

added and stirred overnight at room temperature. The solvent was removed. The residue was chromatographed on silica gel (0.4- 0.9 % methanol in CH<sub>2</sub>Cl<sub>2</sub> containing 0.5 % pyridine, v/v) to obtain **25** (59 mg, 75.3 % in tow steps) as white foam. <sup>1</sup>H NMR (600 MHz, CDCl<sub>3</sub>): δ 8.38 (1H, s, H3), 7.87 (1H, s, H6), 7.45-6.85 (13H, m, aromatic), 5.77 (1H, s, H1'), 4.46 (1H, t,  $J_{3',\text{OH}} = 4.2$  Hz,  $J_{2',3'} = 4.8$  Hz, H3'), 3.81 (6H, s, 2xOCH<sub>3</sub>), 3.36 (1H, d,  $J_{\text{gem}} = 10.8$  Hz, H5'), 3.27 (1H, d,  $J_{\text{gem}} = 10.8$  Hz, H5''), 2.55 (1H, s,  $J_{2',3'} = 4.8$  Hz, H2'), 1.98 (1H, m, H8'), 1.78 (3H, m, H6', H8'' and 3'-OH), 1.67 (2H, m, H7' and H7''), 1.39 (3H, s, thymine-CH<sub>3</sub>), 1.37 (1H, m, H6''). <sup>13</sup>C-NMR (125MHz, CDCl<sub>3</sub>): δ 164.1 (C4), 158.7 (C<sub>ispro</sub>-OMe), 150.2 (C2), 144.4 (DMTr), 135.7 (C6), 135.5, 135.4 (DMTr), 130.1-127.1, 113.3 (aromatic), 109.5 (C5), 87.7 (C1'), 86.7 (DMTr-C), 85.7 (C4'), 67.5 (C3'), 64.8 (C5'), 55.2 (2xOMe), 45.4 (C2'), 26.7 (C6'), 20.1 (C8'), 17.6 (C7'), 12.0 (CH<sub>3</sub>-thymine). MALDI-TOF *m/z*: [C<sub>34</sub>H<sub>36</sub>N<sub>2</sub>O<sub>7</sub>+Na]<sup>+</sup> found 607.243, calcd 607.241.

**(1R,3R,4R,5R,8S)-8-benzyloxy-1-benzyloxymethyl-5-methyl-3-(thymine-1-yl)-2-oxa-bicyclo[3.2.1]octane and (1R,3R,4R,5S,8S)-8-benzyloxy-1-benzyloxymethyl-5-methyl-3-(thymine-1-yl)-2-oxa-bicyclo[3.2.1]octane (28).** **27** (61 mg, 0.105 mmol) was dissolved in dry toluene (3 mL), purged with N<sub>2</sub> for 20 min. AIBN (9 mg, 0.032 mmol) and Bu<sub>3</sub>SnH (42 μL, 0.158 mmol) were added to the solution and the mixture was refluxed for 4 h. The solvent was removed and the residue was purified by column chromatography on silica gel (20-35 % EtOAc in cyclohexane, v/v) to give **28** (43 mg, 87 %) as inseparable diastereomers (8'R : 8'S = 4: 5). <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 8.25 (1.8H, broad, NH), 8.10 (1.8H, s, H6), 7.39-7.27 (18H, m, aromatic), 5.85 (0.8H, s, H1'<sub>8R</sub>), 5.67 (1H, s, H1'<sub>8S</sub>), 4.69-4.47 (7.2H, m, CH<sub>2</sub>Bn), 4.20 (0.8H, d,  $J_{2',3'} = 5.0$  Hz, H3'<sub>8R</sub>), 4.13 (1H, d,  $J_{2',3'} = 4.5$  Hz, H3'<sub>8S</sub>), 3.72 (1.8H, d,  $J_{\text{gem}} = 10.5$  Hz, H5'), 3.58 (1.8H, 2×d,  $J_{\text{gem}} = 10.5$  Hz, H5''), 2.52 (1H, app t,  $J_{2',3'} = 4.5$  Hz,  $J_{2',8'} = 2.5$  Hz, H2'<sub>8S</sub>), 2.33 (0.8H, d,  $J_{2',3'} = 4.5$  Hz, H2'<sub>8R</sub>), 2.28 (1.8H, m, H8'), 2.01 (1H, m, H7'<sub>8S</sub>), 1.86 (0.8H, m, H6'<sub>8R</sub>), 1.69 (0.8H, m, H7'<sub>8R</sub>), 1.47 (7.4H, m, H6'<sub>8S</sub>, H7''<sub>8S</sub> and thymine-CH<sub>3</sub>), 1.37-1.32 (5.6H, m,  $J_{\text{CH}_3, 8'S} = 7.5$  Hz, H7''<sub>8R</sub>, H6''<sub>8R</sub>, H6''<sub>8S</sub> and 8'S-CH<sub>3</sub>), 1.14 (2.4H, d,  $J_{\text{CH}_3, 8'R} = 7.0$  Hz, 8'R-CH<sub>3</sub>). <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 162.9, 162.8 (C4), 149.0, 148.9 (C2), 136.7, 136.5, 135.4 (C<sub>ispro</sub>-Bn), 135.6, 135.5 (C6), 127.6-126.4 (aromatic), 108.1, 108.0 (C5), 88.1 (C1'<sub>8S</sub>), 83.8 (C4'<sub>8S</sub>), 83.7 (C1'<sub>8R</sub>), 83.6 (C4'<sub>8R</sub>), 73.4 (C3'<sub>8S</sub>), 72.6 (C3'<sub>8R</sub>),