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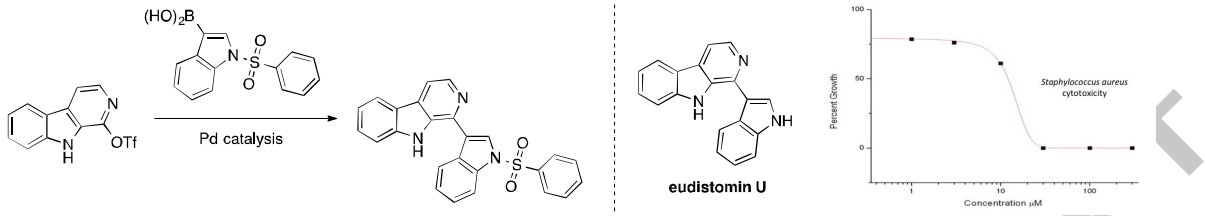
**Graphical Abstract**:




# Efficient synthesis of eudistomin U and evaluation of its cytotoxicity

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**Abstract**: Eudistomin U is a member of a subclass of naturally occurring indole alkaloids known as β-carbolines. These molecules are reported to have diverse biological activity and high binding affinity to DNA, which make them attractive targets for total synthesis. We describe an efficient, five-step synthesis of eudistomin U by employing two key reactions: a Bischler-Napieralski cyclization and a Suzuki cross coupling. We also describe the cytotoxicity of eudistomin U against various cancer cell lines and human pathogens, in which we observed potent antibacterial activity against Gram-positive bacteria.

**Keywords**: β-carboline, Suzuki cross coupling, eudistomin U, antibacterial, palladium catalysis

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