Table 1
The quantity P_1-P_2 is the difference in calculated pressure at various temperatures, where

$$P_1 = 2.249[(T/T_o)^{1.528} - 1]$$

and

$$P_2 = 2.2293[(T/T_o)^{1.5351} - 1].$$

T (°K)	$P_1 - P_2$ (bar)
100	2.5
125	5.0
150	5.9
175	5.1
200	2.7
225	-1.4
250	-7.0
275	-14.4
300	-23.5
325	-34.1
350	-46.3
375	-60.2
400	-75.6
425	-92.7
450	-111.3
475	-131.4
500	-153.1
525	-176.3
550	-201.1
575	-227.3

Since Hardy, Crawford and Daniels' work has shown that the melting curve of mercury and argon cannot *both* be represented by a Simon melting equation, and since neither their fit nor the present one fits the data when extrapolated to the 20-26 kilobar region (pending more and better data at these pressures), serious doubt has been cast upon the accuracy of the Simon equation's description of argon melting phenomena. Additionally, this raises some question as to the use of a Simon equation fitted to mercury melting data as a secondary pressure standard, a practice which has never been theoretically justified [10].

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