Record Nr. UNINA9910674025603321 Autore Narducci Riccardo Titolo Ionic Conductive Polymers for Electrochemical Devices / / Riccardo Narducci Pubbl/distr/stampa Basel, Switzerland: ,: MDPI - Multidisciplinary Digital Publishing Institute, , 2022 Descrizione fisica 1 online resource (176 pages) Disciplina 671.734 Electrochemical metallizing Soggetti Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Increasing levels of pollution and climate change are pushing the Sommario/riassunto scientific community towards more sustainable solutions for the conversion and storage of energy. This book is dedicated to ionic conductive polymers, fundamental components of devices such as fuel cells (FCs), redox flow batteries (RFBs), and electrolyzers that can help to significantly decrease the amount of greenhouse gases emission. The book focuses on commercial polymers such as Nafion, a benchmark for proton-conducting membranes, acid doped polybenzimidazole (PBI), or blended membranes containing hyperbranched poly(arylene ether sulfone (PAES))/Linear poly(phenylene oxide) (PPO) as anion exchange membranes (AEMs). Promising and lowcost sulfonated aromatic polymers (SAP), or solid polymer blend electrolytes (SPBEs) based on natural chitosan (CS) and methylcellulose (MC). This book is also reports some strategies to enhance mechanical stability, such as cross-linking (XL), or several techniques, including classical casting methods or electrospinning (ES). I am confident that this book will serve to further stimulate advances in this research area. in both the sectors of membranes and catalysts, the first is essential for

reduction in costs, especially in fuel cells.

the long-term functioning of the system, and the second for a drastic