1. Record Nr. UNINA9910437803203321

Autore	Mizuse Kenta
Titolo	Spectroscopic investigations of hydrogen bond network structures in water clusters / / Kenta Mizuse
Pubbl/distr/stampa	Tokyo ; ; New York, : Springer, c2013
ISBN	4-431-54312-0
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (185 p.)
Collana	Springer theses, , 2190-5053
Disciplina	541.2/24
Soggetti	Hydrogen bonding Water - Spectra
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Doctoral thesis accepted by Tohoku University, Sendai, Japan."--t.p.
Nota di contenuto	General Introduction -- Infrared spectroscopy of chromophore-labeled water clusters phenol-(H2O)n (n < ~50) -- Infrared pectroscopy of large protonated water clusters H+(H2O)n (n 221) -- Tuning of the Internal Energy and Isomer Distribution in Protonated Water Clusters H+(H2O)n (n 50): Towards a more detailed understanding of structures and dynamics -- Infrared spectroscopy of water cluster radical cations (H2O)n+ (n 11) -- Conclusions and future work.
Sommario/riassunto	The properties and nature of water clusters studied with novel spectroscopic approaches are presented in this thesis. Following a general introduction on the chemistry of water and water clusters, detailed descriptions of the experiments and analyses are given. All the experimental results, including first size-selective spectra of large clusters consisting of 200 water molecules, are presented with corresponding analyses. Hitherto unidentified hydrogen bond network structures, dynamics, and reactivity of various water clusters have been characterized at the molecular level. The main targets of this book are physical chemists and chemical physicists who are interested in water chemistry or cluster chemistry.

2. Record Nr. UNINA9910983489303321

Autore	Feng Wei
Titolo	Carbon Fluorides : Properties, Preparation, and Applications / / by Wei Feng
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819614073 9819614074
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (346 pages)
Disciplina	541.0421 620.193
Soggetti	Materials Carbon Chemistry Catalysis Force and energy Carbon Materials Chemical Synthesis Materials for Energy and Catalysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction of carbon fluorides -- Classification of carbon fluorides -- Synthesis and preparation of carbon fluorides -- Energy storage applications of carbon fluorides -- Other applications.
Sommario/riassunto	This book offers a comprehensive perspective on carbon fluorides, covering detailed descriptions of the structure, properties, preparation, and applications of carbon fluorides, from basic knowledge to the latest research developments. It provides readers with a clear and in-depth analysis of carbon fluorides. This book first describes the structural properties of carbon fluorides, such as the formation of different types of C-F bonds, F/C ratio, and the impact of F atom distribution on material properties. The introduction of F atoms results in unique properties of carbon fluorides in terms of optics, electronics, thermal properties, and mechanical strength, distinguishing them from

carbon materials. This book also introduces various carbon fluoride materials prepared from various carbon material precursors currently under research, such as fluorinated graphene, fluorinated carbon nanotubes, fluorinated graphite, and fluorinated fullerenes. The detailed description of the research and applications of carbon fluorides in batteries and other areas is provided. This book is suitable for professionals and academic researchers and also serves as a self-study reference for beginners interested in this field. The author of this book has over a decade of experience and expertise in carbon fluorides research, providing readers with a rich and comprehensive book in this field.