

A Fast and Efficient One-Pot Microwave Assisted Synthesis of 1,2,4-Oxadiazoles Variously Di-Substituted

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Supporting Information

Table of Contents:

General Methods	page S3
¹ H NMR and ¹³ C NMR Spectra of:	
5-benzyl-3-phenyl-1,2,4-oxadiazole 5(I)	page S4
3-Phenyl-5-(1-phenylethyl)-1,2,4-oxadiazole 5(II)	page S5
5-butyl-3-phenyl-1,2,4-oxadiazole 5(III)	page S6
5-butyl-3-o-tolyl-1,2,4-oxadiazole 5(IV)	page S7
5-neopentyl-3-o-tolyl-1,2,4-oxadiazole 5(V)	page S8
5-(phenoxymethyl)-3-o-tolyl-1,2,4-oxadiazole 5(VI)	page S9
5-(2-iodophenyl)-3-o-tolyl-1,2,4-oxadiazole 5(VII)	page S10
5-(3-phenylpropyl)-3-undecyl-1,2,4-oxadiazole 5(VIII)	page S11
5-m-tolyl-3-undecyl-1,2,4-oxadiazole 5(IX)	page S12
5-(4-chlorophenyl)-3-cyclohexyl-1,2,4-oxadiazole 5(X)	page S13
3,5-dibenzyl-1,2,4-oxadiazole 5(XI)	page S14
(S)-benzyl 1-(3-benzyl-1,2,4-oxadiazol-5-yl)ethylcarbamate 5(XII)	page S15
3-(4-bromobenzyl)-5-(3-methylbenzyl)-1,2,4-oxadiazole 5(XIII)	page S16
3-(4-bromobenzyl)-5-(4-methylbenzyl)-1,2,4-oxadiazole 5(XIV)	page S17
3-(4-bromobenzyl)-5-(3-phenylpropyl)-1,2,4-oxadiazole 5(XV)	page S18

<i>3-(4-bromobenzyl)-5-phenyl-1,2,4-oxadiazole 5(XVI)</i>	page S19
<i>(S)-benzyl 1-(3-(4-bromobenzyl)-1,2,4-oxadiazol-5-yl)-2-methylpropylcarbamate 5(XVII)</i>	page S20
<i>(S)-benzyl 1-(3-(4-bromobenzyl)-1,2,4-oxadiazol-5-yl)benzylcarbamate 5(XVIII)</i>	page S21
<i>(S)-tert-butyl 1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)ethylcarbamate 5(XIX)</i>	page S22
<i>(S)-tert-butyl 1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)phenylcarbamate 5(XX)</i>	page S23
<i>(S)-tert-butyl 1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)-3-methylbutylcarbamate 5(XXI)</i>	page S24
<i>(S)-benzyl 1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)-2-methylpropylcarbamate 5(XXII)</i>	page S25
<i>(S)-benzyl 2-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)pyrrolidine-1-carboxylate 5(XXIII)</i>	page S26
<i>5-benzyl-3-(4-methoxybenzyl)-1,2,4-oxadiazole 5(XXIV)</i>	page S27
<i>5-phenyl-3-(4-methoxybenzyl)-1,2,4-oxadiazole 5(XXV)</i>	page S28
<i>5-(3-methylbenzyl)-3-(methylthiomethyl)-1,2,4-oxadiazole 5(XXVI)</i>	page S29
<i>5-(benzyl)-3-(methylthiomethyl)-1,2,4-oxadiazole 5(XXVII)</i>	page S30
<i>5-(ethyl-phenyl)-3-(methylthiomethyl)-1,2,4-oxadiazole 5(XXVIII)</i>	page S31
<i>tert-butyl (1S)-2-methyl-1-(3-(methylthiomethyl)-1,2,4-oxadiazol-5-yl)butylcarbamate 5(XXIX)</i>	page S32
<i>(S)-tert-butyl 1-(3-(methylthiomethyl)-1,2,4-oxadiazol-5-yl)-2-phenylethylcarbamate 5(XXX)</i>	page S33
<i>(S)-tert-butyl 1-(3-((R)-tert-butyl ethylcarbamate)-1,2,4-oxadiazol-5-yl)ethylcarbamate 5(XXXI)</i>	page S34
<i>(S)-1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)-3-methylbutan-1-amine 6</i>	page S35
<i>(S)-1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)-3-methyl-N-((R)-2,2,2(trifluoro-1-methoxy-1-phenylethyl)butan-1-amine 7</i>	page S36
¹⁹ F NMR Spectrum of: <i>(S)-1-(3-(4-methoxybenzyl)-1,2,4-oxadiazol-5-yl)-3-methyl-N-((R)-2,2,2(trifluoro-1-methoxy-1-phenylethyl)butan-1-amine 7</i>	page S37

General Methods. All reagents and solvents were as obtained by commercial source. The *N*-Boc and *N*-Cbz derivatives of the α -amino acids were prepared according standard methods.¹

All conventional reactions were run under dry nitrogen using standard techniques unless otherwise stated. All solvents were dried by usual methods and distilled under argon. Thin-layer chromatography (TLC) analysis was performed with Merck Kieselgel 60 F254 plates and visualized using UV light at 254 nm, FeCl₃ (5% FeCl₃ in H₂O), and KMnO₄ staining. Microwave reactions were conducted using CEM Discover Synthesis Unit (CEM Corp., Matthews, NC). The instrument consists of a continuous focused microwave power delivery system with operator selectable power output from 0 to 300W. Reactions were performed in a heavy-walled glass tubes sealed with a septum. The temperature of the content of the vessel was monitored using a calibrated infrared temperature control mounted under the reaction vessel. After complete irradiation, the reaction tube was cooled with high-pressure air until the temperature had fallen below 35 °C. ¹H NMR, ¹³C NMR and ¹⁹F-NMR were recorded at 300, 75.4 and 282 MHz using CDCl₃ solutions and TMS as an internal standard. Chemical shifts are reported in parts per million (ppm, δ) relative to tetramethylsilane (TMS, δ 0.00) or relative to residual solvent signals (CDCl₃, δ 7.27 ppm δ 2.54). Coupling constants (*J* values) are given in Hz, and peak multiplicities are denoted by s (singlet), bs (broad singlet), d (doublet), dd (doublet of doublets), pd (pseudo doublet), m (multiplet), q (quartet), and t (triplet). Optical rotations were measured at ambient temperature in a 10 cm cell, and *c* is expressed in g/100 mL. Melting points were determined in open capillary tubes and are uncorrected.

(1) Bodanszky, M.; Bodanszky, A. The Practice of Peptide Synthesis; Springer Lab. Manual: Berlin, 1994.



































































