ENCLOSURE (A)

Part IV
DATA ON THE ULTRAVIOLET ABSORPTIVE PROPERTIES OF SOME HYDROCARBONS

Benzene(1) C_6H_6 78

I	
38450(3)	41286(2)
38612(8)	41378(7)
39445(4)	41884(1)
39534(10)	42300(5)
40370(3)	43010(2)
40460(9)	43215(2)
II	
49100(7)	51750(8)
49980(10)	52610(5)
50900(10)	

Toluene(1) $C_6H_5CH_3$ 92

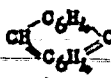
37305(5)	38668(8)
37425(5)	38732(5)
37485(10)	38765(5)
38020(7)	38945(6)
38400(7)	39395(6)
38422(9)	39600(6)
38454(8)	

M-Xylene(1) $C_6H_4(CH_3)_2$ 106

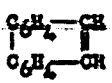
36735(6)	38100(4)
36900(5)	38215(4)
36980(8)	38330(3)
37430(6)	38420(3)
37870(9)	38684(2)
37930(10)	38890(2)

Naphthalene(1) $C_{10}H_8$ 128

35900(8)	37700(7)
36350(6)	38300(2)
36950(3)	38620(5)
37350(10)	39150(2)

Anthracene(1)  178

26750	39700
28250	40900
29750	

Phenanthrene(1) 

34150	39750
35050	41350
36700	

Note: Wave lengths are in cm^{-1}.

ENCLOSURE (A)

Chrysene(1) C_6H_4—CH / $C_{10}H_6$—CH

31750	34300
33100	37350

* * * * *

Naphthalene(2)

I	
3384	3071
3219	3059
3160	3031
3126	2992
II	
2888	2684
2856	2567
2825	

Tetrahydro-naphthalene(2)

I	
3210	3005
3175	2980
3120	2888
3073	2868
3056	2840
3026	
II	
2745	2625
2689	2586
2670	2532

Octahydro-naphthalene(2) (cis)

2727	2550
2673	2463

Decahydro-naphthalene(2)

Diffused
2780

Note: Wave lengths are in Angstrom units (A^o).

* * * * *

Ethylene (Gas)(1) C_2H_4 28

50610(3)	54000(9)
51690(5)	54800(10)
52500(7)	55560(10)
53240(8)	

Note: Wave lengths are in cm^{-1}.

ENCLOSURE (A)

Styrene(1) $C_6H_5CH=CH_2$ 104

I	
34750(8)	36950(8)
35750(10)	37200(4)
35900(9)	37800(5)
36710(7)	
II	
39500	42700(strong)
40900	46000
III	
46820(2)	48000(5)
47100(1)	49000(10)
47450(1)	

Isopropenyl benzene(1) $C_6H_5C(CH_3)=CH_2$ 118

I	
34900(2)	35800(1)
35300(3)	36300(4)
II	
39000	
40200	
42600(strong	

Stilbene(1) $\begin{matrix} C_6H_5CH \\ \| \\ C_6H_5CH \end{matrix}$ 118

31000	34000
32320	41800

Propylene(1) $CH_3CH=CH_2$ 42

52730(5)	53450(6)
53070(5)	53870(8)

Isobutylene(1) $(CH_3)_2C=CH_2$ 56

49500(3)	52850(10)
50900(4)	54340(8)
51650(6)	

Tetramethyl ethylene (1) $(CH_3)_2C=C(CH_3)_2$ 84

43140(2)	50110(6)
44480(3)	50670(8)
45850(3)	52200(9)
48640(6)	53480(10)

Note: Wave lengths are in cm^{-1}.

ENCLOSURE (A)

Styrene(1) $C_6H_5CH=CH_2$ 104

34770(8)	42700
35760(10)	46000
35900(9)	46820(2)
36670(7)	47100(1)
36970(8)	47450(1)
37800(5)	48000(5)
39500	49000(10)
40900	

Butadiene(1) $CH_2=CH.\ CH=CH_2$ 54

I

46300(3)	49000(7)
47770(5)	

II

50600(8)	52850(5)
51840(6)	53400(5)
52200(5)	53700(10)

Isoprene(1) $CH_2=C(CH_3)-CH=CH_2$

I

44850(5)	47550(6)
46350(8)	

II

52400(5)	52880(5)

Dimethylbutadiene(1) $CH_2=C(CH_3)-C(CH_3)=CH_2$ 82

43450(4)	45350(7)
43850(5)	46470(4)
45000(6)	46850(3)

Stilbene(1) $C_6H_5.CH=CH.C_6H_5.CH$ 180.

31000	34000
32400	41800

2,7 Dimethyl Stilbene(1) $CH_3.C_6H_4.CH=CH.C_6H_4CH$ 210.

30500	32000

Note: Wave lengths are in cm^{-1}.

ENCLOSURE (A)

3,8 Dimethyl Stilbene(1)

$CH_3.C_6H_4.CH$ 210.
$\|$
$CH_3.C_6H_4-CH$

30350	33650
32000	

* * * * *

Triphenyl methane(3)
$(C_6H_5)_3CH$ (Kahlbaum)

Ether solution

304 (m)	276 (Weak)
293	270
281	264

Anthracene(3) (Kahlbaum)

Ether solution

376	335 (Weak)
371 (Weak)	323
357	308
350 (Weak)	295
338	

Dihydroanthracene(3) (syn.)
(mp. 108.)

Ether solution

376	325
371 (Weak)	308
356	271
354 (Weak)	264
334	254
335 (Weak)	

Stilbene(3) (syn.)
(mp. 125-6°C.)

Ether solution

322	290 (b.)
308	237

* * * * *

Anthracene(4)
(mp. 216-6.5°C)

I	
26670	29600
27230	29980
28140	31030
28460	32410
II	
39480	41680
40600	

Note: Wave lengths are in cm^{-1}.

ENCLOSURE (A)

Dihydro anthracene(4)

I	
26540	29550
27120	29920
28050	30930
28460	32510
II	
37040	38010

Tetrahydro anthracene(4)

I	
26820	28650
27140	29550
28130	30080
II	
30630	31680
31060	32140
III	
33560	36270
34930	37820
IV	
39430	

Octahydro anthracene(4)

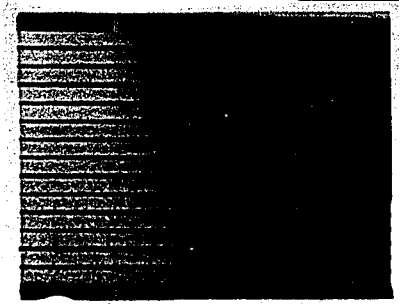
I	
35160	37200
35840	37880
36540	

Note: Wave lengths are in cm^{-1}.

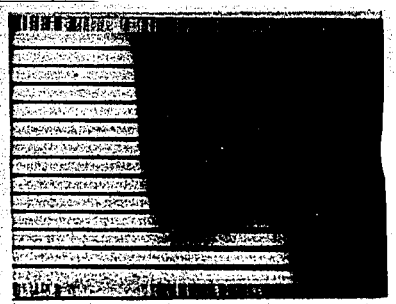
Notes

(1) S. KATO, F. SOMENO & S. TOMOMURA, Sc. Rep. I.P.C.R. 21, (1943) 256,277,774.
(2) S. KIMURA; Mem. Col. Sc. KYOTO I. U. A 14 (1931) 173.
(3) M. TAKAOKA: J. Chem. Soc. Japan, 60 (14) 1090.
(4) T. YOKOTA & T. FUJIMOTO: Report of the First Naval Fuel Depot. No. 143 (1941).

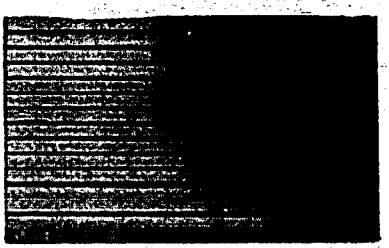
ENCLOSURE (A)



Vinylbenzene 1/50000M

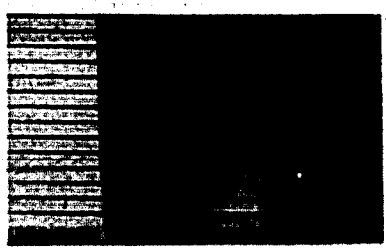


1-Phenylbutadiene 1/10000M



Dipenylmethane 1/1000M

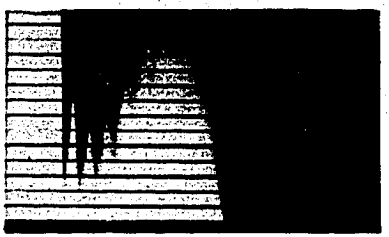
Sym-Diphenylethane 1/1000M



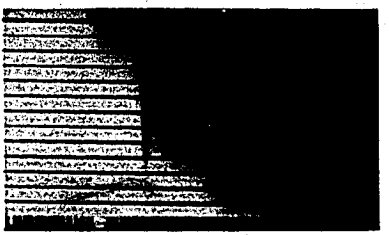
Diphenylethylene

Figure 13(A)
ABSORPTION SPECTRA

ENCLOSURE (A)

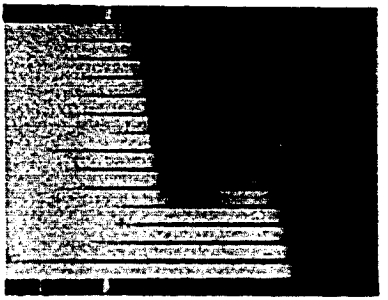


Anthracene 1/10000[m]



Phenanthrene 1/10000[m]

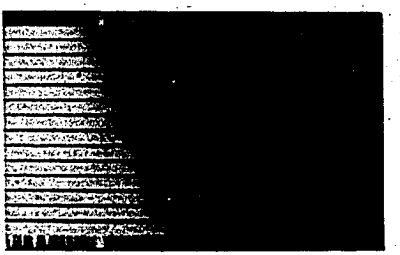
Naphthalene 1/10000[m]



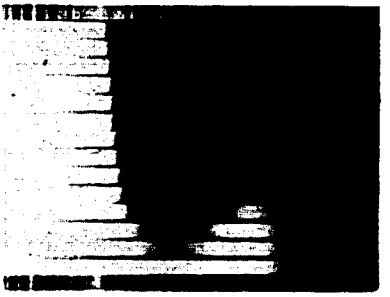
Methylnaphthalene

Figure 14(A)
ABSORPTION SPECTRA

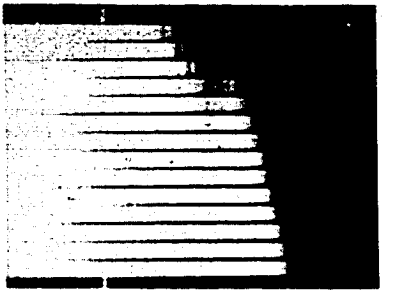
ENCLOSURE (A)



Diphenyl 1/5000m



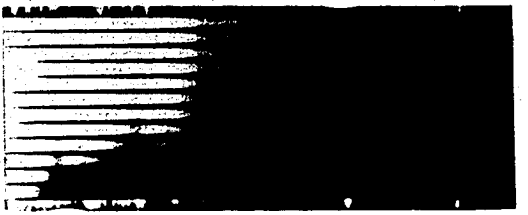
P-Diphylbenzene 1/10000m



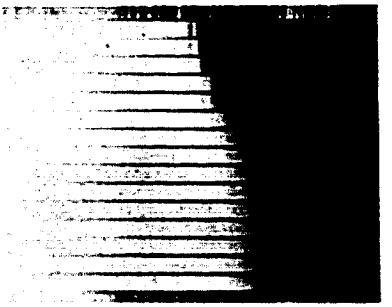
M-Diphenylbenzene 1/10000m

Figure 15(A)
ABSORPTION SPECTRA

ENCLOSURE (A)



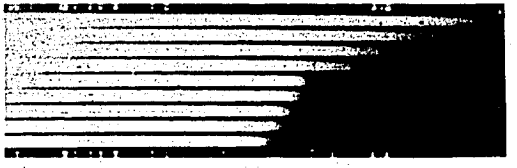
Cyclohexene (gas)



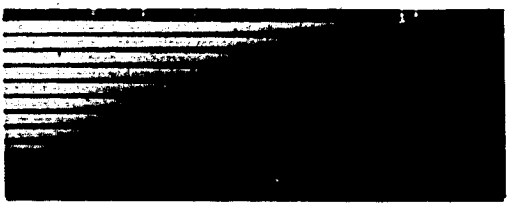
Cyclohexadiene (gas)

Figure 16(A)
ABSORPTION SPECTRA

ENCLOSURE (A)



Propylene (gas)

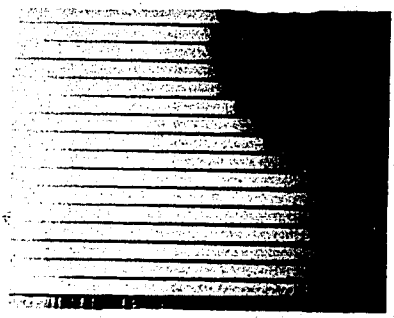


I-Butylene (gas)

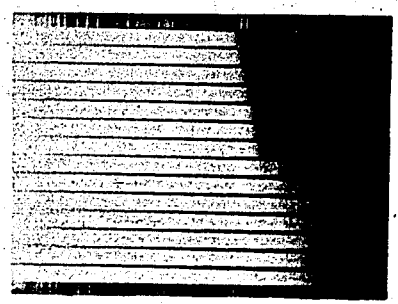
Acetylene (gas)

Figure 17(A)
ABSORPTION SPECTRA

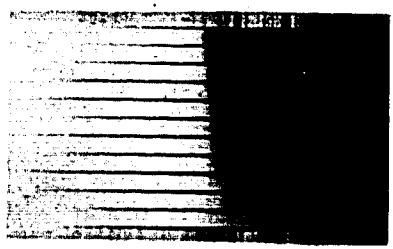
ENCLOSURE (A)



Isoprene (gas)



Butadiene (gas)



2-3-Dimethylbutadiene (gas)

Figure 17(A)cont.