Supporting Informations
A Simple Preparation of Ketones. N-Protected α-Amino Ketones from α-Amino Acids.
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Experimental Section
The N-protected amino acids were prepared according standard methods and their purities were established before utilization by melting point and optical rotation. Although the 2-chloro-4,6-dimethoxy[1,3,5]triazine (CDMT) was commercially available, we prepared it following a published procedure.1 Cyanuric chloride and vinylmagnesium bromide were purchased from Aldrich.
Elemental analyses were performed on a Perkin-Elmer 420 B analyser, optical rotations were measured with a Perkin-Elmer 241 automatic polarimeter in a 1 dm tube. The 1H NMR (300 MHz) and 13C NMR (75.4 MHz) were obtained with a Varian VXR-300 spectrometer from CDCl3 solutions.

2,7-Dimethyl-6-phenyloctan-4-one, 3:
CDMT (0.74 g, 4.4 mmol) and NMM (1.2 mL, 11.1 mmol) were added to a solution of cinnamic acid (0.55 g, 3.7 mmol) in THF (11 mL) maintained at room temperature. The white precipitate formed during stirring for 1 h was filtered off under argon, CuI (0.70 g, 3.7 mmol) was added to this solution and then at 0°C, slowly, a THF solution (5 mL) of iso-propylmagnesium bromide (3.7 mL of 1N Et2O solution, 3.7 mmol). After being stirred for additional 2-3 h at room temperature, the reaction mixture was quenched with aqueous saturated NH4Cl and extracted two times with 10 mL of diethylether. The combined organic phases were washed with 15 ml of sat. Na2CO3, HCl 1N, followed by 15 mL of brine. The organic layer was dried over anhydrous Na2SO4 to give, after evaporation of solvent, a crude product from which compound 3 was obtained through a silica gel column chromatography by using hexane/ethyl acetate 9:1: 1H NMR, δ, 7.22–7.10 (m, 5H), 2.95 (m, 1H), 2.71 (m, 2H), 2.39 (m, 1H), 1.83 (m, 1H), 0.70–0.98 (m, 12H); 13C NMR, δ, 212.5, 144.2, 130.2, 129.0, 127.6, 47.7, 44.6, 41.2, 32.9, 20.4, 17.8. Anal. Calcd for C15H22O (218.17): C, 82.52; H, 10.16. Found: C, 82.55; H, 10.15.

2-Acryloyl-pyrrolidine-1-carboxylic acid benzyl ester, 7:
Recovered as colorless oil after purification with silica gel column chromatography by using hexane/ethyl acetate 9:1 as an eluent (48% yield), [α]20D –36.3° (c 0.56, CHCl3).1H NMR, δ,(mixture of conformers) 7.39 (m, 5H), 6.37 (m, 1H, J=17.4 Hz), 6.31 (m,1H, J=10.1, 17.4 Hz), 5.78 (dd,1H, J=10.1 Hz), 5.07 (m, 2H), 4.61 (m, 1H), 3.54 (m, 2H), 2.16 (m, 1H), 1.85 (m, 3H); 13C NMR, δ, 198.5, 198.3, 155.1, 154.7, 136.9, 136.6, 133.1, 133.3, 129.9, 128.6, 128.5, 128.2, 128.0, 67.1, 63.7, 47.1, 46.9, 30.3, 29.2, 24.3, 23.7. Anal. Calcd for C15H17NO3 (259.12): C, 69.48; H, 7.28; N, 5.95. Found: C, 66.39; H, 7.23, N, 5.95.

Methyl-(2-oxobutyl)-carbamic acid benzyl ester, 8:
1H NMR, δ, (mixture of conformers) 7.42 (m, 5H), 5.20 (dlike, 2H), 4.12 (dlike, 2H), 3.05 (s, 3H), 2.52 (q, 1H), 2.42 (q, 1H), 1.14 (m, 3H); 13C NMR, δ, 206.8, 156.4, 136.8, 128.0, 128.2, 128.7, 67.6, 58.1, 32.9, 7.6. Anal. Calcd for C13H17NO3 (235.12): C, 66.36; H, 7.28; N, 5.95. Found: C, 66.39; H, 7.23, N, 5.95.
(1-Isobutyl-2-oxobutyl)-carbamic acid tert-butyl ester, 9:
$^1$H NMR, $\delta$, 5.07 (bs, 1H), 4.25 (m, 1H), 2.48 (q, 2H), 1.85 (m, 1H), 1.41 (s, 9H), 1.25 (dd, 2H), 1.05 (t, 3H), 0.90 (m, 6H); $^{13}$C NMR, $\delta$, 205.6, 156.4, 64.1, 61.1, 37.4, 28.6, 24.5, 16.2, 11.8, 7.73. Anal. Calcd for C$_{13}$H$_{25}$NO$_3$ (243.18): C, 64.16; H, 10.36; N, 5.76. Found: C, 64.19; H, 10.36, N, 5.75.

(1-Isopropyl-3-methyl-2-oxobutyl)-carbamic acid tert-butyl ester, 10:
$^1$H NMR, $\delta$, (mixture of conformers) 4.91 (d, 1H), 4.12 (m, 1H), 2.78 (m; 1H), 2.55 (m, 1H), 1.53 (s, 7H), 1.44 (s, 2H), 1.08-0.81 (m, 12H); $^{13}$C NMR, $\delta$, 209.3, 157.4, 63.1, 50.8, 31.5, 28.6, 23.4, 17.7, 15.4. Anal. Calcd for C$_{13}$H$_{25}$NO$_3$ (243.18): C, 64.16; H, 10.36; N, 5.76. Found: C, 64.19; H, 10.36, N, 5.75.