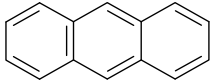


Experimental Data-1

(B0301-1/4)

Anthracene (アントラセン)

Chemical Name : Anthracene
 Synonym : Paranaphthalene
 パラナフタレン
 Molecular Weight : 178.23
 Melting Point : 218 °C[Merck]
 Boiling Point : 339.9°C[CHCD]
 Flashing Point : 121 °C[CHCD]
 Molecular Formular: C₁₄H₁₀
 Chemical Structure:

 CAS No. : 120-12-7
 MITI No. : (4)-683
 ML No. : -
 Specified Chemical Substances: -
 Source of Substance: Wako Pure Chemical Industries Ltd.
 Lot No. : PAP7566, PAH7449
 Purity : 100% (PAP7566), 99.5% (PAH7449)
 Vehicle : DMSO

Conc. µg/plate	Number of Revertants/plate														
	Base-substitution									Frame-shift					
	TA100			TA1535			WP2uvrA/pKM101			TA98			TA1537		
	S9-	S9+	S9+	S9-	S9+	S9+	S9-	S9+	S9+	S9-	S9+	S9+	S9-	S9+	S9+
		10%	30%		10%	30%		10%	30%		10%	30%		10%	30%
DMSO	(105)	(96)	(106)	(10)	(8)	(13)	(70)	(104)	(91)	(17)	(20)	(15)	(7)	(8)	(7)
	108	122	113	10	7	6	69	94	85	11	20	20	7	9	2
1 .22	94	128	129	8	13	7	46	114	99	10	23	20	9	16	7
	(101)	(125)	(121)	(9)	(10)	(7)	(58)	(104)	(92)	(11)	(22)	(20)	(8)	(13)	(5)
	87	123	122	8	7	6	63	111	75	14	17	21	8	13	7
4 .88	91	117	121	8	9	10	83	105	89	13	25	24	5	8	15
	(89)	(120)	(122)	(8)	(8)	(8)	(73)	(108)	(82)	(14)	(21)	(23)	(7)	(11)	(11)
	77	134	166	10	8	11	70	105	90	13	23	25	9	5	13
19 .5	89	143	158	10	13	6	61	113	76	10	17	28	7	15	13
	(83)	(139)	(162)	(10)	(11)	(9)	(66)	(109)	(83)	(12)	(20)	(27)	(8)	(10)	(13)
	93 *	134	152	10	9	6	48	108	87	15 *	36 *	25	8	11	13
78 .1	83 *	131	184	6	11	13	60	104	77	10 *	26 *	38	6	10	10
	(88 *)	(133)	(168)	(8)	(10)	(10)	(54)	(106)	(82)	(13 *)	(31 *)	(32)	(7)	(11)	(12)
	90 *	102 *	167	13 *	10	4	56	138	90	9 *	28 *	25	3 *	6 *	9
313	101 *	134 *	144	6 *	4	6	71	131	88	14 *	12 *	26	7 *	10 *	11
	(96 *)	(118 *)	(156)	(10 *)	(7)	(5)	(64)	(135)	(89)	(12 *)	(20 *)	(26)	(5 *)	(8 *)	(10)
	76 *	120 *	119	5 *	6 *	12 *	57	137 *	90 *	14 *	21 *	18 *	3 *	9 *	5 *
1250	89 *	117 *	133	7 *	6 *	8 *	53	133 *	88 *	9 *	24 *	23 *	2 *	8 *	8 *
	(83 *)	(119 *)	(126)	(6 *)	(6 *)	(10 *)	(55)	(135 *)	(89 *)	(12 *)	(23 *)	(21 *)	(3 *)	(9 *)	(7 *)
	83 *	124 *	140 *	8 *	6 *	6 *	53 *	83 *	62 *	9 *	24 *	28 *	2 *	5 *	9 *
5000	88 *	101 *	144 *	8 *	5 *	8 *	37 *	98 *	4 *	7 *	9 *	23 *	2 *	8 *	7 *
	(86 *)	(113 *)	(142 *)	(8 *)	(6 *)	(7 *)	(45 *)	(91 *)	(33 *)	(8 *)	(17 *)	(26 *)	(2 *)	(7 *)	(8 *)
Judgement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Specific Mutagenicity															
Positive Control	AF-2 (644)	2-AA (1216)	2-AA (360)	NaN ₃ (347)	2-AA (203)	2-AA (82)	AF-2 (1170)	2-AA (873)	2-AA (259)	AF-2 (368)	2-AA (420)	2-AA (103)	9-AA (334)	9-AA (266)	2-AA (60)

Mutagenicity in Bacterial Test: Positive

IARC Evaluation : Group 3

* Growth inhibition was observed.

† Test chemical was precipitated with and without S9mix.

Conc. µg/plate	Number of Revertants/plate														
	Base-substitution									Frame-shift					
	TA100			TA1535			WP2uvrA/pKM101			TA98			TA1537		
	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%
DMSO	(94)	(116)	(115)	(10)	(11)	(11)	(95)	(143)	(156)	(16)	(28)	(22)	(5)	(8)	(10)
1 .22	113 100 (107)	()	()	()	()	()	()	()	()	13 20 (17)	25 28 (27)	()	()	()	()
2 .44	102 96 (99)	()	()	()	()	()	()	()	()	10 17 (14)	20 21 (21)	()	()	()	()
4 .88	106 97 (102)	123 129 (126)	()	9 10 (10)	()	()	()	()	()	11 6 (9)	22 24 (23)	()	6 9 (8)	5 15 (10)	()
9 .77	91 87 (89)	111 122 (117)	()	5 5 (5)	()	()	()	()	()	15 11 (13)	29 36 (33)	()	6 6 (6)	15 7 (11)	()
19 .5	100 115 (108)	141 131 (136)	()	9 2 (6)	6 9 (8)	9 7 (8)	()	138 127 (133)	()	14 15 (15)	13 23 (18)	22 22 (22)	8 5 (7)	8 10 (9)	13 17 (15)
39 .1	77 112 (95)	127 139 (133)	()	7 5 (6)	5 10 (8)	11 8 (10)	()	146 121 (134)	170 144 (157)	15 9 (12)	30 29 (30)	29 18 (24)	7 10 (9)	8 15 (12)	13 11 (12)
78 .1	123 * 102 * (113 *)	138 150 (144)	206 149 (178)	9 7 (8)	10 9 (10)	7 9 (8)	97 72 (85)	120 121 (121)	137 143 (140)	8 * 22 * (15 *)	38 * 14 * (26 *)	24 31 (28)	5 9 (7)	10 7 (9)	6 17 (12)
156	()	135 129 (132)	146 178 (162)	11 11 (11)	9 11 (10)	11 10 (11)	101 98 (100)	144 117 (131)	128 142 (135)	()	()	()	37 31 (34)	7 7 (7)	13 * 8 * (11 *)
313 †	()	102 * 145 * (125 *)	135 155 (145)	6 * 7 * (7 *)	6 4 (5)	9 4 (7)	115 110 (113)	127 119 (123)	149 158 (154)	()	()	()	31 23 (27)	6 * 6 * (6 *)	12 * 8 * (10 *)
625 †	()	()	153 130 (142)	()	4 6 (5)	8 7 (8)	104 93 (121)	128 114 (139)	140 137 (139)	()	()	()	32 30 (31)	()	()
1250 †	()	()	135 130 (133)	()	7 * 4 * (6 *)	9 * 8 * (9 *)	76 82 (79)	94 * 104 * (99 *)	144 126 (135)	()	()	()	28 * 25 * (27 *)	()	()
2500 †	()	()	127 144 (136)	()	()	()	92 84 (88)	()	133 * 110 * (122 *)	()	()	()	()	()	()
5000 †	()	()	137 * 175 * (156 *)	()	()	()	107 * 75 * (91 *)	()	()	()	()	()	()	()	()
Judgement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Specific Mutagenicity															
Positive Control	AF-2 (719)	2-AA (1277)	2-AA (362)	NaN ₃ (314)	2-AA (216)	2-AA (106)	AF-2 (1729)	2-AA (898)	2-AA (343)	AF-2 (343)	2-AA (335)	2-AA (105)	9-AA (400)	2-AA (136)	2-AA (35)

* Growth inhibition was observed.

† Test chemical was precipitated with and without S9mix.

Experimental Data-3

Conc. µg/plate	Number of Revertants/plate								
	Base-substitution						Frame-shift		
	TA100			WP2uvrA/pKM101			TA98		
	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%
DMSO	(99)	()	()	(67)	(106)	(107)	(14)	(28)	(20)
1 .22	96 107 (102)	()	()	()	()	()	20 11 (16)	36 20 (28)	()
2 .44	87 96 (92)	()	()	()	()	()	8 15 (12)	22 28 (25)	()
4 .88	82 98 (90)	()	()	()	()	()	18 24 (21)	18 16 (17)	()
9 .77	102 90 (96)	()	()	()	()	()	16 17 (17)	28 23 (26)	()
19 .5	93 99 (96)	()	()	()	84 93 (89)	()	15 14 (15)	26 26 (26)	28 32 (30)
39 .1	78 100 (89)	()	()	()	96 85 (91)	98 94 (96)	18 13 (16)	17 28 (23)	32 33 (33)
78 .1	82 * 96 * (89 *)	()	()	(65)	105 123 (114)	109 105 (107)	15 * 15 * (15 *)	20 * 15 * (18 *)	33 29 (31)
156	()	()	()	(75)	122 98 (110)	122 108 (115)	()	()	36 38 (37)
313 †	()	()	()	(83)	73 92 (151)	166 136 (140)	125 155 (140)	()	26 23 (25)
625 †	()	()	()	(67)	71 62 (140)	126 153 (153)	144 161 (153)	()	24 36 (30)
1250 †	()	()	()	(67)	73 60 (122 *)	118 * 126 * (134)	139 129 ()	()	29 * 23 * (26 *)
2500 †	()	()	()	(65)	63 66 (65)	127 * 113 * (120 *)	()	()	()
5000 †	()	()	()	(60 *)	55 * 65 * (60 *)	()	()	()	()
Judgement	-	-	-	-	-	-	-	-	-
Specific Mutagenicity									
Positive Control	AF-2 (642)	2-AA ()	2-AA ()	AF-2 (1531)	2-AA (871)	2-AA (308)	AF-2 (397)	2-AA (431)	2-AA (132)

* Growth inhibition was observed.

† Test chemical was precipitated with and without S9mix.

Experimental Data-4

(B0301-3/4)

Conc. µg/plate	Number of Revertants/plate														
	Base-substitution									Frame-shift					
	TA100			TA1535			WP2uvrA/pKM101			TA98			TA1537		
	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%
DMSO	(113)	(112)	(115)	(11)	(12)	(12)	(80)	(112)	(100)	(13)	(19)	(20)	(8)	(7)	(7)
1 .22	106 93 (100)	119 107 (113)	129 126 (128)	10 14 (12)	6 7 (7)	11 20 (16)	72 81 (77)	94 123 (109)	85 94 (90)	14 10 (12)	10 24 (17)	24 18 (21)	3 5 (4)	5 5 (5)	8 6 (7)
4 .88	108 104 (106)	120 121 (121)	139 134 (137)	10 7 (9)	13 14 (14)	9 7 (8)	61 79 (70)	126 115 (121)	85 87 (86)	15 17 (16)	24 26 (25)	13 16 (15)	5 3 (4)	5 6 (6)	9 2 (6)
19 .5	92 87 (90)	186 202 (194)	212 202 (207)	13 10 (12)	11 16 (14)	10 8 (9)	78 68 (73)	131 139 (135)	127 120 (124)	13 9 (11)	29 40 (35)	60 59 (60)	6 6 (6)	9 10 (10)	13 18 (16)
78 .1	86 90 (88)	222 272 (247)	412 421 (417)	13 9 (11)	7 7 (7)	15 8 (12)	54 84 (69)	135 166 (151)	176 172 (174)	17 21 (19)	46 29 (38)	157 176 (167)	8 5 (7)	16 11 (14)	30 26 (28)
313 †	101 * 85 * (93 *)	253 235 (244)	383 365 (374)	11 * 11 * (11 *)	10 9 (10)	14 9 (12)	94 115 (105)	207 193 (200)	203 262 (233)	21 * 12 * (17 *)	39 34 (37)	161 133 (147)	6 * 3 * (5 *)	12 8 (10)	21 20 (21)
1250 †	89 * 103 * (96 *)	234 226 (230)	341 356 (349)	13 * 8 * (11 *)	11 9 (10)	6 11 (9)	111 96 (104)	175 140 (158)	236 198 (217)	12 * 13 * (13 *)	37 50 (44)	146 155 (151)	3 * 2 * (3 *)	10 13 (12)	28 13 (21)
5000 †	86 * 92 * (89 *)	285 281 (283)	373 359 (366)	8 * 10 * (9 *)	8 18 (13)	12 15 (14)	93 * 89 * (91 *)	207 202 (205)	224 185 (205)	9 * 13 * (11 *)	28 33 (31)	139 149 (144)	5 * 5 * (5 *)	7 4 (6)	18 21 (20)
Judgement	-	+	+	-	-	-	-	-	+	-	+	+	-	+	+
Specific Mutagenicity			1730	3870					425		243	2050		89.6	462
Positive Control	AF-2 (674)	2-AA (3473)	2-AA (1173)	NaN ₃ (316)	2-AA (292)	2-AA (286)	AF-2 (1652)	2-AA (1518)	2-AA (831)	AF-2 (325)	2-AA (1118)	2-AA (423)	9-AA (357)	2-AA (348)	2-AA (194)

* Growth inhibition was observed.

† Test chemical was precipitated with and without S9mix.

S9: Hamster liver S9mix was used.

Experimental Data-5

Conc. µg/plate	Number of Revertants/plate														
	Base-substitution									Frame-shift					
	TA100			TA1535			WP2uvrA/pKM101			TA98			TA1537		
	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%	S9-	S9+ 10%	S9+ 30%
DMSO	(99)	(104)	(123)	(8)	(11)	(9)	(75)	(100)	(95)	(14)	(26)	(20)	(7)	(9)	(9)
		122	109								30	15		6	6
		127	128								16	15		7	7
2 .44	()	(125)	(119)	()	()	()	()	()	()	()	(23)	(15)	()	(7)	(7)
		133	136								26	18		7	9
		117	122								32	20		6	8
4 .88	()	(125)	(129)	()	()	()	()	()	()	()	(29)	(19)	()	(7)	(9)
		94	155	155	11					15	46	28	6	8	14
		101	163	137	7					7	26	37	5	10	16
9 .77	(98)	(159)	(146)	(9)	()	()	()	()	()	(11)	(36)	(33)	(6)	(9)	(15)
		89	190	200	5					14	54	47	3	7	18
		113	228	207	7					10	44	46	7	5	22
19 .5	(101)	(209)	(204)	(6)	()	()	()	()	()	(12)	(49)	(47)	(5)	(6)	(20)
		91	274	293	10				167	16	53	109	10	6	40
		120	273	240	7				156	10	45	92	3	10	24
39 .1	(106)	(274)	(267)	(9)	()	()	()	()	(162)	(13)	(49)	(101)	(7)	(8)	(32)
		101	266	396	9	9	6		130	15	54	143	3	10	13
		91	310	424	9	8	11		134	14	46	129	7	17	13
78 .1	(96)	(288)	(410)	(9)	(9)	(9)	()	()	(132)	(15)	(50)	(136)	(5)	(14)	(13)
		76	253	438	6 *	8	10	90	135	13	47	130	6	10	17
		108	271	433	12 *	8	8	112	122	11	40	141	1	13	18
156	(92)	(262)	(436)	(9 *)	(8)	(9)	(101)	(129)	(147)	(12)	(44)	(136)	(4)	(12)	(18)
		100 *	321	507	8 *	2	10	88	168	11 *	35	109	1 *	10	21
		87 *	329	514	7 *	11	6	80	188	8 *	48	128	5 *	17	15
313 †	(94 *)	(325)	(511)	(8 *)	(7)	(8)	(84)	(178)	(194)	(10 *)	(42)	(119)	(3 *)	(14)	(18)
					12	15	107	158	207						
					11	6	74	162	187						
625 †	()	()	()	()	(12)	(11)	(91)	(160)	(197)	()	()	()	()	()	()
					12	6	106	167	205						
					8	9	91	180	189						
1250 †	()	()	()	()	(10)	(8)	(99)	(174)	(197)	()	()	()	()	()	()
					7	9	81	171	205						
					10	1	84	188	172						
2500 †	()	()	()	()	(9)	(5)	(83)	(180)	(189)	()	()	()	()	()	()
					9	6	87 *	114	164						
					4	8	72 *	139	212						
5000 †	()	()	()	()	(7)	(7)	(80 *)	(127)	(188)	()	()	()	()	()	()
Judgement	-	+	+	-	-	-	-	-	+	-	-	+	-	-	+
Specific Mutagenicity		5380	3680						316			2070			588
Positive Control	AF-2 (696)	2-AA (3543)	2-AA (1268)	NaN ₃ (338)	2-AA (305)	2-AA (252)	AF-2 (1768)	2-AA (1469)	2-AA (938)	AF-2 (387)	2-AA (1340)	2-AA (345)	9-AA (278)	2-AA (248)	2-AA (162)

* Growth inhibition was observed.

† Test chemical was precipitated with and without S9mix.

S9: Hamster liver S9mix was used.

Experimental Data-6 (B0301-4/4)

Conc. µg/plate	Number of Revertants/plate			
	Frame-shift			
	TA98		TA1537	
	S9-	S9+ 10%	S9-	S9+ 10%
DMSO	(16)	(27)	(6)	(7)
		52		7
		36		7
19 .5	()	(44)	()	(7)
		61		11
		77		8
39 .1	()	(69)	()	(10)
		63		7
		43		14
78 .1	()	(53)	()	(11)
		47		11
		63		10
156	()	(55)	()	(11)
		40		16
		47		12
313 †	()	(44)	()	(14)
		45		8
		46		11
625 †	()	(46)	()	(10)
		32		7
		38		7
1250 †	()	(35)	()	(7)
		42		11
		41		8
2500 †	()	(42)	()	(10)
		43		7
		53		9
5000 †	()	(48)	()	(8)
Judgement		+		+
Specific Mutagenicity		1070		22.4
Positive Control	AF-2 (405)	2-AA (1407)	9-AA (322)	2-AA (564)

† Test chemical was precipitated with and without S9mix.
S9: Hamster liver S9mix was used.