1. Record Nr. UNINA9910827028603321 Autore Sata Toshikatsu Titolo Ion exchange membranes: preparation, characterization, modification and application / / Toshikatsu Sata Cambridge, : Royal Society of Chemistry, c2004 Pubbl/distr/stampa **ISBN** 1-84755-117-3 Edizione [1st ed.] 1 online resource (325 p.) Descrizione fisica 51.99 Classificazione Disciplina 572.3 Soggetti Ion-permeable membranes Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia IEM-PRE; IEM-1; 1.1&X; Background; Table 1; 1.2&X; References; mkr1; Nota di contenuto mkr2; mkr3; mkr4; mkr5; mkr6; mkr7; mkr8; mkr9; mkr10; mkr11; mkr12; mkr13; mkr14; mkr15; mkr16; mkr17; mkr18; mkr19; mkr20; mkr21: mkr22: mkr23: mkr24: mkr25: mkr26: mkr27: mkr28: mkr29: mkr30: IEM-2: 2.1&X: Introduction: 2.2&X: Flux Equation: Equation 3: Equation 4; Equation 5; Equation 6; Equation 7; Equation 9; Equation 10; Equation 11; Equation 12; Permselectivity of Ions Through the Ion Exchange Membrane; Equation 13; Equation 14; Equation 15; Equation 16; Equation 17; Equation 18; Equation 19 Equation 20 Equation 21; Equation 22; Equation 23; Equation 24; Equation 25; Equation 26; Equation 27; Equation 28; Equation 29; Equation 30; Equation 31; Equation 32; Equation 33; Equation 34; Equation 35; Membrane Potential; Figure 1; Equation 36; Equation 39; Equation 40; Equation 41; Equation 43; Equation 44; Figure 2; Equation 49; Equation 50; Bionic Potential; Equation 51; Equation 52; Equation 53; Equation 54; Electrical Conductivity of Ion Exchange Membrane: Equation 56; Equation 57; Equation 58; Diffusion of Electrolyte Through Ion Exchange Membranes Equation 57 Equation 58; Equation 59; Equation 60; Equation 61; Equation 62; Equation 63; Equation 66; Equation 68; Equation 69; Equation 70; Equation 71; Diffusion of Non-Electrolyte Through Ion Exchange Membranes; Equation 72; Self-diffusion Through Ion

Exchange Membranes; Equation 74; Equation 75; Equation 76; Equation 77; Equation 78; Figure 3; Figure 4; Osmosis; Equation 79; Electro-

osmosis; Figure 5; Equation 80; Equation 83; Equation 84; Equation 85; 2.12&X; Hydrodynamic Permeability of Solvent; Figure 6; Equation 86; Equation 87: Equation 88: Equation 89 Equation 90 Equation 93; Equation 94; Equation 95; Equation 96; Equation 97; Equation 98; Equation 99; Permselectivity of Ions with the Same Charge; Equation 8; Figure 7; Equation 101; Equation 102; Equation 105; Equation 106; Conclusions; References; mkr1; mkr2; mkr3; mkr4; mkr5; mkr6; mkr7; mkr8; mkr9; mkr10; mkr11; mkr12; mkr13; mkr14; mkr15; mkr16; mkr17; mkr18; mkr19; mkr20; mkr21; mkr22; mkr23; mkr24; mkr25; mkr26; IEM-3; 3.1&X; Introduction; 3.2 &X; Classification of Ion Exchange Membranes; Table 1; 3.3&X General Explanation of Preparation Methods of Ion Exchange Membranes 3.3.1&Y; Heterogeneous Ion Exchange Membranes; 3.3.2 &Y; Homogeneous Ion Exchange Membranes&Y; ; 3.3.2.1&Z; Ion Exchange Membranes Prepared by Condensation Reaction of Ionic Monomeric Com-pounds; Figure 1; 3.3.2.2&Z; Ion Exchange Membranes Prepared by Polymerization of Vinyl Monomers; Preparation of polymer block and slicing the block into films.&D-end; After styrene has been partially polymerized by heating, d; Figure 2; Table 2; Polymerization of vinyl monomers into films (coating method or paste method).&D-end1 Here, linear polymers without ion exchange

Sommario/riassunto

Various separation membranes have been developed since their discovery over half a century ago, providing numerous benefits and fulfilling many applications in our everyday lives. They lend themselves to techniques ranging from microfiltration and gas separation, to what can be considered as the most advanced technique - ion exchange. This book, aimed at academic researchers, engineers and industrialists, contains a brief history of ion exchange and goes on to explain the preparation, characterization, modification and applications of these important membranes. Discussions include the use of