These melting pressures are only slightly higher than the present experimental range and represent pressures at which maxima occur in ΔS_m. At higher pressures ΔS_m decreases with P_m and finally extrapolates to zero at $P_m = 79{,}500$ kg/cm^2 ($T_m = 235°$K) for He^3 and $P_m = 63{,}900$ kg/cm^2 ($T_m = 197°$K) for He^4. Therefore, a critical point in the melting curve is not precluded by the available data. There is some indication that the melting thermal properties of the heliums become "normal" at sufficiently high pressures.

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REFERENCES

1. R. L. MILLS AND E. R. GRILLY, *Phys. Rev.* **99,** 480 (1955).
2. D. W. Osborne, B. M. Abraham, and B. Weinstock, *Phys. Rev.* **82,** 263 (1951); **85,** 158 (1952).
3. J. S. DUGDALE AND F. E. SIMON, *Proc. Roy. Soc.* **A218,** 268 (1953).
4. F. A. HOLLAND, J. A. W. HUGGILL, and G. O. JONES, *Proc. Roy. Soc.* **A207,** 268 (1951).
5. C. A. SWENSON, *Phys. Rev.* **89,** 538 (1953).
6. C. A. SWENSON, *Phys. Rev.* **86,** 870 (1952).
7. C. A. SWENSON, *Phys. Rev.* **79,** 626 (1950).
8. W. H. KEESOM AND J. H. C. LISSMAN, *Leiden Comm.* **232b** (1934).
9. W. H. KEESOM AND A. P. KEESOM, *Leiden Comm.* **224e** (1933).
10. W. H. KEESOM, "Helium," p. 210. Elsevier, Amsterdam, 1942.
11. F. SIMON, M. RUHEMANN, and W. A. M. EDWARDS, *Z. physik. Chem.* **B6,** 62 (1929), **B6,** 331 (1930).
12. F. SIMON, *Z. physik. Chem.* **B2,** 340 (1929).
13. F. E. SIMON AND C. A. SWENSON, *Nature* **165,** 829 (1950).
14. R. L. MILLS AND E. R. GRILLY, Proceedings of the Symposium on Liquid and Solid He^3, The Ohio State University, August 20–23, 1957, p. 100; Proceedings of the Fifth International Conference on Low Temperature Physics and Chemistry, University of Wisconsin, August 26–31, 1957, p. 106. Univ. of Wisconsin Press, Madison, 1958.
15. E. R. GRILLY AND R. L. MILLS, *Phys. Rev.* **105,** 1140 (1957).
16. O. C. BRIDGEMAN, *J. Am. Chem. Soc.* **49,** 1174 (1927).
17. C. H. MYERS AND R. H. JESSUP, *J. Research Natl. Bur. Standards* **6,** 1061 (1931).
18. R. L. MILLS, *Rev. Sci. Instr.* **27,** 332 (1956).
19. S. G. SYDORIAK AND T. R. ROBERTS, Proceedings of the Fifth International Conference on Low Temperature Physics and Chemistry, University of Wisconsin, August 26–31, 1957, p. 212. Univ. of Wisconsin Press, Madison, 1958.
20. R. L. MILLS AND E. R. GRILLY, *Phys. Rev.* **101,** 1246 (1956).
21. H. VAN DIJK AND M. DURIEUX, *Physica* **24,** 920 (1958); *Leiden Comm. Suppl.* **115a**.
22. R. WIEBE, V. L. GADDY, AND C. HEINS, *J. Am. Chem. Soc.* **53,** 1721 (1931).
23. P. W. BRIDGMAN, *Proc. Am. Acad. Arts Sci.* **59,** 173 (1924).
24. A. F. SCHUCH, E. R. GRILLY, AND R. L. MILLS, *Phys. Rev.* **110,** 775 (1958).
25. L. GOLDSTEIN, *Phys. Rev.* **112,** 1483 (1958).