N.E. declare patents issued ("Use of proteins and peptides coded by the genome of a novel strain of SARS-associated coronavirus" EP 1697507; and "Novel strain of SARS-associated coronavirus and applications thereof" EP1694829) not directly related to this study. S.v.d.W. (...) has a patent application filed ("Methods and reagents for the specific and sensitive detection of SARS-CoV-2", PCT/EP2020055939 and US16/809,717), not directly related to this study. (...)	

34143766	PLoS Biol
A.S.H., S.J.M., D.A.B., M.F.A., S.K., M.A.S., D.H.O., and I.M.O are listed as the inventors on a patent filed that is related to findings in this study. Application: 63/080568, 63/083671. Title: Identification of Sars-Cov-2 Epitopes Discriminating Covid-19 Infection from Control and Methods Of Use. Application type: Provisional. Status: Filed. Country: United States. Filing date: September 18, 2020, September 25, 2020.	
34310599	PLoS One
JGS, the senior author, has, subsequent to this research, led a related patent for a UV decontamination device (PCT/US2021/022771, filed March 17, 2021 "Decontamination System"). This does not alter our adherence to all PLOS ONE policies on sharing data and materials, and in fact, the patent was a reaction to this work, and so therefore was entirely performed subsequently to this research. Further, beyond the fact that the patent is for a UV-C decontamination chamber, it has little to do with this research.	
34618692	J Clin Invest
HMF, SA, and GHC are named on patents (10478490 [US] and 2,674,051 [Canada], "Herpes simplex virus combined subunit vaccines and methods of use") that describe the use of multiple subunit glycoprotein antigens for HSV vaccines. (...) DW, (...), and YKT are named on a patent application (WO2016/176330, "Nucleoside-modified RNA for inducing an adaptive immune response") describing the use of nucleoside-modified mRNA in LNP as a vaccine platform (...)	
34623953	Sci Total Environ
Provisional patent applications entitled "Detection and mutational analysis of an RNA virus in an environmental sample" were filed by the National and Kapodistrian University of Athens, and the authors Andreas Scorilas, Margaritis Avgeris, Panagiotis G. Adamopoulos and Nikolaos S. Thomaidis on February 11, 2021 to the Hellenic Industrial Property Organisation (Case Number: 231-0004089064) and on March 22, 2021 to Patent Cooperation Treaty (PCT application number: PCT/EP2021/057316). (...)	
35316221	J Clin Invest
CYW (...) is named as an inventor on a patent application covering the composition of matter of this SARS-CoV-2 vaccine (Wang CY, et al., "Designer peptides and proteins for the detection, prevention and treatment of coronavirus disease, 2019 [COVID 19]," WO2021/168305A1. International publication date August 26, 2021. Priority data: 62/978,596 on February 19, 2020; 62/990,382 on March 16, 2020; 63/027,290 on May 19, 2020; and 63/118,596 on November 25, 2020). WJP, FL, and SD are named as coinventors on the same patent application covering this SARS-CoV-2 vaccine (...)	
35763566	Proc Natl Acad Sci U S A
(...) D.K.B. (..) and R.L. are inventors on patent application no.17/649,554 (PCT/US2022 /70448), filed on 31 st Jan. 2022, submitted by University of California, which covers methods and devices used in detection of pathogens and their molecular components, including SARS-CoV-2. G.G. and R.L., are also inventors on awarded US patent No.10793898 titled Nano-Sensors for nucleic acid detection and discrimination. (...)	

Table B.3: Examples of Conflict of Interest Statements in PubMed record related to COVID-19 (patent details within long COIS format; indexed by PMID and journal)

32327746	Sci Rep
(...) T.K. has a patent for tocilizumab (...)	
32804792	Crit Care Med
(...) Dr. Smyth's institution received funding from Vertex; he received funding from Vertex, Teva and Novartis; and he has a patent issued "Alkyl quinolones as biomarkers of Pseudomonas aeruginosa infection and uses thereof." (...)	
33571320	PLoS One
(...) A provisional patent (U.S. Patent Application No. 63/079,674, entitled "Pharmaceutical Compositions of Niclosamide and a Protein,") pertaining to the results presented in this paper has been filed by the University of Texas at Austin. This does not alter our adherence to PLOS ONE policies on sharing data and materials.	
34035401	Sci Rep
(...) MPD and JCT have a patent "Methods for Treating or Preventing Cardiovascular Disorders and Lowering Risk of Cardiovascular Events" issued to Dalcor, (...), a patent "Genetic Markers for Predicting Responsiveness to Therapy with HDL-Raising or HDL Mimicking Agent" issued to Dalcor, no royalties received, and a patent "Methods for using low dose colchicine after myocardial infarction" with royalties paid to the Montreal Heart Institute.(...) JCT's institution has submitted a patent "Methods of treating a coronavirus infection using Colchicine" pending and a patent "Early administration of low-dose colchicine after myocardial infarction" pending. JCT has waived his rights in all patents related to colchicine and does not stand to benefit financially if colchicine becomes used as a treatment for COVID-19 (...)	
34385600	Mol Psychiatry
NH, MS-R, EG, JK, AC, and FL are inventors on a patent application related to methods of treating COVID-19, filled by Assistance Publique —Hopitaux de Paris in France (...) AMR and EJL are inventors on a patent application related to methods of treating COVID-19, which was filed by Washington University in St. Louis.(...)	
34693230	EClinicalMedicine
(...) SKP has a US patent 61/387,591 licensed to Siemens and US patents 61/630,508 and 61-630,510 licensed to Perspectum. (...) SN has patents 'Multi-parametric magnetic resonance diagnosis & staging of liver disease' and 'System and methods for gated mapping of T1 values in abdominal visceral organs' licensed to Perspectum. (...)	
34871960	EBioMedicine
A provisional patent covering the COVID-19 NAb-test(TM) test and underlying technology has been submitted through The University of Melbourne. Dr. Fulford reports an Australian Provisional Patent Application 2021901011 (filed 7 April 2021) "Point of care lateral flow test for COVID19 detection" pending. (...), Dr. Wines has a patent drafted for use of ACE2-Fc pending. (...) Prof. Hogarth has a patent Antiviral pending. (...) Prof. Purcell has a patent PCT/AU2021/050839 pending (...)	

35143212	J Proteome Res
(...) Dr. Russell reports patents owned by University of British Columbia (UBC) that are related to the use of PCSK9 inhibitor(s) in sepsis and related to the use of vasopressin in septic shock and a patent owned by Ferring for use of selepressin in septic shock (...) is an inventor on these patents. M. P. Cheng and D. C. Vinh have a patent appl. pending (Electronic Filing System ID: 40101099). D. C. Vinh has a report of invention submitted to McGill University (Track code D2021-0043) (...)	
35177406	BMJ
(...) BKN is also a co-inventor on US Utility Patent No US15/356012 (US20170148158A1) entitled "Automated Analysis of Vasculature in Coronary Angiograms," that uses software technology with signal processing and machine learning to automate the reading of coronary angiograms, held by the University of Michigan; the patent is licensed to AngioInsight, in which BKN holds ownership shares and receives consultancy fees. EÖ reports having a patent pending for the University of Michigan for an artificial intelligence-based approach for the dynamic prediction of health states for patients with occupational injuries. (...)	
35271694	Clin Infect Dis
C. A. R. (...) is coinventor of patented respiratory syncytial virus vaccine technology unrelated to this manuscript, which has been licensed to Meissa Vaccines, and has received royalties; and is named in the following patents: "Chimeric RSV, immunogenic compositions, and methods of use," Intl. PCT application number PCT/US2016/058976, filed 28 December 2016 by Emory University, and "Osteopontin as a biomarker of COVID-19 and MIS-C disease," US patent appl. number 63/229,718, filed 5 Aug 2021 by Emory University (...)All authors have submitted the ICMJE Form (...)	
35475258	EClinicalMedicine
(...) Fang Cai: Former employee of Genentech; patent pending to Genentech for biomarkers for predicting response to an IL-6 antagonist (P36367-US) (...) Emily Graham: Employee of Roche Products Ltd Larry Tsai: Employee of Genentech/Roche; Unpublished patent pending for 'Method for treating pneumonia, including COVID-19 Pneumonia, with an IL-6 antagonist' Min Bao: Grant from Biomedical Advanced Research and Development Authority (BARDA) for the COVACTA study; employee of Genentech/Roche; unpublished patent pending for 'Method for treating pneumonia, Including COVID-19 pneumonia, with an IL-6 antagonist' (...).	
35568025	Cell Rep
(...) AbCellera Biologics Inc. and the National Institutes of Health have filed patent Applications related to the work described herein (US patent appl. 17/192243 and intl. patent application PCT/US21/20843, both titled "Anti-Coronavirus Antibodies and Methods of Use").	
35579508	Clin Infect Dis
(...) D. D. is a Named inventor on patent applications regarding adjuvants and adjuvanted vaccines. These patents have not yet been licensed (...)	

Table B.4: Examples of clusters of articles with identical patent information within Conflict of Interest Statements that are present in PubMed record related to COVID-19

32511284	ChemRxiv
34541844	Anal Chem
University of Pennsylvania has applied for a patent on Penn-RAMP with J.S. and H.H.B. listed as co-inventors.	
32773245	Vaccine
33158591	Vaccine
34167836	Vaccine
35294883	Sci Rep
Dr. Poland holds patents related to vaccinia and measles peptide vaccines	
32817941	bioRxiv
33160446	Cell
A.C.W, D.V., and N.P.K. are named as inventors on patent applications filed by the University of Washington based on the studies presented in this paper.	
33450853	J Clin Med
33800489	Microorganisms
J.D. is CEO and founder of QUALIblood s.a., a contract research organization manufacturing the DP-Filter, is co-inventor of DP-Filter (patent application number: PCT/ET2019/052903)	
33655280	medRxiv
34043946	Cell Rep
B.W., A. Nemudryi, and A. Nemudraia are inventors on patents related to CRISPR-Cas systems and applications thereof.	
33688655	bioRxiv
33521695	Cell Rep Med
34953325	J Reprod Immunol
LJI (La Jolla Inst.) has filed for patent protection for various aspects of vaccine design and identification of specific epitopes	
34401876	bioRxiv
35294883	Cell Rep
B.F.H., K.O.S., and K.W. have patent applications on some of the concepts and immunogens discussed in this paper.	
34845440	ACS Cent Sci
35580156	PLoS Med
Amsterdam UMC filed a patent application on SARS-CoV-2 monoclonal antibodies including the ones used in this manuscript	

Appendix C

Examples of patent information within Conflict of Interest Statements from preprint-article pairs related to COVID-19, indicating number of patent citations in Lens.org.

32511441	bioRxiv (COIS in Pubmed)	32398876	Nat Med (COIS in Pubmed)
<i>A serological assay to detect SARS-CoV-2 seroconversion in humans.</i> (29 patent citations)			
Mount Sinai is in the process of licensing out assays (...) to commercial entities			
		and has filed for patent protection	
32577645	bioRxiv (COIS in Pubmed)	32645326	Cell (COIS in Pubmed)
<i>Structures of human antibodies bound to SARS-CoV-2 spike reveal common epitopes and recurrent features of antibodies</i> (21 patent citations)			
The authors declare no competing interests.		In connection with this work, Rockefeller Univ. has filed a provisional patent appl. on which D.F.R. and M.C.N. are inventors.	
32869026	bioRxiv (<u>NO</u> COIS in Pubmed)	33045718	Nature (COIS in Pubmed)
<i>SARS-CoV-2 neutralizing antibody structures inform therapeutic strategies.</i> (26 patent citations)			
(no text identifiable as COIS within the preprint)		The Rockefeller University has filed a provisional patent application in connection with this work on which D.F.R. and M.C.N. are inventors (US 63/021,387).	
32511329	bioRxiv (COIS in Pubmed)	32353859	Nature (<u>NO</u> COIS in Pubmed)
<i>A SARS-CoV-2 protein interaction map reveals targets for drug repurposing.</i> (41 patent citations)			
(...) Jack Taunton and Phillip P. Sharp are listed as inventors on a			
provisional patent application describing PS3061		patent application describing a cyclic depsipeptide PS3061 (PCT/US2019/024731 by Reg. Univ. California and Kezar Life Sci.)	
32511340	bioRxiv (COIS in Pubmed)	32731258	Nature (COIS in Pubmed)
<i>ChAdOx1 nCoV-19 vaccination prevents SARS-CoV-2 pneumonia in rhesus macaques</i> (20 patent citations)			
SCG is (...)named as an inventor on a patent covering use of ChAdOx1-vectored vaccines and a patent application covering a SARS-CoV-2 (nCoV-19) vaccine			
Teresa Lambe is named as an inventor on a patent application covering a SARS-CoV-2 (nCoV-19) vaccine.		(UK patent application no. 2003670.3). T.L. is named as an inventor on a patent application covering a SARS-CoV-2 (nCoV-19) vaccine (...). Univ. Oxford and Vaccitech, having joint rights in the vaccine, entered into a partnership with AstraZeneca in Apr. 2020 (...). Neither Oxford University nor Vaccitech will receive any royalties during the pandemic period (...) in developing countries	