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Nota di contenuto	Biomedical Applications of Electroactive Polymer Actuators; Contents; Preface; List of Contributors; Introduction; SECTION I POLYMER GELS; 1 Polymer Gel Actuators: Fundamentals; 1.1 Introduction and Historical Overview; 1.2 Properties of Gels; 1.2.1 Biological Gels; 1.2.2 Mechanical Properties of Simple, Single-Phase Gels; 1.2.3 Elastic Moduli; 1.2.4 Strength; 1.2.5 Multi-Phase Gels; 1.2.6 Double Network Gels; 1.2.7 Transport Properties; 1.2.8 Drying; 1.3 Chemical and Physical Formation of Gels; 1.4 Actuation Methods; 1.4.1 Thermally Driven Gel Actuators 1.4.2 Chemically Driven Gel Actuators 1.4.3 Gels Driven by Oscillating Reactions; 1.4.4 Light Actuated Gels; 1.4.5 Electrically Driven Gel Actuators; 1.4.6 Electro- and Magneto-Rheological Composites; 1.4.7 LC Elastomers; 1.5 Performance of Gels as Actuators; 1.6 Applications of Electroactive Gels; 1.6.1 Gel Valves and Pumps; 1.6.2 Light Modulators; 1.6.3 Gel Drug Delivery; 1.6.4 Gel Sensors; 1.7

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5.2 Fabrication

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#### Sommario/riassunto

Giving fundamental information on one of the most promising families of smart materials, electroactive polymers (EAP) this exciting new titles focuses on the several biomedical applications made possible by these types of materials and their related actuation technologies. Each chapter provides a description of the specific EAP material and device configuration used, material processing, device assembling and testing, along with a description of the biomedical application. Edited by well-respected academics in the field of electroactive polymers with contributions from renowned international

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