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Nota di contenuto	; Machine generated contents note: ; 1. Introduction -- ; 2. Practical Equipment -- ; 2.1. Containers -- ; 2.2. Milling -- ; 2.3. Fabrication of Ceramic Monoliths -- ; 2.4. Furnaces -- ; 2.5. Powder X-ray Diffractometry -- ; 3. Artificial Cuprorivaite CaCuSi ₄ O ₁₀ (Egyptian Blue) by a Salt-Flux Method -- ; 4. Artificial Covellite CuS by a Solid-Vapour Reaction -- ; 5. Turbostratic Boron Nitride t-BN by a Solid-Gas Reaction Using Ammonia as the Nitriding Reagent -- ; 6. Rubidium Copper Iodide Chloride Rb ₄ Cu ₁₆ I ₇ Cl ₁₃ by a Solid-State Reaction -- ; 7. Copper Titanium Zirconium Phosphate CuTiZr(PO ₄) ₃ by a Solid-State Reaction Using Ammonium Dihydrogenphosphate as the Phosphating Reagent -- ; 8. Cobalt Ferrite CoFe ₂ O ₄ by a Coprecipitation Method --

; 9. Lead Zirconate Titanate PbZr0.52Ti0.48O3 by a Coprecipitation Method Followed by Calcination.
; 10. Yttrium Barium Cuprate YBa₂Cu₃O_{7- δ} (δ ~ 0) by a Solid-State Reaction Followed by Oxygen Intercalation -- ; 11. Single Crystals of Ordered Zinc-Tin Phosphide ZnSnP₂ by a Solution-Growth Technique Using Molten Tin as the Solvent -- ; 12. Artificial Kieftite CoSb₃ by an Antimony Self-Flux Method -- ; 13. Artificial Violarite FeNi₂S₄ by a Hydrothermal Method Using DL-Penicillamine as the Sulfiding Reagent -- ; 14. Artificial Willemite Zn_{1.96}Mn_{0.04}SiO₄ by a Hybrid Coprecipitation and Sol-Gel Method -- ; 15. Artificial Scheelite CaWO₄ by a Microwave-Assisted Solid-State Metathetic Reaction -- ; 16. Artificial Hackmanite Na₈[Al₆Si₆O₂₄]Cl_{1.8}Si_{0.1} by a Structure-Conversion Method with Annealing Under a Reducing Atmosphere -- ; 17. Gold-Ruby Glass from a Potassium-Antimony-Borosilicate Melt with a Controlled Annealing.

Sommario/riassunto

Intended as a textbook for courses involving preparative solid-state chemistry, this book offers clear and detailed descriptions on how to prepare a selection of inorganic materials that exhibit important optical, magnetic and electrical properties, on a laboratory scale. The text covers a wide range of preparative methods and can be read as separate, independent chapters or as a unified coherent body of work. Discussions of various chemical systems reveal how the properties of a material can often be influenced by modifications to the preparative procedure, and vice versa. References to miner
