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Alkyl or alkoxy biphenyles derivatives

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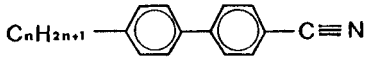
BIPHENYLE DERIVATIVES

ALKYL OR ALKOXY BIPHENYLES DERIVATIVES

4-n-Alkyl-4'-cyanobiphenyles

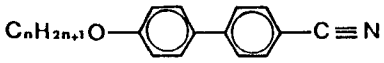


n	K	N	I	Ref Ph	Ref Tr
5	. 22.5	. 35	.		98
	3.4	*0.13*			141
		25.32			164
	36.6	23.4			98*
		26.9			231-232
	13.14	**0.7**			
		χ4.75 25 **0.493**	χ5.2	231	3
		0.62			231
		ρ1.013 30 **R0.27**	ρ1.005 40	3*	231
		ρ1.012 35 **R0.2**		206	3
		ρ0.993 **R0.21**		231	206
6	. 13	. 28	.		98
		0.0896			140
	5.8				151
	38.2	31.4			98*
		28.88			164
	22.18	**0.413**			
		0.251			3
		ρ1.008 25 **R0.096**	ρ1 32	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*
		ρ0.991 40 **R0.22**	ρ0.982 45	3*	3
		ρ0.99 40 **R0.24**	ρ0.982 44.5	252*	252*

	K	S_A	N	I	Ref Ph	Ref 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
	$\rho 0.993_{31}$	**R0.03**[a] $\rho 0.987_{35}$	**R0.17**	$\rho 0.766_{42}$	3*	3
	$\rho 1.025_{30}$	**R0.05** $\rho 1.018_{35}$	**R0.35**	$\rho 1_{50}$	5*	5
9	.	47.7 .	49.5 .			3
		0.123	**1.163**			3
	$\rho 0.976_{45}$	**R0.04**[a] $\rho 0.97_{49}$	**R0.37**	$\rho 0.96_{54}$	3*	3

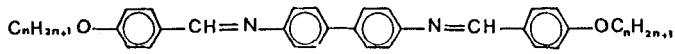
a On cooling

4-n-Alkoxy-4'-cyanobiphenyles



n	K	S_A	N	I	Ref Ph	Ref 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	α_{50}7.57 ρ_{50}1.015	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]	N	I	Ref Ph	Ref Tr
3370	4	. 213	–	–	.	235.5 .	253 .	266 .	.		9
		α2.3 **14.8***			α10.4	**6.1** α8.2	**7.2** α10.8	**1.7*** α8.6		8*	8-9
		ρ1.12 150 **R3.24**			ρ1.06 225	**R1.26** ρ1.03 245	**R1.45** ρ1 360	**R0.33** ρ0.96 300		8*	8*
3372	6	. 116 . 166	–	.	214 .	249.5 .	303 .	366 .			9
		α4.7 **7.4*** α4.4 **17.3***		α7	**3.3** α7.9	**4.7** α10				8*	8-9
		ρ1.12 100 **R1.47** ρ1.09 150 **R3.34**			ρ1.02 200	**R0.6** ρ0.99 230	**R0.84** ρ0.97 265			8*	8*
3374	8	. 131.5 . 144 .		150.4 .	204 .	244 .	316 .	346 .			9
		α2.9 **15.3*** α9.7 **11.8*** α7		**4.7*** α6.8	**2.7** α7.3	**5.6** α9.4				8*	8-9
		ρ1.1 100 **R2.7** ρ1.06 140 **R2.02** ρ1.03 150		**R0.79** ρ1 175	**R0.43** ρ0.97 225	**R0.87** ρ0.93 260				8*	8*
3376	10	. 133 –		. 142 .	193 .	233 .	307 .	320 .			9
		α4.2 **22.3***		α12.2	**8.2*** α6.7	**2.5** α7.4	**5.8** α9.4			8*	8-9
		ρ1.07 210 **R3.52**		ρ1.03 135	**R1.25** ρ1 165	**R0.36** ρ0.96 205	**R0.81** ρ0.92 250			8*	8*

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	N	I	Ref Ph	Ref Tr
3377	12	. 137.5	–	–	. 186	. 226	. 290	.	291 .		9
		α1.6 **48.5***			α7 **1.9** α7.2 **5** α9.1 **19.2***					B*	B-9
		$\rho^{1.05}_{100}$ **R7.02**			$\rho^{0.97}_{165}$ **R0.25** $\rho^{0.94}_{200}$ **R0.63** $\rho^{0.9}_{250}$ **R2.28** $\rho^{0.84}_{300}$					B*	B*
	14	. 137.5	–	–	. 177	. 215	. 279	–	.		9
		α2.4 **53.3***			α7.2 **1.7** α7.3 **5.5** α9 **17.7***					B*	B-9
		$\rho^{1.05}_{100}$ **R7.1**			$\rho^{0.96}_{160}$ **R0.21** $\rho^{0.93}_{200}$ **R0.65** $\rho^{0.89}_{250}$ **R1.95**				$\rho^{0.83}_{290}$	B*	B*
3378	16	. 140	–	–	. 176.5	. 211	. 270	–	.		9
		α1.7 **65.6***			α7.2 **1.9** α7.4 **4.6** α9.1					B*	B-9
		$\rho^{1.05}_{100}$ **R8.12**			$\rho^{0.94}_{165}$ **R0.21** $\rho^{0.92}_{200}$ **R0.5** $\rho^{0.88}_{235}$					B*	B*
3379	18	. 138	–	–	. 172	. 205	. 260	–	.		9
		α1.9 **79.6**			α7.3 **1.1** α7.5 **5.5** α8.7 **18.3**					B*	9-105
		$\rho^{1.05}_{100}$ **R9.19**			$\rho^{0.94}_{160}$ **R0.11** $\rho^{0.91}_{180}$ **R0.55** $\rho^{0.87}_{235}$ **R1.75**				$\rho^{0.83}_{270}$	B*	B*

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