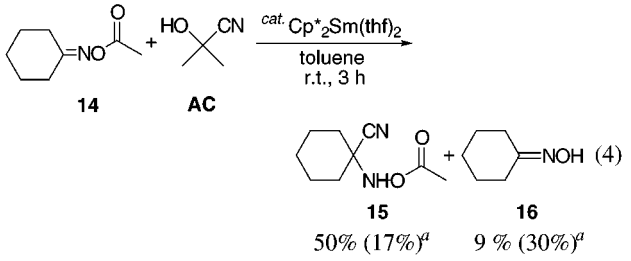
along with cyclohexanoneoxime (**16**) (eq 4). However, Sm(O^{i}Pr)$_3$ promoted the hydrolysis of oxime acetate **14** to oxime **16** rather than the addition of hydrogen cyanide. Compound **15** is an attractive precursor of an α-amino acid. The present lanthanide-catalyzed hydrocyanation of oxime ester provides an alternative route for the synthesis of α-acetylaminonitrile, although the optimum reaction conditions must be further investigated.



[a] Parenthesis shows the yield by Sm(O^{i}Pr)$_3$ in THF.

In conclusion, we found a direct acetylcyanation method of aldehydes with AC in the presence of IPA catalyzed by Cp*$_2$Sm(thf)$_2$ under mild conditions. α,β-Unsaturated carbonyl compounds produced Michael addition products under neutral conditions.

Experimental Section

General Procedure. ^{1}H and ^{13}C NMR spectra were measured at 270 and 67.5 MHz, respectively, in $CDCl_3$ with TMS as the internal standard. IR spectra were measured as thin films on NaCl plates or KBr pressed disks. GLC analysis was performed with a flame ionization detector using a 1 mm × 30 m capillary column (OV-1). Mass spectra were determined at an ionizing voltage of 70 eV. Isopropenyl acetate and acetone cyanohydrin were purchased from a commercial origin and distilled prior to use. Cp*$_2$Sm(thf)$_2$,[13] Cp*$_2$Yb(thf)$_2$,[13] Sm(O^{i}Pr)$_3$,[14] Sm(OTf)$_3$,[15] SmI_2,[16] and SmI_3[17] were prepared according to literature procedures.

General Procedure for the Cp*$_2$Sm(thf)$_2$-Catalyzed Acetylcyanation of Aldehydes with Acetone Cyanohydrin and Isopropenyl Acetate. To a Schlenk tube containing a toluene solution (1 mL) of Cp*$_2$Sm(thf)$_2$ (0.1 mmol) were added aldehydes (1 mmol), acetone cyanohydrin (1 mmol), and isopropenyl acetate (2 mmol). The reaction mixture was stirred at room temperature for 15 h under argon. After the reaction, wet diisopropyl ether was added to the solution, and the catalyst was removed by filtration. Removal of the solvent under reduced pressure afforded a yellow liquid, which was purified by column chromatography on silica gel with *n*-hexane/ethyl acetate (10/1 v/v) as eluent to give the corresponding acetates.

2-Acetoxybutyronitrile (2b):[18] ^{1}H NMR ($CDCl_3$) δ 1.11 (t, J = 7.4 Hz, 3H), 1.89−2.05 (m, 2H), 2.14 (s, 3H), 5.28 (t, J = 6.6 Hz, 1H); ^{13}C NMR ($CDCl_3$) δ 8.9, 20.3, 25.8, 62.2, 116.7, 169.2.

2-Acetoxyisovaleronitrile (2c): ^{1}H NMR ($CDCl_3$) δ 1.08 (d, J = 6.8 Hz, 3H), 1.12 (d, J = 6.8 Hz, 3H), 2.10−2.25 (m, 1H), 2.16 (s, 3H), 5.18 (d, J = 5.1 Hz, 1H); ^{13}C NMR ($CDCl_3$) δ 17.3, 17.7, 20.3, 31.0, 66.3, 116.0, 169.2.

2-Aetoxy-4-methylvaleronitrile (2d): ^{1}H NMR ($CDCl_3$) δ 0.98 (d, J = 6.5 Hz, 3H), 0.99 (d, J = 6.5 Hz, 3H), 1.76−1.90 (m, 3H), 2.13 (s, 3H), 5.36 (t, J = 7.3 Hz, 1H); ^{13}C NMR ($CDCl_3$) δ 20.3, 22.0, 22.1, 24.4, 40.7, 59.8, 117.0, 169.1.

2-Aetoxy-3,3-dimethylbutyronitrile (2e): ^{1}H NMR ($CDCl_3$) δ 1.15 (s, 9H), 2.22 (s, 3H), 5.12 (s, 1H); ^{13}C NMR ($CDCl_3$) δ 20.1, 25.0, 34.5, 69.2, 115.9, 169.1.

2-Aetoxy-2-cyclohexylacetonitrile (2f): ^{1}H NMR ($CDCl_3$) δ 1.12−1.32 (m, 5H), 1.67−1.93 (m, 6H), 2.14 (s, 3H), 5.18 (d, J = 7.3 Hz, 1H); ^{13}C NMR ($CDCl_3$) δ 20.3, 25.2, 25.3, 25.7, 27.8, 28.0, 40.0, 65.5, 116.1, 169.2.

2-Aetoxy-2-phenylacetonitrile (2g): ^{1}H NMR ($CDCl_3$) δ 2.16 (s, 3H), 6.41 (s, 1H), 7.44−7.53 (m, 5H); ^{13}C NMR ($CDCl_3$) δ 20.4, 62.8, 116.1, 127.8, 129.2, 130.3, 131.7, 168.9.

2-Hydroxy-4-cyanoheptanenitrile (2i): ^{1}H NMR ($CDCl_3$) δ 0.99 (t, J = 6.8 Hz, 3H), 1.36−1.78 (m, 4H), 2.05−2.14 (m, 2H), 2.88−3.02 (m, 1H), 3.15−3.22 (m, 1H), 4.65−4,80 (m, 1H); ^{13}C NMR ($CDCl_3$) δ 13.3, 20.1, 27.1, 33.7, 36.9, 58.0, 119.2, 120.7.

1-Cyano-*N*-cyclohexylhydroxyamine *O*-acetate (15): ^{1}H NMR ($CDCl_3$) δ 1.18−2.08 (m, 10H), 2.11 (d, J = 2.7 Hz, 3H), 7.58 (s, 1H); ^{13}C NMR ($CDCl_3$) δ 18.7, 21.7, 27.1, 24.6, 32.9, 59.4, 119.9, 169.9.

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Supporting Information Available: ^{1}H NMR, ^{13}C NMR, IR, and MS spectral for compounds **2b**−**g**, **2i**, **4**, **6**, **8**, **10**, and **15** and IR and MS spectral data. This material is available free of charge via the Internet at http://pubs.acs.org.

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Additions and Corrections

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Bruno Linclau, Ashvani K. Sing, and Dennis P. Curran*. Organic-Fluorous Phase Switches: A Fluorous Amine Scavenger for Purification in Solution Phase Parallel Synthesis.

Page 2835. Ashvani K. Sing's surname should be spelled Singh.

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