

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Record Nr.           | UNINA9910790309303321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Autore                  | Bensaude-Vincent Bernadette                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Titolo                  | Chemistry [[electronic resource] ] : the impure science / / Bernadette Bensaude-Vincent, Jonathan Simon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pubbl/distr/stampa      | London, : Imperial College Press, 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ISBN                    | 1-281-60348-1<br>9786613784179<br>1-84816-829-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Edizione                | [2nd ed.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Descrizione fisica      | 1 online resource (295 p.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Altri autori (Persone)  | SimonJonathan <1964->                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Disciplina              | 540<br>540.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Soggetti                | Chemistry<br>Chemistry - Philosophy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Lingua di pubblicazione | Inglese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Formato                 | Materiale a stampa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Note generali           | Description based upon print version of record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Nota di bibliografia    | Includes bibliographical references and index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Nota di contenuto       | CONTENTS; Preface; Acknowledgements; Chapter 1 Introduction: Chemistry and its Discontents; The Philosophy of Chemistry; The Image of Chemistry; The Goals of the Book; The Structure of the Book; Notes; Chapter 2 Chemistry and Pollution; Chemical versus Natural; Chemistry in Literature; Silent Spring; "Better Things for Better Living ... Through Chemistry"; Abundance and Waste; Courting Disaster; Artificial or Natural?; Notes; Chapter 3 The Damnation of the Alchemist; Magicians or Charlatans; In Defence of Artifice; Faustian Ambitions; From Extracts to Ersatz; Pure and Applied Chemistry<br>Artefacts as Hybrids of Nature and SocietyNotes; Chapter 4 The Space of the Laboratory; Chemical Recipe Books; A Space of Toil; Seeing at a Glance; A Purified Space; A Social Space; An Instrumental Space; Notes; Chapter 5 Proof in the Laboratory; Chemical Experiment as Public Spectacle; Instruments of Decision; The Power of Scepticism; The Price of Proof; The Limits of Proof; Notes; Chapter 6 Chemistry Creates its Object; The Different Meanings of Synthesis; From Simple to Complex; From Fictions to Artefacts; A Creative Process; Notes; Chapter 7 A Duel Between Two Conceptions of Matter<br>The Ancient Concept of PhusisAtoms versus Elements: Two Rival |

Systems; Is Chemistry Aristotelian?; The Aporia of the Mixt; Mixts or Compounds, Stahl or Lavoisier; A Vexing Question; Notes; Chapter 8 Chemistry versus Physics; To Each Science its Ontology; The Ultimate Quest; No Matter Without Qualities; No Matter Without Agency; Notes; Chapter 9 Atoms or Elements; Mendeleev's Wager; Renewing Mendeleev's Wager; Who's Afraid of Reductionism?; Between the Macro and the Micro; Notes; Chapter 10 Positivism and Chemistry; A Variety of Positivisms; Chemistry as the Model for Positive Science Positivism as an Obstacle? Positivism versus Realism; Notes; Chapter 11 Atoms as Fictions; Writing Formulae; Types and Models; Agnostic Atomism; Atoms as Mediators; The Phenomenalist Response; The Instrumentalist Response; The Energetist Response; Notes; Chapter 12 Agency and Relations; Elements as Actors; Operational Realism; Alternative Metaphors; Notes; Chapter 13 Taming the Nanoworld; Bottom-Up versus Top-Down; Rational Design; Bio-Inspired Chemistry; The Return of Chemistry's Faustian Ambitions; The Rise of Chemistry's Philosophical Ambitions; Notes Chapter 14 Towards a Responsible Chemistry Concerns About the Future; From Chemist's Creed to Code of Conduct; From Prudence to Precaution; A New Chemical Culture?; Notes; Bibliography; Index

---

## Sommario/riassunto

What do you associate with chemistry? Explosions, innovative materials, plastics, pollution? The public's confused and contradictory conception of chemistry as basic science, industrial producer and polluter contributes to what we present in this book as chemistry's image as an impure science. Historically, chemistry has always been viewed as impure both in terms of its academic status and its role in transforming modern society. While exploring the history of this science we argue for a characteristic philosophical approach that distinguishes chemistry from physics. This reflection leads us t

---