Supplementary Information for

Kinetic and Chemical Mechanism of α–Isopropylmalate Synthase from

Mycobacterium tuberculosis

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Figure S1. **Initial Velocity Patterns of *Mt*IPMS-catalyzed reaction**. α–KIV was varied (77 μM, 100 μM, 143 μM, 250 μM, and 1000 μM) at four fixed AcCoA concentrations (91 μM, 125 μM, 200 μM, and 500 μM).
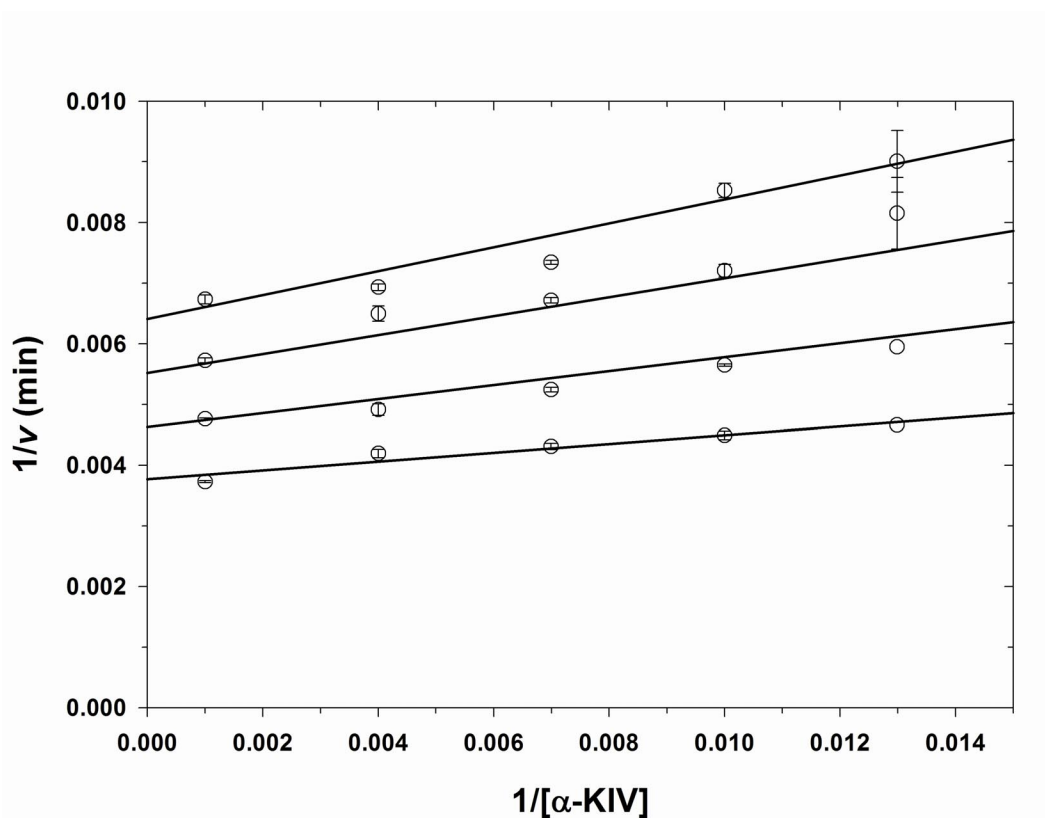
Figure S2.   **Saturation curve for AcCoA in the presence of fixed saturating concentration of pyruvate**. Open circles represent the data and the solid line the fit of the data to eq. 2 (for linear substrate inhibition). The inset shows the replot of the data in double reciprocal form. Visual analysis indicates a clear upward curvature at lower concentrations of AcCoA.
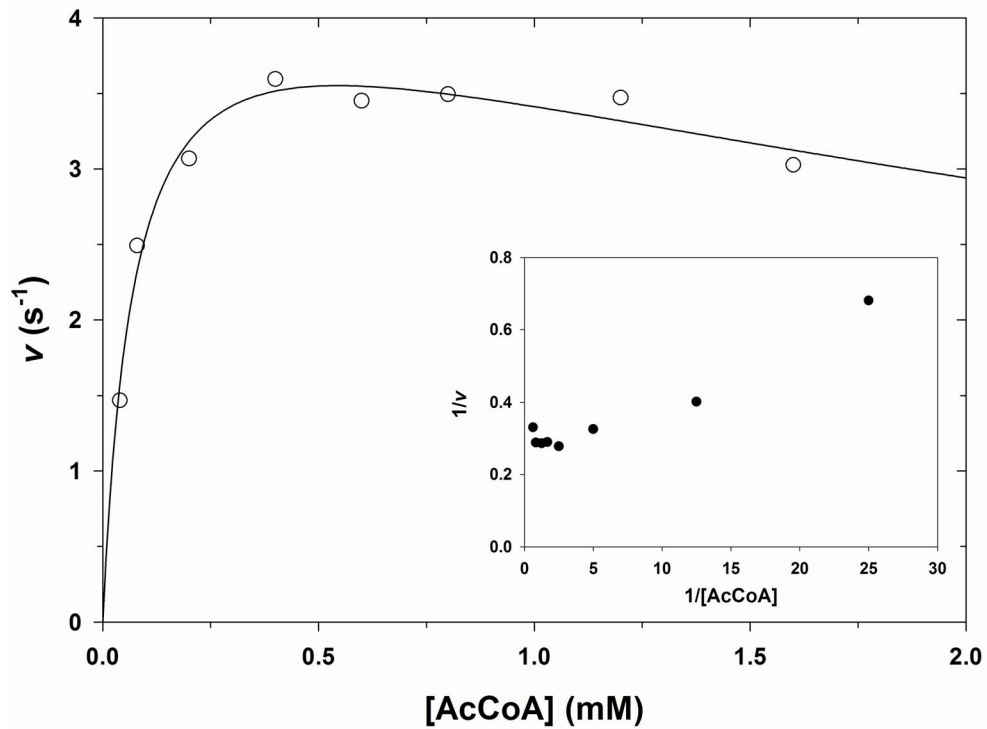
Figure S3. **Saturation curve for α-ketovalerate in the presence of fixed saturating concentration of AcCoA**. Open circles represent the data and the solid line the fit of the data to eq. 2 (for linear substrate inhibition). The inset shows the replot of the data in double reciprocal form. Visual analysis indicates a clear downward curvature at lower concentrations of α-ketovalerate.