



## Redox Systems Under Nano-Space Control

By -

Springer. Hardcover. Book Condition: New. Hardcover. 292 pages. Dimensions: 9.1in. x 6.3in. x 0.6in. 3. 1. 1 -Conjugated Materials -conjugated polymers (CPs) and oligomers are materials with an extended  $\pi$ -system along the backbone. The materials possess many remarkable properties, including high charge carrier mobilities, electrical conductivities (doped), electrochromism, and electroluminescence 1. These properties have been taken advantage of in exploration of potential applications including in chemical sensors, light-emitting devices, and field-effect transistors. Many efforts have been devoted to synthesizing new conjugated polymers and oligomers in an effort to increase their processability, optimize the desirable properties, and explore new properties. In Fig. 3. 1 are shown examples of some of the CPs that have been prepared and studied. Coupling  $\pi$ -conjugated materials to metal complexes gives hybrid materials in which the properties of the metal complex may be coupled to those of the conjugated backbone 2. For example, these materials could be used in energy-harvesting devices such as solar cells or polymer-based light-emitting devices, where high charge carrier mobilities of the conjugated material may be combined with either the light-absorbing or emitting metal groups, giving improved device performance 3, 4. In addition to an electronic role, metal complexes may also be used to geometrically orient  $\pi$ -conjugated...



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