

Ebook free Orcad pcb designer orcad pcb designer with pspice .pdf

complete pcb design using orcad capture and pcb editor second edition provides practical instruction on how to use the orcad design suite to design and manufacture printed circuit boards chapters cover how to design a pcb using orcad capture and orcad layout adding pspice simulation capabilities to a design how to develop custom schematic parts how to create footprints and pspice models and how to perform documentation simulation and board fabrication from the same schematic design this book is suitable for both beginners and experienced designers providing basic principles and the program s full capabilities for optimizing designs presents a fully updated edition on orcad capture version 17 2 combines the theoretical and practical parts of pcb design includes real life design examples that show how and why designs work providing a comprehensive toolset for understanding orcad software provides the exact order in which a circuit and pcb are designed introduces the ipc jedec and ieee standards relating to pcb design this book provides instruction on how to use the orcad design suite to design and manufacture printed circuit boards the primary goal is to show the reader how to design a pcb using orcad capture and orcad editor capture is used to build the schematic diagram of the circuit and editor is used to design the circuit board so that it can be manufactured the book is written for both students and practicing engineers who need in depth instruction on how to use the software and who need background knowledge of the pcb design process beginning to end coverage of the printed circuit board design process information is presented in the exact order a circuit and pcb are designed over 400 full color illustrations including extensive use of screen shots from the software allow readers to learn features of the product in the most realistic manner possible straightforward realistic examples present the how and why the designs work providing a comprehensive toolset for understanding the orcad software introduces and follows ieee ipc and jedec industry standards for pcb design unique chapter on design for manufacture covers padstack and footprint design and component placement for the design of manufacturable pcb s free cd containing the orcad demo version and design files complete pcb design using orcad capture and layout provides instruction on how to use the orcad design suite to design and manufacture printed circuit boards the book is written for both students and practicing engineers who need a quick tutorial on how to use the software and who need in depth knowledge of the capabilities and limitations of the software package there are two goals the book aims to reach the primary goal is to show the reader how to design a pcb using orcad capture and orcad layout capture is used to build the schematic diagram of the circuit and layout is used to design the circuit board so that it can be manufactured the secondary goal is to show the reader how to add pspice simulation capabilities to the design and how to develop custom schematic parts footprints and pspice models often times separate designs are produced for documentation simulation and board fabrication this book shows how to perform all three functions from the same schematic design this approach saves time and money and ensures continuity between the design and the manufactured product information is presented in the exact order a circuit and pcb are designed straightforward realistic examples present the how and why the designs work providing a comprehensive toolset for understanding the orcad software introduction to the ipc jedec and ieee standards relating to pcb design full color interior and extensive illustrations allow readers to learn features of the product in the most realistic manner possible inside orcad capture for windows is a reference manual and tutorial for engineers and technicians who use orcad as an engineering design assistance eda tool this introduction to orcad is designed to give easy access to practical information important subjects such as export of schematic data for use in circuit analysis or pcb design are expanded well beyond the information available in orcad s documentation the command reference is a complete listing and explanation of the orcad commands and functions a series of appendices provide important tips and techniques and information about linking orcad to other cad cae tools used in the electronics design process a utilities disk is included exercises at the end of each chapter make this book appropriate for academic use the accompanying disk contains a parts library for the tutorial exercises and several useful utilities such as a bill of material sort making this book a valuable tool for the

design engineer or engineering student detailed tutorial orcad capture for windows is supported on windows 3 1 95 and nttips and techniques for design engineers this work provides an introduction to orcad containing a complete listing and explanation of the orcad commands and functions a series of appendices cover techniques to link orcad to other computer aided design tools the accompanying disk contains a lib offers a complete hands on approach to the use of computer aided software and laboratory based hardware tools for the design and fabrication of electronic printed circuit boards in an eda environment beginning with basic electronic concepts and ending with fully developed projects it features extensive examples and complete solutions to computer aided electronic circuit board design and fabrication using the most affordable and widely used eda software tools from orcad inc appropriate for self paced study in computer aided tools for electronic design introduction to schematic capture installation and configuration orcad basics hierarchical design post processing library editor advanced features command reference tips and techniques this is an exciting career path which thousands of engineers get attracted to readily this book shall enable the readers to familiarise themselves with the basics of pcb design an integral part of the product design cycle this book is the first in the series of books that have been planned on electronic product design is done from an industry perspective pcb designing is an exciting career prospect for the budding engineer and this book shall enables you to become one this book is not meant to be just a textbook but also as a ready reckoner for pcb design enegineers your step by step guide to designing and programming electronics key features create interactive and responsive electronic systems by constructing sensor based arduino projects learn how to apply and simulate analog devices in diverse electronic applications design custom circuit boards using ti tools through pcb learning description simulation plays a vital role in the design of electronics based projects as it effectively saves time and money for users by eliminating the need for hardware trial and error if you want to understand the significance of simulation as an indispensable tool for efficiently iterating analyzing and optimizing your electronic projects this book is a valuable resource this book introduces you to the essential tools commonly used by professional electronic project designers through this guide you will gain the ability to select various components suitable for your projects and simulate them without fear of causing any damage additionally the book provides instruction on using diverse simulation tools enabling you to undertake a wide range of projects such as building power supplies designing pcbs and integrating sensors with microprocessors microcontrollers by gaining familiarity with design and simulation tools throughout the project development process this book aims to empower project builders transforming them into self assured and capable designers what you will learn streamline the design process in electronics using the webench ti tool design power supplies using the ti webench for efficient and reliable electronic devices achieve precise and effective filtering in electronic circuits using the ti filter designer master filter design techniques for signal processing and noise reduction gain comprehensive circuit analysis skills by exploring the ti analog simulation tool and understanding basic circuits who this book is for this book targets students electronics and computer graduates robotics hobbyists and individuals interested in creating their own electronic gadgets it serves as a guide for beginners by introducing basic electronic concepts and the functioning of commonly used components for expert users it acts as a refresher ensuring a comprehensive understanding of electronics table of contents 1 introduction to the world of electronics 1 passive elements 2 introduction to the world of electronics 2 active elements 3 basic arduino projects using tinkercad 4 sensor based arduino projects 5 getting started with webench tool by ti 6 power supply design with ti webench 7 ti filter designer 8 filter design 9 ti analog devices simulation and basic circuits 10 analog device simulation and applications 11 pcb designing ti tool 12 pcb thermal calculation analog design and simulation using orcad capture and pspice provides step by step instructions on how to use the cadence orcad family of electronic design automation software for analog design and simulation organized into 22 chapters each with exercises at the end it explains how to start capture and set up the project type and libraries for pspice simulation it also covers the use of ac analysis to calculate the frequency and phase response of a circuit and dc analysis to calculate the circuits bias point over a range of values the book describes a parametric sweep which involves sweeping a parameter through a range of values along with the use of stimulus editor to define transient analog and digital sources it also examines the failure of simulations due to circuit errors and missing or incorrect parameters and discusses the use of monte carlo analysis to

throughout the global supply chain written by a team of international experts from both industry and academia this comprehensive volume offers new information on geographical specialization as well as the latest phase of the eus directive on the restriction of hazardous substances rohs ii fully overhauled to cover the latest scientific and technical developments brand new coverage of printed circuit supply chain technology and geographical specialization complete explanations of new eu safety directives for halogen free base materials

Its spice when i attended college we studied vacuum tubes in our junior year at that time an average radio had ve vacuum tubes and better ones even seven then transistors appeared in 1960s a good radio was judged to be one with more thent transistors later good radios had 15 20 transistors and after that everyone stopped counting transistors today modern processors runing personal computers have over 10 million transistors and more millions will be added every year the difference between 20 and 20m is in complexity methodology and business models designs with 20 tr sistors are easily generated by design engineers without any tools whilst designs with 20m transistors can not be done by humans in reasonable time without the help of prof dr gajski demonstrates the y chart automation this difference in complexity introduced a paradigm shift which required sophisticated methods and tools and introduced design automation into design practice by the decomposition of the design process into many tasks and abstraction levels the methodology of designing chips or systems has also evolved similarly the business model has changed from vertical integration in which one company did all the tasks from product speci cation to manufacturing to globally distributed client server production in which most of the design and manufacturing tasks are outsourced this document brings together a set of latest data points and publicly available information relevant for technology industry we are very excited to share this content and believe that readers will benefit from this periodic publication immensely

2019 altium designer 19 18 19 16 altium designer 19 altium designer 19 pcb pcb pcb pcb pcb drc altium designer 2 stm32 4 pcb rk3288

Рассмотрены основы теории электрических цепей элементы полупроводниковой и цифровой электроники организация вторичных источников электропитания и интерфейсы цифровых устройств Пособие включает курс практических работ позволяющих освоить принципы проектирования элементов и узлов цифровой электроники на практике Предназначено для бакалавров направления подготовки 09 03 01 Информатика и вычислительная техника Может использоваться в качестве основной и дополнительной литературы при изучении дисциплин ЭВМ и периферийные устройства Сети и телекоммуникации Схемотехника ЭВМ Цифровая электроника и пр

Complete PCB Design Using OrCAD Capture and PCB Editor

2019-06-20

complete pcb design using orcad capture and pcb editor second edition provides practical instruction on how to use the orcad design suite to design and manufacture printed circuit boards chapters cover how to design a pcb using orcad capture and orcad layout adding pspice simulation capabilities to a design how to develop custom schematic parts how to create footprints and pspice models and how to perform documentation simulation and board fabrication from the same schematic design this book is suitable for both beginners and experienced designers providing basic principles and the program s full capabilities for optimizing designs presents a fully updated edition on orcad capture version 17 2 combines the theoretical and practical parts of pcb design includes real life design examples that show how and why designs work providing a comprehensive toolset for understanding orcad software provides the exact order in which a circuit and pcb are designed introduces the ipc jedec and ieee standards relating to pcb design

Complete PCB Design Using OrCAD Capture and PCB Editor

2009-05-28

this book provides instruction on how to use the orcad design suite to design and manufacture printed circuit boards the primary goal is to show the reader how to design a pcb using orcad capture and orcad editor capture is used to build the schematic diagram of the circuit and editor is used to design the circuit board so that it can be manufactured the book is written for both students and practicing engineers who need in depth instruction on how to use the software and who need background knowledge of the pcb design process beginning to end coverage of the printed circuit board design process information is presented in the exact order a circuit and pcb are designed over 400 full color illustrations including extensive use of screen shots from the software allow readers to learn features of the product in the most realistic manner possible straightforward realistic examples present the how and why the designs work providing a comprehensive toolset for understanding the orcad software introduces and follows ieee ipc and jedec industry standards for pcb design unique chapter on design for manufacture covers padstack and footprint design and component placement for the design of manufacturable pcb s free cd containing the orcad demo version and design files

Complete PCB Design Using OrCad Capture and Layout

2011-04-01

complete pcb design using orcad capture and layout provides instruction on how to use the orcad design suite to design and manufacture printed circuit boards the book is written for both students and practicing engineers who need a quick tutorial on how to use the software and who need in depth knowledge of the capabilities and limitations of the software package there are two goals the book aims to reach the primary goal is to show the reader how to design a pcb using orcad capture and orcad

layout capture is used to build the schematic diagram of the circuit and layout is used to design the circuit board so that it can be manufactured the secondary goal is to show the reader how to add pspice simulation capabilities to the design and how to develop custom schematic parts footprints and pspice models often times separate designs are produced for documentation simulation and board fabrication this book shows how to perform all three functions from the same schematic design this approach saves time and money and ensures continuity between the design and the manufactured product information is presented in the exact order a circuit and pcb are designed straightforward realistic examples present the how and why the designs work providing a comprehensive toolset for understanding the orcad software introduction to the ipc jedec and ieee standards relating to pcb design full color interior and extensive illustrations allow readers to learn features of the product in the most realistic manner possible

Cadence allegro OrCAD PCB designer

2020

inside orcad capture for windows is a reference manual and tutorial for engineers and technicians who use orcad as an engineering design assistance eda tool this introduction to orcad is designed to give easy access to practical information important subjects such as export of schematic data for use in circuit analysis or pcb design are expanded well beyond the information available in orcad s documentation the command reference is a complete listing and explanation of the orcad commands and functions a series of appendices provide important tips and techniques and information about linking orcad to other cad cae tools used in the electronics design process a utilities disk is included exercises at the end of each chapter make this book appropriate for academic use the accompanying disk contains a parts library for the tutorial exercises and several useful utilities such as a bill of material sort making this book a valuable tool for the design engineer or engineering student detailed tutorial orcad capture for windows is supported on windows 3 1 95 and nttips and techniques for design engineers

Cadence® OrCAD® PCB designer OrCAD® PSpice

2010

this work provides an introduction to orcad containing a complete listing and explanation of the orcad commands and functions a series of appendices cover techniques to link orcad to other computer aided design tools the accompanying disk contains a lib

ORCAD PCB DESIGNER

2010-06-28

offers a complete hands on approach to the use of computer aided software and laboratory based hardware tools for the design and fabrication of electronic printed

circuit boards in an eda environment beginning with basic electronic concepts and ending with fully developed projects it features extensive examples and complete solutions to computer aided electronic circuit board design and fabrication using the most affordable and widely used eda software tools from orcad inc appropriate for self paced study in computer aided tools for electronic design

OrCAD PCB Designer(Cadence)

2013-07-22

introduction to schematic capture installation and configuration orcad basics hierarchical design post processing library editor advanced features command reference tips and techniques

Cadence OrCAD PCB Designer OrCAD PSpice Version 16.3(2)

2010-07-20

this is an exciting career path which thousands of engineers get attracted to readily this book shall enable the readers to familiarise themselves with the basics of pcb design an integral part of the product design cycle this book is the first in the series of books that have been planned on electronic product design is done from an industry perspective pcb designing is an exciting career prospect for the budding engineer and this book shall enables you to become one this book is not meant to be just a textbook but also as a ready reckoner for pcb design enegineers

OrCAD PCB Designer(ver 16.6)

2013-08-30

your step by step guide to designing and programming electronics key features create interactive and responsive electronic systems by constructing sensor based arduino projects learn how to apply and simulate analog devices in diverse electronic applications design custom circuit boards using ti tools through pcb learning description simulation plays a vital role in the design of electronics based projects as it effectively saves time and money for users by eliminating the need for hardware trial and error if you want to understand the significance of simulation as an indispensable tool for efficiently iterating analyzing and optimizing your electronic projects this book is a valuable resource this book introduces you to the essential tools commonly used by professional electronic project designers through this guide you will gain the ability to select various components suitable for your projects and simulate them without fear of causing any damage additionally the book provides instruction on using diverse simulation tools enabling you to undertake a wide range of projects such as building power supplies designing pcbs and integrating sensors with microprocessors microcontrollers by gaining familiarity with design and simulation tools throughout the project development process this book aims to empower project

builders transforming them into self assured and capable designers what you will learn streamline the design process in electronics using the webench ti tool design power supplies using the ti webench for efficient and reliable electronic devices achieve precise and effective filtering in electronic circuits using the ti filter designer master filter design techniques for signal processing and noise reduction gain comprehensive circuit analysis skills by exploring the ti analog simulation tool and understanding basic circuits who this book is for this book targets students electronics and computer graduates robotics hobbyists and individuals interested in creating their own electronic gadgets it serves as a guide for beginners by introducing basic electronic concepts and the functioning of commonly used components for expert users it acts as a refresher ensuring a comprehensive understanding of electronics table of contents 1 introduction to the world of electronics 1 passive elements 2 introduction to the world of electronics 2 active elements 3 basic arduino projects using tinkercad 4 sensor based arduino projects 5 getting started with webench tool by ti 6 power supply design with ti webench 7 ti filter designer 8 filter design 9 ti analog devices simulation and basic circuits 10 analog device simulation and applications 11 pcb designing ti tool 12 pcb thermal calculation

Inside OrCAD Capture for Windows

1998-08-24

analog design and simulation using orcad capture and pspice provides step by step instructions on how to use the cadence orcad family of electronic design automation software for analog design and simulation organized into 22 chapters each with exercises at the end it explains how to start capture and set up the project type and libraries for pspice simulation it also covers the use of ac analysis to calculate the frequency and phase response of a circuit and dc analysis to calculate the circuits bias point over a range of values the book describes a parametric sweep which involves sweeping a parameter through a range of values along with the use of stimulus editor to define transient analog and digital sources it also examines the failure of simulations due to circuit errors and missing or incorrect parameters and discusses the use of monte carlo analysis to estimate the response of a circuit when device model parameters are randomly varied between specified tolerance limits according to a specified statistical distribution other chapters focus on the use of worst case analysis to identify the most critical components that will affect circuit performance how to add and create pspice models and how the frequency related signal and dispersion losses of transmission lines affect the signal integrity of high speed signals via the transmission lines practitioners researchers and those interested in using the cadence orcad professional simulation software to design and analyze electronic circuits will find the information methods compounds and experiments described in this book extremely useful provides both a comprehensive user guide and a detailed overview of simulation each chapter has worked and ready to try sample designs and provides a wide range of to do exercises core skills are developed using a running case study circuit covers capture and pspice together for the first time

Cadence OrCAD Allegro PCB Designer Version 16.5

2012-08-10

the management magazine for the electronics industry

Carence orCAD Allegro PCB Designer(Version 16.6)

2014-02-20

introduction to electromagnetic compatibility the revised new edition of the classic textbook is an essential resource for anyone working with today s advancements in both digital and analog devices communications systems as well as power energy generation and distribution introduction to electromagnetic compatibility provides thorough coverage of the techniques and methodologies used to design and analyze electronic systems that function acceptably in their electromagnetic environment assuming no prior familiarity with electromagnetic compatibility this user friendly textbook first explains fundamental emc concepts and technologies before moving on to more advanced topics in emc system design this third edition reflects the results of an extensive detailed review of the entire second edition embracing and maintaining the content that has stood the test of time such as from the theory of electromagnetic phenomena and associated mathematics to the practical background information on u s and international regulatory requirements in addition to converting dr paul s original spice exercises to contemporary utilization of Itspice there is new chapter material on antenna modeling and simulation this edition will continue to provide invaluable information on computer modeling for emc circuit board and system level emc design emc test practices emc measurement procedures and equipment and more such as features fully worked examples topic reviews self assessment questions end of chapter exercises and numerous high quality images and illustrations contains useful appendices of phasor analysis methods electromagnetic field equations and waves the ideal textbook for university courses on emc introduction to electromagnetic compatibility third edition is also an invaluable reference for practicing electrical engineers dealing with interference issues or those wanting to learn more about electromagnetic compatibility to become better product designers

Inside OrCAD

1996-05-21

introduction to pcb design schematic drafting single sided pcb design double sided pcb design surface mount pcb design importing gerber files for manufacturing documentation importing hppl files for manufacturing documentation importing gerber artwork files for viewing importing excellon format nc drill data converting hppl to gerber format appendix a gerber format appendix b excellon format appendix c hppl format appendix d information about the disk supplied with the book index

Computer-aided Electronic Circuit Board Design and Fabrication

1996

pcbcad is a powerful computer-aided design (CAD) software package for printed circuit board (PCB) design and fabrication. It provides a comprehensive set of tools for creating, editing, and simulating PCB designs. The software is designed to be user-friendly and efficient, allowing designers to quickly and accurately create complex PCB designs. It includes features such as schematic capture, layout design, and manufacturing data generation. The software is available for both Windows and Macintosh operating systems. It is a valuable tool for anyone involved in PCB design and fabrication.

Ver17.2 allegro OrCAD PCB desingner

2018

for more than 20 years network world has been the premier provider of information intelligence and insight for network and it executives responsible for the digital nervous systems of large organizations readers are responsible for designing implementing and managing the voice data and video systems their companies use to support everything from business critical applications to employee collaboration and electronic commerce

Allegro orCAD PCB Designer Version 16.5

2012-08-25

for more than 20 years network world has been the premier provider of information intelligence and insight for network and it executives responsible for the digital nervous systems of large organizations readers are responsible for designing implementing and managing the voice data and video systems their companies use to support everything from business critical applications to employee collaboration and electronic commerce

ALLEGRO ORCAD PCB DESIGNER(CD1 [])(CD1 [])

2007-12-10

the world s leading guide to printed circuits completely updated to include the latest tools technology and techniques the de facto industry standard for over 30 years this practical guide equips you with definitive coverage of every facet of printed circuit assemblies from design methods to fabrication processes now thoroughly revised and updated this book offers cutting edge coverage of printed circuit engineering fabrication construction soldering testing and repair printed circuits handbook seventh edition features all new critical guidance on how to create manage and measure performance throughout the global supply chain written by a team of international experts from both industry and academia this comprehensive volume offers new information on geographical specialization as well as the latest phase of the eus directive on the restriction of hazardous substances rohs ii fully overhauled to cover the latest scientific and technical developments brand new coverage of printed circuit supply chain technology and geographical specialization complete explanations of new eu safety directives for halogen free base materials

Allegro® OrCAD® PCB designer [] [] [] PCB []

2016

Itsprice

Allegro® OrCAD® PCB Designer PCB

2015

when i attended college we studied vacuum tubes in our junior year at that time an average radio had ve vacuum tubes and better ones even seven then transistors appeared in 1960s a good radio was judged to be one with more thententtransistors latergoodradioshad15 20transistors and after that everyone stopped counting transistors today modern processors runing personal computers have over 10milliontransistorsandmoremillionswillbeaddedevery year the difference between 20 and 20m is in complexity methodology and business models designs with 20 tr sistors are easily generated by design engineers without any tools whilst designs with 20m transistors can not be done by humans in reasonable time without the help of prof dr gajski demonstrates the y chart automation this difference in complexity introduced a paradigm shift which required sophisticated methods and tools and introduced design automation into design practice by the decomposition of the design process into many tasks and abstraction levels the methodology of designing chips or systems has also evolved similarly the business model has changed from vertical integration in which one company did all the tasks from product speci cation to manufacturing to globally distributed client server production in which most of the design and manufacturing tasks are outsourced

Inside OrCAD Capture for Windows

1998

this document brings together a set of latest data points and publicly available information relevant for technology industry we are very excited to share this content and believe that readers will benefit from this periodic publication immensely

Electronic Product Design

2011

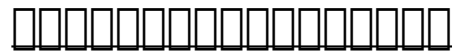
2019altium designer 19 1819 16 altium designer 19 altium designer 19 pcb pcb pcb pcb pcb drc altium designer 2 stm32 4 pcb rk3288 3

Printed Circuit Board Design Using AutoCAD

1998

EDN.

2006



2004-07

Network World

1992-10-12

Network World

1992-09-21

Printed Circuits Handbook, Seventh Edition

2016-02-15

□□□□□□□□**LTspice**□□□□□□□□

2016-11

The Electronic Design Automation Handbook

2010-02-23

I-Bytes Technology Industry

2020-10-13

Electronics World + Wireless World

1992

Printed Circuit Board Design with Microcomputers

1991

Altium Designer 19□□□□□ □□□□□□□□□□

2019-06-01

□□□ □□□ □, □□ □□□ □

2020-12-23

Цифровая электроника. Часть 1. Основы

2023-08-02

- [bmw e87 120i .pdf](#)
- [igcse checkpoint past papers .pdf](#)
- [puella magi madoka magica vol 2 \(Read Only\)](#)
- [theories and concepts in comparative industrial relations studies in industrial relations \(2023\)](#)
- [insecurity why a failure to attract and retain women in cybersecurity is making us all less safe Copy](#)
- [how to convert a word document \[PDF\]](#)
- [a century of honesty energy economy system wentworth institute of technology 1904 2004 \[PDF\]](#)
- [lesson practice b 12 4 for use with pages 819 825 \[PDF\]](#)
- [designer wallpaper for walls \(Read Only\)](#)
- [own your corporation garrett sutton Full PDF](#)
- [citroen c3 user guide \(Download Only\)](#)
- [construction economics finance module 6 lecture 1 Copy](#)
- [analog ic design an intuitive approach \[PDF\]](#)
- [south western federal taxation 2013 chapter 7 solutions \[PDF\]](#)
- [chemistry molecular approach 2nd edition access code \[PDF\]](#)
- [hitachi zx350 service manual .pdf](#)
- [trials of the vampire a witch between worlds 2 \(Download Only\)](#)
- [fundamentals of office 365 2016 edition computer fundamentals \[PDF\]](#)
- [mathematics n4 download free books about mathematics n4 or use online viewer \(2023\)](#)
- [diagnostic test raimes keys for writers answers \[PDF\]](#)
- [fall laboratory gizmo answers \(Read Only\)](#)
- [nora roberts three sisters island cd collection dance upon the air heaven and earth face the fire three sisters island trilogy \[PDF\]](#)
- [annuaire 2001 Copy](#)
- [remedial spelling spelling made easy Full PDF](#)
- [modern chemistry textbook answers chapter 12 \(2023\)](#)
- [how are evangelism and mission related Copy](#)
- [mta study guides \(Read Only\)](#)
- [richard iii penguin shakespeare penguin \(PDF\)](#)
- [nature chemistry journal Copy](#)