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Azo benzene derivatives

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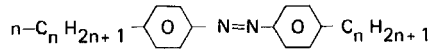
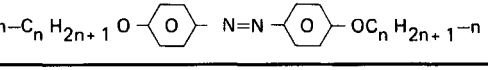
AZO BENZENE DERIVATIVES

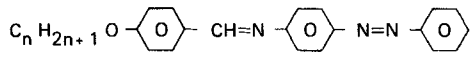
• **Azobenzenes**



n	K	S_B	S_A	N	I	Ref.
3	• 81.1–81.5 *5.3*	–	–	• 30.0–30.7	•	62
4	• 28.3–29.1 *7.89*	–	–	• [–5]	•	62
5	• 48.5–49.1 *8.13*	–	–	• [41.8–42.2] *0.21*	•	62
6	• 36.7–37.2 *6.10*	–	–	• [23.9–24.3] *0.13*	•	62
7	• 39.6–40.0 *5.84*	–	• [21.0–21.4]	• 47.0–47.3 *0.26*	•	62
8	• 47.5–47.9 *9.33*	–	• [35.2–36.4] *0.28*	• [41.5–41.8] *0.32*	•	62
9	• 36.8–37.0 *8.37*	• 40.3–40.5 *0.31*	• 51.5–53.2 *1.20*	–	•	62
10	• 41.5–42.3 *11.7*	• 44.3–44.6 *0.45*	• 52.3–53.7 *1.58*	–	•	62

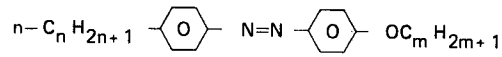


n	K	S_C	N	I	Ref.
6	• 101.5–102.2 *9.33*	–	• 114.1–114.7 *0.36*	•	62
7	• 101.1–101.3 *10.05*	–	• 108.8–109.1 *0.36*	•	62
8	• 98.8–99.2 *9.57*	• [95.2–95.6] *0.44*	• 112.0–112.3 *0.52*	•	62
9	• 104.1–104.5 *13.2*	• [101.5–101.7] *0.56*	• 108.6–108.8 *0.64*	•	62

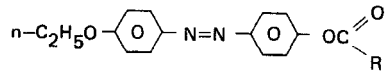


n	S_A		N		I	Ref. (1)
3	•	[115.0] *0.077*	•	179	•	2, 224
4	•	135.0 *0.20*	•	184.5	•	2, 224
5	•	138.0 *0.36*	•	173.0	•	2, 224
6	•	148.0 *0.45*	•	174.0	•	2, 224
7	•	150.5 *0.60*	•	167.5	•	2, 224
8	•	157.5 *0.73*	•	169.0	•	2, 224
9	•	159.5 *0.84*	•	165.0	•	2, 224
10	•	161.5 *0.97*	•	164.0	•	2, 224

(1) Temperatures of transition are from ref. 2 ; the S_A—N enthalpies of transition are from ref. 224 and graphical results.

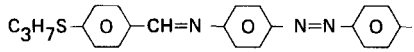


n	m	K		S_B		S_C		S_A		N		I	Ref.
4	1	•	32 *3.194*									•	187
4	7	•	53.4–53.7 *6.10*	–		•	39.7–40.3 *0.33*	–		•	69.0–70.2 *0.17*	•	62
4	8	•	55.0–55.2 *8.13*	•	[35] *0.05*	•	[54.0–54.4] *0.01*	•	57.5–57.6 *0.27*	•	74.9–75.2 *0.27*	•	62
4	9	•	62.0–62.1 *8.37*	–		•	[58.6–58.9] *< 0.01*	•	63.6–63.8 *0.39*	•	73.0–73.2 *0.25*	•	62
4	10	•	53.9–54.4 *5.81*	•	[49.8–50.3] *0.31*	•	60.0–61.5 *0.007*	•	69.0–69.4 *0.54*	•	75.5–75.8 *0.35*	•	62
6	5	•	39.4–39.9 *2.51*	–		–		–		•	68.8–69.2 *0.16*	•	62
7	6	K_1 37 K_2 49.9–50.1 *1.94* *4.93*		–		–		–		•	82.8–83.1 *0.32*	•	62
8	7	•	53.0–53.2 *10.3*	–		•	56.1–56.6 *0.01*	•	59.9–60.2 *0.09*	•	77.2–77.5 *0.31*	•	62
9	8	•	46.5–46.7 *0.86*	•	[44] *0.04*	•	65.5–65.8 *0.01*	•	77.2–77.4 *0.22*	•	84.0–84.2 *0.52*	•	62

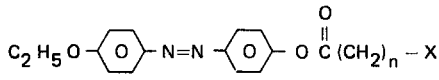


R	K_3	K_2	K_1	N	I	Ref.
$n-C_4H_9$	–	–	• 79.02 *7.94*	• 127.2 *0.21*	•	63
	–	–	• 77.5 *7.5*	• 126 *0.22*	•	
$n-C_5H_{11}$	–	–	• 72.08 *7.13*	• 128.6 *0.27*	•	63
	• 66.11 *8.92*	–	–	• 128.6	•	
	• 66 *6.72*	–	–	• 129 *0.42*	•	
	–	–	• 74.6 *8.59*	• 130.4 *0.31*	•	168
	• 67.4 *8.49*	–	–	• 130.4	•	
$n-C_6H_{13}$	–	–	• 65.74 *5.53*	• 119.3 *0.22*	•	63
	• 60.74	–	–	• 119.3	•	
	–	–	• *64.5*	• *120* 0.41	•	
	–	–	• 65.6 *5.19*	• 118.6 *0.30*	•	168
	• 62.0 *9.19*	–	–	• 118.6	•	
$n-C_7H_{15}$	• 85.95 *11.5*	–	–	• 119.8 *0.27*	•	63
$n-C_8H_{17}$	• 60.92 *3.28*	• 69.70	• 72.46 *6.62*	• 114.7 *0.22*	•	63
	–	• 70.26 *6.89*	–	• 114.7	•	
$n-C_9H_{19}$	• 64	• 70	• 75.6	• 113.1 *0.26*	•	63
	• 71.56 *10.95*	–	–	•	•	
	–	• 73.92 *7.68*	–	•	•	

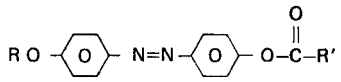
R	K_3	K_2	K_1	N	I	Ref.
$n\text{-}C_{10}H_{21}$	–	• 75	• 79.2 *7.63*	• 110.1 *0.23*	•	63
	–	• 77.4	–	• 110.1	•	
$n\text{-}C_{11}H_{23}$	–	–	• 80.8 *9.30*	• 109.5 *0.28*	•	63
	–	• 79.35	–	•	•	
$n\text{-}C_{12}H_{25}$	–	–	• 83.5 *9.98*	• 106.7 *0.28*	•	63
	–	• 82.8	–	•	•	
$n\text{-}C_{13}H_{27}$	–	–	• 85.3 *10.3*	• 106.4 *0.31*	•	63
	–	• 84.8	–	•	•	
$CH_3\text{–}CH\text{=}CH\text{–}$	–	–	• 109.7 *5.65*	• 196.7 *0.46*	•	168
$CH_3\text{–}CH\text{=}CH\text{–}C_7H_{14}\text{–}$	–	–	• 61 *0.8*	• 109.5 *0.74*	•	
$CH_2\text{=}CH\text{–}C_8H_{16}\text{–}$	–	–	• 60 *9.4*	• 109 *0.45*	•	
	–	–	• 63.5 *10.7*	• 109 *0.39*	•	168
	• 61.5 *9.86*	–	–	• 109	•	



K 111.1 *7.470* [S_B] 104.6 *0.088* N 113.8 *2.110* I Ref. 49



n	X	K_3	K_2	K_1	N	I	Ref.
0	2-CH_3-H	–	–	• 106.15 *6.84*	–	•	170
1	H	–	–	• 102.88 *9.69*	• 111.47 *0.17*	•	170
2	H	–	–	• 110.78 *8.11*	• 121.09 *0.23*	•	170
3	H	–	–	• 105.72 *13.4*	• [95.87] *0.16*	•	170
1	O	–	• 103.49 *10.4*	–	–	•	170
		–	–	• 106.18 *9.7*	–	•	170
2	O	–	–	• 118.40 *9.40*	• 128.6 *0.23*	•	170
3	O	• 66.48 *8.23*	–	–	•	•	170
		–	• 76.83 *7.15*	–	• [65 ± 5]	•	
		–	–	• 81.92 *9.31*	•	•	
0	–CH=CH–O	–	–	• 158.55 *8.73*	• 242.51 *0.45*	•	170
0	O–CH_3 (2-CH_3)	–	–	• 158.24 *7.82*	• 284 *0.55*	•	170
0	O–CH_3 (2,6-di-CH_3)	–	–	• 160.92 *7.68*	• 195.55 *0.26*	•	170



R	R'	K (1)		N		I	Ref.
CH_3-	$-(CH_2)_2-Cl$	•	97 *6.8*	•	99 *0.05*	•	223
C_2H_5-	$-(CH_2)_2-Cl$	•	94 *7.7*	•	128 *0.11*	•	223
C_4H_9-	$-(CH_2)_2-Cl$	•	118 *8.2*	•	[110]	•	223
CH_3-	$-(CH_2)_2-Br$	•	105 *7.3*	•	[88 or 82]	•	223
C_2H_5-	$-(CH_2)_2-Br$	•	107 *9.0*	•	122 *0.1*	•	223
C_4H_9-	$-(CH_2)_2-Br$	•	117 *6.2*	–		•	223
CH_3-	$-CH=CH_2$ (2)	•	74 *4.45*	•	117 *0.11*	•	223
C_2H_5-	$-CH=CH_2$ (3)	•	82 *4.40*	•	138 *0.16*	•	223
C_4H_9-	$-CH=CH_2$ (3)	•	88 *7.2*	•	123 *0.2*	•	223

(1) All the compounds exhibit a very complex cristallin polymotphism. See ref. 223 for more informations.

(2) Stable melting point at 97°C. No enthalpy given.

(3) Stable melting point at 99°C, enthalpy 4,5 kcal/mole.