

ヘテロ環が縮環したキラルスピロビ(インデノ[1,2-*b*]チオフェン)誘導体の合成とキロプティカル特性

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Synthesis and chiroptical properties of chiral heterole-fused spirobi(indeno[1,2-*b*]thiophene) derivatives (Graduate School of Engineering, Tokyo University of Agriculture and Technology)
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Spiro π -conjugated compounds have widely been studied as organic functional materials.¹ A variety of chiral versions of the spiro π -conjugated compounds have been developed until now. However, studies on their chiroptical properties have been quite limited.²⁻⁶ Recently, we have developed thiophene-fused 4,4'-spirobi(indeno[1,2-*b*]thiophene) (SBIT) and its derivatives.^{7,8} Here, we report our further investigations by utilizing the SBIT skeleton. moieties were successfully synthesized. Photophysical properties including chiroptical properties were evaluated to elucidate structure-property relationship.

Keywords : spiro compound; chiral molecule; thiophene; chiroptical property

これまでに、様々なスピロ π 共役化合物が機能性材料として研究されてきた¹。それらの中にはキラル化合物も多くあるが、そのキロプティカル特性に関する研究は極めて限定的である²⁻⁶。我々はこれまでに、チオフェン環が縮環した4,4'-スピロビ(インデノ[1,2-*b*]チオフェン) (SBIT)やその誘導体の合成に成功している^{7,8}。今回新たに、*N*-置換インドールやベンゾ[*b*]シロールが縮環した π 拡張型 SBIT 誘導体の合成に成功したので報告する。構造と物性の相関を明らかにするために、それらの化合物のキロプティカル特性を含めた光物性を評価した。

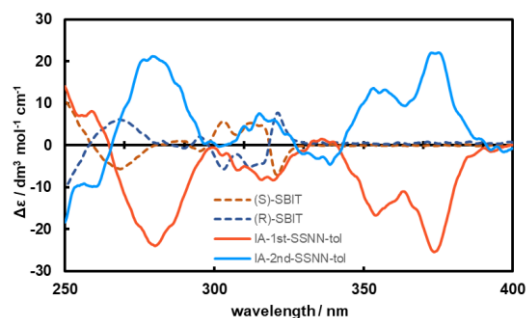
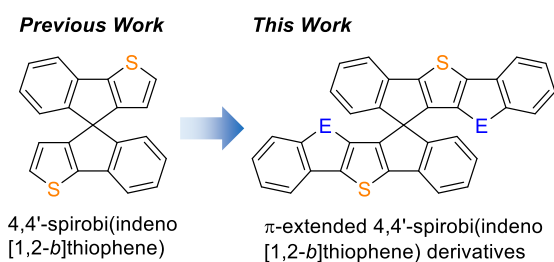


Figure 1. CD spectra of π -extended spirobi(indeno[1,2-*b*]thiophene) derivative (**E** = $\text{NC}_6\text{H}_4\text{Me}$)

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