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Nota di contenuto	Intro -- ALGEBRAIC CHEMISTRY -- ALGEBRAIC CHEMISTRY -- CONTENTS -- PREFACE -- INTRODUCTION -- 1. THE BACKGROUND -- 2. THIS BOOK -- 2.1. About Part I -- 2.2. About Part II -- 2.3. About Part III -- 2.4. About So Much More -- 3. THE CHARACTERS -- PART I. CHEMISTRY AS NUMERICAL REGULARITIES -- PROLOG TO PART I -- ABOUT PATTERNS -- REFERENCES -- APPENDIX: THE PERIODIC TABLE, MENDELEYEV STYLE -- IONIZATION POTENTIALS OF ATOMS -- ABSTRACT -- INTRODUCTION -- 1. OBSERVED BEHAVIOR OF IONIZATION POTENTIALS OF ALL ORDERS -- 2. DETAILS ON BEHAVIOR OF FIRST-ORDER IONIZATION POTENTIALS -- CONCLUSION -- ACKNOWLEDGMENTS -- APPENDIX: BASIC DATA ON FIRST-ORDER IONIZATION POTENTIALS OF ATOMS -- IONIZATION POTENTIALS OF IONS -- ABSTRACT -- INTRODUCTION -- 1. MODEL DEVELOPMENT -- 2. SYMBOLIC FORMULAE -- CONCLUSION -- AN INVITATION TO READERS -- APPENDIX: FORMULAE AND EVALUATIONS FOR SEQUENTIAL IONIZATIONS OF SELECTED ELEMENTS -- 1. Hydrogen -- 2. Helium -- 3. Lithium -- 4. Beryllium -- 5. Boron -- 6. Carbon -- 7. Nitrogen -- 8. Oxygen -- 9. Fluorine -- 10. Neon -- 11. Sodium -- 12. Magnesium -- 13. Aluminum -- 14. Silicon -- 15. Phosphorus -- 16. Sulfur -- 17. Chlorine -- 18. Argon -- 19. Potassium -- 21. Scandium -- 24. Chromium -- 26. Iron -- 27. Cobalt -- 29. Copper -- 30. Zinc

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Sommario/riassunto

Algebraic chemistry is based on numerical patterns observed in readily available data about ionization potentials of atoms, and on a physical model that interpolates and extrapolates from that data to situations for which data is not readily available, such as ionization potentials for atoms that are already ionized, or corresponding energy increments involved in adding, rather than subtracting, electrons. This Book presents an approach to chemistry that permits numerical evaluation of many chemical scenarios without use of much computation power. Everything here can be worked out with a hand calculator. The approach thus makes numerical analysis of scenarios in chemistry feasible for students, or up-coming researchers, or retirees, who work with minimal financial support.