

SUPPLEMENTARY MATERIAL

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Tetrabutylammonium Bromide (TBAB)-Catalyzed Rapid Conversion of β -ketoesters into β -Enaminoesters under Solvent-free Conditions

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Spectroscopic data of compounds

3a: IR: $\nu = 1116, 1371, 1610, 1653, 3321 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.20$ (d, $J = 6.6 \text{ Hz}$, 6H), 1.25 (t, $J = 7.1 \text{ Hz}$, 3H), 1.93 (s, 3H), 3.6 (m, 1H), 4.07 (q, $J = 7.0 \text{ Hz}$, 2H), 4.40 (s, 1H), 8.50 (br, s, 1H); Mass: m/z : 171 (M^+).

3b: IR: $\nu = 1249, 1577, 1606, 3312 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.18$ (t, $J = 6.9 \text{ Hz}$, 3H), 1.27 (m, 10H), 1.35 (m, 1H), 1.95 (s, 3H), 4.02 (q, $J = 6.9 \text{ Hz}$, 2H), 4.91 (s, 1H), 11.0 (br, s, 1H); Mass: m/z : 211 (M^+).

3c: IR: $\nu = 1492, 1599, 1655, 2926, 3264 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.26$ (t, $J = 7.1 \text{ Hz}$, 3H), 1.96 (s, 3H), 3.70 (q, $J = 7.1 \text{ Hz}$, 2H), 4.67 (s, 1H), 6.85 – 7.21 (m, 5H), 10.33 (br, s, 1H); Mass: m/z : 205 (M^+).

3d: IR: $\nu = 1150, 1720, 3300 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.28$ (t, $J = 7.2 \text{ Hz}$, 3H), 2.00 (s, 3H), 3.94 (q, $J = 7.2 \text{ Hz}$, 2H), 4.41 (d, $J = 6.6 \text{ Hz}$, 2H), 5.14 (s, 1H), 7.30 - 7.42 (m, 5H), 11.63 (t, $J = 6.6 \text{ Hz}$, 1H); Mass: m/z : 219 (M^+).

3e: IR: $\nu = 1135, 1320, 1480, 1580, 1615, 2950, 3210 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.25$ (t, $J = 7.2 \text{ Hz}$, 3H), 1.91 (s, 3H), 2.36 (s, 3H), 4.08 (q, $J = 7.2 \text{ Hz}$, 2H), 4.50 (s, 1H), 7.20 (d, $J = 7.0 \text{ Hz}$, 2H), 7.25 (d, $J = 7.0 \text{ Hz}$, 2H), 8.95 (br, s, 1H); Mass: m/z : 219 (M^+).

3f: IR: $\nu = 1105, 1321, 1470, 1585, 1605, 3045 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.24$ (t, $J = 6.9 \text{ Hz}$, 3H), 1.90 (s, 3H), 3.75 (s, 3H), 4.06 (q, $J = 6.9 \text{ Hz}$, 2H), 4.49 (s, 1H), 7.10 (d, $J = 7.1 \text{ Hz}$, 2H), 7.35 (d, $J = 7.0 \text{ Hz}$, 2H), 9.10 (br, s, 1H); Mass: m/z : 235 (M^+).

3g: IR: $\nu = 1110, 1325, 1575, 1607, 3020 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.22$ (t, $J = 7.0 \text{ Hz}$, 3H), 1.89 (s, 3H), 4.10 (q, $J = 7.0 \text{ Hz}$, 2H), 4.51 (s, 1H), 7.21 (d, $J = 7.2 \text{ Hz}$, 2H), 7.25 (d, $J = 7.0 \text{ Hz}$, 2H), 9.10 (br, s, 1H); Mass: m/z : 239 (M^+).

3h: IR: $\nu = 1125, 1330, 1570, 1625, 3010 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.25$ (t, $J = 7.0 \text{ Hz}$, 3H), 1.92 (s, 3H), 4.12 (q, $J = 7.0 \text{ Hz}$, 2H), 4.55 (s, 1H), 7.21- 7.55 (m, 4H), 9.15 (br, s, 1H); Mass: m/z : 239 (M^+).

3i: IR: $\nu = 1120, 1350, 1595, 1609, 2995 \text{ cm}^{-1}$; $^1\text{H NMR}$: $\delta = 1.25$ (t, $J = 7.1 \text{ Hz}$, 3H), 1.90 (s, 3H), 4.50 (s, 1H), 4.10 (q, $J = 7.2 \text{ Hz}$, 2H), 7.22 (d, $J = 7.1 \text{ Hz}$, 2H), 7.24 (d, $J = 7.0 \text{ Hz}$, 2H), 8.75 (br, s, 1H); Mass: m/z : 250 (M^+).

3j: IR: $\nu = 1150, 1745, 3315, \text{ cm}^{-1}$; $^1\text{H NMR}$: 1.25 (t, $J = 7.1 \text{ Hz}$, 3H), 2.52 (m, 4H), 3.15 (t, $J = 7.3 \text{ Hz}$, 2H), 4.01 (q, $J = 6.6 \text{ Hz}$, 2H), 6.90 – 7.15 (m, 5H), 11.05 (br, s, 1H); Mass: m/z : 231 (M^+).

3k: IR: $\nu = 1115, 1645, 3295 \text{ cm}^{-1}$; $^1\text{H NMR}$: 1.98 (t, $J = 7.0 \text{ Hz}$, 3H), 4.03 (q, 2H), 4.50 (s, 1H), 6.90 – 7.65 (m, 10H), 11.02 (br, s, 1H); Mass: m/z : 255 (M^+).

3l: IR: $\nu = 1152, 1740, 3310, \text{ cm}^{-1}$; $^1\text{H NMR}$: 0.94 (t, $J = 7.2 \text{ Hz}$, 3H), 1.28 (t, $J = 7.1 \text{ Hz}$, 3H), 1.30 (m, 2H), 1.52 (m, 2H), 1.82 (m, 2H), 2.50 (m, 4H), 3.20 (t, $J = 7.3 \text{ Hz}$, 2H), 3.94 (q, $J = 6.6 \text{ Hz}$, 2H), 11.24 (br, s, 1H), Mass: m/z (%) = 211 (M^+).