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Alkyl or alkoxy biphenyles derivatives

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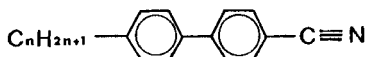
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BIPHENYLE DERIVATIVES

ALKYL OR ALKOXY BIPHENYLES DERIVATIVES

4-n-Alkyl-4'-cyanobiphenyles

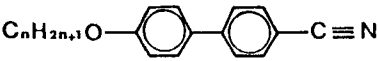


n	K	N	I	Ref	
				Ph	Tr
5	22.5	.	35	.	98
	3.4	.	0.13	.	141
	.	.	25.32	.	164
	36.6	.	23.4	.	98*
	.	.	26.9	.	231-232
	13.14	.	0.7	.	.
	.	$\chi_{25} 4.75$	0.493	$\chi_{5.2}$	231 3
	.	.	0.62	.	231
	.	$\rho_{30} 1.013$	0.27	$\rho_{40} 1.005$	3* 231
	.	$\rho_{35} 1.012$	0.2	.	206 3
	.	$\rho_{35} 0.993$	0.21	.	231 206
	.	.	.	.	.
6	13	.	28	.	98
	.	.	0.0896	.	140
	5.8	.	.	.	151
	38.2	.	31.4	.	98*
	.	.	28.88	.	164
	22.18	.	0.413	.	.
	.	.	0.251	.	3
	.	$\rho_{25} 1.008$	0.096	$\rho_{32} 1$	3* 3
	.	.	.	.	.
	.	.	.	.	.
7	28.5	.	41.5	.	98
	6.2	.	.	.	139
	.	.	0.2198	.	144
	39.4	.	20.8	.	98*
	.	.	29.5	.	164
	21.81	.	1.16	.	.
	.	.	0.614	.	3
	.	.	0.67	.	252*
	.	$\rho_{40} 0.991$	0.22	$\rho_{45} 0.982$	3* 3
	.	$\rho_{40} 0.99$	0.24	$\rho_{44.5} 0.982$	252* 252*
	.	.	.	.	.

	K	S _A	N	I	Ref			
					Ph	Tr		
8	.	21	.	32.5	.	40	.	98
		6.05		0.031		0.23		142
		36.4		40		25.6		247*
		40		39.7		25.8		4*
		41.7		31.7		26.9		98*
				39.84		28.73		164
		21.84		0.112		1.15		
				0.098		0.5		3
				0.14		0.95		5
		ρ0.993 ₃₁	R0.03 ^a	ρ0.987 ₃₅	R0.17	ρ0.766 ₄₂	3*	3
		ρ1.025 ₃₀	R0.05	ρ1.018 ₃₅	R0.35	ρ1 ₅₀	5*	5
	9	.		47.7	.	49.5	.	3
			0.123		1.163		3	
		ρ0.976 ₄₅	R0.04 ^a	ρ0.97 ₄₉	R0.37	ρ0.96 ₅₄	3*	3

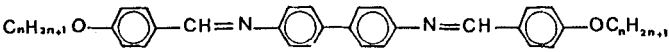
a On cooling

4-n-Alkoxy-4'-cyanobiphenyles



n	K	S _A	N	I	Ref	
					Ph	Tr
1			. 84	.		164
			22.22			164
8	. 54	.	67	. 80	.	4
	6.8		0.03	0.51		141
	51.8		97.6	36		4*
	40		62.5	28.6		246*247*
			77	33.75		110*111*
	18.93		.0.0467	1.84		
	. 35	α7.57 ₅₀ ρ1.015 ₅₀	67	.	210*	210*
					210	

4,4'-Di-[4-n-alkoxybenzylidene-amino]-biphenyles



	n	K ₁	K ₂	S ₁	S ₂ ^a	S ₃ ^b	S ₄ ^c	H	I	Ph	Tr
3370	4	213	—	—	235.5	253	266	—	—	9	9
		a2.3	14.8*	—	a10.4	6.1	a6.2	7.2	a10.8	1.7*	a8.6
		p1.12	R3.24	—	p1.06	R1.26	p1.03	R1.45	p1.360	R0.33	p0.96
		150	—	—	225	245	—	—	—	100	100
3372	6	116	—	166	—	214	249.5	303	366	9	9
		a4.7	7.4*	a4.4	17.3*	a7	3.3	a7.9	4.7	a10	—
		p1.12	R1.47	p1.09	R3.34	—	p1.02	R0.6	p0.99	R0.84	p0.97
		100	—	150	—	—	200	230	265	—	265
3374	8	131.5	—	144	150.4	204	244	316	346	9	9
		a2.9	15.3*	a9.7	11.8*	a7	4.7*	a6.6	2.7	a7.3	5.6
		p1.1	R2.7	p1.06	R2.02	p1.03	R0.79	p1.175	R0.43	p0.97	R0.87
		100	—	140	150	175	225	260	—	260	260
3376	10	133	—	142	193	233	307	320	—	9	9
		a4.2	22.3*	—	a12.2	8.2*	a6.7	2.5	a7.4	5.8	a9.4
		p1.07	R3.52	—	p1.03	R1.25	p1.165	R0.36	p0.96	R0.81	p0.92
		170	—	—	135	165	205	265	—	250	250

- a From ref.8 : smectic E or G
b From ref.8 : smectic B or F
c From ref.8 : smectic C

n	K ₁	K ₂	S ₁	S ₂ ^a	S ₃ ^b	S ₄ ^c	R	I	Ref	
									Ph	Tr
3377	12	137.5	—	—	186	226	290	291	—	9
	α1.6	48.5*	—	α7	1.9	α7.2	5	α9.1	19.2*	8*
	ρ1.05 100	87.02	—	ρ0.97 165	80.25	ρ0.94 200	80.63	ρ0.9 250	82.28	8*
3378	14	137.5	—	—	177	215	279	—	—	9
	α2.4	53.3*	—	α7.2	1.7	α7.3	5.5	α9	17.7*	8*
	ρ1.05 100	87.1	—	ρ0.96 160	80.21	ρ0.93 200	80.65	ρ0.89 250	81.95	8*
3379	16	140	—	—	176.5	211	270	—	—	9
	α1.7	65.6*	—	α7.2	1.9	α7.4	4.6	α9.1	—	8*
	ρ1.05 160	88.12	—	ρ0.94 165	80.21	ρ0.92 200	80.5	ρ0.88 235	—	8*
3379	18	138	—	—	172	205	260	—	—	9
	α1.9	79.6	—	α7.3	1.1	α7.5	5.5	α8.7	18.3	9-105
	ρ1.05 160	89.19	—	ρ0.94 160	80.11	ρ0.91 180	80.55	ρ0.87 235	81.75	8*

- a From ref.8 : smectic E or G
b From ref.8 : smectic B or F
c From ref.8 : smectic C