2. The table below provides data on the theoretical calculated and experimental test values of the vapor pressures for dibenzothiophene, a heterocyclloaromatic compound similar to those found in coal tar. If the theoretical model for vapor pressure is a good model of reality, the true mean difference between the experimental and calculated values of vapor pressure for a given temperature will be 0. (a) State the correct hypothesis that the mean difference equals zero (0) and conduct the hypothesis test at = 0.05. (b) Interpret the pvalue for the test.

Temp (C) Experimental Calculated

100.60 0.282 0.276

101.36 0.314 0.307

104.60 0.335 0.350

106.44 0.404 0.390

108.70 0.422 0.444

110.96 0.513 0.505

112.62 0.554 0.554

115.21 0.642 0.640

116.69 0.669 0.695

119.38 0.834 0.805

121.08 0.890 0.882

123.61 1.014 1.015

124.90 1.073 1.082

127.74 1.261 1.250

130.24 1.428 1.432

131.75 1.557 1.548