Fig. 4.15

(a) Graph showing desorption rate vs. coverage with different temperatures. The slopes indicate a relationship described by the Arrhenius equation,

\[ \ln(\text{Desorption Rate}) = \frac{-E_{\text{des}}}{RT} + \ln(\sigma_i) \]

where \( E_{\text{des}} \) is the desorption energy, \( R \) is the gas constant, \( T \) is the temperature, and \( \sigma_i \) is the pre-exponential factor. The slope is \( n = 1 \).

(b) Log-log plot of desorption rate vs. coverage showing a linear relationship with a slope that can be used to calculate the desorption energy, \( E_{\text{des}} \).

\[ n = 1 \times 10^{14} \text{ cm}^{-2} \]