

Experimental section

5-((4S,5S)-4-Methyl-5-phenyl-2-oxo-3-oxazolidinyl)-2,4-dimethyloxazole (12). To a cooled solution of compound **1** (106 mg, 0.385 mmol) in CHCl_3 (2.0 mL) at 0°C was added NaN_3 (75 mg, 1.16 mmol) followed by $\text{CH}_3\text{SO}_3\text{H}$ (235 μL , 3.62 mmol). The cooling bath was removed and the reaction mixture was heated at reflux for 12 hours. The mixture was then poured into water (10 mL) and extracted with EtOAc. The organic layer was neutralized with sat. NaHCO_3 and the aqueous layer was extracted with EtOAc (3 x 20 mL) and the combined organic layers were washed with sat. NaCl , dried over MgSO_4 , filtered and concentrated in vacuo. The residue was then purified by flash chromatography on silica gel with CH_2Cl_2 /hexanes/ethyl acetate 60/30/10 as eluent to afford 63 mg (60%) of **3** as a colorless oil. ^1H NMR (400 MHz, CDCl_3 , TMS) δ 0.81 (d, J =6.8 Hz, 3H), 2.10 (s, 3H) 2.40 (s, 3H) 4.39-4.46 (apparent quintet, J =6.6 Hz, 1H), 5.80 (d, J =8.0 Hz) 7.32-7.46 (m, 5H); ^{13}C NMR (100 MHz, CDCl_3) 11.1, 14.3, 15.3, 57.9, 79.5, 126.0, 128.7, 128.9, 131.8, 134.3, 155.2, 160; IR (NaCl, CHCl_3) 2984, 2929, 1768, 1673, 1574, 1382 cm^{-1} . Calcd for $\text{C}_{15}\text{H}_{15}\text{N}_2\text{O}_3$: 272.1161. Found : 272.1161.

5-((4S,5S)-4-Methyl-5-phenyl-2-oxo-3-oxazolidinyl)-3,4-dimethylisoxazole (6). To a solution of compound **1** (153 mg, 0.554 mmol) in MeOH (2.7 mL) at 0°C was added $\text{NH}_2\text{OH}\text{HCl}$ (58 mg, 0.831 mmol) and NaOAc (2.3 mg, 0.028 mmol). The reaction mixture was heated at reflux for 20 hours. The solvent was removed in vacuo and the residue was diluted in EtOAc (15 mL). The organic layer was washed with sat. NaCl (10 mL) and the aqueous layer was re-extracted with EtOAc (3 x 15 mL). The combined organic layers were washed with brine and dried over MgSO_4 , filtered and concentrated

in vacuo. The residue was then purified by chromatography on silica gel with CH₂Cl₂/hexanes/ethyl acetate 60/30/10 as eluent to afford 120 mg (80%) of **2** as a white solid. ¹H NMR (400 MHz, CDCl₃, TMS) δ 0.84 (d, *J*=6.6 Hz, 3H), 1.95 (s, 3H) 2.21 (s, 3H) 4.62-4.69 (apparent quintet, *J*=6.6 Hz, 1H), 5.82 (d, *J*=7.5 Hz) 7.30-7.42 (m, 5H); ¹³C NMR (100 MHz, CDCl₃) 7.0, 10.7, 15.4, 57.2, 79.8, 106.2, 126.0, 128.7, 129.0, 133.9, 153.4, 155.0, 162.1; IR (NaCl, CHCl₃) 3027, 3011, 1771, 1661, 1218 cm⁻¹. Calcd for C₁₅H₁₅N₂O₃ : 272.1161. Found : 272.1161.