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## Efficient parallel resolution of pentafluorophenyl active esters using *quasi*-enantiomeric combinations of oxazolidin-2-ones

Najla Al Shaye<sup>a</sup>, Sameer Chavda<sup>a,b</sup>, Elliot Coulbeck<sup>a</sup>, Jason Eames<sup>a,\*</sup>, Yonas Yohannes<sup>b</sup>

<sup>a</sup> Department of Chemistry, University of Hull, Cottingham Road, Kingston upon Hull, HU6 7RX, UK <sup>b</sup> Department of Chemistry, Queen Mary University of London, Mile End Road, London, E1 4NS, UK

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### ABSTRACT

The parallel resolution of racemic pentafluorophenyl 2-aryl/phenylpropanoates and butanoates using an equimolar combination of *quasi*-enantiomeric Evans oxazolidin-2-ones is discussed. The levels of diastereoselectivity were excellent (>90% de) leading to separable *quasi*-enantiomeric oxazolidin-2-ones in good yield. This methodology was used to resolve a series of structurally related 2-aryl/phenylpropanoic and butanoic acids.

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### 1. Introduction

Since 1997, there has been a steady increase in the number of reports on the use of parallel kinetic resolutions as a synthetic strategy for the separation of enantiomers.<sup>1–3</sup> Within this area, Davies has demonstrated<sup>4</sup> the parallel resolution of racemic enone (*rac*)-**3** using a *quasi*-enantiomeric combination of lithium amides (*S*)-**1** and (*R*)-**2** to give two complementary diastereoisomerically pure  $\beta$ -amino esters *syn,syn,anti*-**4** and *syn,syn,anti*-**5** in 39% and 35% yields with 95–97% and 97–99% diastereoisomeric excesses (Scheme 1).<sup>5</sup> The levels of mutual recognition between (*S*)-**1** and (*S*)-**3**, and (*R*)-**2** and (*R*)-**3** were excellent (>20:1) leading to separable  $\beta$ -amino esters **4** and **5** in good yields with >95% de (Scheme 1).<sup>5</sup>

Since 2005, we have been interested in the philosophy of this approach for the (mutual) resolution of  $\alpha$ -substituted carboxylic acids (such as pentafluorophenyl active esters) and masked  $\alpha$ -amino acids (such as oxazolidin-2-ones).<sup>6–8</sup> We have reported the efficient parallel kinetic resolution of racemic oxazolidin-2-ones, such as 4-phenyl-oxazolidinone (*rac*)-**8**, using a pair of *quasi*-enantiomeric active esters (*S*)-**6** and (*R*)-**7** to give two separable oxazolidin-2-ones (*S*,*R*)-*syn*-**9** and (*R*,*S*)-*syn*-**10** in 48% and 54% yields with 90% and 94% diastereoisomeric excesses (Scheme 2).<sup>9</sup> From this study, it was apparent that the (*R*)-enantiomer of oxazolidin-2-one **8** recognised the (*S*)-enantiomer of active ester (*S*)-**6**, whereas, the remaining (*S*)-enantiomer of oxazolidin-2-one **8** recognised the complementary active ester (*R*)-**7** (Scheme 2).<sup>10</sup>

\* Corresponding author. E-mail address: j.eames@hull.ac.uk (J. Eames).

### 2. Results and discussion

Herein we report an extension to this methodology for the complementary resolution of racemic  $\alpha$ -substituted carboxylic acids, such as (*rac*)-**C**, using the corresponding pentafluorophenyl active ester (*rac*)-**D**, and an equimolar combination of Evans' oxazolidin-2-ones, such as (*R*)-**A** and (*S*)-**B**, as parallel resolving components to give the oxazolidin-2-one adducts (*S*,*R*)-*syn*-**E** and (*R*,*S*)-*syn*-**F** (Scheme 3). Simple separation of these adducts, by column chromatography, followed by hydrolysis, would lead to both individual enantiomers of the original  $\alpha$ -substituted carboxylic acids (*S*)- and (*R*)-**C**, respectively (Scheme 3).

With this aim in mind, we first studied the mutual kinetic resolution of a series of structurally related racemic Evans' oxazolidinones (rac)-8, (rac)-(4RS,5SR)-syn-11 and (rac)-12-14 and pentafluorophenyl active esters (rac)-6-7 and (rac)-15-19 to get a measure of their stereochemical recognition (as shown in Schemes 4 and 5). Deprotonation of each racemic oxazolidin-2one, (rac)-(4RS,5SR)-syn-11, (rac)-12, (rac)-13, (rac)-8 and (rac)-**14**, in THF at -78 °C, followed by the addition of the active esters (rac)-15, (rac)-16, (rac)-17, (rac)-18, (rac)-7, (rac)-19 and (rac)-6 gave, after stirring for 2 h at -78 °C, the corresponding oxazolidin-2-one adducts 9, 10 and 20-52 in moderate to good yields  $(25\% \rightarrow 75\%)$  with good to excellent levels of diastereocontrol (14%)  $de \rightarrow 96\%$  de) (Scheme 6). From these results, it was evident that the oxazolidin-2-ones (rac)-8, (rac)-13 and (rac)-14 gave higher levels of diastereocontrol for active esters (rac)-6-7, (rac)-15 and (rac)-18-19 [derived from the corresponding 2-(4-substitutedaryl)propanoic and 2-(4-substituted-aryl)butanoic acids] than the less sterically demanding oxazolidin-2-ones (rac)-(4RS,5SR)syn-11 and (rac)-12 (Scheme 6). Oxazolidin-2-ones that contained a sterically demanding *sp*<sup>3</sup>-hybridised *C*(4)-substituent [e.g., *i*-Pr in (rac)-13] appeared to give higher levels of mutual recognition and



Scheme 1. Parallel kinetic resolution of enone (rac)-3 using a quasi-enantiomeric combination of lithium amides (S)-1 and (R)-2.



**Scheme 2.** Parallel kinetic resolution of oxazolidin-2-one (*rac*)-**8** using a *quasi*enantiomeric combination of active esters (*S*)-**6** and (*R*)-**7**.

favoured formation of the corresponding *syn*-oxazolidin-2-one adducts (with  $36\% \rightarrow 92\%$  de). The less sterically demanding *C*(4)-

substituted oxazolidin-2-ones [e.g., Me and CH<sub>2</sub>Ph in (*rac*)-(4*RS*,5*SR*)-**11** and (*rac*)-**12**, respectively] gave significantly lower levels of diastereocontrol (38% $\rightarrow$ 58% de) (Scheme 6). However, those oxazolidin-2-ones which contained an *sp*<sup>2</sup>-hybridised *C*(4)substituent [e.g., Ph and CO<sub>2</sub>Et in (*rac*)-**8** and (*rac*)-**14**, respectively],<sup>11</sup> gave higher levels of diastereoselection (88%-96% de).

For a series of pentafluorophenyl 4-substituted aryl propanoates (rac)-6-7 and (rac)-18-19, these gave similar levels of diastereoselection to their parent ester (rac)-15 with the exception of pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19, which was marginally less diastereoselective (Scheme 6). Increasing the sterically demanding nature of the C(2)-substituent of the active ester, from a methyl group [in (rac)-15] to an ethyl group [in (rac)-16], generally increased the levels of diastereocontrol (Scheme 6). However, there appears to be a steric threshold at this C(2)-position, as increasing the size of the ethyl group [in (*rac*)-**16**] to a larger isopropyl group [in (rac)-17] significantly lowered the levels of diastereocontrol (Scheme 6). Herein it was evident that the oxazolidin-2-one, 4-phenyloxazolidin-2-one (rac)-8 gave the highest levels of mutual recognition for a wide range of structurally related pentafluorophenyl 2-(aryl/or phenyl) propanoates and butanoates. The relative levels of diastereoselection for these oxazolidin-2-ones were found to be: (rac)-8> (rac)-14>(rac)- $13 \gg (rac)-12 > (rac)-(4RS,5SR)-11.$ 

With this information in hand, we next studied the parallel kinetic resolution of this series of active esters (*rac*)-**15**, (*rac*)-**16**,



Scheme 3. Proposed parallel kinetic resolution of carboxylic acid (rac)-C using a quasi-enantiomeric combination of oxazolidin-2-ones (R)-A and (S)-B.



Scheme 4. Oxazolidin-2-ones (rac)-8, (rac)-(4RS,5SR)-syn-11 and (rac)-12-14.



(rac)-18 (rac)-19

Scheme 5. Active esters (rac)-6, (rac)-7 and (rac)-15-19.

(*rac*)-17, (*rac*)-18, (*rac*)-7, (*rac*)-19 and (*rac*)-6 using three combinations of the more diastereoselective oxazolidin-2-ones, (*S*)-13 and (*R*)-8 (in Scheme 7), (*S*)-13 and (*S*)-14 (in Scheme 8), and (*S*)-8 and (*S*)-14 (in Scheme 9). Treatment of each pair of oxazolidin-2-ones, (*S*)-13 and (*R*)-8 (in Scheme 7), (*S*)-13 and (*S*)-14 (in Scheme 8), and (*S*)-8 and (*S*)-14, with *n*-BuLi in THF at  $-78 \degree$ C, followed by the addition of the active esters (*rac*)-15–18, (*rac*)-7, (*rac*)-19 and (*rac*)-6, gave the corresponding oxazolidin-2-one adducts in moderate to good yields and with good to excellent levels of diastereocontrol (Schemes 7–9).

The levels of diastereoselection were found to be comparable to those obtained from their corresponding mutual kinetic resolutions (as shown in Scheme 6). The levels of diastereoselection were found to be the highest for the pair of *quasi*-enantiomeric oxazolidin-2-ones, (*S*)-**8** and (*S*)-**14**, which contained *sp*<sup>2</sup>-hybridised *C*(4)-substituents (in Scheme 9). The oxazolidin-2-ones, (*S*)-**13** and (*R*)-**8** (in Scheme 7), were marginally more diastereoselective than the remaining pair of oxazolidin-2-ones, (*S*)-**13** and (*S*)-**14** (in Scheme 8).

These oxazolidin-2-one adducts were separated efficiently by flash chromatography; the *anti*-adducts were found to have higher retention factors ( $R_F$ ) than their corresponding *syn*-adducts. There was also an increased separability for adducts derived from the oxazolidin-2-ones (R)-**8** and (S)-**13** that contained hydrophobic (Ph and *i*-Pr) groups and adducts derived from the more polar oxazolidin-2-one (S)-**14** that contained a hydrophilic ethyloxycarbonyl group { $\Delta R_F$  [light petroleum (bp 40–60 °C)/diethyl ether] ~0.1}.

Access to enantiomerically pure 2-phenylpropanoic acids (*S*)and (*R*)-**53** was achieved by LiOH/H<sub>2</sub>O<sub>2</sub> mediated hydrolysis of oxazolidin-2-ones (*S*,*R*)-syn-**41**, (*R*,*S*)-syn-**34** and (*S*,*S*)-syn-**46** (Scheme 10). Treatment of adducts (*S*,*R*)-syn-**41**, (*R*,*S*)-syn-**34** and



	Oxazolidinones A				
	(4RS,5SR)-syn- <b>11</b>	(rac)- <b>12</b>	( <i>rac</i> )- <b>13</b>	(rac)- <b>8</b>	(rac)- <b>14</b>
Active esters D	R <sup>1</sup> Me	CH <sub>2</sub> Ph	<i>i</i> -Pr	Ph	CO <sub>2</sub> Et
( <i>rac</i> )- <b>15</b>	(rac)-syn,syn- <b>20</b> :(rac)-anti,syn- <b>2</b>	<b>0</b> ( <i>rac</i> )- <i>syn</i> - <b>27</b> :( <i>rac</i> )- <i>anti</i> - <b>27</b>	( <i>rac</i> )- <i>syn</i> - <b>34</b> :( <i>rac</i> )- <i>anti</i> - <b>34</b>	( <i>rac</i> )- <i>syn</i> - <b>41</b> :( <i>rac</i> )- <i>anti</i> - <b>41</b>	( <i>rac</i> )- <i>syn</i> - <b>46</b> :( <i>rac</i> )- <i>anti</i> - <b>46</b>
	68:32; 63% <sup>6a</sup>	70:30; 71% <sup>6a</sup>	95:5; 58% <sup>6a</sup>	97:3; 70% <sup>6a</sup>	95:5; 63% <sup>6a</sup>
( <i>rac</i> )- <b>16</b>	(rac)-syn,syn- <b>21</b> :(rac)-anti,syn- <b>2</b>	1 ( <i>rac</i> )- <i>syn</i> - <b>28</b> :( <i>rac</i> )- <i>anti</i> - <b>28</b>	( <i>rac</i> )- <i>syn</i> - <b>35</b> :( <i>rac</i> )- <i>anti</i> - <b>35</b>	( <i>rac</i> )- <i>syn</i> - <b>42</b> :( <i>rac</i> )- <i>anti</i> - <b>42</b>	( <i>rac</i> )- <i>syn</i> - <b>47</b> :( <i>rac</i> )- <i>anti</i> - <b>47</b>
	77:23; 68%	68:32; 72%	95:5; 62%	>98:2; 70% <sup>6a</sup>	96:4; 68%
( <i>rac</i> )- <b>17</b>	(rac)-syn,syn- <b>22</b> :(rac)-anti,syn- <b>2</b> :	2 ( <i>rac</i> )- <i>syn</i> - <b>29</b> :( <i>rac</i> )- <i>anti</i> - <b>29</b>	( <i>rac</i> )- <i>syn</i> - <b>36</b> :( <i>rac</i> )- <i>anti</i> - <b>36</b>	( <i>rac</i> )- <i>syn</i> - <b>43</b> :( <i>rac</i> )- <i>anti</i> - <b>43</b>	( <i>rac</i> )- <i>syn</i> - <b>48</b> :( <i>rac</i> )- <i>anti</i> - <b>48</b>
	73:27; 55%	66:34; 40%	68:32; 33%	87:13; 25%	57:43; 62%
( <i>rac</i> )- <b>18</b>	( <i>rac</i> )-syn,syn- <b>23</b> :(rac)-anti,syn- <b>2</b> :	<b>3</b> ( <i>rac</i> )- <i>syn</i> - <b>30</b> :( <i>rac</i> )- <i>anti</i> - <b>30</b>	( <i>rac</i> )- <i>syn-</i> <b>37</b> :( <i>rac</i> )- <i>anti</i> - <b>37</b>	( <i>rac</i> )- <i>syn</i> - <b>44</b> :( <i>rac</i> )- <i>anti</i> - <b>44</b>	( <i>rac</i> )- <i>syn</i> <b>-49</b> :( <i>rac</i> )- <i>anti</i> - <b>49</b>
	70:30; 60%	69:31; 61%	96:4; 60%	95:5; 62% <sup>6a</sup>	95:5; 63%
(rac)- <b>7</b>	(rac)-syn,syn- <b>24</b> :(rac)-anti,syn- <b>2</b>	4 ( <i>rac</i> )- <i>syn</i> - <b>31</b> :( <i>rac</i> )- <i>anti</i> - <b>31</b>	( <i>rac</i> )- <i>syn</i> - <b>38</b> :( <i>rac</i> )- <i>anti</i> - <b>38</b>	( <i>rac</i> )- <i>syn</i> - <b>10</b> :( <i>rac</i> )- <i>anti</i> - <b>10</b>	( <i>rac</i> )- <i>syn-</i> <b>50</b> :( <i>rac</i> )- <i>anti</i> - <b>50</b>
	75:25; 71%	79:21; 75%	96:4; 59%	96:4; 63% <sup>6a</sup>	94:6; 62%
( <i>rac</i> )- <b>19</b>	( <i>rac</i> )- <i>syn</i> , <i>syn</i> - <b>25</b> :( <i>rac</i> )- <i>anti</i> , <i>syn</i> - <b>2</b> :	5 ( <i>rac</i> )- <i>syn</i> - <b>32</b> :( <i>rac</i> )- <i>anti</i> - <b>32</b>	( <i>rac</i> )- <i>syn-</i> <b>39</b> :( <i>rac</i> )- <i>anti-</i> <b>39</b>	(rac)-syn- <b>45</b> :(rac)-anti- <b>45</b>	( <i>rac</i> )- <i>syn-</i> <b>51</b> :( <i>rac</i> )- <i>anti</i> - <b>51</b>
	70:30; 63%	69:31; 61%	74:26; 63%	95:5; 62%	95:5; 57%
( <i>rac</i> )- <b>6</b>	(rac)-syn,syn- <b>26</b> :(rac)-anti,syn- <b>2</b>	6 ( <i>rac</i> )- <i>syn</i> - <b>33</b> :( <i>rac</i> )- <i>anti</i> - <b>33</b>	( <i>rac</i> )- <i>syn</i> <b>-40</b> :( <i>rac</i> )- <i>anti</i> - <b>40</b>	( <i>rac</i> )- <i>syn-</i> <b>9</b> :( <i>rac</i> )- <i>anti</i> - <b>9</b>	( <i>rac</i> )- <i>syn-</i> <b>52</b> :( <i>rac</i> )- <i>anti</i> - <b>52</b>
	73:27; 64%	72:28; 72%	92:8; 58%	95:5; 65%	97:3; 59%



Scheme 7. Parallel kinetic resolution of active esters (rac)-6, (rac)-7 and (rac)-15–19 using oxazolidin-2-ones (S)-13 and (R)-8.



Scheme 8. Parallel kinetic resolution of active esters (rac)-6, (rac)-7 and (rac)-15-19 using oxazolidin-2-ones (S)-13 and (S)-14.

(S,S)-syn-**46** with LiOH/H<sub>2</sub>O<sub>2</sub> in THF/H<sub>2</sub>O (3:1), and stirring the resulting solution for 12 h, gave the enantiomerically pure 2-phenylpropanoic acids (*S*)-**53**, (*R*)-**53** and (*S*)-**53** in 90%, 85% and 87% yields, respectively (Scheme 10). In addition, the hydrolysis

of the remaining oxazolidin-2-ones (S,R)-syn-**42**–**43**, (S,R)-syn-**44**–**45** and (S,R)-syn-**9**–**10** under our standard conditions gave access to the corresponding enantiomerically pure 2-phenylbutanoic acids (S)-**54** (in 91% yield) and (S)-**55** (in 83% yield), and the



Scheme 9. Parallel kinetic resolution of active esters (rac)-6, (rac)-7 and (rac)-15-19 using oxazolidin-2-ones (S)-8 and (S)-14.

4-substituted-aryl propanoic acids (*S*)-**56** (in 89% yield), (*S*)-**57** (in 92% yield), (*S*)-**58** (in 85% yield) and (*S*)-**59** (in 90% yield) in good yield and with high levels of enantiomeric purity (Scheme 10).<sup>12</sup>

### 3. Conclusion

In conclusion, we have reported an efficient parallel kinetic resolution of a series of structurally related active esters, such as pentafluorophenyl 2-phenylpropanoate (*rac*)-**15** using a combination of *quasi*-enantiomeric Evans' oxazolidinones. This methodology appears to be efficient for a variety of structurally related oxazolidinones [e.g., (*S*)-**8** and (*S*)-**14**] and gives the separable diastereoisomerically pure *syn*-oxazolidin-2-one adducts **41** and **46** in good yield. Our reaction type is complementary to Evans' original *anti*alkylation methodology<sup>13</sup> (for prostereogenic phenylacetyl oxazolidin-2-ones) as this method favours the formation of related oxazolidin-2-one *anti*-adducts with near perfect diastereocontrol.

### 4. Experimental

### 4.1. General

All solvents were distilled before use. All the reactions were carried out under nitrogen using oven-dried glassware. Flash column chromatography was carried out using Merck Kieselgel 60 (230– 400 mesh). Thin layer chromatography (TLC) was carried out on commercially available pre-coated plates (Merck Kieselgel 60F<sub>254</sub> silica). Proton and carbon NMR spectra were recorded on a Bruker 400 MHz Fourier transform spectrometer using an internal deuterium lock. Chemical shifts are quoted in parts per million downfield from tetramethylsilane. Carbon NMR spectra were recorded with broad proton decoupling. Infrared spectra were recorded on a Shimadzu 8300 FTIR spectrometer. Optical rotations were measured using an automatic AA-10 Optical Activity Ltd polarimeter.

### 4.2. Pentafluorophenyl 2-(6-methoxynaphthalen-2-yl)propanoate (*rac*)-6

2-(6-Methoxy-naphthalen-2-yl)-propanoic acid (rac)-59 (5.0 g, 21.7 mmol) was added to a stirred solution of N.N'-dicyclohexylcarbodiimide (DCC) (4.90 g, 23.9 mmol) in dichloromethane (20 mL). The solution was stirred for 2 min. Pentafluorophenol (4.00 g, 21.7 mmol) in dichloromethane (50 mL) was added and the resulting solution was stirred for 12 h. The resulting precipitate (N,N'-dicyclohexylurea) was filtered off (using suction filtration). Water (50 mL) was added and the solution was extracted into dichloromethane ( $3 \times 100$  mL). The combined organic layers were dried (over MgSO<sub>4</sub>) and evaporated under reduced pressure. The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (9:1) to give pentafluorophenyl-2-(6-methoxy-naphthalen-2-yl)-propanoate (rac)-6 (8.61 g, 70%) as a white solid;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (9:1)] 0.65; mp 51-53 °C;  $v_{\text{max}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (C=O);  $\delta_{\text{H}}$  (400 MHz; CDCl<sub>3</sub>) 7.76– 7.77 (1H, d, J 8.6, CH; Ar), 7.75 (1H, br s, CH; Ar), 7.74 (1H, d, J 8.6, CH; Ar), 7.45 (1H, dd, J 8.6 and 1.8, CH; Ar), 7.18 (1H, dd, J 8.6 and 2.5, CH, Ar), 7.14 (1H, br t, J 2.5, CH; Ar), 4.38 (1H, q, J 7.2, ArCHCH<sub>3</sub>), 3.91 (3H, s, OCH<sub>3</sub>) and 1.71 (3H, d, J 7.2, ArCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 170.7 (C=O), 157.9 (*i*-CO; Ar), 141.0 (142.32 and 139.8, 2C, ddt,  ${}^{1}J_{C,F}$  = 249.8,  ${}^{2}J_{C,F}$  = 12.2 and  ${}^{3}J_{C,F}$  = 4.6, C(2)-F), 139.3 (140.63 and 138.11, 1C, dtt,  ${}^{1}J_{C,F} = 252.1$ ,  ${}^{2}J_{C,F} = 13.0$  and <sup>3</sup>*J*<sub>C,F</sub> = 4.5, C(4)-F), 137.8 (139.04 and 136.54, 2C, dtdd,  ${}^{J}_{J_{C,F}}$  = 250.6,  ${}^{2}J_{C,F}$  = 13.8,  ${}^{3}J_{C,F}$  = 5.3 and  ${}^{4}J_{C,F}$  = 3.0, C(3)-F), 133.9, 133.7 and 128.9 (3 × i-C; Ar), 129.3, 127.5, 126.2, 125.7, 119.3 and 105.6 (6 × CH; Ar), 125.2 (1C, m, *i*-CO;  $OC_6F_5$ ), 55.3 (OCH<sub>3</sub>), 45.9 (ArCHCH<sub>3</sub>) and 18.5 (ArCHCH<sub>3</sub>);  $\delta_{\rm F}$  (378 MHz; CDCl<sub>3</sub>),



Scheme 10. Hydrolysis of oxazolidin-2-ones (*S*,*R*)-syn-41, (*R*,*S*)-syn-34, (*S*,*S*)-syn-46, (*S*,*R*)-syn-42, (*S*,*R*)-syn-43, (*S*,*R*)-syn-44, (*S*,*R*)-syn-10, (*S*,*R*)-syn-45 and (*S*,*R*)-syn-9.

-152.5 (2F, d,  ${}^{3}J_{F,F}$  = 17.0,  $F_{ortho}$ ), -157.9 (1F, t,  ${}^{3}J_{F,F}$  = 21.6,  $F_{para}$ ) and -162.3 (2F, dd,  ${}^{3}J_{F,F}$  = 21.6 and 17.0,  $F_{meta}$ ) (Found M<sup>+</sup>, 396.0783;  $C_{20}H_{13}F_{5}O_{3}^{+}$  requires 396.0779).

### 4.3. Pentafluorophenyl 2-(4-isobutylphenyl)propanoate (rac)-7

This has been reported elsewhere.14

### 4.4. Pentafluorophenyl 2-phenylpropanoate (rac)-15

This has been reported elsewhere.<sup>14</sup>

### 4.5. Pentafluorophenyl 2-phenylbutanoate (rac)-16

This has been reported elsewhere.<sup>14</sup>

### 4.6. Pentafluorophenyl 2-phenyl-3-methylbutanoate (rac)-17

At first, DCC (1.65 g, 7.28 mmol) was slowly added to a solution of pentafluorophenol (1.34 g, 7.28 mmol) in dichloromethane (10 mL). The resulting solution was stirred for 5 min. 2-Phenyl-3methyl butanoic acid (rac)-55 (1.3 g, 7.28 mmol) in dichloromethane (10 mL) was slowly added (in four portions) to this solution (over 2 h). The solution was stirred for 12 h and the resulting precipitate (*N.N'*-dicvclohexvlurea) was filtered off (using suction filtration). Water (30 mL) was added and the solution was extracted into dichloromethane ( $3 \times 100$  mL). The combined organic layers were dried (over MgSO<sub>4</sub>) and evaporated under reduced pressure. The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (9:1) to give pentafluorophenyl 2-phenyl-3-methyl butanoate (rac)-17 (2.05 g, 82%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (9:1)] 0.77; mp 45–48 °C;  $v_{max}$  (film)cm<sup>-1</sup> 1776 (C=0);  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.39–7.31 (5H, m, 5 × CH; Ph), 3.51 (1H, d, J 10.3, PhCHi-Pr), 2.51-2.40 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.15 (3H, d, J 6.6,  $CH_{3}^{A}CHCH_{3}^{B}$ ) and 0.79 (3H, d, J 6.6,  $CH_{3}^{A}CHCH_{3}^{B}$ );  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 169.9 (OC=O), 141.1 (142.37 and 139.88, 2C, ddt,  ${}^{1}J_{CF}$  = 251.4,  ${}^{2}J_{C,F} = 12.3$  and  ${}^{3}J_{C,F} = 3.8$ , C(2)-F), 139.4 (140.65 and 138.14, 1C, dtt,  ${}^{1}J_{C,F} = 252.9$ ,  ${}^{2}J_{C,F} = 13.8$  and  ${}^{3}J_{C,F} = 4.6$ , C(4)-F), 137.8 (139.05 and 136.58, 2C, dtdd,  ${}^{1}J_{C,F} = 249.1$ ,  ${}^{2}J_{C,F} = 13.1$ ,  ${}^{3}J_{C,F} = 5.4$  and  ${}^{4}J_{C,F}$  = 3.1, C(3)-F), 136.4 (*i*-C; Ph), 128.8<sup>2</sup>, 128.5<sup>2</sup> and 127.9<sup>1</sup>  $(5 \times CH; Ph)$ , 125.1 (1C, tdt,  ${}^{2}J_{C,F} = 14.6$ ,  ${}^{4}J_{C,F} = 4.6$  and  ${}^{3}J_{C,F} = 2.3$ , *i*-CO; OC<sub>6</sub>F<sub>5</sub>), 59.2 (PhCH*i*-Pr), 31.8 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.2 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 20.0 ( $CH_3^ACHCH_3^B$ );  $\delta_F$  (378 MHz;  $CDCl_3$ ) –152.3 (2F, dt,  ${}^{3}J_{F,F} = 17.3$  and  ${}^{4}J_{F,F} = 4.8$ ,  $F_{ortho}$ ), -158.0 (1F, t,  ${}^{3}J_{F,F} = 21.9$ ,  $F_{para}$ ) and -162.4 (2F, td,  ${}^{3}J_{F,F} = 21.9$  and  ${}^{4}J_{F,F} = 4.8$ ,  $F_{meta}$ ) (Found M<sup>+</sup> 344.0829;  $C_{17}H_{13}F_{5}O_{2}^{++}$  requires M<sup>+</sup> 344.0830); m/z 344 (10%,  $M^+$ ), 133 [65, (PhCHC<sub>3</sub>H<sub>7</sub>)<sup>+</sup>] and 91 [100, (PhCH<sub>2</sub>)<sup>+</sup>].

### 4.7. Pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18

In the same way as active ester (*rac*)-**6**, 2-(4-methylphenyl)propanoic acid (*rac*)-**56** (3.0 g, 18.2 mmol), DCC (4.14 g, 19.2 mmol) and pentafluorophenol (3.36 g, 18.2 mmol) gave, pentafluorophenyl 2-(4-methylphenyl)propanoate (*rac*)-**18** (5.10 g, 85%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (9:1)] 0.65;  $v_{\rm max}$  (film) cm<sup>-1</sup> 1785 (C=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.24 (2H, dt, *J* 8.2 and 2.1, 2 × CH; Ar), 7.18 (2H, dt, *J* 8.2 and 2.1, 2 × CH; Ar), 4.03 (1H, q, *J* 7.2, ArCHCH<sub>3</sub>), 2.34 (3H, s, CH<sub>3</sub>; Ar) and 1.62 (3H, d, *J* 7.2, ArCHCH<sub>3</sub>);  $\delta_{\rm C}$  (100 MHz; CDCl<sub>3</sub>) 170.6 (OC=O), 141.1 (142.51 and 139.89, 2C, ddt,  ${}^{1}J_{\rm C,F}$  = 251.6,  ${}^{2}J_{\rm C,F}$  = 11.9 and  ${}^{3}J_{\rm C,F}$  = 4.6, C(2)-F), 139.4 (140.63 and 138.12, 1C, dtt,  ${}^{1}J_{\rm C,F}$  = 252.8,  ${}^{2}J_{\rm C,F}$  = 13.4 and  ${}^{3}J_{\rm C,F}$  = 3.8),

C(4)-F), 137.8 (139.07 and 136.56, 2C, dtdd,  ${}^{1}J_{C,F} = 252.8$ ,  ${}^{2}J_{C,F} = 12.1$ ,  ${}^{3}J_{C,F} = 5.3$  and  ${}^{4}J_{C,F} = 3.1$ , C(3)-F), 137.4 and 135.8 (2 × *i*-C; Ar), 129.5 and 127.2 (2 × CH; Ar), 125.2 (1C, tdt,  ${}^{2}J_{C,F} = 14.3$ ,  ${}^{4}J_{C,F} = 4.6$  and  ${}^{3}J_{C,F} = 2.3$ , *i*-CO; OC<sub>6</sub>F<sub>5</sub>), 44.6 (ArCHCH<sub>3</sub>), 20.8 (CH<sub>3</sub>; Ar) and 18.4 (ArCHCH<sub>3</sub>);  $\delta_{F}$  (378 MHz; CDCl<sub>3</sub>) -152.5 (2F, d,  ${}^{3}J_{F,F} = 18.5$ ,  $F_{ortho}$ ), -158.0 (1F, t,  ${}^{3}J_{F,F} = 20.9$ ,  $F_{para}$ ) and -162.4 (2F, dd,  ${}^{3}J_{F,F} = 20.9$  and 18.5,  $F_{meta}$ ) (Found M<sup>+</sup> 330.0671; C<sub>16</sub>H<sub>11</sub>F<sub>5</sub>O<sub>2</sub><sup>+</sup> requires M<sup>+</sup>, 330.0674).

### 4.8. Pentafluorophenyl-2-(4-chlorophenyl)propanoate (rac)-19

In the same way as active ester (*rac*)-6, 4-chlorophenylpropanoic acid (rac)-58 (5.00 g, 27.1 mmol), N,N'-dicyclohexylcarbodiimide (6.14 g, 29.8 mmol) and pentafluorophenol (4.98 g, 27.1 mmol), gave the active ester (*rac*)-19 (8.73 g, 92%) as a colourless liquid;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (9:1)] 0.62;  $v_{max}$ (film) cm<sup>-1</sup> 1782 (C=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.35 (2H, dt, J 8.8 and 2.2,  $2 \times CH$ ; Ar), 7.29 (2H, dt, J 8.8 and 2.2,  $2 \times CH$ ; Ar), 4.04 (1H, q, J 7.1, ArCHCH<sub>3</sub>) and 1.63 (3H, d, J 7.1, ArCHCH<sub>3</sub>);  $\delta_{\rm C}$ (100 MHz; CDCl<sub>3</sub>) 170.2 (C=O), 141.1 (142.29 and 139.78, 2C, ddt,  ${}^{1}J_{C,F}$  = 250.6 Hz,  ${}^{2}J_{C,F}$  = 12.2 Hz and  ${}^{3}J_{C,F}$  = 3.8 Hz, C(2)-F), 139.5 (140.73 and 138.21, 1C, dtt,  ${}^{1}J_{C,F}$  = 252.1 Hz,  ${}^{2}J_{C,F}$  = 13.7 Hz and  ${}^{3}J_{C,F}$  = 3.8 Hz, C(4)-F), 137.8 (139.05 and 136.54, 2C, dtdd,  ${}^{J}_{JCF}$  = 250.9 Hz,  ${}^{2}_{JCF}$  = 14.5 Hz,  ${}^{3}_{JCF}$  = 5.3 Hz and  ${}^{4}_{JCF}$  = 3.1 Hz, C(3)-F), 137.1 (*i*-CCl; Ar), 133.7 (*i*-C; Ar), 129.1<sup>2</sup> and 128.8<sup>2</sup> (4 × CH; Ar), 125.0 (1C, tdt,  ${}^{2}J_{C,F}$  = 14.5 Hz,  ${}^{4}J_{C,F}$  = 5.3 Hz and  ${}^{3}J_{C,F}$  = 3.0 Hz, *i*-CO; OC<sub>6</sub>F<sub>5</sub>), 44.4 (ArCH) and 18.5 (CH<sub>3</sub>CH);  $\delta_F$  (378 MHz; CDCl<sub>3</sub>) -152.6 (2F, d,  ${}^{3}J_{F,F}$  = 18.5,  $F_{ortho}$ ), -157.6 (1F, t,  ${}^{3}J_{F,F}$  = 20.9,  $F_{para}$ ) and -162.0 (2F, dd,  ${}^{3}J_{F,F}$  = 20.9 and 18.5,  $F_{meta}$ ) (Found M( ${}^{35}Cl$ )<sup>+</sup>, 350.0124; C<sub>15</sub>H<sub>8</sub>ClF<sub>5</sub>O<sub>2</sub> requires M(<sup>35</sup>Cl)<sup>+</sup>, 350.0127).

### 4.9. Mutual kinetic resolutions of oxazolidin-2-ones (*rac*)-8, (*4RS*,55*R*)-11, (*rac*)-12, (*rac*)-13 and (*rac*)-14 using active esters (*rac*)-6, (*rac*)-7, (*rac*)-15, (*rac*)-16, (*rac*)-17, (*rac*)-18 and (*rac*)-19

For these compounds (oxazolidin-2-ones (*rac*)-**8**, (4RS,5SR)-**11**, (*rac*)-**12**, (*rac*)-**13** and (*rac*)-**14** using active esters (*rac*)-**6**, (*rac*)-**7**, (*rac*)-**15**, (*rac*)-**16**, (*rac*)-**17**, (*rac*)-**18** and (*rac*)-**19**) the mutual kinetic resolutions are given below.

### 4.10. Synthesis of 4-methyl-5-phenyl-3-(2-phenylpropanoyl)oxazolidin-2-one (*rac*)-*anti,syn*-20 and 4-methyl-5-phenyl-3-(2-phenylpropanoyl)oxazolidin-2-one (*rac*)-*syn,syn*-20

At first, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol) was added to a stirred solution of 4-methyl-5-phenyl-oxazolidin-2-one (rac)-(4RS,5SR)-11 (0.24 g, 1.36 mmol) in THF at -78 °C. After stirring for 1 h, a solution of pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.47 g, 1.50 mmol) in THF (1 mL) was added. The resulting mixture was stirred for 2 h at -78 °C. The reaction was quenched with water (10 mL). The organic layer was extracted with diethyl ether  $(2 \times 10 \text{ mL})$ , dried (over MgSO<sub>4</sub>) and evaporated under reduced pressure to give a mixture of diastereoisomeric oxazolidin-2-ones **20** [ratio 68:32 syn.syn-:anti.syn-]. The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2one (rac)-anti,syn-20 (88 mg, 22%) as a colourless viscous oil;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.76;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O);  $\delta_{\rm H}$  (400 MHz;  $CDCl_3$ ) 7.43–7.38 (3H, m, 3 × CH; Ph), 7.37–7.30 (4H, m, 4 × CH; 2 × Ph), 7.28–7.22 (3H, m, 3 × CH; Ph), 5.49 (1H, d, J 7.1, OCHPh), 5.14 (1H, q, J 7.1, PhCHCH<sub>3</sub>), 4.68 (1H, m, CH<sub>3</sub>CHN), 1.51 (3H, d, J 7.1, PhCHCH<sub>3</sub>) and 0.94 (3H, d, J 6.6, CH<sub>3</sub>CHN); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=O), 152.4 (OC=O), 140.3 (i-C; Ph; PhCHCH<sub>3</sub>), 133.0 (i-C; Ph; PhCHO),  $129.4^{5}$ ,  $127.9^{2}$ ,  $127.0^{1}$  and  $125.4^{2}$  ( $10 \times CH$ ;  $2 \times Ph$ ), 78.4 (OCHPh), 55.1 (CH<sub>3</sub>CHN), 43.1 (PhCHCH<sub>3</sub>), 19.0 (CH<sub>3</sub>CHN) and 14.3 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup> 310.1430. C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup>, 310.1443); and the oxazolidin-2-one (rac)-syn,syn-20 (184 mg, 43%) as white crystalline solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.63; mp 92–95 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1774 (OC=O) and 1701 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.42-7.37 (2H, m, 2 × CH; Ph), 7.36–7.30 (5H, m, 5 × CH; 2 × Ph), 7.28– 7.24 (1H, m, CH; Ph), 7.21-7.16 (2H, m, 2 × CH; Ph), 5.64 (1H, d, J 7.2, OCHPh), 5.08 (1H, q, J 7.1, PhCHCH<sub>3</sub>), 4.82 (1H, m, CH<sub>3</sub>CHN), 1.51 (3H, d, J 7.1, PhCHCH<sub>3</sub>) and 0.74 (3H, d, J 6.6, CH<sub>3</sub>CHN); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.0 (NC=O), 152.3 (OC=O), 140.1 (i-C; Ph; PhCHCH<sub>3</sub>), 133.3 (*i*-C; Ph; PhCHO), 128.5,<sup>1</sup> 128.4,<sup>4</sup> 127.9,<sup>2</sup> 126.9<sup>1</sup> and 125.5<sup>2</sup> (10 × CH; 2 × Ph), 78.8 (OCHPh), 54.4 (CH<sub>3</sub>CHN), 43.3 (PhCHCH<sub>3</sub>), 19.3 (CH<sub>3</sub>CHN) and 14.0 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup> 310.1460. C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 310.1443).

### 4.11. Synthesis of 4-benzyl-3-(2-phenylpropanoyl)oxazolidine-2-one (*rac*)-*anti*-27 and 4-benzyl-3-(2-phenylpropanoyl)oxazolidine-2-one (*rac*)-*syn*-27

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-benzyl-oxazolidin-2-one (*rac*)-**12** (0.24 g, 1.36 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.47 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-27 (ratio 70:30 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp  $40-60 \circ C$ )/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-27 (89 mg, 21%) as a white crystalline solid; R<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.66; mp 64–67 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=0) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.39–7.21 (10H, m, 10 × CH; 2 × Ph), 5.12 (1H, q, J 7.0, PhCHCH<sub>3</sub>), 4.61–4.55 (1H, m, BnCHN), 4.10 (1H, dd, / 9.2 and 2.4, CH<sub>A</sub>H<sub>B</sub>O), 4.01 (1H, t, / 9.2, CH<sub>A</sub>H<sub>B</sub>O), 3.35 (1H, dd, / 13.1 and 3.2, CH<sub>A</sub>H<sub>B</sub>Ph), 2.80 (1H, dd, / 13.1 and 9.8,  $CH_AH_BPh$ ) and 1.55 (3H, d, / 7.0, PhCHCH<sub>3</sub>);  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=0), 152.7 (OC=0), 140.2 (i-C; Ph), 135.3 (*i*-C; Ph), 129.3,<sup>2</sup> 128.8,<sup>2</sup> 128.5,<sup>2</sup> 128.0,<sup>2</sup> 127.2<sup>1</sup> and 127.1<sup>1</sup>  $(10 \times CH; 2 \times Ph)$ , 65.7 (CH<sub>2</sub>O), 55.8 (BnCHN), 42.8 (PhCHCH<sub>3</sub>), 37.8 (CH<sub>2</sub>Ph) and 19.3 (PhCHCH<sub>3</sub>) (Found  $MH^+$  310.1442.  $C_{19}H_{20}NO_3^+$  requires 310.1443); and the oxazolidin-2-one (rac)syn-27 (212 mg, 50%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.43;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1775 (OC=O) and 1700 (NC=O); *δ*<sub>H</sub> (400 MHz; CDCl<sub>3</sub>) 7.49–7.45 (2H, m,  $2 \times CH$ ; Ph), 7.40–7.34 (2H, m,  $2 \times CH$ ; Ph), 7.31–7.28 (1H, m, CH; Ph), 7.23–7.18 (3H, m,  $3 \times$  CH; Ph), 6.98–6.94 (2H, m,  $2\times$  CH; Ph), 5.11 (1H, q, J 6.9, PhCHCH\_3), 4.78–4.72 (1H, m, BnCHN), 4.18 (1H, t, J 8.5, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (1H, dd J 8.5 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 3.08 (1H, dd J 13.5 and 3.2, CH<sub>A</sub>H<sub>B</sub>Ph), 2.58 (1H, dd, J 13.5 and 8.8,  $CH_AH_BPh$ ) and 1.52 (3H, d, J 6.9, PhCHCH<sub>3</sub>);  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=0), 152.7 (OC=0), 149.9 (*i*-C; Ph<sub>A</sub>), 134.7 (*i*-C; Ph<sub>B</sub>), 129.2,<sup>2</sup> 128.5,<sup>2</sup> 128.4,<sup>2</sup> 128.0,<sup>2</sup> 127.0<sup>1</sup> and 126.9<sup>1</sup>  $(10 \times CH; 2 \times Ph)$ , 65.5  $(CH_2O)$ , 54.6 (BnCHN), 42.9  $(PhCHCH_3)$ , 37.0 (CH<sub>2</sub>Ph) and 18.9 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup> 310.1438. C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 310.1443).

### 4.12. Synthesis of 4-isopropyl-3-(2-phenylpropanoyl)oxazolidin-2-one (*rac*)-*anti*-34 and 4-isopropyl-3-(2-phenylpropanoyl)oxazolidin-2-one (*rac*)-*syn*-34

In the same way as the oxazolidin-2-one (rac)-**20**, *n*-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-isopropyl-oxazolidin-2-one (rac)-**13** (0.175 g, 1.36 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-**15** (0.47 g, 1.50 mmol), gave the oxazolidin-2-ones

syn- and anti-34 (ratio 95:5 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-34 (10 mg, 3%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.64;  $v_{\rm max}$ (film)cm<sup>-1</sup> 1774 (OC=O) and 1701 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.38–7.21 (5H, m, 5 × CH; Ph), 5.15 (1H, q, *J* 7.0, PhCHCH<sub>3</sub>), 4.39-4.33 (1H, dt, J 9.1 and 3.2, i-PrCHN), 4.10 (1H, dd, J 9.1 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 4.02 (1H, t, J 9.1, CH<sub>A</sub>H<sub>B</sub>O), 2.46-2.38 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.51 (3H, d, J 7.0, PhCHCH<sub>3</sub>), 0.91 (3H, d, J 7.0,  $CH_3^ACHCH_3^B$ ) and 0.90 (3H, d, J 6.9,  $CH_3^ACHCH_3^B$ );  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 174.3 (NC=0), 153.4 (OC=0), 140.1 (i-C; Ph), 128.3,<sup>2</sup> 127.9<sup>2</sup> and 126.9<sup>1</sup> (5 × CH; Ph), 62.8 (CH<sub>2</sub>O), 58.7 (*i*-PrCHN), 42.7 (PhCHCH<sub>3</sub>), 28.3 (CH(CH<sub>3</sub>)<sub>2</sub>), 19.5 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 17.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 14.5 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup> 262.1434; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443); the oxazolidin-2-one (rac)-syn-34 (196 mg, 55%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.43; mp 44–47 °C; v<sub>max</sub>(CHCl<sub>3</sub>) cm<sup>-1</sup> 1774 (OC=O) and 1703 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.37–7.32 (3H, m,  $4 \times CH$ ; Ph), 7.23–7.18 (2H, m,  $2 \times CH$ ; Ph), 5.13 (1H, q, / 6.9, PhCHCH<sub>3</sub>), 4.47 (1H, dt, / 8.9 and 3.5, *i*-PrCHN), 4.22 (1H, t, / 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.09 (1H, dd, / 8.9 and 3.5, CH<sub>A</sub>H<sub>B</sub>O), 2.21–2.12 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.46 (3H, d, / 6.9, PhCHCH<sub>3</sub>), 0.79 (3H, d, / 7.0,  $CH_3^ACHCH_3^B$ ) and 0.44 (3H, d, / 6.9,  $CH_3^ACHCH_3^B$ );  $\delta_C$  (100 MHz;  $CDCl_3$ ) 174.4 (NC=0), 153.4 (OC=0), 140.4 (*i*-C; Ph), 128.4,<sup>2</sup> 127.9<sup>2</sup> and  $127.0^1$  (5  $\times$  CH; Ph), 62.8 (CH\_2O), 57.9 (i-PrCHN), 43.2 (PhCHCH<sub>3</sub>), 27.8 (CH(CH<sub>3</sub>)<sub>2</sub>), 18.8 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 17.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 13.9 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup> 262.1432; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443).

### 4.13. Synthesis of 4-phenyl-3-(2-phenylpropanoyl)oxazolidin-2one (*rac*)-*anti*-41 and 4-phenyl-3-(2-phenylpropanoyl)oxazolidin-2-one (*rac*)-*syn*-41

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-phenyl oxazolidin-2-one (rac)-8 (0.22 g, 1.36 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-13 (0.47 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-41 (ratio 97:3 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-41 (8 mg, 2%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.58; mp 106–108 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.35–7.26 (6H, m, 6 × CH; Ph), 7.26–7.17 (4H, m,  $4 \times$  CH; Ph), 5.28 (1H, dd, J 8.8 and 3.2, PhCHN), 5.06 (1H, q, J 7.2, PhCHCH<sub>3</sub>), 4.47 (1H, t, J 8.8, CH<sub>A</sub>H<sub>B</sub>O), 4.14 (1H, dd, J 8.8 and 3.2,  $CH_AH_BO$ ) and 1.35 (3H, d, J 7.2, PhCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.0 (NC=O), 153.2 (OC=O), 140.1 (i-C; Ph), 139.1 (i-C; Ph), 129.2,<sup>2</sup> 128.7,<sup>1</sup> 128.6,<sup>2</sup> 128.2,<sup>2</sup>  $127.2^1$  and  $125.8^2$  (10 × CH; 2 × Ph), 69.7 (CH<sub>2</sub>O), 58.1 (PhCHN), 43.2 (PhCHCH<sub>3</sub>) and 19.4 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 296.1282; C<sub>18</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287); and the oxazolidin-2-one (rac)syn-**41** (0.27 g, 68%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.42; mp 124-125 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $\delta_{\rm H}$  (400 MHz;  $CDCl_3$ ) 7.23–7.10 (10H, m, 10 × CH; 2 × Ph), 5.37 (1H, dd / 9.0 and 5.1, PhCHN), 5.02 (1H, q, / 6.9, PhCHCH<sub>3</sub>), 4.55 (1H, t, / 9.0, CH<sub>A</sub>H<sub>B</sub>O), 3.99 (1H, dd, / 9.0 and 5.1, CH<sub>A</sub>H<sub>B</sub>O) and 1.34 (3H, d, / 6.9, PhCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 173.6 (NC=O), 153.1 (OC=O), 139.7 (*i*-C; Ph), 138.2 (*i*-C; Ph), 128.8,<sup>2</sup> 128.4,<sup>3</sup> 128.1,<sup>2</sup> 127.0<sup>1</sup> and  $125.8^2$  (10 × CH; 2 × Ph), 69.5 (CH<sub>2</sub>O), 57.8 (PhCHN), 43.9 (PhCHCH<sub>3</sub>) and 18.6 (PhCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 296.1286; C<sub>15</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287).

### 4.14. Synthesis of ethyl 2-oxa-3-(2-phenylpropanoyl)oxazolidin-4-carboxylate (*rac*)-*anti*-46 and ethyl 2-oxa-3-(2-phenylpropanoyl)oxazolidin-4-carboxylate (*rac*)-*syn*-46

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), ethyl oxazolidin-2-one 4-carboxylate (rac)-14 (0.40 g, 1.36 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.21 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-46 (ratio 95:5 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-46 (12 mg, 3%) as a colourless oil;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1794 (OC=O), 1747 (CC=O) and 1705 (NC=O);  $\delta_{\rm H}$  $(400 \text{ MHz}; \text{ CDCl}_3)$  7.33–7.20 (5H, m, 5 × CH; Ph), 5.10 (1H, q, J 7.0, PhCHCH<sub>3</sub>), 4.77 (1H, dd, J 9.2 and 3.5, EtO<sub>2</sub>CCHN), 4.38 (1H, t, J 9.2, CH<sub>A</sub>H<sub>B</sub>O), 4.29 (1H, q, J 7.2, CH<sub>3</sub>CH<sub>A</sub>H<sub>B</sub>O), 4.28 (1H, q, J 7.2, CH<sub>3</sub>CH<sub>A</sub>H<sub>B</sub>O), 4.26 (1H, dd, / 9.2 and 3.5, CH<sub>A</sub>H<sub>B</sub>O), 1.50 (3H, d, / 7.0, PhCHCH<sub>3</sub>) and 1.30 (3H, t, J 7.2, CH<sub>3</sub>CH<sub>2</sub>O); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=0), 168.7 (CC=0), 152.1 (OC=0), 140.0 (i-C; Ph), 128.7,<sup>2</sup>  $128.3^2$  and  $127.4^1$  (5 × CH; Ph), 64.3 (CH<sub>2</sub>O), 62.6 (CH<sub>2</sub>O), 55.9 (EtO<sub>2</sub>CCHN), 43.0 (PhCHCH<sub>3</sub>), 19.3 (PhCHCH<sub>3</sub>) and 14.1 (CH<sub>3</sub>CH<sub>2</sub>O) (Found MH<sup>+</sup>, 292.1195; C<sub>15</sub>H<sub>18</sub>NO<sub>5</sub><sup>+</sup> requires 292.1185); and the oxazolidin-2-one (rac)-syn-46 (236 mg, 60%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.30; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1793 (OC=O), 1747 (CC=O) and 1705 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.40-7.20 (5H, m, 5 × CH; Ph), 5.03 (1H, q, J 7.0, PhCHCH<sub>3</sub>), 4.94 (1H, dd, J 9.3 and 4.9, EtO<sub>2</sub>CCHN), 4.52 (1H, t, J 9.3, CH<sub>A</sub>H<sub>B</sub>O), 4.23 (1H, dd, J 9.3 and 4.9, CH<sub>A</sub>H<sub>B</sub>O), 4.11 (2H, q, J 7.2, CH<sub>3</sub>CH<sub>2</sub>O), 1.48 (3H, d, J 7.0, PhCHCH<sub>3</sub>) and 1.11 (3H, t, J 7.2, CH<sub>3</sub>CH<sub>2</sub>O);  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=O), 167.9 (CC=O), 151.8 (OC=O), 139.6 (i-C; Ph),  $128.4^2$ ,  $128.1^2$  and  $127.1^1$  (5 × CH; Ph), 64.1 (CH<sub>2</sub>O), 62.3 (CH<sub>2</sub>O), 55.6 (EtO<sub>2</sub>CCHN), 43.0 (PhCHCH<sub>3</sub>), 19.2 (PhCHCH<sub>3</sub>) and 13.7 (CH<sub>3</sub>CH<sub>2</sub>O) (Found MH<sup>+</sup>, 292.1195; C<sub>15</sub>H<sub>18</sub>NO<sub>5</sub><sup>+</sup> requires 292.1185).

### 4.15. Synthesis of 4-methyl-5-phenyl-3-(2-phenylbutanoyl)oxazolidin-2-one (*rac*)-*anti,syn*-21 and 4-methyl-5-phenyl-3-(2-phenylbutanoyl)oxazolidin-2-one (*rac*)-*syn,syn*-21

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-(4RS,5SR)-11 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.49 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 21 (ratio: 77:23 syn,syn-:syn,anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)anti,syn-**21** (65 mg, 15%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.75;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1697 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.44–7.24 (10H, m, 10 × CH; 2 × Ph), 5.49 (1H, d, J 7.2, PhCHO), 4.97 (1H, t, J 7.5, PhCHEt), 4.69 (1H, m (appears as a br quintet, J 7.2), CH<sub>3</sub>CHN), 2.14 (1H, ddq, J 13.4, 7.5 and 7.3, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.84 (1H, ddq, J 13.4, 7.5 and 7.3, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 0.92 (3H, d, J 6.7, CH<sub>3</sub>CHN) and 0.89 (3H, t, J 7.3, CH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.4 (NC=O), 153.1 (OC=O), 139.2 (*i*-C; Ph), 133.6 (*i*-C; Ph), 128.6,<sup>1</sup> 128.6,<sup>4</sup> 128.5,<sup>2</sup> 127.3<sup>1</sup> and  $125.6^2$  (10 × CH; Ph<sub>A</sub> and Ph<sub>B</sub>), 78.9 (PhCHO), 55.7 (CH<sub>3</sub>CHN), 50.8 (PhCHEt), 27.7 (PhCHCH<sub>2</sub>CH<sub>3</sub>), 14.9 (CH<sub>3</sub>CHN) and 12.4 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 324.1585; C<sub>20</sub>H<sub>22</sub>NO<sub>3</sub> requires 324.1600); and the oxazolidin-2-one (rac)-syn,syn-21 (0.23 g, 53%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.63;  $\nu_{max}$  (CHCl<sub>3</sub>)  $cm^{-1}$  1778 (OC=O) and 1697 (NC=O);  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.40–7.18 (10H, m,  $10 \times CH$ ;  $2 \times Ph$ ), 5.65 (1H, d, *J* 7.5, PhCHO), 4.89–4.77 (2H, m, 2 × PhCHEt and CH<sub>3</sub>CHN), 2.11 (1H, ddq, *J* 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.84 (1H, ddq, *J* 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 0.91 (3H, t, *J* 7.4, CH<sub>2</sub>CH<sub>3</sub>) and 0.71 (3H, d, *J* 6.6, CH<sub>3</sub>CHN);  $\delta_{\rm C}$  (100 MHz; CDCl<sub>3</sub>) 173.6 (NC=O), 152.5 (OC=O), 138.4 (*i*-C; Ph<sub>A</sub>), 133.3 (*i*-C; Ph<sub>B</sub>), 128.6,<sup>1</sup> 128.5,<sup>4</sup> 128.4,<sup>2</sup> 127.1<sup>1</sup> and 125.6<sup>2</sup> (10 × CH; Ph<sub>A</sub> and Ph<sub>B</sub>), 78.6 (PhCHO), 54.6 (CH<sub>3</sub>CHN), 50.9 (PhCHEt), 27.1 (PhCHCH<sub>2</sub>CH<sub>3</sub>), 14.0 (CH<sub>3</sub>CHN) and 12.0 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 324.1583; C<sub>20</sub>H<sub>22</sub>NO<sub>3</sub> requires 324.1600).

### 4.16. Synthesis of 4-benzyl-3-(2-phenylbutanoyl)oxazolidine-2one (*rac*)-*anti*-28 and 4-benzyl-3-(2-phenylbutanoyl)oxazolidine-2-one (*rac*)-*syn*-28

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (1.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.49 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 28 (ratio: 68:32 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-28 (0.10 g, 22%) as a colourless oil;  $R_{\rm F}$  [light petroleum (40–60 °C)/diethyl ether (1:1)] 0.70;  $v_{\rm max}$  $(CHCl_3)$  cm<sup>-1</sup> 1778 (OC=O) and 1691 (NC=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.41–7.22 (10H, m,  $10 \times CH$ ;  $2 \times Ph$ ), 4.95 (1H, t, J 7.5, PhCHEt), 4.64-4.55 (1H, m, BnCHN), 4.12-4.00 (2H, m, CH<sub>2</sub>O), 3.37 (1H, dd, J 13.3 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.79 (1H, dd, J 13.3 and 9.8, CH<sub>A</sub>H<sub>B</sub>Ph), 2.17 (1H, ddq, J 13.4, 7.5 and 7.3, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.88 (1H, ddq, J 13.4, 7.5 and 7.3,  $CH_AH_BCH_3$ ) and 0.93 (3H, t, J 7.3,  $CH_2CH_3$ );  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 174.2 (NC=0), 153.0 (OC=0), 138.7 (*i*-C; Ph<sub>A</sub>), 135.4 (*i*-C; Ph<sub>B</sub>), 129.5,<sup>2</sup> 129.0,<sup>2</sup> 128.7,<sup>2</sup> 128.6,<sup>2</sup> 127.5<sup>1</sup> and 127.4<sup>1</sup>  $(10 \times CH; Ph_A and Ph_B)$ , 65.8 (CH<sub>2</sub>O), 55.8 (BnCHN), 50.4 (PhCHEt), 38.1 (CH<sub>2</sub>Ph), 27.5 (PhCHCH<sub>2</sub>CH<sub>3</sub>) and 12.1 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 324.1612; C<sub>20</sub>H<sub>22</sub>NO<sub>3</sub> requires 324.1600); and the oxazolidin-2one (*rac*)-syn-**28** (0.22 g, 50%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1691 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.46–6.91 (10H, m, 10 × CH; 2 × Ph), 4.91 (1H, t, J 7.6, PhCHEt), 4.81–4.71 (1H, m, BnCHN), 4.19 (1H, br t, / 8.8, CH<sub>A</sub>H<sub>B</sub>O), 4.08 (1H, dd, / 8.8 and 3.1, CH<sub>A</sub>H<sub>B</sub>O), 3.05 (1H, dd, / 13.5 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.59 (1H, dd, 13.5 and 8.7, CH<sub>A</sub>H<sub>B</sub>Ph), 2.15 (1H, ddg, J 13.4, 7.5 and 7.3, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.86 (1H, ddg, / 13.4, 7.5 and 7.3, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>) and 0.90 (3H, t, / 7.4, CH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.0 (NC=O), 153.0 (OC=O), 138.5 (*i*-C; Ph<sub>A</sub>), 134.9 (*i*-C; Ph<sub>B</sub>), 129.5,<sup>2</sup> 128.9,<sup>2</sup> 128.6,<sup>2</sup>  $128.3^{2}, 127.3^{1}$  and  $127.2^{1}$  (10 × CH; Ph<sub>A</sub> and Ph<sub>B</sub>), 65.7 (CH<sub>2</sub>O), 54.9 (BnCHN), 50.6 (PhCHEt), 37.4 (CH<sub>2</sub>Ph), 27.0 (PhCHCH<sub>2</sub>CH<sub>3</sub>) and 12.1 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup> 324.1585; C<sub>16</sub>H<sub>22</sub>NO<sub>3</sub> requires 324.1600).

### 4.17. Synthesis of 4-isopropyl-3-(2-phenylbutanoyl)oxazolidin-2-one (*rac*)-*anti*-35 and 4-isopropyl-3-(2-phenylbutanoyl)oxazolidin-2-one (*rac*)-*syn*-35

In the same way as oxazolidin-2-one (*rac*)-**20**, *n*-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (*rac*)-**13** (0.17 g, 1.36 mmol) and pentafluorophenyl 2-phenylbutanoate (*rac*)-**16** (0.49 g, 1.50 mmol), gave a mixture of two separable diastereoisomeric oxazolidin-2-ones **35** (ratio: 95:5 *syn:anti-*). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (*rac*)-*anti-***35** (11 mg, 3%) as a colourless oil;  $R_F$  [light petroleum (40–60 °C)/diethyl ether (1:1)] 0.63;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.40–7.35 (2H, m, 2 × CH; Ph), 7.28–7.19 (3H, m, 3 × CH; Ph), 4.98 (1H, t, *J* 7.5, PhCHEt), 4.40–4.34 (1H, m, *i*-PrCHN), 4.17–4.07 (2H, m, CH<sub>2</sub>O), 2.49–2.38 (1H, m, *CH*(CH<sub>3</sub>)<sub>2</sub>), 2.15 (1H, ddq, *J* 13.4, 7.5 and 7.4, *CH*<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.82 (1H, ddq, *J* 

13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 0.85 (3H, d, J 7.0, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) 0.84 (3H, d, I 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.82 (3H, t, I 7.4, CH<sub>3</sub>CH<sub>2</sub>);  $\delta_{\rm C}$ (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=0), 153.6 (OC=0), 138.6 (*i*-C; Ph),  $128.6^{2}, 128.4^{2}$  and  $127.1^{1}, (5 \times CH; Ph), 62.8$  (CH<sub>2</sub>O), 58.3 (*i*-PrCHN), 50.1 (PhCHEt), 28.4 (CH(CH<sub>3</sub>)<sub>2</sub>), 27.7 (CH<sub>2</sub>CH<sub>3</sub>), 17.9  $(CH_3^ACHCH_3^B)$  14.5  $(CH_3^ACHCH_3^B)$  and 12.0  $(CH_2CH_3)$  (Found MH<sup>+</sup>, 276.1612; C<sub>16</sub>H<sub>22</sub>NO<sub>3</sub> requires 276.1600); and the oxazolidin-2one (*rac*)-syn-**35** (0.22 g, 59%) as an oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.53;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O); *δ*<sub>H</sub> (400 MHz; CDCl<sub>3</sub>) 7.39–7.36 (2H, m, 2 × CH; Ph), 7.32–7.21 (3H, m, 3 × CH; Ph), 4.94 (1H, t, J 7.5, PhCHEt), 4.52-4.47 (1H, m, i-PrCHN), 4.24 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 4.1 (1H, dd, J 9.0 and 3.4, CH<sub>A</sub>H<sub>B</sub>O), 2.21–2.15 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 2.10 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.81 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 0.87 (3H, t, J 7.4, CH<sub>3</sub>CH<sub>2</sub>), 0.78 (3H, d, J 7.0,  $CH_3^ACHCH_3^B$ ) and 0.42 (3H, d, J 7.0,  $CH_3^ACHCH_3^B$ );  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 174.0 (NC=0), 153.5 (OC=0), 138.9 (i-C; Ph),  $128.6^{2}_{,2}$  128.5<sup>2</sup> and 127.2<sup>1</sup> (5 × CH; Ph), 62.9 (*i*-PrCHN), 58.1 (CH<sub>2</sub>O), 50.7 (PhCHEt), 27.9 (CH(CH<sub>3</sub>)<sub>2</sub>), 26.4 (CH<sub>2</sub>CH<sub>3</sub>), 17.8  $(CH_3^ACHCH_3^B)$ , 14.0  $(CH_3^ACHCH_3^B)$  and 12.0  $(CH_2CH_3)$  (Found MH<sup>+</sup>, 276.1587; C<sub>16</sub>H<sub>22</sub>NO<sub>3</sub> requires 276.1600).

### 4.18. Synthesis of 4-phenyl-3-(2-phenylbutanoyl)oxazolidin-2one (*rac*)-*anti*-42 and 4-phenyl-3-(2-phenylbutanoyl)oxazolidin-2-one (*rac*)-*syn*-42

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-8 (0.22 g, 1.36 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.49 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 42 (ratio: >98:2 syn-:anti-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-42 (5 mg, 1%) as a colourless oil; R<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O), 1703 (NC=O) and 1600 (Ph);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.44–7.21 (10H, m, 10 × CH; 2 × Ph), 5.34 (1H, dd, / 8.7 and 3.4, PhCHN), 4.96 (1H, t, / 7.5, PhCHEt), 4.54 (1H, br t, / 8.7, CH<sub>A</sub>H<sub>B</sub>O), 4.20 (1H, dd, / 8.7 and 3.4, CH<sub>A</sub>H<sub>B</sub>O), 2.01 (1H, ddq, J 13.5, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.74 (1H, ddq, J 13.5, 7.5 and 7.4,  $CH_AH_BCH_3$ ) and 0.76 (3H, t, J 7.4,  $CH_2CH_3$ );  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 173.7 (NC=0), 153.4 (OC=0), 139.5 (i-C; Ph), 138.6 (*i*-C; Ph), 129.1,<sup>2</sup> 128.8,<sup>2</sup> 128.7,<sup>1</sup> 128.5,<sup>2</sup> 127.3<sup>1</sup> and 125.8<sup>2</sup>  $(10 \times CH; Ph_A and Ph_B)$ , 69.4 (CH<sub>2</sub>O), 58.1 (PhCHN), 50.4 (PhCHEt), 27.7 (CH<sub>2</sub>Ph) and 12.0 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 310.1430;  $C_{19}H_{20}NO_3$  requires 310.1443); and the oxazolidin-2-one (rac)*syn*-**42** (0.29 g, 69%) as a white solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.50; mp 58–62 °C; v<sub>max</sub> (film)cm<sup>-1</sup> 1780 (OC=O) and 1703 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.27–7.19 (6H, m, 6 × CH; 2 × Ph), 7.14–7.12 (2H, m, 2 × CH; Ph), 6.91–6.89 (2H, m, 2 × CH; Ph), 5.46 (1H, dd, J 8.9 and 5.0, PhCHN), 4.90 (1H, t, J 7.5, PhCHEt), 4.63 (1H, t, J 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (1H, dd, J 8.9 and 5.0, CH<sub>A</sub>H<sub>B</sub>O), 2.04 (1H, ddq, J 13.5, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.71 (1H, ddq, J 13.5, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>) and 0.87 (3H, t, J 7.4, CH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 173.2 (NC=0), 153.2 (OC=0), 138.4 (*i*-C; Ph<sub>A</sub>), 138.1 (*i*-C; Ph<sub>B</sub>), 128.9,<sup>2</sup> 128.8,<sup>2</sup> 128.4,<sup>1</sup> 128.3,<sup>2</sup> 127.1<sup>1</sup> and  $125.6^2$  (10 × CH; Ph<sub>A</sub> and Ph<sub>B</sub>), 69.6 (CH<sub>2</sub>O), 57.8 (PhCHN), 51.2 (PhCHEt), 26.3 (CH<sub>2</sub>Ph) and 12.0 (CH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 310.1437; C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub> requires 310.1443).

### 4.19. Synthesis of ethyl 2-oxa-3-(2-phenylbutanoyl)oxazolidin-4-carboxylate (*rac*)-*anti*-47 and ethyl 2-oxa-3-(2-phenylbutanoyl)oxazolidin-4-carboxylate (*rac*)-*syn*-47

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (*rac*)-**14** 

(0.21 g, 1.36 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.49 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 47 (ratio: 96:4 syn-:anti-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-47 (11 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.48; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1747 (CC=O) and 1705 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.32–7.27 (2H, m,  $2 \times CH$ ; Ph), 7.25–7.14 (3H, m,  $3 \times CH$ ; Ph), 4.94 (1H, t, J 7.5, PhCHEt), 4.79 (1H, dd, J 9.4 and 3.5, EtO<sub>2</sub>CCHN), 4.40 (1H, t, J 9.3, CH<sub>A</sub>H<sub>B</sub>O), 4.29 (2H, q, J 7.1, OCH<sub>2</sub>CH<sub>3</sub>), 4.24 (1H, dd, J 9.3 and 3.5, CH<sub>A</sub>H<sub>B</sub>O), 2.21–2.08 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.87-1.74 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.30 (3H, t, J 7.1, OCH<sub>2</sub>CH<sub>3</sub>) and 0.91 (3H, t, J 7.4, CH<sub>2</sub>CH<sub>3</sub>; PhCHEt);  $\delta_{C}$ (100.6 MHz; CDCl<sub>3</sub>) 174.1 (NC=0), 168.6 (CC=0), 152.2 (OC=0), 138.5 (*i*-C; Ph<sub>A</sub>), 128.8,<sup>2</sup> 128.6<sup>2</sup> and 127.5<sup>1</sup> (5 × CH; Ph), 64.2 (CH<sub>2</sub>O), 62.6 (CH<sub>2</sub>O), 55.9 (EtO<sub>2</sub>CCHN), 50.2 (PhCHEt), 27.5 (PhCHCH<sub>2</sub>CH<sub>3</sub>), 14.1 (OCH<sub>2</sub>CH<sub>3</sub>) and 12.0 (CH<sub>2</sub>CH<sub>3</sub>; PhCHEt) (Found M<sup>+</sup>, 305.1258; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258); and the oxazolidin-2-one (rac)-syn-47 (0.27 g, 65%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.38;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=0), 1747 (CC=0) and 1701 (NC=0);  $\delta_{\rm H}$ (400 MHz; CDCl<sub>3</sub>) 7.36–7.23 (5H, m, 5 × CH; Ph), 4.94 (1H, dd, J 9.4 and 4.7, EtO<sub>2</sub>CCHN), 4.82 (1H, t, J 7.5, PhCHEt), 4.51 (1H, t, J 9.4, CH<sub>A</sub>H<sub>B</sub>O), 4.23 (1H, dd, J 9.4 and 4.7, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (2H, q, J 7.1, OCH<sub>2</sub>CH<sub>3</sub>), 2.14–2.01 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.86–1.75 (1H, ddq, J 13.4, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.06 (3H, t, J 7.1,  $OCH_2CH_3$ ) and 0.87 (3H, t, J 7.4,  $CH_2CH_3$ ; PhCHEt);  $\delta_C$  (100.6 MHz; CDCl<sub>3</sub>) 173.7 (NC=O), 168.1 (CC=O), 152.1 (OC=O), 138.0 (*i*-C; Ph),  $128.9^{2}, 128.6^{2}$  and  $127.3^{1}$  (5 × CH; Ph), 64.2 (CH<sub>2</sub>O), 62.3 (CH<sub>2</sub>O), 55.7 (EtO<sub>2</sub>CCHN), 50.5 (PhCHEt), 27.3 (PhCHCH<sub>2</sub>CH<sub>3</sub>), 13.8 (OCH<sub>2</sub>CH<sub>3</sub>) and 12.1 (CH<sub>2</sub>CH<sub>3</sub>; PhCHEt) (Found M<sup>+</sup>, 305.1256; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258).

### 4.20. Synthesis of 4-methyl-5-phenyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*anti,syn*-22 and 4-methyl-5-phenyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*syn,syn*-22

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-methyl-5-phenyloxazolidin-2-one (rac)-(4RS,5SR)-11 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (rac)-17 (0.52 g, 1.50 mmol), gave the oxazolidin-2-ones syn,syn- and anti,syn-22 (ratio 73:27:syn,syn-:syn,anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2one (rac)-anti,syn-22 (68 mg, 15%) as a white crystalline solid;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.71; mp 98–100 °C; *v*<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.35–7.16 (10H, m, 10 × CH; 2 × Ph), 5.41 (1H, d, J 7.2, CHOPh), 4.74 (1H, d, J 10.6, PhCHi-Pr), 4.63 (1H, dq, J 6.7 and 6.6, CH<sub>3</sub>CHN), 2.42 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 0.97 (3H, d, J 6.7, CH<sub>3</sub>CHN), 0.87 (3H, d, J 6.6, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.59 (3H, d, J 6.8, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=O), 152.7 (OC=O), 138.2 (*i*-C; Ph), 133.3 (*i*-C; Ph), 129.1,<sup>2</sup> 128.7,<sup>1</sup> 128.6,<sup>2</sup> 128.5,<sup>2</sup>  $127.4^{1}$  and  $125.6^{2}$  (10 × CH; 2 × Ph), 78.4 (OCHPh), 55.9 (CH<sub>3</sub>CHN), 55.2 (PhCH*i*-Pr), 32.4 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.4 (CCH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>), 20.1  $(CH_3^ACHCH_3^B)$  and 14.6  $(CH_3CHN)$ ; (Found  $MNH_4^+$ , 355.2018;  $C_{21}H_{27}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup> 355.2016); and the oxazolidin-2one (*rac*)-syn,syn-22 (0.185 g, 40%) as a white crystalline solid;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.66; mp 100–103 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.34–7.13 (10H, m, 10 × CH; 2 × Ph), 5.58 (1H, d, J 7.5, CH, OCHPh), 4.74 (1H, dq, J 6.7 and 6.6,

CH<sub>3</sub>CHN), 4.59 (1H, d, *J* 10.6, PhCH*i*-Pr), 2.38 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.00 (3H, d, *J* 6.7, CH<sub>3</sub>CHN), 0.64 (3H, d, *J* 6.8, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.59 (3H, d, *J* 6.8, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{\rm C}$  (100 MHz; CDCl<sub>3</sub>) 173.7 (NC=O), 152.6 (OC=O), 137.7 (*i*-C; Ph), 133.3 (*i*-C; Ph), 129.1,<sup>2</sup> 128.7,<sup>1</sup> 128.6,<sup>2</sup> 128.4,<sup>2</sup> 127.2<sup>1</sup> and 125.6<sup>2</sup> (10 × CH; 2 × Ph), 78.6 (OCHPh), 56.7 (CH<sub>3</sub>CHN), 54.8 (PhCH*i*-Pr), 31.9 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 20.2 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 14.0 (CH<sub>3</sub>CHN) (Found MH<sup>+</sup>, 338.1740; C<sub>21</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 338.1751).

### 4.21. Synthesis of 4-benzyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*anti,syn*-29 and 4-benzyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*syn,syn*-29

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-benzyl-oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (rac)-17 (0.51 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-29 (ratio: 66:34 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-29 (62 mg, 14%) as a white solid;  $R_{\rm F}$  [light petroleum (40–60 °C)/diethyl ether (1:1)] 0.63; mp 87-89 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1710 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.42–7.39 (2H, dt, J 8.1 and 1.2,  $2 \times CH$ ; Ph), 7.35–7.20 (8H, m,  $8 \times CH$ ;  $2 \times Ph$ ), 4.78 (1H, d, J 10.6, PhCHi-Pr), 4.61-4.52 (1H, m, i-PrCHN), 4.07 (1H, br dd, J 9.0 and 2.6, CH<sub>A</sub>H<sub>B</sub>O), 4.00 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 3.39 (1H, dd, J 13.3 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.73 (1H, dd, J 13.3 and 10.1, CH<sub>A</sub>H<sub>B</sub>Ph), 2.53-2.46 (1H, m,  $CH(CH_3)_2$ ), 1.09 (3H, d, J 6.4,  $CH_3^ACHCH_3^B$ ) and 0.72 (3H, d, J 6.8,  $CH_3^A CHCH_3^B$ );  $\delta_C$  (100 MHz;  $CDCl_3$ ) 174.2 (NC=O), 153.1 (OC=O), 138.0 (i-C; Ph), 135.4 (i-C; Ph), 129.4<sup>2</sup>, 129.2<sup>2</sup>,  $129.0^2$ ,  $128.5^2$ ,  $127.4^1$  and  $127.3^1$  (10 × CH; 2 × Ph), 65.6 (CH<sub>2</sub>O), 55.9 (BnCHN), 55.8 (PhCHi-Pr), 38.1 (PhCH<sub>2</sub>), 32.5 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.5  $(CH_3^ACHCH_3^B)$  and 20.2  $(CH_3^ACHCH_3^B)$  (Found  $MNH_4^+$ , 355.2019; C<sub>21</sub>H<sub>27</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 355.2016); and the oxazolidin-2-one (*rac*)-syn-**29** (0.12 g, 26%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.40;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1773 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.39 (2H, dt, / 7.0 and 1.7, 2 × CH; Ph), 7.28 (2H, tt, / 7.0 and 1.2, 2 × CH; Ph), 7.22 (1H, / 7.2 and 1.5, 1 × CH; Ph), 7.12-7.05 (3H, m,  $3 \times CH$ ; Ph), 6.80 (2H, dt, / 6.2 and 1.8,  $2 \times CH$ ; Ph), 4.73-4.66 (1H, m, BnCHN), 4.65 (1H, d, / 10.8, PhCHi-Pr), 4.13 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 4.01 (1H, dd, J 9.0 and 2.8, CH<sub>A</sub>H<sub>B</sub>O), 2.89 (1H, dd, / 13.6 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.53 (1H, dd, / 13.6 and 8.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.49–2.39 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 0.99 (3H, d, J 6.4,  $CH_{3}^{A}CHCH_{3}^{B}$  and 0.65 (3H, d, J 6.8,  $CH_{3}^{A}CHCH_{3}^{B}$ );  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 173.9 (NC=O), 153.0 (OC=O), 137.8 (i-C; Ph), 134.8 (i-C; Ph),  $129.4^2$   $129.3^2$   $128.8^2$   $128.5^2$   $127.4^1$  and  $127.2^1$  (10 × CH; 2 × Ph), 65.6 (CH<sub>2</sub>O), 56.4 (BnCHN), 54.8 (PhCH*i*-Pr), 37.1 (PhCH<sub>2</sub>), 31.7 ( $CH(CH_3)_2$ ), 21.7 ( $CH_3^ACHCH_3^B$ ) and 20.1 ( $CH_3^ACHCH_3^B$ ) (Found MNH<sub>4</sub><sup>+</sup>, 355.2018; C<sub>21</sub>H<sub>27</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 355.2016).

### 4.22. Synthesis of 4-isopropyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*anti*-36 and 4-isopropyl-3-[2-phenyl-3methylbutanoyl]oxazolidin-2-one (*rac*)-*syn*-36

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-isopropyl-oxazolidin-2-one (*rac*)-**13** (0.17 g, 1.36 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-**17** (0.51 g, 1.50 mmol), gave the oxazolidin-2-ones *syn*- and *anti*-**36** (ratio 68:32:*syn*-:*anti*-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give an inseparable mixture of oxazolidin-2-ones (*rac*)*anti*- and (*rac*)-*syn*-**36** (0.13 g, 33%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82. Oxazolidin-2-one (*rac*)-*anti*-**36**; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82;  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1770 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.43–7.21 (5H, m, 5 × CH; Ph), 4.77 (1H, d, *J* 10.5, PhCHi-Pr), 4.49 (1H, m, *i*-PrCHN), 4.23 (1H, t, *J* 8.7, CH<sub>A</sub>H<sub>B</sub>O), 4.10 (1H, dd, *J* 8.7 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 2.53–2.41 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>; PhCHi-Pr), 2.16–2.07 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>; oxazolidin-2-one), 1.05, 0.76, 0.71 and 0.25 (4 × 3H, d, *J* ~6.9, 2 × CH(CH<sub>3</sub>)<sub>2</sub>);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 174.2 (NC=O), 153.3 (OC=O), 138.3 (*i*-C; Ph), 129.3<sup>2</sup>, 128.6<sup>2</sup> and 127.3<sup>1</sup> (5 × CH; Ph), 62.6 (CH<sub>2</sub>O), 58.8 (*i*-PrCHN), 55.9 (PhCHi-Pr), 21.4, 20.2, 18.2 and 14.6 (4C, 4 × CH<sub>3</sub>; 2 × CH(CH<sub>3</sub>)<sub>2</sub>) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751; and found MNH<sub>4</sub><sup>+</sup>, 307.2015; C<sub>17</sub>H<sub>27</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 307.2016).

Oxazolidin-2-one (*rac*)-*syn*-**36**; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82; *v*<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1772 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.43–7.22 (5H, m, 5 × CH; Ph), 4.81 (1H, d, *J* 10.5, PhCH*i*-Pr), 4.37 (1H, m, *i*-PrCHN), 4.15–4.08 (2H, m, CH<sub>2</sub>O), 2.53–2.43 (2H, m, 2 × *CH*(CH<sub>3</sub>)<sub>2</sub>); 1.05, 0.92, 0.88 and 0.71 (4 × 3H, d, *J* 6.9, 2 × CH(*CH*<sub>3</sub>)<sub>2</sub>);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 174.2 (NC=O), 153.2 (OC=O), 138.3 (*i*-C; Ph), 129.4<sup>2</sup>, 128.5<sup>2</sup> and 127.3<sup>1</sup> (5 × CH; Ph), 62.8 (CH<sub>2</sub>O), 58.8 (*i*-PrCHN), 55.4 (PhCH*i*-Pr), 21.4, 20.2, 18.2 and 14.6 (4C, 4 × CH<sub>3</sub>; 2 × CH(*CH*<sub>3</sub>)<sub>2</sub>) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751; and found MNH<sub>4</sub><sup>+</sup>, 307.2015; C<sub>17</sub>H<sub>27</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 307.2016).

### 4.23. Synthesis of 4-phenyl-3-[2-phenyl-3-methylbutanoyl]oxazolidin-2-one (*rac*)-*anti*-43 and 4-phenyl-3-[2-phenyl-3methylbutanoyl]oxazolidin-2-one (*rac*)-*syn*-43

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-phenyl-oxazolidin-2-one (*rac*)-**8** (0.22 g, 1.36 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-**17** (0.51 g, 1.50 mmol), gave the oxazolidin-2-ones *syn*- and *anti*-**43** (ratio: 87:13 *syn*-*:anti*-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum (40–60 °C)/diethyl ether (7:3) to give an inseparable mixture of oxazolidin-2-ones (*rac*)-*anti*- and (*rac*)-*syn*-**43** (0.11 g, 25%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.64.

Oxazolidin-2-one (*rac*)-*anti*-**43**; *R*<sub>F</sub> [light petroleum (bp 40–60 °C)/diethyl ether (1:1)] 0.64;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $\delta_{H}$  (400 MHz, CDCl<sub>3</sub>) 7.37–7.04 (10H, m, 10 × CH; 2 × Ph), 5.27 (1H, dd, *J* 8.8 and 3.2, PhCHN), 4.71 (1H, d, *J* 10.7, PhCHi-Pr), 4.48 (1H, t, *J* 8.8, CH<sub>A</sub>H<sub>B</sub>O), 4.14 (1H, dd, *J* 8.8 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 2.33–2.23 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 0.74 (3H, d, *J* 6.9, CH<sup>4</sup><sub>3</sub>CHCH<sup>5</sup><sub>3</sub>) and 0.55 (3H, d, *J* 6.9, CH<sup>4</sup><sub>3</sub>CHCH<sup>5</sup><sub>3</sub>);  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 174.0 (NC=O), 153.3 (OC=O), 139.6 (*i*-C; Ph), 137.3 (*i*-C; Ph), 129.3<sup>2</sup>, 128.9<sup>1</sup>, 128.6<sup>1</sup>, 128.3<sup>2</sup> 127.3<sup>2</sup> and 125.8<sup>2</sup> (10 × CH; 2 × Ph), 69.4 (CH<sub>2</sub>O), 58.1 (PhCHN), 55.9 (PhCH*i*-Pr), 32.8 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.3 (CH<sup>4</sup><sub>3</sub>CHCH<sup>5</sup><sub>3</sub>) and 20.2 (CH<sup>4</sup><sub>3</sub>CHCH<sup>5</sup><sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 341.1864; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>4</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 341.1860).

Oxazolidin-2-one (*R*,*S*)-*syn*-**43** (derived from a stereospecific synthesis); *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.61;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.20–7.01 (8H, m, 8 × CH; 2 × Ph), 6.73 (2H, d, *J* 7.3, 2 × CH; Ph), 5.40 (1H, dd, *J* 8.7 and 3.6, PhCHN), 4.66 (1H, d, *J* 10.7, PhCH*i*-Pr), 4.56 (1H, t, *J* 8.8, CH<sub>A</sub>H<sub>B</sub>O), 3.97 (1H, dd, *J* 8.8 and 3.6, CH<sub>A</sub>H<sub>B</sub>O), 2.36–2.23 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 0.97 (3H, d, *J* 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.58 (3H, d, *J* 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 174.0 (NC=O), 153.2 (OC=O), 139.7 (*i*-C; Ph), 137.8 (*i*-C; Ph), 129.2,<sup>2</sup> 128.9,<sup>1</sup> 128.6,<sup>1</sup> 128.3,<sup>2</sup> 127.4<sup>2</sup> and 125.9<sup>2</sup> (10 × CH; 2 × Ph), 69.5 (CH<sub>2</sub>O), 58.2 (PhCHN), 55.5 (PhCH*i*-Pr), 32.8 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.3 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 20.2 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) (Found MNH<sub>4</sub><sup>+</sup>, 341.1864; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 341.1860).

### 4.24. Synthesis of ethyl 2-oxa-3-[2-phenyl-3-methylbutanoyl]oxazolidin-4-carboxylate (*rac*)-*anti*-48 and ethyl 2-oxa-3-[2phenyl-3-methylbutanoyl]oxazolidin-4-carboxylate (*rac*)-*syn*-48

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), ethyl oxazolidin-2-one 4-carboxylate (*rac*)-**14** (0.21 g, 1.36 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (rac)-17 (0.51 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-48 (ratio: 57:43 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-48 (0.11 g, 25%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1700 (NC=0);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.43–7.30 (5H, m, 5 × CH; Ph), 4.71 (1H, dd, / 9.1 and 3.7, EtO<sub>2</sub>CCHN), 4.70 (1H, d, / 10.4, PhCHi-Pr), 4.34 (1H, t, / 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.26 (3H, m, CH<sub>A</sub>CH<sub>B</sub>O and OCH<sub>2</sub>CH<sub>3</sub>), 2.45-2.35 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.24 (3H, t, J 9.1, OCH<sub>2</sub>CH<sub>3</sub>), 1.02 (3H, d, J 6.9, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.64 (3H, d, J 6.9,  $CH_{3}^{A}CHCH_{3}^{B}$ ;  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 174.1 (NC=0), 168.5 (EtOC=0), 152.3 (OC=O), 137.7 (*i*-C; Ph), 129.2<sup>2</sup>, 128.5<sup>2</sup> and 127.4<sup>1</sup> (5 × CH; Ph), 63.9 (CH<sub>2</sub>O), 62.5 (CH<sub>2</sub>O), 55.8 (EtO<sub>2</sub>CCHN), 55.7 (PhCHi-Pr), 32.9 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.3 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>), 20.2 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 13.6 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 337.1759; C<sub>17</sub>H<sub>25</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 337.1758); and the oxazolidin-2-one (*rac*)-*syn*-**48** (0.16 g, 37%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.42; mp 60-63 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1755 (CC=O) and 1700 (NC=O);  $\delta_{\rm H}$ (400 MHz, CDCl<sub>3</sub>) 7.35–7.15 (5H, m, 5 × CH; Ph), 4.87 (1H, dd, J 9.1 and 3.8, EtO<sub>2</sub>CCHN), 4.61 (1H, d, J 10.5, PhCHi-Pr), 4.45 (1H, t, J 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.16 (1H, dd, J 9.1 and 3.8, CH<sub>A</sub>H<sub>B</sub>O), 3.99-3.89 (1H, m, OCH<sub>2</sub>CH<sub>3</sub>), 2.43–2.37 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 0.98 (3H, t, J 6.8, OCH<sub>2</sub>CH<sub>3</sub>), 0.91 (3H, d, J 6.9, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.64 (3H, d, J 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 173.9 (NC=O), 168.5 (EtOC=O), 153.0 (OC=0), 137.5 (*i*-C; Ph), 129.3,<sup>2</sup> 128.6<sup>2</sup> and 127.7<sup>1</sup> (5 × CH; Ph), 63.7 (CH<sub>2</sub>O), 62.5 (CH<sub>2</sub>O), 55.9 (EtO<sub>2</sub>CCHN), 55.3 (PhCHi-Pr), 32.6  $(CH(CH_3)_2)$ , 21.2  $(CH_3^ACHCH_3^B)$  and 20.3  $(CH_3^ACHCH_3^B)$  and 13.9 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 337.1755; C<sub>17</sub>H<sub>25</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 337.1758).

### 4.25. Synthesis of 4-methyl-5-phenyl-3-[2-(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*anti,syn*-23 and 4-methyl-5-phenyl-3-[2-(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*syn,syn*-23

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-methyl-5phenyl-oxazolidin-2-one (4RS,5SR)-(rac)-**11** (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.49 g, 1.50 mmol), gave the oxazolidin-2-ones syn,syn- and anti, syn-23 (ratio 70:30 syn,syn-:anti,syn-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti,syn-23 (83 mg, 19%) as a colourless oil; R<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.71;  $\delta_{\rm H}$ (400 MHz, CDCl<sub>3</sub>) 7.35–7.28 (3H, m, 3 × CH; Ph), 7.21–7.19 (2H, m,  $2 \times CH$ ; Ph), 7.20 (2H, dt, J 7.9 and 2.1,  $2 \times CH$ ; Ar), 7.08 (2H, dt, J 7.9 and 2.1, 2 × CH; Ar), 5.46 (1H, d, J 6.9, OCHPh; oxazolidin-2-one), 5.04 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.60 (1H, m, CH<sub>3</sub>CHN), 2.29 (3H, s, CH<sub>3</sub>; Ar), 1.46 (3H, d, J 7.1, ArCHCH<sub>3</sub>) and 0.89 (3H, d, J 6.9, CHCH<sub>3</sub>; oxazolidin-2-one);  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 174.8 (NC=0), 152.9 (OC=0), 137.7 (i-C; Ar), 137.1 (i-C, Ar), 133.9 (i-C; Ph), 129.7<sup>2</sup> and 128.3<sup>2</sup> (4 × CH; Ar), 128.6<sup>3</sup> and 125.5<sup>2</sup> (5 × CH; Ph), 79.1 (PhCHO), 55.0 (CH<sub>3</sub>CHN), 43.6 (ArCHCH<sub>3</sub>), 21.4 (CH<sub>3</sub>; Ar), 19.8 (ArCHCH<sub>3</sub>) and 14.5 (CH<sub>3</sub>CHN; oxazolidin-2-one) (Found

 $\begin{array}{l} {\rm MNH}_4^+ \ 341.1862; \ C_{20}{\rm H}_{25}{\rm N}_2{\rm O}_3^+ \ {\rm requires} \ {\rm MNH}_4^+, \ 341.1860); \ {\rm and} \\ {\rm the \ oxazolidin-2-one \ (rac)-syn, syn-23 \ (0.18 g, \ 41\%) \ {\rm as} \ {\rm a} \ {\rm colourless} \\ {\rm oil;} \ R_{\rm F} \ [{\rm light \ petroleum \ ether \ (bp \ 40-60\ ^{\circ}{\rm C})/{\rm diethyl \ ether \ (1:1)}] \\ {\rm 0.47;} \ \delta_{\rm H} \ (400\ {\rm MHz, \ CDCl_3}) \ 7.31-7.23 \ (3{\rm H}, \ {\rm m}, \ 3\times{\rm CH}; \ {\rm Ph}), \ 7.18-7.23 \ (2{\rm H}, \ {\rm dt}, \ J \ 8.1 \ {\rm and} \ 2.1, \ 2\times{\rm CH}; \ {\rm Ar}), \ 7.18 \ (2{\rm H}, \ {\rm m}, \ 2\times{\rm CH}; \ {\rm Ph}), \ 7.18-7.23 \ (2{\rm H}, \ {\rm dt}, \ J \ 8.1 \ {\rm and} \ 2.0, \ 2\times{\rm CH}; \ {\rm Ar}), \ 5.57 \ (1{\rm H}, \ {\rm d}, \ J \ 7.1, \ {\rm OCH-Ph}; \ {\rm oxazolidin-2-one}), \ 4.96 \ (1{\rm H}, \ {\rm q}, \ J \ 6.9, \ {\rm ArCHCH}_3), \ 4.75 \ (1{\rm H}, \ {\rm m}, \ {\rm CH}_3{\rm CHN}), \ 2.25 \ (3{\rm H}, \ {\rm s}, \ {\rm CH}_3; \ {\rm Ar}), \ 1.42 \ (3{\rm H}, \ {\rm d}, \ J \ 6.9, \ {\rm ArCHCH}_3) \ {\rm and} \ 0.89 \ (3{\rm H}, \ {\rm d}, \ 7.1, \ {\rm CH}_3{\rm CHN}; \ {\rm oxazolidin-2-one}); \ \delta_{\rm C} \ (100\ {\rm MHz}, \ {\rm CDCl}_3) \ 174.7 \ ({\rm NC=O}), \ 152.8 \ ({\rm OC=O}), \ 137.6 \ (i-{\rm C}; \ {\rm Ar}), \ 137.2 \ (i-{\rm C}, \ {\rm Ar}), \ 133.8 \ (i-{\rm C}; \ {\rm Ph}), \ 129.6^2 \ {\rm and} \ 128.2^2 \ (4\times{\rm CH}; \ {\rm Ar}), \ 129.1^3 \ {\rm and} \ 126.2^2 \ (5\times{\rm CH}; \ {\rm Ph}), \ 79.2 \ ({\rm PhCHO}), \ 55.1 \ ({\rm CH}_3{\rm CHN}), \ 43.4 \ ({\rm ArCHCH}_3), \ 21.2 \ ({\rm CH}_3; \ {\rm Ar}), \ 19.9 \ ({\rm ArCHCH}_3) \ {\rm and} \ 14.3 \ ({\rm CH}_3{\rm CHN}; \ {\rm oxazolidin-2-one}) \ ({\rm Found}\ {\rm MNH}_4^+, \ 341.1858; \ C_{20}{\rm H}_2{\rm O}_3^+ \ {\rm requires} \ {\rm MNH}_4^+, \ 341.1860). \end{array}$ 

### 4.26. Synthesis of 4-benzyl-3-[2-(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*anti*-30 and 4-benzyl-3-[2-(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*syn*-30

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-benzyl-oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-17 (0.49 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-30 (ratio: 69:31 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-30 (83 mg, 19%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.50;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=0);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.27–7.13 (7H, m, 7 × CH; Ar and Ph), 7.04 (2H, dt, J 8.2 and 2.1, 2× CH; Ar), 5.00 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.54-4.45 (1H, m, BnCHN), 4.02 (1H, dd, J 9.0 and 2.2, CH<sub>A</sub>H<sub>B</sub>O), 3.96 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 3.27 (1H, dd, J 13.1 and 3.1, CH<sub>A</sub>H<sub>B</sub>Ph), 2.71 (1H, dd, J 13.1 and 9.6, CH<sub>A</sub>H<sub>B</sub>Ph), 2.23 (3H, s, CH<sub>3</sub>; Ar) and 1.45 (3H, d, J 7.0, ArCHCH<sub>3</sub>);  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.7 (NC=0), 152.8 (OC=0), 137.0 (*i*-C; Ar), 136.8 (*i*-CCH<sub>3</sub>; Ar), 135.3 (*i*-C; Ph), 129.3<sup>2</sup>, 128.9<sup>2</sup> and 127.3<sup>1</sup> (5  $\times$  CH; Ph), 129.2<sup>2</sup> and  $127.9^2$  (4 × CH; Ar), 65.8 (CH<sub>2</sub>O), 55.7 (BnCHN), 42.6 (ArCHCH<sub>3</sub>), 37.8 (CH<sub>2</sub>Ph), 21.1 (CH<sub>3</sub>; Ar) and 19.4 (ArCHCH<sub>3</sub>) 341.1860; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, (Found MNH<sub>4</sub><sup>+</sup> 341.1860); and the oxazolidin-2-one (rac)-syn-30 (0.185 g, 42%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.29;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=O); mp 94–96 °C; δ<sub>H</sub> (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, dt, J 8.2 and 2.1, 2  $\times$  CH; Ar), 7.13–7.09 (3H, m, 3  $\times$  CH; Ph), 7.07 (2H, dt, J 8.2 and 2.1, 2  $\times$  CH; Ar), 6.89–6.87 (2H, m, 2  $\times$  CH; Ph), 4.99 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.68–4.62 (1H, m, BnCHN), 4.08 (1H, t, J 8.6, CH<sub>A</sub>H<sub>B</sub>O), 3.97 (1H, dd, J 8.6 and 3.1, CH<sub>A</sub>H<sub>B</sub>O), 3.01 (1H, dd, J 13.1 and 3.5, CH<sub>A</sub>H<sub>B</sub>Ph), 2.49 (1H, dd, J 13.1 and 8.8, CH<sub>A</sub>H<sub>B</sub>Ph), 2.26 (3H, s, CH<sub>3</sub>; Ar) and 1.41 (3H, d, J 7.0, ArCHCH<sub>3</sub>);  $\delta_{\rm C}$ (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=O), 152.8 (OC=O), 137.0 (i-C; Ar), 136.8 (*i*-CCH<sub>3</sub>; Ar), 134.9 (*i*-C; Ph), 129.4,<sup>2</sup> 128.4<sup>2</sup> and 127.1<sup>1</sup>  $(5 \times CH; Ph)$ , 129.3<sup>2</sup> and 128.0<sup>2</sup> (4 × CH; Ar), 65.6 (CH<sub>2</sub>O), 54.8 (BnCHN), 42.7 (ArCHCH<sub>3</sub>), 37.2 (CH<sub>2</sub>Ph), 21.0 (CH<sub>3</sub>; Ar) and 19.0  $(ArCHCH_3)$  (Found MNH<sub>4</sub><sup>+</sup> 341.1863; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 341.1860).

### 4.27. Synthesis of 4-isopropyl-3-[2-(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*anti*-37 and 4-isopropyl-3-[2 -(4-methylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*syn*-37

In the same way as the oxazolidin-2-one (rac)-**20**, *n*-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-isopropyl-oxazolidin-2-one (rac)-**13** (0.17 g, 1.36 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-**18** (0.49 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-37 (ratio 96:4 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-37 (11 mg, 3%) as a colourless oil;  $R_{\rm F}$  (light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.63;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.16 (2H, dt, J 8.1 and 2.1, 2 × CH; Ar), 7.04 (2H, dt, J 8.1 and 2.1, 2 × CH; Ar), 5.15 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.29–4.25 (1H, m, *i*-PrCHN), 4.09–4.01 (2H, m, CH<sub>2</sub>O), 2.41-2.31 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 2.24 (3H, s, CH<sub>3</sub>; Ar), 1.42 (3H, d, J 7.0, ArCHCH<sub>3</sub>), 1.13 (3H, d, J 6.9, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.84 (3H, d, J 6.9,  $CH_3^A CHCH_3^B$ );  $\delta_C$  (100 MHz;  $CDCl_3$ ) 174.7 (NC=O), 153.3 (OC=O), 137.2 (*i*-C; Ar), 136.8 (*i*-CCH<sub>3</sub>; Ar), 129.2<sup>2</sup> and 127.9<sup>2</sup> (4 × CH; Ar), 63.0 (CH<sub>2</sub>O), 59.0 (*i*-PrCHN), 42.6 (ArCHCH<sub>3</sub>), 28.4 (CH(CH<sub>3</sub>)<sub>2</sub>), 21.9 (CH<sub>3</sub>; Ar), 19.1 (ArCHCH<sub>3</sub>), 18.0 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 14.6 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) (Found MNH<sub>4</sub><sup>+</sup> 293.1857; C<sub>16</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 293.1860); and the oxazolidin-2-one (*rac*)-syn-**37** (0.21 g, 57%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.50;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O); mp 62–64 °C; δ<sub>H</sub> (400 MHz; CDCl<sub>3</sub>) 7.17 (2H, dt, J 8.1 and 2.1, 2 × CH; Ar), 7.01 (2H, dt, / 8.1 and 2.1, 2 × CH; Ar), 5.00 (1H, q, J 6.8, ArCHCH<sub>3</sub>), 4.42-4.38 (1H, m, *i*-PrCHN), 4.14 (1H, t, / 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.01 (1H, dd, / 9.1 and 3.4, CH<sub>A</sub>H<sub>B</sub>O), 2.21 (3H, s, CH<sub>3</sub>; Ar), 2.15–2.05 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.36 (3H, d, / 6.8, ArCHCH<sub>3</sub>), 0.71 (3H, d, J 6.9, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.39 (3H, d, J 6.9,  $CH_{3}^{A}CHCH_{3}^{B}$ ;  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=0), 153.3 (OC=0), 137.3 (*i*-C; Ar), 136.5 (*i*-CCH<sub>3</sub>; Ar), 129.0<sup>2</sup> and 127.7<sup>2</sup> ( $4 \times$  CH; Ar), 62.9 (CH<sub>2</sub>O), 57.9 (*i*-PrCHN), 42.7 (ArCHCH<sub>3</sub>), 27.7 (CH(CH<sub>3</sub>)<sub>2</sub>), 20.9 (CH<sub>3</sub>; Ar), 18.6 (ArCHCH<sub>3</sub>), 18.0 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 14.6  $(CH_{3}^{A}CHCH_{3}^{B})$  (Found MNH<sub>4</sub><sup>+</sup> 293.1858; C<sub>16</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 293.1860).

### 4.28. Synthesis of 4-phenyl-3-[2-(4-methylphenyl)propanoyl] oxazolidin-2-one (*rac*)-*anti*,*syn*-44 and 4-phenyl-3-[2-(4-meth ylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*syn*,*syn*-44

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-phenyl-oxazolidin-2-one (rac)-8 (0.22 g, 1.36 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.49 g, 1.50 mmol), gave the oxazolidin-2-ones syn- and anti-44 (ratio 95:5 syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-44 (13 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum (bp 40–60 °C)/diethyl ether (1:1)] 0.47; mp 124–127 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1705 (NC=0);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.35–7.23 (5H, m, 5 × CH; Ph), 7.17 (2H, dt, J 8.1 and 2.1, 2 × CH; Ar), 6.95 (2H, dt, J 8.1 and 2.1, 2 × CH; Ar), 5.25 (1H, dd, J 8.6 and 3.1, PhCHN), 5.01 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.48 (1H, t, J 8.6, CH<sub>A</sub>H<sub>B</sub>O), 4.14 (1H, dd, J 8.6 and 3.1, CH<sub>A</sub>H<sub>B</sub>O), 2.25 (3H, s, CH<sub>3</sub>; Ar) and 1.32 (3H, d, J 7.1, ArCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz, CDCl<sub>3</sub>) 173.7 (NC=O), 155.0 (OC=O), 138.2 (*i*-C; Ar), 136.8 (*i*-CCH<sub>3</sub>; Ar), 136.6 (*i*-C; Ph),  $129.2^2$  and  $127.9^2$  (4 × CH; Ar), 128.7<sup>2</sup>, 128.4<sup>1</sup>, and 125.8<sup>2</sup> (5  $\times$  CH; Ph), 69.4 (CH<sub>2</sub>O), 57.7 (PhCHN), 43.3 (ArCHCH<sub>3</sub>), 21.0 (CH<sub>3</sub>; Ar) and 18.6 (ArCHCH<sub>3</sub>) (Found  $MNH_4^+$  327.1710;  $C_{19}H_{23}N_2O_3^+$  requires  $MNH_4^+$ , 327.1700); and the oxazolidin-2-one (rac)-syn-44 (0.25 g, 59%) as a white solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.29; mp 120–123 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.21–7.12 (3H, m, 3 × CH; Ph), 6.96 (2H, dt, J 8.2 and 2.1, 2 × CH; Ar), 6.90 (2H, dt, J 8.2 and 2.1, 2 × CH; Ar), 6.86 (2H, m, 2 × CH; Ph), 5.36 (1H, dd, J 9.1 and 5.1, PhCHN), 5.01 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.54 (1H, t, J 9.1, CH<sub>A</sub>H<sub>B</sub>O), 3.99 (1H, dd, / 9.1 and 5.1, CH<sub>A</sub>H<sub>B</sub>O), 2.24 (3H, s, CH<sub>3</sub>; Ar) and 1.32 (3H, d, J 6.9, ArCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz, CDCl<sub>3</sub>) 173.5 (NC=O), 154.9 (OC=O), 138.4 (*i*-CCH<sub>3</sub>; Ar), 136.8 (*i*-C; Ar), 136.4 (*i*-C; Ph), 129.1<sup>2</sup>

and 127.6<sup>2</sup> (4 × CH; Ar), 128.6<sup>2</sup>, 128.4<sup>1</sup> and 125.7<sup>2</sup> (5 × CH; Ph), 69.6 (CH<sub>2</sub>O), 57.8 (PhCHN), 43.2 (ArCHCH<sub>3</sub>), 21.0 (CH<sub>3</sub>; Ar) and 18.7 (ArCHCH<sub>3</sub>) (Found  $MNH_4^+$  327.1700;  $C_{19}H_{23}N_2O_3^+$  requires  $MNH_4^+$ , 327.1700).

### 4.29. Synthesis of ethyl 2-oxa-3-[2-(4-methylphenyl)propanoyl]oxazolidin-4-carboxylate (*rac*)-*anti*-49 and ethyl 2-oxa-3-[2-(4-methylphenyl)propanoyl]oxazolidin-4-carboxylate (*rac*)*syn*-49

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-14 (0.21 g, 1.36 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.49 g, 1.50 mmol), gave the oxazolidin-2-ones svn- and anti-49 (ratio 95:5 svn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp  $40-60 \circ C$ )/diethvl ether (7:3) to give the oxazolidin-2-one (rac)-anti-49 (12 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.40; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1794 (OC=O), 1747 (CC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.18 (2H, dt, *J* 8.1 and 2.1, 2 × CH; Ar), 7.06 (2H, dt, / 8.1 and 2.1, 2 × CH; Ar), 5.01 (1H, q, / 7.0, ArCHCH<sub>3</sub>), 4.70 (1H, dd, / 9.1 and 3.5, EtO<sub>2</sub>CCHN), 4.34 (1H, t, / 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.26–4.17 (3H, m, CH<sub>A</sub>H<sub>B</sub>O and OCH<sub>2</sub>CH<sub>3</sub>), 2.26 (3H, s, CH<sub>3</sub>; Ar), 1.42 (3H, d, J 7.0, ArCHCH<sub>3</sub>) and 1.24 (3H, t, J 7.2, OCH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=O), 168.5 (CC=O), 151.0 (OC=O), 137.0 (i-C; Ar), 136.8 (i-CCH<sub>3</sub>; Ar), 129.3<sup>2</sup> and  $128.0^2$  (2 × CH; Ar), 65.8 (CH<sub>2</sub>O; oxazolidin-2-one), 62.6 (OCH<sub>2</sub>CH<sub>3</sub>), 55.8 (EtO<sub>2</sub>CCHN), 42.4 (ArCHCH<sub>3</sub>), 21.0 (CH<sub>3</sub>; Ar), 19.1 (ArCHCH<sub>3</sub>) and 14.0 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup> 323.1596;  $C_{16}H_{23}N_2O_5^+$  requires MNH<sub>4</sub><sup>+</sup>, 323.1601); and the oxazolidin-2one (*rac*)-syn-49 (0.25 g, 60%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.20;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1794 (OC=O), 1746 (CC=O) and 1700 (NC=O);  $\delta_{\rm H}$ (400 MHz; CDCl<sub>3</sub>) 7.16 (2H, dt, / 8.2 and 2.1, 2 × CH; Ar), 7.03 (2H, dt,  $1 \, 8.2$  and  $2.1, 2 \times CH$ ; Ar), 4.90 (1H, q,  $1 \, 7.0$ , ArCHCH<sub>3</sub>), 4.84 (1H, dd, / 9.5 and 4.7, EtO<sub>2</sub>CCHN), 4.41 (1H, t, / 9.5, CH<sub>A</sub>H<sub>B</sub>O), 4.13 (1H, dd, / 9.5 and 4.7, CH<sub>A</sub>H<sub>B</sub>O), 4.05 (2H, q, / 7.2, OCH<sub>2</sub>CH<sub>3</sub>), 2.23 (3H, CH<sub>3</sub>; Ar), 1.38 (3H, d, / 7.0, ArCHCH<sub>3</sub>) and 1.06 (3H, t, / 7.2, CH<sub>3</sub>CH<sub>2</sub>O); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.1 (NC=O), 167.9 (CC=O), 151.7 (OC=O), 136.6 (*i*-CCH<sub>3</sub>; Ar), 136.6 (*i*-C; Ar), 129.0<sup>2</sup> and 127.9<sup>2</sup> (2 × CH; Ar), 64.0 (CH<sub>2</sub>O; oxazolidin-2-one), 62.1 (CH<sub>3</sub>CH<sub>2</sub>O), 55.5 (EtO<sub>2</sub>CCHN), 42.6 (ArCHCH<sub>3</sub>), 20.9 (CH<sub>3</sub>; Ar), 19.1 (ArCHCH<sub>3</sub>) and 13.6 (CH<sub>3</sub>CH<sub>2</sub>O) (Found MNH<sub>4</sub><sup>+</sup> 323.1607; C<sub>16</sub>H<sub>23</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 323.1601).

### 4.30. Synthesis of 3-[2-(4-isobutylphenyl)propanoyl]-4-methyl-5-phenyl-oxazolidin-2-one (*rac*)-*anti,syn*-24 and 3-[2-(4-isobutylphenyl)propanoyl]-4-methyl-5-phenyl-oxazolidin-2-one (*rac*)-*syn*,*syn*-24

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (*rac*)-(4*RS*,5*SR*)-**11** (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-**7** (0.55 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones **24** (ratio: 75:25 *syn*,*syn*-:*anti*,*syn*-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (*rac*)-*anti*,*syn*-**24** (93 mg, 19%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (40–60 °C)/diethyl ether (1:1)] 0.77; *v*<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1776 (OC=O) and 1692 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.42–7.24 (7H, m, 7 × CH; Ph and Ar), 7.10 (2H, br d, *J* 8.2, 2 × CH; Ar), 5.48 (1H, d, *J* 7.2, PhCHO), 5.12 (1H, q, *J* 7.0, ArCHCH<sub>3</sub>), 4.67 (1H, m, CH<sub>3</sub>CHN), 2.44 (2H, d, *J* 7.2, CH<sub>2</sub>Ar), 1.90–1.80 (1H, m, *C*H(CH<sub>3</sub>)<sub>2</sub>), 1.47 (3H, d, *J* 7.0, ArCHCH<sub>3</sub>), 0.91 (3H, d, *J* 6.9, CH<sub>3</sub>;

CH<sub>3</sub>CHN) and 0.89 (6H, d, / 6.9, (CH<sub>3</sub>)<sub>2</sub>CH);  $\delta_{C}$  (100.6 MHz; CDCl<sub>3</sub>) 174.7 (NC=O), 152.6 (OC=O), 140.7 (i-C; Ar), 137.7 (i-C; Ar), 133.3 (*i*-C; Ph), 129.4<sup>2</sup> and 127.8<sup>2</sup> (4  $\times$  CH; Ar), 128.7<sup>3</sup> and 125.6<sup>2</sup> (5 × CH; Ph), 78.7 (PhCHO), 55.4 (*i*-PrCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.9 (ArCHCH<sub>3</sub>), 30.2 (CH<sub>2</sub>Ar), 22.5 ( $2 \times CH_3^ACHCH_3^B$ ; *i*-BuC<sub>6</sub>H<sub>4</sub>-), 19.3 (ArCHCH<sub>3</sub>) and 14.5 (CH<sub>3</sub>CHN) (Found M<sup>+</sup>, 365.1988; C<sub>23</sub>H<sub>27</sub>NO<sub>3</sub> requires M<sup>+</sup>, 365.1985); and the oxazolidin-2-one (rac)-syn,syn-**24** (0.26 g, 52%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1770 (OC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.38-7.16 (7H, m,  $7 \times CH$ ; Ph and Ar), 7.08 (2H, dt, J 8.2 and 2.1,  $2 \times CH$ ; Ar), 5.63 (1H, d, J 7.4, PhCHO), 5.05 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.81 (1H, m, i-PrCHN), 2.43 (2H, d, J 7.2, CH<sub>2</sub>Ar), 1.89-1.79 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>)), 1.48 (3H, d, J 7.1, ArCHCH<sub>3</sub>), 0.88 (3H, d, J 6.7, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 0.87 (3H, d, J 6.7, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.72 (3H, d, J 6.7, CH<sub>3</sub>CHN); δ<sub>C</sub> (100.6 MHz; CDCl<sub>3</sub>) 174.6 (NC=O), 152.6 (OC=O), 140.5 (i-C; Ar), 137.5 (i-C; Ar), 133.6 (i-C; Ph), 129.3<sup>2</sup> and 127.7<sup>2</sup>  $(4 \times CH; Ar)$ , 128.8,<sup>1</sup> 128.7<sup>2</sup> and 125.8<sup>2</sup> (5 × CH; Ph), 78.8 (PhCHO), 54.7 (CH<sub>3</sub>CHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.2 (ArCHCH<sub>3</sub>), 30.1 (ArCH<sub>2</sub>), 22.5<sup>2</sup> (2C; CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>; *i*-BuC<sub>6</sub>H<sub>4</sub>-), 19.4 (ArCHCH<sub>3</sub>) and 14.2 (CH<sub>3</sub>CHN) (Found M<sup>+</sup>, 365.1986; C<sub>23</sub>H<sub>27</sub>NO<sub>3</sub> requires M<sup>+</sup>, 365.1985).

### 4.31. Synthesis of 4-benzyl-3-[2-(4-isobutylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*anti*-31 and 4-benzyl-3-[2-(4-isobutylphenyl)propanoyl]oxazolidin-2-one (*rac*)-*syn*-31

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.60 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (rac)-7 (0.55 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 31 (ratio: 79:21 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-**31** (78 mg, 15%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.68; mp 79-80 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1696 (NC=O):  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.36-7.18 (7H, m, 7 × CH; Ar and Ph), 7.08 (2H, dt, / 8.2 and 2.1,  $2 \times CH$ ; Ar), 5.11 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.62-4.54 (1H, m, BnCHN), 4.12-4.00 (2H, m, CH<sub>2</sub>O), 3.34 (1H, dd, / 13.2 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.79 (1H, dd, / 13.2 and 9.8, CH<sub>A</sub>H<sub>B</sub>Ph), 2.43 (2H, d, / 7.2, ArCH<sub>2</sub>), 1.89-1.79 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.54 (3H, d, / 6.9, ArCHCH<sub>3</sub>) and 1.54 (6H, d,  $I \sim 6.7$ ,  $2 \times CH_3$ , CH(CH<sub>3</sub>)<sub>2</sub>);  $\delta_C$ (100.6 MHz; CDCl<sub>3</sub>) 174.9 (NC=O), 153.0 (OC=O), 140.7 (*i*-C; Ar), 137.5 (*i*-C; Ar), 135.4 (*i*-C; Ph), 129.5,<sup>2</sup> 129.0<sup>2</sup> and 127.4<sup>1</sup> (5  $\times$  CH; Ph),  $129.3^2$  and  $127.9^2$  (4 × CH; Ar); 65.9 (CH<sub>2</sub>O), 55.9 (BnCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.7 (ArCHCH<sub>3</sub>), 38.0 (PhCH<sub>2</sub>), 30.2 (ArCH<sub>2</sub>), 22.4 (2C; CH(CH<sub>3</sub>)<sub>2</sub>) and 19.5 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 366.2061; C<sub>23</sub>H<sub>28</sub>NO<sub>3</sub> requires MH<sup>+</sup>, 366.2164); and the oxazolidin-2-one (rac)-syn-**31** (0.30 g, 60%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.37; mp 93-95 °C;  $v_{\text{max}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1768 (OC=O) and 1698 (NC=O);  $\delta_{\text{H}}$ (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, br d, J 8.2,  $2 \times$  CH; Ar), 7.24–6.93 (7H, m,  $7 \times CH$ ; Ph and Ar), 5.10 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.79– 4.70 (1H, m, BnCHN), 4.17 (1H, t, J 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.06 (1H, dd, J 8.9 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 3.06 (1H, dd, J 13.4 and 3.2CH<sub>A</sub>H<sub>B</sub>Ph), 2.59 (1H, dd, J 13.4 and 8.7, CH<sub>A</sub>H<sub>B</sub>Ph), 2.46 (2H, d, J 7.2, ArCH<sub>2</sub>), 1.91-1.82 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.51 (3H, d, / 6.9, ArCHCH<sub>3</sub>), 0.91 (3H, d / 6.7,  $CH_3^ACHCH_3^B$ ) and 0.90 (3H, d, J 6.7,  $CH_3^ACHCH_3^B$ );  $\delta_C$ (100.6 MHz; CDCl<sub>3</sub>) 174.7 (NC=O), 153.0 (OC=O), 140.7 (i-C; Ar), 137.4 (*i*-C; Ar), 135.0 (*i*-C; Ph), 129.5,<sup>2</sup> 128.0<sup>2</sup> and 127.2<sup>1</sup> ( $5 \times CH$ ; Ph),  $129.4^2$  and  $127.9^2$  (4 × CH; Ar), 65.7 (CH<sub>2</sub>O), 54.9 (BnCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.8 (ArCHCH<sub>3</sub>), 37.4 (PhCH<sub>2</sub>), 30.2 (ArCH<sub>2</sub>), 22.5  $(CH_3^ACHCH_3^B)$ , 22.4  $(CH_3^ACHCH_3^B)$  and 19.2  $(ArCHCH_3)$  (Found MH<sup>+</sup> 366.2065; C<sub>23</sub>H<sub>28</sub>NO<sub>3</sub> requires MH<sup>+</sup>, 366.2064).

### 4.32. Synthesis of 3-[2-(4-isobutylphenyl)propanoyl]-4-isopropyloxazolidin-2-one (*rac*)-*anti*-38 and 3-[2-(4-isobutylphenyl)propanoyl]-4-isopropyl-oxazolidin-2-one (*rac*)-*syn*-38

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.60 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-13 (0.17 g, 1.36 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (rac)-7 (0.55 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 38 (ratio: 96:4 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)anti-**38** (16 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.77;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1776 (OC=O) and 1692 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, br d, J 8.2, 2 × CH; Ar), 7.07 (2H, br d, / 8.2, 2 × CH; Ar), 5.11 (1H, q, / 7.2, ArCHCH<sub>3</sub>), 4.37–4.32 (1H, m, *i*-PrCHN), 4.15–4.07 (2H, m, CH<sub>2</sub>O), 2.46–2.39 (2H, m, CH<sub>2</sub>Ar), 1.87–1.77 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.49 (3H, d, J 7.2, ArCHCH<sub>3</sub>), 0.91 (3H, d, J 6.9, CH<sub>3</sub>; CH(CH<sub>3</sub>)<sub>2</sub>), 0.90 (3H, d, J 6.9, CH<sub>3</sub>; CH(CH<sub>3</sub>)<sub>2</sub>) and 0.88 (6H, d, I 6.9, 2 × CH<sub>3</sub>; CH(CH<sub>3</sub>)<sub>2</sub>);  $\delta_{C}$ (100.6 MHz; CDCl<sub>3</sub>) 174.9 (NC=O), 153.6 (OC=O), 140.6 (i-C; Ar), 137.5 (*i*-C; Ar), 129.3<sup>2</sup> and 127.8<sup>2</sup> (4 × CH; Ar), 63.1 (CH<sub>2</sub>O), 59.0 (*i*-PrCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.6 (ArCHCH<sub>3</sub>), 30.2 (CH<sub>2</sub>Ar), 28.6  $(CH(CH_3)_2)$ , 22.7  $(CH_3^ACHCH_3^B; i-BuC_6H_4-)$ , 22.4  $(CH_3^ACHCH_3^B; i-BuC_6H_4-)$ , 22.4  $(CH_3^ACHCH_3^B; i-BuC_6H_4-)$  $BuC_6H_4-$ ), 19.7 ( $CH_3^ACHCH_3^B$ ; oxazolidin-2-one), 18.0 ( $CH_3^ACHCH_3^B$ ; oxazolidin-2-one) and 14.7 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 318.20062;  $C_{19}H_{28}NO_3$  requires  $MH^{\scriptscriptstyle +}\!,$  318.2064); and the oxazolidin-2-one (*rac*)-syn-**38** (0.24 g, 56%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1) 0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, br d, J 8.2, 2 × CH; Ar), 7.03 (2H, br d, J 8.2, 2 × CH; Ar), 5.11 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.50–4.44 (1H, m, *i*-PrCHN), 4.21 (1H, t, J 8.6, CH<sub>A</sub>H-<sub>B</sub>O), 4.07 (1H, dd, J 8.6 and 3.5, CH<sub>A</sub>H<sub>B</sub>O), 2.40 (2H, d, J 7.2, CH<sub>2</sub>Ar), 2.19-2.07 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>; oxazolidin-2-one), 1.87-1.75 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>; ArCHCH<sub>3</sub>), 1.44 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 0.85 (6H, d, J ~6.7, 2× CH<sub>3</sub>; CH(CH<sub>3</sub>)<sub>2</sub>), 0.76 (3H, d, [ 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.38 (3H, d, / 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{C}$  (100.6 MHz; CDCl<sub>3</sub>) 174.8 (NC=0), 153.5 (OC=O), 140.6 (i-C; Ar), 137.6 (i-C; Ar), 129.3 and 127.8 (2 × CH; Ar), 62.8 (CH<sub>2</sub>O), 58.0 (*i*-PrCHN), 45.0 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.9 (ArCHCH<sub>3</sub>), 30.2 (CH<sub>2</sub>Ar), 27.8 (CH(CH<sub>3</sub>)<sub>2</sub>; oxazolidin-2-one), 22.7  $(CH_{3}^{A}CHCH_{3}^{B}; i-BuC_{6}H_{4}-), 22.3 (CH_{3}^{A}CHCH_{3}^{B}; i-BuC_{6}H_{4}-), 18.5$ (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>; oxazolidin-2-one), 17.7 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>; oxazolidin-2one) and 14.0 (ArCHCH<sub>3</sub>) (Found M<sup>+</sup>, 317.1979; C<sub>29</sub>H<sub>27</sub>NO<sub>3</sub> requires M<sup>+</sup>, 317.1985).

### 4.33. Synthesis of 3-[2-(4-isobutylphenyl)propanoyl]-4-phenyloxazolidin-2-one (*rac*)-*anti*-10 and 3-[2-(4-isobutylphenyl)propanoyl]-4-phenyl-oxazolidin-2-one (*rac*)-*syn*-10

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-8 (0.22 g, 1.36 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (rac)-7 (0.55 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 10 (ratio: 96:4 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether, (7:3) to give the oxazolidin-2-one (rac)-anti-10 (14 mg, 3%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.62;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1701 (NC=O); mp 150-154 °C;  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.39–7.23 (7H, m, 7 × CH; Ar and Ph), 7.07 (2H, dt, J 8.2 and 2.1, 2 × CH; Ar), 5.33 (1H, dd, J 8.4 and 3.2, PhCHN), 5.10 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.55 (1H, t, J 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.20 (1H, dd / 8.9 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 2.42 (2H, d, / 7.2, ArCH<sub>2</sub>), 1.88–1.78 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.39 (3H, d, / 7.1, ArCHCH<sub>3</sub>), 0.89 (3H, d, J 6.7,  $CH_3^ACHCH_3^B$ ) and 0.88 (3H, d, J 6.7,  $CH_3^ACHCH_3^B$ );  $\delta_C$  (100.6 MHz; CDCl<sub>3</sub>) 173.9 (NC=0), 153.2 (OC=0), 140.6 (*i*-C; Ar), 138.3 (*i*-C; Ar), 137.0 (*i*-C; Ph), 129.3<sup>2</sup> and 128.0<sup>2</sup> (4 × CH; Ar), 128.8,<sup>2</sup>  $128.5^{1}$  and  $125.8^{2}$  (5 × CH; Ph), 69.6 (CH<sub>2</sub>O), 57.8 (PhCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 43.3 (ArCHCH<sub>3</sub>), 30.2 (ArCH<sub>2</sub>), 22.4 (2C, CH(CH<sub>3</sub>)<sub>2</sub>) and 18.5 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 352.1913; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires MH<sup>+</sup>, 352.1907); and the oxazolidin-2-one (rac)-syn-10 (0.29 g, 60%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.41;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1705 (NC=O); mp 67–71 °C;  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.28-7.15 (3H, m, 3 × CH; Ph and/or Ar), 7.03-7.00 (4H, m,  $4 \times$  CH; Ph and Ar), 6.90 (2H, dt, J 7.9 and 2.1,  $2 \times$  CH; Ar), 5.44 (1H, dd J 9.2 and 5.2, PhCHN), 5.09 (1H, q, J 6.9; ArCHCH<sub>3</sub>), 4.63 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 4.06 (1H, dd, J 9.0 and 5.2, CH<sub>A</sub>H<sub>B</sub>O), 2.43 (2H, d, J 7.4, ArCH<sub>2</sub>), 1.89-1.79 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.38 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 0.91 (3H, d, J 6.7, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.91 (3H, d, J 6.7,  $CH_3^ACHCH_3^B$ ;  $\delta_C$  (100.6 MHz;  $CDCl_3$ ) 174.3 (NC=O), 153.3 (OC=O), 140.7 (i-C; Ar), 139.4 (i-C; Ar), 137.4 (i-C; Ph), 129.3<sup>2</sup> and  $127.0^2$  (4 × CH; Ar), 129.2,<sup>2</sup> 128.7<sup>1</sup> and 125.8<sup>2</sup> (5 × CH; Ph), 69.7 (CH<sub>2</sub>O), 58.1 (PhCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.7 (ArCHCH<sub>3</sub>), 30.2 (ArCH<sub>2</sub>), 22.4 (2C, CH(CH<sub>3</sub>)<sub>2</sub>) and 19.4 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 352.1909; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires MH<sup>+</sup>, 352.1907).

### 4.34. Synthesis of ethyl 3-[2-(4-isobutylphenyl)propanoyl] oxazolidin-2-one 4-carboxylate (*rac*)-*anti*-50 and ethyl 3-[2-(4-isobutylphenyl)propanoyl] oxazolidin-2-one 4-carboxylate (*rac*)*syn*-50

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-14 (0.21 g, 1.36 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (rac)-7 (0.55 g, 1.36 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 50 (ratio: 94:6 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)anti-50 (19 mg, 4%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.53;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1701 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, dt, J 8.0 and 2.1, 2 × CH; Ar), 7.10 (2H, dt, J 8.0 and 2.1, 2 × CH; Ar), 5.09 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.78 (1H, dd, J 9.4 and 3.7, EtO<sub>2</sub>CCHN), 4.41 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 4.33-4.23 (3H, m, 3 × CH, CH<sub>A</sub>H<sub>B</sub>O and CH<sub>2</sub>CH<sub>3</sub>), 2.42 (2H, d, J 7.2, ArCH<sub>2</sub>), 1.87-1.77 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.49 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 1.30 (3H, t, J 7.2, CH<sub>2</sub>CH<sub>3</sub>) and 0.88 (6H, d,  $J \sim 6.7$ , CH(CH<sub>3</sub>)<sub>2</sub>);  $\delta_{\rm C}$  (100.6 MHz; CDCl<sub>3</sub>) 174.7 (NC=0), 168.6 (CC=0), 152.0 (OC=0), 140.8 (i-C; Ar), 137.1 (*i*-C; Ar), 129.4<sup>2</sup> and 127.9<sup>2</sup> (4 × CH; Ar), 64.2 (CH<sub>2</sub>O), 62.5 (CH<sub>2</sub>O; ester), 55.9 (EtO<sub>2</sub>CCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.5 (ArCHCH<sub>3</sub>), 30.2 (ArCH<sub>2</sub>), 22.4 (CH(CH<sub>3</sub>)<sub>2</sub>), 19.2 (ArCHCH<sub>3</sub>) and 14.0 (CH\_2CH\_3) (Found  $MNH_4^+$ , 365.2069; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub><sup>+</sup>, 365.2171); and the oxazolidin-2-one (rac)-syn-**50** (0.275 g, 58%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.35;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1747 (CC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.23 (2H, dt, / 8.1 and 2.1, 2 × CH; Ar), 7.10 (2H, dt, / 8.1 and 2.1, 2 × CH; Ar), 5.01 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.93 (1H, dd, / 9.4 and 4.7, EtO<sub>2</sub>CCHN), 4.51 (1H, t, J 9.4, CH<sub>A</sub>H<sub>B</sub>O), 4.24 (1H, dd, J 9.4 and 4.7, CH<sub>A</sub>H<sub>B</sub>O), 4.10 (2H, q, J 7.2, CH<sub>2</sub>CH<sub>3</sub>), 2.42 (2H, d, J 7.2, ArCH<sub>2</sub>), 1.87–1.77 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.46 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 1.10 (3H, t, J 7.2, CH<sub>2</sub>CH<sub>3</sub>) and 0.88 (6H, d, J 6.7, 2 × CH<sub>3</sub>; CH(CH<sub>3</sub>)<sub>2</sub>); δ<sub>C</sub> (100.6 MHz; CDCl<sub>3</sub>) 174.5 (NC=O), 168.0 (OC=O), 152.0 (*i*-C; Ar), 140.5 (*i*-C; Ar), 136.9 (*i*-C; Ph),  $129.2^2$  and  $127.9^2$  (4 × CH; Ar), 64.2 (CH<sub>2</sub>O), 62.3 (CH<sub>2</sub>O; ester), 55.7 (EtO<sub>2</sub>CCHN), 45.1 (CH(CH<sub>3</sub>)<sub>2</sub>), 42.7 (ArCHCH<sub>3</sub>), 30.1 (ArCH<sub>2</sub>), 22.4 (CH(CH<sub>3</sub>)<sub>2</sub>), 19.3 (ArCHCH<sub>3</sub>) and 13.8 (CH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 365.2073; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub><sup>+</sup>, 365.2071).

### 4.35. Synthesis of 4-methyl-5-phenyl 3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-(2*RS*,4*RS*,5*SR*)-*anti*,*syn*-25 and 3-[(4-chlorophenyl)propanoyl]-4-methyl-5-phenyloxazolidin-2-one (*rac*)-(2*SR*,4*RS*,5*SR*)-*syn*,*syn*-25

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (4RS,5SR)-(rac)-11 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.53 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 25 (ratio: 70:30 syn,syn-:anti,syn-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti,syn-25 (88 mg, 19%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (7:3)] 0.58; mp 89–91 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1702 (CC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.36–7.28 (3H, m, 3 × CH; Ph), 7.25–7.23 (4H, ABq, / 3.4, 4 × CH; Ar), 7.22–7.19 (2H, m, 2 × CH; Ph), 5.42 (1H, d, / 7.1, OCHPh), 5.04 (1H, q, / 7.0, ArCHCH<sub>3</sub>) 4.60 (1H, m (appears as a quintet, / 6.6), CH<sub>3</sub>CHN), 1.42 (3H, d, / 7.0, ArCHCH<sub>3</sub>) and 0.86 (3H, d, J 6.6, CH<sub>3</sub>CHN);  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 173.9 (NC=0), 152.5 (OC=0), 138.8 (i-CC; Ar), 133.1 (i-CCl; Ar), 133.0 (*i*-C; Ph), 129.5<sup>2</sup> and 128.8<sup>2</sup> (4  $\times$  CH; Ar), 128.8<sup>1</sup>, 128.7<sup>2</sup> and  $125.6^2$  (5 × CH; Ph), 78.7 (OCHPh), 55.4 (CH<sub>3</sub>CHN), 42.7 (ArCHCH<sub>3</sub>), 19.2 (ArCHCH<sub>3</sub>) and 14.5 (CH<sub>3</sub>CHN) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1307. C<sub>19</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1313); and the oxazolidin-2-one (rac)-syn,syn-25 (0.205 g, 44%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.23; mp 65–67 °C  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.32–7.27 (3H, m, 3 × CH; Ph), 7.24–7.21 (4H, ABq, J 1.3, 4 × CH, Ar), 7.15–7.11 (2H, m, 2 × CH, Ph), 5.60 (1H, d, J 7.3, OCHPh) 4.97 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.66 (1H, dq, J 7.3 and 6.6, CH<sub>3</sub>CHN), 1.41 (3H, d, J 7.0, ArCHCH<sub>3</sub>) and 0.91 (3H, d, J 6.6, CH<sub>3</sub>CHN);  $\delta_{C}$  (100 MHz, CDCl<sub>3</sub>) 173.8 (NC=0), 152.4 (C=0), 138.6 (i-CC; Ar), 133.2 (i-C; Ph), 132.9 (*i*-CCl; Ar), 129.4<sup>2</sup> and 128.7<sup>2</sup> (2  $\times$  CH; Ar), 128.8,<sup>1</sup> 128.6<sup>2</sup> and  $125.6^2$  (5 × CH: Ph), 78.8 (OCHPh), 54.7 (CH<sub>3</sub>CHN), 43.0 (ArCHCH<sub>3</sub>), 19.3 (ArCHCH<sub>3</sub>) and 14.1 (CH<sub>3</sub>CHN) (Found  $MNH_4(^{35}Cl)^+$ , 361.1311.  $C_{19}H_{22}ClN_2O_3$  requires  $MNH_4(^{35}Cl)^+$ , 361.1313).

### 4.36. Synthesis of 4-benzyl-3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-*anti*-32 and 4-benzyl-3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-*syn*-32

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.53 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 32 (ratio: 69:31 syn-:anti-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-32 (88 mg, 19%) as a white crystalline solid;  $R_F$  [light petroleum (bp 40-60 °C)/diethyl ether (7:3)] 0.61; mp 70-73 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1698 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.35– 7.25 (7H, m, 7 × CH; 2 × Ph), 7.20 (2H, dd, J 8.2 and 1.5, 2 × CH; Ph), 5.07 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.64–4.56 (1H, m, BnCHN), 4.11 (1H, dd (ABq), / 8.7 and 2.6, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (1H, t, / 8.7, CH<sub>A</sub>H<sub>B</sub>O), 3.32 (1H, dd, / 13.2 and 3.3, CH<sub>A</sub>H<sub>B</sub>Ph), 2.78 (1H, dd, / 13.2 and 9.5,  $CH_AH_BPh$ ) and 1.50 (3H, d, [7.0, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz, CDCl<sub>3</sub>) 174.2 (NC=O), 152.8 (OC=O), 138.6 (i-CC; Ar), 135.2 (i-C; Ph), 133.1 (*i*-CCl; Ar), 129.5<sup>2</sup> and 128.9<sup>2</sup> (2 × CH; Ar), 129.4,<sup>2</sup> 128.7<sup>2</sup> and  $127.4^1$  (5 × CH; Ph), 65.9 (CH<sub>2</sub>O), 55.7 (BnCHN), 42.5 (ArCHCH<sub>3</sub>), 37.8 (PhCH<sub>2</sub>) and 19.4 (ArCHCH<sub>3</sub>) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1315. C<sub>19</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1313); and the oxazolidin-2-one (*rac*)-*syn*-**32** (0.196 g, 42%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (7:3)] 0.43;  $v_{\rm max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1708 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.37 (2H, dt, *J* 8.2 and 2.2, 2 × CH; Ar), 7.32 (2H, dt, *J* 8.2 and 2.2, 2 × CH; Ar), 7.32 (2H, dt, *J* 8.2 and 2.2, 2 × CH; Ar), 7.32 (2H, dt, *J* 8.2 and 2.2, 2 × CH; Ar), 5.08 (1H, q, *J* 7.0, ArCHCH<sub>3</sub>), 4.75–3.99 (1H, m, BnCHN), 4.20 (1H, t, *J* 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.09 (1H, dd, *J* 8.9 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 3.08 (1H, dd, *J* 13.6 and 3.5, CH<sub>A</sub>H<sub>B</sub>Ph), 2.58 (1H, dd, *J* 13.6 and 9.0, CH<sub>A</sub>H<sub>B</sub>Ph) and 1.50 (3H, d, *J* 7.0, ArCHCH<sub>3</sub>);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 174.0 (NC=O), 152.8 (OC=O), 138.6 (*i*-CC; Ar), 134.7 (*i*-C; Ph), 133.1 (*i*-CCl; Ar), 129.6<sup>2</sup> and 128.8<sup>2</sup> (2 × CH; Ar), 129.3,<sup>2</sup> 128.7<sup>2</sup> and 127.5<sup>1</sup> (5 × CH; Ph), 65.9 (CH<sub>2</sub>O), 54.9 (BnCHN), 42.5 (ArCHCH<sub>3</sub>), 37.3 (PhCH<sub>2</sub>) and 19.0 (ArCHCH<sub>3</sub>) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1310. C<sub>19</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 361.1313).

### 4.37. Synthesis of 4-isopropyl-3-[(4-chlorophenyl)propanoyl]oxazolidin-2-one (*rac*)-*anti*-39 and 4-isopropyl-3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-*syn*-39

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-13 (0.17 g, 1.36 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.53 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones (rac)-13 (ratio: 74:26 syn-:anti-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (rac)anti-39 (68 mg, 17%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.56; mp 62-64 °C;  $v_{\text{max}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1702 (NC=O);  $\delta_{\text{H}}$  (400 MHz; CDCl<sub>3</sub>) 7.26 (2H, dt, J 8.2 and 2.1, 2 × CH; Ar), 7.15 (2H, dt, J 8.2 and 2.1, 2 × CH; Ar), 5.00 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.27-4.24 (1H, m, i-PrCHN), 4.00-3.96 (2H, m, CH<sub>2</sub>O), 2.40-2.30 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.31 (3H, d, J 7.0, ArCHCH<sub>3</sub>), 1.15 (3H, d, J 6.9,  $CH_{3}^{A}CHCH_{3}^{B}$  and 0.90 (3H, d, 16.9,  $CH_{3}^{A}CHCH_{3}^{B}$ );  $\delta_{C}$  (100 MHz;  $CDCl_{3}$ ) 174.0 (NC=0), 153.4 (OC=0), 138.9 (*i*-CC; Ar), 132.9 (*i*-CCl; Ar),  $129.4^2$  and  $128.8^2$  (4 × CH: Ar), 62.9 (CH<sub>2</sub>O), 58.1 (*i*-PrCHN), 42.6 (ArCHCH<sub>3</sub>), 27.9 (CH(CH<sub>3</sub>)<sub>2</sub>), 18.6 (ArCHCH<sub>3</sub>), 17.7 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>)  $(CH_3^A CHCH_3^B)$  (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 14.1 313.1310; and  $C_{15}H_{22}CIN_2O_3$  requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 313.1313); the oxazolidin-2one (*rac*)-syn-**39** (0.185 g, 46%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.32;  $v_{max}$  (CHCl<sub>3</sub>)  $cm^{-1}$  1780 (OC=O) and 1700 (NC=O);  $\delta_{H}$  (400 MHz; CDCl<sub>3</sub>) 7.25-7.18 (4H, m; 4 × CH; Ar), 5.00 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.43-4.38 (1H, m, i-PrCHN), 4.18 (1H, t, J 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.05 (1H, dd, J 9.1 and 3.3, CH<sub>A</sub>H<sub>B</sub>O), 2.16–2.06 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.37 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 0.73 (3H, d, J 6.9, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.43 (3H, d, J 6.9,  $CH_3^ACHCH_3^B$ );  $\delta_C$  (100 MHz;  $CDCl_3$ ) 174.1 (NC=O), 153.4 (OC=O), 138.7 (*i*-C; Ar), 132.7 (*i*-CCl; Ar), 129.3<sup>2</sup> and 128.7<sup>2</sup> (4 × CH; Ar), 62.6 (CH<sub>2</sub>O), 57.9 (*i*-PrCHN), 42.5 (ArCHCH<sub>3</sub>), 27.7 (CH(CH<sub>3</sub>)<sub>2</sub>), 18.6 (ArCHCH<sub>3</sub>), 17.9 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 14.3 (CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 313.1311; C<sub>15</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 313.1313).

### 4.38. Synthesis of 4-phenyl-3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-*anti*-45 and 4-phenyl-3-[(4-chlorophenyl)propanoyl]-oxazolidin-2-one (*rac*)-*syn*-45

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (*rac*)-**8** (0.22 g, 1.36 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (*rac*)-**19** (0.53 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones **45** (ratio: 95:5 *syn-:anti-*). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3)

to give the oxazolidin-2-one (rac)-anti-45 (18 mg, 4%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.65; mp 74–76 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz, CDCl<sub>3</sub>) 7.31–7.15 (5H, m, 5 × CH; Ph), 7.14 (2H, dt, J 8.2 and 1.2, 2 × CH; Ar), 6.98 (2H, dt, J 8.1 and 1.2, 2 × CH; Ar), 5.26 (1H, dd, J 8.6 and 3.2, PhCHN), 5.16 (1H, q, J 7.1, ArCHCH<sub>3</sub>), 4.51 (1H, t, J 8.6, CH<sub>A</sub>H<sub>B</sub>O), 4.16 (1H, dd, J 8.6 and 3.1,  $CH_AH_BO$ ) and 1.56 (3H, d, J 7.1, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz, CDCl<sub>3</sub>) 173.9 (NC=O), 152.9 (OC=O), 138.1 (i-C; Ar), 133.0 (i-C; Ph), 130.9 (*i*-CCl; Ar), 129.5<sup>2</sup>, 128.9<sup>2</sup>, 128.6<sup>3</sup> and 125.8<sup>2</sup> (9  $\times$  CH; Ar and Ph) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 347.1154; C<sub>18</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 347.1157); the oxazolidin-2-one (rac)-syn-45 (0.26 g, 58%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.35; mp 116–117 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1700 (NC=O); *δ*<sub>H</sub> (400 MHz, CDCl<sub>3</sub>) 7.33–7.23 (3H, m, 3 × CH; Ph), 7.19 (2H, dt, / 8.4 and 2.0, 2 × CH; Ar), 7.02 (2H, dt, / 8.4 and 2.0, 2 × CH; Ar), 6.96 (2H, d, / 6.8 and 1.7, 2 × CH; Ph), 5.45 (1H, dd, J 9.0 and 4.8, PhCHN), 4.99 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.58 (1H, t, J 9.0, CH<sub>A</sub>H<sub>B</sub>O), 4.50 (1H, dd, J 9.0 and 4.8, CH<sub>A</sub>H<sub>B</sub>O) and 1.30 (3H, d, J 7.0, ArCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz, CDCl<sub>3</sub>) 173.8 (NC=O), 152.8 (OC=O), 138.2 (*i*-CC; Ar), 133.2 (*i*-C; Ph), 132.8 (*i*-CCl; Ar), 129.7,<sup>2</sup>  $128.8^{2}, 128.6^{1}, 128.6^{2}$  and  $125.6^{2}$  (9 × CH; Ph and Ar), 69.4 (CH<sub>2</sub>O), 57.9 (PhCHN), 43.8 (ArCHCH<sub>3</sub>) and 18.9 (ArCHCH<sub>3</sub>) (Found  $MNH_4(^{35}Cl)^+$  347.1154;  $C_{18}H_{20}ClN_2O_3$  requires  $MNH_4(^{35}Cl)^+$ , 347.1157).

### 4.39. Synthesis of ethyl 2-oxa-3-[(4-chlorophenyl)propanoyl]oxazolidin-4-carboxylate (*rac*)-*anti*-51 and ethyl 2-oxa-3-[(4chlorophenyl)propanoyl]-oxazolidin-4-carboxylate (*rac*)-*syn*-51

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-14 (0.21 g, 1.36 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.53 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 51 (ratio 95:5 syn-:anti-). The crude residue was purified by flash column chromatography on a silica gel eluting with light petroleum ether (bp 40-60 °C)/ diethyl ether (7:3) to give the oxazolidin-2-one (rac)-anti-51 (13 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40– 60 °C)/diethyl ether (1:1)] 0.31;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1748 (CC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.30–7.28 (4H, m, 4 × CH; Ar), 5.01 (1H, q, J 6.8, ArCHCH<sub>3</sub>), 4.72 (1H, dd, J 9.3 and 3.6, EtO<sub>2</sub>CCHN), 4.38 (1H, t, J 9.3, CH<sub>A</sub>H<sub>B</sub>O), 4.24-4.19 (3H, m,  $CH_AH_BO$  and  $OCH_2CH_3$ ), 1.43 (3H, d, J 6.8, ArCHCH<sub>3</sub>) and 1.23 (3H, t, J 7.1, OCH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 173.7 (NC=O), 167.8 (EtOC=O), 151.8 (OC=O), 138.1 (i-CC; Ar), 133.0 (i-CCl; Ar),  $129.3^2$  and  $128.0^2$  (4 × CH; Ar), 65.8 (CH<sub>2</sub>O; oxazolidin-2-one), 64.2 (OCH<sub>2</sub>CH<sub>3</sub>), 55.5 (EtO<sub>2</sub>CCHN), 42.6 (ArCHCH<sub>3</sub>), 19.1 (ArCHCH<sub>3</sub>) and 13.8 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 343.1059; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 343.1055); and the oxazolidin-2-one (rac)*syn*-**51** (0.239 g, 54%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.20;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1745 (CC=O) and 1700 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.30–7.27 (4H, s,  $4 \times$  CH; Ar), 4.93 (1H, q, J 7.2, PhCHCH<sub>3</sub>), 4.87 (1H, dd, J 9.6 and 4.8, EtO<sub>2</sub>CCHN), 4.47 (1H, t, J 9.6, CH<sub>A</sub>H<sub>B</sub>O), 4.18 (1H, dd, J 9.6 and 4.8, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (1H, dq, J 15.0 and 7.2, OCH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 4.05 (1H, dq, / 15.0 and 7.2, OCH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.39 (3H, d, *J* 7.2, ArCHCH<sub>3</sub>) and 1.09 (3H, t, *J* 7.2, OCH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 173.8 (NC=0), 167.8 (EtOC=0), 151.6 (OC=0), 138.3 (*i*-C; Ar), 132.9 (*i*-CCl; Ar), 129.6<sup>2</sup> and 128.3<sup>2</sup> (4 × CH; Ar), 65.7 (CH<sub>2</sub>O; oxazolidin-2-one), 64.3 (OCH2CH3), 55.5 (EtO2CCHN), 42.5 (ArCHCH<sub>3</sub>), 19.3 (ArCHCH<sub>3</sub>) and 13.7 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 343.1057; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup>, 343.1055).

### 4.40. Synthesis of 4-methyl-5-phenyl-3-[2-(6-methoxynaphthalene-2-yl)-propanoyl]-oxazolidin-2-one (*rac*)-*anti,syn*-26 and 3-[2-(6-methoxynaphthalene-2-yl)-propanoyl]-4-methyl-5-phenyl-oxazolidin-2-one (*rac*)-*syn,syn*-26

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-methyl-5-phenyl-oxazolidin-2-one (4RS,5SR)-(rac)-11 (0.24 g, 1.36 mmol) and pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)propanoate (rac)-6 (0.59 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 26 (ratio: 73:27 syn,syn-:anti,syn-). The crude residue was purified by flash column chromatography on silica gel eluting with [light petroleum ether (bp 40–60  $^{\circ}$ C)/diethyl ether (7:3)] to give the oxazolidin-2-one (rac)-anti,syn-26 (91 mg, 17%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.65;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1776 (OC=O) and 1697 (NC=O);  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.76 (1H, d, / 1.8, CH; Ar), 7.72 (2H, dd, / 8.7 and 2.5, 2 × CH; Ar), 7.49 (1H, dd, / 8.4 and 1.8, CH; Ar), 7.41-7.32 (3H, m, 3 × CH; Ph), 7.27–7.23 (2H, m, 2 × CH; Ph), 7.14 (1H, dd, / 8.4 and 1.8, CH; Ar) and 7.11 (1H, br s, CH; Ar), 5.43 (1H, d, /7.1, PhCHO), 5.27 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.71-4.61 (1H, m, CH<sub>3</sub>CHN), 3.90 (3H, s, OCH<sub>3</sub>), 1.57 (3H, d, / 6.9, ArCHCH<sub>3</sub>) and 0.94 (3H, / 6.4, CH<sub>3</sub>CHN);  $\delta_{\rm C}$ (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=0), 157.5 (*i*-C0), 152.6 (OC=0), 135.6, 133.7, 133.2 and 129.3 (4 × *i*-C; Ar and Ph), 129.0, 127.1, 126.7, 126.6, 118.9 and 105.5 (6  $\times$  CH; Ar), 128.8,  $^1$  128.7  $^2$  and 125.6<sup>2</sup> (5 × CH; Ph), 78.6 (PhCHO), 55.4 (CH<sub>3</sub>CHN), 55.3 (OCH<sub>3</sub>), 43.2 (ArCHCH<sub>3</sub>), 19.2 (ArCHCH<sub>3</sub>) and 14.5 (CH<sub>3</sub>CHN) (Found MNH<sub>4</sub><sup>+</sup>, 407.1964; C<sub>24</sub>H<sub>27</sub>N<sub>2</sub>O<sub>4</sub> requires MNH<sub>4</sub><sup>+</sup> 407.1965); and oxazolidin-2-one (rac)-syn,syn-26 (0.25 g, 47%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55;  $v_{\text{max}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1701 (NC=O);  $\delta_{\text{H}}$  (400 MHz; CDCl<sub>3</sub>) 7.72 (1H, d, J 1.5, CH; Ar), 7.68 (2H, d, J 8.6, 2 × CH; Ar), 7.45 (1H, dd, J 8.6 and 1.8, CH; Ar), 7.31–7.27 (3H, m, 3 × CH; Ph), 7.16– 7.07 (3H, m, 3  $\times$  CH; Ar and Ph), 7.05 (1H, br s, CH; Ar), 5.62 (1H, d, J 7.4, PhCHO), 5.20 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.88-4.78 (1H, m, CH<sub>3</sub>CHN), 3.90 (3H, s, CH<sub>3</sub>O), 1.57 (3H, d, / 6.9, ArCHCH<sub>3</sub>) and 0.71 (3H, d, J 6.4, CH<sub>3</sub>CHN); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.3 (NC=O), 157.6 (*i*-CO: Ar), 152.5 (OC=O), 135.4, 133.6, 133.3 and 129.3 (4 × *i*-C: Ar and Ph), 128.9, 127.1, 126.7, 126.7, 118.8 and 105.5 (6 × CH; Ar), 128.7,<sup>1</sup>  $128.5^2$  and  $125.6^2$  (5 × CH; Ph), 78.7 (PhCHO), 55.3 (OCH<sub>3</sub>), 54.6 (CH<sub>3</sub>CHN), 43.5 (ArCHCH<sub>3</sub>), 19.3 (ArCHCH<sub>3</sub>) and 14.1 (CH<sub>3</sub>CHN) (Found MNH<sub>4</sub><sup>+</sup>, 407.1968; C<sub>24</sub>H<sub>27</sub>N<sub>2</sub>O<sub>4</sub> requires MNH<sub>4</sub><sup>+</sup> 407.1965).

### 4.41. Synthesis of 4-benzyl-3-[2-(6-methoxynaphthalene-2-yl)propanoyl]-oxazolidin-2-one (*rac*)-*anti*-33 and 4-benzyl-3-[2-(6-methoxynaphthalene-2-yl)-propanoyl]-oxazolidin-2one (*rac*)-*syn*-33

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-benzyl-oxazolidin-2-one (rac)-12 (0.24 g, 1.36 mmol) and the pentafluorophenyl 2-(6methoxynaphthalene-2-yl)propanoate (rac)-6 (0.59 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2ones (rac)-33 (ratio: 72:28 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with [light petroleum ether (bp 40-60 °C)/diethyl ether (7:3)] to give the oxazolidin-2-one (rac)-anti-33 (0.106 g, 20%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1697 (NC=O);  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.74 (1H, br s, CH; Ar), 7.70 (2H, d, / 8.2, 2 × CH; Ar), 7.48 (1H, dd, J 8.4 and 1.8, CH; Ar), 7.37-7.21 (5H, m, 5  $\times$  CH; Ph), 7.15 (1H, dd, J 8.4 and 1.8, CH; Ar), 7.08 (1H, br s, CH; Ar), 5.26 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.62-4.54 (1H, m, BnCHN), 4.08 (1H, dd, / 9.1 and 2.4, CH<sub>A</sub>H<sub>B</sub>O), 3.97 (1H, t, / 9.1, CH<sub>A</sub>H<sub>B</sub>O), 3.89 (3H, s, OCH<sub>3</sub>), 3.36 (1H, dd, / 13.1 and 3.2, CH<sub>A</sub>H<sub>B</sub>Ph), 2.82 (1H, dd, J 13.1 and 3.2, CH<sub>A</sub>H<sub>B</sub>Ph) and 1.62 (3H, d, J 6.9, ArCHCH<sub>3</sub>);

 $\delta_{\rm C}$  (100 MHz; CDCl<sub>3</sub>) 174.7 (NC=O), 157.6 (*i*-CO; Ar), 152.9 (OC=O; Ar), 135.3, 135.4, 133.8 and 129.8 (4 × *i*-C; Ar and Ph), 129.3, 127.1, 126.7, 126.6, 118.9 and 105.5 ( $6 \times CH$ ; Ar), 128.9,<sup>2</sup> 128.8<sup>2</sup> and  $127.3^{1}$  (5 × CH; Ph), 65.8 (CH<sub>2</sub>O), 55.8 (BnNCH), 55.2 (CH<sub>3</sub>O), 42.9 (ArCHCH<sub>3</sub>), 37.9 (CH<sub>2</sub>Ph) and 19.4 (ArCHCH<sub>3</sub>) (Found  $MNH_4^+$ , 407.1960;  $C_{24}H_{27}N_2O_4$  requires  $MNH_4^+$  407.1965); and the oxazolidin-2-one (rac)-syn-33 (0.274 g, 52%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.35; mp 134–136 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.82 (1H, d, J 1.5, CH; Ar), 7.73 (2H, d, J 8.6, 2 × CH; Ar), 7.54 (1H, dd, J 8.6 and 1.5; Ar), 7.15-7.10 (3H, m, 3 × CH; Ph), 7.13 (1H, br s, CH; Ar), 7.05-7.02 (1H, br d, J 8.6, CH; Ar), 6.88 (2H, br d, J 7.1, 2  $\times$  CH; Ph), 5.26 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.79-4.71 (1H, m, BnCHN), 4.16 (1H, t, J 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.04 (1H, dd, J 8.9 and 3.1, CH<sub>A</sub>H<sub>B</sub>O), 3.91 (3H, s, OCH<sub>3</sub>), 3.06 (1H, dd, J 13.6 and 3.5, CH<sub>A</sub>H<sub>B</sub>Ph), 2.55 (1H, dd, J 13.6 and 8.7,  $CH_AH_BPh$ ) and 1.60 (3H, d, *J* 6.9, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=O), 157.7 (i-CO; Ar), 152.9 (OC=O), 135.2, 134.8, 133.7 and 129.7 (4 × *i*-C; Ar and Ph), 129.3, 127.2, 126.6, 125.9, 118.9 and 105.5 ( $6 \times CH$ ; Ar), 128.9,<sup>2</sup> 128.7<sup>2</sup> and 128.5<sup>1</sup> (5 × CH; Ph), 65.8 (CH<sub>2</sub>O), 55.2 (CH<sub>3</sub>O), 54.8 (BnCHN), 43.0 (ArCHCH<sub>3</sub>), 37.3 (CH<sub>2</sub>Ph) and 19.0 (ArCHCH<sub>3</sub>) (Found  $MNH_4^+$ , 407.1971. C<sub>24</sub>H<sub>27</sub>ClN<sub>2</sub>O<sub>4</sub> requires MNH<sub>4</sub><sup>+</sup>, 407.1965).

# 4.42. Synthesis of 4-isopropyl-3-[2-(6-methoxy-naphthlene-2-yl)propanoyl]-oxazolidin-2-one (*rac*)-*anti*-40 and 4-isopropyl-3-[2-(6-methoxy-naphthlene-2-yl)propanoyl]-oxazolidin-2-one (*rac*)-*syn*-40

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (rac)-13 (0.17 g, 1.36 mmol) and the pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)propanoate (rac)-6 (0.59 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones 40 (ratio: 92:8 syn-: anti-). The crude residue was purified by flash column chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2one (rac)-anti-**40** (19 mg, 4%) as a white crystalline solid:  $R_{\rm F}$  [light petroleum (40-60 °C)/diethyl ether (1:1)] 0.51; mp 122-124 °C;  $v_{\text{max}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $\delta_{\text{H}}$  (400 MHz; CDCl<sub>3</sub>) 7.70 (1H, s, CH; Ar), 7.68 (2H, dd, / 8.4 and 2.7, 2 × CH; Ar-OCH<sub>3</sub>), 7.46 (1H, dd, / 8.7 and 1.6, Ar), 7.13 (1H, dd, / 8.7 and 1.7, CH; Ar), 7.09 (1H, s, CH; Ar), 5.28 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.36-4.31 (1H, dt, / 9.1 and 3.2, i-PrCHN), 4.10 (1H, dd, / 9.1 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 4.05 (1H, t, J 9.1, CH<sub>A</sub>H<sub>B</sub>O), 3.88 (3H, s, CH<sub>3</sub>O), 2.50-2.39 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.57 (3H, d, J 6.9, ArCHCH<sub>3</sub>), 0.91 (3H, d, J 6.9,  $CH_3^ACHCH_3^B$ ) and 0.90 (3H, d, J 6.9,  $CH_3^ACHCH_3^B$ );  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 174.7 (NC=0), 157.6 (*i*-C-O; Ar), 153.7 (OC=0), 135.4, 133.8 and 128.8 (3 × *i*-C; Ar), 129.3, 127.0, 126.8, 126.6, 118.8 and 105.5 (6 × CH; Ar), 63.0 (CH<sub>2</sub>O), 59.0 (*i*-PrCHN), 55.2 (OCH<sub>3</sub>), 42.8 (ArCHCH<sub>3</sub>), 28.5 (CH(CH<sub>3</sub>)<sub>2</sub>), 19.6 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 17.9  $(CH_3^ACHCH_3^B)$  and 14.6  $(ArCHCH_3)$  (Found MH<sup>+</sup>, 342.1707;  $C_{20}H_{24}NO_4$  requires  $\text{MH}^{\scriptscriptstyle +},$  342.1700); and the oxazolidin-2-one (rac)-syn-40 (0.25 g, 54%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.34; mp 92-94 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $\delta_{H}$ (400 MHz; CDCl<sub>3</sub>) 7.72 (1H, br d, J 1.7, CH; Ar), 7.69 (2H, dd, J 8.6 and 2.5, 2 × CH; Ar), 7.45 (1H, dd, J 8.6 and 1.8, CH; Ar), 7.13 (1H, dd, / 8.6 and 1.8, CH; Ar), 7.09 (1H, s, CH; Ar), 5.26 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.52–4.46 (1H, dt, J 8.9 and 3.2, i-PrCHN), 4.21 (1H, t, J 8.9, CH<sub>A</sub>H<sub>B</sub>O), 4.06 (1H, dd, J 8.9 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 3.88 (3H, s, CH<sub>3</sub>O), 2.25-2.13 (1H, m, CH(CH<sub>3</sub>)<sub>2</sub>), 1.53 (3H, d, / 6.9, ArCHCH<sub>3</sub>), 0.75 (3H, d, J 6.9, CH<sup>A</sup><sub>3</sub>CHCH<sup>B</sup><sub>3</sub>) and 0.38 (3H, d, J 6.9,  $CH_{3}^{A}CHCH_{3}^{B}$ ;  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.6 (NC=O), 157.6 (*i*-C-O;Ar), 153.5 (OC=O), 135.7, 133.7 and 128.9 (3 × *i*-C; Ar), 129.4, 127.0, 126.7, 126.6, 118.8 and 105.5 ( $6 \times CH$ ; Ar), 62.9 ( $CH_2O$ ), 58.1

(*i*-PrCHN), 55.3 (OCH<sub>3</sub>), 43.2 (ArCHCH<sub>3</sub>), 27.9 (CH(CH<sub>3</sub>)<sub>2</sub>), 18.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>), 17.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 14.0 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 342.1701;  $C_{20}H_{24}NO_4$  requires MH<sup>+</sup>, 342.1700).

## 4.43. Synthesis of 4-phenyl-3-[2-(6-methoxynaphthalene-2-yl)-propanoyl]-oxazolidin-2-one (*rac*)-*anti*-9 and 4-phenyl-3-[2-(6-methoxynaphthalene-2-yl)-propanoyl]-oxazolidin-2-one (*rac*)-*syn*-9

In the same way as the oxazolidin-2-one (rac)-20, n-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), 4-phenyl-oxazolidin-2-one (rac)-8 (0.22 g, 1.36 mmol) and the pentafluorophenyl 2-(6methoxynaphthalene-2-yl)propanoate (*rac*)-6 (0.59 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2ones 9 (ratio: 95:5 syn-:anti-). The crude residue was purified by flash column chromatography on silica gel eluting with [light petroleum ether (bp 40-60 °C)/diethyl ether (7:3)] to give oxazolidin-2-one (rac)-anti-9 (16 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.45;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1705 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.75 (1H, s, CH; Ar), 7.69 (2H, dd, J 8.6 and 2.6, 2 × CH; Ar), 7.49–7.30 (6H, m,  $6 \times$  CH; Ar and Ph), 7.15–7.10 (2H, m,  $2 \times$  CH; Ar and Ph), 5.31 (1H, dd, / 8.6 and 3.3, CH<sub>A</sub>H<sub>B</sub>O), 5.27 (1H, q, J 7.0, ArCHCH<sub>3</sub>), 4.47 (1H, t, J 8.6, CH<sub>A</sub>H<sub>B</sub>O), 4.17 (1H, dd, J 8.6 and 3.2, CH<sub>A</sub>H<sub>B</sub>O), 3.90 (3H, s, CH<sub>3</sub>O) and 1.48 (3H, d, J 7.0, ArCHCH<sub>3</sub>); δ<sub>C</sub> (100.6 MHz; CDCl<sub>3</sub>) 174.1 (NC=O), 157.6 (*i*-OC; Ar), 153.2 (OC=O), 139.3, 135.3, 133.7 and 128.8 (4 × *i*-C; Ar), 129.2, 127.1, 126.8, 126.7, 118.9 and 105.5 ( $6 \times CH$ ; Ar), 128.8,<sup>2</sup> 128.6<sup>1</sup> and  $125.7^2$  (5 × CH; Ph), 69.6 (CH<sub>2</sub>O), 58.0 (PhCHN), 55.2 (CH<sub>3</sub>O), 43.0 (ArCHCH<sub>3</sub>) and 19.3 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 376.1545; C<sub>23</sub>H<sub>22</sub>NO<sub>4</sub> requires MH<sup>+</sup>, 376.1543); and the oxazolidin-2-one (*rac*)-*syn*-**9** (0.32 g, 62%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.33; mp 137-139 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1699 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.60 (1H, d, J 8.4, CH; Ar), 7.51 (1H, br d, J 8.4, CH; Ar), 7.33 (1H, s, CH; Ar), 7.29-7.24 (3H, m, 3 × CH; Ph), 7.15-7.10  $(2H, m, 2 \times CH; Ph)$ , 6.91  $(2H, br d, 17.0, 2 \times CH; Ar)$ , 5.46 (1H, 10.0)dd, / 8.9 and 5.2, PhCHN), 5.20 (1H, q, / 6.9, ArCHCH<sub>3</sub>), 4.60 (1H, t, / 9.1, CH<sub>A</sub>H<sub>B</sub>O), 4.03 (1H, dd / 8.9 and 5.2, CH<sub>A</sub>H<sub>B</sub>O), 3.92 (3H, s, CH<sub>3</sub>O) and 1.44 (3H, d, J 6.9, ArCHCH<sub>3</sub>);  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 173.6 (NC=O), 157.6 (i-CO; Ar), 153.0 (OC=O), 138.2, 135.1, 133.6 and 128.8 (4 × *i*-C; Ar and Ph), 129.4, 127.0, 126.4, 126.3, 118.7 and 105.5 (6  $\times$  CH; Ar), 128.8,<sup>2</sup> 127.2<sup>1</sup> and 125.9<sup>2</sup> (5  $\times$  CH; Ph), 69.5 (CH<sub>2</sub>O), 57.8 (PhCHN), 55.3 (CH<sub>3</sub>O), 43.8 (ArCHCH<sub>3</sub>) and 18.7 (ArCHCH<sub>3</sub>) (Found MH<sup>+</sup>, 376.1553; C<sub>23</sub>H<sub>22</sub>NO<sub>4</sub> requires MH<sup>+</sup>, 376.1543).

### 4.44. Synthesis of ethyl 3-[2-(6-methoxynaphthalene-2-yl)propanoyl]-oxazolidin-2-one 4-carboxylate (*rac*)-*anti*-52 and ethyl 3-[2-(6-methoxynaphthalene-2-yl)propanoyl]oxazolidin-2-one 4-carboxylate (*rac*)-*syn*-52

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-BuLi (0.6 mL, 2.5 M in hexane, 1.50 mmol), oxazolidin-2-one (*rac*)-**14** (0.21 g, 1.36 mmol) and the pentafluorophenyl 2-(6-methoxy-naphthalene-2-yl)propanoate (*rac*)-**6** (0.59 g, 1.50 mmol), gave a separable mixture of two diastereoisomeric oxazolidin-2-ones **52** (ratio: 97:3 *syn-:anti*-). The crude residue was purified by flash column chromatography on a silica gel [light petroleum ether (bp 40–60 °C)/diethyl ether (7:3)] to give the oxazolidin-2-one (*rac*)-*anti*-**52** (9 mg, 2%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.28;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1705 (NC=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.72 (1H, s, CH; Ar), 7.67 (2H, dd, *J* 8.4 and 2.6, 2 × CH; Ar), 7.44 (1H, dd, *J* 8.4 and 2.6, CH; Ar), 7.11 (1H, dd, *J* 8.4 and 2.6, CH; Ar), 7.07 (1H, s, CH; Ar), 5.24 (1H, q, *J* 6.9, ArCHCH<sub>3</sub>),

4.76 (1H, dd, J 9.1 and 3.7, EtO<sub>2</sub>CCHN), 4.37-4.20 (4H, m,  $2 \times CH_2O$ ), 3.88 (3H, s, OCH<sub>3</sub>), 1.58 (3H, d, J 6.9, ArCHCH<sub>3</sub>) and 1.31 (3H, t, I 6.9, OCH<sub>2</sub>CH<sub>3</sub>);  $\delta_{C}$  (100 MHz; CDCl<sub>3</sub>) 174.5 (NC=0), 168.6 (EtOC=O), 157.7 (i-CO; Ar), 152.0 (OC=O), 135.0, 133.8 and 129.3 (3 × *i*-C; Ar), 128.8, 127.1, 126.8, 126.7, 119.0 and 105.5  $(6 \times CH; Ar)$ , 64.2 (CH<sub>2</sub>O), 62.5 (CH<sub>2</sub>O), 55.8 (EtO<sub>2</sub>CCHN), 55.3 (OCH<sub>3</sub>), 42.8 (ArCHCH<sub>3</sub>), 19.1 (ArCHCH<sub>3</sub>) and 14.0 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MH<sup>+</sup>, 372.1445, C<sub>20</sub>H<sub>22</sub>NO<sub>6</sub> requires MH<sup>+</sup>, 372.1442); and the oxazolidin-2-one (rac)-syn-52 (0.29 g, 57%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.18; mp 118–121 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1789 (OC=O), 1745 (CC=O) and 1705 (NC=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.74 (1H, s, CH; Ar), 7.67 (2H, dd, J 8.4 and 2.6, 2 × CH; Ar), 7.44 (1H, dd J 8.6 and 1.8, CH; Ar), 7.13 (1H, dd, / 8.4 and 2.6, 2 × CH; Ar), 7.09 (1H, s, CH; Ar), 5.16 (1H, q, J 6.9, ArCHCH<sub>3</sub>), 4.94 (1H, dd, J 9.7 and 4.9, EtO<sub>2</sub>CCHN), 4.49 (1H, t, / 9.7, CH<sub>A</sub>H<sub>B</sub>O), 4.20 (1H, dd, / 9.7 and 4.9, CH<sub>A</sub>H<sub>B</sub>O), 4.07 (2H, q, J 7.2, OCH<sub>2</sub>CH<sub>3</sub>), 3.88 (3H, s, O CH<sub>3</sub>), 1.55 (3H, d, J 7.2, ArCHCH<sub>3</sub>) and 1.03 (3H, t, J 7.2, OCH<sub>2</sub>CH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 174.3 (NC=O), 167.9 (EtOC=O; ester), 157.6 (OC=O), 151.9 (*i*-CO; Ar), 134.8, 133.7 and 128.9 (3 × *i*-C; Ar), 129.1, 127.1, 126.9, 126.8, 118.7 and 105.6 (6 × CH; Ar), 64.1 (CH<sub>2</sub>O), 63.6 (CH<sub>2</sub>O), 55.6 (EtO<sub>2</sub>CCHN), 55.2 (OCH<sub>3</sub>), 43.10 (ArCHCH<sub>3</sub>), 19.2 (ArCHCH<sub>3</sub>) and 13.7 (OCH<sub>2</sub>CH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 389.1703; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>6</sub> requires MNH<sub>4</sub><sup>+</sup>, 389.1707).

## 4.45. Parallel kinetic resolutions of active esters (*rac*)-6, (*rac*)-7, (*rac*)-15, (*rac*)-16, (*rac*)-17, (*rac*)-18 and (*rac*)-19 using a *quasi*-enantiomeric combination of oxazolidin-2-ones (*S*)-13 and (*R*)-8

### See Ref. 15.

### 4.46. Parallel kinetic resolution of pentafluorophenyl 2-phenylpropanoate (*rac*)-15 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-phenyl oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-phenyl-oxazolidin-2-one (R)-8 (0.106 g, 0.65 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.458 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-34 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,R)-syn- and (R,R)anti-41 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (S,S)-anti-**34** (5 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.64;  $v_{\text{max}}$  (film) cm<sup>-1</sup> 1774 (OC=O) and 1701 (NC=O);  $[\alpha]_D^{20} = +128.9$  (c 3.5, CHCl<sub>3</sub>) (Found MH<sup>+</sup> 262.1434; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443); the oxazolidin-2-one (R,S)-syn-**34** (96 mg, 57%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.43;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1774 (OC=O) and 1703 (NC=O);  $[\alpha]_D^{20} = -19.8$  (c 3.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup> 262.1432; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443); the oxazolidin-2-one (*R*,*R*)-anti-**41** (5 mg, 3%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.58; mp 158–160 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=0) and 1700 (NC=0);  $[\alpha]_{D}^{20} = -165.2$  (c 2.0, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 296.1282; C<sub>18</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287); the oxazolidin-2-one (S,R)-syn-**41** (0.11 g, 57%) as a white solid;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.42; mp 140-142 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $[\alpha]_D^{20} = +88.5$  (*c* 4.0, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 296.1286; C<sub>15</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287).  $R_F$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)]–(*S*,*S*)-anti-**34** (*R*<sub>F</sub> 0.64); (*R*,*S*)-syn-**34** (*R*<sub>F</sub> 0.43); (*R*,*R*)-anti-**41** (*R*<sub>F</sub> 0.58) and (*S*,*R*)-syn-**41** (*R*<sub>F</sub> 0.42).

### 4.47. Parallel kinetic resolution of pentafluorophenyl 2-phenylbutanoate (*rac*)-16 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-phenyl oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (*R*)-8 (0.106 g, 0.65 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.478 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-35 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,R)-syn- and (R,R)anti-42 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (S,S)-anti-**35** (6 mg, 3%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.63; mp 65-67 °C;  $[\alpha]_{D}^{20} = +117.6$  (*c* 0.66, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=0) and 1697 (NC=O) (Found MH<sup>+</sup>, 276.1612;  $C_{16}H_{22}NO_3$  requires 276.1600); and the oxazolidin-2-one (R,S)-syn-35 (114 mg, 64%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.53;  $[\alpha]_{\rm D}^{20} = -24.6$  (*c* 5.0, CHCl<sub>3</sub>) {for (*S*,*R*)-*syn*-**35**;  $[\alpha]_{\rm D}^{20} = +22.4$  (*c* 6.9, CHCl<sub>3</sub>)};  $\nu_{\rm max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O) (Found MH<sup>+</sup>, 276.1587; C<sub>16</sub>H<sub>22</sub>NO<sub>3</sub> requires 276.1600); and the oxazolidin-2-one (R,R)-anti-42 (6 mg, 3%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55; mp 136–140 °C;  $[\alpha]_D^{20} = -160.0$  (c 0.74, CHCl<sub>3</sub>); {for (S,S)-anti-**42**;  $[\alpha]_D^{20} = +150.4$  (c 4.9, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O), 1703 (NC=O) and 1600 (Ph) (Found MH<sup>+</sup>, 310.1430; C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub> requires 310.1443); and the oxazolidin-2one (*S*,*R*)-*syn*-**42** (0.122 g, 61%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.50; mp 82–84 °C;  $[\alpha]_D^{20} = +77.4 \ (c \ 4.0, \ CHCl_3) \ (for \ (R,S)-syn-42; \ [\alpha]_D^{20} = -95.6 \ (c \ 3.0, \ CHCl_3) \); v_{max} \ (film)cm^{-1} \ 1780 \ (OC=O) \ and \ 1703 \ (NC=O) \ (Found$ MH<sup>+</sup>, 310.1437; C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub> requires 310.1443). R<sub>F</sub> differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-35 (R<sub>F</sub> 0.63); (R,S)-syn-**35** (R<sub>F</sub> 0.53); (R,R)-anti-**42** (R<sub>F</sub> 0.55) and (S,R)syn-42 (R<sub>F</sub> 0.50).

### 4.48. Parallel kinetic resolution of pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-17 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-phenyl-oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (R)-8 (0.106 g, 0.65 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (rac)-17 (0.499 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-36 (ratio 79:21:syn-:anti-) and oxazolidin-2-ones (S,R)-syn- and (R,R)-anti-43 (ratio 84:16:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give an inseparable mixture of oxazolidin-2-ones (S,S)-anti-36 and (R,S)-syn-36 (0.109 g, 58%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] ~0.82; characterisation for (S,S)-anti-**36**; colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1770 (OC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751); the oxazolidin-2-one (R,S)-36 as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1772 (OC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751); and an inseparable mixture of oxazolidin-2-ones (R,R)-anti-43 and (S,R)-syn-43 (0.127 g, 60%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] ~0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 341.1860;

 $C_{20}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup> 341.1860). Characterisation data for oxazolidin-2-one (*S*,*R*)-*syn*-**43**; colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.55;  $[\alpha]_{20}^{20} = +78.4$  (*c* 0.5, CHCl<sub>3</sub>)];  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 341.1860; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 341.1860). *R*<sub>F</sub> differences [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] - (*S*,*S*)-*anti*-**36** (*R*<sub>F</sub> 0.82); (*R*,*S*)-*syn*-**36** (*R*<sub>F</sub> 0.82); (*R*,*R*)-*anti*-**43** (*R*<sub>F</sub> 0.62) and (*S*,*R*)-*syn*-**43** (*R*<sub>F</sub> 0.55).

### 4.49. Parallel kinetic resolution of pentafluorophenyl 2-(4methylphenyl)propanoate (*rac*)-18 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-phenyl-oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (R)-8 (0.106 g, 0.65 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.479 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)anti-37 (ratio 98:2:syn-:anti-) and oxazolidin-2-ones (S,R)-synand (R,R)-anti-44 (ratio 98:2:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-37 (2 mg, 1%) as a colourless oil; R<sub>F</sub> (light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.63;  $[\alpha]_{D}^{23} = +115.5$  (c 0.7, CHCl<sub>3</sub>);  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1701 (NC=O); (Found  $MNH_4^+$ , 293.1857;  $C_{16}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup>, 293.1860); the oxazolidin-2-one (R,S)-syn-37 (0.107 g, 60%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.50;  $[\alpha]_D^{23} = -26.7$  (c 1.8, CHCl<sub>3</sub>); v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1700 (NC=O) (Found  $MNH_4^+$ , 293.1858;  $C_{16}H_{25}N_2O_3^+$  requires  $MNH_4^+$ , 293.1860); the oxazolidin-2-one (R,R)-anti-44 (6 mg, 3%) as a white crystalline solid;  $R_F$  (light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.47; mp 124–126 °C;  $[\alpha]_D^{23} = -179.1$  (*c* 3.0, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1699 (NC=O); (Found MNH<sub>4</sub><sup>+</sup>, 341.1860;  $C_{20}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup> 341.1860); and the oxazolidin-2one (S,R)-syn-44 (0.12 g, 60%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.29; mp 120-122 °C;  $[\alpha]_D^{23} = +121.6$  (*c* 0.6, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1702 (NC=O); (Found MNH<sub>4</sub><sup>+</sup>, 341.1860;  $C_{20}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup> 341.1860).  $R_F$  differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-37 (R<sub>F</sub> 0.63); (R,S)-syn-37 (R<sub>F</sub> 0.50); (R,R)-anti-44 (R<sub>F</sub> 0.47) and (S,S)syn-44 (R<sub>F</sub> 0.29).

### 4.50. Parallel kinetic resolution of pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-7 with 4-isopropyl-oxazolidin-2one (*S*)-13 and 4-phenyl oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (*S*)-**13** (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (*R*)-**8** (0.106 g, 0.65 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-**7** (0.539 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (*R*,*S*)-*syn*- and (*S*,*S*)*anti*-**38** (ratio 95:5:*syn*-:*anti*-) and oxazolidin-2-ones (*S*,*R*)-*syn*and (*R*,*R*)-*anti*-**10** (ratio 95:5:*syn*-:*anti*-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (*S*,*S*)-*anti*-**38** (8 mg, 4%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.77;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1776 (OC=O) and 1692 (NC=O);  $[\alpha]_D^{25} = +117.3$  (*c* 1.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 318.20062; C<sub>19</sub>H<sub>28</sub>NO<sub>3</sub> requires 318.2064); the oxazolidin-2-one (R,S)-syn-38 (0.133 g, 64%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1) 0.55;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1699 (NC=O);  $[\alpha]_{D}^{25} = -33.0$  (*c* 1.2, CHCl<sub>3</sub>) (Found M, 317.1979; C<sub>29</sub>H<sub>27</sub>NO<sub>3</sub> requires 317.1985); the oxazolidin-2-one (R,R)-anti-10 (7 mg, 3%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.62; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1701 (NC=O); mp 155–158 °C;  $[\alpha]_{D}^{25} = -145.7$  (*c* 3.0, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 352.1913; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires 352.1907); the oxazolidin-2-one (S,R)-syn-10 (0.134 g, 59%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.41;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1705 (NC=O); mp 86–88 °C;  $[\alpha]_D^{25} = +118.7$  (*c* 6.0, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 352.1909; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires 352.1907). R<sub>F</sub> differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-38 (R<sub>F</sub> 0.77); (R,S)-syn-**38** (R<sub>F</sub> 0.55); (R,R)-anti-**10** (R<sub>F</sub> 0.62) and (S,R)svn-10 (R<sub>E</sub> 0.41).

### 4.51. Parallel kinetic resolution of pentafluorophenyl 2-(4-chlorophenyl)propanoate (*rac*)-19 with 4-isopropyl-oxazolidin-2one (*S*)-13 and 4-phenyl-oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (R)-8 (0.106 g, 0.65 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.508 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)anti-39 (ratio 98:2:svn-:anti-) and oxazolidin-2-ones (S.R)-svnand (R,R)-anti-45 (ratio 98:2:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-**39** (4 mg, 2%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.56;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1702 (NC=O);  $[\alpha]_D^{23} = +101.5$  (c 5.8, CHCl<sub>3</sub>); (Found MNH<sub>4</sub><sup>+</sup>(<sup>35</sup>Cl) 313.1310; C<sub>15</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires  $MNH_4^+(^{35}Cl)$  313.1313); the oxazolidin-2-one (*R*,*S*)-syn-**39** (0.119 g, 62%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.32;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O); mp 63–65 °C;  $[\alpha]_D^{23} = -32.4$  (c 1.9, CHCl<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>(<sup>35</sup>Cl) 313.1311; C<sub>15</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub><sup>+</sup>(<sup>35</sup>Cl) 313.1313); the oxazolidin-2-one (*R*,*R*)-anti-**45** (5 mg, 2%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.42;  $[\alpha]_{D}^{23} = -156.3$  (*c* 1.2, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>)  $cm^{-1}$  1780 (OC=O) and 1700 (NC=O); (Found MNH<sub>4</sub>+(<sup>35</sup>Cl) 347.1154;  $C_{18}H_{20}ClN_2O_3$  requires  $MNH_4^{+}({}^{35}Cl)$  347.1157); and the oxazolidin-2-one (S,R)-syn-45 (0.126 g, 59%) as a white crystalline solid; R<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.27; mp 142–145 °C;  $[\alpha]_D^{23} = +144.4$  (*c* 1.6, CHCl<sub>3</sub>);  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1700 (NC=O) (Found  $MNH_4^{+}({}^{35}Cl)$  347.1154;  $C_{18}H_{20}ClN_2O_3$  requires  $MNH_4^{+}({}^{35}Cl)$ 347.1157);  $R_F$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)]–(*S*,*S*)-anti-**39** (*R*<sub>F</sub> 0.56); (*R*,*S*)-syn-**39** (*R*<sub>F</sub> 0.32); (*R*,*R*)-anti-**45** (*R*<sub>F</sub> 0.42) and (*S*,*R*)-syn-**45** (*R*<sub>F</sub> 0.27).

## 4.52. Parallel kinetic resolution of pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)-propanoate (*rac*)-6 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-phenyl-oxazolidin-2-one (*R*)-8

In the same way as the oxazolidin-2-one (rac)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (*S*)-**13** (84 mg, 0.65 mmol), 4-phenyl oxazolidin-2-one (*R*)-**8** (0.106 g, 0.65 mmol) and pentafluorophenyl

2-(6-methoxynaphthalene-2-yl)-propanoate (rac)-**6** (0.574 g. 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-40 (ratio 96:4:syn-:anti-) and oxazolidin-2-ones (S,R)-syn- and (R,R)-anti-9 (ratio 96:4:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the (S,S)-anti-40 (6 mg, 3%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.51;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1776 (OC=O) and 1700 (NC=O);  $[\alpha]_D^{23} = +194.3$  (c 1.6, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 342.1707; C<sub>20</sub>H<sub>24</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 342.1700); (*R*,*S*)-*syn*-**40** (0.138 g, 62%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.34;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1701 (NC=O);  $[\alpha]_D^{23} = -59.6$ (c 3.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 342.1701; C<sub>20</sub>H<sub>24</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 342.1700); (R,R)-anti-9 (5 mg, 2%) as a colourless oil; R<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.45;  $v_{max}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1699 (NC=O); [ $\alpha$ ]<sub>D</sub><sup>23</sup> = -164.2 (*c* 1.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 376.1545; C<sub>23</sub>H<sub>22</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 376.1543); and (S,R)-syn-9 (94 mg, 38%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.33;  $v_{\text{max}}$ (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O); [ $\alpha$ ]<sub>D</sub><sup>23</sup> = +166.2 (c 1.5, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 376.1553;  $C_{23}H_{22}NO_4^+$  requires MH<sup>+</sup>, 376.1543).  $R_{\rm F}$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] - (S,S)-anti-40 ( $R_F$  0.51); (R,S)-syn-40 ( $R_F$ 0.34); (*R*,*R*)-*anti*-**9** (*R*<sub>F</sub> 0.45) and (*S*,*R*)-*syn*-**9** (*R*<sub>F</sub> 0.33).

### 4.53. Parallel kinetic resolutions of active esters (*rac*)-6, (*rac*)-7, (*rac*)-15, (*rac*)-16, (*rac*)-17, (*rac*)-18 and (*rac*)-19 using a *quasi*-enantiomeric combination of oxazolidin-2-ones (*S*)-13 and (*S*)-14

See Ref. 15.

### 4.54. Parallel kinetic resolution of pentafluorophenyl 2-phenylpropanoate (*rac*)-15 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2one (S)-13 (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.458 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-34 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)anti-48 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (S,S)-anti-**34** (5 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.64;  $v_{max}$  (film) cm<sup>-1</sup> 1774 (OC=O) and 1701 (NC=O);  $[\alpha]_D^{20} = +128.9$  (*c* 3.5, CHCl<sub>3</sub>) (Found MH<sup>+</sup> 262.1434; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443); the oxazolidin-2one (R,S)-syn-**34** (96 mg, 57%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.43;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1774 (OC=O) and 1703 (NC=O);  $[\alpha]_D^{20} = -19.8$  (*c* 3.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup> 262.1432; C<sub>15</sub>H<sub>20</sub>NO<sub>3</sub><sup>+</sup> requires 262.1443); the oxazolidin-2one (R,S)-anti-**46** (4 mg, 2%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1794 (OC=O), 1747 (CC=O) and 1705 (NC=O);  $[\alpha]_D^{20} = -130.5$  (*c* 2.1, CHCl<sub>3</sub>); and the oxazolidin-2-one (S,S)-syn-46 (90 mg, 47%) as a white powder;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.30; mp 97–99 °C;  $[\alpha]_D^{20} = +24.8$  (*c* 5.3, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1793 (OC=O), 1747 (CC=O) and 1705 (NC=O); (Found MH<sup>+</sup>, 292.1195; C<sub>15</sub>H<sub>18</sub>NO<sub>5</sub><sup>+</sup> requires 292.1185). R<sub>F</sub> differences [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)]–(S,S)anti-**34** (*R*<sub>F</sub> 0.64); (*R*,*S*)-syn-**34** (*R*<sub>F</sub> 0.43); (*R*,*S*)-anti-**46** (*R*<sub>F</sub> 0.42) and (S,S)-syn-46 (R<sub>F</sub> 0.30).

### 4.55. Parallel kinetic resolution of pentafluorophenyl 2-phenylbutanoate (*rac*)-16 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.478 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)anti-35 (ratio 96:4:syn-:anti-) and oxazolidin-2-ones (S,S)-synand (R,S)-anti-47 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (40-60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (S,S)-anti-**35** (4 mg, 2%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.63; mp 65-67 °C;  $[\alpha]_D^{20} = +128.9$  (*c* 3.5, CHCl<sub>3</sub>);  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O) (Found MH<sup>+</sup>, 276.1612; C<sub>16</sub>H<sub>22</sub>NO<sub>3</sub> requires 276.1600); and the oxazolidin-2-one (R,S)-syn-35 (0.108 g, 60%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.53;  $[\alpha]_{\rm D}^{20} = -24.6$  (*c* 5.0, CHCl<sub>3</sub>);  $v_{\rm max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1697 (NC=O); (Found MH<sup>+</sup>, 276.1587;  $C_{16}H_{22}NO_3$  requires 276.1600); and the oxazolidin-2-one (R,S)anti-35 (6 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.48;  $[\alpha]_D^{20} = -131.1$  (*c* 3.3, CHCl<sub>3</sub>);  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1747 (CC=O) and 1705 (NC=O) (Found M<sup>+</sup>, 305.1258; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258); and the oxazolidin-2-one (S,S)-syn-47 (0.124 g, 62%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.38;  $[\alpha]_{D}^{20} = +30.0$  (c 8.2, CHCl<sub>3</sub>) {for (R,R)-syn-47;  $[\alpha]_{D}^{20} = -24.8$ (c 5.3, CHCl<sub>3</sub>)}; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1747 (CC=O) and 1701 (OC=O) (Found M<sup>+</sup>, 305.1256; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258).  $R_{\rm F}$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)]–(S,S)-anti-35 (R<sub>F</sub> 0.63); (R,S)-syn-35 (R<sub>F</sub> 0.53); (*R*,*S*)-anti-**47** (*R*<sub>F</sub> 0.48) and (*S*,*S*)-syn-**47** (*R*<sub>F</sub> 0.38).

### 4.56. Parallel kinetic resolution of pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-17 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-**17** (0.499 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-36 (ratio 68:32:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-48 (ratio 89:11:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give an inseparable mixture of oxazolidin-2-ones (S,S)-anti-36 and (R,S)*syn-***36** (0.114 g, 61%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.82; {for ratio (R,S)-syn-**36**:(*S*,*S*)-*anti*-**36**: 68:32– $[\alpha]_D^{25}$  = +35.1 (*c* 1.9, CHCl<sub>3</sub>)}; characterisation data for (S,S)-anti-36;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1770 (OC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751); characterisation data for oxazolidin-2-one (R,S)-syn-**36**;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.82; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1772 (OC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 290.1751; C<sub>17</sub>H<sub>24</sub>NO<sub>3</sub><sup>+</sup> requires MH<sup>+</sup> 290.1751); the oxazolidin-2-one (R,S)-anti-48 (14 mg, 7%) as a colourless oil; R<sub>F</sub> (light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.55;  $[\alpha]_{D}^{25} = +19.6$  (c 0.2, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 337.1761;  $C_{17}H_{25}N_2O_5^+$  requires MNH<sub>4</sub><sup>+</sup> 337.1758); and the oxazolidin-2-one (S,S)-syn-48 (0.118 g, 57%) as a colourless oil;  $R_{\rm F}$  [light

petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42;  $[\alpha]_D^{25} = -8.4 (c \ 0.9, CHCl_3); v_{max} (CHCl_3) cm^{-1} 1791 (OC=O), 1755 (CC=O) and 1700 (NC=O) (Found MNH_4^+, 337.1756; C_{17}H_{25}N_2O_5^+ requires MNH_4^+ 337.1758).$ *R*<sub>F</sub> differences [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] - (*S*,*S*)-*anti*-**36**(*R*<sub>F</sub> 0.82); (*R*,*S*)-*anti*-**48**(*R*<sub>F</sub> 0.55) and (*S*,*S*)-*syn*-**48**(*R*<sub>F</sub> 0.42).

### **4.57.** Parallel kinetic resolution of pentafluorophenyl-2-(4-methylphenyl)propanoate (*rac*)-18 with 4-isopropyl-oxazolidin-2-one (*S*)-13 and ethyl oxazolidin-2one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g. 0.65 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.479 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-37 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-49 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether  $(40-60 \circ C)/diethyl ether (7:3)$  to give the oxazolidin-2-one (S,S)-anti-37 (5 mg, 3%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.63; mp 67–69 °C;  $[\alpha]_D^{23} = +115.5$  (*c* 0.7, CHCl<sub>3</sub>);  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1702 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 293.1857;  $C_{16}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup>, 293.1860); the oxazolidin-2-one (R,S)-syn-**37** (0.104 g, 58%) as a white crystalline solid;  $R_{\rm F}$  (light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.50; mp 46-48 °C;  $[\alpha]_{D}^{23} = -26.7 (c \ 1.8, CHCl_3); v_{max} (CHCl_3) cm^{-1} 1779 (OC=0)$ and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 293.1858; C<sub>16</sub>H<sub>25</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 293.1860); the oxazolidin-2-one (*R*,*S*)-anti-**49** (8 mg, 4%) as a colourless oil; R<sub>F</sub> (light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.40;  $[\alpha]_{D}^{23} = -125.6$  (*c* 2.5, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O), 1745 (CC=O) and 1702 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 323.1596;  $C_{16}H_{23}N_2O_5^+$  requires MNH<sub>4</sub><sup>+</sup>, 323.1601); and the oxazolidin-2-one (S,S)-syn-49 (0.128 g, 64%) as a colourless oil;  $R_{\rm F}$  (light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.20;  $\left[\alpha\right]_{D}^{23} = +34.6$  (c 0.6, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O), 1746 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 323.1607;  $C_{16}H_{23}N_2O_5^+$  requires MNH<sub>4</sub><sup>+</sup>, 323.1601).  $R_F$  differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-37 (*R*<sub>F</sub> 0.63); (*R*,*S*)-syn-**37** (*R*<sub>F</sub> 0.50); (*R*,*S*)-anti-**49** (*R*<sub>F</sub> 0.40) and (*S*,*S*)*syn*-**49** (*R*<sub>F</sub> 0.20).

### 4.58. Parallel kinetic resolution of pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-7 with 4-isopropyl-oxazolidin-2one (*S*)-13 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (*S*)-**13** (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-**14** (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-**7** (0.539 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (*R*,*S*)-*syn*- and (*S*,*S*)-*anti*-**38** (ratio 95:5:*syn*-:*anti*-) and oxazolidin-2-ones (*S*,*S*)-*syn*- and (*R*,*S*)-*anti*-**50** (ratio 95:5:*syn*-:*anti*-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (40–60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (*S*,*S*)-*anti*-**38** (7 mg, 3%) as a colourless oil; *R*<sub>F</sub> [light petroleum (40–60 °C)/diethyl ether (1:1)] 0.77; *v*<sub>max</sub> (CHCl<sub>3</sub>) (m<sup>-1</sup> 1776 (OC=O) and 1692 (NC=O);  $[\alpha]_D^{25} = +117.3$  (*c* 1.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 318.2062; C<sub>19</sub>H<sub>28</sub>NO<sub>3</sub> requires 318.2064); the oxazolidin-2-one (*R*,*S*)-*syn*-**38** (0.128 g, 62%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1) 0.55; *v*<sub>max</sub>

(CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1699 (NC=O);  $[\alpha]_D^{25} = -33.0$  (*c* 1.2, CHCl<sub>3</sub>) (Found M, 317.1979; C<sub>29</sub>H<sub>27</sub>NO<sub>3</sub> requires 317.1985); the oxazolidin-2-one (*R*,*S*)-*anti*-**50** (7 mg, 3%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.53;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1701 (NC=O);  $[\alpha]_D^{25} = -125.4$  (*c* 1.2, CHCl<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 365.2069; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires 365.2171); and the oxazolidin-2-one (*S*,*S*)-*syn*-**50** (0.135 g, 60%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.35;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1747 (CC=O) and 1699 (NC=O);  $[\alpha]_D^{25} = +29.8$  (*c* 0.95, CHCl<sub>3</sub>) (Found M+NH<sub>4</sub><sup>+</sup>, 365.2073; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires 365.2071).  $R_F$  differences [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)]–(*S*,*S*)-*anti*-**38** ( $R_F$  0.77); (R,*S*)-*syn*-**38** ( $R_F$  0.55); (R,*S*)-*anti*-**50** ( $R_F$  0.53) and (*S*,*S*)-*syn*-**50** ( $R_F$  0.35).

### 4.59. Parallel kinetic resolution of pentafluorophenyl 2-(4-chlorophenyl)propanoate (*rac*)-19 with 4-isopropyl-oxazolidin-2one (*S*)-13 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (S)-13 (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-19 (0.508 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-39 (ratio 90:10:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-51 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-**39** (12 mg, 6%) as a colourless oil;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.56;  $[\alpha]_{D}^{23} = +101.5$  (c 5.8, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=0) and 1702 (NC=O) (Found MNH4(<sup>35</sup>Cl)<sup>+</sup> 313.1310; C<sub>15</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 313.1313); the oxazolidin-2-one (*R*,*S*)-syn-**39** (0.107 g, 56%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.32;  $[\alpha]_D^{23} = -32.4$  (c 1.9, CHCl<sub>3</sub>); v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O); mp 63-65 °C (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 313.1311; C<sub>15</sub>H<sub>22</sub>ClN<sub>2</sub>O<sub>3</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 313.1313); and oxazolidin-2-one (*R*,*S*)-anti-**51** (6 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.31;  $[\alpha]_{D}^{23} = -130.5 (c \ 1.2, CHCl_3); v_{max} (CHCl_3)$ cm<sup>-1</sup> 1790 (OC=O), 1748 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 343.1059; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 343.1055); and the oxazolidin-2-one (S,S)-syn-51 (0.131 g, 62%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.20;  $[\alpha]_{D}^{23} = +40.0$  (*c* 1.8, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1745 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 343.1057; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 343.1055). R<sub>F</sub> differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] -(S,S)-anti-39 (R<sub>F</sub> 0.56); (R,S)-syn-39 (R<sub>F</sub> 0.32); (R,S)-anti-51 (R<sub>F</sub> 0.31) and (S,S)-syn-51 (R<sub>F</sub> 0.20).

### 4.60. Parallel kinetic resolution of pentafluorophenyl2-(6-methoxynaphthalene-2-yl)-propanoate (*rac*)-6 with 4-isopropyloxazolidin-2-one (*S*)-13 and ethyloxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-isopropyl-oxazolidin-2-one (*S*)-**13** (84 mg, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-**14** (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)-propanoate (rac)-**6** (0.574 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (*R*,*S*)-*syn*- and (*S*,*S*)-*anti*-**40** (ratio 93:7:*syn*-:*anti*-) and oxazolidin-2-ones (*S*,*S*)-*syn*- and (*R*,*S*)-*anti*-**52** (ratio 96:4:*syn*-:*anti*-). The crude residue was purified by flash chromatography on silica

gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the (S,S)-anti-40 (8 mg, 4%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.51;  $[\alpha]_{D}^{23} = +194.3$  (c 1.6, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=0) and 1702 (NC=O) (Found MH<sup>+</sup>, 342.1707; C<sub>20</sub>H<sub>24</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 342.1700); (*R*,*S*)-*syn*-**40** (0.126 g, 57%) as a colourless oil;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.34;  $[\alpha]_{D}^{23} = -59.6$  (c 3.3, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 342.1707; C<sub>20</sub>H<sub>24</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 342.1700); (R,S)-anti-52 (5 mg, 2%) as a colourless oil; R<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.28;  $[\alpha]_{D}^{23} = -140.3$  (c 0.9, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O), 1744 (CC=O) and 1699 (NC=O) (Found MH<sup>+</sup>, 372.1445; C<sub>20</sub>H<sub>22</sub>NO<sub>6</sub><sup>+</sup> requires MH<sup>+</sup>, 372.1442); and (S,S)-syn-**52** (0.112 g, 46%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.18;  $[\alpha]_D^{23} = +55.7$  (*c* 3.0, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O), 1745 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 389.1703; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>6</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 389.1707). R<sub>F</sub> differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-40 (R<sub>F</sub> 0.51); (R,S)-syn-40 (R<sub>F</sub> 0.34); (R,S)-anti-52 (R<sub>F</sub> 0.28) and (S,S)-syn-52 (R<sub>F</sub> 0.18).

# 4.61. Parallel kinetic resolutions of active esters (*rac*)-6, (*rac*)-7, (*rac*)-15, (*rac*)-16, (*rac*)-17, (*rac*)-18 and (*rac*)-19 using a *quasi*-enantiomeric combination of oxazolidin-2-ones (*S*)-13 and (*S*)-14

See Ref. 15.

### **4.62.** Parallel kinetic resolution of pentafluorophenyl 2-phenylpropanoate (*rac*)-15 with 4-phenyl-oxazolidin-2-one (*S*)-8 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (S)-8 (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenylpropanoate (rac)-15 (0.458 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-41 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-46 (ratio 98:2:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-**41** (6 mg, 3%) as a white crystalline solid;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.58; mp 158-160 °C;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O);  $[\alpha]_{D}^{20} = +163.7$  (c 1.8, CHCl<sub>3</sub>); {(R,R)-anti-**41**;  $[\alpha]_{D}^{20} = -165.2$  (c 2.0, CHCl<sub>3</sub>)} (Found MH<sup>+</sup>, 296.1282; C<sub>18</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287); the oxazolidin-2-one (R,S)-syn-**41** (0.128 g, 67%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42; mp 140–142 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1778 (OC=O) and 1701 (NC=O);  $[\alpha]_{D}^{20} = -92.8$  (c 2.6, CHCl<sub>3</sub>); {(S,R)-syn-**41**;  $[\alpha]_{D}^{20} = +88.5$  (c 4.0, CHCl<sub>3</sub>)} (Found MH<sup>+</sup>, 296.1286; C<sub>15</sub>H<sub>18</sub>NO<sub>3</sub><sup>+</sup> requires 296.1287); the oxazolidin-2-one (R,S)-anti-**46** (4 mg, 2%) as a colourless oil;  $R_{\rm F}$ [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.42;  $v_{max}$  $(CHCl_3) \text{ cm}^{-1}$  1794 (OC=O), 1747 (CC=O) and 1175 (NC=O);  $[\alpha]_D^{20} = -130.5 (c 2.1, CHCl_3) \{(S,R)-anti-46; [\alpha]_D^{20} = -135.8 (c 4.5, CHCl_3); [\alpha]_D^{20} = -135.8 (c 4.5, CHCl_3) \{Found MH^+, 292.1195; CHCl_3\}$ C<sub>15</sub>H<sub>18</sub>NO<sub>5</sub><sup>+</sup> requires 292.1185); and the oxazolidin-2-one (S,S)*syn*-**46** (0.131 g, 69%) as a white powder;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.30; mp 97–99 °C; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1793 (OC=O), 1747 (CC=O) and 1705 (NC=O);  $[\alpha]_D^{20} = +24.8$  (*c* 5.3, CHCl<sub>3</sub>) (Found MH<sup>+</sup>, 292.1195; C<sub>15</sub>H<sub>18</sub>NO<sub>5</sub><sup>+</sup> requires 292.1185).  $R_{\rm F}$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] - (*S*,*S*)-*anti*-**41** (*R*<sub>F</sub> 0.58); (*R*,*S*)-*syn*-**41** (*R*<sub>F</sub> 0.42); (*R*,*S*)-anti-**46** (*R*<sub>F</sub> 0.42) and (*S*,*S*)-syn-**46** (*R*<sub>F</sub> 0.30).

### 4.63. Parallel kinetic resolution of pentafluorophenyl 2-phenylbutanoate (*rac*)-16 with 4-phenyl-oxazolidin-2-one (*S*)-8 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (S)-8 (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenylbutanoate (rac)-16 (0.478 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)anti-42 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-synand (R,S)-anti-47 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give oxazolidin-2-one (S,S)-anti-42 (6 mg, 3%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.55; mp 136-140 °C;  $[\alpha]_D^{20} = +150.4$  (*c* 4.9, CHCl<sub>3</sub>) {for (*R*,*R*)-*anti*-**42**;  $[\alpha]_D^{20} = -160.0$  (*c* 0.74, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O), 1703 (NC=O) and 1600 (Ph) (Found MH<sup>+</sup>, 310.1430; C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub> requires 310.1443); and the oxazolidin-2-one (R,S)-syn-42 (0.125 g, 62%) as a white solid;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.50; mp 82–84 °C;  $[\alpha]_D^{20} = -95.6 (c \ 3.0, \text{CHCl}_3)$ {(S,R)-syn-**42**;  $[\alpha]_D^{20} = +77.4 (c \ 4.0, \text{CHCl}_3); v_{\text{max}} (film) \text{cm}^{-1} \ 1780$ (OC=O) and 1703 (NC=O) (Found MH<sup>+</sup>, 310.1437; C<sub>19</sub>H<sub>20</sub>NO<sub>3</sub> requires 310.1443); the oxazolidin-2-one (*R*,*S*)-anti-**47** (8 mg, 4%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.48;  $[\alpha]_D^{20} = -131.1$  (*c* 3.3, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1747 (CC=O) and 1705 (NC=O) (Found M<sup>+</sup>, 305.1258; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258); and the oxazolidin-2one (S,S)-syn-47 (0.13 g, 65%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.38;  $[\alpha]_{D}^{20} = +30.0$ (c 8.2, CHCl<sub>3</sub>); v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1747 (CC=O) and 1701 (NC=O) (Found M<sup>+</sup>, 305.1256; C<sub>16</sub>H<sub>19</sub>NO<sub>5</sub> requires 305.1258).  $R_{\rm F}$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] - (S,S)-anti-42 (R<sub>F</sub> 0.55); (R,S)-syn-42 (R<sub>F</sub> 0.50); (R,S)-anti-**47**  $(R_F 0.48)$  and (S,S)-syn-**47**  $(R_F 0.38)$ .

### 4.64. Parallel kinetic resolution of pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-17 with 4-phenyl-oxazolidin-2-one (*S*)-8 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (S)-8 (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-phenyl-3-methylbutanoate (*rac*)-**17** (0.499 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-43 (ratio 86:14:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-48 (ratio 92:8:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give an inseparable mixture of oxazolidin-2-ones (S,S)-anti-43 and (R,S)*syn*-**43** (0.134 g, 64%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.64. Characterisation data for (*S*,*S*)-*anti*-**43**; colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.64;  $[\alpha]_D^{20} = +9.4$  (*c* 0.3, CHCl<sub>3</sub>) {(*S*,*R*)anti-43;  $[\alpha]_D^{20} = -9.4$  (c 0.4, CHCl<sub>3</sub>)};  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 341.1860;  $C_{20}H_{25}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup> 341.1860); the oxazolidin-2-one (R,S)-syn-**43**; colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.61;  $[\alpha]_{\rm D}^{20} = -79.4$  (c 0.1, CHCl<sub>3</sub>) {(S,R)-syn-43;  $[\alpha]_D^{20} = +78.4$  (c 0.5, CHCl<sub>3</sub>)};  $\nu_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 341.1860;  $C_{20}H_{25}N_2O_3{}^+$  requires  $MNH_4{}^+$  341.1860); the oxazolidin-2-one (R,S)-anti-48 (10 mg, 5%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.645;  $[\alpha]_D^{25} = +19.6$  (c 0.2, CHCl<sub>3</sub>) CHECK;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 337.1761; C<sub>17</sub>H<sub>25</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 337.1758); and the oxazolidin-2-one (*S*,*S*)-*syn*-**48** (0.118 g, 57%) as a colourless oil; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] 0.42;  $[\alpha]_D^{25} = -8.4$  (*c* 0.9, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1755 (CC=O) and 1700 (OC=O) (Found MNH<sub>4</sub><sup>+</sup>, 337.1756; C<sub>17</sub>H<sub>25</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup> 337.1758). *R*<sub>F</sub> differences [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] - (*S*,*S*)-*anti*-**43** (*R*<sub>F</sub> 0.64); (*R*,*S*)-*syn*-**48** (*R*<sub>F</sub> 0.55) and (*S*,*S*)-*syn*-**48** (*R*<sub>F</sub> 0.42).

### **4.65.** Parallel kinetic resolution of pentafluorophenyl 2-(4-methylphenyl)propanoate (*rac*)-18 with 4-phenyl-oxazolidin-2-one (*S*)-8 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-**20**. *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (S)-8 (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(4-methylphenyl)propanoate (rac)-18 (0.479 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-44 (ratio 98:2:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-49 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-44 (2 mg, 1%) as a white solid; R<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.47; mp 124-126 °C;  $[\alpha]_{D}^{23} = +173.5$  (*c* 2.0, CHCl<sub>3</sub>) {(*R*,*R*)-*anti*-44;  $[\alpha]_{D}^{20} = -179.1$ (c 3.0, CHCl<sub>3</sub>)];  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 327.1710; C<sub>19</sub>H<sub>23</sub>N<sub>2</sub>O<sub>3</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 327.1700); the oxazolidin-2-one (R,S)-syn-44 (0.118 g, 59%) as a white solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.29; mp 120–122 °C;  $[\alpha]_D^{23} = -116.8$  (c 0.8, CHCl<sub>3</sub>) {(S,R)-syn-**44**;  $[\alpha]_D^{20} = +121.6$  (c 0.6, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1705 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 327.1700;  $C_{19}H_{23}N_2O_3^+$  requires MNH<sub>4</sub><sup>+</sup>, 327.1700); the oxazolidin-2-one (R,S)-anti-49 (6 mg, 3%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.40;  $[\alpha]_D^{23} = -125.6$  (c 2.5, CHCl<sub>3</sub>); 1779 (OC=O), 1750 (CC=O) and 1700 (NC=O) (Found  $MNH_4^+$ , 323.1596;  $C_{16}H_{23}N_2O_5^+$  requires  $MNH_4^+$ , 323.1601); and the oxazolidin-2-one (S,S)-syn-49 (0.115 g, 58%) as a colourless oil; R<sub>F</sub> [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.20;  $[\alpha]_{D}^{23} = +34.6$  (*c* 0.6, CHCl<sub>3</sub>); 1780 (OC=0), 1748 (CC=0) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 323.1607; C<sub>16</sub>H<sub>23</sub>N<sub>2</sub>O<sub>5</sub><sup>+</sup> requires  $MNH_4^+$ , 323.1601).  $R_F$  differences [light petroleum ether (bp 40–  $60 \circ C$ /diethyl ether (1:1)]–(S,S)-anti-44 ( $R_F 0.47$ ); (R,S)-syn-44 (*R*<sub>F</sub> 0.29); (*R*,*S*)-anti-**49** (*R*<sub>F</sub> 0.40) and (*S*,*S*)-syn-**49** (*R*<sub>F</sub> 0.20).

### 4.66. Parallel kinetic resolution of pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-7 with 4-phenyl-oxazolidin-2one (*S*)-8 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (*rac*)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (*S*)-**8** (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-**14** (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(4-isobutylphenyl)propanoate (*rac*)-**7** (0.539 g, 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (*R*,*S*)-*syn*- and (*S*,*S*)-*anti*-**10** (ratio 95:5:*syn*-:*anti*-) and oxazolidin-2-ones (*S*,*S*)-*syn*- and (*R*,*S*)-*anti*-**10** (ratio 95:5:*syn*-:*anti*-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (*S*,*S*)-*anti*-**10** (9 mg, 4%) as a white crystalline solid; *R*<sub>F</sub> [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.62;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1701 (NC=O); mp 155–158 °C;  $[\alpha]_D^{25} = +152.7$  (*c* 2.0, CHCl<sub>3</sub>) {(*R*,*R*)-*anti*-**10**;

 $[\alpha]_{D}^{25} = -145.7$  (c 3.0, CHCl<sub>3</sub>)} (Found MH<sup>+</sup>, 352.1913; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires 352.1907); the oxazolidin-2-one (R,S)-syn-10 (0.149 g, 65%) as a white crystalline solid;  $R_{\rm F}$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.41; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1779 (OC=O) and 1705 (NC=O); mp 86-88 °C;  $[\alpha]_D^{25} = -120.3$  (c 2.8, CHCl<sub>3</sub>); {(*S*,*R*)-*syn*-**10**;  $[\alpha]_{D}^{25} = +118.7$  (*c* 6.0, CHCl<sub>3</sub>)} (Found MH<sup>+</sup>, 352.1909; C<sub>22</sub>H<sub>26</sub>NO<sub>3</sub> requires 352.1907); the oxazolidin-2-one (R,S)-anti-**50** (7 mg, 3%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.53;  $v_{max_{out}}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1751 (CC=O) and 1701 (NC=O);  $[\alpha]_{D}^{25} = -125.4$  (c 1.2, CHCl<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 365.2069; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires 365.2171); and the oxazolidin-2-one (S,S)-syn-50 (0.135 mg, 60%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.35;  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1791 (OC=O), 1747 (CC=O) and 1699 (NC=O);  $[\alpha]_D^{25} = +29.8$  (*c* 0.95, CHCl<sub>3</sub>) (Found M+NH <sub>4</sub><sup>+</sup>, 365.2073; C<sub>19</sub>H<sub>29</sub>N<sub>2</sub>O<sub>5</sub> requires 365.2071). *R*<sub>F</sub> differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] - (S,S)-anti-10 (R<sub>F</sub> 0.62); (R,S)-syn-10 (R<sub>F</sub> 0.41); (R,S)-anti-50 (R<sub>F</sub> 0.53) and (S,S)syn-50 (R<sub>F</sub> 0.35).

### 4.67. Parallel kinetic resolution of pentafluorophenyl 2-(4-chlorophenyl)propanoate (*rac*)-19 with 4-phenyl-oxazolidin-2-one (*S*)-8 and ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-20, n-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (S)-8 (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one 4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(4-chlorophenyl)propanoate (rac)-45 (0.508 g, 1.45 mmol) gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-synand (S,S)-anti-19 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-51 (ratio 95:5:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40–60 °C)/diethyl ether (7:3) to give the oxazolidin-2-one (S,S)-anti-45 (6 mg, 3%) as a colourless oil;  $R_{\rm F}$ [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.42;  $[\alpha]_{D}^{23} = +161.4$  (c 1.0, CHCl<sub>3</sub>) {(*R*,*R*)-anti-**45**;  $[\alpha]_{D}^{23} = -156.3$  (c 1.3, CHCl<sub>3</sub>)}; v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1700 (NC=O) (Found  $MNH_4^+({}^{35}Cl)$  347.1154;  $C_{18}H_{20}ClN_2O_3$  requires  $MNH_4^+({}^{35}Cl)$ 347.1157); the oxazolidin-2-one (R,S)-syn-45 (0.124 g, 58%) as a white solid;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.27; mp 142–144 °C;  $[\alpha]_{D}^{23} = -142.4$  (c 1.5, CHCl<sub>3</sub>) {(S,R)*syn*-**45**;  $[\alpha]_{D}^{23} = +144.4$  (*c* 1.6, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O) and 1700 (NC=O) (Found MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 347.1154;  $C_{18}H_{20}CIN_2O_3$  requires MNH<sub>4</sub>(<sup>35</sup>Cl)<sup>+</sup> 347.1157); the oxazolidin-2one (R,S)-anti-**51** (6 mg, 3%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.31;  $[\alpha]_D^{23} = -130.5$  (*c* 1.2, CHCl<sub>3</sub>); v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1748 (CC=O) and 1700 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>(<sup>35</sup>Cl) 343.1059; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> requires MNH<sub>4</sub><sup>+</sup>(<sup>35</sup>Cl) 343.1055); and the oxazolidin-2-one (*S*,*S*)-*syn*-**51** (0.116 g, 55%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)] 0.20;  $[\alpha]_{D}^{23} = +40.0$  (c 1.8, CHCl<sub>3</sub>); v<sub>max</sub> (CHCl<sub>3</sub>) cm<sup>-1</sup> 1790 (OC=O), 1745 (CC=O) and 1700 (NC=O)  $MNH_4^+(^{35}Cl)$ 343.1057; C<sub>15</sub>H<sub>20</sub>ClN<sub>2</sub>O<sub>5</sub> (Found requires  $MNH_4^+$ (<sup>35</sup>Cl) 343.1055).  $R_F$  differences [light petroleum ether (bp 40-60 °C)/diethyl ether (1:1)]-(S,S)-anti-45 (R<sub>F</sub> 0.42); (R,S)-syn-**45** (*R*<sub>F</sub> 0.27); (*R*,*S*)-anti-**51** (*R*<sub>F</sub> 0.31) and (*S*,*S*)-syn-**51** (*R*<sub>F</sub> 0.20).

### 4.68. Parallel kinetic resolution of pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)-propanoate (*rac*)-6 with 4-phenyl-oxazolidin-2-one (*S*)-8 and 4-ethyl oxazolidin-2-one 4-carboxylate (*S*)-14

In the same way as the oxazolidin-2-one (rac)-**20**, *n*-butyl lithium (0.58 mL, 2.5 M in hexane, 1.45 mmol), 4-phenyl-oxazolidin-2-one (*S*)-**8** (0.106 g, 0.65 mmol), 4-ethyl oxazolidin-2-one

4-carboxylate (S)-14 (0.103 g, 0.65 mmol) and pentafluorophenyl 2-(6-methoxynaphthalene-2-yl)-propanoate (rac)-6 (0.574 g. 1.45 mmol), gave a mixture of two diastereoisomeric oxazolidin-2-ones (R,S)-syn- and (S,S)-anti-9 (ratio 95:5:syn-:anti-) and oxazolidin-2-ones (S,S)-syn- and (R,S)-anti-52 (ratio 98:2:syn-:anti-). The crude residue was purified by flash chromatography on silica gel eluting with light petroleum ether (bp 40-60 °C)/diethyl ether (7:3) to give the (S,S)-anti-9 (10 mg, 4%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.45; {(R,R)anti-9;  $[\alpha]_D^{23} = -164.2$  (c 1.3, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1703 (NC=O) (Found MH<sup>+</sup>, 376.1545; C<sub>23</sub>H<sub>22</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 376.1543); (R,S)-syn-9 (0.171 g, 70%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.33; {(S,R)-syn-**9**;  $[\alpha]_{D}^{23} = +166.2$  (c 1.5, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1780 (OC=O) and 1702 (NC=O) (Found MH<sup>+</sup>, 376.1553; C<sub>23</sub>H<sub>22</sub>NO<sub>4</sub><sup>+</sup> requires MH<sup>+</sup>, 376.1543); (*R*,*S*)-anti-**52** (3 mg, 1%) as a colourless oil;  $R_{\rm F}$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.28;  $[\alpha]_D^{23} = -140.3$  (*c* 0.9, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1782 (OC=O), 1749 (CC=O) and 1700 (NC=O) (Found MH<sup>+</sup>, 372.1445; C<sub>20</sub>H<sub>22</sub>NO<sub>6</sub><sup>+</sup> requires MH<sup>+</sup>, 372.1442); and (S,S)-syn-**52** (0.118 g, 49%) as a colourless oil;  $R_F$  [light petroleum ether (bp 40–60 °C)/diethyl ether (1:1)] 0.18;  $[\alpha]_D^{23} = +55.7$  (*c* 3.0, CHCl<sub>3</sub>)};  $v_{max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1781 (OC=O), 1754 (CC=O) and 1701 (NC=O) (Found MNH<sub>4</sub><sup>+</sup>, 389.1703; C<sub>20</sub>H<sub>25</sub>N<sub>2</sub>O<sub>6</sub><sup>+</sup> requires MNH<sub>4</sub><sup>+</sup>, 389.1707).  $R_{\rm F}$  differences [light petroleum ether (bp 40–60 °C)/ diethyl ether (1:1)] - (S,S)-anti-9 (R<sub>F</sub> 0.45); (R,S)-syn-9 (R<sub>F</sub> 0.33); (*R*,*S*)-anti-**52** (*R*<sub>F</sub> 0.28) and (*S*,*S*)-syn-**52** (*R*<sub>F</sub> 0.18).

### 4.69. Hydrolysis of oxazolidin-2-ones

### 4.69.1. 2-Phenylpropanoic acid (+)-(S)-53

Lithium hydroxide monohydrate (71 mg, 1.69 mmol) was slowly added to a stirred solution of oxazolidin-2-one (S,R)-syn-41 (0.25 g, 0.84 mmol) and hydrogen peroxide (0.47 mL, 3.53 M in H<sub>2</sub>O, 1.69 mmol) in THF/water (1:1; 5 mL). The reaction mixture was stirred at room temperature for 12 h. The reaction was quenched with water (10 mL) and extracted with dichloromethane  $(3 \times 10 \text{ mL})$ . The combined organic layers were dried (over MgSO<sub>4</sub>) and evaporated under reduced pressure to give the recovered 4phenyloxazolidin-2-one (R)-8 (127 mg, 93%) as a white solid;  $R_{\rm F}$ [ethyl acetate/ethanol (9:1)] 0.71; mp 130–133 °C;  $\left[\alpha\right]_{D}^{20}=-54.0$ (c 1.0, CHCl<sub>3</sub>);  $v_{\text{max}}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 3262 (NH) and 1736 (C=O);  $\delta_{\text{H}}$ (400 MHz; CDCl<sub>3</sub>) 7.41-7.31 (5H, m, 5 × CH; Ph), 5.69 (1H, s, NH), 4.93 (1H, dd, / 8.6 and 6.9, PhCHN), 4.72 (1H, t, / 8.6, CH<sub>A</sub>H<sub>B</sub>O) and 4.17 (1H, dd, J 8.6 and 6.9,  $CH_AH_BO$ );  $\delta_C$  (100 MHz;  $CDCl_3$ ) 159.4 (C=O), 139.3 (*i*-C; Ph), 129.2,<sup>2</sup> 128.9<sup>1</sup> and 126.0<sup>2</sup> (5 × CH; Ph), 72.5 (CH<sub>2</sub>O) and 56.3 (PhCHN) (Found MNH<sub>4</sub><sup>+</sup>, 181.0970; C<sub>9</sub>H<sub>13</sub>N<sub>2</sub>O<sub>2</sub> requires 181.0972). The aqueous phase was acidified using HCl (3 M HCl) until the pH = 3, and extracted with diethyl ether ( $3 \times 10$  mL). The combined organic phases were dried (over MgSO<sub>4</sub>) and evaporated under reduced pressure to give 2-phenylpropanoic acid (S)-**53** (113 mg, 90%) as a colourless oil;  $R_{\rm F}$  [light petroleum spirit (bp 40–60 °C)/diethyl ether (1:9)] 0.5;  $[\alpha]_{D}^{23} = +69.5$  (*c* 8.2, CHCl<sub>3</sub>);  $v_{\text{max}}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 1706 (C=0);  $\delta_{\text{H}}$  (400 MHz; CDCl<sub>3</sub>) 7.45–6.98 (5H, m, 5  $\times$  CH; Ph), 3.75 (1H, q, J 7.2, PhCHCH\_3) and 1.50 (3H, d, J 7.2, PhCHCH<sub>3</sub>); δ<sub>C</sub> (100 MHz; CDCl<sub>3</sub>) 180.4 (C=O), 139.7 (*i*-C; Ph),  $128.7^2$ ,  $127.6^2$  and  $127.4^1$  (5 × CH; Ph), 45.3 (PhCHCH<sub>3</sub>) and 18.1 (PhCHCH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 151.0753; C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub> requires 151.0759).

### 4.69.2. 2-Phenylpropanoic acid (-)-(R)-53

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*R*,*S*)-*syn*-**34** (0.2 g, 0.76 mmol), lithium hydroxide monohydrate (64 mg, 1.53 mmol) and hydrogen peroxide (0.43 mL, 3.53 M in H<sub>2</sub>O, 1.53 mmol) in THF/water (1:1; 3 mL) gave, the recovered 4-isopropyl-oxazolidin-2-one (*S*)-**13** (76 mg, 78%) as a white solid;  $R_{\rm F}$  [ethyl acetate/ethanol (9:1)] 0.82; mp 71–73 °C;  $[\alpha]_{\rm D}^{20} = +13.0$  (*c* 2.6, CHCl<sub>3</sub>);  $v_{\rm max}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 3455 (NH) and 1750 (C=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.26 (1H, broad s, NH), 4.34 (1H, t, *J* 8.7, CH<sub>A</sub>H<sub>B</sub>O), 4.00 (1H, dd, *J* 8.7 and 6.4, CH<sub>A</sub>H<sub>B</sub>O) and 3.53 (1H, tdd, *J* 8.7, 6.7 and 6.4, CHN); 1.67–1.57 (1H, br octet, *J* ~6.7, CH(CH<sub>3</sub>)<sub>2</sub>), 0.86 (3H, d, *J* 6.7, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.80 (3H, d, *J* 6.7, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 160.6 (C=O), 68.4 (CH<sub>2</sub>O), 58.2 (CHN), 32.6 (CH(CH<sub>3</sub>)<sub>2</sub>), 17.7 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 17.4 (CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) (Found MNH<sub>4</sub><sup>+</sup>, 147.1129; C<sub>9</sub>H<sub>15</sub>N<sub>2</sub>O<sub>2</sub> requires MNH<sub>4</sub><sup>+</sup>, 147.1128); and 2-phenylpropanoic acid (*R*)-**53** (97 mg, 85%) as a colourless oil;  $R_{\rm F}$  [light petroleum spirit (bp 40–60 °C)/diethyl ether (1:9)] 0.5;  $[\alpha]_{\rm D}^{23} = -68.5$  (*c* 2.4, CHCl<sub>3</sub>);  $v_{\rm max}$  (CHCl<sub>3</sub>) cm<sup>-1</sup> 1710 (C=O) (Found MNH<sub>4</sub><sup>+</sup>, 151.0755; C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub> requires 151.0759).

### 4.69.3. 2-Phenylpropanoic acid (+)-(S)-53

In the same way as the 2-phenylpropanoic acid (S)-53, oxazolidin-2-one (S,S)-syn-46 (0.12 g, 0.41 mmol), lithium hydroxide monohydrate (34 mg, 0.82 mmol) and hydrogen peroxide (0.23 mL, 3.53 M in H<sub>2</sub>O, 0.82 mmol) in THF/water (1:1: 3 mL) gave, the (S)-oxazolidin-2-one-4-carboxylic acid (24 mg, 38%) as a white solid; (S)-2-oxo-oxazolidine-4-carboxylic acid (24 mg, 38%) as a white solid;  $R_{\rm F}$  (ethyl acetate) 0.10;  $[\alpha]_{\rm D}^{20} = -13.0$  (c 1.2, H<sub>2</sub>O); mp 109–112 °C; v<sub>max</sub> (film) 3493–3340 cm<sup>-1</sup> (NH and OH), 1741 cm<sup>-1</sup> (C=O) and 1652 cm<sup>-1</sup> (C=O);  $\delta_{\rm H}$  (400 MHz, DMSO- $d_6$ ) 8.13 (1H, br s, NH), 4.65-4.46 (1H, t, J 8.7, CHN), 4.33 (1H, dd, J 8.7 and 4.2, CH<sub>A</sub>H<sub>B</sub>O), 4.27 (1H, dd, J 8.7 and 4.2, CH<sub>A</sub>H<sub>B</sub>O) and 3.35 (1H, br s, OH);  $\delta_{\rm C}$  (100.7 MHz, acetone- $d_6$ ) 171.8 (OC=O), 158.6 (NC=O), 66.7 (CH<sub>2</sub>O) and 53.4 (CHN) (Found MNH<sub>4</sub><sup>+</sup>, 149.0557. C<sub>4</sub>H<sub>9</sub>N<sub>2</sub>O<sub>4</sub> requires 149.0557); and 2-phenylpropanoic acid (R)-**53** (53 mg, 87%) as a colourless oil;  $R_{\rm F}$  [light petroleum spirit (bp 40–60 °C) / diethyl ether (1:9)] 0.5;  $[\alpha]_{D}^{23} = +69.2$  (*c* 2.6, CHCl<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 151.0757; C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub> requires 151.0759).

### 4.69.4. 2-Phenylbutanoic acid (+)-(S)-54

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-*syn*-**42** (0.2 g, 0.64 mmol), lithium hydroxide monohydrate (53 mg, 1.28 mmol) and hydrogen peroxide (0.36 mL, 3.53 M in H<sub>2</sub>O, 1.28 mmol) in THF/water (1:1; 3 mL) gave, the recovered 4-phenyl oxazolidin-2-one (*R*)-**8** (95 mg, 82%) as a white solid; and 2-phenylbutanoic acid (*S*)-**54** (95 mg, 91%) as a colourless oil;  $[\alpha]_D^{20} = +65.5$  (*c* 4.0, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 3295 (OH) and 1719 (C=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.30–7.20 (5H, m, 5 × CH; Ph), 3.43 (1H, t, *J* 7.7; PhCHCO), 2.16–2.03 (1H, ddq, *J* 7.5, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>), 1.85–1.79 (1H, ddq, *J* 7.5, 7.5 and 7.4, CH<sub>A</sub>H<sub>B</sub>CH<sub>3</sub>) and 0.90 (3H, t, *J* 7.4, CH<sub>2</sub>CH<sub>3</sub>);  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 181.0 (C=O), 138.6 (*i*-C; Ph), 128.8,<sup>2</sup> 128.2<sup>2</sup> and 127.6<sup>1</sup> (5 × CH; Ph), 53.6 (PhCHCO), 26.5 (CH<sub>2</sub>CH<sub>3</sub>) and 12.2 (CH<sub>2</sub>CH<sub>3</sub>) (Found M<sup>+</sup>, 164.0832; C<sub>10</sub>H<sub>12</sub>O<sub>2</sub> requires 164.0832).

### 4.69.5. 2-Phenyl-3-methylbutanoic acid (+)-(S)-55

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-*syn*-**43** (74% de) (0.15 g, 0.46 mmol), lithium hydroxide monohydrate (39 mg, 0.92 mmol) and hydrogen peroxide (0.26 mL, 3.53 M in H<sub>2</sub>O, 0.92 mmol) in THF/water (1:1; 3 mL) gave, the recovered 4-phenyl-oxazolidin-2-one (*R*)-**8** (67 mg, 90%) as a white solid; and 2-phenyl-3-methylbutanoic acid (*S*)-**55** (68 mg, 83%) as a colourless oil;  $[\alpha]_D^{20} = +48.4$  (*c* 2.8, CHCl<sub>3</sub>) (74% ee);  $v_{max}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 1705 (C=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.35–7.23 (5H, m, 5 × CH; Ph), 3.14 (1H, d, *J* 10.6, PhCH), 2.39– 2.28 (1H, m, CH<sub>3</sub>CHCH<sub>3</sub>), 1.08 (3H, d, *J* 6.6, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) and 0.71 (3H, d, *J* 6.8, CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>);  $\delta_C$ (100 MHz; CDCl<sub>3</sub>) 179.8 (C=O), 137.7 (*i*-C; Ph), 128.6,<sup>2</sup> 128.5<sup>2</sup> and 127.4<sup>1</sup> (5 × CH; Ph), 59.9 (PhCH), 31.5 (CH<sub>3</sub>CHCH<sub>3</sub>), 21.4 and 20.1 (2 × CH<sub>3</sub>; CH<sub>3</sub><sup>A</sup>CHCH<sub>3</sub><sup>B</sup>) (Found M<sup>+</sup>, 178.0987; C<sub>11</sub>H<sub>14</sub>O<sub>2</sub> requires 178.0988).

### 4.69.6. 2-(4-Methylphenyl)propanoic acid (+)-(S)-56

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-*syn*-**44** (0.2 g, 0.64 mmol), lithium hydroxide monohydrate (53 mg, 1.28 mmol) and hydrogen peroxide (36 mL, 3.53 M in H<sub>2</sub>O, 1.28 mmol) in THF/water (1:1; 4 mL) gave, the recovered 4-phenyl-oxazolidin-2-one (*R*)-**8** (93 mg, 90%) as a white solid; and 2-(4-methylphenyl)propanoic acid (*S*)-**56** (93 mg, 89%) as a white solid; mp 59–60 °C;  $[\alpha]_D^{20} = +64.8$  (*c* 4.0, CHCl<sub>3</sub>);  $v_{max}$ (CHCl<sub>3</sub>)/cm<sup>-1</sup> 1710 (C=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.14 (2H, d, *J* 7.9, 2 × CH; Ar), 7.08 (2H, d, *J* 7.9, 2 × CH; Ar), 3.69 (1H, q, *J* 7.1, ArCHCH<sub>3</sub>), 2.31 (3H, s, Me; Ar) and 1.47 (3H, d, *J* 7.1, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz; CDCl3) 180.1 (C=O), 137.1 and 136.9 (2 × *i*-C; Ar), 129.4<sup>2</sup> and 127.6<sup>2</sup> (4 × CH; Ar), 44.9 (ArCHCH<sub>3</sub>), 21.1 (CH<sub>3</sub>; Ar) and 18.2 (ArCHCH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 182.1175. C<sub>10</sub>H<sub>16</sub>NO<sub>2</sub> requires MNH<sub>4</sub><sup>+</sup>, 182.1176).

### 4.69.7. 2-(4-Isobutylphenyl)propanoic acid (+)-(S)-57

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-syn-**10** (0.2 g, 0.57 mmol), lithium hydroxide monohydrate (48 mg, 1.14 mmol) and hydrogen peroxide (42 mg, 3.53 M in H<sub>2</sub>O, 1.48 mmol) in THF/water (1:1; 3 mL) gave, the recovered 4-phenyl-oxazolidin-2-one (*R*)-**8** (81 mg, 87%) as a white solid; and 2-(4-isobutylphenyl)propanoic acid (*S*)-**57** (108 mg, 92%) as a colourless oil;  $[\alpha]_D^{D} = +58.2$  (*c* 3.6, CHCl<sub>3</sub>);  $\delta_{\rm H}$ (400 MHz, CDCl<sub>3</sub>) 7.21 (2H, dt, *J* 7.9 and 2.1, 2 × CH; Ar); 7.11 (2H, dt, *J* 7.9 and 2.1, 2 × CH; Ar), 3.70 (1H, q, *J* 7.2, ArCHCH<sub>3</sub>), 2.41 (2H, d, *J* 7.2, CH<sub>2</sub>Ar), 1.90–1.75 (1H, br septet, *J* ~6.8, CH(CH<sub>3</sub>)<sub>2</sub>), 1.47 (3H, d, *J* 7.2, ArCHCH<sub>3</sub>) and 0.87 (6H, d, *J* 6.5, 2 × CH<sub>3</sub>; (CH<sub>3</sub>)<sub>2</sub>CH);  $\delta_{\rm C}$  (100 MHz, CDCl<sub>3</sub>) 180.3 (C=O), 140.9 (*i*-C; Ar), 137.0 (*i*-C; Ar), 129.4<sup>2</sup> and 127.3<sup>2</sup> (2 × CH; Ar), 45.1 ((CH<sub>3</sub>)<sub>2</sub>CH), 44.8 (ArCHCH<sub>3</sub>), 30.2 (ArCH<sub>2</sub>), 22.4<sup>2</sup> ((CH<sub>3</sub>)<sub>2</sub>CH) and 18.1 (ArCHCH<sub>3</sub>) (Found M<sup>+</sup>, 206.1270; C<sub>13</sub>H<sub>18</sub>O<sub>2</sub> requires 206.1268).

### 4.69.8. 2-(4-Chlorophenyl)propanoic acid (+)-(S)-58

In the same way as the 2-phenyl-propanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-*syn*-**45** (0.2 g, 0.61 mmol), lithium hydroxide monohydrate (51 mg, 1.21 mmol) and hydrogen peroxide (0.34 mL, 3.53 M in H<sub>2</sub>O, 1.21 mmol) in THF/water (1:1; 4 mL) gave, the recovered 4-phenyl-oxazolidin-2-one (*R*)-**8** (85 mg, 86%) as a white solid; and 2-(4-chlorophenyl)propanoic acid (*S*)-**58** (96 mg, 85%) as a white solid mp 49–53 °C;  $[\alpha]_D^{20} = +48.5$  (*c* 4.0, CHCl<sub>3</sub>);  $v_{max}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 1710 (C=O);  $\delta_H$  (400 MHz; CDCl<sub>3</sub>) 7.30 (2H, dt, *J* 8.8 and 2.2, 2 × CH; Ar), 7.25 (2H, dt, *J* 8.8 and 2.2, 2 × CH; Ar), 3.72 (1H, q, *J* 7.2, ArCHCH<sub>3</sub>) and 1.50 (3H, d, *J* 7.2, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 178.9 (C=O), 138.2 and 133.3 (2 × *i*-C; Ar), 129.0<sup>2</sup> and 128.8<sup>2</sup> (4 × CH; Ar), 44.5 (ArCHCH<sub>3</sub>) and 18.1 (ArCHCH<sub>3</sub>) (Found MNH<sub>4</sub><sup>+</sup>, 202.0636. C<sub>9</sub>H<sub>13</sub>NClO<sub>2</sub> requires MNH<sub>4</sub><sup>+</sup>, 202.0629).

### 4.69.9. 2-(6-Methoxynaphthalene-2-yl)propanoic acid (+)-(S)-59

In the same way as the 2-phenylpropanoic acid (*S*)-**53**, oxazolidin-2-one (*S*,*R*)-*syn*-**9** (0.2 g, 0.53 mmol), lithium hydroxide monohydrate (45 mg, 1.06 mmol) and hydrogen peroxide (0.30 mL, 3.53 M in H<sub>2</sub>O, 1.06 mmol) in THF/water (1:1; 5 mL) gave, the recovered 4-phenyl-oxazolidin-2-one (*R*)-**8** (77 mg, 89%) as a white solid; and 2-(6-methoxynaphthalene-2-yl)propanoic acid (*S*)-**59** (109 mg, 90%) as a white solid; *R*<sub>F</sub> [diethyl ether] 0.56; mp 151– 153 °C;  $[\alpha]_D^{20} = +93.1$  (*c* 4.2, CHCl<sub>3</sub>);  $\nu_{max}$  (CHCl<sub>3</sub>)/cm<sup>-1</sup> 1710 (C=O);  $\delta_{\rm H}$  (400 MHz; CDCl<sub>3</sub>) 7.70 (2H, dd, *J* 8.4 and 2.8, 2 × CH; Ph), 7.68 (1H, s, CH; Ph), 7.41 (1H, dd, *J* 8.4 and 1.8, CH; Ar), 7.16–7.10 (2H, m, 2 × CH; Ph), 3.91 (3H, s, CH<sub>3</sub>O), 3.88 (1H, q, *J*  7.0, ArCHCH<sub>3</sub>) and 1.59 (3H, d, *J* 7.0, ArCHCH<sub>3</sub>);  $\delta_C$  (100 MHz; CDCl<sub>3</sub>) 180.2 (C=O), 157.9 (*i*-CO; Ar), 134.8, 133.8 and 128.9 (3 × *i*-C; Ar), 129.3, 127.2, 126.2, 126.1, 119.0 and 105.6 (6 ·× CH; Ar), 55.3 (CH<sub>3</sub>O), 45.2 (ArCHCH<sub>3</sub>) and 18.1 (ArCHCH<sub>3</sub>); *m/z* 230 (60%, M<sup>+</sup>) and 185 (100, ArCHCH<sub>3</sub>) (Found M<sup>+</sup>, 230.0906; C<sub>14</sub>H<sub>14</sub>O<sub>3</sub> requires 230.0904).

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