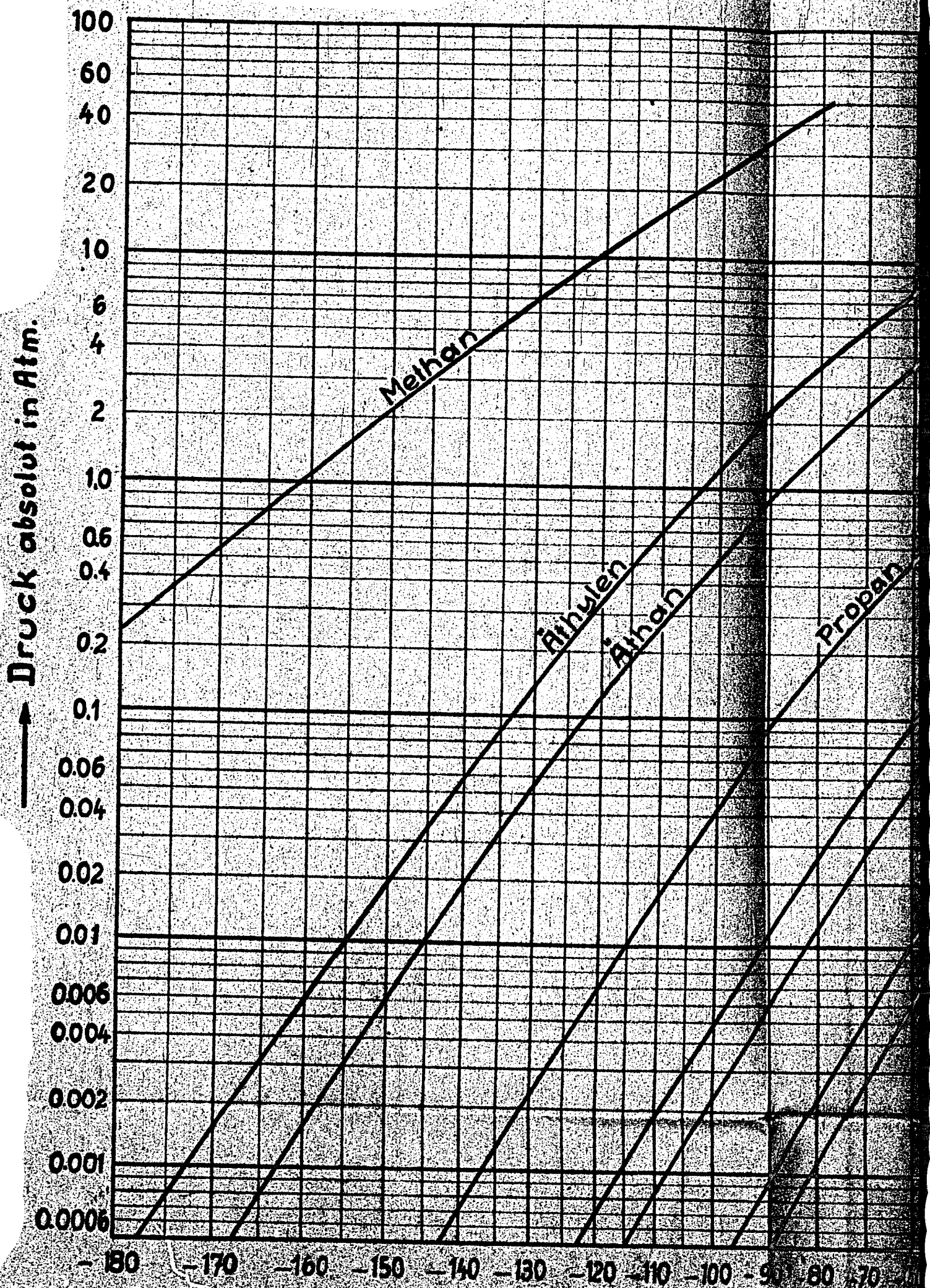


TITLE PAGE

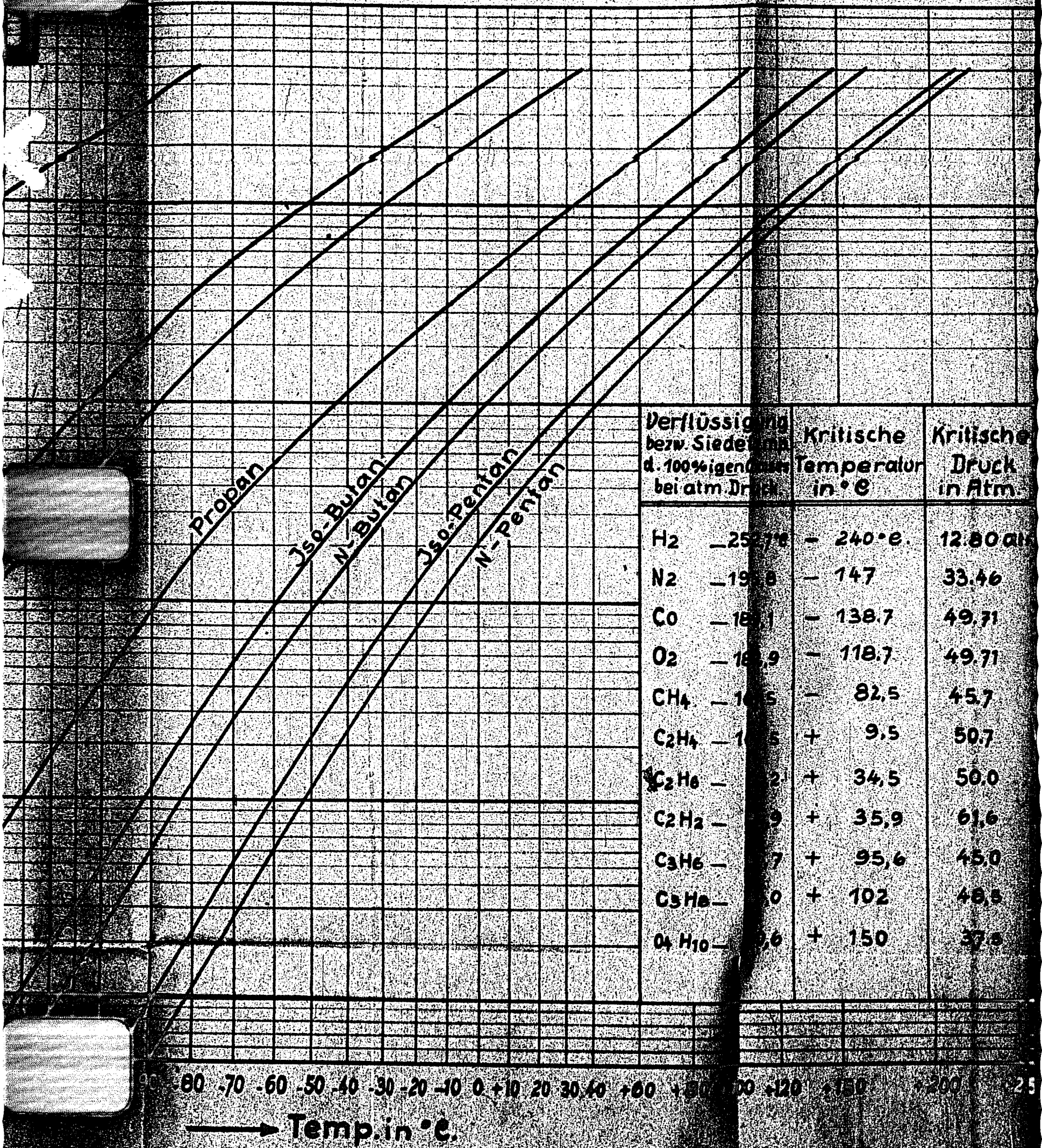
5. Dampfdrucke einiger Kohlenwasserstoffe
in Abhängigkeit von der Temperatur.
Vapour pressures of some hydro-
carbons as a function of temperature.

Frame Nos. 238 - 244

Dampfdrucke in Abhängigkeit



Drucke einiger Kohlenwasserstoffe Abhängigkeit von der Temperatur.



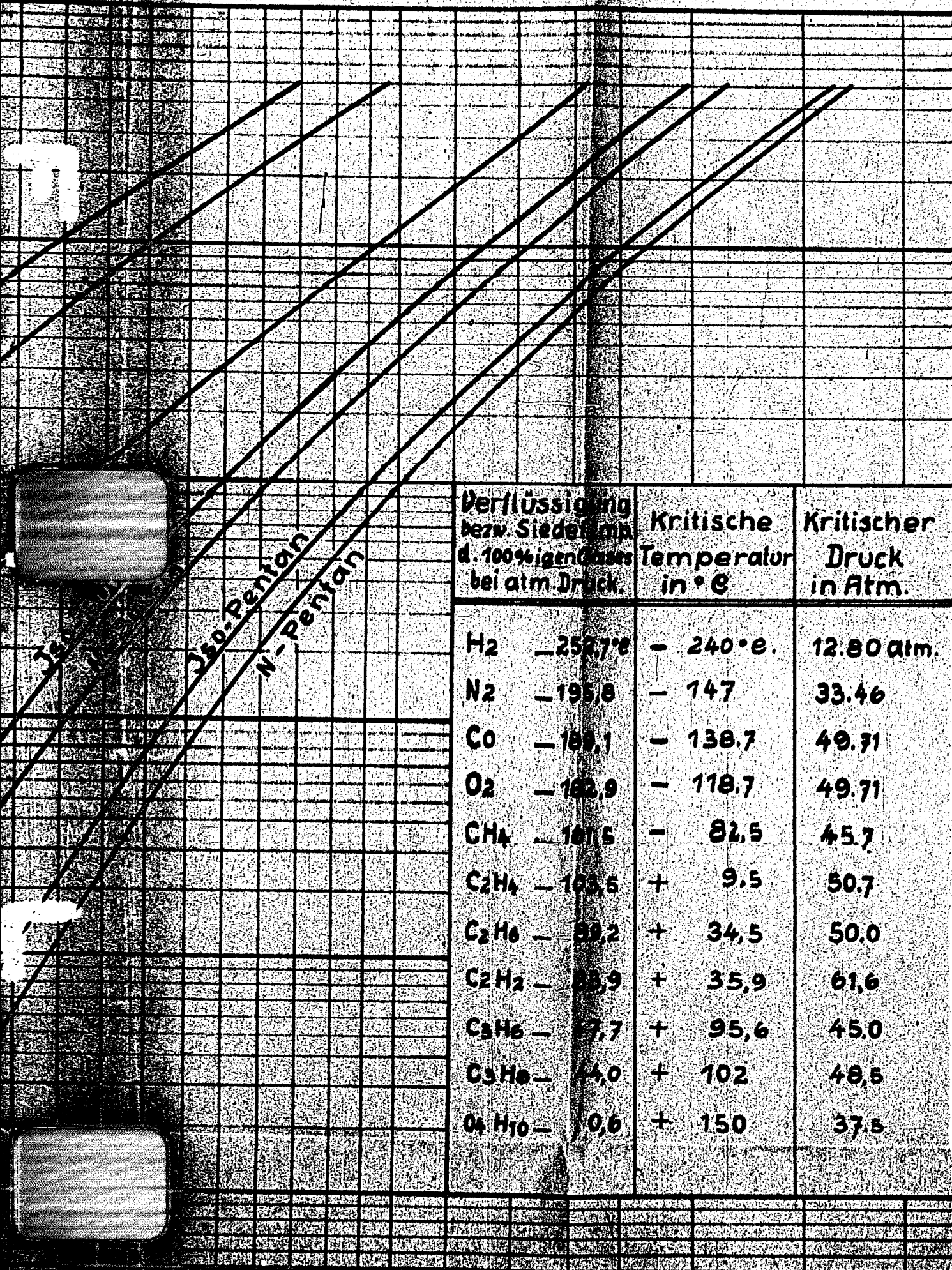
Verflüssigung bzw. Siedetem- d. 100%igen Gas bei atm. Druck		Kritische Temperatur in °C	Kritische Druck in Atm.
H ₂	-252,7	- 240°c.	12.80 atm
N ₂	-195,8	- 147	33.46
CO	-182,1	- 138,7	49,71
O ₂	-182,9	- 118,7	49,71
CH ₄	-161,5	+ 82,5	45,7
C ₂ H ₄	-103,5	+ 9,5	50,7
C ₂ H ₆	-88,2	+ 34,5	50,0
C ₂ H ₂	-81,9	+ 35,9	61,6
C ₃ H ₆	-33,7	+ 95,6	45,0
C ₃ H ₈	-42,0	+ 102	46,5
C ₄ H ₁₀	-0,6	+ 150	37,5

einiger Kohlenwasserstoffe in der Temperatur.

238

31

5



-50 -40 -30 -20 -10 0 +10 20 30 40 +50 +60 +70 +80 +90 +100 +120 +150 +200 +250

RSK 2648

U. Dr. Peters 2. v. P. 3 739

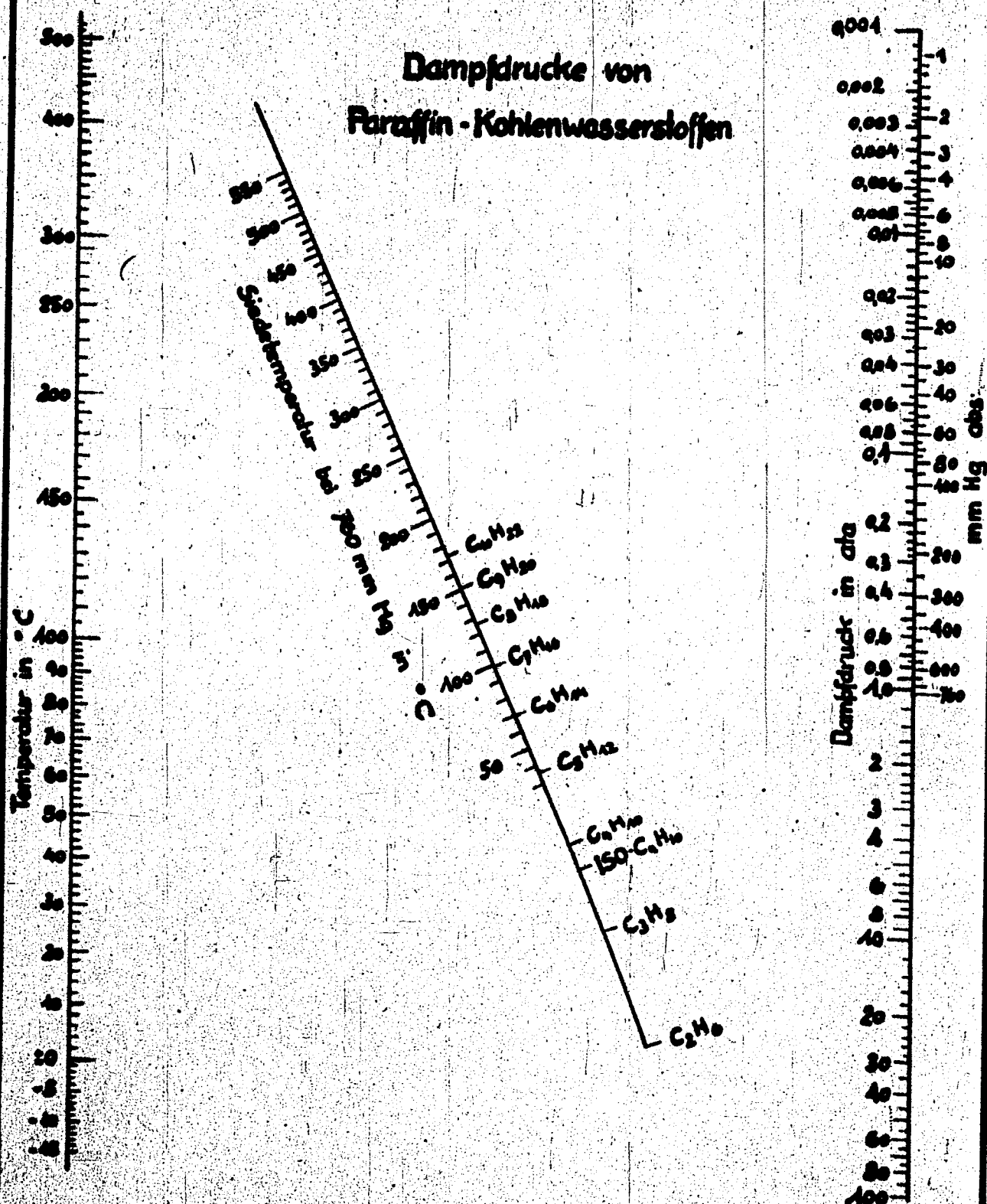
Standard Free Energies of Formations of Hydrocarbon Gases and Vapors

Substance	Formula	F° 298	F° 500	F° 1000
Methane	CH ₄	-12,300	-12,340	-8,550 (-8,030)
Acetylene	C ₂ H ₂	50,840	49,600	48,100 (47,160)
Ethylene	C ₂ H ₄	15,820	15,530	18,520 (18,830)
Ethane	C ₂ H ₆	-8,260	-8,730	1,960 (-50)
Propene	C ₃ H ₆	14,820	13,920	22,510 (20,930)
Propane	C ₃ H ₈	-6,220	-7,380	7,540 (5,640)
1,3-Butadiene	C ₄ H ₆	...	33,960	...
Isobutene	C ₄ H ₈	14,240	13,020	26,970 (25,500)
1-Butene	C ₄ H ₈	16,780	15,330	29,440 (27,000)
2-Butene (cis)	C ₄ H ₈	14,860	14,170	27,440 (26,290)
2-Butene (trans)	C ₄ H ₈	14,450	13,400	27,390 (25,640)
Isobutane	C ₄ H ₁₀	-4,900	-6,850	14,670 (11,440)
n-Butane	C ₄ H ₁₀	-5,000	-6,450	13,500 (11,070)
1,4-Pentadiene	C ₅ H ₈	40,220	...	...
1-Pentene	C ₅ H ₁₀	17,800	...	...
Isopentane	C ₅ H ₁₂	-4,230	...	...
n-Pentane	C ₅ H ₁₂	-2,370	...	...
Neopentane	C ₅ H ₁₂	-4,500	...	...
Benzene	C ₆ H ₆	30,640	...	...
Cyclohexene	C ₆ H ₁₀	19,400	...	...
1-Hexene	C ₆ H ₁₂	19,200	...	...
Cyclohexane	C ₆ H ₁₂	8,030	...	...
Methylocyclopentane	C ₆ H ₁₂	3,700	...	...
n-Hexane	C ₆ H ₁₄	-1,500	...	...
Toluene	C ₇ H ₈	28,440	...	...
1-Heptene	C ₇ H ₁₄	20,720	...	...
2-Methylhexene	C ₇ H ₁₆	-1,300	...	...
3-Methylhexene	C ₇ H ₁₆	-930	...	...
3-Ethylpentene	C ₇ H ₁₆	-130	...	...
2,2-Dimethylpentene	C ₇ H ₁₆	-130	...	...
2,3-	C ₇ H ₁₆	-430	...	...
2,4-	C ₇ H ₁₆	370	...	...
3,3-	C ₇ H ₁₆	-730	...	...
2,2,3-Trimethylbutene	C ₇ H ₁₆	870	...	...
n-Heptane	C ₇ H ₁₆	190	...	...
Xylene	C ₈ H ₁₀	29,660	...	...
Diisobutene (low b.p.)	C ₈ H ₁₆	21,530	...	...
" (high b.p.)	C ₈ H ₁₆	22,260	...	...
2,2,4-Trimethylpentane	C ₈ H ₁₈	1,570	...	...
n-Octane	C ₈ H ₁₈	1,520	...	...
Naphthalene	C ₁₀ H ₈	50,400	...	...
Anthracene	C ₁₄ H ₁₀	72,400	...	...

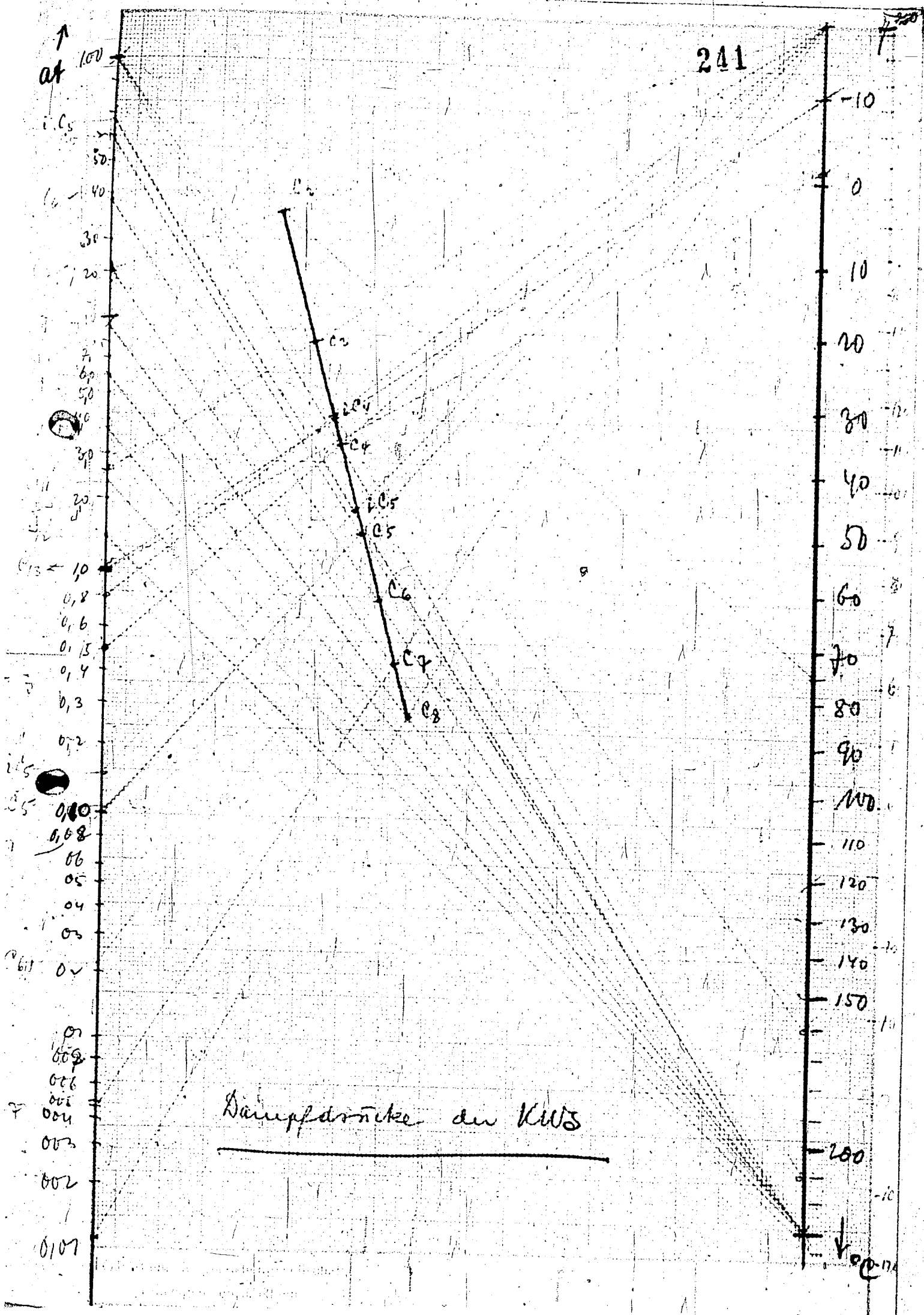
aus Industrial and Engineering Chemistry Seite 1263, November 1937

$\Delta F_T^\circ = -10550 - 5890m + 25,2 mT - 2,2T$, für Paraffine gesättigt $m > 1$
 $\Delta F_T^\circ = 20329 - 5835m - 33,26T + 24,52 mT$, für Olefine, = ungesättigt $m > 2$
 $\Delta F_T^\circ = -RT \ln K$
 $\Delta F_T^\circ = \sum_{\text{Produkte}} \text{energielose} - \sum_{\text{Reaktanten}} \text{energielose}$
 $\Delta F_T^\circ \leq 0$ die Reaktion verläuft mit unhydrater Substanz
 $\Delta F_T^\circ > 0$ " " " " "

Dampfdrucke von Paraffin-Kohlenwasserstoffen



Übertragen aus
Sonderdruck des Bandes 2-10



Druck absolut in Atm.



100
60
40
20
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6
4
2
1
0.6
0.4
0.2
0.1
0.06
0.04
0.02
0.01
0.006
0.004
0.002
0.001
0.0006

Propan

Temp. → -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20

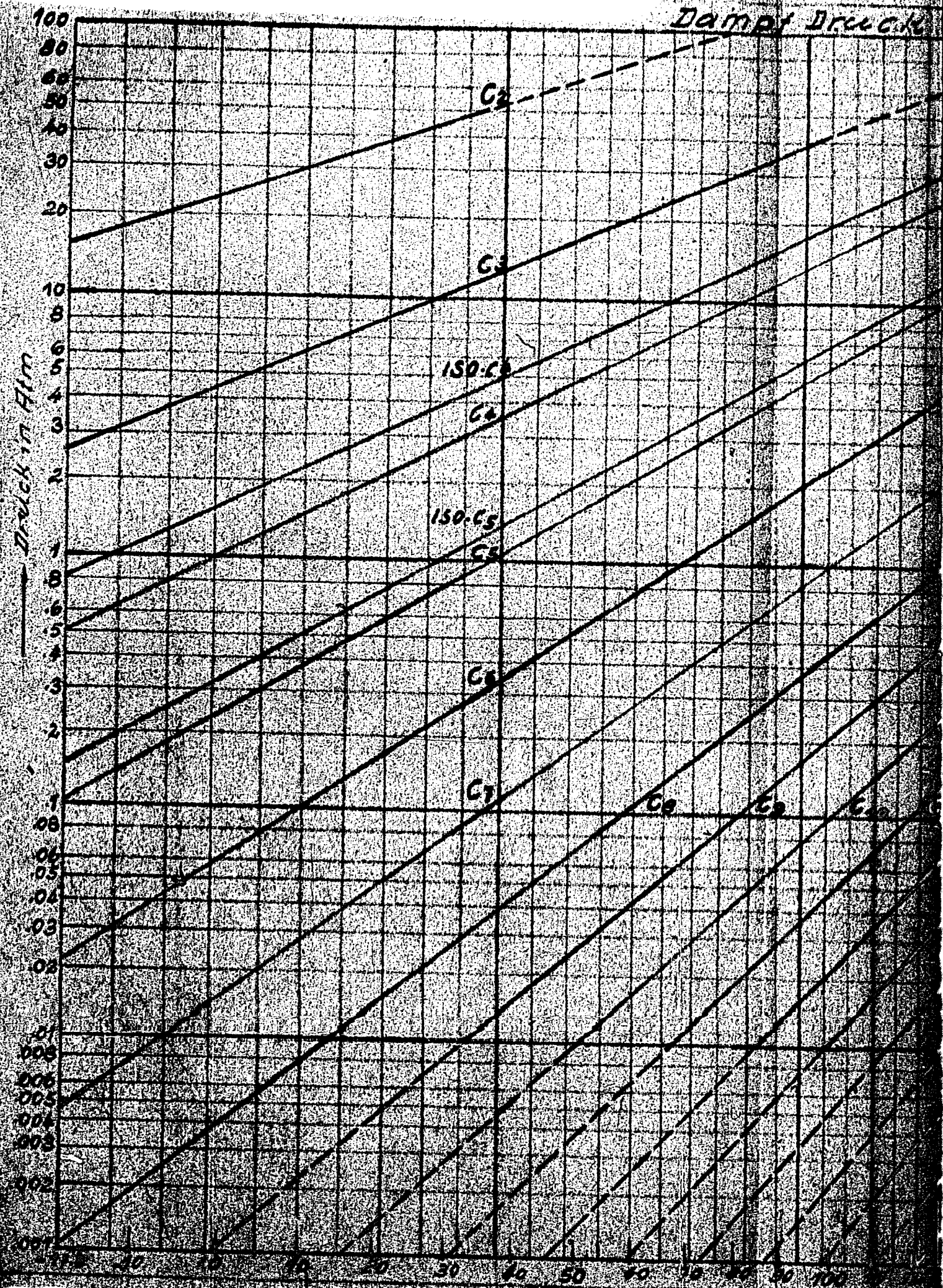
U.S. Patent Office Air Conditioning
Laboratories & Plans

U.S. Pat. 2,374,400

Dampfdruck von Propan u. Schwefeldioxyd
in Abhängigkeit von der Temperatur.

	Kritische Temp.	Kritischer Druck
C_3H_6	$+95,6^{\circ}C$	45,0 atm
SO_2	$157,5^{\circ}C$	77,8 atm

-40 -30 -20 -10 0 +10 20 30 40 60 +80 +100 +120 +150 +200 +250 $^{\circ}C$

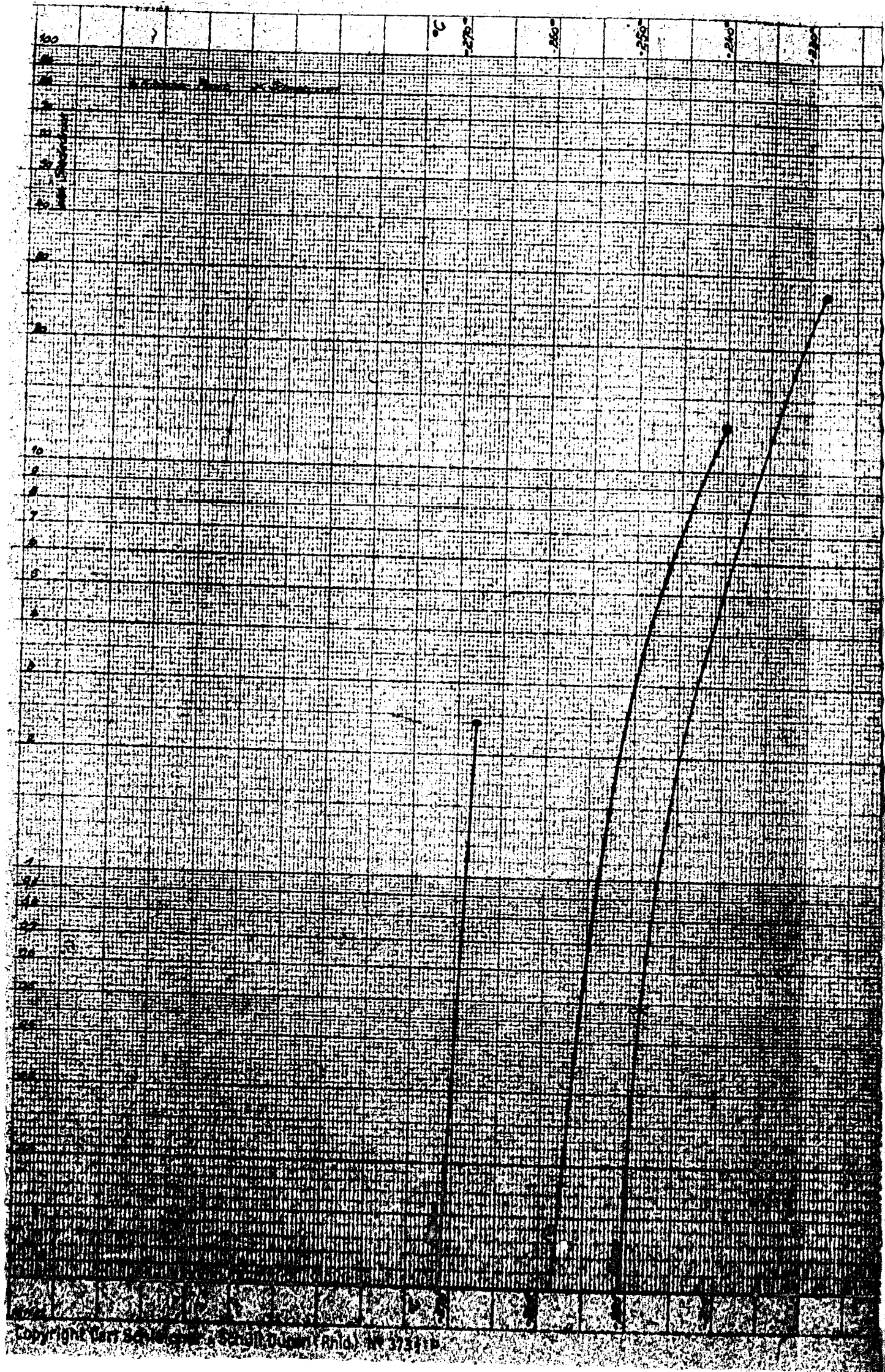


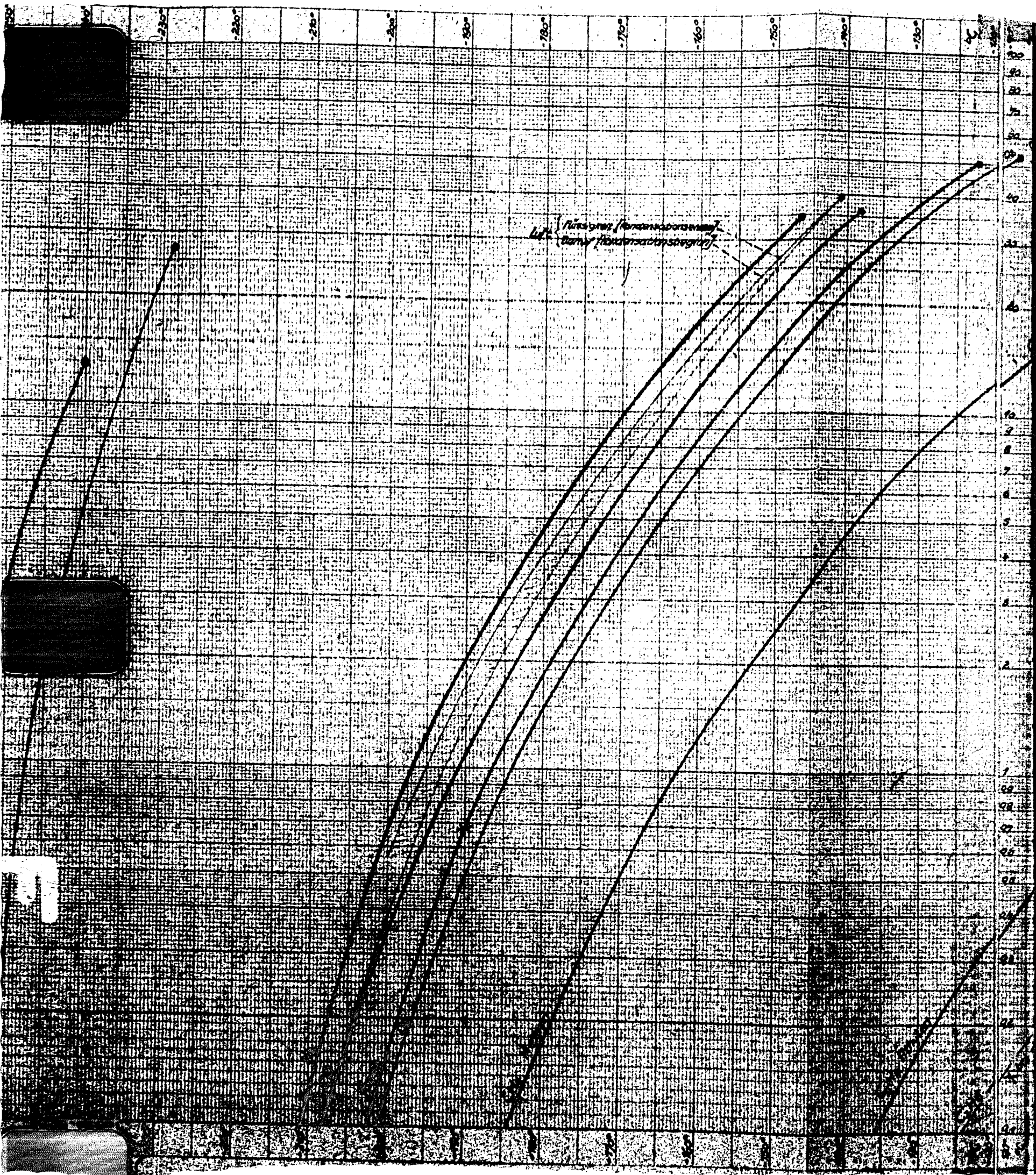
von Paraffin Kohlenwasserstoff

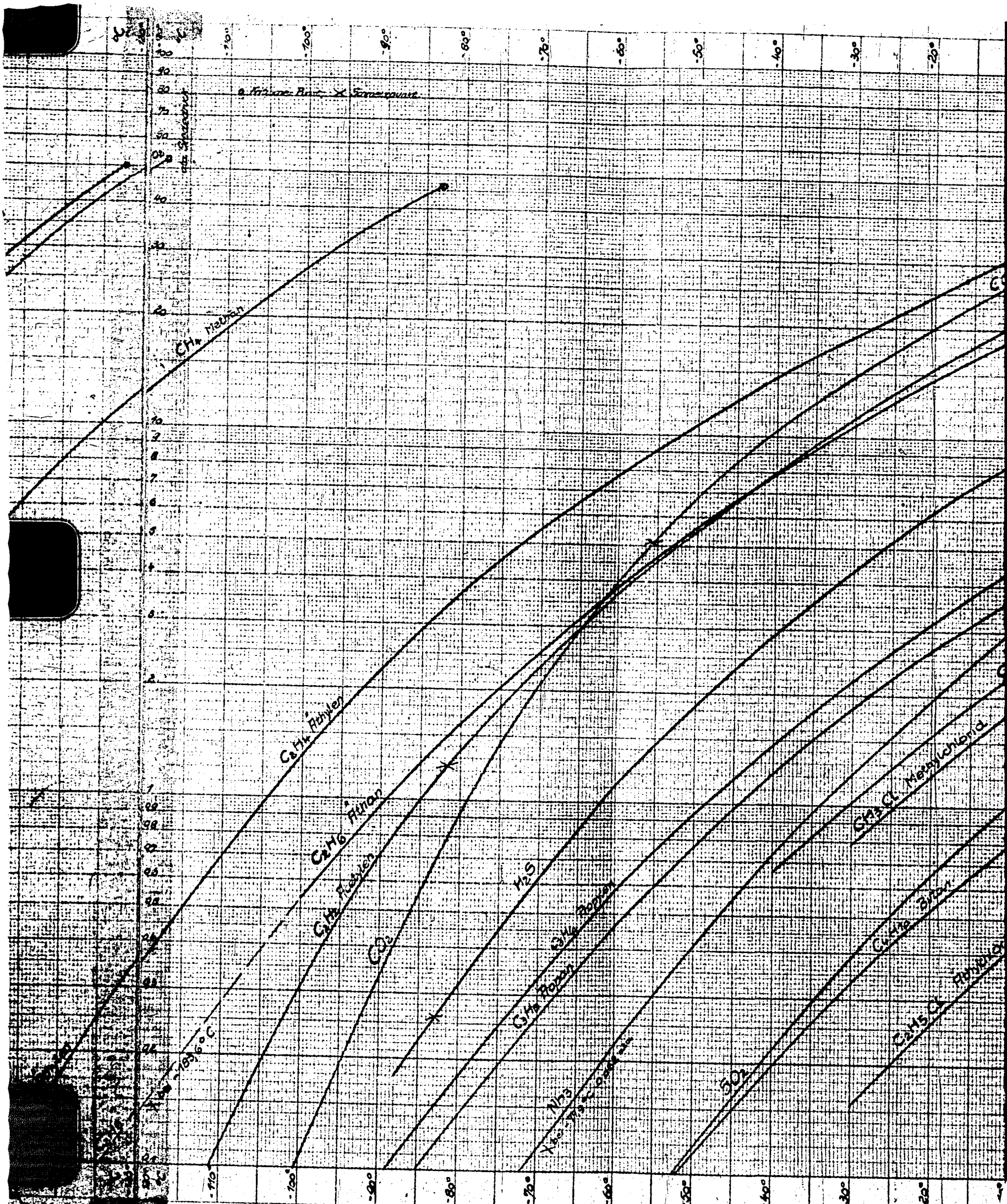
100
80
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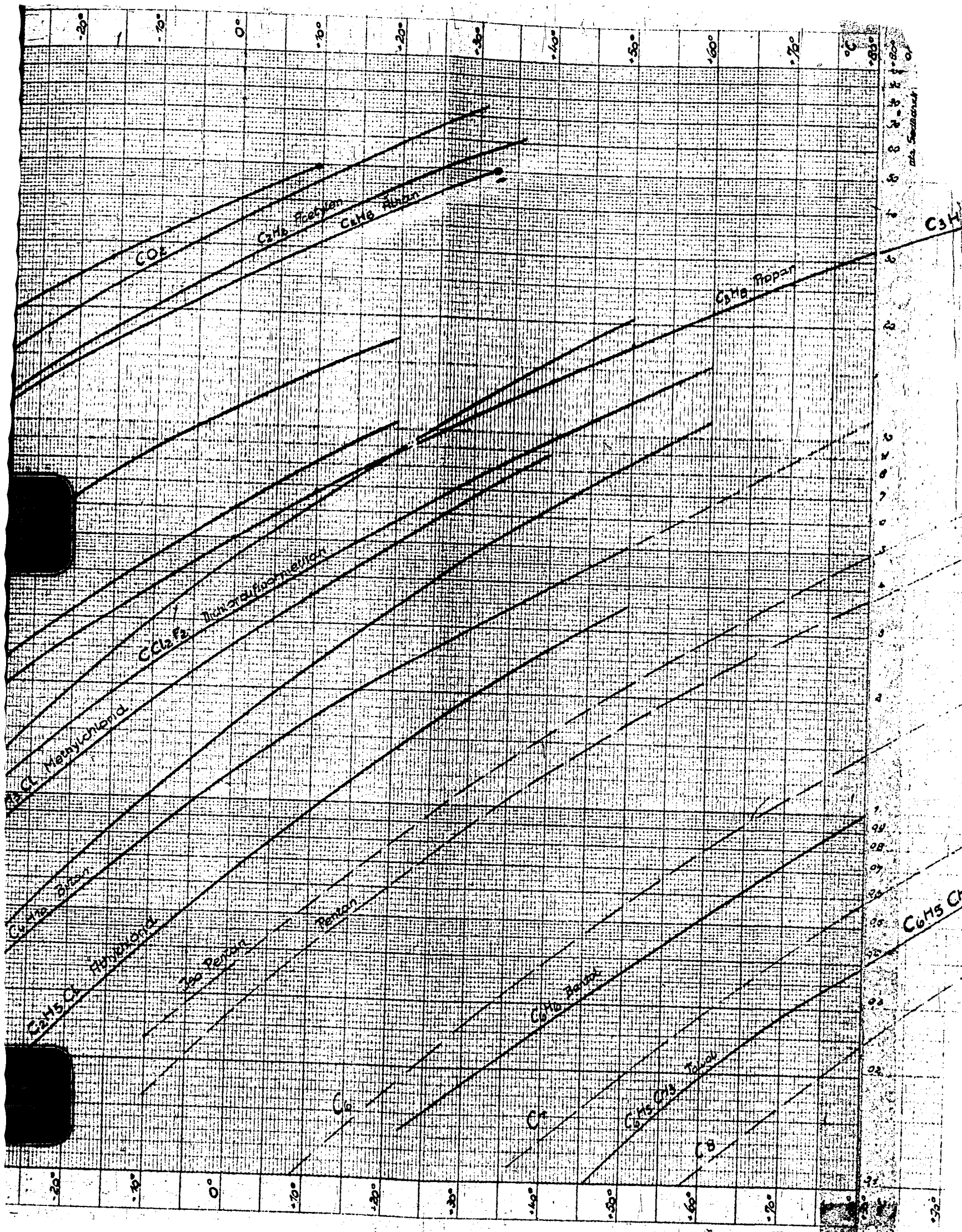
Druck in Atmosphären

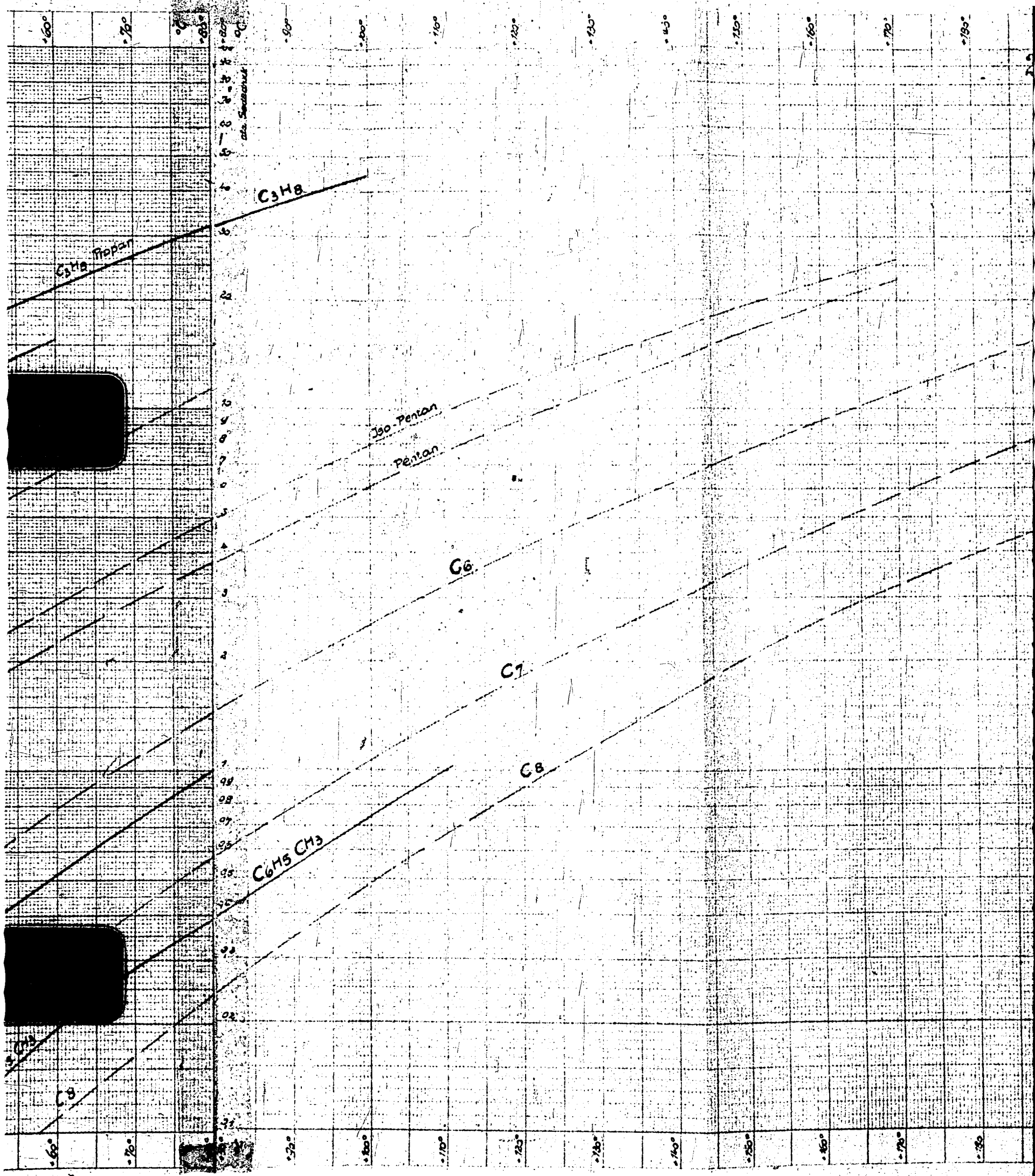
100 200 300 400 500 600 700 800 900 1000

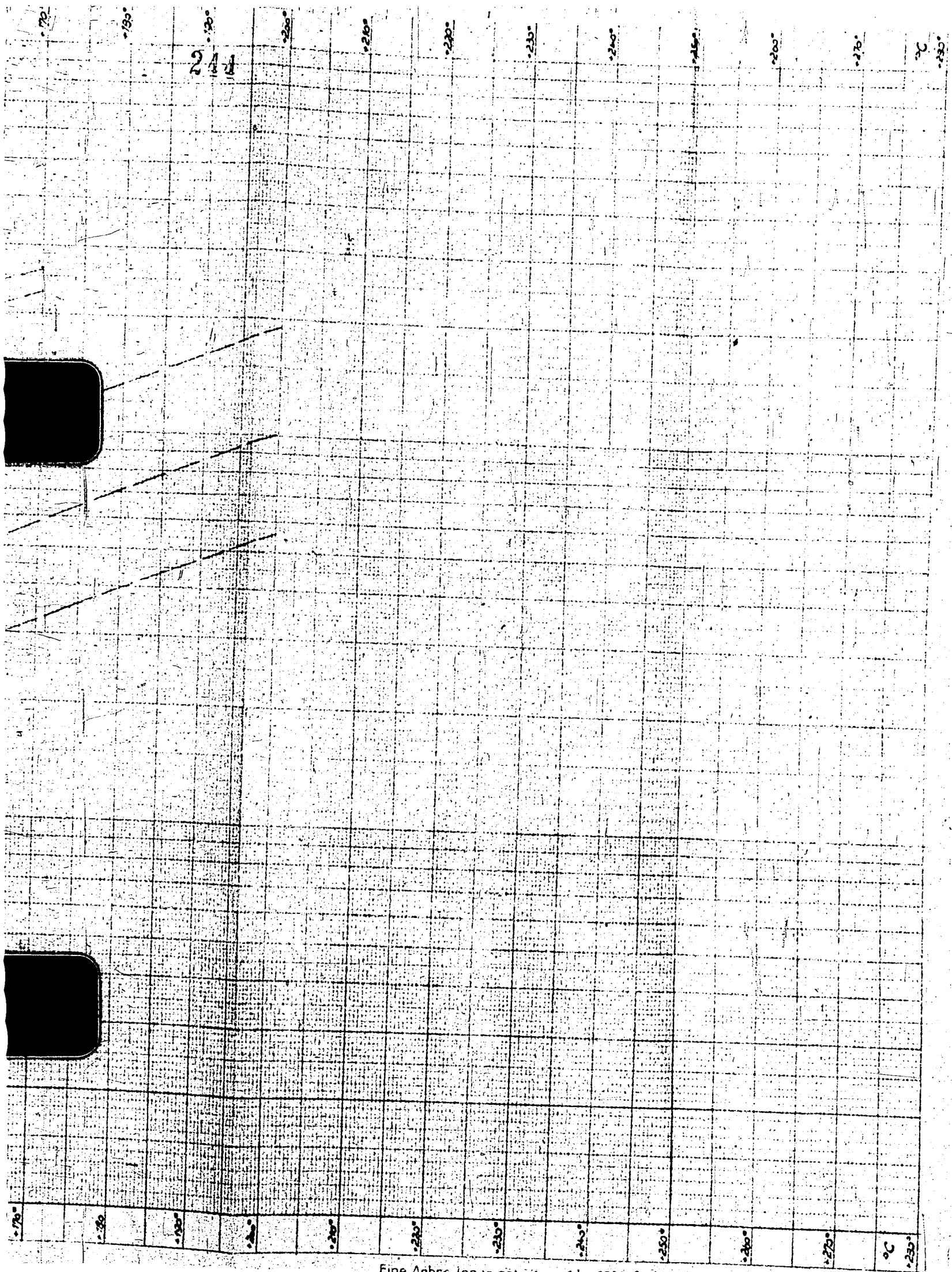












Eine Achse logarith. geteilt von 1 bis 1000 Einheit 90 mm die andere gleichmäßig 1 mm