

Investigations into chirality and spin-selective redox chemistry

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I will describe recent studies that investigate the effects of electron spin in electron transfer and electron initiated chemical reactions of supramolecular assemblies and at electrodes. I will discuss how charge polarization and charge transfer in chiral molecules and assemblies is accompanied by spin polarization and spin transfer, because of the chiral induced spin selectivity (CISS) effect. I will report on recent studies which show how the CISS effect modulates electron transfer rates in chiral assemblies and how spin polarized electron currents can be used to enhance the selectivity of electrochemical reactions.