8/20/71
ICRD

Run #2

$$\alpha_{1-r} = \frac{y_1 x_r}{y_r x_1}$$

LET PARA BE THE KEY

META

$$\alpha_{m-para} = \frac{(18124)(179637)}{(272496)(932.8)} = 1.235$$

$$= 0.658\ y_1/x_1$$

2, 2'

$$\alpha_{2,2'-r} = 0.658\ 17391.3/10667.9$$

$$= 1.072$$

2, 4'

$$\alpha_{2,4'-r} = 0.658\ 94128.5/60914$$

$$= 1.017$$

3, 3'

$$\alpha_{3,3'-r} = 0.658\ 21562.7/174394$$

$$= 0.814$$

4, 4'

$$\alpha_{4,4'-r} = 0.658\ 21358.9/192567$$

$$= 0.730$$

CB3 $\alpha_{CB3-r} = 0.658\ 16509.0/296807$

$$= 0.367$$

CB4 $\alpha_{CB4-r} = 0.658\ 29606.7/66931.8$

$$= 0.291$$

CB5 $\alpha_{CB5-r} = 0.658\ 1021.3/49127.1$

$$= .0140$$

DSW 297082

STLCOPCB4066995

Run #2

	COMP	LIQUID WT	LIQUID MW	LIQUID MOLE	VAPOR WT	VAPOR MW	VAPOR MOLE
8	CB5	2.77	326.5	8483.9	—		
9	CB4				2.64		9041.1
0	CB4	7.67					
1	CB5		328	24741.0	—		
2	↓			→ 33224.9			
3	CB5						
4							
5							
6							
7							
8							
9		16.04	326.5	49127.1	0.34		1041.3
0							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

DSW 297083

RUN #2

BASIS/100,000 # SAMPLE

		LIQUID			VAPOR		
	COMP	WT	MW	MOLES	WT	MW	MOLES
1	1, PHEN	—	154.2		—		
2	ORTHO		188.6		—		
3	META	1.76	↓	932.8	3.42	18124.0	
4	PARA	31.22	↓	16548.3 → 179637.	48.00	254372.0 → 272496.	
5	2,6	—	223.1		—		
6	2,2'	2.38	↓	10667.9	3.88	17391.3	
7	2,4	1.73	↓	7754.3	3.52	15777.7	
8	2,5	0.27	↓	1210.2	0.34	1523.9	
9	2,3'	2.12	↓	9502.5	3.57	16001.8	
10	2,4'	9.47	↓	42447.3 → 60914.3	13.57	60824.7 → 94128.1	
11	CB3	0.26	257.5	1009.7	0.38	1475.8	
12	2,5,2'	3.65	↓	14174.7	4.54	~~17631.~~	
13	3,3'	} 0.54	223.1	} 22500.0	0.21	941.3	
14	CB3		257.5	→ 17434.4	0.39	1514.6 → 21562.7	
15	3,4'	0.53	223.1	2375.6	0.69	2734.2	
16	CB3	} 2.70	257.5	} 11250.0	0.55	2291.7	
17	4,4'		223.1		} 3.92	} 16333.0 → 21358.9	
18	2,3,2'	1.45	257.5	5631.1 → 19256.7			
19	2,5,4'	3.87	↓	15029.1	3.07	11922.3	
20	CB4	0.26	292	890.4.1	0.16	547.9	
21	3,4,2'	1.48	257.5	5747.5 → 29680.7	1.04	4038.8 → 16509.0	
22	CB4	} 0.23	292	787.7	—		
23					—		
24							
25		} 5.64		} 19315.1	} 2.97	} 10171.2	
26							
27	2,3,4'		257.5		0.92	1631.1	
28	CB4	0.07	292	239.1	0.01	34.2	
29		0.05		171.2	—		
30		} 1.91		} 6541.1	} 1.05	} 3595.8	
31							
32		0.21		719.2	0.06	205.5	
33		} 0.82		} 2645.2	} 0.27	} 870.9	
34	CB5		326.5				
35	CB4	0.62	292	2123.2	0.13	445.2	
36	↓	—	↓		—		
37	3,4,4'	0.30	257.5	1165.1 → 33706.9	0.93	3611.7 → 205656	

DSW 297084

RUN #1 OR-158963

CALCULATION OF RELATIVE VOLATILITY

REFERENCE COMPOUND - PARACHLOROBIPHENYL

BASIS 1×10^7 POUND SAMPLE

COMPOUND	~~BD~~	MOLES LIQUID	MOLES VAPOR
META	3	816.3	1886.9
PARA	4	16558.9	262483
2,2'	5,6	954.7	1739.1
2,4'	7-10	3585.0	9606.8
3,3'	11-14	1715.0	2013.3
4,4'	15-18	1820.1	1998.8
CB3	19-21	2045.0	1619.1
CB4	22-42	68871	27553
CB5	43-60	5249	16.7

LET PARA BE THE KEY

$$\alpha_{i-r} = \frac{Y_i X_r}{Y_r X_i}$$

RESULTS OF RUN #1 & #2

COMPOUND	~~NOT~~ RELATIVE VOLATILITY RUN #1	RUN #2
META	1.465	1.235
2,2'	1.15	1.072
2.4'	1.085	1.017
3,3'	0.738	0.814
4,4'	0.692	0.730
CB3	0.50	0.367
CB4	0.249	0.291
CB5	0.002	0.014

DSW 297085