

OCCURRENCE, BIOLOGICAL ACTIVITIES AND ¹³C NMR DATA OF AMIDES FROM *Piper* (Piperaceae)[#]

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Table 1S. ¹³C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

¹³ C	1 ^a	2 ^a	3 ^a	4 ^a	5 ^a	7 ^a	8 ^a	14 ^a	15 ^b	16 ^b	17 ^a	18 ^a	21 ^c
1	169.6	165.0	165.0	168.5	168.8	169.6	165.5	174.7	175.0	170.1	174.6	174.8	172.9*
2	-	-	-	-	119.8	-	-	41.1	41.7	35.3	41.2	41.2	37.8
3	-	-	-	-	142.0	-	-	30.8	31.3	31.5	31.2	30.4	30.2
1'	114.2	122.1	121.9	135.5	137.7	114.2	134.9	140.9	142.1	142.4	136.6	133.5	137.0
2'	155.3	151.8	151.7	129.7	106.2	155.5*	128.7*	128.4	129.3	129.3	105.4	111.3	105.8
3'	119.3	112.9	112.9	129.2*	161.3	119.3	127.0	128.5	129.1	129.1	153.1	148.8	153.5
4'	120.8	119.2	119.3	132.6	101.9	120.9	131.9	126.1	126.8	126.7	136.3	147.4	137.0
5'	151.7	153.9	153.9	129.2	164.9	146.8*	127.0	128.5	129.1	129.1	153.1	112.0	153.5
6'	109.7	115.6	115.5	129.7	106.2	109.6	128.7	128.4	129.3	129.3	105.4	120.3	105.8
1''	40.8	41.1	41.0	45.0	46.4	40.9	123.6	169.6	169.2	127.3	169.6	169.6	170.5*
2''	35.0	35.2	36.0	75.0	24.6	35.1	113.4	52.3	52.5	110.6	52.3	52.3	128.0
3''	130.9	131.9	135.1	130.8	26.5	130.3	130.1	53.4	53.4	61.4	53.4	53.3	147.0
4''	111.9	112.2	105.7	128.0*	26.5	111.2	128.3*	23.8	66.8	32.0	23.8	23.8	50.4
5''	149.2	149.0	153.2	115.3	46.9	144.5*	114.7	35.6	41.8	36.9	35.6	35.6	-
6''	147.9	147.7	136.5	161.0	-	151.8*	159.0	-	-	-	-	-	-
7''	111.5	111.4	153.2	115.3	-	114.6	114.7	-	-	-	-	-	-
8''	120.7	120.8	105.7	128.0	-	121.4	128.3	-	-	-	-	-	-
-OC=O	-	-	-	172.0	-	-	-	-	170.0	-	-	-	-
O=CCH ₃	-	-	-	21.5	-	-	-	-	20.6	-	-	-	-
5''-CH ₃	55.8	55.8	56.1	-	-	59.9*	-	-	-	-	-	-	-
6''-OCH ₃	55.9	56.0	60.8	55.6	-	-	55.2	-	-	-	-	-	-
7''-OCH ₃	-	-	56.1	-	-	-	-	-	-	-	-	-	-
2'-OCH ₃	-	56.3	56.2	-	-	-	-	-	-	-	-	-	-
3'-OCH ₃	-	-	-	-	-	-	-	-	-	-	56.0	55.9	56.1
4'-OCH ₃	-	-	-	-	-	-	-	-	-	-	60.8	55.8	60.5
5'-OCH ₃	56.0	55.8	55.8	-	55.7	60.0*	-	-	-	-	56.0	-	56.1

^aCDCl₃; ^b(CD₃)₂CO and ^cCD₃OD

* may be interchangeable within the same column

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[#]Artigo em homenagem ao Prof. Otto R. Gottlieb (31/8/1920-19/6/2011)

Table 1S. ¹³C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

¹³ C	22 ^a	23 ^b	27 ^a	28 ^b	29 ^a	31 ^b	33 ^a	34 ^a	36 ^a	38 ^b	40 ^a	44 ^a	45 ^a
1	172.5	166.3	169.6	170.2	164.6	164.4	164.6	165.7	164.7	163.9	163.9	168.4	164.8
2	38.1	119.0	36.5	36.3	36.4	122.4	119.1	117.0	118.8	119.3	118.1	117.6	117.0
3	30.3	144.0	29.9	29.5	30.4	139.2	141.6	141.9	141.7	140.9	141.8	141.5	141.3
1'	141.8	134.4	132.7	131.6	140.2	135.7	136.8	129.9	135.3	131.4	130.9	130.3	129.8
2'	128.4	128.3	111.4	112.7*	128.7	104.4	113.2	128.6	127.8	105.7	140.0	109.5	106.5
3'	128.6	128.3	148.9	129.6	128.4	129.0*	159.8	114.7	128.7	139.9	105.2	143.7	148.9
4'	126.1	129.2	147.6	156.0	126.5	127.7	115.0	161.4	129.5	153.9	153.4	130.3	148.2
5'	128.6	128.3	111.7	129.6	128.4	129.4*	129.7	114.7	128.7	139.9	153.4	149.4	108.5
6'	128.4	128.3	120.1	112.7	128.7	104.4	120.4	128.6	127.8	105.7	105.2	100.8	123.8
1''	170.0	175.7	118.8	119.2	118.9	52.2	46.6	46.9	46.6	46.3	46.3	46.1*	46.0*
2''	127.7	33.6	113.0	115.4*	113.2	25.0	26.1	26.4	26.1	26.1	24.4	24.4*	24.4*
3''	146.6	17.2	113.0	115.4	113.2	30.1	24.3	24.6	24.3	24.3	26.2	26.2*	26.2*
4''	50.7	45.8	118.8	119.2	118.9	39.0	46.1	46.3	46.0	45.7	47.0	46.6*	46.6*
OCH ₂ O	-	-	-	-	-	-	-	-	-	-	-	101.8	101.4
1''-OCH ₃	-	-	-	-	-	52.2	-	-	-	-	-	-	-
2'-OCH ₃	-	-	-	-	-	-	-	-	-	-	56.1	-	-
3'-OCH ₃	-	-	55.8*	-	-	-	55.3	-	-	55.8	-	-	-
4'-OCH ₃	-	-	55.7*	-	-	-	-	55.7	-	59.9	60.9	-	-
5'-OCH ₃	-	-	-	-	-	-	-	-	-	55.8	56.2	56.8	-

^aCDCl₃ and ^b(CD₃)₂CO

* may be interchangeable within the same column

Table 1S. ¹³C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

¹³ C	47 ^a	48 ^c	49 ^b	50 ^a	51 ^a	55 ^a	56 ^a	58 ^a	59 ^a	60 ^a	61 ^a	62 ^a	63 ^a	66 ^a
1	165.1	166.1	164.4	166.3	166.2	165.0	167.3	165.7	167.4	166.2	175.5	169.3*	165.7	166.2
2	117.6	118.0	119.8	120.3	119.0	116.0	121.9	118.3	122.5	121.5	40.8	119.8	124.5	41.5
3	143.1	142.6	141.0	141.9	140.5	142.3	132.3	142.3	132.4	144.2	24.5	144.6	136.7	31.5
1'	134.9	135.1	135.8	134.9	129.3	130.3	129.8	132.1	130.3	131.0	136.8	126.9	131.1	134.2
2'	128.0	128.0	128.1	128.1	106.3	106.7	108.2	105.4	108.4	105.9	105.4	105.5	106.6	108.2
3'	128.9	129.8	129.6	130.0	148.9	149.2	147.8	154.5	148.9	153.7	153.1	147.5	152.0	149.4
4'	130.0	128.8	129.0	129.1	148.2	148.5	147.6	140.5	143.5	140.4	136.2	137.5	145.5	136.4
5'	128.9	129.8	129.6	130.0	108.5	108.8	108.2	154.2	135.4	153.7	153.1	147.5	152.8	144.1
6'	128.0	128.0	128.1	128.1	123.7	123.9	123.1	105.4	102.4	105.9	105.4	105.5	106.6	103.2
1''	50.6	44.7	44.5	43.4	47.1	47.3	47.3	47.2	47.3	169.2	165.3	166.0*	168.1	176.3
2''	75.3	52.3	54.8	60.5	28.7	26.1	26.1	27.5	26.2	126.2	125.6	126.1	125.5	126.5
3''	73.5	29.7	34.5	31.2	20.2	25.0	24.4	25.3	24.5	145.9	145.2	145.6	145.4	146.0
4''	50.1	74.1	70.7	70.7	20.2	27.1	25.2	26.4	25.3	25.2	31.5	24.5	24.8	25.0
5''	-	-	-	-	-	43.7	42.0	43.7	42.0	42.0	41.0	41.4	41.1	41.5
OCH ₂ O	-	-	-	-	101.4	101.8	101.1	-	101.6	-	-	-	-	101.8
2''-OC=O	170.2	171.0	-	171.2	-	-	-	-	-	-	-	-	-	-
2''-O=CCH ₃	20.8	19.7	-	21.1	-	-	-	-	-	-	-	-	-	-
3''-O=CCH ₃	20.8	-	-	-	-	-	-	-	-	-	-	-	-	-
3''-OC=O	170.2	-	-	-	-	-	-	-	-	-	-	-	-	-
4''-OC=O	-	-	-	171.4	-	-	-	-	-	-	-	-	-	-
4''-O=CCH ₃	-	-	-	21.3	-	-	-	-	-	-	-	-	-	-
3'-OCH ₃	-	-	-	-	-	-	-	56.5	-	56.6	56.0	56.2	56.1	57.0
4'-OCH ₃	-	-	-	-	-	-	-	60.6	-	61.3	60.7	-	60.7	-
5'-OCH ₃	-	-	-	-	-	-	-	56.5	56.5	56.6	56.0	56.2	56.1	-

^aCDCl₃; ^b(CD₃)₂CO and ^cCD₃OD

* may be interchangeable within the same column

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	67 ^a	68 ^a	70 ^b	71 ^f	72 ^a	73 ^a	74 ^a	75 ^a	76 ^a	77 ^a	78 ^a	82 ^a	83 ^a	84 ^a
1	165.9	175.6	166.4	166.8	169.2	166.2	166.2	166.1	165.1	165.5	166.6	172.8	166.0	166.2
2	112.2	40.8	115.7*	119.5	118.6	136.7	123.5	123.6	118.3	118.3	122.7	31.1	120.8	123.3
3	147.9	31.1	140.3	140.3	142.1	114.2	136.7	137.1	138.9	138.6	140.0	25.2	142.6	140.9
4	-	-	-	-	-	-	126.4	126.4	123.7	123.8	123.4	35.2	33.8	124.7
5	-	-	-	-	-	-	136.1	136.3	140.5	140.7	139.0	36.5	34.1	138.8
1'	125.9	141.1	128.3	127.1	128.0	147.3	130.6	130.6	131.2	130.1	130.9	135.9	134.6	130.9
2'	105.6	128.4	111.2	130.1	111.5	120.9*	108.4	108.4	107.2	105.2	105.7	107.9	107.9	105.7
3'	147.7	128.6	149.0	116.4	149.4	126.7	147.9	147.9	147.1	148.2	148.3	145.3	145.5	148.2
4'	138.2	126.0	146.2	160.5	150.2	146.8	147.8	147.9	147.0	148.1	148.3	147.3	147.5	148.2
5'	147.7	128.6	116.0*	116.4	116.5	114.8	109.2	109.3	107.5	108.5	108.1	108.6	108.4	108.5
6'	105.6	128.4	122.0*	130.1	123.3	124.2*	125.8	125.6	122.1	122.7	124.4	120.0	124.2	122.6
1''	143.3	165.3	41.9	42.01	42.5	40.6	47.0	48.2	45.9	46.7	47.3	46.7	46.7	45.3
2''	108.2	125.9	36.1	35.8*	35.8	34.2	28.6	82.3	28.6	81.3	28.7	28.3	28.3	35.1
3''	194.1	145.1	131.8	130.6*	131.3	129.3	20.1	24.1	19.2	23.1	20.3	19.9	19.9	27.1
4''	35.7	24.6	113.1	130.5*	130.7	129.3	20.1	24.1	19.2	23.1	20.3	19.9	19.9	11.3
5''	42.2	41.0	145.8	116.8	116.3	114.8	-	-	-	-	-	-	-	17.2
6''	-	-	148.6	157.4	156.9	155.2	-	-	-	-	-	-	-	-
7''	-	-	120.1	116.8	116.3	114.8	-	-	-	-	-	-	-	-
8''	-	-	122.5*	130.5	130.7	129.3	-	-	-	-	-	-	-	-
-OC=O	-	-	-	-	-	-	-	170.9	-	169.8	-	-	-	-
O=CCH ₃	-	-	-	-	-	-	-	22.4	-	21.3	-	-	-	-
OCH ₂ O	-	-	-	-	-	-	101.2	101.2	100.2	100.2	101.4	101.0	100.5	101.3
3'-OCH ₃	56.3	-	56.1	-	56.3	55.5	-	-	-	-	-	-	-	-
5'-OCH ₃	56.3	-	-	-	-	-	-	-	-	-	-	-	-	-
5''-OCH ₃	-	-	56.1	-	-	-	-	-	-	-	-	-	-	-

^aCDCl₃; ^b(CD₃)₂CO and ^fC₃D₅N

** may be interchangeable within the same column

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	85 ^a	86 ^a	87 ^a	88 ^a	89 ^a	90 ^a	96 ^a	97 ^a	98 ^a	101 ^a	102 ^a	103 ^a	107 ^a	108 ^a
1	166.4	166.5	165.0	164.7	165.6	164.8	165.2	171.8	165.5	166.5	166.6	166.5	165.6	165.5
2	118.8	123.7	121.5	122.3	118.5	121.1	120.0	33.1	121.1	122.9	122.5	118.9	118.1	120.2
3	141.8	141.3	141.8	144.2	139.1	144.4	142.3	24.8	144.0	141.2	141.3	141.3	140.4	142.4
4	122.6	125.1	125.3	34.4	124.2	121.1	125.3	31.3	34.4	129.3	129.1	127.5	127.9	130.5
5	133.7	139.2	138.7	34.5	140.9	134.9	138.0	35.3	34.5	140.9	141.7	141.3	141.6	139.6
6	-	-	-	-	-	-	-	-	-	38.5	35.2	34.9	34.9	126.8
7	-	-	-	-	-	-	-	-	-	-	35.2	35.1	35.0	135.4
1'	124.6	130.9	131.0	135.0	131.4	127.0	130.9	136.0	134.9	131.3	135.3	135.4	135.4	131.6
2'	153.6	106.1	105.8	108.1	106.4	108.1	105.5	107.9	108.8	129.8	109.0*	108.1	108.1	105.6
3'	95.0	148.6	148.3	145.4	148.2	145.6	148.1	147.4	147.5	114.2	147.8	145.6	145.6	147.9
4'	149.1	148.6	148.3	147.5	148.1	147.5	148.0	145.6	145.7	158.4	145.9	147.5	147.5	147.9
5'	141.8	108.9	108.5	108.8	108.3	108.7	108.3	108.7	108.1	114.2	108.9*	108.8	108.8	108.6
6'	105.4	123.0	122.6	121.2	122.6	122.1	122.3	120.9	121.3	129.8	121.4	121.1	121.1	122.1
1''	47.1	39.0	46.5	46.5	46.9	45.8	47.1	46.5*	46.8	47.2	47.2	46.7	46.8	43.4
2''	28.7	38.4	26.2	26.1	26.3	26.0	26.9	26.4*	26.7	28.8	28.8	28.6	26.2	25.7
3''	20.2	26.3	24.4	24.3	24.4	24.2	24.5	24.4	24.6	20.3	20.3	20.1	24.3	24.8
4''	20.2	22.9	45.9	45.8	45.6	46.5	25.7	25.4*	25.5	20.3	20.3	20.1	45.5	26.8
5''	-	22.9	-	-	-	-	43.0	42.5*	43.0	-	-	-	-	47.0
OCH ₂ O	101.4	101.7	101.3	100.8	101.0	100.7	101.2	100.5	100.7	-	101.0	100.7	100.7	101.3
2'-OCH ₃	56.7	-	-	-	-	-	-	-	-	-	-	-	-	-
4'-OCH ₃	-	-	-	-	-	-	-	-	-	55.5	-	-	-	-

^aCDCl₃ and ^a(CD₃)₂O

** may be interchangeable within the same column

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	109 ^a	110 ^a	111 ^a	112 ^a	113 ^a	114 ^a	117 ^a	118 ^a	119 ^a	121 ^a	122 ^a	123 ^a	124 ^a	125 ^a	126 ^a
1	165.8	165.6	166.3	172.9	165.0	164.7	171.4	171.7	171.5	171.3	165.8	165.6	165.2	165.6	166.3
2	119.3	121.8	123.7	36.9	121.8	120.3	33.4	34.8	34.6	33.4	121.3	119.1	120.5	120.3	122.3
3	142.7	145.5	143.9	25.8	145.6	144.4	25.3	24.4	24.4	25.4	137.3	141.1	145.2	145.9	140.5
4	129.4	32.5	32.4	29.2	32.8	32.2	26.5	29.0	29.3	29.0	120.6	127.8	32.2	32.5	127.4
5	141.1	28.6	27.6	28.9	29.4	31.6	28.9	29.3	32.7	29.3	138.4	142.5	27.9	28.3*	141.2
6	35.2	31.8	28.7	29.2	28.4	130.2	29.3	29.4	128.9	29.4	28.1	32.2	28.9	28.9*	32.6
7	35.2	35.8	31.6	32.8	32.2	127.5	29.7	32.8	129.5	32.8	32.9	32.8	32.6	29.0*	35.9
8	-	-	129.4*	129.2	128.8	-	32.8	129.2	-	129.2	121.3	129.4	128.6	29.3*	128.7
9	-	-	128.7*	129.3	131.4	-	128.0	129.3	-	129.3	130.4	130.1	129.5	32.8	130.0
10	-	-	-	-	-	-	129.2	-	-	-	-	-	-	129.3	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	129.3	-
1'	135.4	137.2	131.9	132.4	128.4	132.0	132.4	132.4	132.4	132.4	132.4	132.1	132.2	132.4	131.9
2'	109.0	109.4	105.2	105.4	105.4	105.3	105.6	105.4	105.4	105.4	105.7	105.4	105.2	105.3	105.2
3'	147.8	148.4	147.7	147.9	148.0	147.9	146.4	146.5	146.5	147.9	146.9	146.7	146.5	147.9	147.7
4'	145.9	146.4	146.4	146.5	147.8	146.7	147.8	147.9	147.9	146.5	148.1	147.9	147.9	146.5	146.4
5'	108.4	108.6	108.0	108.2	108.9	108.1	108.5	108.1	108.1	108.1	108.4	108.2	108.0	108.2	108.0
6'	121.4	121.8	120.0	120.2	120.2	122.2	119.6	120.1	120.2	120.1	120.6	120.4	120.1	120.1	120.1
1''	47.1	47.1	46.8	46.8	46.0	46.4	46.6	46.6	45.6	46.7	47.1	46.7	46.6	43.0*	46.8
2''	26.9	27.2	28.4	28.5	26.0	26.0	25.4	26.1	24.5	26.6	26.9	26.8	26.5	25.5 [#]	28.4
3''	24.9	25.2	19.9	20.1	24.6	24.2	24.5	24.8	26.1	24.6	24.9	24.7	24.6	24.6	19.9
4''	25.7	26.3	19.9	20.1	46.0	45.7	42.5	45.6	46.6	25.6	25.8	25.6	25.6	26.6 [#]	19.9
5''	43.4	43.8	-	-	-	-	-	-	-	42.6	43.3	43.2	42.9	46.8*	-
OCH ₂ O	101.0	101.5	100.7	100.9	100.8	100.9	100.8	100.8	100.8	100.8	101.1	100.9	100.8	100.9	100.7

^aCDCl₃

may be interchangeable within the same column

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	127 ^a	128 ^a	129 ^a	130 ^a	131 ^a	132 ^a	135 ^a	136 ^a	137 ^a	139 ^a	140 ^a	141 ^a	142 ^a	143 ^a	144 ^a	145 ^a
1	166.3	166.3	166.3	166.4	166.4	166.4	166.4	166.4	164.9	166.4	166.4	166.2	165.5	165.7	165.1	157.0
2	122.3	121.8	121.9	121.7	121.8	121.9	121.8	121.9	120.9	121.8	121.8	123.9	118.7	118.6	120.3	121.8
3	141.0	141.2	141.2	141.3	143.0	143.0	143.1	143.0	141.9	143.2	143.1	144.7	142.0	142.8	142.0	145.6
4	127.4	142.8	128.4	129.4	128.3	128.4	128.3	128.4	127.5	128.2	128.3	32.1	128.9	128.9	130.2	129.5
5	143.6	128.4	142.8	143.1	141.2	141.2	141.2	141.2	139.8	141.4	141.2	28.2*	142.6	142.5	141.8	142.0
6	31.4	32.8*	32.8	32.9	32.9	32.5	32.9	32.5	32.7	33.0	32.9	28.9*	32.6*	32.9	32.2	32.5
7	28.6	29.0*	28.3	29.0	29.5*	29.4*	29.8*	29.4*	28.7	29.4*	29.5*	29.0*	28.8*	28.8*	32.9	28.5
8	32.2	28.6*	28.9	28.7	28.6*	28.8*	28.6*	28.8*	28.7	28.8*	29.4*	29.3*	28.9*	29.0*	127.7	29.3
9	129.6	32.7*	32.7	28.9	28.6*	28.8*	28.6*	28.8*	31.5	28.8*	29.2*	32.9	32.7*	29.0*	129.2	29.5
10	128.9	128.5	129.0	29.3	28.6*	28.8*	28.6*	28.8*	31.9	29.4*	29.1*	129.3	129.0	29.3*	-	29.7
11	-	129.3	129.5	32.9	28.6*	28.8*	28.6*	28.8*	128.9*	32.5	29.0*	129.3	129.5	32.9	-	33.4
12	-	-	-	129.3	29.5*	28.8*	28.6*	28.8*	129.1*	129.3	33.8	-	-	129.3	-	128.8
13	-	-	-	129.4	32.8	29.4*	29.8*	29.4*	-	131.2	129.5	-	-	129.3	-	129.5
14	-	-	-	-	129.3	32.9	31.7	32.9	-	34.7	132.0	-	-	-	-	-
15	-	-	-	-	129.4	129.3	35.7	31.6	-	35.9	38.7	-	-	-	-	-
16	-	-	-	-	-	129.5	-	35.6	-	-	-	-	-	-	-	-
1'	131.9	130.6	132.3	132.5	132.6	132.6	136.8	136.8	131.9	136.1	136.8	132.5	132.3	132.5	132.1	132.0
2'	105.2	127.0	105.4	105.4	105.5	108.1	108.0	108.0	104.9	108.1	108.1	105.2	105.3	105.4	105.4	105.5
3'	147.7	113.9	147.9	146.5	148.0	147.9	147.5	147.3	146.5	147.5	147.5	147.9	146.5	147.9	147.9	146.5
4'	146.4	158.6	146.6	149.9	146.6	145.5	145.4	145.4	145.3	145.5	145.4	146.6	147.8	146.5	146.7	148.0
5'	108.0	113.9	108.2	108.2	108.2	108.4	108.9	108.8	107.8	109.0	109.0	108.0	108.1	108.2	108.2	108.3
6'	120.1	127.0	120.2	120.2	120.2	120.1	121.0	121.0	119.7	121.2	121.1	120.2	120.1	120.2	120.1	120.0
1''	46.8	46.9	46.9	46.9	47.0	47.0	47.0	47.0	46.5	47.0	47.0	46.9	43.2	43.2*	46.2	46.5
2''	28.4	28.3	28.6	28.3	28.6	28.6	28.6	28.6	31.5	28.7	28.6	28.6	26.6	25.6 [#]	25.2	24.5
3''	19.9	20.1	20.1	20.1	20.7	20.1	20.1	20.1	28.7	20.2	20.1	20.1	24.5	24.7	25.2	26.0
4''	19.9	20.4	20.1	20.1	20.7	20.1	20.1	20.1	19.9	20.2	20.1	20.1	25.0	26.7 [#]	46.2	45.7
5''	-	-	-	-	-	-	-	-	19.9	-	-	-	46.8	46.9*	-	-
OCH ₂ O	100.7	-	100.9	100.9	100.9	100.8	100.7	100.8	100.7	100.7	100.7	100.9	100.8	100.9	100.9	100.7
4'-OCH ₃	-	55.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^aCDCl₃

may be interchangeable within the same column

Table 1S. ¹³C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

¹³ C	150 ^a	151 ^a	152 ^a	153 ^a	154 ^a	156 ^a	158 ^a	163 ^a	173 ^a	176 ^a	177 ^a	181 ^a	182 ^a	183 ^a	184 ^a	190 ^a
1	165.6	166.4	166.7	166.0	166.3	166.2	166.5	175.1	172.3	167.0	165.2	165.7	164.3	165.8	165.6	164.7
2	124.7	121.7	122.4	120.0	121.9	121.7	121.9	29.3	35.3	119.8	119.8	118.5	129.0	121.8	121.4	120.9
3	142.8	141.3	140.6	139.0	141.0	141.1	141.1	30.4	25.4	144.1	143.1	142.9	139.2	142.8	144.3	142.1
4	74.2	128.4	128.5	124.0	128.2	128.2	128.3	92.8	30.0	32.6	128.6	128.8	139.1	74.6	74.3	127.3
5	74.0	142.9	142.4	114.5	142.8	143.0	142.9	209.3	29.9	27.3	142.2	142.6	133.8	74.5	74.0	140.5
6	35.2	35.0	32.9	34.0	32.9	32.9	33.0	35.0	30.0	29.4	32.9	32.9	200.4	32.2	33.0	32.3
7	18.9	22.01	28.5	31.5	28.6	28.6	28.7	23.4	29.9	32.2	28.5	31.3	41.2	25.7	25.4	29.1
8	14.0	13.65	31.3	29.5	28.6	28.6	28.7	31.3	30.0	28.6	31.4	28.5	26.2	31.8	31.8	28.3
9	-	-	22.4	29.5	28.6	28.6	28.7	22.4	29.9	129.4	22.5	22.5	22.4	22.6	22.6	28.3
10	-	-	14.0	29.5	28.6	28.6	28.7	13.8	30.0	129.1	14.0	20.2	13.8	14.1	14.0	29.1
11	-	-	-	29.5	28.6	28.6	28.7	-	29.9	27.5	-	-	-	-	-	26.5
12	-	-	-	29.5	28.6	28.6	28.7	-	30.0	30.8	-	-	-	-	-	129.9
13	-	-	-	29.5	28.6	28.6	28.7	-	37.0	29.6	-	-	-	-	-	129.9
14	-	-	-	29.5	28.6	28.6	28.7	-	34.8	29.4	-	-	-	-	-	27.1
15	-	-	-	29.5	29.6	28.6	28.7	-	27.5	29.2	-	-	-	-	-	26.5
16	-	-	-	31.5	31.9	28.6	28.7	-	11.8	28.6	-	-	-	-	-	28.3
17	-	-	-	23.0	22.7	29.6	29.8	-	-	32.6	-	-	-	-	-	22.3
18	-	-	-	14.0	14.1	31.9	32.0	-	-	22.6	-	-	-	-	-	14.1
19	-	-	-	-	-	22.7	22.4	-	-	14.1	-	-	-	-	-	-
20	-	-	-	-	-	14.1	14.0	-	-	-	-	-	-	-	-	-
1'	47.0	46.9	47.0	41.5	46.9	46.9	47.0	47.9	46.0*	46.6	46.5	46.8	47.1	47.1	47.1	46.3
2'	28.6	28.6	28.6	25.1	28.8	28.8	28.8	27.9	24.8*	26.3	26.1	26.7	26.8	26.6	26.5	29.1
3'	20.2	20.1	20.2	22.6	20.1	20.1	20.2	20.3*	26.6*	24.6	24.3	24.6	24.6	24.5	24.5	28.3
4'	20.2	20.1	20.2	22.6	20.1	20.1	20.2	20.5*	47.0*	46.0	45.9	25.6	25.6	25.6	25.5	28.1
5'	-	-	-	-	-	-	-	-	-	-	-	43.2	43.4	43.2	43.2	19.5
6'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.5

^aCDCl₃

** may be interchangeable within the same column

Table 1S. ¹³C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

¹³ C	192 ^d	194 ^d	195 ^d	196 ^d	197 ^d	199 ^d	200 ^f	205 ^d	206 ^a	209 ^a	210 ^a	211 ^a	212 ^a
1	N	122.0	114.9	114.7	121.9	118.0	123.4	105.6	105.3	124.8*	124.8*	123.0	126.4
2	156.8	110.4	109.0	107.4	108.0	114.1	110.8	139.6	152.3	113.2	112.9	108.5	118.4
3	154.0	154.7	149.9	148.2	144.7	152.4	155.5	153.1	138.2	153.4	153.2	148.2	152.8
4	146.4	150.9	148.7	150.2	147.0	149.4	152.2	154.6	152.3	154.9	154.9	151.4	154.1
4a	116.1	120.4	124.8	124.8	120.3	120.3	121.7	111.6	110.8	125.8*	124.7*	125.7	125.3
5	126.5	126.0	125.4	125.0	125.7	126.9	128.4	126.9	127.1	128.3*	128.1*	128.5*	128.1*
5a	126.4	126.4	127.2	126.3	125.7	126.4	127.8	126.6	126.9	127.2	127.2	128.3	127.2
6	125.7	127.3	127.1	127.4	127.1	126.0	126.2	126.1	125.5	127.2*	127.7*	127.0*	126.9
7	127.0	128.0	127.9	127.8	127.9	127.6	128.3	126.4	126.2	128.3*	128.4*	127.4*	128.2*
8	128.7	129.6	129.2	128.4	129.3	129.3	129.8	128.9	128.4	129.0	129.6	129.0	128.9
8a	133.4	135.3	134.6	134.2	134.7	131.9	136.5	133.1	132.9	133.5	133.3	133.1	133.6
9	104.5	105.1	104.9	105.8	106.2	102.8	105.6	105.4	104.6	113.2	114.3	114.2	112.3
10	N	135.6	135.6	134.4	134.8	134.1	137.1	134.6	136.3	131.5	132.7	132.4	131.8
11	N	123.8	116.3	115.5	122.3	117.1	125.6	125.4	125.1	119.5	119.9	121.3	118.4
12	165.7	168.9	169.4	170.9	168.9	162.1	170.3	167.1	165.9	178.0	176.0	175.0	178.3
13	-	-	-	-	-	-	-	-	-	156.9	156.5	156.7	157.0
OCH ₂ O	-	-	-	-	102.4	-	-	-	-	-	-	103.8	-
2-OCH ₃	63.0	-	-	-	-	-	-	61.7	62.9	-	-	-	-
3-OCH ₃	61.3	57.4	57.6	-	-	-	57.4	62.6	61.9	56.3	56.3	-	-
4-OCH ₃	60.8	60.4	-	-	-	59.6	60.7	-	-	60.3	60.3	-	59.9
N-CH ₃	26.4	-	-	-	-	-	-	-	26.4	-	30.2	30.1	-
N-OCH ₃	-	-	-	63.7	63.4	64.5	-	-	-	-	-	-	-

^aCDCl₃, ^dDMSO-d₆ and ^fC₅D₅N

** may be interchangeable within the same column

N – not reported by the authors.

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	219 ^a	220 ^a	221 ^a	222 ^a	223 ^a	224 ^a	225 ^a	226 ^a	227 ^a
1	173.7	171.1	169.8	171.1	171.1	169.8	171.1	170.8	165.2
2	51.2	38.8	42.1	125.5	125.3	42.1	38.6	43.6	122.2
3	42.2	42.6	46.1	130.3	130.3	46.1	42.6	45.7	143.5
4	136.0*	127.2	127.2	45.9	45.7	123.0	120.8	128.6	45.2
5	105.0	153.1	153.1	42.8	42.9	151.6	153.1	131.2	46.6
6	152.6*	141.1	141.1	133.6	133.5	96.7	94.7	131.4	133.5
7	136.5*	145.0	145.0	110.8	110.9	146.1	146.6	105.6	108.3
8	152.6	145.0	145.0	147.4	147.5	142.1	145.1	148.0	147.8
9	105.0	107.8	107.8	146.4	146.4	110.6	107.8	147.1	146.2
10	-	-	-	107.9	108.0	-	-	108.3	108.2
11	-	-	-	123.4	123.5	-	-	-	-
OCH ₂ O	-	101.0	101.3	100.9	100.9	101.3	101.0	101.0	100.9
1''	173.7	171.1	169.8	172.2	172.2	169.8	171.1	170.3	165.2
2''	51.2	38.6	42.1	37.7	37.7	42.1	38.8	42.6	122.2
3''	42.2	42.9	46.1	45.4	45.3	46.1	42.9	46.5	143.5
4''	136.0*	120.8	123.0	128.0	133.4	123.0	127.2	128.8	45.2
5''	105.0	153.1	151.6	131.0	132.4	151.6	153.1	130.7	46.6
6''	152.6*	94.7	96.7	131.9	127.1	96.7	141.1	131.4	133.5
7''	136.5*	146.6	146.1	105.3	131.2	146.1	145.0	105.5	108.3
8''	152.6	145.1	142.1	147.8	131.9	142.1	145.0	148.0	147.8
9''	105.0	107.8	110.6	146.7	105.3	110.6	107.8	147.1	146.2
10''	-	-	-	108.2	148.0	-	-	108.3	108.2
11''	-	-	-	120.8	147.0	-	-	-	-
12''	-	-	-	-	108.3	-	-	-	-
13''	-	-	-	-	121.1	-	-	-	-
OCH ₂ O	-	101.0	101.3	100.9	101.0	101.3	101.0	101.0	100.9
1'	164.3	45.9	45.8	47.1	47.1	45.8	45.9	45.9	46.9
2'	125.3	26.4	24.4	26.7	26.7	24.3	26.2	26.0	26.5
3'	145.0	23.5	22.2	24.7	24.6	24.3	26.2	24.5	24.6
4'	24.1	26.4	24.4	26.4	26.4	45.8	45.9	25.7	25.5
5'	40.8	45.9	45.8	46.9	46.9	-	-	43.2	43.0
1'''	164.3	45.9	45.8	42.9	42.9	45.8	45.9	46.6	46.9
2'''	125.3	26.2	24.3	25.6	25.7	24.4	26.4	24.3	26.5
3'''	145.0	24.2	22.2	24.5	24.6	24.4	26.4	26.8	24.6
4'''	24.1	26.2	24.3	25.8	25.8	45.8	45.9	46.7	25.5
5'''	40.8	45.9	45.8	43.3	43.3	-	-	-	43.0
6, 8 -OCH ₃	56.0	-	-	-	-	-	-	-	-
7, 7'' -OCH ₃	60.7	-	-	-	-	-	-	-	-
6'', 8'' -OCH ₃	56.0	-	-	-	-	-	-	-	-
5-OCH ₃	-	-	-	-	-	60.5	60.2	-	-
5''-OCH ₃	-	-	-	-	-	61.2	61.5	-	-
6''-OCH ₃	-	-	-	-	-	-	65.3	-	-

^aCDCl₃

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	228 ^a	229 ^a	230 ^a	231 ^a	232 ^a	233 ^a	234 ^a	235 ^a
1	164.9	169.1	165.2	169.0	170.6	170.5	170.4	171.2
2	120.6	44.6	121.2	45.8	43.4	42.1	42.2	45.1
3	145.4	41.2	144.6	42.2	47.6	46.3	46.4	124.8
4	50.5	127.6	46.9	134.3	135.7	128.7	133.9	130.5
5	48.5	131.1	46.4	108.5	107.7	131.1	132.1	45.5
6	135.4	131.7	133.3	147.8	147.9	131.4	126.8	133.5
7	107.1	105.5	108.5	146.1	146.6	105.6	131.8	107.9
8	147.9	147.9	147.9	108.5	108.2	148.0	131.8	147.5
9	146.4	146.9	147.0	121.1	120.7	147.2	105.4	146.8
10	108.3	108.2	108.1	-	-	108.3	148.1	110.8
11	-	120.7	121.7	-	-	120.9	147.2	123.5
12	-	-	-	-	-	-	108.4	-
13	-	-	-	-	-	-	121.8	-
OCH ₂ O	101.0	100.9	100.9	100.9	-	-	101.1	100.9
1''	164.9	165.2	169.5	165.3	170.5	170.5	170.4	172.5
2''	120.6	122.1	46.4	121.8	41.9	42.1	42.1	40.6
3''	145.4	142.2	41.2	143.7	47.7	46.3	46.2	45.3
4''	50.5	44.2	127.5	47.6	128.7	128.7	128.7	127.3
5''	48.5	45.4	131.6	47.4	131.1	131.1	131.0	131.4
6''	135.4	127.5	131.7	133.5	131.4	131.4	131.5	132.0
7''	107.1	130.9	105.7	108.5	105.6	105.6	105.6	105.3
8''	147.9	131.8	147.7	147.8	148.0	148.0	148.0	147.8
9''	146.4	105.5	146.7	146.7	147.2	147.2	147.2	146.5
10''	108.3	148.0	108.2	108.3	108.2	108.3	108.3	108.2
11''	-	147.0	120.8	121.7	120.9	120.9	120.9	120.7
12''	-	108.2	-	-	-	-	-	-
13''	-	120.8	-	-	-	-	-	-
OCH ₂ O	101.0	101.0	101.0	101.0	101.1	101.1	101.1	100.9
1'	46.9	42.7	42.5	46.0	46.6	46.7	46.7	46.5
2'	25.5	25.6	25.3	25.8	26.7	26.9	26.9	24.3
3'	24.6	24.5	24.2	24.3	24.5	24.6	24.6	25.8
4'	26.6	26.3	25.5	25.3	25.7	25.7	25.7	45.7
5'	43.2	46.2	44.5	42.6	43.3	43.3	43.3	-
1'''	46.9	43.1	45.9	46.9	46.7	46.7	46.7	46.7
2'''	25.5	25.5	24.5	26.5	26.9	26.9	26.9	24.3
3'''	24.6	24.6	26.0	24.6	24.5	24.6	24.6	26.1
4'''	26.6	26.6	24.5	25.5	25.7	25.7	25.7	46.1
5'''	43.2	47.1	46.8	43.0	43.2	43.3	43.3	-

^aCDCl₃

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	236 ^a	237 ^a	238 ^a	239 ^a	240 ^a	241 ^a	242 ^a	243 ^a	244 ^a
1	171.4	171.2	170.6	171.2	171.2	171.0	170.4	170.3	171.3
2	38.8	41.8	40.9	44.3	42.9	43.5	38.4	38.2	42.1
3	122.4	124.7	123.4	125.4	125.4	125.2	123.2	123.5	123.8
4	123.6	133.6	133.9	130.9	130.4	130.5	134.1	133.8	133.6
5	45.2	47.6	45.6	47.3	45.8	43.6	46.7	46.3	41.0
6	133.2	137.7	137.8	133.6	133.6	127.2	137.8	137.7	33.5
7	108.2	109.2	108.9	111.2	111.0	132.8	109.0	108.7	25.9
8	146.4	147.7	147.6	147.1	147.4	131.9	147.5	147.4	32.4
9	146.4	146.3	146.1	146.3	146.4	105.9	146.1	146.1	22.6
10	109.1	108.1	108.1	107.6	108.0	148.0	108.1	108.0	14.1
11	130.2	121.6	121.4	123.7	123.5	147.1	121.4	121.3	-
12	-	-	-	-	-	108.3	-	-	-
13	-	-	-	-	-	121.0	-	-	-
OCH ₂ O	100.9	100.8	100.7	100.8	100.9	101.1	100.7	100.7	-
1''	172.4	172.4	172.4	172.3	172.3	172.3	173.2	173.5	173.6
2''	45.8	43.4	44.6	37.4	37.8	38.5	45.1	48.6	40.7
3''	40.0	46.1	44.2	47.7	45.3	45.4	39.4	39.1	46.7
4''	130.4	135.2	127.6	134.8	133.4	127.6	32.0	32.0	135.4
5''	130.9	109.1	132.0	109.5	132.4	131.7	33.6	33.6	109.4
6''	131.2	147.4	132.0	146.8	127.2	131.9	136.1	136.1	147.3
7''	107.8	146.3	105.4	145.8	131.2	105.3	108.8	108.8	146.1
8''	147.2	108.0	147.9	107.3	132.1	147.9	147.5	147.5	107.9
9''	147.5	121.6	146.9	121.8	105.4	146.9	145.6	145.6	122.0
10''	111.1	-	108.2	-	148.1	108.3	108.1	108.1	-
11''	125.1	-	120.8	-	147.1	120.8	121.0	121.0	-
12''	-	-	-	-	108.4	-	-	-	-
13''	-	-	-	-	121.1	-	-	-	-
OCH ₂ O	100.9	100.8	101.0	100.6	101.1	101.0	100.7	100.7	100.7
1'	46.6	47.1	47.4	47.4	47.1	47.1	47.1	47.1	47.1
2'	26.0	25.9	26.9	26.9	26.8	26.7	27.2	27.2	25.9
3'	26.1	24.3	24.6	24.6	24.7	24.7	24.7	24.7	24.4
4'	46.7	25.3	25.9	25.9	25.7	25.8	25.9	25.9	25.4
5'	-	43.1	43.2	43.5	43.3	43.4	43.0	43.0	43.1
1'''	46.7	46.6	46.8	47.2	47.0	47.1	47.0	46.7	47.1
2'''	24.4	25.7	26.3	26.2	26.5	26.5	26.1	25.8	26.4
3'''	24.4	24.4	24.6	24.5	24.6	24.6	24.7	24.3	24.6
4'''	46.8	25.5	25.8	25.6	25.8	25.7	25.9	45.2	25.7
5'''	-	42.4	42.8	42.7	42.9	42.9	42.9	-	42.6

^aCDCl₃

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	245 ^a	246 ^a	247 ^a	248 ^a	249 ^a	250 ^a	251 ^a	252 ^a	253 ^a
1	170.7	171.2	172.8	170.6	171.8	171.0	173.9	170.4	170.5
2	41.4	44.6	50.2	38.1	43.9	40.8	47.7	134.0	133.9
3	122.2	124.1	124.4	123.7	125.5	123.6	123.5	123.2	123.4
4	134.3	133.5	133.7	133.4	131.1	133.6	133.9	38.3	37.9
5	38.9	40.2	40.1	48.4	47.0	45.1	40.5	46.6	46.6
6	33.8	31.8	31.8	138.1	132.0	137.8	34.0	137.8	137.9
7	25.9	27.3	27.4	109.3	111.6	108.8	26.9	108.1	108.2
8	32.3	32.1	32.1	147.3	147.4	147.6	31.9	147.5	147.5
9	22.6	22.7	22.6	145.8	146.5	146.1	22.6	146.0	146.0
10	14.1	14.0	14.0	107.7	107.9	108.1	14.0	108.9	108.9
11	-	-	-	122.0	123.9	121.4	-	121.4	121.4
OCH ₂ O	-	-	-	100.7	100.8	100.7	-	100.7	100.7
1''	173.6	173.0	172.9	165.3	164.4	173.5	166.3	173.2	173.5
2''	41.9	38.1	38.3	122.7	122.8	52.2	125.1	45.0	45.1
3''	45.0	46.9	46.8	146.9	147.4	43.1	144.6	39.3	39.6
4''	128.2	136.1	135.9	47.4	46.2	128.9	43.3	31.9	29.8
5''	131.8	109.3	109.3	40.6	33.0	133.9	35.7	33.5	29.4
6''	132.0	147.2	147.3	31.1	32.7	32.6	32.0	136.0	27.0
7''	105.5	145.8	145.9	27.3	24.7	28.9	26.2	108.7	32.9
8''	147.9	107.7	107.8	31.9	32.4	31.4	31.9	147.5	129.2
9''	146.8	121.5	121.4	22.7	22.6	22.6	22.6	145.5	129.5
10''	108.2	-	-	14.0	14.0	14.0	14.0	108.1	132.4
11''	120.7	-	-	-	-	-	-	120.9	105.3
12''	-	-	-	-	-	-	-	-	147.9
13''	-	-	-	-	-	-	-	-	146.5
14''	-	-	-	-	-	-	-	-	108.0
15''	-	-	-	-	-	-	-	-	120.2
OCH ₂ O	101.0	100.8	100.8	-	-	-	-	100.7	100.9
1'	47.3	47.2	47.1	47.2	47.0	47.6	47.1	42.9	42.8
2'	26.9	26.8	28.5	26.6	27.0	26.9	28.4	25.9	25.8
3'	24.6	24.6	20.1	24.7	24.7	24.7	20.1	24.6	24.6
4'	25.8	25.9	20.2	25.5	25.7	25.9	20.1	27.1	25.9
5'	43.1	43.4	-	42.9	43.4	43.2	-	47.1	47.0
1'''	47.0	47.3	47.3	46.8	46.6	46.6	46.9	42.9	42.8
2'''	26.8	26.2	26.3	27.1	26.2	28.2	28.6	26.0	26.1
3'''	24.8	24.6	24.6	24.7	24.3	19.8	20.2	24.0	24.6
4'''	25.9	25.7	25.6	25.8	45.7	19.9	20.2	27.1	26.8
5'''	42.9	42.8	42.9	42.9	-	-	-	47.0	47.0

^aCDCl₃

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	254 ^d	255 ^d	256 ^a	258 ^a	262 ^f	263 ^f	264 ^a	265 ^a
1	138.7	135.1	-	165.8	62.9	62.2	167.0	166.5
2	108.4	110.0	49.5	123.5	53.9	53.2	121.1	121.3
3	147.7	147.3	40.9	144.2	77.7	77.0	141.8	141.6
4	146.3	146.5	198.3	31.8	73.3	73.1	128.1	128.1
5	108.1	107.7	163.9	27.7	35.0	34.0	143.8	143.6
6	133.4	133.3	126.1	28.9	27.5	29.7–30.8	32.9	32.9
7	47.2	49.9	N	32.6	30.5-31.2	33.5	28.4	28.4
8	128.5	127.5	128.6	128.6		131.0	31.3	31.3
9	121.0	122.4	135.6	129.4		130.9	22.4	22.4
10	36.6	36.6	67.3	132.1		33.1	14.0	14.0
11	30.6	42.2	23.4	105.2		29.7–30.8	-	-
12	28.8	33.3	19.0	147.7			-	-
13	26.4	26.9	22.7	146.3			-	-
14	26.0	26.4	23.8	108			-	-
15	35.6	30.7	-	120.0			-	-
16	46.8	42.6	-	-			-	-
17	173.6	170.2	-	-			-	-
18	-	-	-	-		32.3	-	-
19	-	-	-	-		23.1	-	-
20	-	-	-	-		14.4	-	-
21-26	-	-	-	-		-	-	-
27	-	-	-	-	33.0	-	-	-
28	-	-	-	-	23.8	-	-	-
29	-	-	-	-	15.1	-	-	-
OCH ₂ O	101.0	100.9	-	100.8	-	-	-	-
SMe	-	-	-	-	-	-	38.5	-
4'-OMe	-	-	-	-	-	-	55.9	-
1'	45.4	45.5	-	45.0	176.1	175.4	34.2	130.6
2'	22.1	24.3	49.5	34.9	73.9	72.6	53.2	111.2
3'	24.3	26.4	40.9	27.0	36.6	35.9	-	146.6
4'	46.4	46.4	163.9	17.2	26.7	26.0	-	144.2
5'	-	-	126.1	11.3	30.5-31.2	29.7-30.8	-	114.4
6'	-	-	N	-			-	121.3
7'	-	-	128.6	-			-	35.2
8'	-	-	135.6	-			-	40.9
9'	-	-	67.3	-			-	-
10'	-	-	23.4	-			-	-
11'	-	-	19.0	-			-	-
12'	-	-	22.7	-			-	-
13'	-	-	23.8	-			-	-
14'-21'	-	-	-	-			-	-
22'	-	-	-	-		32.3	-	-
23'	-	-	-	-	33.0	23.1	-	-
24'	-	-	-	-	23.8	14.4	-	-
25'	-	-	-	-	15.1	-	-	-

^aCDCl₃, ^dDMSO-d₆ and ^fC₅D₅N;

N – not reported by the authors.

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	266 ^a	267 ^a	268 ^a	269 ^a	270 ^a	271 ^a	272 ^a
1	169.6	169.7	165.1	165.1	165.2	171.3	166.3
2	36.3	36.6	120.8	122.2	119.7	34.8	120.2
3	30.3	30.8	141.9	136.5	142.3	28.0	139.8
4	-	-	128.3	127.3	128.8	128.9	126.7
5	-	-	139.9	138.8	143.0	131.2	141.0
6	-	-	129.9	27.9	32.8	32.4	27.1
7	-	-	139.6	32.7	28.2	28.9	27.9-29.1
8	-	-	32.9	127.7	28.9	29.0	
9	-	-	28.7	130.2	32.8	32.7	
10	-	-	31.4	-	128.9	129.3	
11	-	-	22.5	-	129.5	129.3	
12	-	-	14.0	-	-	-	
13 – 18	-	-	-	-	-	-	
19	-	-	-	-	-	-	22.8
20	-	-	-	-	-	-	14.4
1'	130.9	136.0	45.9	132.1	132.3	132.6	46.8
2'	104.7	105.3	24.3	105.4	105.3	105.3	27.9-29.1
3'	146.7	153.3	26.1	147.8	147.9	147.9	
4'	132.9	136.0	46.4	146.6	145.5	146.5	19.8
5'	146.7	153.3	-	108.2	108.2	108.2	19.8
6'	104.7	105.3	-	120.4	120.2	120.2	-
1''	118.6	118.9	-	46.5	46.2	46.6	-
2''	112.8	113.2	-	26.1	24.5	26.1	-
3''	112.8	113.2	-	24.3	24.3	24.4	-
4''	118.6	118.9	-	45.9	46.2	45.7	-
3'-OMe	55.9	55.1	-	-	-	-	-
4'-OMe	-	60.8	-	-	-	-	-
5'-OMe	55.9	55.1	-	-	-	-	-
OCH ₂ O	-	-	-	100.9	100.9	100.8	-

^aCDCl₃

Table 1S. ^{13}C NMR data on piperamides found in the genus *Piper* [δ (ppm)]

^{13}C	274 ^a	275 ^a	276 ^a	277 ^a
1	170.8	170.8	174.4	171.7
2	41.5	44.4	49.1	45.3
3	124.4	123.9	122.8	124.7
4	133.4	131.8	134.1	133.6
5	46.7	47.1	37.9	40.5
6	137.6	132.0	33.7	33.6
7	109.1	110.1	29.7	26.7
8	147.7	147.0	31.9	31.9
9	146.3	146.9	28.3	22.7
10	108.2	107.5	14.10	14.1
11	121.7	123.8	-	-
OCH ₂ O	100.8	100.7	-	-
1''	173.2	173.5	172.3	162.4
2''	51.3	45.5	48.6	125.3
3''	45.2	42.9	43.0	147.2
4''	135.6	135.0	128.8	44.4
5''	108.8	109.1	133.9	40.1
6''	147.6	146.2	32.5	32.9
7''	146.3	145.7	29.0	27.5
8''	108.3	107.4	31.4	31.4
9''	121.4	121.4	22.7	22.5
10''	-	-	14.0	14.0
OCH ₂ O	100.8	100.5	-	-
1'	47.0	46.9	47.0	46.9
2'	25.7	26.8	28.5	28.6
3'	24.3	24.5	20.2	20.11
4'	25.2	25.7	-	-
5'	43.0	43.4	-	-
1'''	46.4	46.5	46.9	46.8
2'''	28.1	28.4	28.4	28.4
3'''	19.7	19.9	20.1	20.1
4'''	19.6	19.8	20.1	20.1

^aCDCl₃