(±)-Carquinostatin A の全合成と (*R*)-(−)- 及び (*S*)-(+)-carquinostatin A の不斉全合成研究

稗田雄三、町支臣成、内田佳成、藤岡晴人、藤井さゆり、日比野俐

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Total synthesis of (±)-Carquinostatin A, and Asymmetric Total Synthesis of (*R*)-(−)-Carquinostatin A and (*S*)-(+)-Carquinostatin A

Yuhzo Hieda, Tominari Choshi, Yoshinari Uchida, Haruto Fujioka, Sayuri Fujii, and Satoshi Hibino

ABSTRACT: Total syntheses of (±)-carquinostatin A, and (*R*)-(−)-carquinostatin A together with its enanchiomer, (*S*)-(+)-carquinostatin A, possessing radical scavenging activity, were newly achieved. (±)-Carquinostatin A was synthesized from 1-acetonyl-6-bromo-3-ethoxy-2-methylcarbazole. which was derived from the known 1-axetonyl-3-ethoxy-2-methylcarbazole. Introduction of a prenyl groupat the 6-position of caebazole was successful in two steps. For the synthesis of (*R*)-(−)-carquinostatin A and (*S*)-(+)-carquinostatin A, (*R*)-(−)-1-(2-acetoxypropyl)-3-hydroxy-2-methoxycarbazole and (*S*)-(+)-3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole, prepared by Lipase-QLM catalyzed enantioselective transesterification of 3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole, were used as chiral starting materials.

抄録　Carquinostatin A は、瀬戸らにより *Streptomyces exfoliates* 2419-SVT2 から単離され、抗酸化作用を有する多置換カルバゾールアルカロイドである。(±)-Carquinostatin A は 7 工程で全合成を達成した。(*R*)-(−)-carquinostatin A 及び (*S*)-(+)-carquinostatin A のエナンチオ選択的全合成は、Lipase-QLM による 3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole のエナンチオ選択的エステル交換反応により対応する (*R*)-(−)-1-(2-acetoxypropyl)-3-hydroxy-2-methoxycarbazole 及び (*S*)-(+)-3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole を得ることにより達成した。