## Supplementary Data

```
\(\mathbf{L}^{4}\)
mp \(143-5^{\circ} \mathrm{C}\) (Lit. \(146-8^{\circ} \mathrm{C}\) )
```

${ }^{1} \mathrm{H} \operatorname{NMR}\left(\mathrm{CDCl}_{3}\right)$ gave 1 at 1.06 and $1.05 \mathrm{ppm}(2 \mathrm{~s}, 12 \mathrm{H}), 3$ at $1.38 \mathrm{ppm}(\mathrm{m}, 4 \mathrm{H}), 4$ at 2.80 ppm (m, 2 H ), 5 at $0.98 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=6.0 \mathrm{~Hz}, 6 \mathrm{H}), 6$ at $3.2 \mathrm{ppm}(\mathrm{br} \mathrm{s}, 4 \mathrm{H}), 7$ at $2.80 \mathrm{ppm}(\mathrm{m}$, 2 H ) and $2.26 \mathrm{ppm}(\mathrm{d}$ of $\mathrm{t}, \mathrm{J}=2.2 \mathrm{~Hz}$ and $11 \mathrm{~Hz}, 2 \mathrm{H}$ ), and 8 at $2.80 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H})$ and 2.52 ppm(d of $t, J=2.6 \mathrm{~Hz}$ and 12 Hz ).
${ }^{13} \mathrm{C}$ NMR gave $\left(\mathrm{CDCl}_{3}\right)$ 1a at $24.4 \mathrm{ppm}, 1 \mathrm{~b}$ at $29.1 \mathrm{ppm}, 2$ at $53.3 \mathrm{ppm}, 3$ at $52.0 \mathrm{ppm}, 4$ at $51.4 \mathrm{ppm}, 5$ at $21.6 \mathrm{ppm}, 7$ at $48.3 \mathrm{ppm}, 8$ at 42.4 ppm .

IR spectrum ( KBr ) showed peaks at $3403 \mathrm{~cm}^{-1}(\mathrm{~N}-\mathrm{H}), 1177 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}-\mathrm{N}), 1156 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{N})$, $753.6 \mathrm{~cm}^{-1}(\mathrm{~N}-\mathrm{H})$, and $511.1 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{N}-\mathrm{C})$.

## $\mathbf{L}^{5}$

mp 95-97 ${ }^{\circ} \mathrm{C}\left(\right.$ Lit $\left.97-105^{\circ} \mathrm{C}\right)$
${ }^{1} \mathrm{H}$ NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1a at $1.31(\mathrm{~s}, 3 \mathrm{H}), 1 \mathrm{~b}$ at $1.35 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H}), 3$ at $1.76 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=6 \mathrm{~Hz}$, $2 \mathrm{H}), 4$ at $3.74(\mathrm{~d}, \mathrm{~J}=18 \mathrm{~Hz}, 1 \mathrm{H}$ ), 5 at $1.18 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=6.0 \mathrm{~Hz}, 3 \mathrm{H}), 7$ at $3.23 \mathrm{ppm},(\mathrm{m}, 1 \mathrm{H})$ and $2.64(\mathrm{~m}, 1 \mathrm{H}), 8$ at $3.23 \mathrm{ppm}(\mathrm{m}, 1 \mathrm{H})$ and $2.81(\mathrm{~m}, 2 \mathrm{H}), 9$ at $3.10 \mathrm{ppm}(\mathrm{br} \mathrm{s}, 1 \mathrm{H}), 11 \mathrm{a}$ at $1.31(\mathrm{~s}, 3 \mathrm{H}), 11 \mathrm{~b}$ at $1.42 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H}), 12$ at $1.94 \mathrm{ppm}(\mathrm{t}, \mathrm{J}=14 \mathrm{~Hz}, 1 \mathrm{H})$ and $1.67 \mathrm{ppm}(\mathrm{t}, \mathrm{J}=$ $15 \mathrm{~Hz}, 1 \mathrm{H}), 13$ at $3.23 \mathrm{ppm},(\mathrm{m}, 1 \mathrm{H}), 14$ at $1.02 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=6.6 \mathrm{~Hz}, 1 \mathrm{H}), 15$ at $3.10 \mathrm{ppm}(\mathrm{br}$ $\mathrm{s}, 1 \mathrm{H}), 16$ at $3.04 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 17$ at $3.04 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 18$ at $3.10 \mathrm{ppm}(\mathrm{br} \mathrm{s}, 1 \mathrm{H}), 19$ at 3.04 ppm (m, 2H).

The ${ }^{13} \mathrm{C}$ APT NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1a at $24.4 \mathrm{ppm}, 1 \mathrm{~b}$ at $25.1 \mathrm{ppm}, 2$ at $59.6 \mathrm{ppm}, 3$ at 47.8 ppm, 4 at $49.5 \mathrm{ppm}, 5$ at $19.9 \mathrm{ppm}, 7$ at $42.3 \mathrm{ppm}, 8$ at $38.8 \mathrm{ppm}, 10$ at $59.0 \mathrm{ppm}, 11 \mathrm{a}$ at 20.4 ppm, 11 b at $21.4 \mathrm{ppm}, 12$ at $43.6 \mathrm{ppm}, 13$ at $49.6 \mathrm{ppm}, 14$ at $12.8 \mathrm{ppm}, 16$ at $49.5 \mathrm{ppm}, 17$ at $42.1 \mathrm{ppm}, 19$ at 55.3 ppm , and 20 at 177.5 ppm .

IR spectrum ( KBr ) showed peaks at $3226 \mathrm{~cm}^{-1}(\mathrm{~N}-\mathrm{H}), 1178 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}-\mathrm{N}), 1156 \mathrm{~cm}^{-1}(\mathrm{CN})$, and $730 \mathrm{~cm}^{-1}(\mathrm{~N}-\mathrm{H})$.

## $\mathbf{L}^{6}$

mp $228^{\circ} \mathrm{C}-232^{\circ} \mathrm{C}$ (Lit. $235-237^{\circ} \mathrm{C}$ (decomp.).
${ }^{1} \mathrm{H}$ NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1 and 11 at $1.40 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H}), 1.33 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H})$, and $1.29 \mathrm{ppm}(\mathrm{s}, 6 \mathrm{H})$, 3 and 12 between 1.63-1.99 ppm (m, 4H), 4 at $3.21 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=14 \mathrm{~Hz}, 1 \mathrm{H}), 5$ at $1.16 \mathrm{ppm}(\mathrm{d}$ $\mathrm{J}=6.3 \mathrm{~Hz}, 3 \mathrm{H}), 7,8,16,17,19,22$ between $2.60-3.21 \mathrm{ppm}(\mathrm{m}, 12 \mathrm{H}), 13$ at $3.74 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=$ $18 \mathrm{~Hz}, 1 \mathrm{H})$, and 14 at $1.00 \mathrm{ppm}(\mathrm{d} \mathrm{J}=6.6 \mathrm{~Hz}, 3 \mathrm{H})$.
${ }^{13} \mathrm{C}$ APT NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1 a at $24.4 \mathrm{ppm}, 1 \mathrm{~b}$ at $25.1 \mathrm{ppm}, 2$ at $59.6 \mathrm{ppm}, 3$ at $47.8 \mathrm{ppm}, 4$ at $49.6 \mathrm{ppm}, 5$ at $19.9 \mathrm{ppm}, 7$ at $42.3 \mathrm{ppm}, 8$ at $38.8 \mathrm{ppm}, 10$ at $59.0 \mathrm{ppm}, 11 \mathrm{a}$ at 20.4 ppm , 11 b at $21.4 \mathrm{ppm}, 12$ at $43.6 \mathrm{ppm}, 13$ at $57.7 \mathrm{ppm}, 14$ at $12.8 \mathrm{ppm}, 16$ at $49.5 \mathrm{ppm}, 17$ at 42.1 ppm, 19 at 55.7 ppm , and 20 at 177.5 ppm .

IR spectrum ( KBr ) showed peaks at $3406 \mathrm{~cm}^{-1}(\mathrm{NH}), 3342 \mathrm{~cm}^{-1}, 3203 \mathrm{~cm}^{-1}(\mathrm{NH}), 1731 \mathrm{~cm}^{-1}$ $(\mathrm{C}=\mathrm{O}), 1602 \mathrm{~cm}^{-1}\left(\mathrm{COO}^{-}\right), 1200 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}-\mathrm{N}), 1145 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{N}), 948.7 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{OH})$, and $672.7 \mathrm{~cm}^{-1}(\mathrm{O}-\mathrm{C}=\mathrm{O})$.

## $\mathbf{L}^{7}$

mp 248-251 ${ }^{\circ} \mathrm{C}$ (decomp.). (Lit. $258-260{ }^{\circ} \mathrm{C}$ (decomp.)).
${ }^{1} \mathrm{H}$ NMR $\left(\mathrm{D}_{2} \mathrm{O}\right)$ gave 1a at $1.36 \mathrm{ppm}(\mathrm{s}, 6 \mathrm{H}), 1 \mathrm{~b}$ at $1.34 \mathrm{ppm}(\mathrm{s}, 6 \mathrm{H}), 3$ at $1.96 \mathrm{ppm}(\mathrm{t}, \mathrm{J}=14$ $\mathrm{Hz}, 2 \mathrm{H})$ and $1.60(\mathrm{~d}, \mathrm{~J}=16 \mathrm{~Hz}, 2 \mathrm{H}), 4$ at $3.38 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 5$ at $1.06 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=6.6 \mathrm{~Hz}$, $6 \mathrm{H}), 7$ at $3.79 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=18 \mathrm{~Hz}, 2 \mathrm{H})$ and $2.97 \mathrm{ppm}(\mathrm{m} 2 \mathrm{H}), 8$ at $3.24 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=13 \mathrm{~Hz}$, 2 H ), and 19 at $3.08(\mathrm{~s}, 2 \mathrm{H}) \mathrm{ppm}$.
${ }^{13} \mathrm{C}$ APT NMR $\left(\mathrm{D}_{2} \mathrm{O}\right)$ gave 1 a at $25.0 \mathrm{ppm}, 1 \mathrm{~b}$ at $20.8 \mathrm{ppm}, 2$ at $59.3 \mathrm{ppm}, 3$ at $44.5 \mathrm{ppm}, 4$ at $56.1 \mathrm{ppm}, 5$ at $13.1 \mathrm{ppm}, 7$ at $49.0 \mathrm{ppm}, 8$ at $39.4 \mathrm{ppm}, 19$ at 53.3 ppm , and 20 at 179.8 ppm .

IR spectrum $(\mathrm{KBr})$ showed peaks at $1730 \mathrm{~cm}^{-1}(\mathrm{C}=0), 1617 \mathrm{~cm}^{-1}\left(\mathrm{COO}^{-}\right), 1383 \mathrm{~cm}^{-1}\left(\mathrm{COO}^{-}\right)$, $1194 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}-\mathrm{N}), 1116 \mathrm{~cm}^{-1}(\mathrm{CN})$, and $667.8 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}=\mathrm{O})$.

## $\mathbf{L}^{8}$

mp $240-245^{\circ} \mathrm{C}$
${ }^{1} \mathrm{H}$ NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1a and 11a at $1.44 \mathrm{ppm}(\mathrm{s}, 6 \mathrm{H}), 1 \mathrm{~b}$ at $1.28 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H}), 3$ and 12 at $2.16 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H})$ and $1.64(\mathrm{~m}, 2 \mathrm{H}), 4$ and 13 at $3.17 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 5$ at $1.23 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=5.4$ $\mathrm{Hz}, 3 \mathrm{H}), 7$ and 16 at $4.22 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H})$ and $3.38 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 8$ and 17 at $3.38 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H})$ and $3.00 \mathrm{ppm}(\mathrm{m}, 2 \mathrm{H}), 11 \mathrm{~b}$ at $1.41 \mathrm{ppm}(\mathrm{s}, 3 \mathrm{H}), 14$ at $1.05 \mathrm{ppm}(\mathrm{d}, \mathrm{J}=5.4 \mathrm{~Hz}, 3 \mathrm{H}), 19$ and 22 at $3.17 \mathrm{ppm}(\mathrm{m}, 4 \mathrm{H})$.
${ }^{13} \mathrm{C}$ APT NMR $\left(\mathrm{CDCl}_{3}\right)$ gave 1 a at $24.6 \mathrm{ppm}, 1 \mathrm{~b}$ at $21.1 \mathrm{ppm}, 2$ and 10 at $66.8 \mathrm{ppm}, 3$ at 42.5 ppm, 4 at $51.7 \mathrm{ppm}, 5$ at $18.4 \mathrm{ppm}, 7$ at $59.0 \mathrm{ppm}, 8$ at $39.2 \mathrm{ppm}, 11 \mathrm{a}$ at $20.5 \mathrm{ppm}, 11 \mathrm{~b}$ at $20.9 \mathrm{ppm}, 12$ at $42.1 \mathrm{ppm}, 13$ at $55.6 \mathrm{ppm}, 14$ at $13.0 \mathrm{ppm}, 16$ at $56.4 \mathrm{ppm}, 17$ at 43.8 ppm , 19 at $53.6 \mathrm{ppm}, 20$ at $179.1 \mathrm{ppm}, 22$ at 51.6 ppm , and 23 at 173.9 ppm .

IR spectrum ( KBr ) showed peaks at $3236 \mathrm{~cm}^{-1}(\mathrm{NH}), 1723 \mathrm{~cm}^{-1}(\mathrm{C}=\mathrm{O}), 1637$ and $1616 \mathrm{~cm}^{-1}$ ( $\mathrm{COO}^{-}$), $1399 \mathrm{~cm}^{-1}(\mathrm{OH}), 1383 \mathrm{~cm}^{-1}\left(\mathrm{COO}^{-}\right), 1168 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{C}-\mathrm{N}), 1121 \mathrm{~cm}^{-1}(\mathrm{CN}), 624.2(\mathrm{C}-$ $\mathrm{C}=\mathrm{O}$ ), and $476.1 \mathrm{~cm}^{-1}(\mathrm{C}-\mathrm{N}-\mathrm{C})$.

