



Springer Nature

——专注科学，贡献科学

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Springer Nature 客户发展经理

2023CALIS培训周，深圳

Springer电子期刊

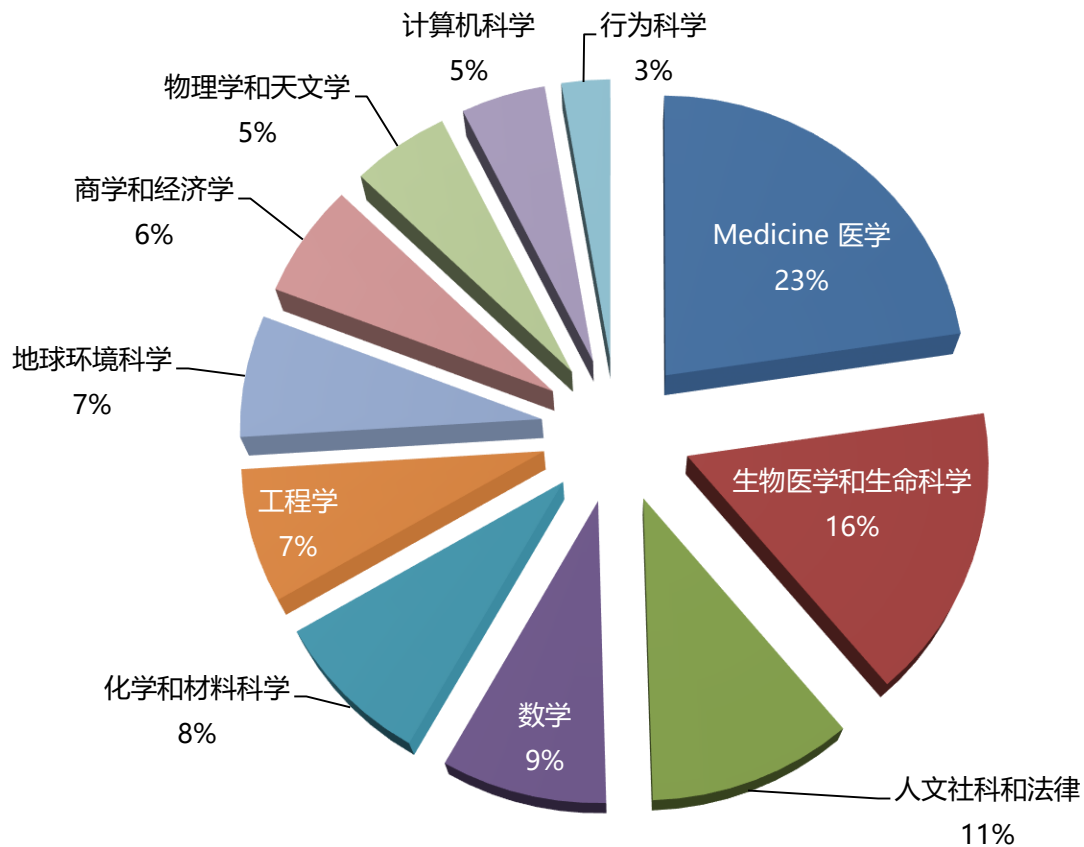
Springer电子期刊

- Springer电子期刊数据库收录3000多种期刊
- 60%以上被SCI和SSCI收录
- 随时出版, 随时更新
- IP控制, 无并发用户限制
- 与Springer所有电子资源整合, 充分实现链接功能
- 涵盖11个学科, 部分期刊在相关学科有较高排名

Springer电子期刊—学科分类

学科组合	子学科	
Science, Technology and Engineering (STE) 科技工程专辑	Chemistry and Materials Science	化学和材料科学
	Computer Science	计算机科学
	Earth and Environmental Science	地球环境科学
	Engineering	工程学
	Mathematics and Statistics	数学和统计学
	Physics and Astronomy	物理学和天文学
Medicine and Life Science 生物医学专辑	Biomedical and Life Sciences	生物医学和生命科学
	Medicine	医学
Social Science and Humanities 人文社科专辑	Behavioral Science	行为科学
	Business and Economics	商学和经济学
	Humanities, Social Sciences and Law	人文社科和法律

Springer电子期刊—学科分类示意图



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SpringerLink平台

超过一千万种科研文献可供探索，包括期刊、电子书、实验室指南、会议论文和视频


The image shows a screenshot of the SpringerLink website with several callout boxes pointing to specific features:

- 检索功能** (Search Function): Points to the search bar at the top left.
- 登录个人账户** (Log in Personal Account): Points to the "Sign up / Log in" link at the top right.
- 切换页面语言：英语/德语** (Switch Page Language: English/German): Points to the "English" dropdown menu at the top right.
- 按学科浏览** (Browse by Discipline): Points to the "Browse by discipline" menu on the left side.
- 按出版物类型浏览** (Browse by Publication Type): Points to the main content area featuring a list of publication types and book/journal covers.
- 精选推荐图书与期刊** (Selected Recommended Books and Journals): Points to the "Featured Journals" section at the bottom.

The website interface includes the SpringerLink logo, a search bar, navigation links (Home, Books A-Z, Journals A-Z, Videos, Librarians), and a list of disciplines for browsing. The main content area features a promotional message: "Providing researchers with access to millions of scientific documents from journals, books, series, protocols, reference works and proceedings." Below this, there are covers for "iCM" and "Modern Applications of Lanthanide Luminescence". A purple banner states: "New books and journals are available every day." The "Featured Journals" section displays covers for "ANIMAL IN VITRO", "Computational Visual Media", "TRANSPORTATION", and "Frontiers in Energy". The Springer Nature logo is visible in the bottom right corner.

SpringerLink平台

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Avg. Page Load Time (sec)	Pageviews	Page Load Sample	Bounce Rate	% Exit
10.04 Site Avg: 10.04 (0.00%)	51,261,199 % of Total: 100.00% (51,261,199)	275,878 % of Total: 100.00% (275,878)	61.38% Site Avg: 61.38% (0.00%)	41.54% Site Avg: 41.54% (0.00%)

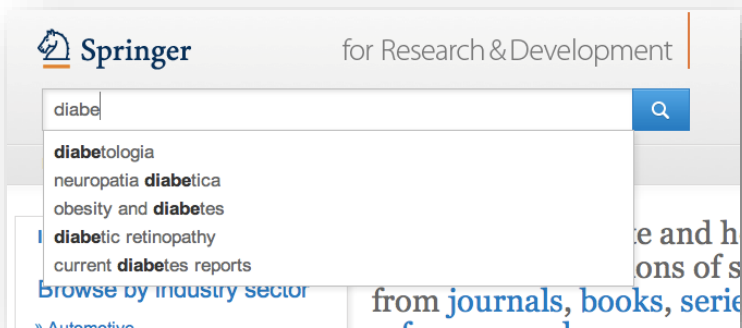
页面平均下载时间

 Brian Bishop ▾ English ▾ Academic ▾				
Avg. Page Load Time (sec)	Pageviews	Page Load Sample	Bounce Rate	% Exit
5.15 Site Avg: 5.15 (0.00%)	309,919 % of Total: 100.00% (309,919)	1,653 % of Total: 100.00% (1,653)	58.90% Site Avg: 58.90% (0.00%)	50.83% Site Avg: 50.83% (0.00%)

页面平均下载时间

SpringerLink平台功能

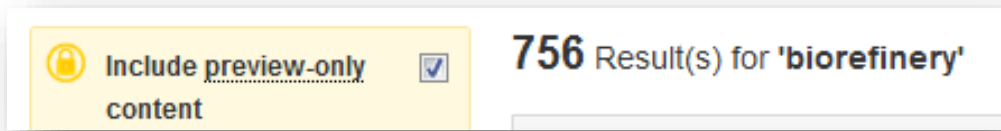
搜索关键词自动建议功能（以Google关键字数据为准）



每个文件可以预览两页



显示所有查询结果



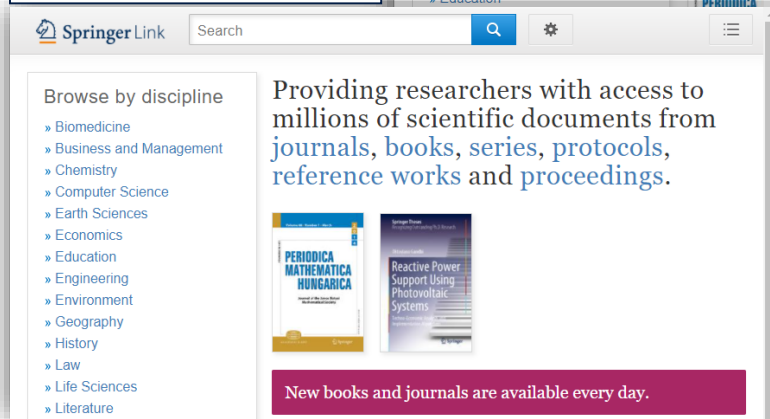
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可根据不同访问设备/终端自适应调整尺寸与布局, 支持移动设备

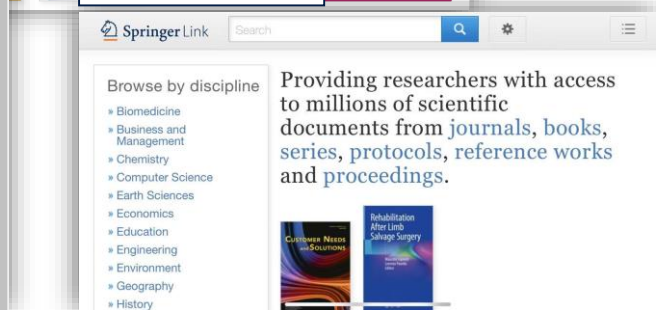
普通电脑桌面



平板电脑 (终端) 桌面



手机-横版桌面



手机-竖版桌面



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- 高级检索
- 检索显示&权限识别
- 结果聚类
- 开放获取

SpringerLink平台—简单检索

- 大多数用户可以通过简单检索框查找内容
- 在简单检索框里通过构造检索表达式完成较为复杂的检索
- 同时主页还提供高级检索功能和检索帮助

The screenshot displays the SpringerLink homepage. At the top, there is a search bar with a magnifying glass icon and a gear icon for advanced search. The search bar is labeled 'Search'. To the right of the search bar, there are links for 'Sign up / Log in', 'English', and 'Academic edition'. Below the search bar, there is a navigation menu with links for 'Home', 'Books A - Z', 'Journals A - Z', 'Videos', and 'Librarians'. On the left side, there is a 'Browse by discipline' section with a list of subjects: Biomedicine, Business and Management, Chemistry, Computer Science, Earth Sciences, Economics, Education, Engineering, Environment, Geography, History, Law, Life Sciences, Literature, Materials Science, Mathematics, Medicine & Public Health, Pharmacy, Philosophy, and Physics. On the right side, there is a main content area with the text 'Providing researchers with access to millions of scientific documents from journals, books, series, protocols, reference works and proceedings.' Below this text, there are two book covers: 'Modern Applications of Lanthanide Luminescence' and 'New books and journals are available every day.' At the bottom, there is a 'Featured Journals' section with four journal covers: 'IN VITRO', 'Computational Visual Media', 'TRANSPORTATION', and 'Frontiers in Energy'.

简单检索

高级检索

SpringerLink平台—高级检索

Springer Link

Search

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Advanced Search

Find Resources

with all of the words

with the exact phrase

with at least one of the words

without the words

where the title contains

e.g., "Cassini at Saturn" or Saturn

where the author / editor is

e.g., "H. G. Kennedy" or Elvis Morrison

Show documents published

between [] and []

Include preview-only content

Search

用户可以通过使用高级搜索选项进一步缩小检索范围

- 关键词
- 短语
- 标题
- 作者名/编辑名
- 出版年限

设定在机构访问权限内搜索

SpringerLink平台—检索显示

253.840 Result(s) for 'oncology'

Sort By: Relevance (highlighted in red box)
Date Published
Page 1 of 12.692

Comprendre le score gériatrique: recommandations de la « Task Force on CGA of the International Society of Geriatric Oncology (SIOG) »

Un quart des Européens aura plus de 65 ans d'ici 2030, et dans ce segment l'incidence des cancers augmente à 11 fois celle du sujet plus jeune. Pour mieux évaluer ces personnes sur le plan social et médical,...

M. Aapro in *Cancer du sein* (2007)

» Download PDF

分类:

预设情况下, 搜索结果按相关性排序

更多搜索排序选项:

- 按时间顺序由新到旧排序
- 按时间顺序由旧到新排序

3.349 Result(s) for 'mrsa'

Sort By: Relevance
Date Published
Page 1 of 168

Show documents published between 1867 and 2012 (Available 1867 - 2012) (highlighted in red box)

限定出版年限和页码

pediatric cardiology

Home

Also show locked results (highlighted in red box)

8.976 Result(s) for 'pediatric cardiology'

Sort By: Relevance
Date Published
Page 1 of 449

Your search also matched 2.299 locked results, e.g. Upcoming Events in Pediatric Cardiology

» Also show locked results

Refine Your Search	
Content Type	
Article	7.958
Chapter	969
Reference Work Entry	30

默认情况下, 显示平台所有资源检索结果

取消黄色框上的勾选, 只显示授权范围内的检索结果

SpringerLink平台—结果聚类

Springer Link

biorefinery technologies and products

612 Result(s) for 'biorefinery technologies and products'

Refine Your Search

Content Type

Article	405
Chapter	200
Reference Work Entry	4
Protocol	3

Discipline see all

Chemistry	272
Life Sciences	248
Engineering	150
Environmental Sciences	106
Energy	70

Subdiscipline see all

Biotechnology	222
Biochemistry	126
Biochemistry & Biophysics	126
Energy Technology	106
Microbiology	96

Published In see all

Applied Biochemistry and Biotechnology	65
Biomass Conversion and Biorefinery	54
Applied Microbiology and Biotechnology	51
BioEnergy Research	25
Journal of Industrial Microbiology & Biotechnology	24

Article

Biorefinery: an Efficient Way to Sustainable Development of Chemical Industry—a Special Issue for International Conference on Biorefinery (ICB 07) and the 5th International Conference on Separation Science and Technology (ICSST2007)

Tianwei Tan, Jian-He Xu in *Applied Biochemistry and Biotechnology* (2010)

» Download PDF (83 KB) » View Article

Chapter

Integrated Forest Biorefinery

Biorefining is an exciting concept for the pulp and paper industry, however in many ways, the industry has been considering its implementation for decades (Wising and Stuart 2006...). There have been many example...

Pratima Bajpai in *Biotechnology for Pulp and Paper Processing* (2012)

» Download PDF (885 KB) » View Chapter

Chapter

Biorefinery

A biorefinery is a facility that integrates biomass conversion processes and equipment to produce fuels, power, and value-added chemicals from biomass. The biorefinery concept is analogous to today's crude oil...

Biorefineries (2010)

» Download PDF (570 KB)

Article

Synthesis of an integrated biorefinery via the C–H–O ternary diagram

An integrated biorefinery is designed to handle a wide variety ... and can produce a broad range of products (e.g., biofuel, biochemicals, etc.) via multiple conversion pathways and technologies.

聚类选项:

在页面左方有聚类选项帮助您优化搜索结果

聚类选项包括:

- 内容类型
- 学科
- 子学科
- 出版于...
- 作者
- 语言

SpringerLink平台—检索结果列表结构

14,218 Result(s) for 'Coronavirus AND (COVID-19 OR SARS-CoV-2) AND NOT (MEF'  

Sort By Page 1 of 711

1) Article
2) [Comment on “COVID-19 severe acute respiratory syndrome coronavirus 2 \(SARS-CoV-2\) infection in children and adolescents: a systematic review of critically unwell children and the association with underlying comorbidities”](#)

3) [Jianghui Cai, Yi Deng, Gen Li, Mi Tang, Hua Liang in *European Journal of Pediatrics* \(2021\) 4\)](#)
» [Download PDF](#) (135 KB) » [View Article](#) 5)

Article
[Origin of Severe Acute Respiratory Syndrome Coronavirus 2 \(SARS-CoV-2\) and COVID-19](#)
Roger W. Byard, John Hunsaker, Michael Tsokos in *Forensic Science, Medicine and Pathology* (2020)
» [Download PDF](#) (465 KB) » [View Article](#)

Article 6) [Open Access](#)
[Efficacy of hydroxychloroquine for post-exposure prophylaxis to prevent severe acute respiratory syndrome coronavirus 2 \(SARS-CoV-2\) infection among adults exposed to coronavirus disease \(COVID-19\): a structured summary of a study protocol for a randomised controlled trial](#)

Primary Objective
Ruanne V. Barnabas, Elizabeth Brown, Anna Bershteyn, R. Scott Miller, Mark Wener... in *Trials* (2020)
» [Download PDF](#) (441 KB)

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检索结果列表包括

- 1) 内容类型（例如，文章、期刊、图书章节等）
- 2) 内容标题
- 3) 内容作者
- 4) 内容发表场所
- 5) 下载PDF全文或在线浏览HTML全文（如适用）
- 6) 文章是否以开放获取形式出版

SpringerLink平台—开放获取

211 Result(s) for 'biology'
within Journal

Sort By: Relevance | Date Published | Page 1 of 11

Journal
EURASIP Journal on Bioinformatics and Systems Biology (1) **Open Access**

Volume 2011 / 2011 - Volume 2012 / 2012

This screenshot shows a search result for 'biology'. The journal title 'EURASIP Journal on Bioinformatics and Systems Biology' is highlighted with a red box and labeled '(1)'. A red box around the 'Open Access' icon indicates that this journal is open access.

开放获取标记:

在以下内容页面显示:

- 1) 检索结果页面
- 2) 文章/章节页面
- 3) 期刊/图书主页

Journal
Biology of Sex
Volume 1 / 2010 - Volu

Open Access (2)

This screenshot shows the journal page for 'Biology of Sex'. The 'Open Access' icon is highlighted with a red box and labeled '(2)'. The page also features a search bar and a 'Browse Volumes & Issues' link.

Journal
Biology Bulletin
Volume 1 / 2011 - Volu

EURASIP Journal on Bioinformatics and Systems Biology
ISSN: (Print) 1687-4153 (Online)

Description
The overall aim of EURASIP Journal on Bioinformatics results related to signal processing and bioinformatics area of applications into the core new disciplines of journal is intended to offer a common platform for signal processing, bioinformatics, statisti ... [show all](#)

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This article is part of
Computational Systems Biology
EURASIP Journal on Bioinformatics and Systems Biology

Open Access (3)

Phase computations and phase models for discrete molecular oscillators

Onder Suvak, Alper Demir

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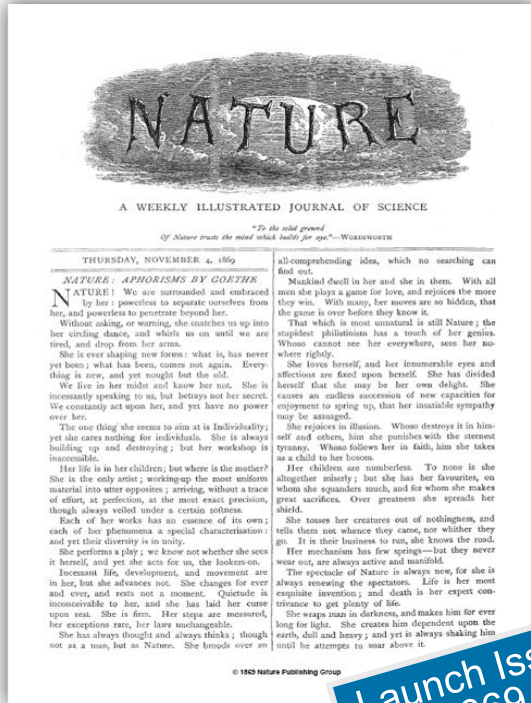
Abstract

Within the
1. Intro

This screenshot shows an article page for 'Phase computations and phase models for discrete molecular oscillators'. The 'Open Access' icon is highlighted with a red box and labeled '(3)'. The page includes a 'Download PDF' button, a 'View Article' button, and a description of the journal's focus.

Nature电子期刊

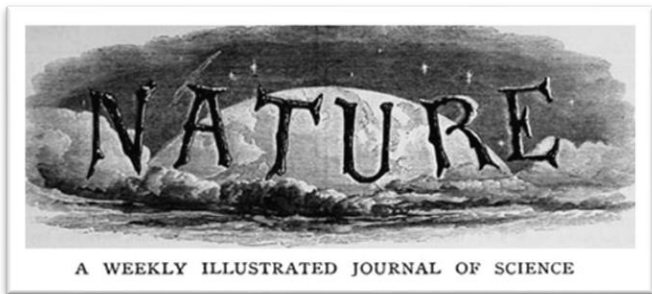
悠久的发展历史



- 1869年11月4日创刊
- 全球领先的科学期刊
- 涵盖各个科学领域
- Nature的使命：

向全球科学家和关注科学的人士传播全球最优质、最重大的科学进展。

Launch Issue
1869

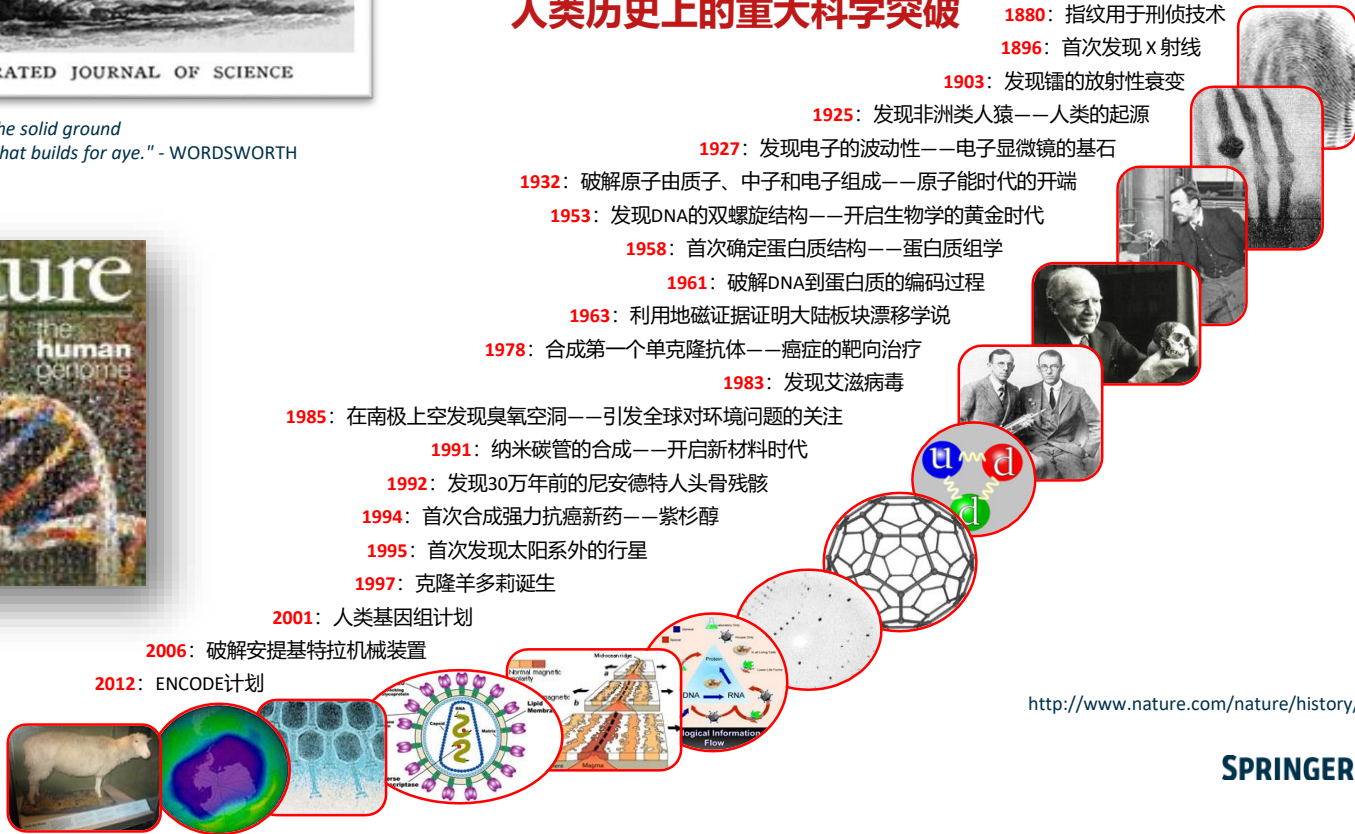


"To the solid ground
Of Nature trusts the mind that builds for aye." - WORDSWORTH



见证近 150 年来 人类历史上的重大科学突破

- 1880: 指纹用于刑侦技术
- 1896: 首次发现 X 射线
- 1903: 发现镭的放射性衰变
- 1925: 发现非洲类人猿——人类的起源
- 1927: 发现电子的波动性——电子显微镜的基石
- 1932: 破解原子由质子、中子和电子组成——原子能时代的开端
- 1953: 发现DNA的双螺旋结构——开启生物学的黄金时代
- 1958: 首次确定蛋白质结构——蛋白质组学
- 1961: 破解DNA到蛋白质的编码过程
- 1963: 利用地磁证据证明大陆板块漂移学说
- 1978: 合成第一个单克隆抗体——癌症的靶向治疗
- 1983: 发现艾滋病毒
- 1985: 在南极上空发现臭氧空洞——引发全球对环境问题的关注
- 1991: 纳米碳管的合成——开启新材料时代
- 1992: 发现30万年前的尼安德特人头骨残骸
- 1994: 首次合成强力抗癌新药——紫杉醇
- 1995: 首次发现太阳系外的行星
- 1997: 克隆羊多莉诞生
- 2001: 人类基因组计划
- 2006: 破解安提基特拉机械装置
- 2012: ENCODE计划



<http://www.nature.com/nature/history/index.html>

Nature Portfolio期刊(2023)

出版生命科学、自然科学、社会科学、应用科学与临床医学的原创研究及综述内容

《自然》

《自然》创刊于1869年，是全球首屈一指的科学周刊。基于科学研究的原创性、重要性、跨学科影响力、即时性、传播力和成果的突破性，《自然》发表经过同行评审的出色原创性研究。

《自然》是被引最多的多学科期刊，已连续10年在多学科领域影响因子排名第一。*《自然》不断启迪着全世界研究人员、临床医师以及学术和行业专家们，并为他们带来宝贵的科学知识。

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涵盖生命科学、物理科学、临床医学和社会科学领域，不仅发表基础研究，也发表综述、批判性评论和分析。

24种《自然综述》系列期刊**：

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- 在影响因子排名前20的期刊中占据8席
- 在影响因子排名前50的期刊中占据19席



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生命科学



地球与环境
科学



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The image shows a screenshot of the Nature website homepage with several callout boxes pointing to specific features:

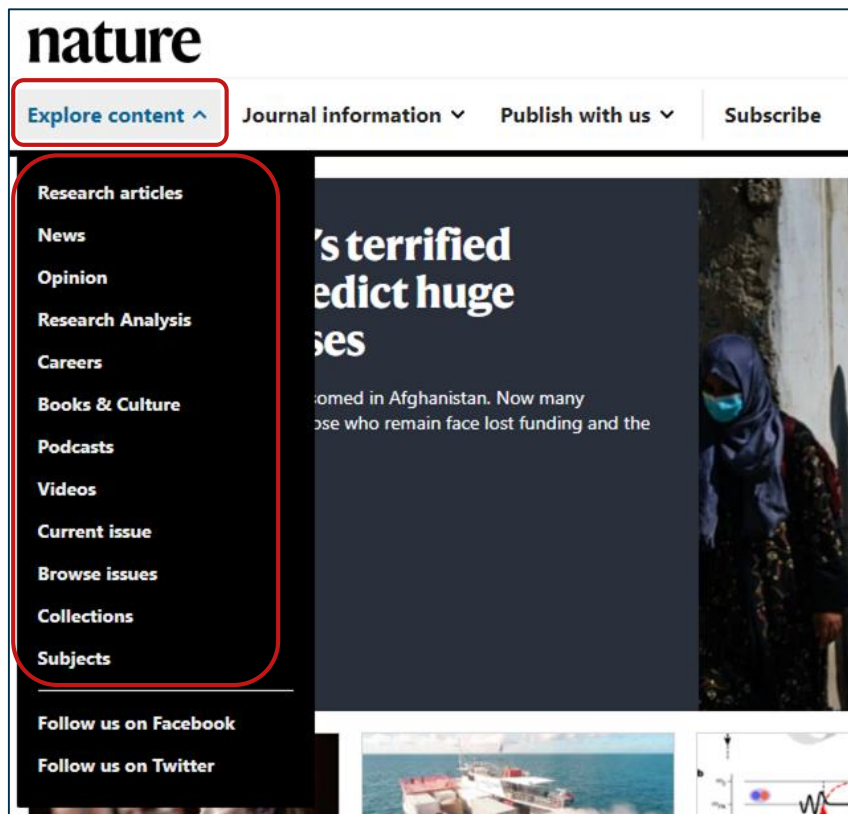
- 《自然》期刊介绍** (Nature Journal Introduction) points to the "Journal information" dropdown menu.
- 《自然》作者须知** (Nature Author Guidelines) points to the "Publish with us" dropdown menu.
- 个人/机构订阅Nature** (Personal/Institutional Nature Subscription) points to the "Subscribe" dropdown menu.
- 浏览Nature.com上的所有期刊** (Browse all journals on Nature.com) points to the "View all journals" link.
- 检索与发现** (Search and Discovery) points to the search bar.
- 登录个人帐户** (Login personal account) points to the "Login" link.
- 探索发现平台上的热门内容** (Explore popular content on the discovery platform) points to the main article header.
- 注册电邮通讯RSS订阅** (Register for email newsletter RSS subscription) points to the "Sign up for alerts" and "RSS feed" links.
- 全球科研领域的重大发现及相关新闻报道** (Major discoveries and related news reports in global research fields) points to the main article content.

The main article featured is titled "The mutation that helps Delta spread like wildfire" with a sub-headline: "A key amino-acid change might underlie the coronavirus variant's ferocious infectivity." The article image shows blue and green fluorescent structures, likely representing virus particles.

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聚焦《自然》最新研究

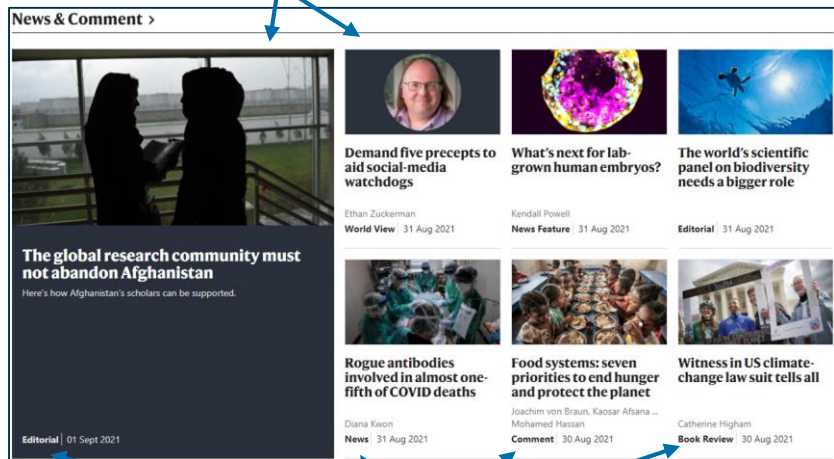
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时评分析由Nature Portfolio编辑撰写，同时编辑们也会向权威学者邀稿，就各学科领域的发展发表意见。



文章类型/专栏
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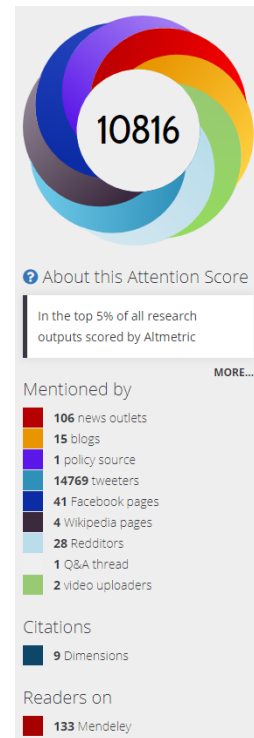
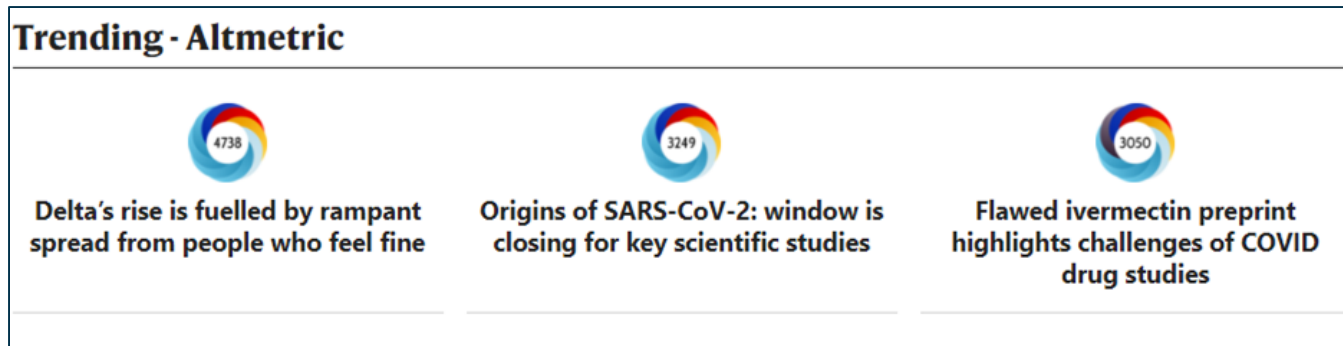
文章所涵盖
学科、主题

发现最受关注的热点文章

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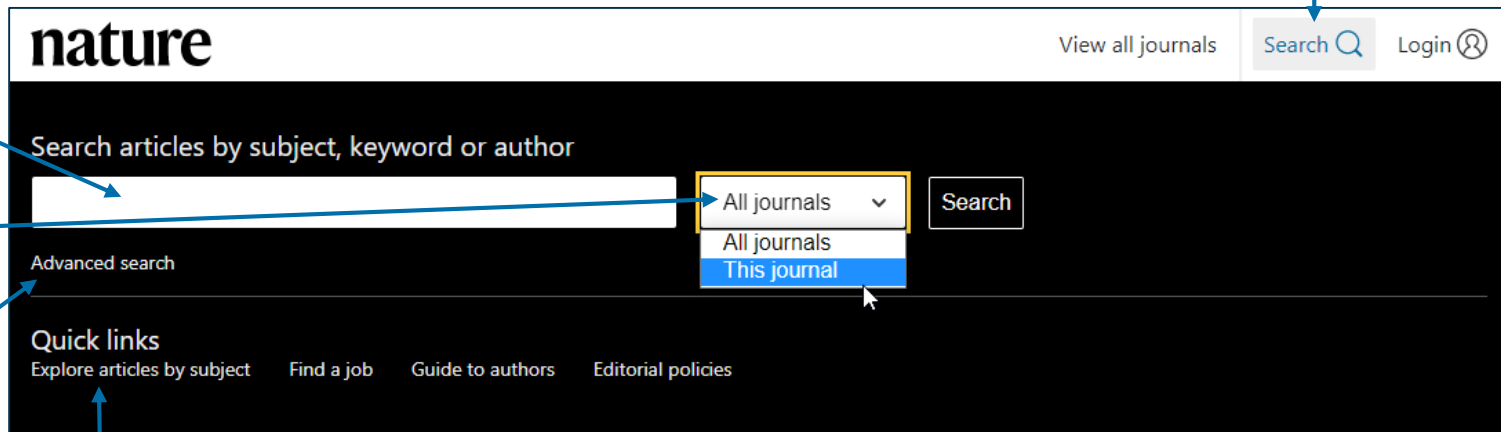
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- 数字是按照文章被不同来源提到的次数和权重计算得出的关注得分（Attention Score），得分越高代表该文章越受关注



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11 Aug 2021

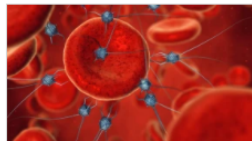
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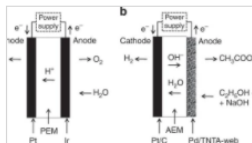
03 Jun 2014

Nature Communications

Volume: 5, P: 1-6

Nanotechnology makes biomass electrolysis more energy efficient than water electrolysis**8)** Electrolytic water splitting requires high electrical energy consumption. Here, the authors report a new type of electrolyser that thanks to palladium-doped titania nanotubes oxidizes bio-alcohols, resulting in energy-convenient hydrogen generation as well as valuable chemical production.

Y. X. Chen, A. Lavacchi ... F. Vizza



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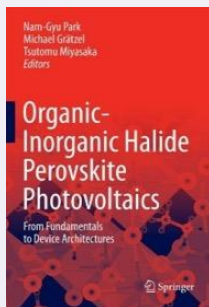
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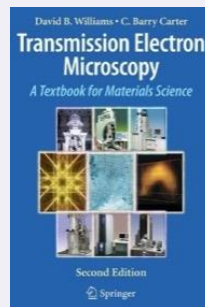
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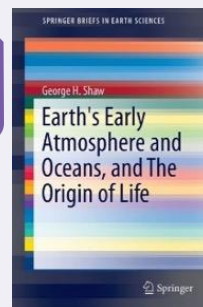
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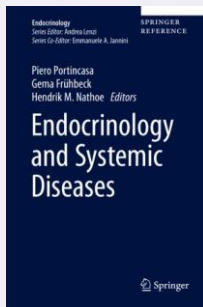
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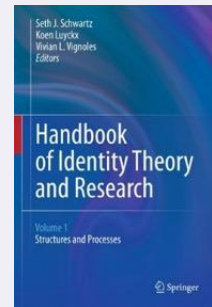
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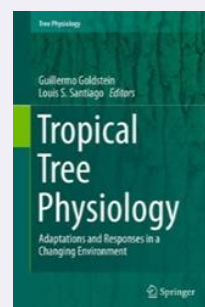
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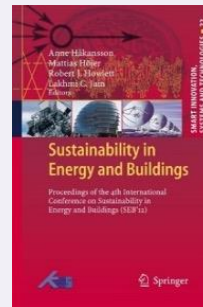
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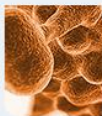
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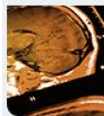
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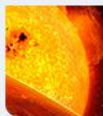
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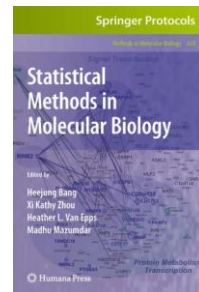
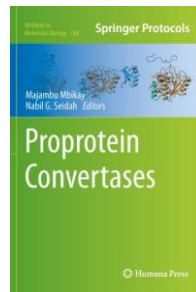
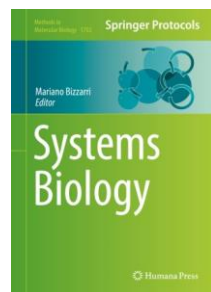
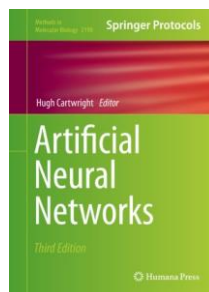
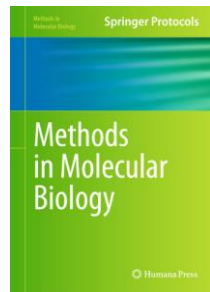
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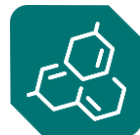


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A Web-Based Protocol for Interprotein Contact Prediction by Deep Learning

Authors: **Authors and affiliations**
Kiaoyang Jing, Hong Zeng, Sheng Wang, Jinbo Xu

Protocol
First Online: 04 October 2019

Part of the **Methods in Molecular Biology** book series (MIMB, volume 2014)

Abstract

Identifying residue-residue contacts in protein-protein interactions or complex is crucial for understanding protein and cell functions. DCA (direct-coupling analysis) methods shed some light on this, but they need many sequence homologs to yield accurate prediction. Inspired by the success of our deep-learning method for intraprotein contact prediction, we have developed RaptorX-ComplexContact, a web server for interprotein residue-residue contact prediction. Given a pair of interacting protein sequences, RaptorX-ComplexContact first searches for their sequence homologs and builds two paired multiple sequence alignments (MSA) based on genomic distance and phylogeny information, respectively. Then, RaptorX-ComplexContact

1 Introduction

Proteins play various roles in cellular and biochemical processes by physically interacting with other proteins or forming protein complexes [1, 2]. Studying protein-protein interactions (PPIs) at residue level is crucial for understanding protein functions in organisms. Experimental techniques have been greatly improved to determine protein complex structure, but they are still low throughput and costly [1, 4]. Therefore, developing effective computational methods to elucidate the 3D structure of a PPI or complex from its sequence is

2 Materials

The following are required and optional materials for the use of RaptorX-ComplexContact server:

1. A personal computer with Internet connection and a web browser with JavaScript enabled. RaptorX-ComplexContact server is compatible with three popular web browsers: Google Chrome, Firefox, and Internet Explorer. Nevertheless, the former two browsers may be slightly better than the third one in visualizing the prediction results.
2. The amino-acid sequences or multiple sequence alignments (MSAs) of the query protein pair in FASTA format. Only the MSAs generated by HIFIBits are systematically tested although in principle any MSAs shall work.
3. The amino-acid sequences or multiple sequence alignments (MSAs) could also be uploaded to the server as text files.
4. The job name and email address are optional, but a valid email address is strongly recommended since it can facilitate job management and result retrieval.

3 Methods

3.1 Job Submission

1. Open the hyperlink <http://raptorx.uchicago.edu/ComplexContact/> in the web browser.
2. From the menu at the top of the page, select "New job."

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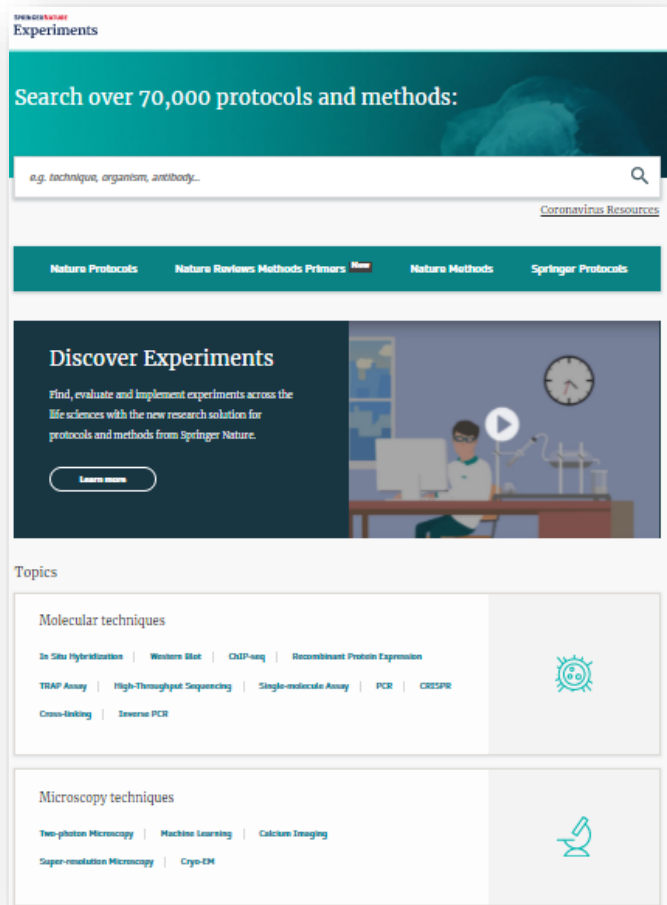
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Tobias Schatton, Ute Schütte, Markus H. Frank 

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An RT-PCR Assay for Detection of Infectious Bronchitis Coronavirus Serotypes
Junfeng Sun, Shengwang Liu
Avian infectious bronchitis virus (IBV), a chicken Gammacoronavirus, is a major poultry pathogen, and is probably endemic in all regions with intensive poultry production. Since IBV was first described in 1936, many serotypes and variants of IBV have ...more
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Chien Chang Loa, Ching Ching Wu, Tsang Long Lin
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Authors:
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Abstract

The coronavirus spike envelope glycoprotein is an essential viral component that mediates virus entry events. Biochemical assessment of the spike protein is critical for understanding structure–function relationships and the roles of the protein in the viral life cycle. Coronavirus spike proteins are typically proteolytically processed and activated by host cell enzymes such as trypsin-like proteases, cathepsins, or proprotein-converterases. Analysis of coronavirus spike proteins by western blot allows the visualization and assessment of proteolytic processing by endogenous or exogenous proteases. Here, we present a method based on western blot analysis to investigate spike protein proteolytic cleavage by transient transfection of HEK-293 T cells allowing expression of the spike protein of the highly pathogenic Middle East respiratory syndrome coronavirus in the presence or absence of a cellular trypsin-like transmembrane serine protease, matriptase. Such analysis enables the characterization of cleavage patterns produced by a host protease on a coronavirus spike glycoprotein. [less](#)

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Fig. 1

Keywords

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Models:
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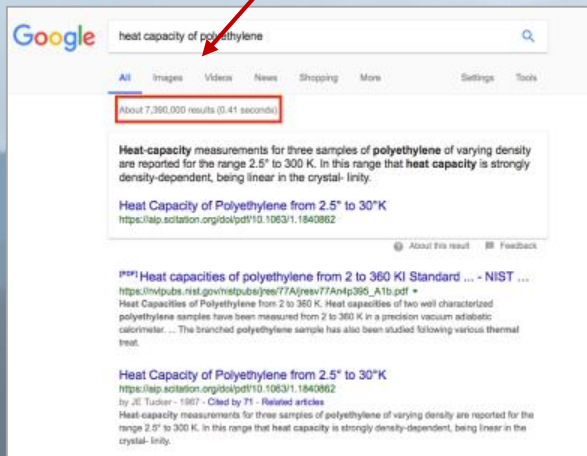
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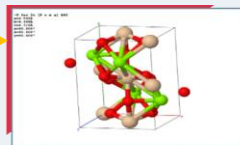
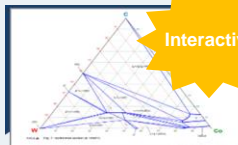
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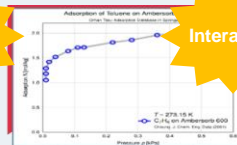
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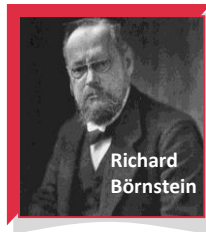
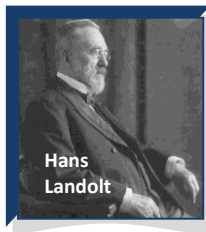


Parameter	Value	Unit
Temperature	298.15	K
Pressure	1.01325	bar
Volume	0.0001	m ³
Mass	0.001	kg
Energy	1000	J
Entropy	10	J/K
Enthalpy	100	J
Free Energy	10	J
Heat Capacity	10	J/K
Thermal Conductivity	10	W/mK
Electrical Conductivity	10	S/m
Magnetic Susceptibility	10	m ³ /mol
Dielectric Constant	10	
Refractive Index	1.5	
Sound Velocity	1000	m/s
Thermal Expansion Coefficient	10	1/K
Thermal Stability	10	h
Chemical Stability	10	h
Biological Stability	10	h
Environmental Stability	10	h
Material Stability	10	h
Structural Stability	10	h
Mechanical Stability	10	h
Thermal Stability	10	h
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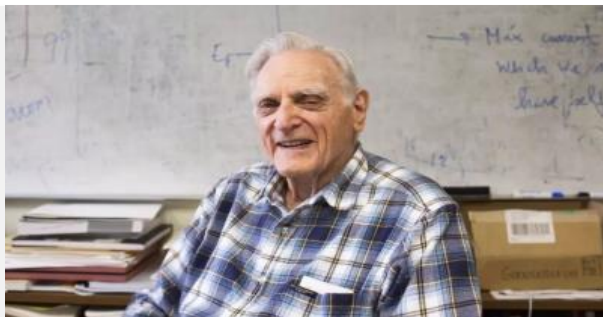


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John B. Goodenough , 2019 Nobel Prize

3.0 Einführung [H. S. 25]

3 Crystallographic and magnetic properties of perovskite and perovskite-related compounds¹⁾

3.0 General remarks — Allgemeines

3.0 Introduction — Einleitung

The perovskites and other oxides with the perovskite structure have been the subject of intensive research for many years. This is due to their unique properties, which are primarily determined by the structure of the perovskite lattice. The perovskite structure is a type of crystal structure with the chemical formula ABX_3 , where A, B, and X represent different ions. The perovskite structure is characterized by its high degree of symmetry and its ability to accommodate a wide variety of ions. The perovskite structure is also known for its unique properties, such as its high thermal stability and its ability to conduct electricity. The perovskite structure is a type of crystal structure with the chemical formula ABX_3 , where A, B, and X represent different ions. The perovskite structure is characterized by its high degree of symmetry and its ability to accommodate a wide variety of ions. The perovskite structure is also known for its unique properties, such as its high thermal stability and its ability to conduct electricity.

1) This work was supported by the U.S. Air Force Office of Scientific Research.

Group III
Condensed Matter
Volume 4
Magnetic and Other
Properties of Oxides
and Related
Compounds¹⁾

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**Reinhard Genzel
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6.3.1 The galactic center [Ref. p. 100]

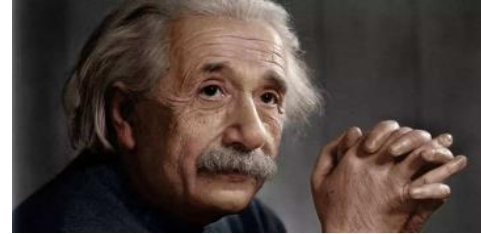
Fig. 1. Position in the galactic center for observation in VLBA.

A system of three stars and several giant molecular clouds (GMCs) in the central region and the galactic plane. Most of these stars accompany the BH region and related sources are located at greater distances. Their relative proper motion and orbital motion in the case of galactic rotation with substantial non-circular motion (1985).

The position of the stars is shown in the figure. The stars are labeled with their names: Sgr A*, Sgr B2, Sgr C, Sgr D, Sgr E, Sgr F, Sgr G, Sgr H, Sgr I, Sgr J, Sgr K, Sgr L, Sgr M, Sgr N, Sgr O, Sgr P, Sgr Q, Sgr R, Sgr S, Sgr T, Sgr U, Sgr V, Sgr W, Sgr X, Sgr Y, Sgr Z, Sgr AA, Sgr AB, Sgr AC, Sgr AD, Sgr AE, Sgr AF, Sgr AG, Sgr AH, Sgr AI, Sgr AJ, Sgr AK, Sgr AL, Sgr AM, Sgr AN, Sgr AO, Sgr AP, Sgr AQ, Sgr AR, Sgr AS, Sgr AT, Sgr AU, Sgr AV, Sgr AW, Sgr AX, Sgr AY, Sgr AZ, Sgr BA, Sgr BB, Sgr BC, Sgr BD, Sgr BE, Sgr BF, Sgr BG, Sgr BH, Sgr BI, Sgr BJ, Sgr BK, Sgr BL, Sgr BM, Sgr BN, Sgr BO, Sgr BP, Sgr BQ, Sgr BR, Sgr BS, Sgr BT, Sgr BU, Sgr BV, Sgr BW, Sgr BX, Sgr BY, Sgr BZ, Sgr CA, Sgr CB, Sgr CC, Sgr CD, Sgr CE, Sgr CF, Sgr CG, Sgr CH, Sgr CI, Sgr CJ, Sgr CK, Sgr CL, Sgr CM, Sgr CN, Sgr CO, Sgr CP, Sgr CQ, Sgr CR, Sgr CS, Sgr CT, Sgr CU, Sgr CV, Sgr CW, Sgr CX, Sgr CY, Sgr CZ, Sgr DA, Sgr DB, Sgr DC, Sgr DD, Sgr DE, Sgr DF, Sgr DG, Sgr DH, Sgr DI, Sgr DJ, Sgr DK, Sgr DL, Sgr DM, Sgr DN, Sgr DO, Sgr DP, Sgr DQ, Sgr DR, Sgr DS, Sgr DT, Sgr DU, Sgr DV, Sgr DW, Sgr DX, Sgr DY, Sgr DZ, Sgr EA, Sgr EB, Sgr EC, Sgr ED, Sgr EE, Sgr EF, Sgr EG, Sgr EH, Sgr EI, Sgr EJ, Sgr EK, Sgr EL, Sgr EM, Sgr EN, Sgr EO, Sgr EP, Sgr EQ, Sgr ER, Sgr ES, Sgr ET, Sgr EU, Sgr EV, Sgr EW, Sgr EX, Sgr EY, Sgr EZ, Sgr FA, Sgr FB, Sgr FC, Sgr FD, Sgr FE, Sgr FF, Sgr FG, Sgr FH, Sgr FI, Sgr FJ, Sgr FK, Sgr FL, Sgr FM, Sgr FN, Sgr FO, Sgr FP, Sgr FQ, Sgr FR, Sgr FS, Sgr FT, Sgr FU, Sgr FV, Sgr FW, Sgr FX, Sgr FY, Sgr FZ, Sgr GA, Sgr GB, Sgr GC, Sgr GD, Sgr GE, Sgr GF, Sgr GG, Sgr GH, Sgr GI, Sgr GJ, Sgr GK, Sgr GL, Sgr GM, Sgr GN, Sgr GO, Sgr GP, Sgr GQ, Sgr GR, Sgr GS, Sgr GT, Sgr GU, Sgr GV, Sgr GW, Sgr GX, Sgr GY, Sgr GZ, Sgr HA, Sgr HB, Sgr HC, Sgr HD, Sgr HE, Sgr HF, Sgr HG, Sgr HH, Sgr HI, Sgr HJ, Sgr HK, Sgr HL, Sgr HM, Sgr HN, Sgr HO, Sgr HP, Sgr HQ, Sgr HR, Sgr HS, Sgr HT, Sgr HU, Sgr HV, Sgr HW, Sgr HX, Sgr HY, Sgr HZ, Sgr IA, Sgr IB, Sgr IC, Sgr ID, Sgr IE, Sgr IF, Sgr IG, Sgr IH, Sgr II, Sgr IJ, Sgr IK, Sgr IL, Sgr IM, Sgr IN, 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Sgr XE, Sgr XF, Sgr XG, Sgr XH, Sgr XI, Sgr XJ, Sgr XK, Sgr XL, Sgr XM, Sgr XN, Sgr XO, Sgr XP, Sgr XQ, Sgr XR, Sgr XS, Sgr XT, Sgr XU, Sgr XV, Sgr XW, Sgr XX, Sgr XY, Sgr XZ, Sgr YA, Sgr YB, Sgr YC, Sgr YD, Sgr YE, Sgr YF, Sgr YG, Sgr YH, Sgr YI, Sgr YJ, Sgr YK, Sgr YL, Sgr YM, Sgr YN, Sgr YO, Sgr YP, Sgr YQ, Sgr YR, Sgr YS, Sgr YT, Sgr YU, Sgr YV, Sgr YW, Sgr YX, Sgr YY, Sgr YZ, Sgr ZA, Sgr ZB, Sgr ZC, Sgr ZD, Sgr ZE, Sgr ZF, Sgr ZG, Sgr ZH, Sgr ZI, Sgr ZJ, Sgr ZK, Sgr ZL, Sgr ZM, Sgr ZN, Sgr ZO, Sgr ZP, Sgr ZQ, Sgr ZR, Sgr ZS, Sgr ZT, Sgr ZU, Sgr ZV, Sgr ZW, Sgr ZX, Sgr ZY, Sgr ZZ.

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ANNALEN DER PHYSIK.



9. Die Plancksche Theorie der Strahlung und die Theorie der spezifischen Wärme; von A. Einstein.

In zwei früheren Arbeiten¹⁾ habe ich gezeigt, daß die Interpretation des Energieverteilungsgesetzes der schwarzen Strahlung im Sinne der Boltzmannschen Theorie des zweiten Hauptsatzes uns zu einer neuen Auffassung der Phänomene der Lichtemission und Lichtabsorption führt, die zwar noch keineswegs den Charakter einer vollständigen Theorie besitzt, die aber insofern bemerkenswert ist, als sie das Verständnis einer Reihe von Gesetzmäßigkeiten erleichtert. In der vorliegenden Arbeit soll nun dargetan werden, daß die Theorie der Strahlung — und zwar speziell die Plancksche Theorie — zu einer Modifikation der molekular-kinetischen Theorie der Wärme führt, durch welche einige Schwierigkeiten beseitigt werden, die bisher der Durchführung jener Theorie im Wege standen. Auch wird sich ein gewisser Zusammenhang zwischen dem thermischen und optischen Verhalten fester Körper ergeben.

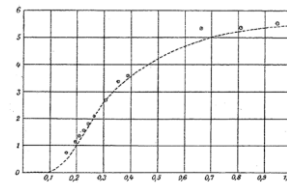
Bern, November 1906.

(Eingegangen 9. November 1906.)

Wir entnehmen ferner den Tabellen von Landolt und Börnstein einige Angaben über ultrarote Eigenschwingungen (metallische Reflexion, Reststrahlen) einiger durchsichtiger fester Körper; die beobachteten λ sind in nachstehender Tabelle unter „ $\lambda_{\text{beob.}}$ “ angegeben; die Zahlen unter „ $\lambda_{\text{ber.}}$ “ sind obiger Tabelle entnommen, soweit sie sich auf Atome von abnorm kleiner spezifischer Wärme beziehen; für die übrigen soll $\lambda > 48 \mu$ sein.

Körper	$\lambda_{\text{beob.}}$	$\lambda_{\text{ber.}}$
CaFl	24,916	83, > 48
NaCl		
KCl		
CaCO ₃	6,7; 1	
SiO ₂	8,5; 9	

190 A. Einstein. Plancksche Theorie der Strahlung etc.



betreffenden festen Stoffe vorkommen, für die spezifische Wärme pro Grammäquivalent den Ausdruck²⁾

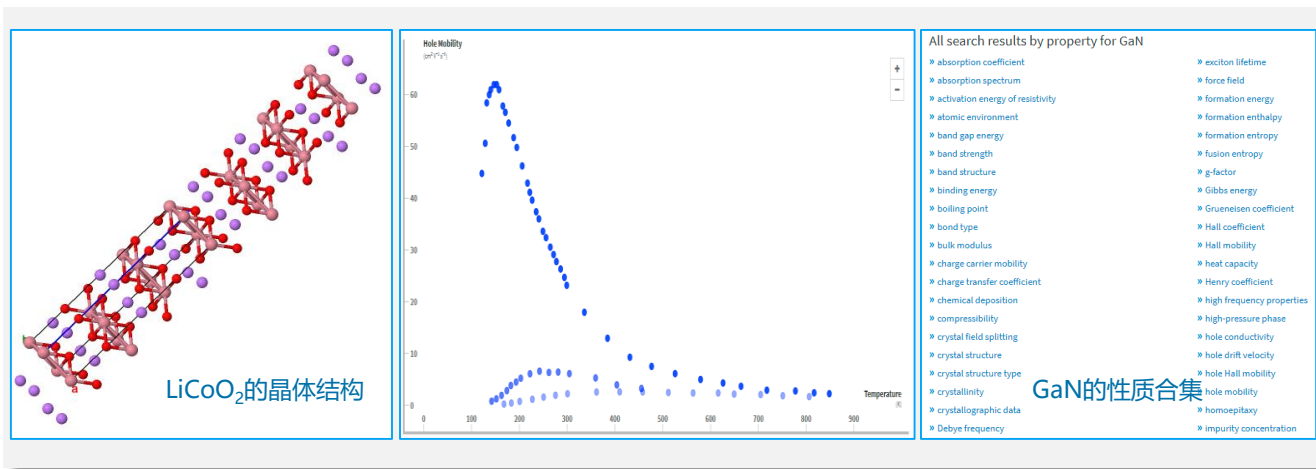
$$(8a) \quad c = 5,94 \sum \frac{e^{\frac{h\nu}{T}} \left(\frac{h\nu}{T}\right)^3}{\left(e^{\frac{h\nu}{T}} - 1\right)^2}$$

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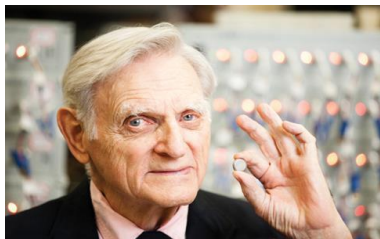
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	71000书目报告	
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