

1. Record Nr.	UNINA9910825438903321
Autore	Warner Terence E. <1960->
Titolo	Synthesis, properties, and mineralogy of important inorganic materials // Terence E. Warner
Pubbl/distr/stampa	Chichester, West Sussex, : Wiley, 2011
ISBN	9786613622181 9780470976234 0470976233 9780470976012 0470976012 9781280592355 1280592354 9780470976029 0470976020
Edizione	[1st ed.]
Descrizione fisica	1 online resource (289 p.)
Classificazione	VE 9300 VE 9670 VN 6020
Disciplina	541/.39
Soggetti	Inorganic compounds - Synthesis Inorganic compounds - Properties
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	; 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 $\text{CaCuSi}_4\text{O}_{10}$ (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 $\text{Rb}_4\text{Cu}_{16}\text{I}_7\text{Cl}_{13}$ by a Solid-State Reaction -- ; 7. Copper Titanium Zirconium Phosphate $\text{CuTiZr}(\text{PO}_4)_3$ by a Solid-State Reaction Using Ammonium Dihydrogenphosphate as the Phosphating Reagent -- ; 8. Cobalt Ferrite CoFe_2O_4 by a Coprecipitation Method --

; 9. Lead Zirconate Titanate $\text{PbZr}_{0.52}\text{Ti}_{0.48}\text{O}_3$ by a Coprecipitation Method Followed by Calcination.
; 10. Yttrium Barium Cuprate $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ ($\delta \sim 0$) by a Solid-State Reaction Followed by Oxygen Intercalation -- ; 11. Single Crystals of Ordered Zinc-Tin Phosphide ZnSnP_2 by a Solution-Growth Technique Using Molten Tin as the Solvent -- ; 12. Artificial Kieftite CoSb_3 by an Antimony Self-Flux Method -- ; 13. Artificial Violarite FeNi_2S_4 by a Hydrothermal Method Using DL-Penicillamine as the Sulfiding Reagent -- ; 14. Artificial Willemite $\text{Zn}_{1.96}\text{Mn}_{0.04}\text{SiO}_4$ by a Hybrid Coprecipitation and Sol-Gel Method -- ; 15. Artificial Scheelite CaWO_4 by a Microwave-Assisted Solid-State Metathetic Reaction -- ; 16. Artificial Hackmanite $\text{Na}_8[\text{Al}_6\text{Si}_6\text{O}_{24}]\text{Cl}_{1.8}\text{S}_{0.1}$ 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
