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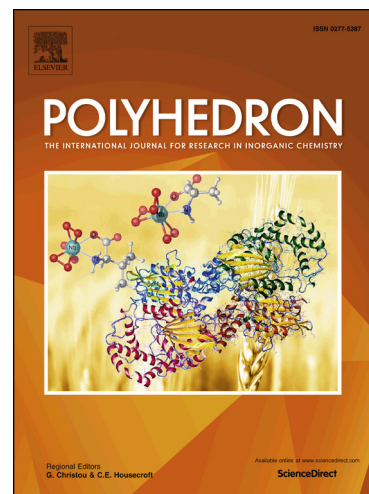
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**Photochromic complexes based on enantiomeric 2-(4-pyridyl)-4,5-dihydrothiazole-4-carboxylic acids**

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**ABSTRACT**

New enantiopure ligands, (R)-/(S)-2-(4-pyridyl)-4,5-dihydrothiazole-4-carboxylic acids (HL<sup>R</sup>, HL<sup>S</sup>) were synthesized, subsequently their reactions with Cd(ClO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O resulted in the formation of complexes [CdL<sup>R</sup><sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>].3H<sub>2</sub>O (**1R**) and [CdL<sup>S</sup><sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>].3H<sub>2</sub>O (**1S**). The structure of **1R** was determined by single crystal X-ray diffraction analysis. The complexes show instant colour change upon irradiation with UV light. The photochromic mechanism is investigated by ESR and UV-Vis spectroscopic techniques. The results indicate that the photochromic transformation is originated from the formation of the free radical.

*Keywords:* Photochromism, Complexes, Free radical, Chiral ligand

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**1. Introduction**

Photochromic transformation is intrinsic characteristic of a special class of

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