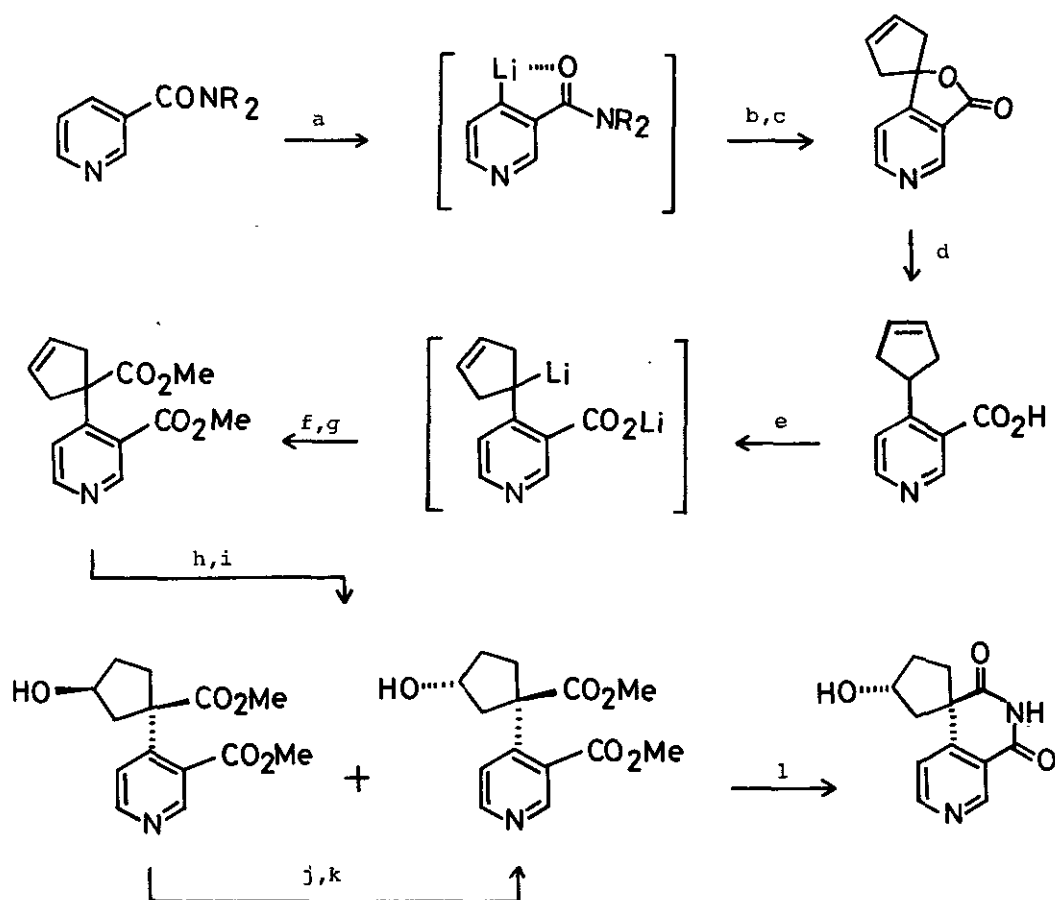


TOTAL SYNTHESIS OF (±)-SESBANINE VIA DIRECTED
METALATION OF TERTIARY NICOTINAMIDES

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A new total synthesis of cytotoxic alkaloid (±)-sesbanine was achieved by using regiospecific ortho lithiation of N,N-dialkylnicotinamides (R=iso-Pr or Et) followed by condensation with 3-cyclopentenone as a key reaction. The synthetic scheme was depicted below.



- a) LiTMP/DME/-78°/15 min; b) 3-cyclopentenone; c) TFA; d) Zn-Cu/10% KOH/Pyridine
e) LiTMP/THF/-78°/1h; f) CO₂; g) CH₂N₂; h) NBS/ aq DMSO; i) n-Bu₃SnH/AIBN/Toluene
j) DEAD/TPP/ACOH; k) K₂CO₃/MeOH; l) NH₃/MeOH/100°.