

PHOTOISOMERIZATION OF 1,2-DIHYDROQUINOLINES:
FORMATION OF INDOLES AND 2,3-HOMOINDOLES

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Irradiation of ethyl 2-cyano-1,2-dihydroquinoline-1-carboxylates (Reissert compounds) gave either allenic compounds or ethanol adducts depending upon the solvent used. The allenic compounds could be transformed into ethyl 2-cyanomethyl-indole-1-carboxylates. In contrast, irradiation of ethyl 2-cyano-4-methyl-1,2-dihydroquinoline-1-carboxylates in ethanol gave ethyl 1-cyano-6b-methyl-1,1a,2,6b-tetrahydrocycloprop[b]indole-1-carboxylates (2,3-homoindoles) in good yields, which were shown to be useful synthetic intermediates for indole derivatives.

These results can be rationalized in terms of benzoazahexatriene intermediates which have been recently proposed for the colored species in the low temperature photochromism of 1,2-dihydroquinolines.