

Área: ORG

Chiral Isoxazoline Cycloadduct Synthesis and Its Application in Suzuki Reactions and Eutectic Mixture via the Schröder–Van Laar Equation.

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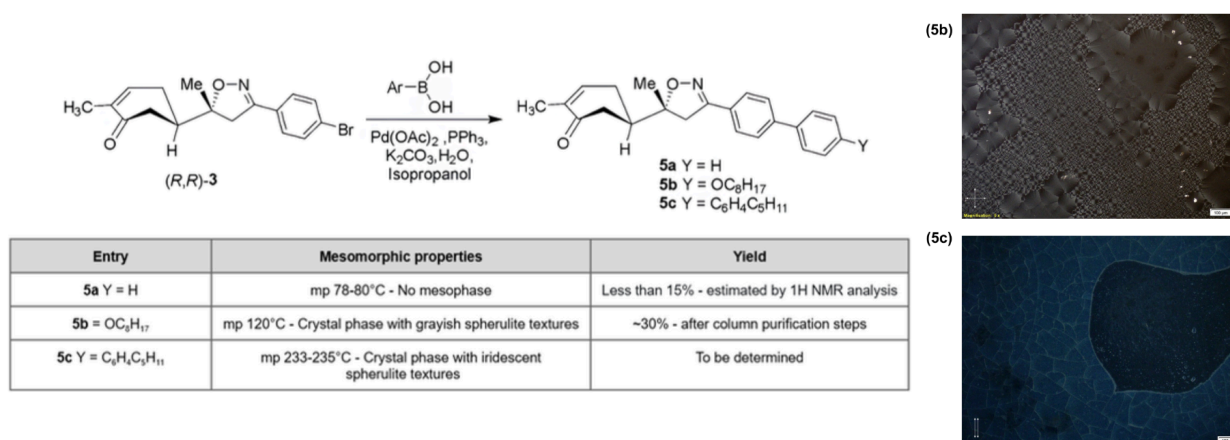
Palavras Chave: (3+2) 1,3-dipolar cycloaddition, Chiral isoxazolines, Carvone dipolarophile, Suzuki Reactions, Liquid Crystals

Highlights

Synthesis of a chiral isoxazoline crystal via differential crystallization. Versatile intermediate for Pd-catalyzed cross-coupling reactions. Promising building block for chiral liquid crystal compounds. Forms eutectic mixtures with potential for cholesteric liquid crystal applications.

Abstract

This communication reports the synthesis of a chiral isoxazoline cycloadduct, isolated as a single crystal via differential crystallization. Single-crystal X-ray diffraction (SC-XRD) unambiguously confirmed its structure as the (R,R) diastereomer. The compound served as a versatile intermediate in Suzuki cross-coupling reactions for C–C bond formation, highlighting its utility as a building block for chiral architectures. Furthermore, analysis using the Schröder–Van Laar equation indicated the potential of its eutectic mixtures for cholesteric liquid crystal applications.



Scheme 1 illustrates the synthesis, the reaction data, and the appearance of product **5b** and **5c** observed under polarized optical microscopy (POM) analysis.

- Lopes, L. D., et al.; *Cryst. Growth Des.* **2023**, *23*, 3113–3127.
- Lopes, L. D., et al.; *J. Fluor. Chem.* **2018**, *211*, 24–36.

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