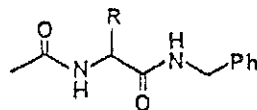


Table 42. ^{13}C NMR Spectral Properties for the Polar Analogues 107a-e of 2-Acetamido-N-benzylpropionamide (68a).^a



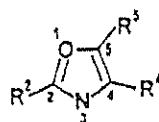
107

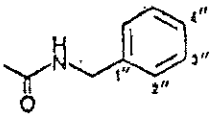
No.	R	CH ₃	COCH ₃	CH	COCH	CH ₂	C ₁ ^{''}	C ₂ ,C ₃ [']	C ₄ [']	R
<u>68a</u> ^b	H	22.50	169.00 ^c	42.50	169.60 ^c	42.00	139.30	126.10 ^{d,e} 128.10 ^{d,e}	126.50	-
<u>68a</u> ^b	CH ₃	22.50	169.5	42.00	174.3	42.10	139.70	127.10 ^{d,e} 128.30 ^{d,e}	126.70	15.80
<u>107a</u> ^f	CN	22.07	162.81	44.22	169.69	42.64	138.38	126.90 ^{d,e} 127.11 ^{d,e}	128.23	116.45
<u>107b</u>	CONH ₂	22.48	168.53 ^c	57.28	169.41 ^c	42.22	138.99	127.02 ^{d,e} 128.19 ^{d,e}	126.73	166.87

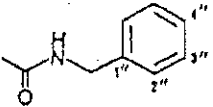
107c	COOCH ₂ CH ₃	22.50	167.41	58.81	170.42	43.67	137.45	127.39 ^{d,g} 128.50 ^{d,e}	127.399	13.81 (CH) 62.29 (CH) 165.19 (C)
107d	CH ₂ OH	22.19	169.86 ^c	54.87	169.08 ^c	41.58	138.90	128.53 ^{d,e} 127.71 ^{d,e}	126.15	61.30
107e ^d	CH ₂ OCH ₃	23.19	169.96 ^c	52.40	169.96 ^c	43.55	h	127.44 ^{d,e} 128.70 ^{d,e}	127.49	59.08 (CH) 71.65 (CH)

^aThe ¹³C NMR spectra were taken in DMSO-d₆ unless otherwise indicated. The number in each entry is the chemical shift value observed in ppm relative to TMS. The information in parentheses in select cases is the proposed assignment. ^bRef. 103. ^cThis set of resonances may be interchangeable. ^dThe close proximity of these two peaks did not permit the assignment of these resonances. ^eThis peak had approximately two times the intensity of nearby peaks. ^fThe ¹³C NMR spectrum was taken in CDCl₃. ^gThis peak had approximately three times the intensity of nearby peaks. ^hA discrete signal for this carbon resonance was not observed.

Table 43. ¹³C NMR Spectral Properties for Oxazole Derivatives 111 and 114.^a



No.	R ₂	R ₄	R ₅	C ₂	C ₄	C ₅	R ₂	R ₄	R ₅
119b	H	H	H	150.60	125.40	138.10	.	.	.
112	CH ₃	COOCH ₂ CH ₃	OCH ₂ CH ₃	161.53 ^b	107.30	151.01	13.90	14.46 (CH ₃) 60.30 (CH ₂) 161.46 ^b (CO)	15.00 (CH ₃) 69.11 (CH ₃)
111 ^c	CH ₃		OCH ₂ CH ₃	159.42 ^b	104.55	141.74	13.94	41.69 (CH ₂) 126.68 (C ₄) 126.94 (C ₂ ^{''} or C ₃ ^{''}) 128.28 ^d (C ₂ ^{''} or C ₃ ^{''}) 139.96 (C ₁ ^{''}) 154.50 ^b (CO)	14.83 (CH ₃) 64.44 (CH ₂)

114	CH ₃		NH ₂	163.40 ^b	106.37	149.40	13.29 ^c	42.51 (CH ₂) 127.10 (C _{4''}) 127.44 ^{d,e} (C _{2''} or C _{3''}) 120.45 ^{d,o} (C _{2''} or C _{3''}) 138.50 (C _{1''}) 156.65 ^b (CO)
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^a The ¹³C NMR spectra were taken in CDCl₃, unless otherwise indicated. The number in each entry is the chemical shift value in parts per million relative to TMS. ^b This set of resonances may be interchangeable. ^c The ¹³C NMR spectra was taken in DMSO-d₆. ^d This set of resonances may be interchangeable. ^e This peak had approximately twice the intensity of nearby peaks.

gen atoms at carbons -4 and -5 by an electron-withdrawing and an electron-donating groups, respectively, led to a pronounced shift in the resonances of the corresponding carbon atoms. The carbon-4 signal moved upfield (19.03 - 20.85 ppm) from 119b, while the resonance for the carbon-5 atom was shifted downfield (11.30 - 13.64 ppm) from that observed in 119b. This perturbation in the ^{13}C NMR spectra for 111, 112 and 114 is attributed to the push-pull resonance effects exerted by the carbon-5 and carbon-4 substituents.

3. Pharmacological Evaluation.

The 2-substituted-2-acetamido-N-benzylacetamides 107a-d and the oxazole derivative 111 prepared in this study were submitted to the Eli Lilly Corporation, Indianapolis, Indiana, for evaluation of their anticonvulsant activity. They were tested using the same protocols described in Chapter 1. Pharmacological data for these functionalized amino acids are listed in Table 44.

Compounds 107a-c did not exhibit significant activity in the MES seizure test. The lack of anticonvulsant properties of these adducts was interesting in light of the pronounced activity of the methyl analogue 68a. A tentative explanation for this dichotomy of results can be offered. In a first approximation compounds 68a and 107a-c all contain relatively small substituents. The primary difference between the two sets of compounds is the presence of an electron-donating (68a) or an electron-withdrawing (107a-c) moiety at the α -carbon. Our previous studies have indicated that

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