

インドールの2,3-位結合を組み込んだ電子  
環状反応によるカルバゾール類および  
カルボリン類の合成研究

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Synthesis of [*b*]-Annulated Indoles by Thermal  
Electrocyclic Reaction

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**Abstract** Indoles containing an additional ring fused across the 2,3-position are widely distributed in nature. Carbazole and pyrido[*b*]indole (carboline) ring systems have attracted much attention because of the spectrum of biological activity they possess. Although a variety of classical procedures have been reported, these approaches have not worked well when many substituents are present on these ring systems. Accordingly, new syntheses of the carbazole and carboline ring systems continue to be reported.

We are currently interested in the synthesis by thermal electrocyclic reactions of hexatrienes and/or azahexatrienes of heteroaromatic compounds, especially nitrogen heteroaromatic compounds, including those of pharmacological interest. We have focused on advances in new synthetic studies toward carbazoles and pyridoindoles (carbolines) by the thermal electrocyclic reaction of hexatrienes or azahexatrienes involving the indole 2,3-bond.

抄録 インドールの2,3-位結合を組み込んだ共役ヘキサトリエンおよび共役アザヘキサトリエン系の電子環状反応(熱)によるカルバゾール類およびカルボリン類の合成研究について、これまでの研究を中心にしてまとめた総合論文である。