Amidations Using *N,N'*-Carbonyldiimidazole— Remarkable Rate Enhancement by Carbon Dioxide

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Acquisition Time (sec)		1.9792	Frequency (MHz)		400.13
Nucleus		¹ H	Origin		Bruker Analytik GmbH
Original Points Count		16384	Points Count		16384
Sweep Width (Hz)		8278.15	Solvent		DMSO-D6
			Temperature (degree C)		27.000
			Owner		nmrsu
			Number of Transients		8

Table of peaks

No.	(ppm)	(Hz)	Height
1	2.09	835.1	0.9131
2	2.28	911.9	1.0000
3	3.34	1336.4	0.3842
4	4.39	1754.8	0.2998
5	4.40	1760.8	0.3009
6	6.33	2531.4	0.1622
7	7.21	2883.1	0.0572
8	7.22	2888.1	0.0523
9	7.23	2891.2	0.0338

Table of integrals

No.	(ppm)	Value
1	[10.45 .. 10.61]	1
2	[7.47 .. 7.61]	1
3	[7.26 .. 7.37]	3
4	[7.15 .. 7.25]	1
5	[6.27 .. 6.39]	1
6	[4.33 .. 4.47]	2
7	[2.21 .. 2.34]	3
8	[2.04 .. 2.15]	3

IR data for **12** (cm^{-1}): 3481, 3248, 3152, 1628, 1624, 1579, 1528, 1509, 1437, 1288, 755, 693.

HRMS (ES): found, m/z 229.1332 ($\text{M} + \text{H}^+$); $\text{C}_{14}\text{H}_{16}\text{N}_2\text{O} + \text{H}$ requires 229.1341.

Acquisition Time (sec)		1.9792
Frequency (MHz)		400.13
Origin		Nucleus
Owner		1H
		Brüker Analytik GmbH
		nmsu
Sweep Width (Hz)		8278.15
		Points Count
		16384
		Temperature (degree C)
		27.000
		Solvent
		DMSO-D6
		Original Points Count
		16384
		Number of Transients
		8

Table of peaks

No.	(ppm)	(Hz)	Height
1	2.33	932.2	1.0000
2	2.38	953.9	0.9793
3	2.49	996.3	0.0470
4	3.39	1356.1	0.1691
5	4.41	1766.4	0.3136
6	4.43	1772.5	0.3129
7	7.22	2890.7	0.0776
8	7.24	2895.2	0.0703
9	7.24	2898.7	0.0467
10	7.31	2925.5	0.7967
11	7.34	2938.7	0.0409
12	8.08	3233.7	0.0708
13	8.10	3239.8	0.1303
14	8.11	3245.4	0.0692
15	9.55	3819.4	0.3262
16	11.85	4741.0	0.0163

Table of integrals

No.	(ppm)	Value
1	[11.59 .. 12.18]	1
2	[9.41 .. 9.68]	1
3	[7.98 .. 8.23]	1
4	[7.10 .. 7.48]	4
5	[4.29 .. 4.58]	2
6	[2.25 .. 2.44]	6

Acquisition Time (sec)		1.3566	Frequency (MHz)		100.62	Nucleus		13C
Number of Transients		256	Origin		Bruker Analytik GmbH	Original Points Count		32768
Owner		nimrsu	Points Count		32768	Sweep Width (Hz)		24154.59
Temperature (degree C)		27.000	Solvent		DMSO-D6			

Table of peaks

No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height
1	9.69	975.1	0.1868	11	119.39	12013.4	0.0835
2	12.55	1262.6	0.4351	12	126.65	12743.9	0.4667
3	38.87	3911.2	0.0640	13	127.15	12794.0	0.9664
4	39.08	3932.6	0.1928	14	127.80	12859.7	0.2256
5	39.29	3953.3	0.3887	15	128.28	12907.6	1.0000
6	39.50	3974.6	0.4493	16	130.85	13167.1	0.0189
7	39.71	3995.3	0.3966	17	137.95	13880.6	0.0850
8	39.92	4016.7	0.1972	18	139.98	14085.6	0.2469
9	40.12	4037.3	0.0704	19	164.74	16576.4	0.2084
10	42.31	4257.0	0.3891	20	177.33	17843.6	0.0949

IR data for **27** (cm^{-1}): 3275, 3230, 3109, 3024, 1663, 1626, 1566, 1539, 1506, 1497, 1356, 1290, 1268, 792, 751, 746, 694.

HRMS (ES): found, m/z 257.1290 ($\text{M} + \text{H}^+$); $\text{C}_{15}\text{H}_{16}\text{N}_2\text{O}_2 + \text{H}$ requires 257.1295.