

Table S-4. Search A, 2-pyrrolidone and derivatives

Query	Refcode	C=O, Å	C-N, Å	C=O + C-N	Space Gp	Z	Z'	T
								29
	ALODIP	1.223	1.342	2.565	P-1	2	1	5
								29
1	AWUWOE	1.234	1.331	2.565	C2/c	8	1	3
								29
1	BEYZAG	1.206	1.335	2.541	P21/c	4	1	5
								29
1	BICDEW	1.244	1.336	2.58	C2/c	8	1	5
								29
1	BICDIA	1.233	1.341	2.574	P21/c	4	1	5
								29
1	BIXPUU	1.233	1.339	2.572	P21/c	8	2	3
								29
1	BIXPUU	1.235	1.339	2.574	P21/c	8	2	3
								29
	BOZZEW	1.223	1.331	2.554	C2/c	8	1	2
								29
	BOZZIA	1.23	1.338	2.568	P-1	2	1	2
								29
	BOZZOG	1.234	1.332	2.566	P-1	4	2	2
								29
	BOZZOG	1.241	1.33	2.571	P-1	4	2	2
								29
1	CAXKIV	1.241	1.322	2.563	P-1	4	2	5
								29
1	CUQPIN	1.225	1.336	2.561	P21/c	4	1	5
	DSZNDO						0.	29
1	10	1.238	1.329	2.567	C2/c	4	5	5
								29
1	DXSEPO	1.235	1.33	2.565	Pbca	8	1	5
								15
	DUBSOJ	1.242	1.339	2.581	P21/n	4	1	0
								15
	DUBTOK	1.243	1.334	2.577	C2/c	8	1	0
								29
	EHUBIT	1.231	1.333	2.564	P21/n	4	1	3
								17
1	EZURUM	1.232	1.35	2.582	P21/c	4	1	3
								12
1	EZUSAT	1.235	1.331	2.566	Pbca	8	1	3
								15
1	GASSUP	1.256	1.355	2.611	P-1	2	1	0
								12
1	GASTIE	1.234	1.343	2.577	P21/c	4	1	3
								29
1	HIXMEH	1.235	1.336	2.571	P21/c	4	1	8
								18
1	HIXQUA	1.231	1.343	2.574	P-1	2	1	3
								29
1	HOMFIY	1.233	1.346	2.579	P-1	4	2	5
								15
	HUKDIB	1.232	1.349	2.581	P21/c	4	1	5
								29
	IRIPUV	1.232	1.346	2.578	P21/a	4	1	3
								29
	IRIQAC	1.232	1.349	2.581	Pbca	8	1	3
						1		17
	IROMIM	1.23	1.33	2.56	I2/a	6	2	3
						1		17
	IROMIM	1.237	1.328	2.565	I2/a	6	2	3
								29
1	JAFCOI	1.23	1.331	2.561	P21/n	4	1	5
								29
1	JAFKAD	1.233	1.338	2.571	P-1	4	2	3



1	BIXQAB	1.228	1.333	2.561	Pbca	8	1	29 3
	BUHKIZ	1.218	1.34	2.558	P21	2	1	10 0
1	BURVUF	1.239	1.341	2.58	P2121 21	4	1	29 5
	BUWWAS	1.228	1.345	2.573	P21	2	1	15 0
1	CADBOY	1.221	1.338	2.559	P21/c	4	1	29 5
1	CAXKIV	1.231	1.324	2.555	P-1	4	2	29 5
1	CAZKUJ	1.22	1.351	2.571	P2121 21	4	1	29 5
1	CENBUT	1.229	1.346	2.575	P21/c	4	1	15 0
1	CIZMAA	1.228	1.347	2.575	P2121 21	4	1	13 0
1	COQSUX	1.226	1.339	2.565	P4121 2	8	1	10 0
	CUHMUO CYTOCH	1.228	1.339	2.567	P21	2	1	29 5
1	10	1.232	1.328	2.56	P21	2	1	29 5
1	DICXET	1.228	1.334	2.562	P2121 21	4	1	29 3
1	DMAZNO	1.238	1.324	2.562	P21	2	1	29 5
1	DOGPAQ	1.244	1.324	2.568	Pn	2	1	29 5
1	DOGPAQ	1.234	1.342	2.576	Pn	2	1	29 5
1	DOGQAR	1.226	1.337	2.563	P21/c	4	1	29 5
1	DOGQAR	1.228	1.328	2.556	P21/c	4	1	29 5
	DUBTEA	1.239	1.338	2.577	P21/c	4	1	15 0
	DUBVAY	1.239	1.341	2.58	C2/c	8	1	15 0
	DUDMIZ	1.244	1.329	2.573	P21/c	4	1	15 0
1	DZSNON	1.228	1.327	2.555	P21/c	4	1	29 5
1	DZSNON	1.235	1.333	2.568	P21/c	4	1	29 5
1	ECOMAL	1.224	1.325	2.549	P2121 21	4	1	29 6
1	EYAZAF	1.23	1.341	2.571	P2121 21	4	1	29 3
1	FARYEC	1.237	1.332	2.569	P21	2	1	29 5
1	FEGSEP	1.25	1.314	2.564	Pbc21	4	1	29 5
1	FIHHEJ	1.217	1.346	2.563	P2121 21	4	1	29 5
1	FIJXOL	1.223	1.327	2.55	P21	4	2	29 5
1	FIJXOL	1.217	1.334	2.551	P21	4	2	29 5
1	FUVRUJ	1.22	1.359	2.579	P21/c	4	1	29 5
1	GASTEA	1.241	1.326	2.567	P21/c	4	1	15 0
1	GECKOO	1.228	1.317	2.545	P2121 21	4	1	29 5
1	GIBRAK	1.228	1.325	2.553	C2	4	1	29 5

1	GIRFAP	1.232	1.336	2.568	P2121 21	4	1	3	29
1	GIRSAB1 0	1.244	1.358	2.602	P21/c P2121	4	1	5	29
1	GUDSIH	1.244	1.336	2.58	21	4	1	0	18
1	GUDSON	1.232	1.324	2.556	P2121 21	4	1	0	18
	GUGHOG	1.216	1.329	2.545	P2121 21	4	1	8	20
1	HACFUM	1.24	1.335	2.575	Pca21	8	2	3	13
1	HACFUM	1.242	1.342	2.584	Pca21	8	2	3	13
1	HACGAT	1.237	1.334	2.571	Pbc21	8	2	3	12
1	HACGAT	1.242	1.329	2.571	Pbc21	8	2	3	12
1	HAMCHC	1.247	1.336	2.583	P21/c P2121	4	1	5	29
1	HERKIZ	1.232	1.335	2.567	21	4	1	8	29
1	HOMFIY	1.232	1.339	2.571	P-1 P2121	4	2	5	21
1	HOVBUP	1.245	1.336	2.581	21	6	4	3	21
1	HOVBUP	1.251	1.336	2.587	P2121 21	6	4	3	21
1	HOVBUP	1.233	1.334	2.567	P2121 21	6	4	3	21
1	HOVBUP	1.235	1.353	2.588	P2121 21	6	4	3	21
	HUKDOH	1.246	1.334	2.58	Pbca P2121	8	1	3	16
1	IMPYRO	1.24	1.353	2.593	21	4	1	5	29
1	JAFVIC	1.222	1.334	2.556	P21 P2121	2	1	5	29
1	JAMJEM	1.226	1.334	2.56	21	4	1	5	29
1	JOCVUT	1.222	1.332	2.554	C2/c	8	1	5	16
1	KAFNEK	1.241	1.329	2.57	Pna21 P2121	4	1	3	16
1	KAFNIO	1.239	1.334	2.573	21	8	2	3	16
1	KAFNIO	1.243	1.329	2.572	P2121 21	8	2	3	16
1	KAQNOF	1.238	1.338	2.576	P2121 21	8	2	5	29
1	KAQNOF	1.231	1.324	2.555	P2121 21	8	2	5	29
1	LANDUZ	1.238	1.331	2.569	P21	2	1	0	18
1	LICTAT	1.236	1.338	2.574	P4121 2	6	2	0	10
1	LICTAT	1.224	1.352	2.576	P4121 2	6	2	0	10
1	LIWFIH	1.229	1.348	2.577	Pca21 P2121	4	1	0	10
1	LIZDAA	1.212	1.34	2.552	21	4	1	5	29
1	LPGHUR	1.218	1.332	2.55	P2121 21	4	1	5	29
1	LPYGLU	1.24	1.341	2.581	P2121 21	2	3	5	29
1	LPYGLU	1.238	1.335	2.573	P2121 21	2	3	5	29

1	LPYGLU	1.233	1.338	2.571	P2121 21	1 2	3	29 5
1	MALREX	1.213	1.351	2.564	Pbca	8	1	29 3
1	MEJPIA	1.226	1.346	2.572	P43	8	2	5 29
1	MEJPIA	1.228	1.329	2.557	P43	8	2	5 29
	NAZLEG	1.235	1.332	2.567	P2121 21	8	2	5 29
	NAZLEG	1.242	1.331	2.573	P2121 21	8	2	5 21
1	NODMUP	1.23	1.356	2.586	P2121 21	4	1	3 19
1	ODIBOT	1.231	1.344	2.575	P21	4	2	0 19
1	ODIBOT	1.239	1.343	2.582	P21	4	2	0 17
	OMANOG	1.231	1.347	2.578	P2121 21	4	1	3 10
	OQAWOT	1.241	1.316	2.557	C2	4	1	0 15
1	PELDIU	1.235	1.347	2.582	P21	4	2	0 15
1	PELDIU	1.233	1.347	2.58	P21	4	2	0 29
1	PEZHUX PGTAPA1	1.24	1.34	2.58	P2121 21	4	1	5 29
1	0 PGTAPA1	1.233	1.331	2.564	P21	4	2	5 29
1	0 PYRGLU0	1.234	1.326	2.56	P21	4	2	5 29
1	1	1.243	1.331	2.574	P21/a	4	1	5 19
1	RAWZOF	1.225	1.315	2.54	P-1	4	2	3 19
1	RAWZOF	1.226	1.317	2.543	P-1	4	2	3 17
1	RENSUY	1.218	1.336	2.554	P21/c	4	1	3 29
1	RUVZEN	1.231	1.334	2.565	P2121 21	4	1	5 30
1	SAHDUB	1.22	1.325	2.545	P2121 21	4	1	1 29
1	SHFRAP	1.234	1.321	2.555	P2121 21	4	1	5 29
1	SHFSAP	1.21	1.35	2.56	P2121 21	4	1	5 29
1	SINYAP	1.227	1.333	2.56	Pbcn	8	1	5 29
1	SIZMAP	1.241	1.332	2.573	P21/a	4	1	5 10
1	SOCBOC	1.225	1.354	2.579	P21	2	1	0 10
1	SOCCAP	1.236	1.323	2.559	P2121 2	8	2	0 10
1	SOCCAP	1.237	1.325	2.562	P2121 2	8	2	0 29
1	TADPIY	1.227	1.331	2.558	Pbca	8	1	3 12
	TADVAX	1.236	1.339	2.575	C2/c	8	1	3 29
1	TANBIT	1.23	1.345	2.575	P-1	6	3	5 29
1	TANBIT	1.233	1.344	2.577	P-1	6	3	5 29
1	TANBIT	1.234	1.327	2.561	P-1	6	3	5



	ZTCDON								29
1	10	1.225	1.331	2.556	P21/c	4	1	5	29
1	POQSEU	1.227	1.327	2.554	P21	2	1	2	20
1	YOPXIL	1.235	1.338	2.573	P21	2	1	0	
ave,dimer		1.2323	1.3375	2.5698					
		05	59	64					
stdev		0.0079	0.0078	0.0112					
max,dimer		57	44	61					29
min,dimer		1.256	1.355	2.611					8
		1.206	1.322	2.541					10
ave,nondi		1.2319	1.3353	2.5673					0
		73	56	29					
stdev		0.0085	0.0101	0.0119					
max,nondi		73	9	05					30
min,nondi		1.251	1.364	2.604					1
rejected		1.21	1.307	2.531					10
									0
H missing	SUBYAP	1.219	1.367	2.586	P21/c	4	1	3	17
H missing	SUBYET	1.214	1.36	2.574	P21/c	4	1	3	17
H missing	GIRSEF1								3
Co-crystals	0	1.226	1.34	2.566	P21/c	4	1	5	29
H2O	DUBTUQ	1.243	1.341	2.584	P21/c	4	1	0	15
Bipy	FUHRAC	1.235	1.335	2.57	P-1	2	1	98	
Bipy	FUHRAC	1.239	1.337	2.576	P-1	2	1	98	
cocryst	HUFZUE	1.262	1.318	2.58	P-1	2	1	0	11
H2O	TONQAO	1.246	1.318	2.564	C2/c	8	1	5	0
cocryst	UHACEM	1.247	1.322	2.569	P-1	1	5	0	29
cocryst	UHACUC	1.254	1.321	2.575	P21/n	2	5	0	12
CHCl3	UHUZED	1.238	1.333	2.571	P-1	2	1	3	0
BzCOOH	XOHXAU	1.249	1.319	2.568	P21/n	4	1	0	15
ions	ACXMPR	1.227	1.349	2.576	P2121	4	1	5	0
acetone	CHAETK	1.216	1.338	2.554	P1	1	1	5	29
cocryst	CIWHUM	1.228	1.325	2.553	P2121	4	1	3	29
H2O	CTOGBS	1.232	1.326	2.558	P2121	4	1	5	29
H2O	20				21	4	1	5	29
H2O	DETQEZ	1.24	1.333	2.573	P21	2	1	3	19
H2O	DIPMUK	1.257	1.319	2.576	P21/c	4	1	3	3
CH3OH	DUVFEG	1.241	1.33	2.571	P1	1	1	93	29
H2O	ECAQII	1.211	1.32	2.531	Aba2	8	1	3	29
CH3CN	ECAQOO	1.214	1.343	2.557	P-1	2	1	3	29
H2O	EDEFOJ	1.237	1.326	2.563	P21	2	1	3	3





					P21212			16
1	KAFNIO	1.239	1.334	2.573	1	8	2	3
					P21212			16
1	KAFNIO	1.243	1.329	2.572	1	8	2	3
	LANDU							18
1	Z	1.238	1.331	2.569	P21	2	1	0
						1		10
1	LICTAT	1.236	1.338	2.574	P41212	6	2	0
						1		10
1	LICTAT	1.224	1.352	2.576	P41212	6	2	0
								10
1	LIWFIH	1.229	1.348	2.577	Pca21	4	1	0
								19
1	ODIBOT	1.231	1.344	2.575	P21	4	2	0
								19
1	ODIBOT	1.239	1.343	2.582	P21	4	2	0
	OMANO				P21212			17
	G	1.231	1.347	2.578	1	4	1	3
	QQAWO							10
	T	1.241	1.316	2.557	C2	4	1	0
								15
1	PELDIU	1.235	1.347	2.582	P21	4	2	0
								15
1	PELDIU	1.233	1.347	2.58	P21	4	2	0
	RAWZO							19
1	F	1.225	1.315	2.54	P-1	4	2	3
	RAWZO							19
1	F	1.226	1.317	2.543	P-1	4	2	3
	RENSU							17
1	Y	1.218	1.336	2.554	P21/c	4	1	3
	SOCBO							10
1	C	1.225	1.354	2.579	P21	2	1	0
	SOCCA							10
1	P	1.236	1.323	2.559	P21212	8	2	0
	SOCCA							10
1	P	1.237	1.325	2.562	P21212	8	2	0
								12
	TADVAX	1.236	1.339	2.575	C2/c	8	1	3
								10
1	TUSJIA	1.229	1.344	2.573	P21	8	4	0
								10
1	TUSJIA	1.228	1.342	2.57	P21	8	4	0
								10
1	TUSJIA	1.228	1.343	2.571	P21	8	4	0
								10
1	TUSJIA	1.229	1.344	2.573	P21	8	4	0
								19
1	VIHTEM	1.229	1.339	2.568	P-1	2	1	3
								17
1	VUJTUP	1.233	1.337	2.57	P21/c	4	1	3
	WAQNU				P21212			12
1	X	1.232	1.344	2.576	1	4	1	0
	WOHRI							15
1	V	1.242	1.333	2.575	P21/n	4	1	0
	WOHRO							15
1	B	1.251	1.325	2.576	P21/c	4	1	0
	XEVCA				P21212			12
1	C	1.234	1.339	2.573	1	4	1	2
	ZELKU							17
1	W	1.236	1.334	2.57	P21	4	2	3
	ZELKU							17
1	W	1.238	1.335	2.573	P21	4	2	3
	ZIKKEJO							10
1	1	1.225	1.347	2.572	P21	2	1	7
								20
1	YOPXIL	1.235	1.338	2.573	P21	2	1	0
		1.234681	1.340863	2.575545				0
ave,dimer		818	636	455				

		0.007226	0.008865	0.011725				
stdev		844	64	947				
max,di								20
mer		1.256	1.355	2.611				0
min,dim								10
er		1.223	1.324	2.553				0
ave,non		1.234588	1.336509	2.571098				
di		235	804	039				
stdev		0.007808	0.009388	0.009029				
max,no		141	019	407				20
ndi		1.257	1.354	2.584				0
min,non								10
di		1.218	1.315	2.54				0
H								17
missing	SUBYAP	1.219	1.367	2.586	P21/c	4	1	3
H								17
missing	SUBYET	1.214	1.36	2.574	P21/c	4	1	3
	DUBTU							15
H2O	Q	1.243	1.341	2.584	P21/c	4	1	0
Bipy	FUHRA							
	C	1.235	1.335	2.57	P-1	2	1	98
Bipy	FUHRA							
	C	1.239	1.337	2.576	P-1	2	1	98
cocryst	HUFZU							11
	E	1.262	1.318	2.58	P-1	2	1	0
cocryst	UHACE							0.
	M	1.247	1.322	2.569	P-1	1	5	0
cocryst	UHACU							0.
	C	1.254	1.321	2.575	P21/n	2	5	0
cocryst	UHUZE							15
CHCl3	D	1.238	1.333	2.571	P-1	2	1	3
	XOHXA							15
BzCOOH	U	1.249	1.319	2.568	P21/n	4	1	0
cocryst	CIWHU				P21212			11
	M	1.228	1.325	2.553	1	4	1	3
CH2OH	DUVFE							
	G	1.241	1.33	2.571	P1	1	1	93
H2O	HUGCO				P21212			15
H2O,coc	C	1.23	1.342	2.572	1	4	1	0
ry	NOPZU							15
	O	1.249	1.322	2.571	P21	2	1	3
H2O	DIPMUK							19
ave,cocr		1.257	1.319	2.576	P21/c	4	1	3
y		1.244	1.328	2.572				
stdev		0.010230	0.007820	0.006370				
max,coc		673	912	002				19
ry		1.262	1.342	2.584				3
min,cocr								
y		1.228	1.318	2.553				93

Table S-5. Twelve representative primary amides (dimers/nondimers ) (Gavezzotti, 2010)

REFCOD E	C-N, Å	C=O, Å	<i>Cis</i> O=C-N- H, °	C-N + C=O
ACEMID 03	1.335	1.247	-8.2	2.582
BZAMID 01	1.333	1.24	6.4	2.573
CYANAC	1.327	1.2232	-0.8	2.5502
CYANAC	1.327	1.2292	2.0	2.5562
DIXTAF	1.332	1.243	4	2.575
IBURAM	1.320	1.2303	1.3	2.5503
JEXNAB	1.311	1.228	-1	2.539
MALOA M	1.318	1.241	1.5	2.559
MALOA M	1.310	1.239	-3.1	2.549
MALOA M	1.317	1.241	6.7	2.558
MALOA M	1.321	1.241	-8.1	2.562
ZZZKAY 01	1.327	1.2536	5.9	2.5806
	1.3231	1.2380		2.56119
Average	67	25		2
	0.0083	0.0087		0.01368
St.dev.	1	24		8
Maximum	1.335	1.2536		2.582
Minimum	1.310	1.2232		2.539





Refcode	Compound Name
QACQOA	7-Amino-6,8-bis(4-methoxyphenyl)benz(c,d)indol-2(1H)-one
SOHCEY	5-Methyl-8-phenylbenzo(cd)furo(2,3-f)indol-4(5H)-one
XATHIK	6-(2-Anthracen-9-ylethenyl)-1-methyl-1,2-dihydro-1-azaacenaphthylene-2-one
KAKMEP	6-Formyl-1-methyl-benz(c,d)indol-2-one
KAKNAM	6-Formyl-1-t-butyl-benz(c,d)indol-2-one
SOHCAU	5-Methyl-7-phenylbenzo(cd)furo(2,3-f)indol-4(5H)-one
DUXXEA	S-Benzyl 2-oxobenzo[cd]indole-1(2H)-carbothioate
RAKYUY	6-(4-Bromophenyl)-1-methylbenz(c,d)indol-2-one
DUXXIE	1-(Benzylloxycarbonyl)benzo(c,d)indol-2-one
DUXXEA	S-Benzyl 2-oxobenzo[cd]indole-1(2H)-carbothioate
AJEJUV	6-(4-Iodobenzoyl)-7-(4-iodophenyl)indolo(3,4-jk)phenanthridin-5(4H)-one
GUGMOL	6-(4-Methoxyphenyl)-5-methyldibenzo[cd,f]indol-4(5H)-one
GUGMOL	6-(4-Methoxyphenyl)-5-methyldibenzo[cd,f]indol-4(5H)-one
VIBSAA	2,7,7-Trimethyl-1,9-dioxo-1,7,8,9-tetrahydro-2H-isoindolo(4,6-cd)indole monohydrate
XATLOU	3,7-Di-t-butyl-9,10-bis(1-butyl-2-oxo-1,2-dihydro-1-azaacenaphthylene-6-ylethynyl)anthracene chloroform solvate