



A, k_{obs} in AMP formation *vs* concentration of the unpurified commercial isoleucine that contains 0.38 % of leucine. The data is fit to the substrate inhibition equation:

 $k_{\text{obs}} = k_{\text{max}} \times [S]/(K_{\text{m}} + [S] \times (1 + [S]/K_{\text{i}})).$

B, k_{obs} in AMP formation vs concentration of the purified isoleucine that contains (3.5 ± 0.7) x 10⁻⁴ % leucine. The data is fit to the Michaelis-Menten equation: $k_{obs} = k_{max} \times [S]/(K_m + [S])$.