Electronic Supplementary Material (ESI) for Medicinal Chemistry Communications

Supporting Information

Emac – A Comparative Index for the Assessment of Macrocyclization Efficiency

James Collins and Keith James

Contents

Part 1: Full data for literature survey (2009, 2010 and 2011)

2009										
Name	**Journal**	**Paper type**	**Reaction**	**Cmpd no**	**Ring size**	**Yield**	**mmol**	**Vol (ml)**	**Conc (mM)**	**Emac**
Abell	J. Org. Chem.	Methodology	RCM	1	16	48			10.00	6.044
Abell	J. Org. Chem.	Methodology	RCM	2	17	91			10.00	6.877
Abell	J. Org. Chem.	Methodology	RCM	3	18	100			10.00	7.000
Abell	J. Org. Chem.	Methodology	RCM	4	18	39			10.00	5.773
Abell	J. Org. Chem.	Methodology	RCM	5	19	33			10.00	5.556
Abell	J. Org. Chem.	Methodology	RCM	6	18	40			10.00	5.806
Abell	ACIE	Med Chem	RCM	1a	16	24			10.00	5.141
Abell	ACIE	Med Chem	RCM	2a	17	22			10.00	5.027
Abell	ACIE	Med Chem	RCM	3a	18	29			10.00	5.387
Abell	ACIE	Med Chem	RCM	4a	19	66			10.00	6.459
Altamura	BMCL	Med Chem	Lactam	18	24	42	0.270	55	4.909	5.561
Altamura	BMCL	Med Chem	Lactam	18	24	25	0.160	35	4.571	4.854
Baird	J. Org. Chem.	Tot Syn	RCM	19	15	86	0.099	20	4.950	6.498
Batenburg	Tetrahedron	Med Chem	Heck	3	17	15	0.080	2	40.000	5.130
Battistini	OBC	Med Chem	Lactam	14	13	66	4.510	1290	3.50	6.002
Beierle	ACIE	Med Chem	Huisgen	1	13	55	0.045	230	0.196	4.513
Beierle	ACIE	Med Chem	Huisgen	2	13	23			0.20	3.386
Beierle	ACIE	Med Chem	Huisgen	3	14	8	0.050	100	0.50	2.408
Beierle	ACIE	Med Chem	Huisgen	4	14	66			0.50	5.158
Bindl	Chem. Eur. J.	Tot Syn	RCAM	34	12	87	0.200	23	8.70	6.758
Bindl	Chem. Eur. J.	Tot Syn	RCAM	62	12	85	0.200	23	8.70	6.728
Bindl	Chem. Eur. J.	Tot Syn	RCAM	78	12	86	0.200	23	8.70	6.743
Bitar	Org. Lett.	Tot Syn	Alkylation	21	13	45			0.97	4.946
Blackburn	Tetrahedron	Tot Syn	Alkylation	28	12	85			50.00	7.487
Bourcet	Tet. Lett.	Tot Syn	RCM	8a	14	86			2.00	6.105
Bourcet	Tet. Lett.	Tot Syn	RCM	8b	14	83			2.00	6.058
Bowers	JACS	Med Chem	Lactam	10	16	53	0.015	15	1.00	5.173
Bowers	JACS	Med Chem	Lactam	30	16	62	0.110	100	1.10	5.419
Bowers	Org. Lett.	Med Chem	Lactam	9a	16	36	0.088	93.1	0.95	4.644
Bowers	Org. Lett.	Med Chem	Lactam	22a	16	40			1.00	4.806

Bowers	Org. Lett.	Med Chem	Lactam	29a	16	64			1.00	5.419
Bowers	Org. Lett.	Med Chem	Lactam	44	16	77			1.00	5.659
Bowers	Org. Lett.	Med Chem	Lactam	50	16	43			1.00	4.900
Braddock	J. Org. Chem.	Tot Syn	RCM	15	11	34	0.200	88	2.27	4.951
Braddock	J. Org. Chem.	Tot Syn	RCM	16	11	33	0.032	14	2.29	4.915
Bruder	OBC	Tot Syn	Mitsunobu	4	16	27			8.00	5.197
Burns	JACS	Tot Syn	Alkylation	7	11	79			2.00	5.994
Calo	Org. Lett.	Tot Syn	RCM	30	14	83	0.024	41	0.59	5.525
Campbell	Tet. Lett.	Methodology	Lactam	2	18	60			18.00	6.590
Castagnolo	EJOC	Med Chem	Guanidine synth	3e	11	6			3.00	2.812
Castagnolo	EJOC	Med Chem	Guanidine synth	3f	12	30			3.00	4.908
Castagnolo	EJOC	Med Chem	Guanidine synth	3g	13	48			3.00	5.521
Castagnolo	EJOC	Med Chem	Guanidine synth	3h	14	51			3.00	5.600
Castagnolo	EJOC	Med Chem	Guanidine synth	3j	13	31			3.00	4.951
Castagnolo	EJOC	Med Chem	Guanidine synth	3k	13	39			3.00	5.250
Castagnolo	EJOC	Med Chem	Guanidine synth	3l	13	32			3.00	4.993
Castagnolo	EJOC	Med Chem	Guanidine synth	3m	16	44			3.00	5.407
Castagnolo	EJOC	Med Chem	Guanidine synth	3n	16	42			3.00	5.347
Chandrasekhar	Tet. Lett.	Tot Syn	Lactam	1	19	60			0.05	4.033
Chandrasekhar	Tet. Lett.	Tot Syn	Lactam	2	19	58			0.05	3.989
Cribiu	ACIE	Tot Syn	RCM	24	15	76	0.067	130	0.52	5.355
Crimmins	Org. Lett.	Tot Syn	Lactone		20	74	0.004	303	0.014	3.752
Custar	JACS	Tot Syn	Prins	30	12	25	0.050	5	10.000	5.194
Custar	JACS	Tot Syn	Prins	41	12	25	0.050	5	10.000	5.194
Czajkowska	Tet. Lett.	Med Chem	RCM	7	22	84			0.20	5.074
Dakas	Chem. Eur. J.	Tot Syn	RCM	49	14	94	0.400	300	1.333	6.044
Di Francesco	J. Med. Chem.	Med Chem	RCM	12	18	55	0.190	20	9.500	6.199
Di Francesco	J. Med. Chem.	Med Chem	RCM	21a	18	55	0.370	7	52.86	6.944
Dietrich	Chem. Eur. J.	Tot Syn	Lactone	31	16	57	0.023	10	2.30	5.629
Dietrich	Chem. Eur. J.	Tot Syn	Lactone	37	16	83	0.320	358	0.89	5.709
Dietrich	Chem. Eur. J.	Tot Syn	Lactone	40	16	75	1.040	802	1.30	5.738
Eissler	Chem. Eur. J.	Tot Syn	RCM	22a	16	85	0.650	65	10.00	6.788
Eissler	Chem. Eur. J.	Tot Syn	RCM	22b	16	71	0.650	65	10.00	6.554
Eissler	Chem. Eur. J.	Tot Syn	RCM	22c	16	75	0.650	65	10.00	6.625
Eissler	Chem. Eur. J.	Tot Syn	RCM	22d	16	76	0.650	65	10.00	6.642
Evans	JACS	Tot Syn	Lactone	20	16	68			0.90	5.452
Farina	OPRD	Process	RCM	7	15	93			200.00	8.206
Faure	Org. Lett.	Tot Syn	Lactam	15	19	52	0.008	6	1.37	5.284
Feng	JACS	Methodology	Lactam	22c	77	70			4.10	6.148
Feng	JACS	Methodology	Lactam	23c	88	84			6.70	6.599
Frein	Org. Lett.	Tot Syn	Lactone	16	16	81			0.30	5.203
Furstner	ACIE	Tot Syn	RCM	67	26	72	0.016	20	0.80	5.475
Furstner	ACIE	Tot Syn	RCM	81	26	84			0.80	5.676
Furstner	ACIE	Tot Syn	RCM	95	26	91			0.80	5.780
Furstner	ACIE	Tot Syn	RCM	100	26	56			0.80	5.148
Furstner	ACIE	Tot Syn	RCM	110	26	54			0.80	5.100
Furstner	Chem. Eur. J.	Tot Syn	RCAM	27	14	84	0.169	599	0.28	5.223

Furstner	Chem. Eur. J.	Tot Syn	RCAM	37	14	89			0.28	5.295
Furstner	Chem. Eur. J.	Tot Syn	RCAM	45	14	75			0.28	5.072
Furstner	Chem. Eur. J.	Tot Syn	RCAM	53	14	93			0.28	5.353
Garfunkle	JACS	Tot Syn	Larock Indole	21	16	89			0.85	5.778
Gentilucci	J. Med. Chem.	Med Chem	Lactam	14	13	69	0.310	70	4.43	6.163
Gesinski	Org. Lett.	Methodology	Prins	13	18	51			50	6.822
Gesinski	Org. Lett.	Methodology	Prins	28	16	43			30	6.378
Ghosh	J. Med. Chem.	Med Chem	RCM	14a	15	88	0.047	15	3.13	6.329
Ghosh	J. Med. Chem.	Med Chem	RCM	14b	14	50			3.13	5.592
Ghosh	J. Med. Chem.	Med Chem	RCM	14c	13	89			3.13	6.344
Ghosh	J. Med. Chem.	Med Chem	RCM	14d	12	71			3.13	6.049
Ghosh	J. Med. Chem.	Med Chem	RCM	14e	12	52			3.13	5.644
Ghosh	J. Med. Chem.	Med Chem	RCM	14f	11	81			3.13	6.221
Ghosh	J. Med. Chem.	Med Chem	RCM	20a	14	96	0.140	90	1.56	6.139
Ghosh	J. Med. Chem.	Med Chem	RCM	21b	14	97	0.170	125	1.36	6.094
Ghosh	Org. Lett.	Tot Syn	Lactam	13	12	95	0.036	36	1.00	5.933
Ghosh	Org. Lett.	Tot Syn	Lactam	19	12	55	0.082	40.8	2.01	5.524
Ghosh, P	Org. Lett.	Tot Syn	Lactone	2	14	77	2.000	200	10.00	6.659
Gilles	J. Org. Chem.	Tot Syn	Lactam	26	25	45			0.80	4.863
Goldring	Tetrahedron	Tot Syn	Radical	42	12	80			2.40	6.089
Gollner	Chem. Eur. J.	Tot Syn	Lactone	45	18	75	0.091	122	0.74	5.496
Gollner	Chem. Eur. J.	Tot Syn	Lactone	49	18	35	0.047	221	0.21	3.957
Gollner	Chem. Eur. J.	Tot Syn	Lactone	62	18	32	0.020	140	0.14	3.666
Grauer	Chem. As. J.	Methodology	Ullmann	2	17	7	0.070	0.7	100.00	4.535
Grauer	Chem. As. J.	Methodology	Ullmann	4	15	40	0.180	7.2	25.00	6.204
Grauer	Chem. As. J.	Methodology	Ullmann	50	15	19	0.140	5.6	25.00	5.234
Grimwood	Tetrahedron	Methodology	RCM Enyne	25	12	62			1.00	5.377
Grimwood	Tetrahedron	Methodology	RCM Enyne	27	12	74			1.00	5.608
Grimwood	Tetrahedron	Methodology	RCM Enyne	28	12	35			1.00	4.632
Grimwood	Tetrahedron	Methodology	RCM Enyne	29	12	65			1.00	5.439
Grimwood	Tetrahedron	Methodology	RCM Enyne	30	13	72			1.00	5.572
Grimwood	Tetrahedron	Methodology	RCM Enyne	31	14	72			1.00	5.572
Grimwood	Tetrahedron	Methodology	RCM Enyne	32	16	34			1.00	4.594
Grimwood	Tetrahedron	Methodology	RCM Enyne	33	17	54			1.00	5.197
Grimwood	Tetrahedron	Methodology	RCM Enyne	34	13	36			1.00	4.669
Grimwood	Tetrahedron	Methodology	RCM Enyne	35	14	68			1.00	5.498
Grimwood	Tetrahedron	Methodology	RCM Enyne	36	16	61			1.00	5.356
Grimwood	Tetrahedron	Methodology	RCM Enyne	37	18	67			1.00	5.478
Guinchard	Org. Lett.	Tot Syn	Lactone	22	12	85	0.076	102	0.74	5.658
Han	Org. Lett.	Methodology	Lactam	3b	14	73			600.00	8.368
Han	Org. Lett.	Methodology	Lactam	3a	14	80			600.00	8.487
Han	Org. Lett.	Methodology	Lactam	3c	14	54			600.00	7.975
Han	Org. Lett.	Methodology	Lactam	3d	14	60			600.00	8.113
Harper	J. Med. Chem.	Med Chem	RCM	10c	19	37	0.700	45	15.56	5.896
Harper	J. Med. Chem.	Med Chem	RCM	10d	19	27	0.700	45	15.56	5.486
Harper	J. Med. Chem.	Med Chem	RCM	10e	19	31	0.700	45	15.56	5.666
Harper	J. Med. Chem.	Med Chem	RCM	10f	19	78	0.700	45	15.56	6.868

Harper	J. Med. Chem.	Med Chem	RCM	10g	19	66	0.700	45	15.56	6.651
Harper	J. Med. Chem.	Med Chem	RCM	10l	19	12	0.700	45	15.56	4.429
Hioki	BMCL	Med Chem	Suzuki	16	18	39			5.00	5.472
Hjelmgaard	Org. Lett.	Med Chem	Lactam	8b	14	82			5.00	6.440
Hjelmgaard	Org. Lett.	Med Chem	Lactam	8c	21	63			5.00	6.097
Hjelmgaard	Org. Lett.	Med Chem	Lactam	8d	28	74			5.00	6.307
Hjelmgaard	Org. Lett.	Med Chem	Lactam	8e	35	70			5.00	6.234
Horne	ACIE	Med Chem	Huisgen	2	13	50	0.045	225	0.20	4.398
Houghton	J. Org. Chem.	Tot Syn	Alkylation	22	20	93			10.00	6.905
Katagiri	J. Org. Chem.	Methodology	Lactam	5	38	55			50.00	6.920
Katagiri	J. Org. Chem.	Methodology	Lactam	6	40	19			50.00	5.535
Kelly	Org. Lett.	Methodology	Huisgen	4a	11	58			2.00	5.591
Kelly	Org. Lett.	Methodology	Huisgen	5a	12	55			10.00	6.221
Kelly	Org. Lett.	Methodology	Huisgen	4b	12	67			2.00	5.779
Kelly	Org. Lett.	Methodology	Huisgen	5b	13	56			10.00	6.245
Kelly	Org. Lett.	Methodology	Huisgen	4c	11	45			2.00	5.261
Kelly	Org. Lett.	Methodology	Huisgen	5c	12	38			10.00	5.739
Kelly	Org. Lett.	Methodology	Huisgen	4d	12	58			2.00	5.591
Kelly	Org. Lett.	Methodology	Huisgen	5d	13	40			10.00	5.806
Kelly	Org. Lett.	Methodology	Huisgen	4e	11	60			2.00	5.635
Kelly	Org. Lett.	Methodology	Huisgen	5e	12	37			10.00	5.705
Kelly	Org. Lett.	Methodology	Huisgen	4f	12	54			2.00	5.498
Kelly	Org. Lett.	Methodology	Huisgen	5f	13	40			10.00	5.806
Kelly	Org. Lett.	Methodology	Huisgen	4g	12	61			2.00	5.657
Kelly	Org. Lett.	Methodology	Huisgen	5g	13	48			10.00	6.044
Kelly	Org. Lett.	Methodology	Huisgen	4h	12	64			2.00	5.720
Kelly	Org. Lett.	Methodology	Huisgen	5h	13	31			10.00	5.474
Kelly	Org. Lett.	Methodology	Huisgen	4i	12	48			2.00	5.345
Kelly	Org. Lett.	Methodology	Huisgen	5i	13	65			10.00	6.439
Kelly	Org. Lett.	Methodology	Huisgen	4j	12	71			2.00	5.855
Kelly	Org. Lett.	Methodology	Huisgen	5j	13	17			10.00	4.691
Kelly	Org. Lett.	Methodology	Huisgen	5j	13	46			2.00	5.289
Kelly	Org. Lett.	Methodology	Huisgen	4k	12	70			2.00	5.836
Kelly	Org. Lett.	Methodology	Huisgen	5k	13	62			10.00	6.377
Kim	ACIE	Tot Syn	Lactone	33	12	69	0.031	35	0.89	5.464
Kim	ACIE	Tot Syn	Lactone	22	15	90	0.070	15	4.67	6.532
Kojima	Tet. Lett.	Tot Syn	Lactone		22	90			1.50	6.039
Kong	ACIE	Tot Syn	Barbier	19	15	56			6.70	6.071
Kumar	EJOC	Med Chem	Lactam	21	18	58			1.00	5.290
Lee	Tetrahedron	Tot Syn	Lactam	4	27	76			10.00	6.642
LeFranc	ACIE	Tot Syn	Lactam	1	26	41			85.00	6.768
Ley	Chem. Eur. J.	Tot Syn	Alkylation	145	35	70			1.00	5.535
Li	JACS	Tot Syn	Heck	27	22	70			4.00	6.137
Li	Org. Lett.	Tot Syn	Lactam	5	13	87	0.105	105	1.00	5.819
Li	ACIE	Tot Syn	Alkylation	30	18	79	0.045	30	1.50	5.869
Li	J. Org. Chem.	Methodology	SNAr	6a	14	92			1.00	5.891
Li	J. Org. Chem.	Methodology	SNAr	6b	14	77			1.40	5.806

Li	J. Org. Chem.	Methodology	SNAr	6c	14	89			1.30	5.962
Li	J. Org. Chem.	Methodology	SNAr	6d	14	88			1.10	5.875
Li	J. Org. Chem.	Methodology	SNAr	6e	14	80			1.20	5.788
Li	J. Org. Chem.	Methodology	SNAr	6f	14	85			1.00	5.788
Li	J. Org. Chem.	Methodology	SNAr	6g	15	78			1.00	5.676
Li	J. Org. Chem.	Methodology	SNAr	6h	15	70			1.20	5.614
Li	Tetrahedron	Tot Syn	Lactam	1	19	76			1.00	5.642
Li	Tetrahedron	Tot Syn	Lactam	2	19	75			1.00	5.625
Li	Tetrahedron	Tot Syn	Lactam	19	19	73			1.00	5.590
Liu	J. Org. Chem.	Tot Syn	Lactone	7.4	15	58	0.006	11.2	0.56	5.040
Llacer	Org. Lett.	Tot Syn	RCM	10	14	85			0.17	5.019
Lu	Tetrahedron	Tot Syn	Lactone	15a	12	73	0.150	28.4	5.28	6.313
Lu	Tetrahedron	Tot Syn	Lactone	15b	12	78	0.410	72	5.69	6.432
Luo	JACS	Methodology	RCM	5h	12	99			5.00	6.686
Luo	JACS	Methodology	RCM	5ia	12	70			5.00	6.234
Luo	JACS	Methodology	RCM	5ib	14	53			5.00	5.872
Luo	JACS	Methodology	RCM	5ja	14	74			5.00	6.307
Luo	JACS	Methodology	RCM	5jb	14	77			5.00	6.358
Luo	JACS	Methodology	RCM	5jc	15	86			5.00	6.502
Luo	JACS	Methodology	RCM	5jd	15	97			5.00	6.659
Luo	JACS	Methodology	RCM	5k	15	69			5.00	6.216
Luo	JACS	Methodology	RCM	15ica	14	77			5.00	6.358
Luo	JACS	Methodology	RCM	15icb	14	72			5.00	6.271
Luo	JACS	Methodology	RCM	15icc	14	81			5.00	6.424
Ma	JACS	Tot Syn	Lactam	32	17	90	0.872	35	24.91	7.259
Ma	JACS	Tot Syn	Lactam	57b	17	91	0.048	10	4.84	6.562
Ma	JACS	Tot Syn	Lactam	63	17	83	0.005	2	2.70	6.189
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	9	26	15			0.15	2.704
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	10	31	15			0.15	2.704
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	11	28	41			0.15	4.014
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	12	32	38			0.15	3.915
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	13	28	64			0.15	4.595
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	14	28	64			0.15	4.595
Madden	Chem. Comm.	Methodology	1,3-cycloaddition	15	28	94			0.15	5.095
Magauer	ACIE	Tot Syn	Lactone	3	20	55			1.20	5.300
Mahoney	J. Org. Chem.	Tot Syn	Lactam	24	21	94	0.260	9.9	26.26	7.339
Mandel	Org. Lett.	Tot Syn	RCM	22	18	43			1.00	4.900
Mbere-Nguyen	Tetrahedron	Methodology	RCM	24	18	35			2.20	4.975
McGowan	OBC	Tot Syn	Alkylation	42	12	68	0.190	1.5	126.67	7.600
McGowan	OBC	Tot Syn	Alkylation	62	12	45	0.083	1.6	51.88	6.675
Menche	J. Org. Chem.	Tot Syn	HWE	68	24	44	0.001	1.5	0.73	4.796
Menche	J. Org. Chem.	Tot Syn	Heck	2	24	60	0.004	2	1.82	5.593
Muri	J. Org. Chem.	Tot Syn	Lactone	33	14	55	0.059	27	2.19	5.561
Muri	J. Org. Chem.	Tot Syn	Lactone	46	14	78	0.214	40	5.35	6.405
Muthusamy	Tet. Lett.	Methodology	Rh O-H insertion	5a	16	75	1.000	52	19.23	6.909
Muthusamy	Tet. Lett.	Methodology	Rh O-H insertion	5b	15	78	1.000	52	19.23	6.960
Muthusamy	Tet. Lett.	Methodology	Rh O-H insertion	5c	17	70	1.000	52	19.23	6.819

Muthusamy	Tet. Lett.	Methodology	Rh O-H insertion	5d	19	72	1.000	52	19.23	6.856
Muthusamy	Tet. Lett.	Methodology	Rh O-H insertion	5e	21	65	1.000	52	19.23	6.723
Nagano	Chem. Eur. J.	Tot Syn	RCM	31	20	71	0.056	10	5.58	6.300
Nagano	Chem. Eur. J.	Tot Syn	RCM	46	20	96			5.58	6.693
Nagano	Chem. Eur. J.	Tot Syn	RCM	51	20	88			5.58	6.580
Nagano	Chem. Eur. J.	Tot Syn	RCM	57	20	81			5.58	6.472
Nakatsuka	Tet. Lett.	Tot Syn	Lactam	1	21	23			1.50	4.261
Narita	Chem. Eur. J.	Tot Syn	Lactone	37	15	90			0.89	5.812
Narita	Chem. Eur. J.	Tot Syn	Lactone	48	15	89			0.90	5.802
Narita	Chem. Eur. J.	Tot Syn	Lactone	68	15	62			0.90	5.331
Newhouse	JACS	Tot Syn	Lactam	11	16	70			0.10	4.535
Nicolaou	ACIE	Tot Syn	Alkylation	3	15	79			1.00	5.693
Nicolaou	ACIE	Tot Syn	DA	24	13	40			7.70	5.693
Nolasco	J. Org. Chem.	Tot Syn	Lactam	3	17	60	1.070	330	3.24	5.845
Nolasco	J. Org. Chem.	Tot Syn	Lactam	25	17	48	0.160	31	5.16	5.756
Nolasco	J. Org. Chem.	Tot Syn	Negishi	10	17	35	0.330	140	2.36	5.005
Numajiri	Chem. As. J.	Tot Syn	Lactam	2	25	56			1.00	5.245
Ohba	Chem. Eur. J.	Methodology	Lactone	3a	13	64			0.50	5.118
Ohba	Chem. Eur. J.	Methodology	Lactone	3b	9	61			0.30	4.833
Ohba	Chem. Eur. J.	Methodology	Lactone	3c	10	50			0.30	4.574
Ohba	Chem. Eur. J.	Methodology	Lactone	3d	11	68			0.30	4.975
Ohba	Chem. Eur. J.	Methodology	Lactone	3e	12	62			0.50	5.076
Ohba	Chem. Eur. J.	Methodology	Lactone	3f	13	69			0.50	5.216
Ohba	Chem. Eur. J.	Methodology	Lactone	3g	14	89			0.50	5.547
Ohba	Chem. Eur. J.	Methodology	Lactone	8a	13	74			0.30	5.085
Ohba	Chem. Eur. J.	Methodology	Lactone	8b	13	55			0.30	4.698
Ohba	Chem. Eur. J.	Methodology	Lactone	8c	13	67			0.30	4.955
Ohba	Chem. Eur. J.	Methodology	Lactone	9a	12	72			0.50	5.271
Ohba	Chem. Eur. J.	Methodology	Lactone	9b	12	52			0.50	4.847
Ohba	Chem. Eur. J.	Methodology	Lactone	9c	12	70			0.50	5.234
Ohba	Chem. Eur. J.	Methodology	Lactone	11a	13	85			0.50	5.487
Ohba	Chem. Eur. J.	Methodology	Lactone	11b	13	73			0.50	5.289
Ohba	Chem. Eur. J.	Methodology	Lactone	11c	13	75			0.50	5.324
Ohba	Chem. Eur. J.	Methodology	Lactone	15	10	45			0.30	4.437
Pattenden	Tetrahedron	Tot Syn	Radical	23,24,25	12	50			1.20	5.176
Peng	BMCL	Med Chem	RCM	17	12	63	0.098	9.758	10.00	6.398
Peng	BMCL	Med Chem	RCM	18a	12	39			10.00	5.773
Peng	BMCL	Med Chem	RCM	18b	12	65			10.00	6.439
Peng	BMCL	Med Chem	RCM	19a	13	12			10.00	4.238
Peng	BMCL	Med Chem	RCM	19b	13	11			10.00	4.124
Peng	BMCL	Med Chem	RCM	20a	14	34			10.00	5.594
Peng	BMCL	Med Chem	RCM	20b	14	21			10.00	4.967
Peng	BMCL	Med Chem	RCM	21a	12	46			10.00	5.988
Peng	BMCL	Med Chem	RCM	21b	12	42			10.00	5.870
Peng	BMCL	Med Chem	RCM	22a	13	34			10.00	5.594
Peng	BMCL	Med Chem	RCM	19	13	32			10.00	5.515
Peng	BMCL	Med Chem	RCM	23a	14	24			10.00	5.141

Peng	BMCL	Med Chem	RCM	23b	14	22			10.00	5.027
Peng	BMCL	Med Chem	RCM	24b	12	38			10.00	5.739
Peng	BMCL	Med Chem	RCM	20	13	56			10.00	6.245
Peng	BMCL	Med Chem	RCM	25b	13	48			10.00	6.044
Peng	BMCL	Med Chem	RCM	26a	14	27			10.00	5.294
Peng	BMCL	Med Chem	RCM	26b	14	31			10.00	5.474
Postema	Org. Lett.	Tot Syn	RCM	18	20	84			3.70	6.341
Purushothaman	Tet. Lett.	Methodology	1,3-cycloaddition	3a	12	70	1.000	30	33.33	7.058
Rajakumar	EJMC	Med Chem	Lactam	1	21	40			0.70	4.651
Rajakumar	EJMC	Med Chem	Lactam	2	21	32			0.70	4.361
Rajakumar	EJMC	Med Chem	Lactam	3	22	28			0.70	4.187
Rajakumar	EJMC	Med Chem	Lactam	4	25	37			0.70	4.550
Rajakumar	EJMC	Med Chem	Lactam	5	32	27			0.70	4.139
Rajakumar	EJMC	Med Chem	Lactam	6	26	32			0.70	4.361
Reddy	Org. Lett.	Tot Syn	RCM	24	15	83			5.00	6.456
Rohanna	Org. Lett.	Methodology	Lactone	5	13	75			1.60	5.829
Rohanna	Org. Lett.	Methodology	Lactone	7	17	90			1.20	5.942
Rohanna	Org. Lett.	Methodology	Lactone	9	16	43			0.60	4.679
Rohanna	Org. Lett.	Methodology	Lactone	11	17	90			0.90	5.817
Rohanna	Org. Lett.	Methodology	Lactone	17	13	81			0.40	5.328
She	Tet. Lett.	Tot Syn	RCM	20,21	14	69	0.164	30	5.47	6.254
Singh	J. Org. Chem.	Tot Syn	Lactone	16	16	77	0.132	204	0.65	5.470
Smith	JACS	Tot Syn	Lactone	19	31	85			0.50	5.487
Smith	J. Org. Chem.	Tot Syn	Heck	80	26	50			10.00	6.097
Smith	Org. Lett.	Tot Syn	HWE	24	21	59	0.020	34	0.59	5.082
Smith	JACS	Tot Syn	RCM	52	11	89			0.08	4.723
Smith	JACS	Tot Syn	RCM	68	11	86			0.06	4.603
Smith	Tetrahedon	Tot Syn	Lactone	101	32	85	0.001	1	0.73	5.649
Smith	Tetrahedon	Tot Syn	Lactone	114	32	81	0.002	4.3	0.52	5.440
Sparling	Tetrahedron	Tot Syn	HWE	3	14	34			9.00	5.549
Sugiyama	Chem. Eur. J.	Tot Syn	HWE	42	36	52	0.096	50	1.92	5.431
Tang	OBC	Tot Syn	NHK	4a	13	70	0.540	377	1.43	5.691
Toumi	EJOC	Tot Syn	Ullmann	36	13	82			7.40	6.611
Toumi	EJOC	Tot Syn	Cyclodehydration	4	13	34			7.40	5.464
Toumi	EJOC	Tot Syn	Pd-amination	4	13	21			10.00	4.967
Trenkle	ACIE	Tot Syn	Ni alkyne-epoxide	2	14	67			140.00	7.624
Trenkle	ACIE	Tot Syn	Ni alkyne-epoxide	2	14	46			70.00	6.833
Trost	JACS	Tot Syn	Ru alkene-alkyne	25	18	99			1.00	5.987
Trost	JACS	Tot Syn	Lactone	73	22	65			1.20	5.518
Trost	ACIE	Tot Syn	Lactone	1	16	26	0.009	4.5	1.96	4.536
Tu	ACIE	Tot Syn	Lactone	11	13	75	0.359	215	1.67	5.848
Tu	ACIE	Tot Syn	Lactone	39	12	72	0.421	305	1.38	5.712
Ueda	J. Org. Chem.	Tot Syn	Lactone	41	14	61	0.039	137.6	0.28	4.810
Urbach	EJOC	Med Chem	RCM	7	13	95			4.70	6.605
Urbach	EJOC	Med Chem	RCM	12b	12	74			5.00	6.307
Urbach	EJOC	Med Chem	RCM	12c	13	62			5.00	6.076
Urbach	EJOC	Med Chem	RCM	17b	12	83			5.00	6.456

Urbach	EJOC	Med Chem	RCM	17c	13	72			5.00	6.271
Urbach	EJOC	Med Chem	RCM	24	12	67			5.00	6.177
Van Berkel	Chem. Comm.	Tot Syn	Huisgen	16	23	23			0.80	3.988
Velazquez	J. Med. Chem.	Med Chem	RCM	11	16	90			9.70	6.849
Wingstrand	Tet. Lett.	Methodology	Alkylation	19	15	56	0.061	1.4	43.57	6.884
Wingstrand	Tet. Lett.	Methodology	Red Amin	20	15	48	0.102	2.27	44.93	6.696
Xing	Org. Lett.	Tot Syn	Lactone	12	12	70	0.170	70	2.43	5.921
Xing	Org. Lett.	Tot Syn	Lactone	15	12	70	0.630	270	2.33	5.903
Yadav	Org. Lett.	Tot Syn	Lactone	25	18	75			0.40	5.227
Yang	New J. Chem.	Methodology	Lactam	3a	30	85			0.50	5.487
Yang	New J. Chem.	Methodology	Lactam	3b	35	50			0.50	4.796
Yang	New J. Chem.	Methodology	Lactam	3c	40	14			0.50	3.137
Yang	New J. Chem.	Methodology	Lactam	3d	45	10			0.50	2.699
Yang	New J. Chem.	Methodology	Lactam	3e	50	6			0.50	2.033
Zhu	OBC	Methodology	Huisgen	1	25	20			10.00	4.903
Zhu	OBC	Methodology	Huisgen	2	34	82			10.00	6.741
Zhu	OBC	Methodology	Huisgen	3	34	85			5.00	6.487
Zhu	OBC	Methodology	Huisgen	4	54	25			5.00	4.893
Zulykama	Tet. Lett.	Methodology	Alkylation	3a	12	61			40.00	6.958
Zulykama	Tet. Lett.	Methodology	Alkylation	3b	12	65			40.00	7.041
Zulykama	Tet. Lett.	Methodology	Alkylation	3c	12	63			40.00	7.000
Zulykama	Tet. Lett.	Methodology	Alkylation	3d	12	61			40.00	6.958
Zulykama	Tet. Lett.	Methodology	Alkylation	3e	12	64			40.00	7.021
Zulykama	Tet. Lett.	Methodology	Alkylation	3f	12	55			40.00	6.823
Zulykama	Tet. Lett.	Methodology	Alkylation	3g	12	57			40.00	6.870
Zulykama	Tet. Lett.	Methodology	Alkylation	3h	12	53			40.00	6.775

2010

Name	Journal	Paper type	Reaction	Cmpd no	Ring size	Yield	mmol	Vol (ml)	Conc (mM)	Emac
Ammer	Chem. Eur. J.	Tot syn	Stille	38	29	79	0.010	9.9	1.00	5.692
Ando	Org. Lett.	Methodology	HWE	16	15	84	0.350	35	10.00	6.773
Ando	Org. Lett.	Methodology	HWE	17	13	60			10.00	6.334
Ando	Org. Lett.	Methodology	HWE	18	16	93			10.00	6.905
Ando	Org. Lett.	Methodology	HWE	19	18	77			10.00	6.659
Ando	Org. Lett.	Methodology	HWE	20	12	69			10.00	6.517
Ando	Org. Lett.	Methodology	HWE	21	14	87			10.00	6.819
Ando	Org. Lett.	Methodology	HWE	22	17	90			10.00	6.863
Auzzas	J. Med. Chem.	Med Chem	RCM	32	14	78			1.00	5.676
Auzzas	J. Med. Chem.	Med Chem	RCM	30a	12	58			1.00	5.290
Auzzas	J. Med. Chem.	Med Chem	RCM	30b	13	88			1.00	5.833
Auzzas	J. Med. Chem.	Med Chem	RCM	30c	14	89			1.00	5.848
Auzzas	J. Med. Chem.	Med Chem	RCM	39	14	26			1.00	4.245
Auzzas	J. Med. Chem.	Med Chem	RCM	46	14	55			1.00	5.221
Auzzas	J. Med. Chem.	Med Chem	RCM	54	14	25	0.210	210	1.00	4.194
Auzzas	J. Med. Chem.	Med Chem	RCM	61	14	72	0.150	150	1.00	5.572
Barnickel	J. Org. Chem.	Tot syn	Alkylation	8a	15	64	0.280	36	7.78	6.309

Barnickel	J. Org. Chem.	Tot syn	Alkylation	8b	17	76	0.500	60	8.33	6.563
Barnickel	J. Org. Chem.	Tot syn	Alkylation	4	17	25	0.200	24	8.33	5.115
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6a	12	73	0.010	0.6	16.67	6.812
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6b	13	66			16.67	6.681
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6c	14	80			16.67	6.931
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6d	12	87			16.67	7.040
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6e	14	90			16.67	7.085
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6f	13	35			16.67	5.854
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6g	12	54			16.67	6.419
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6h	13	37			16.67	5.927
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6i	12	37			16.67	5.927
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6j	14	74			16.67	6.830
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6k	14	65			16.67	6.661
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6l	16	62			16.67	6.599
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6m	18	65			16.67	6.661
Bogdan	Chem. Eur. J.	Methodology	Huisgen	6n	22	71			16.67	6.776
Bolduc	JACS	Methodology	RCM	9	18	89			0.20	5.149
Bolduc	JACS	Methodology	RCM	9	18	67			0.40	5.080
Bolduc	JACS	Methodology	RCM	9	18	61			0.80	5.259
Bolduc	JACS	Methodology	RCM	5	16	50	0.089	600	0.15	4.268
Bolduc	JACS	Methodology	RCM	6	16	45	0.089	600	0.15	4.131
Bolduc	JACS	Methodology	RCM	7	15	61	0.089	600	0.15	4.527
Bolduc	JACS	Methodology	RCM	8	17	45	0.089	600	0.15	4.131
Bolduc	JACS	Methodology	RCM	10	15	45	0.089	600	0.15	4.131
Bolduc	JACS	Methodology	Glaser-Hay	11	15	42	0.089	700	0.13	3.974
Bolduc	JACS	Methodology	Glaser-Hay	12	15	40	0.089	700	0.13	3.910
Bolduc	JACS	Methodology	Glaser-Hay	13	18	42	0.089	700	0.13	3.974
Bourcet	EJOC	Tot syn	RCM	57	14	67	0.829	160	5.18	6.193
Brain	Tet	Tot syn	Stille	83	17	52	0.019	12	1.62	5.356
Burns	ACIE	Tot syn	RCM	9	13	82	0.940	320	2.94	6.209
Campbell	Tet. Lett.	Tot syn	Lactam	1a	18	44	0.180	10	18.00	6.186
Carr	Chem Comm	Tot syn	Heck	12a	11	52	0.070	2	35.00	6.692
Chausset	Chem Comm	Tot syn	RCM	1	12	37	0.040	9	4.44	5.352
Clerc	EJOC	Tot syn	RCM	21	12	49	1.620	825	1.96	5.364
Cupido	ACIE	Med Chem	Lactam		15	88			0.05	4.532
Dai	Org. Lett.	Tot syn	Lactam	2	12	15	0.520	200	2.60	3.943
Day	Chem. Eur. J.	Med Chem	RCM	14	14	92	0.280	39	7.18	6.747
Day	Chem. Eur. J.	Med Chem	Huisgen	20a	13	33	0.280	180	1.56	4.747
Doi	OBC	Med Chem	Lactam	6	24	19			3.13	4.332
Dufour	Chem. Eur. J.	Tot syn	Suzuki	24	14	54	0.074	3.72	19.92	6.496
Feng	Org. Lett.	Methodology	C-H arylation	8	12	64			0.005	3.118
Fuse	Chem. As. J.	Analogues	RCM	24	14	82	0.339	68	4.99	6.439
Fuse	Chem. As. J.	Analogues	RCM	23	14	36	0.043	8.7	4.99	5.367
Fuse	Chem. As. J.	Analogues	RCM	25	14	43	0.046	9.2	5.01	5.600
Fuse	Chem. As. J.	Analogues	RCM	26	14	60	0.072	14	5.14	6.046
Fuse	Chem. As. J.	Analogues	RCM	27	14	29	0.086	17	5.05	5.091
Fuse	Chem. As. J.	Analogues	RCM	28	14	72	0.625	125	5.00	6.271

Fuse	Chem. As. J.	Analogues	RCM	29	14	71	0.023	4.6	5.00	6.253
Fuse	Chem. As. J.	Analogues	RCM	30	14	68	0.060	12	4.98	6.194
Fuse	Chem. As. J.	Analogues	RCM	31	14	65	0.043	8.64	5.00	6.138
Fuwa	ACIE	Tot syn	RCM	15	12	85	0.023	7.5	3.03	6.269
Fuwa	Org. Lett.	Tot syn	Lactone	27	16	94	0.008	17.2	0.49	5.608
Fuwa	Tetrahedron	Tot syn	Lactone	28	12	73			1.00	5.590
Gentilucci	J. Med. Chem.	Med Chem	Lactam	14	13	69	0.310	70	4.43	6.163
Gowrisankar	Chem. Eur. J.	Tot syn	RCM	2	20	70	0.023	5	4.60	6.198
Gu	Org. Lett.	Tot syn	Lactam	20	13	58	0.810	300	2.70	5.722
Gung	Chem. Eur. J.	Methodology	Alkyne-aldehyde	14a	13	81	1.500	117.7	12.74	6.831
Han	JACS	Tot syn	Lactone		30	31	0.067	146.35	0.46	4.135
Haug	OBC	Tot syn	Lactone	1	12	65	0.027	51	0.53	5.163
Hickmann	JACS	Tot syn	RCAM	37	14	90	0.011	2	5.70	6.619
Hili	JACS	Methodology	Ugi-like	15	12	84			200	8.074
Hili	JACS	Methodology	Ugi-like	16	18	84	0.200	1	200	8.074
Hili	JACS	Methodology	Ugi-like	17	15	82			200	8.042
Hili	JACS	Methodology	Ugi-like	18	18	84			200	8.074
Hili	JACS	Methodology	Ugi-like	19	18	77			200	7.961
Hili	JACS	Methodology	Ugi-like	20	18	81			200	8.026
Hili	JACS	Methodology	Ugi-like	21	18	88			200	8.134
Hili	JACS	Methodology	Ugi-like	22	18	76			200	7.943
Hoye	ACIE	Tot syn	Lactone	29	16	54	0.032	42.7	0.76	5.077
Hu	Org. Lett.	Tot syn	Lactam	16	17	48	0.300	150	2.00	5.345
Jogireddy	ChemMedChem	Med Chem	Mitsunobu	27	14	74	0.461	45	10.24	6.618
Jogireddy	ChemMedChem	Med Chem	Mitsunobu	29	14	70	0.498	47	10.60	6.560
Jones	Org. Lett.	Tot syn	Julia-Kocienski	19	15	15	0.325	30	10.83	4.563
Lassen	Org. Lett.	Tot syn	Lactam	7	21	25	0.036	40	0.90	4.148
Lassen	Tet. Lett.	Tot syn	Lactam	4	21	48	0.037	37	1.00	5.044
LeClair	Tet. Lett.	Tot syn	NHK	19	14	35	0.009	18.9	0.50	4.329
LeClair	Tet. Lett.	Tot syn	NHK	19	14	61	0.230	22.8	10.09	6.360
Li	J. Org. Chem.	Tot syn	Lactone	87	22	51	0.002	0.3	5.90	5.894
Li	J. Org. Chem.	Tot syn	Heck	87	22	70	0.071	18	3.96	6.133
Li	Chem. Comm.	Tot syn	RCM	1	20	51	0.110	120	0.92	5.085
Liang	Chem. Comm.	Tot syn	Lactam	2	31	46			1.00	4.988
Liu	Chem. Comm.	Tot syn	Lactam	21	31	72			1.00	5.572
Madsen	Tetrahedron	Methodology	Sulfite synth	21	17	51	0.260	22	11.82	6.195
Madsen	Tetrahedron	Methodology	Sulfite synth	23	17	43	0.260	22	11.82	5.973
Madsen	Tetrahedron	Methodology	Sulfite synth	25	15	79	0.260	22	11.82	6.765
Madsen	Tetrahedron	Methodology	Sulfite synth	27	17	74	0.260	22	11.82	6.680
Madsen	Tetrahedron	Methodology	Acylation	29	19	37	0.130	10.74	12.10	5.788
Madsen	Tetrahedron	Methodology	Acylation	31	19	34	0.130	10.74	12.10	5.677
Madsen	Tetrahedron	Methodology	Red Amin	34	15	9	0.100	7.9	12.66	3.965
Madsen	Tetrahedron	Methodology	Red Amin	36	15	46	0.100	7.9	12.66	6.091
Madsen	Tetrahedron	Methodology	Red Amin	40	15	60	0.100	7.9	12.66	6.437
Magauer	Chem. Eur. J.	Tot syn	RCM	56	18	62	0.131	145	0.90	5.333
Magauer	Chem. Eur. J.	Tot syn	RCM	60	16	83	0.098	113	0.87	5.695
Marcaurelle	JACS	Method/Med Chem	Huisgen	6a	12	78			10.00	6.676

Marcaurelle	JACS	Method/Med Chem	Huisgen	6b	12	75			10.00	6.625
Marcaurelle	JACS	Method/Med Chem	Huisgen	6c	12	59			10.00	6.313
Marcaurelle	JACS	Method/Med Chem	Huisgen	6d	12	56			10.00	6.245
Marcaurelle	JACS	Method/Med Chem	Huisgen	7a	13	57			10.00	6.268
Marcaurelle	JACS	Method/Med Chem	Huisgen	7b	13	58			10.00	6.290
Marcaurelle	JACS	Method/Med Chem	Huisgen	7c	13	76			10.00	6.642
Marcaurelle	JACS	Method/Med Chem	Huisgen	7d	13	78			10.00	6.676
Marcaurelle	JACS	Method/Med Chem	RCM	8a	14	70			10.00	6.535
Marcaurelle	JACS	Method/Med Chem	RCM	8b	14	58			10.00	6.290
Marcaurelle	JACS	Method/Med Chem	RCM	8c	14	50			10.00	6.097
Marcaurelle	JACS	Method/Med Chem	RCM	8d	14	45			10.00	5.960
Marcaurelle	JACS	Method/Med Chem	RCM	8e	14	80			10.00	6.709
Marcaurelle	JACS	Method/Med Chem	RCM	8f	14	93			10.00	6.905
Marcaurelle	JACS	Method/Med Chem	RCM	8g	14	81			10.00	6.725
Marcaurelle	JACS	Method/Med Chem	RCM	8h	14	88			10.00	6.833
Miyatake	Org. Lett.	Tot syn	Ketene	10	18	55	0.380	50	7.60	6.102
Miyatake	Tetrahedron	Tot syn	Ketene	2	18	46	0.150	16	9.38	5.960
Mohapatra	EJOC	Tot syn	NHK	24	13	81	0.540	38	14.21	6.878
Mohapatra	EJOC	Tot syn	NHK	31	13	85	0.640	35	18.29	7.050
Monfette	Chem. Eur. J.	Process	RCM	2	16	82			5.00	6.440
Monfette	Chem. Eur. J.	Process	RCM	2	16	70			5.00	6.234
Monfette	Chem. Eur. J.	Process	RCM	2	16	57			10.00	6.268
Monfette	Chem. Eur. J.	Process	RCM	2	16	43			20.00	6.201
Monfette	Chem. Eur. J.	Process	RCM	2	16	99			5.00	6.686
Monfette	Chem. Eur. J.	Process	RCM	2	16	65			20.00	6.740
Moulin	Tetrahedron	Analogues	RCM	5	24	68	0.007	20	0.35	5.042
Nahrwold	Org. Lett.	Analogues	Lactam	17	17	74	0.200	30	6.67	6.432
Nahrwold	Org. Lett.	Analogues	Huisgen	17	17	32	0.083	40	2.08	4.832
Nair	Tet. Lett.	Med Chem	RCM	17	16	80	0.600	60	10.00	6.709
Napolitano	J. Org. Chem.	Analogues	HWE	15	14	62	0.081	5	16.20	6.587
Navickas	Tetrahedron	Tot syn	Mitsunobu	34a	14	77	0.095	9.5	10.00	6.659
Newhouse	JACS	Tot syn	Lactam	124	15	41	0.012	1.1	10.91	5.876
Newhouse	JACS	Tot syn	Larock Indole	124	15	67	0.039	1.5	26.00	6.893
Nicolaou	JACS	Tot syn	Quinone DA	38a	13	60			5.00	6.033
Nicolaou	JACS	Tot syn	Quinone DA	76	13	40	0.055	7	7.79	5.697
Nshimyumukiza	Tetrahedron	Med Chem	RCM	1a	15	19	0.721	140	5.15	4.548
Nshimyumukiza	Tetrahedron	Med Chem	RCM	1'a	17	49	0.721	140	5.15	5.782
Okura	ACIE	Tot syn/analogues	Lactam	21	15	71	1.430	286	5.00	6.253
Oskarsson	JACS	Analogues	RCM	14	14	75	0.510	1000	0.51	5.333
Ozbek	EJOC	Peptidomimetics	Lactam	14	24	18			4.00	4.368
Park	Org. Lett.	Methodology	Dienyne RCM	entry 6	17	87			4.00	6.421
Paterson	Tetrahedron	Tot syn	Lactone	32	22	87	0.037	52.5	0.70	5.664
Ranyuk	Adv Synth Catal	Methodology	Buch-Hart	3a	21	31	0.250	12	20.83	5.793
Ranyuk	Adv Synth Catal	Methodology	Buch-Hart	3b	21	27	0.250	12	20.83	5.613
Ranyuk	Adv Synth Catal	Methodology	Buch-Hart	5a	20	30	0.250	12	20.83	5.750
Ranyuk	Adv Synth Catal	Methodology	Buch-Hart	5b	21	29	0.250	12	20.83	5.706
Rzuczek	J. Med. Chem.	Med Chem	Lactam	6a	24	30			2.00	4.732

Rzuczek	J. Med. Chem.	Med Chem	Lactam	6b	24	35			2.00	4.933
Rzuczek	J. Med. Chem.	Med Chem	Lactam	7a	24	22			2.00	4.328
Rzuczek	J. Med. Chem.	Med Chem	Lactam	8	24	15			0.53	3.253
Rzuczek	J. Med. Chem.	Med Chem	Lactam	13a	24	58			2.00	5.591
Rzuczek	J. Med. Chem.	Med Chem	Lactam	13b	24	22			2.00	4.328
Rzuczek	J. Med. Chem.	Med Chem	Lactam	11a	24	33			2.00	4.857
Rzuczek	J. Med. Chem.	Med Chem	Lactam	11b	24	68			2.00	5.799
Rzuczek	J. Med. Chem.	Med Chem	Lactam	15a	24	42			2.00	5.171
Rzuczek	J. Med. Chem.	Med Chem	Lactam	15b	24	42			2.00	5.171
Rzuczek	J. Med. Chem.	Med Chem	Lactam	17	24	31			2.00	4.775
Rzuczek	J. Med. Chem.	Med Chem	Lactam	23a	24	35			2.00	4.933
Rzuczek	J. Med. Chem.	Med Chem	Lactam	23b	24	30			2.00	4.732
Rzuczek	J. Med. Chem.	Med Chem	Lactam	23c	24	40			2.00	5.107
Schackel	ACIE	Tot syn	Lactone	23	26	26	0.052	6	8.66	5.183
Schmauder	Chem. Eur. J.	Tot syn	Lactam	2a	18	29	0.037	37	1.00	4.387
Shen	EJOC	Methodology	Lactone	13	16	64			100.00	7.419
Shimamura	JACS	Tot syn	SNAr	30	16	95	0.005	5	1.00	5.933
Shimamura	JACS	Tot syn	Larock Indole	37	16	56	0.004	4.4	1.00	5.245
Singh	J. Org. Chem.	Tot syn	Lactone	16	16	77	0.132	229	0.58	5.420
Sinigaglia	Chem. Eur. J.	Tot syn	Enamine attack	15	17	33	0.140	20	7.00	5.401
Smith	Org. Lett.	Analogues	Lactone	9	23	62	0.028	57.68	0.49	5.063
Smith	Org. Lett.	Analogues	Lactone	10	29	48	0.010	20.49	0.49	4.732
Smith	Tetrahedron	Tot syn	RCM	28	17	80	0.350	1000	0.35	5.253
Smith	Tetrahedron	Tot syn	RCM	32/33	17	80	0.039	250	0.16	4.902
Smith	ACIE	Tot syn	RCAM	3	17	63	0.008	6.5	1.23	5.488
Socha	BMC	Med Chem	Lactam	3	16	23			0.10	3.085
Speicher	EJOC	Tot syn	McMurray	30	16	27	1.380	250	5.52	5.036
Speicher	EJOC	Tot syn	Wittig	40	18	44	3.460	500	6.92	5.770
Speicher	EJOC	Tot syn	Wittig	65	20	12	8.030	700	11.47	4.297
Tadross	Org. Lett.	Tot syn	RCM	14	10	77			2.00	5.961
Tanaka	Org. Lett.	Tot syn	Dotz annulation	2	18	58	0.023	11.3	2.00	5.591
Tang	Tetrahedron	Tot syn	NHK	37	13	63	0.620	453	1.37	5.534
Tannert	JACS	Tot syn/analogues	RCM	28a	18	44			1.00	4.930
Tannert	JACS	Tot syn/analogues	RCM	28b	18	47			1.00	5.016
Tannert	JACS	Tot syn/analogues	RCM	29b	18	33			1.00	4.556
Tannert	JACS	Tot syn/analogues	RCM	28c	18	74			1.00	5.608
Tannert	JACS	Tot syn/analogues	RCM	28e	18	58			1.00	5.290
Tannert	JACS	Tot syn/analogues	RCM	28f	18	48			1.00	5.044
Tannert	JACS	Tot syn/analogues	RCM	28g	18	71			1.00	5.554
Tannert	JACS	Tot syn/analogues	RCM	28h	18	43			1.00	4.900
Tannert	JACS	Tot syn/analogues	RCM	30a	19	42			1.00	4.870
Tannert	JACS	Tot syn/analogues	RCM	30b	19	41			1.00	4.838
Tannert	JACS	Tot syn/analogues	RCM	30d	19	84			1.00	5.773
Tannert	JACS	Tot syn/analogues	RCM	31e	19	85			1.00	5.788
Tannert	JACS	Tot syn/analogues	RCM	31f	19	76			1.00	5.642
Terracciano	Tetrahedron	Med Chem	RCM	1	13	15			0.30	3.005
Terracciano	Tetrahedron	Med Chem	RCM	2	17	32			0.30	3.993

Terracciano	Tetrahedron	Med Chem	RCM	3	15	21			0.30	3.444
Terracciano	Tetrahedron	Med Chem	RCM	6	17	22			0.30	3.504
Terracciano	Tetrahedron	Med Chem	RCM	7	15	21			0.30	3.444
Trost	JACS	Tot syn	Pd Diyne coupling	30	22	56	0.003	2.6	1.31	5.361
Trost	JACS	Tot syn	Pd Diyne coupling	40	22	65	0.020	5.1	3.92	6.032
Trost	Chem. Eur. J.	Tot syn	RCM	36	15	44			1.00	4.930
Wang	Tetrahedron	Tot syn	Lactam	2	27	60	0.187	30	6.23	6.129
Wang	ACIE	Tot syn	Suzuki	15	16	66	0.070	85.3	0.82	5.373
Wang	ACIE	Tot syn	SNAr	22	16	62			0.10	4.377
Woo	JACS	Tot syn	Prins	16	14	69	0.159	8	19.88	6.815
Wu	ACIE	Tot syn	Barbier	21	23	40	0.050	25	2.00	5.107
Wu	JACS	Tot syn	Lactam	1	33	54	0.010	8.3	1.20	5.278
Wullschleger	Org. Lett.	Tot syn	RCM	24	14	65	0.087	101	0.86	5.374
Xie	J. Org. Chem.	Tot syn	Lactone	23	18	88	0.090	119.24	0.75	5.711
Yadav	Tetrahedron	Tot syn	RCM	14	10	64	0.462	710	0.65	5.232
Yoshida	Org. Lett.	Tot syn	Lactone	16a	19	65			3.00	5.916
Yu	Org. Lett.	Tot syn	Lactam	25	18	67	0.024	44	0.55	5.215
Yu	Chem. Eur. J.	Methodology	Alkylation	2	12	38	1.000	200	5.00	5.438
Yu	Chem. Eur. J.	Methodology	Alkylation	3	13	78	1.000	200	5.00	6.375
Yu	Chem. Eur. J.	Methodology	Alkylation	4	14	45	1.000	200	5.00	5.659
Yu	Chem. Eur. J.	Methodology	Alkylation	5	15	67	1.000	200	5.00	6.177
Yu	Chem. Eur. J.	Methodology	Alkylation	6	13	61	1.000	200	5.00	6.055
Yu	Chem. Eur. J.	Methodology	Alkylation	9	13	70	1.000	200	5.00	6.234
Yun	ACIE	Tot syn	RCM	21	18	45	0.030	25	1.20	5.039
Zurwerra	Org. Lett.	Tot syn	HWE	20	18	85			3.00	6.265

2011

Name	Journal	Paper type	Reaction	Cmpd no	Ring size	Yield	mmol	Vol (ml)	Conc (mM)	Emac
Andersson	J. Med. Chem.	Med chem	RCM	19	14	28	0.019	5.5	3.38	4.871
Andersson	J. Med. Chem.	Med chem	RCM	23	14	59	0.088	15	5.85	6.080
Andersson	J. Med. Chem.	Med chem	RCM	25	14	43	0.061	12	5.05	5.604
Ando	Tet. Lett.	Methodology	HWE	13	15	63	0.200	20	10.00	6.398
Ando	Tet. Lett.	Methodology	HWE	14	16	66	0.200	20	10.00	6.459
Ando	Tet. Lett.	Methodology	HWE	15	13	70	0.200	20	10.00	6.535
Ando	Tet. Lett.	Methodology	HWE	16	14	69	0.200	20	10.00	6.517
Ando	Tet. Lett.	Methodology	HWE	17	17	75	0.200	20	10.00	6.625
Ando	Tet. Lett.	Methodology	HWE	18	18	69	0.200	20	10.00	6.517
Araoz	JACS	Tot syn	RCM	41	22(27?)	75	0.538	108	4.98	6.323
Bedard	JACS	Methodology	Glaser-Hay	3	16	73	0.120	5	24.00	6.970
Bedard	JACS	Methodology	Glaser-Hay	8	14	62			24.00	6.757
Bedard	JACS	Methodology	Glaser-Hay	9	18	74			24.00	6.988
Bedard	JACS	Methodology	Glaser-Hay	10	21	81			24.00	7.106
Bedard	JACS	Methodology	Glaser-Hay	11	23	78			24.00	7.056
Bedard	JACS	Methodology	Glaser-Hay	12	28	98			24.00	7.354
Bedard	JACS	Methodology	Glaser-Hay	13	18	67			24.00	6.858
Bedard	JACS	Methodology	Glaser-Hay	14	27	69			24.00	6.897

Bedard	JACS	Methodology	Glaser-Hay	16	16	98			24.00	7.354
Bedard	JACS	Methodology	Glaser-Hay	15	23	63			24.00	6.778
Benelkebir	BMC	Tot syn	Lactam	31	16	64	0.230	185	1.24	5.513
Berwe	OPRD	NP Process	Lactam	2	15	73			57.00	7.346
Bhansali	J. Med. Chem.	Med chem	Lactam	25		57			1.00	5.268
Bienek	Organomet	Methodology	RCM		15	95			20.00	7.234
Bogdan	Org. Lett.	Methodology	Huisgen	1	14	80	0.010	0.6	16.67	6.931
Bogdan	Org. Lett.	Methodology	Huisgen	2	12	42			16.67	6.092
Bogdan	Org. Lett.	Methodology	Huisgen	3	17	75			16.67	6.847
Bogdan	Org. Lett.	Methodology	Huisgen	4	15	65			16.67	6.661
Bogdan	Org. Lett.	Methodology	Huisgen	5	19	21			16.67	5.189
Bogdan	Org. Lett.	Methodology	Huisgen	6	22	83			16.67	6.979
Bogdan	Org. Lett.	Methodology	Huisgen	7	22	75			16.67	6.847
Bogdan	Org. Lett.	Methodology	Huisgen	8	23	80			16.67	6.931
Bogdan	Org. Lett.	Methodology	Huisgen	9	26	25			16.67	5.416
Bogdan	Org. Lett.	Methodology	Huisgen	10	31	22			16.67	5.249
Bogdan	JACS	Structural	Huisgen	1	14	90			16.67	7.085
Bogdan	JACS	Structural	Huisgen	2	14	80			16.67	6.931
Bogdan	JACS	Structural	Huisgen	3	13	66			16.67	6.681
Bogdan	JACS	Structural	Huisgen	4	12	73			16.67	6.812
Bogdan	JACS	Structural	Huisgen	5	11	20			16.67	5.125
Bogdan	JACS	Structural	Huisgen	7	12	40			16.67	6.028
Bogdan	JACS	Structural	Huisgen	8	12	54			16.67	6.419
Bogdan	JACS	Structural	Huisgen	9	13	35			16.67	5.854
Bogdan	OBC	PK study	Huisgen	1a	12	87	0.010	0.6	16.67	7.040
Bogdan	OBC	PK study	Huisgen	2a	14	80	0.010	0.6	16.67	6.931
Bogdan	OBC	PK study	Huisgen	3a	18	57	0.010	0.6	16.67	6.489
Bogdan	OBC	PK study	Huisgen	4a	22	71	0.010	0.6	16.67	6.776
Bogdan	OBC	PK study	Huisgen	5a	21	63	0.010	0.6	16.67	6.620
Bogdan	OBC	PK study	Huisgen	6a	28	62	0.010	0.6	16.67	6.599
Bogdan	OBC	PK study	Huisgen	7a	25	44	0.010	0.6	16.67	6.152
Bogdan	OBC	PK study	Huisgen	8a	29	59	0.010	0.6	16.67	6.534
Brady	OBC	Method	RCM	37	10	71	0.210	53	3.96	6.152
Brady	OBC	Method	RCM	30	10	71	0.160	53	3.02	6.034
Brandt	ACS MCL	Med Chem	RCM	7	21	83	0.013	13	1.00	5.757
Breslin	J. Med. Chem.	Med Chem	Heck	8a	13	65	0.370	4.3	86.05	7.373
Breslin	J. Med. Chem.	Med Chem	Heck	8b	13	43	0.370	4.3	86.05	6.835
Breslin	J. Med. Chem.	Med Chem	Heck	8c	13	62	0.370	4.3	86.05	7.312
Breslin	J. Med. Chem.	Med Chem	Heck	8d	13	75	0.370	4.3	86.05	7.560
Breslin	J. Med. Chem.	Med Chem	Heck	8e	13	51	0.370	4.3	86.05	7.057
Breslin	J. Med. Chem.	Med Chem	Heck	8f	13	53	0.370	4.3	86.05	7.108
Breslin	J. Med. Chem.	Med Chem	Heck	8g	13	94	0.370	4.3	86.05	7.854
Breslin	J. Med. Chem.	Med Chem	Heck	8h	13	54	0.370	4.3	86.05	7.132
Breslin	J. Med. Chem.	Med Chem	Heck	8i	13	32	0.260	4.25	61.18	6.302
Breslin	J. Med. Chem.	Med Chem	Heck	8j	13	37	0.130	2.12	61.32	6.492
Breslin	J. Med. Chem.	Med Chem	Heck	8k	13	51	0.370	4.3	86.05	7.057
Breslin	J. Med. Chem.	Med Chem	Heck	8l	13	63	0.094	3	31.33	6.894

Breslin	J. Med. Chem.	Med Chem	Heck	8m	13	72	0.140	3.3	42.42	7.200
Bruno	Org. Lett.	Tot syn	Lactam		36	24	0.096	40	2.41	4.522
Carr	OBC	Tot syn	Germyl-Stille	5	11	9	0.004	3	1.33	2.988
Chande	J Het Chem	Methodology	Dieckmann	3a	14	55	10.000	100	100.00	7.221
Chande	J Het Chem	Methodology	Dieckmann	3b	15	63	10.000	100	100.00	7.398
Chande	J Het Chem	Methodology	Dieckmann	7a	15	60	10.000	100	100.00	7.334
Chande	J Het Chem	Methodology	Dieckmann	7b	15	64	10.000	100	100.00	7.419
Chande	J Het Chem	Methodology	Dieckmann	11	20	46	10.000	100	100.00	6.988
Chande	J Het Chem	Methodology	Dieckmann	14a	14	58	10.000	100	100.00	7.290
Chande	J Het Chem	Methodology	Dieckmann	14b	14	62	10.000	100	100.00	7.377
Chande	J Het Chem	Methodology	Dieckmann	14c	14	50	10.000	100	100.00	7.097
Chavez	J. Med. Chem.	Med chem	RCM	8	20	52	0.110	21	5.24	5.867
Chegondi	J. Org. Chem.	Tot syn	RCM	3	12	82	0.026	5	5.20	6.457
Chen	ACIE	Tot syn	Lactam		20	74	0.247	350	0.71	5.456
Chen	J. Org. Chem.	Tot syn	Stille	34	24	72	0.020	28	0.70	5.417
Chouhan	Org. Lett.	Methodology	Huisgen	2	12	86			20.00	7.105
Chouhan	Org. Lett.	Methodology	Huisgen	3	14	95			20.00	7.234
Chouhan	Org. Lett.	Methodology	Huisgen	4	12	45			20.00	6.261
Chouhan	Org. Lett.	Methodology	Huisgen	5	14	76			20.00	6.943
Chouhan	Org. Lett.	Methodology	Huisgen	6	15	70			20.00	6.836
Chouhan	Org. Lett.	Methodology	Huisgen	7	15	68			20.00	6.799
Chouhan	Org. Lett.	Methodology	Huisgen	8	17	66			20.00	6.760
Chouhan	Org. Lett.	Methodology	Huisgen	9	19	66			20.00	6.760
Chouhan	Org. Lett.	Methodology	Huisgen	10	21	51			20.00	6.424
Chouhan	Org. Lett.	Methodology	Huisgen	11	16	45			20.00	6.261
Chouhan	Org. Lett.	Methodology	Huisgen	12	16	67			20.00	6.779
Chouhan	Org. Lett.	Methodology	Huisgen	13	24	85			20.00	7.089
Coghlan	BMC	Med Chem	RCM	16	18	77	0.250	50	5.00	6.358
Coghlan	BMC	Med Chem	RCM	17	18	74	0.200	50	4.00	6.210
Coghlan	BMC	Med Chem	RCM	18	18	72	0.500	120	4.17	6.192
Coghlan	BMC	Med Chem	RCM	19	18	77	0.170	50	3.40	6.191
Coghlan	BMC	Med Chem	RCM	20	18	72			5.00	6.271
Cortes	EJOC	Tot syn	SNAr	27	16	86	0.270	27	10.00	6.803
Crane	ACIE	Tot syn	Prins	20	16	66	0.250	25	10.00	6.459
Dandapani	J. Org. Chem.	Med Chem	RCM	13	13	79			10.00	6.693
Dandapani	J. Org. Chem.	Med Chem	RCM	14	14	85			10.00	6.788
Dandapani	J. Org. Chem.	Med Chem	RCM	15	15	73			10.00	6.590
Dandapani	J. Org. Chem.	Med Chem	RCM	16	16	88			10.00	6.833
Dandapani	J. Org. Chem.	Med Chem	RCM	17	17	83			10.00	6.757
Dandapani	J. Org. Chem.	Med Chem	RCM	18	18	69			10.00	6.517
Dandapani	J. Org. Chem.	Med Chem	RCM	19	15	87			10.00	6.819
Day	ACS Chem. Biol.	Med chem	RCM	12	14	69	0.280	70	4.00	6.119
Day	ACS Chem. Biol.	Med chem	RCM	16	14	87			4.00	6.421
Demillo	J. Med. Chem.	Med chem	Pd-AA	42	12	56	0.550	35	15.71	6.441
Demillo	J. Med. Chem.	Med chem	Pd-AA	28	12	53	0.560	36	15.56	6.365
Demillo	J. Med. Chem.	Med chem	Pd-AA	29	12	92	0.370	25	14.80	7.062
Demillo	J. Med. Chem.	Med chem	Pd-AA	30	12	38	1.400	90	15.56	5.931

Demillo	J. Med. Chem.	Med chem	Pd-AA	31	12	19	0.190	12	15.83	5.036
Demillo	J. Med. Chem.	Med chem	Pd-AA	32	12	38	0.240	15	16.00	5.943
Demillo	J. Med. Chem.	Med chem	Pd-AA	33	12	37	0.400	26	15.38	5.892
Demillo	J. Med. Chem.	Med chem	Pd-AA	34	12	24	0.850	54	15.74	5.338
Demillo	J. Med. Chem.	Med chem	Pd-AA	35	12	37	0.760	40	19.00	5.983
Demillo	J. Med. Chem.	Med chem	Pd-AA	36	12	46	0.490	31	15.81	6.187
Demillo	J. Med. Chem.	Med chem	Pd-AA	37	12	35	0.730	47	15.53	5.823
Demillo	J. Med. Chem.	Med chem	Pd-AA	38	12	26	0.290	15	19.33	5.531
Dermenci	Chem. Sci.	Method/analogues	NHK	5	14	59	0.711	720	0.99	5.307
Doi	Chem. As. J.	Tot syn	Lactam	26	25	60	0.033	25	1.32	5.455
ElMarrouni	Org. Lett.	Tot syn	Lactam/ketene	20	12(14?)	75	0.110	1004	0.11	4.665
Fischer	Chem. Eur. J.	Tot syn	Lactone	1f	16	53	0.013	20	0.66	4.992
Franklin	OBC	Analogues	Nitrile oxide	22	15	36	0.082	40	2.05	4.981
Gagnepain	Chem. Eur. J.	Tot syn	RCM	59	24	72	0.359	359	1.00	5.572
Gallenkamp	JACS	Method/Tot syn	RCM	7a	15	91			2.00	6.178
Gallenkamp	JACS	Method/Tot syn	RCM	7b	15	70			2.00	5.836
Gallenkamp	JACS	Method/Tot syn	RCM	10	12	53			2.00	5.474
Gallenkamp	JACS	Method/Tot syn	RCM	11	13	80			2.00	6.010
Gallenkamp	JACS	Method/Tot syn	RCM	13	14	92			2.00	6.192
Gallenkamp	JACS	Method/Tot syn	RCM	15	14	90			2.00	6.164
Gallenkamp	JACS	Method/Tot syn	RCM	17	15	73			2.00	5.891
Gallenkamp	JACS	Method/Tot syn	RCM	19	15	75			2.00	5.926
Gallenkamp	JACS	Method/Tot syn	RCM	21	17	92			2.00	6.192
Gallenkamp	JACS	Method/Tot syn	RCM	22	18	90			2.00	6.164
Gallenkamp	JACS	Method/Tot syn	RCM	38	12	76	0.086	86	1.00	5.642
Gentilucci	ChemMedChem	Turn mimic	Lactam	11	15	70	0.150	40	3.75	6.109
Gentilucci	ChemMedChem	Turn mimic	Lactam	12	15	55	0.150	40	3.75	5.795
Gentilucci	ChemMedChem	Turn mimic	Lactam	13	15	60	0.150	40	3.75	5.908
Gentilucci	ChemMedChem	Turn mimic	Lactam	14	15	65	0.150	40	3.75	6.013
Gentilucci	ChemMedChem	Turn mimic	Lactam	15	14	65	0.150	40	3.75	6.013
Gersbach	Chem. Eur. J.	Tot syn	RCM	3	12	80			3.00	6.186
Gesinski	JACS	Tot syn	Sakurai	10	16(20?)	76	0.368	7.4	49.73	7.339
Gladding	Tetrahedron	Tot syn	Oxidation/ketal	59	14	66	0.017	8.3	1.99	5.757
Hanson	J. Org. Chem.	Tot syn	RCM	1	24	57			0.50	4.967
He	Chem. As. J.	Tot syn	Lactam	25	15	75	0.110	505	0.22	4.963
Hickmann	JACS	Tot syn	RCAM	42	13	79	0.026	13	0.50	5.392
Hickmann	JACS	Tot syn	RCAM	47	14	94	0.015	1	14.50	7.081
Hickmann	JACS	Tot syn	RCAM	52	14	90	0.011	1	11.40	6.920
Hili	Tetrahedron	Tot syn	Mitsunobu	18	12	74	0.574	11.7	49.06	7.298
Hopkins	Org. Lett.	Tot syn	Lactone	1	30	55	0.088	100	1.50	5.397
Hoveyda	J. Med. Chem.	Med chem	Lactam	2	18	83	78.400	1570	49.94	7.456
Hunter	J. Org. Chem.	Tot syn	Lactam	1	23	81			5.00	6.424
Ibrahim-Ouali	Tet. Lett.	Analogues	RCM	8	17	65			0.008	3.342
Ibrahim-Ouali	Tet. Lett.	Analogues	RCM	16	19	90			0.008	3.766
Inokuchi	ACS MCL	Med chem	Nitrile-oxide	13b	15	33	0.082	40	6.00	5.334
Iwashita	Tetrahedron	Tot syn/analogues	SNAr	24	18	60			10.00	6.334
Jacobsen	J. Org. Chem.	Helix mimic	Huisgen	5	19	83			0.15	4.933

Jakubec	Tet. Lett.	Tot syn	RCAM	18	15	36	0.020	85.6	0.23	4.037
Kang	BMCL	Med Chem	RCM	14	14	46			10.00	5.988
Kim	BMC	Med Chem	Alkylation	22	13	64	0.540	54	10.00	6.419
Kim	BMC	Med Chem	RCM	27	12	23	0.920	184	5.00	4.784
Knapp	Org. Lett.	Methodology	Ketene/lactam	29a	12	94			12.00	6.999
Knapp	Org. Lett.	Methodology	Ketene/lactam	29b	12	92			12.00	6.971
Knapp	Org. Lett.	Methodology	Nitrile oxide	30	12	74			12.00	6.687
Knapp	Org. Lett.	Methodology	Nitrile oxide	32	12	70			12.00	6.614
Knapp	Org. Lett.	Methodology	Nitrile oxide	34	14	72			12.00	6.651
Knapp	Org. Lett.	Methodology	Nitrile oxide	35	14	70			12.00	6.614
Knowles	Chem. Sci.	Tot syn	Aldol	10	13	67	2.140	425	5.04	6.180
Knowles	Chem. Sci.	Tot syn	Suzuki	16	12	50	0.017	3.78	4.37	5.737
Kong	JACS	Tot syn	Barbier	65	15(17?)	56	0.101	15	6.73	6.073
Kostiuk	Chem. Eur. J.	Tot syn	Wittig	43	18	69	0.200	2	100.00	7.517
Kwon	Tetrahedron	Tot syn	RCM	21	13	46	0.044	8.8	4.98	5.685
Larivee	ACIE	Tot syn	Lactone	49	18	68	0.011	23.936	0.45	5.152
Li	J. Nat. Prod.	Tot syn	Lactam	1+2	16	48	0.167	200	0.84	4.965
Lin	Org. Lett.	Tot syn	Lactone	5	19	81	0.230	313	0.73	5.592
Linder	JACS	Tot syn	Lactam	20	24	51	0.040	50	0.80	5.026
Liniger	ACS MCL	Med Chem	Mitsunobu	16	14	49	0.531	306	1.74	5.310
Liniger	ACS MCL	Med Chem	Mitsunobu	26	14	64	1.080	154	7.01	6.264
Liu, J	JACS	Tot syn	Suzuki	13	14	48	0.057	5	11.40	6.101
Liu, K	JACS	Tot syn	Lactone	12	14	64	0.540	170	3.18	5.920
Martinez	J. Org. Chem.	Tot syn	RCM	33	12(15?)	97	0.690	75.8	9.10	6.919
Muranaka	J. Org. Chem.	Method/Tot syn	RCM	43a	13	98			100.00	7.974
Muranaka	J. Org. Chem.	Method/Tot syn	RCM	43b	13	98			100.00	7.974
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10a	16	60	1.000	15	66.67	7.158
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10b	15	63	1.000	15	66.67	7.222
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10c	16	67	1.000	15	66.67	7.302
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10d	17	70	1.000	15	66.67	7.359
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10e	19	59	1.000	15	66.67	7.136
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10f	17	71	1.000	15	66.67	7.378
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10g	17	67	1.000	15	66.67	7.302
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10h	17	68	1.000	15	66.67	7.321
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10i	16	62	1.000	15	66.67	7.201
Muthusamy	Tet. Lett.	Methodology	Carbonyl ylide	10j	18	69	1.000	15	66.67	7.340
Nagasawa	Tetrahedron	Tot syn	Lactone	32	12	30	0.023	28.5	0.81	4.338
Nicolaou	ACIE	Tot syn	RCM	9	13	90	0.140	40	3.50	6.407
Oelke	Chem. Eur. J.	Tot syn	Lactam	71	18	79	0.010	3	3.33	6.216
Park	OBC	Methodology	Dienyne RCM	4j	14	71	0.100	25	4.00	6.156
Paterson	Org. Lett.	Tot syn	Lactone	21a	16	95	0.009	8.4	1.04	5.948
Paterson	Tetrahedron	Tot syn	Lactone	53	18	69	0.060	60	1.00	5.518
Paterson	Tetrahedron	Tot syn	Stille	53	18	64	0.024	14	1.72	5.654
Roberts	J. Nat. Prod.	Tot syn	Suzuki	11	14	42	0.140	7	20.00	6.171
Rodenko	ACS MCL	Med chem	Alkylation	9	48	43	0.500	300	1.67	5.122
Rossle	Org. Lett.	Tot syn	RCM		21	43	0.096	60	1.60	5.105
Rudd	ACS MCL	Med chem	RCM	10j	18	92	100.000	14300	6.99	6.736

Saitman	Org. Lett.	Tot syn	NHK	6	13	82	2.197	449	4.89	6.431
Scheiss	Org. Lett.	Tot syn	RCM	13	16	77	0.360	251	1.43	5.816
Schneider	ACIE	Tot syn	Castro-Stephens	2	12	67	0.062	14	4.43	6.124
Shareef	Chem. Sci.	Methodology	Alkyne/aldehyde	14	12	58	0.085	10	8.50	6.220
Shareef	Chem. Sci.	Methodology	Alkyne/aldehyde	15	11	59	0.103	10	10.30	6.325
Sharpe	J. Org. Chem.	Tot syn	Lactone	20	16	45	0.233	61.8	3.77	5.536
Shen	Tet. Lett.	Tot syn	Ullmann	11	14	52			20.00	6.449
Shibahara	Org. Lett.	Tot syn	Lactam	32	18	25	0.037	5.3	7.04	5.041
Smith	JACS	Tot syn	Lactone	37	23	62	0.028	52.98	0.53	5.100
Smith	Tetrahedron	Tot syn	Lactone	142	31	80	0.002	2.1	0.95	5.688
Smith	Tetrahedron	Tot syn	HWE	51a	21	44	0.020	34	0.59	4.700
Song	J. Org. Chem.	Process	Lactam	8	20	66	98.000	5800	16.90	6.686
Sugiyama	Tetrahedron	Analogues	RCM	23	14	97	0.119	24	4.96	6.656
Sund	BMCL	Med Chem	Lactam	41	15	26			1.00	4.245
Sund	BMCL	Med Chem	Lactam	42	15	28			1.00	4.341
Sund	BMCL	Med Chem	Lactam	43	15	25			1.00	4.194
Sund	BMCL	Med Chem	Lactam	44	15	43			1.00	4.900
Sund	BMCL	Med Chem	Lactam	45	15	7			1.00	2.535
Sund	BMCL	Med Chem	Lactam	46	15	44			1.00	4.930
Tang	BMCL	Med Chem	RCM	10	12	74	0.375	40	9.38	6.580
Tenebaum	ACIE	Tot syn	RCM	25	11	65	0.110	1605	0.07	4.275
Trost	Chem. Eur. J.	Tot syn	RCM	66	25	80	0.018	10	1.80	5.965
Uchiro	Org. Lett.	Tot syn	Ullmann	7	13	42	0.017	3.3	5.06	5.574
Van der Berge	EJOC	Structural	RCM	1a	15	19	0.279	80	3.49	4.379
Van der Berge	EJOC	Structural	RCM	1b	16	41	0.279	80	3.49	5.381
Van der Berge	EJOC	Structural	RCM	1c	17	49	0.279	80	3.49	5.613
Van der Berge	EJOC	Structural	RCM	1d	18	58	0.279	80	3.49	5.833
Velvadapu	J. Org. Chem.	Tot syn	NHK	48	14	50	0.270	158	1.71	5.330
Wang, Y	JACS	Methodology	RCM	6	10	87			2.00	6.120
Wang, Y	JACS	Methodology	RCM	7	11	36			2.00	4.970
Wang, Y	JACS	Methodology	RCM	8	11	43			2.00	5.201
Wang, Y	JACS	Methodology	RCM	9	11	36			2.00	4.970
Wang, Y	JACS	Methodology	RCM	10	12	33			2.00	4.857
Wang, Y	JACS	Methodology	RCM	11	12	59			2.00	5.614
Wang, Y	JACS	Methodology	RCM	12	12	82			2.00	6.042
Wang, Y	JACS	Methodology	RCM	13	12	46			2.00	5.289
Wang, Y	JACS	Methodology	RCM	14	12	79			2.00	5.994
Wang, Y	JACS	Methodology	RCM	15	12	14			2.00	3.739
Wang, Y	JACS	Methodology	RCM	16	14	76			2.00	5.943
Wang, Y	JACS	Methodology	RCM	17	15	43			2.00	5.201
Wang, Y	JACS	Methodology	RCM	18	16	47			2.00	5.317
Wang, Y	JACS	Methodology	RCM	19	14	95			2.00	6.234
Wang, Y	JACS	Methodology	RCM	20	15	76			2.00	5.943
Wang, Y	JACS	Methodology	RCM	21	16	41			2.00	5.139
Wender	JACS	Tot syn	Prins	18	20	65			20.00	6.740
Wender	Tetrahedron	Analogues	Acetalization	5	20	83	0.020	5.5	3.64	6.318
Williams	J. Med. Chem.	Med chem	RCM	16a	18	48	0.052	50	1.04	5.061

Williams	J. Med. Chem.	Med chem	RCM	16b	17	51	0.052	50	1.04	5.140
Williams	J. Med. Chem.	Med chem	RCM	16c	18	45	0.052	50	1.04	4.977
Williams	J. Med. Chem.	Med chem	RCM	16d	17	45	0.052	50	1.04	4.977
Williams	J. Med. Chem.	Med chem	RCM	16e	18	48	0.052	50	1.04	5.061
Williams	J. Med. Chem.	Med chem	RCM	17a	18	43	0.052	50	1.04	4.917
Williams	J. Med. Chem.	Med chem	RCM	17b	18	96	0.052	50	1.04	5.964
Williams	J. Med. Chem.	Med chem	RCM	17d	18	52	0.052	50	1.04	5.165
Williams	J. Med. Chem.	Med chem	RCM	17h	18	56	0.052	50	1.04	5.262
Williams	J. Med. Chem.	Med chem	RCM	21a	18	74	0.052	50	1.04	5.625
Williams	J. Med. Chem.	Med chem	RCM	21g	18	56	0.052	50	1.04	5.262
Williams	J. Med. Chem.	Med chem	RCM	21j	18	73	0.052	50	1.04	5.607
Williams	J. Med. Chem.	Med chem	RCM	22a	18	43	0.052	50	1.04	4.917
Williams	J. Med. Chem.	Med chem	RCM	22b	18	79	0.052	50	1.04	5.710
Williams	J. Med. Chem.	Med chem	RCM	22c	18	56	0.052	50	1.04	5.262
Williams	J. Med. Chem.	Med chem	RCM	22d	18	32	0.052	50	1.04	4.532
Williams	J. Med. Chem.	Med chem	RCM	22e	18	42	0.052	50	1.04	4.887
Williams	J. Med. Chem.	Med chem	RCM	22f	18	48	0.052	50	1.04	5.061
Williams	J. Med. Chem.	Med chem	RCM	22g	18	49	0.052	50	1.04	5.088
Williams	J. Med. Chem.	Med chem	RCM	26a	18	73			2.50	5.988
Williams	J. Med. Chem.	Med chem	RCM	26b	18	81			2.50	6.123
Williams	J. Med. Chem.	Med chem	RCM	26c	17	82			2.50	6.139
Williams	J. Med. Chem.	Med chem	RCM	26f	17	73			2.50	5.988
Williams	J. Med. Chem.	Med chem	RCM	26h	18	78	2.500	1000	2.50	6.074
Williams	J. Med. Chem.	Med chem	RCM	26i	18	74			2.50	6.006
Williams	J. Med. Chem.	Med chem	RCM	26j	18	64			2.50	5.816
Williams	J. Med. Chem.	Med chem	RCM	26k	18	49			2.50	5.469
Williams	J. Med. Chem.	Med chem	RCM	26l	18	53			2.50	5.571
Williams	J. Med. Chem.	Med chem	RCM	26m	18	52			2.50	5.546
Williams	J. Med. Chem.	Med chem	RCM	26n	18	75			2.50	6.023
Williams	J. Med. Chem.	Med chem	RCM	26o	18	42			2.50	5.268
Williams	J. Med. Chem.	Med chem	RCM	26p	18	77			2.50	6.057
Williams	J. Med. Chem.	Med chem	RCM	26q	18	63			2.50	5.796
Williams	J. Med. Chem.	Med chem	RCM	27a	18	71			2.50	5.952
Williams	J. Med. Chem.	Med chem	RCM	27b	18	48			2.50	5.442
Williams	J. Med. Chem.	Med chem	RCM	27c	18	53			2.50	5.571
Williams	J. Med. Chem.	Med chem	RCM	27d	18	56			2.50	5.643
Williams	J. Med. Chem.	Med chem	RCM	27e	18	68			2.50	5.895
Williams	J. Med. Chem.	Med chem	RCM	27f	18	59			2.50	5.710
Williams	J. Med. Chem.	Med chem	RCM	27h	18	59			2.50	5.710
Williams	J. Med. Chem.	Med chem	RCM	27i	18	88			2.50	6.231
Williams	J. Med. Chem.	Med chem	RCM	27j	18	50			2.50	5.495
Williams	J. Med. Chem.	Med chem	RCM	27k	18	67			2.50	5.876
Williams	J. Med. Chem.	Med chem	RCM	27l	18	51			2.50	5.521
Williams	J. Med. Chem.	Med chem	RCM	27m	18	62			2.50	5.775
Williams	J. Med. Chem.	Med chem	RCM	27n	18	66			2.50	5.857
Williams	J. Med. Chem.	Med chem	RCM	27o	18	50			2.50	5.495
Williams	J. Med. Chem.	Med chem	RCM	27p	18	62			2.50	5.775

Williams	J. Med. Chem.	Med chem	RCM	27q	18	44			2.50	5.328
Williams	J. Med. Chem.	Med chem	RCM	27r	18	68			2.50	5.895
Williams	J. Med. Chem.	Med chem	RCM	28a	18	56			2.50	5.643
Williams	J. Med. Chem.	Med chem	RCM	28b	18	49			2.50	5.469
Williams	J. Med. Chem.	Med chem	RCM	28c	18	54			2.50	5.595
Williams	J. Med. Chem.	Med chem	RCM	28d	18	51			2.50	5.521
Williams	J. Med. Chem.	Med chem	RCM	28e	18	44			2.50	5.328
Williams	Tetrahedron	Tot syn	Lactone	66	14	63	0.012	120	0.10	4.402
Wu	Tet. Lett.	Tot syn	Lactam	1	24	56	0.052	77	0.68	5.074
Wu, J	J. Org. Chem.	Tot syn	Barbier	9	23	42			2.00	5.171
Xie, J	JACS	Tot syn	SNAr	10	16	85			5.00	6.487
Xie, J	JACS	Tot syn	Lactam	26	12	76			2.00	5.943
Xue	Org. Lett.	Tot syn	Lactone	8	14	46	1.100	350	3.14	5.486
Yadav	Org. Lett.	Tot syn	Prins	4	14	79	0.280	15	18.67	6.964
Yamamoto	JACS	Tot syn	Lactone	16	26	93			1.60	6.110
Zhan	Chem. Eur. J.	Tot syn	RCM	36	16	84	0.013	12.5	1.00	5.773
Zhan	Chem. Eur. J.	Tot syn	Lactone	63	16	60	0.326	265	1.23	5.424
Zhang, J	Org. Lett.	Tot syn	Lactam	26	14	77	0.180	200	0.90	5.614
Zhang, J	Org. Lett.	Analog syn	Huisgen	9d	17	46			1.00	4.988
Zhang, J	Org. Lett.	Analog syn	Huisgen	17a	13	14			5.00	4.137
Zhang, J	Org. Lett.	Analog syn	Huisgen	17b	14	68			5.00	6.196
Zhang, J	Org. Lett.	Analog syn	Huisgen	17c	15	59			5.00	6.012
Zhang, J	Org. Lett.	Analog syn	Huisgen	17d	16	55			5.00	5.920
Zhang, J	Org. Lett.	Analog syn	Lactam	20a	13	47			0.50	4.715
Zhang, J	Org. Lett.	Analog syn	Lactam	20b	16	70			0.50	5.234
Zhang, Y	J. Org. Chem.	Tot syn	Lactone	49	36	75	0.030	88	0.34	5.158
Zhdanko	Chem. Eur. J.	Analogues	Lactam	2e	18	48	0.074	30	2.46	5.435
Zhu	Org. Lett.	Tot syn	Lactone	22	28	60	0.010	2	5.00	6.033

Part 2: Full reference list

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