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Azoxybenzene derivatives

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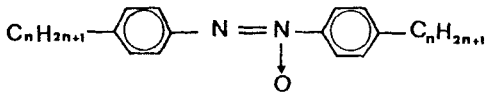
AZOXYBENZENE DERIVATIVES

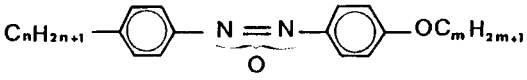
4,4'-Di-n-alkylazoxybenzenes



	n	K	S	N	I	Ref Ph	Ref Tr
2599	3			. 60.4 .			147
				ρ1.029 55.6	ρ1.02 64.5	147	
2600	4	. 23	–	. 32.5 .			114
				0.06			116
				26.2			114*
				0.31			
				ρ1.0246 30.3 **RO.1**	ρ1.0202 33.8	147	147
2601	5	. 26	–	. 68.2 .			114
		3		*0.16*			116
		28		28			114*
		14.46		**0.78**			
				ρ1.0004 50.4 **RO.26**	ρ0.9792 69.7	147	147
2602	6	. 26.2	–	. 54.2 .			114
				0.13			117
		4.12					142-146
		37		28.5			114*
		15.55		ρ0.9905 42.1 **0.59**	ρ0.9730 59.2	147	
				RO.21			147
2603	7	. 34.5	–	. 71.4 .			114
		3		*0.26*			117
		26		28			114*
		15.68		**1.13**			
		.a	53.9	. 70.6 .			147
		ρ0.9887 40		ρ0.9608 68.8 **RO.39**	ρ0.9506 74.8	147	147
2604	8	. .a	64.5	. 66.7 .			147
		ρ0.9629 59.5		ρ0.9512 65.6 **RO.41**	ρ0.9397 73.3	147	147

a From ref.117 : smectic A

4-n-Alkoxy-4'-n-alkylazoxybenzene

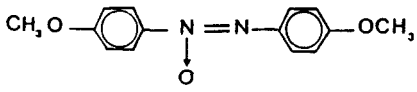


	n	m	N		I	Ref Ph	Ref Tr
2612	4	1	.	74.8	.		118
			α7.3	**0.44**	α7.8	118	225
			ρ1.1174 (25)	**R0.16**	ρ1.0732 (75)	118	118
			ρ1.076 (74.8)	**R0.36**[a]		206	118
				R0.17			225
				R0.19			206

a On cooling

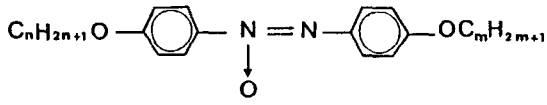
4,4'-Di-n-alkoxyazoxybenzenes

* Methoxy



	K	N		I		Ref Ph	Ref Tr
2632	·	118.5	·	135	·		56
		7.23		0.167			208
		30.65	α23.5 [130]	20.43	α7.87 [140]	151	32
		28.8	α9.67 [130]	31.16	α9.9 [140]	151	50
	α4.11	32.2	α9.26 [130]	20.8	α8.61	54	70
				21.74	α7 [140]	152*	95
		42.24	α8 [129]	31.34	α7.8 [140]	120-122	83-102
		31.88		22.02			51
	α7.6	38	α9.2	25	α7.14	49*	52
	α9.1	40.8	α8.2	37	α7.14	60	53
	α4.1	31.25	α9.4	21.28	α8.4	61	82-199
				21.28	α8.36 [139]	166	89
		34		31.40	α8.4	56	101
		33.3	α7.52	21.3		194	235
				19			151
		22.38		0.687			
	$\chi_{ad}^{4.6}$ [118]	25.8	$\chi_{ad}^{5.566}$ [126]	0.774	$\chi_{ad}^{5.378}$ [140]	125	50
		20.18		0.61	χ^5	174	235
		23		0.903	$\chi^{7.5}$ [138]	166-167	46
		14.24	$\chi^{6.57}$	0.76		194	61*
		16.99	$\chi^{13.53}$	1.49		194	54
		23.8	$\chi^{8.82}$	0.72		191	225
				0.58			125*
				1.129			126*
				0.68			157
				1.047			166*
				0.63			151
	ρ1.17 [115]		ρ1.155 [127]		ρ1.13 [152]	60*	
	ρ1.178 [116]	R11.6	ρ1.168 [126]	R0.4	ρ1.15 [140]	125*	46
	ρ1.1765	R11.03	ρ1.1574	R0.36	ρ1.1369	49*	48
	ρ1.28 [69]	R7.74	ρ1.166 [122]	R0.35	ρ1.148 [135]	61*	54
	ρ1.2747		ρ1.1594	R0.35	ρ1.1430	54	49*149
	ρ1.1718			R0.4		55*	174
			ρ1.1597	R0.36	ρ1.1386	56	69
			ρ1.164 [124]	R0.31	ρ1.1422 [140]	126	59*
		R6.9	ρ1.1558 [130]	R0.34	ρ1.1433 [137]	127	61
			ρ1.1576 [127]	R0.26	ρ1.1391 [141.3]	58	125*
			ρ1.1589 [128]	R0.58	ρ1.1435 [139]	166*	126*55*
		R12	ρ1.148 [135]	R0.32		199	225
		R12	ρ1.157 [128]	R0.31	ρ1.144 [138]	195	235
			ρ1.15 [130]	R0.46	ρ1.14 [140]	151	243
			ρ1.1623 [129]	R0.4	ρ1.1466 [140]	120-122	195
				R0.304			157

* Alkoxy

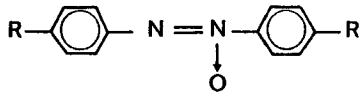


	n	m	K	N	I	Ref Ph	Ref Tr
2633	1	2	. 90	. 139	.		127
				1.39			127*
				ρ1.1654 110 **R0.58**	ρ1.1271 145	127	127*
2635	2	2	. 139.8	. 166	.		46
			6.3				46
				0.51			208
				18.18			89
			27.4	α9.3 21.28	α8.5	47*	51
			27.7	21.7			82
			27	20.20			198
			23.3	**2.39**			
			23.45	1.77			46
				2.66			126*
				ρ1.0845 154 **R0.66**	ρ1.0589 169	147	46
				ρ1.0917 145 **R0.60**	ρ1.054 173.1	126	47
				R1			126*
				R0.61			149

	n	K	S_C	N	I	Ph	Ref Tr
2636	3	. 115,5	–	. 123.6	.		33-204
		6.43		*0.28*			208
				24.39			89
		28.57		25.84			198
		24.21		**1.175**			
				$\rho 1.0558_{119.8}$ **RO.29**	$\rho 1.042_{129.3}$	147	193
				RO.3			147
2637	4	. 102.0	–	. 136.7			33-204
				0.247			33-204
		5.0					207
				26.32			89
		40		22.72			198
		13.93		**1.027**			
				$\rho 1.0188_{130.3}$ **RO.34**	$\rho 1.003_{140.8}$	147	147
				RO.3			193
2638	5	. 75.5		123.2			33-204
				0.173			33-204
				$\alpha 9.5_{120}$ 24.39	$\alpha 9_{128}$	195*	89
				$\alpha 8.4_{100}$ 30.77	$\alpha 8.46_{130}$	151	198
				$\alpha 9.4_{100}$ 28	$\alpha 12.9_{130}$	151	151
				0.675			
				$\rho 1.0136_{115.4}$ **0.54**	$\rho 1.0007_{124.9}$	195	151
				$\rho 1.005_{122.8}$ **RO.3**		199	147-195
		$\rho 1.27_{26}$		$\rho 1.092_{100}$ **RO.2**	$\rho 1.063$	94	193
				$\rho 1.0101_{115.8}$	$\rho 0.9934_{131.8}$	147	
				$\rho 1.024_{100}$	$\rho 0.993_{130}$	151	
		. 68.5	. 76.5				
		125	94*				
2639	6	. 81.3	. [74]	. 129.1	.		198
		9.89		*0.25*			207
				$\alpha 9.3_{120}$ 31.25	$\alpha 7.7_{133}$	120-122	89
		50	47*	27.1			198
		23.33		**0.89**			
				$\rho 0.986_{124}$ **>4.14**	$\rho 0.976_{128}$	89-73	73*
				$\rho 0.985_{128}$ **RO.3**		199	193
				$\rho 0.9949_{120}$ **RO.36**	$\rho 0.9786_{133}$	120-122	147

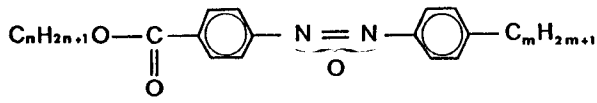
	n	K		S_C		N		I		Ref Ph	Ref Tr
2640	7	.	74	.	95	.	124				25
			9.87		*0.381*		*0.243*				33-204
			28.3	$\alpha 7.2_{80}$	43.7	$\alpha 6.1_{100}$	23.6	$\alpha 9.1_{130}$		151	24*
			33.78	$\alpha 14.4_{80}$	60.9	$\alpha 7.65_{100}$	24.8	$\alpha 14.09_{130}$		151	62
					58.82		43.48				89
			56.7		72.7	$\alpha 9_{116}$	38.5	$\alpha 8_{132}$		152*	69
			51		53	$\chi 5_{130}$	31			103*	152
					60		29				151
			30.02		**0.743**		**0.806**				
		ρ1.0998	**35.02**	ρ0.999	**0.707**	ρ0.969	**1.01**			62	62
						ρ0.9708	**1.28**			49	49
						$\rho 0.976_{119}$	**>3.61**	$\rho 0.968_{123}$		73	73
							0.65				151
							R0.26				147
							R0.3				193
						$\rho 0.9792_{116.1}$		$\rho 0.9619_{131.1}$		147	
						$\rho 0.999_{100}$		$\rho 0.966_{130}$		151	
2641	8	.	80	.	108	.	126	.			25
							0.344				33-204
					0.282						25
					43.48	$\rho 0.973_{118.4}$	43.48	$\rho 0.95_{137.3}$		147	89
					0.711		**0.829**				
2642	9	.	76	.	113	.	122	.			25
					0.394		*0.421*				25
					38.46		41.67				99
					1.109		**1.069**				
2643	10	.	78	.	121	.	123	.			25
					0.553						25
							0.752				33-204
					35.71		43.48				89
					1.64		**1.825**				
2644	11	.	80.8	.	121.4	—		.			33-204
					2.407						33-204
					40						89
					6.38						
2645	12	.	81.7	.	122	—		.			33-204
					2.861						33-204
					38.46						89
					7.872						

4,4'-Di-subst.azoxybenzenes



	R	K	S_A	I	Ref Ph	Ref Tr
2772	C_2H_5O–CO–	. 114 .	115 .			213
		4.7	*1.2*			213
		40.9 ρ1.1744 116 7	20.43 ρ1.1468 123.3		127	32
		12.41	**6.327**			
		K	**N**	**I**		
2784	C_2H_5O–COO–	. 101.8 .	137.8 .			32
		39.2	21.8			32

n-Alkyl-4-n-alkylphenyl-azoxy-4'-benzoate

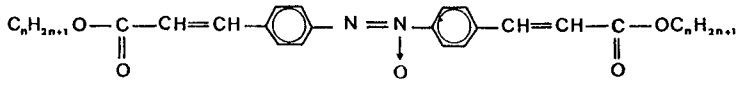


	n	m	N	I	Ref Ph	Ref Tr
2674	6	4	. 81 .			206
			ρ0.984 81	**R0.14**	206	206

	n	K	S_I	S_C	I	Ref Ph	Ref Tr
2647	18	.	94.8 .	100.1 .	116.1 .		15-104
			51.09 α10.9	**9.67** α13	**15.77** α12	15-104	15-104
		ρ1.011	**R6.8** ρ0.9430 97	**R1.23** ρ0.9212 108	**R1.94** ρ0.8903 120	15-104	15-104

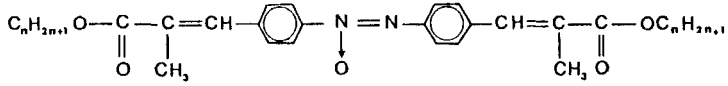
For the identification of S_I see ref.256

Di-alkyl-4,4'-azoxy-trans-cinnamates



	n	K_1		K_2		S_C		S_A		I		Ref Ph	Ref Tr
2798	11	—		.	97.3	.	156.1	.	160.2	.			15
					36.4	α8.2	1.44	α19	2.43	α8.6		15*	15
				ρ1.054	R5.72	ρ0.9812 125	R0.209	ρ0.9491 158	R0.35	ρ0.9405 164		15	15
2800	10	.	88	.	107.1	.	133	.	135	.			15
		α11.4	13*	α7.7	30.54	α8.1	0.69	α7.4	3.12	α10.6		15*	15
		ρ1.0713 82		ρ1.038 100	R4.08	ρ1.0197 122	R0.088	ρ1.0085 134	R0.4	ρ0.9972 143		15	15

Di-alkyl-4,4'-azoxy-α-methyl-trans-cinnamate



	n	K	S_C	S_A	I	Ref Ph	Ref Tr
2821	11	. 73	. 78.3	. 85.7	.		15
		6.9 α9.9	**0.94** α16.2	**8.31** α7.1		15*	15
		ρ1.028 **R1.03** ρ1.0128 (76)	**R0.139** ρ1.0039 (83)	**R1.21** ρ0.9832 (90)		15	15
2823	16	. 75.6	. 84.4	–	.		15
		52.5 α12	**11.4**		α9	15*	15
		ρ1.049 **R6.48** ρ0.98 (79)	**R1.35**		ρ0.9562 (91)	15	15